IEC IECEE CB SCHEME

**Ref. Certif. No.**

JPTUV-058994

**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<br>Produit | LCD MONITOR |
| Name and address of the applicant<br>Nom et adresse du demandeur | TPV Electronics (Fujian) Co., Ltd.<br>Shangzheng, Yuan Hong Road<br>Fuqing City, Fujian Province, P.R. China |
| Name and address of the manufacturer<br>Nom et adresse du fabricant | TPV Electronics (Fujian) Co., Ltd.<br>Shangzheng, Yuan Hong Road<br>Fuqing City, Fujian Province, P.R. China |
| Name and address of the factory<br>Nom et adresse de l'usine | See additional page(s) |
| Ratings and principal characteristics<br>Valeurs nominales et charactéristiques principales | AC 100-240V; 50/60Hz; 1.5A; Class I |
| Trademark (if any)<br>Marque de fabrique (si elle existe) | AOC |
| Type of Manufacturer's Testing Laboratories used<br>Type de programme du laboratoire d'essais constructeur | N/A |
| Model / Type Ref.<br>Ref. de type | 230LM00024, *2360****, 230LM000**<br>(* = 0-9, A-Z, a-z, -, \, /, + or blank.) |
| Additional information (if necessary may also be reported on page 2)<br>Les informations complémentaires (si nécessaire, peuvent être indiqués sur la 2ème page) | For model differences, refer to the test report. |
| A sample of the product was tested and found to be in conformity with<br>Un échantillon de ce produit a été essayé et a été considéré conforme à la | IEC 60950-1:2005+A1+A2<br>National differences see test report |
| As shown in the Test Report Ref. No. which forms part of this Certificate<br>Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat | 17036402 001 |

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®

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: 26.09.2014

Signature: Ing. M. Eichenseder

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
   13.205-700 Tijuco Preto-Jundiaí-SP-
   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.: 17036402 001

Date: 26.09.2014

Signature: Ing. M. Eichenseder

10. Hefei Huntkey Display Technology
Co., Ltd.
South Jinxiu Road, East Qingtan Road
Economic And Technological
Development Zone, Hefei, Anhui 230601, P.R. China

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

Report Ref. No.: 17036402 001

Date: 26.09.2014

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**. .....: | 17036402 001 |
| **Date of issue** .....: | 25.Sep.2014 |
| **Total number of pages**..... | 82 pages |
| **Applicant's name**.....: | TPV Electronics (Fujian) Co., Ltd. |
| **Address** .....: | Shangzheng, Yuan Hong Road, 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 |



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.**

**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..... : | 230LM00024, *2360****, 230LM000** (* can be 0-9, A-Z, a-z, – , \ , / , + or blank for marketing purpose. Model 230LM00024 is one of the specified model name of 230LM000**, listed by client' request.) |
| Ratings..... : | I/P: 100-240Vac, 50/60Hz, 1.5A |

| | | | |
|---|---|---|---|
| Testing procedure and testing location: | | | |
| ☒ | CB Testing Laboratory: | TÜV Rheinland (Shenzhen) Co., Ltd. | |
| Testing location/ 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 | |
| ☐ | Associated CB Testing Laboratory: | N/A | |
| Testing location/ address ..... : | | N/A | |
| Tested by (name + signature)..... : | | Steven Lin | |
| Approved by (name + signature)..... : | | Aegean Li | |
| ☐ | Testing procedure: TMP/CTF Stage 1: | N/A | |
| Testing location/ address ..... : | | N/A | |
| Tested by (name + signature)..... : | | | |
| Approved by (name + signature)..... : | | | |
| ☐ | Testing procedure: WMT/CTF Stage 2: | N/A | |
| Testing location/ address ..... : | | N/A | |
| Tested by (name + signature)..... : | | | |
| Witnessed by (name + signature) ..... : | | | |
| Approved by (name + signature)..... : | | | |
| ☐ | Testing procedure: SMT/CTF Stage 3 or 4: | N/A | |
| Testing location/ address ..... : | | N/A | |
| 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
- National Differences

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

**Summary of testing:**

| **Tests performed (name of test and test clause):** | **Testing location:** |
|---|---|
| The tests were carried out under the most unfavorable combination within the manufacturer's operating specifications of the following parameters:<br><br>-supply voltage, which ranged from 100-240Vac<br>-operating temperature, Max. ambient temperature 40°C declared by the client<br>-operating mode: continuous<br>-operating load:<br>1) maximum brightness, maximum contrast, full white screen;<br>2) speakers were loaded with 1KHz sinusoidal signal and turned to maximum volume;<br>3) each USB port loaded 5V/0.5A.<br><br>The critical tests were performed for this equipment included clauses 1.6.2, 1.7.11, 2.1.1.1, 2.1.1.5, 2.1.1.7, 2.2.2, 2.2.3, 2.5, 2.6.3.4, 2.9.2, 2.10.2, 2.10.3, 2.10.4, 4.1, 4.2.2, 4.2.3, 4.2.4, 4.2.5, 4.2.7, 4.2.10, 4.5.2, 4.5.5, 4.6, 5.1.6, 5.2 and 5.3 in scope of this standard, for temperature test the thermocouples method used, regarding fault condition test simulated faults applied.<br><br>The EUT passed the test. | 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=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 60950-1:2001 evaluated.

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

Special national conditional for J60950-1 (H26) and J3000 (H25):
Per client's request, supplement the special national conditional for J60950 (H26) and J3000 (H25) to present test report, described as bellowing items:
1) the equipment is considered as Class 0I or Class I equipment.
2) considered futher Japanese technical requirements J60950-1 (H26). Unit also complies with touch current requirements for Class 0I equipment:< 1.0mA.

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

**Copy of marking plate**

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.


Note: The above labels represent labels for model names other than above covered by the model name.

| | |
|---|---|
| **Test item particulars.....:** | |
| **Equipment mobility.....:** | [x] movable (for unit with base stand)<br>[] hand-held [] transportable<br>[x] stationary (for unit without base stand)<br>[] for building-in [] direct plug-in |
| **Connection to the mains.....:** | [x] pluggable equipment [x] type A [] type B<br>[] permanent connection<br>[x] detachable power supply cord<br>[] non-detachable power supply cord<br>[] not directly connected to the mains |
| **Operating condition.....:** | [x] continuous<br>[] rated operating / resting time: |
| **Access location .....:** | [x] operator accessible<br>[] restricted access location |
| **Over voltage category (OVC) .....:** | [] OVC I [x] OVC II [] OVC III [] OVC IV<br>[] other: |
| **Mains supply tolerance (%) or absolute mains supply values .....:** | ±10% (requested by client) |
| **Tested for IT power systems .....:** | [] Yes [x] No |
| **IT testing, phase-phase voltage (V) .....:** | |
| **Class of equipment .....:** | [x] Class I [] Class II [] Class III<br>[] Not classified |
| **Considered current rating of protective device as part of the building installation (A) .....:** | 16A (20A for North America) |
| **Pollution degree (PD) .....:** | [] PD 1 [x] PD 2 [] PD 3 |
| **IP protection class .....:** | IP20 |
| **Altitude during operation (m) .....:** | ≤5000 |
| **Altitude of test laboratory (m) .....:** | <2000 |
| **Mass of equipment (kg) .....:** | Approx. 3.99kg without base;<br>(base type A weight 2.23kg;<br>base type B weight: 0.29kg) |
| **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.....:** | Sep.04.2014 |
| **Date(s) of performance of tests .....:** | Sep.04.2014-Sep.24.2014 |

**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)..... :**

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, 13.205-700 Tijuco Preto-Jundiaí-SP-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 Tijuans 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.

10 Hefei Huntkey Display Technology Co.,Ltd.
South Jinxiu Road, East Qingtan Road, Economic And Technological Development Zone, Hefei, Anhui 230601, P.R. China

**General product information:**

The test report is based on original reports 17028017 001-003 to:

1. Upgrade test standard to IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013;
2. Update factory list as shown in page 6.
3. Add alternative construction including:
   1) new power board 715G6503;
   2) new main board 715G6911 with VGA, DVI ports;
   3) new metal enclosure type D, used with base type B only.
4. Add alternative main board 715G6605 used with original power board 715G5361 type A only.

See below for general product information:

The models 230LM000** and *2360**** are idential except for type designation.

Model 230LM00024 is one of the specified model name of 230LM000**, listed by client' request

The models are LCD Monitor intended for general office use and have following features:

1. LCD Type: 23" TFT LCD with LED backlight (resolution: 1920 x 1080);
2. Building-in power supply board;
3. Building-in main board;
4. Building-in USB board;
5. Two sets of speaker (optional);
6. The internal metal chassis is considered as fire enclosure and mechanical enclosure, and the external plastic enclosure is regarded as electrical enclosure and mechanical enclosure, made of min. HB material;
7. Maximum declared ambient: 40°C.

See below table for construction details:

| Model | Power board | Main board | USB board | Metal enclosure | Base |
|---|---|---|---|---|---|
| 230LM0024, *2360****, 230LM000** | 715G5361 type A | 715G5270 (VGA, DVI); **715G6605 (VGA,DVI, HDMI)** | N/A | Type A | Type A |
| | | | | Type B | Type B |
| | 715G5361 type B | 715G5436 (VGA, DVI, HDMI) | 715G5370 | Type C | Type A |
| | **715G6503** | **715G6911 (VGA, DVI)** | **N/A** | **Type D** | Type B |

Supplementary information:

1. Power board 715G5361 type B is similar to 715G5361 type A except for:
   1) add primary switch SW901;
   2) new construction of line choke L901 used;
   3) add one Y-capacitor C937 bridging primary and sencodary;
   4) add primary capacitor C942 bridging pin D-S of Q901;
   5) add secondary diode D906 after pin7, 8 of T901;
   6) add secondary capacitor C933 after D901.
   7) cancel +5V1 branch circuit and audio part.

2. Metal enclosure type A and type C can be used in both horizontal orientation and vertical orientation (90° clockwise).
   Metal enclosure type C is similar to type A except for different construction on right part due to USB board used.
   Metal enclosure type B and type D can be used in horizontal orientation only.
3. Base type A includes rotational function (90° clockwise) and height adjustable function.
   Base type B without these functions.

Definition of variable(s):

| Variable: | Range of variable: | Content: |
|---|---|---|
| * | 0-9, A-Z, a-z, – , \ , / , + or blank | for marketing purpose. |

**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 |
| **1** | **GENERAL** | | **P** |
| **1.5** | **Components** | | **P** |
| 1.5.1 | General | | **P** |
| | Comply with IEC 60950-1 or relevant component standard | (see appended table 1.5.1) | **P** |
| 1.5.2 | Evaluation and testing of components | Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment. | **P** |
| 1.5.3 | Thermal controls | No thermal controls. | **N/A** |
| 1.5.4 | Transformers | Transformers used are suitable for their intended application and comply with the relevant requirements of the standard and particularly Annex C. | **P** |
| 1.5.5 | Interconnecting cables | Interconnecting cable does not carry voltage higher than SELV and no higher energy level than 240VA. | **P** |
| 1.5.6 | Capacitors bridging insulation | Between lines: X1 or X2 capacitor according to IEC 60384-14 was used.<br>Between primary and earth: Y1 or Y2 capacitors according to IEC 60384-14 were used.<br>(see appended table 1.5.1) | **P** |
| 1.5.7 | Resistors bridging insulation | | **P** |
| 1.5.7.1 | Resistors bridging functional, basic or supplementary insulation | Only discharge resistors bridging between L-N (functional) | **P** |
| 1.5.7.2 | Resistors bridging double or reinforced insulation between a.c. mains and other circuits | | **N/A** |
| 1.5.7.3 | Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable | | **N/A** |
| 1.5.8 | Components in equipment for IT power systems | | **N/A** |
| 1.5.9 | Surge suppressors | | **N/A** |
| 1.5.9.1 | General | | **N/A** |
| 1.5.9.2 | Protection of VDRs | | **N/A** |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 1.5.9.3 | Bridging of functional insulation by a VDR | | **N/A** |
| 1.5.9.4 | Bridging of basic insulation by a VDR | | **N/A** |
| 1.5.9.5 | Bridging of supplementary, double or reinforced insulation by a VDR | | **N/A** |
| **1.6** | **Power interface** | | **P** |
| 1.6.1 | AC power distribution systems | TN power system | **P** |
| 1.6.2 | Input current | (see appended table 1.6.2) | **P** |
| 1.6.3 | Voltage limit of hand-held equipment | This appliance is not hand-held equipment. | **N/A** |
| 1.6.4 | Neutral conductor | The neutral conductor insulated from earth and from the body throughout the equipment as if it were a line conductor | **P** |
| **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** |
| 1.7.1.3 | Use of graphical symbols | Graphical symbols used according to IEC 60417 or ISO 3864-2 or ISO 7000. | **P** |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 1.7.2 | Safety instructions and marking | English safety instruction provided. | **P** |
| 1.7.2.1 | General | | **P** |
| 1.7.2.2 | Disconnect devices | AC inlet serves as disconnect device. | **P** |
| 1.7.2.3 | Overcurrent protective device | Not type B pluggable equipment or permanently connected equipment. | **N/A** |
| 1.7.2.4 | IT power distribution systems | TN power system. | **N/A** |
| 1.7.2.5 | Operator access with a tool | No such access required. | **N/A** |
| 1.7.2.6 | Ozone | Ozone not used or generated. | **N/A** |
| 1.7.3 | Short duty cycles | Equipment is designed for continuous operation. | **N/A** |
| 1.7.4 | Supply voltage adjustment .....: | Single input voltage range without adjustment. | **N/A** |
| | Methods and means of adjustment; reference to installation instructions .....: | | **N/A** |
| 1.7.5 | Power outlets on the equipment .....: | No power outlets provided. | **N/A** |
| 1.7.6 | Fuse identification (marking, special fusing characteristics, cross-reference) .....: | The fuse marking is marked near fuse on PCB as follow:<br>F901(on primary): T4AL/250Vac<br>CAUTION:<br>FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE.<br>F902, F903, F904(on secondary for LPS): T5AL/250Vac<br>Not located in operator access areas. | **P** |
| 1.7.7 | Wiring terminals | See below. | **P** |
| 1.7.7.1 | Protective earthing and bonding terminals .....: | AC inlet used. Symbol marked beside earthing pin of AC inlet | **P** |
| 1.7.7.2 | Terminals for a.c. mains supply conductors | The equipment is not permanently connected or provided with a non-detachable power supply cord | **N/A** |
| 1.7.7.3 | Terminals for d.c. mains supply conductors | Not connected to d.c. mains | **N/A** |
| 1.7.8 | Controls and indicators | See below | **P** |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 1.7.8.1 | Identification, location and marking .....: | “STAND-BY” condition is indicated by the symbol according to IEC 60417-5009. | **P** |
| 1.7.8.2 | Colours .....: | Colours used for LED indicate the operation status and not involved safety. | **N/A** |
| 1.7.8.3 | Symbols according to IEC 60417 .....: | See 1.7.8.1 | **P** |
| 1.7.8.4 | Markings using figures .....: | No figures used. | **N/A** |
| 1.7.9 | Isolation of multiple power sources .....: | Only one supply voltage range provided. | **N/A** |
| 1.7.10 | Thermostats and other regulating devices .....: | No such components. | **N/A** |
| 1.7.11 | Durability | The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. and then again for 15 sec. with the cloth soaked with petroleum spirit.<br>After this test there was no damage to the label. The marking on the label did not fade. There was no curling or lifting of the label edge. | **P** |
| 1.7.12 | Removable parts | None. | **N/A** |
| 1.7.13 | Replaceable batteries .....: | No batteries. | **N/A** |
| | Language(s) .....: | | — |
| 1.7.14 | Equipment for restricted access locations.....: | Equipment not intended for installation in restricted access locations. | **N/A** |

| | | | |
|---|---|---|---|
| **2** | **PROTECTION FROM HAZARDS** | | **P** |
| **2.1** | **Protection from electric shock and energy hazards** | | **P** |
| 2.1.1 | Protection in operator access areas | Only SELV signal interface accessible by operator. | **P** |
| 2.1.1.1 | Access to energized parts | See below | **P** |
| | Test by inspection .....: | Protection established by plastic enclosure. | **P** |
| | Test with test finger (Figure 2A) .....: | Protection established by plastic enclosure. | **P** |
| | Test with test pin (Figure 2B) .....: | No access to any energized parts with the removable stand detached. | **P** |
| | Test with test probe (Figure 2C) .....: | | **N/A** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 2.1.1.2 | Battery compartments | No battery compartment. | **N/A** |
| 2.1.1.3 | Access to ELV wiring | No ELV wiring in operator accessible area. | **N/A** |
| | Working voltage (Vpeak or Vrms); minimum distance through insulation (mm) | (see appended table 2.10.5) | — |
| 2.1.1.4 | Access to hazardous voltage circuit wiring | No hazardous voltage wiring in operator accessible area. | **N/A** |
| 2.1.1.5 | Energy hazards .....: | The energy does not exceed 240VA between any two points in accessible connector of secondary circuit.<br>(see appended table 2.1.1.5.) | **P** |
| 2.1.1.6 | Manual controls | No manual controls. | **N/A** |
| 2.1.1.7 | Discharge of capacitors in equipment | (See appended table 2.1.1.7) | **P** |
| | Measured voltage (V); time-constant (s) .....: | (See appended table 2.1.1.7) | **—** |
| 2.1.1.8 | Energy hazards – d.c. mains supply | a.c. mains supply | **N/A** |
| | a) Capacitor connected to the d.c. mains supply ...: | | **N/A** |
| | b) Internal battery connected to the d.c. mains supply .....: | | **N/A** |
| 2.1.1.9 | Audio amplifiers .....: | | **N/A** |
| 2.1.2 | Protection in service access areas | No service access area. | **N/A** |
| 2.1.3 | Protection in restricted access locations | Equipment not intended for installation in restricted access locations | **N/A** |

| **2.2** | **SELV circuits** | | **P** |
|---|---|---|---|
| 2.2.1 | General requirements | The secondary circuits were tested as SELV. See sub-clauses 2.2.1 to 2.2.4. | **P** |
| 2.2.2 | Voltages under normal conditions (V) .....: | 42.4V peak or 60V d.c. are not exceeded in SELV circuit under normal operation. | **P** |
| 2.2.3 | Voltages under fault conditions (V) .....: | Single fault did not cause excessive voltage in accessible SELV circuits. Limits of 71V peak and 120V d.c. were not exceeded within 0.2 sec. and limits 42.4V peak and 60V d.c. were not exceeded for longer than 0.2 sec., see appended tables 2.2 and 5.3. | **P** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 2.2.4 | Connection of SELV circuits to other circuits .....: | See sub-clauses 2.2.2 and 2.2.3.<br>No direct connection between SELV and any primary circuits. | **P** |
| **2.3** | **TNV circuits** | | **N/A** |
| 2.3.1 | Limits | | **N/A** |
| | Type of TNV circuits .....: | | — |
| 2.3.2 | Separation from other circuits and from accessible parts | | **N/A** |
| 2.3.2.1 | General requirements | | **N/A** |
| 2.3.2.2 | Protection by basic insulation | | **N/A** |
| 2.3.2.3 | Protection by earthing | | **N/A** |
| 2.3.2.4 | Protection by other constructions .....: | | **N/A** |
| 2.3.3 | Separation from hazardous voltages | | **N/A** |
| | Insulation employed.....: | | — |
| 2.3.4 | Connection of TNV circuits to other circuits | | **N/A** |
| | Insulation employed.....: | | — |
| 2.3.5 | Test for operating voltages generated externally | | **N/A** |
| **2.4** | **Limited current circuits** | | **P** |
| 2.4.1 | General requirements | Primary and secondary circuits bridged by Y1 type capacitor C913 on power board 715G6503. The pin connected with secondary circuits was disconnected and measurement instrument D.1 was connected between this pin and neutral during the test. | **P** |
| 2.4.2 | Limit values | (see appended table 2.4.2) | **P** |
| | Frequency (Hz).....: | | — |
| | Measured current (mA).....: | | — |
| | Measured voltage (V) .....: | | — |
| | Measured circuit capacitance (nF or µF).....: | | — |
| 2.4.3 | Connection of limited current circuits to other circuits | Only intended to be connected with SELV circuits. | **P** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| **2.5** | **Limited power sources** | | **P** |
| | a) Inherently limited output | | **N/A** |
| | b) Impedance limited output | | **N/A** |
| | c) Regulating network limited output under normal operating and single fault condition | (see appended table 2.5) | **P** |
| | d) Overcurrent protective device limited output | (see appended table 2.5) | **P** |
| | Max. output voltage (V), max. output current (A), max. apparent power (VA).....: | (see appended table 2.5) | — |
| | Current rating of overcurrent protective device (A) .: | (see appended table 2.5) | — |
| | Use of integrated circuit (IC) current limiters | | — |
| **2.6** | **Provisions for earthing and bonding** | | **P** |
| 2.6.1 | Protective earthing | Class I appliance inlet terminal provided as protective earthing terminal, and accessible metal plate is connected to earthed metal fire enclosure. The test of 2.6.3.4 complied. | **P** |
| 2.6.2 | Functional earthing | Functional earthing in the secondary circuit is accessible at the VGA connector and separated from the primary by reinforced insulation. | **P** |
| | Use of symbol for functional earthing .....: | | **N/A** |
| 2.6.3 | Protective earthing and protective bonding conductors | | **P** |
| 2.6.3.1 | General | Appliance inlet used. No power cord provided with the unit. | **P** |
| 2.6.3.2 | Size of protective earthing conductors | AC inlet used | **N/A** |
| | Rated current (A), cross-sectional area ($mm^2$), AWG .....: | | — |
| 2.6.3.3 | Size of protective bonding conductors | Screws fixing earthed PCB trace to metal chassis for protective bonding. | **P** |
| | Rated current (A), cross-sectional area ($mm^2$), AWG .....: | Refer to test of appended table 2.6.3.4 only. | — |
| | Protective current rating (A), cross-sectional area ($mm^2$), AWG .....: | Refer to test of appended table 2.6.3.4 only. | |
| 2.6.3.4 | Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min) .....: | (see appended table 2.6.3.4) | **P** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 2.6.3.5 | Colour of insulation.....: | Protective bonding conductor as in 2.6.3 and assembled by printed wiring on power board. | **N/A** |
| 2.6.4 | Terminals | See below | **P** |
| 2.6.4.1 | General | | **P** |
| 2.6.4.2 | Protective earthing and bonding terminals | The earth terminal of the approved appliance inlet is considered as protective earthing terminal and was evaluated by sub clause 2.6.3.4. | **P** |
| | Rated current (A), type, nominal thread diameter (mm) .....: | Evaluation by test. See sub-clause 2.6.3.4. | — |
| 2.6.4.3 | Separation of the protective earthing conductor from protective bonding conductors | Separated PE and protective bonding conductor used. | **P** |
| 2.6.5 | Integrity of protective earthing | See below | **P** |
| 2.6.5.1 | Interconnection of equipment | Not depending on interconnection for protective earthing. | **P** |
| 2.6.5.2 | Components in protective earthing conductors and protective bonding conductors | No switch or overcurrent protective device in protective earthing or bonding conductor | **P** |
| 2.6.5.3 | Disconnection of protective earth | Appliance inlet used for disconnection of protective earth. | **P** |
| 2.6.5.4 | Parts that can be removed by an operator | AC inlet with PE terminal used. | **P** |
| 2.6.5.5 | Parts removed during servicing | | **N/A** |
| 2.6.5.6 | Corrosion resistance | All safety earthing connections comply with Annex J. | **P** |
| 2.6.5.7 | Screws for protective bonding | No self-tapping or spaced thread screws are used. For the earth connection to the metal chassis a spring washer and a screw are used. | **N/A** |
| 2.6.5.8 | Reliance on telecommunication network or cable distribution system | No TNV circuit. | **N/A** |
| **2.7** | **Overcurrent and earth fault protection in primary circuits** | | **P** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 2.7.1 | Basic requirements | The equipment relies on fuse or circuit breaker of the wall outlet protection of the building installation in regard to L to N short-circuits. A build-in fuse provided as overcurrent protection device (see 5.3) | **P** |
| | Instructions when protection relies on building installation | Pluggable equipment type A. | **N/A** |
| 2.7.2 | Faults not simulated in 5.3.7 | The protection devices are well dimensioned and mounted. | **P** |
| 2.7.3 | Short-circuit backup protection | Building installation is considered as providing short-circuit backup protection. | **P** |
| 2.7.4 | Number and location of protective devices ..... : | Overcurrent protection by one built-in fuse | **P** |
| 2.7.5 | Protection by several devices | Protection by one fuse only. | **N/A** |
| 2.7.6 | Warning to service personnel..... : | No service work necessary. | **N/A** |
| **2.8** | **Safety interlocks** | | **N/A** |
| 2.8.1 | General principles | | **N/A** |
| 2.8.2 | Protection requirements | | **N/A** |
| 2.8.3 | Inadvertent reactivation | | **N/A** |
| 2.8.4 | Fail-safe operation | | **N/A** |
| | Protection against extreme hazard | | **N/A** |
| 2.8.5 | Moving parts | | **N/A** |
| 2.8.6 | Overriding | | **N/A** |
| 2.8.7 | Switches, relays and their related circuits | | **N/A** |
| 2.8.7.1 | Separation distances for contact gaps and their related circuits (mm) .....: | | **N/A** |
| 2.8.7.2 | Overload test | | **N/A** |
| 2.8.7.3 | Endurance test | | **N/A** |
| 2.8.7.4 | Electric strength test | | **N/A** |
| 2.8.8 | Mechanical actuators | | **N/A** |
| **2.9** | **Electrical insulation** | | **P** |
| 2.9.1 | Properties of insulating materials | Natural rubber, asbestos or hygroscopic material not used. | **P** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 2.9.2 | Humidity conditioning | Performed at 40 °C, 95% R.H. for 120 h by client's request. | **P** |
| | Relative humidity (%), temperature (°C) ..... : | See above. | — |
| 2.9.3 | Grade of insulation | See above. | **P** |
| 2.9.4 | Separation from hazardous voltages | The adequate levels of safety insulation provided and maintained to comply with the requirements of this standard. | **P** |
| | Method(s) used ..... : | SELV separated from primary by reinforced or double insulation. | — |
| **2.10** | **Clearances, creepage distances and distances through insulation** | | **P** |
| 2.10.1 | General | See sub-clauses 2.10.3, 2.10.4 and 2.10.5. | **P** |
| 2.10.1.1 | Frequency .....: | Considered | **P** |
| 2.10.1.2 | Pollution degrees .....: | 2 | **P** |
| 2.10.1.3 | Reduced values for functional insulation | Considered | **P** |
| 2.10.1.4 | Intervening unconnected conductive parts | Considered | **P** |
| 2.10.1.5 | Insulation with varying dimensions | Insulation kept homogenous. | **N/A** |
| 2.10.1.6 | Special separation requirements | Not applied. | **N/A** |
| 2.10.1.7 | Insulation in circuits generating starting pulses | No such circuits. | **N/A** |
| 2.10.2 | Determination of working voltage | | **P** |
| 2.10.2.1 | General | The rms and the peak voltage were measured with unit connected to a 240V TN power system. The input neutral and secondary ground were connected during measurement. Pollution Degree 2 and Overvoltage Category II considered. | **P** |
| 2.10.2.2 | RMS working voltage | See table 2.10.2 | **P** |
| 2.10.2.3 | Peak working voltage | See table 2.10.2 | **P** |
| 2.10.3 | Clearances | See below and advantage of annex G is not considered. | **P** |
| 2.10.3.1 | General | Considered. | **P** |
| 2.10.3.2 | Mains transient voltages | | **P** |
| | a) AC mains supply .....: | 240V a.c. and Overvoltage Category II | **P** |
| | b) Earthed d.c. mains supplies .....: | | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| | c) Unearthed d.c. mains supplies .....: | | **N/A** |
| | d) Battery operation .....: | | **N/A** |
| 2.10.3.3 | Clearances in primary circuits | (see appended table 2.10.3 and 2.10.4) | **P** |
| 2.10.3.4 | Clearances in secondary circuits | Sub-clause 5.3.4 considered. | **P** |
| 2.10.3.5 | Clearances in circuits having starting pulses | | **N/A** |
| 2.10.3.6 | Transients from a.c. mains supply .....: | Normal transient voltage considered (overvoltage category II for primary circuit). | **N/A** |
| 2.10.3.7 | Transients from d.c. mains supply .....: | | **N/A** |
| 2.10.3.8 | Transients from telecommunication networks and cable distribution systems .....: | | **N/A** |
| 2.10.3.9 | Measurement of transient voltage levels | | **N/A** |
| | a) Transients from a mains supply | | **N/A** |
| | For an a.c. mains supply .....: | | **N/A** |
| | For a d.c. mains supply .....: | | **N/A** |
| | b) Transients from a telecommunication network : | | **N/A** |
| 2.10.4 | Creepage distances | | **P** |
| 2.10.4.1 | General | | **P** |
| 2.10.4.2 | Material group and comparative tracking index | | **P** |
| | CTI tests .....: | Material group IIIb is assumed to be used. | — |
| 2.10.4.3 | Minimum creepage distances | (see appended table 2.10.3 and 2.10.4) | **P** |
| 2.10.5 | Solid insulation | | **P** |
| 2.10.5.1 | General | | **P** |
| 2.10.5.2 | Distances through insulation | (see appended table 2.10.5) | **P** |
| 2.10.5.3 | Insulating compound as solid insulation | Only inside approved optocoupler. | **N/A** |
| 2.10.5.4 | Semiconductor devices | Approved optocoupler complies to IEC 60747-5-2 and having dti. 0.4mm. | **P** |
| 2.10.5.5. | Cemented joints | Not applied. | **N/A** |
| 2.10.5.6 | Thin sheet material – General | | **P** |
| 2.10.5.7 | Separable thin sheet material | Used in transformer. | **P** |
| | Number of layers (pcs) .....: | (see appended table C.2) | — |
| 2.10.5.8 | Non-separable thin sheet material | Not applied for. | **N/A** |
| 2.10.5.9 | Thin sheet material – standard test procedure | | **N/A** |
| | Electric strength test | | — |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| 2.10.5.10 | Thin sheet material – alternative test procedure | | **P** |
| | Electric strength test | (see appended table 5.2) | — |
| 2.10.5.11 | Insulation in wound components | See only 2.10.5.6. | **P** |
| 2.10.5.12 | Wire in wound components | | **N/A** |
| | Working voltage .....: | | **N/A** |
| | a) Basic insulation not under stress .....: | | **N/A** |
| | b) Basic, supplementary, reinforced insulation .....: | | **N/A** |
| | c) Compliance with Annex U .....: | | **N/A** |
| | Two wires in contact inside wound component; angle between 45° and 90° .....: | | **N/A** |
| 2.10.5.13 | Wire with solvent-based enamel in wound components | Not applied. | **N/A** |
| | Electric strength test | | — |
| | Routine test | | **N/A** |
| 2.10.5.14 | Additional insulation in wound components | Not applied. | **N/A** |
| | Working voltage .....: | | **N/A** |
| | - Basic insulation not under stress .....: | | **N/A** |
| | - Supplementary, reinforced insulation .....: | | **N/A** |
| 2.10.6 | Construction of printed boards | | **P** |
| 2.10.6.1 | Uncoated printed boards | (see appended table 2.10.3 and 2.10.4) | **P** |
| 2.10.6.2 | Coated printed boards | Not applied. | **N/A** |
| 2.10.6.3 | Insulation between conductors on the same inner surface of a printed board | Not multi-layer printed board. | **N/A** |
| 2.10.6.4 | Insulation between conductors on different layers of a printed board | See above. | **N/A** |
| | Distance through insulation | | **N/A** |
| | Number of insulation layers (pcs) .....: | | **N/A** |
| 2.10.7 | Component external terminations | Coatings not used over terminations to increase effective clearance and creepage distance. | **N/A** |
| 2.10.8 | Tests on coated printed boards and coated components | | **N/A** |
| 2.10.8.1 | Sample preparation and preliminary inspection | | **N/A** |
| 2.10.8.2 | Thermal conditioning | | **N/A** |
| 2.10.8.3 | Electric strength test | | **N/A** |
| 2.10.8.4 | Abrasion resistance test | | **N/A** |
| 2.10.9 | Thermal cycling | | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| 2.10.10 | Test for Pollution Degree 1 environment and insulating compound | Pollution Degree 2. | **N/A** |
| 2.10.11 | Tests for semiconductor devices and cemented joints | Photo couplers are approved components. No other components applied for. | **N/A** |
| 2.10.12 | Enclosed and sealed parts | No hermetically sealed component. | **N/A** |
| **3** | **WIRING, CONNECTIONS AND SUPPLY** | | **P** |
| **3.1** | **General** | | **P** |
| 3.1.1 | Current rating and overcurrent protection | All internal wires are UL approved and PVC insulated. Rated VW-1, min 80°C, 300V. Internal wiring gauge is suitable for current intended to be carried. (See appended table 4.5.1)<br>No internal wire for primary power distribution. | **P** |
| 3.1.2 | Protection against mechanical damage | Wires do not touch sharp edges which could damage the insulation and cause hazard. | **P** |
| 3.1.3 | Securing of internal wiring | Wires with only basic insulation are routed so that they are not close to any live bare components. Wires are secured by soldering method and additionally fixed by glue or by connectors. | **P** |
| 3.1.4 | Insulation of conductors | The insulation of the individual conductors suitable for the application and the working voltage. For the insulation material see 3.1.1. | **P** |
| 3.1.5 | Beads and ceramic insulators | Not used. | **N/A** |
| 3.1.6 | Screws for electrical contact pressure | Only metal screw is used for electrical connection between protective earth and metal chassis, and engages more than 2 complete threads. | **P** |
| 3.1.7 | Insulating materials in electrical connections | The integrity of protective bonding made by screw, PCB trace and spring washer. | **P** |
| 3.1.8 | Self-tapping and spaced thread screws | No self-tapping or spaced thread screws are used. | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| 3.1.9 | Termination of conductors | All conductors are reliably secured. | **P** |
| | 10 N pull test | | **P** |
| 3.1.10 | Sleeving on wiring | | **N/A** |
| **3.2** | **Connection to a mains supply** | | **P** |
| 3.2.1 | Means of connection | See below. | **P** |
| 3.2.1.1 | Connection to an a.c. mains supply | Appliance inlet used. | **P** |
| 3.2.1.2 | Connection to a d.c. mains supply | Only a.c. mains supply. | **N/A** |
| 3.2.2 | Multiple supply connections | Only for one mains connection. | **N/A** |
| 3.2.3 | Permanently connected equipment | Unit is not a permanently connected equipment. | **N/A** |
| | Number of conductors, diameter of cable and conduits (mm) ..... : | | — |
| 3.2.4 | Appliance inlets | Approved appliance inlet used. | **P** |
| 3.2.5 | Power supply cords | See below. | **N/A** |
| 3.2.5.1 | AC power supply cords | Not provided. | **N/A** |
| | Type ..... : | | — |
| | Rated current (A), cross-sectional area ($mm^2$), AWG ..... : | | — |
| 3.2.5.2 | DC power supply cords | Not provided. | **N/A** |
| 3.2.6 | Cord anchorages and strain relief | Appliance inlet used | **N/A** |
| | Mass of equipment (kg), pull (N) ..... : | | — |
| | Longitudinal displacement (mm) ..... : | | — |
| 3.2.7 | Protection against mechanical damage | | **N/A** |
| 3.2.8 | Cord guards | No cord guards | **N/A** |
| | Diameter or minor dimension D (mm); test mass (g) ..... : | | — |
| | Radius of curvature of cord (mm)..... : | | — |
| 3.2.9 | Supply wiring space | Not permanent connection or non-detachable power cord type. | **N/A** |
| **3.3** | **Wiring terminals for connection of external conductors** | | **N/A** |
| 3.3.1 | Wiring terminals | AC inlet used. | **N/A** |
| 3.3.2 | Connection of non-detachable power supply cords | | **N/A** |
| 3.3.3 | Screw terminals | | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| 3.3.4 | Conductor sizes to be connected | | **N/A** |
| | Rated current (A), cord/cable type, cross-sectional area ($mm^2$)..... : | | — |
| 3.3.5 | Wiring terminal sizes | | **N/A** |
| | Rated current (A), type, nominal thread diameter (mm) ..... : | | — |
| 3.3.6 | Wiring terminal design | | **N/A** |
| 3.3.7 | Grouping of wiring terminals | | **N/A** |
| 3.3.8 | Stranded wire | | **N/A** |
| **3.4** | **Disconnection from the mains supply** | | **P** |
| 3.4.1 | General requirement | Disconnect device provided | **P** |
| 3.4.2 | Disconnect devices | Appliance coupler used as disconnect device. | **P** |
| 3.4.3 | Permanently connected equipment | Not permanently connected equipment | **N/A** |
| 3.4.4 | Parts which remain energized | When AC coupler is disconnected from inlet, there are no parts remaining with hazardous voltage or energy in the equipment. | **P** |
| 3.4.5 | Switches in flexible cords | No such switch in flexible cords | **N/A** |
| 3.4.6 | Number of poles - single-phase and d.c. equipment | The appliance coupler disconnects both poles simultaneously. | **P** |
| 3.4.7 | Number of poles - three-phase equipment | Single-phase equipment | **N/A** |
| 3.4.8 | Switches as disconnect devices | No such switch | **N/A** |
| 3.4.9 | Plugs as disconnect devices | Plug not used | **N/A** |
| 3.4.10 | Interconnected equipment | Only interconnected with other unit through SELV interface. | **P** |
| 3.4.11 | Multiple power sources | Single power source | **N/A** |
| **3.5** | **Interconnection of equipment** | | **P** |
| 3.5.1 | General requirements | This power supply is not considered for connection to TNV. | **P** |
| 3.5.2 | Types of interconnection circuits ..... : | Interconnection circuits of SELV through the connector. No ELV interconnection circuits. | **P** |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| 3.5.3 | ELV circuits as interconnection circuits | No ELV interconnection | **N/A** |
| 3.5.4 | Data ports for additional equipment | All data ports are supplied by LPS. | **P** |
| **4** | **PHYSICAL REQUIREMENTS** | | **P** |
| **4.1** | **Stability** | | **P** |
| | Angle of 10° | No overturn. (Test by client's request) | **P** |
| | Test force (N) ..... : | Equipment is not a floor standing unit. | **N/A** |
| **4.2** | **Mechanical strength** | | **P** |
| 4.2.1 | General | See below. After tests, unit comply with 2.1.1, 2.6.1 and 2.10. | **P** |
| | Rack-mounted equipment. | | **N/A** |
| 4.2.2 | Steady force test, 10 N | Test performed on internal components.<br>No components located such that distances according to 2.10 can be reduced. | **P** |
| 4.2.3 | Steady force test, 30 N | Test performed on internal metal enclosure. | **P** |
| 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** |
| | Swing test | | **N/A** |
| 4.2.6 | Drop test; height (mm) ..... : | | **N/A** |
| 4.2.7 | Stress relief test | 70ºC, 7 hours, no deformation on all sources of plastic enclosure. | **P** |
| 4.2.8 | Cathode ray tubes | No CRT | **N/A** |
| | Picture tube separately certified ..... : | | **N/A** |
| 4.2.9 | High pressure lamps | No high pressure lamps | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| 4.2.10 | Wall or ceiling mounted equipment; force (N) ..... : | An additional force 118N applied downwards through the centre of gravity of the equipment for 1 min after the removal of base (by client's request).<br>After the test, the equipment was not damaged.<br>(118N = 3 x 3.99 x 9.8N) | **P** |
| **4.3** | **Design and construction** | | **P** |
| 4.3.1 | Edges and corners | Edges and corners of the enclosure are rounded. | **P** |
| 4.3.2 | Handles and manual controls; force (N) ..... : | No safety relevant handles or manual controls. | **N/A** |
| 4.3.3 | Adjustable controls | No such controls. | **N/A** |
| 4.3.4 | Securing of parts | All parts secured properly. Spring washer used for securing screws. | **P** |
| 4.3.5 | Connection by plugs and sockets | | **N/A** |
| 4.3.6 | Direct plug-in equipment | Not such equipment. | **N/A** |
| | Torque ..... : | | — |
| | Compliance with the relevant mains plug standard ..... : | | **N/A** |
| 4.3.7 | Heating elements in earthed equipment | None. | **N/A** |
| 4.3.8 | Batteries | No batteries. | **N/A** |
| | - Overcharging of a rechargeable battery | | **N/A** |
| | - Unintentional charging of a non-rechargeable battery | | **N/A** |
| | - Reverse charging of a rechargeable battery | | **N/A** |
| | - Excessive discharging rate for any battery | | **N/A** |
| 4.3.9 | Oil and grease | None. | **N/A** |
| 4.3.10 | Dust, powders, liquids and gases | Equipment in intended use not considered to be exposed to these. | **N/A** |
| 4.3.11 | Containers for liquids or gases | None | **N/A** |
| 4.3.12 | Flammable liquids ..... : | None | **N/A** |
| | Quantity of liquid (l) ..... : | | **N/A** |
| | Flash point (°C) ..... : | | **N/A** |
| 4.3.13 | Radiation | | **P** |
| 4.3.13.1 | General | See below | **P** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 4.3.13.2 | Ionizing radiation | No ionizing radiation. | **N/A** |
| | Measured radiation (pA/kg) ..... : | | — |
| | Measured high-voltage (kV) ..... : | | — |
| | Measured focus voltage (kV) ..... : | | — |
| | CRT markings ..... : | | — |
| 4.3.13.3 | Effect of ultraviolet (UV) radiation on materials | No ultraviolet radiation | **N/A** |
| | Part, property, retention after test, flammability classification ..... : | | **N/A** |
| 4.3.13.4 | Human exposure to ultraviolet (UV) radiation ..... : | No ultraviolet radiation | **N/A** |
| 4.3.13.5 | Lasers (including laser diodes) and LEDs | See below. | **P** |
| 4.3.13.5.1 | Lasers (including laser diodes) | Not used. | **N/A** |
| | Laser class ..... : | | — |
| 4.3.13.5.2 | Light emitting diodes (LEDs) | Indicating LED on secondary is inherently Class1 according to IEC 60825-1. | **P** |
| 4.3.13.6 | Other types ..... : | | **N/A** |

