Ref. Certif. No.

JPTUV-087150-A1/M3

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

# CB TEST CERTIFICATE

| | |
|---|---|
| Product | LCD Monitor |
| Name and address of the applicant | Top Victory Electronics (Taiwan) Co., Ltd.<br>10F., No. 230, Liancheng Rd.<br>Zhonghe Dist., New Taipei City, 23553 Taiwan |
| Name and address of the manufacturer | Sharp NEC Display Solutions, Ltd.<br>4-28 Mita 1-chome, Minato-ku<br>Tokyo, 108-0073 Japan |
| Name and address of the factory | See additional page(s) |
| Ratings and principal characteristics | 100-240VAC; 50/60Hz; 1.60-0.75A (2.0A for MEXICO); Class I |
| Trademark (if any) | NEC |
| Customer's Testing Facility (CTF) Stage used | N/A |
| Model / Type Ref. | EA271Q, EA271Q-BK, EA271U, EA271U-BK |
| Additional information (if necessary may also be reported on page 2) | For model differences, refer to the test report.<br>Re-issue of JPTUV-087150-A1/M2 dated 09.03.2020,<br>due to third modification. |
| A sample of the product was tested and found to be in conformity with | IEC 62368-1:2014<br>See Test Report for National Differences |
| As shown in the Test Report Ref. No. which forms part of this Certificate | 50133683 005 |

This CB Test Certificate is issued by the National Certification Body

TÜVRheinland®

TÜV Rheinland Japan Ltd.
Global Technology Assessment Center
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Date: 2020-12-22

Signature:

Dipl.-Ing. F. Stoelzel

10/0861 CB 06/20v9 rk

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

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

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

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   Technological Development Zone
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   100176 Beijing
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   Avenida Sor Juana Ines de la Cruz
   de 19602 Nueva Tijuana,
   22435 Tijuana Baja California
   MEXICO

8. TPV Technology (Qingdao)

**Additional information (if necessary)** Report Ref. No. : 50133683 005

Date: 2020-12-22 Signature: Dipl.-Ing. F. Stoelzel

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9. Envision Indústria de Produtos
Eletrônicos Ltda.
Av. Torquato Tapajós, 2236,
Flores - CEP 69058-830 - Manaus/AM
Brazil

10. Pro Concept Manufacturer Co., Ltd
88/1 Moo 12, Soi
Phetkasem 120, Phetkasem
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Samutsakhon 74130, Thailand

11. TPV Technology (Thailand) Co., Ltd.
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Prachinburi Province
Thailand

12. TPV Technology (Thailand) Co., Ltd.
Tambon Tha Turn,
Amphoe Si Maha Phot,
Chang Wat Prachin Buri 25140
Thailand

13. TPV Electronics (Fujian) Co., Ltd.
Optoelectronic Park,
Rongqiao Economic and
Technological Development Zone,
Fuqing City, 350301 Fujian, P.R. China

**Additional information (if necessary)** Report Ref. No. : 50133683 005

Date: 2020-12-22 Signature: Dipl.-Ing. F. Stoelzel

Test Report issued under the responsibility of:

TÜVRheinland®

# TEST REPORT

## IEC 62368-1

## Audio/video, information and communication technology equipment

## Part 1: Safety requirements

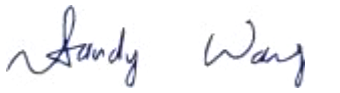
| | |
|---|---|
| **Report Number ..... :** | 50133683 005 |
| Date of issue ..... : | December, 17, 2020 |
| Total number of pages ..... : | 21 |
| **Applicant's name..... :** | Top Victory Electronics (Taiwan) Co., Ltd. |
| Address ..... : | 10F., No. 230, Liancheng Rd., Zhonghe Dist., New Taipei City, 23553 Taiwan |
| **Test specification:** | |
| Standard..... : | IEC 62368-1:2014 (Second Edition) |
| Test procedure ..... : | CB Scheme |
| Non-standard test method..... : | N/A |
| **Test Report Form No..... :** | IEC62368_1B |
| Test Report Form(s) Originator..... : | UL(US) |
| Master TRF ..... : | 2014-03 |



**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 ..... : | | NEC | |
| Manufacturer ..... : | | **Sharp NEC Display Solutions, Ltd.**<br>4-28, Mita 1-chome, Minato-ku, Tokyo, 108-0073 Japan | |
| Model/Type reference ..... : | | EA271Q, EA271Q-BK, EA271U, EA271U-BK | |
| Ratings ..... : | | 100-240V~, 50/60Hz, 1.60-0.75A (2.0A for Mexico) | |
| | | | |
| Testing procedure and testing location: | | | |
| ☒ | CB Testing Laboratory: | TÜV Rheinland Taiwan Ltd., Taichung Branch | |
| Testing location/ address ..... : | | 4F-1, No. 38, Huaya 1st Road, Guishan District, Taoyuan City 333, Taiwan, Chinese Taipei | |
| ☐ | Associated CB Testing Laboratory: | N/A | |
| Testing location/ address ..... : | | | |
| Tested by (name, functioin + signature).....: | | Sandy Wang/ Project Handler |  |
| Approved by (name, functioin + signature).: | | Lawrence Chang /Technical Certifier |  |
| | | | |
| ☐ | Testing procedure: CTF Stage 1 | N/A | |
| Testing location/ address : | | | |
| Tested by (name, functioin + signature).....: | | | |
| Approved by (name, functioin + signature)..: | | | |
| | | | |
| ☐ | Testing procedure: CTF Stage 2 | N/A | |
| Testing location/ address ..... : | | | |
| Tested by (name, functioin + signature).....: | | | |
| Witnessed by (name, functioin + signature).: | | | |
| Approved by (name, functioin + signature)..: | | | |
| | | | |
| ☐ | Testing procedure: CTF Stage 3 | N/A | |
| ☐ | Testing procedure: CTF Stage 4 | | |
| Testing location/ address ..... : | | | |
| Tested by (name, functioin + signature).....: | | | |
| Approved by (name, functioin + signature)..: | | | |
| Supervised by (name, functioin + signature): | | | |

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

-Photo documentation (2 pages)

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

**Summary of testing:**

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

All applicable tests as described in Test Case and Measurement Sections were performed.

