



Ref. Certif. No.

JPTUV-043880

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

SYSTEME CEI D'ACCEPTATION MUTUELLE DE  
CERTIFICATS D'ESSAIS DES EQUIPEMENTS  
ELECTRIQUES (IECEE) METHODE OC

**CB TEST CERTIFICATE**  
**CERTIFICAT D'ESSAI OC**

Product  
Produit

LCD Monitor

Name and address of the applicant  
Nom et adresse du demandeur

Top Victory Electronics (Taiwan) Co., Ltd.  
10F., No. 230, Liancheng Rd.  
Zhonghe Dist., New Taipei City, 23553 Taiwan

Name and address of the manufacturer  
Nom et adresse du fabricant

NEC Display Solutions, Ltd.  
4-28, Mita 1-chome, Minato-ku  
Tokyo, 108-0073 JAPAN

Name and address of the factory  
Nom et adresse de l'usine

See additional page(s)

Rating and principal characteristics  
Valeurs nominales et caractéristiques principales

AC 100-240V; 50/60Hz; 2.0A-0.8A; Class I

Trade mark (if any)  
Marque de fabrique (si elle existe)

NEC

Model/type Ref.  
Ref. de type

V322, V322(C), MultiSync V322

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

For model differences, refer to the test report.

A sample of the product was tested and found  
to be in conformity with  
Un échantillon de ce produit a été essayé et a été  
considéré conforme à la

IEC 60950-1:2005+A1  
National differences see test report

As shown in the Test Report Ref. No. which forms part  
of this Certificate  
Comme indiqué dans le Rapport d'essais numéro de  
référence qui constitue une partie de ce Certificat

11028754 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



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: 28.05.2012

Signature:

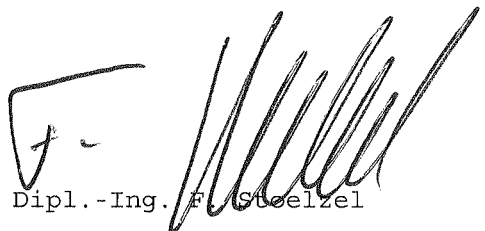
Dipl.-Ing. F. Bräuer

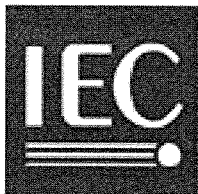
1. TPV Technology (Beijing) Co., Ltd.  
No. 10, Jiu Xian Qiao Rd.  
Chao Yang District, Beijing 100016  
P.R. China
2. Tatung Mexico S.A. de C.V.  
Ave. Rosa Ma. Fuentes #7050  
Complejo Industrial Fuentes  
C.P. 32320, Cd. Juarez. Chih,  
MEXICO
3. TPV Display Technology (Wuhan)  
Co., Ltd.  
Unique No. 11, Zhuankou Development  
District of Economic Technological  
Development Zone, Wuhan City 430056, P.R. China
4. TPV Electronics (Fujian) Co., Ltd.  
Yuan Hong Rd., Shang-Zheng Hong-Lu  
Fuqing City Fujian 350301  
P.R. China
5. Envision Industry of Electronic  
Products Ltd.  
Rodovia Anhanguera S/N-KM 49  
13.205-700 Tijuco Preto-Jundiaí-SP-  
Brazil
6. TPV Displays Polska Sp. z o.o.  
ul. Zlotego Smoka 9  
66-400 Gorzów Wlkp.  
Poland
7. L&T Display Technology (Fujian) Ltd.  
Optoelectronic Park, Rongqiao  
Economic and Technological  
Development Zone  
Fuqing, Fujian 350301, P.R. China
8. 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
9. Envision Industry of Electronic  
Products Ltd.  
Av Torquato Tapajós 7503,  
Galpão : II Bloco: B-Condomínio  
de Galpões-Tarumã-Manaus, AM, Brazil

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

Date: 28.05.2012

Signature:

  
Dipl.-Ing. F. Stelzel



Test Report issued under the responsibility of:



| <b>TEST REPORT</b><br><b>IEC 60950-1</b><br><b>Information technology equipment – Safety –</b><br><b>Part 1: General requirements</b>                                                                                                                                                                                                                      |                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| <b>Report Number</b> .....                                                                                                                                                                                                                                                                                                                                 | 11028754 001                                                                  |
| <b>Date of issue</b> .....                                                                                                                                                                                                                                                                                                                                 | May 25, 2012                                                                  |
| <b>Total number of pages</b> .....                                                                                                                                                                                                                                                                                                                         | 63                                                                            |
| <b>CB Testing Laboratory</b> .....                                                                                                                                                                                                                                                                                                                         | TÜV Rheinland Taiwan Ltd., Taichung Laboratory                                |
| <b>Address</b> .....                                                                                                                                                                                                                                                                                                                                       | No. 9, Ln. 36, Sec. 3, Minsheng Rd., Daya District, Taichung City 428, Taiwan |
| <b>Applicant's name</b> .....                                                                                                                                                                                                                                                                                                                              | Top Victory Electronics (Taiwan) Co., Ltd.                                    |
| <b>Address</b> .....                                                                                                                                                                                                                                                                                                                                       | 10F., No. 230, Liancheng Rd., Zhonghe Dist., New Taipei City, 23553 Taiwan    |
| <b>Manufacturer's name</b> .....                                                                                                                                                                                                                                                                                                                           | NEC Display Solutions, Ltd.                                                   |
| <b>Address</b> .....                                                                                                                                                                                                                                                                                                                                       | 4-28, Mita 1-chome, Minato-ku, Tokyo, Japan                                   |
| <b>Test specification:</b>                                                                                                                                                                                                                                                                                                                                 |                                                                               |
| <b>Standard</b> .....                                                                                                                                                                                                                                                                                                                                      | IEC 60950-1:2005 (2nd Edition); Am 1:2009                                     |
| <b>Test procedure</b> .....                                                                                                                                                                                                                                                                                                                                | CB Scheme                                                                     |
| <b>Non-standard test method</b> .....                                                                                                                                                                                                                                                                                                                      | N/A                                                                           |
| <b>Test Report Form No.</b> .....                                                                                                                                                                                                                                                                                                                          | IEC60950_1B                                                                   |
| <b>Test Report Form(s) Originator</b> .....                                                                                                                                                                                                                                                                                                                | SGS Fimko Ltd                                                                 |
| <b>Master TRF</b> .....                                                                                                                                                                                                                                                                                                                                    | Dated 2010-04                                                                 |
| <b>Copyright © 2010 Worldwide System for Conformity Testing and Certification of Electrotechnical Equipment and Components (IECEE), Geneva, Switzerland. All rights reserved.</b>                                                                                                                                                                          |                                                                               |
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| 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.                                                                                                                                                                                                                   |                                                                               |
| <b>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.</b>                                                                                                                                                                 |                                                                               |
| <b>Test item description</b> .....                                                                                                                                                                                                                                                                                                                         | LCD Monitor                                                                   |
| <b>Trade Mark</b> .....                                                                                                                                                                                                                                                                                                                                    | NEC                                                                           |
| <b>Manufacturer</b> .....                                                                                                                                                                                                                                                                                                                                  | See above manufacturer                                                        |
| <b>Model/Type reference</b> .....                                                                                                                                                                                                                                                                                                                          | V322 , V322(C) , MultiSync V322                                               |
| <b>Ratings</b> .....                                                                                                                                                                                                                                                                                                                                       | 100-240V~, 50/60Hz, 2.0A-0.8A                                                 |

|                                                |                                  |                |
|------------------------------------------------|----------------------------------|----------------|
| <b>Testing procedure and testing location:</b> |                                  |                |
| <input checked="" type="checkbox"/>            | <b>CB Testing Laboratory:</b>    | See cover page |
| Testing location/ address..... :               |                                  | See cover page |
| <input type="checkbox"/>                       | <b>Associated CB Laboratory:</b> |                |
| Testing location/ address..... :               |                                  |                |
| Tested by (name + signature).....:             |                                  | Steven W       |
| Approved by (name + signature) .....           |                                  | Jean Chen      |
| <input type="checkbox"/>                       | <b>Testing procedure: TMP</b>    |                |
| Testing location/ address..... :               |                                  |                |
| Tested by (name + signature).....:             |                                  |                |
| Approved by (name + signature) .....           |                                  |                |
| <input type="checkbox"/>                       | <b>Testing procedure: WMT</b>    |                |
| Testing location/ address..... :               |                                  |                |
| Tested by (name + signature).....:             |                                  |                |
| Witnessed by (name + signature).....:          |                                  |                |
| Approved by (name + signature) .....           |                                  |                |
| <input type="checkbox"/>                       | <b>Testing procedure: SMT</b>    |                |
| Testing location/ address..... :               |                                  |                |
| Tested by (name + signature).....:             |                                  |                |
| Approved by (name + signature) .....           |                                  |                |
| Supervised by (name + signature).....:         |                                  |                |
| <input type="checkbox"/>                       | <b>Testing procedure: RMT</b>    |                |
| Testing location/ address..... :               |                                  |                |
| Tested 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 (6 pages)
- National Differences (62 pages)
- Measurement Section (2 pages)

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

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

- The load condition used as below during testing:  
The equipment operated at full raster screen with maximum brightness, maximum contrast and maximum non-clipped volume of speakers with 1 KHz signal, RJ-45 ports transmission data by highest speed and with dummy load 16V/4A for option board slot by client required.
- The test samples are pre-production without serial numbers.
- The equipment provided wall mounting function and complied with loading test mentioned at subclause 4.2.10.
- The unit has wall mount function and plastic enclosure flammability material is class 5 V (except for stand base is HB or better). Plastic enclosure considered as fire enclosure.
- The unit has wall mount function as stationary equipment considered in horizontal and vertical orientation. The inverter board at bottom side when LCD monitor at vertical orientation. For heating test were considered all orientation during test conducting. For abnormal tests were considered horizontal as representative.
- The equipment has been evaluated according to the specified by the manufacturer maximum operating altitude of 5000 m (correction factor for clearances according to IEC 60664:1992+A1:2000+A2:2002 of 1.48 is considered).
- Specified maximum ambient temperature for operation is +40 °C

**Testing location:**

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

**Summary of compliance with National Differences**

List of countries addressed:

EU Group Differences, EU Special National Conditions, CA, DE, FI, IL, KR, US.

Explanation of used codes: CA = Canada, DE = Germany, FI = Finland, IL = Israel, KR = Republic of Korea, US = United States of America.

☒ The product fulfils the requirements of EN 60950-1:2006/A11:2009/A1:2010/A12:2011

For IEC 60950-1:2005 / EN 60950-1:2006+A11:2009 (per client request):

AU

Explanation of used codes: AU=Australia.

For National Differences see corresponding Attachment.

For IEC 60950-1:2001 / EN 60950-1:2001+A11:2004 (per client request):

(All CB members countries listed in CB Bulletin No. 112A, dated December 2006)

AR, AT, BE, CN, CZ, FR, GR, HU, IN, IT, JP, KE, MY, NL, PL, SG, SI, SK.

Explanation of used codes: AR=Argentina, AT=Austria, BE=Belgium, CN=China, CZ=Czech Republic, FR=France, GR=Greece, HU=Hungary, IN=India, IT=Italy, JP=Japan, KE=Kenya, MY=Malaysia, NL=The Netherlands, PL=Poland, SG=Singapore, SI=Slovenia, SK=Slovakia.

For National Differences see corresponding Attachment.

For IEC 60950:1999 (3<sup>rd</sup> Edition) + Corr. Jan. 2000 (per client request):

BR, IE, PT, RU, TR, UA, ZA.

Explanation of used codes: BR=Brazil, IE=Ireland, IL=Israel, IN=India, IT=Italy, PT=Portugal, RU=Russian Federation, TR=Turkey, UA=Ukraine, ZA=South Africa.

For National Differences see corresponding Attachment.

### 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.

(Additional requirements for markings. See 1.7 NOTE)



|                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test item particulars</b> .....:                                                           |                                                                                                                                                                                                                                                                                                                                                                                      |
| Equipment mobility.....:                                                                      | <input checked="" type="checkbox"/> movable (for unit with base stand)<br><input type="checkbox"/> hand-held <input type="checkbox"/> transportable<br><input checked="" type="checkbox"/> stationary (for unit without base stand)<br><input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in                                                              |
| Connection to the mains .....                                                                 | <input checked="" type="checkbox"/> pluggable equipment <input checked="" type="checkbox"/> type A <input type="checkbox"/> type B<br><input type="checkbox"/> permanent connection<br><input checked="" type="checkbox"/> detachable power supply cord<br><input type="checkbox"/> non-detachable power supply cord<br><input type="checkbox"/> not directly connected to the mains |
| Operating condition.....:                                                                     | <input checked="" type="checkbox"/> continuous<br><input type="checkbox"/> rated operating / resting time:                                                                                                                                                                                                                                                                           |
| Access location .....                                                                         | <input checked="" type="checkbox"/> operator accessible<br><input type="checkbox"/> restricted access location                                                                                                                                                                                                                                                                       |
| Over voltage category (OVC) .....                                                             | <input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV<br><input type="checkbox"/> other:                                                                                                                                                                                                        |
| Mains supply tolerance (%) or absolute mains supply values .....                              | ±10                                                                                                                                                                                                                                                                                                                                                                                  |
| Tested for IT power systems .....                                                             | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                                                                                                                                                                                                  |
| IT testing, phase-phase voltage (V) .....                                                     | 230V for Norway                                                                                                                                                                                                                                                                                                                                                                      |
| Class of equipment .....                                                                      | <input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III<br><input type="checkbox"/> Not classified                                                                                                                                                                                                                          |
| Considered current rating of protective device as part of the building installation (A) ..... | 16 (20 for North America)                                                                                                                                                                                                                                                                                                                                                            |
| Pollution degree (PD) .....                                                                   | <input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3                                                                                                                                                                                                                                                                                 |
| IP protection class .....                                                                     | IPX0                                                                                                                                                                                                                                                                                                                                                                                 |
| Altitude during operation (m) .....                                                           | Up to 5000                                                                                                                                                                                                                                                                                                                                                                           |
| Altitude of test laboratory (m) .....                                                         | Less than 2000                                                                                                                                                                                                                                                                                                                                                                       |
| Mass of equipment (kg) .....                                                                  | Approx. 13.2 (with base stand); 1.24 (for base stand)                                                                                                                                                                                                                                                                                                                                |
| <b>Possible test case verdicts:</b>                                                           |                                                                                                                                                                                                                                                                                                                                                                                      |
| - test case does not apply to the test object ..... : N/A (or N)                              |                                                                                                                                                                                                                                                                                                                                                                                      |
| - test object does meet the requirement..... : P (Pass)                                       |                                                                                                                                                                                                                                                                                                                                                                                      |
| - test object does not meet the requirement..... : F (Fail)                                   |                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Testing</b> .....:                                                                         |                                                                                                                                                                                                                                                                                                                                                                                      |
| Date of receipt of test item .....                                                            | May, 2012                                                                                                                                                                                                                                                                                                                                                                            |
| Date(s) of performance of tests .....                                                         | May, 2012                                                                                                                                                                                                                                                                                                                                                                            |
| <b>General remarks:</b>                                                                       |                                                                                                                                                                                                                                                                                                                                                                                      |

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 testing laboratory.  
 "(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 6.2.5 of IEC60950-1:

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 Electronics (Fujian) Co., Ltd.  
Yuan Hong Rd., Shang-Zheng Hong-Lu,  
Fuqing City Fujian 350301, P.R. China
2. TPV Technology (Beijing) Co., Ltd.  
No. 10, Jiu Xian Qiao Rd., Chao Yang District,  
Beijing 100016, P.R. China
3. TPV Display Technology (Wuhan) Co., Ltd.  
Unique No. 11, Zhuankou Development, District  
of Economic Technological Development Zone,  
Wuhan City 430056, P.R. China
4. Tatung Mexico S.A. de C.V.  
Ave. Rosa Ma. Fuentes #7050 Complejo  
Industrial Fuentes, C.P. 32320, Cd. Juarez.  
Chih, MEXICO
5. Envision Industry of Electronic Products Ltd.  
Rodovia Anhanguera S/N-KM 49, 13.205-700  
Tijuco Preto-Jundiaí-SP-Brazil
6. TPV Displays Polska Sp. z o.o.  
ul. Zlotego Smoka 9, 66-400 Gorzów Wlkp.,  
Poland
7. L&T Display Technology (Fujian) Ltd.  
Optoelectronic Park, Rongqiao Economic and  
Technological, Development Zone, Fuqing,  
Fujian 350301, P.R. China
8. 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
9. Envision Industry of Electronic Products Ltd.  
Av Torquato Tapajós 7503, Galpão : II Bloco: B  
-Condomínio de Galpões-Tarumã-Manaus,  
AM, Brazil

#### General product information:

The equipment models which see cover page is LCD Monitor intended for information technology equipment scope of this standard use.

All models are identical except for model designation.

The equipment consists of the following critical components:

- Approved TFT LCD module with DC/AC inverter board (CCFL backlight, refer to appended table 14 for the source details).
- Building-in type switching power supply board (evaluated within the equipment, refer to appended table 1.5.1 for the source details).
- Main board type 715G5531 (secondary circuit).
- Key control board.
- Two speakers

The equipment is full voltage-range design.

The equipment has four screw holes for VESA adaptor kit assembly, which is compliant with VESA standard. VESA compatible wall mounting kit, 200 × 200 mm distance, four M6 size with 10 mm length screws to secure.

The DC Fans did not operated at all following tests condition, thus considered as optional used.

The suitable power supply cord will be provided and evaluated when national approval/market.

### Engineering Considerations

- The product was submitted and tested for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 40 °C
- The means of connection to the mains supply is Pluggable Type A.
- The product is intended for use on the following power systems: TN and IT (only for Norway).
- The equipment disconnect device is considered to be: Appliance Inlet.
- The following transformers are provided (See subclause 1.5.4):
  - Double/Reinforced insulation: T9101, T9301.
- The following capacitors bridging insulation (See subclause 1.5.6):
  - Double/Reinforced insulation: None.
  - Basic insulation: C9903, C9904, C9905, C9906, C9907, C9908, C9909.
  - Supplementary insulation: None.
  - Across mains conductors: C9901 and C9902.
  - Functional insulation: None.
- The following VDRs are bridging insulation (See subclause 1.5.9):
  - Functional insulation: RV9901.
- The following solid insulation are provided (See subclause 2.10.5):
  - Reinforced insulation: Optocoupler (IC9102, IC9302 and IC9303); Plastic enclosure; Bobbin of Transformer (T9101)
  - Basic insulation: None.
  - Supplementary insulation: None.
  - Functional insulation: None.
- The following parts consist of the protective earthing (see subclause 2.6):
  - Protective earthing conductor: In power supply cord.
  - Protective bonding conductor: Green-and yellow wire.
- The following parts are protective earthing terminals (See subclause 2.6.4): the earthing terminal in the appliance inlet.
- The following enclosures are provided:
  - Fire enclosure: the metal enclosure and plastic enclosure.
  - Electrical enclosure: the metal enclosure and plastic enclosure.
  - Mechanical enclosure: the metal enclosure and plastic enclosure.

### Additional Information

- The power supply unit used in the product is not a certified product. Hence, compliance has been evaluated in this report.
- The equipment is considered as multimedia equipment, therefore the IEC Guide 112 for the equipment had been considered.
- Special national conditions for J60950-1(H22):2010  
Per client's request, supplement the special national conditions for J60950-1(H22):2010 and J3000

(H21):2009 to present test report. Described as following items:

a) Power cord set for Japanese market is added and AC plug adaptor is optional used and the equipment is consider as Class 0I or Class I equipment.

b) Considered further Japanese technical requirements J60950-1 (H22)

- Power cord set is replaced and AC plug adaptor is optional used for Japanese market. The equipment is regarded to be Class 0I or Class I equipment. Unit also complies with touch current requirements for Class 0I equipment: < 1.0 mA.
- Per client's request, supplement the special national conditions for AS/NZS 60950.1:2011 to present test report.

#### Markings and Instructions

- Fuse Identification (See subclause 1.7.6): Fuse marking is marked on PCB near fuse F901 T6.3AH/250V
- The product also marked with:
  -  (IEC 60417-5009) for the stand-by condition. (See subclause 1.7.8.3)
  - Line "I" means "ON" (IEC 60417-5007) and circle "O" means "OFF" (IEC 60417-5008) for power switch symbol. (See subclause 1.7.8.3)

#### 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                                                | See below.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | P       |
|             | Comply with IEC 60950-1 or relevant component standard | (see appended tables 1.5.1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | P       |
| 1.5.2       | Evaluation and testing of components                   | <p>Components certified to IEC standards and/or their harmonized standards, are used within their ratings and are checked for correct application.</p> <p>Non-certified components are checked for correct application, used within their ratings, tested as part of the equipment and subjected to applicable tests of the component standard.</p> <p>Components, which no relevant IEC-Standard exists, are used within their ratings and are tested under the conditions occurring in the equipment.</p> | P       |
| 1.5.3       | Thermal controls                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | N/A     |
| 1.5.4       | Transformers                                           | Transformers complied with the relevant requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                       | P       |
| 1.5.5       | Interconnecting cables                                 | <p>Interconnection cable provided with the equipment is carrying signals on energy level below 240 VA.</p> <p>Besides for the insulation materials, there are not other requirements for the interconnection cables.</p>                                                                                                                                                                                                                                                                                    | P       |
| 1.5.6       | Capacitors bridging insulation                         | <p>Between lines: subclass X1 or X2 capacitors according to IEC 60384-14 with 21 days damp heat test.</p> <p>Between Line/Neutral and earth: subclass Y1 or Y2 capacitors according to IEC 60384-14.</p>                                                                                                                                                                                                                                                                                                    | P       |
| 1.5.7       | Resistors bridging insulation                          | See below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | P       |

| IEC 60950-1 |                                                                                                    |                                                                                                                 |         |
|-------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------|
| Clause      | Requirement + Test                                                                                 | Result - Remark                                                                                                 | Verdict |
| 1.5.7.1     | Resistors bridging functional, basic or supplementary insulation                                   | The bleeder resistors are located after fuse and the fuse as providing protective device while short-circuited. | 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                                                       | (see appended table 1.5.1)                                                                                      | P       |
| 1.5.9       | Surge suppressors                                                                                  | See below.                                                                                                      | P       |
| 1.5.9.1     | General                                                                                            | The surge suppressor complies with Annex Q. See appended table 1.5.1 for details.                               | P       |
| 1.5.9.2     | Protection of VDRs                                                                                 | The varistor is located after fuse and protected by fuse.                                                       | P       |
| 1.5.9.3     | Bridging of functional insulation by a VDR                                                         | The varistor across mains for functional insulation.                                                            | P       |
| 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     |
| <b>1.6</b>  | <b>Power interface</b>                                                                             |                                                                                                                 | P       |
| 1.6.1       | AC power distribution systems                                                                      | Considered                                                                                                      | P       |
| 1.6.2       | Input current                                                                                      | (see appended table 1.6.2)                                                                                      | P       |
| 1.6.3       | Voltage limit of hand-held equipment                                                               |                                                                                                                 | N/A     |
| 1.6.4       | Neutral conductor                                                                                  | Neutral is insulated from earth and body throughout the equipment and components rated accordingly.             | P       |
| <b>1.7</b>  | <b>Marking and instructions</b>                                                                    |                                                                                                                 | P       |
| 1.7.1       | Power rating and identification markings                                                           | The power rating marking is provided and is readily visible in operator access area.                            | P       |
| 1.7.1.1     | Power rating marking                                                                               | <b>See copy of marking plate</b>                                                                                | P       |
|             | Multiple mains supply connections.....:                                                            |                                                                                                                 | N/A     |
|             | Rated voltage(s) or voltage range(s) (V) .....                                                     | <b>See copy of marking plate</b>                                                                                | P       |
|             | Symbol for nature of supply, for d.c. only .....                                                   |                                                                                                                 | N/A     |
|             | Rated frequency or rated frequency range (Hz) .....                                                | <b>See copy of marking plate</b>                                                                                | P       |
|             | Rated current (mA or A) .....                                                                      | <b>See copy of marking plate</b>                                                                                | P       |

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|-------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------|
| Clause      | Requirement + Test                                                                   | Result - Remark                                                                                                 | Verdict |
| 1.7.1.2     | Identification markings                                                              |                                                                                                                 | P       |
|             | Manufacturer's name or trade-mark or identification mark .....                       | <b>See copy of marking plate</b>                                                                                | P       |
|             | Model identification or type reference .....                                         | <b>See copy of marking plate</b>                                                                                | P       |
|             | Symbol for Class II equipment only .....                                             | The equipment is Class I equipment.                                                                             | N/A     |
|             | Other markings and symbols .....                                                     | Other markings and symbols do not give rise to misunderstanding.                                                | P       |
| 1.7.2       | Safety instructions and marking                                                      | See below:                                                                                                      | P       |
| 1.7.2.1     | General                                                                              | Instructions are available.                                                                                     | P       |
| 1.7.2.2     | Disconnect devices                                                                   | <b>See General product information - Engineering Considerations.</b>                                            | N/A     |
| 1.7.2.3     | Overcurrent protective device                                                        |                                                                                                                 | N/A     |
| 1.7.2.4     | IT power distribution systems                                                        | For Norway compliance has to be evaluated during the national approval.                                         | N/A     |
| 1.7.2.5     | Operator access with a tool                                                          |                                                                                                                 | N/A     |
| 1.2.7.6     | Ozone                                                                                |                                                                                                                 | N/A     |
| 1.7.3       | Short duty cycles                                                                    |                                                                                                                 | N/A     |
| 1.7.4       | Supply voltage adjustment .....                                                      | Full range voltage design, no necessary adjustment.                                                             | N/A     |
|             | Methods and means of adjustment; reference to installation instructions .....        | Same as above.                                                                                                  | N/A     |
| 1.7.5       | Power outlets on the equipment .....                                                 | No such device.                                                                                                 | N/A     |
| 1.7.6       | Fuse identification (marking, special fusing characteristics, cross-reference) ..... | <b>See General product information - Markings and Instructions.</b>                                             | P       |
| 1.7.7       | Wiring terminals                                                                     | See below.                                                                                                      | P       |
| 1.7.7.1     | Protective earthing and bonding terminals .....                                      | Appliance inlet is provided. The symbol IEC 60417-5019 was located on appliance inlet.                          | P       |
| 1.7.7.2     | Terminals for a.c. mains supply conductors                                           | The equipment is provided with appliance inlet, which is for connection of a detachable type power supply cord. | N/A     |
| 1.7.7.3     | Terminals for d.c. mains supply conductors                                           |                                                                                                                 | N/A     |
| 1.7.8       | Controls and indicators                                                              | See below.                                                                                                      | P       |

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|-------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|---------|
| Clause      | Requirement + Test                             | Result - Remark                                                                                                        | Verdict |
| 1.7.8.1     | Identification, location and marking .....     | The marking and indication of the stand-by switch and power switch are located that indication of function is clearly. | P       |
| 1.7.8.2     | Colours .....                                  | Colours are used and safety is not involved.                                                                           | P       |
| 1.7.8.3     | Symbols according to IEC 60417 .....           | <b>See General product information - Markings and Instructions.</b>                                                    | P       |
| 1.7.8.4     | Markings using figures .....                   | No indicators for different positions of control.                                                                      | N/A     |
| 1.7.9       | Isolation of multiple power sources .....      | Only one power source.                                                                                                 | N/A     |
| 1.7.10      | Thermostats and other regulating devices ..... | Neither thermostats nor other regulating devices provided.                                                             | N/A     |
| 1.7.11      | Durability                                     |                                                                                                                        | P       |
| 1.7.12      | Removable parts                                |                                                                                                                        | N/A     |
| 1.7.13      | Replaceable batteries .....                    | No such component used.                                                                                                | N/A     |
|             | Language(s) .....                              |                                                                                                                        | —       |
| 1.7.14      | Equipment for restricted access locations..... | The equipment is not intended to be use in restricted access locations.                                                | N/A     |

|          |                                                                                                    |                                                                                                                                                                                |     |
|----------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>2</b> | <b>PROTECTION FROM HAZARDS</b>                                                                     |                                                                                                                                                                                | P   |
| 2.1      | Protection from electric shock and energy hazards                                                  |                                                                                                                                                                                | P   |
| 2.1.1    | Protection in operator access areas                                                                | See below.                                                                                                                                                                     | P   |
| 2.1.1.1  | Access to energized parts                                                                          |                                                                                                                                                                                | P   |
|          | Test by inspection .....                                                                           | No access with test finger to any parts with only basic insulation to hazardous voltage.<br>The test pin cannot touch hazardous voltage though any seams within the appliance. | P   |
|          | Test with test finger (Figure 2A) .....                                                            | See above.                                                                                                                                                                     | P   |
|          | Test with test pin (Figure 2B) .....                                                               | See above.                                                                                                                                                                     | P   |
|          | Test with test probe (Figure 2C) .....                                                             | No TNV circuit.                                                                                                                                                                | N/A |
| 2.1.1.2  | Battery compartments                                                                               |                                                                                                                                                                                | N/A |
| 2.1.1.3  | Access to ELV wiring                                                                               |                                                                                                                                                                                | N/A |
|          | Working voltage (V <sub>peak</sub> or V <sub>rms</sub> ); minimum distance through insulation (mm) |                                                                                                                                                                                | —   |
| 2.1.1.4  | Access to hazardous voltage circuit wiring                                                         | No hazardous voltage circuit in operator access area.                                                                                                                          | N/A |