| | | | |
|---|---|---|---|
| **4.4** | **Protection against hazardous moving parts** | | **N/A** |
| 4.4.1 | General | | **N/A** |
| 4.4.2 | Protection in operator access areas ..... : | | **N/A** |
| | Household and home/office document/media shredders | | **N/A** |
| 4.4.3 | Protection in restricted access locations ..... : | | **N/A** |
| 4.4.4 | Protection in service access areas | | **N/A** |
| 4.4.5 | Protection against moving fan blades | | **N/A** |
| 4.4.5.1 | General | | **N/A** |
| | Not considered to cause pain or injury. a) ..... : | | **N/A** |
| | Is considered to cause pain, not injury. b) ..... : | | **N/A** |
| | Considered to cause injury. c) ..... : | | **N/A** |
| 4.4.5.2 | Protection for users | | **N/A** |
| | Use of symbol or warning ..... : | | **N/A** |
| 4.4.5.3 | Protection for service persons | | **N/A** |
| | Use of symbol or warning ..... : | | **N/A** |

| | | | |
|---|---|---|---|
| **4.5** | **Thermal requirements** | | **P** |
| 4.5.1 | General | | **P** |
| 4.5.2 | Temperature tests | | **P** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Normal load condition per Annex L ..... : | Equipment loaded with rated output current. | — |
| 4.5.3 | Temperature limits for materials | (see appended table 4.5) | **P** |
| 4.5.4 | Touch temperature limits | (see appended table 4.5) | **P** |
| 4.5.5 | Resistance to abnormal heat ..... : | Bobbin materials of transformer T901 and some of L901 are Phenolic that is accepted without further tests. Others see appended table 4.5.5. | **P** |
| **4.6** | **Openings in enclosures** | | **P** |
| 4.6.1 | Top and side openings | (see appended table 4.6.1 and 4.6.2) | **P** |
| | Dimensions (mm) ..... : | | — |
| 4.6.2 | Bottoms of fire enclosures | (see appended table 4.6.1 and 4.6.2) | **P** |
| | Construction of the bottomm, dimensions (mm) .. : | | — |
| 4.6.3 | Doors or covers in fire enclosures | No doors or covers. | **N/A** |
| 4.6.4 | Openings in transportable equipment | Not transportable equipment. | **N/A** |
| 4.6.4.1 | Constructional design measures | | **N/A** |
| | Dimensions (mm) ..... : | | — |
| 4.6.4.2 | Evaluation measures for larger openings | | **N/A** |
| 4.6.4.3 | Use of metallized parts | | **N/A** |
| 4.6.5 | Adhesives for constructional purposes | No adhesives for constructional purposes. | **N/A** |
| | Conditioning temperature (°C), time (weeks) ..... : | | — |
| **4.7** | **Resistance to fire** | | **P** |
| 4.7.1 | Reducing the risk of ignition and spread of flame | No excessive temperatures. No easily burning materials employed. Fire enclosure provided. Safety relevant components used within their specified temperature limits. | **P** |
| | Method 1, selection and application of components wiring and materials | (see appended table 4.7) | **P** |
| | Method 2, application of all of simulated fault condition tests | | **N/A** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 4.7.2 | Conditions for a fire enclosure | With having the following parts:<br>- Components in primary;<br>- Components in secondary not supplied by LPS;<br>- Components in secondary supplied by LPS but not mounted on class V-1 or better material;<br>- Insulated wiring.<br>Internal metal enclosure used as fire enclosure. | **P** |
| 4.7.2.1 | Parts requiring a fire enclosure | See above. | **P** |
| 4.7.2.2 | Parts not requiring a fire enclosure | For components in secondary circuits supplied by LPS and mounted on PCB of class V-1 or better material. | **P** |
| 4.7.3 | Materials | | **P** |
| 4.7.3.1 | General | PCB rated V-1 | **P** |
| 4.7.3.2 | Materials for fire enclosures | Earthed metal enclosure is considered as fire enclosure, which complies without test. | **P** |
| 4.7.3.3 | Materials for components and other parts outside fire enclosures | HB plastic enclosure used, which is outside the fire enclosure. | **P** |
| 4.7.3.4 | Materials for components and other parts inside fire enclosures | Internal components except small parts are V-2, HF-2 or better. | **P** |
| 4.7.3.5 | Materials for air filter assemblies | No air filter. | **N/A** |
| 4.7.3.6 | Materials used in high-voltage components | No such high voltage components in this meaning | **N/A** |
| **5** | **ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS** | | **P** |
| **5.1** | **Touch current and protective conductor current** | | **P** |
| 5.1.1 | General | See sub-clauses 5.1.2 to 5.1.6. | **P** |
| 5.1.2 | Configuration of equipment under test (EUT) | See below. | **P** |
| 5.1.2.1 | Single connection to an a.c. mains supply | EUT has only one mains connection. | **P** |
| 5.1.2.2 | Redundant multiple connections to an a.c. mains supply | | **N/A** |
| 5.1.2.3 | Simultaneous multiple connections to an a.c. mains supply | | **N/A** |
| 5.1.3 | Test circuit | Using figure 5A. | **P** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 5.1.4 | Application of measuring instrument | Using measuring instrument in annex D. | **P** |
| 5.1.5 | Test procedure | | **P** |
| 5.1.6 | Test measurements | (see appended table 5.1.6) | **P** |
| | Supply voltage (V) .....: | | — |
| | Measured touch current (mA) .....: | | — |
| | Max. allowed touch current (mA) .....: | | — |
| | Measured protective conductor current (mA) .....: | | — |
| | Max. allowed protective conductor current (mA) ...: | | — |
| 5.1.7 | Equipment with touch current exceeding 3,5 mA | Touch current does not exceed 3.5mA. | **N/A** |
| 5.1.7.1 | General .....: | | **N/A** |
| 5.1.7.2 | Simultaneous multiple connections to the supply | | **N/A** |
| 5.1.8 | Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks | No TNV circuits. | **N/A** |
| 5.1.8.1 | Limitation of the touch current to a telecommunication network or to a cable distribution system | | **N/A** |
| | Supply voltage (V) .....: | | — |
| | Measured touch current (mA) .....: | | — |
| | Max. allowed touch current (mA) .....: | | — |
| 5.1.8.2 | Summation of touch currents from telecommunication networks | | **N/A** |
| | a) EUT with earthed telecommunication ports .....: | | **N/A** |
| | b) EUT whose telecommunication ports have no reference to protective earth | | **N/A** |

| **5.2** | **Electric strength** | | **P** |
|---|---|---|---|
| 5.2.1 | General | (see appended table 5.2) | **P** |
| 5.2.2 | Test procedure | (see appended table 5.2) | **P** |

| **5.3** | **Abnormal operating and fault conditions** | | **P** |
|---|---|---|---|
| 5.3.1 | Protection against overload and abnormal operation | Ventilation openings blocked, output of power supply board overloaded, no unaccepted overheating of parts (see appended table 5.3) | **P** |
| 5.3.2 | Motors | Motors not used. | **N/A** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 5.3.3 | Transformers | (see appended Annex C and table 5.3) | **P** |
| 5.3.4 | Functional insulation.....: | By short-circuited, results see appended table 5.3. | **P** |
| 5.3.5 | Electromechanical components | No electromechanical component. | **N/A** |
| 5.3.6 | Audio amplifiers in ITE .....: | | **N/A** |
| 5.3.7 | Simulation of faults | (see appended table 5.3.) | **P** |
| 5.3.8 | Unattended equipment | No such equipment. | **N/A** |
| 5.3.9 | Compliance criteria for abnormal operating and fault conditions | | **P** |
| 5.3.9.1 | During the tests | No fire or molten metal occurred and no deformation of enclosure during the tests. | **P** |
| 5.3.9.2 | After the tests | No reduction of clearance and creepage distance. Electric strength test is made on basic, supplementary and reinforced insulation after test. | **P** |

| | | | |
|---|---|---|---|
| **6** | **CONNECTION TO TELECOMMUNICATION NETWORKS** | | **N/A** |
| **6.1** | **Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment** | | **N/A** |
| 6.1.1 | Protection from hazardous voltages | | **N/A** |
| 6.1.2 | Separation of the telecommunication network from earth | | **N/A** |
| 6.1.2.1 | Requirements | | **N/A** |
| | Supply voltage (V) .....: | | — |
| | Current in the test circuit (mA) .....: | | — |
| 6.1.2.2 | Exclusions .....: | | **N/A** |

| | | | |
|---|---|---|---|
| **6.2** | **Protection of equipment users from overvoltages on telecommunication networks** | | **N/A** |
| 6.2.1 | Separation requirements | | **N/A** |
| 6.2.2 | Electric strength test procedure | | **N/A** |
| 6.2.2.1 | Impulse test | | **N/A** |
| 6.2.2.2 | Steady-state test | | **N/A** |
| 6.2.2.3 | Compliance criteria | | **N/A** |

| | | | |
|---|---|---|---|
| **6.3** | **Protection of the telecommunication wiring system from overheating** | | **N/A** |
| | Max. output current (A) ..... : | | — |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Current limiting method ..... : | | — |
| **7** | **CONNECTION TO CABLE DISTRIBUTION SYSTEMS** | | **N/A** |
| **7.1** | **General** | | **N/A** |
| 7.2 | Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment | | **N/A** |
| 7.3 | Protection of equipment users from overvoltages on the cable distribution system | | **N/A** |
| 7.4 | Insulation between primary circuits and cable distribution systems | | **N/A** |
| 7.4.1 | General | | **N/A** |
| 7.4.2 | Voltage surge test | | **N/A** |
| 7.4.3 | Impulse test | | **N/A** |
| **A** | **ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE** | | **N/A** |
| **A.1** | **Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)** | | **N/A** |
| A.1.1 | Samples.....: | | — |
| | Wall thickness (mm).....: | | — |
| A.1.2 | Conditioning of samples; temperature (°C) .....: | | **N/A** |
| A.1.3 | Mounting of samples .....: | | **N/A** |
| A.1.4 | Test flame (see IEC 60695-11-3) | | **N/A** |
| | Flame A, B, C or D .....: | | — |
| A.1.5 | Test procedure | | **N/A** |
| A.1.6 | Compliance criteria | | **N/A** |
| | Sample 1 burning time (s) .....: | | — |
| | Sample 2 burning time (s) .....: | | — |
| | Sample 3 burning time (s) .....: | | — |
| **A.2** | **Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)** | | **N/A** |
| A.2.1 | Samples, material.....: | | — |
| | Wall thickness (mm).....: | | — |
| A.2.2 | Conditioning of samples; temperature (°C) .....: | | **N/A** |
| A.2.3 | Mounting of samples .....: | | **N/A** |
| A.2.4 | Test flame (see IEC 60695-11-4) | | **N/A** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Flame A, B or C .....: | | — |
| A.2.5 | Test procedure | | **N/A** |
| A.2.6 | Compliance criteria | | **N/A** |
| | Sample 1 burning time (s) .....: | | — |
| | Sample 2 burning time (s) .....: | | — |
| | Sample 3 burning time (s) .....: | | — |
| A.2.7 | Alternative test acc. to IEC 60695-11-5, cl. 5 and 9 | | **N/A** |
| | Sample 1 burning time (s) .....: | | — |
| | Sample 2 burning time (s) .....: | | — |
| | Sample 3 burning time (s) .....: | | — |
| **A.3** | **Hot flaming oil test (see 4.6.2)** | | **N/A** |
| A.3.1 | Mounting of samples | | **N/A** |
| A.3.2 | Test procedure | | **N/A** |
| A.3.3 | Compliance criterion | | **N/A** |

| | | | |
|---|---|---|---|
| **B** | **ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)** | | **N/A** |
| **B.1** | **General requirements** | | **N/A** |
| | Position .....: | | — |
| | Manufacturer .....: | | — |
| | Type .....: | | — |
| | Rated values .....: | | — |
| **B.2** | **Test conditions** | | **N/A** |
| **B.3** | **Maximum temperatures** | | **N/A** |
| **B.4** | **Running overload test** | | **N/A** |
| **B.5** | **Locked-rotor overload test** | | **N/A** |
| | Test duration (days) .....: | | — |
| | Electric strength test: test voltage (V) .....: | | — |
| **B.6** | **Running overload test for d.c. motors in secondary circuits** | | **N/A** |
| B.6.1 | General | | **N/A** |
| B.6.2 | Test procedure | | **N/A** |
| B.6.3 | Alternative test procedure | | **N/A** |
| B.6.4 | Electric strength test; test voltage (V) .....: | | **N/A** |
| **B.7** | **Locked-rotor overload test for d.c. motors in secondary circuits** | | **N/A** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| B.7.1 | General | | **N/A** |
| B.7.2 | Test procedure | | **N/A** |
| B.7.3 | Alternative test procedure | | **N/A** |
| B.7.4 | Electric strength test; test voltage (V) .....: | | **N/A** |
| **B.8** | **Test for motors with capacitors** | | **N/A** |
| **B.9** | **Test for three-phase motors** | | **N/A** |
| **B.10** | **Test for series motors** | | **N/A** |
| | Operating voltage (V) .....: | | — |
| **C** | **ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)** | | **P** |
| | Position .....: | See appended table 1.5.1. | — |
| | Manufacturer .....: | See appended table 1.5.1. | — |
| | Type .....: | See appended table 1.5.1. | — |
| | Rated values .....: | See appended table 1.5.1. | — |
| | Method of protection..... : | By protection circuit. | — |
| **C.1** | **Overload test** | (see appended table 5.3) | **P** |
| **C.2** | **Insulation** | (see appended table 5.2) | **P** |
| | Protection from displacement of windings..... : | Fixed by insulation tape. | **P** |
| **D** | **ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)** | | **P** |
| **D.1** | **Measuring instrument** | | **P** |
| **D.2** | **Alternative measuring instrument** | | **N/A** |
| **E** | **ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)** | | **N/A** |
| **F** | **ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)** | | **P** |
| **G** | **ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES** | | **N/A** |
| **G.1** | **Clearances** | | **N/A** |
| G.1.1 | General | | **N/A** |
| G.1.2 | Summary of the procedure for determining minimum clearances | | **N/A** |
| **G.2** | **Determination of mains transient voltage (V)** | | **N/A** |
| G.2.1 | AC mains supply .....: | | **N/A** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| G.2.2 | Earthed d.c. mains supplies .....: | | **N/A** |
| G.2.3 | Unearthed d.c. mains supplies .....: | | **N/A** |
| G.2.4 | Battery operation .....: | | **N/A** |
| **G.3** | **Determination of telecommunication network transient voltage (V) ..... :** | | **N/A** |
| **G.4** | **Determination of required withstand voltage (V)** | | **N/A** |
| G.4.1 | Mains transients and internal repetitive peaks .....: | | **N/A** |
| G.4.2 | Transients from telecommunication networks .....: | | **N/A** |
| G.4.3 | Combination of transients | | **N/A** |
| G.4.4 | Transients from cable distribution systems | | **N/A** |
| **G.5** | **Measurement of transient voltages (V)** | | **N/A** |
| | a) Transients from a mains supply | | **N/A** |
| | For an a.c. mains supply | | **N/A** |
| | For a d.c. mains supply | | **N/A** |
| | b) Transients from a telecommunication network | | **N/A** |
| **G.6** | **Determination of minimum clearances ..... :** | | **N/A** |

| | | | |
|---|---|---|---|
| **H** | **ANNEX H, IONIZING RADIATION (see 4.3.13)** | | **N/A** |

| | | | |
|---|---|---|---|
| **J** | **ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)** | | **P** |
| | Metal(s) used .....: | The internal metal enclosure is made of mild steel, screw spring washer are made of Ni on steel, the combined electrochemical potential is below 0.6V according to Table J.1. | — |

| | | | |
|---|---|---|---|
| **K** | **ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)** | | **N/A** |
| K.1 | Making and breaking capacity | | **N/A** |
| K.2 | Thermostat reliability; operating voltage (V) .....: | | **N/A** |
| K.3 | Thermostat endurance test; operating voltage (V) .....: | | **N/A** |
| K.4 | Temperature limiter endurance; operating voltage (V) .....: | | **N/A** |
| K.5 | Thermal cut-out reliability | | **N/A** |
| K.6 | Stability of operation | | **N/A** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| **L** | **ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)** | | **P** |
| L.1 | Typewriters | | **N/A** |
| L.2 | Adding machines and cash registers | | **N/A** |
| L.3 | Erasers | | **N/A** |
| L.4 | Pencil sharpeners | | **N/A** |
| L.5 | Duplicators and copy machines | | **N/A** |
| L.6 | Motor-operated files | | **N/A** |
| L.7 | Other business equipment | See 1.6.2. | **P** |
| **M** | **ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)** | | **N/A** |
| M.1 | Introduction | | **N/A** |
| M.2 | Method A | | **N/A** |
| M.3 | Method B | | **N/A** |
| M.3.1 | Ringing signal | | **N/A** |
| M.3.1.1 | Frequency (Hz) .....: | | — |
| M.3.1.2 | Voltage (V) .....: | | — |
| M.3.1.3 | Cadence; time (s), voltage (V) .....: | | — |
| M.3.1.4 | Single fault current (mA) .....: | | — |
| M.3.2 | Tripping device and monitoring voltage .....: | | **N/A** |
| M.3.2.1 | Conditions for use of a tripping device or a monitoring voltage | | **N/A** |
| M.3.2.2 | Tripping device | | **N/A** |
| M.3.2.3 | Monitoring voltage (V) .....: | | **N/A** |
| **N** | **ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)** | | **N/A** |
| N.1 | ITU-T impulse test generators | | **N/A** |
| N.2 | IEC 60065 impulse test generator | | **N/A** |
| **P** | **ANNEX P, NORMATIVE REFERENCES** | | — |
| **Q** | **ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)** | | **N/A** |
| | - Preferred climatic categories .....: | | **N/A** |
| | - Maximum continuous voltage .....: | | **N/A** |
| | - Combination pulse current .....: | | **N/A** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Body of the VDR<br>Test according to IEC60695-11-5 .....: | | **N/A** |
| | Body of the VDR.<br>Flammability class of material ( min V-1) .....: | | **N/A** |
| **R** | **ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES** | | **N/A** |
| R.1 | Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2) | | **N/A** |
| R.2 | Reduced clearances (see 2.10.3) | | **N/A** |
| **S** | **ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)** | | **N/A** |
| S.1 | Test equipment | | **N/A** |
| S.2 | Test procedure | | **N/A** |
| S.3 | Examples of waveforms during impulse testing | | **N/A** |
| **T** | **ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)** | | **N/A** |
| | | | — |
| **U** | **ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)** | | **N/A** |
| | | | — |
| **V** | **ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)** | | **P** |
| V.1 | Introduction | | **P** |
| V.2 | TN power distribution systems | | **P** |
| **W** | **ANNEX W, SUMMATION OF TOUCH CURRENTS** | | **N/A** |
| W.1 | Touch current from electronic circuits | | **N/A** |
| W.1.1 | Floating circuits | | **N/A** |
| W.1.2 | Earthed circuits | | **N/A** |
| W.2 | Interconnection of several equipments | | **N/A** |
| W.2.1 | Isolation | | **N/A** |
| W.2.2 | Common return, isolated from earth | | **N/A** |
| W.2.3 | Common return, connected to protective earth | | **N/A** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| **X** | **ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)** | | **N/A** |
| X.1 | Determination of maximum input current | | **N/A** |
| X.2 | Overload test procedure | | **N/A** |
| **Y** | **ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)** | | **N/A** |
| Y.1 | Test apparatus .....: | | **N/A** |
| Y.2 | Mounting of test samples .....: | | **N/A** |
| Y.3 | Carbon-arc light-exposure apparatus .....: | | **N/A** |
| Y.4 | Xenon-arc light exposure apparatus .....: | | **N/A** |
| **Z** | **ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)** | | **P** |
| **AA** | **ANNEX AA, MANDREL TEST (see 2.10.5.8)** | | **N/A** |
| **BB** | **ANNEX BB, CHANGES IN THE SECOND EDITION** | | — |
| **CC** | **ANNEX CC, Evaluation of integrated circuit (IC) current limiters** | | **N/A** |
| CC.1 | General | | **N/A** |
| CC.2 | Test program 1 .....: | | **N/A** |
| CC.3 | Test program 2 .....: | | **N/A** |
| CC.4 | Test program 3 .....: | | **N/A** |
| CC.5 | Compliance .....: | | **N/A** |
| **DD** | **ANNEX DD, Requirements for the mounting means of rack-mounted equipment** | | **N/A** |
| DD.1 | General | | **N/A** |
| DD.2 | Mechanical strength test, variable N……..: | | **N/A** |
| DD.3 | Mechanical strength test, 250 N, including end stops……: | | **N/A** |
| DD.4 | Compliance……: | | **N/A** |
| **EE** | **ANNEX EE, Household and home/office document/media shredders** | | **N/A** |
| EE.1 | General | | **N/A** |
| EE.2 | Markings and instructions | | **N/A** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Use of markings or symbols……: | | **N/A** |
| | Information of user instructions, maintenance and/or servicing instructions……: | | **N/A** |
| EE.3 | Inadvertent reactivation test……: | | **N/A** |
| EE.4 | Disconnection of power to hazardous moving parts: | | **N/A** |
| | Use of markings or symbols……: | | **N/A** |
| EE.5 | Protection against hazardous moving parts | | **N/A** |
| | Test with test finger (Figure 2A) ……: | | **N/A** |
| | Test with wedge probe (Figure EE1 and EE2) ……: | | **N/A** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| 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 | L&T | BM230WF*-**** (*can be 0-9, A-Z or blank). | 23" panel with LED backlight<br>The declared power consumption is 19.8W and backlight input voltage is 57.6V in specification. | IEC 60950-1 | Tested in equipment |
| | LG Display | LM230WF*-**** (*can be 0-9, A-Z or blank). | 23" panel with LED backlight<br>The declared power consumption is 25.2W and backlight input voltage is 48V in specification. | IEC 60950-1 | Tested in equipment |
| | L&T | LM230WF*-**** (*can be 0-9, A-Z or blank). | 23" panel with LED backlight<br>The declared power consumption is 19.7W and backlight input voltage is 57.6V in specification. | IEC 60950-1 | Tested in equipment |
| | SAMSUNG | LTM230HT** (*can be 0-9, A-Z or blank). | 23" panel with LED backlight<br>The declared power consumption is 26.47W and backlight input voltage is 59.5V in specification. | IEC 60950-1 | Tested in equipment |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|---|---|---|
| Plastic enclosure | SAMSUNG SDI CO LTD (Cheil) | SD-0150(+), VH-0810(+), VE-0812(+), NH-1000T(+)(&), GC-0700(+), GC-1017(+), GC-0750(+), VE-1890(+), TP-1100(+), BF-0675(+), BF-0670(+), NH-1017(p), BF-0677(+), HS-7000(+), HG-0760(+), HR-1360(+) | HB or better, 2.2mm thickness | UL 94 | UL E115797 and tested with appliance |
| | Grand | D-150, D-1000 | HB or better, 2.2mm thickness | UL 94 | UL E88637 and tested with appliance |
| | LG | HF-350, HF-380, AF312T1, AF342(#), LUPOY GN-5001TF(#), LUPOY GN-5001RFD, SE750(#), XG568, XG569C, GP-1000L, SE750, LUPOY GN-5001RF(T) | HB or better, 2.2mm thickness | UL 94 | UL E67171 and tested with appliance |
| | Chi Mei | PA-757(+) PH-88 | HB or better, 2.2mm thickness | UL 94 | UL E56070 and tested with appliance |
| | King Fa | 5197, HIPS-5197, HF-606, HF-626, FRABS-518, GAR-011C, JH960 6(M), FRHIPS-960, RS-900, RS-300, RS-400, GAR-011(L65), GAR-011(HG6), CK-100 | HB or better, 2.2mm thickness | UL 94 | UL E171666 and tested with appliance |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|---|---|---|
| | ALBIS | GP-35, GP-22, 495F | HB or better, 2.2mm thickness | UL 94 | UL E80168 and tested with appliance |
| | Bayer | FR2000, FR3005 | HB or better, 2.2mm thickness | UL 94 | UL E41613 and tested with appliance |
| | Teijin | TN-7500(c), TN-7500F(#), MN-3600H(#) | HB or better, 2.2mm thickness | UL 94 | UL E98529 and tested with appliance |
| | STYRON | STYRON A-TECH 1400 | HB or better, 2.2mm thickness | UL 94 | UL E162447 and tested with appliance |
| | Haier | HRABS-RS, HRABS-HG, CR-3002 | HB or better, 2.2mm thickness | UL 94 | UL E230779 and tested with appliance |
| | HINGLONG | HL-ABS-PCR85, HL-ABS-PCR65 | HB or better, 2.2mm thickness | UL 94 | UL E345434 and tested with appliance |
| Metal enclosure (except part under power board) | Interchangeable | Interchangeable | Metal thickness: min. 0.6mm | -- | -- |
| Metal enclosure (under power board) | Interchangeable | Interchangeable | Metal thickness: min. 0.81mm | -- | -- |
| Base stand (optional) | Interchangeable | Interchangeable | HB or better | UL 94 | UL |
| PCB | Interchangeable | Interchangeable | V-1 or better, min. 105°C | UL 94 | UL |
| Speaker (2 sets) (optional) | -- | -- | Max. 8Ω, max. 5 W | -- | -- |
| Mylar sheet used between power board and panel inside metal enclosure type C | Interchangeable | Interchangeable | Min V-1, min. 0.4 mm thickness. | UL 94 | UL |
| **Power supply board: 715G5361 type A/B by TPV** | | | | | |
| AC-Inlet (CN901) | Solteam | ST-01 | 10A, 250Vac | IEC/ EN 60320-1 | VDE, UL |
| | Zhang Jia Gang-Hua Jie | SA-4S, SA-4S-1 | 10A, 250Vac | IEC/ EN 60320-1 | VDE, UL |
| | Rong Feng | SS-120, SS-7B | 10A, 250Vac | IEC/ EN 60320-1 | VDE, UL |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|---|---|---|
| | Inalways | 0707-1, 0711-2, 0714 | 10A, 250Vac | IEC/ EN 60320-1 | VDE, UL |
| | DELIKANG | CDJ-3, CDJ-3-1 | 10A, 250Vac | IEC/ EN 60320-1 | VDE, UL |
| | TECX | TU-301 series | 10A, 250Vac | IEC/ EN 60320-1 | VDE, UL |
| | Yueqing Hongchang | DB-14 | 10A, 250Vac | IEC/ EN 60320-1 | VDE, UL |
| Power switch (SW901) (for 715G5361 type B only) (optional) | Rong Feng | RF-1003 | 10A, 250Vac | IEC/EN 61058-1 | VDE, UL |
| | Solteam Electronics Co Ltd | MR-21 | 10A, 250Vac | IEC/EN 61058-1 | VDE, UL |
| | Solteam Electronics Co Ltd | OR-L | 6A, 250Vac | IEC/EN 61058-1 | VDE, UL |
| | Zhangjiagang Huajie Electronic Co., Ltd. | PS8 | 10A, 125Vac 6(4)A, 250Vac | IEC/EN 61058-1 | VDE, UL |
| | Chily | 3024 series | 16A, 250Vac | IEC/EN 61058-1 | VDE, UL |
| Fuse (F901) | Littelfuse, Inc. Wickmann | 382-series, 392 | T4AL, 250Vac | IEC/ EN 60127-1 IEC/ EN 60127-3 | VDE, UL |
| | Conquer | MET series, MST series, PTU | T4AL, 250Vac | IEC/ EN 60127-1 IEC/ EN 60127-3 | VDE, UL |
| | Cooper Bussmann | SR-5, SS-5 | T4AL, 250Vac | IEC/ EN 60127-1 IEC/ EN 60127-3 | VDE, UL |
| | Ever Island Electric Co., Ltd. & Walter Electric | 2000, 2010 series | T4AL, 250Vac | IEC/ EN 60127-1 IEC/ EN 60127-3 | VDE, UL |
| Fuse (F902, F903, F904) (sec. for LPS) | Littelfuse, Inc. Wickmann | 382-series, 392 | T5AL, 250Vac | IEC/ EN 60127-1 IEC/ EN 60127-3 | VDE, UL |
| | Conquer | MET series, MST series, PTU | T5AL, 250Vac | IEC/ EN 60127-1 IEC/ EN 60127-3 | VDE, UL |
| | Cooper Bussmann | SR-5, SS-5 | T5AL, 250Vac | IEC/ EN 60127-1 IEC/ EN 60127-3 | VDE, UL |
| | Ever Island Electric Co., Ltd. & Walter Electric | 2000, 2010 series | T5AL, 250Vac | IEC/ EN 60127-1 IEC/ EN 60127-3 | VDE, UL |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|---|---|---|
| Y- Capacitor (C902, C903, C937, C938) (C937 used for 715G5361 type B only) Y1 or Y2 type (optional) | Walsin | AC, AH | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 60384-14 | VDE, UL |
| | TDK | CS, CD | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 60384-14 | VDE, UL |
| | Murata | KH, KX | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 60384-14 | VDE, UL |
| | JYA-NAY | JY, JN | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 60384-14 | VDE, UL |
| | Hongming | F | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 60384-14 | VDE, UL |
| | Wansheng | CT7 | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 60384-14 | VDE, UL |
| | Haohua | CT7 | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 60384-14 | VDE, UL |
| | Samwha Capacitor Co.,Ltd. | SD | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 60384-14 | VDE, UL |
| | Matsushita | NS-A, NS-B | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 60384-14 | VDE, UL |
| | Success | SB, SE | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 60384-14 | VDE, UL |
| | Yinan | CT81 | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 60384-14 | VDE, UL |
| X-Capacitor (X1 or X2 type) (C908) (optional) | Ultra Tech Xiphi | HQX | Max. 0.47µF, 250Vac, 85°C | IEC/EN 60384-14 UL 60384-14 | VDE, UL |
| | Faratronic | MKP62 | Max. 0.47µF, 250Vac, 85°C | IEC/EN 60384-14 UL 60384-14 | VDE, UL |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|---|---|---|
| | Hua Jung | MKP | Max. 0.47μF, 250Vac, 85°C | IEC/EN 60384-14<br>UL 60384-14 | ENEC(Semko), UL |
| | Europtronic | MPX, MPX2 | Max. 0.47μF, 250Vac, 85°C | IEC/EN 60384-14<br>UL 60384-14 | VDE, UL |
| | Liow Gu | GS-L | Max. 0.47μF, 250Vac, 85°C | IEC/EN 60384-14<br>UL 60384-14 | VDE, UL |
| | Arcotronics (KEMET) | R.46 | Max. 0.47μF, 250Vac, 85°C | IEC/EN 60384-14<br>UL 60384-14 | ENEC(IMQ), UL |
| | EPCOS | B3292# | Max. 0.47μF, 250Vac, 85°C | IEC/EN 60384-14<br>UL 60384-14 | VDE, UL |
| | ZhuHai Sung Ho Electronics Co., Ltd. | CMPP | Max. 0.47μF, 250Vac, 85°C | IEC/EN 60384-14<br>UL 60384-14 | VDE, UL |
| Photo Coupler (IC902) | Sharp | PC123 | Di=0.7mm, int. cr=thermal cycling [3.] ext. cr=8.0mm, min.3000Vac, 100°C | DIN EN 60747-5-2, UL1577 | VDE, UL, Semko, Nemko, Fimko |
| | Vishay Semiconductor | TCET1103 | Di=0.6mm, int. cr=4.7mm, ext. cr=8.4mm, min.3000Vac, 100°C | DIN EN 60747-5-2, UL1577 | VDE, UL, Semko, Fimko |
| | Everlight Electronics Co., Ltd. | EL817, EL817M | Di=0.5mm, int. cr=6.0mm, ext. cr=7.7mm, min.3000Vac, 100°C | DIN EN 60747-5-2, UL1577 | VDE, UL, Semko, Nemko, Fimko |
| | Everlight Electronics Co., Ltd. | EL1013 | Di=0.4mm, int. cr=thermal cycling [3.] ext. cr=8.0mm, min.3000Vac, 100°C | DIN EN 60747-5-2, UL1577 | VDE, UL, Semko |
| | Lite-on | LTV-817 | Di=0.4mm, int. cr=4.0mm, ext. cr=8.0mm, min.3000Vac, 100°C | DIN EN 60747-5-2, UL1577 | VDE, UL |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|---|---|---|
| | Renesas | PS2561-1<br>PS2561L-1<br>PS2561L1-1<br>PS2561L2-1<br>PS2561DL1-1 | Di=0.4mm,<br>int. cr=thermal cycling [3.]<br>ext. cr=8.0mm,<br>min.3000Vac,<br>100°C | DIN EN 60747-5-2,<br>UL1577 | VDE, UL,<br>Nemko, Fimko |
| | TOSHIBA | TLP781F<br>TLP781<br>TLP421F | Di=0.4mm,<br>int. cr=thermal cycling [3.]<br>ext. cr=8.0mm,<br>min.3000Vac,<br>100°C | DIN EN 60747-5-2,<br>UL1577 | VDE, UL,<br>Semko, Fimko |
| Thermistor (NR901) | Interchangeable | Interchangeable | Min. 3Ω at 25°C,<br>min. 2A | -- | -- |
| Bleeder Resistor (R900, R901, R902) | Interchangeable | Interchangeable | Max. 680KΩ,<br>min. 1/4W | -- | -- |
| Current sensor resistor (R924) | Interchangeable | Interchangeable | Max. 0.39Ω, 2W | -- | -- |
| Bridging Diode (BD901) | Interchangeable | Interchangeable | Max.600V,<br>max.2A | -- | -- |
| Ripple Capacitor (C907) | Interchangeable | Interchangeable | 45-150µF,<br>min. 450V,<br>105°C | -- | -- |
| Transistor (Q901) | Interchangeable | Interchangeable | Max.650V,<br>max.7A | -- | -- |
| Line Choke (L901) (for 715G5361 type A only) (Optional) | Dadon | 73G174-65-H | 105°C | -- | -- |
| | TPV | 73G174-65-V | 105°C | -- | -- |
| | DARFON | 73G174-65-DN | 105°C | -- | -- |
| | TaiChang | 73G174-65-S | 105°C | -- | -- |
| | TDK | 73G174-65-T | 105°C | -- | -- |
| | Litai | 73G174-65-L | 105°C | -- | -- |
| | YUVA | 73G174-65-N | 105°C | -- | -- |
| | ASET | 73G174-65-X | 105°C | -- | -- |
| Line choke (L901) (for 715G5361 type B only) (Optional) | Dadon | 73L174-26-H | 105°C | -- | -- |
| | TDK | 73L174-26-T | 105°C | -- | -- |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|---|---|---|
| | ASET | 73L174-26-X | 105°C | -- | -- |
| | Taichang | 73L174-26-S | 105°C | -- | -- |
| | Litai | 73L174-26-L | 105°C | -- | -- |
| | TPV | 73L174-26-V | 105°C | -- | -- |
| Transformer (T901) (Alt.) | TPV | 80GL22T-3-V | Class B | Applicable part according to IEC60950-1 and IEC 60085 | Accepted by TÜV Rheinland |
| Bobbin | Sumitomo Bakelite Co., Ltd. | PM-8375 | Phenolic, V-0, 150°C | UL94 | UL |
| Margin tape | SYMBIO INC | No.35661$ | 130°C | UL510 | UL |
| | JINGJIANG YAHUA | No.WF(c) | 130°C | UL510 | UL |
| Insulation tape | JINGJIANG YAHUA | No.CT(c) | 130°C | UL510 | UL |
| | SYMBIO INC | No.35660Y*(%) | 130°C | UL510 | UL |
| Transformer (T901) (Alt.) | YUVA | 80GL22T-3-N | Class B | Applicable part according to IEC60950-1 and IEC 60085 | Accepted by TÜV Rheinland |
| Bobbin | Chang Chun | T375J | Phenolic, V-0, 150°C | UL94 | UL |
| Margin tape | SYMBIO INC | No.35661$ | 130°C | UL510 | UL |
| | 3M | No.44(a) | 130°C | UL510 | UL |
| Insulation tape | JINGJIANG YAHUA | No.CT(c) | 130°C | UL510 | UL |
| | SYMBIO INC | No.35660Y*(%) | 130°C | UL510 | UL |
| Transformer (T901) (Alt.) | DADON | 80GL22T-3-H | Class B | Applicable part according to IEC60950-1 and IEC 60085 | Accepted by TÜV Rheinland |
| Bobbin | Sumitomo Bakelite Co., Ltd. | PM-9820 | Phenolic, V-0, 150°C | UL94 | UL |
| Margin tape | SYMBIO INC | No.35661$ | 130°C | UL510 | UL |
| Insulation tape | JINGJIANG YAHUA | No.CT(c) | 130°C | UL510 | UL |
| | SYMBIO INC | No.35660Y*(%) | 130°C | UL510 | UL |
| Transformer (T901) (Alt.) | TAICHANG | 80GL22T-3-S | Class B | Applicable part according to IEC60950-1 and IEC 60085 | Accepted by TÜV Rheinland |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|---|---|---|
| Bobbin | Sumitomo Bakelite Co., Ltd. | PM-9820 | Phenolic, V-0, 150°C | UL94 | UL |
| Margin tape | JINGJIANG JINGYI | WF310 | 130°C | UL510 | UL |
| | JINGJIANG YAHUA | No.WF(c) | 130°C | UL510 | UL |
| Insulation tape | JIANGJING JINGYI | JY25-A | 130°C | UL510 | UL |
| | JINGJIANG YAHUA | No.CT(c) | 130°C | UL510 | UL |
| Transformer (T901) (Alt.) | CHENPING | 80GL22T-3-CP | Class B | Applicable part according to IEC60950-1 and IEC 60085 | Accepted by TÜV Rheinland |
| Bobbin | Sumitomo Bakelite Co., Ltd. | PM-9820 / PM-9630 | Phenolic, V-0, 150°C | UL94 | UL |
| Margin tape | SYMBIO INC | No.35661$ | 130°C | UL510 | UL |
| | JINGJIANG YAHUA | No.WF(c) | 130°C | UL510 | UL |
| Insulation tape | JINGJIANG YAHUA | No.CT(c) | 130°C | UL510 | UL |
| **Power supply board: 715G6503 by TPV** | | | | | |
| AC-Inlet (CN901) | Solteam | ST-01 | 10A(VDE), 15A(UL), 250Vac | IEC/ EN 60320-1 | VDE, UL |
| | Zhang Jia Gang-Hua Jie | SA-4S, SB-4S | 10A(VDE), 15A(UL), 250Vac | IEC/ EN 60320-1 | VDE, UL |
| | Rong Feng | SS-120, SS-7B | 10A(VDE), 15A(UL), 250Vac | IEC/ EN 60320-1 | VDE, UL |
| | Inalways | 0707-1, 0711-2, 0714 | 10A(VDE), 15A(UL), 250Vac | IEC/ EN 60320-1 | VDE, UL |
| | DELIKANG | CDJ-3, CDJ-3-1 | 10A(VDE), 15A(UL), 250Vac | IEC/ EN 60320-1 | VDE, UL |
| | TECX | TU-301 series | 10A(VDE), 15A(UL), 250Vac | IEC/ EN 60320-1 | VDE, UL |
| | Yueqing Hongchang | DB-14 DB-4 DB-6 | 10A(VDE), 15A(UL), 250Vac | IEC/ EN 60320-1 | VDE, UL |
| Fuse (F901) | Littelfuse, Inc. Wickmann | 382-series, 392 | T2.5AL, 250Vac | IEC/ EN 60127-1 IEC/ EN 60127-3 | VDE, UL |
| | Conquer | MET-series MST-series, PTU | T2.5AL, 250Vac | IEC/ EN 60127-1 IEC/ EN 60127-3 | VDE, UL |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|---|---|---|
| | Cooper Bussmann/ SAVE FUSETECH INC | SR-5, SS-5 | T2.5AL, 250Vac | IEC/ EN 60127-1 IEC/ EN 60127-3 | VDE, UL |
| | Ever Island Electric Co., Ltd. & Walter Electric | 2000, 2010 series | T2.5AL, 250Vac | IEC/ EN 60127-1 IEC/ EN 60127-3 | VDE, UL |
| Y- Capacitor (C902, C903) Y1 or Y2 type (optional) | Walsin | AC, AH | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | TDK | CS, CD | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Murata | KH, KX | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | JYA-NAY | JY, JN | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Hongming | F | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Wansheng | CT7 | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Haohua | CT7 | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Samwha | SD | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Matsushita | NS-A, NS-B | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Success | SB, SE | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Yinan | CT81 | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| Y- Capacitor (C913) Y1 type (optional) | Walsin | AH | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|---|---|---|
| | TDK | CD | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Murata | KX | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | JYA-NAY | JN | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Hongming | F | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Wansheng | CT7 | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Haohua | CT7 | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Matsushita | NS-A | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Success | SB, SE | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Yinan | CT81 | Max. 4700pF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| X-Capacitor (X1 or X2 type) (C901) (optional) | Ultra Tech Xiphi | HQX | Max. 0.22µF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Faratronic | MKP62 | Max. 0.22µF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Hua Jung | MKP | Max. 0.22µF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | ENEC(Semko), UL |
| | Europtronic | MPX, MPX2 | Max. 0.22µF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Liow Gu | GS-L | Max. 0.22µF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | VDE, UL |
| | Arcotronics | R.46 | Max. 0.22µF, 250Vac, 85°C | IEC/EN 60384-14 UL 1414 | ENEC(IMQ), UL |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|---|---|---|
| | EPCOS | B3292# | Max. 0.22μF, 250Vac, 85°C | IEC/EN 60384-14<br>UL 1414 | VDE, UL |
| | ZhuHai Sung Ho Electronics Co., Ltd. | CMPP | Max. 0.22μF, 250Vac, 85°C | IEC/EN 60384-14<br>UL 1414 | VDE, UL |
| Thermistor (NR901) | Interchangeable | Interchangeable | Max. 0.27Ω at 25°C, max. 4A | -- | -- |
| Bleeder Resistor (R907, R908, R909) | Interchangeable | Interchangeable | Max. 1MΩ, min. 1/4W | -- | -- |
| Bridging Diode (BD901) | Interchangeable | Interchangeable | Max.600V, max.2A | -- | -- |
| Ripple Capacitor (C905) | Interchangeable | Interchangeable | 40-150μF, min. 450V, 105°C | -- | -- |
| Line Choke (L901) (Optional) | TAICHANG | 73G174192-S | 105°C | -- | -- |
| | ASET | 73G174192-X | 105°C | -- | -- |
| | DADON | 73G174192-H | 105°C | -- | -- |
| | LITAI | 73G174192-L | 105°C | -- | -- |
| Transformer (T901) Alt.) | TPV | S80GL19P533V | Class B | Applicable part according to IEC60950-1 and IEC 60085 | Accepted by TÜV Rheinland |
| -Bobbin | Sumitomo Bakelite Co., Ltd. | PM-9820 | Phenolic, V-0, 150°C | UL94 | UL |
| -Margin tape | JINGJIANG YAHUA | No.WF(c) | 130°C | UL510 | UL |
| | SYMBIO INC | No.35661$ | 130°C | UL510 | UL |
| -Insulation tape | SYMBIO INC | No.35660Y*(%) | 130°C | UL510 | UL |
| | JINGJIANG YAHUA | No.CT(c) | 130°C | UL510 | UL |
| Transformer (T901) Alt.) | YUVA | 380GL19P533N | Class B | Applicable part according to IEC60950-1 and IEC 60085 | Accepted by TÜV Rheinland |
| -Bobbin | Sumitomo Bakelite Co., Ltd. | PM-9820 | Phenolic, V-0, 150°C | UL94 | UL |
| -Margin tape | 3M | No.44(a) | 130°C | UL510 | UL |
| | SYMBIO INC | No.35661$ | 130°C | UL510 | UL |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|---|---|---|
| -Insulation tape | SYMBIO INC | No.35660Y*(%) | 130°C | UL510 | UL |
| | JINGJIANG YAHUA | No.CT(c) | 130°C | UL510 | UL |

