



Ref. Certif. No.

JPTUV-063387

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)

Ratings and principal characteristics
Valeurs nominales et caractéristiques principales

AC 100-240V; 50/60Hz; 1.0-0.6A; Class I

Trademark (if any)
Marque de fabrique (si elle existe)

NEC

Type of Manufacturer's Testing Laboratories used
Type de programme du laboratoire d'essais constructeur

N/A

Model / Type Ref.
Ref. de type

P212, P212-BK, L214AD, P212(C), P212-BK(C)

Additional information (if necessary may also be
reported on page 2)
Les informations complémentaires (si nécessaire,
peuvent être indiqués sur la 2^{ème} page)

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+A2
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 partie de ce Certificat

11041041 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



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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

Signature:

Dipl.-Ing. E. Stoelzel

Date: 20.05.2015

1. TPV Display Technology (Wuhan)
Co., Ltd.
Unique No. 11, Zhuankou Development
District of Economic Technological
Development Zone, Wuhan City 430056, P.R. China
2. TPV Electronics (Fujian) Co., Ltd.
Shangzheng, Yuan Hong Road
Fuqing City, Fujian Province
P.R. China
3. Envision Industry of Electronic
Products Ltd.
Rodovia Anhanguera S/N-KM 49
13.205-700 Tijuco Preto-Jundiá-SP-
Brazil
4. L&T Display Technology (Fujian) Ltd.
Optoelectronic Park, Rongqiao
Economic and Technological
Development Zone
Fuqing, Fujian 350301, P.R. China
5. TPV Electronics (Fujian) Co., Ltd.
Rongqiao Economic and
Technological Development Zone
Fuqing City, Fujian Province
P.R. China
6. Trend Smart CE Mexico S de RL de CV
Avenida Sor Juana Ines de la Cruz
de 19602 Nueva Tijuana,
22435 Tijuana Baja California
MEXICO
7. TPV Display Technology (Beihai)
Co., Ltd.
China Electronic Beihai Industry
Park, Northeast of the Crossing
Between Taiwan Road and Jilin Road, Beihai City, Guangxi, P.R. China
8. Envision Industry of Electronic
Products Ltd.
Av Torquato Tapajós 7503,
Galpão : II Bloco: B-Condomínio
de Galpões-Tarumã-Manaus, AM, Brazil
9. TPV Technology (Qingdao)
Co., Ltd.
No.99 Huoju Road, High-tech
Industrial Development Zone
Qingdao City, Shandong Province, P.R. China

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

Report Ref. No.: 11041041 001

Date:

20.05.2015

Signature:


Dipl.-Ing. F. Stoezel

10. TPV Display Technology (China)

Co., Ltd.
No. 106 Jinghai 3 Rd., BDA
Beijing City 100176
P.R. China

11. Hefei Huntkey Display Technology

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

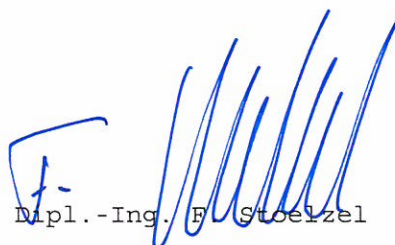
Additional information (if necessary)
Information complémentaire (si nécessaire)

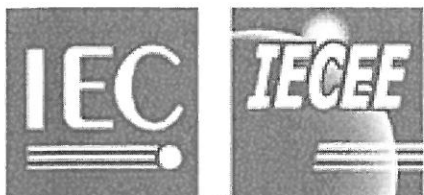
Report Ref. No.: 11041041 001

Date:

20.05.2015

Signature:


Dipl.-Ing. F. Stöelzel



Test Report issued under the responsibility of:



TEST REPORT

IEC 60950-1

Information technology equipment – Safety – Part 1: General requirements

Report Number..... : 11041041 001

Date of issue..... : May 19, 2015

Total number of pages : 65

Applicant's name : Top Victory Electronics (Taiwan) Co., Ltd.

Address..... : 10F., No. 230, Liancheng Rd., Zhonghe Dist., New Taipei City,
23553 Taiwan

Test specification:

Standard : IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013

Test procedure : CB Scheme

Non-standard test method : N/A

Test Report Form No. : IEC60950_1F

Test Report Form(s) Originator.... : SGS Fimko Ltd

Master TRF : Dated 2014-02

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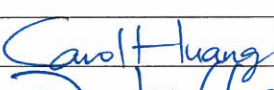
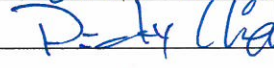
If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description..... :		LCD Monitor	
Trade Mark..... :		NEC	
Manufacturer		NEC Display Solutions, Ltd. 4-28, Mita 1-chome, Minato-ku, Tokyo, 108-0073 JAPAN	
Model/Type reference..... :		P212, P212-BK, L214AD, P212(C), P212-BK(C)	
Ratings..... :		100-240Vac, 50/60Hz, 1.0-0.6A	
Testing procedure and testing location:			
☒	CB Testing Laboratory:	TÜV Rheinland Taiwan Ltd., Taichung Laboratory	
Testing location/ address		No. 9, Ln. 36, Sec. 3, Minsheng Rd., Daya District, Taichung City 428, Taiwan	
☐	Associated CB Testing Laboratory:		
Testing location/ address			
Tested by (name + signature)			
Approved by (name + signature)			
☐	Testing procedure: TMP/CTF Stage 1:		
Testing location/ address			
Tested by (name + signature)			
Approved by (name + signature)			
☐	Testing procedure: WMT/CTF Stage 2:		
Testing location/ address			
Tested by (name + signature)			
Witnessed by (name + signature)			
Approved by (name + signature)			
☐	Testing procedure: SMT/CTF Stage 3 or 4:		
Testing location/ address			
Tested by (name + signature)			
Witnessed by (name + signature)			
Approved by (name + signature)			
Supervised by (name + signature)			

- Measurement Section

- National Differences

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

Summary of testing:

Tests performed (name of test and test clause):

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

- The manufacturer specified the maximum ambient temperature as +40°C.
- Highest load condition for this equipment is to operate at maximum backlight, brightness and contrast of LED backlight, and adjust to max. volume with 1KHz sine waveform of speakers, add dummy load of 0.9A for each USB downstream port (three provided).
- The product is to be operated at 5000 m above sea level, the minimum clearances were multiplied by the factor given in Table A.2 of IEC 60664-1: 1.48
- Test samples are pre-production samples without serial numbers.
- If no otherwise specified, all tests were performed on model P212 to represent other similar models.
- The LCD Monitor can be operated in landscape (0°) to portrait mode (90°).

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, US.

Explanation of used codes: US = United States of America.

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

For IEC 60950-1:2005+A1:2009 / EN 60950-1:2006+A11:2009+A1:2010+A12:2011 (per client request):

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

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

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

AU

Explanation of used codes: AU=Australia

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 IEC 60950:1999 (3rd Edition) + Corr. Jan. 2000 (per client request):

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

Explanation of used codes: BR=Brazil, IE=Ireland, 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.



Test item particulars.....:	
Equipment mobility.....:	☒ movable ☐ hand-held ☐ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains.....:	☒ pluggable equipment ☒ type A ☐ type B ☐ permanent connection ☒ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition.....:	☒ continuous ☐ rated operating / resting time:
Access location	☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values	±10
Tested for IT power systems	☒ Yes ☐ No
IT testing, phase-phase voltage (V)	230 (for Norway)
Class of equipment	☒ Class I ☐ Class II ☐ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A)	20
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ 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. 8.05 (include base: 3.3kg)
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement.....	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing.....:	
Date of receipt of test item.....	2015-03-20
Date(s) of performance of tests	2015-03-20 to 2015-04-28
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	

Manufacturer's Declaration per sub-clause 4.2.5 of IECCE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided

☒ **Yes**
☐ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies)	1) TPV Electronics (Fujian) Co., Ltd. Shangzheng, Yuan Hong Road, Fuqing City, Fujian Province, P.R. China 2) Hefei Huntkey Display Technology Co., Ltd. South Jinxiu Road, East Qingtan Road, Economic And Technological Development Zone, Hefei, Anhui 230601, 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) Trend Smart CE Mexico S de RL de CV Avenida Sor Juana Ines de la Cruz de 19602 Nueva Tijuana, 22435 Tijuana Baja California, MEXICO 5) Envision Industry of Electronic Products Ltd. Rodovia Anhanguera S/N-KM 49, 13.205-700 Tijuco Preto-Jundiaí-SP-Brazil 6) Envision Industry of Electronic Products Ltd. Av Torquato Tapajós 7503, Galpão : II Bloco: B- Condomínio de Galpões-Tarumã-Manaus, AM, Brazil 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) TPV Technology (Qingdao) Co., Ltd. No.99 Huoju Road, High-tech Industrial Development Zone, Qingdao City, Shandong Province, P.R. China 10) TPV Display Technology (China) Co., Ltd. No. 106 Jinghai 3 Rd., BDA, Beijing City 100176 P.R. China 11) TPV Electronics (Fujian) Co., Ltd. Rongqiao Economic and Technological Development Zone, Fuqing City, Fujian Province, P. R. China
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General product information:

This equipment models as described on page 1 are LCD Monitor for using in the scope of this standard. All models are identical except for model designation.

This equipment consists of the following critical constructions:

- LCD panel (LED backlight type)
- Building-in type switching power supply board (P/N: 715G7463)
- Main board with LED driver circuit (P/N: 715G7453) (VGA in x 1, Display port x 1, HDMI port x 1, DVI port x 1, Audio in x 1, Audio out x 1, USB downstream port x 3, USB upstream port x 1)
- Secondary key control board
- Base stand

All sources of L901 are similar to each other except for type designation and manufacturer.

All sources of L902 are similar to each other except for type designation and manufacturer.

All sources of T901 are similar to each other except for type designation, manufacturer, and material sources.

The suitable power supply cord will be provided and evaluated during national approval.

Additional Information

- The Label in Copy of marking plate is a draft of an artwork pending approval by National Certification Bodies and it shall not be affixed to products prior to such an approval.
- Some components are pre-certified, which have been investigated according to the standard of earlier version. The suitability of use has been evaluated in this report.
- The power supply unit used in the product is not a certified product. Hence, compliance has been evaluated in this report.
- The equipment is for use in multimedia systems and was investigated additionally to IEC GUIDE 112.
- Special national conditions for J60950-1(H26)
Per client's request, supplement the special national conditions for J60950-1(H26) and J3000 (H25) to present test report. Described as following items:
a) Power cord set for Japanese market is consider as Class 0I or Class I equipment.
b) Considered further Japanese technical requirements J60950-1(H26)

Markings and Instructions

- Fuse Identification (See subclause 1.7.6): F901, F902 T4AL / 250V
- ⚡ (IEC 60417-5019) for the wiring terminal of protective earthing conductor. (See subclause 1.7.7.1)
- ⏻ (IEC 60417-5009) for the stand-by condition. (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	See below.	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	Components certified to IEC standards and/or their harmonized standards, are used within their ratings and are checked for correct application. 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. Components, which no relevant IEC-Standard exists, are used within their ratings and are tested under the conditions occurring in the equipment.	P
1.5.3	Thermal controls		N/A
1.5.4	Transformers	Transformers complied with the relevant requirements.	P
1.5.5	Interconnecting cables	Interconnection cable provided with the equipment is carrying signals on energy level below 240 VA. Besides for the insulation materials, there are not other requirements for the interconnection cables.	P
1.5.6	Capacitors bridging insulation	Capacitors used in accordance with their rating and complied with subclasses of IEC 60384-14 with at least 21 days damp heat test. The accessible circuit complied with the requirement of Limited Current Circuit in 2.4 after electric strength testing of the insulation with the bridging capacitors in place	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.7	Resistors bridging insulation	See below	P
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	See below.	P
1.5.9.2	Protection of VDRs	See annex Q.	P
1.5.9.3	Bridging of functional insulation by a VDR	A fuse is connected in series with the VDR.	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

1.6	Power interface		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

1.7	Marking and instructions		P
1.7.1	Power rating and identification markings	See below.	P
1.7.1.1	Power rating marking	See copy of marking plate.	P
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V)	See copy of marking plate.	P
	Symbol for nature of supply, for d.c. only		N/A
	Rated frequency or rated frequency range (Hz)	See copy of marking plate.	P
	Rated current (mA or A)	See copy of marking plate.	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark	See copy of marking plate.	P
	Model identification or type reference	See copy of marking plate.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Symbol for Class II equipment only		N/A
	Other markings and symbols	Other markings and symbols do not give rise to misunderstanding.	P
1.7.1.3	Use of graphical symbols	Graphical symbols are in accordance with IEC 60417 or ISO 3864-2 or ISO 7000.	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	Appliance inlet provided as disconnect device.	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
1.7.2.6	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		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)	See General product information - Markings and Instructions.	P
1.7.7	Wiring terminals	See below.	P
1.7.7.1	Protective earthing and bonding terminals	See General product information - Markings and Instructions.	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
1.7.8.1	Identification, location and marking	The marking and indication of the power switch is located that indication of function is clearly.	P
1.7.8.2	Colours	No safety involved used.	P
1.7.8.3	Symbols according to IEC 60417	See General product information - Markings and Instructions.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.8.4	Markings using figures		N/A
1.7.9	Isolation of multiple power sources		N/A
1.7.10	Thermostats and other regulating devices		N/A
1.7.11	Durability	The marking plate has no curling and is not able to be removed easily.	P
1.7.12	Removable parts	No marking place in removable parts.	P
1.7.13	Replaceable batteries		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

2	PROTECTION FROM HAZARDS		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. 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_{peak} or V_{rms}); 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
2.1.1.5	Energy hazards	(See appended table 2.1.1.5)	P
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment	The time constant is not exceeded.	P
	Measured voltage (V); time-constant (s)	(See appended table 2.1.1.7)	—
2.1.1.8	Energy hazards – d.c. mains supply	Evaluated for super capacitor.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	a) Capacitor connected to the d.c. mains supply ...:	$E = 0,5 \text{ CU}^2 \times 10^{-6}$ is far below 20J.	P
	b) Internal battery connected to the d.c. mains supply		N/A
2.1.1.9	Audio amplifiers	Complied with 2.1.1.1.	P
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A

2.2	SELV circuits		P
2.2.1	General requirements	See below.	P
2.2.2	Voltages under normal conditions (V)	(see appended table 2.2)	P
2.2.3	Voltages under fault conditions (V)	(see appended table 2.2)	P
2.2.4	Connection of SELV circuits to other circuits	Complied with 2.2.2 and 2.2.3 and 2.4.3.	P

2.3	TNV circuits		N/A
2.3.1	Limits		N/A
	Type of TNV circuits		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed		—
2.3.5	Test for operating voltages generated externally		N/A

2.4	Limited current circuits		P
2.4.1	General requirements	The limits of 2.4.2 were not exceeded.	P
2.4.2	Limit values	See below.	P
	Frequency (Hz)	See appended table 2.4.	—
	Measured current (mA)	See appended table 2.4.	—
	Measured voltage (V)	See appended table 2.4.	—
	Measured circuit capacitance (nF or μF)	See table 1.5.1 and 2.4.	—

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

2.4.3	Connection of limited current circuits to other circuits	The limits of 2.4.2 were not exceeded.	P
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2.5	Limited power sources		P
	a) Inherently limited output	(see appended table 2.5)	P
	b) Impedance limited output		N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition	(see appended table 2.5)	P
	Use of integrated circuit (IC) current limiters		N/A
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA).....:	(see appended table 2.5)	—
	Current rating of overcurrent protective device (A):.		—

2.6	Provisions for earthing and bonding		P
2.6.1	Protective earthing	The relevant parts connected to the main protective earthing terminal reliably. Complied with 2.6.3. See General product information - Markings and Instructions	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. Green-and-yellow color combination was not used for functional earthing conductors.	P
	Use of symbol for functional earthing		N/A
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 ²), AWG		—
2.6.3.3	Size of protective bonding conductors	Evaluation by test. See sub-clause 2.6.3.4.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (A), cross-sectional area (mm ²), AWG	See above.	—
	Protective current rating (A), cross-sectional area (mm ²), AWG		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)	(see appended table 2.6.3.4).	P
2.6.3.5	Colour of insulation	The color combination green-and-yellow is used.	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.	—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	Only protective bonding 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 its 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 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	Appliance inlet provided, 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

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.7	Screws for protective bonding	Self-tapping and spaced thread screws are not used to provide protective bonding. At least two screws are used for each connection.	P
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

2.7	Overcurrent and earth fault protection in primary circuits		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
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	Two fuses provided (one for L and the other for N) which were located near each other.	P
2.7.6	Warning to service personnel :	A non-reversible power plug used.	N/A

2.8	Safety interlocks		N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.8.7.1	Separation distances for contact gaps and their related circuits (mm)		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used. After the humidity treatment of 2.9.2, the insulation is then subjected to the relevant electric strength test of 5.2.2	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.	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General		P
2.10.1.1	Frequency	Considered.	P
2.10.1.2	Pollution degrees	2	P
2.10.1.3	Reduced values for functional insulation	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

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Clause	Requirement + Test	Result - Remark	Verdict
	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.	—
2.10.4.3	Minimum creepage distances	(see appended 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.	—

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Clause	Requirement + Test	Result - Remark	Verdict
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 2.10.5.14	P
2.10.5.12	Wire in wound components		N/A
	Working voltage		N/A
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A
	c) Compliance with Annex U		N/A
	Two wires in contact inside wound component; angle between 45° and 90°		N/A
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components	See below.	P
	Working voltage	See appended table 2.10.2.	P
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation	Complied 2.10.5.6.	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	All internal wires are UL recognized, PVC insulated, VW-1 and have gauge suitable for current intended to be carried.	P
3.1.2	Protection against mechanical damage	The wireways including holes are smooth and free from sharp edges.	P
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
3.2	Connection to a mains supply		P
3.2.1	Means of connection	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	Connection to an a.c. mains supply	Appliance inlet provided.	P
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		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 complied with IEC 60320-1; the connector inserted without difficulty and not supporting the equipment on a flat surface.	P
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type :		—
	Rated current (A), cross-sectional area (mm ²), 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