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|-------------|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------|
| Clause      | Requirement + Test                                           | Result - Remark                                                                                   | Verdict |
| 2.1.1.5     | Energy hazards .....                                         | See appended table 2.1.1.5 in Measurement Section.<br>No energy hazards in operator access area.  | P       |
| 2.1.1.6     | Manual controls                                              |                                                                                                   | N/A     |
| 2.1.1.7     | Discharge of capacitors in equipment                         | Voltage decay measurement was conducted with an oscilloscope having an input impedance of 100 MΩ. | P       |
|             | Measured voltage (V); time-constant (s).....                 | (See appended table)                                                                              | —       |
| 2.1.1.8     | Energy hazards – d.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 .....                                       | Uoc of speakers is 3.8 V.                                                                         | P       |
| 2.1.2       | Protection in service access areas                           |                                                                                                   | N/A     |
| 2.1.3       | Protection in restricted access locations                    |                                                                                                   | N/A     |

|            |                                                     |                                                                                                                                                                                                                                                                |   |
|------------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <b>2.2</b> | <b>SELV circuits</b>                                |                                                                                                                                                                                                                                                                | P |
| 2.2.1      | General requirements                                | The circuits inside equipment were SELV circuits. See subclauses 2.2.2 to 2.2.4.                                                                                                                                                                               | P |
| 2.2.2      | Voltages under normal conditions (V) .....          | Between any conductor of the SELV circuits, 42.4 V peak or 60 V d.c. is not exceeded (see appended table 2.2.2).                                                                                                                                               | P |
| 2.2.3      | Voltages under fault conditions (V) .....           | Single fault did not cause excessive voltage in SELV circuits. The limits of 71 V peak and 120 V d.c. were not exceeded within 200 ms. Furthermore, the SELV limits (see subclause 2.2.2) were not exceeded for longer than 200 ms (see appended table 2.2.3). | P |
| 2.2.4      | Connection of SELV circuits to other circuits ..... | Complied with 2.2.2 and 2.2.3.                                                                                                                                                                                                                                 | P |

|            |                            |  |     |
|------------|----------------------------|--|-----|
| <b>2.3</b> | <b>TNV circuits</b>        |  | N/A |
| 2.3.1      | Limits                     |  | N/A |
|            | Type of TNV circuits ..... |  | —   |

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|-------------|----------------------------------------------------------------------------------------|-----------------|---------|
| Clause      | Requirement + Test                                                                     | Result - Remark | Verdict |
| 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     |
| <b>2.4</b>  | <b>Limited current circuits</b>                                                        |                 | N/A     |
| 2.4.1       | General requirements                                                                   |                 | N/A     |
| 2.4.2       | Limit values                                                                           |                 | N/A     |
|             | Frequency (Hz) ..... :                                                                 |                 | —       |
|             | Measured current (mA) ..... :                                                          |                 | —       |
|             | Measured voltage (V) ..... :                                                           |                 | —       |
|             | Measured circuit capacitance (nF or $\mu$ F) ..... :                                   |                 | —       |
| 2.4.3       | Connection of limited current circuits to other circuits                               |                 | N/A     |
| <b>2.5</b>  | <b>Limited power sources</b>                                                           |                 | N/A     |
|             | a) Inherently limited output                                                           |                 | N/A     |
|             | b) Impedance limited output                                                            |                 | N/A     |
|             | c) Regulating network limited output under normal operating and single fault condition |                 | N/A     |
|             | d) Overcurrent protective device limited output                                        |                 | N/A     |
|             | Max. output voltage (V), max. output current (A), max. apparent power (VA) ..... :     |                 | —       |
|             | Current rating of overcurrent protective device (A) .:                                 |                 | —       |
|             | Use of integrated circuit (IC) current limiters                                        |                 | N/A     |
| <b>2.6</b>  | <b>Provisions for earthing and bonding</b>                                             |                 | P       |

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|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Clause      | Requirement + Test                                                                                                                         | Result - Remark                                                                                                                                                                                                                     | Verdict |
| 2.6.1       | Protective earthing                                                                                                                        | The relevant parts connected to the main protective earthing terminal reliably.<br>Complied with 2.6.3.<br><b>See General product information - Markings and Instructions</b>                                                       | P       |
| 2.6.2       | Functional earthing                                                                                                                        | Secondary functional earthing is separated to primary by double or reinforced insulation or by basic insulation and protective earthing.<br><br>Green-and-yellow color combination was not used for functional earthing conductors. | P       |
| 2.6.3       | Protective earthing and protective bonding conductors                                                                                      | See below.                                                                                                                                                                                                                          | P       |
| 2.6.3.1     | General                                                                                                                                    | See below.                                                                                                                                                                                                                          | P       |
| 2.6.3.2     | Size of protective earthing conductors                                                                                                     | No power cord provided.                                                                                                                                                                                                             | N/A     |
|             | Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....                                                                      |                                                                                                                                                                                                                                     | —       |
| 2.6.3.3     | Size of protective bonding conductors                                                                                                      | Evaluation by test. See sub-clause 2.6.3.4.                                                                                                                                                                                         | P       |
|             | Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....                                                                      | See above.                                                                                                                                                                                                                          | —       |
|             | Protective current rating (A), cross-sectional area (mm <sup>2</sup> ), AWG .....                                                          | See above.                                                                                                                                                                                                                          | —       |
| 2.6.3.4     | Resistance of earthing conductors and their terminations; resistance ( $\Omega$ ), voltage drop (V), test current (A), duration (min)..... | (Refer to appended table 2.6.3.4).                                                                                                                                                                                                  | P       |
| 2.6.3.5     | Colour of insulation .....                                                                                                                 | After appliance inlet, the insulation of protective bonding conductor is green-and-yellow.                                                                                                                                          | P       |
| 2.6.4       | Terminals                                                                                                                                  | See below.                                                                                                                                                                                                                          | P       |
| 2.6.4.1     | General                                                                                                                                    | See below.                                                                                                                                                                                                                          | P       |
| 2.6.4.2     | Protective earthing and bonding terminals                                                                                                  | The earthing terminal in the appliance inlet is regarded as the main protective earthing terminal.                                                                                                                                  | P       |
|             | Rated current (A), type, nominal thread diameter (mm) .....                                                                                | Evaluation by test.                                                                                                                                                                                                                 | —       |

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|-------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------|
| Clause      | Requirement + Test                                                                 | Result - Remark                                                                                                               | Verdict |
| 2.6.4.3     | Separation of the protective earthing conductor from protective bonding conductors | Only protective earthing conductor used in this equipment.                                                                    | P       |
| 2.6.5       | Integrity of protective earthing                                                   | See below.                                                                                                                    | P       |
| 2.6.5.1     | Interconnection of equipment                                                       | This unit has it's own earthing connection. Any other units connected via the output shall be provided SELV only.             | 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 provided as disconnection device.                                                                             | P       |
| 2.6.5.4     | Parts that can be removed by an operator                                           | Plug or inlet, the earth connection is made before and broken after the hazardous voltage. No other operator removable parts. | P       |
| 2.6.5.5     | Parts removed during servicing                                                     | It is not necessary to disconnect the earth connection except for the removing of the earthed part itself.                    | P       |
| 2.6.5.6     | Corrosion resistance                                                               | All safety earthing connections in compliance with Annex J.                                                                   | P       |
| 2.6.5.7     | Screws for protective bonding                                                      |                                                                                                                               | N/A     |
| 2.6.5.8     | Reliance on telecommunication network or cable distribution system                 |                                                                                                                               | N/A     |

|            |                                                                   |                                                                                                                                                                                        |     |
|------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>2.7</b> | <b>Overcurrent and earth fault protection in primary circuits</b> |                                                                                                                                                                                        | P   |
| 2.7.1      | Basic requirements                                                | Protection against overcurrents and short-circuits is provided as an integral part of the equipment. Protection against earth faults is provided as part of the building installation. | P   |
|            | Instructions when protection relies on building installation      |                                                                                                                                                                                        | N/A |
| 2.7.2      | Faults not simulated in 5.3.7                                     | Considered.                                                                                                                                                                            | P   |
| 2.7.3      | Short-circuit backup protection                                   | The building installation is considered as providing short-circuit backup protection.                                                                                                  | P   |

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| Clause      | Requirement + Test                                                            | Result - Remark                                                                                                                     | Verdict |
| 2.7.4       | Number and location of protective devices ..... :                             | The protective device is located adequately therefore able to interrupt the overcurrent flowing in any possible fault current path. | P       |
| 2.7.5       | Protection by several devices                                                 | Only one fuse provided.                                                                                                             | N/A     |
| 2.7.6       | Warning to service personnel ..... :                                          | No service work necessary.                                                                                                          | N/A     |
| <b>2.8</b>  | <b>Safety interlocks</b>                                                      |                                                                                                                                     | 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     |
| <b>2.9</b>  | <b>Electrical insulation</b>                                                  |                                                                                                                                     | P       |
| 2.9.1       | Properties of insulating materials                                            | Natural rubber, asbestos or hygroscopic materials are not used.                                                                     | P       |
| 2.9.2       | Humidity conditioning                                                         | Tested for 120 hrs.                                                                                                                 | P       |
|             | Relative humidity (%), temperature (°C) ..... :                               | 95 % R.H., 40 °C                                                                                                                    | —       |
| 2.9.3       | Grade of insulation                                                           | Basic, supplementary, double insulation, reinforced or functional insulation.                                                       | P       |
| 2.9.4       | Separation from hazardous voltages                                            | See below.                                                                                                                          | P       |
|             | Method(s) used ..... :                                                        | Method 1.                                                                                                                           | —       |
| <b>2.10</b> | <b>Clearances, creepage distances and distances through insulation</b>        |                                                                                                                                     | P       |
| 2.10.1      | General                                                                       |                                                                                                                                     | P       |

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| Clause      | Requirement + Test                                                              | Result - Remark                          | Verdict |
| 2.10.1.1    | Frequency .....                                                                 | The frequency does not exceeding 30 kHz. | P       |
| 2.10.1.2    | Pollution degrees .....                                                         | <b>See Test item particulars</b>         | P       |
| 2.10.1.3    | Reduced values for functional insulation                                        | See 5.3.4                                | P       |
| 2.10.1.4    | Intervening unconnected conductive parts                                        | Complied.                                | P       |
| 2.10.1.5    | Insulation with varying dimensions                                              |                                          | N/A     |
| 2.10.1.6    | Special separation requirements                                                 |                                          | N/A     |
| 2.10.1.7    | Insulation in circuits generating starting pulses                               |                                          | N/A     |
| 2.10.2      | Determination of working voltage                                                | See below                                | P       |
| 2.10.2.1    | General                                                                         | Considered.                              | P       |
| 2.10.2.2    | RMS working voltage                                                             | See appended table 2.10.2                | P       |
| 2.10.2.3    | Peak working voltage                                                            | See appended table 2.10.2                | P       |
| 2.10.3      | Clearances                                                                      | See below                                | P       |
| 2.10.3.1    | General                                                                         | Annex F is considered.                   | P       |
| 2.10.3.2    | Mains transient voltages                                                        | See below.                               | P       |
|             | a) AC mains supply .....                                                        | 2500 Vpk considered.                     | P       |
|             | b) Earthed d.c. mains supplies .....                                            |                                          | N/A     |
|             | 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                                                | Refer to sub-clause 5.3.4                | N/A     |
| 2.10.3.5    | Clearances in circuits having starting pulses                                   |                                          | N/A     |
| 2.10.3.6    | Transients from a.c. mains supply .....                                         |                                          | 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                                                              | See below.                               | P       |
| 2.10.4.1    | General                                                                         | Considered.                              | P       |
| 2.10.4.2    | Material group and comparative tracking index                                   | Material group IIIb assumed.             | P       |
|             | CTI tests .....                                                                 | See above.                               | —       |

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| Clause      | Requirement + Test                                                           | Result - Remark                                                                                                                                            | Verdict |
| 2.10.4.3    | Minimum creepage distances                                                   | (see appened table 2.10.3 and 2.10.4)                                                                                                                      | P       |
| 2.10.5      | Solid insulation                                                             | Complied with 2.10.5.2 to 2.10.5.14 and 5.2                                                                                                                | P       |
| 2.10.5.1    | General                                                                      | See below.                                                                                                                                                 | P       |
| 2.10.5.2    | Distances through insulation                                                 | (see appended table 2.10.5)                                                                                                                                | P       |
| 2.10.5.3    | Insulating compound as solid insulation                                      | Approved sources of optocoupler provide min. 0.4 mm distance through insulation for reinforced insulation. See appended table 1.5.1 for internal distance. | P       |
| 2.10.5.4    | Semiconductor devices                                                        | See 2.10.5.3.                                                                                                                                              | P       |
| 2.10.5.5.   | Cemented joints                                                              | See appended table 1.5.1 for optocoupler distances.                                                                                                        | P       |
| 2.10.5.6    | Thin sheet material – General                                                | Considered.                                                                                                                                                | P       |
| 2.10.5.7    | Separable thin sheet material                                                | Reinforced insulation.                                                                                                                                     | P       |
|             | Number of layers (pcs).....:                                                 | See appended table 5.2.                                                                                                                                    | —       |
| 2.10.5.8    | Non-separable thin sheet material                                            |                                                                                                                                                            | N/A     |
| 2.10.5.9    | Thin sheet material – standard test procedure                                |                                                                                                                                                            | N/A     |
|             | Electric strength test                                                       |                                                                                                                                                            | —       |
| 2.10.5.10   | Thin sheet material – alternative test procedure                             | See below.                                                                                                                                                 | P       |
|             | Electric strength test                                                       | (see appended table 5.2)                                                                                                                                   | —       |
| 2.10.5.11   | Insulation in wound components                                               | See below.                                                                                                                                                 | P       |
| 2.10.5.12   | Wire in wound components                                                     | Reinforced insulation.                                                                                                                                     | P       |
|             | Working voltage .....                                                        | See appended table 2.10.2.                                                                                                                                 | P       |
|             | a) Basic insulation not under stress .....                                   |                                                                                                                                                            | N/A     |
|             | b) Basic, supplemetary, reinforced insulation .....                          |                                                                                                                                                            | N/A     |
|             | c) Compliance with Annex U .....                                             | Complied with annex U, three layers.                                                                                                                       | P       |
|             | Two wires in contact inside wound component; angle between 45° and 90° ..... | Insulation tape or tubing provided.                                                                                                                        | P       |
| 2.10.5.13   | Wire with solvent-based enamel in wound components                           |                                                                                                                                                            | N/A     |
|             | Electric strength test                                                       |                                                                                                                                                            | —       |
|             | Routine test                                                                 |                                                                                                                                                            | N/A     |
| 2.10.5.14   | Additional insulation in wound components                                    |                                                                                                                                                            | N/A     |
|             | Working voltage .....                                                        |                                                                                                                                                            | N/A     |
|             | - Basic insulation not under stress .....                                    |                                                                                                                                                            | N/A     |

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| Clause      | Requirement + Test                                                         | Result - Remark                                                     | Verdict |
|             | - Supplementary, reinforced insulation .....                               |                                                                     | N/A     |
| 2.10.6      | Construction of printed boards                                             |                                                                     | P       |
| 2.10.6.1    | Uncoated printed boards                                                    |                                                                     | P       |
| 2.10.6.2    | Coated printed boards                                                      |                                                                     | N/A     |
| 2.10.6.3    | Insulation between conductors on the same inner surface of a printed board |                                                                     | N/A     |
| 2.10.6.4    | Insulation between conductors on different layers of a printed board       |                                                                     | N/A     |
|             | Distance through insulation                                                |                                                                     | N/A     |
|             | Number of insulation layers (pcs).....                                     |                                                                     | N/A     |
| 2.10.7      | Component external terminations                                            | (see appended table 2.10.3 and 2.10.4)                              | P       |
| 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                                                            | Approved sources of opto-couplers used. For detail see table 1.5.1. | P       |
| 2.10.10     | Test for Pollution Degree 1 environment and insulating compound            | See above.                                                          | P       |
| 2.10.11     | Tests for semiconductor devices and cemented joints                        |                                                                     | N/A     |
| 2.10.12     | Enclosed and sealed parts                                                  |                                                                     | N/A     |

|          |                                           |                                                                                                                                                                           |   |
|----------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <b>3</b> | <b>WIRING, CONNECTIONS AND SUPPLY</b>     |                                                                                                                                                                           | P |
| 3.1      | General                                   |                                                                                                                                                                           | P |
| 3.1.1    | Current rating and overcurrent protection | All internal wires are UL recognized, PVC insulated, VW-1 and have gauge suitable for current intended to be carried.<br>No internal wire for primary power distribution. | P |
| 3.1.2    | Protection against mechanical damage      | The wireways including holes are smooth and free from sharp edges.                                                                                                        | P |

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| Clause      | Requirement + Test                             | Result - Remark                                                                                                                                          | Verdict |
| 3.1.3       | Securing of internal wiring                    | Internal wires are secured by soldering and quick connector or other mechanical fixing means so that a loosening of the terminal connection is unlikely. | P       |
| 3.1.4       | Insulation of conductors                       | The insulation of the individual conductors is suitable for the application and the working voltage. For the insulation material see 3.1.1.              | P       |
| 3.1.5       | Beads and ceramic insulators                   |                                                                                                                                                          | N/A     |
| 3.1.6       | Screws for electrical contact pressure         |                                                                                                                                                          | N/A     |
| 3.1.7       | Insulating materials in electrical connections | All current carrying connections made by metal to metal.                                                                                                 | P       |
| 3.1.8       | Self-tapping and spaced thread screws          |                                                                                                                                                          | N/A     |
| 3.1.9       | Termination of conductors                      | All conductors are reliably secured by solder-pin or glued or other mechanical fixing means.                                                             | P       |
|             | 10 N pull test                                 | Complied.                                                                                                                                                | P       |
| 3.1.10      | Sleeving on wiring                             |                                                                                                                                                          | N/A     |

|            |                                                                 |                                                                                                                                      |     |
|------------|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>3.2</b> | <b>Connection to a mains supply</b>                             |                                                                                                                                      | P   |
| 3.2.1      | Means of connection                                             | See below                                                                                                                            | P   |
| 3.2.1.1    | Connection to an a.c. mains supply                              | Connection to AC mains with appliance inlet.                                                                                         | P   |
| 3.2.1.2    | Connection to a d.c. mains supply                               |                                                                                                                                      | N/A |
| 3.2.2      | Multiple supply connections                                     | Single supply connection.                                                                                                            | N/A |
| 3.2.3      | Permanently connected equipment                                 |                                                                                                                                      | N/A |
|            | Number of conductors, diameter of cable and conduits (mm) ..... |                                                                                                                                      | —   |
| 3.2.4      | Appliance inlets                                                | The appliance inlet complies with IEC/EN 60320-1. The power cord can be inserted without difficulties and does not support the unit. | P   |
| 3.2.5      | Power supply cords                                              |                                                                                                                                      | N/A |
| 3.2.5.1    | AC power supply cords                                           | No power supply cord provided.                                                                                                       | N/A |
|            | Type .....                                                      |                                                                                                                                      | —   |

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|-------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|---------|
| Clause      | Requirement + Test                                                                | Result - Remark                                                                                           | Verdict |
|             | Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....             |                                                                                                           | —       |
| 3.2.5.2     | DC power supply cords                                                             |                                                                                                           | N/A     |
| 3.2.6       | Cord anchorages and strain relief                                                 |                                                                                                           | N/A     |
|             | Mass of equipment (kg), pull (N) .....                                            |                                                                                                           | —       |
|             | Longitudinal displacement (mm) .....                                              |                                                                                                           | —       |
| 3.2.7       | Protection against mechanical damage                                              | No parts under this unit likely to damage the power supply cords. Enclosure without sharp edges.          | P       |
| 3.2.8       | 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                                                               |                                                                                                           | N/A     |
| <b>3.3</b>  | <b>Wiring terminals for connection of external conductors</b>                     |                                                                                                           | N/A     |
| 3.3.1       | Wiring terminals                                                                  |                                                                                                           | N/A     |
| 3.3.2       | Connection of non-detachable power supply cords                                   |                                                                                                           | N/A     |
| 3.3.3       | Screw terminals                                                                   |                                                                                                           | N/A     |
| 3.3.4       | Conductor sizes to be connected                                                   |                                                                                                           | N/A     |
|             | Rated current (A), cord/cable type, cross-sectional area (mm <sup>2</sup> ) ..... |                                                                                                           | —       |
| 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     |
| <b>3.4</b>  | <b>Disconnection from the mains supply</b>                                        |                                                                                                           | P       |
| 3.4.1       | General requirement                                                               | See below.                                                                                                | P       |
| 3.4.2       | Disconnect devices                                                                | Appliance inlet is considered as disconnect device.                                                       | P       |
| 3.4.3       | Permanently connected equipment                                                   |                                                                                                           | N/A     |
| 3.4.4       | Parts which remain energized                                                      | When the power cord is removed from the inlet no remaining parts with hazardous voltage in the equipment. | P       |

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|-------------|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Clause      | Requirement + Test                                | Result - Remark                                                                                                                                                                          | Verdict |
| 3.4.5       | Switches in flexible cords                        |                                                                                                                                                                                          | N/A     |
| 3.4.6       | Number of poles - single-phase and d.c. equipment | The disconnect device disconnects both poles simultaneously.                                                                                                                             | P       |
| 3.4.7       | Number of poles - three-phase equipment           |                                                                                                                                                                                          | N/A     |
| 3.4.8       | Switches as disconnect devices                    |                                                                                                                                                                                          | N/A     |
| 3.4.9       | Plugs as disconnect devices                       |                                                                                                                                                                                          | N/A     |
| 3.4.10      | Interconnected equipment                          | Interconnection to other equipments via secondary output connectors at SELV.                                                                                                             | N/A     |
| 3.4.11      | Multiple power sources                            | Single mains supply provided.                                                                                                                                                            | N/A     |
| <b>3.5</b>  | <b>Interconnection of equipment</b>               |                                                                                                                                                                                          | P       |
| 3.5.1       | General requirements                              |                                                                                                                                                                                          | P       |
| 3.5.2       | Types of interconnection circuits ..... :         | SELV circuit and LCC.                                                                                                                                                                    | P       |
| 3.5.3       | ELV circuits as interconnection circuits          |                                                                                                                                                                                          | N/A     |
| 3.5.4       | Data ports for additional equipment               | The all output data ports only signal transmission, no power output provided.                                                                                                            | P       |
| <b>4</b>    | <b>PHYSICAL REQUIREMENTS</b>                      |                                                                                                                                                                                          | P       |
| 4.1         | Stability                                         |                                                                                                                                                                                          | P       |
|             | Angle of 10°                                      | The equipment does not overbalance when tilted to 10 degrees. (only evaluated in horizontal orientation, due to no base stand in vertical orientation and most unfavourable unit height) | P       |
|             | Test force (N) ..... :                            |                                                                                                                                                                                          | N/A     |
| <b>4.2</b>  | <b>Mechanical strength</b>                        |                                                                                                                                                                                          | P       |
| 4.2.1       | General                                           | See below. After the tests, the equipment complies with the requirements of sub-clauses 2.1.1, 2.6.1 and 2.10.                                                                           | P       |
|             | Rack-mounted equipment.                           |                                                                                                                                                                                          | N/A     |
| 4.2.2       | Steady force test, 10 N                           | 10 N applied to all components other than the parts serving as an enclosure.                                                                                                             | P       |
| 4.2.3       | Steady force test, 30 N                           |                                                                                                                                                                                          | N/A     |

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|-------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Clause      | Requirement + Test                                 | Result - Remark                                                                                                                                                                                                                                                                                                                                                        | Verdict |
| 4.2.4       | Steady force test, 250 N                           | After subjected 250 N, no energy or other hazards.                                                                                                                                                                                                                                                                                                                     | P       |
| 4.2.5       | Impact test                                        | No hazard as result from the steel ball impact test.                                                                                                                                                                                                                                                                                                                   | P       |
|             | Fall test                                          | See above.                                                                                                                                                                                                                                                                                                                                                             | P       |
|             | Swing test                                         | See above.                                                                                                                                                                                                                                                                                                                                                             | P       |
| 4.2.6       | Drop test; height (mm) .....                       |                                                                                                                                                                                                                                                                                                                                                                        | N/A     |
| 4.2.7       | Stress relief test                                 |                                                                                                                                                                                                                                                                                                                                                                        | N/A     |
| 4.2.8       | Cathode ray tubes                                  |                                                                                                                                                                                                                                                                                                                                                                        | N/A     |
|             | Picture tube separately certified .....            |                                                                                                                                                                                                                                                                                                                                                                        | N/A     |
| 4.2.9       | High pressure lamps                                |                                                                                                                                                                                                                                                                                                                                                                        | N/A     |
| 4.2.10      | Wall or ceiling mounted equipment; force (N) ..... | For unit an additional force of 35.88 kg (3 times the mass of the unit and the mass is 11.96 kg without base) was applied to the unit with the VESA adaptor kit.<br><br>The unit withstood the load test without damages or breaks from the VESA adaptor kit.<br><br>VESA compatible wall mounting kit, 200 × 200 mm, four M6 size with 10 mm length screws to secure. | P       |
| 4.2.11      | Rotating solid media                               |                                                                                                                                                                                                                                                                                                                                                                        | N/A     |
|             | Test to cover on the door.....                     |                                                                                                                                                                                                                                                                                                                                                                        | N/A     |

|            |                                              |                                                                                                                                                                        |          |
|------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>4.3</b> | <b>Design and construction</b>               |                                                                                                                                                                        | <b>P</b> |
| 4.3.1      | Edges and corners                            | The edges and corners are rounded and smoothed.                                                                                                                        | P        |
| 4.3.2      | Handles and manual controls; force (N) ..... |                                                                                                                                                                        | N/A      |
| 4.3.3      | Adjustable controls                          |                                                                                                                                                                        | N/A      |
| 4.3.4      | Securing of parts                            | Electrical and mechanical connections can be expected to withstand usual mechanical stress. No loosening of clearance or creepage impairing distances likely to occur. | P        |
| 4.3.5      | Connection by plugs and sockets              | No mismatch of connectors, plugs or socket possible.                                                                                                                   | P        |
| 4.3.6      | Direct plug-in equipment                     |                                                                                                                                                                        | N/A      |

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|-------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------|---------|
| Clause      | Requirement + Test                                                      | Result - Remark                                                           | Verdict |
|             | Torque .....                                                            |                                                                           | —       |
|             | Compliance with the relevant mains plug standard .....                  |                                                                           | N/A     |
| 4.3.7       | Heating elements in earthed equipment                                   |                                                                           | N/A     |
| 4.3.8       | 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                                                          | Insulation in intended use not considered to be exposed to oil or grease. | 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                                         |                                                                           | N/A     |
| 4.3.12      | Flammable liquids .....                                                 | No flammable liquids provided.                                            | N/A     |
|             | Quantity of liquid (l) .....                                            |                                                                           | N/A     |
|             | Flash point (°C) .....                                                  |                                                                           | N/A     |
| 4.3.13      | Radiation                                                               | See below.                                                                | P       |
| 4.3.13.1    | General                                                                 | See below.                                                                | P       |
| 4.3.13.2    | 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                       |                                                                           | N/A     |
|             | Part, property, retention after test, flammability classification ..... |                                                                           | N/A     |
| 4.3.13.4    | Human exposure to ultraviolet (UV) radiation .....                      | The equipment does not produce significant UV radiation.                  | N/A     |
| 4.3.13.5    | Lasers (including laser diodes) and LEDs                                | See below.                                                                | P       |
| 4.3.13.5.1  | Lasers (including laser laser diodes)                                   |                                                                           | N/A     |
|             | Laser class .....                                                       |                                                                           | —       |
| 4.3.13.5.2  | Light emitting diodes (LEDs)                                            | The LED is considered as indicating light.                                | P       |