**Supplementary information:**

1. Provided evidence ensures the agreed level of compliance.
2. 'Di' means distance through insulation, 'int.' Means internal distance of creepage and 'ext.' Means external distance of creepage.
3. There is no any internal creepage distance. Test according to IEC60950-1:2001, cl. 2.10.8 (same as requirement in IEC60950-1:2005, cl. 2.10.9) has been carried out ten times for the components at 100°C / 25°C / 0°C / 25°C. Humidity treatment of 48 hours as well as electric strength tests at 3000V / 1 minute was carried out to the component after thermal cycling test.
4. All sources of photo coupler were certified according to DIN EN60747-5-2 which in compliance with the requirements and provisions of IEC 60747-5-5.
5. All sources of photo coupler were in compliance with CTL DSH 759 decision.
6. All sources of transformer were checked with same construction.

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| 1.6.2 | TABLE: electrical data (in normal conditions) | | | | | P |
|---|---|---|---|---|---|---|
| U (V) | I (A) | Irated (A) | P (W) | Fuse # | Ifuse (A) | Condition/status |
| **Test with power board 715G5361 type A, main board 715G5270** | | | | | | |
| VGA mode | | | | | | |
| 90/50 | 0.51 | -- | 29.0 | F901 | 0.51 | Maximum normal load |
| 90/60 | 0.51 | -- | 29.0 | F901 | 0.51 | Maximum normal load |
| 100/50 | 0.47 | 1.5 | 28.8 | F901 | 0.47 | Maximum normal load |
| 100/60 | 0.47 | 1.5 | 28.8 | F901 | 0.47 | Maximum normal load |
| 240/50 | 0.26 | 1.5 | 28.5 | F901 | 0.26 | Maximum normal load |
| 240/60 | 0.26 | 1.5 | 28.5 | F901 | 0.26 | Maximum normal load |
| 264/50 | 0.25 | -- | 28.4 | F901 | 0.25 | Maximum normal load |
| 264/60 | 0.25 | -- | 28.4 | F901 | 0.25 | Maximum normal load |
| DVI mode | | | | | | |
| 90/50 | 0.51 | -- | 28.5 | F901 | 0.50 | Maximum normal load |
| 90/60 | 0.51 | -- | 28.5 | F901 | 0.50 | Maximum normal load |
| 100/50 | 0.47 | 1.5 | 28.2 | F901 | 0.46 | Maximum normal load |
| 100/60 | 0.47 | 1.5 | 28.2 | F901 | 0.46 | Maximum normal load |
| 240/50 | 0.26 | 1.5 | 28.0 | F901 | 0.25 | Maximum normal load |
| 240/60 | 0.26 | 1.5 | 28.0 | F901 | 0.25 | Maximum normal load |
| 264/50 | 0.25 | -- | 28.0 | F901 | 0.24 | Maximum normal load |
| 264/60 | 0.25 | -- | 28.0 | F901 | 0.24 | Maximum normal load |
| **Test with power board 715G5361 type A, main board 715G6605** | | | | | | |
| VGA mode | | | | | | |
| 90/50 | 0.47 | -- | 26.3 | F901 | 0.47 | Maximum normal load |
| 90/60 | 0.47 | -- | 26.3 | F901 | 0.47 | Maximum normal load |
| 100/50 | 0.44 | 1.5 | 26.0 | F901 | 0.44 | Maximum normal load |
| 100/60 | 0.44 | 1.5 | 26.0 | F901 | 0.44 | Maximum normal load |
| 240/50 | 0.25 | 1.5 | 25.9 | F901 | 0.25 | Maximum normal load |
| 240/60 | 0.25 | 1.5 | 25.9 | F901 | 0.25 | Maximum normal load |
| 264/50 | 0.24 | -- | 26.0 | F901 | 0.24 | Maximum normal load |
| 264/60 | 0.24 | -- | 26.0 | F901 | 0.24 | Maximum normal load |
| DVI mode | | | | | | |
| 90/50 | 0.46 | -- | 26.3 | F901 | 0.46 | Maximum normal load |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | | |
|---|---|---|---|---|---|---|
| 90/60 | 0.46 | -- | 26.3 | F901 | 0.46 | Maximum normal load |
| 100/50 | 0.43 | 1.5 | 26.1 | F901 | 0.43 | Maximum normal load |
| 100/60 | 0.43 | 1.5 | 26.1 | F901 | 0.43 | Maximum normal load |
| 240/50 | 0.24 | 1.5 | 25.4 | F901 | 0.24 | Maximum normal load |
| 240/60 | 0.24 | 1.5 | 25.4 | F901 | 0.24 | Maximum normal load |
| 264/50 | 0.23 | -- | 25.8 | F901 | 0.23 | Maximum normal load |
| 264/60 | 0.23 | -- | 25.8 | F901 | 0.23 | Maximum normal load |
| HDMI mode | | | | | | |
| 90/50 | 0.50 | -- | 27.9 | F901 | 0.50 | Maximum normal load |
| 90/60 | 0.50 | -- | 27.9 | F901 | 0.50 | Maximum normal load |
| 100/50 | 0.45 | 1.5 | 27.0 | F901 | 0.45 | Maximum normal load |
| 100/60 | 0.45 | 1.5 | 27.0 | F901 | 0.45 | Maximum normal load |
| 240/50 | 0.27 | 1.5 | 26.9 | F901 | 0.27 | Maximum normal load |
| 240/60 | 0.27 | 1.5 | 26.9 | F901 | 0.27 | Maximum normal load |
| 264/50 | 0.25 | -- | 26.5 | F901 | 0.25 | Maximum normal load |
| 264/60 | 0.25 | -- | 26.5 | F901 | 0.25 | Maximum normal load |
| **Test with power board 715G5361 type B, main board 715G5436, USB board 715G5370** | | | | | | |
| VGA mode | | | | | | |
| 90/50 | 0.78 | -- | 43.2 | F901 | 0.78 | Maximum normal load |
| 90/60 | 0.78 | -- | 43.3 | F901 | 0.78 | Maximum normal load |
| 100/50 | 0.72 | 1.5 | 42.7 | F901 | 0.72 | Maximum normal load |
| 100/60 | 0.72 | 1.5 | 42.6 | F901 | 0.72 | Maximum normal load |
| 240/50 | 0.41 | 1.5 | 41.7 | F901 | 0.41 | Maximum normal load |
| 240/60 | 0.41 | 1.5 | 41.6 | F901 | 0.41 | Maximum normal load |
| 264/50 | 0.38 | -- | 42.0 | F901 | 0.38 | Maximum normal load |
| 264/60 | 0.38 | -- | 41.8 | F901 | 0.38 | Maximum normal load |
| DVI mode | | | | | | |
| 90/50 | 0.78 | -- | 42.8 | F901 | 0.78 | Maximum normal load |
| 90/60 | 0.78 | -- | 42.8 | F901 | 0.78 | Maximum normal load |
| 100/50 | 0.72 | 1.5 | 42.5 | F901 | 0.72 | Maximum normal load |
| 100/60 | 0.72 | 1.5 | 42.3 | F901 | 0.72 | Maximum normal load |
| 240/50 | 0.41 | 1.5 | 41.6 | F901 | 0.41 | Maximum normal load |
| 240/60 | 0.41 | 1.5 | 41.6 | F901 | 0.41 | Maximum normal load |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | | |
|---|---|---|---|---|---|---|
| 264/50 | 0.38 | -- | 41.7 | F901 | 0.38 | Maximum normal load |
| 264/60 | 0.38 | -- | 41.5 | F901 | 0.38 | Maximum normal load |
| HDMI mode | | | | | | |
| 90/50 | 0.82 | -- | 45.4 | F901 | 0.82 | Maximum normal load |
| 90/60 | 0.82 | -- | 45.3 | F901 | 0.82 | Maximum normal load |
| 100/50 | 0.75 | 1.5 | 45.1 | F901 | 0.75 | Maximum normal load |
| 100/60 | 0.75 | 1.5 | 45.0 | F901 | 0.75 | Maximum normal load |
| 240/50 | 0.44 | 1.5 | 44.9 | F901 | 0.44 | Maximum normal load |
| 240/60 | 0.44 | 1.5 | 45.0 | F901 | 0.44 | Maximum normal load |
| 264/50 | 0.42 | -- | 44.8 | F901 | 0.42 | Maximum normal load |
| 264/60 | 0.42 | -- | 44.8 | F901 | 0.42 | Maximum normal load |
| **Test with power board 715G6503, main board 715G6911** | | | | | | |
| VGA mode | | | | | | |
| 90/50 | 0.44 | -- | 24.8 | F901 | 0.44 | Maximum normal load |
| 90/60 | 0.44 | -- | 24.8 | F901 | 0.44 | Maximum normal load |
| 100/50 | 0.40 | 1.5 | 24.7 | F901 | 0.40 | Maximum normal load |
| 100/60 | 0.40 | 1.5 | 24.7 | F901 | 0.40 | Maximum normal load |
| 240/50 | 0.23 | 1.5 | 24.5 | F901 | 0.23 | Maximum normal load |
| 240/60 | 0.23 | 1.5 | 24.5 | F901 | 0.23 | Maximum normal load |
| 264/50 | 0.22 | -- | 24.8 | F901 | 0.22 | Maximum normal load |
| 264/60 | 0.22 | -- | 24.8 | F901 | 0.22 | Maximum normal load |
| DVI mode | | | | | | |
| 90/50 | 0.42 | -- | 23.5 | F901 | 0.42 | Maximum normal load |
| 90/60 | 0.42 | -- | 23.5 | F901 | 0.42 | Maximum normal load |
| 100/50 | 0.38 | 1.5 | 23.2 | F901 | 0.38 | Maximum normal load |
| 100/60 | 0.38 | 1.5 | 23.2 | F901 | 0.38 | Maximum normal load |
| 240/50 | 0.23 | 1.5 | 23.3 | F901 | 0.23 | Maximum normal load |
| 240/60 | 0.23 | 1.5 | 23.3 | F901 | 0.23 | Maximum normal load |
| 264/50 | 0.21 | -- | 23.6 | F901 | 0.21 | Maximum normal load |
| 264/60 | 0.21 | -- | 23.6 | F901 | 0.21 | Maximum normal load |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

Supplementary information:

1. Maximum normal load: maximum brightness, maximum contrast, full white screen; speakers were loaded with 1KHz sinusoidal signal and turned to maximum volume.
2. Panel LTM230HT** (SAMSUNG) chosen for the test, due to it has the highest power consumption specified in panel spec among all the panels.

| 2.1.1.5 | TABLE: max. V, A, VA test | | | P |
|---|---|---|---|---|
| Voltage (rated) (V) | Current (rated) (A) | Voltage (max.) (V) | Current (max.) (A) | VA (max.) (VA) |
| **Test with power board 715G5361 type A** | | | | |
| +5V output | -- | 5.0 | 10.0 | 44 |
| +5V1 output | -- | 5.0 | 10.0 | 44 |
| +16V output | -- | 20.0 | 5.6 | 47 |
| **Test with power board 715G5361 type B** | | | | |
| +5V output | -- | 5.3 | 9.0 | 41 |
| +16V output | -- | 19.7 | 4.2 | 40 |
| **Test with power board 715G6503** | | | | |
| +19V output | -- | 18.7 | 3.0 | 52.3 |
| Supplementary information: Test voltage is 264Vac, 60Hz | | | | |

| 2.1.1.7 | TABLE: discharge test | | | P |
|---|---|---|---|---|
| Condition | τ calculated (s) | τ measured (s) | t u→ 0V (s) | Comments |
| **Test with power board 715G5361 type A/B** | | | | |
| System on (with fuse in, L-N) | 0.96 | 0.89 | -- | Vo=375Vpk, 37% of Vo=138.75Vpk. |
| Supplementary information:<br>Overall capacity: C908 = 0.47μF,<br>Discharge resistor: R900(680KΩ) + R901(680KΩ) + R902(680KΩ) = 2.04MΩ,<br>Supplied with 264V/60Hz. | | | | |
| **Test with power board 715G6503** | | | | |
| System on (with fuse in, L-N) | 0.66 | 0.56 | -- | Vo=373Vpk, 37% of Vo=138Vpk. |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

Supplementary information:

Overall capacity: C901 = 0.22μF,

Discharge resistor: R907(1MΩ) + R908(1MΩ) + R909(1MΩ) = 3MΩ,

Supplied with 264V/60Hz.

| 2.2.2 | TABLE: Hazardous voltage measurement | | P |
|---|---|---|---|
| Component (measured between) | max. voltage (V) (normal operation) | | Voltage Limiting Components |
| | V peak | V d.c. | |
| **Test with power board 715G5361 type A** | | | |
| T901: Pin 7,8 - pin 9,10 | 27.0 | -- | |
| T901: Pin 11,12 - pin 9,10 | 83 | -- | |
| After R930 to earth | 72.2 | -- | |
| After C916/D901 to earth | -- | 15.8 | C916/D90 |
| After L905 to earth | -- | 15.9 | |
| After L801 to earth | -- | 16.0 | |
| After D801 to earth (converter output) | -- | 56.2 | |
| Fault test performed on voltage limiting components | Voltage measured (V) in SELV circuits (V peak or V d.c.) | | |
| R930 short | 17.0 (+16V to earth) | | |
| C916 short | 16.4 (+16V to earth) | | |
| D901 short | 0 (+16V to earth) | | |
| L801 short | 0 (CN801 pin 3,4 to earth) | | |
| D801 short | 0 (CN801 pin 3,4 to earth) | | |
| Supplementary information: Input Voltage is 240Vac, 60Hz | | | |

| 2.2.2 | TABLE: Hazardous voltage measurement | | P |
|---|---|---|---|
| Component (measured between) | max. voltage (V) (normal operation) | | Voltage Limiting Components |
| | V peak | V d.c. | |
| **Test with power board 715G5361 type B** | | | |
| T901: Pin 7,8 - pin 9,10 | 27.8 | -- | |
| T901: Pin 11,12 - pin 9,10 | 83.6 | -- | |
| After R930 to earth | 79.9 | -- | |
| After C916/D901 to earth | -- | 16.3 | C916/D901 |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|---|---|---|---|
| After L801 to earth | -- | 16.3 | |
| After D801 to earth (converter output) | -- | 49.4 | |
| Fault test performed on voltage limiting components | Voltage measured (V) in SELV circuits (V peak or V d.c.) | | |
| R930 short | 17.2 (+16V to earth) | | |
| C916 short | 16.4 (+16V to earth) | | |
| D901 short | 0 (+16V to earth) | | |
| Supplementary information: Input Voltage is 240Vac, 60Hz | | | |

| 2.2 | TABLE: Hazardous voltage measurement | | P |
|---|---|---|---|
| Component (measured between) | max. voltage (V) (normal operation) | | Voltage Limiting Components |
| | V peak | V d.c. | |
| **Test with power board 715G6503** | | | |
| T901 pin 7-9,10 | 53.0 | -- | |
| After R916 to GND | 51.7 | -- | |
| After C915/D904 to GND | -- | 17.9 | C915/D901 |
| After L801 to GND | -- | 23.4 | |
| Converter output to GND | -- | 39.2 | |
| Fault test performed on voltage limiting components | Voltage measured (V) in SELV circuits (V peak or V d.c.) | | |
| D904 short | 0 (+19V to earth) | | |
| C915 short | 18.8 (+19V to earth) | | |
| R916 short | 18.7 (+19V to earth) | | |
| L801 short | 0 (converter output to earth) | | |
| D802 short | 0 (converter output to earth) | | |
| Supplementary information: Input Voltage is 240Vac, 60Hz | | | |

| 2.4.2 | TABLE: limited current circuit measurement | | | | P |
|---|---|---|---|---|---|
| Location | Voltage (V) | Current (mA) | Freq. (KHz) | Limit (mA) | Comments |
| **Test on power board 715G6503** | | | | | |
| C913 | -- | 0.31 | -- | 0.7 | -- |
| Supplementary information:<br>Measured with figure D.1 instrument. | | | | | |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| 2.5 | TABLE: Limited power source measurement | | P |
|---|---|---|---|
| | Limits | Measured | Verdict |
| **Test with power board 715G5361 type A** | | | |
| **Location: +16V output** | | | |
| **According to Table 2C (normal condition), Uoc=20.0V** | | | |
| current (in A) | 50 | 5.6 | **P** |
| apparent power (in VA) | 250 | 47 | **P** |
| **According to Table 2C (single fault condition), ZD901 shorted** | | | |
| current (in A) | 50 | 4.9 | **P** |
| apparent power (in VA) | 250 | 41 | **P** |
| **According to Table 2C (single fault condition), R930 shorted** | | | |
| current (in A) | 50 | 5.6 | **P** |
| apparent power (in VA) | 250 | 47 | **P** |
| **According to Table 2C (single fault condition), C916 shorted** | | | |
| current (in A) | 50 | 6.0 | **P** |
| apparent power (in VA) | 250 | 49 | **P** |
| **According to Table 2C (single fault condition), IC903 pin A-K shorted** | | | |
| current (in A) | 50 | 0 | **P** |
| apparent power (in VA) | 250 | 0 | **P** |
| **According to Table 2C (single fault condition), IC902 pin 1 opened** | | | |
| current (in A) | 50 | 0 | **P** |
| apparent power (in VA) | 250 | 0 | **P** |
| **According to Table 2C (single fault condition), R914 shorted** | | | |
| current (in A) | 50 | 0 | **P** |
| apparent power (in VA) | 250 | 0 | **P** |
| **According to Table 2C (single fault condition), R924 shorted** | | | |
| current (in A) | 50 | 3.8 | **P** |
| apparent power (in VA) | 250 | 28 | **P** |
| **Location: +5V output** | | | |
| **According to Table 2C (normal condition), Uoc=5.0V** | | | |
| current (in A) | 200 (50) | 10.0 | **P** |
| apparent power (in VA) | 250 | 44 | **P** |
| **Location: +5V1 output** | | | |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|---|---|---|---|
| **According to Table 2C (normal condition), Uoc=5.0V** | | | |
| current (in A) | 200 (50) | 10.0 | **P** |
| apparent power (in VA) | 250 | 44 | **P** |
| Supplementary information:<br>1. Input Voltage is 240Vac, 60Hz.<br>2. +16V output limited by fuse F904, +5V output limited by fuse F902 and +5V1 output limited by fuse F903. Fuse F902, F903 and F904 will break each circuit within 120 s with a current equal to 210 %. Current limit of table 2C reduced to breaking capacity of the fuse (50A). | | | |

| **2.5** | **TABLE: Limited power source measurement** | | **P** |
|---|---|---|---|
| | Limits | Measured | Verdict |
| **Test with power board 715G5361 type B** | | | |
| **Location: +16V output** | | | |
| **According to Table 2C (normal condition), Uoc=19.7V** | | | |
| current (in A) | 50 | 4.2 | **P** |
| apparent power (in VA) | 250 | 40 | **P** |
| **According to Table 2C (single fault condition), ZD901 shorted** | | | |
| current (in A) | 50 | 4.3 | **P** |
| apparent power (in VA) | 250 | 41 | **P** |
| **According to Table 2C (single fault condition), R930 shorted** | | | |
| current (in A) | 50 | 4.2 | **P** |
| apparent power (in VA) | 250 | 40 | **P** |
| **According to Table 2C (single fault condition), C916 shorted** | | | |
| current (in A) | 50 | 4.5 | **P** |
| apparent power (in VA) | 250 | 43 | **P** |
| **According to Table 2C (single fault condition), IC903 pin A-K shorted** | | | |
| current (in A) | 50 | 0 | **P** |
| apparent power (in VA) | 250 | 0 | **P** |
| **According to Table 2C (single fault condition), IC902 pin 1 opened** | | | |
| current (in A) | 50 | 0 | **P** |
| apparent power (in VA) | 250 | 0 | **P** |
| **According to Table 2C (single fault condition), R914 shorted** | | | |
| current (in A) | 50 | 0 | **P** |
| apparent power (in VA) | 250 | 0 | **P** |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|---|---|---|---|
| **According to Table 2C (single fault condition), R924 shorted** | | | |
| current (in A) | 50 | 6.1 | **P** |
| apparent power (in VA) | 250 | 46 | **P** |
| **Location: +5V output** | | | |
| **According to Table 2C (normal condition), Uoc=5.3V** | | | |
| current (in A) | 200 (50) | 9.0 | **P** |
| apparent power (in VA) | 250 | 41 | **P** |
| Supplementary information:<br>1. Input Voltage is 240Vac, 60Hz.<br>2. +16V output limited by fuse F904, +5V output limited by fuse F902. Fuse F902 and F904 will break each circuit within 120 s with a current equal to 210 %. Current limit of table 2C reduced to breaking capacity of the fuse (50A). | | | |

| **2.5** | **TABLE: Limited power source measurement** | | **P** |
|---|---|---|---|
| | Limits | Measured | Verdict |
| **Test with power board 715G6503** | | | |
| **Location: +19V output** | | | |
| **According to Table 2C (normal condition), Uoc=18.7V** | | | |
| current (in A) | 50 | 3.0 | **P** |
| apparent power (in VA) | 250 | 52.3 | **P** |
| **According to Table 2C (single fault condition), R911 shorted, Uoc=18.8V** | | | |
| current (in A) | 50 | 5.4 | **P** |
| apparent power (in VA) | 250 | 50 | **P** |
| **According to Table 2C (single fault condition), R912 shorted, Uoc=0V** | | | |
| current (in A) | 50 | 0 | **P** |
| apparent power (in VA) | 250 | 0 | **P** |
| **According to Table 2C (single fault condition), R916 shorted, Uoc=18.7** | | | |
| current (in A) | 50 | 3.0 | **P** |
| apparent power (in VA) | 250 | 52.3 | **P** |
| **According to Table 2C (single fault condition), C915 shorted, Uoc=18.5V** | | | |
| current (in A) | 50 | 2.9 | **P** |
| apparent power (in VA) | 250 | 51.2 | **P** |
| **According to Table 2C (single fault condition), C904 opened, Uoc=0V** | | | |
| current (in A) | 50 | 0 | **P** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|---|---|---|---|
| apparent power (in VA) | 250 | 0 | **P** |
| **According to Table 2C (single fault condition), D904 shorted, Uoc=0V** | | | |
| current (in A) | 50 | 0 | **P** |
| apparent power (in VA) | 250 | 0 | **P** |
| Supplementary information:<br>1. Input Voltage is 240Vac, 60Hz. | | | |

| **2.6.3.4** | **TABLE: ground continue test** | | **P** |
|---|---|---|---|
| Location | Resistance measured (mΩ) | Comments | |
| **Test with power board 715G5361 type A/B** | | | |
| PE terminal of AC inlet to internal metal enclosure | 4.0 | Test with 32A, 2 minutes | |
| PE terminal of AC inlet to internal metal enclosure | 4.0 | Test with 40A, 2 minutes | |
| PE terminal of AC inlet to C938 secondary trace | 7.0 | Test with 32A, 2 minutes | |
| PE terminal of AC inlet to C938 secondary trace | 8.0 | Test with 40A, 2 minutes | |
| PE terminal of AC inlet to C902 trace | 3.0 | Test with 32A, 2 minutes | |
| PE terminal of AC inlet to C902 trace | 4.0 | Test with 40A, 2 minutes | |
| PE terminal of AC inlet to C903 trace | 3.0 | Test with 32A, 2 minutes | |
| PE terminal of AC inlet to C903 trace | 4.0 | Test with 40A, 2 minutes | |
| PE terminal of AC inlet to C937 secondary trace | 9.0 | Test with 32A, 2 minutes | |
| PE terminal of AC inlet to C937 secondary trace | 9.0 | Test with 40A, 2 minutes | |
| Supplementary information: | | | |