- The maximum normal load condition used as below during testing:

  For EA271Q

  The equipment operated under maximum brightness, maximum contrast of LED backlight circuit and the volume with 1kHz sinusoidal waveform of unit adjusted to maximum attainable output and dummy load of main board type C
- 5V/0.9A for each USB 3.0 port (total three provided) and 3.3V/0.5A for Display port (total two provided) and 5V, 9V 12V, 15V, 20V / 3A for USB Type C refer to appended table B.2.6.
- The test samples are pre-production without serial numbers.
- The equipment provided wall mounting function and complied with loading test mentioned at sub-clause 8.10.3.
- The equipment has been evaluated according to the specified by the manufacturer maximum operating altitude of 5000m (correction factor for clearances according to IEC 60664-1:2007 of 1.48 is considered).
- The manufacturer specified the maximum ambient temperature as +40°C.
- If no specified, all tests were performed on model EA271U as representative
- The LCD Monitor can be adjustment monitor's height and operated in landscape (0° or 180°) and portrait mode (rotate at 90° or -90°).
- The decision rule of conformity of this test report is following the requirements of the requested standard in this test report, and agreed among testing laboratory and manufacturer (applicant) to exclude the consideration of Measurement Uncertainty.

**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:**

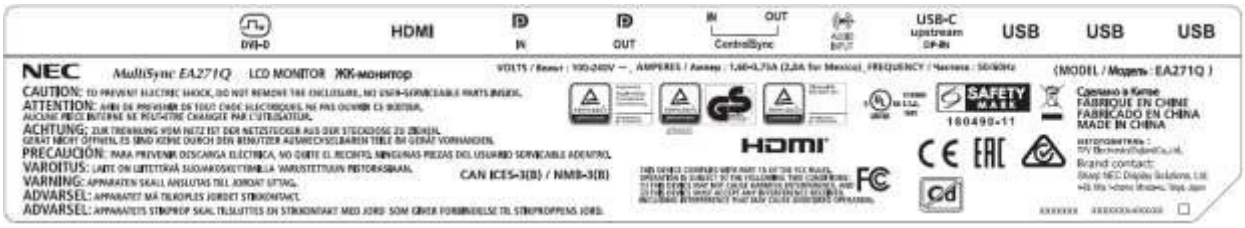
**List of countries addressed:**

Summary of compliance with National Differences to IEC 62368-1:2014 (Second Edition) and EN 62368-1:2014 (for explanation of codes see below):

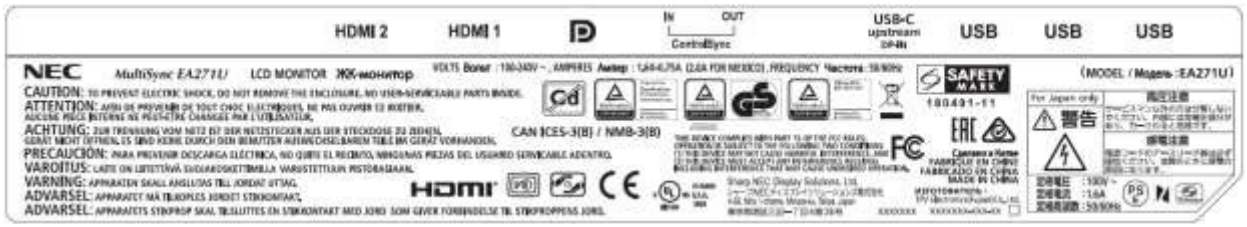
EU Group Differences, EU Special National Conditions, CA, DE, DK, FI, IT, NO, SE, US.
Explanation of used codes: CA=Canada, DE=Germany, DK=Demark, FI=Finland, IT=Italy, NO=Norway, SE=Sweden, US=United States of America.

☒ **The product fulfils the requirements of EN 62368-1:2014.**
☒ **The product fulfils the requirements of EN 62368-1:2014 + A11:2017**

**Copy of marking plate:**





Notes:

The above labels are draft of an artwork for marking plate pending approval by National Certification Bodies and it shall not be affixed to products prior to such an approval.