3.3	Wiring terminals for connection of external conductors		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 ²)..... :		—
3.3.5	Wiring terminal sizes		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	Disconnection from the mains supply		P
3.4.1	General requirement	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
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

3.5	Interconnection of equipment		P
3.5.1	General requirements	See below.	P
3.5.2	Types of interconnection circuits	SELV and limited current circuits.	P
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment	(see appended table 2.5)	P

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		P
	Angle of 10°	The equipment does not fall over.	P
	Test force (N)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

4.2	Mechanical strength		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
4.2.4	Steady force test, 250 N	After subjected 250 N, no damage to the enclosure.	P
4.2.5	Impact test	No damage to the enclosure 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	At 70°C.	P
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 14.25kg (3 times the mass of the unit without base) was applied to the unit with the VESA adaptor kit (100 x 100mm VESA, four M4 x 10 mm screws) The unit withstood the load test without damages or breaks from the VESA adaptor kit.	P

4.3	Design and construction		P
4.3.1	Edges and corners	The edges and corners are rounded and smoothed.	P
4.3.2	Handles and manual controls; force (N)	Additional force 315.6N (4 times the mass of the unit with base) applied. No loosen and no hazard results.	P
4.3.3	Adjustable controls		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
	Torque :		—
	Compliance with the relevant mains plug standard :		N/A
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries	Test for Super Capacitor (C134).	P
	- Overcharging of a rechargeable battery	(see appended table 5.3)	P
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery	(see appended table 5.3)	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (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 diodes)		N/A
	Laser class		—
4.3.13.5.2	Light emitting diodes (LEDs)	The following parts are considered complied without tests: Indicating lights. Optocouplers. For LED backlight, the luminance is far less than 10000 cd/m ² . With reference to sub clause 4.1 of IEC 62471:2006 no further test is necessary.	P
4.3.13.6	Other types		N/A

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

4.5	Thermal requirements		P
4.5.1	General	No exceeding temperature.	P
4.5.2	Temperature tests	(see appended table 4.5)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Normal load condition per Annex L	(See Annex L)	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat	Phenolic material used without further test and primary connector is an IEC approval component.	P

4.6	Openings in enclosures		P
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 bottommm, 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)		—

4.7	Resistance to fire		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

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.2.1	Parts requiring a fire enclosure	Following parts require a fire enclosure: - Components in primary circuits - Components in secondary circuits supplied by power sources that exceed the limits of limited power source. - Components having unenclosed arcing parts in circuit at hazardous voltage/energy level. - Insulating wiring	P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General	The PCBs have material of flammability class V-1 or better.	P
4.7.3.2	Materials for fire enclosures	Plastic and metal enclosure as fire enclosure.	P
4.7.3.3	Materials for components and other parts outside fire enclosures	HB min.	P
4.7.3.4	Materials for components and other parts inside fire enclosures	Internal components except small parts are flammability class V-2 or better.	P
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	See appended table 5.1. See sub-clauses 5.1.2 to 5.1.6.	P
5.1.2	Configuration of equipment under test (EUT)	See below.	P
5.1.2.1	Single connection to an a.c. mains supply	The EUT has only one mains connection.	P
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	Test circuit in Figure 5A used.	P
5.1.4	Application of measuring instrument	Measuring instruments as in annex D used.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.5	Test procedure	The touch current was measured from mains to metal enclosure and output connectors.	P
5.1.6	Test measurements	(see appended table 5.1)	P
	Supply voltage (V)	(see appended table 5.1)	—
	Measured touch current (mA)	(see appended table 5.1)	—
	Max. allowed touch current (mA)	(see appended table 5.1)	—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA) ...		—
5.1.7	Equipment with touch current exceeding 3,5 mA	The touch current not exceeded 3.5mA.	N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A
5.2	Electric strength		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	Table 5B used.	P
5.3	Abnormal operating and fault conditions		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	(see appended Annex C)	P
5.3.4	Functional insulation	Functional insulation complied with the requirements c).	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE	No hazards for component fault of audio circuit.	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 below.	P
5.3.9.1	During the tests	No fire propagated beyond the equipment, no molten metal emitted and no deformation of enclosure.	P
5.3.9.2	After the tests	Electric strength test made.	P
6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		N/A
6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A
6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)		—
	Current limiting method		—
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples.....:		—
	Wall thickness (mm).....:		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material.....:		—
	Wall thickness (mm).....:		—
A.2.2	Conditioning of samples; temperature (°C) ..		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—

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

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

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Clause	Requirement + Test	Result - Remark	Verdict
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position	(see appended table 1.5.1)	—
	Manufacturer	(see appended table 1.5.1)	—
	Type	(see appended table 1.5.1)	—
	Rated values	(see appended table 1.5.1)	—
	Method of protection	Overcurrent protection by circuit design.	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended tables 5.2 and C2)	P
	Protection from displacement of windings	(see appended tables C2)	P
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument	Figure D.1 used	P
D.2	Alternative measuring instrument		N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
G.3	Determination of telecommunication network transient voltage (V) :		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances :		N/A
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal(s) used	Complied.	—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V)		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

L.7	Other business equipment	See summary of testing.	P
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M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A

N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

P	ANNEX P, NORMATIVE REFERENCES		—
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Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	- Preferred climatic categories	Complied, see table 1.5.1.	P
	- Maximum continuous voltage	Complied, see table 1.5.1.	P
	- Combination pulse current	Complied, see table 1.5.1.	P
	Body of the VDR Test according to IEC60695-11-5		N/A
	Body of the VDR. Flammability class of material (min V-1)	Complied, see table 1.5.1.	P

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

R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A

S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A

T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
			—

U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N/A
			—

V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction	Considered.	P
V.2	TN power distribution systems	Considered.	P

W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A

X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		N/A
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		N/A
CC.1	General		N/A
CC.2	Test program 1		N/A
CC.3	Test program 2		N/A
CC.4	Test program 3		N/A
CC.5	Compliance		N/A
DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N.....		N/A
DD.3	Mechanical strength test, 250 N, including end stops.....		N/A
DD.4	Compliance.....		N/A
EE	ANNEX EE, Household and home/office document/media shredders		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Test with test finger (Figure 2A)		N/A
	Test with wedge probe (Figure EE1 and EE2)		N/A

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

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹	
External Plastic Enclosure (Front Bezel)	LG CHEMICAL LTD	LUPOY GN-5001RF(T), LUPOY GN5001RF(T)	V-0 or better, 60°C, min. 2.0 mm thickness	UL 94, UL 746C	UL	
External Plastic Enclosure (Rear)	LG CHEMICAL LTD	LUPOY GN-5001RF(T), LUPOY GN5001RF(T)	V-0 or better, 60°C, min. 2.0 mm thickness	UL 94, UL 746C	UL	
Inter Metal enclosure (left, right, bottom side)	--	--	Metallic, min. 0.81mm thickness.	--	--	
Inter Metal enclosure (top, rear side)	--	--	Metallic, min. 0.6 mm thickness.	--	--	
LCD Panel	Panasonic Liquid Crystal Display Co., Ltd.	VVX21F136J00	21.0" TFT type, with LED backlight.	--	--	
Stand base (Optional)	Interchangeable	Interchangeable	HB or batter, weight approx. 3.3 kg	UL 94	UL	
Internal speaker (Optional)	Interchangeable	Interchangeable	Each rated 4Ω max., Max. 3.0W.	--	--	
P.C.B	Interchangeable	Interchangeable	V-1 or better, Min. 105°C	UL 796	UL	
Appliance inlet	Solteam	ST-01	10A, 250Vac; 15A, 250Vac	IEC/EN 60320-1 ANSI/UL498	UL, VDE	
	Zhang Jia Gang-Hua Jie	SA-4S	10A, 250Vac; 15A, 250Vac	IEC/EN 60320-1 ANSI/UL498	UL, VDE	
	Rong Feng	SS-120, SS-7B	10A, 250Vac; 15A, 250Vac	IEC/EN 60320-1 ANSI/UL498	UL, VDE	
	Shenzhen Delikang / Douling	CDJ-3, CDJ-3-1	10A, 250Vac	IEC/EN 60320-1 ANSI/UL498	UL, VDE	
	Inalways	0707-1, 0711-2	10A, 250Vac; 15A, 250Vac	IEC/EN 60320-1 ANSI/UL498	UL, VDE, N	
	Inalways	0714	10A, 250Vac	IEC/EN 60320-1 ANSI/UL498	UL, VDE, N	

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
	TECX	TU-301 series	10A, 250Vac; 15A, 250Vac	IEC/EN 60320-1 ANSI/UL498	UL, VDE
	Yueqing Hongchang	DB-14	10A/250Vac; 15A, 250Vac	IEC/EN 60320-1 ANSI/UL498	UL, VDE
	Zhang Jia Gang- Hua Jie	SA-4D	10A, 250Vac; 15A, 250Vac	IEC/EN 60320-1 ANSI/UL498	UL, TUV
	Interchangeable	Interchangeable	Max. 15A, 250Vac	IEC 60320-1	VDE, UL, ENEC, TUV, N
Switching Power Supply					
Primary connector (CN901)	Xinya	W7913 series	7 A, 250 Vac	IEC/EN 61984 UL 1977	TÜV NORD UL
Fuse (F901, F902)	Littelfuse / Wickmann	392, 382 series	T4A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3 ANSI/UL 248-1, ANSI/ UL 248-14	VDE, UL
	Conquer	MET, MST	T4A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3 ANSI/UL 248-1, ANSI/ UL 248-14	VDE, UL
	Cooper Bussmann	SR-5, SS-5	T4A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3 ANSI/UL 248-1, ANSI/ UL 248-14	VDE, UL
	Ever Island Electric Co., Ltd & Walter Electric	2000, 2010 series	T4A, 250 Vac	IEC/EN 60127-1, IEC/EN 60127-3 ANSI/UL 248-1, ANSI/ UL 248-14	VDE, UL
Y- Capacitors (C901, C902) (Y1 or Y2 type) (Optional)	Walsin	AC, AH	Max. 4700pF, min. 250 Vac, min. 85°C	IEC / EN 60384- 14: 2005 UL 1414	VDE, FI, UL
	TDK	CS, CD	Max. 4700pF, min. 250 Vac, min. 85°C	IEC / EN 60384- 14: 2005 UL 1414	VDE, FI, UL
	Murata	KH, KX	Max. 4700pF, min. 250 Vac, min. 85°C	IEC / EN 60384- 14: 2005 UL 1414	VDE, FI, UL
	JYA-NAY	JN, JY	Max. 4700pF, min. 250 Vac, min. 85°C	IEC / EN 60384- 14: 2005 UL 1414	VDE, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
	YINAN DON'S ELECTRONIC COMPONENT CO.,LTD	CT81	Max. 4700pF, min. 250 Vac, min. 85°C	IEC / EN 60384-14: 2005 UL 1414	VDE, UL
	Kunshan Wansheng	CT7	Max. 4700pF, min. 250 Vac, min. 85°C	IEC / EN 60384-14: 2005 UL 1414	VDE, UL
	SUCCESS	SB, SE	Max. 4700pF, min. 250 Vac, min. 85°C	IEC / EN 60384-14: 2005	VDE, UL
	Interchangeable	Interchangeable	Max. 4700pF, min. 250 Vac, min. 85°C	IEC / EN 60384-14: 2005	VDE, UL
Bridging - Capacitor (C918) (Y1 type) (Optional)	Walsin	AH	Max. 2200pF, min. 250 Vac, min. 85°C	IEC / EN 60384-14: 2005, UL 1414	VDE, FI, UL
	TDK	CD	Max. 2200pF, min. 250 Vac, min. 85°C	IEC / EN 60384-14: 2005 UL 1414	VDE, FI, UL
	Murata	KX	Max. 2200pF, min. 250 Vac, min. 85°C	IEC / EN 60384-14: 2005 UL 1414	VDE, UL
	JYA-NAY	JN	Max. 2200pF, min. 250 Vac, min. 85°C	IEC / EN 60384-14: 2005 UL 1414	VDE, UL
	YINAN DON'S ELECTRONIC COMPONENT CO.,LTD	CT81	Max. 2200pF, min. 250 Vac, min. 85°C	IEC / EN 60384-14: 2005 UL 1414	VDE, UL
	Kunshan Wansheng	CT7	Max. 2200pF, min. 250 Vac, min. 85°C	IEC / EN 60384-14: 2005 UL 1414	VDE, UL
	SUCCESS	SE, SB	Max. 2200pF, min. 250 Vac, min. 85°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
	Interchangeable	Interchangeable	Max. 2200pF, min. 250 Vac, min. 85°C	IEC/EN 60384-14: 2005	VDE, UL
X- Capacitor (C903) (X1 or X2 type) (Optional)	Ultra Tech Xiphi Enterprise Co., Ltd.	HQX	Max. 0.47μF, min. 250 Vac, min. 100°C	IEC/EN 60384-14: 2005 UL 1414	VDE, FI, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
	Hua Jung Components Co., Ltd.	MKP	Max. 0.47 μ F, min. 250 Vac, min. 100°C	IEC/EN 60384-14: 2005 UL 1414	ENEC, FI, UL
	Europtronic (Taiwan) Industrial Corp.	MPX, MPX2	Max. 0.47 μ F, min. 250 Vac, min. 100°C	IEC/EN 60384-14: 2005 UL 1414	VDE, FI, UL
	Liow Gu Electronics Industry Co., Ltd.	GS-L	Max. 0.47 μ F, min. 250 Vac, min. 100°C	IEC/EN 60384-14: 2005 UL 1414	VDE, FI, UL
	Kemet	R.46	Max. 0.47 μ F, min. 250 Vac, min. 100°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
	Epcos Electronic Components S A	B3292#	Max. 0.47 μ F, min. 250 Vac, min. 100°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
	RongGuangDa	MKP	Max. 0.47 μ F, min. 250 Vac, min. 100°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
	ZhuHai Sung Ho Electronics Co., Ltd.	CMPP	Max. 0.47 μ F, min. 250 Vac, min. 100°C	IEC/EN 60384-14: 2005 UL 1414	VDE, UL
	Interchangeable	Interchangeable	Max. 0.47 μ F, min. 250 Vac, min. 100°C	IEC/EN 60384-14: 2005	VDE, UL
Bleeder Resistors (R901, R902, R903)	Interchangeable	SMD type	620K Ω , min. 1/4W (three provided, located after fuse)	--	--
Current sensor resistor (R920)	Interchangeable	Interchangeable	Min. 0.33 Ω , 2W	--	--
Bridging Diode (BD901)	Interchangeable	Interchangeable	Min. 4A, min. 800Vac	--	--
Ripple Capacitor (C905)	Interchangeable	Interchangeable	180 μ F, min. 450 V, min. 105 °C	--	--
Transistors (Q901)	Interchangeable	Interchangeable	Min. 650V-700V, min. 8.6A	--	--
Thermistor (TH901, TH902) (Optional)	Interchangeable	Interchangeable	Min. 2 Ω , min. 8A at 25°C	--	--