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|-------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Clause      | Requirement + Test                                 | Result - Remark                                                                                                                                                                                                              | Verdict |
| 4.3.13.6    | Other types .....                                  |                                                                                                                                                                                                                              | N/A     |
| <b>4.4</b>  | <b>Protection against hazardous moving parts</b>   |                                                                                                                                                                                                                              | 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     |
| <b>4.5</b>  | <b>Thermal requirements</b>                        |                                                                                                                                                                                                                              | P       |
| 4.5.1       | General                                            | No exceeding temperature.                                                                                                                                                                                                    | P       |
| 4.5.2       | Temperature tests                                  | (See appended table 4.5 of attachment)                                                                                                                                                                                       | P       |
|             | Normal load condition per Annex L .....            | (See Annex L)                                                                                                                                                                                                                | —       |
| 4.5.3       | Temperature limits for materials                   | (see appended table 4.5 of attachment)                                                                                                                                                                                       | P       |
| 4.5.4       | Touch temperature limits                           | (see appended table 4.5 of attachment)                                                                                                                                                                                       | P       |
| 4.5.5       | Resistance to abnormal heat .....                  | The phenolic material used for the bobbin of transformers (T9101 and T9301) and bobbin of line choke (L9801) which is accepted without the further testing. Other materials (see appended table 4.5.5) for the test results. | P       |
| <b>4.6</b>  | <b>Openings in enclosures</b>                      |                                                                                                                                                                                                                              | P       |

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| Clause      | Requirement + Test                                 | Result - Remark                      | Verdict |
| 4.6.1       | Top and side openings                              | See below.                           | P       |
|             | Dimensions (mm) ..... :                            | (see appended table 4.6.1 and 4.6.2) | —       |
| 4.6.2       | Bottoms of fire enclosures                         | See below.                           | P       |
|             | Construction of the bottom, dimensions (mm) .. :   | (see appended table 4.6.1 and 4.6.2) | —       |
| 4.6.3       | Doors or covers in fire enclosures                 |                                      | N/A     |
| 4.6.4       | Openings in 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              |                                      | N/A     |
|             | Conditioning temperature (°C), time (weeks)..... : |                                      | —       |

|            |                                                                        |                                                                                                                                                                                                |     |
|------------|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>4.7</b> | <b>Resistance to fire</b>                                              |                                                                                                                                                                                                | P   |
| 4.7.1      | Reducing the risk of ignition and spread of flame                      | See below.                                                                                                                                                                                     | P   |
|            | Method 1, selection and application of components wiring and materials | Materials with the required flammability classes are used.                                                                                                                                     | P   |
|            | Method 2, application of all of simulated fault condition tests        |                                                                                                                                                                                                | N/A |
| 4.7.2      | Conditions for a fire enclosure                                        | See below.                                                                                                                                                                                     | P   |
| 4.7.2.1    | Parts requiring a fire enclosure                                       | Having employed the following components:<br><ul style="list-style-type: none"> <li>Components in primary</li> <li>Insulated wiring</li> </ul> Fire enclosure is required.                     | P   |
| 4.7.2.2    | Parts not requiring a fire enclosure                                   | All components mounted on PCB material of flammability rating V-1 or better and plastic enclosure of flammability rating 5V or better. All units within the equipment cover by fire enclosure. | P   |
| 4.7.3      | Materials                                                              |                                                                                                                                                                                                | P   |
| 4.7.3.1    | General                                                                | See below.                                                                                                                                                                                     | P   |
| 4.7.3.2    | Materials for fire enclosures                                          | See appended table 1.5.1.                                                                                                                                                                      | P   |
| 4.7.3.3    | Materials for components and other parts outside fire enclosures       | HB material used.                                                                                                                                                                              | P   |

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|-------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|----------|
| Clause      | Requirement + Test                                                                                              | Result - Remark                                           | Verdict  |
| 4.7.3.4     | Materials for components and other parts inside fire enclosures                                                 | The material is made of V-2 material.                     | P        |
| 4.7.3.5     | Materials for air filter assemblies                                                                             |                                                           | N/A      |
| 4.7.3.6     | Materials used in high-voltage components                                                                       |                                                           | N/A      |
| <b>5</b>    | <b>ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS</b>                                                |                                                           | <b>P</b> |
| 5.1         | <b>Touch current and protective conductor current</b>                                                           |                                                           | <b>P</b> |
| 5.1.1       | General                                                                                                         | See appended table 5.1.<br>See sub-clauses 5.1.2 to 5.1.7 | 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                                                                       | Each piece of equipment tested separately.                | 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                                                                                                    | Test circuit in Figure 5A used.                           | P        |
| 5.1.4       | Application of measuring instrument                                                                             | Measuring instruments as in annex D used.                 | P        |
| 5.1.5       | Test procedure                                                                                                  | Applied.                                                  | P        |
| 5.1.6       | Test measurements                                                                                               | See appended table 5.1                                    | P        |
|             | Supply voltage (V) .....                                                                                        | +10% of the rated voltage.                                | —        |
|             | Measured touch current (mA) .....                                                                               | (see appended table 5.1.6)                                | —        |
|             | Max. allowed touch current (mA) .....                                                                           | (see appended table 5.1.6)                                | —        |
|             | Measured protective conductor current (mA) .....                                                                |                                                           | —        |
|             | Max. allowed protective conductor current (mA)...                                                               |                                                           | —        |
| 5.1.7       | Equipment with touch current exceeding 3,5 mA                                                                   |                                                           | 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 |                                                           | 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) .....                                                                           |                                                           | —        |

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|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Clause      | Requirement + Test                                                                                                                            | Result - Remark                                                                                                                                                                                                       | Verdict |
| 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     |
| <b>5.2</b>  | <b>Electric strength</b>                                                                                                                      |                                                                                                                                                                                                                       | P       |
| 5.2.1       | General                                                                                                                                       | (see appended table 5.2)                                                                                                                                                                                              | P       |
| 5.2.2       | Test procedure                                                                                                                                | Table 5B used.                                                                                                                                                                                                        | P       |
| <b>5.3</b>  | <b>Abnormal operating and fault conditions</b>                                                                                                |                                                                                                                                                                                                                       | P       |
| 5.3.1       | Protection against overload and abnormal operation                                                                                            | (see appended table 5.3)                                                                                                                                                                                              | P       |
| 5.3.2       | Motors                                                                                                                                        |                                                                                                                                                                                                                       | N/A     |
| 5.3.3       | Transformers                                                                                                                                  | With short-circuited and overloaded of the output of transformer, no high temperature of the transformer was recorded.<br><br>The test results of short-circuited and overloaded (see appended table 5.3 and Annex C) | P       |
| 5.3.4       | Functional insulation..... :                                                                                                                  | Functional insulation complied with the requirements c).                                                                                                                                                              | P       |
| 5.3.5       | Electromechanical components                                                                                                                  |                                                                                                                                                                                                                       | N/A     |
| 5.3.6       | Audio amplifiers in ITE .....                                                                                                                 | Audio function operated at maximum volume output with 1 KHz sine wave signal during the test.                                                                                                                         | P       |
| 5.3.7       | Simulation of faults                                                                                                                          | Complied.                                                                                                                                                                                                             | P       |
| 5.3.8       | Unattended equipment                                                                                                                          |                                                                                                                                                                                                                       | N/A     |
| 5.3.9       | Compliance criteria for abnormal operating and fault conditions                                                                               | (see appended table)                                                                                                                                                                                                  | P       |
| 5.3.9.1     | During the tests                                                                                                                              | Neither fire burns the equipment nor molten metal.                                                                                                                                                                    | P       |
| 5.3.9.2     | After the tests                                                                                                                               | Electric strength test made.                                                                                                                                                                                          | P       |
| <b>6</b>    | <b>CONNECTION TO TELECOMMUNICATION NETWORKS</b>                                                                                               |                                                                                                                                                                                                                       | 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     |

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|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause      | Requirement + Test                                                                                                                                      | Result - Remark | Verdict |
| 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     |
| <b>6.2</b>  | <b>Protection of equipment users from overvoltages on telecommunication networks</b>                                                                    |                 | 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     |
| <b>6.3</b>  | <b>Protection of the telecommunication wiring system from overheating</b>                                                                               |                 | N/A     |
|             | Max. output current (A) .....                                                                                                                           |                 | —       |
|             | Current limiting method .....                                                                                                                           |                 | —       |
| <b>7</b>    | <b>CONNECTION TO CABLE DISTRIBUTION SYSTEMS</b>                                                                                                         |                 | 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     |
| <b>A</b>    | <b>ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE</b>                                                                                                   |                 | 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) .....                                                                                                                               |                 | —       |

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|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause      | Requirement + Test                                                                                                                                                                           | Result - Remark | Verdict |
| 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     |
|             | 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>B</b>    | <b>ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)</b>                                                                                                                |                 | N/A     |
| B.1         | General requirements                                                                                                                                                                         |                 | N/A     |
|             | Position .....                                                                                                                                                                               |                 | —       |

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|-------------|------------------------------------------------------------------|-----------------|---------|
| Clause      | Requirement + Test                                               | Result - Remark | Verdict |
|             | 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     |
| 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) .....                                      |                 | —       |

|          |                                                    |                                           |          |
|----------|----------------------------------------------------|-------------------------------------------|----------|
| <b>C</b> | <b>ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)</b> |                                           | <b>P</b> |
|          | Position .....                                     | Refer to appended table 1.5.1             | —        |
|          | Manufacturer .....                                 | Refer to appended table 1.5.1             | —        |
|          | Type .....                                         | Refer to appended table 1.5.1             | —        |
|          | Rated values .....                                 | Refer to appended table 1.5.1             | —        |
|          | Method of protection .....                         | Overcurrent protection by circuit design. | —        |
| C.1      | Overload test                                      | (see appended table 5.3)                  | P        |
| C.2      | Insulation                                         | (see appended table 5.2 )                 | P        |
|          | Protection from displacement of windings .....     | See appended table C.2.                   | P        |

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|-------------|-----------------------------------------------------------------------------------------|-----------------|---------|
| Clause      | Requirement + Test                                                                      | Result - Remark | Verdict |
| <b>D</b>    | <b>ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)</b>               |                 | P       |
| D.1         | Measuring instrument                                                                    | D.1 used.       | P       |
| D.2         | Alternative measuring instrument                                                        |                 | N/A     |
| <b>E</b>    | <b>ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)</b>                              |                 | N/A     |
| <b>F</b>    | <b>ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)</b> |                 | P       |
| <b>G</b>    | <b>ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES</b>                   |                 | 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     |
| 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     |
| <b>H</b>    | <b>ANNEX H, IONIZING RADIATION (see 4.3.13)</b>                                         |                 | N/A     |

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

|          |                                                                   |                                                                            |   |
|----------|-------------------------------------------------------------------|----------------------------------------------------------------------------|---|
| <b>J</b> | <b>ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)</b> |                                                                            | P |
|          | Metal(s) used .....                                               | Metals which the combination electrochemical potential is less than 0.6 V. | — |

|          |                                                            |  |     |
|----------|------------------------------------------------------------|--|-----|
| <b>K</b> | <b>ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)</b>     |  | 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 |

|          |                                                                                                                |                         |     |
|----------|----------------------------------------------------------------------------------------------------------------|-------------------------|-----|
| <b>L</b> | <b>ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)</b> |                         | 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 summary of testing. | P   |

|          |                                                                    |  |     |
|----------|--------------------------------------------------------------------|--|-----|
| <b>M</b> | <b>ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)</b> |  | N/A |
| M.1      | Introduction                                                       |  | N/A |
| M.2      | Method A                                                           |  | N/A |
| M.3      | Method B                                                           |  | N/A |
| M.3.1    | Ringling 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 |

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|-------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------|
| Clause      | Requirement + Test                                                                                             | Result - Remark                         | Verdict |
| 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     |
| <b>N</b>    | <b>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)</b> |                                         | N/A     |
| N.1         | ITU-T impulse test generators                                                                                  |                                         | N/A     |
| N.2         | IEC 60065 impulse test generator                                                                               |                                         | N/A     |
| <b>P</b>    | <b>ANNEX P, NORMATIVE REFERENCES</b>                                                                           |                                         | —       |
| <b>Q</b>    | <b>ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)</b>                                               |                                         | P       |
|             | a) Preferred climatic categories ..... :                                                                       |                                         | P       |
|             | b) Maximum continuous voltage ..... :                                                                          |                                         | P       |
|             | c) Pulse current ..... :                                                                                       |                                         | P       |
| <b>R</b>    | <b>ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES</b>                                        |                                         | 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     |
| <b>S</b>    | <b>ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)</b>                                                    |                                         | N/A     |
| S.1         | Test equipment                                                                                                 |                                         | N/A     |
| S.2         | Test procedure                                                                                                 |                                         | N/A     |
| S.3         | Examples of waveforms during impulse testing                                                                   |                                         | N/A     |
| <b>T</b>    | <b>ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)</b>                                    |                                         | N/A     |
|             |                                                                                                                |                                         | —       |
| <b>U</b>    | <b>ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)</b>                  |                                         | P       |
|             |                                                                                                                | Approved sources used. See table 1.5.1. | —       |

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| Clause      | Requirement + Test                                                             | Result - Remark | Verdict |
| <b>V</b>    | <b>ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)</b>                      |                 | P       |
| V.1         | Introduction                                                                   |                 | P       |
| V.2         | TN power distribution systems                                                  |                 | P       |
| <b>W</b>    | <b>ANNEX W, SUMMATION OF TOUCH CURRENTS</b>                                    |                 | 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     |
| <b>X</b>    | <b>ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)</b>   |                 | N/A     |
| X.1         | Determination of maximum input current                                         |                 | N/A     |
| X.2         | Overload test procedure                                                        |                 | N/A     |
| <b>Y</b>    | <b>ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)</b>             |                 | 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     |
| <b>Z</b>    | <b>ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)</b>           |                 | P       |
| <b>AA</b>   | <b>ANNEX AA, MANDREL TEST (see 2.10.5.8)</b>                                   |                 | N/A     |
| <b>BB</b>   | <b>ANNEX BB, CHANGES IN THE SECOND EDITION</b>                                 |                 | —       |
| <b>CC</b>   | <b>ANNEX CC, Evaluation of integrated circuit (IC) current limiters</b>        |                 | N/A     |
| CC.1        | General                                                                        |                 | N/A     |
| CC.2        | Test program 1.....                                                            |                 | N/A     |
| CC.3        | Test program 2.....                                                            |                 | N/A     |
| <b>DD</b>   | <b>ANNEX DD, Requirements for the mounting means of rack-mounted equipment</b> |                 | N/A     |

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|-------------|-----------------------------------------------------------------------------------|-----------------|---------|
| Clause      | Requirement + Test                                                                | Result - Remark | Verdict |
| DD.1        | General                                                                           |                 | N/A     |
| DD.2        | Mechanical strength test, variable N.....:                                        |                 | N/A     |
| DD.3        | Mechanical strength test, 250N, including end stops.....:                         |                 | N/A     |
| DD.4        | Compliance.....:                                                                  |                 | N/A     |
| <b>EE</b>   | <b>ANNEX EE, Household and home/office document/media shredders</b>               |                 | N/A     |
| EE.1        | General                                                                           |                 | N/A     |
| EE.2        | Markings and instructions                                                         |                 | N/A     |
|             | 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     |

| IEC 60950-1/Am1                                        |                                    |                                                                                              |                                                                                                 |                              |                                        |   |
|--------------------------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|---|
| Clause                                                 | Requirement + Test                 |                                                                                              | Result - Remark                                                                                 |                              | Verdict                                |   |
|                                                        |                                    |                                                                                              |                                                                                                 |                              |                                        |   |
| 1.5.1                                                  | TABLE: List of critical components |                                                                                              |                                                                                                 |                              |                                        | P |
| Object/part No.                                        | Manufacturer/<br>trademark         | Type/model                                                                                   | Technical data                                                                                  | Standard<br>(Edition / year) | Mark(s) of<br>conformity <sup>1)</sup> |   |
| LCD Panel<br>Module                                    | Samsung                            | LTx320rz                                                                                     | 32” TFT-LCD<br>Panel, 24Vdc,<br>4.3A or 3.5A<br>(LED driver<br>board); 12Vdc<br>(control board) | IEC 60950-1:<br>2005         | CB by TUVPS                            |   |
| - DC/AC<br>inverter board                              | Samsung                            | SSI 320_4UP01<br>REV0.1                                                                      | --                                                                                              | --                           | --                                     |   |
| Plastic bezel                                          | Cheil                              | NH-1017(+),<br>NH-<br>1000T(+)(&),<br>GC-1017(+)                                             | Min. 5VB, min.<br>2.0mm                                                                         | UL 94                        | UL                                     |   |
|                                                        | Grand                              | D-1000A                                                                                      | Min. 5VB, min.<br>2.0mm                                                                         | UL 94                        | UL                                     |   |
|                                                        | LG                                 | AF312T1,<br>AF342(#), GN-<br>5001TF(#),<br>LUPOY GN-<br>5001RF(T),<br>LUPOY GN-<br>5008HF(#) | Min. 5VB, min.<br>2.0mm                                                                         | UL 94                        | UL                                     |   |
|                                                        | KingFa                             | HF-606, HF-<br>626, FRABS-<br>518, JH960<br>6(M),                                            | Min. 5VB, min.<br>2.0mm                                                                         | UL 94                        | UL                                     |   |
|                                                        | Bayer                              | FR2000,<br>FR3005                                                                            | Min. 5VB, min.<br>2.0mm                                                                         | UL 94                        | UL                                     |   |
|                                                        | TEIJIN                             | TN-7500(v),<br>MN-3600H(#)                                                                   | Min. 5VB, min.<br>2.0mm                                                                         | UL 94                        | UL                                     |   |
| Metal enclosure                                        | --                                 | --                                                                                           | Metal, thickness:<br>0.81mm min.                                                                | --                           | --                                     |   |
| Battery for<br>remote<br>controller used<br>(Optional) | --                                 | --                                                                                           | Two AA<br>consumer type<br>batteries<br>provide.                                                | --                           | --                                     |   |
| Stand base (2<br>sets) (Optional)                      | --                                 | --                                                                                           | HB or batter and<br>metal, total<br>weight: 1.24 kg                                             | UL 94                        | UL                                     |   |
| Power switch                                           | Rong Feng                          | RF-1003                                                                                      | 10A, 250Vac                                                                                     | IEC/EN 61058-1               | VDE, UL                                |   |
|                                                        | Solteam<br>Electronics Co<br>Ltd   | MR-21                                                                                        | 10A, 250Vac                                                                                     | IEC/EN 61058-1               | VDE, UL                                |   |

| IEC 60950-1/Am1                                  |                             |                                      |                                       |                                |                |
|--------------------------------------------------|-----------------------------|--------------------------------------|---------------------------------------|--------------------------------|----------------|
| Clause                                           | Requirement + Test          |                                      | Result - Remark                       |                                | Verdict        |
|                                                  | Solteam Electronics Co Ltd  | OR-L                                 | 10A, 250Vac                           | IEC/EN 61058-1                 | VDE, UL        |
|                                                  | Chily                       | 3024 series                          | 16A, 250Vac                           | IEC/EN 61058-1                 | VDE, UL        |
| AC Inlet                                         | Solteam                     | ST-01                                | 10A/250Vac                            | IEC/EN 60320-1, ANSI/UL 498    | VDE, UL        |
|                                                  | Zhang Jia Gang-Hua Jie      | SA-4S, SB-4S                         | 10A/250Vac                            | IEC/EN 60320-1, ANSI/UL 498    | VDE, UL        |
|                                                  | Rong Feng                   | SS-120, SS-7B                        | 10A/250Vac                            | IEC/EN 60320-1, ANSI/UL 498    | VDE, UL        |
|                                                  | Shenzhen Delikang/Duolingu  | CDJ-3, CDJ-3-1                       | 10A/250Vac                            | IEC/EN 60320-1, ANSI/UL 498    | VDE, UL        |
|                                                  | Inalways                    | 0707-1, 0711-2, 0714                 | 10A/250Vac                            | IEC/EN 60320-1, ANSI/UL 498    | VDE, UL        |
|                                                  | TECX                        | TU-301 series                        | 10A/250Vac                            | IEC/EN 60320-1, ANSI/UL 498    | VDE, UL        |
|                                                  | Yueqing Hongchang           | DB-14                                | 10A/250Vac                            | IEC/EN 60320-1, ANSI/UL 498    | VDE, UL        |
| DC FAN (Two provided)                            | DELTA                       | EFB0612MA                            | 12Vdc , 15.54 CFM                     | EN 60950-1:2006+A11, UL 507    | TUV, UL        |
|                                                  | Sunnon                      | MB60101V1                            | 12Vdc , 16 CFM                        | EN 60950-1:2006+A11, UL 507    | TUV, UL        |
| Speaker (two provided) (Optional)                | --                          | --                                   | Each min. 12 ohm, 12W (max)           | --                             | --             |
| PCB                                              | --                          | --                                   | V-1 or better Min. 105°C              | UL 94, UL796                   | UL             |
| Switching Power Supply board: TPV, type 715G5537 |                             |                                      |                                       |                                |                |
| Primary Connectors (CN901)                       | Xinya                       | TÜV: M3962 series<br>UL: 3962 series | TÜV: 6 A, 250 Vac<br>UL: 7 A, 250 Vac | IEC 61984<br>UL 1997           | TÜV Nord<br>UL |
|                                                  | J.S.T                       | VH series,<br>VT series              | 7A, 250V                              | IEC 61984:2001                 | VDE            |
|                                                  | Jowle                       | A3963                                | 7A, 250V                              | IEC 61984:2001                 | TUV            |
|                                                  | Pontronics                  | 3962 series                          | 7A, 250V                              | IEC 61984:2001                 | TUV            |
| Fuse (F9901)                                     | Walter Electronic Co., Ltd. | ICP series                           | T 6.3 A, 250 Vac                      | IEC/EN 60127-1, IEC/EN 60127-3 | VDE            |
|                                                  | Walter Electronic Co., Ltd. | TSD                                  | T 6.3 A, 250 Vac                      | IEC/EN 60127-1, IEC/EN 60127-2 | VDE            |

| IEC 60950-1/Am1                                                                            |                                        |                          |                                                             |                                |         |
|--------------------------------------------------------------------------------------------|----------------------------------------|--------------------------|-------------------------------------------------------------|--------------------------------|---------|
| Clause                                                                                     | Requirement + Test                     |                          | Result - Remark                                             |                                | Verdict |
|                                                                                            | Conquer Electronics Co., Ltd.          | UDA                      | T 6.3 A, 250 Vac                                            | IEC/EN 60127-1, IEC/EN 60127-2 | VDE     |
|                                                                                            | Suzhou Littelfuse OVS Ltd.             | 618 series, 215 series   | T 6.3 A, 250 Vac                                            | IEC/EN 60127-1, IEC/EN 60127-2 | VDE     |
|                                                                                            | Bussmann                               | S505-XXX-R, S505-V-XXX-R | T 6.3 A, 250 Vac                                            | IEC/EN 60127-1, IEC/EN 60127-2 | VDE     |
| Bleeder Resistors (R901, R902)                                                             | --                                     | SMD type                 | Max. 390 kΩ, min., 1/4W (Located after fuse, two in series) | --                             | --      |
| Primary IC (IC911)                                                                         | Power Integrations                     | CAP004DG                 | 1000V                                                       | --                             | --      |
| X- Capacitors (C9901, C9902) (X1 or X2 type) (Optional)                                    | Ultra Tech Xiphi Enterprise Co., Ltd.  | HQX#                     | Max., 0.47 μF, Min. 250 Vac                                 | IEC 60384-14/2005              | VDE, FI |
|                                                                                            | Xiamen Faratronic Co., Ltd.            | MKP62                    | Max., 0.47 μF, Min. 250 Vac                                 | IEC 60384-14/2005              | VDE, FI |
|                                                                                            | Hua Jung Components Co., Ltd.          | MKP                      | Max., 0.47 μF, Min. 250 Vac                                 | IEC 60384-14/2005              | VDE, FI |
|                                                                                            | Europtronic (Taiwan) Industrial Corp.  | MPX#                     | Max., 0.47 μF, Min. 250 Vac                                 | IEC 60384-14/2005              | VDE, FI |
|                                                                                            | Liow Gu Electronics Industry Co., Ltd. | GS-L#                    | Max., 0.47 μF, Min. 250 Vac                                 | IEC 60384-14/2005              | VDE, FI |
|                                                                                            | KEMET (Arcotronics)                    | R.46#                    | Max., 0.47 μF, Min. 250 Vac                                 | IEC 60384-14/2005              | VDE     |
|                                                                                            | Epcos Electronic Components S A        | B3292                    | Max., 0.47 μF, Min. 250 Vac                                 | IEC 60384-14/2005              | VDE     |
| Y- Capacitors (C9903, C9904, C9905, C9906, C9907, C9908, C9909) (Y1 or Y2 type) (Optional) | Walsin                                 | AC, AH                   | Max., 4700 pF, min., 250 Vac                                | IEC 60384-14/2005              | VDE, FI |
|                                                                                            | Haohua                                 | CT 7                     | Max., 4700 pF, min., 250 Vac                                | IEC 60384-14/2005              | VDE     |

| IEC 60950-1/Am1                                 |                                             |              |                                                     |                                               |         |
|-------------------------------------------------|---------------------------------------------|--------------|-----------------------------------------------------|-----------------------------------------------|---------|
| Clause                                          | Requirement + Test                          |              | Result - Remark                                     |                                               | Verdict |
|                                                 | TDK                                         | CS, CD       | Max., 4700 pF,<br>min., 250 Vac                     | IEC 60384-14/<br>2005                         | VDE, FI |
|                                                 | Murata                                      | KH, KX       | Max., 4700 pF,<br>min., 250 Vac                     | IEC 60384-14/<br>2005                         | VDE, FI |
|                                                 | Matsushita                                  | NS-A, NS-B   | Max., 4700 pF,<br>min., 250 Vac                     | IEC 60384-14/<br>2005                         | VDE     |
|                                                 | JYA-NAY                                     | JY, JN       | Max., 4700 pF,<br>min., 250 Vac                     | IEC 60384-14/<br>2005                         | VDE     |
|                                                 | Hongming                                    | F            | Max., 4700 pF,<br>min., 250 Vac                     | IEC 60384-14/<br>2005                         | VDE     |
| Line Chokes<br>(L9901)<br>(Optional)            | Dadon                                       | 73L174-48-H  | 105 °C                                              | --                                            | --      |
|                                                 | Li Tai                                      | 73L174-48-L  | 105 °C                                              | --                                            | --      |
|                                                 | Taichang                                    | 73L174-48-S  | 105 °C                                              | --                                            | --      |
| Line Choke<br>(L9903)<br>(Optional)             | Dadon                                       | 73L174-49-H  | 105 °C                                              | --                                            | --      |
|                                                 | Li Tai                                      | 73L174-49-L  | 105 °C                                              | --                                            | --      |
|                                                 | Li Shin                                     | 73L174-49-LS | 105 °C                                              | --                                            | --      |
|                                                 | TPV                                         | 73L174-49-V  | 105 °C                                              | --                                            | --      |
|                                                 | Taichang                                    | 73L174-49-S  | 105 °C                                              | --                                            | --      |
| Line Choke<br>(L9801)<br>(Optional)             | Li Tai                                      | 73G174-520-L | 105 °C                                              | --                                            | --      |
|                                                 | YUVA                                        | 73G174-520-N | 105 °C                                              | --                                            | --      |
| Bridging Diode<br>(BD9901)                      | --                                          | --           | Min., 15 A, 800<br>Vac min.                         | --                                            | --      |
| Ripple<br>Capacitor<br>(C9803)                  | --                                          | --           | 150 to 180 $\mu$ F,<br>min., 400 V,<br>min., 105 °C | --                                            | --      |
| Transistors<br>(Q9101, Q9102)                   | --                                          | --           | Min., 600 V,<br>min., 15A                           | --                                            | --      |
| Varistor<br>(RV9901)<br>(Optional)              | Thinking<br>Electronic<br>Industrial Co Ltd | TVR14681     | Min., 680 Vac                                       | IEC 61051-1,<br>IEC 61051-2,<br>IEC 61051-2-2 | VDE     |
| Thermistor<br>(NR9901,<br>NR9902)<br>(Optional) | --                                          | --           | Min. 3 $\Omega$ , min. 7<br>A at 25 °C              | --                                            | --      |