| **2.6.3.4** | **TABLE: ground continue test** | | **P** |
|---|---|---|---|
| Location | Resistance measured (mΩ) | Comments | |
| **Test with power board 715G6503** | | | |
| PE terminal of AC inlet to internal metal enclosure | 4.0 | Test with 32A, 2 minutes | |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | |
|---|---|---|
| PE terminal of AC inlet to internal metal enclosure | 4.0 | Test with 40A, 2 minutes |
| PE terminal of AC inlet to C902 secondary trace | 4.0 | Test with 32A, 2 minutes |
| PE terminal of AC inlet to C902 secondary trace | 4.0 | Test with 40A, 2 minutes |
| PE terminal of AC inlet to C903 trace | 4.0 | Test with 32A, 2 minutes |
| PE terminal of AC inlet to C903 trace | 4.0 | Test with 40A, 2 minutes |
| Supplementary information: | | |

| **2.10.2** | **Table: working voltage measurement** | | **P** |
|---|---|---|---|
| Location | Peak voltage (V) | RMS voltage (V) | Comments |
| **Test with power board 715G5361 type A/B** | | | |
| T901: Pin1 to pin 7,8 | 359 | 212 | |
| T901: Pin1 to pin 9,10 | 338 | 213 | |
| T901: Pin1 to pin 11,12 | 453 | 219 | |
| T901: Pin3 to pin 7,8 | 416 | 213 | |
| T901: Pin3 to pin 9,10 | 419 | 213 | |
| T901: Pin3 to pin 11,12 | 394 | 213 | |
| T901: Pin4 to pin 7,8 | 375 | 213 | |
| T901: Pin4 to pin 9,10 | 341 | 212 | |
| T901: Pin4 to pin 11,12 | 441 | 214 | |
| T901: Pin6 to pin 7,8 | 484 | 237 | |
| T901: Pin6 to pin 9,10 | 459 | 235 | |
| T901: Pin6 to pin 11,12 | **513** | **236** | **Max. Vpeak & Vrms** |
| IC902 Pin1-3 | 344 | 221 | |
| IC902 Pin1-4 | 340 | 221 | |
| IC902 Pin2-3 | 341 | 221 | |
| IC902 Pin2-4 | 339 | 221 | |
| C938 primary pin – secondary pin | 359 | 212 | |
| Supplementary information: Input Voltage is 240Vac, 60Hz | | | |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| 2.10.2 | Table: working voltage measurement | | | P |
|---|---|---|---|---|
| Location | | Peak voltage (V) | RMS voltage (V) | Comments |
| **Test with power board 715G6503** | | | | |
| T901 Pin 1 – 6,7 | | 366 | 200 | |
| T901 Pin 1 – 9,10 | | 337 | 197 | |
| T901 Pin 2 – 6,7 | | 353 | 197 | |
| T901 Pin 2 – 9,10 | | 387 | 199 | |
| T901 Pin 3 – 6,7 | | 403 | 200 | |
| T901 Pin 3 – 9,10 | | 350 | 198 | |
| T901 Pin 5 – 6,7 | | 475 | 233 | |
| T901 Pin 5 – 9,10 | | **484** | **248** | **Max. Vpeak & Vrms** |
| C913 primary pin – secondary pin | | 337 | 197 | |
| Supplementary information: Input Voltage is 240Vac, 60Hz | | | | |

| 2.10.3 and 2.10.4 | TABLE: clearance and creepage distance measurements | | | | | P |
|---|---|---|---|---|---|---|
| Clearance cl and creepage distance dcr at/of: | U p (V) | U r.m.s. (V) | Required cl (mm) | cl (mm) | Required dcr (mm) | dcr (mm) |
| **Test with power board 715G5361 type A/B** | | | | | | |
| **Functional:** | | | | | | |
| Under fuse (F901) [1.] | 420 | 250 | 2.3 | 3.0 | 2.5 | 4.2 |
| Before fuse (between L-N) [1.] | 420 | 250 | 2.3 | 3.6 | 2.5 | 3.6 |
| Under switch SW901 (on 715G5361 type B) | 420 | 250 | 2.3 | 3.9 | 2.5 | 3.9 |
| **Basic / supplementary:** | | | | | | |
| Line-GND [1.] | 420 | 250 | 3.0 | 3.1 | 3.0 | 3.2 |
| Neutral-GND [1.] | 420 | 250 | 3.0 | 3.1 | 3.0 | 3.2 |
| Under C938 | 420 | 250 | 3.0 | 7.7 | 3.0 | 7.7 |
| Under C937 (on 715G5361 type B) | 420 | 250 | 3.0 | 8.0 | 3.0 | 8.0 |
| Under C902 [1.] | 420 | 250 | 3.0 | 3.2 | 3.0 | 3.8 |
| Under C903 [1.] | 420 | 250 | 3.0 | 3.1 | 3.0 | 3.8 |
| Primary component C911 to core of T901 | 513 | 250 | 3.3 | 5.8 | 3.3 | 6.0 |
| Secondary heatsink HS2 to core of T901 | 513 | 250 | 3.3 | 4.9 | 3.3 | 4.9 |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | | |
|---|---|---|---|---|---|---|
| Primary heatsink HS1 to metal enclosure | 513 | 250 | 3.3 | 8.5 | 3.3 | 8.5 |
| Primary component (main transformer) to metal enclosure A/B/C | 513 | 250 | 3.3 | 10.7 | 3.3 | 10.7 |
| Primary trace to panel metal plate (measured with metal enclosure type A/B) | 513 | 250 | 3.3 | 4.6 | 3.3 | 4.6 |
| **Reinforced:** | | | | | | |
| Under T901(trace side) | 513 | 250 | 6.6 | 16.7 | 6.6 | 16.7 |
| IC902 primary pin to IC902 secondary pin (trace side) | 420 | 250 | 6.0 | 7.0 | 6.0 | 8.6 |
| Primary heatsink HS1 to secondary component F903 | 420 | 250 | 6.0 | 8.4 | 6.0 | 8.9 |
| Primary component D903 to secondary component L906 (trade side) | 420 | 250 | 6.0 | 7.1 | 6.0 | 7.1 |

Supplementary information:

1. There is one slot measured 1mm width.
2. Core of main transformer T901 consider as floating.
3. One mylar sheet is fixed between power board trace side and panel inside metal enclosure type C to fulfill the requirement for basic insulation. See table 5.2 for the electric strength test for mylar.
4. Glued component: C907.
5. For clearance and creepage that did not describe above are far larger than limit above.
6. Considered altitude correction factor for clearances for an altitude of 5000m (based on IEC 60664-1:1992): 1.48.

| **2.10.3 and 2.10.4** | **TABLE: clearance and creepage distance measurements** | | | | | **P** |
|---|---|---|---|---|---|---|
| Clearance cl and creepage distance dcr at/of: | U p (V) | U r.m.s. (V) | Required cl (mm) | cl (mm) | Required dcr (mm) | dcr (mm) |
| **Test with power board 715G6503** | | | | | | |
| Functional: | | | | | | |
| Under fuse (F901) [1.] | 420 | 250 | 2.3 | 3.0 | 2.5 | 3.2 |
| Before fuse (between L-N) | 420 | 250 | 2.3 | 3.3 | 2.5 | 3.3 |
| Basic / supplementary: | | | | | | |
| Line-GND [1.] | 420 | 250 | 3.0 | 3.0 [2.] | 3.0 | 3.5 |
| Neutral-GND [1.] | 420 | 250 | 3.0 | 3.0 [2.] | 3.0 | 3.5 |
| Under C913 [1.] | 420 | 250 | 3.0 | 7.8 | 3.0 | 8.4 |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | | |
|---|---|---|---|---|---|---|
| Under C902 | 420 | 250 | 3.0 | 3.4 | 3.0 | 3.4 |
| Under C903 [1.] | 420 | 250 | 3.0 | 3.4 | 3.0 | 4.4 |
| Primary component C920 to core of T901 | 484 | 250 | 3.2 | 3.5 | 3.2 | 3.5 |
| Secondary component C904 to core of T901 | 484 | 250 | 3.2 | 5.6 | 3.2 | 5.6 |
| Primary component (main transformer) to metal enclosure | 484 | 250 | 3.2 | 11.5 | 3.2 | 11.5 |
| Reinforced: | | | | | | |
| Under T901 | 484 | 250 | 6.3 | 8.0 | 6.3 | 8.0 |
| Primary component C901 to secondary connector CN802 | 420 | 250 | 6.0 | 8.2 | 6.0 | 8.2 |

Supplementary information:

1. There is one slot measured 1mm width.
2. Measured three times with same test result.
3. Core of main transformer T901 consider as floating.
4. One mylar sheet is fixed between primary component trace and panel to fulfill the requirement for basic insulation. See table 5.2 for the electric strength test for mylar.
5. Glued component: C905.
6. Considered altitude correction factor 1.48 for clearances for an altitude of 5000m.
7. For clearance and creepage that did not describe above are far larger than limit above.

| 2.10.5 | TABLE: distance through insulation measurements | | | | P |
|---|---|---|---|---|---|
| Distance through insulation di at/of: | | U r.m.s. (V) | Test voltage (V) | Required di (mm) | di (mm) |
| Photo coupler (reinforced insulation) | | 250 | 3000 | 0.4 | [1.] |
| Mylar sheet between power board and panel inside metal enclosure type C (basic insulation) | | 250 | 1500 | -- | [1.] |

Supplementary information:

1. For approved component source see appended table 1.5.1.

| 4.5 | TABLE: Thermal requirements | | | | | P |
|---|---|---|---|---|---|---|
| | Supply voltage (V) ..... | 90 | 264 | 90 | 264 | — |
| | Ambient $T_{min}$ (°C) ..... | -- | -- | -- | -- | — |
| | Ambient $T_{max}$ (°C) ..... | -- | -- | -- | -- | — |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| Maximum measured temperature T of part/at.....: | T (°C) | | | | Allowed $T_{max}$ (°C) |
|---|---|---|---|---|---|
| | **Horizontal** | | **Vertical** | | |
| **Test with power board 715G5361 type A, metal enclosure type A** | | | | | |
| AC Inlet body CN901 (on power board) | 39.7 | 40.6 | 37.7 | 34.9 | 53.1 |
| L901 coil (on power board) | 48.8 | 46.6 | 48.4 | 45.8 | 88.1 |
| PCB near NR901 (on power board) | 40.0 | 41.7 | 43.3 | 41.0 | 88.1 |
| C903 body (on power board) | 38.8 | 41.9 | 44.0 | 41.3 | 68.1 |
| C908 body (on power board) | 49.3 | 45.2 | 49.6 | 44.6 | 68.1 |
| C907 body (on power board) | 40.6 | 42.4 | 40.1 | 41.9 | 88.1 |
| PCB near BD901 (on power board) | 47.2 | 42.3 | 47.1 | 51.8 | 88.1 |
| IC902 body (on power board) | 49.8 | 44.7 | 49.6 | 44.0 | 83.1 |
| C938 body (on power board) | 44.4 | 44.8 | 48.4 | 48.5 | 68.1 |
| PCB near Q901 (on power board) | 47.1 | 47.1 | 47.1 | 46.6 | 88.1 |
| PCB near D901 (on power board) | 46.1 | 44.3 | 46.1 | 50.7 | 88.1 |
| T901 coil (on power board) | 54.4 | 54.8 | 52.1 | 53.1 | 93.1 |
| T901 core (on power board) | 47.1 | 47.1 | 47.1 | 46.6 | 93.1 |
| PCB near L801 (on power board) | 55.5 | 53.9 | 55.7 | 54.0 | 88.1 |
| PCB near U801 (on power board) | 43.9 | 43.1 | 43.8 | 42.2 | 88.1 |
| PCB near U401 (on main board) | 47.1 | 44.4 | 47.2 | 43.9 | 88.1 |
| Metal enclosure | 40.6 | 39.7 | 40.3 | 39.1 | 53.1 |
| Plastic enclosure outside | 31.2 | 31.7 | 31.2 | 28.8 | 43.1 |
| Plastic enclosure inside near T901 | 35.0 | 38.5 | 37.9 | 38.0 | -- |
| Panel surface | 38.2 | 38.3 | 40.0 | 37.6 | 78.1 |
| Ambient | 23.3 | 23.1 | 23.7 | 24.0 | -- |
| | | | | | |
| **Test with power board 715G5361 type B, metal enclosure type C** | | | | | |
| AC Inlet body CN901 (on power board) | 39.5 | 38.1 | 38.7 | 36.9 | 53.4 |
| L901 coil (on power board) | 45.8 | 47.3 | 47.4 | 44.8 | 88.4 |
| PCB near NR901 (on power board) | 42.6 | 40.0 | 44.5 | 43.2 | 88.4 |
| C903 body (on power board) | 40.8 | 37.6 | 45.1 | 43.7 | 68.4 |
| C908 body (on power board) | 47.4 | 48.2 | 49.0 | 45.6 | 68.4 |
| C907 body (on power board) | 43.6 | 42.5 | 43.8 | 41.6 | 88.4 |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|---|---|---|
| PCB near BD901 (on power board) | 48.9 | 45.7 | 48.6 | 47.3 | 88.4 |
| IC902 body (on power board) | 49.3 | 44.7 | 50.1 | 48.8 | 83.4 |
| C938 body (on power board) | 46.7 | 47.8 | 49.2 | 46.4 | 68.4 |
| PCB near Q901 (on power board) | 48.1 | 46.9 | 48.9 | 46.5 | 88.4 |
| PCB near D901 (on power board) | 47.2 | 45.4 | 47.3 | 49.0 | 88.4 |
| T901 coil (on power board) | 53.4 | 50.8 | 53.4 | 51.7 | 93.4 |
| T901 core (on power board) | 47.5 | 46.1 | 48.5 | 46.6 | 93.4 |
| PCB near L801 (on power board) | 52.5 | 50.9 | 50.7 | 52.0 | 88.4 |
| PCB near U801 (on power board) | 46.0 | 47.2 | 46.0 | 47.2 | 88.4 |
| PCB near U401 (on main board) | 47.8 | 46.5 | 47.6 | 45.9 | 88.4 |
| Metal enclosure | 40.3 | 39.8 | 40.5 | 39.1 | 53.4 |
| Plastic enclosure outside | 35.7 | 32.3 | 34.8 | 33.7 | 43.4 |
| Plastic enclosure inside near T901 | 36.9 | 36.5 | 37.7 | 36.5 | -- |
| Panel surface | 40.2 | 38.7 | 39.0 | 40.6 | 78.4 |
| Ambient | 23.4 | 23.4 | 23.5 | 23.4 | -- |
| | | | | | |
| **Test with power board 715G6503, metal enclosure type D** | | | | | |
| AC Inlet body CN901 (on power board) | 36.5 | 34.9 | -- | -- | 54.1 |
| PCB near NR901 (on power board) | 47.2 | 47.6 | -- | -- | 89.1 |
| L901 Coil body (on power board) | 46.0 | 45.6 | -- | -- | 89.1 |
| C902 body (on power board) | 38.8 | 38.0 | -- | -- | 69.1 |
| C901 body (on power board) | 41.8 | 40.2 | -- | -- | 69.1 |
| PCB near BD901 (on power board) | 46.4 | 44.9 | -- | -- | 89.1 |
| C905 (on power board) | 48.5 | 45.3 | -- | -- | 89.1 |
| T901 coil | 52.5 | 51.8 | -- | -- | 94.1 |
| T901 core | 46.4 | 44.3 | -- | -- | 94.1 |
| C913 Body (on power board) | 48.3 | 47.2 | -- | -- | 69.1 |
| PCB near D904 (on power board) | 50.3 | 49.5 | -- | -- | 89.1 |
| PCB near U401 (on main board) | 47.5 | 44.4 | -- | -- | 89.1 |
| PCB near L801 (on power board) | 48.5 | 45.2 | -- | -- | 89.1 |
| PCB near U801 (on power board) | 48.0 | 46.2 | -- | -- | 89.1 |
| Metal enclosure | 38.4 | 36.5 | -- | -- | 54.1 |
| Plastic enclosure inside near T901 | 36.4 | 35.5 | -- | -- | -- |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | |
|---|---|---|---|---|---|
| Plastic enclosure outside | 26.2 | 25.9 | -- | -- | 79.1 |
| Panel surface | 39.4 | 37.1 | -- | -- | 79.1 |
| Ambient | 24.1 | 24.4 | -- | -- | -- |
| | | | | | |

**Supplementary information:**

| Temperature T of winding: | $t_1$ (°C) | $R_1$ (Ω) | $t_2$ (°C) | $R_2$ (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. Due to the openings on metal enclosure type A are less than metal enclosure type B, therefore metal enclosure type A was used for heating test to present more severe result than metal enclosure type B.
3. 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

| 4.5.5 | TABLE: Ball pressure test of thermoplastic parts | | P |
|---|---|---|---|
| | Allowed impression diameter (mm) .....: | ≤ 2 mm | — |

| Part | Test temperature (°C) | Impression diameter (mm) |
|---|---|---|
| Line choke (L901), Chang Chun, type PBT-4115 | 125 | 1.0 |
| Line choke (L901), Chang Chun, type PBT-4130 | 125 | 1.0 |
| **Supplementary information:** | | |

| 4.6.1, 4.6.2 | Table: enclosure openings | P |
|---|---|---|
| Location | Size (mm) | Comments |
| External Plastic enclosure | | |
| Top | Numerous rectangle openings: 2.1mm x 26.7mm. | -- |
| Rear | No opening. | -- |
| Left | No opening. | -- |
| Right | No opening. | -- |
| Bottom | No opening. | -- |
| Internal metal chassis type A/C, 1) horizontal orientation, 2) vertical orientation | | |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | |
|---|---|---|
| 1) Top<br>2) Right | 1) Numerous circle openings: ∅4.8mm;<br>2) Three rectangle opening near power board: 10.5mm x 18.9mm; 8.9mm x 14.3mm; 15.5mm x 21.2mm. | 1) Openings do not exceed 5mm in any dimension. No hazards.<br>2) No hazardous part within vertical projection of 5° from the opening. |
| 1) Rear<br>2) Rear | 1) Numerous circle openings: ∅4.8mm;<br>2) Two circle openings above main board: ∅14.1mm;<br>3) One rectangle opening near main board: 14.6mm x 29.4mm. | 1) Openings do not exceed 5mm in any dimension. No hazards.<br>2)-3) No hazardous part within vertical projection of 5° from the opening. |
| 1) Left<br>2) Top | 1) Numerous circle openings: ∅4.8mm;<br>2) Three rectangle openings near main board: 11.8mm x 29.4mm; 13.5mm x 22.0mm; 7.2mm x 11.2mm. | 1) Openings do not exceed 5mm in any dimension. No hazards.<br>2)-3) Covered by external plastic enclosure which has no opening in these sides. No hazards. |
| 1) Right<br>2) Bottom | For Internal metal chassis type A: No opening. | -- |
| | For Internal metal chassis type C: see comment. | One rectangle opening near USB board for connector. The opening was covered by PCB (min. V-1) of USB board, which was supplied by LPS and fixed to metal enclosure by screw. No hazards. |
| 1) Bottom<br>2) Left | 1) Under power board side: Numerous ∅1.86mm holes; spacing of holes (centre to centre): 3.5 mm; thickness of metal: min.0.81mm<br>2) Under main board side: Numerous ∅1.86mm holes; spacing of holes (centre to centre): 3.5 mm; thickness of metal: min.0.6mm | Openings do not exceed 5mm in any dimension.<br>1) Comply with table 4D.<br>2) Main board is supplied by LPS, no required for LPS. |
| Internal metal chassis type B | | |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | |
|---|---|---|
| Top | 1) Numerous circle openings: ∅4.8mm;<br>2) Three rectangle opening near power board: 10.5mm x 18.9mm; 8.9mm x 14.3mm; 15.5mm x 21.2mm. | 1) Openings do not exceed 5mm in any dimension. No hazards.<br>2) No hazardous part within vertical projection of 5° from the opening. |
| Rear | 1) Numerous circle openings: ∅4.8mm;<br>2) Two circle openings above main board: ∅14.1mm;<br>3) One rectangle opening near main board: 14.6mm x 29.4mm.<br>4) One rectangle opening near power board: 10.3mm x 28.1mm. | 1) Openings do not exceed 5mm in any dimension. No hazards.<br>2)-4) No hazardous part within vertical projection of 5° from the opening. |
| Left | 1) Numerous circle openings: ∅4.8mm;<br>2) Three rectangle openings near main board: 11.8mm x 29.4mm; 13.5mm x 22.0mm; 7.2mm x 11.2mm. | 1) Openings do not exceed 5mm in any dimension. No hazards.<br>2)-3) Covered by external plastic enclosure which has no opening in these sides. No hazards. |
| Right | 1) Numerous ∅1.86mm holes; spacing of holes (centre to centre): 3.5 mm; thickness of metal: min.0.81mm<br>2) One rectangle opening: 9.7mm x 21.9mm. | 1) Openings do not exceed 5mm in any dimension. No hazards.<br>2) Covered by external plastic enclosure which has no opening in these sides. No hazards. |
| Bottom | 1) Under power board side: Numerous ∅1.86mm holes; spacing of holes (centre to centre): 3.5 mm; thickness of metal: min.0.81mm<br>2) Under main board side: Numerous ∅1.86mm holes; spacing of holes (centre to centre): 3.5 mm; thickness of metal: min.0.6mm | 1) Comply with table 4D.<br>2) Main board is supplied by LPS, no required for LPS. |
| Internal metal chassis type D | | |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | |
|---|---|---|
| Top | 1) Numerous circle openings: ∅4.8mm;<br>2) Two rectangle opening near power board: 22.0mm x 7.5mm; 20.6mm x 9.8mm.<br>3) Two rectangle openings near main board: 21.0mm x 14.8mm; 14.2mm x 8.4mm. | 1) Openings do not exceed 5mm in any dimension. No hazards.<br>2)-3) No hazardous part within vertical projection of 5° from the opening. |
| Rear | 1) Numerous circle openings: ∅4.8mm;<br>2) Two circle openings above main board: ∅14.8mm;<br>3) One rectangle opening near main board: 14.5mm x 30.0mm.<br>4) One rectangle opening near power board: 9.0mm x 28.0mm | 1) Openings do not exceed 5mm in any dimension. No hazards.<br>2)-4) No hazardous part within vertical projection of 5° from the opening. |
| Left | 1) Numerous circle openings: ∅4.8mm;<br>2) Three rectangle openings: 7.2mm x 17.2mm; 21.9mm x 13.4mm; 11.8mm x 30.0mm. | 1) Openings do not exceed 5mm in any dimension. No hazards.<br>2) No hazardous part within vertical projection of 5° from the opening. |
| Right | Two rectangle openings: 28.0mm x 11.0mm; 21.8mm x 10.8mm. | No hazardous part within vertical projection of 5° from the opening. |
| Bottom | 1) Under power board side: numerous ∅1.86mm holes; spacing of holes (centre to centre): 3.5 mm; thickness of metal: min.0.81mm;<br>2) Under main board side: numerous ∅1.86mm holes. | 1) Comply with table 4D.<br>2) Main board supplied by LPS, no required for fire enclosure. |

| 4.7 | TABLE: Resistance to fire | | | | P |
|---|---|---|---|---|---|
| Part | Manufacturer of material | Type of material | Thickness (mm) | Flammability class | Evidence |
| PCB | -- | -- | -- | V-1 | UL |
| Plastic enclosure * | -- | -- | -- | HB | UL |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

**Supplementary information:** See table 1.5.1.

* Not fire enclosure.

| 5.1 | TABLE: touch current measurement | | | P |
|---|---|---|---|---|
| Measured between: | | Measured (mA) | Limit (mA) | Comments/conditions |
| **Test with power board 715G5361 type A** | | | | |
| L – metal enclosure | | 0.80 | 3.5 | Switch “e” open |
| N – metal enclosure | | 0.80 | 3.5 | Switch “e” open |
| L – signal connector | | 0.08 | 0.25 | Switch “e” close * |
| N – signal connector | | 0.08 | 0.25 | Switch “e” close * |
| L – plastic enclosure | | 0.01 | 0.25 | Switch “e” close |
| N – plastic enclosure | | 0.01 | 0.25 | Switch “e” close |
| **Test with power board 715G5361 type B** | | | | |
| L – metal enclosure | | 0.90 | 3.5 | Switch “e” open |
| N – metal enclosure | | 0.90 | 3.5 | Switch “e” open |
| L – signal connector | | 0.10 | 0.25 | Switch “e” close * |
| N – signal connector | | 0.10 | 0.25 | Switch “e” close * |
| L – plastic enclosure | | 0.01 | 0.25 | Switch “e” close |
| N – plastic enclosure | | 0.01 | 0.25 | Switch “e” close |
| **Test with power board 715G6503** | | | | |
| L – metal enclosure | | 0.29 | 3.5 | Switch “e” open |
| N – metal enclosure | | 0.27 | 3.5 | Switch “e” open |
| L – signal connector | | 0.07 | 0.25 | Switch “e” close * |
| N – signal connector | | 0.07 | 0.25 | Switch “e” close * |
| L – plastic enclosure | | 0.01 | 0.25 | Switch “e” close |
| N – plastic enclosure | | 0.01 | 0.25 | Switch “e” close |
| **Supplementary information:** Supplied with 264V/60Hz. | | | | |
| * Test performed with functional earthing disconnected. | | | | |

| 5.2 | TABLE: Electric strength tests, impulse tests and voltage surge tests | | | P |
|---|---|---|---|---|
| Test voltage applied between: | | Voltage shape (AC, DC, impulse, surge) | Test voltage (V) | Breakdown Yes / No |
| **Test with power board 715G5361 type A/B** | | | | |
| Basic/supplementary: | | | | |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|---|---|---|---|
| Unit primary to earthed metal part | AC | 1740 | No |
| T901 [1]: primary to core | AC | 1740 | No |
| T901 [1]: secondary to core | AC | 1740 | No |
| Mylar sheet between power board trace side and panel plate inside metal enclosure type C | AC | 1740 | No |
| Reinforced: | | | |
| L/N to accessible plastic enclosure with metal foil | AC | 3000 | No |
| Unit primary to secondary (output) | AC | 3000 | No |
| T901 [1]: primary to secondary | AC | 3000 | No |
| T901 [1]: each two layers of insulation tape | AC | 3000 | No |
| **Supplementary information:**<br>1) For all sources of T901;<br>2) Test after humidity conditioning test. | | | |

| **5.2** | **TABLE: Electric strength tests, impulse tests and voltage surge tests** | | **P** |
|---|---|---|---|
| Test voltage applied between: | Voltage shape (AC, DC, impulse, surge) | Test voltage (V) | Breakdown Yes / No |
| **Test with power board 715G6503** | | | |
| Basic/supplementary: | | | |
| Unit primary to earthed metal part | AC | 1740 | No |
| T901 [1]: primary to core | AC | 1740 | No |
| T901 [1]: secondary to core | AC | 1740 | No |
| Reinforced: | | | |
| L/N to accessible plastic enclosure with metal foil | AC | 3000 | No |
| Unit primary to secondary (output) | AC | 3000 | No |
| T901 [1]: primary to secondary | AC | 3000 | No |
| T901 [1]: each two layers of insulation tape | AC | 3000 | No |
| **Supplementary information:**<br>3) For all sources of T901;<br>4) Test after humidity conditioning test. | | | |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|---|---|---|---|
| **5.3** | **TABLE: Fault condition tests** | | **P** |
| | Ambient temperature (°C) ..... | See below | — |
| | Power source for EUT: ManuFacturer, model/type, output rating ..... | | — |

| Component No. | Fault | Supply voltage (V) | Test time | Fuse # | Fuse current (A) | Observation |
|---|---|---|---|---|---|---|
| **Test with power board 715G5361 type A/B** | | | | | | |
| BD901 pin1-3 | s-c | 264 | <1 sec | F901 | -- | Fuse F901 opened instantly, no hazard. |
| C907 | s-c | 264 | <1 sec | F901 | -- | Fuse F901 opened instantly, no hazard. |
| IC901 pin 3-8 | s-c | 264 | < 1 sec | F901 | -- | F901 opened instantly, R908, R935, R923, R924 and IC901 damaged. No hazard. This test was repeated twice (three tests total) with same result. |
| IC901 pin 2-8 | s-c | 264 | < 1 sec | F901 | -- | F901 opened instantly, R908, R935, R924, IC901 and Q901 damaged. No hazard. This test was repeated twice (three tests total) with same result. |
| IC901 pin 4-6 | s-c | 264 | < 1 sec | F901 | 0.06 | Unit shut down, no hazard. |
| Q901 G-S | s-c | 264 | 5 min | F901 | 0.06 | Unit shut down, no hazard. |
| Q901 D-G | s-c | 264 | 5 min | F901 | -- | F901 opened instantly, R906, D903, R936, R923, R924, Q901, IC901 damaged. No hazard. This test was repeated twice (three tests total) with same result. |
| Q901 D-S | s-c | 264 | 5 min | F901 | -- | F901 opened instantly, R906, D903, R936, R917, R924, Q901 damaged. No hazard. This test was repeated twice (three tests total) with same result. |
| D906 | s-c | 264 | 5 min | F901 | 0.04 | Unit shut down, no hazard. |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | | |
|---|---|---|---|---|---|---|
| T901 pin7,8 to pin9,10 | s-c | 264 | 5 min | F901 | 0.07 | Unit shut down, no hazard. |
| T901pin11,12 to pin9,10 | s-c | 264 | 5 min | F901 | 0.05 | Unit shut down, no hazard. |
| T901 pin1 to pin3 | s-c | 264 | 5 min | F901 | 0.03 | Unit shut down, no hazard. |
| T901 pin4 to pin6 | s-c | 264 | 5 min | F901 | 0.06 | Unit shut down, no hazard. |
| IC902 pin1-2 | s-c | 264 | 5 min | F901 | 0.05 | Unit shut down, no hazard. |
| IC902 pin3-4 | s-c | 264 | 5 min | F901 | 0.05 | Unit shut down, no hazard. |
| IC902 pin 1 | o-c | 264 | 5 min | F901 | 0.05 | Unit shut down, no hazard. |
| D905 | s-c | 264 | 5 min | F901 | 0.04 | Unit shut down, no hazard. |
| D901 | s-c | 264 | 5 min | F901 | 0.04 | Unit shut down, no hazard. |
| +5V output to earth | s-c | 264 | 5 min | F901 | 0.04 | Unit shut down, no hazard. |
| +16Voutput to earth | s-c | 264 | 5 min | F901 | 0.04 | Unit shut down, no hazard. |
| +5V output to +16V output | s-c | 264 | 5 min | F901 | 0.04 | Unit shut down, no hazard. |
| Ventilation openings | block ed | 264 | 4.0 hrs | F901 | 0.25 | Unit operated normally, no hazards, no damaged. After temperature reached stable, max. measured temp. in T901 coil = 57.9°C, T901 core = 53.4°C, IC902 = 51.4°C, ambient = 24.3°C. |
| T901 pin7,8-pin9,10 after D905(+5V) | o-l | 264 | 7 hrs | F901 | 0.64 | Max. measured temp. in T901 coil = 99°C, T901 core = 90°C, IC902 = 74°C, ambient = 23.3°C, before shut down winding is loaded to 7.5A. No hazards. |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | | |
|---|---|---|---|---|---|---|
| T901 pin11,12-pin9,10 after D906(+16V) | o-l | 264 | 6 hrs | F901 | 0.65 | Max. measured temp. in T901 coil = 95°C, T901 core = 87°C, IC902 = 70°C, ambient = 23.4°C, before shut down winding is loaded to 4.5A. No hazards. |
| speakers | s-c | 264 | 4 hrs | F901 | 0.30 | Unit operated normally, no hazards, no damaged. Max. measured temp. in T901 coil = 56.4°C, T901 core = 52.2°C, IC902 = 52.7°C, ambient = 23.0°C. |

Supplementary information:

1. The unit passed 3000V hi-pot test between primary and accessible output connector after single fault test above.
2. In fault column, where s-c=short-circuited, o-c=open-circuited, o-l = overload.
3. For fuse opened conditions were tested with each source of fuse.
4. For component damaged conditions have been repeated twice (three tests total) with same result.
5. Temp. limit of transformer according to table C.1 is 175°C - 10 - (40°C – 23.0°C) = 148°C (worst case) for Class B. The temp. limit of IC902 is: 125°C - (40°C - 23.0°C) = 108°C.

| **5.3** | **TABLE: Fault condition tests** | | **P** |
|---|---|---|---|
| | Ambient temperature (°C) .....: | See below | — |
| | Power source for EUT: Manufacturer, model/type, output rating .....: | | — |

| Component No. | Fault | Supply voltage (V) | Test time | Fuse # | Fuse current (A) | Observation |
|---|---|---|---|---|---|---|
| **Test with power board 715G6503** | | | | | | |
| Ventilation openings | blocked | 264 | 4.0 hrs | F901 | 0.22 | Unit operated normally, no hazards, no damaged. After temperature reached stable, max. measured temp. in T901 coil = 54.2°C, T901 core = 51.3°C, ambient = 24.1°C. |
| BD901 pin1-3 | s-c | 264 | <1 sec | F901 | -- | Fuse F901 opened instantly, no hazard. |
| C905 | s-c | 264 | <1 sec | F901 | -- | Fuse F901 opened instantly, no hazard. |
| T901 pin7 to pin10 | s-c | 264 | 5 min | F901 | 0.06 | Unit shut down, no hazard. |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | | | | |
|---|---|---|---|---|---|---|
| T901 pin1 to pin2 | s-c | 264 | 5 min | F901 | 0.06 | Unit shut down, no hazard. |
| T901 pin3 to pin5 | s-c | 264 | 5 min | F901 | 0.04 | Unit shut down, no hazard. |
| D904 | s-c | 264 | 5 min | F901 | 0.03 | Unit shut down, no hazard. |
| D902 | s-c | 264 | 5 min | F901 | 0.02 | Unit shut down, no hazard. |
| D903 | s-c | 264 | 5 min | F901 | 0.04 | Unit shut down, no hazard. |
| C910 | s-c | 264 | 5 min | F901 | 0.03 | Unit shut down, no hazard. |
| C912 | s-c | 264 | 5 min | F901 | 0.05 | Unit shut down, no hazard. |
| C904 | s-c | 264 | 5 min | F901 | 0.04 | Unit shut down, no hazard. |
| L801 | s-c | 264 | 5 min | F901 | 0.03 | Unit shut down, no hazard. |
| D802 | s-c | 264 | 5 min | F901 | 0.04 | Unit shut down, no hazard. |
| R816 | s-c | 264 | 5 min | F901 | 0.03 | Unit shut down, no hazard. |
| U901 pin 6-7 | s-c | 264 | 5 min | F901 | 0.03 | Unit shut down, U901 damaged, no hazard. |
| U901 pin 6-4 | s-c | 264 | 5 min | F901 | 0.03 | Unit shut down, U901 damaged, no hazard. |
| U901 pin 6-1 | s-c | 264 | 5 min | F901 | 0.03 | Unit shut down, U901 and R911 damaged, no hazard. |
| R911 | s-c | 264 | 5 min | F901 | 0.05 | Unit shut down, no hazard. |
| R912 | s-c | 264 | 5 min | F901 | 0.04 | Unit shut down, no hazard. |
| Converter output to earth | s-c | 264 | 5 min | F901 | 0.03 | Unit shut down, no hazard. |
| T901 pin7 – pin9 after D904 (+19V) | o-l | 264 | 6.5 hrs | F901 | 0.50 | Max. measured temp. in T901 coil = 87.4°C, T901 core = 76.5°C, ambient = 24.5°C, before shut down winding is loaded to 2.0A. No hazards. |

**Supplementary information:**

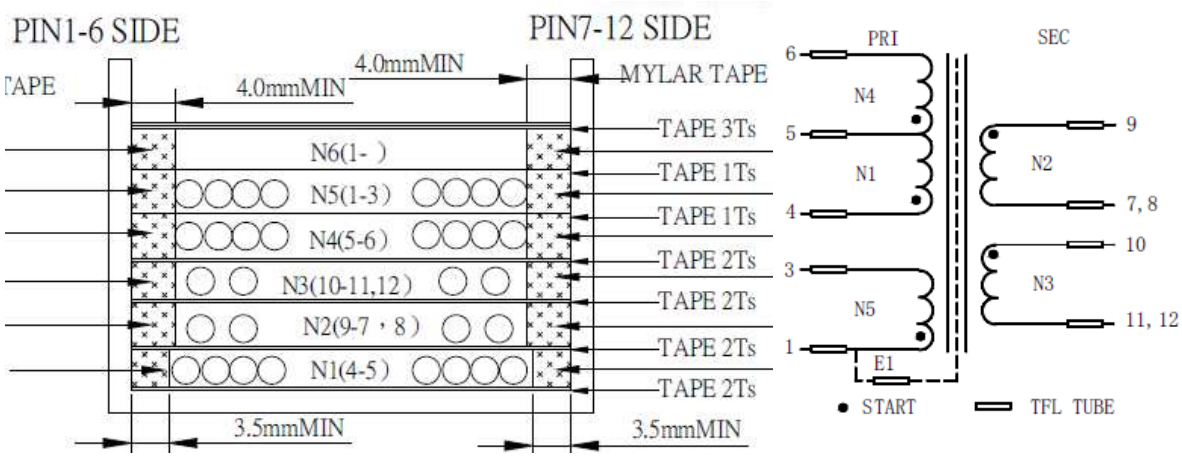
6. The unit passed 3000V hi-pot test between primary and accessible output connector after single fault test above.
7. In fault column, where s-c=short-circuited, o-l = overload.
8. For fuse opened conditions were tested with each source of fuse.
9. For component damaged conditions have been repeated twice (three tests total) with same result.
10. Temp. limit of transformer according to table C.1 is 175°C - 10 - (40°C – 24.1°C) = 149.1°C (worst case) for Class B.