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Optocouplers (U903)	Sharp	PC123	Di>0.4mm, int. cr = thermal cycling test, ext. cr >8.0mm, 5000 Vac, 100°C	DIN EN 60747-5-2:2003, IEC/EN 60950-1, UL 1577	VDE, UL, Semko, Fimko, Nemko
	Vishay Semiconductor	TCET1103	Di >0.5mm, int.cr > 6.0mm, ext. cr > 7.7mm 3000Vac, 100°C	DIN EN 60747-5-2:2003, IEC/EN 60950-1, UL 1577	VDE, UL, Semko, Fimko, Nemko
	Everlight Electronics Co., Ltd.	EL817, EL817M UL : EL8X7 (X=1 or 2)	Di >0.5mm, int.cr >6.0mm, ext. cr >7.7mm, 3000Vac, 100°C	DIN EN 60747-5-2:2003, IEC/EN 60950-1, UL 1577	VDE, UL, Semko, Fimko, Nemko
	TOSHIBA	TLP781F , TLP781	Di >0.5mm, int.cr =thermal cycling test, ext. cr >8.0mm, 4800 Vac, 100°C	DIN EN 60747-5-2:2003, IEC/EN 60950-1, UL 1577	VDE, UL, Semko, Fimko
	TOSHIBA	TLP421F ,	Di >0.4mm, int.cr=thermal cycling test, ext. cr >8.0mm, 5000 Vac, 100°C	DIN EN 60747-5-2:2003, IEC/EN 60950-1, UL 1577	VDE, UL, Semko, Fimko
	RENESAS ELECTRONICS CORPORATION	PS2561-1, PS2561L-1, PS2561L1-1, PS2561L2-1. PS2561DL1-1	Di>0.4mm, int.cr=thermal cycling test, ext. cr >8.0mm, 5000Vac, 100°C	DIN EN 60747-5-2:2003, IEC/EN 60950-1, UL 1577	VDE, UL, Nemko, Fimko
	Everlight Electronics Co., Ltd.	EL1013	Di >0.4mm, int.cr=thermal cycling test, ext. cr >8.1mm, 3000Vac, 100°C	DIN EN 60747-5-2:2003, IEC/EN 60950-1, UL 1577	VDE, UL, Semko, Fimko, Nemko
	Lite-On	LTV-817	Di > 0.6mm, int.cr=thermal cycling test, ext. cr > 8.0mm, 4800Vac, 100°C	DIN EN 60747-5-2:2003, IEC/EN 60950-1, UL 1577	VDE, UL, Semko, Fimko, Nemko
Varistor (VAR901)	Thinking Electronic Industrial Co., Ltd.	TVR14681	Rated 420 Vac, 560Vdc, 40/85/56, 6KV/3KA, pluse test passed V-0 coating	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, UL 1449 3rd	VDE, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
	Panasonic	V14681U	Rated 420 Vac, 560Vdc, 40/85/56, 6KV/3KA, pluse test passed V-0 coating	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, UL 1449 3rd	VDE, UL, CQC
	EPCOS	SIOV-S14KV681 SIOV- SNF14K420	Rated 420 Vac, 560Vdc, 40/85/56, 6KV/3KA, pluse test passed V-0 coating	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, UL 1449 3rd	VDE, UL
Line Choke (L901) (Optional)	ASET	373G0174290X	105°C	--	--
	CHENPING	373G0174290CP	105°C	--	--
Line Choke (L902) (Optional)	Dadon / Channelon	73G174-76-H	105°C	--	--
	TPV	73G174-76-V	105°C	--	--
	LITAI	73G174-76-L	105°C	--	--
Transformer (T901)	LFDJ	380GL19P546J	Class 130 material (B)	Applicable parts of IEC 60950-1 and according to IEC 60085	Accepted by TUV Rheinland
-Bobbin	SUMITOMO	PM-9820	V-0, phenolic, 150°C	UL 94	UL
	CHANG CHUN PLASTICS CO LTD	T375HF	V-0, phenolic, 150°C	UL 94	UL
-Insulation tape	Jingjiang Yahua Pressure Sensitive Co Ltd	CT	130°C	UL 510	UL
Transformer (T901) (Alternate)	TAICHANG	380GL19P546S	Class 130 material (B)	Applicable parts of IEC 60950-1 and according to IEC 60085	Accepted by TUV Rheinland
-Bobbin	SUMITOMO	PM-9820	V-0, phenolic, 150°C	UL 94	UL
-Insulation tape	Jingjiang Yahua Pressure Sensitive Co Ltd	CT	130°C	UL 510	UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Transformer (T901) (Alternate)	YUVA	380GL19P546N	Class 130 material (B)	Applicable parts of IEC 60950-1 and according to IEC 60085	Accepted by TUV Rheinland
-Bobbin	SUMITOMO	PM-9820	V-0, phenolic, 150°C	UL 94	UL
	CHANG CHUN PLASTICS CO LTD	T375J	V-0, phenolic, 150°C	UL 94	UL
-Insulation tape	Jingjiang Yahua Pressure Sensitive Co Ltd	CT	130°C	UL 510	UL
	Symbio Inc.	35660Y	130°C	UL 510	UL
Transformer (T901) (Alternate)	TPV	S80GL19P546V	Class 130 material (B)	Applicable parts of IEC 60950-1 and according to IEC 60085	Accepted by TUV Rheinland
-Bobbin	SUMITOMO	PM-9820, PM-8375	V-0, phenolic, 150°C	UL 94	UL
-Insulation Tape	Jingjiang Yahua Pressure Sensitive Co., Ltd.	CT	130°C	UL 510	UL
	Symbio Inc.	35660Y	130°C	UL 510	UL
Supplementary information:					
¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

1.5.1	TABLE: Opto Electronic Devices	P
Manufacturer : Sharp / Vishay / Everlight / TOSHIBA / TOSHIBA / RENESAS / Everlight / Lite-On Type..... : PC123 / TCET1103 / EL817, EL817M / TLP781F, TLP781 / TLP421F / PS2561-1, PS2561L-1, PS2561L1-1, PS2561L2-1, PS2561DL1-1 / EL1013 / LTV-817 Separately tested..... : Tested by FIMKO Bridging insulation : Reinforced insulation. External creepage distance : >8.0 / >7.7 / >7.7 / >8.0 / >8.0 / >8.0 / >8.1 / >8.0 Internal creepage distance : ¹⁾ / >6.0 / >6.0 / ¹⁾ / ¹⁾ / ¹⁾ / ¹⁾ Distance through insulation : >0.4 / >0.5 / >0.5 / >0.5 / >0.4 / >0.4 / >0.4 / >0.6		

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

Tested under the following conditions : --

Input..... : --

Output..... : --

Supplementary information:

- 1) There is not any internal creepage distance. Test according to IEC 60950-1: 2001, cl. 2.10.8 (same as requirement in IEC 60950-1: 2005, cl. 2.10.9) has been carried out ten times for components at 100°C / 25°C / 0°C / 25°C. Humidity treatment of 48 hours as well as electric strength tests at 3000V / 1 minute and 5000V / 1 minute were carried out to the component after thermal cycling test.

1.6.2	TABLE: Electrical data (in normal conditions)						P
U (V/Hz)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
VGA mode							
90/50	0.96	--	53.7	F901, F902	0.96	Maximum normal load.	
90/60	0.96	--	53.7	F901, F902	0.96	Maximum normal load.	
100/50	0.88	1.0	53.2	F901, F902	0.88	Maximum normal load.	
100/60	0.88	1.0	53.2	F901, F902	0.88	Maximum normal load.	
240/50	0.44	0.6	52.1	F901, F902	0.44	Maximum normal load.	
240/60	0.44	0.6	52.1	F901, F902	0.44	Maximum normal load.	
264/50	0.41	--	52.2	F901, F902	0.41	Maximum normal load.	
264/60	0.41	--	52.2	F901, F902	0.41	Maximum normal load.	
DVI mode							
90/50	0.96	--	53.8	F901, F902	0.96	Maximum normal load.	
90/60	0.96	--	53.8	F901, F902	0.96	Maximum normal load.	
100/50	0.87	1.0	53.5	F901, F902	0.87	Maximum normal load.	
100/60	0.87	1.0	53.5	F901, F902	0.87	Maximum normal load.	
240/50	0.44	0.6	52.1	F901, F902	0.44	Maximum normal load.	
240/60	0.44	0.6	52.1	F901, F902	0.44	Maximum normal load.	

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
264/50	0.41	--	52.1	F901, F902	0.41	Maximum normal load.
264/60	0.41	--	52.1	F901, F902	0.41	Maximum normal load.
HDMI mode						
90/50	1.02	--	57.1	F901, F902	1.02	Maximum normal load.
90/60	1.02	--	57.1	F901, F902	1.02	Maximum normal load.
100/50	0.93	1.0	56.7	F901, F902	0.93	Maximum normal load.
100/60	0.93	1.0	56.7	F901, F902	0.93	Maximum normal load.
240/50	0.47	0.6	55.4	F901, F902	0.47	Maximum normal load.
240/60	0.47	0.6	55.4	F901, F902	0.47	Maximum normal load.
264/50	0.43	--	55.6	F901, F902	0.43	Maximum normal load.
264/60	0.43	--	55.6	F901, F902	0.43	Maximum normal load.
Display mode						
90/50	1.03	--	57.5	F901, F902	1.03	Maximum normal load.
90/60	1.03	--	57.5	F901, F902	1.03	Maximum normal load.
100/50	0.94	1.0	56.9	F901, F902	0.94	Maximum normal load.
100/60	0.94	1.0	56.9	F901, F902	0.94	Maximum normal load.
240/50	0.47	0.6	55.6	F901, F902	0.47	Maximum normal load.
240/60	0.47	0.6	55.6	F901, F902	0.47	Maximum normal load.
264/50	0.44	--	55.6	F901, F902	0.44	Maximum normal load.
264/60	0.44	--	55.6	F901, F902	0.44	Maximum normal load.
Supplementary information:						

2.1.1.5 c)	TABLE: max. V, A, VA test	P
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IEC 60950-1				
Clause	Requirement + Test		Result - Remark	
1)				
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)
+19V	--	18.6	4.4	76.9
Supplementary information: Supply voltage: 240Vac, 60Hz				

2.1.1.5 c) 2)	TABLE: stored energy			P
Capacitance C (μF)		Voltage U (V)	Energy E (J)	
Test for Super Capacitor (C134)				
0.47		5.5	0.000007	
Supplementary information:				

2.2	TABLE: evaluation of voltage limiting components in SELV circuits			P
Component (measured between)		max. voltage (V) (normal operation)		Voltage Limiting Components
		V peak	V d.c.	
For switching power supply board				
T901 pin10,11,12 to Earth		66.0	--	--
T901 pin10,11,12, after R914, R915, R916		59.5	--	--
T901 pin10,11,12, after C921, D914		--	18.9	C921, D914
For LED driver circuit				
CN801 pin11,12 to Earth ²⁾		--	68.1	--
Metal enclosure to Earth		--	0	
Fault test performed on voltage limiting components		Voltage measured (V) in SELV circuits (V peak or V d.c.)		
For switching power supply board				
C921 short		Unit shutdown		
D914 short		Unit shutdown		
For LED driver circuit				
CN801 pin11,12 to metal enclosure short		Unit shutdown		
Supplementary information:				
1) Supply voltage: 240Vac, 60Hz				
2) CN801 pin11,12 are not user accessible.				

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

2.5	TABLE: Limited power sources					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Sample No.	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
According to table 2B at normal condition						
+19V (CN902) pin 1,3,4	1	18.6	4.4	8	76.5	100
Display (CN108) pin 1,3,6	1	1.30	0	8	0	100
Display (CN108) pin 10,17	1	3.30	0	8	0	100
Display (CN108) other pins	1	0	0	8	0	100
VGA (CN1002) pin 5	1	1.30	0	8	0	100
VGA (CN1002) pin 8	1	1.68	0	8	0	100
VGA (CN1002) pin 12,15	1	4.14	0	8	0	100
VGA (CN1002) other pins	1	0	0	8	0	100
HDMI (CN501) pin 7,12,13, 16	1	3.30	0	8	0	100
HDMI (CN501) pin 8	1	4.58	0	8	0	100
HDMI (CN501) pin 18	1	4.80	0	8	0	100
HDMI (CN501) other pins	1	0	0	8	0	100

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
DVI (CN105) pin 1,2,9,17, 18	1	3.30	0	8	0	100
DVI (CN105) pin 6,7	1	4.75	0	8	0	100
DVI (CN105) pin 15	1	3.13	0	8	0	100
DVI (CN105) other pins	1	0	0	8	0	100
Audio (CN602) all pins	1	0	0	8	0	100
Audio (CN603) all pins	1	0	0	8	0	100
USB 3.0 (CN705) pin 1	1	5.15	1.35	8	5.85	100
USB 3.0 (CN705) other pins	1	0	0	8	0	100
USB 3.0 (CN7005) pin 1	1	5.15	1.35	8	5.86	100
USB 3.0 (CN7005) other pins	1	0	0	8	0	100
USB 3.0 (CN7701) all pins	1	0	0	8	0	100
USB 3.0 (CN7004) pin 1	1	5.15	1.35	8	5.87	100
USB 3.0 (CN7004) other pins	1	0	0	8	0	100
According to table 2B at single fault condition						
+19V (CN902) pin 1,3,4 at U903 (1-2) short	1	0	0	8	0	100
+19V (CN902) pin 1,3,4 at U903 (3-4) short	1	0	0	8	0	100

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
+19V (CN902) pin 1,3,4 at U903 (1) open	1	0	0	8	0	100
+19V (CN902) pin 1,3,4 at R920 short	1	0	0	8	0	100
USB 3.0 (CN705) pin 1 at U701 (1-5) short	1	5.18	1.65	8	7.43	100
USB 3.0 (CN7005) pin 1 at U7742 (1-5) short	1	5.18	1.65	8	7.50	100
USB 3.0 (CN7004) pin 1 at U7741 (1-5) short	1	5.18	1.65	8	7.52	100
Supplementary information:						

2.10.2	Table: working voltage measurement			P
Location		RMS voltage (V)	Peak voltage (V)	Comments
Supply voltage: 100Vac, 60Hz				
T901	pin 2 to pin 7,8,9	94	152	
T901	pin 2 to pin 10,11,12	96	176	
T901	pin 3 to pin 7,8,9	95	184	
T901	pin 3 to pin 10,11,12	94	174	
T901	pin 4 to pin 7,8,9	100	164	
T901	pin 4 to pin 10,11,12	102	192	
T901	pin 6 to pin 7,8,9	148	332	
T901	pin 6 to pin 10,11,12	138	320	
U903	pin 1 to pin 3	106	178	
U903	pin 1 to pin 4	108	182	
U903	pin 2 to pin 3	106	178	
U903	pin 2 to pin 4	108	182	
C918	Pri. pin to Sec. pin	94	152	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Supply voltage: 240Vac, 60Hz			
T901	pin 2 to pin 7,8,9	206	340
T901	pin 2 to pin 10,11,12	208	360
T901	pin 3 to pin 7,8,9	209	392
T901	pin 3 to pin 10,11,12	208	352
T901	pin 4 to pin 7,8,9	205	344
T901	pin 4 to pin 10,11,12	210	404
T901	pin 6 to pin 7,8,9	251	508
T901	pin 6 to pin 10,11,12	239	500
U903	pin 1 to pin 3	220	360
U903	pin 1 to pin 4	218	356
U903	pin 2 to pin 3	220	360
U903	pin 2 to pin 4	216	356
C918	Pri. pin to Sec. pin	204	340
Supplementary information:			

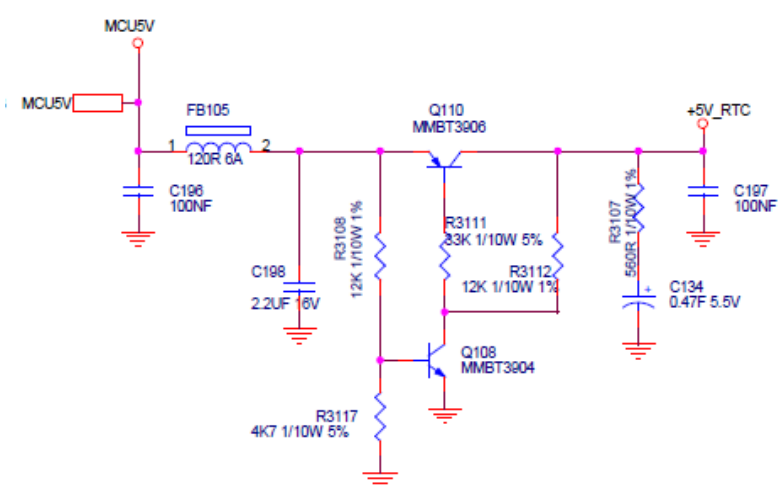
2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Functional:							
Line to Neutral before fuse	420	250	2.3 (1.5*1.48)	2.8	2.5	2.8	
Traces under fuse (F901)	420	250	2.3 (1.5*1.48)	2.8	2.5	2.8	
Traces under fuse (F902)	420	250	2.3 (1.5*1.48)	2.8	2.5	2.8	
Basic/supplementary:							
Primary to earthed trace	420	250	3.0 (2.0*1.48)	See below	3.0	See below	
Under C901/C902				8.0		8.0	
Primary to earthed part	420	250	3.0 (2.0*1.48)	See below	3.0	See below	
L/N solder pin to earthed metal chassis for panel				4.2		4.2	
HS1 (highest component on SPS component side) to metal enclosure				5.2		5.2	

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
HS1 trace to metal enclosure				3.8		3.8
Primary/Secondary to floating part	420	250	3.0 (2.0*1.48)	See below	3.0	See below
C918 pin (with 10N) to T901 core				4.5		4.5
HS2 to T901 core				10.4		10.4
Reinforced:						
Primary traces to secondary traces	420	250	6.0 (4.0*1.48)	See below	6.0	See below
Under C918				7.8		7.8
Under U903				7.8		7.8
Under T901	508	251	6.6 (4.4*1.48)	8.4	6.6	8.4
Supplementary information: 1) Functional insulation shorted, see 5.3.4 c). 2) The product is to be operated at 5000 m above sea level, the minimum clearances were multiplied by the factor given in Table A.2 of IEC 60664-1: 1.48 3) For clearance and creepage did not describe above are far larger than 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)
Photo couplers (Reinforced insulation)		420	250	AC 3000	0.4	¹⁾
Plastic enclosure (Reinforced insulation)		420	250	AC 3000	0.4	¹⁾
Supplementary information: 1) See table 1.5.1 for details.						

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.	Meas. current	Manuf. Specs.

IEC 60950-1									
Clause	Requirement + Test					Result - Remark			Verdict
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:									
For Super Capacitor, see table 5.3 for test result.									

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: Super Capacitor circuit:		
		

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

MARKINGS AND INSTRUCTIONS (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)	A) 90V, 60Hz, landscape orientation B) 90V, 60Hz, portrait orientation C) 264V, 60Hz, landscape orientation		—	
	Ambient T _{min} (°C)	--		—	
	Ambient T _{max} (°C)	See below		—	
Maximum measured temperature T of part/at.....:		T (°C)		Allowed T _{max} (°C)	
Supply voltage		A)	B)	C)	--
AC Inlet near L		48.1	54.2	52.4	70
CN901 near L		50.5	57.3	55.7	--
C901 body		55.3	57.8	56.1	85
PCB near VAR901		69.7	74.4	63.0	105
C903 body		60.2	68.4	59.9	85
L901 coil		70.9	81.7	63.8	105
L902 coil		62.4	79.1	63.8	105
PCB near BD901		76.2	83.3	70.2	105
C905 body		65.9	66.1	61.5	105
PCB near Q901		70.9	73.5	71.3	105
C918 body		67.8	75.8	78.1	85
T901 coil		84.2	87.6	92.3	110
T901 core		80.2	84.6	89.0	110
PCB near D905		76.4	76.5	77.8	105
L903 coil		64.6	66.1	65.9	105
PCB near U104 (Main board)		67.6	64.5	64.4	105
Plastic enclosure inside near T901		47.3	48.8	48.3	--
Plastic enclosure outside near T901		45.2	46.5	46.1	95
Panel		49.2	50.5	49.7	95
Tma (Tamb)		40.0 (24.8)	40.0 (23.7)	40.0 (23.7)	--

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

Supplementary information:

The temperatures were measured under worst normal mode defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltages as described above.