| IEC 60950-1/Am1                       |                                 |                                             |                                                                                  |                                                            |                           |
|---------------------------------------|---------------------------------|---------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------|---------------------------|
| Clause                                | Requirement + Test              |                                             | Result - Remark                                                                  |                                                            | Verdict                   |
| Optocouplers (IC9102, IC9302, IC9303) | Sharp                           | PC123                                       | Dti = 0.7 mm, Int. cr = 5.0 mm, Ext. cr = 8.0 mm, 3000 Vac, 100 °C               | DIN EN 60747-5-2:2003, IEC/EN 60950-1, UL 1577             | VDE, UL                   |
|                                       | Vishay Semiconductor            | TCET1103                                    | Dti = 0.6 mm, Int. cr = 4.7 mm, Ext. cr = 8.4 mm, 3000 Vac, 100 °C               | DIN EN 60747-5-2:2003, IEC/EN 60950-1, UL 1577             | VDE, UL                   |
|                                       | Everlight Electronics Co., Ltd. | EL8X7 V (X=1 or 2)                          | Dti = 0.5 mm, Int. cr = 6.0 mm, Ext. cr = 7.7 mm, 3000 Vac, 100 °C               | DIN EN 60747-5-2:2003, IEC/EN 60950-1, UL 1577             | VDE, UL                   |
|                                       | Lite-On                         | LTV-817                                     | Dti = 0.4 mm, Int. cr = 4.0 mm, Ext. cr = 8.0 mm, 3000 Vac, 100 °C               | DIN EN 60747-5-2:2003, IEC/EN 60950-1, UL 1577             | VDE, UL                   |
|                                       | Toshiba                         | TLP421F                                     | Dti = 0.4 mm, Int. cr = thermal cycling test, Ext. cr = 8.0 mm, 3000 Vac, 100 °C | DIN EN 60747-5-2:2003, IEC/EN 60950-1                      | VDE                       |
|                                       | Toshiba                         | TLP781, TLP781F                             | Dti = 0.4 mm, Int. cr = thermal cycling test, Ext. cr = 8.0 mm, 3000 Vac, 100 °C | DIN EN 60747-5-2:2003, IEC/EN 60950-1                      | VDE                       |
|                                       | NEC                             | PS2561-1, PS2561L-1, PS2561L1-1, PS2561L2-1 | Dti = 0.4 mm, Int. cr = 4.0 mm, Ext. cr = 7.0 mm, 3000 Vac, 100 °C               | DIN EN 60747-5-2:2003, IEC/EN 60950-1                      | VDE                       |
| Transformer (T9101)                   | Li Tai                          | 80GL52P-502-L                               | Class B                                                                          | Applicable parts of IEC 60950-1 and according to IEC 60085 | Accepted by TÜV Rheinland |
|                                       | YUVA                            | 80GL52P-502-N                               | Class B                                                                          | Applicable parts of IEC 60950-1 and according to IEC 60085 | Accepted by TÜV Rheinland |
| Transformer (T9301)                   | Li Tai                          | 80GL52T-5-L                                 | Class B                                                                          | Applicable parts of IEC 60950-1 and according to IEC 60085 | Accepted by TÜV Rheinland |

| IEC 60950-1/Am1                                                                                                           |                    |             |         |                                                            |                           |
|---------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|---------|------------------------------------------------------------|---------------------------|
| Clause                                                                                                                    | Requirement + Test |             |         | Result - Remark                                            | Verdict                   |
|                                                                                                                           | YUVA               | 80GL52T-5-N | Class B | Applicable parts of IEC 60950-1 and according to IEC 60085 | Accepted by TÜV Rheinland |
|                                                                                                                           | TPV                | 80GL52T-5-V | Class B | Applicable parts of IEC 60950-1 and according to IEC 60085 | Accepted by TÜV Rheinland |
| -Triple insulated wire used in T301                                                                                       | Cosmolink          | TIW-M       | 130 °C  | IEC/EN 60950-1                                             | VDE                       |
|                                                                                                                           | Furukawa           | TEX-E       | 130 °C  | IEC/EN 60950-1                                             | VDE                       |
| Supplementary information:                                                                                                |                    |             |         |                                                            |                           |
| 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.                                               |                    |             |         |                                                            |                           |
| 2) Used abbreviations: Di=distance through insulation, Int.=internal creepage distance, Ext.= External creepage distance. |                    |             |         |                                                            |                           |
| 3) All sources are identical except for type designation and different vendor name.                                       |                    |             |         |                                                            |                           |

|                                                      |                                |   |
|------------------------------------------------------|--------------------------------|---|
| 1.5.1                                                | TABLE: Opto Electronic Devices | P |
| Manufacturer ..... : See above table.                |                                |   |
| Type..... : See above table.                         |                                |   |
| Separately tested..... : See above table.            |                                |   |
| Bridging insulation ..... : Reinforced.              |                                |   |
| External creepage distance ..... : See above table.  |                                |   |
| Internal creepage distance ..... : See above table.  |                                |   |
| Distance through insulation ..... : See above table. |                                |   |
| Tested under the following conditions ..... : RI     |                                |   |
| Input..... : N/A                                     |                                |   |
| Output..... : N/A                                    |                                |   |
| supplementary information                            |                                |   |
|                                                      |                                |   |

|                  |                                                      |            |       |        |           |                     |
|------------------|------------------------------------------------------|------------|-------|--------|-----------|---------------------|
| <b>1.6.2</b>     | <b>TABLE: Electrical data (in normal conditions)</b> |            |       |        |           | <b>P</b>            |
| U (V/Hz)         | I (mA)                                               | Irated (A) | P (W) | Fuse # | Ifuse (A) | Condition/status    |
| <b>HDMI mode</b> |                                                      |            |       |        |           |                     |
| 90/50            | 2.10                                                 | --         | 188.3 | F9901  | 2.10      | Maximum normal load |
| 90/60            | 2.10                                                 | --         | 188.3 | F9901  | 2.10      | Maximum normal load |

| IEC 60950-1/Am1     |                    |     |       |       |                 |                     |
|---------------------|--------------------|-----|-------|-------|-----------------|---------------------|
| Clause              | Requirement + Test |     |       |       | Result - Remark | Verdict             |
| 100/50              | 1.89               | 2.0 | 187.6 | F9901 | 1.89            | Maximum normal load |
| 100/60              | 1.89               | 2.0 | 187.6 | F9901 | 1.89            | Maximum normal load |
| 240/50              | 0.78               | 0.8 | 183.8 | F9901 | 0.78            | Maximum normal load |
| 240/60              | 0.78               | 0.8 | 183.8 | F9901 | 0.78            | Maximum normal load |
| 264/50              | 0.72               | --  | 183.6 | F9901 | 0.72            | Maximum normal load |
| 264/60              | 0.72               | --  | 183.6 | F9901 | 0.72            | Maximum normal load |
| <b>DVI mode</b>     |                    |     |       |       |                 |                     |
| 90/50               | 2.10               | --  | 188.3 | F9901 | 2.10            | Maximum normal load |
| 90/60               | 2.10               | --  | 188.3 | F9901 | 2.10            | Maximum normal load |
| 100/50              | 1.89               | 2.0 | 187.6 | F9901 | 1.89            | Maximum normal load |
| 100/60              | 1.89               | 2.0 | 187.6 | F9901 | 1.89            | Maximum normal load |
| 240/50              | 0.77               | 0.8 | 183.7 | F9901 | 0.77            | Maximum normal load |
| 240/60              | 0.77               | 0.8 | 183.7 | F9901 | 0.77            | Maximum normal load |
| 264/50              | 0.71               | --  | 183.5 | F9901 | 0.71            | Maximum normal load |
| 264/60              | 0.71               | --  | 183.5 | F9901 | 0.71            | Maximum normal load |
| <b>VGA mode</b>     |                    |     |       |       |                 |                     |
| 90/50               | 2.10               | --  | 188.3 | F9901 | 2.10            | Maximum normal load |
| 90/60               | 2.10               | --  | 188.3 | F9901 | 2.10            | Maximum normal load |
| 100/50              | 1.89               | 2.0 | 187.6 | F9901 | 1.89            | Maximum normal load |
| 100/60              | 1.89               | 2.0 | 187.6 | F9901 | 1.89            | Maximum normal load |
| 240/50              | 0.77               | 0.8 | 183.8 | F9901 | 0.77            | Maximum normal load |
| 240/60              | 0.77               | 0.8 | 183.8 | F9901 | 0.77            | Maximum normal load |
| 264/50              | 0.71               | --  | 183.6 | F9901 | 0.71            | Maximum normal load |
| 264/60              | 0.71               | --  | 183.6 | F9901 | 0.71            | Maximum normal load |
| <b>BNC mode</b>     |                    |     |       |       |                 |                     |
| 90/50               | 2.10               | --  | 2.10  | F9901 | 2.10            | Maximum normal load |
| 90/60               | 2.10               | --  | 2.10  | F9901 | 2.10            | Maximum normal load |
| 100/50              | 1.89               | 2.0 | 1.89  | F9901 | 1.89            | Maximum normal load |
| 100/60              | 1.89               | 2.0 | 1.89  | F9901 | 1.89            | Maximum normal load |
| 240/50              | 0.78               | 0.8 | 0.78  | F9901 | 0.78            | Maximum normal load |
| 240/60              | 0.78               | 0.8 | 0.78  | F9901 | 0.78            | Maximum normal load |
| 264/50              | 0.70               | --  | 0.70  | F9901 | 0.70            | Maximum normal load |
| 264/60              | 0.70               | --  | 0.70  | F9901 | 0.70            | Maximum normal load |
| <b>Display mode</b> |                    |     |       |       |                 |                     |

| IEC 60950-1/Am1                                                                        |                    |     |       |       |                 |                     |
|----------------------------------------------------------------------------------------|--------------------|-----|-------|-------|-----------------|---------------------|
| Clause                                                                                 | Requirement + Test |     |       |       | Result - Remark | Verdict             |
| 90/50                                                                                  | 2.10               | --  | 188.3 | F9901 | 2.10            | Maximum normal load |
| 90/60                                                                                  | 2.10               | --  | 188.3 | F9901 | 2.10            | Maximum normal load |
| 100/50                                                                                 | 1.89               | 2.0 | 187.6 | F9901 | 1.89            | Maximum normal load |
| 100/60                                                                                 | 1.89               | 2.0 | 187.6 | F9901 | 1.89            | Maximum normal load |
| 240/50                                                                                 | 0.77               | 0.8 | 186.3 | F9901 | 0.77            | Maximum normal load |
| 240/60                                                                                 | 0.77               | 0.8 | 186.3 | F9901 | 0.77            | Maximum normal load |
| 264/50                                                                                 | 0.71               | --  | 183.4 | F9901 | 0.71            | Maximum normal load |
| 264/60                                                                                 | 0.71               | --  | 183.4 | F9901 | 0.71            | Maximum normal load |
| Supplementary information:                                                             |                    |     |       |       |                 |                     |
| 1. The measured input current at rated voltage shall be $\leq 110\%$ of rated current. |                    |     |       |       |                 |                     |
| 2. See summary of testing in the test report for the detail max. normal condition.     |                    |     |       |       |                 |                     |

| <b>2.1.1.5 c) 1)</b>           | <b>TABLE: max. V, A, VA test</b> |                       |                       |                   | P |
|--------------------------------|----------------------------------|-----------------------|-----------------------|-------------------|---|
| Voltage (rated)<br>(V)         | Current (rated)<br>(A)           | Voltage (max.)<br>(V) | Current (max.)<br>(A) | VA (max.)<br>(VA) |   |
| 24                             | 4.5                              | 24.24                 | 7.0                   | 162.4             |   |
| 12                             | 2.0                              | 11.98                 | 13.0                  | 120.9             |   |
| 5                              | 3.0                              | 4.73                  | 2.4                   | 11.01             |   |
| supplementary information:     |                                  |                       |                       |                   |   |
| Test voltage is 240 Vac, 60 Hz |                                  |                       |                       |                   |   |

|                            |                      |               |              |     |
|----------------------------|----------------------|---------------|--------------|-----|
| 2.1.1.5 c) 2)              | TABLE: stored energy |               |              | N/A |
| Capacitance C (μF)         |                      | Voltage U (V) | Energy E (J) |     |
|                            |                      |               |              |     |
|                            |                      |               |              |     |
| supplementary information: |                      |               |              |     |
|                            |                      |               |              |     |

|                              |                                                                   |                                        |        |                             |
|------------------------------|-------------------------------------------------------------------|----------------------------------------|--------|-----------------------------|
| 2.2                          | TABLE: evaluation of voltage limiting components in SELV circuits |                                        |        | P                           |
| Component (measured between) |                                                                   | max. voltage (V)<br>(normal operation) |        | Voltage Limiting Components |
|                              |                                                                   | V peak                                 | V d.c. |                             |
| T9301 pin6,7 to pin9,10      |                                                                   | 24.8                                   | --     | --                          |
| T9101 pin8 to 14,15          |                                                                   | 34.0                                   | --     | --                          |
| T9101 pin9 to 14,15          |                                                                   | 35.2                                   | --     | --                          |

| IEC 60950-1/Am1                                     |                                                             |                 |         |
|-----------------------------------------------------|-------------------------------------------------------------|-----------------|---------|
| Clause                                              | Requirement + Test                                          | Result - Remark | Verdict |
|                                                     |                                                             |                 |         |
| T9101 pin10,11 to pin14,15                          | 17.2                                                        | --              | --      |
| T9101 pin12,13 to pin14,15                          | 18.0                                                        | --              | --      |
| Fault test performed on voltage limiting components | Voltage measured (V) in SELV circuits<br>(V peak or V d.c.) |                 |         |
| --                                                  | --                                                          |                 |         |
| --                                                  | --                                                          |                 |         |
| supplementary information:                          |                                                             |                 |         |
| Test voltage is 240 Vac, 60 Hz                      |                                                             |                 |         |

|                                                       |                              |       |       |       |
|-------------------------------------------------------|------------------------------|-------|-------|-------|
| 2.5                                                   | TABLE: limited power sources |       |       | N/A   |
| Circuit output tested:                                |                              |       |       |       |
| Measured Uoc (V) with all load circuits disconnected: |                              |       |       |       |
|                                                       | I <sub>sc</sub> (A)          |       | VA    |       |
|                                                       | Meas.                        | Limit | Meas. | Limit |
|                                                       |                              |       |       |       |
|                                                       |                              |       |       |       |
|                                                       |                              |       |       |       |
|                                                       |                              |       |       |       |
| supplementary information:                            |                              |       |       |       |
| Note(s):                                              |                              |       |       |       |

|                        |                                    |                 |                  |                     |
|------------------------|------------------------------------|-----------------|------------------|---------------------|
| 2.10.2                 | Table: working voltage measurement |                 |                  | P                   |
| Location               |                                    | RMS voltage (V) | Peak voltage (V) | Comments            |
| T9301 pin1 to pin6,7   |                                    | 440             | 314              |                     |
| T9301 pin1 to pin9,10  |                                    | 416             | 314              |                     |
| T9301 pin3 to pin6,7   |                                    | 552             | 351              | Max. Vrms of T9301  |
| T9301 pin3 to pin9,10  |                                    | 564             | 349              | Max. Vpeak of T9301 |
| T9301 pin4 to pin6,7   |                                    | 400             | 177              |                     |
| T9301 pin4 to pin9,10  |                                    | 424             | 176              |                     |
| T9301 pin5 to pin6,7   |                                    | 360             | 176              |                     |
| T9301 pin5 to pin9,10  |                                    | 360             | 176              |                     |
| T9101 pin2 to pin8     |                                    | 276             | 163              |                     |
| T9101 pin2 to pin9     |                                    | 260             | 157              |                     |
| T9101 pin2 to pin10,11 |                                    | 264             | 160              |                     |
| T9101 pin2 to pin12,13 |                                    | 252             | 157              |                     |

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|-----------------------------------|--------------------|-----------------|-------------------------------------|
| Clause                            | Requirement + Test | Result - Remark | Verdict                             |
| T9101 pin2 to pin14,15            | 258                | 157             |                                     |
| T9101 pin6 to pin8                | 400                | 232             |                                     |
| T9101 pin6 to pin9                | <b>444</b>         | <b>265</b>      | <b>Max. Vrms and Vpeak of T9101</b> |
| T9101 pin6 to pin10,11            | 400                | 242             |                                     |
| T9101 pin6 to pin12,13            | 432                | 261             |                                     |
| T9101 pin6 to pin14,15            | 416                | 251             |                                     |
| C9903 primary to secondary        | 360                | 240             |                                     |
| C9904 primary to secondary        | 1.8                | 0.77            |                                     |
| C9905 primary to secondary        | 360                | 240             |                                     |
| C9906 primary to secondary        | 2.4                | 0.87            |                                     |
| IC9303 pin1 to pin 3              | 348                | 169             |                                     |
| IC9303 pin1 to pin 4              | 348                | 169             |                                     |
| IC9303 pin2 to pin 3              | 348                | 169             |                                     |
| IC9303 pin2 to pin 4              | 348                | 169             |                                     |
| IC9302 pin1 to pin 3              | 364                | 180             |                                     |
| IC9302 pin1 to pin 4              | 364                | 180             |                                     |
| IC9302 pin2 to pin 3              | 364                | 180             |                                     |
| IC9302 pin2 to pin 4              | 364                | 180             |                                     |
| IC902 Pin 1 to IC902 Pin 3        | 184                | 370             |                                     |
| IC902 Pin 1 to IC902 Pin 4        | 184                | 370             |                                     |
| IC902 Pin 2 to IC902 Pin 3        | 184                | 370             |                                     |
| IC902 Pin 2 to IC902 Pin 4        | 184                | 370             |                                     |
| C997 Primary pin to Secondary pin | 184                | 372             |                                     |
| supplementary information:        |                    |                 |                                     |
| Input Voltage is 240 Vac, 60 Hz   |                    |                 |                                     |

|                                               |                                                     |              |                  |                  |                   |                  |          |
|-----------------------------------------------|-----------------------------------------------------|--------------|------------------|------------------|-------------------|------------------|----------|
| 2.10.3 and 2.10.4                             | TABLE: clearance and creepage distance measurements |              |                  |                  |                   |                  | <b>P</b> |
| Clearance cl and creepage distance dcr at/of: | Up (V)                                              | U r.m.s. (V) | Required cl (mm) | cl (mm)          | Required dcr (mm) | dcr (mm)         |          |
| Functional:                                   |                                                     |              |                  |                  |                   |                  |          |
| <b>Distance before fuse (F9901)</b>           | <b>420</b>                                          | <b>250</b>   | <b>2.3</b>       | <b>See below</b> | <b>2.5</b>        | <b>See below</b> |          |
| - Under F9901                                 |                                                     |              |                  | 10.6             |                   | 10.6             |          |
| - Line to Neutral                             |                                                     |              |                  | 2.8              |                   | 2.8              |          |
| Basic / supplementary:                        |                                                     |              |                  |                  |                   |                  |          |

| IEC 60950-1/Am1                                                             |                    |            |            |                  |            |                  |
|-----------------------------------------------------------------------------|--------------------|------------|------------|------------------|------------|------------------|
| Clause                                                                      | Requirement + Test |            |            | Result - Remark  |            | Verdict          |
| <b>Primary traces to earthed trace of SPS</b>                               | <b>420</b>         | <b>250</b> | <b>3.0</b> | <b>See below</b> | <b>3.0</b> | <b>See below</b> |
| Under C9903                                                                 |                    |            |            | 7.8              |            | 7.8              |
| Under SG9903                                                                |                    |            |            | 8.0              |            | 8.0              |
| Under C9904                                                                 |                    |            |            | 7.6              |            | 7.6              |
| Under C9905                                                                 |                    |            |            | 7.6              |            | 7.6              |
| Under C9906                                                                 |                    |            |            | 7.6              |            | 7.6              |
| Between R9302 trace and earthed trace                                       |                    |            |            | 7.7              |            | 7.7              |
| Between Q9301 pin B trace and earthed trace                                 |                    |            |            | 8.0              |            | 8.0              |
| Between HS2 trace and earthed trace                                         |                    |            |            | 5.0              |            | 5.0              |
| Under C9907                                                                 |                    |            |            | 7.7              |            | 7.7              |
| Between FB9906 trace and earthed trace                                      |                    |            |            | 6.8              |            | 6.8              |
| Under C9908                                                                 |                    |            |            | 7.7              |            | 7.7              |
| Under C9909                                                                 |                    |            |            | 7.5              |            | 7.5              |
| Primary component (HS2) to earthed metal chassis                            |                    |            |            | 5.8              |            | 5.8              |
| <b>Primary component with 10 N to earthed trace or floating part of SPS</b> | <b>420</b>         | <b>250</b> | <b>3.0</b> | <b>See below</b> | <b>3.0</b> | <b>See below</b> |
| Primary component (HS2) with 10 N to earthed screw (GND6)                   |                    |            |            | 4.4              |            | 4.4              |
| Primary component (C9115) with 10 N to core of transformer (T9101)          |                    |            |            | 3.0              |            | 3.0              |
| Secondary component (C9202) with 10 N to core of transformer (T9101)        |                    |            |            | 4.4              |            | 4.4              |
| Secondary component (HS6) with 10 N to core of transformer (T9101)          | 422                | 254        | 3.2        | 6.0              | 3.2        | 6.0              |
| Reinforced:                                                                 |                    |            |            |                  |            |                  |
| <b>Primary traces to secondary trace on SPS</b>                             | <b>420</b>         | <b>250</b> | <b>6.0</b> | <b>See below</b> | <b>6.0</b> | <b>See below</b> |
| Under IC9102                                                                |                    |            |            | 8.1              |            | 8.1              |
| Under IC9302                                                                |                    |            |            | 8.0              |            | 8.0              |
| Under IC9303                                                                |                    |            |            | 8.0              |            | 8.0              |
| Under T9301                                                                 | 567                | 359        | 6.6        | 8.0              | 7.2        | 8.0              |

| IEC 60950-1/Am1 |                    |  |  |                 |  |         |
|-----------------|--------------------|--|--|-----------------|--|---------|
| Clause          | Requirement + Test |  |  | Result - Remark |  | Verdict |

|                                                           |            |            |            |                  |            |                  |
|-----------------------------------------------------------|------------|------------|------------|------------------|------------|------------------|
| Under T9101                                               | 456        | 271        | 6.3        | 8.0              | 6.3        | 8.0              |
| <b>Primary component with 10 N to secondary component</b> | <b>420</b> | <b>250</b> | <b>6.0</b> | <b>See below</b> | <b>6.0</b> | <b>See below</b> |
| C9109 with 10 N to HS5                                    |            |            |            | 6.5              |            | 6.5              |

Supplementary information:

1. Functional insulation, see subclause 5.3.4 a).
2. Other functional insulation according to subclause 5.3.4 c).
3. Glued components: C9803.
4. Altitude correction factor for clearances for an altitude of 5000 m (based on IEC 60664-1:1992): 1.48.
5. Internal wire shall be fixed on secondary side and keep the sufficient insulation for the requirement of reinforced insulation.
6. There are two layers of insulation tape provided around the core of Transformer (T9301) to keep sufficient insulation for the requirement of reinforced insulation.
7. For the clearances and creepage distances which no described above are larger than the limit above.

| 2.10.5                                                             | TABLE: Distance through insulation measurements |            |           |                  |                   | P        |
|--------------------------------------------------------------------|-------------------------------------------------|------------|-----------|------------------|-------------------|----------|
| Distance through insulation (DTI) at/of:                           |                                                 | U peak (V) | U rms (V) | Test voltage (V) | Required DTI (mm) | DTI (mm) |
| Plastic enclosure (RI)                                             |                                                 | 420        | 250       | 3000             | 0.4               | 2.       |
| Optocouplers (IC902, IC905, IC907 and IC908) (RI)                  |                                                 | 420        | 250       | 3000             | 0.4               | 1.       |
| Supplementary information:                                         |                                                 |            |           |                  |                   |          |
| 1. See appended table 1.5.1 for approved component source details. |                                                 |            |           |                  |                   |          |
| 2. See appended table 1.5.1 for the source details.                |                                                 |            |           |                  |                   |          |

| IEC 60950-1/Am1                                                                       |  |                            |               |                         |                        |                 |               |               |                   |     |
|---------------------------------------------------------------------------------------|--|----------------------------|---------------|-------------------------|------------------------|-----------------|---------------|---------------|-------------------|-----|
| Clause                                                                                |  | Requirement + Test         |               |                         |                        | Result - Remark |               |               | Verdict           |     |
| 4.3.8                                                                                 |  | TABLE: Batteries           |               |                         |                        |                 |               |               |                   | N/A |
| The tests of 4.3.8 are applicable only when appropriate battery data is not available |  |                            |               |                         |                        |                 |               |               |                   |     |
| Is it possible to install the battery in a reverse polarity position?                 |  |                            |               |                         |                        |                 |               |               |                   |     |
|                                                                                       |  | Non-rechargeable batteries |               |                         | Rechargeable batteries |                 |               |               |                   |     |
|                                                                                       |  | Discharging                |               | Un-intentional charging | Charging               |                 | Discharging   |               | Reversed charging |     |
|                                                                                       |  | Meas. current              | Manuf. Specs. |                         | Meas. current          | Manuf. Specs.   | Meas. current | Manuf. Specs. |                   |     |
| Max. current during normal condition                                                  |  |                            |               |                         |                        |                 |               |               |                   |     |
| Max. current during fault condition                                                   |  |                            |               |                         |                        |                 |               |               |                   |     |
|                                                                                       |  |                            |               |                         |                        |                 |               |               |                   |     |
| Test results:                                                                         |  |                            |               |                         |                        |                 |               |               | Verdict           |     |
| - Chemical leaks                                                                      |  |                            |               |                         |                        |                 |               |               |                   |     |
| - Explosion of the battery                                                            |  |                            |               |                         |                        |                 |               |               |                   |     |
| - Emission of flame or expulsion of molten metal                                      |  |                            |               |                         |                        |                 |               |               |                   |     |
| - Electric strength tests of equipment after completion of tests                      |  |                            |               |                         |                        |                 |               |               |                   |     |
| Supplementary information:                                                            |  |                            |               |                         |                        |                 |               |               |                   |     |

|                                                                 |                  |     |
|-----------------------------------------------------------------|------------------|-----|
| 4.3.8                                                           | TABLE: Batteries | N/A |
| Battery category..... : (Lithium, NiMh, NiCad, Lithium Ion ...) |                  |     |
| Manufacturer .....                                              |                  |     |
| Type / model..... :                                             |                  |     |
| Voltage .....                                                   |                  |     |
| Capacity..... : mAh                                             |                  |     |
| Tested and Certified by (incl. Ref. No.) ..... :                |                  |     |
| Circuit protection diagram:                                     |                  |     |
|                                                                 |                  |     |

| IEC 60950-1/Am1 |                    |                 |         |
|-----------------|--------------------|-----------------|---------|
| Clause          | Requirement + Test | Result - Remark | Verdict |

**MARKINGS AND INSTRUCTIONS (1.7.12, 1.7.15)**

Remark: Correct subclause reference for IEC 60950-1:2005/A1 is 1.7.2.1, 1.7.13.

