



TM

Ref. Certif. No.

JPTUV-117525

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

Product

LCD Monitor

Name and address of the applicant

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

Name and address of the manufacturer

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

Name and address of the factory

See additional page(s)

Ratings and principal characteristics

AC 100-240V; 50/60Hz; 1) 2.8-1.1A, 2) 2.5-1.0A; Class I

Trademark (if any)

NEC

Customer's Testing Facility (CTF) Stage used

N/A

Model / Type Ref.

1) P435, 2) MA431

Additional information (if necessary may
also be reported on page 2)

For model differences, refer to the test report.

A sample of the product was tested and
found to be in conformity withIEC 60950-1:2005+A1+A2
See Test Report for National DifferencesAs shown in the Test Report Ref. No. which
forms part of this Certificate

CN20EL5B 001

This CB Test Certificate is issued by the National Certification Body

**TÜVRheinland®**TÜV Rheinland Japan Ltd.
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Date: 2020-12-15

Signature:

Dipl.-Ing. F. Stoelzel

1. TPV Display Technology (Wuhan)
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2. TPV Electronics (Fujian) Co., Ltd.
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3. L&T Display Technology (Fujian) Ltd.
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22435 Tijuana Baja California
MEXICO
8. TPV Technology (Qingdao)

Additional information (if necessary)

Report Ref. No. : CN20EL5B 001

Date: 2020-12-15

Signature:



Dipl.-Ing. F. Stoelzel

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88/1 Moo 12, Soi
Phetkasem 120, Phetkasem
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Samutsakhon 74130, Thailand
11. TPV Technology (Thailand) Co., Ltd.
267 Moo 7,
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Prachinburi Province
Thailand
12. GeneTouch Corp.
No. 9 Neixi Rd.,
Luzhu Dist., Taoyuan City 33852
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13. TPV Electronics (Fujian) Co., Ltd.
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Fuqing City, 350301 Fujian, P.R. China
14. Treeview Co., Ltd.
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Chonburi 20150
Thailand

Additional information (if necessary)

Report Ref. No. : CN20EL5B 001

Date: 2020-12-15

Signature:



Dipl.-Ing. F. Stoelzel



Test Report issued under the responsibility of:



TEST REPORT
IEC 60950-1
Information technology equipment – Safety –
Part 1: General requirements

Report Number.: CN20EL5B 001

Date of issue: 2020-12-09

Total number of pages.....: 102

**Name of Testing Laboratory
preparing the Report**.....: Audix Technology Corporation

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, AMD1:2009, AMD2:2013

Test procedure: CB Scheme

Non-standard test method.....: N/A

Test Report Form No......: IEC60950_1G

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

Master TRF: Dated 2019-07-02

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

General disclaimer:

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

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

Test item description	LCD Monitor	
Trade Mark	NEC	
Manufacturer	Sharp NEC Display Solutions, Ltd. 4-28, Mita 1-chome, Minato-ku, Tokyo, 108-0073 Japan	
Model/Type reference	1) P435, 2) MA431	
Ratings	100-240V~, 50/60Hz, 1) 2.8-1.1A, 2) 2.5-1.0A	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ CB Testing Laboratory:	Audix Technology Corporation	
Testing location/ address	No. 53-11, Dingfu, Linkou Dist., New Taipei City, Taiwan, Chinese Taipei	
Tested by (name, function, signature)	Thomas Lin (Project handle)	
Approved by (name, function, signature) ..	Ben Lu (Reviewer)	
☐ Testing procedure: CTF Stage 1:		
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature) ..		
☐ Testing procedure: CTF Stage 2:		
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name, function, signature) .		
Approved by (name, function, signature) ..		
☐ Testing procedure: CTF Stage 3:		
☐ Testing procedure: CTF Stage 4:		
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature) .		
Approved by (name, function, signature) ..		
Supervised by (name, function, signature) :		

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

- Measurement Section (2 pages)
- European group differences and national differences (19 pages)
- U.S.A. national differences (5 pages)
- Canada national differences (6 pages)
- Australia / New Zealand national differences (8 pages)
- Japan national differences (16 pages)
- Additional national differences (18 pages)
- Photo documentation (13 pages)

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

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

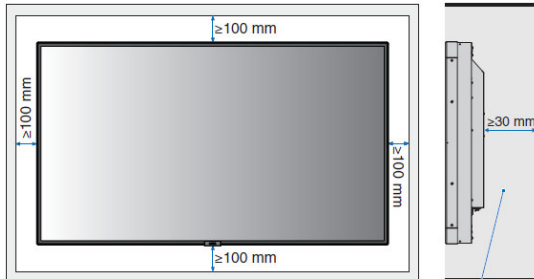
All applicable tests as described in Test Case and Measurement Sections were performed.

- The maximum normal load condition used as below during testing, refer to appended table 1.6.2:
The equipment operated under maximum brightness, maximum contrast of LED backlight circuit, the volume with 1kHz sinusoidal waveform of unit adjusted to maximum attainable output, connected to internet via RJ45 port and transmission data, USB type B port connect it to the PC and transmission data.
dummy load of main board:
5V/2A (by client required) for USB 2.0 x1;
5V/0.5A for USB 2.0 x1;
3.3V/ 0.5A for Display x3.
(provided two load when Display mode)
Without SDM card and compute module:
dummy load of main board:
For SDM card (CN509) provided 12.0V/ 5.5A.
(by client required)
With SDM card and compute module:
dummy load of SDM card:
5V/ 0.9A for USB 3.0 x2.
dummy load of compute module:
5V/ 0.5A for USB 2.0 x2.
- The test samples are pre-production without serial numbers.
- The equipment provided wall mounting function and complied with loading test mentioned at sub-clause 4.2.10.
- The equipment has been evaluated according to the specified by the manufacturer maximum operating altitude of 5000m (correction factor for clearances according to IEC 60664:1992+A1:2000+A2:2002 of 1.48 is considered).

Testing location:

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

- The manufacturer specified the maximum ambient temperature as +40°C.
- The LCD Monitor can be operated in landscape (0°) to portrait mode (90°) when main board downside.
- Heating test performed in wooden box as illustrate below:



- During the heating tests, all openings are blocked, system fans locked and SDM card fan locked.

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

EU Group Differences, EU Special National Conditions, US, CA, AU, NZ, JP.

Explanation of used codes: US = United States of America, CA = Canada, AU = Australia, NZ = New Zealand, JP = Japan.

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

For National Differences see corresponding Attachment.

Test item particulars.....:	
Equipment mobility.....:	☐ movable ☐ hand-held ☐ transportable [X] stationary [X] for building-in (when installed within a wooden box which provided by the manufacture) ☐ direct plug-in
Connection to the mains.....:	[X] pluggable equipment [X] type A ☐ type B ☐ permanent connection [X] detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition.....:	[X] continuous ☐ rated operating / resting time:
Access location	[X] operator accessible ☐ restricted access location
Over voltage category (OVC)	☐ OVC I [X] OVC II ☐ OVC III ☐ OVC IV ☐ other: not directly connected to the mains
Mains supply tolerance (%) or absolute mains supply values	±10
Tested for IT power systems	[X] Yes ☐ No
IT testing, phase-phase voltage (V)	230 for Norway
Class of equipment	[X] Class I ☐ Class II ☐ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A)	16 (20 for North America)
Pollution degree (PD)	☐ PD 1 [X] PD 2 ☐ PD 3
IP protection class	IP20
Altitude during operation (m)	Up to 5000
Altitude of test laboratory (m)	Less than 2000
Mass of equipment (kg)	Max. 17.8kg (Unit only, without base stand, SDM card, compute module and external speaker) Max. 1.9kg (base stand) Max. 0.23kg (SDM card) Max. 0.1kg (compute module) Max. 0.86kg (External speaker: SP-TF1)

Possible test case verdicts:

- test case does not apply to the test object.....: N/A
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement.....: F (Fail)

Testing.....:

Date of receipt of test item: 2020-11-13

Date (s) of performance of tests: 2020-11-17 to 2020-12-07

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 IEC60950:

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

☒ **Yes**
☐ **Not applicable**

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

Name and address of factory (ies)

- 1) TPV Display Technology (Wuhan) Co., Ltd.
Unique No. 11, Zhuankou Development District of Economic Technological Development Zone, 430056 Wuhan City, P.R. China
- 2) TPV Electronics (Fujian) Co., Ltd.
Shangzheng, Yuan Hong Road Fuqing City Fujian P.R. China
- 3) L&T Display Technology (Fujian) Ltd.
Optoelectronic Park, Rongqiao Economic and Technological Development Zone Fuqing, 350301 Fujian, P.R. China
- 4) TPV Electronics (Fujian) Co., Ltd.
Rongqiao Economic and Technological Development Zone Fuqing City Fujian, P.R. China
- 5) 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
- 6) TPV Display Technology (China) Co., Ltd.
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- 7) Trend Smart CE Mexico S de RL de CV
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- 8) TPV Technology (Qingdao) Co., Ltd.
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- 9) Envision Indústria de Produtos Eletrônicos Ltda.
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- 10) Pro Concept Manufacturer Co., Ltd
88/1 Moo 12, Soi Phetkasem 120, Phetkasem Road, Omnoi, Krathumbaen, Samutsakhon 74130, Thailand

- 11) Treeview Co., Ltd.
106/29 Moo 8, Sukhumvit Road, T.Banglamung,
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- 12) TPV Technology (Thailand) Co., Ltd.
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Pho District, Prachin Buri Province Thailand
- 13) GeneTouch Corp.
No. 9 Neixi Rd., Luzhu Dist., Taoyuan City
33852 Taiwan
- 14) TPV Electronics (Fujian) Co., Ltd.
Optoelectronic Park, Rongqiao Economic and
Technological Development Zone, Fuqing City,
350301 Fujian, P.R. China

General product information:

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

The equipment consists of the following critical components:

- LCD panel (LED backlight type)
- Building-in type non-approved switching power supply board
- Main board (Speaker terminal x1, Audio OUT x1, LAN x2, Remote IN x1, Display x3, HDMI x3, USB 2.0 x2, USB type B x1 and RS-232C)
- Key control board (secondary circuit)
- IR board (secondary circuit)
- Metal enclosure
- Metal cover for AC inlet and I/O port
- Plastic cover for IR board, Key control board
- System DC fan x3 (optional)
- SDM card (optional)
- Compute module (optional)
- External speaker : SP-TF1 (optional)
- Base stand (optional)

This equipment is intended to be service by qualified service personnel.

AC Inlet to Primary connector wire use style 1617.

Switching Power Supply board type 715GB096

All sources of L9901, L9902 are similar to each other except for type designation and manufacturer.

All sources of L9801, L9802 are similar to each other except for type designation and manufacturer.

All sources of T9302 are similar to each other except for type designation and manufacturer.

All sources of T9104 are similar to each other except for type designation and manufacturer.

All sources of T8601 are similar to each other except for type designation and manufacturer.

Model Differences

P435 is similar to MA431 except for model name and rating.

Additional Information

- The power supply unit used in the product is not a certified product. Hence, compliance has been evaluated in this report.
- The equipment contains with multimedia function ports, therefore the IEC Guide 112 for multimedia equipment has been considered.
- Special national conditions for J60950-1 (H29)
Per client's request, supplement the special national conditions for J60950-1 (H29) and J3000 (H25) to present test report. Described as following items:
a) Power cord set for Japanese market is added and AC plug adaptor is optional used and the equipment is consider as Class 0I or Class I equipment.
b) Considered further Japanese technical requirements J60950-1 (H29)
- The manufacturer declared that the product also fulfilled of the requirements of SANS 60950-1: 2014 (Edition 2.2 / IEC 60950-1: 2013 (Edition 2.2).
- Special national conditions for AS/NZS 60950.1:2015
Per client's request, supplement the special national conditions for AS/NZS 60950.1:2015 to present.
- Power cord set is replaced and AC plug adaptor is optional used for Japanese market. The equipment is regarded to be Class 0I or Class I equipment. Unit also complies with touch current requirements for Class 0I equipment: < 1.0mA.

OTHER NATIONAL REQUIREMENTSSpecial national conditions for J3000 (H25)

Per client's request, supplement the special national conditions for J3000 (H25) to present test report.

Per client's request, attached special national conditions according to previous test report from as below:

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

DE, FI, IL, KR.

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

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

CN.

Explanation of used codes: CN=China.

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

UA.

Explanation of used codes: UA=Ukraine.

For Special National Conditions see corresponding Attachment.

Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

☐ **Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:**

Procedure number, issue date and title:

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

☒ **Statement not required by the standard used for type testing**

MARKINGS AND INSTRUCTIONS

- Fuse Identification (See subclause 1.7.6): F901, T8AH/250V
-  (IEC 60417-5019) for the wiring terminal of protective earthing conductor (See Sub-clause 1.7.7.1)
-  (IEC 60417-5007) for "ON" of the switch. (See Sub-clause 1.7.8.3)
-  (IEC 60417-5008) for "OFF" of the switch. (See Sub-clause 1.7.8.3)
-  or  (IEC 60417-5009) for the stand-by condition. (See Sub-clause 1.7.8.3)

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI

Indicate used abbreviations (if any)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General	See below.	P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components	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 240VA. Besides for the insulation materials, there are no other requirements for the interconnection cables.	P
1.5.6	Capacitors bridging insulation	Between lines: sub class X1 or X2 capacitors according to IEC 60384-14 with 21 days damp heat test. Between Line/Neutral and earth: subclass Y1 or Y2 capacitors according to IEC 60384-14. Between Primary and secondary: subclass Y1 capacitors according to IEC 60384-14.	P
1.5.7	Resistors bridging insulation	See below.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	Resistors bridging functional insulation only.	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 (RV9901).	P
1.5.9.4	Bridging of basic insulation by a VDR	One Gas Tube whose external clearance and creepage are complied with basic insulation and passed the 5.2 test for basic insulation is provided in series with a VDR (RV9902) to bridge of basic insulation between L and earth.	P
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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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
	Symbol for Class II equipment only	The equipment is Class I equipment.	N/A
	Other markings and symbols	Other markings and symbols do not give rise to misunderstanding.	P
1.7.1.3	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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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.	N/A
1.7.8.3	Symbols according to IEC 60417.....	See General product information - Markings and Instructions.	P
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	Only Two AA or two AAA consumer type batteries provided for remote controller.	N/A
	Language(s)	English	—
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 through 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)		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 tables 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		N/A
	a) Capacitor connected to the d.c. mains supply ...		N/A
	b) Internal battery connected to the d.c. mains supply :		N/A
2.1.1.9	Audio amplifiers	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

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Clause	Requirement + Test	Result - Remark	Verdict
2.4	Limited current circuits		P
2.4.1	General requirements	The limit of 2.4.2 were not exceeded.	P
2.4.2	Limit values	See below.	P
	Frequency (Hz)	See appended table 2.4.2.	—
	Measured current (mA).....	See appended table 2.4.2.	—
	Measured voltage (V)	See appended table 2.4.2.	—
	Measured circuit capacitance (nF or μ F).....	See table 1.5.1 and 2.4.2.	—
2.4.3	Connection of limited current circuits to other circuits	The limits of 2.4.2 were not exceeded.	P
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	(See Annex CC)	P
	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

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Clause	Requirement + Test	Result - Remark	Verdict
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	See below.	P
	Rated current (A), cross-sectional area (mm ²), AWG :	Max. 2.8A, min. 0.75 mm ² , 18AWG.	—
2.6.3.3	Size of protective bonding conductors	Evaluation by test. See sub-clause 2.6.3.4.	P
	Rated current (A), cross-sectional area (mm 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

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.5	Parts removed during servicing	It is not necessary to disconnect the earth connection except for the removing of the earthed part itself.	P
2.6.5.6	Corrosion resistance	All safety earthing connections in compliance with Annex J.	P
2.6.5.7	Screws for protective bonding	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	Only one fuse provided.	N/A
2.7.6	Warning to service personnel :		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

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

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic 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 120hrs.	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		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

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.3	Clearances	See below.	P
2.10.3.1	General	Annex F is considered.	P
2.10.3.2	Mains transient voltages	See below.	P
	a) AC mains supply	2500 Vpk considered.	P
	b) Earthed d.c. mains supplies		N/A
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.4	Clearances in secondary circuits	Refer to sub-clause 5.3.4.	N/A
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply		N/A
2.10.3.7	Transients from d.c. mains supply		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances	See below.	P
2.10.4.1	General	Considered.	P
2.10.4.2	Material group and comparative tracking index	Material group IIIb assumed.	P
	CTI tests.....	See above.	—
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	Complied with 2.10.5.2 and 2.10.10.	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

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Clause	Requirement + Test	Result - Remark	Verdict
	Number of layers (pcs)	See appended table 5.2.	—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure	See below.	P
	Electric strength test	(see appended table 5.2)	—
2.10.5.11	Insulation in wound components	See 2.10.5.14.	P
2.10.5.12	Wire in wound components	Triple insulated wire used in transformer (T9302)	P
	Working voltage	(see appended table 2.10.2)	P
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A
	c) Compliance with Annex U	Reinforced insulation, three layers extruded type.	P
	Two wires in contact inside wound component; angle between 45° and 90°	Tubing used to relieve mechanical stress at crossover points.	P
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components	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		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
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	The cross-sectional area and the temperature of the internal wires are adequate. No internal wire for primary power distribution.	P
3.1.2	Protection against mechanical damage	The wireways including holes are smooth and free from sharp edges.	P
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	The electrical contact screw is threaded into the metal part at least twice the pitch of the screw thread.	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.10	Sleeving on wiring		N/A
3.2	Connection to a mains supply		P
3.2.1	Means of connection	See below.	P
3.2.1.1	Connection to an a.c. mains supply	Appliance inlet 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		NA
	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	See appended table 1.5.1.	P
3.2.5.1	AC power supply cords	See appended table 1.5.1.	P
	Type	Max. 2.8A, min. 0.75 mm ² , 18AWG.	—
	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

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Clause	Requirement + Test	Result - Remark	Verdict
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²)..... :		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) :		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	Disconnection from the mains supply		P
3.4.1	General requirement	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 equipment 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
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Clause	Requirement + Test	Result - Remark	Verdict
4.1	Stability		P
	Angle of 10°	The equipment does not fall over.	P
	Test force (N)		N/A
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, 2.10.	P
	Rack-mounted equipment.		N/A
4.2.2	Steady force test, 10 N	10N applied to all components other than the parts serving as enclosure.	P
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N	After subjected 250N, no damage to the metal enclosure, metal cover and panel.	P
4.2.5	Impact test	No hazard as result from the steel ball impact test to the external metal enclosure, metal cover and panel.	P
	Fall test	See above.	P
	Swing test	See above.	P
4.2.6	Drop test; height (mm)		N/A
4.2.7	Stress relief test		N/A
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N)	Add an additional force of 558.4N (3 times the mass of the unit and the mass is 18.99kg without base) was applied to the unit with the VESA adaptor kit. (Assessment for tipping at 30 angles forward when during wall mount test) The unit withstood the load test without damages or breaks from the VESA adaptor kit.	P
4.3	Design and construction		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.1	Edges and corners	The edges and corners are rounded and smoothed.	P
4.3.2	Handles and manual controls; force (N).....:	Two handles provided, each handle provide additional force 409.5N No loosen and no hazard results.	P
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts	Electrical and mechanical connections can be expected to withstand usual mechanical stress. No loosening of clearance or creepage impairing distances likely to occur.	P
4.3.5	Connection by plugs and sockets	No mismatch of connectors, plugs or socket possible.	P
4.3.6	Direct plug-in equipment		N/A
	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 on main board (C4282) (see appended table 5.3). Test for RTC battery for SDM card	P
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery	Considered. (Test for RTC battery)	P
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery	Considered. (Approved RTC battery provided)	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