The maximum ambient temperature specified by manufacturer is 40°C (T_{ma}).

All values for T(°C) are re-calculated from T_{amb} respectively.

Winding components (with safety isolation):

- Class 130 material (B) T_{max} = 120 °C - 10°C = 110°C

Heating test was performed with all DC fans locked condition

Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class

Supplementary information:

4.5.5	TABLE: Ball pressure test of thermoplastic parts		P
	Allowed impression diameter (mm)	≤ 2 mm	—
Part	Test temperature (°C)	Impression diameter (mm)	
Below tests for client required only			
Plastic material for panel bezel, Kingfa : HIPS-5197, 2.5mm	90	1.59	
Plastic material for panel bezel, Kingfa : GAR-011(L85), 2.5mm	85	1.31	
Plastic material for panel bezel, Kingfa : GAR-011(L65), 2.5mm	85	1.29	
Plastic material for panel bezel, Kingfa : HIPS-510(H), 2.5mm	80	1.29	
Plastic material for panel bezel, Kingfa : FRHIPS-960, 2.5mm	85	1.88	
Plastic material for panel bezel, Cheil : GC-0750(+), 2.5mm	80	1.61	
Plastic material for panel bezel, Cheil : GC-0700(+), 2.5mm	80	1.94	
Plastic material for panel bezel, Cheil : HG-0760(+), 2.5mm	85	1.73	
Plastic material for panel bezel, Cheil : LX-0951(+), 2.5mm	85	1.83	
Plastic material for panel bezel, Cheil : SD-0150, 2.5mm	85	1.48	
Plastic material for panel bezel, Cheil : HR-1360, 2.5mm	85	1.71	
Plastic material for panel bezel, Cheil : BF-0670F, 2.5mm	80	1.59	
Plastic material for panel bezel, LG : HF380, 2.5mm	85	1.48	
Plastic material for panel bezel, LG : SE885, 2.5mm	80	1.42	
Plastic material for panel bezel, LG : LUPOY GP-1000(#), 2.5mm	95	1.21	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Plastic material for panel bezel, LG : XG568, 2.5mm	80	1.81
	Plastic material for panel bezel, LG : XG569C, 2.5mm	80	1.85
	Plastic material for panel bezel, LG : HF388H, 2.5mm	85	1.39
	Plastic material for panel bezel, LG : SE750, 2.5mm	80	1.50
	Plastic material for panel bezel, Teijin : TN-7500, 2.5mm	85	1.57
	Plastic material for panel bezel, ORINKO : HIPS-2000, 2.5mm	85	1.48
	Plastic material for panel bezel, Kingfa : GAR-011C, 2.5mm	90	1.91
	Plastic material for panel bezel, Kingfa : GAR-011C, 3.0mm	90	1.59
	Plastic material for panel bezel, Kingfa : CK-61006, 3.0mm	85	1.67
	Plastic material for panel bezel, Kingfa : CK-61506, 3.0mm	85	1.43
Supplementary information: Phenolic materials are accepted without test.			

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)	1)	
Metal enclosure	--	--	1)	--	--	
PCB	--	--	--	1)	1)	
Supplementary information: 1) See table 1.5.1 for details.						

5.1	TABLE: touch current measurement			P
Measured between:		Measured (mA)	Limit (mA)	Comments/conditions
Supply voltage: 264Vac, 60Hz				
Line and metal enclosure		0.64	3.5	Switch “e” open.
Neutral and metal enclosure		0.64	3.5	Switch “e” open.
Line and output connectors		0.02	0.25	Switch “e” close.
Neutral and output connectors		0.02	0.25	Switch “e” close.
Line and front plastic enclosure with foil		0.02	0.25	Switch “e” close.
Neutral and front plastic enclosure with foil		0.02	0.25	Switch “e” close.
Supply voltage: 100Vac, 60Hz				

IEC 60950-1			
Clause	Requirement + Test		Verdict
Line and metal enclosure	0.31	3.5	Switch "e" open.
Neutral and metal enclosure	0.31	3.5	Switch "e" open.
Line and output connectors	0.02	0.25	Switch "e" close.
Neutral and output connectors	0.02	0.25	Switch "e" close.
Line and front plastic enclosure with foil	0.02	0.25	Switch "e" close.
Neutral and front plastic enclosure with foil	0.02	0.25	Switch "e" close.
Supplementary information:			

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Basic/supplementary:				
Unit: primary and earth		DC	2515	No
T901: primary and core		AC	1779	No
T901: secondary and core		AC	1779	No
Reinforced:				
Unit: primary and secondary		DC	4242	No
T901: primary and secondary		AC	3000	No
T901: one layers of insulation tape		AC	3000	No
Supplementary information:				
1) Same construction for all sources of T901.				

5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C)		40, if no 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
Ventilation openings	Block	240	1hr 54min	F901, F902	0.47	Unit normal operation, no damaged, no hazards. Max. temp. at T901 coil= 100.4°C; plastic enclosure inside near T901= 51.6°C; plastic enclosure outside near T901= 48.2°C; ambient=40.0°C

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
BD901 pin 1 to 4	Short	240	1 sec	F901, F902	--	F901, F902 opened, no hazards.
BD901 pin 1 to 3	Short	240	1 sec	F901, F902	--	F901, F902 opened, no hazards.
C905	Short	240	1 sec	F901, F902	--	F901, F902 opened, no hazards.
U901 (2-6)	Short	240	10 min	F901, F902	0.04	U901 damaged, no hazards.
Q901pin G-S	Short	240	10 min	F901, F902	0.04	Unit shutdown. No damaged, no hazards.
Q901 pin G-D	Short	240	1 sec	F901, F902	--	F901, F902 opened, Q901 damaged, no hazards.
Q901 pin D-S	Short	240	1 sec	F901, F902	--	F901, F902 opened, Q901 damaged, no hazards.
T901 (2-3)	Short	240	10 min	F901, F902	0.04	Unit shutdown. No damaged, no hazards.
T901 (4-6)	Short	240	10 min	F901, F902	0.04	Unit shutdown. No damaged, no hazards.
T901 (7.8.9-10.11.12)	Short	240	10 min	F901, F902	0.04	Unit shutdown. No damaged, no hazards.
U903 (1-2)	Short	240	10 min	F901, F902	0.04	Unit shutdown. No damaged, no hazards.
U903 (3-4)	Short	240	10 min	F901, F902	0.04	Unit shutdown. No damaged, no hazards.
U903 (1)	Open	240	10 min	F901, F902	0.04	Unit shutdown. No damaged, no hazards.
D905 (3-2)	Short	240	10 min	F901, F902	0.04	Unit shutdown. No damaged, no hazards.
19Vdc to Earth	Short	240	10 min	F901, F902	0.04	Unit shutdown. No damaged, no hazards.
T901 (after D905)	Over-load	240	2hr 26min	F901, F902	0.67	Constant temperatures were obtained at 2.0A, increase to 2.2A then unit shutdown, no damaged, no hazards. Max. temp. at T901 coil/core=103.2°C/98.5°C; Ambient=40.0°C
Test for Super Capacitor (C134): Panasonic, type EEC F 5R5 H 474						
Q110 (E-B) (abnormal charge)	Short	240	7hr	F901, F902	0.40	Normal operation, no damaged, no hazards. Max. temp. at C134= 45.9°C, ambient= 40.0°C.
Q110 (E-C) (abnormal charge)	Short	240	7hr	F901, F902	0.40	Normal operation, no damaged, no hazards. Max. temp. at C134= 44.7°C, ambient= 40.0°C.

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
C134 (abnormal charge)	Short	240	7hr	F901, F902	0.40	Normal operation, no damaged, no hazards. Max. temp. at C134= 46.3°C, ambient= 40.0°C.
Q110 (E-B) (discharge)	Short	240	7hr	F901, F902	0.40	Normal operation, no damaged, no hazards. Max. temp. at C134= 45.8°C, ambient= 40.0°C.
Q110 (E-C) (discharge)	Short	240	7hr	F901, F902	0.40	Normal operation, no damaged, no hazards. Max. temp. at C134= 44.5°C, ambient= 40.0°C.
C134 (discharge)	Short	240	7hr	F901, F902	0.40	Normal operation, no damaged, no hazards. Max. temp. at C134= 46.6°C, ambient= 40.0°C.
Test for output connectors						
VGA (CN1002) Pin5	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 1.30V, Maximum Available Current= 0A. No damaged, no hazards.
VGA (CN1002) Pin8	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 1.68V, Maximum Available Current= 0A. No damaged, no hazards.
VGA (CN1002) Pin12,15	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 4.14V, Maximum Available Current= 0A. No damaged, no hazards.
VGA (CN1002) other pins	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 0V, Maximum Available Current= 0A. No damaged, no hazards.
Display (CN108) Pin1,3,6	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 1.30V, Maximum Available Current= 0A. No damaged, no hazards.
Display (CN108) Pin10,17	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 3.30V, Maximum Available Current= 0A. No damaged, no hazards.
Display (CN108) other pins	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 0V, Maximum Available Current= 0A. No damaged, no hazards.
HDMI (CN501) Pin7,12,13, 16	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 3.30V, Maximum Available Current= 0A. No damaged, no hazards.
HDMI (CN501) Pin8	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 4.58V, Maximum Available Current= 0A. No damaged, no hazards.
HDMI (CN501) Pin18	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 4.80V, Maximum Available Current= 0A. No damaged, no hazards.

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
HDMI (CN501) other pins	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 0V, Maximum Available Current= 0A. No damaged, no hazards.
DVI (CN105) Pin1,2,9,17,18	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 3.30V, Maximum Available Current= 0A. No damaged, no hazards.
DVI (CN105) Pin6,7	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 4.75V, Maximum Available Current= 0A. No damaged, no hazards.
DVI (CN105) Pin15	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 3.13V, Maximum Available Current= 0A. No damaged, no hazards.
DVI (CN105) other pins	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 0V, Maximum Available Current= 0A. No damaged, no hazards.
Audio (CN602) all pins	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 0V, Maximum Available Current= 0A. No damaged, no hazards.
Audio (CN603) all pins	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 0V, Maximum Available Current= 0A. No damaged, no hazards.
USB 3.0 (CN705) Pin1	Over-load	240	1hr	F901, F902	--	Open Circuit Voltage = 5.15V, Maximum Available Current= 1250mA. No damaged, no hazards.
USB 3.0 (CN705) other pins	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 0V, Maximum Available Current= 0A. No damaged, no hazards.
USB 3.0 (CN7005) Pin1	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 5.15V, Maximum Available Current= 1260mA. No damaged, no hazards.
USB 3.0 (CN7005) other pins	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 0V, Maximum Available Current= 0A. No damaged, no hazards.
USB 3.0 (CN7701) all pins	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 0V, Maximum Available Current= 0A. No damaged, no hazards.
USB 3.0 (CN7004) Pin1	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 5.15V, Maximum Available Current= 1250mA. No damaged, no hazards.
USB 3.0 (CN7004) other pins	Over-load	240	--	F901, F902	--	Open Circuit Voltage = 0V, Maximum Available Current= 0A. No damaged, no hazards.

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

Supplementary information:

- 1) For fuse opened condition, same results were carried out for all sources fuses.
- 2) Test items where components were damaged were repeated twice with same outcome.

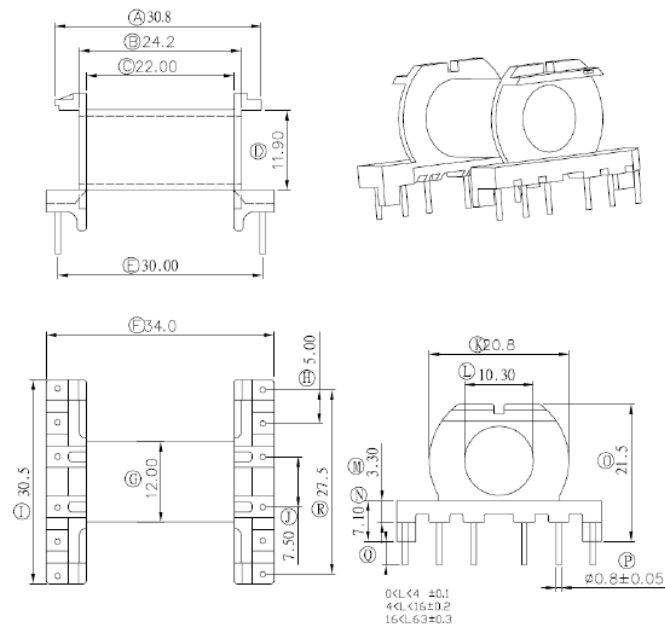
C.2	TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
T901	Primary/input winding and core (internal) (BI)	508	251	AC 1779V	3.3 (2.2*1.48)	3.3	Min. two layers or 0.4mm thickness
T901	Secondary/output winding and core (internal) (SI)	508	251	AC 1779V	3.3 (2.2*1.48)	3.3	Min. two layers or 0.4mm thickness
T901	Primary /input winding and secondary/output winding (internal) (DI)	508	251	AC 3000V	6.6 (4.4*1.48)	6.6	Min. two layers or 0.4mm thickness
T901	Primary/input part and core (external) (BI)	508	251	AC 1779V	3.3 (2.2*1.48)	3.3	Min. two layers or 0.4mm thickness
T901	Secondary/output part and core (external) (SI)	508	251	AC 1779V	3.3 (2.2*1.48)	3.3	Min. two layers or 0.4mm thickness
T901	Primary/input part and secondary/output part (external) (DI)	508	251	AC 3000V	6.6 (4.4*1.48)	6.6	Min. two layers or 0.4mm thickness
T901	Primary/input part and secondary/output winding (external) (DI)	508	251	AC 3000V	6.6 (4.4*1.48)	6.6	Min. two layers or 0.4mm thickness
T901	Secondary/output part and primary/input winding (external) (DI)	508	251	AC 3000V	6.6 (4.4*1.48)	6.6	Min. two layers or 0.4mm thickness
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers

IEC 60950-1					
Clause	Requirement + Test	Result - Remark			Verdict
T901	Primary/input winding and core (internal) (BI)	AC 1779V	7.5	7.5	See supplementary information
T901	Secondary/output winding and core (internal) (SI)	AC 1779V	7.5	7.5	See supplementary information
T901	Primary /input winding and secondary/output winding (internal) (DI)	AC 3000V	10.0	10.0	See supplementary information
T901	Primary/input part and core (external) (BI)	AC 1779V	3.5	3.5	See supplementary information
T901	Secondary/output part and core (external) (SI)	AC 1779V	3.5	3.5	See supplementary information
T901	Primary/input part and secondary/output part (external) (DI)	AC 3000V	29.6	29.6	See supplementary information
T901	Primary/input part and secondary/output winding (external) (DI)	AC 3000V	8.0	8.0	See supplementary information
T901	Secondary/output part and primary/input winding (external) (DI)	AC 3000V	8.0	8.0	See supplementary information
supplementary information:					
Same construction for all sources of T901.					

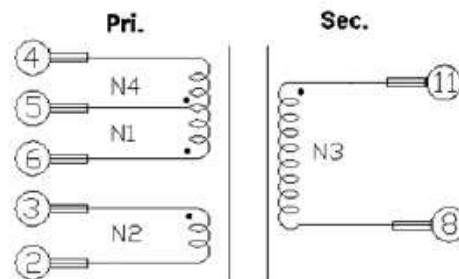
C.2	TABLE: transformers	P
Concentric windings on the bobbin, three layers insulation tape between primary and secondary windings. Core is considered as floating part. Distance tape is 5.0mm min. on both sides. Winding ends additionally fixed with tape, outer winding is secondary. Tubing on all winding exit ends are leaded above the distance tape.		

IEC 60950-1

Clause	Requirement + Test	Result - Remark	Verdict
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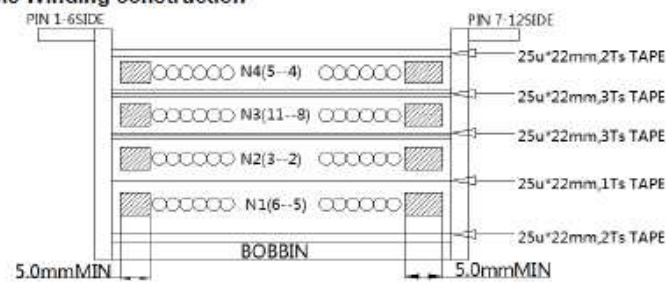


4 Schematic



PIN	TUBE LENGTH
2,3,4, 5,6	12mm MIN
8,11	12mm MIN

3.5 Winding construction



1: ALL PIN ADD TUBE. THE TUBE MUST BE OVER MARGING TAPE.

Description of design:

Bobbin

Primary/input pins.....: 6-5-4; 3-2

Secondary/output pins.....: 11-8

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Material (manufacturer, type, ratings)		Sumitomo, phenolic, type PM-9820, 150℃, V-0, or Sumitomo, phenolic, type PM-8375, 150℃, V-0, or Chang Chun Plastic, phenolic, type T375J, V-0, 150℃	
Thickness (mm).....		0.45 min.	

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Manufacturer Testing Laboratory according to TMP/CTF stage 1 or WMT/CTF stage 2 procedure has been used.