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|---|---|---|---|
| C.2 | Safety isolation transformer | | **P** |
| | Construction details: | | |
| Transformer part name: T901 on power board 715G5361 type A/B | | | |
| Manufacturer: See appended table 1.5.1 | | | |
| Type: See appended table 1.5.1 | | | |
| | | | |
| Recurring peak voltage | | 513V | |
| Required clearance for reinforced insulation (from table 2H and 2J) | | 6.6mm | |
| | | | |
| Effective voltage rms | | 250V | |
| Required creepage distance for reinforced insulation (from table 2L) | | 6.6mm | |
| | | | |
| Measured min. creepage distance | | | |
| Location | | inside (mm) | outside (mm) |
| Primary to secondary | | 7.5 | 24.5mm (between primary and secondary solder pins.) |
| Primary to core | | 3.5 | 4.4mm (between primary solder pin and core.) |
| Secondary to core | | 4.0 | 4.4mm (between secondary solder pin and core.) |
| | | | |
| Measured min. clearances | | | |
| Location | | inside (mm) | outside (mm) |
| Primary to secondary | | 7.5 | 24.5mm (between primary and secondary solder pins.) |
| Primary to core | | 3.5 | 4.4mm (between primary solder pin and core.) |
| Secondary to core | | 4.0 | 4.4mm (between secondary solder pin and core.) |
| | | | |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

Construction:




Concentric windings on phenolic bobbin. Three layers insulation tape are provided around outer winding and outer winding is primary. Two layers of insulation tape are provided between the primary windings and secondary windings. At least 3.5mm margin tape is provided for primary windings and at least 4.0mm for secondary windings. Two layer of insulation type is provided around the core. All winding leads are covered by tube.

| | |
|---|---|
| | |
| Pin numbers | |
| Pri. | pin 1-3, pin 4-5-6, pin 1-copper foil |
| Sec. | pin 7,8-9, pin 10-11,12 |
| Bobbin | |
| | Chang Chun, type T375J, phenolic, V-0, 150°C<br>Sumitomo Bakelite Co., Ltd., type PM-9820, PM-9630, PM-8375, phenolic, V-0, 150°C |
| Thickness | min. 0.45mm |
| | |
| Electric strength test | |
| With 3000 V a.c. after humidity treatment | |
| Result | Pass |

| C.2 | Safety isolation transformer | **P** |
|---|---|---|
| | Construction details: | |
| Transformer part name: T901 on power board 715G6503 | | |
| Manufacturer: See appended table 1.5.1 | | |
| Type: See appended table 1.5.1 | | |

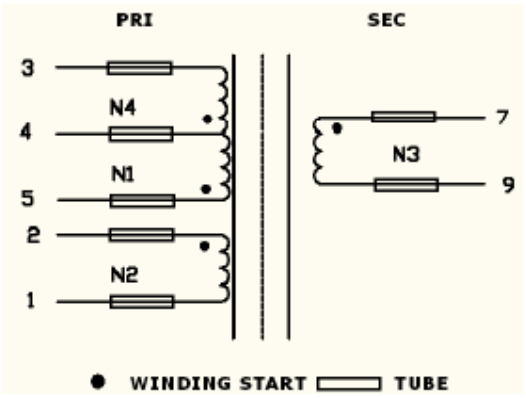
| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | |
|---|---|---|
| | | |
| Recurring peak voltage | 484V | |
| Required clearance for reinforced insulation (from table 2H and 2J) | 6.3mm | |
| | | |
| Effective voltage rms | 248V | |
| Required creepage distance for reinforced insulation (from table 2L) | 6.3mm | |
| | | |
| Measured min. creepage distance | | |
| Location | inside (mm) | outside (mm) |
| Primary to secondary | 8.4 | 21.5mm (between primary and secondary solder pins.) |
| Primary to core | 4.2 | 4.4mm (between primary solder pin and core.) |
| Secondary to core | 4.2 | 4.4mm (between secondary solder pin and core.) |
| | | |
| Measured min. clearances | | |
| Location | inside (mm) | outside (mm) |
| Primary to secondary | 8.4 | 21.5mm (between primary and secondary solder pins.) |
| Primary to core | 4.2 | 4.4mm (between primary solder pin and core.) |
| Secondary to core | 4.2 | 4.4mm (between secondary solder pin and core.) |
| | | |

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

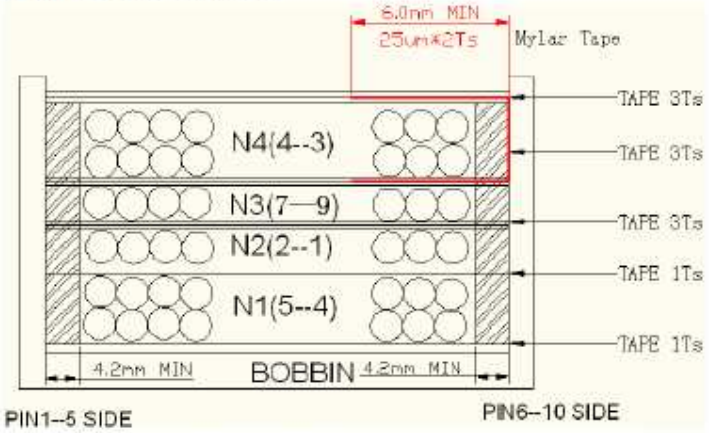
Construction:

3.4 Schematic




| PIN | TUBE LENGTH |
|---|---|
| 1,2,3,4,5<br>7,9 | 8mm MIN |

3.5 Winding construction




Mylay tape: t 0.025mm*17mmW,
PIN1,2,3,4,5,7,9 ADDED TUBE,
反折胶带：N4（25u+25u）*24mmW, 反折长度6mm MIN;

3.6 Winding mode:

| No. | COIL | TERMINAL | WIRE | Turns | WINDING METHOD | MARGIN TAPE | TAPE 1Ts |
|---|---|---|---|---|---|---|---|
| 1 | N1 | 5--4 | UEW φ0.35*1 | 23 | CLOSED | 4.2mm/4.2mm | 1TS |
| 2 | N2 | 2--1 | UEW φ0.35*3 | 7 | CLOSED | 4.2mm/4.2mm | 3TS |
| 3 | N3 | 7--9 | UEW φ0.35*3 | 7 | CLOSED | 4.2mm/4.2mm | 3TS |
| 4 | N4 | 4--3 | UEW φ0.35*1 | 22 | CLOSED | 4.2mm/4.2mm | 3TS |

Concentric windings on phenolic bobbin. Three layers insulation tape are provided around outer winding and outer winding is primary. Three layers of insulation tape are provided between the primary windings and secondary windings. At least 4.2mm margin tape is provided at primary solder pin side and secondary solder pin side. One layer of insulation type is provided around the core. All winding leads are covered by tube.

Pin numbers

| IEC 60950-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | |
|---|---|
| Pri. | pin 1-2, pin 3-4-5 |
| Sec. | pin 7-9 |
| Bobbin | |
| | See details in table 1.5.1. |
| Thickness | min. 0.45mm |
| | |
| Electric strength test | |
| With 3000 V a.c. after humidity treatment | |
| Result | Pass |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

# ATTACHMENT TO TEST REPORT IEC 60950-1
# EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Information technology equipment – Safety –

Part 1: General requirements

| | |
|---|---|
| **Differences according to**.....: | EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 |
| **Attachment Form No**.....: | EU_GD_IEC60950_1F |
| **Attachment Originator** .....: | SGS Fimko Ltd |
| **Master Attachment**.....: | Date 2014-02 |



**EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 – CENELEC COMMON MODIFICATIONS**

| IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN) | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z” | | **P** |
| Contents<br><br>(A2:2013) | Add the following annexes:<br>Annex ZA (normative) Normative references to international publications with their corresponding European publications<br>Annex ZB (normative) Special national conditions<br>Annex ZD (informative) IEC and CENELEC code designations for flexible cords | | **P** |
| General | Delete all the “country” notes in the reference document (IEC 60950-1:2005) according to the following list:<br>1.4.8 Note 2; 1.5.1 Note 2 & 3; 1.5.7.1 Note<br>1.5.8 Note 2; 1.5.9.4 Note; 1.7.2.1 Note 4, 5 & 6<br>2.2.3 Note; 2.2.4 Note; 2.3.2 Note<br>2.3.2.1 Note 2; 2.3.4 Note 2; 2.6.3.3 Note 2 & 3<br>2.7.1 Note; 2.10.3.2 Note 2; 2.10.5.13 Note 3<br>3.2.1.1 Note; 3.2.4 Note 3.; 2.5.1 Note 2<br>4.3.6 Note 1 & 2; 4.7 Note 4; 4.7.2.2 Note<br>4.7.3.1Note 2; 5.1.7.1 Note 3 & 4; 5.3.7 Note 1<br>6 Note 2 & 5; 6.1.2.1 Note 2; 6.1.2.2 Note<br>6.2.2 Note; 6.2.2.1 Note 2; 6.2.2.2 Note<br>7.1 Note 3; 7.2 Note; 7.3 Note 1 & 2<br>G.2.1 Note 2; Annex H Note 2 | | **P** |
| General<br>(A1:2010) | Delete all the “country” notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list:<br>1.5.7.1 Note; 6.1.2.1 Note 2<br>6.2.2.1 Note 2; EE.3 Note | | **P** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN) | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| General<br>(A2:2013) | Delete all the “country” notes in the reference document (IEC 60950-1:2005/A2:2013) according to the following list:<br>2.7.1 Note * 2.10.3.1 Note 2<br>6.2.2. Note<br>* Note of secretary: Text of Common Modification remains unchanged. | | **P** |
| 1.1.1<br>(A1:2010) | **Replace** the text of NOTE 3 by the following.<br>NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies. | | **P** |
| 1.3.Z1 | Add the following subclause:<br>1.3.Z1 Exposure to excessive sound pressure<br>The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones.<br>NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for “one package equipment”, and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers. | Added. | **N/A** |
| (A12:2011) | In EN 60950-1:2006/A12:2011<br>Delete the addition of 1.3.Z1 / EN 60950-1:2006<br>Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010 | Deleted. | **N/A** |
| 1.5.1<br><br><br>(Added info*) | Add the following NOTE:<br>NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC.<br>New Directive 2011/65/11 * | Added. | **P** |
| 1.7.2.1<br>(A1:2010) | In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss. | Added. | **N/A** |
| 1.7.2.1<br>(A12.2011) | In EN 60950-1:2006/A12:2011<br>Delete NOTE Z1 and the addition for Portable Sound System.<br>Add the following clause and annex to the existing standard and amendments. | | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |

| IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN) | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |
| | **Zx Protection against excessive sound pressure from personal music players** | | **N/A** |
| | **Zx.1 General**<br>This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players.<br><br>A personal music player is a portable equipment for personal use, that:<br>- is designed to allow the user to listen to recorded or broadcast sound or video; and<br>- primarily uses headphones or earphones that can be worn in or on or around the ears; and<br>- allows the user to walk around while in use.<br>NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment.<br><br>A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause.<br><br>The requirements in this sub-clause are valid for music or video mode only.<br><br>The requirements do not apply:<br>- while the personal music player is connected to an external amplifier; or<br>- while the headphones or earphones are not used.<br>NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player.<br><br>The requirements do not apply to:<br>- hearing aid equipment and professional equipment;<br>NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment. | Not personal music player | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |

| IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN) | | | |
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| | □□analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015.<br>NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies.<br><br>For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply. | | |
| | **Zx.2 Equipment requirements**<br>No safety provision is required for equipment that complies with the following:<br>□□equipment provided as a package (personal music player with its listening device), where<br>the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed "programme simulation noise" as described in EN 50332-1; and<br>□□a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" as described in EN 50332-1.<br>NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx.<br><br>All other equipment shall:<br>a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and<br>b) have a standard acoustic output level not exceeding those mentioned above, and<br>automatically return to an output level not exceeding those mentioned above when the power is switched off; and | Not such equipment. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |

| IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN) | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |
| | c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and<br>NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.<br>NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off.<br>d) have a warning as specified in Zx.3; and<br>e) not exceed the following:<br>1) equipment provided as a package (player with Its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed “programme simulation noise” described in EN 50332-1; and<br>2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” described in EN 50332-1.<br>For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song.<br>NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA.<br>For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA. | | |

| IEC60950_1F - ATTACHMENT | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |

| IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN) | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |
| | **Zx.3 Warning**<br>The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:<br>□□□the symbol of Figure 1 with a minimum height of 5 mm; and<br>□□□the following wording, or similar:<br><br>“To prevent possible hearing damage, do not listen at high volume levels for long periods.”<br><br>  <br>**Figure 1 – Warning label (IEC 60417-6044)**<br><br>Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level. | Not such equipment | **N/A** |
| | **Zx.4 Requirements for listening devices (headphones and earphones)** | | **N/A** |
| | **Zx.4.1 Wired listening devices with analogue input**<br>With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV.<br><br>This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control).<br><br>NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV. | Not such equipment | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |

| IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN) | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |
| | **Zx.4.2 Wired listening devices with digital input**<br>With any playing device playing the fixed "programme simulation noise" described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA.<br><br>This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.).<br><br>NOTE An example of a wired listening device with digital input is a USB headphone. | Not such equipment | **N/A** |
| | **Zx.4.3 Wireless listening devices**<br>In wireless mode:<br>□□with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and<br>□□respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and<br>□□with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA.<br><br>NOTE An example of a wireless listening device is a Bluetooth headphone. | Not such equipment | **N/A** |
| | **Zx.5 Measurement methods**<br>Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s.<br><br>NOTE Test method for wireless equipment provided without listening device should be defined. | Not such equipment | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |

| **IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)** | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 2.7.1 | Replace the subclause as follows:<br>Basic requirements<br>To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):<br>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;<br>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; | Replaced. | **P** |
| | c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.<br>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet. | No such equipment | **N/A** |
| 2.7.2 | This subclause has been declared 'void'. | | **N/A** |
| 3.2.3 | Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses. | Unit is not a permanently connected equipment. | **N/A** |
| 3.2.5.1 | Replace "60245 IEC 53" by "H05 RR-F";<br>"60227 IEC 52" by "H03 VV-F or H03 VVH2-F";<br>"60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".<br>In Table 3B, replace the first four lines by the following:<br>Up to and including 6 \| 0,75 [a] \|<br>Over 6 up to and including 10\| (0,75) [b] 1,0 \|<br>Over 10 up to and including 16\| (1,0) [c] 1,5 \|<br>In the conditions applicable to Table 3B delete the words "in some countries" in condition [a].<br>In NOTE 1, applicable to Table 3B, delete the second sentence. | No power supply cord provided. | **N/A** |
| 3.2.5.1 (A2:2013) | NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD | | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |

| **IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)** | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |
| 3.3.4 | In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following:<br>Over 10 up to and including 16 \| 1,5 to 2,5 \| 1,5 to 4 \|<br>Delete the fifth line: conductor sizes for 13 to 16 A | | **N/A** |
| 4.3.13.6<br>(A1:2010) | Replace the existing NOTE by the following:<br>NOTE Z1 Attention is drawn to:<br>1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and<br>2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artifical optical radiation). | | **N/A** |
| | Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC. | | **N/A** |
| Annex H | Replace the last paragraph of this annex by:<br>At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level.<br>Replace the notes as follows:<br>NOTE These values appear in Directive 96/29/Euratom.<br>Delete NOTE 2. | | **N/A** |
| Bibliography | Additional EN standards. | | — |

| **ZA** | **NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS** | — |
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| **ZB ANNEX (normative)**<br>**SPECIAL NATIONAL CONDITIONS (EN)** | | | |
|---|---|---|---|
| 1.2.4.1 | In **Denmark**, certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets. | | **N/A** |
| 1.2.13.14<br>(A11:2009) | In **Norway** and **Sweden**, for requirements see 1.7.2.1 and 7.3 of this annex. | | **N/A** |
| 1.5.7.1<br>(A11:2009) | In **Finland, Norway** and **Sweden**, resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2. | No such resistors. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |
| 1.5.8 | In **Norway**, due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V). | | **P** |
| 1.5.9.4 | In **Finland**, **Norway** and **Sweden**, the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex. | | **N/A** |
| 1.7.2.1 | In **Finland**, **Norway** and **Sweden**, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.<br>The marking text in the applicable countries shall be as follows:<br>In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"<br>In **Norway**: “Apparatet må tilkoples jordet stikkontakt”<br>In **Sweden**: “Apparaten skall anslutas till jordat uttag” | No such equipment. | **N/A** |
| 1.7.2.1<br>(A11:2009) | In **Norway** and **Sweden**, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system.<br>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer.<br>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:<br>“Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11).” | | |

| IEC60950_1F - ATTACHMENT | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |
| | NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.<br>Translation to Norwegian (the Swedish text will also be accepted in Norway):<br>“Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet<br>utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.”<br>Translation to Swedish:<br>”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan<br>utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för<br>brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät<br>galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.” | | |
| 1.7.2.1<br>(A2:2013) | In **Denmark**, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.<br>The marking text in **Denmark** shall be as follows:<br>In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.” | No such equipment. | **N/A** |
| 1.7.5<br><br><br><br><br><br>1.7.5<br>(A11:2009) | In **Denmark**, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.<br>For **CLASS II EQUIPMENT** the socket outlet shall be in accordance with Standard Sheet DKA 1-4a. | No socket-outlet provided. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |
| 1.7.5 (A2:2013) | In **Denmark**, socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011.<br>For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a.<br>Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b.<br>Justification<br>the Heavy Current Regulations, 6c | No socket-outlet provided. | **N/A** |
| 2.2.4 | In **Norway**, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex. | No TNV. | **N/A** |
| 2.3.2 | In **Finland**, **Norway** and **Sweden** there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex. | No TNV. | **N/A** |
| 2.3.4 | In **Norway**, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex. | No TNV. | **N/A** |
| 2.6.3.3 | In the **United Kingdom**, the current rating of the circuit shall be taken as 13 A, not 16 A. | | **P** |
| 2.7.1 | In the **United Kingdom**, to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met. | Not direct plug-in equipment | **N/A** |
| 2.10.5.13 | In **Finland**, **Norway** and **Sweden**, there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex. | | **N/A** |
| 3.2.1.1 | In **Switzerland**, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:<br>SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A | No supply cords provided. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |
| | SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A<br>SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A<br>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:<br>SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A<br><br>SEV 5933-2.1998:Plug Type 21, L+N, 250 V, 16A<br><br>SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A | | |
| 3.2.1.1 | In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.<br>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.<br>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2. | No supply cords provided. | **N/A** |
| 3.2.1.1<br>(A2:2013) | In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1.<br>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.<br>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.<br>Justification<br>the Heavy Current Regulations, 6c | No supply cords provided. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
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| Clause | Requirement + Test | Result - Remark | Verdict |
| 3.2.1.1 | In **Spain**, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.<br>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.<br>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.<br>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2. | No supply cords provided. | **N/A** |
| 3.2.1.1 | In the **United Kingdom**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations.<br>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug. | No supply cords provided. | **N/A** |
| 3.2.1.1 | In **Ireland**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997. | No supply cords provided. | **N/A** |
| 3.2.4 | In **Switzerland**, for requirements see 3.2.1.1 of this annex. | | **N/A** |
| 3.2.5.1 | In the **United Kingdom**, a power supply cord with conductor of 1,25 mm2 is allowed for equipment with a rated current over 10 A and up to and including 13 A. | No supply cords provided. | **N/A** |
| 3.3.4 | In the **United Kingdom**, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is:<br>• 1,25 $mm^2$ to 1,5 $mm^2$ nominal cross-sectional area. | No supply cords provided. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 4.3.6 | In the **United Kingdom**, the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply. | Not direct plug-in equipment. | **N/A** |
| 4.3.6 | In **Ireland**, DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997. | Not direct plug-in equipment. | **N/A** |
| 5.1.7.1 | In **Finland**, **Norway** and **Sweden** TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:<br>• STATIONARY PLUGGABLE EQUIPMENT TYPE A that<br>is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and<br>has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and<br>is provided with instructions for the installation of that conductor by a SERVICE PERSON;<br>• STATIONARY PLUGGABLE EQUIPMENT TYPE B;<br>• STATIONARY PERMANENTLY CONNECTED EQUIPMENT. | Measured touch current not exceeding 3,5 mA r.m.s. | **N/A** |
| 6.1.2.1<br>(A1:2010) | In **Finland**, **Norway** and **Sweden**, add the following text between the first and second paragraph of the compliance clause:<br>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either<br>- two layers of thin sheet material, each of which shall pass the electric strength test below, or<br>- one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.<br>Alternatively for components, there is no distance through insulation requirements for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in | No connection to telecommunication networks. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | accordance with the compliance clause below and in addition<br>- passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of<br>2.10.10 shall be performed using 1,5 kV), and<br>- is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. | | |
| | It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).<br><br>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.<br>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:<br>- the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1;<br>- the additional testing shall be performed on all the test specimens as described in EN 60384-14:<br>- the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14. | | **N/A** |
| 6.1.2.2 | In **Finland**, **Norway** and **Sweden**, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON. | No connection to telecommunication networks. | **N/A** |
| 7.2 | In **Finland**, **Norway** and **Sweden**, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.<br>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM. | Not connected to cable distribution system. | **N/A** |
| 7.3<br>(A11:2009) | In **Norway** and **Sweden**, for requirements see 1.2.13.14 and 1.7.2.1 of this annex. | Not connected to cable distribution system. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

**Annex ZD**
**(informative)**

**IEC and CENELEC code designations for flexible cords**

| Type of flexible cord | Code designations | |
|---|---|---|
| | IEC | CENELEC |
| **PVC insulated cords** | | |
| Flat twin tinsel cord | 60227 IEC 41 | H03VH-Y |
| Light polyvinyl chloride sheathed flexible cord | 60227 IEC 52 | H03VV-F<br>H03VVH2-F |
| Ordinary polyvinyl chloride sheathed flexible cord | 60277 IEC 53 | H05VV-F<br>H05VVH2-F |
| **Rubber insulated cords** | | |
| Braided cord | 60245 IEC 51 | H03RT-F |
| Ordinary tough rubber sheathed flexible cord | 60245 IEC 53 | H05RR-F |
| Ordinary polychloroprene sheathed flexible cord | 60245 IEC 57 | H05RN-F |
| Heavy polychloroprene sheathed flexible cord | 60245 IEC 66 | H07RN-F |
| **Cords having high flexibility** | | |
| Rubber insulated and sheathed cord | 60245 IEC 86 | H03RR-H |
| Rubber insulated, crosslinked PVC sheathed cord | 60245 IEC 87 | H03RV4-H |
| Crosslinked PVC insulated and sheathed cord | 60245 IEC 88 | H03V4V4-H |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

**ATTACHMENT TO TEST REPORT IEC 60950-1**
**CANADA NATIONAL DIFFERENCES**
Information technology equipment – Safety –
Part 1: General requirements

| | |
|---|---|
| **Differences according to**.....: | CAN/CSA-C22.2 NO. 60950-1A-07 |
| **Attachment Form No**.....: | CA_ND_IEC60950_1C |
| **Attachment Originator** .....: | TÜV SÜD Product Service GmbH |
| **Master Attachment**.....: | Date (2012-08) |



| | **Special national conditions** | | |
|---|---|---|---|
| 1.1.1 | All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. | In accordance with the National Electrical Code (NEC), ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75. | **P** |
| | Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75. | | **P** |
| 1.4.14 | For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A. | Considered. | **P** |
| 1.5.5 | For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC. | No external cable provided. | **N/A** |
| | For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings. | | **N/A** |
| 1.7.1 | Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. | Single-phase equipment. | **N/A** |
| | A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and | | **N/A** |
| | - if it is part of a range that extends into the Table 2 "Normal Operating Conditions." | | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | A voltage rating is not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions." | | **N/A** |
| 1.7.7 | Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC are marked with the voltage rating and “Class 2” or equivalent. | No wiring terminals. | **N/A** |
| | - Marking is located adjacent to the terminals | | **N/A** |
| | - Marking is visible during wiring | | **N/A** |
| 2.5 | Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable. | Not operator-accessible. | **P** |
| 2.6.3.3 | Modify first column on Table 2D to “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration.” | Considered. | **P** |
| 2.7.1 | Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. | No such components provided. | **N/A** |
| | Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection. | | **N/A** |
| 3.2 | Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC. | | **N/A** |
| 3.2.1 | Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment. | No power supply cord provided. | **N/A** |
| 3.2.1.2 | Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements. | No connection to a centralized d.c. power system. | **N/A** |
| 3.2.3 | Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs. | Pluggable equipment type A. | **N/A** |
| 3.2.5 | Power supply cords are no longer than 4.5 m in length. | No power supply cord provided. | **N/A** |
| | Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. | | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC. | | **N/A** |
| 3.2.9 | Permanently connected equipment have a suitable wiring compartment and wire bending space. | Pluggable equipment type A. | **N/A** |
| 3.3 | Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0. | No wiring terminals. | **N/A** |
| 3.3.3 | Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 $mm^2$). | No wire binding screws. | **N/A** |
| 3.3.4 | Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are | Plugable equipment type A. | **N/A** |
| | - rated 125 percent of the equipment rating, and | | **N/A** |
| | - are specially marked when specified (1.7.7). | | **N/A** |
| 3.3.5 | Revise first column of Table 3E to “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration.” | Considered. | **N/A** |
| 3.4.2 | Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A, | Equipment is not such a device. | **N/A** |
| | - or if the motor has a nominal voltage rating greater than 120 V | | **N/A** |
| | - or is rated more than 1/3 hp (locked rotor current over 43 A) | | **N/A** |
| 3.4.8 | Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position. | No such devices incorporated. | **N/A** |
| 3.4.11 | For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit. | Not such an application. | **N/A** |
| 4.3.12 | The maximum quantity of flammable liquid stored in equipment complies with NFPA 30. | No liquids. | **N/A** |
| 4.3.13.5 | Equipment with lasers meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable. | No lasers. | **N/A** |
| 4.7 | For computer room applications, automated information storage systems with combustible media greater than 0.76 $m^3$ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge. | Not such an application. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|---|---|---|---|
| 4.7.3.1 | For computer room applications, enclosures with combustible material measuring greater than 0.9 $m^2$ (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less. | Not such an application. | **N/A** |
| | For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less. | | **N/A** |
| Annex H | Equipment that produces ionizing radiation comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable. | Equipment is not such a device. | **N/A** |
| | **Other National Differences** | | |
| 1.5.1 | Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. | Complied. See table 1.5.1 | **P** |
| 1.6.1.2 | A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. | No connection to the DC Mains Supply. | **N/A** |
| | This maximum operating voltage includes consideration of the battery charging “float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment. | | **N/A** |
| 2.3.1 | For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vpeak or 60 Vd.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions. | No TNV circuits. | **N/A** |
| 2.3.2.1 | In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts. | No TNV circuits. | **N/A** |
| 2.6.3.4 | Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified. | | **P** |
| 4.2.8.1 | Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT. | No CRTs. | **N/A** |
| 4.3.2 | Equipment with handles complies with special loading tests. | No handles. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 5.1.8.3 | Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests. | No TNV | **N/A** |
| 5.3.7 | Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded. | | **N/A** |
| | During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary | | **N/A** |
| 6.4 | Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC. | No TNV. | **N/A** |
| Annex EE | Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger. | Equipment is not such a device. | **N/A** |
| M.2 | Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions. | No TNV. | **N/A** |
| Annex NAD | Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements. | No TNV. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

**ATTACHMENT TO TEST REPORT IEC 60950-1**
**FINLAND NATIONAL DIFFERENCES**
Information technology equipment – Safety –
Part 1: General requirements

| | |
|---|---|
| **Differences according to**.....: | EN 60950-1:2006/A11:2009/A1:2010 |
| **Attachment Form No**.....: | FI_ND_IEC60950_1C |
| **Attachment Originator** .....: | SGS Fimko Ltd |
| **Master Attachment**.....: | Date (2010-04) |



| | **National Differences** | | |
|---|---|---|---|
| **General** | See also Group Differences (EN 60950-1:2006/A11/A1) | | |
| 1.5.7.1 | In **Finland** resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2. | | **N/A** |
| 1.5.9.4 | In **Finland,** the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex. | No such construction. | **N/A** |
| 1.7.2.1 | In **Finland**,CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.<br>The marking text in in Finland shall be as follows:<br>"Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" | | **N/A** |
| 2.3.2 | In **Finland,** there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex. | No TNV. | **N/A** |
| 2.10.5.13 | In **Finland,** there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex. | No TNV. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 5.1.7.1 | In **Finland,** TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:<br>• STATIONARY PLUGGABLE EQUIPMENT TYPE A that<br>- is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and<br>- has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and<br>- is provided with instructions for the installation of that conductor by a SERVICE PERSON;<br>• STATIONARY PLUGGABLE EQUIPMENT TYPE B;<br>• STATIONARY PERMANENTLY CONNECTED EQUIPMENT. | Not exceed 3.5mA. | **N/A** |
| 6.1.2.1<br>(A1:2010) | In **Finland,** add the following text between the first and second paragraph of the compliance clause:<br>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either<br>- two layers of thin sheet material, each of which shall pass the electric strength test below, or<br>- one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.<br>Alternatively for components, there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition<br>- passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and<br>- is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. | No TNV. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).<br><br>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.<br>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:<br>- the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14:2005 which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1;<br>- the additional testing shall be performed on all the test specimens as described in EN 60384-14:2005;<br>- the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14:2005, in the sequence of tests as described in EN 60384-14:2005. | | |
| 6.1.2.2 | In **Finland,** the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON. | No TNV. | **N/A** |
| 7.2 | In **Finland,** for requirements see 6.1.2.1 and 6.1.2.2 of this annex.<br>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM. | Not connected to cable distribution system. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

**ATTACHMENT TO TEST REPORT IEC 60950-1**
**GERMANY NATIONAL DIFFERENCES**
Information technology equipment – Safety –
Part 1: General requirements

**Differences according to**.....: VDE 0805-1:2011-01

| | | | |
|---|---|---|---|
| Annex ZC, 1.7.2.1 | According to GPSG, section 2, clause 4:<br>If certain rules on the use, supplementation or maintenance of an item of technical work equipment or ready-to-use commodity must be observed in order to guarantee safety and health, instructions for use in German must be supplied when it is brought into circulation. | | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

**ATTACHMENT TO TEST REPORT IEC 60950-1**
**ISRAEL NATIONAL DIFFERENCES**
Information technology equipment – Safety –
Part 1: General requirements

**Differences according to**.....: SI 60950 Part 1

| | | | |
|---|---|---|---|
| 1.1.1 | Replace the the text of Note 3 as follows:<br>The requirements of Israel Standard SI 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. | Replaced. | **P** |
| 1.6 | The clause is applicable with the following addition: | | **N/A** |
| 1.6.1 | Add following note:<br>In Israel, this clause is applicable subject to the Electricity Law, 1954, its regulations and revisions. | Added | **N/A** |
| 1.7 | The clause is applicable with the following additions:<br>Subclause 1.7.201 shall be added at the beginning of the clause as follows: | Added | **N/A** |
| 1.7.201 | Marking in the Hebrew language<br>The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983.<br>In addition to the marking required by clause 1.7.1, the following details shall be marked in the Hebrew language.<br>The details shall be marked on the apparatus or on its package, or on a label properly attached to the apparatus or on the package, by bonding or sewing, in a manner that the label cannot be easily removed.<br>1. Name of the apparatus and it commercial designation;<br>2. Manufacturer's name and address. If the apparatus is imported, the importer's name and address;<br>3. Manufacturer's registered trademark, if any;<br>4. Name of the model and serial number, if any;<br>5. Country of manufacture. | | **N/A** |
| 1.7.2.1 | The following shall be added to the clause:<br>All the instructions and warnings related to safety shall also be written in the Hebrew language. | Added | **N/A** |
| 2 | The clause is applicable with the following additions: | | **P** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|---|---|---|---|
| 2.9.4 | The following shall be added at the beginning of the clause:<br>In Israel, according to the Electricity Law, 1954, and the Electricity Regulations (Earthing<br>and means of protection against electricity of voltages up to 1,000V) 1991, seven means of<br>protection against electrocution are permitted, as follows:<br>1) TN-S - Network system earthing; TN-C-S - Network system earthing;<br>2) TT - Network system earthing;<br>3) IT - Network Insulation Terre;<br>4) Isolated transformer;<br>5) Safety extra low voltage (SELV or ELV);<br>6) Residual current circuit breaker (30 mA = I$\Delta$);<br>7) Reinforced insulation; Double insulation (class II) | Added. | **P** |
| 2.201 | Prevention of electromagnetic interference<br>- Prior to carrying out the tests in accordance with the clauses of this Standard, the compliance of the apparatus with the relevant requirements specified in the appropriate part of the Standard series, SI 961, shall be checked.<br>The apparatus shall meet the requirements in the appropriate part of the Standard series, SI 961.<br>- If there are components in the apparatus for the prevention of electromagnetic interference, these components shall not reduce the safety level of the apparatus as required by this Standard. | | **N/A** |
| 3 | The clause is applicable with the following additions: | | |
| 3.2.1.1 | Connection to an a.c. mains supply<br>After the note, the following note shall be added:<br>Note:<br>In Israel, the feed plug shall comply with the requirements of Israel Standard SI 32 Part 1.1. | No feed plug provided. | **N/A** |
| 3.2.1.2 | Connection to a d.c. mains supply<br>At the end of the first paragraph, the following note shall be added:<br>Note:<br>At the time of issue of this Standard, there is no Israel Standard for connection accessories to d.c. | No connected to d.c. mains supply | **N/A** |
| Annex P | Normative references<br>(List of relevant Israel Standards that have been inserted in place of some of the International Standards) | Inserted | **P** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

**ATTACHMENT TO TEST REPORT IEC 60950-1**
**KOREA NATIONAL DIFFERENCES**
Information technology equipment – Safety –
Part 1: General requirements

**Differences according to**.....: K 60950-1

| | | | |
|---|---|---|---|
| 1.5.101 | Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305) | No power supply cord provided. | **N/A** |
| 8 | EMC<br>The apparatus shall comply with the relevant CISPR standards. | | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

**ATTACHMENT TO TEST REPORT IEC 60950-1 with A1: 2009 and A2:2013**
**U.S.A. NATIONAL DIFFERENCES**
Information technology equipment – Safety – Part 1: General requirements

| | |
|---|---|
| **Differences according to ..... :** | UL 60950-1-07(Second Edition) + A1: 2011 + A2: 2014 |
| **Attachment Form No..... :** | US_ND_IEC60950_1F |
| **Attachment Originator ..... :** | UL |
| **Master Attachment ..... :** | Date 2014-07 |