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.13	Radiation	See below.	P
4.3.13.1	General	See below.	P
4.3.13.2	Ionizing radiation	No ionizing radiation.	N/A
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		M/A
	Part, property, retention after test, flammability classification		M/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 10000cd/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		P
4.4.1	General	System DC fans are protected by enclosure.	P
4.4.2	Protection in operator access areas	Moving parts are not accessible by test finger.	P
	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	Unintentional contact is not likely in service access areas.	P
4.4.5	Protection against moving fan blades	System DC fans are guarded by metal enclosure and are not accessible by test finger.	P
4.4.5.1	General	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Not considered to cause pain or injury. a).....:	SDM card: DC fan was not considered to cause injury. N (r/min) is 7000, r (mm) is 18.4 mm, M (kg) is less than 0.003 kg. K factor = $6 \times 10^{-7} \text{ (mr}^2\text{N}^2\text{)} = 29.861$. $N/15000 + K \text{ facto} / 24000 = 0.48 \leq 1$. (only maximum value being recorded above when normal operating, abnormal operating and single fault conditions.)	P
	Is considered to cause pain, not injury. b)		N/A
	Considered to cause injury. c)		N/A
4.4.5.2	Protection for users	For DC Fan, not located in an operator access area.	P
	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
	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 connectors are IEC approval components.	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

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Clause	Requirement + Test	Result - Remark	Verdict
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	See below.	P
	Conditioning temperature (°C), time (weeks) :	100°C, 1 weeks. (include the Mylar sheet and tape for internal wire)	—

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	See table 5.3 for details.	P
4.7.2	Conditions for a fire enclosure	See below.	P
4.7.2.1	Parts requiring a fire enclosure	Following parts require a fire enclosure: ▪ Components in primary circuits. ▪ Components in secondary circuits not supplied by 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	FIRE ENCLOSURE is not required for key control board and IR board.	P
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	Metal enclosure and metal cover as a 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	V-2 or HF-2 min.	P
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
5.1.5	Test procedure	The touch current was measured from mains to metal enclosure, plastic enclosure with metal foil, 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)	N/A	—
	Max. allowed protective conductor current (mA) ..	N/A	—
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

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Clause	Requirement + Test	Result - Remark	Verdict
	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 table Annex C)	P
5.3.4	Functional insulation :	Functional insulation complied with the requirements C).	P
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE :	No hazards considered to be generated with this kind of speaker.	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

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Clause	Requirement + Test	Result - Remark	Verdict

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
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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material.....		—
	Wall thickness (mm)		—
A.2.2	Conditioning of samples; temperature (°C)		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements	Motors inside certified DC fan, no testing is required.	N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—

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

D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument	Figure D.1 used.	P

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Clause	Requirement + Test	Result - Remark	Verdict
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
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	Metal alloy utilized and electrochemical potential is less than 0.6V.	—

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Clause	Requirement + Test	Result - Remark	Verdict
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
L.7	Other business equipment	See summary of testing.	P
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringling signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	- Preferred climatic categories	See appended table 1.5.1.	P
	- Maximum continuous voltage	See appended table 1.5.1.	P
	- Combination pulse current	See appended 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).....	See appended table 1.5.1.	P
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)		P
		Certified triple insulation wire used.	—
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

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Clause	Requirement + Test	Result - Remark	Verdict
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
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		P
CC.1	General	Approved IC used.	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
DD.3	Mechanical strength test, 250N, 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
	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⁾	
LCD Panel	LG	LD430***** (* can be 0-9, a-z, A-Z, /, \, +, -, • or blank)	42.51" TFT type, with LED backlight.	--	--	
System DC Fan (three provide) (optional)	SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO LTD	MF60101V1-1	12Vdc, max. 125mA, 16.3 CFM.	EN 60950-1 : 2006+A11+A1+A 12+A2; IEC 60950- 1:2005+A1+A2; UL507 Edition Number 10	TUV, UL	
-alt.	SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO LTD	MB60101V1	12Vdc, max. 138mA, 16.0 CFM	EN 60950-1 : 2006+A11+A1+A 12+A2; IEC 60950- 1:2005+A1+A2; UL507 Edition Number 10	TUV, UL	
AC Inlet	Solteam	ST-01	10A, 250Vac, 15A, 250Vac.	IEC/EN 60320- 1:2015, UL 498 Edition Number 16	VDE, UL, ENEC	
-alt.	Zhang Jia Gang- Hua Jie	SA-4S	10A, 250Vac, 15A, 250Vac.	IEC/EN 60320- 1:2015, UL 498 Edition Number 16	VDE, UL	
-alt.	Rong Feng	SS-120, SS-7B	10A, 250Vac, 15A, 250Vac.	IEC/EN 60320- 1:2015, UL 498 Edition Number 16	VDE, UL	
-alt.	Shenzhen Delikang / Douling	CDJ-3, CDJ-3-1	10A, 250Vac.	IEC/EN 60320- 1:2015, UL 498 Edition Number 16	VDE, UL	
-alt.	Inalways	0707-1, 0711-2	10A, 250Vac, 15A, 250Vac.	IEC/EN 60320- 1:2015, UL 498 Edition Number 16	UL, N	
-alt.	Inalways	0714	10A, 250Vac.	IEC/EN 60320- 1:2015, UL 498 Edition Number 16	VDE, UL	

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Clause	Requirement + Test			Result - Remark	Verdict
-alt.	TECX	TU-301 series	10A, 250Vac, 15A, 250Vac.	IEC/EN 60320-1:2015, UL 498 Edition Number 16	VDE , UL
-alt.	Yueqing Hongchang	DB-14	10A/250Vac, 15A, 250Vac.	IEC/EN 60320-1:2015, UL 498 Edition Number 16	VDE , UL
-alt.	Solteam	SC04	10A/250Vac, UL: 10A / 250Vac, 12A / 250Vac.	IEC/EN 60320-1:2015, UL 498 Edition Number 16	VDE , ENEC, UL
-alt.	Zhang Jia Gang-Hua Jie	SA-4D	10A, 250Vac, 15A, 250Vac.	IEC/EN 60320-1:2015, UL 498 Edition Number 16	TUV , UL
Power Switch	CHILY	3024 series	16(4)A, 250Vac 15A, 125/250Vac, 8A, 277Vac.	IEC/EN 61058-1:2002+A2:2008, UL 61058-1 Edition Number 5	ENEC, UL
-alt.	Solteam Electronics Co Ltd	MR-21 series	10A, 250Vac.	IEC/EN 61058-1:2002+A2:2008, UL 61058-1 Edition Number 5	ENEC, UL
-alt.	Solteam Electronics Co Ltd	MR-21S	ENEC: 6A, 250V. UL: 10A, 125/250Vac.	IEC/EN 61058-1:2002+A2:2008, UL 61058-1 Edition Number 5	ENEC, UL
-alt.	Solteam Electronics Co Ltd	MR-22 series	ENEC: 12(4)A, 250V. UL: 12A, 125/250Vac, 8A, 125/250Vac.	IEC/EN 61058-1:2002+A2:2008, UL 61058-1 Edition Number 5	ENEC, UL
-alt.	Solteam Electronics Co Ltd	OR-L, OR-P	6A, 250Vac, 10A, 125Vac.	IEC/EN 61058-1:2002+A2:2008, UL 61058-1 Edition Number 5	ENEC, UL
-alt.	Zhangjiagang Huajie	PS8-338	8A, 250Vac, 12(4), 250Vac.	IEC/EN 61058-1:2002+A2:2008, UL 61058-1 Edition Number 5	TUV, UL
-alt.	CHILY	3024	16(8)A, 250Vac, 8A, 250Vac, 5A, 125Vac.	IEC/EN 61058-1:2002+A2:2008, UL 61058-1 Edition Number 5	ENEC, UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
-alt.	Hongchang	RS and RT series	10A, 125Vac, 6A, 250Vac.	IEC/EN 61058-1:2002+A2:2008, UL 61058-1 Edition Number 5	ENEC, UL
Mylar sheet (near power board HS8602, between power board component side and metal enclosure)	CHENGDU KANGLONGXIN PLASTICS CO LTD	KLX FRPC-1860B, KLX FRPC-1870B	V-0, Thick min. 0.4mm, min. 80°C.	UL 94 Edition Number 6	UL
-alt.	SUZHOU OMAI OPTICAL MATERIAL CO LTD	SE42B, SE42B-F	V-0, Thick min. 0.4mm, min. 80°C.	UL 94 Edition Number 6	UL
-alt.	SICHUAN DONGFANG INSULATING MATERIAL CO LTD	DFR117, DFR117ECO, DFR117ECOB, DFR117ECOC	V-0, Thick min. 0.4mm, min. 80°C.	UL 94 Edition Number 6	UL
-alt.	Sichuan Dongfang Insulating Material Co., Ltd.	DFR700, DFR700F	V-0, Thick min. 0.4mm, min. 80°C.	UL 94 Edition Number 6	UL
-alt.	KUNSHAN DOBESTY OPTOELECTRONIC MATERIALS CO LTD	PC9821B, PC9832B, PC9842B, DB98HD, DB98	V-0 or VTM-0, Thick min. 0.4mm, min. 80°C.	UL 94 Edition Number 6	UL
-Adhesive	3M CHINA CO LTD	55236@\$	80°C.	UL 510A Edition Number 1	UL
-alt.	TESA SE	68646	80°C.	UL 510A Edition Number 1	UL
-alt.	Symbio Inc	DS50-A	100°C.	UL 510A Edition Number 1	UL
-alt.	NITTO DENKO CORP	GA606	80°C.	UL 510A Edition Number 1	UL
-alt.	3M CHINA CO LTD	9448A	80°C.	UL 510A Edition Number 1	UL
Tape for internal wire	JIANGSU YONGJIA ELECTRONIC MATERIAL CO LTD	YJC-810H(B)-2	For securing secondary internal wirings. Overall measured minimum 50 by 18 mm.	UL 510	UL

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Clause	Requirement + Test		Result - Remark		Verdict
-Alt.	TAE HWA INDUSTRIAL CO LTD	6701	For securing secondary internal wirings. Overall measured minimum 50 by 18 mm.	UL 510A	UL
-Alt.	DUCK SUNG HITECH CO LTD	231	105 degree C min. For securing secondary internal wirings. Overall measured minimum 50 by 18 mm.	UL 510	UL
-Alt.	GUANGDONG NEW ERA NEW MATERIALS TECHNOLOGY CO.,LTD	FGB-0011-200PP1	80 degree C min. For securing secondary internal wirings. Overall measured minimum 50 by 18 mm.	UL 510	UL
-Alt.	TAEYOUNG CHEMICAL IND CO LTD	TY301A	105 degree C min. For securing secondary internal wirings. Overall measured minimum 50 by 18 mm.	UL 510	UL
-Alt.	IDEAL TAPE CO INC	IT-720 (b)	130 degree C min. For securing secondary internal wirings. Overall measured minimum 50 by 18 mm.	UL 510A	UL
Metal Enclosure and Metal Cover	Interchangeable	Interchangeable	SGCC, thickness 0.6mm min.	--	--

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Battery for remote controller used (optional)	Interchangeable	Interchangeable	1.5Vdc, Two AA or AAA consumer type batteries provide.	--	--
Base Stand (optional)	Interchangeable	Interchangeable	SGCC, total weight: 1.9kg.	--	--
External Speaker (two provided) (optional)	Interchangeable	Interchangeable	Each rated 8ohm, max. 40W.	--	--
IR board plastic cover and Key control board plastic cover	Interchangeable	Interchangeable	HB or batter.	UL 94 Edition Number 6	UL
Internal fire barrier on top of main board	LG CHEM LTD	LUPOY GN5001RF(T), LUPOY GN-5001RF(T), LUPOY GN5001TF(#), LUPOY GN-5001TF(#), LUPOY GN-5008HF(#), AF342(#), AF312T1,	Min. V-1.	UL 94 Edition Number 6	UL
-Alt.	LOTTE CHEMICAL CORPORATION	VH-0810(+), VE-1890(+), VE-0812(+), VE-0819F, EN-1052(+), VH-0815(+), HM-1100(+), VH-0819(+), NH-1017(p), NH-1000T(+)(&), NE-1030(+), LS-1159(r), LS-1159F, LS-1159SF, GC-1017	Min. V-1.	UL 94 Edition Number 6	UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
-Alt.	GRAND PACIFIC PETROCHEMICAL CORP	D-1000A	Min. V-0.	UL 94 Edition Number 6	UL
-Alt.	KINGFA SCI & TECH CO LTD	HF-606, HF-626, FRABS-518, JH960 6(M), FRHIPS-960	Min. V-0.	UL 94 Edition Number 6	UL
-Alt.	TEIJIN CHEMICALS PLASTIC COMPOUNDS SHANGHAI LTD	MN-3600H(#), TN-7500(c), TN-7500F(#), TN-7500M(#)	Min. V-0.	UL 94 Edition Number 6	UL
-Alt.	SAMYANG CORPORATION	210NHF(@), 210NHF	Min. V-0.	UL 94 Edition Number 6	UL
-Alt.	CHI MEI CORPORATION	PC-540(Y)(a)	Min. V-0.	UL 94 Edition Number 6	UL
-Alt.	GUO HENG(DONGGUAN) PLASTIC TECHNOLOGY CO LTD	YOUHE26(##)	Min. V-0.	UL 94 Edition Number 6	UL
AC inlet to primary connector wire	LTK ELECTRIC WIRE (HUIZHOU) LTD	1617	PVC Insulated, 600VAC, 105°C, 18AWG, 0.4mm min. VW-1 or FT-1	UL 758 Edition Number 3	UL
PCB	Interchangeable	Interchangeable	V-1 or better Min. 105°C.	UL 796 Edition Number 11	UL
Switching Power Supply board type 715GB096					
Primary connector (CN901)	Pontronics	3962 -Y2-X2 series (Y2=WR, WS, X2=2-14)	7A, 250Vac.	IEC 61984:2008, EN 61984:2009,	TUV
-alt.	Jowle	A3963 series	7A, 250Vac.	IEC 61984:2008, EN 61984:2009, UL 1977 Edition Number 16	TUV, UL
-alt.	J.S.T	VH series	7A, 250Vac.	IEC 61984:2008, EN 61984:2009, UL 1977 Edition Number 16	TUV, UL
-alt.	J.S.T	VT series	Max. 12A, 250Vac.	IEC 61984:2008, EN 61984:2009, UL 1977 Edition Number 16	TUV, UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
-alt.	Xinya	TÜV: M3962 series UL: 3962 series	7A, 250Vac.	IEC 61984:2008, EN 61984:2009, UL 1977 Edition Number 16	TUV NORD, UL
-alt.	Xinya	W7913 series	7A, 250Vac.	IEC 61984:2008, EN 61984:2009, UL 1977 Edition Number 16	TUV NORD, UL
Fuse (F901)	Walter	TSC series	T8A, 250Vac.	IEC/EN 60127-1:2006+A1:2011 +A2:2015, IEC/EN 60127-2:2006+A1:2011 +A2:2015, UL 248-1 Edition Number 3, UL 248-14 Edition Number 2	VDE, UL
-alt.	LITTELFUSE	215 series	T8A, 250Vac.	IEC/EN 60127-1:2006+A1:2011 +A2:2015, IEC/EN 60127-2:2006+A1:2011 +A2:2015, UL 248-1 Edition Number 3, UL 248-14 Edition Number 2	VDE, UL
-alt.	Conquer	UDA, UDA-A+	T8A, 250Vac.	IEC/EN 60127-1:2006+A1:2011 +A2:2015, IEC/EN 60127-2:2006+A1:2011 +A2:2015, UL 248-1 Edition Number 3, UL 248-14 Edition Number 2	VDE, UL
-alt.	Cooper Bussmann	S505-xxx-R, S505-V-xxx-R	T8A, 250Vac.	IEC/EN 60127-1:2006+A1:2011 +A2:2015, IEC/EN 60127-2:2006+A1:2011 +A2:2015, UL 248-1 Edition Number 3, UL 248-14 Edition Number 2	VDE, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Varistor (RV9901, RV9902)	Thinking Electronic Industrial Co., Ltd.	TVR14681	Rated 420Vac, 560Vdc, 40/85/56, 6KV/3KA, pulse test passed V-0 coating.	IEC 61051- 1:2007, IEC 61051- 2:1991/AMD1:20 09, IEC 61051- 2-2:1991, UL 1449 Edition Number 4	VDE, UL
Y-Capacitors (C9902, C9904, C9901, C9905, C9918, C9908) (Y1 type) (Optional)	Walsin	AH	Max.4700pF, min. 250Vac, min. 85°C.	IEC /EN 60384- 14:2013/AMD1:2 016, UL 60384- 14 Edition Number 2	VDE, FI, UL
-alt.	TDK	CD	Max.4700pF, min. 250Vac, min. 85°C.	IEC /EN 60384- 14:2013/AMD1:2 016, UL 60384- 14 Edition Number 2	VDE, FI, UL
-alt.	Murata	KX	Max.4700pF, min. 250Vac, min. 85°C.	IEC /EN 60384- 14:2013/AMD1:2 016, UL 60384- 14 Edition Number 2	VDE, FI, UL
-alt.	JYA-NAY	JN	Max.4700pF, min. 250Vac, min. 85°C.	IEC /EN 60384- 14:2013/AMD1:2 016, UL 60384- 14 Edition Number 2	VDE, UL
-alt.	Kunshan Wansheng	CT7	Max.4700pF, min. 250Vac, min. 85°C.	IEC /EN 60384- 14:2013/AMD1:2 016, UL 60384- 14 Edition Number 2	VDE, UL
-alt.	YINAN DON'S ELECTRONI C COMPONENT CO., LTD.	CT81	Max.4700pF, min. 250Vac, min. 85°C.	IEC /EN 60384- 14:2013/AMD1:2 016, UL 60384- 14 Edition Number 2	VDE, UL
-alt.	SUCCESS	SE	Max. 4700pF, min. 250Vac, min. 85°C.	IEC /EN 60384- 14:2013/AMD1:2 016, UL 60384- 14 Edition Number 2	VDE, UL
-alt.	SUCCESS	SL	Max. 82pF, min. 250Vac, min. 85°C.	IEC /EN 60384- 14:2013/AMD1:2 016, UL 60384- 14 Edition Number 2	VDE, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
-alt.	Interchangeable	Interchangeable	Max. 4700pF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL
Bridge-Capacitors (C9907, C9910, C9917) (Y1 type) (Optional)	Walsin	AH	Max.2200pF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, FI, UL
-alt.	TDK	CD	Max.2200pF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, FI, UL
-alt.	Murata	KX	Max.2200pF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL
-alt.	JYA-NAY	JN	Max.2200pF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL
-alt.	Kunshan Wansheng	CT7	Max.2200pF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL
-alt.	YINAN DON'S ELECTRONI C COMPONENT CO., LTD.	CT81	Max.2200pF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL
-alt.	SUCCESS	SE, SB	Max. 2200pF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL
-alt.	SUCCESS	SL	Max. 82pF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
-alt.	Interchangeable	Interchangeable	Max. 2200pF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL
X-Capacitors (C9911, C9903) (X1 or X2 type) (Optional)	Ultra Tech Xiphi Enterprise Co., Ltd.	HQX	Max. 0.33μF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, FI, UL
-alt.	Hua Jung Components Co., Ltd.	MKP	Max. 0.33μF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	ENEC, FI, UL
-alt.	Europtronic (Taiwan) Industrial Corp.	MPX, MPX2	Max. 0.33μF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, FI, UL
-alt.	Liow Gu Electronics Industry Co., Ltd.	GS-L	Max. 0.33μF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, FI
-alt.	Kemet	R.46	Max. 0.33μF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL
-alt.	TDK	B3292#	Max. 0.33μF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL
-alt.	NANJING TENGGEN RONG GUANG DA ELECTRONIC SALES CO LTD	MKP	Max. 0.33μF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL
-alt.	FARAD	PXK	Max. 0.33μF, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
-alt.	Interchangeable	Interchangeable	Max. 0.33 μ F, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL
X-Capacitors (C9906) (X1 or X2 type) (Optional)	Ultra Tech Xiphi Enterprise Co., Ltd.	HQX	Max. 0.47 μ F, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, FI, UL
-alt.	Hua Jung Components Co., Ltd.	MKP	Max. 0.47 μ F, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	ENEC, FI, UL
-alt.	Euoptronic (Taiwan) Industrial Corp.	MPX, MPX2	Max. 0.47 μ F, min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, FI, UL
-alt.	Liow Gu Electronics Industry Co., Ltd.	GS-L	Max. 0.47 μ F min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, FI
-alt.	Kemet	R.46	Max. 0.47 μ F min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL
-alt.	TDK	B3292#	Max. 0.47 μ F min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL
-alt.	NANJING TENGGEN RONG GUANG DA ELECTRONIC SALES CO LTD	MKP	Max. 0.47 μ F min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL
-alt.	FARAD	PXK	Max. 0.47 μ F min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2 016, UL 60384-14 Edition Number 2	VDE, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
-alt.	Interchangeable	Interchangeable	Max. 0.47μF min. 250Vac, min. 85°C.	IEC /EN 60384-14:2013/AMD1:2016, UL 60384-14 Edition Number 2	VDE,UL
Inductor (L9901, L9902) (optional)	ASET	73G174-272-X	Min. 130°C.	--	--
-alt.	Dadon / Channelon / HA	73G174-272-X	Min. 130°C.	--	--
Inductor (L9801, L9802) (optional)	LFDJ	373G0174378J	Min. 130°C.	--	--
-alt.	Dadon / Channelon / HA	373G0174378H	Min. 130°C.	--	--
-alt.	YUVA	373G0174378N	Min. 130°C.	--	--
Discharge IC (U9901)	POWER INTEGRATIONS	CAP200DG	1000V, 100nF - 6μF, 7.5MΩ - 142kΩ.	IEC 60950-1:2005+A1+A2, IEC 62368-1:2014; EN 62368-1:2014/ A11:2017	CB by Nemko (NO82701/A1) , CB by UL (DK-70248-UL)
Transformer (T9302)	Dadon / Channelon / HA	380GL32P689H	Class 130, material (B).	Applicable parts of IEC 60950-1 and according to IEC 60085	--
-Bobbin	CHANG CHUN	T200NA	V-0, phenolic, 150°C, min. 0.45 mm thick.	UL 94 Edition Number 6	UL
-Insulation Tape	Jingjiang Yahua Pressure Sensitive Co Ltd	CT	130°C.	UL 510 Edition Number 9	UL
-Triple Insulation Wire	KBI COSMOLINK CO LTD	TIW-M series	130°C.	IEC 62368-1:2014, EN 62368-1 (VDE 0868-1):2016-05; EN 62368-1:2014, UL 2353 Edition Number 3	VDE, UL
Transformer (T9302) (alternate)	PHOENIX	380GL32P689P	Class 130, material (B).	Applicable parts of IEC 60950-1 and according to IEC 60085	--