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

Information:

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

Clause	Requirement + Test	Result - Remark	Verdict
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2.1.1.7	TABLE: Discharge test			P
Condition	τ calculated (s)	τ measured (ms)	t u→ 0V (s)	Comments
Supply voltage: 264V, 60Hz				
Line to Neutral	0.87	863	--	V _O = 383.3V, 37 % of V _O = 141.8V, voltage drop to 116.7V after 1 s.
Supplementary information: C903=0.47 μ F R901=R902=R903=620k Ω				

2.4.2	TABLE: Limited current circuit measurement					P
Location		Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments
C918 secondary pin to earth		0.63	0.31	0.06	0.7	--
Below tests for client required only						
C901 secondary pin to earth		0.58	0.29	0.06	0.7	--
C902 secondary pin to earth		0.60	0.30	0.06	0.7	--
Supplementary information: Supply voltage: 264V, 60Hz						

2.6.3.4	TABLE: Resistance of earthing measurement		P
Location		Resistance measured (mΩ)	Comments
AC inlet to earthed panel chassis		8	Test current : 32A, duration: 2 min.
AC inlet to earthed panel chassis		11	Test current : 40A, duration: 2 min. Vdrop=0.44V
AC inlet to C901 earth pin		7	Test current : 32A, duration: 2 min.
AC inlet to C901 earth pin		8	Test current : 40A, duration: 2 min. Vdrop=0.32V
AC inlet to C902 earth pin		7	Test current : 32A, duration: 2 min.
AC inlet to C902 earth pin		8	Test current : 40A, duration: 2 min. Vdrop=0.32V
Supplementary information:			

4.6.1, 4.6.2	Table: Enclosure opening measurements		P
Location	Size (mm)	Comments	
Plastic enclosure (Horizontal)			
Top side	19.4 x 2.5	Numerous rectangle openings provided. Construction compliance is provided by internal metal enclosure.	

Clause	Requirement + Test	Result - Remark	Verdict
	10.5 x 2.5	Numerous rectangle openings provided. Construction compliance is provided by internal metal enclosure.	
Left side	19.4 x 2.5	Numerous rectangle openings provided. Construction compliance is provided by internal metal enclosure.	
	10.5 x 2.5	Numerous rectangle openings provided. Construction compliance is provided by internal metal enclosure.	
Right side	19.4 x 2.5	Numerous rectangle openings provided. Construction compliance is provided by internal metal enclosure.	
	10.5 x 2.5	Numerous rectangle openings provided. Construction compliance is provided by internal metal enclosure.	
Bottom	Max. 2.9 x 24.0	Numerous rectangle openings provided. Construction compliance is provided by internal metal enclosure.	
Rear side	--	No openings.	
Front side	--	No openings.	
Plastic enclosure (Vertical)			
Left side	19.4 x 2.5	Numerous rectangle openings provided. Construction compliance is provided by internal metal enclosure.	
	10.5 x 2.5	Numerous rectangle openings provided. Construction compliance is provided by internal metal enclosure.	
Top	19.4 x 2.5	Numerous rectangle openings provided. Construction compliance is provided by internal metal enclosure.	
	10.5 x 2.5	Numerous rectangle openings provided. Construction compliance is provided by internal metal enclosure.	
Bottom	19.4 x 2.5	Numerous rectangle openings provided. Construction compliance is provided by internal metal enclosure.	
	10.5 x 2.5	Numerous rectangle openings provided. Construction compliance is provided by internal metal enclosure.	
Right side	Max. 2.9 x 24.0	Numerous rectangle openings provided. Construction compliance is provided by internal metal enclosure.	

Clause	Requirement + Test	Result - Remark	Verdict
Rear side	--	No openings.	
Front side	--	No openings.	
Metal enclosure (Horizontal)			
Top	Ø 4.8	Numerous circular openings provided.	
	39.0 x 17.8	One opening provided, no hazardous voltage or energy hazards present within 5° projection area.	
Rear side	Max. Ø 4.8	Numerous circular openings provided, which are blocked by external plastic enclosure.	
	Ø 5.1	Two circular openings provided, which are blocked by external plastic enclosure.	
	31.6 x 5.0	Two openings provided, which are blocked by external plastic enclosure.	
	59.2 x 14.0	One opening provided, which is blocked by external plastic enclosure.	
Left side	Ø 1.8	Numerous circular openings provided.	
Right side	Ø 1.8	Numerous circular openings provided.	
Bottom	Ø 1.8 centre to centre= 6.0 min. metal thickness= 0.81 min.	Numerous circle openings provided and complied with table 4D.	
Metal enclosure (Vertical)			
Left side	Ø 4.8	Numerous circular openings provided.	
	39.0 x 17.8	One opening provided, no hazardous voltage or energy hazards present within 5° projection area.	
Rear side	Max. Ø 4.8	Numerous circular openings provided, which are blocked by external plastic enclosure.	
	Ø 5.1	Two circular openings provided, which are blocked by external plastic enclosure.	
	31.6 x 5.0	Two openings provided, which are blocked by external plastic enclosure.	
	59.2 x 14.0	One opening provided, which is blocked by external plastic enclosure.	
Top	Ø 1.8	Numerous circular openings provided.	
Bottom	Ø 1.8 centre to centre= 6.0 min. metal thickness= 0.81 min.	Numerous circular openings provided.	
Right side	Ø 1.8	Numerous circle openings provided and complied with table 4D.	
Supplementary information:			

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to: EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013			
Attachment Form No.: EU_GD_IEC60950_1F			
Attachment Originator: SGS Fimko Ltd			
Master Attachment: Date 2014-02			
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EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 – CENELEC COMMON MODIFICATIONS

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

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
General (A2:2013)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A2:2013) according to the following list: 2.7.1 Note * 2.10.3.1 Note 2 6.2.2. Note * Note of secretary: Text of Common Modification remains unchanged.		P
1.1.1 (A1:2010)	Replace the text of NOTE 3 by the following. NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies.		P
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure 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. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.	Added.	N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010	Deleted.	N/A
1.5.1 (Added info*)	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC. New Directive 2011/65/11 *	Added.	P
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.	Added.	N/A
1.7.2.1 (A12:2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.	Equipment is not a personal music player.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx Protection against excessive sound pressure from personal music players		N/A
	Zx.1 General 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. A personal music player is a portable equipment for personal use, that: - is designed to allow the user to listen to recorded or broadcast sound or video; and - primarily uses headphones or earphones that can be worn in or on or around the ears; and - allows the user to walk around while in use. 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. 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. The requirements in this sub-clause are valid for music or video mode only. The requirements do not apply: - while the personal music player is connected to an external amplifier; or - while the headphones or earphones are not used. 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. The requirements do not apply to: - hearing aid equipment and professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.	Not personal music players.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	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. 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. For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.		
	Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following: equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed "programme simulation noise" as described in EN 50332-1; and a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" as described in EN 50332-1. NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx. All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and 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	Not personal music players.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: - the symbol of Figure 1 with a minimum height of 5 mm; and - the following wording, or similar: “To prevent possible hearing damage, do not listen at high volume levels for long periods.” The image shows a warning symbol consisting of an equilateral triangle. Inside the triangle is a stylized human ear with three curved lines (sound waves) emanating from it, indicating sound or noise. The entire symbol is enclosed in a rectangular frame with corner crop marks. Figure 1 – Warning label (IEC 60417-6044) Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.	Not personal music players.	N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV. 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). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.	Not personal music players.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.4.2 Wired listening devices with digital input With any playing device playing the fixed "programme simulation noise" described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. 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.). NOTE An example of a wired listening device with digital input is a USB headphone.	Not personal music players.	N/A
	Zx.4.3 Wireless listening devices In wireless mode: with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.	Not personal music players.	N/A
	Zx.5 Measurement methods 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. NOTE Test method for wireless equipment provided without listening device should be defined.	Not personal music players.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	Replace the subclause as follows: Basic requirements 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): 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; 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. 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'.	Void.	N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	Deleted.	N/A
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: Up to and including 6 0,75 ^{a)} Over 6 up to and including 10 (0,75) ^{b)} 1,0 Over 10 up to and including 16 (1,0) ^{c)} 1,5 In the conditions applicable to Table 3B delete the words "in some countries" in condition ^{a)} . In NOTE 1, applicable to Table 3B, delete the second sentence.	No power cord provided	N/A
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
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: Over 10 up to and including 16 1,5 to 2,5 1,5 to 4 Delete the fifth line: conductor sizes for 13 to 16 A	Deleted.	N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 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).	Replaced.	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: 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. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.	Replaced.	N/A
Bibliography	Additional EN standards.		—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.2.13.14 (A11:2009)	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1 (A11:2009)	In Finland , Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Complied.	P
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Finland: "Laitte on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"		P
1.7.2.1 (A11:2009)	In Norway and Sweden, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. 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. 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: "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)."		

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Clause	Requirement + Test	Result - Remark	Verdict
	NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “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.” Translation to Swedish: ”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.”		
1.7.2.1 (A2:2013)	In Denmark, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in Denmark shall be as follows: In Denmark: “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.”		P
1.7.5 1.7.5 (A11:2009)	In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a. For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.		N/A

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

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A 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: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A		
3.2.1.1	In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. 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. 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.		N/A
3.2.1.1 (A2:2013)	In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1. 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. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Justification the Heavy Current Regulations, 6c		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. 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. 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. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N/A
3.2.1.1	In the United Kingdom, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.1.1	In Ireland, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the United Kingdom, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm² to 1,5 mm² nominal cross-sectional area.		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
	accordance with the compliance clause below and in addition - 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 - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.		
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - 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; - the additional testing shall be performed on all the test specimens as described in EN 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A
6.1.2.2	In Finland, Norway and Sweden, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.	No TNV.	N/A
7.2	In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.	No Cable distribution system.	N/A
7.3 (A11:2009)	In Norway and Sweden, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.	No Cable distribution system.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

**Annex ZD
(informative)**

IEC and CENELEC code designations for flexible cords

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

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Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 with A1: 2009 and A2:2013 U.S.A. NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to	UL 60950-1-07(Second Edition) + A1: 2011 + A2: 2014
Attachment Form No.....	US_ND_IEC60950_1F
Attachment Originator	UL
Master Attachment	Date 2014-07
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	<i>Special national conditions</i>		
1.1.1	All equipment is designed as to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and if applicable, the National Electrical Safety Code, IEEE C2	In accordance with the National Electrical Code (NEC) and the Canadian Electrical Code (CEC) part 1 CAN/CSA C22.1, ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75	Considered.	P
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors		N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A	Considered.	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the /NEC	No power cord provided.	N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC are required to have special construction features and identification markings		N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings	Single-phase equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and		N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions"		N/A
	Likewise, a voltage rating is not to be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions"		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with NEC or CEC Part 1 or NEC are marked with the voltage rating and "Class 2" or equivalent		N/A
	- Marking is located adjacent to the terminals		N/A
	- Marking is visible during wiring		N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable	No such components provided.	N/A
2.6	Equipment with isolated ground (earthing) receptacles is in compliance with NEC 250.146(D) and CEC 10-112 and 10-906(8)		P
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.	No such components provided.	N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC	No power cord provided.	N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements		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

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5	Power supply cords are no longer than 4.5 m in length		N/A
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement		N/A
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC		N/A
3.2.9	Permanently connected equipment has a suitable wiring compartment and wire bending space		N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0	No wire binding screws.	N/A
3.3.3	Wire binding screws are not attached with conductors larger than 10 AWG (5.3 mm ²)		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are		N/A
	- rated 125 per cent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7)		N/A
3.3.5	Revise first column of Table 3E to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration"		N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,		N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30		N/A
4.3.13.5.1	Equipment with lasers meets the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No Laser.	N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less		N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less		N/A
4.7.3.1	Non-metallic enclosures of equipment for use in spaces used for environmental air (plenums) are required to comply with UL 2043		N/A
Annex H	Equipment that produces ionizing radiation complies with U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370)	No ionizing radiation.	N/A
	Other National Differences		P
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery backup systems, battery packs, cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cut-offs, thermostats, (multi-layer) transformer winding wire, surge protective devices, tubing, vehicle battery adapters, wire connectors, and wire and cables	Approved components provided, see appended table 1.5.1 of IEC 60950-1 test report.	P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	This maximum operating voltage includes consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 Vd.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions	No TNV.	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		N/A
2.6.2	Equipment with functional earthing marked with the functional earthing symbol (IEC 60417-6092)		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified	Protective bonding conductor is green-and-yellow wire.	N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT		N/A
4.3.2	Equipment with handles complies with special loading tests	See IEC 60950-1 test report.	P
4.3.8	Battery packs for both portable and stationary applications comply with special component requirements		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests		N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded	See IEC 60950-1 test report.	P
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test is repeated twice (three tests total) using new components as necessary	See IEC 60950-1 test report.	P
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC		N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to.....:	EN 60950-1:2006/A11:2009/A1:2010/A12:2011
Attachment Form No.....:	EU_GD_IEC60950_1C_II
Attachment Originator	SGS Fimko Ltd
Master Attachment.....:	Date 2011-08
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EN 60950-1:2006/A11:2009/A1:2010/A12:2011 – CENELEC COMMON MODIFICATIONS

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)						
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications 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: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 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: 1.5.7.1 Note 6.1.2.1 Note 2 6.2.2.1 Note 2 EE.3 Note					P

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure 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. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.	Added.	N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010	Deleted.	N/A
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC	Added.	P
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.		N/A
1.7.2.1 (A12:2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.	Deleted.	N/A
	Zx Protection against excessive sound pressure from personal music players		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.1 General 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. A personal music player is a portable equipment for personal use, that: - is designed to allow the user to listen to recorded or broadcast sound or video; and - primarily uses headphones or earphones that can be worn in or on or around the ears; and - allows the user to walk around while in use. 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. 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. The requirements in this sub-clause are valid for music or video mode only. The requirements do not apply: - while the personal music player is connected to an external amplifier; or - while the headphones or earphones are not used. 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. The requirements do not apply to: - hearing aid equipment and professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.	Not personal music players.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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. 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. For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.		
	Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following: equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed "programme simulation noise" as described in EN 50332-1; and a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" as described in EN 50332-1. NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx. All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and 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	Not personal music players.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. 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. d) have a warning as specified in Zx.3; and e) not exceed the following: 1) equipment provided as a package (player with its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed "programme simulation noise" described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" described in EN 50332-1. For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song. NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.		

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: the symbol of Figure 1 with a minimum height of 5 mm; and the following wording, or similar: “To prevent possible hearing damage, do not listen at high volume levels for long periods.”  Figure 1 – Warning label (IEC 60417-6044) Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.	Not personal music players.	N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV. 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). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.4.2 Wired listening devices with digital input With any playing device playing the fixed “programme simulation noise” described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. 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.). NOTE An example of a wired listening device with digital input is a USB headphone.	Not personal music players.	N/A
	Zx.4.3 Wireless listening devices In wireless mode: with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.	Not personal music players.	N/A
	Zx.5 Measurement methods 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. NOTE Test method for wireless equipment provided without listening device should be defined.	Not personal music players.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	Replace the subclause as follows: Basic requirements 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): 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; 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. 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'.	Void.	N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	Deleted.	N/A
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: Up to and including 6 0,75 ^{a)} Over 6 up to and including 10 (0,75) ^{b)} 1,0 Over 10 up to and including 16 (1,0) ^{c)} 1,5 In the conditions applicable to Table 3B delete the words "in some countries" in condition ^{a)} . In NOTE 1, applicable to Table 3B, delete the second sentence.	No power cord provided.	N/A

IEC60950_1C - ATTACHMENT			
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: Over 10 up to and including 16 1,5 to 2,5 1,5 to 4 Delete the fifth line: conductor sizes for 13 to 16 A	No power cord provided.	N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 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).	Replaced.	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: 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. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.	Replaced.	N/A
Bibliography	Additional EN standards.		—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.2.13.14	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1	In Finland , Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Complied.	P
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag" In Norway and Sweden, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. 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. 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: "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