|                                     |  |
|-------------------------------------|--|
| Location of replaceable battery     |  |
| Language(s) .....                   |  |
| Close to the battery .....          |  |
| In the servicing instructions ..... |  |
| In the operating instructions ..... |  |

| 4.5                                         | TABLE: Thermal requirements  |                           |                            |                            |    |    | P                            |
|---------------------------------------------|------------------------------|---------------------------|----------------------------|----------------------------|----|----|------------------------------|
|                                             | Supply voltage (V/Hz) .....  | 90/60<br>(0°<br>rotation) | 264/60<br>(0°<br>rotation) | 90/60<br>(90°<br>rotation) | -- | -- | ---                          |
|                                             | Ambient $T_{min}$ (°C) ..... | --                        | --                         | --                         | -- | -- | ---                          |
|                                             | Ambient $T_{max}$ (°C) ..... | --                        | --                         | --                         | -- | -- | ---                          |
| Maximum measured temperature T of part/at:: |                              | T (°C)                    |                            |                            |    |    | Allowed<br>$T_{max}$<br>(°C) |
| Inlet near L                                |                              | 47.1                      | 46.0                       | 49.7                       | -- | -- | 70                           |
| Body of CN901                               |                              | 50.9                      | 47.2                       | 68.6                       | -- | -- | --                           |
| Body of C9901                               |                              | 56.3                      | 49.1                       | 77.6                       | -- | -- | 85                           |
| L9901 coil                                  |                              | 64.6                      | 49.8                       | 88.9                       | -- | -- | 105                          |
| L9903 coil                                  |                              | 73.4                      | 52.5                       | 92.4                       | -- | -- | 105                          |
| Body of C9902                               |                              | 68.7                      | 54.0                       | 80.9                       | -- | -- | 85                           |
| PWB near BD9901                             |                              | 67.1                      | 54.2                       | 86.6                       | -- | -- | 105                          |
| L9801 coil                                  |                              | 78.6                      | 63.1                       | 86.3                       | -- | -- | 105                          |
| PWB near NR9901                             |                              | 87.1                      | 71.2                       | 87.8                       | -- | -- | 105                          |
| PWB near Q9801                              |                              | 62.2                      | 56.4                       | 66.4                       | -- | -- | 105                          |
| Body of C9803                               |                              | 71.2                      | 62.5                       | 65.2                       | -- | -- | 85                           |
| T9301 coil                                  |                              | 80.9                      | 76.6                       | 79.2                       | -- | -- | 110                          |
| T9301 core                                  |                              | 78.8                      | 74.2                       | 76.4                       | -- | -- | 110                          |
| Body of IC9302                              |                              | 68.6                      | 63.9                       | 73.3                       | -- | -- | 100                          |
| Body of C9909                               |                              | 72.4                      | 63.7                       | 61.4                       | -- | -- | 85                           |
| T9101 coil                                  |                              | 94.2                      | 88.3                       | 81.4                       | -- | -- | 110                          |
| T9101 core                                  |                              | 89.3                      | 82.3                       | 83.9                       | -- | -- | 110                          |
| Body of IC9102                              |                              | 72.0                      | 68.1                       | 52.1                       | -- | -- | 100                          |
| PWB near Q9102                              |                              | 80.9                      | 74.8                       | 66.4                       | -- | -- | 105                          |
| PWB near D9201                              |                              | 80.9                      | 74.5                       | 54.8                       | -- | -- | 105                          |

| IEC 60950-1/Am1                                                                                                                                |                     |                    |                     |                    |        |                               |                  |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|---------------------|--------------------|--------|-------------------------------|------------------|
| Clause                                                                                                                                         | Requirement + Test  |                    |                     | Result - Remark    |        |                               | Verdict          |
| PWB near D9207                                                                                                                                 | 77.1                | 72.7               | 71.8                | --                 | --     |                               | 105              |
| PWB near D9206                                                                                                                                 | 90.5                | 87.3               | 71                  | --                 | --     |                               | 105              |
| PWB near U401 (Main board)                                                                                                                     | 62.9                | 61.5               | 71.9                | --                 | --     |                               | 105              |
| T102 coil (inverter)                                                                                                                           | 98.4                | 98.1               | 86                  | --                 | --     |                               | 105              |
| T102 core (inverter)                                                                                                                           | 77.9                | 77.5               | 66.3                | --                 | --     |                               | 105              |
| Metal enclosure near T9101                                                                                                                     | 49.6                | 47.9               | 45.8                | --                 | --     |                               | 70               |
| Panel                                                                                                                                          | 54.7                | 54.4               | 52.0                | --                 | --     |                               | 95               |
| Ambient (actual: 22.9/23.0/23.1°C)                                                                                                             | 40.0                | 40.0               | 40.0                | --                 | --     |                               | --               |
| Supplementary information:                                                                                                                     |                     |                    |                     |                    |        |                               |                  |
| Temperature T of winding:                                                                                                                      | t <sub>1</sub> (°C) | R <sub>1</sub> (Ω) | t <sub>2</sub> (°C) | R <sub>2</sub> (Ω) | T (°C) | Allowed T <sub>max</sub> (°C) | Insulation class |
|                                                                                                                                                |                     |                    |                     |                    |        |                               |                  |
|                                                                                                                                                |                     |                    |                     |                    |        |                               |                  |
| Supplementary information:                                                                                                                     |                     |                    |                     |                    |        |                               |                  |
| 1. The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.2 at voltages as described in above. |                     |                    |                     |                    |        |                               |                  |
| 2. Unit specified with maximum of 40°C ambient temperature and all temperatures were calculated for a maximum ambient temperature of 40°C.     |                     |                    |                     |                    |        |                               |                  |
| Winding components (providing safety isolation):                                                                                               |                     |                    |                     |                    |        |                               |                  |
| - Class B                      T <sub>max</sub> = 120 °C - 10 °C = 110 °C                                                                      |                     |                    |                     |                    |        |                               |                  |
| 3. Thermocouple method used for measuring the temperatures.                                                                                    |                     |                    |                     |                    |        |                               |                  |

|                            |                                                  |                       |                          |     |
|----------------------------|--------------------------------------------------|-----------------------|--------------------------|-----|
| 4.5.5                      | TABLE: Ball pressure test of thermoplastic parts |                       |                          | N/A |
|                            | Allowed impression diameter (mm) .....: ≤ 2 mm   |                       |                          | —   |
| Part                       |                                                  | Test temperature (°C) | Impression diameter (mm) |     |
|                            |                                                  |                       |                          |     |
| Supplementary information: |                                                  |                       |                          |     |

|                                              |                           |                  |                |                    |          |   |
|----------------------------------------------|---------------------------|------------------|----------------|--------------------|----------|---|
| 4.7                                          | TABLE: Resistance to fire |                  |                |                    |          | P |
| Part                                         | Manufacturer of material  | Type of material | Thickness (mm) | Flammability class | Evidence |   |
| Plastic enclosure                            | 1.                        | 1.               | 1.             | 1.                 | P        |   |
| Metal enclosure                              | --                        | --               | 1.             | --                 | P        |   |
| PCB                                          | --                        | --               | --             | V-1 or better      | P        |   |
|                                              |                           |                  |                |                    |          |   |
| Supplementary information:                   |                           |                  |                |                    |          |   |
| 1. See table 1.5.1 for detailed information. |                           |                  |                |                    |          |   |

| IEC 60950-1/Am1 |                    |                 |         |
|-----------------|--------------------|-----------------|---------|
| Clause          | Requirement + Test | Result - Remark | Verdict |

|                                                      |                                  |               |            |                                       |
|------------------------------------------------------|----------------------------------|---------------|------------|---------------------------------------|
| 5.1                                                  | TABLE: touch current measurement |               |            | P                                     |
| Measured between:                                    |                                  | Measured (mA) | Limit (mA) | Comments/conditions                   |
| Line / Neutral and output connectors                 |                                  | 0.01          | 0.25       | Power switch ON and switch “e” close  |
| Line / Neutral and metal enclosure                   |                                  | 1.9           | 3.5        | Power switch ON and switch “e” open   |
| Line / Neutral and plastic enclosure with metal foil |                                  | 0.01          | 0.25       | Power switch ON and switch “e” close  |
| Line / Neutral and output connectors                 |                                  | 0.01          | 0.25       | Power switch OFF and switch “e” close |
| Line / Neutral and metal enclosure                   |                                  | 1.9           | 3.5        | Power switch OFF and switch “e” open  |
| Line / Neutral and plastic enclosure with metal foil |                                  | 0.01          | 0.25       | Power switch OFF and switch “e” close |
| supplementary information:                           |                                  |               |            |                                       |
| 1. Input voltage: 264V, 60Hz                         |                                  |               |            |                                       |
| 2. Overall capacitance: See table 1.5.1              |                                  |               |            |                                       |
| Line / Neutral and output connectors                 |                                  | 0.01          | 0.25       | Power switch ON and switch “e” close  |
| Line / Neutral and metal enclosure                   |                                  | 0.85          | 3.5        | Power switch ON and switch “e” open   |
| Line / Neutral and plastic enclosure with metal foil |                                  | 0.01          | 0.25       | Power switch ON and switch “e” close  |
| Line / Neutral and output connectors                 |                                  | 0.01          | 0.25       | Power switch OFF and switch “e” close |
| Line / Neutral and metal enclosure                   |                                  | 0.85          | 3.5        | Power switch OFF and switch “e” open  |
| Line / Neutral and plastic enclosure with metal foil |                                  | 0.01          | 0.25       | Power switch OFF and switch “e” close |
| supplementary information:                           |                                  |               |            |                                       |
| 1. Input voltage: 110V, 60Hz                         |                                  |               |            |                                       |
| 2. Overall capacitance: See table 1.5.1              |                                  |               |            |                                       |

| <b>5.2</b>                    | <b>TABLE: Electric strength tests, impulse tests and voltage surge tests</b> |                                        |                  | <b>P</b>           |
|-------------------------------|------------------------------------------------------------------------------|----------------------------------------|------------------|--------------------|
| Test voltage applied between: |                                                                              | Voltage shape (AC, DC, impulse, surge) | Test voltage (V) | Breakdown Yes / No |
| Transformer:                  |                                                                              |                                        |                  |                    |
| T9101 primary to secondary    |                                                                              | AC                                     | 3000             | No                 |
| T9101 primary to core         |                                                                              | AC                                     | 1674             | No                 |

| IEC 60950-1/Am1                                               |                    |                 |         |
|---------------------------------------------------------------|--------------------|-----------------|---------|
| Clause                                                        | Requirement + Test | Result - Remark | Verdict |
| T9101 secondary to core                                       | AC                 | 1674            | No      |
| T9301 primary to secondary                                    | AC                 | 3000            | No      |
| T9301 secondary to core                                       | AC                 | 3000            | No      |
| Unit:                                                         |                    |                 |         |
| Primary to secondary                                          | DC                 | 4242            | No      |
| Primary to earth (metal enclosure)                            | DC                 | 2636            | No      |
| Primary to plastic enclosure with metal foil                  | DC                 | 4242            | No      |
| Thin sheet material:                                          |                    |                 |         |
| One layer of insulation tape used in T9101                    | AC                 | 3000            | No      |
| One layer of insulation tape used in T9301                    | AC                 | 3000            | No      |
| Supplementary information:                                    |                    |                 |         |
| 1. Test was performed on all sources of transformer and tape. |                    |                 |         |

| 5.3               | TABLE: Fault condition tests                                        |                    |           |        |                                  | P                                                                 |
|-------------------|---------------------------------------------------------------------|--------------------|-----------|--------|----------------------------------|-------------------------------------------------------------------|
|                   | Ambient temperature (°C) .....                                      |                    |           |        | 25°C, if not otherwise specified | —                                                                 |
|                   | Power source for EUT: Manufacturer, model/type, output rating ..... |                    |           |        | See appended table 1.5.1         | —                                                                 |
| Component No.     | Fault                                                               | Supply voltage (V) | Test time | Fuse # | Fuse current (A)                 | Observation                                                       |
| D9205 pin1-2      | s-c                                                                 | 240                | 10min     | F9901  | 0.09                             | Unit shutdown. Internal protection operated (IC9101), no hazards. |
| D9206 pin1-2      | s-c                                                                 | 240                | 10min     | F9901  | 0.09                             | Unit shutdown. Internal protection operated (IC9101), no hazards. |
| D9207 pin1-2      | s-c                                                                 | 240                | 10min     | F9901  | 0.09                             | Unit shutdown. Internal protection operated (IC9101), no hazards. |
| T9101 pin8-11     | s-c                                                                 | 240                | 10min     | F9901  | 0.09                             | Unit shutdown. Internal protection operated (IC9101), no hazards. |
| T9101 pin10-14,15 | s-c                                                                 | 240                | 10min     | F9901  | 0.09                             | Unit shutdown. Internal protection operated (IC9101), no hazards. |
| T9101 13-14,15    | s-c                                                                 | 240                | 10min     | F9901  | 0.09                             | Unit shutdown. Internal protection operated (IC9101), no hazards. |
| T9101 9-12        | s-c                                                                 | 240                | 10min     | F9901  | 0.09                             | Unit shutdown. Internal protection operated (IC9101), no hazards. |
| T9101 pin2-6      | s-c                                                                 | 240                | 10min     | F9901  | 0.08                             | IC9101 damaged, no hazards.                                       |
| Q9102 D-S         | s-c                                                                 | 240                | 10min     | F9901  | 0.09                             | IC9101 damaged, no hazards.                                       |
| Q9102 D-G         | s-c                                                                 | 240                | 10min     | F9901  | 0.09                             | IC9101 damaged, no hazards.                                       |
| Q9102 G-S         | s-c                                                                 | 240                | 10min     | F9901  | 0.08                             | Unit shutdown. Internal protection operated (IC9101), no hazards. |

| IEC 60950-1/Am1   |                    |     |        |       |                 |                                                                   |
|-------------------|--------------------|-----|--------|-------|-----------------|-------------------------------------------------------------------|
| Clause            | Requirement + Test |     |        |       | Result - Remark | Verdict                                                           |
| IC9101 pin2-3     | s-c                | 240 | 10min  | F9901 | 0.08            | Unit shutdown. Internal protection operated (IC9101), no hazards. |
| IC9102 pin1-2     | s-c                | 240 | 10min  | F9901 | 0.08            | Unit shutdown. Internal protection operated (IC9101), no hazards. |
| IC9102 pin3-4     | s-c                | 240 | 10min  | F9901 | 0.08            | Unit shutdown. Internal protection operated (IC9101), no hazards. |
| IC9102 pin1       | o-c                | 240 | 10min  | F9901 | 0.08            | Unit shutdown. Internal protection operated (IC9101), no hazards. |
| T9301 pin6,7-9,10 | s-c                | 240 | 10min  | F9901 | 0.08            | Unit shutdown. Internal protection operated (IC9301), no hazards. |
| T9301 pin1-3      | s-c                | 240 | 10min  | F9901 | 0.08            | Unit shutdown. Internal protection operated (IC9301), no hazards. |
| T9301 pin4-5      | s-c                | 240 | 10min  | F9901 | 0.08            | Unit shutdown. Internal protection operated (IC9301), no hazards. |
| IC9301 pin4-5     | s-c                | 240 | 10min  | F9901 | 0.08            | Unit shutdown. Internal protection operated (IC9301), no hazards. |
| IC9303 pin1-2     | s-c                | 240 | 10min  | F9901 | 0.09            | Unit shutdown. Internal protection operated (IC9301), no hazards. |
| IC9303 pin3-4     | s-c                | 240 | 10min  | F9901 | 0.60            | Unit normal operated, no hazards.                                 |
| IC9303 pin1       | o-c                | 240 | 10min  | F9901 | 0.09            | Unit shutdown. Internal protection operated (IC9301), no hazards. |
| IC9302 pin1-2     | s-c                | 240 | 10min  | F9901 | 0.08            | Unit shutdown. Internal protection operated (IC9301), no hazards. |
| IC9302 pin3-4     | s-c                | 240 | 10min  | F9901 | 0.08            | Unit shutdown. Internal protection operated (IC9301), no hazards. |
| IC9302 pin1       | o-c                | 240 | 10min  | F9901 | 0.08            | Unit shutdown. Internal protection operated (IC9301), no hazards. |
| Q9801 D-S         | s-c                | 240 | 1Sec   | F9901 | 0               | F901 opened, no hazards.                                          |
| Q9801 G-S         | s-c                | 240 | 10min  | F9901 | 0.08            | Unit shutdown. Internal protection operated (IC901), no hazards.  |
| Q9801 D-G         | s-c                | 240 | 1Sec   | F9901 | 0               | F901 opened, no hazards.                                          |
| IC9801 pin6-8     | s-c                | 240 | 10min  | F9901 | 0.09            | Unit shutdown. Internal protection operated (IC9801), no hazards. |
| C9803             | s-c                | 240 | 1Sec   | F9901 | 0               | F901 opened, no hazards.                                          |
| BD9801<br>“+”~“-” | s-c                | 240 | 1Sec   | F9901 | 0               | F901 opened, no hazards.                                          |
| +5V to Earth      | s-c                | 240 | 10 min | F9901 | 0.09            | Unit shutdown. Internal protection operated (IC9301), no hazards. |
| +12V to Earth     | s-c                | 240 | 10 min | F9901 | 0.09            | Unit shutdown. Internal protection operated (IC9101), no hazards. |
| +24V to Earth     | s-c                | 240 | 10 min | F9901 | 0.09            | Unit shutdown. Internal protection operated (IC9101), no hazards. |

| IEC 60950-1/Am1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    |     |         |       |                 |                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----|---------|-------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Clause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Requirement + Test |     |         |       | Result - Remark | Verdict                                                                                                                                                                                  |
| All ventilation Openings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | b-l                | 240 | 2.0 h   | F9901 | 0.78            | Maximum temperature:<br>T9301 coil/core=72.7°C/70°C<br>T9101 coil/core=84.1°C/77.9°C<br>, ambient = 23.4°C.<br>Unit normal working under thermal equilibrium was reached.<br>No hazards. |
| T9101 after D9206                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | o-l                | 240 | 3.0 h   | F9901 | 0.96            | Overload to 1.7 A then unit shut down. The maximum temperature of T9301 coil/core=61.3°C /58.9°C<br>T9101 coil/core=80.5°C/71.6°C<br>, ambient = 23.4°C, no damaged, no hazards.         |
| T9301 after D9201                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | o-l                | 240 | 2.5 h   | F9901 | 0.87            | Overload to 2.5 A then unit shut down. The maximum temperature of T9301 coil/core=84.7°C /79.1°C<br>T9101 coil/core=76.5°C/70.3°C<br>, ambient = 23.7°C, no damaged, no hazards.         |
| T9301 after 9207                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | o-l                | 240 | 4.0 h   | F9901 | 0.95            | Overload to 3.0 A then unit shut down. The maximum temperature of T9301 coil/core=64.5°C /62.5°C<br>T9101 coil/core=84.7°C/76.2°C<br>, ambient = 26.6°C, no damaged, no hazards.         |
| Speakers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | s-c                | 240 | 10 min. | F9901 | 0.70            | Unit normal working, speaker shutdown, no damage, no hazards.                                                                                                                            |
| <p>Supplementary information:</p> <ol style="list-style-type: none"> <li>1. In fault column, where s-c = short-circuited, o-l = over-loaded, o-c = open-circuited, b-l = blocked.</li> <li>2. For fuse opened condition, carried out for all sources of fuse.</li> <li>3. For component damaged without fuse opened condition have been repeated two times with same result.</li> <li>4. Maximum temperatures limitation of safety isolation transformers based on a test temperature of 40 °C:<br/>Class B: <math>T_{\max} = 175\text{ °C} - (40 - 25)\text{ °C} = 160\text{ °C}</math></li> </ol> |                    |     |         |       |                 |                                                                                                                                                                                          |

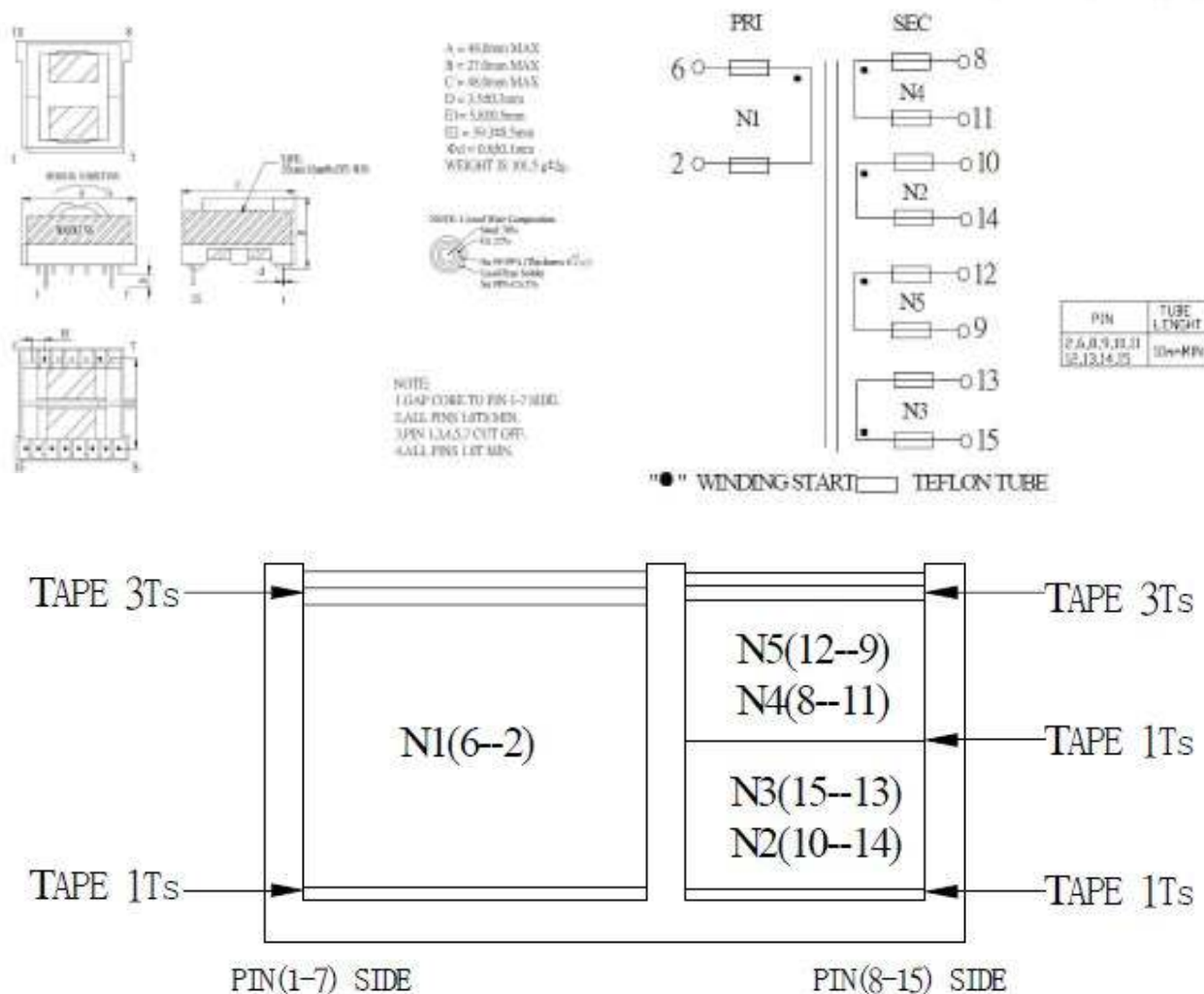
| IEC 60950-1/Am1            |                                                                        |                                      |                                     |                                     |                                     |                                             |                                                      |
|----------------------------|------------------------------------------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------------|------------------------------------------------------|
| Clause                     | Requirement + Test                                                     |                                      |                                     | Result - Remark                     |                                     |                                             | Verdict                                              |
| C.2                        | TABLE: transformers                                                    |                                      |                                     |                                     |                                     |                                             | P                                                    |
| Loc.                       | Tested insulation                                                      | Working voltage peak / V<br>(2.10.2) | Working voltage rms / V<br>(2.10.2) | Required electric strength<br>(5.2) | Required clearance / mm<br>(2.10.3) | Required creepage distance / mm<br>(2.10.4) | Required distance thr. insul.<br>(2.10.5)            |
| T9101                      | Primary / input winding and secondary / output winding (internal) (DI) | 456                                  | 271                                 | AC 3000 V                           | 6.3                                 | 6.3                                         | 0.4 mm.                                              |
| T9101                      | Primary / input winding and core (internal) (BI)                       | 456                                  | 271                                 | AC 1674 V                           | 3.2                                 | 3.2                                         | --                                                   |
| T9101                      | Secondary / output winding and core (internal) (BI)                    | 456                                  | 271                                 | AC 1674 V                           | 3.2                                 | 3.2                                         | --                                                   |
| T9101                      | Primary / input part and secondary / output part (external) (DI)       | 456                                  | 271                                 | AC 3000 V                           | 6.3                                 | 6.3                                         | 0.4 mm.                                              |
| T9101                      | Primary / input part and secondary / output winding (external) (DI)    | 456                                  | 271                                 | AC 3000 V                           | 6.3                                 | 6.3                                         | 0.4 mm.                                              |
| T9101                      | Primary / input part and core (external) (BI)                          | 456                                  | 271                                 | AC 1674 V                           | 3.2                                 | 3.2                                         | --                                                   |
| T9101                      | Secondary / output part and core (external) (BI)                       | 456                                  | 271                                 | AC 1674 V                           | 3.2                                 | 3.2                                         | --                                                   |
| Loc.                       | Tested insulation                                                      |                                      |                                     | Test voltage/ V                     | Measured clearance / mm             | Measured creepage dist./ mm                 | Measured distance thr. insul. / mm; number of layers |
| T9101                      | Primary / input winding and secondary / output winding (internal) (DI) |                                      |                                     | AC 3000 V                           | 10.1                                | 10.1                                        | 0.4 mm / 3 layers                                    |
| T9101                      | Primary / input winding and core (internal) (BI)                       |                                      |                                     | AC 1674 V                           | 4.2                                 | 4.2                                         | --                                                   |
| T9101                      | Secondary / output winding and core (internal) (BI)                    |                                      |                                     | AC 1674 V                           | 4.2                                 | 4.2                                         | --                                                   |
| T9101                      | Primary / input part and secondary / output part (external) (DI)       |                                      |                                     | AC 3000 V                           | 8.4                                 | 8.4                                         | 0.4 mm / 3 layers                                    |
| T9101                      | Primary / input part and secondary / output winding (external) (DI)    |                                      |                                     | AC 3000 V                           | 10.1                                | 10.1                                        | 0.4 mm / 3 layers                                    |
| T9101                      | Primary / input part and core (external) (BI)                          |                                      |                                     | AC 1674 V                           | 4.2                                 | 4.2                                         | --                                                   |
| T9101                      | Secondary / output part and core (external) (BI)                       |                                      |                                     | AC 1674 V                           | 4.2                                 | 4.2                                         | --                                                   |
| supplementary information: |                                                                        |                                      |                                     |                                     |                                     |                                             |                                                      |

| IEC 60950-1/Am1 |                    |                 |         |
|-----------------|--------------------|-----------------|---------|
| Clause          | Requirement + Test | Result - Remark | Verdict |

- The constructions of all sources of T9101 are identical, only model designation, manufacturer, and the material of bobbin are different.
- Altitude correction factor for clearances for an altitude of 5000 m (based on IEC 60664-1:1992): 1.48.

|     |                     |   |
|-----|---------------------|---|
| C.2 | TABLE: transformers | P |
|-----|---------------------|---|

Transformer T9101, type See appended table 1.5.1. (For power board type: 715G5537)



Two separated windings (primary and secondary) on bobbin design (horizontal type core). Bobbin partition that thickness 6.4 mm separated primary and secondary winding. Two layers of insulation tape around the core. Three layers insulation tape around outer winding for both of primary and secondary. The core is considered as floating part. There extend downward a base (height 7.0 mm) around at pin sides. Tubing on all winding exit ends.