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
-Bobbin	SUMITOMO	PM-9750	V-0, phenolic, 150°C, min. 0.45 mm thick.	UL 94 Edition Number 6	UL
-Insulation Tape	Jingjiang Yahua Pressure Sensitive Co Ltd	CT	130°C.	UL 510 Edition Number 9	UL
-Triple Insulation Wire	SUZHOU YUSHENG ELECTRONIC CO LTD	VDE: TIW-B, UL: TIW-B*	130°C.	IEC 62368- 1:2014, EN 62368-1 (VDE 0868- 1):2016-05; EN 62368- 1:2014, UL 2353 Edition Number 3	VDE, UL
Transformer (T9302) (alternate)	LFDJ	380GL32P689J	Class 130, material (B).	Applicable parts of IEC 60950-1 and according to IEC 60085	--
-Bobbin	CHANG CHUN	T200NA	V-0, phenolic, 150°C, min. 0.45 mm thick.	UL 94 Edition Number 6	UL
-Insulation Tape	Jingjiang Yahua Pressure Sensitive Co Ltd	CT	130°C.	UL 510 Edition Number 9	UL
-Triple Insulation Wire	KBI COSMOLINK CO LTD	TIW-M series	130°C.	IEC 62368- 1:2014, EN 62368-1 (VDE0868- 1) :2016-05; EN 62368- 1:2014, UL 2353 Edition Number 3	VDE, UL
Transformer (T9104)	Dadon / Channelon / HA	380GL32P695H	Class 130, material (B).	Applicable parts of IEC 60950-1 and according to IEC 60085	--
-Bobbin	SUMITOMO	PM-9750	V-0, phenolic, 150°C, min. 0.45 mm thick.	UL 94 Edition Number 6 UL 746C Edition Number 7	UL
-Insulation Tape	Jingjiang Yahua Pressure Sensitive Co Ltd	CT	130°C.	UL 510 Edition Number 9	UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Transformer (T9104) (alternate)	ASET	380GL32P695X	Class 130, material (B)	Applicable parts of IEC 60950-1 and according to IEC 60085	--
-Bobbin	SUMITOMO	PM-9750	V-0, phenolic, 150°C, min. 0.45 mm thick.	UL 94 Edition Number 6 UL 746C Edition Number 7	UL
-Insulation Tape	Jingjiang Yahua Pressure Sensitive Co Ltd	CT	130°C.	UL 510 Edition Number 9	UL
Transformer (T8601)	Dadon / Channelon / HA	380GL32P696H	Class 130, material (B).	Applicable parts of IEC 60950-1 and according to IEC 60085	--
-Bobbin	SUMITOMO	PM-9750	V-0, phenolic, 150°C, min. 0.45 mm thick.	UL 94 Edition Number 6 UL 746C Edition Number 7	UL
-Insulation Tape	JingjiangYahua Pressure Sensitive Co Ltd	CT	130°C.	UL 510 Edition Number 9	UL
Transformer (T8601) (alternate)	LFDJ	380GL32P696J	Class 130, material (B).	Applicable parts of IEC 60950-1 and according to IEC 60085	--
-Bobbin	SUMITOMO	PM-9750	V-0, phenolic, 150°C, min. 0.45 mm thick.	UL 94 Edition Number 6 UL 746C Edition Number 7	UL
-Insulation Tape	JingjiangYahua Pressure Sensitive Co Ltd	CT	130°C.	UL 510 Edition Number 9	UL
Transformer (T8601) (alternate)	PHOENIX	380GL32P696P	Class 130, material (B).	Applicable parts of IEC 60950-1 and according to IEC 60085	--
-Bobbin	SUMITOMO	PM-9750	V-0, phenolic, 150°C, min. 0.45 mm thick.	UL 94 Edition Number 6 UL 746C Edition Number 7	UL
-Insulation Tape	JingjiangYahua Pressure Sensitive Co Ltd	CT	130°C.	UL 510 Edition Number 9	UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Optocoupler (U8604, U8602, U9302, U9304, U9102)	Sharp	PC123	Di more than 0.4mm, int = thermal cycling test, ext. more than 8.0mm, 5000Vac, 100°C.	EN 60747-5-5:2015-11, EN 60747-5-5:2011; A1:2015, IEC/EN 60747-5-5:2007, IEC 60747-5-5:2007/AMD1:2013, UL 1577 Edition Number 5	VDE, UL, Semko, Fimko, Nemko
-alt.	VISHAY INFRARED COMPONENTS INC	TCET1103	Di more than 0.5mm, int. cr more than 6.0mm, ext. cr more than 7.7mm, 3000Vac, 100°C.	EN 60747-5-5:2015-11, EN 60747-5-5:2011; A1:2015, IEC/EN 60747-5-5:2007, IEC 60747-5-5:2007/AMD1:2013, UL 1577 Edition Number 5	VDE, UL, Semko, Fimko, Nemko
-alt.	Everlight Electronics Co., Ltd.	EL817, EL817M	Di more than 0.5mm, int. cr = thermal cycling test, ext. cr more than 7.7mm, 3000Vac, 100°C.	EN 60747-5-5:2015-11, EN 60747-5-5:2011; A1:2015, IEC/EN 60747-5-5:2007, IEC 60747-5-5:2007/AMD1:2013, UL 1577 Edition Number 5	VDE, UL, Semko, Fimko, Nemko
-alt.	TOSHIBA	TLP781F, TLP781	Di more than 0.5mm, int. cr = thermal cycling test, ext. cr more than 8.0mm, 4800Vac, 100°C.	EN 60747-5-5:2015-11, EN 60747-5-5:2011; A1:2015, IEC/EN 60747-5-5:2007, IEC 60747-5-5:2007/AMD1:2013, UL 1577 Edition Number 5	VDE, UL, Semko, Fimko
-alt.	TOSHIBA	TLP421F	Di more than 0.4mm, int. cr = thermal cycling test, ext. cr more than 8.0mm, 5000Vac, 100°C.	EN 60747-5-5:2015-11, EN 60747-5-5:2011; A1:2015, IEC/EN 60747-5-5:2007, IEC 60747-5-5:2007/AMD1:2013, UL 1577 Edition Number 5	VDE, UL, Semko, Fimko

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
-alt.	RENESAS ELECTRONICS CORPORATION	PS2561-1, PS2561L-1, PS2561L1-1, PS2561L2-1, PS2561DL1-1	Di more than 0.4mm, int.cr = thermal cycling test, ext. cr more than 8.0mm, 5000Vac, 100°C.	EN 60747-5- 5:2015-11, EN 60747-5-5:2011; A1:2015, IEC/EN 60747-5- 5:2007, IEC 60747-5- 5:2007/AMD1:20 13, UL 1577 Edition Number 5	VDE, UL, Nemko, Fimko
-alt.	Everlight Electronics Co., Ltd.	EL1013	Di more than 0.4mm, int.cr = thermal cycling test, ext. cr more than 8.1mm, 3000Vac, 100°C.	EN 60747-5- 5:2015-11, EN 60747-5-5:2011; A1:2015, IEC/EN 60747-5- 5:2007, IEC 60747-5- 5:2007/AMD1:20 13, UL 1577 Edition Number 5	VDE, UL, Semko, Fimko, Nemko
-alt.	Lite-On	LTV-817	Di more than 0.6mm, int.cr = thermal cycling test, ext. cr more than 8.0mm, 4800Vac, 100°C.	EN 60747-5- 5:2015-11, EN 60747-5-5:2011; A1:2015, IEC/EN 60747-5- 5:2007, IEC 60747-5- 5:2007/AMD1:20 13, UL 1577 Edition Number 5	VDE, UL, Semko, Fimko, Nemko
Gas tube (SG9901)	Mitsubishi	DA38-362MBy (y=0 to 9 or A to X), DA38-452MTy (y=0 to 9 or A to X)	250Vac, basic Insulation.	IEC/EN 60950- 1:2006 cl.1.5, 2.9, 2.10, 5.2 and Annex G, UL 1449 Edition Number 4	TUV, UL
-alt.	MITSUBISHI MATERIALS CORP	FA55-302, FA55-362, FA55-402	250Vac, basic insulation.	IEC/EN 60950- 1:2006 cl.1.5, 2.9, 2.10, 5.2 and Annex G, UL 1449 Edition Number 4	TUV, UL
-alt.	SIN NAGATA ELECTRONICS CO LTD	LSE-4500LX2P	250Vac, basic insulation.	UL 1449 Edition Number 4	UL
-alt.	SIN NAGATA ELECTRONICS CO LTD	LSE-402M	220Vac, basic insulation.	UL 1449 Edition Number 4	UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Relay (SW9901)	HONGFA	HF162F	VDE: 8A/250Vac; UL: 8A/277Vac, 10A/125Vac	EN/IEC 61810- 1:2015, UL 508 Edition Number 18	VDE, UL
Bleeder Resistors (R9901, R9902, R9903, R9904)	Interchangeable	Interchangeable	390K Ω , min. 1/4W. (located after fuse. SMD type)	--	--
Thermistors (TH9901)	Interchangeable	Interchangeable	Min. 10ohm, min. 5A at 25°C.	--	--
Transistors (Q9801, Q9802, Q9101, Q9102, Q8602, Q8603, Q9309)	Interchangeable	Interchangeable	Min. 600V, 6.5- 30A.	--	--
Bridge Diodes (BD9901, BD9902)	Interchangeable	Interchangeable	Min. 10A, min. 800V.	--	--
Ripple Capacitors (C9814, C9815)	Interchangeable	Interchangeable	150 μ F, min. 450V, 105 °C.	--	--
SDM card (optional)					
Power Distribution Switch (U6) for JUSB1	Excelliance MOS Corporation	EM5203AJ-20, EM5203AN-20, EM5203J-20, EM5203N-20	2.5 to 5.5 Vdc, maximum Continuous Current 2.0 A, Protective Current 4.0 A	UL2367, Ed.1; IEC/EN 60950- 1:2005 + A1:2009 + A2:2013	UL, CB (issued by US- 26371-UL)
RTC	Maxell Ltd.	CR1632	3V dc, maximum abnormal charging current 4 mA.	UL 1642 Edition Number 5	UL
-alt.	Interchangeable	CR1632	3V dc, maximum abnormal charging current 4 mA.	UL 1642 Edition Number 5	UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
DC fan	Sunonwealth Electric Machine Industry Co., Ltd	MF40060V1-1Z (Z stands for 30 characters. Each character stands for one of the following signs: 0-9, A-Z, (,), ., /, - order (or) freibleibend (blank))	5V dc, max. 0.65W, 6.3 CFM, mass(m) =0.003kg, radius(r) =18.4mm, rotational speed (N) = 7000rpm, K factor =29.861	UL507, Ed. 10; IEC/EN 60950-1:2005 + 1:2009 + A2:2013; UL 60950-1; IEC 62368-1:2014	UL, CB (issued by TUV Rh R 50275749)
-alt.	Interchangeable	Interchangeable	5V dc, max. 0.65W, 6.3 CFM, K factor =29.861	UL507, Ed. 10; IEC/EN 60950-1:2005 + 1:2009 + A2:2013; UL 60950-1; IEC 62368-1:2014	UL
Power cord set listed below by client's request					
Mains cord set (Saudi Arabia) (Optional)					
Plug	I-Sheng	SP-62	3A/5A/10A/13A, 250V~	BS 1363 SASO 2203:2018	CVC
-alt.	I-Sheng	SP-65	3A/5A/10A, 250V~	BS 1363 SASO 2203:2018	CVC
Cable	I-Sheng	H05VV-F	3 x 0.75mm ² 3 x 1.0mm ² 3 x 1.5mm ²	BS 1363 SASO 2203:2018	CVC
-alt.	I-Sheng	H05RR-F	3 x 0.75mm ²	BS 1363 SASO 2203:2018	CVC
-alt.	I-Sheng	H03VV-F	3 x 0.75mm ²	BS 1363 SASO 2203:2018	CVC
Supplementary information: 1. Provided evidence ensures the agreed level of compliance. See OD-CB2039. 2. In Optocoupler technical data column, where "Di" means distance through insulation. 3. Interchangeable components are components that may be substituted by equivalent technical data and like approved/certified components which will not impact the safety and function of the particular end product. 4. License available upon request.					

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

1.5.1	TABLE: Opto Electronic Devices	P
Manufacturer : See appended tables 1.5.1		
Type..... : See appended tables 1.5.1		
Separately tested : See appended tables 1.5.1		
Bridging insulation : Reinforced		
External creepage distance..... : See appended tables 1.5.1		
Internal creepage distance : See appended tables 1.5.1		
Distance through insulation : See appended tables 1.5.1		
Tested under the following conditions..... : --		
Input..... : --		
Output..... : --		
supplementary information		

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
HDMI mode (without SDM card and compute module) (with external speaker)						
90V/50Hz	2.17	--	192	F901	2.17	Maximum normal load
90V/50Hz	2.17	--	192	F901	2.17	Maximum normal load
100V/50Hz	1.92	2.8 or 2.5	191	F901	1.92	Maximum normal load
100V/60Hz	1.92	2.8 or 2.5	191	F901	1.92	Maximum normal load
240V/50Hz	0.87	1.1 or 1.0	191	F901	0.87	Maximum normal load
240V/60Hz	0.87	1.1 or 1.0	191	F901	0.87	Maximum normal load
264V/50Hz	0.77	--	187	F901	0.77	Maximum normal load
264V/60Hz	0.77	--	187	F901	0.77	Maximum normal load
Display mode (without SDM card and compute module) (with external speaker)						
90V/50Hz	2.12	--	190	F901	2.12	Maximum normal load
90V/50Hz	2.12	--	190	F901	2.12	Maximum normal load
100V/50Hz	1.90	2.8 or 2.5	189	F901	1.90	Maximum normal load
100V/60Hz	1.90	2.8 or 2.5	189	F901	1.90	Maximum normal load
240V/50Hz	0.84	1.1 or 1.0	188	F901	0.84	Maximum normal load
240V/60Hz	0.84	1.1 or 1.0	188	F901	0.84	Maximum normal load

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Clause	Requirement + Test				Result - Remark	Verdict
264V/50Hz	0.77	--	187	F901	0.77	Maximum normal load
264V/60Hz	0.77	--	187	F901	0.77	Maximum normal load
SDM mode (with compute module) (with external speaker)						
90V/50Hz	1.89	--	168	F901	1.89	Maximum normal load
90V/50Hz	1.89	--	168	F901	1.89	Maximum normal load
100V/50Hz	1.62	2.8 or 2.5	161	F901	1.62	Maximum normal load
100V/60Hz	1.62	2.8 or 2.5	161	F901	1.62	Maximum normal load
240V/50Hz	0.67	1.1 or 1.0	156	F901	0.67	Maximum normal load
240V/60Hz	0.67	1.1 or 1.0	156	F901	0.67	Maximum normal load
264V/50Hz	0.63	--	155	F901	0.63	Maximum normal load
264V/60Hz	0.63	--	155	F901	0.63	Maximum normal load
Compute module (with SDM card) (with external speaker)						
90V/50Hz	1.98	--	178	F901	1.98	Maximum normal load
90V/50Hz	1.98	--	178	F901	1.98	Maximum normal load
100V/50Hz	1.78	2.8 or 2.5	177	F901	1.78	Maximum normal load
100V/60Hz	1.78	2.8 or 2.5	177	F901	1.78	Maximum normal load
240V/50Hz	0.78	1.1 or 1.0	173	F901	0.78	Maximum normal load
240V/60Hz	0.78	1.1 or 1.0	173	F901	0.78	Maximum normal load
264V/50Hz	0.72	--	172	F901	0.72	Maximum normal load
264V/60Hz	0.72	--	172	F901	0.72	Maximum normal load
Note(s):						
1. The measured input current at rated voltage shall be $\leq 110\%$ of rated current.						
2. See summary of testing in the test report for the detail max. normal condition.						

2.1.1.5 c) 1)	TABLE: max. V, A, VA test				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
+24V ^{1.}	--	24.4	17.0	353.6	
+VLED	--	79.8	0.5	38.8	
+12V ^{1.}	--	12.2	27.5	261.9	
+5V	--	5.21	11.0	47.3	
supplementary information:					
Supply voltage: 240Vac, 60Hz.					
1. User is not accessible.					

2.1.1.5 c)	TABLE: stored energy	P
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Clause	Requirement + Test	Result - Remark	Verdict

2)			
Capacitance C (F)	Voltage U (V)	Energy E (J)	
Test for Super Capacitor			
0.47	5.5	7.11	
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.		
T9104 pin 11 to earth	31.2	--	--	
T9104 pin 7, 8 to earth	17.0	--	--	
T9104 pin 9, 10 to earth	18.2	--	--	
T9104 pin 12 to earth	33.3	--	--	
T9302 pin 9, 10 to earth	32.4	--	--	
T8601 pin 7 to earth	131.2	--	--	
T8601 pin 9 to earth	131.2	--	--	
After D8605, D8608 to earth ^{1.}	--	77.9	--	
LED circuit of main board ^{1.}				
CN8606 pin 1, 2, 3, 4, 5, 6, 7, 8 to earth	--	77.4	--	
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)			
VLED to earth	0Vdc			
VLED to secondary (I/O port)	0Vdc			
supplementary information:				
Input Voltage is 240Vac, 60Hz.				
1. The output of LED circuit are considered to be hazardous (not user accessible).				