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “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.” Translation to Swedish: ”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.”		N/A
1.7.5	In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a. For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.	No socket-outlets.	N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	No TNV.	N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	No TNV.	N/A
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	No TNV.	N/A
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.	Considered.	P
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	Not direct plug-in equipment.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A
3.2.1.1	In Switzerland, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A 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: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16A	No approved power cord provided.	N/A
3.2.1.1	In Denmark, 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. 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. 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.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. 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. 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. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N/A
3.2.1.1	In the United Kingdom, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.1.1	In Ireland, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
3.2.4	In Switzerland, for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the United Kingdom, a power supply cord with conductor of 1,25 mm² is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the United Kingdom, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm² to 1,5 mm² nominal cross-sectional area.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.	Not direct plug-in equipment.	N/A
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that - is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and - has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and - is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1 (A1:2010)	In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. 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 - 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 - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.	No TNV.	N/A
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - 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; - the additional testing shall be performed on all the test specimens as described in EN 60384-14; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.2	In Finland, Norway and Sweden , the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.	No TNV.	N/A
7.2	In Finland, Norway and Sweden , for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.	No Cable distribution system.	N/A
7.3	In Norway and Sweden , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.	No Cable distribution system.	N/A
7.3	In Norway , for installation conditions see EN 60728-11:2005.	No Cable distribution system.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 CANADA NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to: CAN/CSA-C22.2 NO. 60950-1A-07			
Attachment Form No.: CA_ND_IEC60950_1C			
Attachment Originator: TÜV SÜD Product Service GmbH			
Master Attachment: Date (2012-08)			
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	Special national conditions		P
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2.	In accordance with the National Electrical Code (NEC) and the Canadian Electrical Code (CEC) part 1 CAN/CSA C22.1, ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Considered.	P
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered.	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC.		N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.		N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.	Not for used in more than one phase power supply system.	N/A
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions."		N/A
	A voltage rating is not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC are marked with the voltage rating and "Class 2" or equivalent.		N/A
	- Marking is located adjacent to the terminals		N/A
	- Marking is visible during wiring		N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable.	No such components provided.	N/A
2.6.3.3	Modify first column on Table 2D to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."		P
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.	No such components provided.	N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC.	No power cord provided.	N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment.		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements.		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 no longer than 4.5 m in length.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement.		N/A
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
3.2.9	Permanently connected equipment have a suitable wiring compartment and wire bending space.	Not permanent connection equipment.	N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0.	No wire binding screws.	N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are		N/A
	- rated 125 percent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7).		N/A
3.3.5	Revise first column of Table 3E to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."		N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,		N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position.		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.	No flammable liquid.	N/A
4.3.13.5	Equipment with lasers meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.	No Laser.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less.		N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
Annex H	Equipment that produces ionizing radiation comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.	No ionizing radiation.	N/A
	Other National Differences		P
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements.	Approved components provided, see appended table 1.5.1 of IEC 60950-1 test report.	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.		N/A
	This maximum operating voltage includes consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		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.		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.	Protective bonding conductor is green-and-yellow wire.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT.		N/A
4.3.2	Equipment with handles complies with special loading tests.	See IEC 60950-1 test report.	P
5.1.8.3	Equipment intended to receive telecommunication ringing signals 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 overloaded.	See IEC 60950-1 test report.	P
	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	See IEC 60950-1 test report.	P
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		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.		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 FINLAND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to: EN 60950-1:2006/A11:2009/A1:2010			
Attachment Form No.: FI_ND_IEC60950_1C			
Attachment Originator: SGS Fimko Ltd			
Master Attachment: Date (2010-04)			
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	National Differences		P
General	See also Group Differences (EN 60950-1:2006/A11/A1)		P
1.5.7.1	In Finland resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	No such resistor.	N/A
1.5.9.4	In Finland , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	In Finland , CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in in Finland shall be as follows: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"		P
2.3.2	In Finland , there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.10.5.13	In Finland , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	In Finland, TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that - is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and - has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and - is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A
6.1.2.1 (A1:2010)	In Finland, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. 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 - 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 - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.	No TNV.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - 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; - the additional testing shall be performed on all the test specimens as described in EN 60384-14:2005; - 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.		N/A
6.1.2.2	In Finland, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A
7.2	In Finland, for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.	No cable distribution system.	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, 1.7.2.1	According to GPSG, section 2, clause 4: 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
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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: The requirements of Israel Standard SI 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment.	Replaced.	P
1.6	The clause is applicable with the following addition:		P
1.6.1	Add following note: In Israel, this clause is applicable subject to the Electricity Law, 1954, its regulations and revisions.	Added.	P
1.7	The clause is applicable with the following additions: 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 The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983. In addition to the marking required by clause 1.7.1, the following details shall be marked in the Hebrew language. 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. 1. Name of the apparatus and it commercial designation; 2. Manufacturer's name and address. If the apparatus is imported, the importer's name and address; 3. Manufacturer's registered trademark, if any; 4. Name of the model and serial number, if any; 5. Country of manufacture.		N/A
1.7.2.1	The following shall be added to the clause: 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	The following shall be added at the beginning of the clause: 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: 1) TN-S - Network system earthing; TN-C-S - Network system earthing; 2) TT - Network system earthing; 3) IT - Network Insulation Terre; 4) Isolated transformer; 5) Safety extra low voltage (SELV or ELV); 6) Residual current circuit breaker (30 mA = I_{Δ}); 7) Reinforced insulation; Double insulation (class II)		P
2.201	Prevention of electromagnetic interference - 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. <u>The apparatus shall meet the requirements in the appropriate part of the Standard series, SI 961.</u> - If there are components in the apparatus for the prevention of electromagnetic interference, these components shall not reduce the safety level of the apparatus as required by this Standard.		N/A
3	The clause is applicable with the following additions:		N/A
3.2.1.1	Connection to an a.c. mains supply After the note, the following note shall be added: Note: In Israel, the feed plug shall comply with the requirements of Israel Standard SI 32 Part 1.1.		N/A
3.2.1.2	Connection to a d.c. mains supply At the end of the first paragraph, the following note shall be added: Note: At the time of issue of this Standard, there is no Israel Standard for connection accessories to d.c.		N/A
Annex P	Normative references (List of relevant Israel Standards that have been inserted in place of some of the International Standards)		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 The apparatus shall comply with the relevant CISPR standards.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 U.S.A. NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to.....: UL 60950-1-07			
Attachment Form No.: US_ND_IEC60950_1C			
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	Special national conditions		P
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2.	In accordance with the National Electrical Code (NEC) and the Canadian Electrical Code (CEC) part 1 CAN/CSA C22.1, ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Considered.	P
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered.	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC.	No power cord provided.	N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.		N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.	Single-phase equipment.	N/A
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions."		N/A
	A voltage rating is not to be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC are marked with the voltage rating and "Class 2" or equivalent.		N/A
	- Marking is located adjacent to the terminals		N/A
	- Marking is visible during wiring		N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable.	No such components provided.	N/A
2.6.3.3	Modify first column on Table 2D to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."		P
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.	No such components provided.	N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC.	No power cord provided.	N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 per cent of the rated current of the equipment.		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements.		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 no longer than 4.5 m in length.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement.		N/A
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
3.2.9	Permanently connected equipment have a suitable wiring compartment and wire bending space.		N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0.	No wire binding screws.	N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are		N/A
	- rated 125 per cent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7).		N/A
3.3.5	Revise first column of Table 3E to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."		N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,		N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position.		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.		N/A
4.3.13.5	Equipment with lasers meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.	No Laser.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less.		N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
Annex H	Equipment that produces ionizing radiation complies with U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No ionizing radiation.	N/A
	Other National Differences		P
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements.	Approved components provided, see appended table 1.5.1 of IEC 60950-1 test report.	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.		N/A
	This maximum operating voltage includes consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No TNV.	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.		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.	Protective bonding conductor is green-and-yellow wire.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT.		N/A
4.3.2	Equipment with handles complies with special loading tests.	See IEC 60950-1 test report.	P
5.1.8.3	Equipment intended to receive telecommunication ringing signals 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 overloaded.	See IEC 60950-1 test report.	P
	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	See IEC 60950-1 test report.	P
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		N/A
Annex M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements.		N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

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

Differences according to.....: AS/NZS 60950.1:2011

1.2	Insert the following between 'person, service' and 'range, rated frequency': 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: 1.2.12.201 POTENTIAL IGNITION SOURCE 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. Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS. NOTE 201 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE. 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: 'or the relevant Australian/New Zealand Standard.' 2. In NOTE 1, add the following after the word 'standard': 'or an Australian/New Zealand Standard'	Added.	P
1.5.2	Add the following to the end of the first and third dash items: 'or the relevant Australian/New Zealand Standard'	Added.	P

National Differences																				
Clause	Requirement + Test	Result - Remark	Verdict																	
3.2.5.1	Modify Table 3B as follows: 1. Delete the first four rows and replace with the following: <table><tr><th rowspan="2">RATED CURRENT of equipment A</th><th colspan="2">Minimum conductor sizes</th></tr><tr><th>Nominal cross-sectional area mm²</th><th>AWG or kcmil [cross-sectional area in mm²] see Note 2</th></tr><tr><td>Over 0.2 up to and including 3</td><td>0,5 ^a</td><td>18 [0,8]</td></tr><tr><td>Over 3 up to and including 7.5</td><td>0,75</td><td>16 [1,3]</td></tr><tr><td>Over 7.5 up to and including 10</td><td>(0,75) ^b 1,00</td><td>16 [1,3]</td></tr><tr><td>Over 10 up to and including 16</td><td>(1,0) ^c 1,5</td><td>14 [2]</td></tr></table> 2. Delete NOTE 1. 3. Delete Footnote ^a and replace with the following: ^a This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0,5 mm² three-core supply flexible cords are not permitted; see AS/NZS 3191).	RATED CURRENT of equipment A	Minimum conductor sizes		Nominal cross-sectional area mm²	AWG or kcmil [cross-sectional area in mm²] see Note 2	Over 0.2 up to and including 3	0,5 ^a	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) ^b 1,00	16 [1,3]	Over 10 up to and including 16	(1,0) ^c 1,5	14 [2]	Modified.	N/A
RATED CURRENT of equipment A	Minimum conductor sizes																			
	Nominal cross-sectional area mm²	AWG or kcmil [cross-sectional area in mm²] see Note 2																		
Over 0.2 up to and including 3	0,5 ^a	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) ^b 1,00	16 [1,3]																		
Over 10 up to and including 16	(1,0) ^c 1,5	14 [2]																		
4.1.201	Insert a new Clause 4.1.201 after Clause 4.1 as follows: 4.1.201 Display devices used for television purposes 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.		N/A																	
4.3.6	Delete the third paragraph and replace with the following: <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: 'or AS/NZS 2211.1'	Added.	N/A																	

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
4.7	Add the following new paragraph to the end of the clause: '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: 4.7.201 Resistance to fire – Alternative tests		N/A
4.7.201.1	4.7.201.1 General Parts of non-metallic material shall be resistant to ignition and spread of fire. 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: (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. (b) The following parts which would contribute negligible fuel to a fire: - small mechanical parts, the mass of which does not exceed 4g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1,750 mm³, 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. 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. 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. For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5. 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. These tests are not carried out on internal wiring.		N/A

National Differences									
Clause	Requirement + Test	Result - Remark	Verdict						
4.7.201.2	4.7.201.2 Testing of non-metallic materials 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. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.		N/A						
4.7.201.3	4.7.201.3 Testing of insulating materials 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. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE Contacts in components such as switch contacts are considered to be connections. 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. The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications: <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> Replace the first paragraph with: 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 Replace the second paragraph with: The duration of application of the test </td></tr></table>	Clause of AS/NZS 60695.11.5	Change	9 Test procedure		9.2 Application of needleflame	Replace the first paragraph with: 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 Replace the second paragraph with: The duration of application of the test		N/A
Clause of AS/NZS 60695.11.5	Change								
9 Test procedure									
9.2 Application of needleflame	Replace the first paragraph with: 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 Replace the second paragraph with: The duration of application of the test								

National Differences			
Clause	Requirement + Test		Verdict
		flame shall be 30 s ± 1 s.	
	9.3 Number of test specimens	Replace with: 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: The duration of burning (t_b) 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.		
4.7.201.4	4.7.201.4 Testing in the event of non-extinguishing material 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. 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. 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. NOTE 3 Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.		N/A
4.7.201.5	4.7.201.5 Testing of printed boards The base material of printed boards shall be subjected to the needle-flame test of Clause		N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
	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. The test is not carried out if the — - Printed board does not carry any POTENTIAL IGNITION SOURCE; - Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or - 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. Compliance shall be determined using the smallest thickness of the material. NOTE Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 min when the circuit supplied is disconnected.		
6.2.2	For Australia only, delete the first paragraph and Note, and replace with the following: 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.		N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.1	For Australia only, delete the first paragraph including the Notes, and replace with the following: <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, U_c, is:</i> <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> <i>(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.</i> NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. 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.		N/A
6.2.2.2	For Australia only, delete the second paragraph including the Note, and replace with the following: <i>In Australia only, the a.c. test voltage is:</i> <i>(i) for 6.2.1 a): 3 kV; and</i> <i>(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.</i> NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. 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.		N/A
7.3	Add the following before the first paragraph: 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.		N/A
Annex P	Normative references (List of relevant Australia/New Zealand Standards that have been inserted in place of some of the International Standards)		N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
CHINA NATIONAL DIFFERENCES

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....: GB4943.1-2011

1.1.2	GB 4943.1-2011 applies to equipment for use at altitudes not exceeding 5000m above sea level, primarily in regions with moderate or tropical climates. Amend the third dashed paragraph of 1.1.2 as: — — equipment intended to be used in vehicles, on board ships or aircraft, at altitudes greater than 5000m;		N/A
1.4.5	After the third paragraph, add a paragraph: If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10%,-10% unless a wider tolerance is declared by the manufacturer. The first dash paragraph "-the RATED VOLTAGE is 230V single -phase or 400V three-phase, in which case the tolerance shall be taken as +10% and -10%" of IEC 60950-1:2005 is deleted in GB 4943.1-2011	Added.	N/A
1.4.12.1	Tma in clause 1.4.12.1 amended as: Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater. Add note 1: For equipment not to be operated at tropical climatic conditions, Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater. Add note 2: For equipment is to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration.		P
1.5. 2	Add a note behind the first break off section in Clause 1.5.2: A component used shall comply with related requirements corresponding altitude of 5000m.	Added.	P
1.7	Add one paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.	Added.	N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	Based on the AC mains supply of China, the RATED VOLTAGE should be 220V (single phase) or 380V (three-phases) for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220V or 380V (three-phases), for multiple RATED VOLTAGES, one of them should be 220V or 380V (three-phases) and set on 220V or 380V (three-phases) when manufactured. And the RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or include 50Hz.		N/A
1.7.2.1	Add requirements of warning for equipment intended to be used at altitudes not exceeding 2000m or at non-tropical climate regions: For equipment intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place. "Only used at altitude not exceeding 2000m."  For equipment intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place. "Only used in not-tropical climate regions."  If only the symbol used, the explanation of the symbol shall be contained in the instruction manual. The above statements shall be given in a language acceptable to the regions where the apparatus is intended to be used.		N/A
2.7.1	Amended the first paragraph as: Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except special provisions. And the protective device shall meet the requirement of Clause 5.3. Delete note of Clause 2.7.1.		N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.2	First section of Clause 2.9.2 amended as two sections: Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature $40\pm 2^{\circ}\text{C}$ and a relative humidity of $(93\pm 3)\%$. During this conditioning the component or subassembly is not energized. For equipment not to be operated at tropical climatic conditions, Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of $(93\pm 3)\%$. The temperature of the air, at all places where samples can be located, is maintained within 2°C of any convenient value between 20°C and 30°C such that condensation does not occur. Due to pretreatment of equipment operated at high altitude area is humidity conditioning withstand hot shock, specific requirements are to be considered. Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered.		N/A
2.10.3.1	Amend the third paragraph of Clause 2.10.3.1 to be: These requirements apply for equipment to be operated up to 2000 m above sea level. For equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of IEC 60664-1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.		N/A
2.10.3.3& 2.10.3.4	Add "(applicable for altitude up to 2000m)" in header of Table 2K 、 2L and 2M.		N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.4	Add a new section above Table 2K and in Clause 2.10.3.4: Minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1 (IEC 60664-1). For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T16935.1.		N/A
3.2.1.1	Add a paragraph before the last paragraph: Plugs connected to AC mains supply shall comply with GB 1002 or GB 1003 or GB/T 11918 as applicable.		N/A
4.2.8	Clause 4.2.8 cathode ray tubes quoted Clause 18 of GB8898-2011. Delete note of Clause 4.2.8.		N/A
Annex E	Last section of Annex E amended as: For comparison of winding temperatures determined by the resistance method of this annex with the temperature limits of Table 4B, 35 °C shall be added to the calculated temperature rise. And add note: for equipment not to be operated at tropical climatic conditions, 25 °C shall be added to the calculated temperature rise to compare with the temperature of Table 4B.		N/A
Annex G.6	Change the second section of Clause G.6 to be: For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.		N/A
Annex BB (informative)	Amended as : The differences between Chinese national standards GB 4943.1-2011 and GB 4943-2001.		N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DD (normative)	Added annex DD: Instructions for the new safety warning labels. DD.1 Altitude warning label  Meaning of the label: Evaluation for apparatus only based on altitude not exceeding 2000m, therefor it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used at altitude above 2000m . DD.2 Climate warning label  Meaning of the label: Evaluation for apparatus only based on temperate climate condition, therefor it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used in tropical climate region.		N/A
Annex EE (informative)	Added annex EE: Illustration relative to safety explanation in normative Chinese, Tibetan, Mongolian, Zhuang Language and Uighu.		N/A
Other amend-ments	In accordance with the relevant CTL decisions and the amendments of IEC 60950-1, the specific requirements or mistakes in IEC standard are corrected or editorially modified in this part, Including clause 1.7, 2.1.1.7, 2.9.2, Table 2H, Figure 2H, F.8, F.9, M.3 and Annex U.		N/A
Quoting standards and reference documents	The principles of quoting and referring to other standards in Annex P and reference documents of IEC 60950-1 are as follows: If the date of the reference document is given, only that edition applies, excluding any subsequent corrigenda and amendments. However, parties to agreements based on this part are encouraged to investigate the possibility of applying the most recent editions of the reference documents. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendments. For the usage of international standards in Chinese national standards and industry		N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
	standards is various, in the aim of achieving easy operation and based on the requirements of GB/T 1.1 and GB/T 20000.2, when quoting an entire international standard in the normative quoting files and reference documents of Annex P of this part, the principles of quotation are as follows: - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted; - If the date of the national standard or industry standard is not given, the latest edition of the standard applies; - The national standard or industry standard number, corresponding international standard number and the consistency level code should be identified in parentheses behind the listed national standard or industry standard. When quoting several chapters or clauses of the international standard, the principles of quotation are as follows: - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted. Meanwhile, in order to retain the relevant information on international standards, informative annex CC is increased, which gives the table about the comparison of the normative quoting files and reference documents in IEC 60950-1: 2005 and GB 4943.1-2011.		