Description of design:

(a) Bobbin

|                                              |                                              |
|----------------------------------------------|----------------------------------------------|
| Primary/input pins.....                      | 6 – 2                                        |
| Secondary/output pins.....                   | 8 – 11; 10 – 14; 12 – 9; 15 – 13             |
| Material (manufacturer, type, ratings) ..... | Type PM-9820 of Sumitomo Bakelite, phenolic, |

| IEC 60950-1/Am1 |                    |                 |         |
|-----------------|--------------------|-----------------|---------|
| Clause          | Requirement + Test | Result - Remark | Verdict |

|                      |             |
|----------------------|-------------|
|                      | 150 °C, V-0 |
| Thickness (mm) ..... | Min. 0.4 mm |

| C.2   | TABLE: transformers                                                    |                                      |                                     |                                     |                                     |                                             | P                                                    |
|-------|------------------------------------------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------------|------------------------------------------------------|
| Loc.  | Tested insulation                                                      | Working voltage peak / V<br>(2.10.2) | Working voltage rms / V<br>(2.10.2) | Required electric strength<br>(5.2) | Required clearance / mm<br>(2.10.3) | Required creepage distance / mm<br>(2.10.4) | Required distance thr. insul.<br>(2.10.5)            |
| T9301 | Primary / input winding and secondary / output winding (internal) (DI) | 567                                  | 359                                 | AC 3000 V                           | 6.6                                 | 7.2                                         | 0.4 mm.                                              |
| T9301 | Primary / input winding and core (internal) (BI)                       | 567                                  | 359                                 | --                                  | --                                  | --                                          | --                                                   |
| T9301 | Secondary / output winding and core (internal) (BI)                    | 567                                  | 359                                 | AC 3000 V                           | 6.6                                 | 7.2                                         | --                                                   |
| T9301 | Primary / input part and secondary / output part (external) (DI)       | 567                                  | 359                                 | AC 3000 V                           | 6.6                                 | 7.2                                         | 0.4 mm.                                              |
| T9301 | Primary / input part and secondary / output winding (external) (DI)    | 567                                  | 359                                 | AC 3000 V                           | 6.6                                 | 7.2                                         | 0.4 mm.                                              |
| T9301 | Primary / input part and core (external) (BI)                          | 567                                  | 359                                 | --                                  | --                                  | --                                          | --                                                   |
| T9301 | Secondary / output part and core (external) (BI)                       | 567                                  | 359                                 | AC 3000 V                           | 6.6                                 | 7.2                                         | --                                                   |
| Loc.  | Tested insulation                                                      |                                      |                                     | Test voltage / V                    | Measured clearance / mm             | Measured creepage dist. / mm                | Measured distance thr. insul. / mm; number of layers |
| T9301 | Primary / input winding and secondary / output winding (internal) (DI) |                                      |                                     | AC 3000 V                           | Triple insulated wire used          | Triple insulated wire used                  | 0.4 mm / 3 layers                                    |
| T9301 | Primary / input winding and core (internal) (BI)                       |                                      |                                     | --                                  | --                                  | --                                          | --                                                   |
| T9301 | Secondary / output winding and core (internal) (BI)                    |                                      |                                     | AC 3000 V                           | Triple insulated wire used          | Triple insulated wire used                  | --                                                   |
| T9301 | Primary / input part and secondary / output part (external) (DI)       |                                      |                                     | AC 3000 V                           | 7.2                                 | 7.2                                         | 0.4 mm / 3 layers                                    |
| T9301 | Primary / input part and secondary / output winding (external) (DI)    |                                      |                                     | AC 3000 V                           | 7.4                                 | 7.4                                         | 0.4 mm / 3 layers                                    |

| IEC 60950-1/Am1                                                                                                                             |                                                  |                 |      |      |         |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-----------------|------|------|---------|
| Clause                                                                                                                                      | Requirement + Test                               | Result - Remark |      |      | Verdict |
| T9301                                                                                                                                       | Primary / input part and core (external) (BI)    | --              | --   | --   | --      |
| T9301                                                                                                                                       | Secondary / output part and core (external) (BI) | AC 3000 V       | 11.0 | 11.0 | --      |
| supplementary information:                                                                                                                  |                                                  |                 |      |      |         |
| 1. The constructions of all sources of T9301 are identical, only model designation, manufacturer, and the material of bobbin are different. |                                                  |                 |      |      |         |
| 2. Altitude correction factor for clearances for an altitude of 5000 m (based on IEC 60664-1:1992): 1.48.                                   |                                                  |                 |      |      |         |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--|
| <b>C.2</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>TABLE: transformers</b> |  |
| <p>Transformer T9301, type See appended table 1.5.1. (For power board type: 715G5537)</p> <p>Concentric windings on bobbin (vertical type core). All windings ends additionally fixed with tape or tube, outer winding is primary windings. Certificate triple insulated wire used in secondary windings, therefore core is considered as primary circuit. The bobbin which near pin side to keep least min. 7.1 mm length. The angle of triple insulated wire between 45° and 90° provided with tape or tube or suitable mechanical construction to against mechanical stress. Pin 8 cut off and pin 2 cut off half. The bottom core of transformer provided with two layers of insulation tape and fold back to keep sufficient insulation for reinforced/double insulation request, the details information see below:</p> |                            |  |
| <p>The diagram illustrates the construction of transformer T9301. It includes a schematic of the primary (PRI) and secondary (SEC) windings, a cross-section of the core showing the winding layers (N1, N2, N3, N4) and insulation (3TS TAPE, 1TS TAPE), and a detail of the insulation tape (MYLAR TAPE 25um*9mmW*2Ls) and epoxy application. Dimensions include 5.0mm MIN for the core width and 3.0mm MIN for the tape thickness. A legend indicates that a black dot represents the 'START' of a winding and a rectangle represents a 'TEFLON TUBE'.</p>                                                                                                                                                                                                                                                                 |                            |  |
| <p><u>Insulation tape:</u></p> <ul style="list-style-type: none"> <li>- 3M Company, type No. 1350F-1</li> <li>- Jingjiang Yahua Pressure Sensitive Glue Co., Ltd., type No. CT</li> <li>- Symbio, type 35660Y*d</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |  |

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

|                                              |                                                                                                                                |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Description of design:                       |                                                                                                                                |
| (a) Bobbin                                   |                                                                                                                                |
| Primary/input pins..... :                    | 5 – 4 ; 1 – 2 – 3                                                                                                              |
| Secondary/output pins..... :                 | 9, 10 – 6, 7                                                                                                                   |
| Material (manufacturer, type, ratings) ..... | Types PM-9820, PM-8735 of Sumitomo Bakelite, phenolic, 150 °C, V-0<br>Type T375J of Chang Chun Plastics, phenolic, 150 °C, V-0 |
| Thickness (mm) .....                         | Min. 0.4 mm                                                                                                                    |

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

List of test equipment used:  
(Note: This is an example of the required attachment. Other forms with a different layout but containing similar information are also acceptable.)

| Clause | Measurement / testing | Testing / measuring equipment / material used | Range used | Calibration date |
|--------|-----------------------|-----------------------------------------------|------------|------------------|
|        |                       |                                               |            |                  |
|        |                       |                                               |            |                  |
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|        |                       |                                               |            |                  |
|        |                       |                                               |            |                  |

No listing of test equipment used necessary for chosen test procedure.

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## Measurement Section

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| IEC 60950-1/Am1                                                                                                                                                                                  |                       |                     |             |                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------|-------------|-----------------------------------------------------------------------|
| Clause                                                                                                                                                                                           | Requirement + Test    |                     |             | Verdict                                                               |
| 2.1.1.7                                                                                                                                                                                          | TABLE: Discharge test |                     |             | P                                                                     |
| Condition                                                                                                                                                                                        | $\tau$ calculated (s) | $\tau$ measured (s) | t u→ 0V (s) | Comments                                                              |
| Fuse in (L-N)                                                                                                                                                                                    | --                    | 0.73                | --          | $U_{OC} = 379$ Vpk, 37% of $U_{OC} = 140$ Vpk, $U_{t=1s} = 95.83$ Vpk |
| Supplementary information:<br>Input condition: 264 Vac, 60 Hz<br>Overall capacity: 0.94 $\mu$ F (C9901=C9902= 0.47 $\mu$ F)<br>Bleeder resistor: 0.78 M $\Omega$ (R9901=R9902= 0.39 M $\Omega$ ) |                       |                     |             |                                                                       |

| 2.4.2                      | TABLE: Limited current circuit measurement |              |             |            |          | N/A |
|----------------------------|--------------------------------------------|--------------|-------------|------------|----------|-----|
| Location                   | Voltage (V)                                | Current (mA) | Freq. (kHz) | Limit (mA) | Comments |     |
|                            |                                            |              |             |            |          |     |
|                            |                                            |              |             |            |          |     |
| Supplementary information: |                                            |              |             |            |          |     |

|                                                         |                                           |                          |                                                          |
|---------------------------------------------------------|-------------------------------------------|--------------------------|----------------------------------------------------------|
| 2.6.3.4                                                 | TABLE: Resistance of earthing measurement |                          | P                                                        |
| Location                                                |                                           | Resistance measured (mΩ) | Comments                                                 |
| The earth pin of appliance inlet to metal enclosure     |                                           | 15                       | Test current at 40 A, for 2 min. voltage drop to 0.6 V.  |
| The earth pin of appliance inlet to C9903 earthed trace |                                           | 5                        | Test current at 40 A, for 2 min. voltage drop to 0.2 V.  |
| The earth pin of appliance inlet to C9907 earthed trace |                                           | 1                        | Test current at 40 A, for 2 min. voltage drop to 0.04 V. |
| The earth pin of appliance inlet to C9909 earthed trace |                                           | 20                       | Test current at 40 A, for 2 min. voltage drop to 0.8 V.  |
| Supplementary information:                              |                                           |                          |                                                          |
| 1. The voltage drop shall not exceed 2.5V.              |                                           |                          |                                                          |

|                           |                                       |           |                                                                       |
|---------------------------|---------------------------------------|-----------|-----------------------------------------------------------------------|
| 4.6.1 and 4.6.2           | Table: Enclosure opening measurements |           | P                                                                     |
| Location                  |                                       | Size (mm) | Comments                                                              |
| At horizontal orientation |                                       |           |                                                                       |
| Top                       |                                       | Ø4.7      | Numerous circular openings. Those do not exceed 5mm in any dimension. |

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## Measurement Section

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| IEC 60950-1/Am1            |                                                                    |                                                                                                                                                      |         |
|----------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Clause                     | Requirement + Test                                                 | Result - Remark                                                                                                                                      | Verdict |
| Left                       | Ø4.7                                                               | Numerous circular openings. Those do not exceed 5mm in any dimension.                                                                                |         |
| Right                      | Ø1.7                                                               | Numerous circular openings. Those do not exceed 5mm in any dimension.                                                                                |         |
| Bottom                     | Max. Ø 1.7<br>centre to centre min. 3.1 mm,<br>thickness min. 0.81 | Numerous circular openings provided, These openings complied with table 4D request.                                                                  |         |
| Rear                       | 1) Ø4.7<br>2) Ø2.9                                                 | 1) Numerous circular openings. Those do not exceed 5mm in any dimension.<br>2) Numerous circular openings. Those do not exceed 5mm in any dimension. |         |
| Front                      | None                                                               | --                                                                                                                                                   |         |
| At vertical orientation    |                                                                    |                                                                                                                                                      |         |
| Top                        | Ø4.7                                                               | Numerous circular openings. Those do not exceed 5mm in any dimension.                                                                                |         |
| Left                       | Ø1.7                                                               | Numerous circular openings. Those do not exceed 5mm in any dimension.                                                                                |         |
| right                      | Ø4.7                                                               | Numerous circular openings. Those do not exceed 5mm in any dimension.                                                                                |         |
| Bottom                     | Max. Ø 1.7<br>centre to centre min. 3.1 mm,<br>thickness min. 0.81 | Numerous circular openings provided, These openings complied with table 4D request.                                                                  |         |
| Rear                       | 1) Ø4.7<br>2) Ø2.9                                                 | 1) Numerous circular openings. Those do not exceed 5mm in any dimension.<br>2) Numerous circular openings. Those do not exceed 5mm in any dimension. |         |
| Front                      | None                                                               | --                                                                                                                                                   |         |
| Supplementary information: |                                                                    |                                                                                                                                                      |         |

| IEC60950_1B - ATTACHMENT |                    |                 |         |
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| Clause                   | Requirement + Test | Result - Remark | Verdict |

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| <b>ATTACHMENT TO TEST REPORT IEC 60950-1</b><br><b>EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES</b><br><b>Information technology equipment – Safety –</b><br><b>Part 1: General requirements</b> |                                           |
| <b>Differences according to.....:</b>                                                                                                                                                                   | EN 60950-1:2006/A11:2009/A1:2010/A12:2011 |
| <b>Attachment Form No.....:</b>                                                                                                                                                                         | EU_GD_IEC60950_1B_II                      |
| <b>Attachment Originator .....</b>                                                                                                                                                                      | SGS Fimko Ltd                             |
| <b>Master Attachment .....</b>                                                                                                                                                                          | Date 2011-08                              |
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| <b>EN 60950-1:2006/A11:2009/A1:2010/A12:2011 – CENELEC COMMON MODIFICATIONS</b> |
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| <b>IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |   |
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| Contents                                                                | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  | 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>4.7.3.1 Note 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 (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_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |         |
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| Clause                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Result - Remark | Verdict |
| 1.3.Z1                   | <p>Add the following subclause:</p> <p>1.3.Z1 Exposure to excessive sound pressure</p> <p>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.</p> <p>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.</p> | Added.          | N/A     |
| (A12:2011)               | <p>In EN 60950-1:2006/A12:2011</p> <p>Delete the addition of 1.3.Z1 / EN 60950-1:2006</p> <p>Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Deleted.        | N/A     |
| 1.5.1                    | <p>Add the following NOTE:</p> <p>NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Added.          | P       |
| 1.7.2.1<br>(A1:2010)     | <p>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.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Added.          | N/A     |
| 1.7.2.1<br>(A12:2011)    | <p>In EN 60950-1:2006/A12:2011</p> <p>Delete NOTE Z1 and the addition for Portable Sound System.</p> <p>Add the following clause and annex to the existing standard and amendments.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 | N/A     |
|                          | <b>Zx Protection against excessive sound pressure from personal music players</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 | N/A     |

| IEC60950_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |         |
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| Clause                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Result - Remark | Verdict |
|                          | <p><b>Zx.1 General</b></p> <p>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.</p> <p>A personal music player is a portable equipment for personal use, that:</p> <ul style="list-style-type: none"> <li>– is designed to allow the user to listen to recorded or broadcast sound or video; and</li> <li>– primarily uses headphones or earphones that can be worn in or on or around the ears; and</li> <li>– allows the user to walk around while in use.</li> </ul> <p>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.</p> <p>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.</p> <p>The requirements in this sub-clause are valid for music or video mode only.</p> <p>The requirements do not apply:</p> <ul style="list-style-type: none"> <li>– while the personal music player is connected to an external amplifier; or</li> <li>– while the headphones or earphones are not used.</li> </ul> <p>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.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> <li>– hearing aid equipment and professional equipment;</li> </ul> <p>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.</p> |                 | N/A     |

| IEC60950_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |         |
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| Clause                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Result - Remark | Verdict |
|                          | <p>– 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.</p> <p>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.</p> <p>For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |         |
|                          | <p><b>Zx.2 Equipment requirements</b></p> <p>No safety provision is required for equipment that complies with the following:</p> <ul style="list-style-type: none"> <li>– equipment provided as a package (personal music player with its listening device), where the acoustic output <math>L_{Aeq,T}</math> is <math>\leq 85</math> dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and</li> <li>– a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is <math>\leq 27</math> mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1.</li> </ul> <p>NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level <math>L_{Aeq,T}</math> is meant. See also Zx.5 and Annex Zx.</p> <p>All other equipment shall:</p> <ul style="list-style-type: none"> <li>a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and</li> <li>b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and</li> </ul> |                 | N/A     |

| IEC60950_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |         |
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|                          | <p>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</p> <p>NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.</p> <p>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.</p> <p>d) have a warning as specified in Zx.3; and</p> <p>e) not exceed the following:</p> <p>1) equipment provided as a package (player with its listening device), the acoustic output shall be <math>\leq 100</math> dBA measured while playing the fixed "programme simulation noise" described in EN 50332-1; and</p> <p>2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be <math>\leq 150</math> mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" described in EN 50332-1.</p> <p>For music where the average sound pressure (long term <math>L_{Aeq,T}</math>) 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.</p> <p>NOTE 4 Classical music typically has an average sound pressure (long term <math>L_{Aeq,T}</math>) 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.</p> <p>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.</p> |                 | N/A     |

| IEC60950_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |         |
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| Clause                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Result - Remark | Verdict |
|                          | <p><b>Zx.3 Warning</b></p> <p>The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:</p> <ul style="list-style-type: none"> <li>– the symbol of Figure 1 with a minimum height of 5 mm; and</li> <li>– the following wording, or similar:</li> </ul> <p>“To prevent possible hearing damage, do not listen at high volume levels for long periods.”</p>  <p><b>Figure 1 – Warning label (IEC 60417-6044)</b></p> <p>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.</p> |                 | N/A     |
|                          | <b>Zx.4 Requirements for listening devices (headphones and earphones)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 | N/A     |
|                          | <p><b>Zx.4.1 Wired listening devices with analogue input</b></p> <p>With 94 dBA sound pressure output <math>L_{Aeq,T}</math>, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be <math>\geq 75</math> mV.</p> <p>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).</p> <p>NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.</p>                                                                                                                                                                                                            |                 | N/A     |

| IEC60950_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |         |
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| Clause                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Result - Remark | Verdict |
|                          | <p><b>Zx.4.2 Wired listening devices with digital input</b></p> <p>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 <math>L_{Aeq,T}</math> of the listening device shall be <math>\leq 100</math> dBA.</p> <p>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.).</p> <p>NOTE An example of a wired listening device with digital input is a USB headphone.</p>                                                                                                                                                          |                 | N/A     |
|                          | <p><b>Zx.4.3 Wireless listening devices</b></p> <p>In wireless mode:</p> <ul style="list-style-type: none"> <li>– with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and</li> <li>– respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and</li> <li>– 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 <math>L_{Aeq,T}</math> of the listening device shall be <math>\leq 100</math> dBA.</li> </ul> <p>NOTE An example of a wireless listening device is a Bluetooth headphone.</p> |                 | N/A     |
|                          | <p><b>Zx.5 Measurement methods</b></p> <p>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.</p> <p>NOTE Test method for wireless equipment provided without listening device should be defined.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 | N/A     |

| IEC60950_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |         |
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| 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.                                                                                                                                |                 | P       |
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 | 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><br>In Table 3B, replace the first four lines by the following:<br>Up to and including 6   0,75 <sup>a)</sup>  <br>Over 6 up to and including 10   (0,75) <sup>b)</sup> 1,0  <br>Over 10 up to and including 16   (1,0) <sup>c)</sup> 1,5  <br><br>In the conditions applicable to Table 3B delete the words "in some countries" in condition <sup>a)</sup> .<br>In NOTE 1, applicable to Table 3B, delete the second sentence.                                                                                                                                                                 |                 | N/A     |

| IEC60950_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                        |                 |         |
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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 (artificial 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.                                                                                                                                                                                                                                                                                                                                                                               |                 | —       |

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| <b>ZA</b> | <b>NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS</b> | — |
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| ZB ANNEX (normative)<br>SPECIAL NATIONAL CONDITIONS (EN) |                                                                                                                                                                                                                                                                                     |                 |         |
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| Clause                                                   | Requirement + Test                                                                                                                                                                                                                                                                  | Result - Remark | Verdict |
| 1.2.4.1                                                  | In <b>Denmark</b> , 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                                                | In <b>Norway</b> and <b>Sweden</b> , for requirements see 1.7.2.1 and 7.3 of this annex.                                                                                                                                                                                            |                 | N/A     |
| 1.5.7.1                                                  | In <b>Finland</b> , <b>Norway</b> and <b>Sweden</b> , 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     |

| IEC60950_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |         |
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| Clause                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Result - Remark | Verdict |
| 1.5.8                    | In <b>Norway</b> , 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 <b>Finland, Norway and Sweden</b> , 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                  | <p>In <b>Finland, Norway and Sweden</b>, 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.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p> <p>In <b>Norway and Sweden</b>, 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.</p> <p>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.</p> <p>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:</p> <p>"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)."</p> |                 | N/A     |

| IEC60950_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |         |
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| Clause                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Result - Remark | Verdict |
|                          | <p>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.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet 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.”</p> <p>Translation to Swedish:</p> <p>”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”</p> |                 |         |
| 1.7.5                    | <p>In <b>Denmark</b>, 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.</p> <p>For <b>CLASS II EQUIPMENT</b> the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 | N/A     |
| 2.2.4                    | In <b>Norway</b> , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 | N/A     |
| 2.3.2                    | In <b>Finland, Norway</b> and <b>Sweden</b> there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 | N/A     |
| 2.3.4                    | In <b>Norway</b> , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 | N/A     |
| 2.6.3.3                  | In the <b>United Kingdom</b> , the current rating of the circuit shall be taken as 13 A, not 16 A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 | P       |
| 2.7.1                    | In the <b>United Kingdom</b> , 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 | N/A     |

| IEC60950_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |         |
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| Clause                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Result - Remark | Verdict |
| 2.10.5.13                | In <b>Finland, Norway</b> and <b>Sweden</b> , 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                  | <p>In <b>Switzerland</b>, 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:</p> <p>SEV 6532-2.1991 Plug Type 15 3P+N+PE<br/>250/400 V, 10 A</p> <p>SEV 6533-2.1991 Plug Type 11 L+N<br/>250 V, 10 A</p> <p>SEV 6534-2.1991 Plug Type 12 L+N+PE<br/>250 V, 10 A</p> <p>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:</p> <p>SEV 5932-2.1998: Plug Type 25 , 3L+N+PE<br/>230/400 V, 16 A</p> <p>SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A</p> <p>SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A</p> |                 | N/A     |
| 3.2.1.1                  | <p>In <b>Denmark</b>, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>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.</p> <p>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.</p>                                                                                             |                 | N/A     |

| IEC60950_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |         |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Result - Remark | Verdict |
| 3.2.1.1                  | <p>In <b>Spain</b>, 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.</p> <p>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.</p> <p>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.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p> |                 | N/A     |
| 3.2.1.1                  | <p>In the <b>United Kingdom</b>, 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.</p> <p>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>                                                                                                                                                                                  |                 | N/A     |
| 3.2.1.1                  | <p>In <b>Ireland</b>, 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.</p>                                                                                                                                                                                                                                                                                                                      |                 | N/A     |
| 3.2.4                    | <p>In <b>Switzerland</b>, for requirements see 3.2.1.1 of this annex.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 | N/A     |
| 3.2.5.1                  | <p>In the <b>United Kingdom</b>, a power supply cord with conductor of 1,25 mm<sup>2</sup> is allowed for equipment with a rated current over 10 A and up to and including 13 A.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 | N/A     |
| 3.3.4                    | <p>In the <b>United Kingdom</b>, 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:</p> <ul style="list-style-type: none"> <li>• 1,25 mm<sup>2</sup> to 1,5 mm<sup>2</sup> nominal cross-sectional area.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                           |                 | N/A     |

| IEC60950_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |         |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Result - Remark | Verdict |
| 4.3.6                    | In the <b>United Kingdom</b> , 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.                                                                                                                                                                 |                 | N/A     |
| 4.3.6                    | In <b>Ireland</b> , 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.                                                                                                                                                                                                                                                                                                                                                                                                          |                 | N/A     |
| 5.1.7.1                  | In <b>Finland, Norway and Sweden</b> TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:<br><ul style="list-style-type: none"> <li>• 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;</li> <li>• STATIONARY PLUGGABLE EQUIPMENT TYPE B;</li> <li>• STATIONARY PERMANENTLY CONNECTED EQUIPMENT.</li> </ul> |                 | N/A     |

| IEC60950_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |         |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Result - Remark | Verdict |
| 6.1.2.1<br>(A1:2010)     | <p>In <b>Finland, Norway and Sweden</b>, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> <li>- two layers of thin sheet material, each of which shall pass the electric strength test below, or</li> <li>- one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.</li> </ul> <p>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 accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> <li>- 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</li> <li>- is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.</li> </ul> |                 | N/A     |
|                          | <p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> <li>- 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;</li> <li>- the additional testing shall be performed on all the test specimens as described in EN 60384-14;</li> <li>- 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.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                     |                 | N/A     |

| IEC60950_1B - ATTACHMENT |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |         |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Result - Remark | Verdict |
| 6.1.2.2                  | In <b>Finland, Norway</b> and <b>Sweden</b> , 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. |                 | N/A     |
| 7.2                      | In <b>Finland, Norway</b> and <b>Sweden</b> , 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.                                                                                                                                                                                                                                                                      |                 | N/A     |
| 7.3                      | In <b>Norway</b> and <b>Sweden</b> , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.                                                                                                                                                                                                                                                                                                                                                                                  |                 | N/A     |
| 7.3                      | In <b>Norway</b> , for installation conditions see EN 60728-11:2005.                                                                                                                                                                                                                                                                                                                                                                                                            |                 | N/A     |

| National Differences to IEC 60950-1:2005 + A1:2009 |                    |                 |         |
|----------------------------------------------------|--------------------|-----------------|---------|
| 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. 60950-1-07

### SPECIAL NATIONAL CONDITIONS

The following is a summary of the key national differences based on national regulatory requirements, such as the Canadian Electrical Code (CEC) Part and the Canadian Building Code, which are referenced in legislation and which form the basis for the rules and practices followed in electrical and building installations

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                            |     |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----|
| 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. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.                                                                                                                                                                                                              | Unit was evaluated according to IEC 60950-1. The requirements have to be checked during national approval. | 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 CEC/NEC.<br><br>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.<br><br>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 if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions." | Single-phase equipment.                                                                                    | N/A |

| National Differences to IEC 60950-1:2005 + A1:2009 |                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                |         |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|---------|
| Clause                                             | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                               | Result - Remark                                                                | Verdict |
| 1.7.7                                              | Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC shall be marked with the voltage rating and "Class 2" or equivalent. Marking shall be located adjacent to the terminals and shall be visible during wiring.                                                                                                                                                             | Not applied for.                                                               | N/A     |
| 2.5                                                | Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.                                                                                                                                                                                                                                                    | Fuse that is used to provide LPS current limiting, is not operator-accessible. | P       |
| 2.7.1                                              | Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.<br><br>Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection. |                                                                                | N/A     |
| 3.2                                                | Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.                                                                                                                                                                                                                                                                           |                                                                                | N/A     |
| 3.2.1                                              | Power supply cords are required to have attachment plugs 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, is required to comply with special earthing, wiring, marking and installation instruction requirements.                                                                                                                          | Not applied for.                                                               | 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.                                                                                                                                                                                                                                                                       |                                                                                | N/A     |
| 3.2.5                                              | Power supply cords are required to be no longer than 4.5 m in length.<br><br>Flexible power supply cords are required to be compatible with Tables 11 and 12 of the CEC and Article 400 of the NEC.                                                                                                                                                                                                              | No power supply cord provided.                                                 | N/A     |
| 3.2.9                                              | Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.                                                                                                                                                                                                                                                                                                        |                                                                                | N/A     |
| 3.3                                                | Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.                                                                                                                                                                                                                                                                                                         |                                                                                | N/A     |
| 3.3.3                                              | Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm <sup>2</sup> ).                                                                                                                                                                                                                                                                                                            | No wire binding screws.                                                        | N/A     |

| National Differences to IEC 60950-1:2005 + A1:2009                                                                                       |                                                                                                                                                                                                                                                                                                                                               |                           |         |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------|
| Clause                                                                                                                                   | Requirement + Test                                                                                                                                                                                                                                                                                                                            | Result - Remark           | Verdict |
| 3.3.4                                                                                                                                    | Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for Canadian/US wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).                                                                                                             |                           | N/A     |
| 3.4.2                                                                                                                                    | Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).                                                                                        | No motor control devices. | N/A     |
| 3.4.8                                                                                                                                    | Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.                                                                                                                                                                                                |                           | N/A     |
| 3.4.11                                                                                                                                   | For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.                                                                                                              | No battery systems.       | N/A     |
| 4.3.12                                                                                                                                   | The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.                                                                                                                                                                                                                                              |                           | N/A     |
| 4.3.13.5                                                                                                                                 | Equipment with lasers is required to meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.                                                                                                                                                                              | No Laser.                 | N/A     |
| 4.7                                                                                                                                      | For computer room applications, automated information storage systems with combustible media greater than 0.76 m <sup>3</sup> (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.                                                   |                           | N/A     |
| 4.7.3.1                                                                                                                                  | For computer room applications, enclosures with combustible material measuring greater than 0.9 m <sup>2</sup> (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less. | No such enclosures.       | N/A     |
| Annex H                                                                                                                                  | Equipment that produces ionizing radiation is required to comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.                                                                                                                                                 | No ionizing radiation.    | N/A     |
| <b>OTHER DIFFERENCES</b><br>The following key national differences are based on requirements other than national regulatory requirements |                                                                                                                                                                                                                                                                                                                                               |                           |         |

| National Differences to IEC 60950-1:2005 + A1:2009 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                 |         |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------|
| Clause                                             | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Result - Remark                                                                                 | Verdict |
| 1.5.1                                              | <p>Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include:</p> <p>attachment plugs, battery packs (rechargeable type, used with transportable equipment), 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, 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 cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.</p> | Components are approved by UL, see appended table 1.5.1 of IEC 60950-1 test report for details. | 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. This maximum operating voltage shall include consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No connection to DC mains supply.                                                               | N/A     |
| 2.3.1                                              | For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V <sub>peak</sub> or 60 V <sub>d.c.</sub> , 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 within the equipment.                                                           | 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 within the equipment.                                                           | N/A     |
| 2.6.3.3                                            | The current rating of the circuit shall be taken as 20 A not 16 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                 | P       |
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                 | N/A     |
| 4.2.8.1                                            | Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                 | N/A     |

| National Differences to IEC 60950-1:2005 + A1:2009 |                                                                                                                                                                                                                                                                                                                                                                      |                  |         |
|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------|
| Clause                                             | Requirement + Test                                                                                                                                                                                                                                                                                                                                                   | Result - Remark  | Verdict |
| 4.3.2                                              | Equipment with handles is required to comply with special loading tests.                                                                                                                                                                                                                                                                                             |                  | N/A     |
| 5.1.8.3                                            | Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.                                                                                                                                                                                                                                |                  | 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 to be overloaded.<br><br>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 required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.                                                                                                                                                                     | No TNV circuits. | 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 circuits. | 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 is required to comply with special acoustic pressure requirements.                                                                                                                                               | No TNV circuits. | N/A     |

| National Differences to IEC 60950-1:2005 + A1:2009 |                    |                 |         |
|----------------------------------------------------|--------------------|-----------------|---------|
| 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\_1B