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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	Test condition (Single fault)	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
For main board						
According to table Q.1, USB 2.0 (CN406)						
Pin 1 to earth	Normal	5.1	2.3	8	6.44	100
Pin 1 to earth	U420 pin 1-6 SC	5.1	7.5	8	12.5	100
Other pins to earth	Normal	0	--	8	--	100
According to table Q.1, for USB type B (CN704)						
All pins to earth	Normal	0	--	8	--	100
According to table Q.1, for USB 2.0 (CN706)						
Pin 1 to earth	Normal	5.1	1.5	8	6.6	100
Pin 1 to earth	U717 pin 1-5 SC	5.1	7.5	8	11.25	100
Other pins to earth	Normal	0	--	8	--	100
According to table Q.1, for HDMI (CN501)						
Pin 1, 2, 3, 6, 7, 9, 10, 12 to earth	Normal	3.3	Can't loading	8	Can't loading	100
Pin 13 to earth	Normal	2.0	Can't loading	8	Can't loading	100
Pin 15, 16 to earth	Normal	4.1	Can't loading	8	Can't loading	100
Other pins to earth	Normal	0	--	8	--	100
According to table Q.1, for HDMI (CN502)						
Pin 1, 2, 3, 6, 7, 9, 10, 12 to earth	Normal	3.3	Can't loading	8	Can't loading	100
Pin 13 to earth	Normal	2.0	Can't loading	8	Can't loading	100
Pin 15, 16 to earth	Normal	4.1	Can't loading	8	Can't loading	100
Other pins to earth	Normal	0	--	8	--	100

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Clause	Requirement + Test			Result - Remark		Verdict
According to table Q.1, for HDMI (CN503)						
Pin 1, 2, 3, 6, 7, 9, 10, 12 to earth	Normal	3.3	Can't loading	8	Can't loading	100
Pin 13 to earth	Normal	2.0	Can't loading	8	Can't loading	100
Pin 15, 16 to earth	Normal	4.1	Can't loading	8	Can't loading	100
Other pins to earth	Normal	0	--	8	--	100
According to table Q.1, for Display (CN505)						
Pin 16, 17 to earth	Normal	2.20	Can't loading	8	Can't loading	100
Pin 18 to earth	Normal	3.30	Can't loading	8	Can't loading	100
Pin 20 to earth	Normal	3.33	1.0	8	3.3	100
Pin 20 to earth	U527 pin 1-5 SC	3.33	3.0	8	4.6	100
Other pins to earth	Normal	0	--	8	--	100
According to table Q.1, for Display (CN506)						
Pin 16, 17 to earth	Normal	2.20	Can't loading	8	Can't loading	100
Pin 18 to earth	Normal	3.30	Can't loading	8	Can't loading	100
Pin 20 to earth	Normal	3.33	1.0	8	3.3	100
Pin 20 to earth	U530 pin 1-5 SC	3.33	3.0	8	4.4	100
Other pins to earth	Normal	0	--	8	--	100
According to table Q.1, for Display (CN507)						
Pin 16, 17 to earth	Normal	2.20	Can't loading	8	Can't loading	100
Pin 18 to earth	Normal	3.30	Can't loading	8	Can't loading	100
Pin 20 to earth	Normal	3.33	1.0	8	3.3	100
Pin 20 to earth	U532 pin 1-5 SC	3.33	3.0	8	4.5	100
Other pins to earth	Normal	0	--	8	--	100
According to table 2B, for LAN (CN707)						
All pins to earth	Normal	0	--	8	--	100

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Clause	Requirement + Test			Result - Remark		Verdict
According to table Q.1, for LAN (CN708)						
All pins to earth	Normal	0	--	8	--	100
According to table Q.1, for Remote in (CN407)						
Pin 4 to earth	Normal	3.3	1.5	8	3.15	100
Pin 4 to earth	U701 pin 3-4 SC	0	--	8	--	100
Other pins to earth	Normal	0	--	8	--	100
According to table Q.1, for Audio out (CN602)						
All pins to earth	Normal	0	--	8	--	100
According to table Q.1, for Speaker terminal (CN601)						
Pin 1 to 2	Normal	8.01	2.6	8	7.21	100
Pin 1 to 2	U601 pin 41 – 42, 38 SC	0	--	8	--	100
Pin 1 to 2	U601 pin 39 – 42, 38 SC	0	--	8	--	100
Pin 3 to 4	Normal	8.01	2.6	8	7.20	100
Pin 3 to 4	U601 pin 46 - 47, 43 SC	0	--	8	--	100
Pin 3 to 4	U601 pin 44 - 47, 43 SC	0	--	8	--	100
According to table Q.1, for Raspberry Pi (CN508)						
Pin 1, 2, 3, 50, 51 to earth	Normal	12.1	4.2	8	42.0	100
Pin 1, 2, 3, 50, 51 to earth	U534 pin 1 to 6 SC	12.1	6.8	8	76.9	100
Pin 8, 9, 29, 30, 32, 33, 35, 36, 45, 46 to earth	Normal	3.3	Can't loading	8	Can't loading	100
Other pins to earth	Normal	0	--	8	--	100
According to table Q.1, for SDM (CN509)						
Pin 1, 2, 3, 50, 51 to earth	Normal	12.1	6.8	8	74.8	100
Pin 1, 2, 3, 50, 51 to earth	U546 pin 1, 2, 3, 25, 16 to 17, 18, 19, 20, 21, 22, 23, 24 SC	12.1	6.8	8	76.9	100

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Clause	Requirement + Test			Result - Remark		Verdict
Pin 1, 2, 3, 50, 51 to earth	U547 pin 1, 2, 3, 25, 16 to 17, 18, 19, 20, 21, 22, 23, 24 SC	12.1	6.8	8	76.9	100
Other pins to earth	Normal	0	--	8	--	100
According to table Q.1, for IR board(CN404)						
Pin 1 to earth	Normal	3.3	3.6	8	7.92	100
Pin 1 to earth	U701 pin 3-4 SC	0	--	8	--	100
Pin 4 to earth	Normal	3.2	Can't loading	8	Can't loading	100
Pin 7, 9 to earth	Normal	2.6	Can't loading	8	Can't loading	100
Other pins to earth	Normal	0	--	8	--	100
According to table Q.1, for Key control (CN403)						
Pin 1, 3 to earth	Normal	3.3	Can't loading	8	Can't loading	100
Other pins to earth	Normal	0	--	8	--	100
SDM card						
According to table 2B, for USB 3.0 (JUSB1)						
Pin 1 to earth	Normal	5.04	2.7	8	11.6	100
Pin 10 to earth	Normal	5.04	2.7	8	11.6	100
Other pins to earth	Normal	0	--	8	--	100
According to table 2B, for RJ45 (JLAN)						
All pins to earth	Normal	0	--	8	--	100
For compute module						
According to table 2B, for USB 2.0 (CN1008)						
Pin 1 to earth	Normal	5.1	0.5	8	2.55	100
Pin 1 to earth	U1015 pin 1-5 SC	5.1	3.4	8	17.34	100
Pin 1 to earth	U1009 pin 5-6 SC	0	0	8	0	100
Other pins to earth	Normal	0	--	8	--	100
According to table 2B, for USB 2.0 (CN1009)						
Pin 1 to earth	Normal	5.1	0.5	8	2.55	100

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Clause	Requirement + Test			Result - Remark		Verdict
Pin 1 to earth	U1016 pin 1-5 SC	5.1	3.4	8	17.21	100
Pin 1 to earth	U1009 pin 5-6 SC	0	0	8	0	100
Other pins to earth	Normal	0	--	8	--	100
According to table 2B, for Micro USB (CN1002)						
All pins to earth	Normal	0	--	8	--	100
supplementary information:						
1. Tested on 240Vac, 60Hz.						
2. SC: short circuit.						

2.10.2	Table: working voltage measurement			P
Location		RMS voltage (V)	Peak voltage (V)	Comments
Tested on 240Vac, 60Hz				
T8601 pin 1, 2 to 7		165	328	
T8601 pin 1, 2 to 9		183	380	
T8601 pin 1, 2 to 11, 12		153	264	
T8601 pin 5, 6 to 7		175	348	
T8601 pin 5, 6 to 9		187	364	
T8601 pin 5, 6 to 11, 12		247	420	
T9104 pin 1 to 5, 6		155	260	
T9104 pin 1 to 7, 8		158	280	
T9104 pin 1 to 9, 10		153	260	
T9104 pin 1 to 11		164	300	
T9104 pin 1 to 12		158	284	
T9104 pin 4 to 5, 6		227	412	
T9104 pin 4 to 7, 8		236	420	
T9104 pin 4 to 9, 10		256	450	
T9104 pin 4 to 11		226	412	
T9104 pin 4 to 12		202	408	
T9302 pin 1 to 6, 7		313	416	
T9302 pin 1 to 9, 10		314	444	
T9302 pin 3 to 6, 7		324	530	Highest Vpeak of T9302

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Clause	Requirement + Test		Verdict
T9302 pin 3 to 9, 10	322	520	
T9302 pin 4 to 6, 7	176	432	
T9302 pin 4 to 9, 10	182	448	
T9302 pin 5 to 6, 7	174	352	
T9302 pin 5 to 9, 10	174	360	
U8604 pin 1 to 3	191	372	
U8604 pin 1 to 4	182	382	
U8604 pin 2 to 3	188	388	
U8604 pin 2 to 4	190	380	
U8602 pin 1 to 3	184	366	
U8602 pin 1 to 4	182	360	
U8602 pin 2 to 3	186	368	
U8602 pin 2 to 4	180	372	
U9102 pin 1 to 3	187	368	
U9102 pin 1 to 4	186	364	
U9102 pin 2 to 3	180	360	
U9102 pin 2 to 4	182	358	
U9304 pin 1 to 3	182	368	
U9304 pin 1 to 4	174	366	
U9304 pin 2 to 3	180	358	
U9304 pin 2 to 4	174	366	
U9302 pin 1 to 3	177	352	
U9302 pin 1 to 4	178	358	
U9302 pin 2 to 3	182	366	
U9302 pin 2 to 4	174	360	
C9907 primary pin to secondary pin	174	348	
C9910 primary pin to secondary pin	175	352	
Tested on 100Vac, 60Hz			
T8601 pin 1, 2 to 7	171	332	
T8601 pin 1, 2 to 9	185	384	
T8601 pin 1, 2 to 11, 12	167	268	

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Clause	Requirement + Test		Verdict
T8601 pin 5, 6 to 7	307	500	Highest Vpeak / Vrms of T8601
T8601 pin 5, 6 to 9	191	336	
T8601 pin 5, 6 to 11,1 2	246	416	
T9104 pin 1 to 5, 6	167	268	
T9104 pin 1 to 7, 8	167	278	
T9104 pin 1 to 9, 10	163	260	
T9104 pin 1 to 11	170	290	
T9104 pin 1 to 12	163	272	
T9104 pin 4 to 5, 6	250	428	
T9104 pin 4 to 7, 8	242	420	
T9104 pin 4 to 9, 10	262	444	
T9104 pin 4 to 11	233	408	
T9104 pin 4 to 12	272	460	Highest Vpeak / Vrms of T9104
T9302 pin 1 to 6, 7	353	416	
T9302 pin 1 to 9, 10	350	444	
T9302 pin 3 to 6, 7	368	528	Highest Vrms of T9302
T9302 pin 3 to 9, 10	367	520	
T9302 pin 4 to 6, 7	76	234	
T9302 pin 4 to 9, 10	75	202	
T9302 pin 5 to 6, 7	74	156	
T9302 pin 5 to 9, 10	78	168	
U8604 pin 1 to 3	89	174	
U8604 pin 1 to 4	84	170	
U8604 pin 2 to 3	84	170	
U8604 pin 2 to 4	80	172	
U8602 pin 1 to 3	74	155	
U8602 pin 1 to 4	80	160	
U8602 pin 2 to 3	80	162	
U8602 pin 2 to 4	80	158	
U9102 pin 1 to 3	82	168	
U9102 pin 1 to 4	80	166	
U9102 pin 2 to 3	80	168	
U9102 pin 2 to 4	78	160	

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Clause	Requirement + Test	Result - Remark	Verdict
U9304 pin 1 to 3	61	134	
U9304 pin 1 to 4	70	138	
U9304 pin 2 to 3	63	130	
U9304 pin 2 to 4	63	132	
U9302 pin 1 to 3	63	142	
U9302 pin 1 to 4	60	136	
U9302 pin 2 to 3	62	136	
U9302 pin 2 to 4	63	134	
C9907 primary pin to secondary pin	69	148	
C9910 primary pin to secondary pin	73	158	
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 trace to Neutral trace before fuse	420	250	2.3 (1.5 * 1.48)	5.4	2.5	5.4	
Traces under fuse (F901)	420	250	2.3 (1.5 * 1.48)	7.3	2.5	7.3	
Basic/supplementary:							
Primary to earthed trace	420	250	3.0 (2.0 * 1.48)	See below	3.0	See below	
Under SG9901				7.8		7.8	
Under C9902, C9904, C9901, C9905				7.4		7.4	
Under C9908				7.3		7.3	
Under C9918				7.3		7.3	
T8601 core to U8602 primary pin	500	307	3.3 (2.2 * 1.48)	7.4	3.3	7.4	
Primary to earthed components or metal chassis	420	250	3.0 (2.0 * 1.48)	See below	3.0	See below	
T9104 primary pin to panel chassis(trace side)	460	272	3.2 (2.1 * 1.48)	7.5	3.2	7.5	

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Clause	Requirement + Test			Result - Remark		Verdict
T9302 primary pin to panel chassis (trace side)	530	368	3.3 (2.2 * 1.48)	7.5	3.7	7.5
T8601 primary pin to panel chassis (trace side)	500	307	3.3 (2.2 * 1.48)	7.5	3.3	7.5
Reinforced:						
Primary traces to secondary traces	420	250	6.0 (4.0 * 1.48)	See below	6.0	See below
Under C9907				7.5		7.5
Under C9917				7.4		7.4
Under C9910				7.5		7.5
Under U9302, U9304				7.9		7.9
Under U9102				7.9		7.9
Under U8602, U8604				7.9		7.9
Primary conductor of power switch to user accessible area (evaluated for all source of power switch)				More than 10		More than 10
Under T9302	530	368	6.6 (4.4 * 1.48)	11.6	7.4	11.6
Under T9104	460	272	6.3 (4.2 * 1.48)	20.5	6.3	20.5
Under T8601	500	307	6.6 (4.4 * 1.48)	11.6	6.6	11.6
Supplementary information:						
1. Functional insulation shorted, see 5.3.4 c). 2. The required clearances multiplied by 1.48 considering that EUT operates up to 5000m. 3. For clearance and creepage did not describe above are far larger than limit above. 4. The measurement were conducted on both component side and trace layout side, only smaller value being recorded above. 5. One mylar sheet used between power board component side and metal enclosure.						

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	420	250	3000	0.4	^{1.}
T9104 bobbin	460	272	3000	0.4	0.45
T8601 bobbin	500	307	3000	0.4	0.45
Mylar sheet	545	363	3000 ^{2.}	--	0.4
AC inlet to primary connector wire	420	250	3000	0.4	^{1.}

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

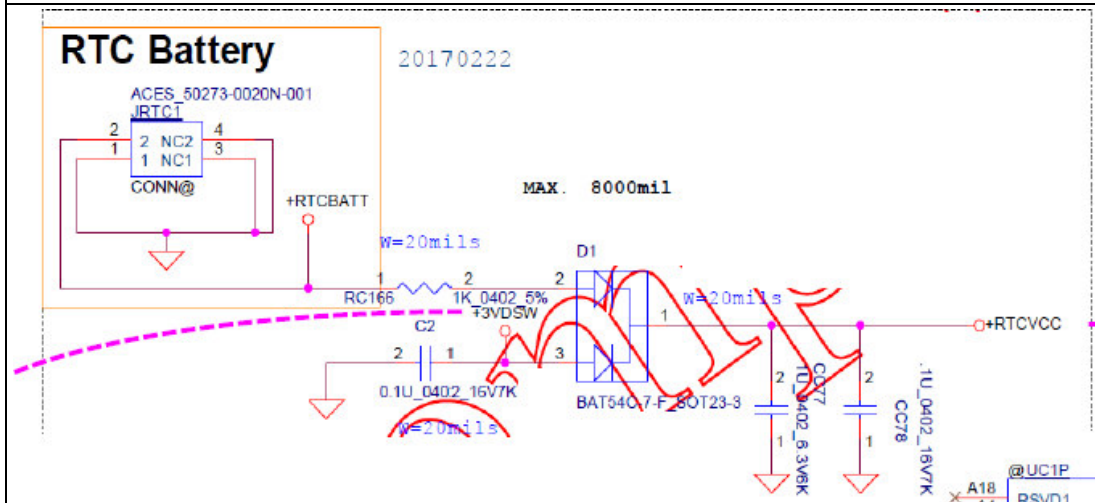
1. See appended table 1.5.1 for the source details.
2. Worst case to test.
3. Test for all source, see table 1.5.1 for details.

4.3.8	TABLE: Batteries								P
The tests of 4.3.8 are applicable only when appropriate battery data is not available					Yes			P	
Is it possible to install the battery in a reverse polarity position?					No			N/A	
	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.
Max. current during normal condition	--	--	0.01 mA	--	--	--	--	--	--
Max. current during fault condition (D1 pin 1-2 short)	--	--	3.3 mA	--	--	--	--	--	--
Max. current during fault condition (RC166 short)	--	--	0.01 mA	--	--	--	--	--	--

Test results:			Verdict
- Chemical leaks			No chemical leaks affecting required insulation.
- Explosion of the battery			No explosion.
- Emission of flame or expulsion of molten metal			No emission of flame or expulsion of molten metal.
- Electric strength tests of equipment after completion of tests			No insulation breakdown
Supplementary information:			

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Clause	Requirement + Test	Result - Remark	Verdict

4.3.8	TABLE: Batteries		P
Battery category : Lithium (RTC battery) Manufacturer : See appended table 1.5.1. Type / model..... : See appended table 1.5.1. Voltage : See appended table 1.5.1. Capacity..... : See appended table 1.5.1. Tested and Certified by (incl. Ref. No.)..... : See appended table 1.5.1. Circuit protection diagram: See below			



MARKINGS AND INSTRUCTIONS (1.7.13)

Location of replaceable battery	Can not replaceable battery
Language(s)	English.
Close to the battery	Yes.
In the servicing instructions	No.
In the operating instructions	Yes.