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|---|---|---|---|
| | ***Special national conditions*** | | |
| 1.1.1 | All equipment is designed as to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and if applicable, the National Electrical Safety Code, IEEE C2 | In accordance with the National Electrical Code (NEC), ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75. | **P** |
| | Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75 | | **P** |
| 1.1.2 | Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors | | **N/A** |
| 1.4.14 | For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A | Considered. | **P** |
| 1.5.5 | For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the /NEC | No external cable provided. | **N/A** |
| | For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC are required to have special construction features and identification markings | | **N/A** |
| 1.7.1 | Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings | Single-phase equipment. | **N/A** |
| | A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and | | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| | - if it is part of a range that extends into the Table 2 "Normal Operating Conditions" | | **N/A** |
| | Likewise, a voltage rating is not to be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions" | | **N/A** |
| 1.7.7 | Wiring terminals intended to supply Class 2 outputs in accordance with NEC or CEC Part 1 or NEC are marked with the voltage rating and “Class 2” or equivalent | No wiring terminals. | **N/A** |
| | - Marking is located adjacent to the terminals | | **N/A** |
| | - Marking is visible during wiring | | **N/A** |
| 2.5 | Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable | Not operator-accessible. | **P** |
| 2.6 | Equipment with isolated ground (earthing) receptacles is in compliance with NEC 250.146(D) and CEC 10-112 and 10-906(8) | | **N/A** |
| 2.7.1 | Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. | No such components provided. | **N/A** |
| | Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection | | **N/A** |
| 3.2 | Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC | | **N/A** |
| 3.2.1 | Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment | | **N/A** |
| 3.2.1.2 | Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements | No power supply cord provided. | **N/A** |
| 3.2.3 | Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs | No connection to a centralized d.c. power system. | **N/A** |
| 3.2.5 | Power supply cords are no longer than 4.5 m in length | Pluggable equipment type A. | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| | Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement | | **N/A** |
| | Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC | | **N/A** |
| 3.2.9 | Permanently connected equipment has a suitable wiring compartment and wire bending space | Pluggable equipment type A. | **N/A** |
| 3.3 | Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0 | No wiring terminals. | **N/A** |
| 3.3.3 | Wire binding screws are not attached with conductors larger than 10 AWG (5.3 $mm^2$) | No wire binding screws. | **N/A** |
| 3.3.4 | Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are | Plugable equipment type A. | **N/A** |
| | - rated 125 per cent of the equipment rating, and | | **N/A** |
| | - are specially marked when specified (1.7.7) | | **N/A** |
| 3.3.5 | Revise first column of Table 3E to “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration” | Considered. | **P** |
| 3.4.2 | Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A, | Equipment is not such a device. | **N/A** |
| | - or if the motor has a nominal voltage rating greater than 120 V | | **N/A** |
| | - or is rated more than 1/3 hp (locked rotor current over 43 A) | | **N/A** |
| 3.4.8 | Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position | No such devices incorporated. | **N/A** |
| 3.4.11 | For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit | Not such an application. | **N/A** |
| 4.3.12 | The maximum quantity of flammable liquid stored in equipment complies with NFPA 30 | No liquids. | **N/A** |
| 4.3.13.5.1 | Equipment with lasers meets the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370). | No lasers. | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| 4.7 | For computer room applications, automated information storage systems with combustible media greater than 0.76 $m^3$ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge | Not such an application. | **N/A** |
| 4.7.3.1 | For computer room applications, enclosures with combustible material measuring greater than 0.9$m^2$ (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less | Not such an application. | **N/A** |
| | For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less | | **N/A** |
| 4.7.3.1 | Non-metallic enclosures of equipment for use in spaces used for environmental air (plenums) are required to comply with UL 2043 | | **N/A** |
| Annex H | Equipment that produces ionizing radiation complies with U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370) | Equipment is not such a device. | **N/A** |
| | ***Other National Differences*** | | |
| 1.5.1 | Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements.<br>These components include:<br>attachment plugs, battery backup systems, battery packs, cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cut-offs, thermostats, (multi-layer) transformer winding wire, surge protective devices, tubing, vehicle battery adapters, wire connectors, and wire and cables | Complied. See table 1.5.1 | **P** |
| 1.6.1.2 | A circuit for connection to the DC Mains Supply is classified as a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply | No connection to the DC Mains Supply. | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| | This maximum operating voltage includes consideration of the battery charging “float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment | | **N/A** |
| 2.3.1 | For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 $V_{peak}$ or 60 Vd.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions | No TNV circuits. | **N/A** |
| 2.3.2.1 | In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts | No TNV circuits. | **N/A** |
| 2.6.2 | Equipment with functional earthing marked with the functional earthing symbol (IEC 60417-6092) | | **N/A** |
| 2.6.3.4 | Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified | | **P** |
| 4.2.8.1 | Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT | No CRTs. | **N/A** |
| 4.3.2 | Equipment with handles complies with special loading tests | No handles. | **N/A** |
| 4.3.8 | Battery packs for both portable and stationary applications comply with special component requirements | | **N/A** |
| 5.1.8.3 | Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests | No TNV. | **N/A** |
| 5.3.7 | Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded | | **N/A** |
| | During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test is repeated twice (three tests total) using new components as necessary | | **N/A** |
| 6.4 | Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC | No TNV. | **N/A** |
| Annex EE | Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger | No document (paper) shredder. | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| Annex M.2 | Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions | No TNV. | **N/A** |
| Annex NAD | Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements | No TNV. | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |

**ATTACHMENT TO TEST REPORT IEC 60950-1**
**AUSTRALIA and NEW ZEALAND NATIONAL DIFFERENCES**
Information technology equipment – Safety –
Part 1: General requirements

**Differences according to**.....: AS/NZS 60950.1:2011 and Amendment No. 1
To AS/NZS 60950.1:2011

| | | | |
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| 1.2 | Insert the following between 'person, service' and 'range, rated frequency':<br>POTENTIAL IGNITION SOURCE ..... 1.2.12 | | **N/A** |
| 1.2.12.201 | Insert a new Clause 1.2.12.201 after Clause 1.2.12.15 as follows:<br>**1.2.12.201**<br>**POTENTIAL IGNITION SOURCE**<br>Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA.<br>Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS.<br>NOTE 201 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE.<br>NOTE 202 This definition is from AS/NZS 60065:2003. | | **N/A** |
| 1.5.1 | 1. Add the following to the end of the first paragraph:<br>'or the relevant Australian/New Zealand Standard.'<br>2. In NOTE 1, add the following after the word 'standard':<br>'or an Australian/New Zealand Standard' | Added. | **P** |
| 1.5.2 | Add the following to the end of the first and third dash items:<br>'or the relevant Australian/New Zealand Standard' | Added. | **P** |

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| Clause | Requirement + Test | Result - Remark | Verdict |

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| 3.2.5.1 | Modify Table 3B as follows:<br>1. Delete the first four rows and replace with the following:<br><table><tr><td rowspan="2">RATED CURRENT of equipment<br>A</td><td colspan="2">Minimum conductor sizes</td></tr><tr><td>Nominal cross-sectional area<br>mm²</td><td>AWG or kcmil [cross-sectional area in mm²]<br>see Note 2</td></tr><tr><td>Over 0.2 up to and including 3</td><td>0,5 [a]</td><td>18 [0,8]</td></tr><tr><td>Over 3 up to and including 7.5</td><td>0,75</td><td>16 [1,3]</td></tr><tr><td>Over 7.5 up to and including 10</td><td>(0,75) [b] 1,00</td><td>16 [1,3]</td></tr><tr><td>Over 10 up to and including 16</td><td>(1,0) [c] 1,5</td><td>14 [2]</td></tr></table><br>2. Delete NOTE 1.<br>3. Delete Footnote [a] and replace with the following:<br>[a] This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0,5 mm² three-core supply flexible cords are not permitted; see AS/NZS 3191). | Replaced. | **N/A** |
| 4.1.201 | Insert a new Clause 4.1.201 after Clause 4.1 as follows:<br>**4.1.201 Display devices used for television purposes**<br>Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065. | No such device. | **N/A** |
| 4.3.6 | Delete the third paragraph and replace with the following:<br>*Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flatpin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.* | | **N/A** |
| 4.3.13.5.1 | Add the following to the end of the first paragraph:<br>'or AS/NZS 2211.1' | Added. | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| 4.7 | Add the following new paragraph to the end of the clause:<br>'For alternate tests refer to Clause 4.7.201.' | Added. | **P** |
| 4.7.201 | Insert a new Clause 4.7.201 after Clause 4.7.3.6 as follows:<br>**4.7.201 Resistance to fire – Alternative tests** | Added. Alternative tests not applied for | **N/A** |
| 4.7.201.1 | **4.7.201.1 General**<br>Parts of non-metallic material shall be resistant to ignition and spread of fire.<br>This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following:<br>(a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1mm in width regardless of length.<br>(b) The following parts which would contribute negligible fuel to a fire:<br>- small mechanical parts, the mass of which does not exceed 4g, such as mounting parts, gears, cams, belts and bearings;<br>- small electrical components, such as capacitors with a volume not exceeding 1,750 $mm^3$, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10.<br>NOTE In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another.<br>Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5.<br>For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5.<br>The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use.<br>These tests are not carried out on internal wiring. | | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |

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| 4.7.201.2 | **4.7.201.2 Testing of non-metallic materials**<br>Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550 °C.<br>Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part. | | **N/A** |
| 4.7.201.3 | **4.7.201.3 Testing of insulating materials**<br>Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750 °C.<br>The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection.<br>NOTE Contacts in components such as switch contacts are considered to be connections.<br>For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested.<br>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications: | | **N/A** |

| Clause of AS/NZS 60695.11.5 | Change |
|---|---|
| 9 Test procedure | |
| 9.2 Application of needleflame | Replace the first paragraph with:<br>The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner<br>Replace the second paragraph with:<br>The duration of application of the test flame shall be 30 s |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| | <table><tr><td></td><td>±1 s.</td></tr><tr><td>9.3 Number of test specimens</td><td>Replace with:<br>The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.</td></tr><tr><td>11 Evaluation of test results</td><td>Replace with:<br>The duration of burning ($t_b$) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</td></tr></table> The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part. | | |
| 4.7.201.4 | **4.7.201.4 Testing in the event of non-extinguishing material**<br>If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glowwire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.<br>NOTE 1 If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.<br>NOTE 2 If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.<br>NOTE 3 Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections. | | **N/A** |
| 4.7.201.5 | **4.7.201.5 Testing of printed boards**<br>The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge | | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| | of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE.<br>The test is not carried out if the —<br>- Printed board does not carry any POTENTIAL IGNITION SOURCE;<br>- Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or<br>- Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely.<br>Compliance shall be determined using the smallest thickness of the material.<br>NOTE Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 min when the circuit supplied is disconnected. | | |
| 6.2.2 | For Australia only, delete the first paragraph and Note, and replace with the following:<br>In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2. | No TNV. | **N/A** |

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| Clause | Requirement + Test | Result - Remark | Verdict |
| 6.2.2.1 | For Australia only, delete the first paragraph including the Notes, and replace with the following:<br>*In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, Uc, is:*<br>*(i) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and*<br>*(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.*<br>NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines.<br>NOTE 202 The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages. | No TNV. | **N/A** |
| 6.2.2.2 | For Australia only, delete the second paragraph including the Note, and replace with the following:<br>*In Australia only, the a.c. test voltage is:*<br>*(i) for 6.2.1 a): 3 kV; and*<br>*(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.*<br>NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.<br>NOTE 202 The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system. | No TNV. | **N/A** |
| 7.3 | Add the following before the first paragraph:<br>Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes. | Not connected to cable distribution system. | **N/A** |
| Annex P | Normative references<br>(List of relevant Australia/New Zealand Standards that have been inserted in place of some of the International Standards) | Added. | **P** |

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| Appendix | J60950-1(H26) (Deviations from IEC 60950-1:2005 (2nd edition))<br><br>Interpretation for METI Ordinance of Technical Requirements (H26.04.14), Appendix 12 | | — |
| 1.2 | Addition:<br>Add the following terms.<br>Equipment, Class 0I 1.2.4.3A | | **P** |
| 1.2.4.1 | Add the following new notes.<br>Note 2: Even if the equipment is designed as Class I, the equipment is regarded as Class 0I equipment when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended. | Added. | **P** |
| 1.2.4.3A | Add the following new clause.<br>1.2.4.3A CLASS 0I EQUIPMENT<br>Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by:<br>- using BASIC INSULATION, and<br>- providing externally an earth terminal or a lead wire for earthing in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring.<br>NOTE – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation circuit. | Added. | **P** |
| 1.3.2 | Add the following notes after first paragraph:<br>Note 1 Transportable or similar equipment that are relocated frequently for intended usage should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.<br>Note 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel. | Added. | **N/A** |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 1.5.1 | Replace the first paragraph with the follows:<br>Where safety is involved, components shall comply either with the requirements of this standard, with the safety aspects of the relevant JIS component standard, or IEC component standards in case there is no applicable JIS component standard is available. However, a component that falls within the scope of METI Ministerial ordinance No. 85 is properly used in accordance with its marked ratings, requirements of 1.5.4, 2.8.7 and 3.2.5 apply, and in addition, a cord connector of power supply cord set mating with appliance inlet complying with the standard sheet of IEC 60320-1, shall comply with relevant standard sheet of IEC 60320-1.<br>Replace Note 1 with the following:<br>Note 1 A JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope. | Replaced. | **P** |
| 1.5.2 | Replace first sentence in the first dashed paragraph with the following:<br>- a component that has been demonstrated to comply with a JIS component standard harmonized with the relevant IEC component standard, or where such JIS component standard is not available, a component that has been demonstrated to comply with the relevant IEC component standard shall be checked for correct application and use in accordance with its rating.<br>Add a note after the third dashed paragraph as follows:<br>Note 1 See 1.7.5A when Type C.14 appliance coupler rated 10 A per IEC 60320-1 is used with an equipment rated not more than 125 V and rated more than 10 A.<br>Replace first sentence in the third dashed paragraph as follows:<br>- where no relevant IEC component standard or JIS component standard harmonized with the relevant IEC component standard exists, or where components are used in circuits not in accordance with their specified rating, the components shall be tested under the conditions occurring in the equipment. | Considered. | **P** |
| 1.5.9.1 | Where surge suppressor used in primary circuits, it may provide VDR in series connection of gas discharge tube. | No gas discharge tube. | **N/A** |
| 1.5.9.4 | Gas discharge tube may connect in series of VDR for functional insultion. | | **N/A** |
| 1.7.1 | Replace fifth dashed paragraph with the following:<br>- manufacturer's or responsible company's name or trade-mark or identification mark; | Added. | **P** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 1.7.2.1 | Safety relevant instructions and markings on the apparatus require in Japanese letter | | **N/A** |
| 1.7.5 | Replacement:<br>“IEC/TR 60083 replaced with JIS C 8303”. | No such outlets. | **N/A** |
| 1.7.5A | Add the following new clause. After 1.7.5:<br>1.7.5A Appliance Coupler<br>If appliance coupler according to IEC 60320-1, C.14 (rated current: 10A) is used in equipment whose rated voltage is less than 125V and rated current is over 10A, the following instruction or equivalent shall be described in the user instruction.<br>„Use only designated cord set attached in this equipment”<br>*Example in Japanese:「この機器に同こん(梱)した指定の電源コードセットだけを使用してください。」* | No appliance coupler. | **N/A** |
| 1.7.14A | Add the following new clause. After 1.7.14:<br>1.7.17A Marking for CLASS 0I EQUIPMENT<br>For CLASS 0I EQUIPMENT, the following instruction shall be marked on the visible place of the mains plug or the main body:<br>“Provide an earthing connection”<br>*Example in Japanese:「必ず接地接続を行ってください。」*<br>Moreover, for CLASS 0I EQUIPMENT, the following or equivalent instruction shall be indicated on the visible place of the main body or written in the operating instructions:<br>“Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.”<br>*Example in Japanese:「接地接続は必ず、電源プラグを電源につなぐ前に行ってください。また、接地接続を外す場合は、必ず電源プラグを電源から切り離してから行ってください。」* | Added. | **P** |
| 1.7.14B | Add the following new clause:<br>Protective earthing wire for Class 01 equipment. | Added. | **P** |
| 2.1.1.1 b) | Replacement:<br>“IEC 60083” replaced with “JIS C 8303 or technical requirements of MITI Ordinance No. 85”. | Replaced. | **P** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 2.6.3.2 | Add the following:<br>This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT.<br>Where single core wire shall be as followings;<br>- 1.6mm diameter of soft copper wire, or equivalent strength and thickness, with no easily corrosion metal wire.<br>-, Single core code or single core cabtyre cable with cross sectional area over 1.25mm$^2$. | Added. | **P** |
| 2.6.3.5 | Color of power cord shall not apply inner conductor with covering a sheath for unified power cord (cord set) with plug and connector. | | **N/A** |
| 2.6.4.2 | Equipment required to have protective earthing shall have a main protective earthing terminal.<br>For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal except for CLASS 0I EQUIPMENT providing separate main protective earthing terminal other than appliance inlet. | Added. | **P** |
| 2.6.5.4 | Replace the first sentence with the following:<br>Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections. | | **P** |
| 2.6.5.6 | Add the following:<br>“Protective bonding terminal“ as a terminal required a corrosion proof. | | **P** |
| 2.6.5.8A | Add the following new clause. after 2.6.5.8:<br>2.6.5.8A Earthing of CLASS 0I EQUIPMENT<br>Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V.<br>For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip.<br>CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible. | Added. | **P** |
| 2.9.3<br>Table 2H | Deleted the following mark of Figure 2H:<br>B13 e) and S2 d) | | **N/A** |
| 2.9.3<br>Figure 2H | Addition of marking for table 2H:<br>B8, B9, B12, B13, S1 | | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 2.10.3.1 | Add the followings after fifth dashed paragraph: Minimum crealance distances not apply following connectors<br>-, Applicable connector for series of JIS C 8285, IEC 60309, JIS C 8283, IEC 60320 or JIS C 8303.<br>-, Applicable connectors for “technical requirements of MITI Ordinance No. 85” and conform the dimension regulation or series of JIS C 8283, JIS C 8303 or IEC 60309-2. | Replaced. | **P** |
| 2.10.3.3 Table 2L | Addition of interpolation and round-up unit of clearance distance 0.1mm. | | **P** |
| 2.10.4.3 | Add the followings after third dashed paragraph: minimum creepage distances not apply following connectors<br>-, Applicable connector for series of JIS C 8285, IEC 60309, JIS C 8283, IEC 60320 or JIS C 8303.<br>-, Applicable connectors for “technical requirements of MITI Ordinance No. 85” and conform the dimension regulation and series of JIS C 8283, JIS C 8303 or IEC 60309-2. | | **N/A** |
| 2.10.9 | Addition of reference measurement method for $T_1$: clause 1.4.12 | | **N/A** |
| 3.2.1.1 | Add the following after third dashed paragraph:<br>Reference for clause 1.7.5A about marking of power supply cord set. | | **N/A** |
| 3.2.3 | Add the following after Table 3A:<br>Table 3A applies when cables complying JIS C 3662 or JIS C 3663 are used. In case of other cables, cable entries shall be so designed that a conduit suitable for the cable used can be fitted. | Added. | **N/A** |
| 3.2.4 | When equipment provides with appliance inlet complying with JIS C 8283-1(2008), soldered parts of appliance inlet is not applied by force during insert or removal of connector.<br>This is not applied when inlet body is fixed itself and not fixed by solder. | Body of appliance inlet secured to metal chassis by screws and lock washer, and wire soldered to inlet pins. | **P** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 3.2.5.1 | Add the following to the last of first dashed paragraph:<br>Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance.<br>Add the following to the last of second dashed paragraph:<br>Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance.<br>Add the following to the third dashed paragraph:<br>But, Cover of inner protective earthing conductor with covering by sheath for unified power cord (cord set) with plug and connector shall not be combination of Green/Yellow.<br>Add the following to the fifth dashed paragraph:<br>Except for the wire for JIS C 3662-5 or JIS C 3663-4 shall be conform relevant wiring regulations. | No mains cord provided. | **N/A** |
| 3.3<br>Table 3D | Add the following note:<br>Where use of wire except for JIS C 3662 series or JIS C 3663 series, terminal connected to wire shall be proper dimension. | | **N/A** |
| 3.3.7 | Add the following after the first sentence:<br>This requirement is not applicable to the external earting terminal of Class 0I equipment. | No such terminals. | **N/A** |
| 4.3.4 | Add the following after the first sentence:<br>This requirement also applies to those connections in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10. | Added. | **P** |
| 4.3.5 | Add the following standard:<br>JIS C 8303 or JIS C 8358 | | **N/A** |
| 4.5.3<br>Table 4B | Add the following:<br>Where no data for the material in Note b). | | **N/A** |
| 5.1.3 | Add a note after the first sentence as follows:<br>Note – Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, test is conducted using the test circuit from IEC 60990, figure 13. | Added. | **P** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

<table>
<tr><td>5.1.6</td><td colspan="3">Replace Table 5A. as follows:</td><td>Replaced.</td><td>P</td></tr>
<tr><td></td><td>Type of equipment</td><td>Terminal A of measuring instrument connected to:</td><td>Maximum TOUCH CURRENT mA r.m.s. 1)</td><td>Maximum PROTECTIVE CONDUCTOR CURRENT</td><td></td></tr>
<tr><td></td><td>ALL equipment</td><td>ALL equipment Accessible parts and circuits not connected to protective earth</td><td>0.25</td><td>--</td><td></td></tr>
<tr><td></td><td rowspan="2">HAND-HELD</td><td>Equipment main protective earthing terminal of CLASS I EQUIPMENT</td><td>0.75</td><td>--</td><td></td></tr>
<tr><td></td><td>Equipment main protective earthing terminal of CLASS 0I EQUIPMENT</td><td>0.5</td><td>--</td><td></td></tr>
<tr><td></td><td rowspan="2">MOVABLE<br>(other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT)</td><td>Equipment main protective earthing terminal of CLASS I EQUIPMENT</td><td>3.5</td><td>--</td><td></td></tr>
<tr><td></td><td>Equipment main protective earthing terminal of CLASS 0I EQUIPMENT</td><td>1.0</td><td>--</td><td></td></tr>
<tr><td></td><td rowspan="2">STATIONARY, PLUGGABLE TYPE A</td><td>Equipment main protective earthing terminal of CLASS I EQUIPMENT</td><td>3.5</td><td>--</td><td></td></tr>
<tr><td></td><td>Equipment main protective earthing terminal of CLASS 0I EQUIPMENT</td><td>1.0</td><td>--</td><td></td></tr>
<tr><td></td><td rowspan="2">ALL other STATIONARY EQUIPMENT<br>- not subject to the conditions of 5.1.7<br>- subject to the conditions of 5.1.7</td><td>Equipment main protective earthing terminal of CLASS I EQUIPMENT</td><td>3.5<br>--</td><td>--<br>5% of input current</td><td></td></tr>
<tr><td></td><td>Equipment main protective earthing terminal of CLASS 0I EQUIPMENT</td><td>1.0<br>--</td><td>--<br>--</td><td></td></tr>
<tr><td></td><td colspan="4">Note a) If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1.414.<br>b) Accessible part of non earthing part shall be apply clause 1.5.6, 1.5.7 and 2.4. These may differ clause 5.1.6.</td><td></td></tr>
<tr><td>6</td><td colspan="2">Addition:<br>Following sentence added last part of note 1;<br>“Refer to Annex JB for proper action.</td><td colspan="2">No TNV circuits.</td><td>N/A</td></tr>
<tr><td>6.1.2.1</td><td colspan="2">Add the note 3 as follows:<br>For example, 230V for EU, 120V for North America</td><td colspan="2"></td><td>N/A</td></tr>
</table>

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| Annex G.6 | Add the paragraph as follows:<br>Above minimum crearance is not apply following connector. Also refer clause 1.5.2<br>-, Applicable connector for JIS C 8285, IEC 60309 series, JIS C 8283 series, IEC 60320 series or JIS C 8303 series.<br>-, Applicable connectors for “technical requirements of MITI Ordinance No. 85” and conform the dimension regulation and series of JIS C 8283, JIS C 8303 or IEC 60309-2. | | **N/A** |
| Annex M.1 | Change to note as follows:<br>Choose method A or method B<br>Method A for EU, Method B for North America | | **N/A** |
| Annex P | Replacement:<br>“IEC 61051-2:1991“ replaced with “ IEC 61051-2“ | | **N/A** |
| Annex U.2.4 | Deleted:<br>“Example: 1.1.1-trichloroethane“ | | **N/A** |
| Annex V.1 | Correction:<br>“IEC 60364-1, clause 3.1.2“ replaced with “ IEC 60364-1, clause 312“ | | **N/A** |
| Annex W.1 | Replace second and third sentence in the first paragraph with the following:<br>This distinction between earthed and unearthed (floating) circuit is not the same as between CLASS I EQUIMENT, CLASS 0I EQUIPMENT and CLASS II EQUIPMENT. Floating circuits can exist in CLASS I EQUIPMENT or CLASS 0I EQUIPMENT and earthed circuits in CLASS II EQUIPMENT. | Added. | **P** |
| Annex AA | Added the following figure:<br>Fig. AA.3 – End location of the mandrel. | | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| Annex JA | Add a new annex JA with the following contents:<br>Annex JA<br>(normative)<br>Document shredding machines<br>Document shredding machines shall also comply with the requirements of this annex except those of STATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more. | See below information. | - |
| JA.1 | Markings and instructions<br>The symbol  (JIS S 0101:2000, 6.2.4) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible;<br>- that use by an infants/children may cause a hazard of injury etc.;<br>- that a hand can be drawn into the mechanical section for shredding when touching the document-slot;<br>- that clothing can be drawn into the mechanical section for shredding when touching the document-slot;<br>- that hairs can be drawn into the mechanical section for shredding when touching the document-slot;<br>- in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas. | Not Document shredding machines. | **N/A** |
| JA.2 | Inadvertent reactivation<br>Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard.<br>Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1. | | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| JA.3 | Disconnection from the mains supply<br>Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used.<br>If two-position switch, the positions for "ON" and "OFF" shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for "OFF" shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols.<br>Compliance is checked by inspection. | | **N/A** |
| JA.4 | Protection against hazardous moving parts<br>Any warning shall not be used instead of the structure for preventing access to hazardous moving parts. Document shredding machines shall comply with the following requirements.<br>Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended . Before testing with the test finger, remove the parts detachable without a tool.<br>Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe. | | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

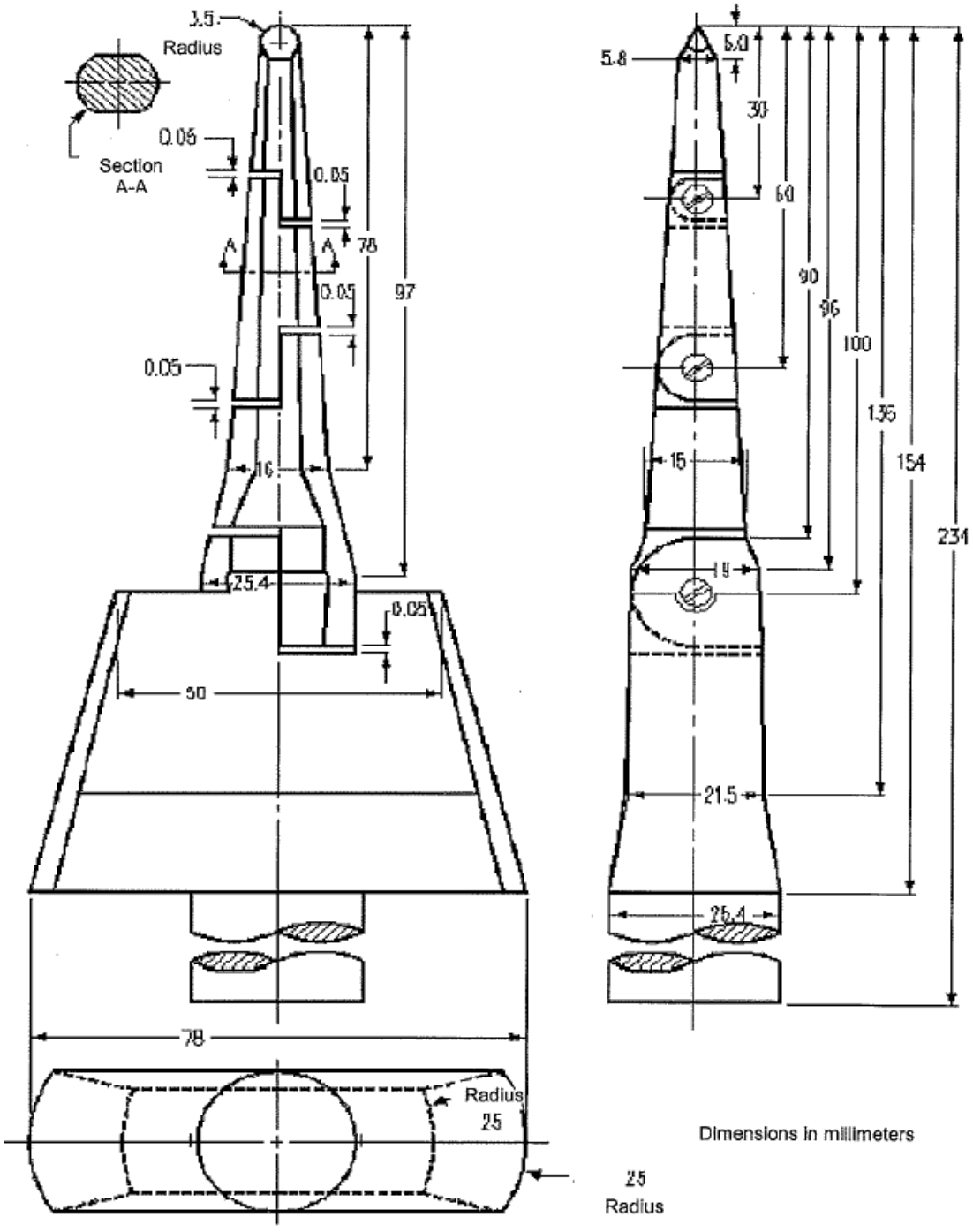
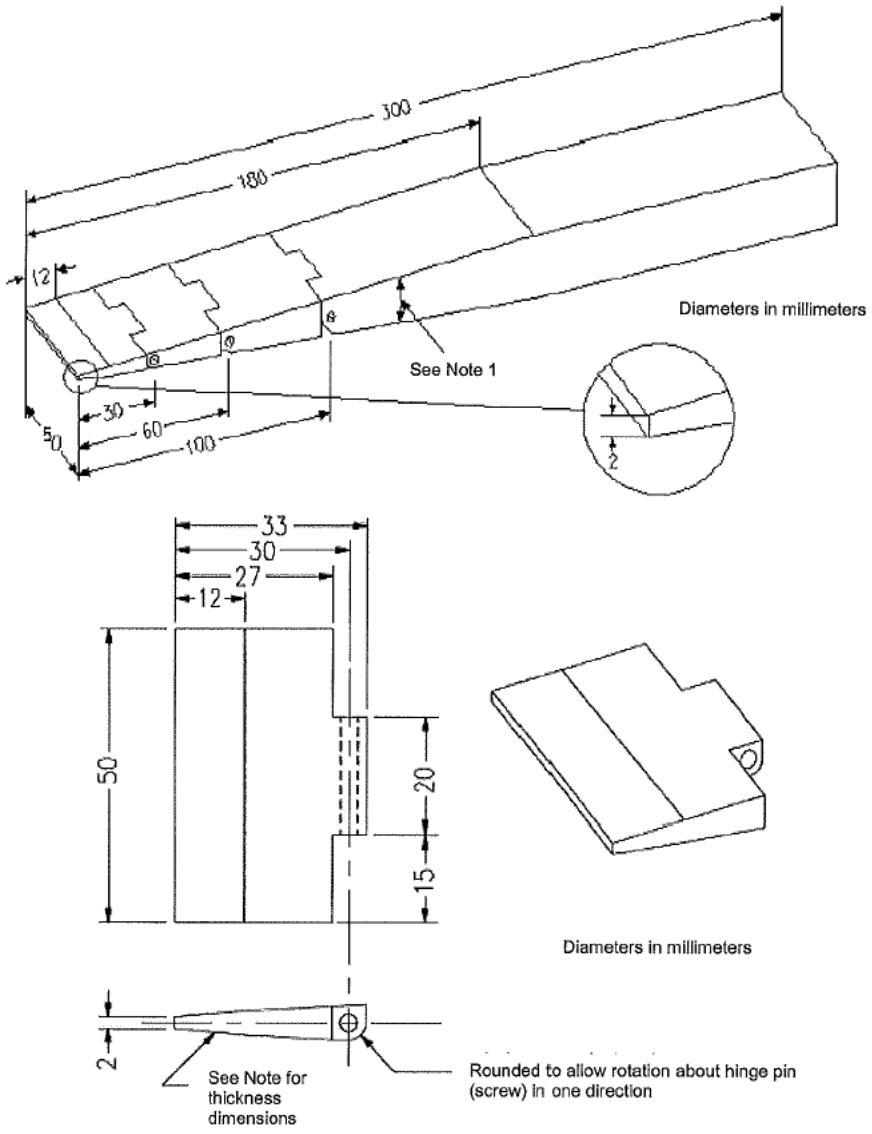



**Figure JA.1 Test finger**

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |




(Details of the top of wedge)

| *Distance from the tip (mm)* | *Thickness of probe (mm)* |
|---|---|
| *0* | *2* |
| *12* | *4* |
| *180* | *24* |

Note 1 The thickness of the probe varies linearly, with slope changes at the respective points shown in the table.

Note 2 The allowable dimensional tolerance of the probe is +/- 0.127 mm.