**Attachment Originator** .....: SGS Fimko Ltd

**Master Attachment**.....: Date (2010-04)

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|                | National Differences                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | P   |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>General</b> | See also Group Differences (EN 60950-1:2006/A11/A1)                                                                                                                                                                                                                                                                                                                                                                                                                                            | P   |
| 1.5.7.1        | In <b>Finland</b> 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 <b>Finland</b> , 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 <b>Finland</b> , 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 <b>Finland</b> , there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.                                                                                                                                                                                                                                                                                                                                                                               | N/A |
| 2.10.5.13      | In <b>Finland</b> , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.                                                                                                                                                                                                                                                                                                                                                                               | N/A |

| National Differences to IEC 60950-1:2005 + A1:2009 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |         |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                                             | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Result - Remark | Verdict |
| 5.1.7.1                                            | <p>In <b>Finland</b>, TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:</p> <ul style="list-style-type: none"> <li>• STATIONARY PLUGGABLE EQUIPMENT TYPE A that <ul style="list-style-type: none"> <li>- is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and</li> <li>- has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and</li> <li>- is provided with instructions for the installation of that conductor by a SERVICE PERSON;</li> </ul> </li> <li>• STATIONARY PLUGGABLE EQUIPMENT TYPE B;</li> <li>• STATIONARY PERMANENTLY CONNECTED EQUIPMENT.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 | N/A     |
| 6.1.2.1<br>(A1:2010)                               | <p>In <b>Finland</b>, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> <li>- two layers of thin sheet material, each of which shall pass the electric strength test below, or</li> <li>- one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.</li> </ul> <p>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</p> <ul style="list-style-type: none"> <li>- 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</li> <li>- is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.</li> </ul> |                 | N/A     |

| National Differences to IEC 60950-1:2005 + A1:2009 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |         |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                                             | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Result - Remark | Verdict |
|                                                    | <p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> <li>- 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;</li> <li>- the additional testing shall be performed on all the test specimens as described in EN 60384-14:2005;</li> <li>- 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.</li> </ul> |                 |         |
| 6.1.2.2                                            | <p>In <b>Finland</b>, 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.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 | N/A     |
| 7.2                                                | <p>In <b>Finland</b>, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 | N/A     |

| National Differences to IEC 60950-1:2005 + A1:2009 |                    |                 |         |
|----------------------------------------------------|--------------------|-----------------|---------|
| 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,<br>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. |  | P |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---|

| National Differences to IEC 60950-1:2005 + A1:2009 |                    |                 |         |
|----------------------------------------------------|--------------------|-----------------|---------|
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | P   |
| 1.6     | The clause is applicable with the following addition:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | P   |
| 1.6.1   | Add following note:<br>In Israel, this clause is applicable subject to the Electricity Law, 1954, its regulations and revisions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | P   |
| 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:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | 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 its 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | N/A |
| 2       | The clause is applicable with the following additions:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | P   |

| National Differences to IEC 60950-1:2005 + A1:2009 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |         |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                                             | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Result - Remark | Verdict |
| 2.9.4                                              | <p>The following shall be added at the beginning of the clause:</p> <p>In Israel, according to the Electricity Law, 1954, and the Electricity Regulations (Earthing and means of protection against electricity of voltages up to 1,000V) 1991, seven means of protection against electrocution are permitted, as follows:</p> <ol style="list-style-type: none"> <li>1) TN-S - Network system earthing; TN-C-S - Network system earthing;</li> <li>2) TT - Network system earthing;</li> <li>3) IT - Network Insulation Terre;</li> <li>4) Isolated transformer;</li> <li>5) Safety extra low voltage (SELV or ELV);</li> <li>6) Residual current circuit breaker (30 mA = I<sub>Δ</sub>);</li> <li>7) Reinforced insulation; Double insulation (class II)</li> </ol> |                 | P       |
| 2.201                                              | <p>Prevention of electromagnetic interference</p> <p>- 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.</p> <p><u>The apparatus shall meet the requirements in the appropriate part of the Standard series, SI 961.</u></p> <p>- 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.</p>                                                                                                                                                 |                 | N/A     |
| 3                                                  | The clause is applicable with the following additions:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 | N/A     |
| 3.2.1.1                                            | <p>Connection to an a.c. mains supply</p> <p>After the note, the following note shall be added:</p> <p>Note:</p> <p>In Israel, the feed plug shall comply with the requirements of Israel Standard SI 32 Part 1.1.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 | N/A     |
| 3.2.1.2                                            | <p>Connection to a d.c. mains supply</p> <p>At the end of the first paragraph, the following note shall be added:</p> <p>Note:</p> <p>At the time of issue of this Standard, there is no Israel Standard for connection accessories to d.c.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 | N/A     |
| Annex P                                            | <p>Normative references</p> <p>(List of relevant Israel Standards that have been inserted in place of some of the International Standards)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 | P       |

| National Differences to IEC 60950-1:2005 + A1:2009 |                    |                 |         |
|----------------------------------------------------|--------------------|-----------------|---------|
| 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) |  | N/A |
| 8       | EMC<br>The apparatus shall comply with the relevant CISPR standards.                                              |  | N/A |

| National Differences to IEC 60950-1:2005                 |                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                         |         |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------|
| Clause                                                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                    | Result - Remark                                                                                                         | Verdict |
|                                                          | US National Differences                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                         | P       |
| SPECIAL NATIONAL CONDITIONS BASED ON FEDERAL REGULATIONS |                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                         |         |
| 1.1.1                                                    | All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.                                | The equipment was evaluated according to IEC 60950-1. The requirements have to be checked during the national approval. | 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 specified in the NEC. 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     |
| 2.5                                                      | Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.                                                                                                                                                                                                                                         |                                                                                                                         | N/A     |
| 2.7.1                                                    | Suitable NEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection. | No standard supply outlets, receptacles, medium-base or smaller lampholders provided.                                   | N/A     |
| 3.2                                                      | Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC.                                                                                                                                                                                                                                                                    | Pluggable equipment type A.                                                                                             | N/A     |
| 3.2.1                                                    | Power supply cords are required to have attachment plugs 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, is required to comply with special earthing, wiring, marking and installation instruction requirements.                                                                                                               | Not applicable for the equipment.                                                                                       | N/A     |

| National Differences to IEC 60950-1:2005 |                                                                                                                                                                                                                                                                                             |                                                       |         |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|---------|
| Clause                                   | Requirement + Test                                                                                                                                                                                                                                                                          | Result - Remark                                       | Verdict |
| 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.                                                                                                                                                  | The equipment is not permanently connected equipment. | N/A     |
| 3.2.5                                    | Power supply cords are required to be no longer than 4.5 m in length and minimum length shall be 1.5 m. Flexible power supply cords are required to be compatible with Article 400 of the NEC.                                                                                              | No power supply cord provided.                        | N/A     |
| 3.2.9                                    | Permanently connected equipment must have a suitable wiring compartment and wire bending space.                                                                                                                                                                                             | The equipment is not permanently connected equipment. | N/A     |
| 3.3.3                                    | Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm <sup>2</sup> ).                                                                                                                                                                                       | No wire binding screws.                               | N/A     |
| 3.3.4                                    | Terminals for permanent wiring, including protective earthing terminals, must be suitable for U.S wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).                                                                              | No terminals for permanent wiring.                    | N/A     |
| 3.4.2                                    | Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).                                      | No motor control devices.                             | N/A     |
| 3.4.8                                    | Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.                                                                                                                                              | No such switches and circuit breakers.                | N/A     |
| 3.4.11                                   | For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.                                                            | No battery systems.                                   | N/A     |
| 4.3.12                                   | The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.                                                                                                                                                                                            | No flammable liquid.                                  | N/A     |
| 4.3.13.5                                 | Equipment with lasers is required to meet the Code of Federal Regulations 21 CFR 1040.                                                                                                                                                                                                      | No Laser.                                             | N/A     |
| 4.7                                      | For computer room applications, automated information storage systems with combustible media greater than 0.76 m <sup>3</sup> (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge. | Not automated information storage systems.            | N/A     |

| National Differences to IEC 60950-1:2005 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                 |         |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------|
| Clause                                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Result - Remark                                                                                 | Verdict |
| 4.7.3.1                                  | For computer room applications, enclosures with combustible material measuring greater than 0.9 m <sup>2</sup> (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | No such enclosures.                                                                             | N/A     |
| Annex H                                  | Equipment that produces ionizing radiation must comply with Federal Regulations, 21 CFR 1020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | No ionizing radiation.                                                                          | N/A     |
| OTHER NATIONAL DIFFERENCES               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                 |         |
| 1.5.1                                    | Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), 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, 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 cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables. | Components are approved by UL, see appended table 1.5.1 of IEC 60950-1 test report for details. | 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. This maximum operating voltage it to include consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | No connection to DC mains supply.                                                               | N/A     |
| 2.3.1                                    | For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V <sub>peak</sub> or 60 V <sub>d.c.</sub> , the max. 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 within the equipment.                                                           | N/A     |

| National Differences to IEC 60950-1:2005 |                                                                                                                                                                                                                                                                                                                                                               |                                       |         |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------|
| Clause                                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                            | Result - Remark                       | Verdict |
| 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 within the equipment. | 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.                                                                                                                                                             |                                       | N/A     |
| 4.2.8.1                                  | Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.                                                                                                                                                                                                                      | No CRT.                               | N/A     |
| 4.2.11                                   | For equipment intended for mounting on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation, service and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails.                                                           | The equipment is not such equipment.  | N/A     |
| 4.3.2                                    | Equipment with handles is required to comply with special loading tests.                                                                                                                                                                                                                                                                                      |                                       | N/A     |
| 5.1.8.3                                  | Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.                                                                                                                                                                                                                         | No TNV circuits within the equipment. | 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 to be overloaded. 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 required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.                                                                                                                                                              | No TNV circuits within the equipment. | 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 circuits within the equipment. | 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 is required to comply with special acoustic pressure requirements.                                                                                                                                        |                                       | N/A     |

| National Differences to IEC 60950-1:2005 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                      |         |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------|
| Clause                                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Result - Remark                      | Verdict |
| Annex NAF                                | Document (paper) shredders likely to be used in a home or home office (Pluggable Equipment Type A plug configuration) are required to comply with additional requirements, including markings/instructions, protection against inadvertent reactivation of a safety interlock, disconnection from the mains supply (via provision of an isolating switch), and protection against operator access (accessibility determined via new accessibility probe & probe/wedge). | The equipment is not such equipment. | N/A     |

| National Differences to IEC 60950-1:2005 |                    |                 |         |
|------------------------------------------|--------------------|-----------------|---------|
| Clause                                   | Requirement + Test | Result - Remark | Verdict |

|                                                                                                                                                                                                                  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| <p align="center"><b>ATTACHMENT TO TEST REPORT IEC 60950-1</b><br/> <b>AUSTRALIA and NEW ZEALAND NATIONAL DIFFERENCES</b><br/> Information technology equipment – Safety –<br/> Part 1: General requirements</p> |  |  |  |
| Differences according to.....: AS/NZS 60950.1:2011                                                                                                                                                               |  |  |  |

|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |     |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----|
| 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><b>1.2.12.201</b><br><b>POTENTIAL IGNITION SOURCE</b><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   |

| National Differences to IEC 60950-1:2005 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                          |                         |  |                                                 |                                                                          |                                |                  |          |                                |      |          |                                 |                     |          |                                |                                |        |           |     |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------|--|-------------------------------------------------|--------------------------------------------------------------------------|--------------------------------|------------------|----------|--------------------------------|------|----------|---------------------------------|---------------------|----------|--------------------------------|--------------------------------|--------|-----------|-----|
| Clause                                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Result - Remark                                                          | Verdict                 |  |                                                 |                                                                          |                                |                  |          |                                |      |          |                                 |                     |          |                                |                                |        |           |     |
| 3.2.5.1                                  | <div>Modify Table 3B as follows:</div> <div>1. Delete the first four rows and replace with the following:</div> <table><tr><th rowspan="2">RATED CURRENT of equipment<br/><br/>A</th><th colspan="2">Minimum conductor sizes</th></tr><tr><th>Nominal cross-sectional area<br/>mm<sup>2</sup></th><th>AWG or kcmil<br/>[cross-sectional area in mm<sup>2</sup>]<br/>see Note 2</th></tr><tr><td>Over 0.2 up to and including 3</td><td>0,5 <sup>a</sup></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) <sup>b</sup></td><td>16 [1,3]</td></tr><tr><td>Over 10 up to and including 16</td><td>1,00<br/>(1,0) <sup>c</sup> 1,5</td><td>14 [2]</td></tr></table> <div>2. Delete NOTE 1.</div> <div>3. Delete Footnote <sup>a</sup> and replace with the following:</div> <div><sup>a</sup> 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 mm<sup>2</sup> three-core supply flexible cords are not permitted; see AS/NZS 3191).</div> | RATED CURRENT of equipment<br><br>A                                      | Minimum conductor sizes |  | Nominal cross-sectional area<br>mm <sup>2</sup> | AWG or kcmil<br>[cross-sectional area in mm <sup>2</sup> ]<br>see Note 2 | Over 0.2 up to and including 3 | 0,5 <sup>a</sup> | 18 [0,8] | Over 3 up to and including 7.5 | 0,75 | 16 [1,3] | Over 7.5 up to and including 10 | (0,75) <sup>b</sup> | 16 [1,3] | Over 10 up to and including 16 | 1,00<br>(1,0) <sup>c</sup> 1,5 | 14 [2] | Modified. | N/A |
| RATED CURRENT of equipment<br><br>A      | Minimum conductor sizes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                          |                         |  |                                                 |                                                                          |                                |                  |          |                                |      |          |                                 |                     |          |                                |                                |        |           |     |
|                                          | Nominal cross-sectional area<br>mm <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | AWG or kcmil<br>[cross-sectional area in mm <sup>2</sup> ]<br>see Note 2 |                         |  |                                                 |                                                                          |                                |                  |          |                                |      |          |                                 |                     |          |                                |                                |        |           |     |
| Over 0.2 up to and including 3           | 0,5 <sup>a</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 18 [0,8]                                                                 |                         |  |                                                 |                                                                          |                                |                  |          |                                |      |          |                                 |                     |          |                                |                                |        |           |     |
| Over 3 up to and including 7.5           | 0,75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 16 [1,3]                                                                 |                         |  |                                                 |                                                                          |                                |                  |          |                                |      |          |                                 |                     |          |                                |                                |        |           |     |
| Over 7.5 up to and including 10          | (0,75) <sup>b</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 16 [1,3]                                                                 |                         |  |                                                 |                                                                          |                                |                  |          |                                |      |          |                                 |                     |          |                                |                                |        |           |     |
| Over 10 up to and including 16           | 1,00<br>(1,0) <sup>c</sup> 1,5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 14 [2]                                                                   |                         |  |                                                 |                                                                          |                                |                  |          |                                |      |          |                                 |                     |          |                                |                                |        |           |     |
| 4.1.201                                  | <div>Insert a new Clause 4.1.201 after Clause 4.1 as follows:</div> <div><b>4.1.201 Display devices used for television purposes</b></div> <div>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.</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                          | N/A                     |  |                                                 |                                                                          |                                |                  |          |                                |      |          |                                 |                     |          |                                |                                |        |           |     |

| National Differences to IEC 60950-1:2005 |                                                                                                                                                                                                                                                                                                                     |                 |         |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                                   | Requirement + Test                                                                                                                                                                                                                                                                                                  | Result - Remark | Verdict |
| 4.3.6                                    | Delete the third paragraph and replace with the following:<br><i>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.</i> | Deleted.        | N/A     |
| 4.3.16.5                                 | Add the following to the end of the first paragraph:<br>'or AS/NZS 2211.1'                                                                                                                                                                                                                                          | Added.          | N/A     |
| 4.7                                      | Add the following new paragraph to the end of the clause:<br>'For alternate tests refer to Clause 4.7.201.'                                                                                                                                                                                                         | Added.          | N/A     |
| 4.7.201                                  | Insert a new Clause 4.7.201 after Clause 4.7.3.6 as follows:<br><b>4.7.201 Resistance to fire – Alternative tests</b>                                                                                                                                                                                               |                 | N/A     |

| National Differences to IEC 60950-1:2005 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |         |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Result - Remark | Verdict |
| 4.7.201.1                                | <p><b>4.7.201.1 General</b></p> <p>Parts of non-metallic material shall be resistant to ignition and spread of fire.</p> <p>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:</p> <p>(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.</p> <p>(b) The following parts which would contribute negligible fuel to a fire:</p> <ul style="list-style-type: none"> <li>- small mechanical parts, the mass of which does not exceed 4g, such as mounting parts, gears, cams, belts and bearings;</li> <li>- small electrical components, such as capacitors with a volume not exceeding 1,750 mm<sup>3</sup>, 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.</li> </ul> <p>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.</p> <p>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.</p> <p>For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5.</p> <p>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.</p> <p>These tests are not carried out on internal wiring.</p> |                 | N/A     |

| National Differences to IEC 60950-1:2005 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                             |         |                  |  |                                |                                                                                                                                                                                                                                                                                                                             |  |     |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------|------------------|--|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----|
| Clause                                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Result - Remark             | Verdict |                  |  |                                |                                                                                                                                                                                                                                                                                                                             |  |     |
| 4.7.201.2                                | <p><b>4.7.201.2 Testing of non-metallic materials</b></p> <p>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.</p> <p>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.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                             | N/A     |                  |  |                                |                                                                                                                                                                                                                                                                                                                             |  |     |
| 4.7.201.3                                | <p><b>4.7.201.3 Testing of insulating materials</b></p> <p>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.</p> <p>The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection.</p> <p>NOTE Contacts in components such as switch contacts are considered to be connections.</p> <p>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.</p> <p>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:</p> <table><tr><td>Clause of AS/NZS 60695.11.5</td><td>Change</td></tr><tr><td colspan="2">9 Test procedure</td></tr><tr><td>9.2 Application of needleflame</td><td><p>Replace the first paragraph with:</p><p>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</p><p>Replace the second paragraph with:</p><p>The duration of</p></td></tr></table> | Clause of AS/NZS 60695.11.5 | Change  | 9 Test procedure |  | 9.2 Application of needleflame | <p>Replace the first paragraph with:</p> <p>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</p> <p>Replace the second paragraph with:</p> <p>The duration of</p> |  | N/A |
| Clause of AS/NZS 60695.11.5              | Change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                             |         |                  |  |                                |                                                                                                                                                                                                                                                                                                                             |  |     |
| 9 Test procedure                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                             |         |                  |  |                                |                                                                                                                                                                                                                                                                                                                             |  |     |
| 9.2 Application of needleflame           | <p>Replace the first paragraph with:</p> <p>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</p> <p>Replace the second paragraph with:</p> <p>The duration of</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                             |         |                  |  |                                |                                                                                                                                                                                                                                                                                                                             |  |     |

| National Differences to IEC 60950-1:2005 |                                                                                                                                                                                                       |                                                                                                                                                                                                  |                 |         |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                                   | Requirement + Test                                                                                                                                                                                    |                                                                                                                                                                                                  | Result - Remark | Verdict |
|                                          |                                                                                                                                                                                                       | application of the test flame shall be 30 s ±1 s.                                                                                                                                                |                 |         |
|                                          | 9.3 Number of test specimens                                                                                                                                                                          | 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. |                 |         |
|                                          | 11 Evaluation of test results                                                                                                                                                                         | Replace with:<br>The duration of burning (t <sub>b</sub> ) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.                                                 |                 |         |
|                                          | 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. |                                                                                                                                                                                                  |                 |         |

| National Differences to IEC 60950-1:2005 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |         |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Result - Remark | Verdict |
| 4.7.201.4                                | <p><b>4.7.201.4 Testing in the event of non-extinguishing material</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> |                 | N/A     |
| 4.7.201.5                                | <p><b>4.7.201.5 Testing of printed boards</b></p> <p>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 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.</p> <p>The test is not carried out if the —</p> <ul style="list-style-type: none"> <li>- Printed board does not carry any POTENTIAL IGNITION SOURCE;</li> <li>- 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</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 | N/A     |

| National Differences to IEC 60950-1:2005 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |         |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Result - Remark | Verdict |
|                                          | <p>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</p> <p>- 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.</p> <p>Compliance shall be determined using the smallest thickness of the material.</p> <p>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.</p> |                 |         |
| 6.2.2                                    | <p>For Australia only, delete the first paragraph and Note, and replace with the following:</p> <p>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.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 | N/A     |
| 6.2.2.1                                  | <p>For Australia only, delete the first paragraph including the Notes, and replace with the following:</p> <p><i>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, <math>U_c</math>, is:</i></p> <p><i>(i) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and</i></p> <p><i>(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.</i></p> <p>NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines.</p> <p>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.</p>                                                                                                                                                                                                                                           |                 | N/A     |

| National Differences to IEC 60950-1:2005 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |         |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                                   | Requirement + Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Result - Remark | Verdict |
| 6.2.2.2                                  | <p>For Australia only, delete the second paragraph including the Note, and replace with the following:</p> <p><i>In Australia only, the a.c. test voltage is:</i></p> <p>(i) for 6.2.1 a): 3 kV; and</p> <p>(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.</p> <p>NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.</p> <p>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.</p> |                 | N/A     |
| 7.3                                      | <p>Add the following before the first paragraph:</p> <p>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.</p>                                                                                          |                 | N/A     |
| Annex P                                  | <p>Normative references</p> <p>(List of relevant Australia/New Zealand Standards that have been inserted in place of some of the International Standards)</p>                                                                                                                                                                                                                                                                                                                                                                                      |                 | N/A     |

| J 60950-1 (H22) |                    |                 |         |
|-----------------|--------------------|-----------------|---------|
| Clause          | Requirement – Test | Result – Remark | Verdict |

### J 60950-1 (H22) : 2009 TEST REPORT

(Deviations from IEC 60950-1:2001, first edition)

Special National conditions, National deviation and other information according to MITI Ordinance No. 85.

Japanese unique deviations in J60950-1(H22):2009(=JIS C 6950-1:2009)

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |   |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---|
| 1.1.A    | Add this sub-clause<br>See Annex P for normative references                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Added. | P |
| 1.2      | Add the following terms.<br>Equipment, Class 0I 1.2.4.3A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Added. | P |
| 1.2.4.1  | Add the following NOTE 2:<br>NOTE 2 – Even in the case of CLASS 0I equipment, two-pins plug with a protective earthing lead wire (an adapter for converting a Class 0I equipment plug into a two-pin plug without earthing wire) and cord sets having a two-pin type plug with a lead wire for earthing are also regarded as Class 0I equipment if they are included in packaging as accessories or if users are recommended to use them.                                                                                                                                                                                                                                                                                                                                                                          | Added. | P |
| 1.2.4.3A | Add this sub-clause:<br>CLASS 0I EQUIPMENT: Equipment where protection against electric shock is achieved by: using BASIC INSULATION, and providing a means of connecting to the protective earthing conductor in the building wiring those conductive parts that are otherwise capable of assuming HAZARDOUS VOLTAGES if the BASIC INSULATION fails, and using a supply cord without earthing conductor and a plug without earthing wire although the equipment has externally an earth terminal or a lead wire for earthing.<br>Equipment provided with a cord set having a two-pin type plug with a lead wire for earthing is also regarded as Class 0I.<br>NOTE – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation as well as an operating part as SELV circuit. | Added. | P |

| J 60950-1 (H22) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |         |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause          | Requirement – Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Result – Remark | Verdict |
| 1.3.2           | <p>Add the following NOTE 1 and 2:</p> <p>Note1: transportable equipments or similar equipments that are frequently transported for use should not be considered Class I or Class 0I equipments. However, this shall not apply to equipments that are intended for installation by service personnel or installation personnel.</p> <p>Note 2: in consideration of the state of electrical power distribution in Japan, it is best to avoid the use of Class I or Class 0I devices if it is evident that it will be difficult to connect earthing during installation of the equipment. However, this shall not apply to devices that are intended for installation by service personnel or installation personnel.</p>                                                                                                                                                                                                                                                                                                | Added.          | N/A     |
| 1.5.1           | <p>When safety issues apply, in the absence of matters required by these specifications or JIS stipulated required matters concerning safety of related components, or in the absence of JIS concerning the component, the component must comply with one of the related IEC safety requirements. However, if a component compliant with ministerial ordinance (1962 Trade and Commerce Ministerial Ordinance No. 85) providing technical standards for electrical products is being used in accordance with the rating indicated for that component, apply articles 1.5.4, 2.8.7 and 3.2.5; electrical power cord sets that fit with inlets for equipments regulated by the IEC 60320-1 Standards Sheet must match the dimensions indicated on the applicable IEC 60320-1 Connector Standards Sheet.</p> <p>Note 1: regarding the JIS or IEC standards related to a component as related shall be limited to cases where the component in question is clearly within the scope of application of those standards.</p> |                 | P       |

| J 60950-1 (H22) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |         |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause          | Requirement – Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Result – Remark | Verdict |
| 1.5.2           | <p>In the case of components that are certified as being in compliance with JIS harmonized with the related IEC, it must be confirmed that the component is being used correctly in accordance with the stipulated standards. In the absence of JIS harmonized with the related IEC,</p> <p>Note 1: When using an IEC 60320-1 C.14 device coupler with rated voltage less than 125 V and rated current in excess of 10A, refer to 1.7.5A.</p> <p>If JIS harmonized with the IEC related to the component does not exist concurrently with the IEC standards, or if the component is using circuitry that does not comply with its rating, the component must be tested in accordance with the conditions and within equipment. The number of samples required for testing shall normally be the same as the number required under similar standards.</p> |                 | P       |
| 1.5.6           | Replace “IEC 60384-14:1993” to “JIS C 5101-14:1998 or IEC 60384-14:1993” of this Sub-Clause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Replaced.       | P       |
| 1.5.7.2         | Replace “IEC 60384-14:1993” to “JIS C 5101-14:1998 or IEC 60384-14:1993” of this Sub-Clause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Replaced.       | P       |
| 1.5.8           | Replace “IEC 60384-14:1993” to “JIS C 5101-14:1998 or IEC 60384-14:1993” of this Sub-Clause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Replaced.       | N/A     |
| 1.7.1           | Add local importer in this sub-clause manufacturer’s name or <b>local importer</b> or trade-mark or identification mark;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Added.          | N/A     |
| 1.7.5           | Replace “IEC 60083” to “IEC/TR 60083:1997 or JIS C 8303:2007” of this Sub-Clause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Replaced.       | N/A     |
| 1.7.5.A         | <p>Add this sub-clause</p> <p>1.7.5A Device Coupler</p> <p>When using an IEC 60320-1 C.14 device coupler (rated current 10A) with rated voltage less than 125 V and rated current in excess of 10A, be sure to write “Only use power supply cord sets that are provided with this device” or a similar statement in the user’s manual.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Added.          | N/A     |

| J 60950-1 (H22) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |         |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause          | Requirement – Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Result – Remark | Verdict |
| 1.7.17A         | <p>Add this sub-clause:</p> <p><b>Marking for CLASS 0I EQUIPMENT</b></p> <p>For CLASS 0I EQUIPMENT, the following instruction shall be indicated on the visible place of the mains plug or the main body:</p> <p>“Provide an earthing connection”</p> <p><i>Example in Japanese:</i></p> <p>必ず接地接続を行って下さい</p> <p>Moreover, for CLASS 0I EQUIPMENT, the following instruction shall be indicated on the visible place of the main body or written in the operating instructions:</p> <p>“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.”</p> <p><i>Example in Japanese:</i></p> <p>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。又、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下さい。</p> | Added.          | P       |
| 2.1.1.1         | In the Item b) of this Sub-Clause, replace “IEC 60083” to “ <del>IEC 60083</del> or JIS C 8303:2007”.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Replaced.       | N/A     |
| 2.6.3.2         | <p>Add the following in front of 1<sup>st</sup> paragraph of this Sub-Clause.</p> <p>This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Added.          | P       |
| 2.6.3.4         | <p>Add the following in this Sub-Clause.</p> <p>(See 2.6.3.3)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Added.          | P       |
| 2.6.4.2         | <p>Add the following after 1<sup>st</sup> paragraph of this Sub-Clause.</p> <p>However, this shall not apply when the Class 0I equipment is equipped with a separate main protective earthing terminal.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Added.          | N/A     |
| 2.6.5.4         | <p>Replace the first sentence of this Sub-Clause by:</p> <p>Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Replaced.       | N/A     |

| J 60950-1 (H22) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |         |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause          | Requirement – Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Result – Remark | Verdict |
| 2.6.5.8A        | <p>Add this sub-clause:</p> <p><b>Earthing of CLASS 0I EQUIPMENT</b></p> <p>Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V.</p> <p>For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip.</p> <p>CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external where easily visible.</p>                                                                                                                                                                                                                                                                                                                | Added.          | P       |
| 2.10.1          | Replace “IEC 60664-1” to “JIS C 0664:2003” in NOTE of this Sub-Clause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Replaced.       | P       |
| 2.10.3.1        | Replace “IEC 60664-1” to “JIS C 0664:2003” in NOTE 1 and NOTE 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Replaced.       | P       |
| 2.10.3.2        | Replace “IEC 60664-1” to “JIS C 0664:2003” in the first sentence of this Sub-Clause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Replaced.       | P       |
| 3.2.3           | <p>Add the following after Table 3A of this Sub-Clause.</p> <p><b>Table 3A shall apply when a JIS C 3662 or JIS C 3663 compliant cable is used. Other cables that are used must be designed to allow suitable conduits to be run in,</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Added.          | N/A     |
| 3.2.5.1         | <p>Add the following of this Sub-Clause.</p> <p>Or must be sheathed in accordance with Section 1, Annex 1 of the ministerial ordinance (1962 Trade and Commerce Ministerial Ordinance No. 85) providing technical standards for electrical products.</p> <p>- Or must be sheathed in accordance with Section 1, Annex 1 of the ministerial ordinance (1962 Trade and Commerce Ministerial Ordinance No. 85) providing technical standards for electrical products.</p> <p>- Electric cables that comply with JIS C 3662 or JIS C 3663 have a conductor with a cross-sectional area value greater than the values provided for in Table 3B. Other electrical cables comply with relevant wiring regulations.</p> <p>Delete 1) in Table 3B.</p> | Deleted.        | P       |
| 3.3.4           | <p>Add the following in Table 3D</p> <p>Note: when using JIS C 3662 or JIS C 3663-compliant electrical wiring, the terminal must enable connection of electric wiring commensurate with the regulated sizes</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Added.          | P       |

| J 60950-1 (H22) |                                                                                                                                                                                                                                                                                                                              |                 |         |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause          | Requirement – Test                                                                                                                                                                                                                                                                                                           | Result – Remark | Verdict |
| 3.3.7           | Add the following after 1 <sup>st</sup> paragraph of this Sub-Clause.<br>However, this shall not apply to the external grounding terminals of Class 0I equipment.                                                                                                                                                            | Added.          | N/A     |
| 4.3.4           | Add the following of this Sub-Clause.<br>Class 0I equipment where the values for creepage distance and clearance distance of the basic insulation drop further to a level lower than that stipulated in 2.10 must be properly fixed to withstand the mechanical stress generated in the course of normal use.                | Added.          | N/A     |
| 4.3.5           | Replace “IEC 60083” to “JIS C 8303:2007” in the first sentence of this Sub-Clause                                                                                                                                                                                                                                            | Replaced.       | N/A     |
| 4.3.13.3        | Add the following in Table 4A<br>Note: JIS K 7161:1994, JIS K 7162:1994, IS K 7127:1999 are available as JIS compatible with part of ISO527.                                                                                                                                                                                 | Added.          | N/A     |
| 4.3.13.5        | Replace “IEC 60825-1” to “JIS C 6802:2005 or JIS C of this Sub-Clause                                                                                                                                                                                                                                                        | Replaced.       | N/A     |
|                 | Replace “IEC 60825-2:2000” to “JIS C 6803:2006 or IEC 60825-2:2000” of this Sub-Clause                                                                                                                                                                                                                                       | Replaced.       | N/A     |
| 4.5.1           | Add the following to Suffix 3) of Table 4B (part one and part two).<br>Note: When data concerning materials is unavailable, Annex 4, 1 (1) 3 of “Regarding Interpretation of Ministerial Ordinance Providing Technical Standards for Electrical Products” (June 19, 2008 Bureau of Commerce No. 3) may be applied to Item 1. | Added.          | P       |

#### Attachment

The insulating materials shall not be exposed to the temperature exceeding the values when the appliance is operated at rated voltage and normal operating condition.