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Clause	Requirement + Test			Result - Remark	Verdict
4.5	TABLE: Thermal requirements				P
	Supply voltage (V)	See below	See below	See below	—
	Ambient T_{min} (°C)	--	--	--	—
	Ambient T_{max} (°C)	--	--	--	—
Maximum measured temperature T of part/at.....:		T (°C)			Allowed T_{max} (°C)
Test condition (Under HDMI mode)		90V/60Hz Horizontal (without SDM card and compute module)	90V/60Hz Vertical (The main board downside) (without SDM card and compute module)	264V/60Hz Horizontal (without SDM card and compute module)	--
AC inlet near L pin		50.1	55.1	50.2	60
CN901 near L pin		54.6	59.5	53.5	60
RV9901 body		54.5	59.3	53.0	85
C9917 body		55.5	61.4	53.0	85
C9903 body		54.1	58.8	52.7	85
PCB near TH9901		60.5	66.2	56.2	105
L9901 coil		65.4	69.8	55.0	130
PCB near HS1 & HS2		69.2	74.7	58.2	105
L9902 coil		70.0	71.8	56.7	130
C9906 body		60.2	64.0	55.3	85
L9802 coil		77.6	79.8	68.6	130
L9801 coil		77.9	76.8	69.0	130
PCB near HS3 & HS4		69.2	72.1	71.4	105
C9918 body		61.8	65.4	57.3	85
PCB near Q8602 & Q8603		66.2	68.1	66.0	105
C9814 body		63.8	62.3	61.7	105
C9908 body		61.2	59.1	59.9	85
PCB near Q9101 & Q9102		67.8	68.8	66.8	105
PCB near Q9309		65.2	69.7	65.2	105
C9907 body		56.8	64.1	57.3	85
U9302 body		64.2	69.9	64.4	100
T9302 coil		64.0	66.2	64.1	110

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Clause	Requirement + Test		Result - Remark	Verdict
T9302 core	63.5	65.8	63.6	110
T9104 coil	67.3	68.0	67.8	110
T9104 core	64.6	66.2	66.3	110
C9910 body	59.6	47.4	60.5	85
U9102 body	64.1	66.6	64.5	100
T8601 coil	84.7	84.1	85.9	110
T8601 core	79.3	79.3	80.3	110
U8602 body	69.6	67.3	70.0	100
PCB near D8605 & D8608	77.5	72.5	78.1	105
PCB near D9107	69.0	68.1	68.5	105
PCB near D9315	62.5	64.8	62.8	105
PCB near HS401 (main board)	65.0	61.6	60.3	105
C4282 body (main board)	60.8	57.4	61.7	85
Mylar near T8601	54.5	55.6	55.4	80
PCB near U8601 (main board)	63.6	59.0	64.8	105
Metal enclosure near T8601	51.0	50.3	51.6	70
Power Switch body	48.0	53.8	48.0	85
Button body	44.7	46.1	44.3	85
Panel body	48.0	46.4	49.5	95
Ambient (actual temp.)	40.0 (22.8)	40.0 (22.3)	40.0 (21.8)	--
SW9901 coil	70.2	71.8	72.4	105
Ambient (actual temp.)	40.0 (24.0)	40.0 (23.1)	40.0 (23.4)	--
Test condition (Under compute module)	264V/60Hz Horizontal (with SDM card and compute module)	264V/60Hz Vertical (with SDM card and compute module)	--	--
AC inlet near L pin	48.7	52.1	--	60
CN901 near L pin	50.9	55.0	--	60
RV9901 body	50.3	54.2	--	85
C9917 body	50.2	53.6	--	85
C9903 body	49.8	54.0	--	85
PCB near TH9901	52.6	58.6	--	105
L9901 coil	50.5	55.3	--	130
PCB near HS1 & HS2	53.3	56.7	--	105
L9902 coil	52.0	56.6	--	130

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Clause	Requirement + Test		Result - Remark	Verdict
C9906 body	51.8	58.1	--	85
L9802 coil	64.7	66.2	--	130
L9801 coil	64.8	65.6	--	130
PCB near HS3 & HS4	70.0	70.7	--	105
C9918 body	53.7	56.6	--	85
PCB near Q8602 & Q8603	61.8	62.9	--	105
C9814 body	57.4	57.3	--	105
C9908 body	41.2	56.0	--	85
PCB near Q9101 & Q9102	60.4	60.5	--	105
PCB near Q9309	62.7	66.5	--	105
C9907 body	56.1	60.6	--	85
U9302 body	62.6	66.9	--	100
T9302 coil	61.4	63.0	--	110
T9302 core	61.0	62.7	--	110
T9104 core	58.1	57.8	--	110
T9104 coil	58.5	58.7	--	110
C9910 body	56.7	55.6	--	85
U9102 body	58.7	59.0	--	100
T8601 coil	80.3	80.0	--	110
T8601 core	75.9	75.9	--	110
U8602 body	65.0	65.2	--	100
PCB near D8605 & D8608	71.6	69.3	--	105
PCB near D9107	60.5	60.5	--	105
PCB near D9315	60.7	61.9	--	105
PCB near HS401 (main board)	60.8	59.7	--	105
C4282 body (main board)	57.6	54.6	--	85
Mylar near T8601	56.7	55.9	--	80
PCB near U8601 (main board)	60.5	55.9	--	105
Metal enclosure near T8601	49.4	48.7	--	70
Power Switch body	47.1	51.0	--	85
Button body	44.8	46.6	--	85
Panel body	48.7	46.0	--	95
PCB near UC1 (SMD board)	67.7	64.1	--	105/95*
RTC battery body (SMD board)	61.8	56.3	--	100/70*
PCB near U6 (SMD board)	62.2	57.0	--	105/95*
Heatsink body (SMD board)	68.0	64.6	--	--/70*

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Clause	Requirement + Test			Result - Remark			Verdict
Metal cover near USB3.0 (JUSB1) (SMD board)	54.9	50.0	--	70			
U1 body (Computer module)	67.3	63.3	--	--			
PCB near U1 (Computer module)	64.5	60.5	--	105			
PCB near U1004 (Computer module)	64.6	60.0	--	105			
PCB near U1016 (Computer module)	60.5	55.8	--	105			
C1078 body (Computer module)	56.7	53.0	--	85			
L1003 coil (Computer module)	62.5	57.5	--	105			
Metal enclosure near U1 (Computer module)	47.1	44.9	--	70			
Metal enclosure near USB port (Computer module)	50.3	46.7	--	70			
Ambient (actual temp.)	40.0 (22.6)	40.0 (23.0)	--	--			
SW9901 coil	63.0	67.1	--	105			
Ambient (actual temp.)	40.0 (23.7)	40.0 (23.6)	--	--			
Supplementary information:							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:							
1. The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.2 at voltages as described in above.							
2. The instruction installation manual defines the T _{ma} at of 40°C.							
<u>Winding components (providing safety isolation):</u>							
- Class 130 material (B) T _{max} = 120°C – 10°C = 110°C							
3. All values for T (°C) are re-calculated from actual ambient.							
4. Put in a wooden box to testing.							
5. During the heating tests, all openings are blocked system fans locked and SDM card fan locked.							
6. *: The limit of accessible port.							

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 ² :				
Plastic material, Kingfa : HIPS-5197, 2.5mm		90	1.59	
Plastic material, Kingfa : GAR-011(L85), 2.5mm		85	1.31	
Plastic material, Kingfa : GAR-011(L65), 2.5mm		85	1.29	
Plastic material, Kingfa : HIPS-510(H), 2.5mm		80	1.29	

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Clause	Requirement + Test	Result - Remark	Verdict
	Plastic material, Kingfa : FRHIPS-960, 2.5mm	85	1.88
	Plastic material, Cheil : GC-0750(+), 2.5mm	80	1.61
	Plastic material, Cheil : GC-0700(+), 2.5mm	80	1.94
	Plastic material, Cheil : HG-0760(+), 2.5mm	85	1.73
	Plastic material, Cheil : LX-0951(+), 2.5mm	85	1.83
	Plastic material, Cheil : SD-0150, 2.5mm	85	1.48
	Plastic material, Cheil : HR-1360, 2.5mm	85	1.71
	Plastic material, Cheil : BF-0670F, 2.5mm	80	1.59
	Plastic material, LG : HF380, 2.5mm	85	1.48
	Plastic material, LG : LUPOY GP-1000(#), 2.5mm	95	1.21
	Plastic material, LG : XG568, 2.5mm	80	1.81
	Plastic material, LG : XG569C, 2.5mm	80	1.85
	Plastic material, LG : HF388H, 2.5mm	85	1.39
	Plastic material, LG : SE885, 2.5mm	80	1.42
	Plastic material, LG : SE750, 2.5mm	80	1.50
	Plastic material, Kingfa : GAR-011C, 2.5mm	90	1.91
	Plastic material, Kingfa : GAR-011C, 3.0mm	90	1.59
	Plastic material, Kingfa : CK-61006, 3.0mm	85	1.67
	Plastic material, Kingfa : CK-61506, 3.0mm	85	1.43
	Plastic material, YOUHO-1302B, 3.3mm	85	1.04
	Plastic material, YOUHO-1303B, 3.3mm	85	1.42
Supplementary information:			
1. Phenolic materials are accepted without test.			
2. All tests for client required only.			

4.7	TABLE: Resistance to fire				P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
Metal enclosure	--	--	1.	--	--
Metal cover	--	--	1.	--	--
Mylar sheet (near power board HS8602)	1.	1.	--	V-1	1.
Internal fire barrier	1.	1.	--	V-1	1.
PCB	1.	1.	--	1.	1.

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Clause	Requirement + Test	Result - Remark	Verdict

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
Input voltage: 264V, 60Hz				
Line / Neutral and metal chassis		1.89 / 1.94	3.5	Power switch ON and switch "e" open.
Line / Neutral and metal chassis		0.01 / 0.01	3.5	Power switch OFF and switch "e" open.
Line / Neutral and output connectors		0.01 / 0.01	0.25	Power switch ON and switch "e" close.
Line / Neutral and output connectors		0.01 / 0.01	0.25	Power switch OFF and switch "e" close.
Line / Neutral and plastic enclosure with foil		0.01 / 0.01	0.25	Power switch ON and switch "e" close.
Line / Neutral and plastic enclosure with foil		0.01 / 0.01	0.25	Power switch OFF and switch "e" close.
Input voltage: 110V, 60Hz (for client required only)				
Line / Neutral and metal chassis		0.73 / 0.71	3.5	Power switch ON and switch "e" open.
Line / Neutral and metal chassis		0.01 / 0.01	3.5	Power switch OFF and switch "e" open.
Line / Neutral and output connectors		0.01 / 0.01	0.25	Power switch ON and switch "e" close.
Line / Neutral and output connectors		0.01 / 0.01	0.25	Power switch OFF and switch "e" close.
Line / Neutral and plastic enclosure with foil		0.01 / 0.01	0.25	Power switch ON and switch "e" close.
Line / Neutral and plastic enclosure with foil		0.01 / 0.01	0.25	Power switch OFF and switch "e" close.
supplementary information:				
Overall capacitance: See table 1.5.1.				

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Clause	Requirement + Test	Result - Remark	Verdict

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
Functional:				
--		--	--	--
Basic/supplementary:				
Unit: primary to earth		DC	2528	No
Gas Tube (SG9901) (for all source)		AC	1500	No
T8601 primary to core		AC	1740	No
T8601 secondary to core		AC	1740	No
Reinforced:				
Primary to secondary		DC	4242	No
T8601 primary to secondary		AC	3000	No
T8601 bobbin (for all source)		AC	3000	No
T8601 insulation Tape (for all source)		AC	3000	No
T9104 primary to secondary		AC	3000	No
T9104 primary to core		AC	3000	No
T9104 bobbin (for all source)		AC	3000	No
T9302 primary to secondary		AC	3000	No
T9302 secondary to core		AC	3000	No
T9302 insulation Tape (for all source)		AC	3000	No
Mylar sheet		AC	3000	No
AC inlet to primary connector wire		AC	3000	No
Supplementary information:				
1. The tests mentioned above were performed after humidity test.				
2. Test was performed on all sources of transformer.				

5.3	TABLE: Fault condition tests		P
	Ambient temperature (°C)	40°C, if not otherwise specified	—
	Power source for EUT: Manufacturer, model/type, output rating	See appended table 1.5.1	—

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Clause	Requirement + Test				Result - Remark	
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
T9104 after D9107	Overload	264	4hr 29min	F901	1.68	Max. temp. stabled at load to 9.5A, unit shutdown when increased to 9.7A, No hazards. T9302 coil =66.2°C, T9104 coil =116.1°C, T8601 coil =97.2°C, Ambient = 40.0°C.
T9104 after Q9107 pin S	Overload	264	4hr 7min	F901	1.79	Max. temp. stabled at load to 22A, unit shutdown when increased to 22.2A, No hazards. T9302 coil =69.4°C, T9104 coil =163.8°C, T8601 coil =107.6°C, Ambient = 40.0°C.
T9302 after D9315, D9311	Overload	264	3hr 4min	F901	0.93	Max. temp. stabled at load to 9.0A, unit shutdown when increased to 9.2A, No hazards. T9302 coil =94.2°C, T9104 coil =81.6°C, T8601 coil =83.7°C, Ambient = 40.0°C.
T8601 after D8605, D8608	Overload	264	1hr 20min	F901	0.83	Max. temp. stabled at load to 0.5A, unit shutdown when increased to 0.6A, No hazards. T9302 coil =63.7°C, T9104 coil =67.8°C, T8601 coil =84.6°C, Ambient = 40.0°C.
Openings (Horizontal) (without SDM card and compute module)	Blocked	90	1hr 4min	F901	2.02	Unit normal operation, No hazards. No damage. All temperatures see table 4.5.
Openings (Vertical) (The main board downside) (without SDM card and compute module)	Blocked	90	50min	F901	2.02	Unit normal operation, No hazards. No damage. All temperatures see table 4.5.

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Clause	Requirement + Test				Result - Remark	Verdict
Openings (Horizontal) (without SDM card and compute module)	Blocked	264	1hr 30min	F901	0.71	Unit normal operation, No hazards. No damage. All temperatures see table 4.5.
Openings (Horizontal) (with SDM card and compute module)	Blocked	264	1hr 8min	F901	0.66	Unit normal operation, No hazards. No damage. All temperatures see table 4.5.
Openings (Vertical) (with SDM card and compute module)	Blocked	264	59min	F901	0.66	Unit normal operation, No hazards. No damage. All temperatures see table 4.5.
All fan (Horizontal) (without SDM card and compute module)	Locked	90	1hr 4min	F901	2.02	Unit normal operation, No hazards. No damage. All temperatures see table 4.5.
All fan (Vertical) (The main board downside) (without SDM card and compute module)	Locked	90	50min	F901	2.02	Unit normal operation, No hazards. No damage. All temperatures see table 4.5.
All fan (Horizontal) (without SDM card and compute module)	Locked	264	1hr 30min	F901	0.71	Unit normal operation, No hazards. No damage. All temperatures see table 4.5.
All fan (Horizontal) (with SDM card and compute module)	Locked	264	1hr 8min	F901	0.66	Unit normal operation, No hazards. No damage. All temperatures see table 4.5.

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Clause	Requirement + Test				Result - Remark	Verdict
All fan (Vertical) (with SDM card and compute module)	Locked	264	59min	F901	0.66	Unit normal operation, No hazards. No damage. All temperatures see table 4.5.
BD9901 pin 1-4	SC	264	1sec	F901	0	F901 open, No hazards. ^{2.}
BD9902 pin 1-4	SC	264	1sec	F901	0	F901 open, No hazards. ^{2.}
C9814	SC	264	1sec	F901	0	F901 open, No hazards. ^{2.}
Q9801 pin G-S	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
Q9801 pin G-D	SC	264	1sec	F901	0	F901 open, No hazards. ^{2.}
Q9801 pin D-S	SC	264	1sec	F901	0	F901 open, No hazards. ^{2.}
Q9802 pin G-S	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
Q9802 pin G-D	SC	264	1sec	F901	0	F901 open, No hazards. ^{2.}
Q9802 pin D-S	SC	264	1sec	F901	0	F901 open, No hazards. ^{2.}
U9801 pin 14-2	SC	264	10min	F901	0.77	Normal operation, no damaged, no hazards.
U9801 pin 14-12	SC	264	1sec	F901	0	F901 open, No hazards. ^{2.}
U9801 pin 11-2	SC	264	10min	F901	0.77	Normal operation, no damaged, no hazards.
U9801 pin 11-12	SC	264	1sec	F901	0	F901 open, No hazards. ^{2.}
Q9309 pin G-D	SC	264	1sec	F901	0	F901 open, No hazards. ^{2.}
Q9309 pin D-S	SC	264	1sec	F901	0	F901 open, No hazards. ^{2.}
Q9309 pin G-S	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U9301 pin 1-5	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
Q9101 pin D-G	SC	264	10min	F901	0	F901 open, No hazards. ^{2.}

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Clause	Requirement + Test				Result - Remark	
Q9101 pin D-S	SC	264	10min	F901	0	F901 open, No hazards. ^{2.}
Q9101 pin S-G	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
Q9102 pin G-D	SC	264	10min	F901	0	F901 open, No hazards. ^{2.}
Q9102 pin D-S	SC	264	10min	F901	0	F901 open, No hazards. ^{2.}
Q9102 pin G-S	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U9101 pin 16-2	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U9101 pin 16-3	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U9101 pin 11-2	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U9101 pin 11-3	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
T9302 pin 6, 7- 9, 10	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
T9302 pin 1-3	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
T9302 pin 4-5	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
D9315 pin 1, 3-2	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
+5Vout - earth	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U9302 pin 1-2	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U9302 pin 3-4	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U9302 pin 1	OC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U9304 pin 1-2	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U9304 pin 3-4	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U9304 pin 1	OC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.

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Clause	Requirement + Test				Result - Remark	Verdict
T9104 pin 7, 8-11	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
T9104 pin 5, 6-7, 8	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
T9104 pin 5, 6-9, 10	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
T9104 pin 9, 10-12	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
T9104 pin 1-4	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
D9107 pin 1-2	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
D9107 pin 3-2	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
+24Vout - earth	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
+12Vout - earth	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U9102 pin 1-2	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U9102 pin 3-4	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U9102 pin 1	OC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U8601 pin 11-3	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U8601 pin 11-2	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U8601 pin 16-3	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U8601 pin 16-2	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
Q8602 pin G-D	SC	264	10min	F901	0	F901 open, No hazards. ^{2.}
Q8602 pin D-S	SC	264	10min	F901	0	F901 open, No hazards. ^{2.}
Q8602 pin G-S	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
Q8603 pin G-D	SC	264	10min	F901	0	F901 open, No hazards. ^{2.}

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Clause	Requirement + Test				Result - Remark	
Q8603 pin D-S	SC	264	10min	F901	0	F901 open, No hazards. ^{2.}
Q8603 pin G-S	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
T8601 pin 5, 6-1, 2	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
T8601 pin 7-11, 12	SC	264	10min	F901	0.20	Unit shutdown, no hazards, no damage.
T8601 pin 9-11, 12	SC	264	10min	F901	0.20	Unit shutdown, no hazards, no damage.
U8602 pin 1-2	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U8602 pin 3-4	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U8602 pin 1	OC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U8604 pin 1-2	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U8604 pin 3-4	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
U8604 pin 1	OC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
D8605	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
D8608	SC	264	10min	F901	0.20	Unit shutdown, no hazards, no damage.
For clause 4.7.1 Method 2						
TH9901	SC	264	10min	F901	0.77	Normal operation, no damaged, no hazards.
TH9901	OC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
R9306	SC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
R9306	OC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
R9310	SC	264	10min	F901	0.77	Normal operation, no damaged, no hazards.
R9310	OC	264	10min	F901	0.77	Normal operation, no damaged, no hazards.
R9301	SC	264	10min	F901	0.77	Normal operation, no damaged, no hazards.