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 $U_c=3.5$ 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

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

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

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

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.2	Add the following: This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT. Where single core wire shall be as followings; - 1.6mm diameter of soft copper wire, or equivalent strength and thickness, with no easily corrosion metal wire. -, Single core code or single core cabtyre cable with cross sectional area over 1.25mm².	Added.	P
2.6.3.5	Color of power cord shall not apply inner conductor with covering a sheath for unified power cord (cord set) with plug and connector.		N/A
2.6.4.2	Equipment required to have protective earthing shall have a main protective earthing terminal. For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal except for CLASS 0I EQUIPMENT providing separate main protective earthing terminal other than appliance inlet.	Replaced.	P
2.6.5.4	Replace the first sentence with the following: Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections.	Added.	P
2.6.5.6	Add the following: "Protective bonding terminal" as a terminal required a corrosion proof.		P
2.6.5.8A	Add the following new clause. after 2.6.5.8: 2.6.5.8A Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible.	Added.	P
2.9.3 Table 2H	Deleted the following mark of Figure 2H: B13 e) and S2 d)		N/A
2.9.3 Figure 2H	Addition of marking for table 2H: B8, B9, B12, B13, S1		N/A

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

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

National Differences				
Clause	Requirement + Test		Result - Remark	Verdict
5.1.6	Replace Table 5A. as follows:		Movable, Class I equipment. Measured max. 0.11mA for L/N – PE.	P
	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. ¹⁾	Maximum PROTECTIVE CONDUCTOR CURRENT
	ALL equipment	ALL equipment Accessible parts and circuits not connected to protective earth	0.25	--
	HAND-HELD	Equipment main protective earthing terminal of CLASS I EQUIPMENT	0.75	--
		Equipment main protective earthing terminal of CLASS 0I EQUIPMENT	0.5	--
	MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT)	Equipment main protective earthing terminal of CLASS I EQUIPMENT	3.5	--
		Equipment main protective earthing terminal of CLASS 0I EQUIPMENT	1.0	--
	STATIONARY, PLUGGABLE TYPE A	Equipment main protective earthing terminal of CLASS I EQUIPMENT	3.5	--
		Equipment main protective earthing terminal of CLASS 0I EQUIPMENT	1.0	--
	ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7	Equipment main protective earthing terminal of CLASS I EQUIPMENT	3.5 --	-- 5% of input current
		Equipment main protective earthing terminal of CLASS 0I EQUIPMENT	1.0 --	-- --
	Note a) If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1.414. b) Accessible part of non earthing part shall be apply clause 1.5.6, 1.5.7 and 2.4. These may differ clause 5.1.6.			
6	Addition: Following sentence added last part of note 1; "Refer to Annex JB for proper action.		No TNV circuits.	N/A
6.1.2.1	Add the note 3 as follows: For example, 230V for EU, 120V for North America			N/A

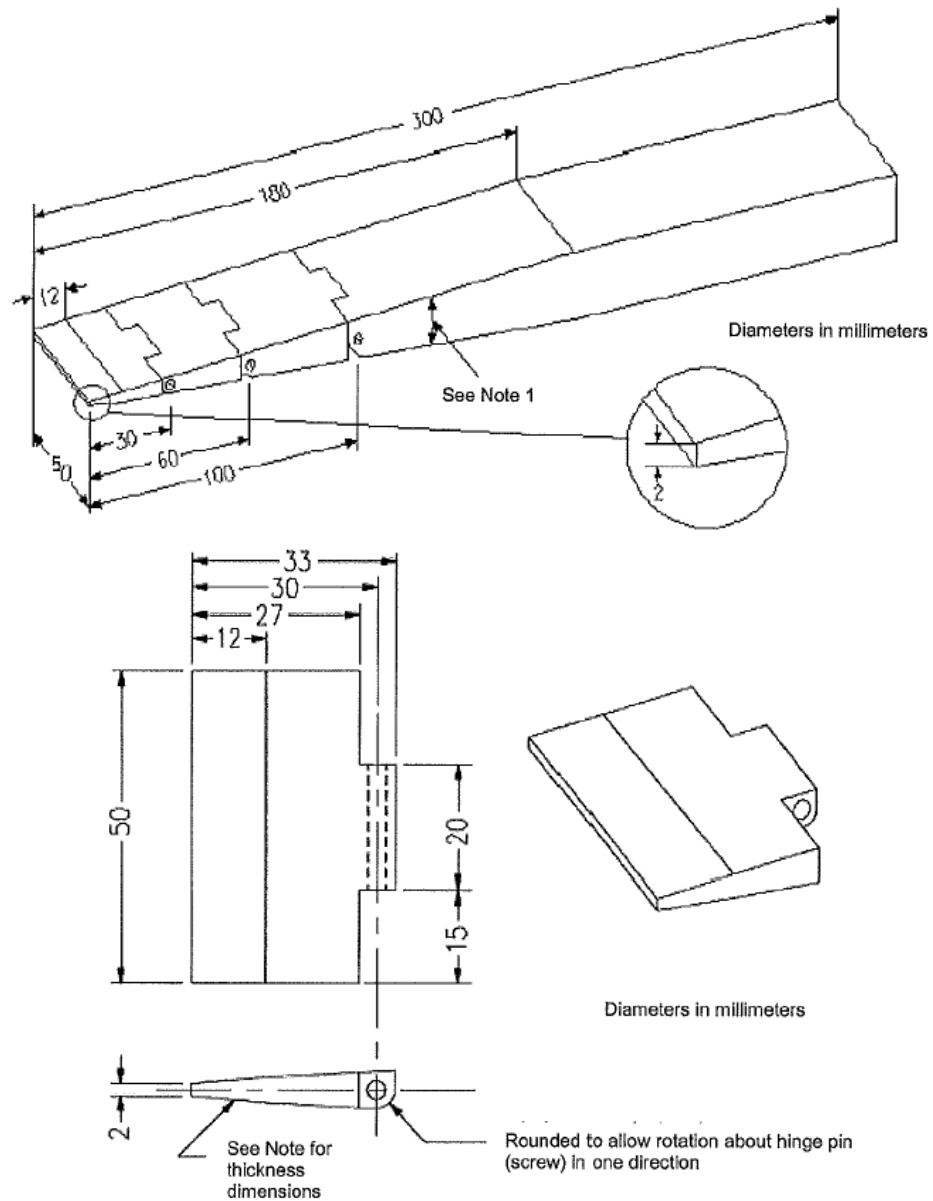
National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
Annex G.6	Add the paragraph as follows: Above minimum clearance is not apply following connector. Also refer clause 1.5.2 -, Applicable connector for JIS C 8285, IEC 60309 series, JIS C 8283 series, IEC 60320 series or JIS C 8303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

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
Annex JA	Add a new annex JA with the following contents: Annex JA (normative) Document shredding machines 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.	Not Document shredding machines.	—
JA.1	<u>Markings and instructions</u> The symbol  (JIS S 0101:2000, 6.2.4) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible; - that use by an infants/children may cause a hazard of injury etc.; - that a hand can be drawn into the mechanical section for shredding when touching the document-slot; - that clothing can be drawn into the mechanical section for shredding when touching the document-slot; - that hairs can be drawn into the mechanical section for shredding when touching the document-slot; - in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas.		N/A
JA.2	<u>Inadvertent reactivation</u> Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard. Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1.		N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

JA.3	<u>Disconnection from the mains supply</u> 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. 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. Compliance is checked by inspection.		N/A
JA.4	<u>Protection against hazardous moving parts</u> Any warning shall not be used instead of the structure for preventing access to hazardous moving parts. Document shredding machines shall comply with the following requirements. Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended. Before testing with the test finger, remove the parts detachable without a tool. Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.		N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict



(Details of the top of wedge)

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

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

Note 2 The allowable dimensional tolerance of the probe is ± 0.127 mm.

Figure JA.2 Wedge-probe

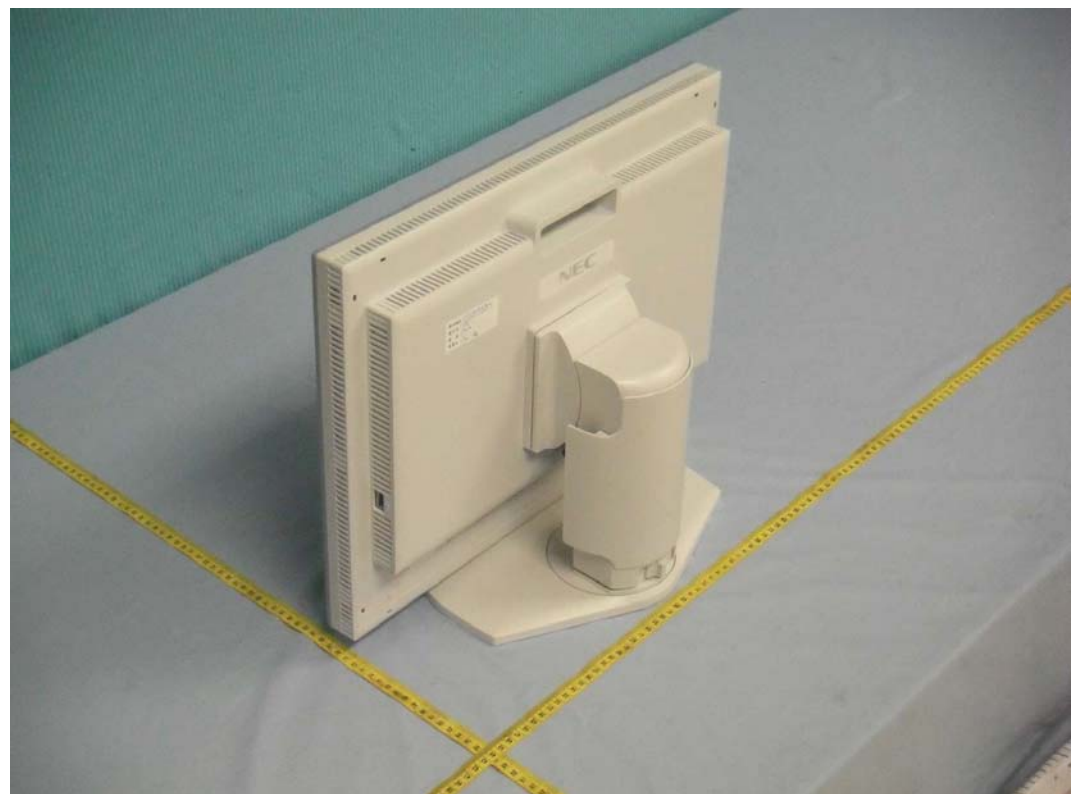
National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
Annex JB	Add a new annex JB with the following contents: Annex JB (informative) Present status and management method of the placing environment on the overvoltage and overcurrent (Refer to note 1 of clause 6)		—
JB.1	Preferable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

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
Appendix	Appendix 12 J3000 (H25) Special National conditions, National deviation and other information according to MITI Ordinance No. 85.		—
1	General requirement 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. This is not applied when inlet body is fixed itself and not fixed by solder.	Inlet is cover by adequate mechanical construction, not rely on soldering.	P
2	Requirement for equipment		—
2.1	Heater Appliances When diode is used in parallel at the power sources for adjustment of power consumption, the equipment shall remain safe for operation under open condition of one diode.		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 9335-1(2003) and a specified in applicable individual requirements under open condition of one diode of parallel 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 - easily visible place of the equipment or - Instruction manual 「注意 当該機器から、使用初期段階で揮発性有機化合物及びカルボニル化合物が最も放散するおそれがあるため、その際には十分換気を行うこと。」		N/A
3	Components used in equipment	No relevant equipment or component.	N/A
3.1	Motor capacitors used in ventilating fan, electric fan, air conditioner, electric washing machine, refrigerator or electric freezer shall be comply with - capacitors with protective elements or protective mechanism complying with JIS C 4908(2007) - P2 capacitor complying with IEC 60252-1(2001) Capacitor complying with below is acceptable		N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
	Enclosed by metal or ceramic		N/A
	No non-metallic materials within 50 mm from capacitor surface		N/A
	Non-metallic material within 50mm from capacitor surface comply with needle frame test of JIS C 9335-1(2003), Annex E		N/A
	Non-metallic material within 50 mm from capacitor surface comply with V-1 test of JIS C 60965-11-10(2006).		N/A
3.2	Plug directly inserted to outlet used refrigerator or electric freezer. Shall comply with - Face contact with outlet shall have CTI with more than 400 according to JIS C 2134(2007) or - 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). Materials having glow wire frame temperature of 775 °C are acceptable.		N/A

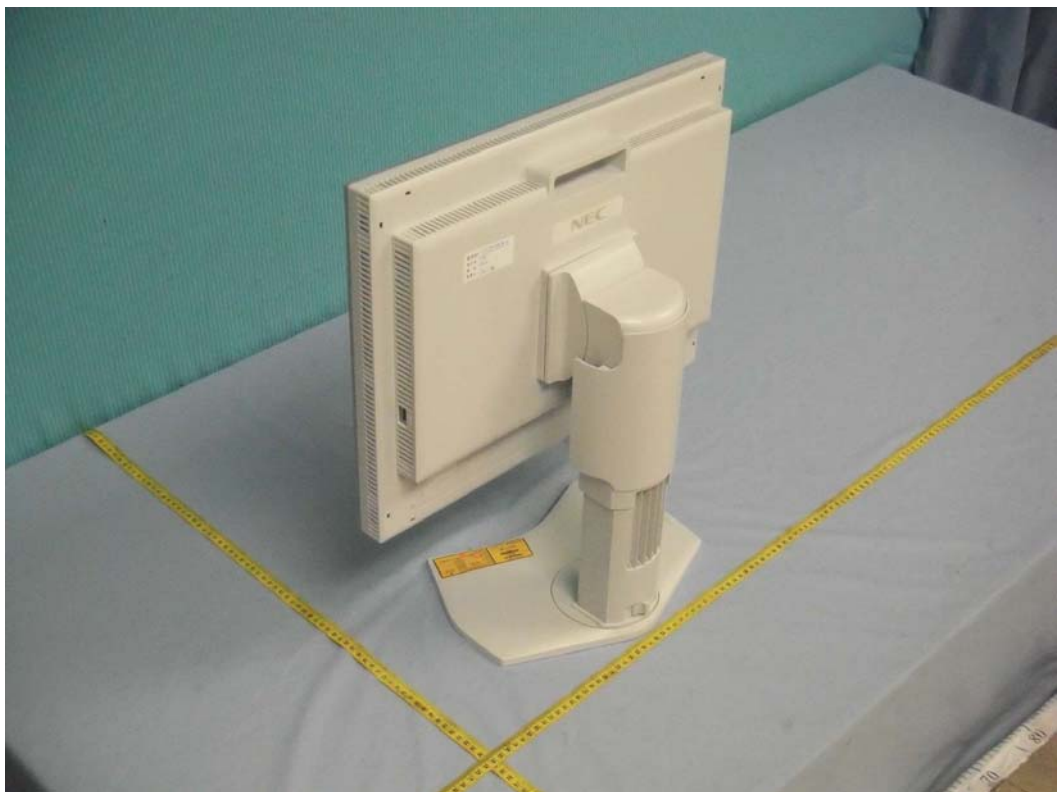
Product: LCD Monitor

Type Designation: P212, P212-BK, L214AD, P212(C), P212-BK(C)



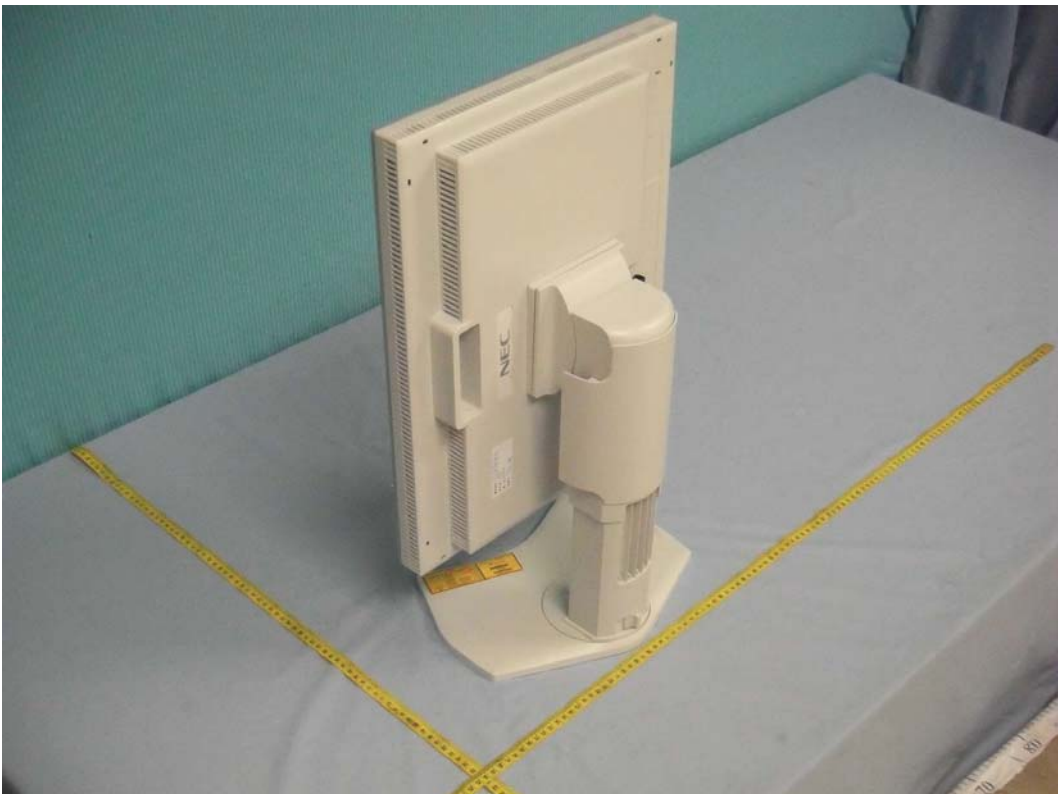
Product: LCD Monitor

Type Designation: P212, P212-BK, L214AD, P212(C), P212-BK(C)



Product: LCD Monitor

Type Designation: P212, P212-BK, L214AD, P212(C), P212-BK(C)



Product: LCD Monitor

Type Designation: P212, P212-BK, L214AD, P212(C), P212-BK(C)