| **TEST ITEM PARTICULARS:** | |
|---|---|
| Classification of use by | ☒ Ordinary person<br>☐ Instructed person<br>☐ Skilled person<br>☒ Children likely to be present |
| Supply Connection | ☒ AC Mains ☐ DC Mains<br>☐ External Circuit - not Mains connected<br>- ☐ ES1 ☐ ES2 ☐ ES3 |
| Supply % Tolerance | ☒ +10%/-10%<br>☐ +20%/-15%<br>☐ +15 %/-15 %<br>☐ None |
| Supply Connection – Type | ☒ pluggable equipment type A -<br>☐ non-detachable supply cord<br>☒ appliance coupler<br>☐ direct plug-in<br>☐ mating connector<br>☐ pluggable equipment type B -<br>☐ non-detachable supply cord<br>☐ appliance coupler<br>☐ permanent connection<br>☐ mating connector ☐ other:_____ |
| Considered current rating of protective device as part of building or equipment installation | 16 A, 13 A (GB) or 20 A (US and Canada) (For building)<br>Installation location: ☒ building; ☒ equipment (4A for 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<br>☐ OVC IV ☐ other: _____ |
| Class of equipment | ☒ Class I ☐ Class II ☐ Class III |
| Access location | ☐ restricted access location ☒ N/A |
| Pollution degree (PD) | ☐ PD 1 ☒ PD 2 ☐ PD 3 |
| Manufacturer's specified maximum operating ambient | 40 °C |
| IP protection class | ☒ IPX0 ☐ IP20 |
| Power Systems | ☒ TN ☐ TT ☒ IT - 230 V $_{L-L}$ |
| Altitude during operation (m) | ☐ 2000 m or less ☒ Up to 5000 m |
| Altitude of test laboratory (m) | ☒ 2000 m or less ☐ _____ m |

| | |
|---|---|
| Mass of equipment (kg) ..... | ☒ Approx. 8.06kg (Unit with base stand); Base stand: 2.46 kg |
| | |
| **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..... | 2020-11-17 |
| Date (s) of performance of tests..... | 2020-11-24 to 2020-11-25 |
| | |
| **GENERAL REMARKS:** | |
| **"(See Enclosure #)" refers to additional information appended to the report.**<br>**"(See appended table)" refers to a table appended to the report.**<br><br>**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**<br>☐ **Not applicable** |
| **When differences exist; they shall be identified in the General product information section.** | |

| Name and address of factory (ies)..... | Name and address of factory (ies).....: |
|---|---|
| | 1) TPV Display Technology (Wuhan) Co., Ltd.<br>Unique No. 11, Zhuankou Development District of Economic Technological Development Zone, 430056 Wuhan City, P.R. China<br>2) TPV Electronics (Fujian) Co., Ltd.<br>Shangzheng, Yuan Hong Road Fuqing City Fujian P.R. China<br>3) L&T Display Technology (Fujian) Ltd. Optoelectronic Park, Rongqiao Economic and Technological Development Zone Fuqing, 350301 Fujian, P.R. China<br>4) TPV Electronics (Fujian) Co., Ltd.<br>Rongqiao Economic and Technological Development Zone Fuqing City Fujian, P.R. China<br>5) Trend Smart CE Mexico S de RL de CV<br>Avenida Sor Juana Ines de la Cruz de 19602 Nueva Tijuana, 22435 Tijuana Baja California MEXICO<br>6) 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<br>7) TPV Technology (Qingdao) Co., Ltd.<br>No.99 Huoju Road, High-tech Industrial Development Zone Qingdao City, Shandong, P.R. China<br>8) TPV Display Technology (China) Co., Ltd.<br>No. 106 Jinghai 3 Rd., BDA 100176 Beijing P.R. China<br>9) TPV Electronics (Fujian) Co., Ltd.<br>Optoelectronic Park, Rongqiao Economic and Technological Development Zone, Fuqing City, 350301 Fujian, P.R. China<br>10) Envision Indústria de Produtos Eletrônicos Ltda.<br>Av. Torquato Tapajós, 2236, Flores – CEP 69058-830 - Manaus/AM Brazil<br>11) Pro Concept Manufacturer Co., Ltd.<br>88/1 Moo 12 Soi Phetkasem 120, Phetkasem Road, Omnoi, Krathumbaen, Samutsakhon 74130 Thailand<br>12) TPV Technology(Thailand) Co., Ltd.<br>Tambon Tha Turn, Amphoe Si Maha Phot, Chang Wat Prachin Buri 25140 Thailand<br>13) TPV Technology (Thailand) Co., Ltd.<br>267 Moo 7, Thatum Sub-District, Srimahaphot District, Prachinburi Province, Thailand |

**GENERAL PRODUCT INFORMATION:**

**General product information:**

Refer to Report No. 50133683 001 and 002.

The equipment models which shown as page 2 are LCD Monitor intended for information technology equipment scope of this standard use.

The equipment consists of the following critical components:

- LCD panel (LED backlight type);
- Building-in type non-approved switching power supply board;
- Main board type A and **type C** (with HDMI port, Display port x2, DVI port , ControlSync IN/OUT, USB 3.0

port x 3, Audio IN port, Audio Out port, USB type B port, USB type C port);

- Main board type B (with HDMI port x2, Display port, ControlSync IN/OUT, USB 3.0 port x 3, Audio Out port, USB type B port, USB type C port);
- External plastic enclosure;
- Internal metal enclosure;
- Internal speak;
- Key control board.

**Construction Differences**

| Model name | EA271Q, EA271Q-BK | | EA271U, EA271U-BK |
|---|---|---|---|
| Main board | Type A | **Type C** | Type B |
| Power board | Type A, Type B | Type B | Type A, Type B |
| Panel | LTM270DLz | **LM270WQ4** | LM270WR3,<br>MV270QU*-N** |

Description of change(s):

1. Add additional source of LCD panel for EA271Q, EA271Q-BK.
2. Add additional main board type C for EA271Q, EA271Q-BK.
3. Add additional source of external plastic enclosure.
4. Add additional power cord per client request.
5. Correct typing error of table 4.1.2.
6. Change manufacturer name from NEC Display Solutions, Ltd. to Sharp NEC Display Solutions, Ltd.
7. Change label for EA271Q, EA271Q-BK, EA271U and EA271U-BK.