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Clause	Requirement + Test				Result - Remark	
R9301	OC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
C9906	SC	264	1s	F901	0	F901 open, No hazards. ^{2.}
C9906	OC	264	10min	F901	0.77	Normal operation, no damaged, no hazards.
L9901 pin 1-4	SC	264	1s	F901	0	F901 open, No hazards. ^{2.}
L9901 pin 1	OC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
SW9901 pin 1-3	SC	264	1s	F901	0	F901 open, No hazards. ^{2.}
SW9901 pin 1-4	SC	264	1s	F901	0	F901 open, No hazards. ^{2.}
SW9901 pin 2-3	SC	264	1s	F901	0	F901 open, No hazards. ^{2.}
SW9901 pin 2-4	SC	264	1s	F901	0	F901 open, No hazards. ^{2.}
SW9901 pin 1	OC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
SW9901 pin 2	OC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
SW9901 pin 3	OC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
SW9901 pin 4	OC	264	10min	F901	0.10	Unit shutdown, no hazards, no damage.
C9911	SC	264	1s	F901	0	F901 open, No hazards. ^{2.}
C9911	OC	264	10min	F901	0.77	Normal operation, no damaged, no hazards.
RV9902	SC	264	10min	F901	0.77	Normal operation, no damaged, no hazards.
RV9902	OC	264	10min	F901	0.77	Normal operation, no damaged, no hazards.
C9917	SC	264	10min	F901	0.77	Normal operation, no damaged, no hazards.
C9917	OC	264	10min	F901	0.77	Normal operation, no damaged, no hazards.
SG9901	SC	264	10min	F901	0.77	Normal operation, no damaged, no hazards.
SG9901	OC	264	10min	F901	0.77	Normal operation, no damaged, no hazards.
Overload of operator accessible connector test ^{5.}						

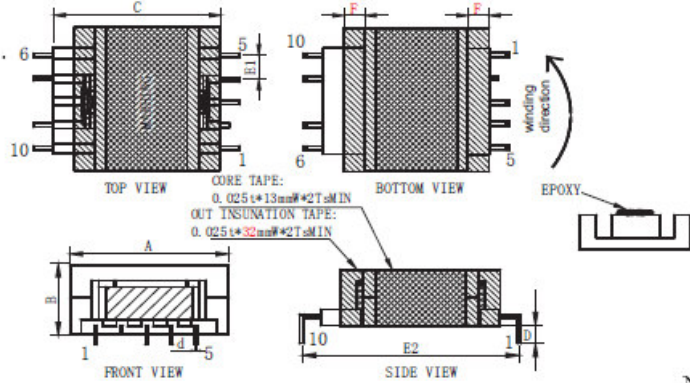
IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
For main board						
USB 2.0 (CN406) pin 1	Overload	264	1hr	F901	--	Max. available current: 2.3A, Uoc = 5.10V, No hazards, no damage.
USB 2.0 (CN706) pin 1	Overload	264	1hr	F901	--	Max. available current: 1.5A, Uoc = 5.10V, No hazards, no damage.
Display (CN505) pin 20	Overload	264	1hr	F901	--	Max. available current: 1.0A, Uoc = 3.33V, No hazards, no damage.
Display (CN506) pin 20	Overload	264	1hr	F901	--	Max. available current: 1.0A, Uoc = 3.33V, No hazards, no damage.
Display (CN507) pin 20	Overload	264	1hr	F901	--	Max. available current: 1.0A, Uoc = 3.33V, No hazards, no damage.
Remote in (CN407) pin 20	Overload	264	1hr	F901	--	Max. available current: 1.5A, Uoc = 3.30V, No hazards, no damage.
Speaker terminal (CN601) pin 1 to 2	Overload	264	1hr	F901	--	Max. available current: 2.8A, Uoc = 4.25V, No hazards, no damage.
Speaker terminal (CN601) pin 3 to 4	Overload	264	1hr	F901	--	Max. available current: 2.8A, Uoc = 4.27V, No hazards, no damage.
For SDM card						
USB 3.0 (JUSB1) pin 1	Overload	264	1hr	F901	--	Max. available current: 2.7A, Uoc = 5.04V, No hazards, no damage.
USB 3.0 (JUSB1) pin 10	Overload	264	1hr	F901	--	Max. available current: 2.7A, Uoc = 5.04V, No hazards, no damage.
For compute module						
USB 2.0 (CN1008) pin 1	Overload	264	1hr	F901	--	Max. available current: 0.5A, Uoc = 5.10V, No hazards, no damage.
USB 2.0 (CN1009) pin 1	Overload	264	1hr	F901	--	Max. available current: 0.5A, Uoc = 5.10V, No hazards, no damage.
Test for main board Super Capacitor (C4282): KEMET, type FT						
For overcharging						

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
Q423 pin E-C	SC	264	8hr 59min	F901	0.71	Normal operation, no damage, no hazards. Max. temp. at C4282 = 60.4°C, Ambient = 40.0°C.
R4203	SC	264	9hr 29min	F901	0.71	Normal operation, no damage, no hazards. Max. temp. at C4282 = 58.3°C, Ambient = 40.0°C.
C4282	SC	264	13hr 50min	F901	0.71	Normal operation, no damage, no hazards. Max. temp. at C4282 = 61.5°C, Ambient = 40.0°C.
For excessive discharging						
Q423 pin E-C	SC	264	1hr 21min	F901	0.71	Normal operation, no damage, no hazards. Max. temp. at C4282 = 41.4°C, Ambient = 40.0°C.
R4203	SC	264	1hr 29min	F901	0.71	Normal operation, no damage, no hazards. Max. temp. at C4282 = 41.1°C, Ambient = 40.0°C.
C4282	SC	264	1hr 19min	F901	0.71	Normal operation, no damage, no hazards. Max. temp. at C4282 = 41.2°C, Ambient = 40.0°C.
Supplementary information:						
1. In fault column, where SC= short-circuited, OC = open-circuited.						
2. For fuse opened condition, same results were carried out for all sources fuses.						
3. Maximum temperatures limitation of safety isolation transformers based on a test temperature of 40°C: Class B $T_{max} = 175^{\circ}\text{C}$						
4. Test items where components were damaged were repeated total three times with same outcome.						
5. All other condition which not being mentioned above were all under "output could not be load" condition.						

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)	
T9302	Primary wire to secondary pin	530	368	AC 3000V	6.6 (4.4*1.48)	7.4	Triple insulation wire	
T9302	Primary wire to core	--	--	--	--	--	--	
T9302	Secondary pin to core	530	368	AC 3000V	6.6 (4.4*1.48)	7.4	Triple insulation wire	
T9104	Primary wire to secondary wire	460	272	AC 3000V	6.3 (4.2*1.48)	6.3	Dti 0.4mm min.	

IEC 60950-1							
Clause	Requirement + Test			Result - Remark			Verdict
T9104	Primary wire to core	460	272	AC 3000V	6.3 (4.2*1.48)	6.3	Dti 0.4mm min.
T9104	Secondary wire to core	--	--	--	--	--	--
T8601	Primary wire to secondary wire	500	307	AC 3000V	6.6 (4.4*1.48)	6.6	Dti 0.4mm min.
T8601	Primary wire to core	500	307	AC 1740V	3.3 (2.2*1.48)	3.3	Dti 0.4mm min.
T8601	Secondary wire to core	500	307	AC 1740V	3.3 (2.2*1.48)	3.3	Dti 0.4mm min.
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
T9302	Primary wire to secondary pin			AC 3000V	8.1	8.1	Triple insulation wire used.
T9302	Primary wire to core			--	--	--	--
T9302	Secondary pin to core			AC 3000V	8.1	8.1	Triple insulation wire used.
T9104	Primary wire to secondary wire			AC 3000V	8.6	8.6	Bobbin 0.45 mm used.
T9104	Primary wire to core			AC 3000V	8.6	8.6	Bobbin 0.45 mm used.
T9104	Secondary wire to core			--	--	--	--
T8601	Primary wire to secondary wire			AC 3000V	6.8	6.8	Bobbin 0.45 mm used.
T8601	Primary wire to core			AC 1811V	4.1	4.1	Bobbin 0.45 mm used.
T8601	Secondary wire to core			AC 1811V	4.1	4.1	Bobbin 0.45 mm used.
supplementary information:							
1. The constructions of all sources of transformer are identical, only model designation, manufacturer, and the material of bobbin are different.							
2. The required clearances multiplied by 1.48 considering that EUT operates up to 5000m.							
3. T9302: triple insulation wire used in secondary, core considered as primary.							
4. T9104: core considered as secondary.							

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

C.2	TABLE: transformers	P
Transformer: T9302		
3. APPEARANCE & MECHANICAL CHARACTERISTICS 3.1. DIMENSIONS  TOP VIEW: CORE TAPE: 0.025t*13mm#*2T±MIN OUT INSULATION TAPE: 0.025t*32mm#*2T±MIN BOTTOM VIEW: WINDING DIRECTION FRONT VIEW: A, B, 1, 5 SIDE VIEW: E2, 10, 1, 5 EPOXY 1 PCS PFC CHOKE WEIGHT IS: 37.0±2g b. 引线镀层结构图 c. MARKING 打印在产品上端。 d. 引脚挂PIN圈数: 配线ALL PIN 1.0Ts MIN。 e. CORE GAP(单边) AT TOP SIDE; 中柱点胶; f. PIN₈ CUT OFF ,PIN₂ CUT OFF 1/2。 NOTE: 1. Lead Wire Composition - Steel 78% - Cu 22% - Sn 99.99% (Thickness 6⁺²₋₁ μ) - Lead Free Solder - Sn 98% Cu 2%		

$A=32.0 \pm 2.0$ mm
 $B=14.5 \pm 0/-2.0$ mm
 $C=37.5 \pm 1.5$ mm
 $D=3.5 \pm 0.3$ mm
 $E1=5.0 \pm 0.3$ mm
 $E2=42.5 \pm 0.5$ mm
 $F=4.5$ mmMIN
 $d=0.64 \times 0.64 \pm 0.1$ mm

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

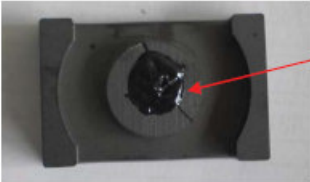
4.5mmMIN

4.5mmMIN

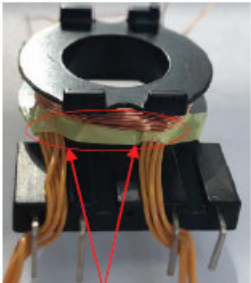


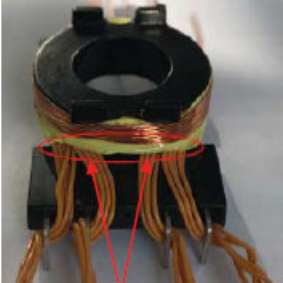
外露 2.5mmMIN

GAP CORE EPOXY (E-500)
WEIGHT
ALMOST 0.1g ± 0.05(REF)

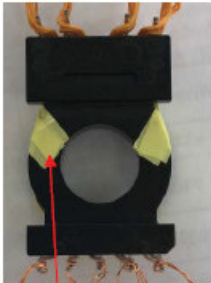


次级绕组TAPE适当加宽为5.5mm及在次级侧三层线上贴一层宽度约为4.5mm的TAPE, 使得TAPE向三层线方向偏移约1mm贴到三层线上及直接贴TAPE在三层线上, 使得初级线圈与三层线交叉处不接触

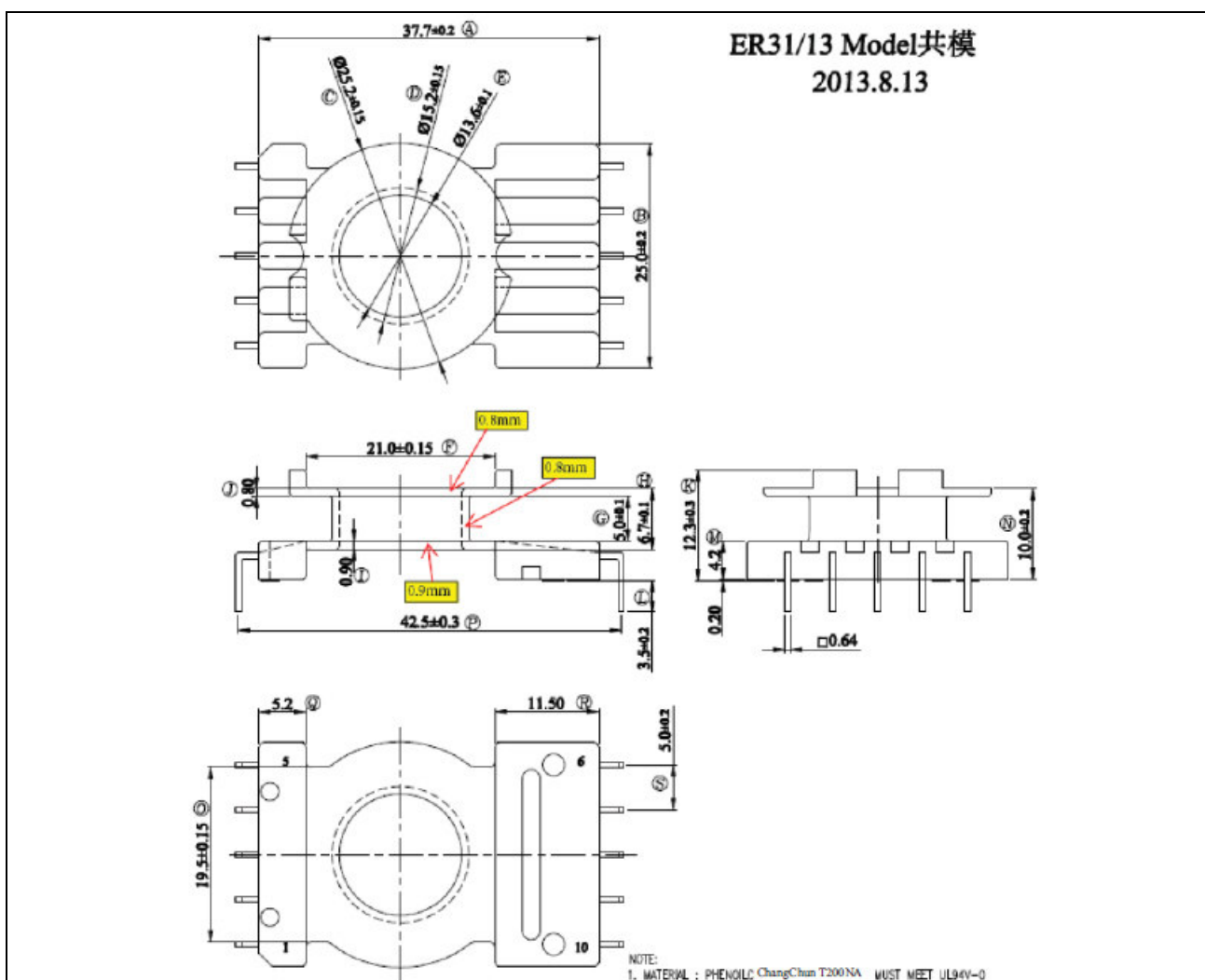




4.5mm tape bottom View(靠二次侧贴一层 tape)
N3,N5 绕组前各贴一层, 共二层



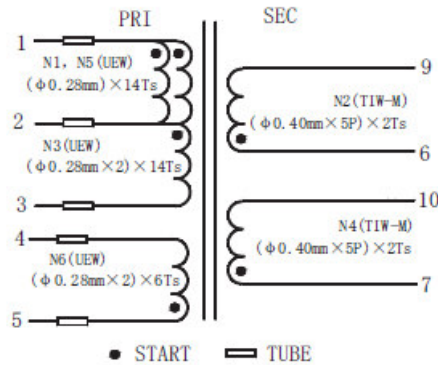
IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict



IEC 60950-1

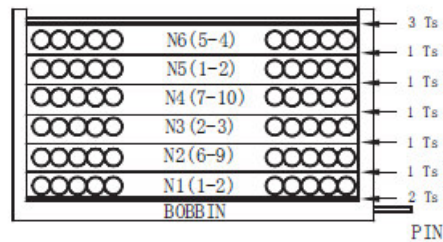
Clause	Requirement + Test	Result - Remark	Verdict
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3.4. SCHEMATIC:



PIN	Tube length
1, 2, 3, 4, 5	8mm MIN

3.5. WINDING CONSTRUCTION:



Mylar tape: $t 0.025\text{mm} \times 5.3\text{mmW}$

- 1.) PIN1,2,3,4,5 ADDED TUBE,
- 2.) TUBE over winding 2.5mm min

3.6. WINDING MODE:

No.	COIL	TERMINAL	WIRE GAUGE	WIRE TYPE	TUNS	WINDING METHOD	TAPE 2Ts
1	N1	1-2	$\phi 0.28\text{ mm}$	UEW	14	CLOSED	1Ts
2	N2	6-9	$\phi 0.40\text{mm} \times 5$	TIW-M	2	CLOSED	1Ts
3	N3	2-3	$\phi 0.28\text{ mm} \times 2$	UEW	14	CLOSED	1Ts
4	N4	7-10	$\phi 0.40\text{ mm} \times 5$	TIW-M	2	CLOSED	1Ts
5	N5	1-2	$\phi 0.28\text{ mm}$	UEW	14	CLOSED	1Ts
6	N6	5-4	$\phi 0.28\text{ mm} \times 2$	UEW	6	CLOSED	3Ts

3.7. Winding Direction: It Is anti-clockwise From Bottom Side

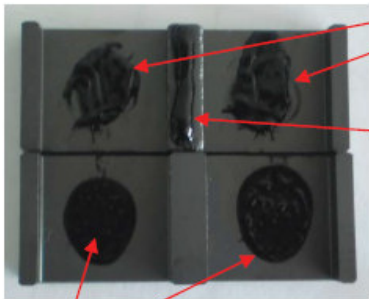
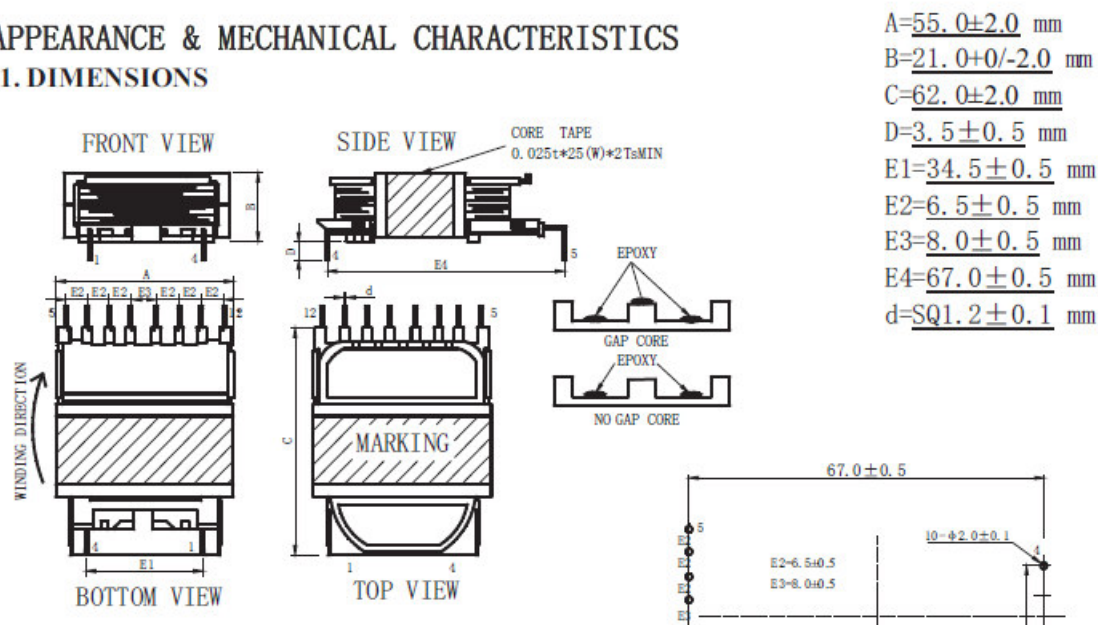
Note: 1) Bare wires and insulated wires should not intersect contacts each other. (漆包线和绝缘线不能相互交叉接触)