These values may be increased by;

8 degrees for Duty 2 appliance, and

16 degrees for Duty 3 appliance.

In order to classify the appliances, following assumptions are to be used.

Duty 1 appliances: considered to be connected to supply mains throughout the years such as refrigerators

Duty 2 appliances: considered to be connected to be in between Duty 1 and Duty 3 such as room heaters

Duty 3 appliances: considered to be connected to supply mains when it is operated for rather short time such as portable coffee mill.

#### Permissible temperature limits of insulating materials

| Natural materials                                 |                                    |
|---------------------------------------------------|------------------------------------|
| Material                                          | Permissible temperature limit (°C) |
| Bituminous compound for filter                    | 75, (105) 1)                       |
| Paper, cotton, silk, other natural fiber and wood | 90, (105) 2)                       |
| Oil denatured natural resin                       | 105                                |
| Silica powder                                     | 500                                |
| Mica (Hard)                                       | 500, (600) 3)                      |
| (Soft)                                            | 650, (850) 3)                      |

Notes: 1) Value applies to thermal insulating materials.

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| J 60950-1 (H22) |                    |                 |         |
|-----------------|--------------------|-----------------|---------|
| Clause          | Requirement – Test | Result – Remark | Verdict |

2) Value applies to materials impregnated with varnish.

3) Value in parenthesis is applied when mechanical external force is absent.

Mica splittings and untreated mica papers

| Lining                                                                              | Adhesive |   |   |   |   |   |   | Permissible Temperature Limit (°C)                                                 |
|-------------------------------------------------------------------------------------|----------|---|---|---|---|---|---|------------------------------------------------------------------------------------|
|                                                                                     | a        | b | c | d | e | f | g |                                                                                    |
| None                                                                                | X        | X | X | X | X | X | X | 130<br>155<br>180; 450, (700) 1);<br>600, (800) 2)<br>600, (700) 1); 700, (850) 2) |
| Paper                                                                               | X        | X | X | X |   |   |   | 130                                                                                |
| Polyethylene terephthalate film                                                     |          |   |   | X |   |   |   | 130                                                                                |
| Glass fabric                                                                        |          |   |   | X | X | X |   | 130<br>155<br>180                                                                  |
| Polyester nonwoven fabric,<br>Polyester woven, and<br>Polyethylene naphthalate film |          |   |   | X | X |   |   | 130<br>155                                                                         |
| Polyamide-imide film,<br>Aramid film, and<br>Polymide film                          |          |   |   |   |   | X | X | 155<br>180                                                                         |

a: with asphalt base

b: with natural resin or denatured natural resin base

c: with ceramic base

d: with oil-denatured synthetic resin, alkyd orthophthalate resin or cross-linked polyester base.

e: with silicon-denatured synthetic resin, isophthalate alkyd resin, telephthalate alkyd resin or epoxy resin.

f: with silicon resin.

g: inorganic

Notes: 1) value applies to hard mica-made heating substrate.

2) value applies to soft mica-made heating substrate.

Remarks: value in parenthesis is applied when mechanical external force is absent.

Organic materials (Thermosetting Resins)

| Material                                                         | Permissible temperature limit (°C) |
|------------------------------------------------------------------|------------------------------------|
| laminated melamine resin mixed with glass fiber                  | 75, (100) 1)                       |
| moulded melamine resin mixed with:<br>cellulose                  | 120                                |
| inorganics                                                       | 140                                |
| laminated phenol resin with:<br>cotton fiber base                | 115, (85) 2)                       |
| paper base                                                       | 120, (70) 3)                       |
| polyamide cloth base                                             | 75                                 |
| inorganics                                                       | 140                                |
| moulded phenol resin with:<br>inorganics                         | 150, (160) 1)                      |
| others                                                           | 140, (150) 1)                      |
| moulded melamine phenol resin with the gravity of less than 1.55 | 130                                |
| moulded urea resin mixed with cellulose                          | 90                                 |
| unsaturated polyester-casting                                    | 120                                |
| laminated unsaturated polyester mixed with inorganics            | 140                                |
| moulded unsaturated polyester mixed with:<br>other than organics | 120                                |
| inorganic powder                                                 | 140                                |
| glass fiber                                                      | 155                                |
| epoxy resin-casting                                              | 120                                |
| laminated epoxy resin mixed with:<br>inorganic                   | 130, (140) 1)                      |
| other than inorganics                                            | 110, (90) 3)                       |
| moulded epoxy resin mixed with inorganics                        | 130                                |

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| J 60950-1 (H22) |                    |                 |         |
|-----------------|--------------------|-----------------|---------|
| Clause          | Requirement – Test | Result – Remark | Verdict |

|                                                         |               |
|---------------------------------------------------------|---------------|
| laminated diallyl phthalate resin mixed with inorganics | 140           |
| moulded diallyl phthalate resin mixed with:             |               |
| other than inorganics                                   | 130           |
| inorganic powder                                        | 150           |
| glass fiber                                             | 155           |
| xylene resin-casting                                    | 140           |
| polyamide-imide film                                    | 180           |
| laminated silicone resin mixed with inorganics          | 180, (220) 1) |
| moulded silicon resins mixed with inorganics            | 180, (240) 4) |
| polymide film                                           | 210           |
| laminated polymide                                      | 190           |
| polybutadiene-casting                                   | 120           |
| moulded polybutadiene mixed with inorganics             | 130           |
| laminated dipheny oxide mixed with inorganics           | 180           |

Notes: 1) Values apply to thermal insulating materials.  
2) Values apply to materials with a thickness less than 0.8 mm.  
3) Values apply to materials with a thickness less than 0.8 mm when treated to retard flame.  
4) Values apply to materials used for thermal insulation and to seal outlets of sheathed heating wires.

#### Organic materials (Thermoplastic Resins)

| Material                                                                                                                                                                                | Permissible temperature limit (°C) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| methacrylic resin, cellulose resin, cellulose acetate butylate resin, ulcanise, polyethylene                                                                                            | 50                                 |
| foamed polyethylene compound for insulated conductors, polyvinyl chloride                                                                                                               | 60                                 |
| polyethylene compound for insulated conductors, heat-resistant polyvinyl chloride, cross-linked polyvinyl chloride compound for insulated conductors                                    | 75                                 |
| cross-linked polyethylene, chlorinated polyethylene compound for insulated conductors                                                                                                   | 90                                 |
| acrylonitrile acrylic rubber styrene resin, acrylonitrile chlorinate polyethylene styrene resin                                                                                         | 55                                 |
| acrylonitrile styrene resin, acrylonitrile butadiene resin, acrylonitrile butadiene chlorinated polyethylene resin                                                                      |                                    |
| : general                                                                                                                                                                               | 55                                 |
| : reinforced with glass fiber                                                                                                                                                           | 80                                 |
| polypropylene                                                                                                                                                                           |                                    |
| : general                                                                                                                                                                               | 105, (85) 3)                       |
| : reinforced with glass fiber                                                                                                                                                           | 110                                |
| denatured polyphenylene oxide                                                                                                                                                           |                                    |
| : general                                                                                                                                                                               | 75                                 |
| : reinforced with glass fiber                                                                                                                                                           | 100                                |
| Polystyrene                                                                                                                                                                             | 50, (70) 1)                        |
| polyacetal                                                                                                                                                                              |                                    |
| : general                                                                                                                                                                               | 100                                |
| : reinforced with glass fiber                                                                                                                                                           | 120                                |
| polyamide                                                                                                                                                                               |                                    |
| : general                                                                                                                                                                               | 90                                 |
| : reinforced with glass fiber                                                                                                                                                           | 120                                |
| polycarbonate                                                                                                                                                                           |                                    |
| : general                                                                                                                                                                               | 110                                |
| : reinforced with glass fiber                                                                                                                                                           | 120                                |
| polyethylene terephthalate                                                                                                                                                              |                                    |
| : general                                                                                                                                                                               | 120                                |
| : reinforced with glass fiber                                                                                                                                                           | 130                                |
| polybutylene terephthalate                                                                                                                                                              |                                    |
| : general                                                                                                                                                                               | 120                                |
| : reinforced with glass fiber                                                                                                                                                           | 135                                |
| heat resistant polyethylene terephthalate film                                                                                                                                          | 135                                |
| fluorinated polyvinylidene compound for insulated conductors, polychlorotrifluoroethylene (ethylene-trifluoride resin), ethylene-tetrafluoroethylene copolymer for insulated conductors | 150                                |
| tetrafluoroethylene hexafluoropropylene resin                                                                                                                                           | 200                                |
| polytetrafluoroethylene(ethylene-tetrafluoride), perfluoroalkoxy compound for insulated conductors                                                                                      | 250                                |
| aramide(aromatic polyamide paper)                                                                                                                                                       | 220                                |
| Polysulfone                                                                                                                                                                             | 140, (150) 2)                      |
| polyethylene naphthalate                                                                                                                                                                | 155                                |
| polyallylate                                                                                                                                                                            |                                    |
| : general                                                                                                                                                                               | 120                                |
| : reinforced with glass fiber                                                                                                                                                           | 130                                |

Notes : 1) Values apply to capacitor dielectrics.  
2) Values apply to thermal insulating material

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| J 60950-1 (H22) |                    |                 |         |
|-----------------|--------------------|-----------------|---------|
| Clause          | Requirement – Test | Result – Remark | Verdict |

3) Values apply to materials with a thickness of less than 0.8 mm

4) Inorganic materials

#### Inorganic materials

| Material                         | Permission temperature limit (°C) |
|----------------------------------|-----------------------------------|
| glass fiber (only alkaline free) | 300                               |
| lead glass                       | 380                               |
| borosilicate glass               | 490                               |
| quartz glass                     | 800                               |
| ceramic                          | 800, (1000) 1)                    |

Note: 1) Value apply to materials used as electric heating elements

#### Rubber compounds

| Material                                                                | Permission temperature limit (°C) |
|-------------------------------------------------------------------------|-----------------------------------|
| natural rubber, polyurethane rubber, ebonite                            | 60                                |
| nitrile rubber, styrene butadiene rubber, chloroprene rubber            | 75                                |
| butyl rubber                                                            | 80                                |
| ethylene propylene (diene) rubber, chlorosulfonated polyethylene rubber | 90                                |
| silicone rubber                                                         | 180, (200) 1)                     |

Note : 1) Value apply to thermal insulating material and sealing compounds for sheathed heating elements.

#### Sleeves, Cloth, Tapes and like

| Material                                                                                  | Impergnat or coating                                                                                    | Permission temperature limit (°C) |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------|
| rayon, cellulose acetate, vinylon                                                         | adhesive, oil varnish                                                                                   | 105                               |
| paper, cotton fabric, silk fabric, polyamide, polyester fabric, polyester nonwoven fabric | oil varnish                                                                                             | 105                               |
| polyester fabric, polyester nonwoven fabric                                               | alkyd resin varnish                                                                                     | 120                               |
| glass fabric                                                                              | (ditto)                                                                                                 | 130                               |
| paper                                                                                     | Iso or terephthalate alkyd resin varnish, epoxy resin varnish, alkyd resin varnish                      | 105                               |
| polyester fabric, polyester nonwoven fabric                                               | (ditto)                                                                                                 | 120                               |
| glass fabric, aramide paper                                                               | Iso or terephthalate, alkyd resin varnish, epoxy resin varnish, silicone resin varnish, silicone rubber | 155                               |
| vulcanised fiber                                                                          |                                                                                                         | 180                               |
| heat resistant fiber                                                                      |                                                                                                         | 105                               |
|                                                                                           |                                                                                                         | 120                               |

|                            |                                                                                                                                                                                                               |                                                     |     |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----|
| 5.1.3                      | Add the following NOTE<br>Note: Note that domestic three-phase power distribution systems have many delta connections, in which case tests should be performed using IEC 60990:1990 Figure 13 test circuitry. | Added.                                              | N/A |
| 5.1.6<br>Table 5A          | Replace Table 5A of this Sub-Clause by:                                                                                                                                                                       | Replaced.<br>The equipment is "Protection Class I". | P   |
| Table 5A – Maximum current |                                                                                                                                                                                                               |                                                     |     |

| J 60950-1 (H22) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                         |                                               |                                      |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------|--------------------------------------|
| Clause          | Requirement – Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                         | Result – Remark                               | Verdict                              |
|                 | Type of equipment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Terminal A of measuring instrument connected to:                        | Maximum TOUCH CURRENT mA r.m.s. <sup>1)</sup> | Maximum PROTECTIVE CONDUCTOR CURRENT |
|                 | ALL equipment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Accessible parts and circuits not connected to protective earth         | 0,25                                          | -                                    |
|                 | HAND-HELD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT  | 0,75                                          | -                                    |
|                 | MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                         | 3,5                                           | -                                    |
|                 | STATIONARY, PLUGGABLE TYPE A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                         | 3,5                                           | -                                    |
|                 | ALL other STATIONARY EQUIPMENT not subject to the conditions of 5.1.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                         | 3,5                                           | -                                    |
|                 | - subject to the conditions of 5.1.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                         | -                                             | 5 % of input current                 |
|                 | HAND-HELD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT | 0,5                                           | -                                    |
|                 | Others                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                         | 1,0                                           | -                                    |
|                 | <sup>1)</sup> If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                         |                                               |                                      |
| 6               | Add the following after NOTE1 of this Sub-Clause.<br>Refer to the accompanying document, JB, for details concerning appropriate additional measures,<br><br>Replace “IEC 60664-1” to “JIS C 0664 in note 4                                                                                                                                                                                                                                                                                                                                                                                                                               | Added.                                                                  | N/A                                           |                                      |
| 7               | Replace “IEC 60664-1” to “JIS C 0664:2003 of this NOTE 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Replaced.                                                               | N/A                                           |                                      |
| 7.2             | Add the following<br>However, when all of the following criteria are satisfied, the separation requirement and test in 6.2.1 a), b) and c) shall not be applied to the cable distribution system.<br><br>- the applicable circuit is a TNV-1 circuit.<br>- the applicable circuit's common side or grounding side is connected to the coaxial cable shielding, and to all accessible parts and circuits (SELV circuits, accessible metal parts, and limited current circuits also applicable if they exist)<br>- the external conductor of the coaxial cable is intended to be connected to the grounding wire used for building wiring. | Added.                                                                  | N/A                                           |                                      |

| J 60950-1 (H22) |                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |         |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause          | Requirement – Test                                                                                                                                                                                                                                                                                                                                                                                                            | Result – Remark | Verdict |
| Annex G 2.1     | Replace “IEC 60664-1” to “JIS C 0664:2003”                                                                                                                                                                                                                                                                                                                                                                                    | Replaced.       | N/A     |
| Annex G 6       | Replace “IEC 60664-1” to “JIS C 0664:2003”                                                                                                                                                                                                                                                                                                                                                                                    | Replaced.       | N/A     |
| Annex N         | Add Note<br>Note: ITU-T Recommendation K.17:1996 has been abolished and replaced with ITU-T Recommendation K.44:2003, K.45:2003.                                                                                                                                                                                                                                                                                              | Added.          | N/A     |
|                 | Note: The ITU-T Recommendation K.21:1996 test circuit was replaced with K.44:2003 in July 2003.                                                                                                                                                                                                                                                                                                                               |                 | N/A     |
| Annex P         | Add the following terms.<br><u>JIS C 5101-14:1998 Fixed capacitors for use in electronic equipment -- Part 14: Type-specific standards: Fixed capacitors for electromagnetic interference suppression in electrical power supply</u><br>Fixed capacitors for use in electronic equipment – Part 14: Sectional specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains | Added.          | N/A     |
|                 | Replace “IEC 60065:1998” to “IEC 60065:2001”                                                                                                                                                                                                                                                                                                                                                                                  | Replaced.       | N/A     |
|                 | Add the following terms.<br><b>JIS C 6802:2005</b>                                                                                                                                                                                                                                                                                                                                                                            | Added.          | N/A     |
|                 | Add the following terms.<br><b>JIS C 6803:2006 2004.</b>                                                                                                                                                                                                                                                                                                                                                                      | Added.          | N/A     |
|                 | Add the following terms.<br>JIS C 8303:2007                                                                                                                                                                                                                                                                                                                                                                                   | Added.          | N/A     |
|                 | Add the following terms.<br>JIS S 0101:2000                                                                                                                                                                                                                                                                                                                                                                                   | Added.          | N/A     |
|                 | Add the following terms.<br><b>ITU-T Recommendation K.44:2003</b> ,<br>Resistibility tests for telecommunication equipment exposed to overvoltages and overcurrents – Basic Recommendation.                                                                                                                                                                                                                                   | Added.          | N/A     |
|                 | Add the following terms.<br><b>ITU-T Recommendation K.45:2003</b> , Resistibility of telecommunication equipment installed in the access and trunk networks to overvoltages and overcurrents.                                                                                                                                                                                                                                 | Added.          | N/A     |

| J 60950-1 (H22) |                                                                                                                        |                 |         |
|-----------------|------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause          | Requirement – Test                                                                                                     | Result – Remark | Verdict |
| Annex Q         | Add the following terms.<br><b>ITU-T Recommendation K.66:2004</b> , Protection of customer premises from overvoltages. | Added.          | N/A     |
| Annex T         | Replace “IEC 60529:1989” to “JIS C 0920:2003                                                                           | Replaced.       | N/A     |
| Annex W.1       | Add following.<br>Equipment, Class 0I                                                                                  | Added.          | P       |

| J 60950-1 (H22) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                            |         |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------|
| Clause          | Requirement – Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Result – Remark                            | Verdict |
| Annex JA        | Add Annex JA (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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Added.<br>Not Document shredding machines. | N/A     |
| JA.1            | <b>Markings and instructions</b><br>In the easily visible part near the document-slot, by a method capable to make out clearly and not easily disappeared, and by easily understandable wording, shall indicate the symbol of;<br><br><br>and, also the following precautions for use;<br>that use by an infant/child 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 clothes 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. | Added.<br>Not Document shredding machines. | N/A     |
| JA.2            | <u>Inadvertent reactivation</u><br>Any safety interlock which can be operated by means of the test finger, Figure JA.1, is considered to cause reactivation of the hazard.<br>Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Added.<br>Not Document shredding machines. | N/A     |

J 60950-1 (H22)

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

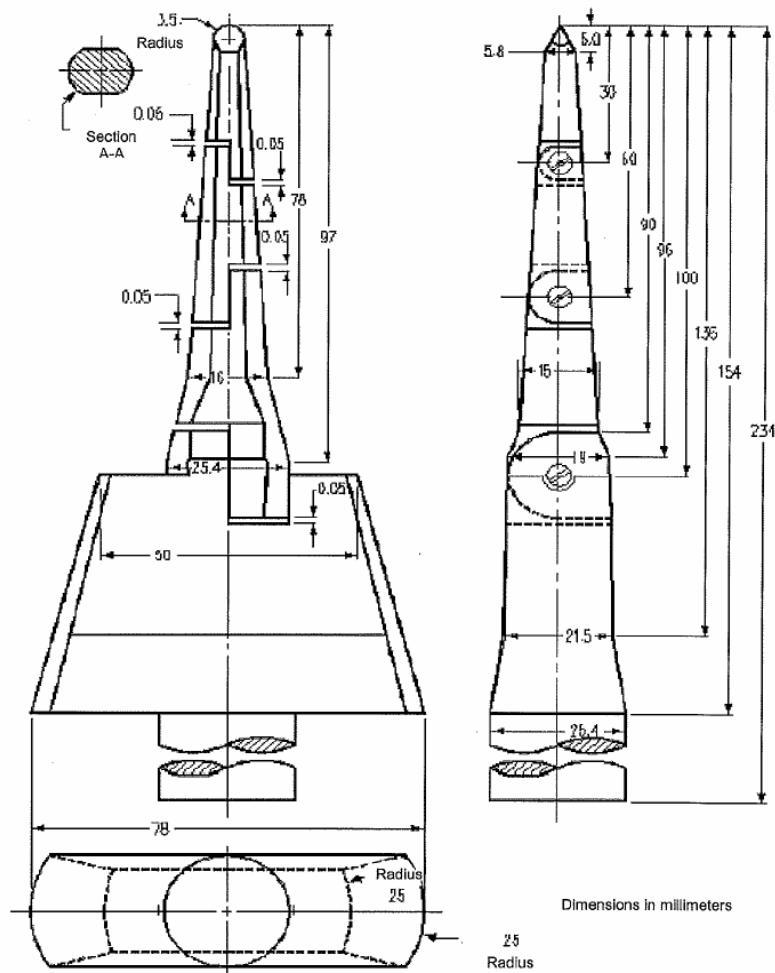
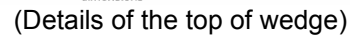


Figure JA.1 Test finger

| J 60950-1 (H22) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                            |         |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------|
| Clause          | Requirement – Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Result – Remark                            | Verdict |
| JA.3            | <p><u>Isolating switch</u></p> <p>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.</p> <p>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.</p> <p>Compliance is checked by inspection.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Added.<br>Not Document shredding machines. | N/A     |
| JA.4            | <p><u>Protection in operator access areas</u></p> <p>Any warning shall not be used instead of the structure for preventing access to hazardous moving parts.</p> <p>Document shredding machines shall comply with the following requirements.</p> <p>Push the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying additional force. It shall not be possible to touch hazardous moving parts with the test finger. The document shredding machine is installed as intended, and all face of MECHANICAL ENCLOSURES are subjected to this test. Before testing with the test finger, remove the parts detachable without a tool.</p> <p>Push 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 shall not influence the test. Before testing with the test finger, 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.</p> | Added.<br>Not Document shredding machines. | N/A     |



Note 1 - The probe shall be of changing the thickness linearly. However, the slope shall

Figure JA.2 Wedge-probe

| J 60950-1 (H22)       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |         |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                | Requirement – Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Result – Remark | Verdict |
| Annex JB (reference ) | <p>Add Annex JB (Current state and means of handling overvoltage and overcurrent in the installation environment)</p> <p>The objective of this reference is not to propose new technical standards for the device. As a means of reducing the possibility that voltages in excess of 1.5kV peak may be applied to the device, these specifications provide for matters that must be adhered to concerning the device on the premise that it is installed in an environment within which appropriate measures have been taken in accordance with “<b>ITU-T Recommendation K.11:1993</b>”. However, since environments that are not commensurate with this K.11 are often discovered domestically, this document attempts to describe the preferred environment and demonstrate the means for developing the preferred installation environment, thus contributing to its enhancement.</p> | Added.          | N/A     |
| JB.1                  | JB.1 Preferred installation environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 | N/A     |
| JB.2                  | Current state and means of handling overvoltage and overcurrent in the installation environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 | N/A     |

| National Differences |                                                                                                                                                                                                                                                                                                                               |                                                                            |         |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|---------|
| Clause               | Requirement – Test                                                                                                                                                                                                                                                                                                            | Result – Remark                                                            | Verdict |
| Appendix             | <b>J3000 (H21)</b><br>Special National conditions, National deviation and other information according to MITI Ordinance No. 85.                                                                                                                                                                                               |                                                                            | —       |
| 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. | P       |
| 2                    | Requirement for equipment                                                                                                                                                                                                                                                                                                     |                                                                            | —       |
| 2.1                  | Electric heater<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<br>当該機器から、使用初期段階で揮発性有機化合物およ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 relevant equipment or component.                                        | N/A     |
| 3.1                  | Motor capacitors used in 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     |

| National Differences |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |         |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause               | Requirement – Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Result – Remark | Verdict |
|                      | 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                  | <p>Plug directly inserted to outlet used refrigerator or electric freezer.</p> <p>Shall comply with</p> <ul style="list-style-type: none"> <li>- Face contact with outlet shall have CTI with more than 400 according to JIS C 2134(2007) or</li> <li>- Supporting material of blades shall comply with glow wire test by temperature of 750°C according to JIS C 60695-2-11(2004) or JIS C 60695-2-12(2004).</li> </ul> <p>Materials having glow wire frame temperature of 775 °C are acceptable.</p> |                 | N/A     |

| National Differences                                                   |                                                                                                                                                      |                 |         |
|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|
| Clause                                                                 | Requirement – Test                                                                                                                                   | Result – Remark | Verdict |
| APPENDIX                                                               | Ukrainian National Differences according to CB Bulletin No. 110A, June 2006 (IEC Publication 60950:1999)                                             |                 | P       |
| EXPLANATION FOR ABBREVIATIONS                                          |                                                                                                                                                      |                 |         |
| P=Pass, F=Fail, N/A=Not applicable. Placed in the column to the right. |                                                                                                                                                      |                 |         |
| 1.4.5                                                                  | In Ukraine the NOMINAL VOLTAGE is 220 V for monophase or 380 V for three-phase supply.                                                               |                 | N/A     |
| 1.5.8                                                                  | In Ukraine components connected between phase and earthing or between phase and neutral terminal shall be calculated for the voltage between phases. |                 | N/A     |
| 1.7.2                                                                  | In Ukraine for the APPARATUS of CLASS I the necessity of its obligatory earthing shall be indicated in the manuals.                                  |                 | N/A     |
| 2.3.3                                                                  | In Ukraine method b) is not used.                                                                                                                    |                 | N/A     |
| 6.2.2                                                                  | In Ukraine the both tests in 6.2.2.1 and 6.2.2.2 are applied.                                                                                        |                 | N/A     |
| 6.2.2.1                                                                | In Ukraine in 6.2.1 a) is used Uc=3.5 kV.                                                                                                            |                 | N/A     |
| 6.2.2.2                                                                | In Ukraine in 6.2.1 a) is used 3.0 kV for telephones and headsets and 2.5 kV for other equipment and in 6.2.1 b) and c) is used 1.5 kV.              |                 | N/A     |
| Annex N                                                                | In Ukraine in 6.2.1 a) is used 3.0 kV for telephones and headsets and 2.5 kV for other equipment and in 6.2.1 b) and c) is used 1.5 kV.              |                 | N/A     |