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

| Change | Testing | Comments |
|---|---|---|
| 1, 2, 3 | - Input test<br>- Mechanical strength test<br>- Hi-Pot test | Add additional source of LCD panel for EA271Q, EA271Q-BK. Add additional main board type C for EA271Q, EA271Q-BK. Add additional source of external plastic enclosure. For test results see appended tables. For source see appended table 4.1.2. For new main board see photo for details. Input test was smaller then original, no further tests required. |
| 4 | N/A | For new sources, see appended table 4.1.2 for details. |
| 5 | N/A | See bold type in table 4.1.2. |
| 6 | N/A | See page 2 for details. |
| 7 | N/A | See page 5 for details. |

History of amendments and modifications:
Ref. No. 50133683 001 dated April, 03, 2018 (original test report)
Ref. No. 50133683 002 dated May, 25, 2018 (modification)
Ref. No. 50133683 003, dated Jan. 10, 2020 (modification)
Ref. No. 50133683 004 dated Mar, 06, 2020 (amendment)
Red No. 50133683 005 dated Dec. 17, 2020 (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)**

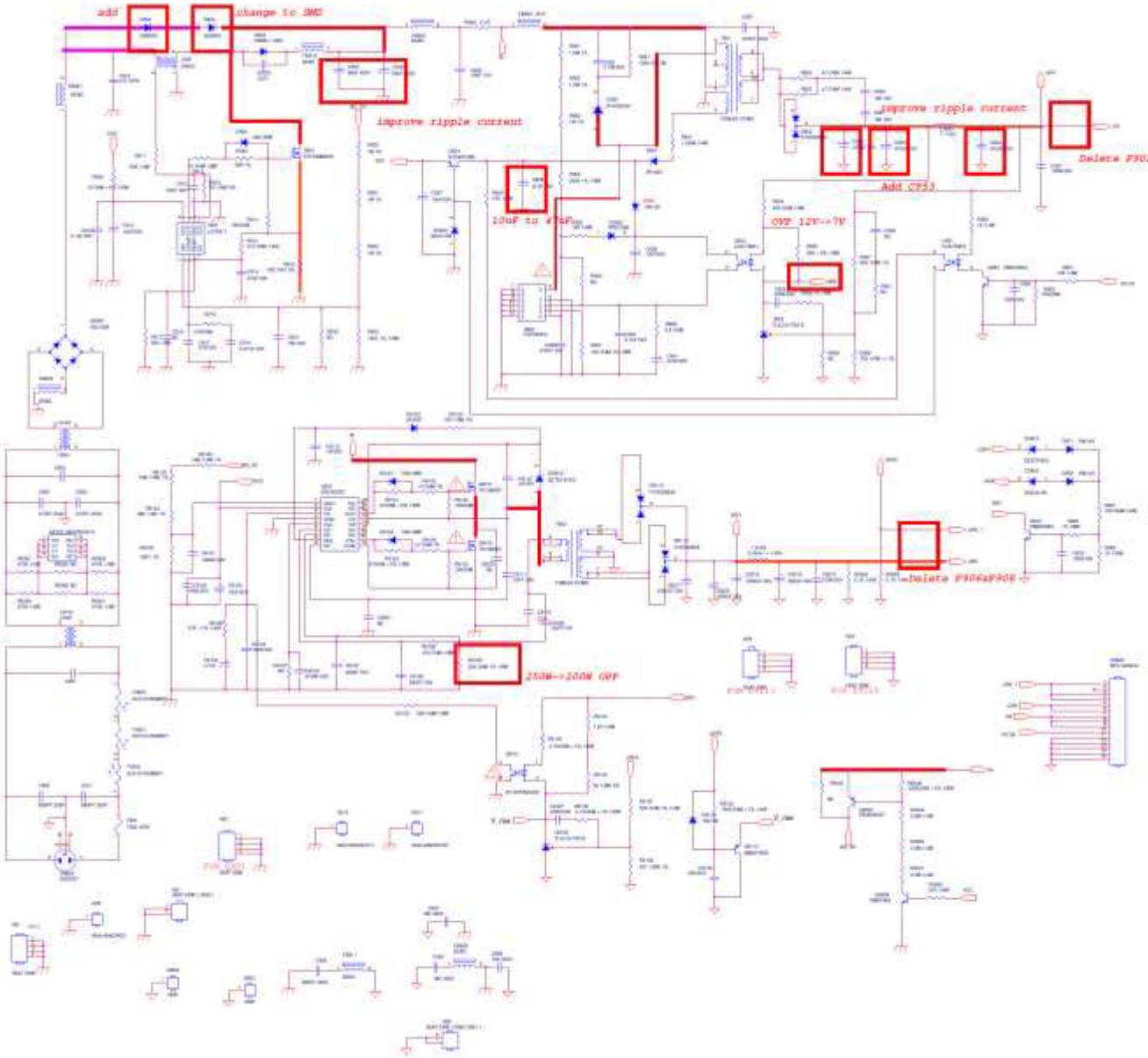
| **ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:** | |
|---|---|
| (Note 1: Identify the following six (6) energy source forms based on the origin of the energy.)<br>(Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3. | |
| **Electrically-caused injury (Clause 5):**<br>(Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification)<br>Example: +5 V dc input ES1 | |
| **Source of electrical energy** | **Corresponding classification (ES)** |
| All Primary circuits (Left side of T901 before D950) (Left side of T903 before D9110/ D9113) | ES3 |
| All secondary circuits (Right side of T901 after D950) (right side of T903 before D9110/ D9113) | ES1 |
| LED driver circuit output | ES1 |
| All output connectors | ES1 |
| Plastic Enclosure /metal enclosure | ES1 |
| **Electrically-caused fire (Clause 6):**<br>(Note: List sub-assembly or circuit designation and corresponding energy source classification)<br>Example: Battery pack (maximum 85 watts): PS2 | |
| **Source of power or PIS** | **Corresponding classification (PS)** |
| Building-in Power board circuit (Both primary and secondary circuit) | PS3 |
| Mainboard circuit | PS3 |
| Output connector | PS2 |
| **Injury caused by hazardous substances (Clause 7)**<br>(Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.)<br>Example: Liquid in filled component Glycol | |
| **Source of hazardous substances** | **Corresponding chemical** |
| N/A | N/A |
| **Mechanically-caused injury (Clause 8)**<br>(Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.)<br>Example: Wall mount unit MS2 | |
| **Source of kinetic/mechanical energy** | **Corresponding classification (MS)** |
| Sharp edges and corners | MS1 |
| Equipment mass | MS2 |
| Wall mount | MS3 |

| ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE: | |
|---|---|
| **Thermal burn injury (Clause 9)**<br>(Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.)<br>Example: Hand-held scanner – thermoplastic enclosure TS1 | |
| **Source of thermal energy** | **Corresponding classification (TS)** |
| All accessible parts | TS1 |
| **Radiation (Clause 10)**<br>(Note: List the types of radiation present in the product and the corresponding energy source classification.)<br>Example: DVD – Class 1 Laser Product RS1 | |
| **Type of radiation** | **Corresponding classification (RS)** |
| Photocoupler | RS1 |
| Panel | RS1 |
| Indicating Light | RS1 |

## ENERGY SOURCE DIAGRAM

Indicate which energy sources are included in the energy source diagram. Insert diagram below

**For Building-in Power board**




■ ES ■ PS ■ MS ■ TS ■ RS

| **OVERVIEW OF EMPLOYED SAFEGUARDS** | | | | |
|---|---|---|---|---|
| **Clause** | **Possible Hazard** | | | |
| 5.1 | Electrically-caused injury | | | |
| Body Part (e.g. Ordinary) | Energy Source (ES3: Primary Filter circuit) | Safeguards | | |
| | | Basic | Supplementary | Reinforced (Enclosure) |
| Ordinary | ES3: Primary circuit | N/A | N/A | Plastic Enclosure Transformer (T901), optocoupler (U950, U951, U9101), and bridging capacitor (C906, C907, C927), Bleeder Resistors (R9357, R9358, R9359, R9361) and Discharge IC (U9103) |
| Ordinary | ES1: LED driver circuit output | N/A | N/A | N/A |
| Ordinary | ES1: Secondary Circuit | N/A | N/A | N/A |
| Ordinary | ES1: All output connector | N/A | N/A | N/A |
| Ordinary | ES1: Plastic enclosure | N/A | N/A | N/A |
| 6.1 | Electrically-caused fire | | | |
| Material part (e.g. mouse enclosure) | Energy Source (PS2: 100 Watt circuit) | Safeguards | | |
| | | Basic | Supplementary | Reinforced |
| Combustible materials within equipment fire enclosure | PS3: > 100 Watt circuit (Primary circuits) | No ignition occurs see sub-clause 6.3 | see sub-clause 6.4.5, 6.4.6 for detail | N/A |
| | PS2: < 100 Watt circuit (Secondary circuits) | | see sub-clause 6.4.5 for detail | |
| Plastic enclosure/metal enclosure | PS3: > 100 Watt circuit (Primary circuits) | No ignition occurs see sub-clause 6.3 | see sub-clause 6.4.5 for detail | N/A |
| | PS2: < 100 Watt circuit (Secondary circuits) | | see sub-clause 6.4.5 for detail | |
| Internal wiring material | PS2: < 100 Watt circuit (Secondary circuits) | No ignition occurs see sub-clause 6.3 | see sub-clause 6.5. for detail | N/A |
| 7.1 | Injury caused by hazardous substances | | | |
| Body Part | Energy Source | Safeguards | | |

| (e.g., skilled) | (hazardous material) | Basic | Supplementary | Reinforced |
|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A |
| 8.1 | Mechanically-caused injury | | | |
| Body Part (e.g. Ordinary) | Energy Source (MS3: High Pressure Lamp) | Safeguards | | |
| | | Basic | Supplementary | Reinforced (Enclosure) |
| Ordinary | MS1: Sharp edges and corners | N/A | N/A | N/A |
| Ordinary | MS2: Equipment mass – mass 8.06 kg < 25 kg | see sub-clause 8.6 (skid proof pad provided for stand) | N/A | N/A |
| Ordinary | MS3: Wall mount | N/A | N/A | see sub-clause 8.7 |
| 9.1 | Thermal Burn | | | |
| Body Part (e.g., Ordinary) | Energy Source (TS2) | Safeguards | | |
| | | Basic | Supplementary | Reinforced |
| Ordinary | TS1: All accessible parts | N/A | N/A | N/A |
| 10.1 | Radiation | | | |
| Body Part (e.g., Ordinary) | Energy Source (Output from audio port) | Safeguards | | |
| | | Basic | Supplementary | Reinforced |
| N/A | RS1: Indicating lights | N/A | N/A | N/A |
| N/A | RS1: Panel | N/A | N/A | N/A |
| N/A | RS1: Photo coupler | N/A | N/A | N/A |
| Supplementary information:<br>(1) See attached energy source diagram for additional details.<br>(2) “N” – Normal Condition; “A” – Abnormal Condition; “S” – Single Fault. | | | | |