**Figure JA.2 Wedge-probe**

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| Annex JB | Add a new annex JB with the following contents:<br>Annex JB<br>(informative)<br>Present status and management method of the placing environment on the overvoltage and overcurrent<br>(Refer to note 1 of clause 6) | | -- |
| JB.1 | Preferable placing environment. | | **N/A** |
| JB.2 | Present status and management method of the placing environment on the Overvoltage and Overcurrent. | | **N/A** |
| Reference literature | Add the following literature:<br>http://www.jisc.go.jp/<br>ITU-T Recommendation K.66:2004, Protection of customer premises from overvoltages | | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|---|---|---|---|
| Appendix | J3000(H25)<br>Interpretation for METI Ordinance of Technical Requirements (H26.04.14), Appendix 12 | | — |
| 1 | General requirement<br>When equipment provides with appliance inlet complying with JIS C 8283-1(2008), soldered parts of appliance inlet is not applied by force during insert or removal of connector.<br>This is not applied when inlet body is fixed itself and not fixed by solder. | Inlet is fixed by adequate mechanical construction, not rely on soldering only. | **P** |
| 2 | Requirement for equipment | | — |
| 2.1 | Heater Appliances<br>When diode is used in parallel for adjustment of power, the equipment shall remain safe for operation under open condition of one diode. | Not electric stove. | **N/A** |
| | The current rating of one diode shall be more than main current. The diodes connected in parallel are same type. | | **N/A** |
| | The heating test specified by clause 11 of JIS C 9335-2-30(2006) under open condition of one diode shall comply with the requirements. | | **N/A** |
| 2.2 | Electric heater with glowing heating elements | Not electric stove. | **N/A** |
| | Surface treatment by paint or adhesive on protective frame or protective mesh shall not be used. | | **N/A** |
| | Caution marking like below shall be on<br>- easily visible place of the equipment or<br>- Instruction manual<br>「注意　当該機器から、使用初期段階で揮発性有機化合物及びカルボニル化合物が最も放散するおそれがあるため、その際には十分換気を行うこと。」 | | **N/A** |
| 3 | Components used in equipment | No such equipment /components. | **N/A** |

| IEC60950_1F - ATTACHMENT | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 3.1 | Motor capacitors used in ventilating fan, electric fan, air conditioner, electric washing machine, refrigerator or electric freezer shall be comply with<br>- capacitors with protective elements or protective mechanism complying with JIS C 4908(2007)<br>- P2 capacitor complying with IEC 60252-1(2001)<br>Capacitor complying with below is acceptable | | **N/A** |
| | Enclosed by metal or ceramic | | **N/A** |
| | No non-metallic materials within 50 mm from capacitor surface | | **N/A** |
| | Non-metallic material within 50 mm from capacitor surface comply with needle frame test of JIS C 9335-1(2003), Annex E | | **N/A** |
| | Non-metallic material within 50 mm from capacitor surface comply with V-1 test of JIS C 60965-11-10(2006). | | **N/A** |
| 3.2 | Plug directly inserted to outlet used refrigerator or electric freezer.<br>Shall comply with<br>- Face contact with outlet shall have CTI with more than 400 according to JIS C 2134(2007) or<br>- Supporting material of blades shall comply with glow wire test by temperature of 750ºC according to JIS C 60695-2-11(2004) or JIS C 60695-2-12(2004).<br>Materials having glow wire frame temperature of 775 ºC are acceptable. | | **N/A** |

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

Figure 1. Model with base type A


Figure 2. Model with base type A

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

Figure 3. Model with base type A (with USB connector)

Figure 4. Model with base type A (with USB connector)