2) Reflexed tape of copper foil :N/A

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

Transformer: T9104

3. APPEARANCE & MECHANICAL CHARACTERISTICS
3.1. DIMENSIONS

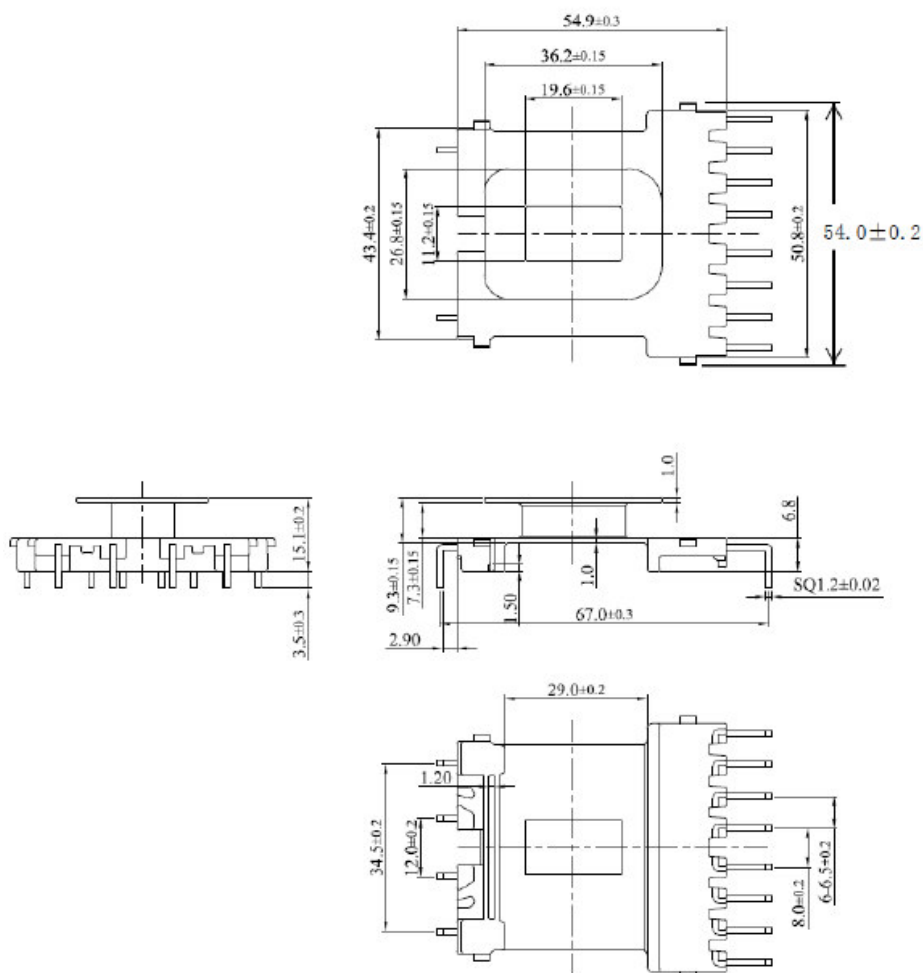


GAP CORE (BOTTOM SIDE)
EPOXY WEIGHT(E-500)
ALMOST 0.1g+/-0.05(REF)

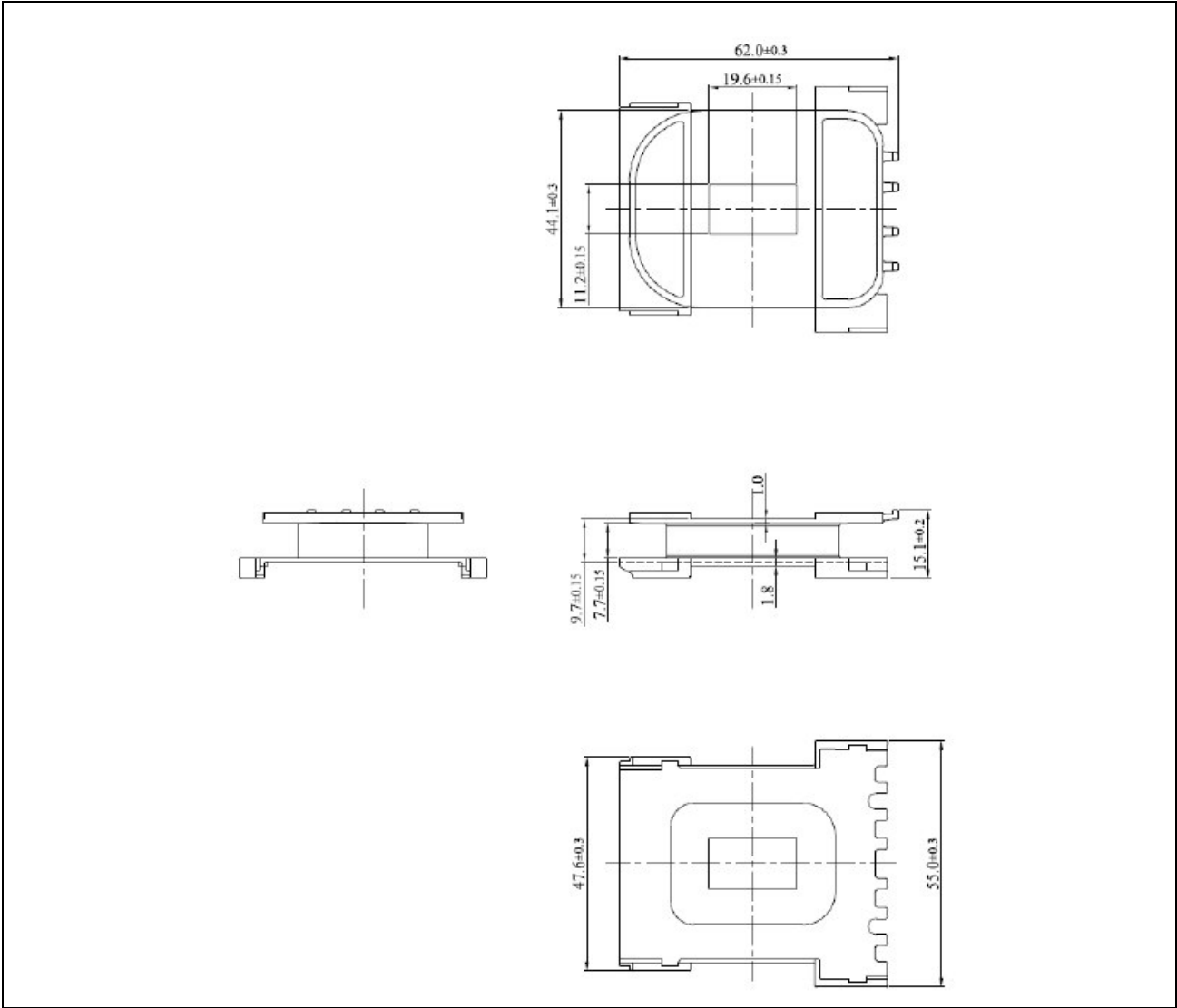
GAP CORE (PIN SIDE)
EPOXY WEIGHT(E-500)
ALMOST 0.1g+/-0.05(REF)

平面 CORE (TOP SIDE)
EPOXY WEIGHT(E-500)
ALMOST 0.1g+/-0.05(REF)

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

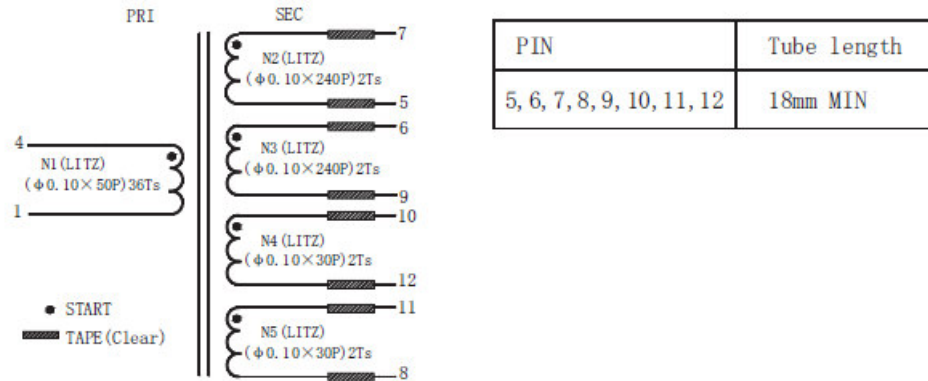


IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

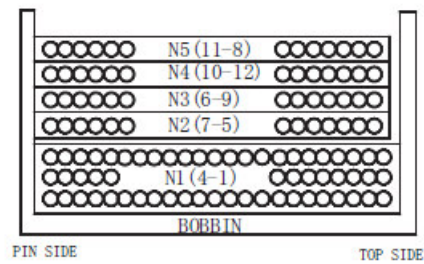


IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

3.4. SCHEMATIC:



3.5. WINDING CONSTRUCTION:



3.6. WINDING MODE:

No.	COIL	TERMINAL	WIRE GAUGE	WIRE TYPE	TUNS	WINDING METHOD	TAPE
1	N1	4-1	ϕ 0.10mm $\times$ 50	LITZ	36	CLOSE	/
2	N2	7-5	ϕ 0.10mm $\times$ 240	LITZ	2	CLOSE	/
3	N3	6-9	ϕ 0.10mm $\times$ 240	LITZ	2	CLOSE	/
4	N4	10-12	ϕ 0.10mm $\times$ 30	LITZ	2	CLOSE	/
5	N5	11-8	ϕ 0.10mm $\times$ 30	LITZ	2	CLOSE	/

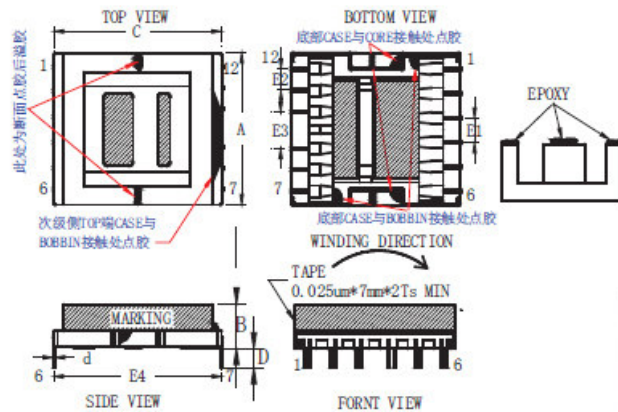
3.7. Winding Direction: It Is clockwise From bottom Side

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

Transformer: T8601

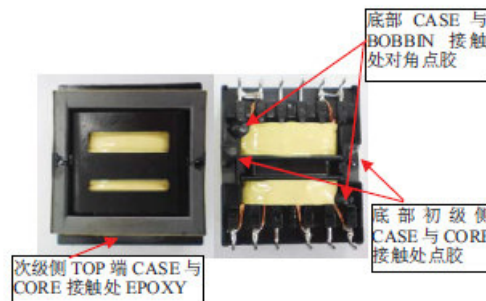
3. APPEARANCE & MECHANICAL CHARACTERISTICS

3.1. DIMENSIONS



$A=38.0 \pm 1.5$ mm
 $B=13.5+0/-1.5$ mm
 $C=42.5 \pm 1.5$ mm
 $D=3.5 \pm 0.3$ mm
 $E1=5.5 \pm 0.3$ mm
 $E2=5.75 \pm 0.3$ mm
 $E3=8.2 \pm 0.3$ mm
 $E4=43.0 \pm 0.5$ mm
 $d=0.8*0.8 \pm 0.15$ mm

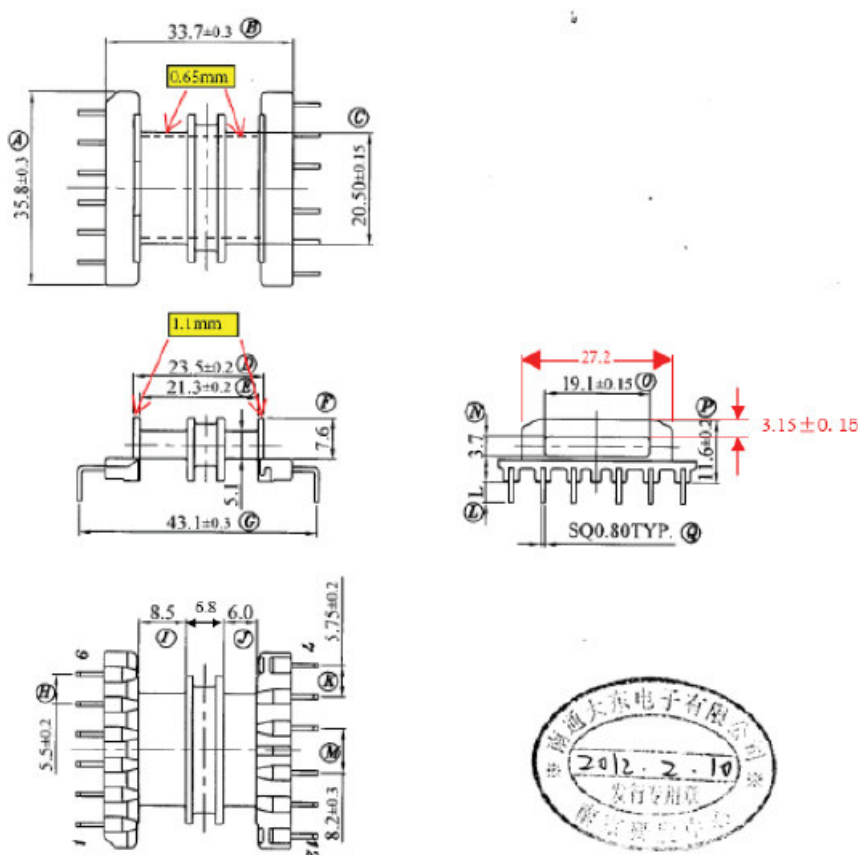
- 1 PCS POWER TRANS WEIGHT IS: 43.8±3g
- 引线镀层结构图
- MARKING 打印在产品PIN6-7一侧。
- 引脚挂PIN圈数：配线ALL PIN 1.0Ts MIN。
- CORE GAP(单边) TO PIN7-12 SIDE。先含浸线包然后组合CORE，两边柱用环氧胶固定，底部CASE与骨架对角及CASE与CORE接触处点环氧胶固定；中柱点胶；
- PIN1,2 AND PIN5,6 需连锡。

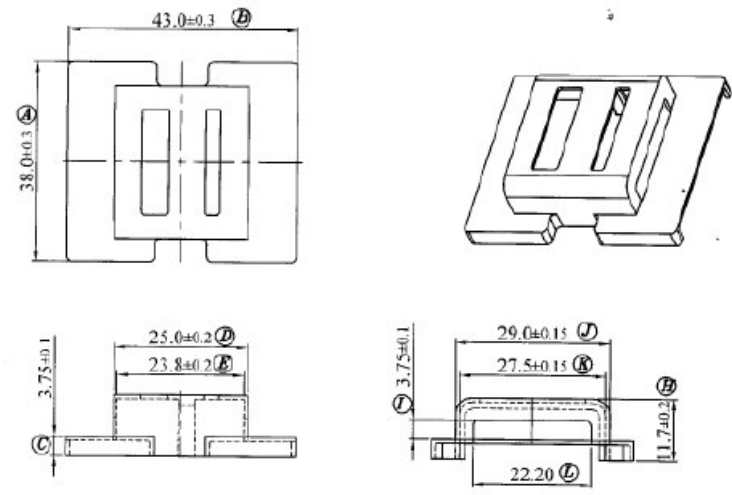
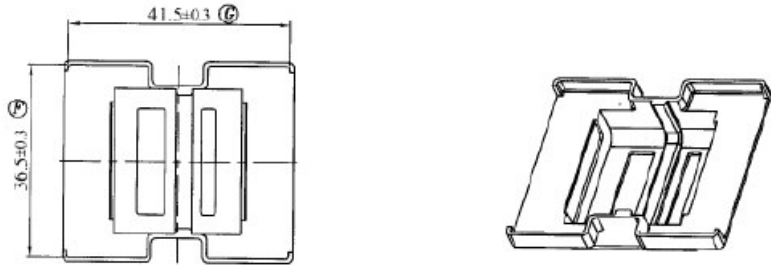


NOTE: 1. Lead Wire Composition

Steel 78%
 Cu 22%

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	GAP CORE EPOXY (E-500) WEIGHT ALMOST0.05g±0.03(REF) CORE EPOXY (E-500-1) WEIGHT ALMOST0.05g±0.03(REF) 次级侧 TOP 端 CASE 与 CORE 接触处 EPOXY(E-500) WEIGHT ALMOST0.1g±0.05g(REF) 底部 CASE 与 BOBBIN 接触处 4 点 EPOXY(E-500) WEIGHT ALMOST0.05g±0.03g(REF) 底部 CASE 与 BOBBIN 接触处对角点胶(软) 底部初级侧 CASE 与 CORE 接触处点胶(软) 初级绕组绕线前, 在骨架上端贴一层 TAPE, 以防止 N1 绕组的线滑过骨架档板 次级绕组绕线前, 在骨架上端贴一层 TAPE, 以防止 N3 绕组的线滑过骨架档板 0.5mmMIN 0.5mmMIN 20mmMIN 20mmMIN AOC EFD3835 先含浸线包, 后组合 CORE 工法 线包先含浸烘干 组合 CORE,边柱以 EPOXY(硬)固定 次级侧 TOP 端 CASE 与 CORE 接触处点胶(软)		

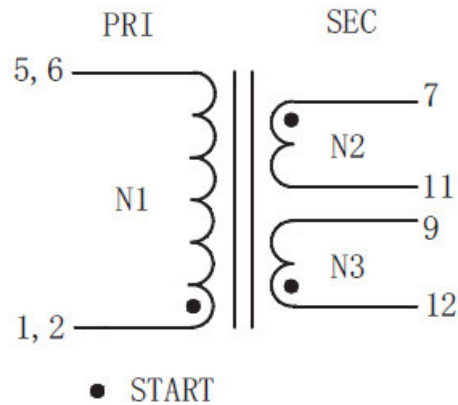
IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
 The image contains three technical drawings of a transformer. The top drawing is a front view showing a core with 16 pins (8 on each side). Dimensions include a total width of 33.7±0.3 mm, a pin pitch of 0.65 mm, a core height of 35.8±0.3 mm, and a pin height of 20.50±0.15 mm. The middle drawing is a side view showing a core with 8 pins. Dimensions include a total width of 43.1±0.3 mm, a pin pitch of 1.1 mm, a core height of 23.5±0.2 mm, a pin height of 21.3±0.2 mm, and a pin diameter of 7.6 mm. The bottom drawing is a top view showing a core with 16 pins. Dimensions include a total width of 5.5±0.2 mm, a pin pitch of 8.5 mm, a core height of 6.0 mm, a pin height of 5.75±0.2 mm, and a pin diameter of 8.2±0.3 mm. To the right of the drawings is a side view of a transformer with dimensions: a total width of 27.2 mm, a pin pitch of 19.1±0.15 mm, a core height of 3.7 mm, a pin height of 1.6±0.2 mm, and a pin diameter of 3.15±0.15 mm. Below the drawings is a circular stamp from '南通大东电子有限公司' (Nantong Dade Electronics Co., Ltd.) with the date '2012.2.10' and the text '发行专用章' (Issuance Special Seal).			

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

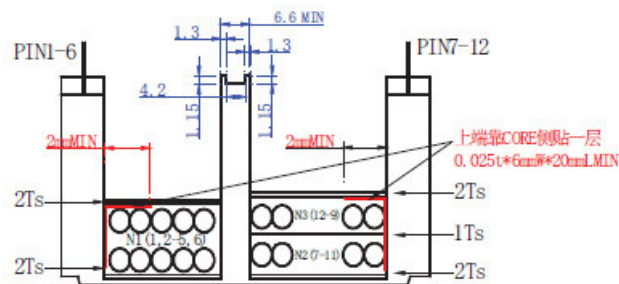
IEC 60950-1

Clause	Requirement + Test	Result - Remark	Verdict
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3.4. SCHEMATIC:



3.5. WINDING CONSTRUCTION:



Mylar tape: PIN1-6 侧 t 0.025mm*8.5mmW / PIN7-12 侧 t 25umT*6.0mmW;

3.6. WINDING MODE:

No.	COIL	TERMINAL	WIRE GAUGE	WIRE TYPE	TUNS	WINDING METHOD	TAPE/2Ts
1	N1	1,2--5,6	$\phi 0.10 \times 22$	LITZ	52	CLOSED	2Ts
2	N2	7--11	$\phi 0.10 \times 20$	LITZ	20	CLOSED	1Ts
3	N3	12--9	$\phi 0.10 \times 20$	LITZ	20	CLOSED	2Ts

3.7. Winding Direction: It Is clockwise From PIN1-6 Side

Note: 1) Bare wires and insulated wires should not intersect contacts each other. (漆包线和绝缘线不能相互交叉接触): N/A

2) Reflexed tape of copper foil :N/A

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

Clause	Requirement + Test			Result - Remark	Verdict
2.1.1.7	TABLE: Discharge test				P
Condition	τ calculated (s)	τ measured (ms)	t u→ 0V (s)	Comments	
Supply voltage: 90Vac, 60Hz (for client required only)					
Line to Neutral	¹⁾	--	--	V _O = 142.0Vpeak, 37 % of V _O = 52.54Vpeak, Voltage drop to 22.0Vpeak in 1s.	
Supply voltage: 264Vac, 60Hz					
Line to Neutral	¹⁾	--	--	V _O = 384Vpeak, 37 % of V _O = 142.08Vpeak, Voltage drop to 48.0Vpeak in 1s.	
Supplementary information: 1) Overall capacity: see appended table 1.5.1.					