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

| | | | |
|---|---|---|---|
| **T** | **MECHANICAL STRENGTH TESTS** | | P |
| T.1 | General requirements | See the following details. | P |
| T.2 | Steady force test, 10 N .....: | 10 N applied to all components other than the parts serving as an enclosure. | P |
| T.3 | Steady force test, 30 N .....: | No internal enclosure | N/A |
| T.4 | Steady force test, 100 N .....: | | N/A |
| T.5 | Steady force test, 250 N .....: | See appended table T.2, T.3, T.4, T.5 | P |
| T.6 | Enclosure impact test | See appended table T.6, T.9 | P |
| | Fall test | A 500 g steel sphere ball fell freely from rest through a vertical distance of 1300 mm onto the sample. | P |
| | Swing test | A 500 g steel sphere ball suspended by a cord droping through a vertical distance of 1300 mm onto the sample | P |
| T.7 | Drop test .....: | | N/A |
| T.8 | Stress relief test .....: | See appended table T.8 | P |

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

| 4.1.2 | TABLE: List of critical components | | | | P |
|---|---|---|---|---|---|
| Object / part No. | Manufacturer/ trademark | Type / model | Technical data | Standard | Mark(s) of conformity[1] |
| External Plastic Enclosure (rear enclosure) | GUO HENG(DONGGUAN) PLASTIC TECHNOLOGY CO LTD | YOUHE26(##) | V-0 or better, 60 degree C min., min. 1.5mm thickness. | UL 94 Edition Number 6 | UL |
| External Plastic Enclosure (front frame as decorating part) | Lotte Advanced | NE-1030(+) | V-0 or better, 60 degree C min., min. 1.5mm thickness. | UL 94 Edition Number 6 | UL |
| alt. | GUO HENG(DONGGUAN) PLASTIC TECHNOLOGY CO LTD | YOUHE26(##) | V-0 or better, 60 degree C min., min. 1.5mm thickness. | UL 94 Edition Number 6 | UL |
| LCD Panel (only for EA271Q, EA271Q-BK) | LG Display | LM270WQ4 | 10.0Vdc, Max. 1.040A. | IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013 | CB by TUV |
| Power cord set listed below by client's request | | | | | |
| Mains cord set (Saudi Arabia) (Optional) | | | | | |
| Plug | I-Sheng | SP-62 | 3A/5A/10A/13A, 250V~. | BS 1363 SASO 2203:2018 | CVC |
| -alt. | I-Sheng | SP-65 | 3A/5A/10A, 250V~. | BS 1363 SASO 2203:2018 | CVC |
| Cable | I-Sheng | H05VV-F | 3 x 0.75mm$^2$, 3 x 1.0mm$^2$, 3 x 1.5mm$^2$. | BS 1363 SASO 2203:2018 | CVC |
| -alt. | I-Sheng | H05RR-F | 3 x 0.75mm$^2$. | BS 1363 SASO 2203:2018 | CVC |
| -alt. | I-Sheng | H03VV-F | 3 x 0.75mm$^2$. | BS 1363 SASO 2203:2018 | CVC |
| Supplementary information:<br>1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.<br>2) In the technical data column of optocoupler, where "Dti" means distance through insulation, "Int. cr" means internal creepage distance, and "Ext. cr" means external creepage distance. | | | | | |

| 5.4.9 | TABLE: Electric strength tests | | | P |
|---|---|---|---|---|
| Test voltage applied between: | Voltage shape (AC, DC) | Test voltage (V) | Breakdown Yes / No | |
| Basic/supplementary: | | | | |

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

| | | | |
|---|---|---|---|
| Unit: primary to earth | DC | 2500 | No |
| Reinforced: | | | |
| Unit: primary and secondary | DC | 4000 | No |
| Unit: Primary to plastic enclosure with foil | DC | 4000 | No |
| Routine Tests: | | | |
| -- | -- | -- | -- |
| Supplementary information: | | | |

| B.2.5 | TABLE: Input test | | | | | | P |
|---|---|---|---|---|---|---|---|
| U (Vac)/Freq (Hz) | I (A) | I rated (A) | P (W) | P rated (W) | Fuse No. | I fuse (A) | Condition/status |
| HDMI mode | | | | | | | |
| 90/50 | 1.51 | -- | 136 | -- | F901 | 1.51 | Maximum Normal Load. |
| 90/60 | 1.51 | -- | 136 | -- | F901 | 1.51 | Maximum Normal Load. |
| 100/50 | 1.34 | 1.60 | 134 | -- | F901 | 1.34 | Maximum Normal Load. |
| 100/60 | 1.34 | 1.60 | 134 | -- | F901 | 1.34 | Maximum Normal Load. |
| 240/50 | 0.61 | 0.75 | 130 | -- | F901 | 0.61 | Maximum Normal Load. |
| 240/60 | 0.61 | 0.75 | 130 | -- | F901 | 0.61 | Maximum Normal Load. |
| 264/50 | 0.56 | -- | 129 | -- | F901 | 0.56 | Maximum Normal Load. |
| 264/60 | 0.56 | -- | 129 | -- | F901 | 0.56 | Maximum Normal Load. |
| DP mode | | | | | | | |
| 90/50 | 1.50 | -- | 134 | -- | F901 | 1.50 | Maximum Normal Load. |
| 90/60 | 1.50 | -- | 134 | -- | F901 | 1.50 | Maximum Normal Load. |
| 100/50 | 1.33 | 1.60 | 133 | -- | F901 | 1.33 | Maximum Normal Load. |
| 100/60 | 1.33 | 1.60 | 133 | -- | F901 | 1.33 | Maximum Normal Load. |
| 240/50 | 0.61 | 0.75 | 128 | -- | F901 | 0.61 | Maximum Normal Load. |
| 240/60 | 0.61 | 0.75 | 128 | -- | F901 | 0.61 | Maximum Normal Load. |
| 264/50 | 0.55 | -- | 128 | -- | F901 | 0.55 | Maximum Normal Load. |
| 264/60 | 0.55 | -- | 128 | -- | F901 | 0.55 | Maximum Normal Load. |
| DVI mode | | | | | | | |
| 90/50 | 1.51 | -- | 136 | -- | F901 | 1.51 | Maximum Normal Load. |
| 90/60 | 1.51 | -- | 136 | -- | F901 | 1.51 | Maximum Normal Load. |
| 100/50 | 1.35 | 1.60 | 135 | -- | F901 | 1.35 | Maximum Normal Load. |
| 100/60 | 1.35 | 1.60 | 135 | -- | F901 | 1.35 | Maximum Normal Load. |
| 240/50 | 0.62 | 0.75 | 131 | -- | F901 | 0.62 | Maximum Normal Load. |
| 240/60 | 0.62 | 0.75 | 131 | -- | F901 | 0.62 | Maximum Normal Load. |
| 264/50 | 0.56 | -- | 130 | -- | F901 | 0.56 | Maximum Normal Load. |
| 264/60 | 0.56 | -- | 130 | -- | F901 | 0.56 | Maximum Normal Load. |