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

Figure 5. Model with base type A


Figure 6. Model with base type A

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

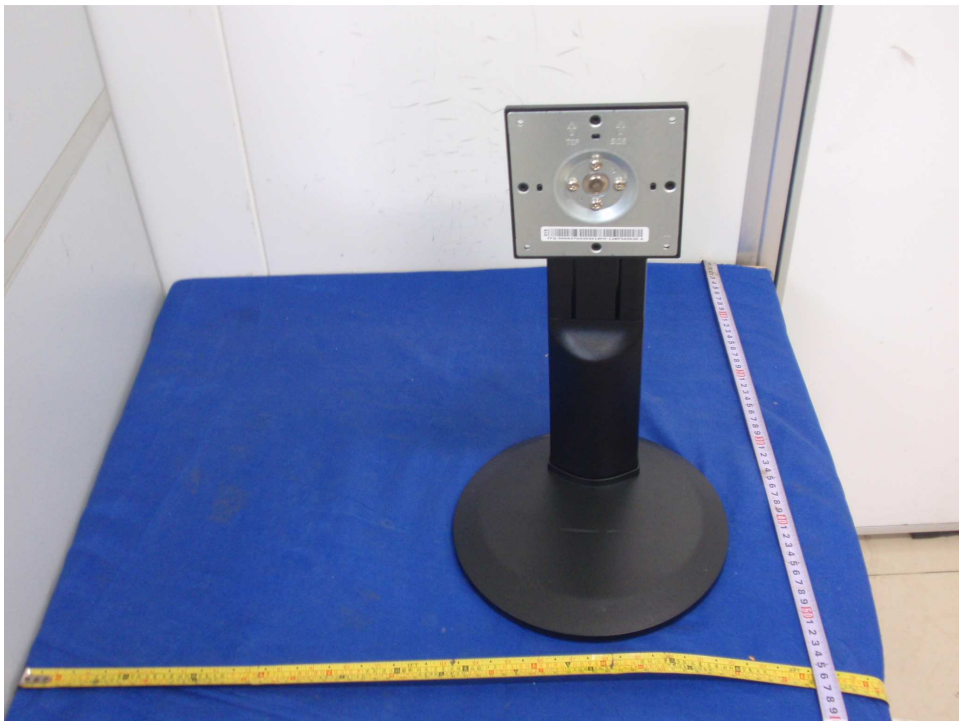


Figure 7. Base type A

Figure 8. Model with base type B

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

Figure 9. Model with base type B

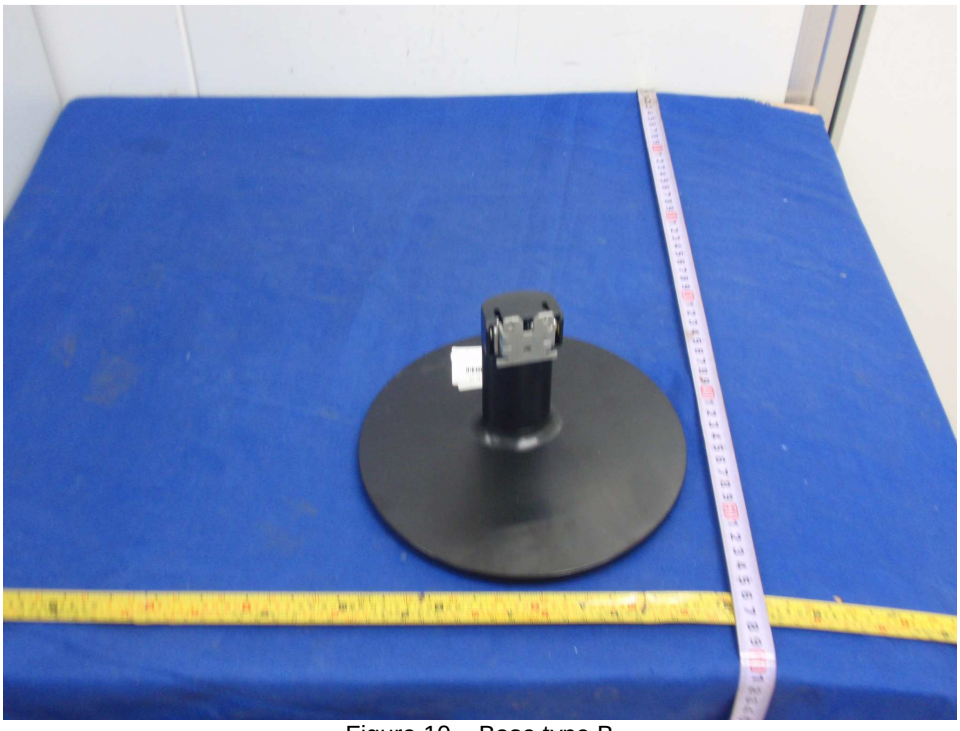


Figure 10. Base type B

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

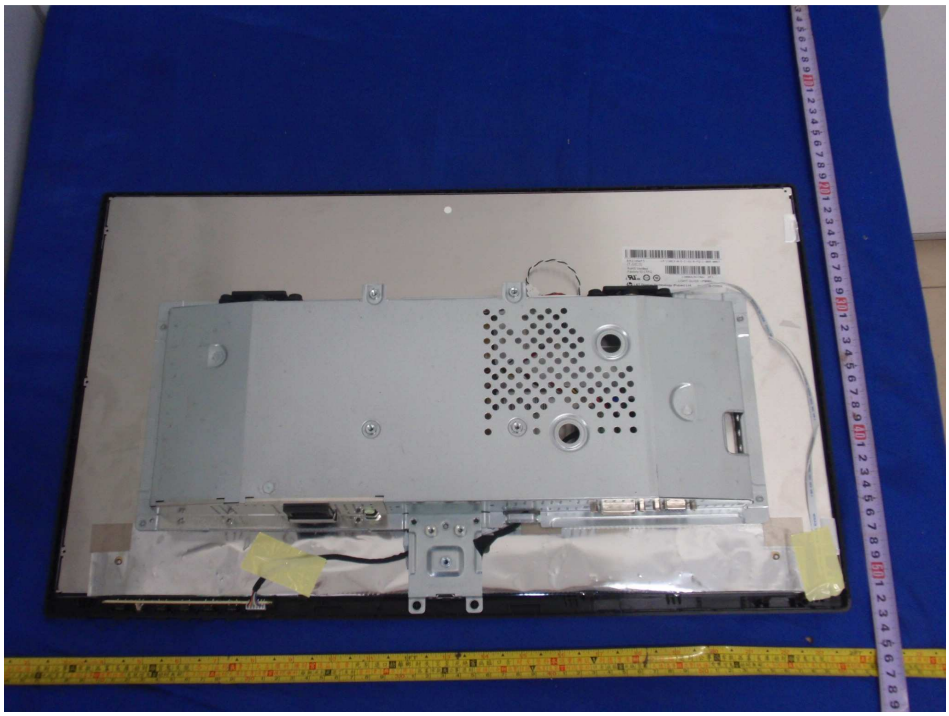


Figure 11. Metal enclosure type A

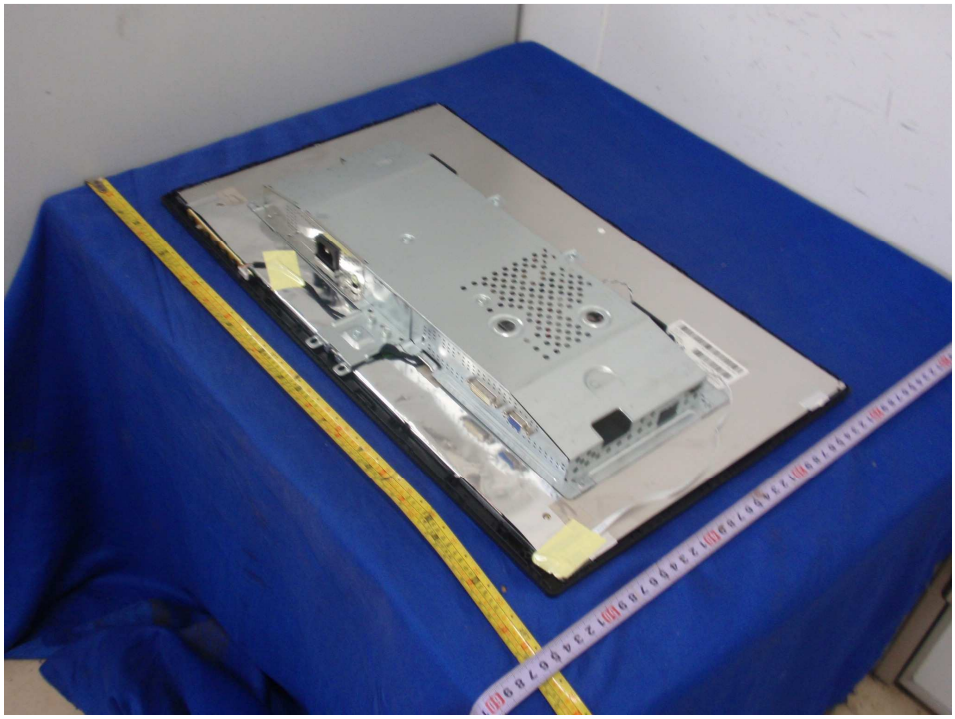


Figure 12. Metal enclosure type A

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

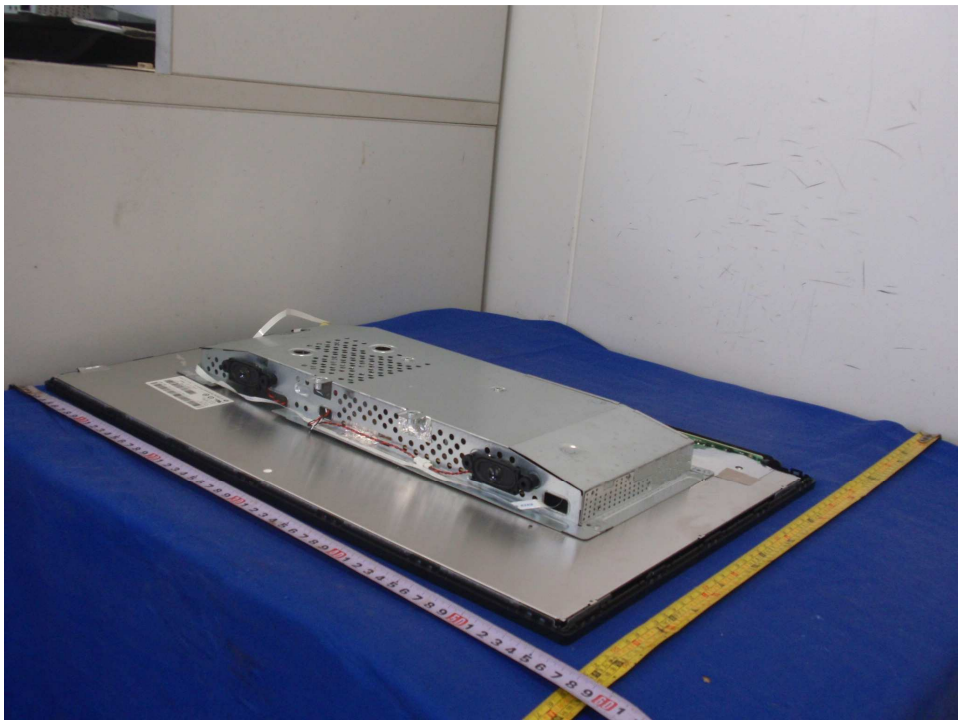


Figure 13. Metal enclosure type A

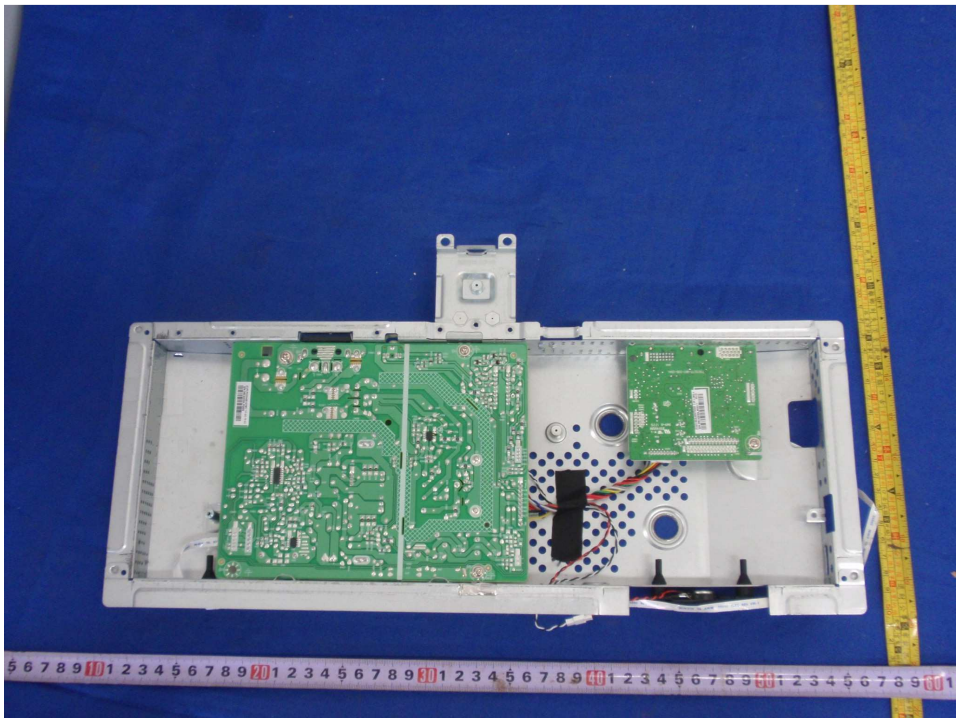


Figure 14. Metal enclosure type A

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

Figure 15. Metal enclosure type B

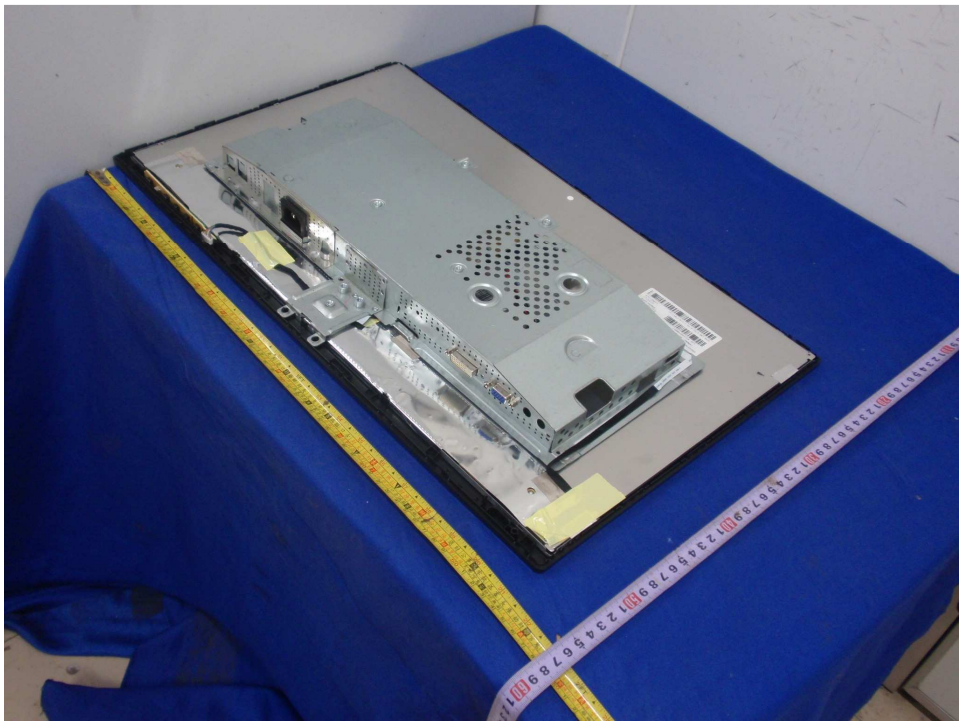


Figure 16. Metal enclosure type B

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

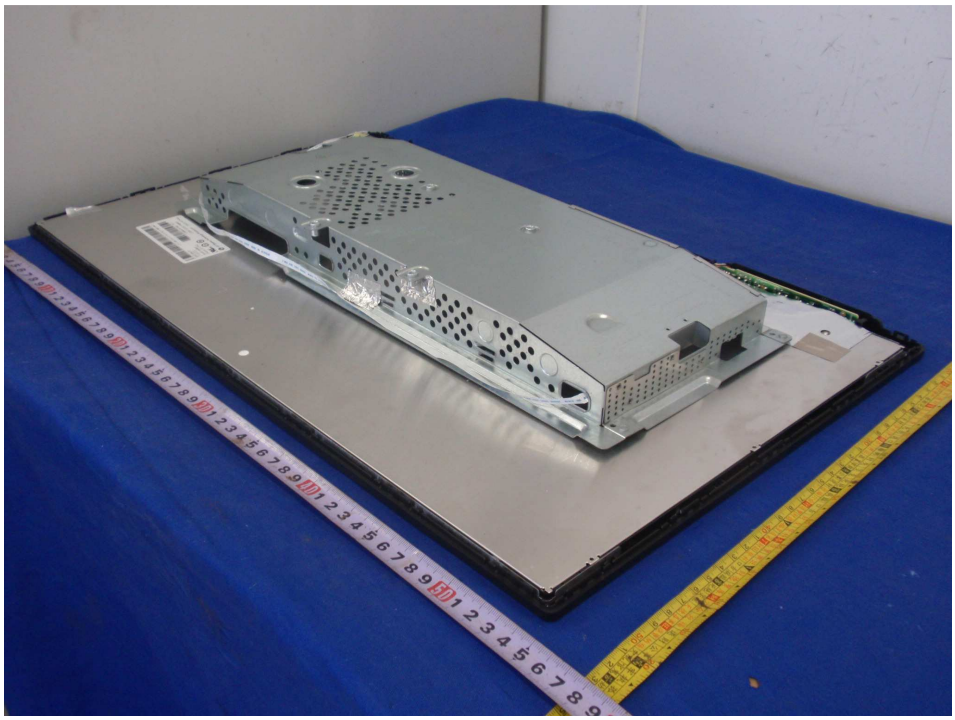


Figure 17. Metal enclosure type B

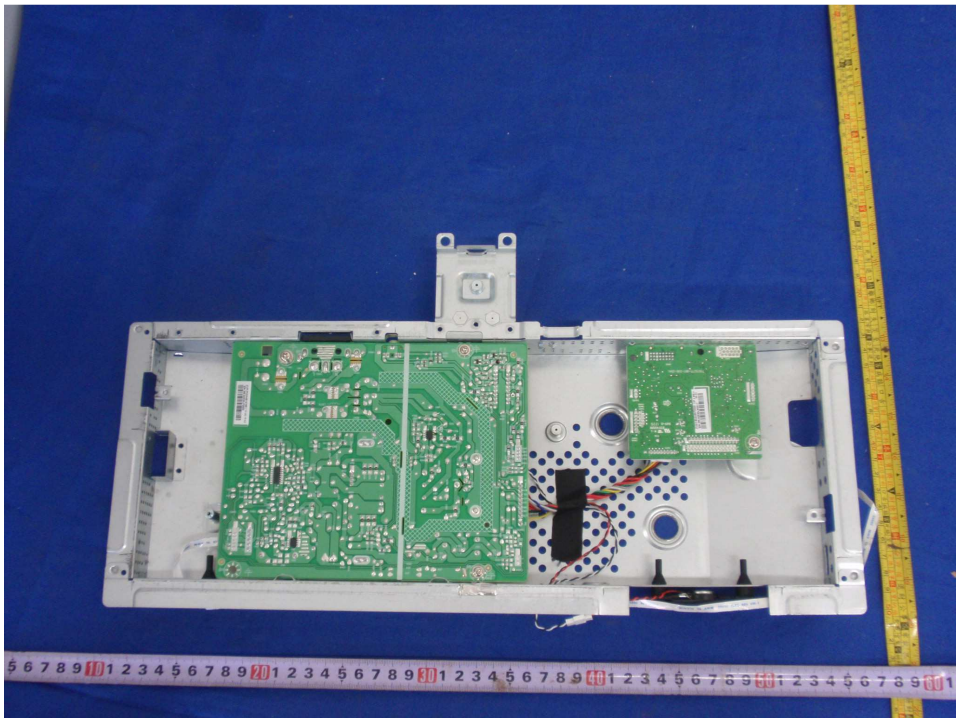


Figure 18. Metal enclosure type B

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

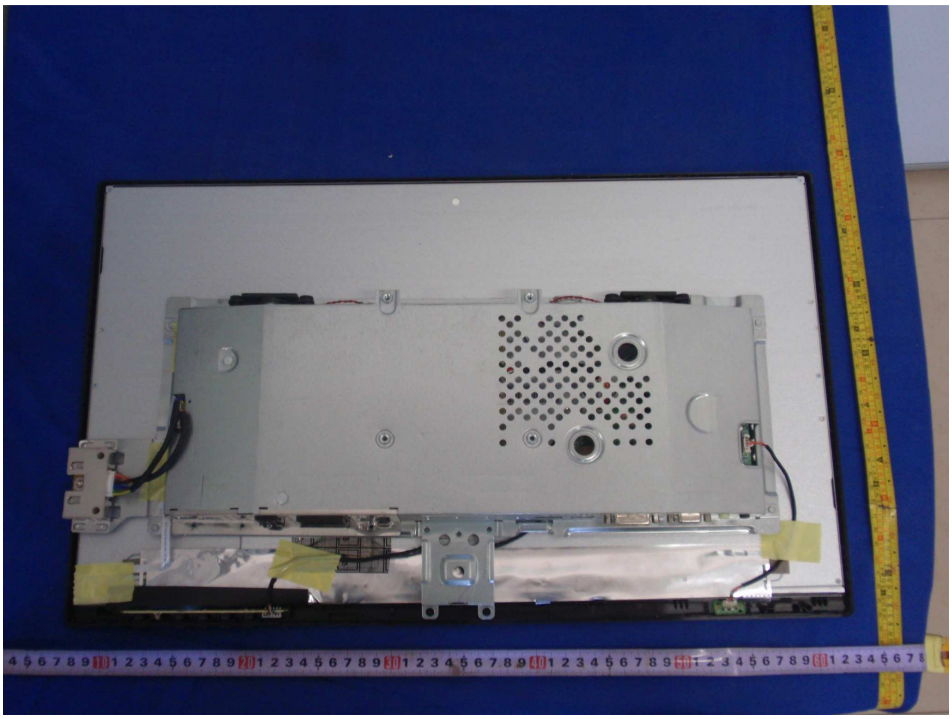


Figure 19. Metal enclosure type C

Figure 20. Metal enclosure type C

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

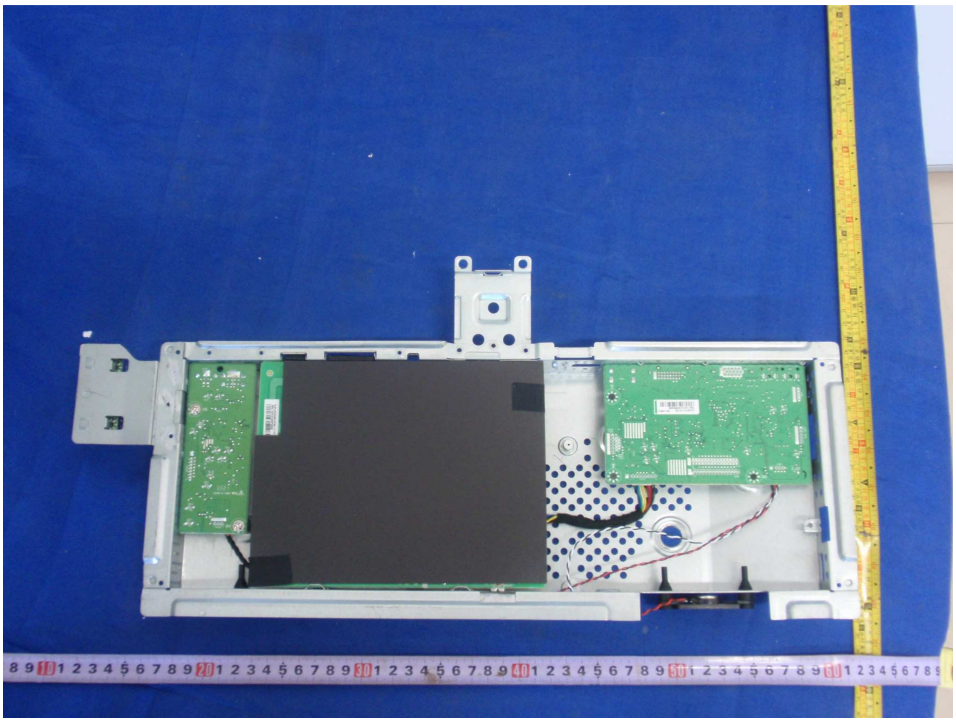


Figure 21. Metal enclosure type C

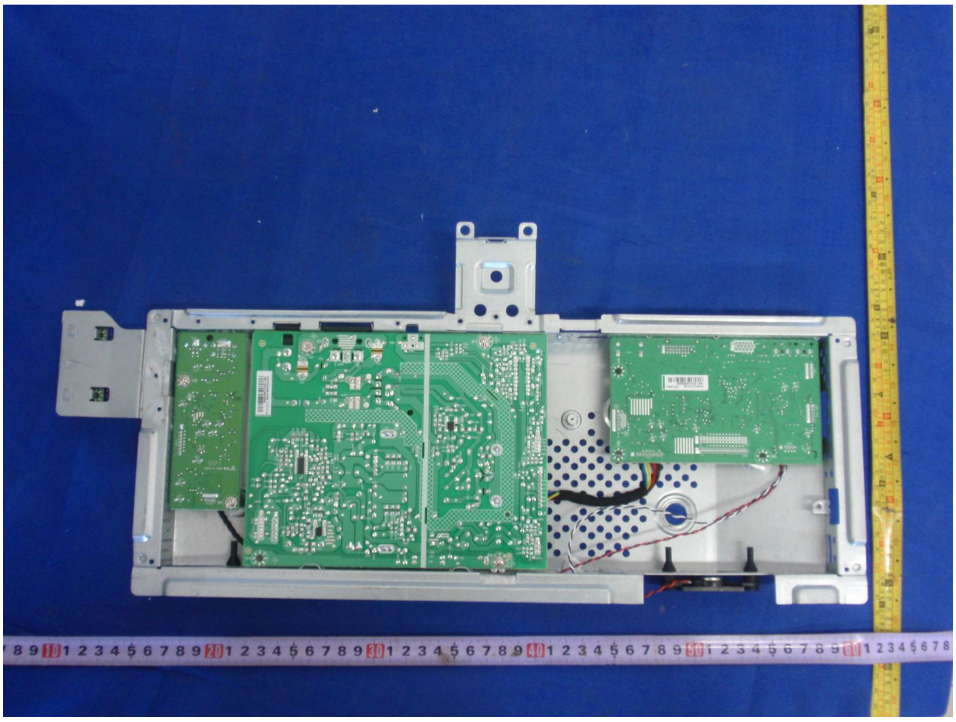


Figure 22. Metal enclosure type C

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

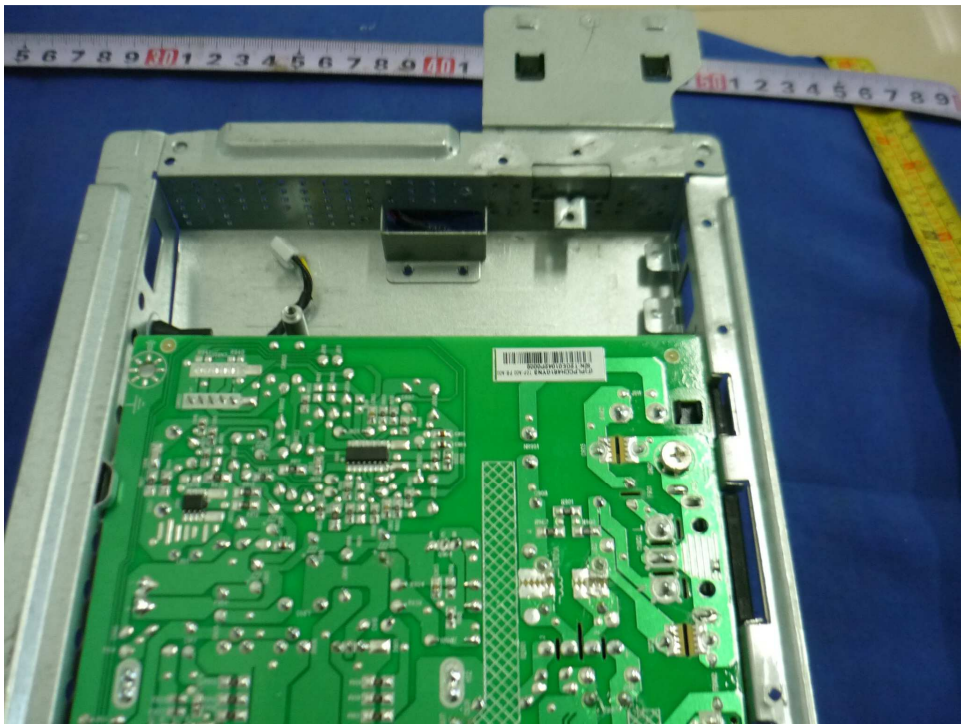


Figure 23. Metal enclosure type C

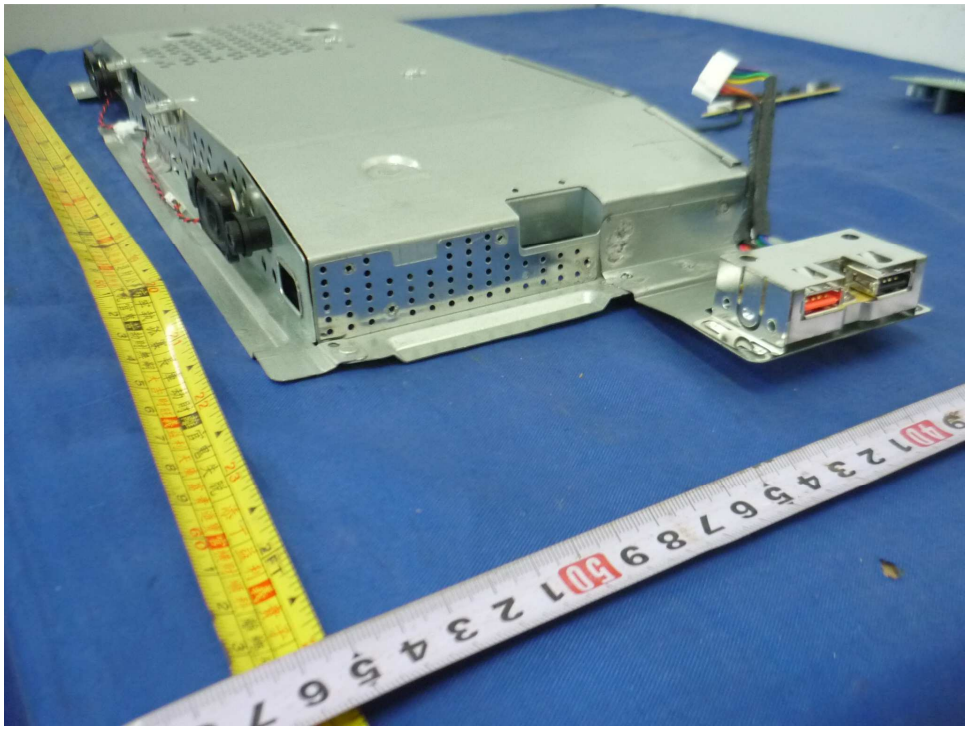


Figure 24. Metal enclosure type C

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

Figure 25. Metal enclosure type D

Figure 26. Metal enclosure type D

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

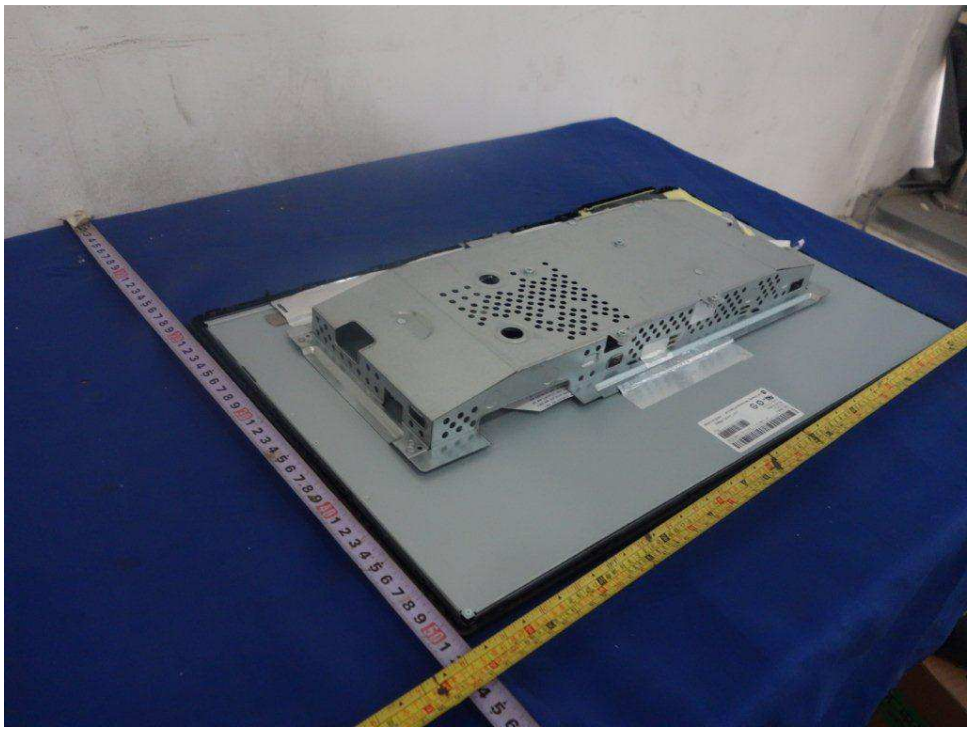


Figure 27. Metal enclosure type D

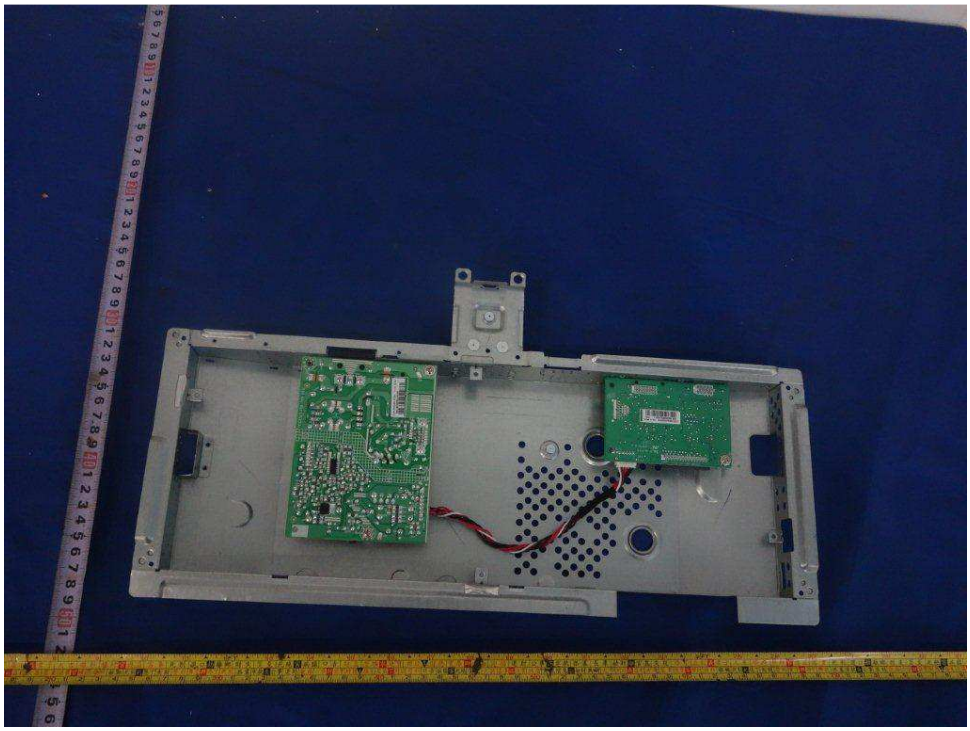


Figure 28. Metal enclosure type D

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

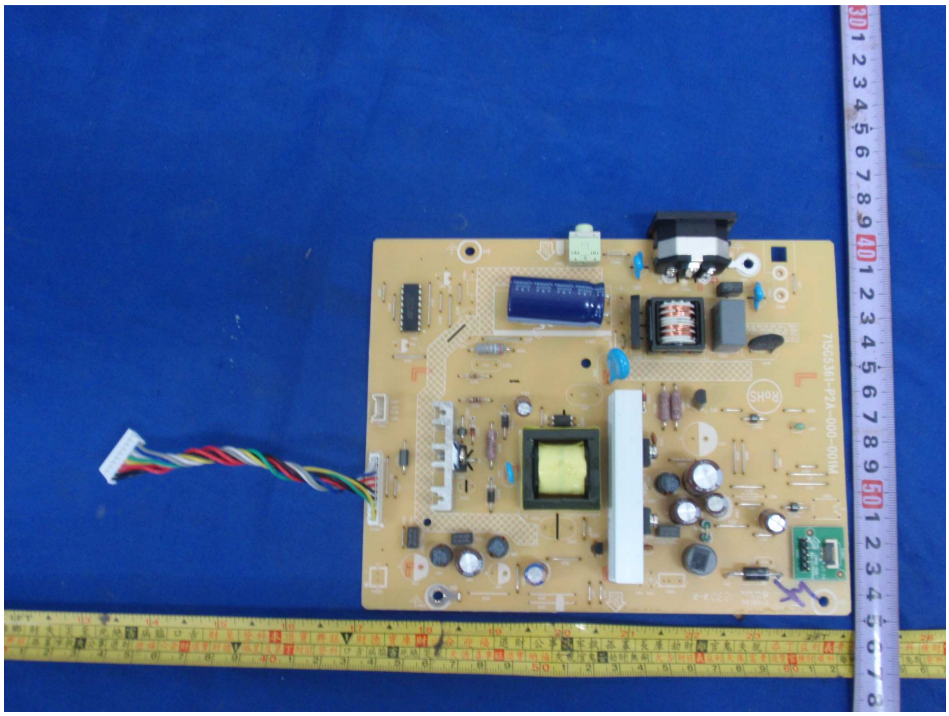


Figure 29. Power board 715G5361 type A

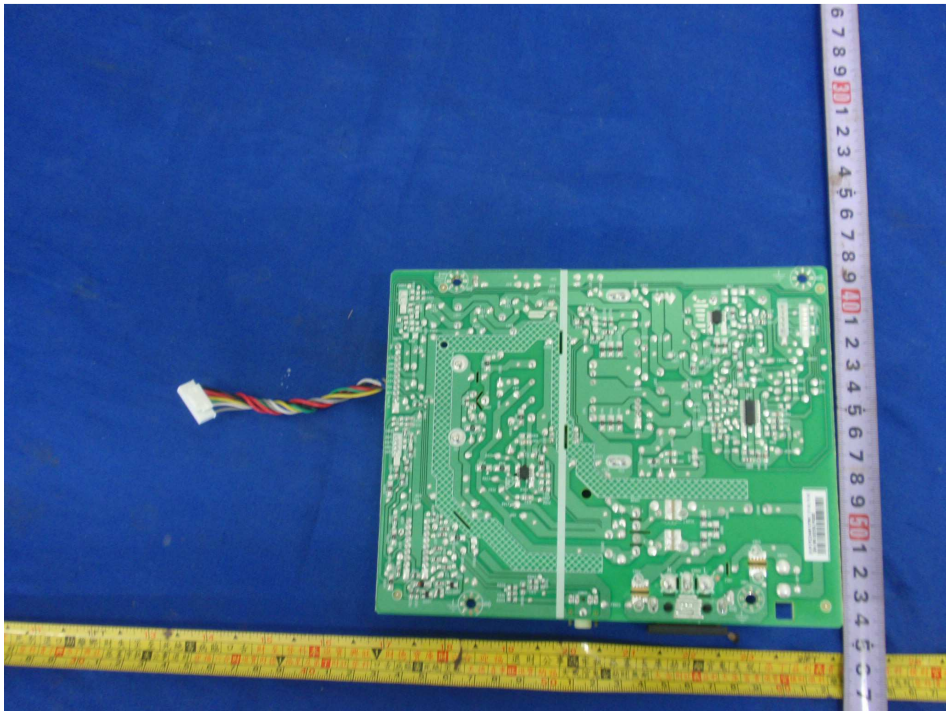


Figure 30. Power board 715G5361 type A

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

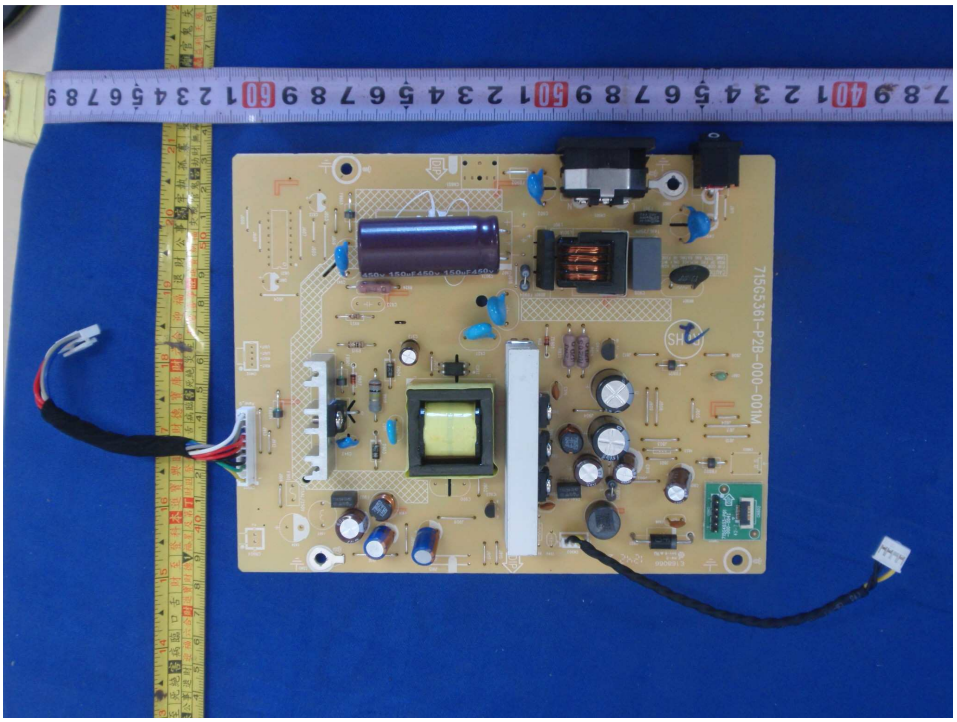


Figure 31. Power board 715G5361 type B

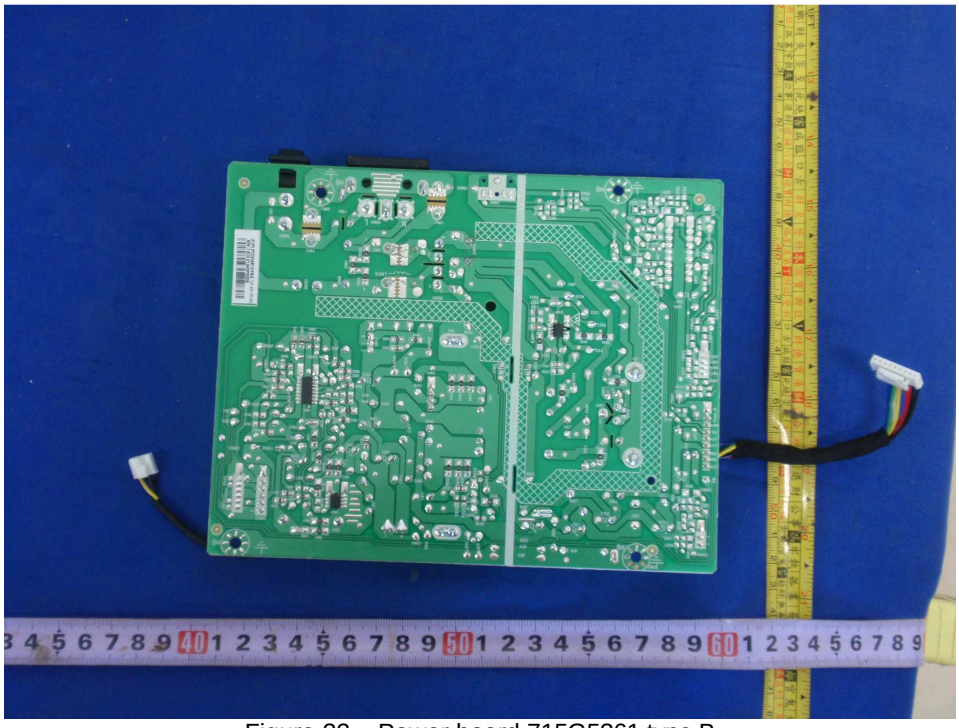


Figure 32. Power board 715G5361 type B

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

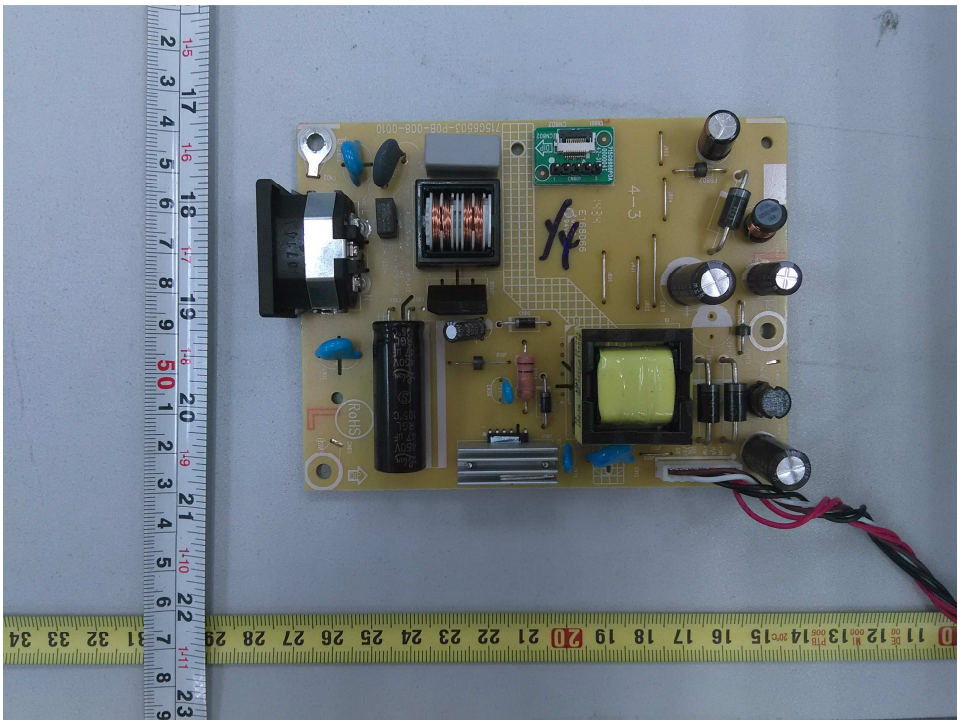


Figure 33. Power board 715G6503

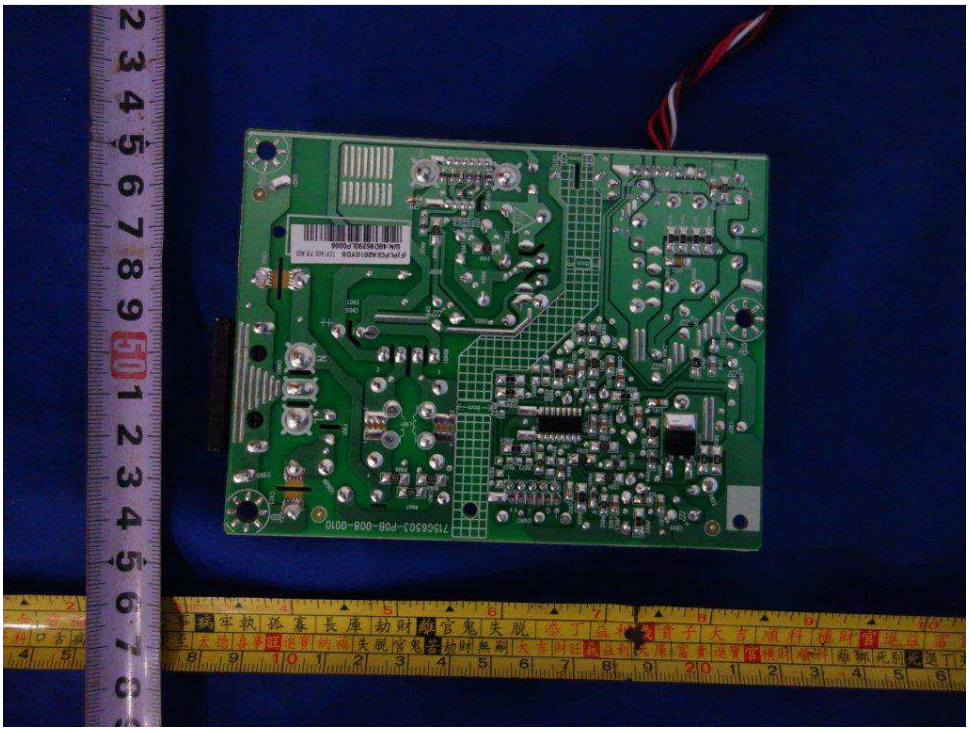


Figure 34. Power board 715G6503

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

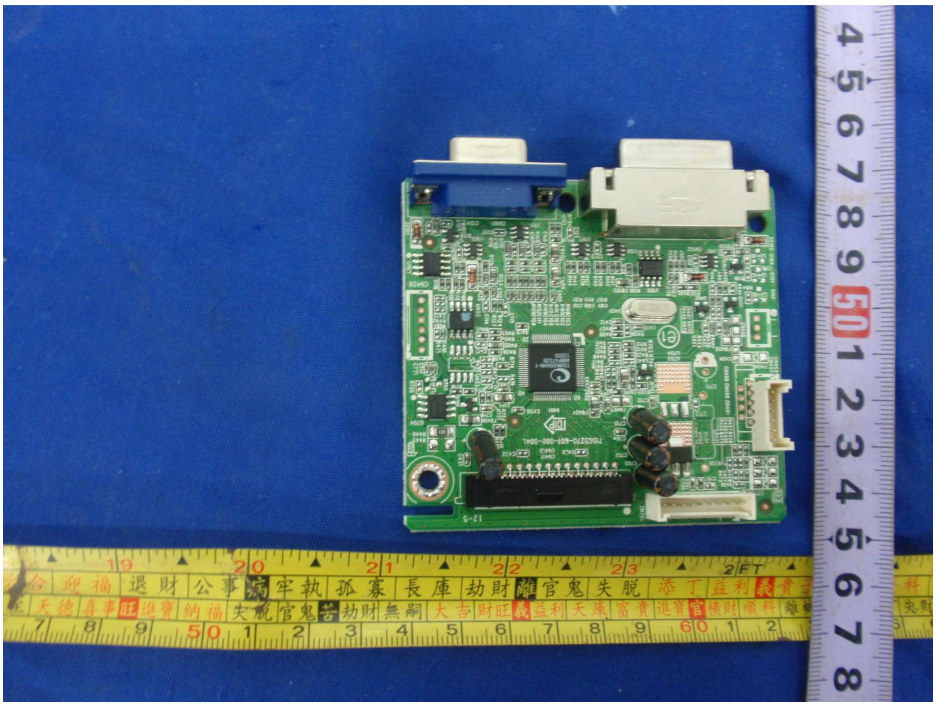


Figure 35. Main board 715G5270

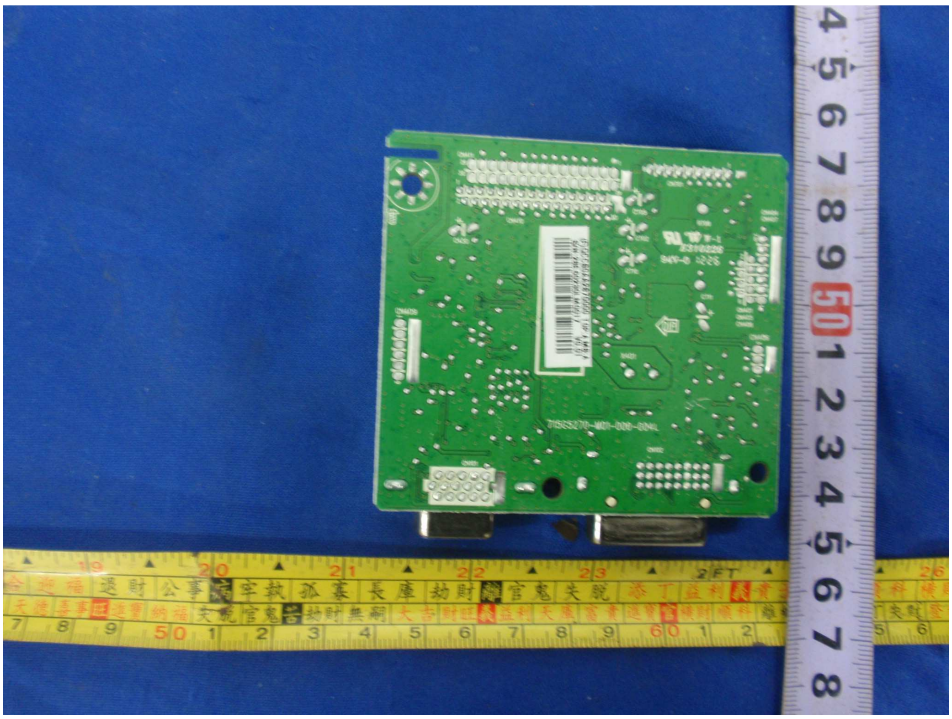


Figure 36. Main board 715G5270

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

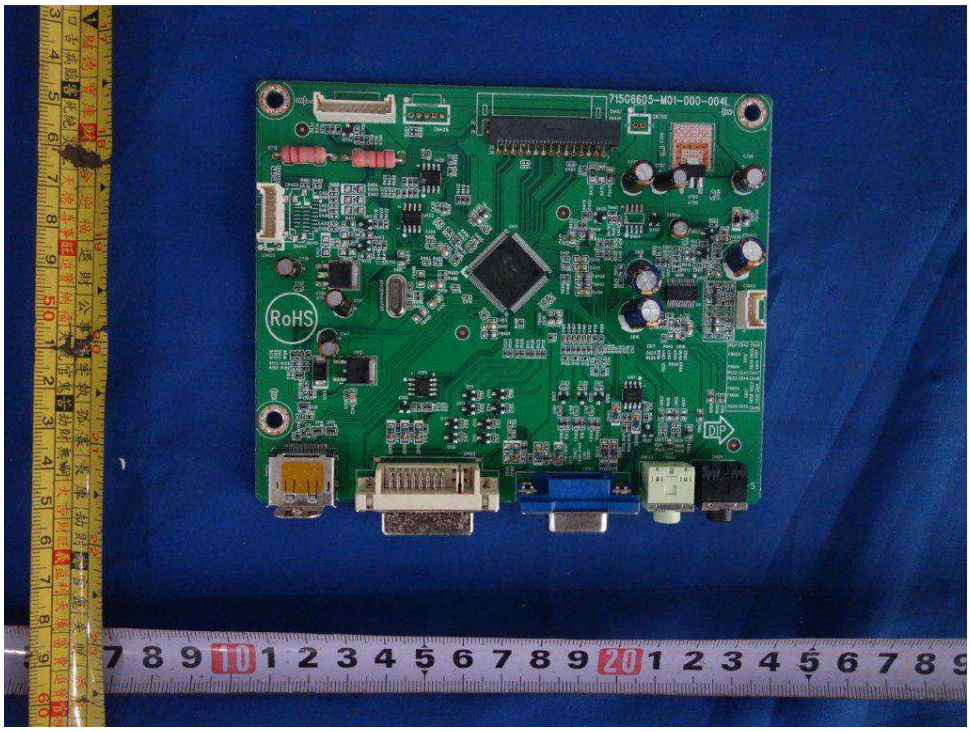



Figure 37. Main board 715G6605

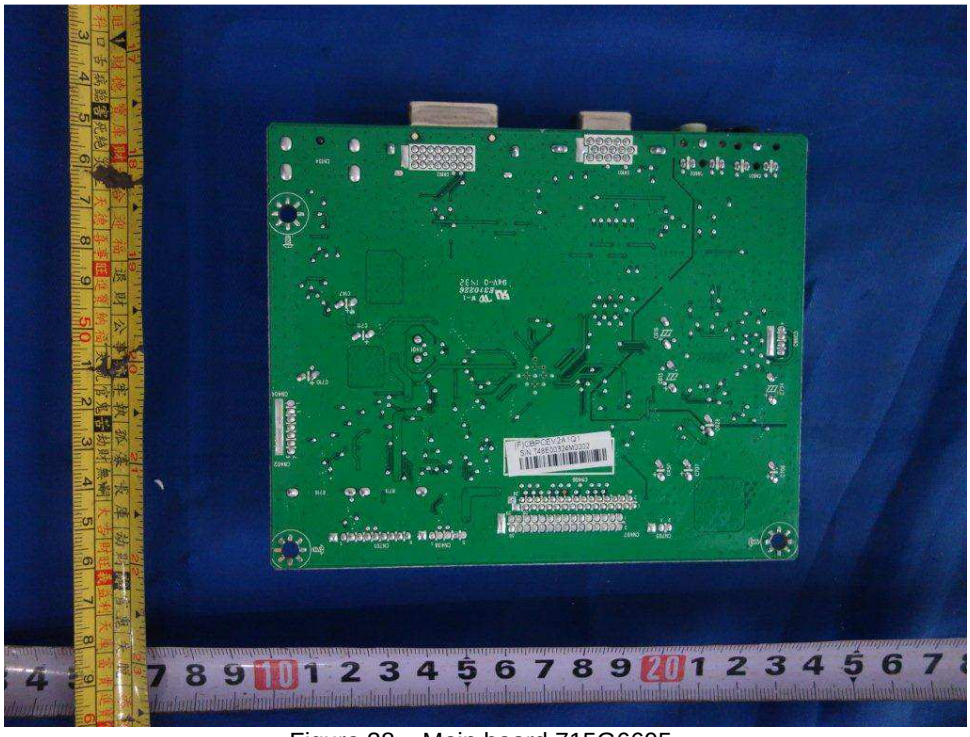


Figure 38. Main board 715G6605

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

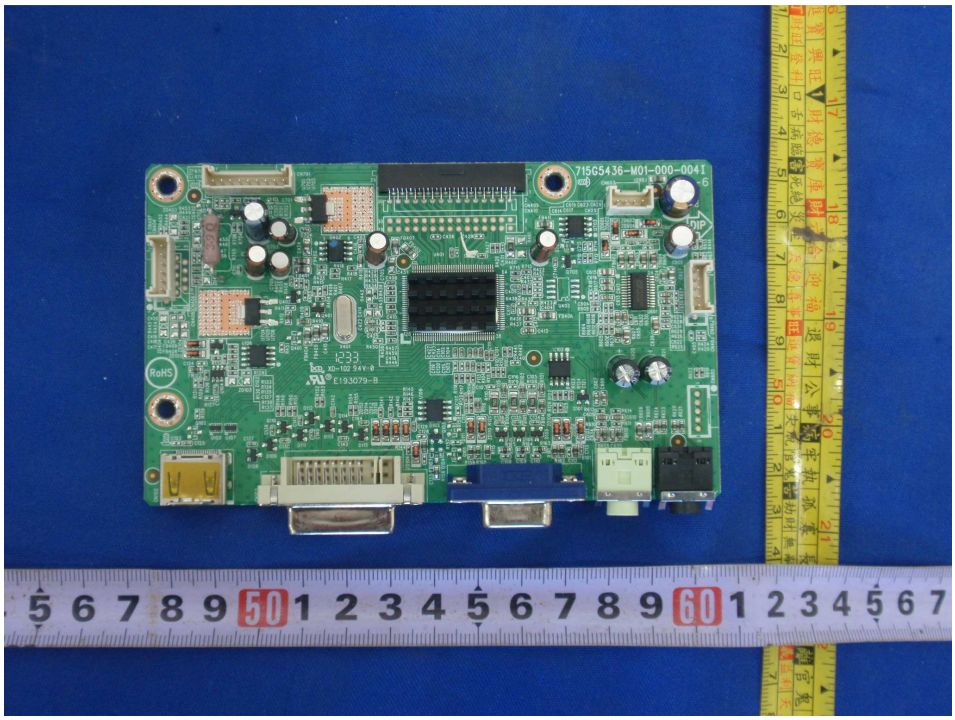



Figure 39. Main board 715G5436

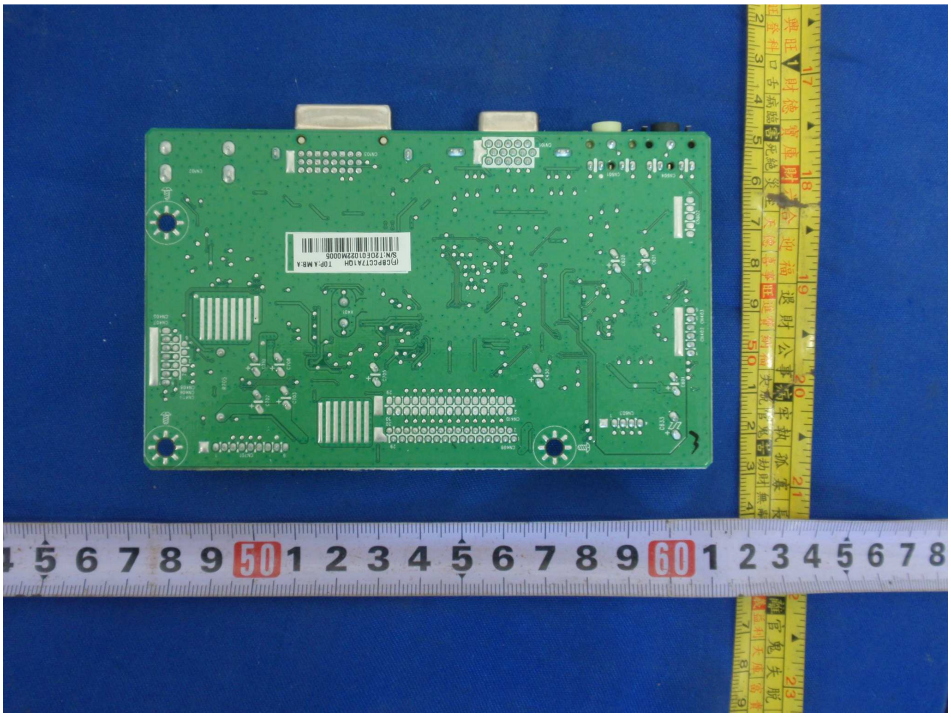


Figure 40. Main board 715G5436

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

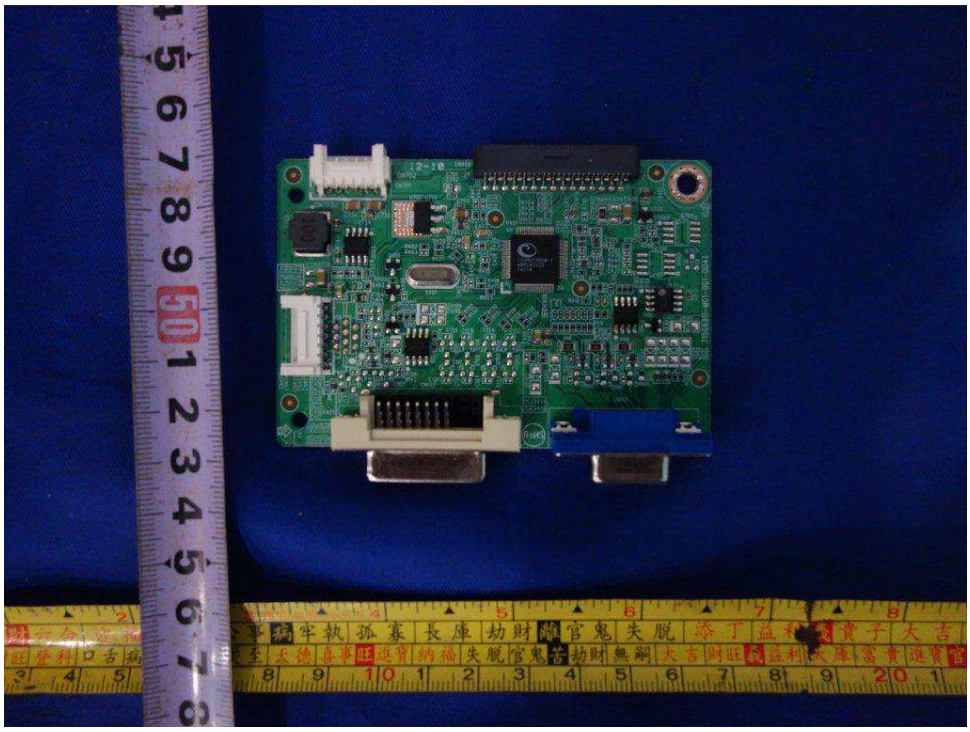


Figure 41. Main board 715G6911

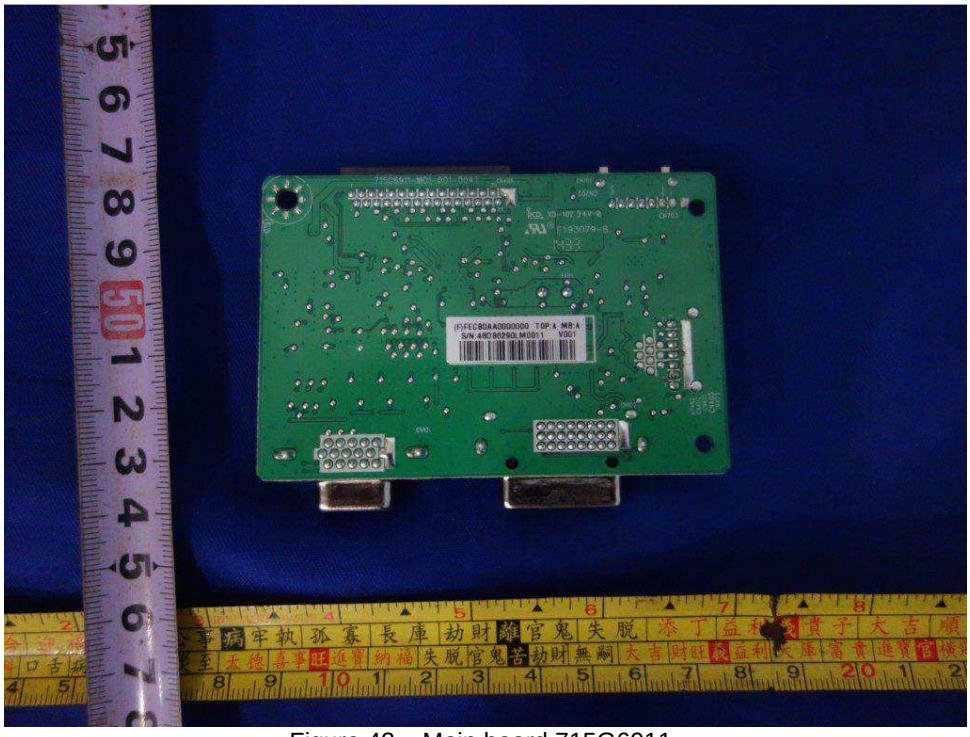


Figure 42. Main board 715G6911

Product: LCD MONITOR

Type Designation: 230LM00024, *2360****, 230LM000**

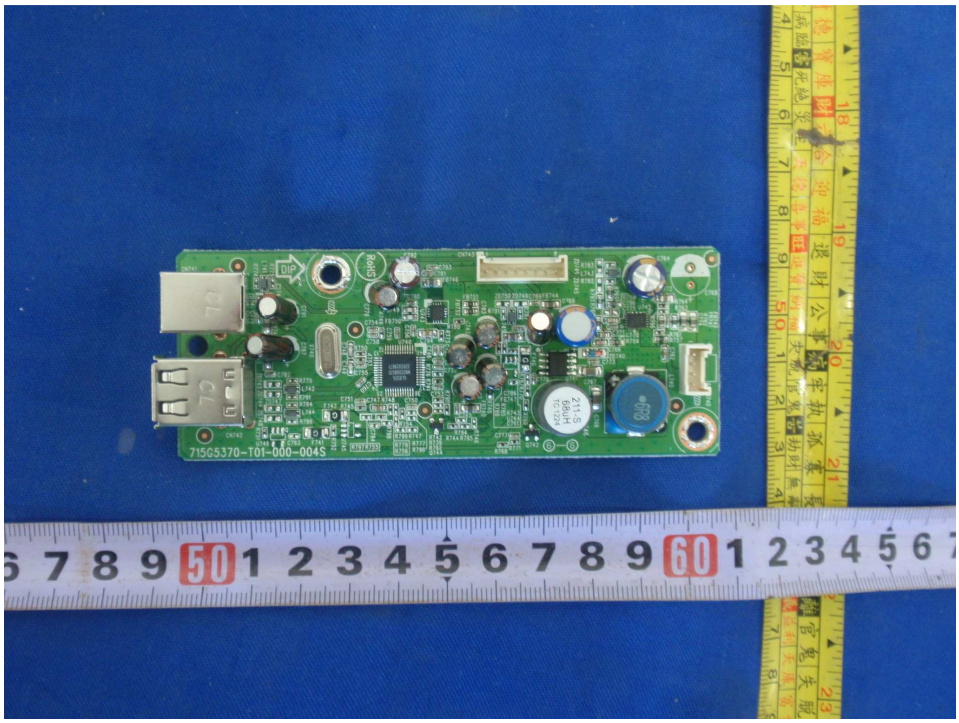



Figure 43. USB board 715G5370

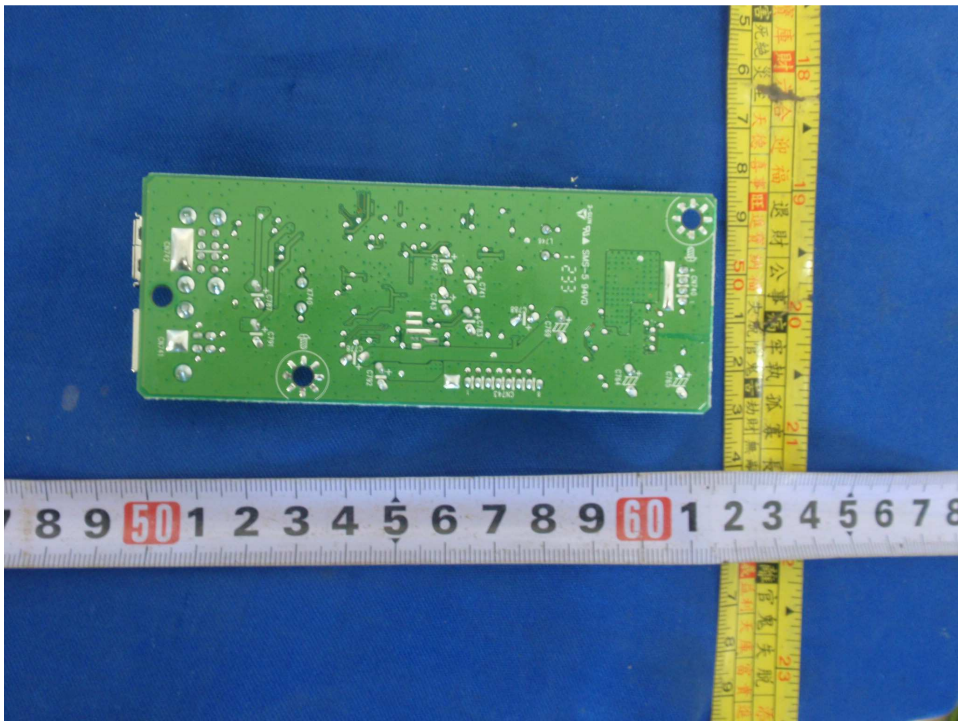


Figure 44. USB board 715G5370