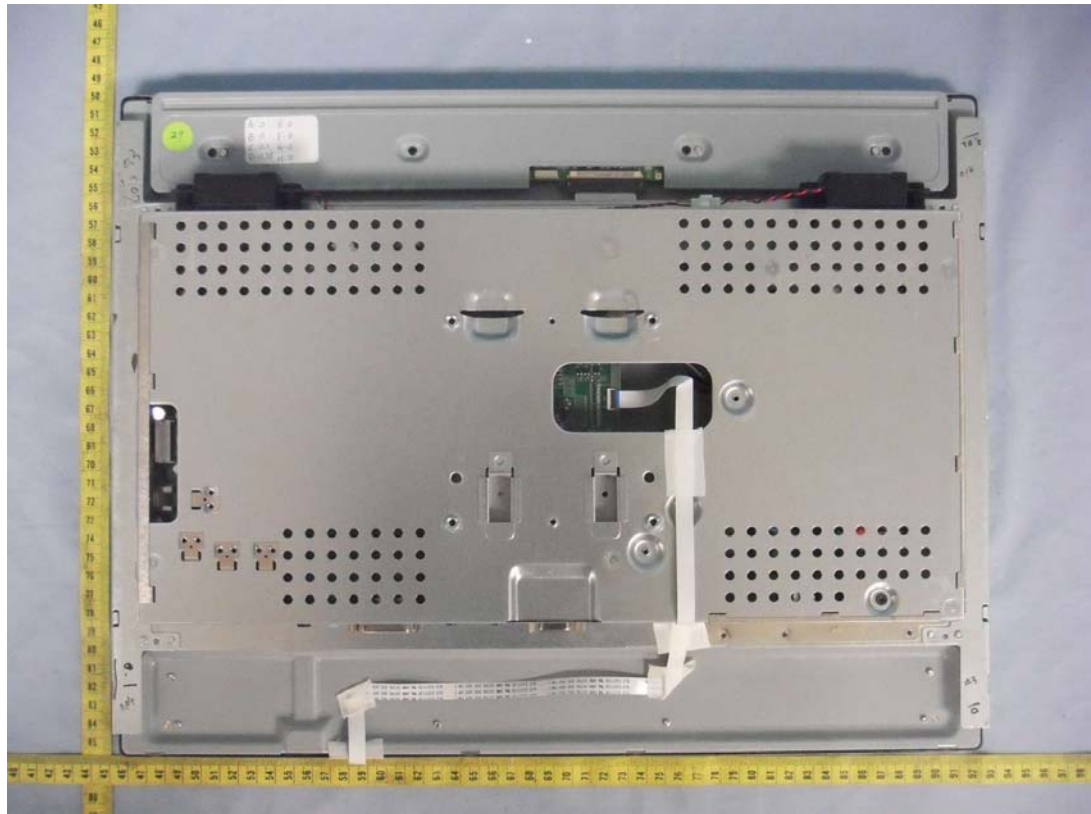
Product: LCD Monitor

Type Designation: P212, P212-BK, L214AD, P212(C), P212-BK(C)



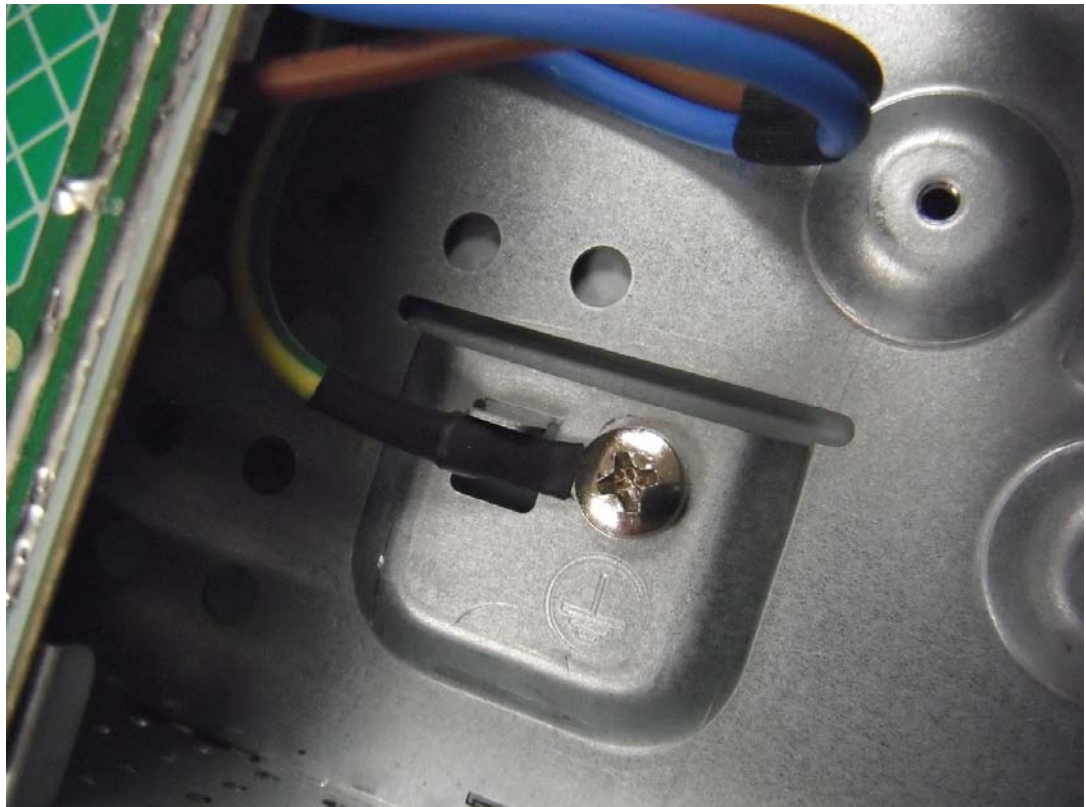
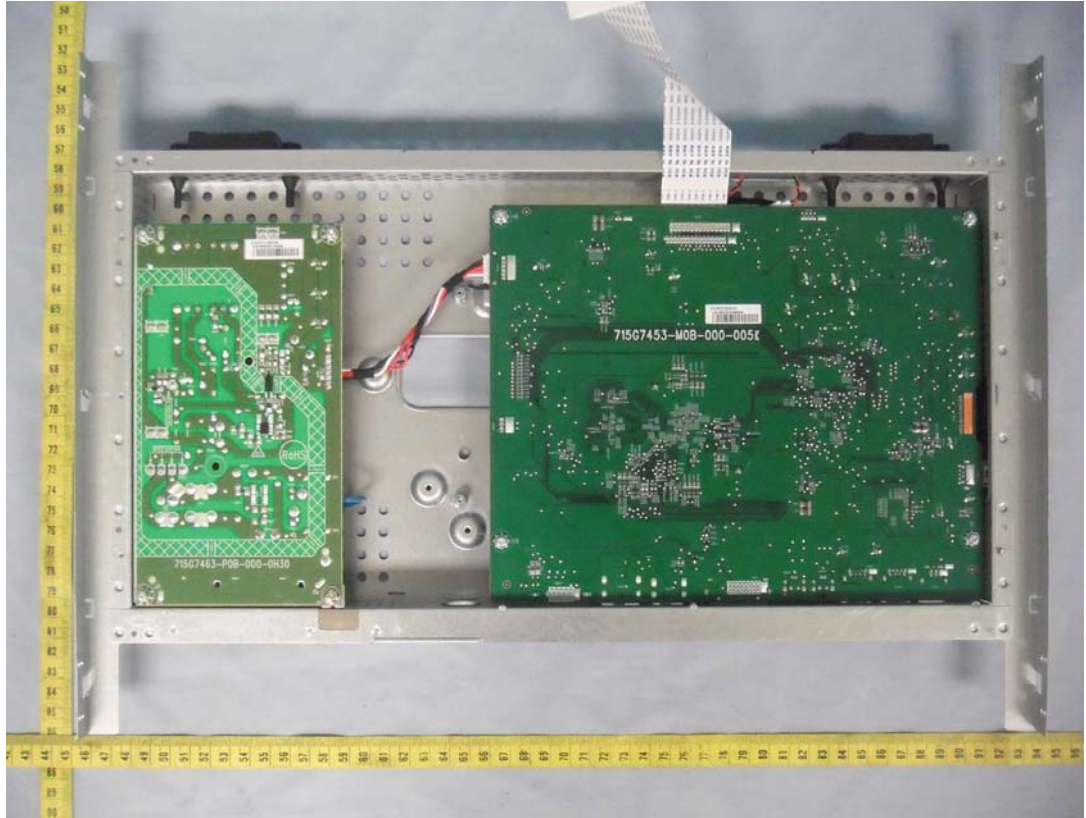
Product: LCD Monitor

Type Designation: P212, P212-BK, L214AD, P212(C), P212-BK(C)



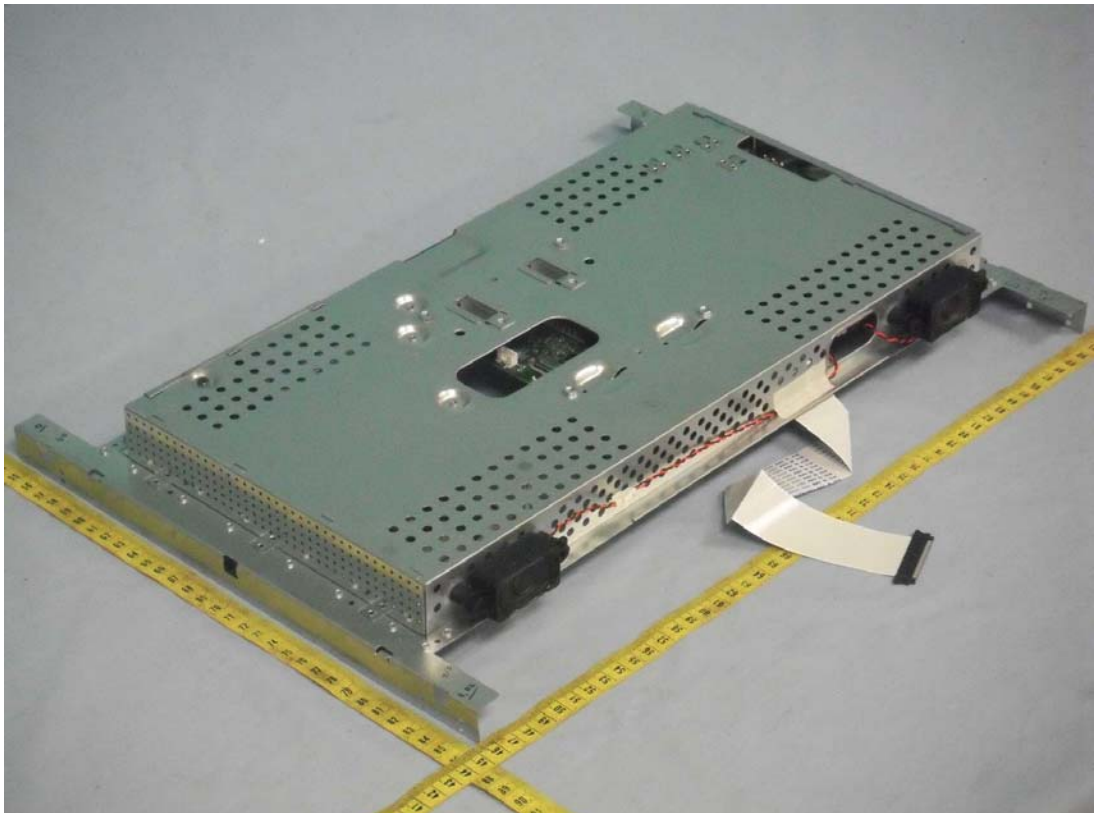
Product: LCD Monitor

Type Designation: P212, P212-BK, L214AD, P212(C), P212-BK(C)



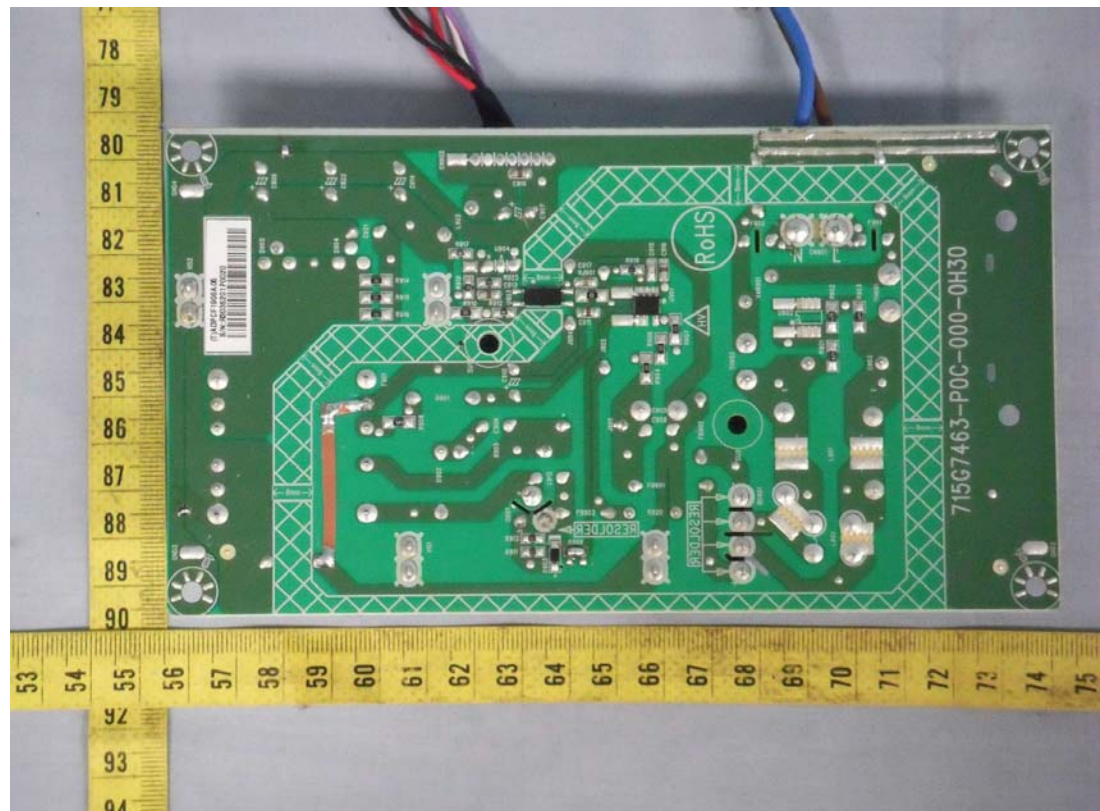
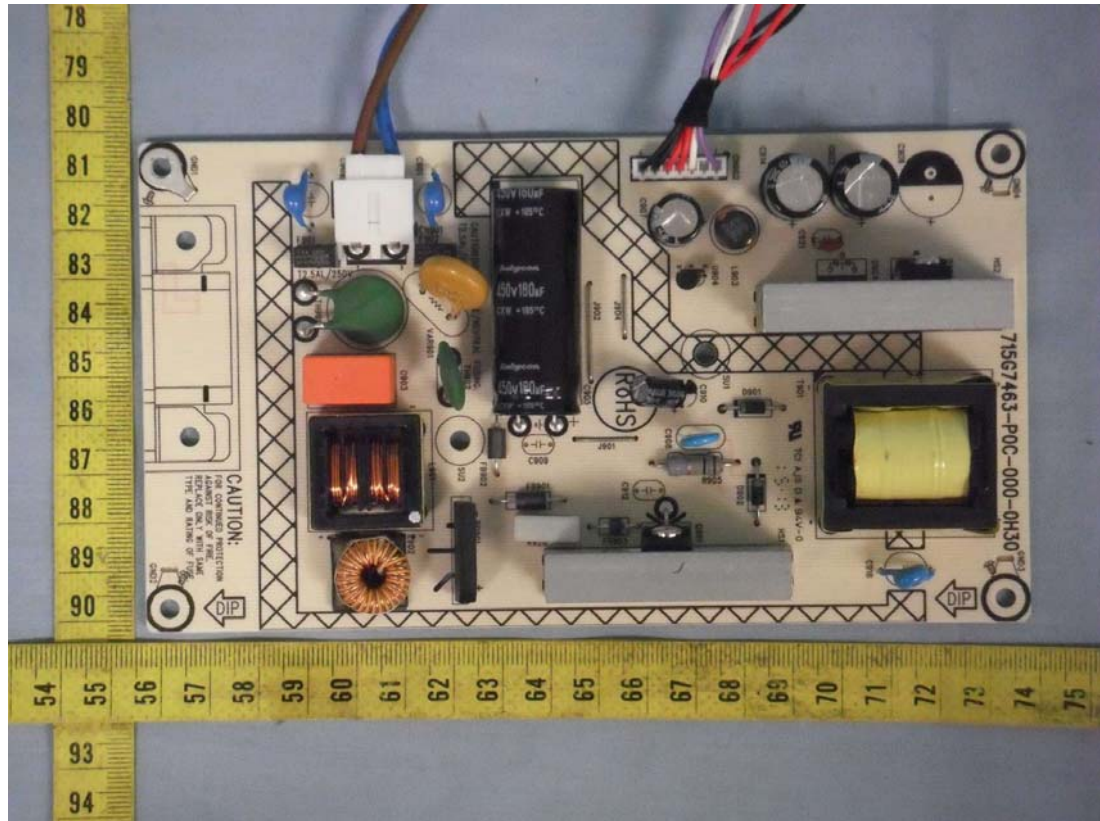
Product: LCD Monitor

Type Designation: P212, P212-BK, L214AD, P212(C), P212-BK(C)



Product: LCD Monitor

Type Designation: P212, P212-BK, L214AD, P212(C), P212-BK(C)



Product: LCD Monitor

Type Designation: P212, P212-BK, L214AD, P212(C), P212-BK(C)