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

| B.2.5 | TABLE: Input test | | | | | | P |
|---|---|---|---|---|---|---|---|
| U (Vac)/Freq (Hz) | I (A) | I rated (A) | P (W) | P rated (W) | Fuse No. | I fuse (A) | Condition/status |
| USB type C mode | | | | | | | |
| 90/50 | 0.69 | -- | 61.7 | -- | F901 | 0.69 | Maximum Normal Load. |
| 90/60 | 0.69 | -- | 61.7 | -- | F901 | 0.69 | Maximum Normal Load. |
| 100/50 | 0.61 | 1.60 | 60.6 | -- | F901 | 0.61 | Maximum Normal Load. |
| 100/60 | 0.61 | 1.60 | 60.6 | -- | F901 | 0.61 | Maximum Normal Load. |
| 240/50 | 0.30 | 0.75 | 59.5 | -- | F901 | 0.30 | Maximum Normal Load. |
| 240/60 | 0.30 | 0.75 | 59.5 | -- | F901 | 0.30 | Maximum Normal Load. |
| 264/50 | 0.28 | -- | 59.3 | -- | F901 | 0.28 | Maximum Normal Load. |
| 264/60 | 0.28 | -- | 59.3 | -- | F901 | 0.28 | Maximum Normal Load. |

Supplementary information:

Max. normal load:

The unit operated maximum brightness

The apparatus was operated to deliver maximum obtainable output power with 1khz sine waveform

DP port: 3.3Vdc / 0.5A

USB type C port: 20Vdc/ 3A

USB3.0 port: 5Vdc/ 0.9A

| T.2, T.3, T.4, T.5 | TABLE: Steady force test | | | | P |
|---|---|---|---|---|---|
| Part/Location | Material | Thickness (mm) | Force (N) | Test duration (sec) | Observation |
| Internal component | -- | -- | 10 | 5 | The clearance and creepage distances do not be reduced below the required values. |
| External plastic enclosure (Top rear and sides) | See table 4.1.2 | See table 4.1.2 | 250 | 5 | All safeguards remained effective. |

Supplementary information:

Containing all sources during the test. For details refer to appended table 4.1.2.

| T.6, T.9 | TABLE: Impact tests | | | P |
|---|---|---|---|---|
| Part/Location | Material | Thickness (mm) | Vertical distance (mm) | Observation |
| External plastic enclosure (Top rear and sides) | See table 4.1.2 | See table 4.1.2 | 1300 | All safeguards remained effective. |

Supplementary information:

Containing all sources during the test. For details refer to appended table 4.1.2.

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

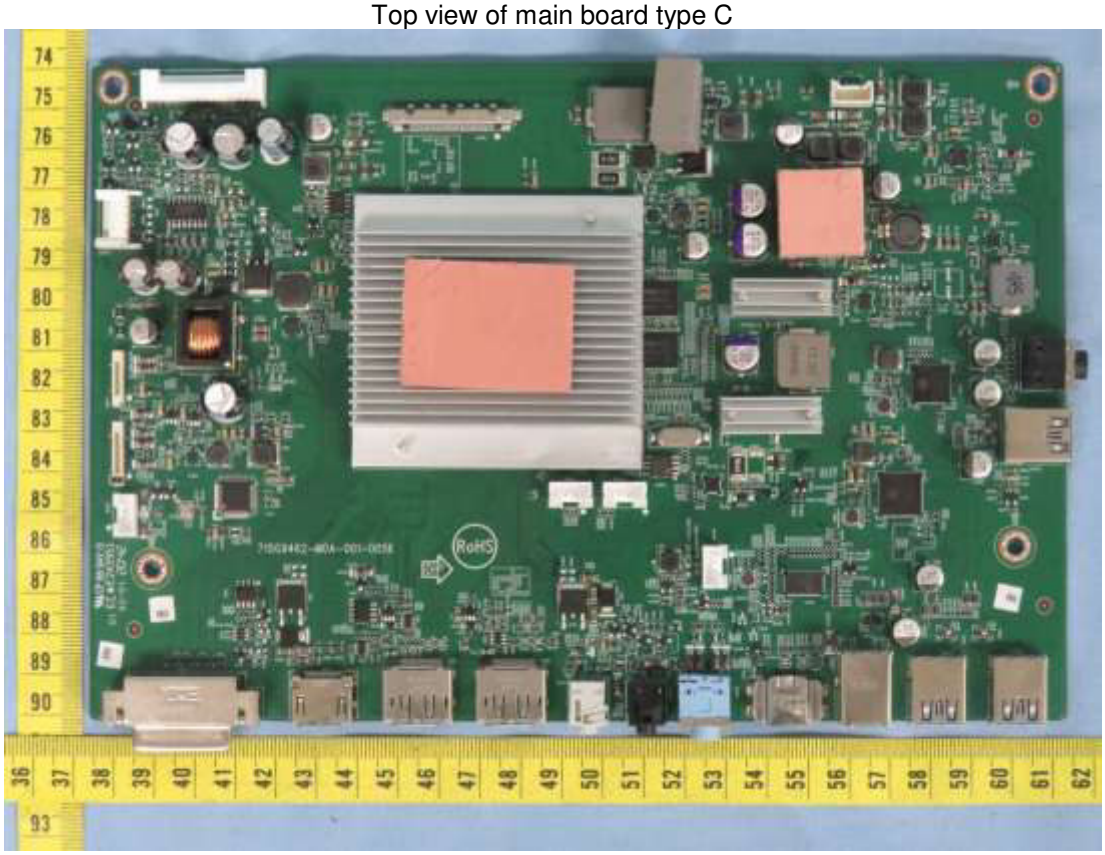
| T.8 | TABLE: Stress relief test | | | | P |
|---|---|---|---|---|---|
| Part/Location | Material | Thickness (mm) | Oven temperature (°C) | Duration (h) | Observation |
| External plastic enclosure | See table 4.1.2 | See table 4.1.2 | 70 | 7 | All safeguards remained effective. |
| Supplementary information:<br>Containing all sources during the test. For details refer to appended table 4.1.2. | | | | | |

**List of test equipment used:**
“No listing of test equipment used necessary for chosen test procedure.”

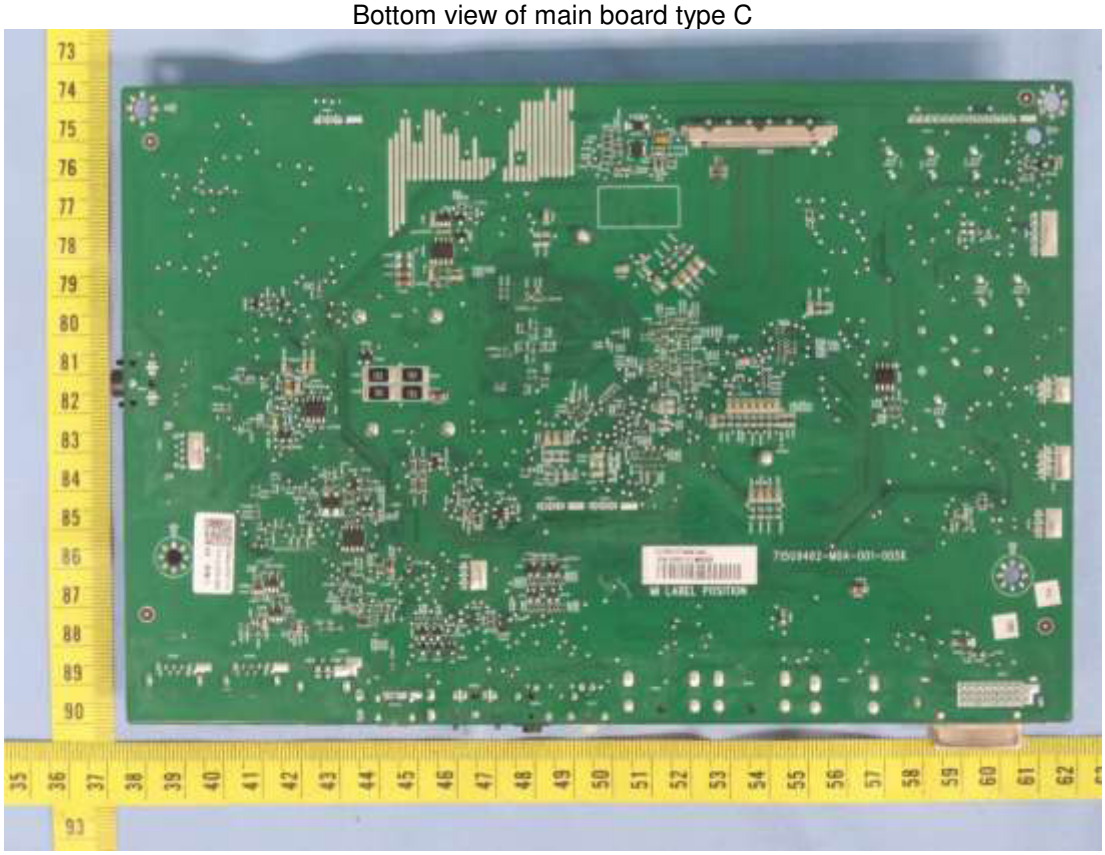
Product: LCD Monitor

Type Designation: EA271Q, EA271Q-BK, EA271U, EA271U-BK

Top view of main board type C



Bottom view of main board type C



Product: LCD Monitor

Type Designation: EA271Q, EA271Q-BK, EA271U, EA271U-BK

Connector view 1 of main board type C

Connector view 2 of main board type C