2.4.2	TABLE: Limited current circuit measurement					P
Location		Voltage (V)	Current (mA)	Freq. (Hz)	Limit (mA)	Comments
C9917		0.77	0.385	60	0.7	C9917 = 2200pF.
C9907		0.53	0.265	60	0.7	C9907 = 2200pF.
C9910		0.71	0.355	60	0.7	C9910 = 2200pF.
Supplementary information: Supply voltage: 240Vac, 60Hz.						

2.6.3.4	TABLE: Resistance of earthing measurement			P
Location	Resistance measured (mΩ)		Comments	
AC inlet earth pin to metal chassis	5		Test current : 32A, duration: 2min., Voltage drop: 0.16V.	
AC inlet earth pin to metal chassis	5		Test current : 40A, duration: 2min., Voltage drop: 0.20V.	
C9902 primary pin (trace) to earth	5		Test current : 32A, duration: 2min., Voltage drop: 0.16V.	
C9902 primary pin (trace) to earth	4		Test current : 40A, duration: 2min., Voltage drop: 0.16V.	
C9904 primary pin (trace) to earth	5		Test current : 32A, duration: 2min., Voltage drop: 0.16V.	
C9904 primary pin (trace) to earth	4		Test current : 40A, duration: 2min., Voltage drop: 0.16V.	
C9901 primary pin (trace) to earth	5		Test current : 32A, duration: 2min., Voltage drop: 0.16V.	
C9901 primary pin (trace) to earth	5		Test current : 40A, duration: 2min., Voltage drop: 0.20V.	

Clause	Requirement + Test	Result - Remark	Verdict
C9905 primary pin (trace) to earth	5	Test current : 32A, duration: 2min., Voltage drop: 0.16V.	
C9905 primary pin (trace) to earth	4	Test current : 40A, duration: 2min., Voltage drop: 0.16V.	
C9918 primary pin (trace) to earth	2	Test current : 32A, duration: 2min., Voltage drop: 0.064V.	
C9918 primary pin (trace) to earth	2	Test current : 40A, duration: 2min., Voltage drop: 0.08V.	
C9908 primary pin (trace) to earth	2	Test current : 32A, duration: 2min., Voltage drop: 0.064V.	
C9908 primary pin (trace) to earth	2	Test current : 40A, duration: 2min., Voltage drop: 0.08V.	
Supplementary information:			

4.6.1, 4.6.2	Table: Enclosure opening measurements		P
Location	Size (mm)	Comments	
Metal enclosure as fire enclosure (Horizontal)			
Top	1) Ø 2.4mm max.	1) Numerous circle openings provided. ¹	
Rear	1) Ø 2.4mm max.	1) Numerous circle openings provided. ^{1, 2}	
Side (near power board)	1) Ø 2.4mm max.	1) Numerous circle openings provided. ^{1, 2}	
I/O metal cover (Horizontal)			
Rear	1) Ø 2.4mm max.	1) Numerous circle openings provided. ^{1, 2}	
Metal enclosure as fire enclosure (Vertical)			
Rear	1) Ø 2.4mm max.	1) Numerous circle openings provided. ^{1, 2} (impede by plastic fire barrier on top of main board)	
Top (near power board)	1) Ø 2.4mm max.	1) Numerous circle openings provided. ¹	
Side	1) Ø 2.4mm max.	1) Numerous circle openings provided. ^{1, 2} (impede by mylar barrier)	
I/O metal cover (Vertical)			
Rear	1) Ø 2.4mm max.	1) Numerous circle openings provided. ^{1, 2} .	
Supplementary information:			
1. Openings didn't exceed 5 mm in any dimension or 1 mm in width regardless of length.			
2. There is no portion of the side of fire enclosure falls within the area traced out by the 5° angle.			

IEC60950_1G - 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_1G

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_1G - 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_1G - 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_1G - 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.		N/A
	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: - protect the user from unintentional acoustic outputs exceeding those mentioned above; and - 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_1G - 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.		N/A
	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.		N/A

IEC60950_1G - 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.”  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_1G - 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_1G - 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

IEC60950_1G - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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
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)			
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 (A11:2009)	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A

IEC60950_1G - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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
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

IEC60950_1G - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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"		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)."		

IEC60950_1G - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
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.”		P
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_1G - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
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_1G - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
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

IEC60950_1G - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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
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

IEC60950_1G - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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 mm ² to 1,5 mm ² nominal cross-sectional area.		N/A
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

IEC60950_1G - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
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 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_1G - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
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, 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

Annex ZD
(informative)

IEC and CENELEC code designations for flexible cords

Type of flexible cord	Code designations
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IEC60950_1G - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	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_1G
Attachment Originator.....:	UL
Master Attachment.....:	Date 2014-07

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	Special national conditions		
1.1.1	All equipment is designed as to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and if applicable, the National Electrical Safety Code, IEEE C2	In accordance with the National Electrical Code (NEC) 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		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		P
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings	Single-phase equipment.	N/A
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions"		N/A
	Likewise, a voltage rating is not to be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions"		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with NEC or CEC Part 1 or NEC are marked with the voltage rating and "Class 2" or equivalent		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)		N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.	No such components provided.	N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC		P
3.2.1	Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment		P
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		P
	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		P

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC		P
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,	No such component.	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
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

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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
	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

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts		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		N/A
4.3.8	Battery packs for both portable and stationary applications comply with special component requirements		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests		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		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

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 with A1:2009 and A2:2013 CANADA NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to.....: CAN/CSA-C22.2 No. 60950-1-07, Amd 1:2011, Amd 2:2014			
Attachment Form No.....: CA_ND_IEC60950_1g			
Attachment Originator CSA			
Master Attachment Date (2015-05)			
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1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	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
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 CEC/NEC. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC/NEC are required to have special construction features and identification markings.		P

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."	Not for used in more than one phase power supply system.	N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC shall be marked with the voltage rating and "Class 2" or equivalent. Marking shall be located adjacent to the terminals and shall be visible during wiring.		N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.	No such components provided.	N/A
2.6	Equipment with isolated ground (earthing) receptacles are required to comply with NEC 250.146(D) and CEC 10-112 and 10-906(8).		N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.	No such components provided.	N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.		P
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.	No for D.C mains.	N/A

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
3.2.5	Power supply cords are required to be no longer than 4.5 m in length. Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		P
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	No component connection equipment.	N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall 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 required to be suitable for US/Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).		N/A
3.3.5	First column of Table 3E revised to require "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 required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.	No flammable liquid.	N/A

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.5.1	Equipment with lasers is required to meet the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No Laser.	N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
	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 is required to comply with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No ionizing radiation.	N/A

OTHER DIFFERENCES

The following key national differences are based on requirements other than national regulatory requirements.

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.	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. This maximum operating voltage shall include consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.		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
2.6.2	Equipment with functional earthing is required to be 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

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.		N/A
4.3.2	Equipment with handles is required to comply with special loading tests.		N/A
4.3.8	Battery packs for both portable and stationary applications are required to comply with special component requirements.		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.		N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded. 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 required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		N/A
Annex EE	UL articulated accessibility probe (Fig EE.3) required 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 is required to comply with special acoustic pressure requirements.	See attached data.	N/A

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 60950-1 (AUSTRALIA/NEW ZEALAND) NATIONAL DIFFERENCES (Information technology equipment-safety)			
Differences according to: AS/NZS 60950.1:2015			
Attachment Form No.: AU_NZ_ND_IEC60950_1G			
Attachment Originator: JAS-ANZ			
Master Attachment: 2017-06			
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	National Differences		P
Appendix ZZ	Variations to IEC 60950-1, Ed 2.2 (2013) for Australia and New Zealand		P
1.2	DEFINITIONS		P
	After definition 'PERSON, SERVICE', insert the following new definition: POTENTIAL IGNITION SOURCE.....1.2.12.201	Added.	P
1.5	COMPONENTS		P
1.5.1	1..... First paragraph, insert the following text after the words 'IEC component standard' or the relevant Australian/New Zealand Standard 2..... In the Note, insert the following text after the word standard: or the relevant Australian/New Zealand Standard 3..... Second paragraph, delete the words 'without further evaluation'	Added.	P
1.5.2	1..... First paragraph, insert the following text after the word 'standard' or an Australian/New Zealand Standard 2..... First paragraph, second dash item, second line, insert the following text after the word 'standard' or an Australian/New Zealand Standard 3..... First paragraph, second dash item, last line, insert the following text after the word 'standard': or an Australian/New Zealand Standard	Added.	P
1.7	MARKINGS AND INSTRUCTIONS		P

1.7.1.3	<i>Delete</i> existing text and <i>replace</i> with the following: Graphical symbols placed on the equipment as a requirement of this standard, shall be in accordance with IEC 60417 or ISO 3864-2 or ISO 7000, if available. In the absence of suitable symbols, the manufacturer may design specific graphical symbols. Symbols as required by this standard placed on the equipment shall be explained in the user manual	Replaced.	P												
2.9	ELECTRICAL INSULATION		N/A												
2.9.2	Variation Second paragraph, <i>delete</i> the word 'designated'	Deleted.	N/A												
3.2.5	POWER SUPPLY CORDS		N/A												
Table 3B	Variation 1..... <i>Delete</i> the first four rows and replace with the following: <table><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 including 10</td><td>(0.75)^b 1.00</td><td>16 [1.3]</td></tr><tr><td>Over 10 up to including 16</td><td>(1.0)^c 1.5</td><td>14 [2]</td></tr></table>	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 including 10	(0.75) ^b 1.00	16 [1.3]	Over 10 up to including 16	(1.0) ^c 1.5	14 [2]	Deleted.	N/A
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 including 10	(0.75) ^b 1.00	16 [1.3]													
Over 10 up to including 16	(1.0) ^c 1.5	14 [2]													
	2..... <i>Delete</i> NOTE 1 and renumber existing NOTE 2 as 'NOTE'		N/A												
	3..... <i>Delete</i> 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 to the plug does not exceed 2 m (0,5 mm2 three-core supply flexible cords are not permitted; see AS/NZS 3191)		N/A												
4.3	DESIGN AND CONSTRUCTION		P												
4.3.6	Variation <i>Delete</i> the third paragraph and <i>replace</i> with the following:		P												
	<i>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin 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 and replaced. Not direct plug-in type.	P												
4.3.8	Addition Eighth paragraph, <i>insert</i> the following new note after the first dash item:	No Batteries.	N/A												

	NOTE 6.201 In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A
4.3.13.5.1	Variation <i>Delete</i> the first paragraph and <i>replace</i> with the following: Except as permitted below, equipment shall be classified and labelled according to IEC 60825-1 or AS/NZS 60825.1, IEC 60825-2 or AS/NZS 60825.2 and IEC 60825-12, as applicable	No Lasers.	N/A
	Third paragraph, first sentence, after 'IEC 60825-1', <i>insert</i> the following text: or AS/NZS 60825.1		N/A
	Fourth paragraph, after 'IEC 60825-1', <i>insert</i> the following text: or AS/NZS 60825.1		N/A
4.7	RESISTANCE TO FIRE		N/A
4.7	Addition At the end of Clause 4.7, <i>insert</i> the following text: For alternate tests refer to Clause 4.7.201	Added. The alternative method is not considered.	N/A
6	CONNECTION TO TELECOMMUNICATIONS NETWORKS		N/A
6.2.2	Variation For Australia only, <i>delete</i> the first paragraph and Note, and <i>replace</i> 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
6.2.2.1	Variation For Australia only, <i>delete</i> the first paragraph including the Notes, and <i>replace</i> with the following: 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) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and (ii)..... For 6.2.1 b) and 6.2.1 c): 1.5kV	No TNV.	N/A
	NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines		N/A
	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	Variation For Australia only, delete the second paragraph including the Note, and replace with the following: In Australia only, the a.c. test voltage is (i) for 6.2.1 a): 3kV; and (ii)..... for 6.2.1b) and 6.2.1c): 1.5kV	No TNV.	N/A
	NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.		N/A
	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	CONNECTION TO CABLE DISTRIBUTION NETWORK		N/A
7.3	Addition <i>Add</i> 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	Addition <i>Add</i> the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets		N/A
	Special national conditions (if any)		N/A
1.2.12	FLAMMABILITY		N/A
1.2.12.15	Addition After Clause 1.2.12.15, <i>insert</i> the following new clause:		N/A
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		N/A
	Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS		N/A
	NOTE 1 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE		N/A
	NOTE 2 This definition is from AS/NZS 60065:2012, Clause 2.8.11.		N/A
4	PHYSICAL REQUIREMENTS		N/A

4.1	Addition After Clause 4.1, <i>insert</i> new Clause 4.1.201 as follows:		N/A
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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	Inserted.	N/A
4.3	DESIGN AND CONSTRUCTION		N/A
4.3.8	Addition After Clause 4.3.8, <i>add</i> the following new clause as follows	No Batteries.	N/A
4.3.8.201	Products containing coin/button cell batteries and batteries designated R1 The requirements of AS/NZS 60065:2012 Amendment 1:2015, Clause 14.10.201 apply for this Clause.	No such Batteries.	N/A
4.7	RESISTANCE TO FIRE		N/A
4.7.3.6	Addition After Clause 4.7.3.6, <i>add</i> new clauses as follows:	Added. The alternative method is not considered.	N/A
4.7.201	Resistance to fire—Alternative tests	Added. The alternative method is not considered.	N/A
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 1 mm in width regardless of length.	Added. The alternative method is not considered.	N/A
	b) The following parts which would contribute negligible fuel to a fire: – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1,750 mm ³ , integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10		N/A
	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		N/A
	<i>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</i>		N/A
	<i>For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5</i>		N/A

	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
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.	Added. The alternative method is not considered.	N/A
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:	Added. The alternative method is not considered.	N/A

	Clause of AS/NZS 60695.11.5	Change		N/A
	9 Test procedure			
	9.2 Application of Needle-flame	Delete the first and second paragraphs and replace with the following: 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. The duration of application of the test flame shall be 30 s ± 1 s		
	9.3 Number of test specimens	Delete existing text and replace with the following: 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	Delete existing text and replace with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15s		
	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			N/A

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 glow-wire 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.	Added. The alternative method is not considered.	N/A
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	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.		N/A
	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		N/A
	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	Testing of printed boards The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE.	Added. The alternative method is not considered.	N/A

	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 <i>Compliance shall be determined using the smallest thickness of the material.</i>		N/A
	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 m when the circuit supplied is disconnected.		N/A

Report No.: CN20EL5B 001

IEC 60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 60950-1 with A1: 2009 and A2:2013 JAPAN NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to : J60950-1 (H29)			
Attachment Form No..... : JP_ND_IEC60950_1G			
Attachment Originator : JQA			
Master Attachment..... : 2017-11			
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	National Differences		
1.2.4.1	Add the following new notes. Note: Even if the equipment is designed as Class I, the equipment is regarded as CLASS 0I EQUIPMENT (see 1.2.4.3A) when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.	Added.	P
1.2.4.3A	Add the following new clause. 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 either of the following a) or b) 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. a) Provision of 2-pin plug with earthing lead including the condition of that 2-pin adaptor with earthing lead wire is provided or recommended. b) Provision of an independent earthing terminal, when 2-core mains cord (without earthing conductor) is used. Note – CLASS 0I EQUIPMENT may have a part constructed with Double Insulation or Reinforced Insulation.	Added.	P

IEC 60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.3.2	Add the following notes after the 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.	Added. Not transportable equipment.	P
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, or components shall have equivalent to or better properties than these. Replace Note 1 with the following: Note 1 Components complying with the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance. Note 2 JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope. Add the following after the last paragraph: For an appliance connector that is able to fit with appliance inlet compatible with the standard sheet of IEC 60320-1 or JIS C 8283-1, the size of the connector shall comply with relevant standard sheet of IEC 60320-1 or JIS C 8283-1. A power supply cord set complying with JIS C 8286 is regarded to comply with this requirement. Note 3 A power supply cord set provided with appliance connector that is able to fit with appliance inlet compatible with the standard sheet of IEC 60320-1 or JIS C 8283-1 should comply with JIS C 8286.	Replaced.	N/A
1.5.2	Add the following Note 2 after the 4th dashed paragraph: Note 2 See 1.7.5A when Type C.14 appliance coupler rated 10 A per JIS C 8283-1 is used with an equipment rated not more than 125 V and rated more than 10 A.	Replaced.	P

IEC 60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.5	Add the following Note after the last paragraph: NOTE An interconnection cord sets provided with interconnecting coupler for mains supply complying with JIS C 8283-2-2 should comply with JIS C 8286.		N/A
1.5.9.1	Add the following in the last of NOTE 1. Gas discharge tube connected in series with VDR may be used.	Replaced.	N/A
1.7	Replace EE.2 and EE.4 with the following: JA.1 Shredder warning JA.3 Shredder power disconnection	Replaced.	P
1.7.1.2	Replace first and second dashed paragraphs with the followings: - manufacturer's or responsible company's name or trade-mark or identification mark; - manufacturer's or responsible company's model identification or type reference;		N/A
1.7.2.1	Add the following after the second paragraph. Instruction or equipment marking regarding safety shall be written in Japanese unless otherwise permitted in this standard.	Added. Shall be evaluated during national approval	N/A
1.7.2.5	Replace the last sentence with the following: An acceptable marking for an electric shock hazard is (6.2.4 of JIS S 0101). 	Replaced.	N/A
1.7.5	Replace the second paragraph with the following. Socket-outlets conforming to JISC8282-1 are examples of standard power supply outlets.	Replaced.	N/A

IEC 60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5A	Add the following new clause after 1.7.5. 1.7.5A Power supply cord set If appliance coupler according to IEC60320-1, 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 operating instruction. “ Use only designated cord set attached in this equipment” <i>Example in Japanese:</i> “この機器に同梱(梱)した指定の電源コードセットだけを使用して下さい。” If appliance coupler is used for connection to the mains and if the cord set is not provided within the package for the equipment, suitable information regarding to the cord set shall be described in the operating instruction Note Since the combination of appliance inlet with earthing pin and two-core cord set (without earthing conductor) is special, the cord set should be attached in the equipment and the operating <i>instruction should provide the information that the cord set is exclusively used with the equipment and not allowed to use with other equipment.</i>	Added. Not Exceed 10A.	N/A

IEC 60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.14A	Add the following new clause after 1.7.14. 1.7.14A Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following or equivalent instructions shall be marked. - the following instruction shall be marked on the mains plug or on the visible place of the main body “Provide an earthing connection” <i>Example in Japanese:</i> “必ず接地接続を行ってください。” - the following instruction shall be marked 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:</i> 接地接続は必ず、電源プラグを電源につなぐ前に行ってください。 また、接地接続を外す場合は、必ず電源プラグを電源から切り離してから行ってください。	Added. Shall be evaluated during national approval.	P
1.7.14B	Add the following new clause after 1.7.14A 1.7.14B Protective earthing conductor used for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided within the package for the equipment, the suitable information for the protective earthing connection shall be provided in the operating instruction. (See 2.6.3.2)	Added.	P

IEC 60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.1	Replace item b) of 2.1.1.1 with the following. b) A test with the test finger, Figure 2A, which shall not contact parts described above when applied to openings in the ENCLOSURES after removal of parts that can be detached by an OPERATOR, including fuseholders, and with OPERATOR access doors and covers open. It is permitted to leave lamps in place for this test. Connectors that can be separated by an OPERATOR, other than those complying with JIS C 8303 or JIS C 8285 or IEC 60309 series or JIS C 8283 series or IEC 60320 series, shall also be tested during disconnection. But even if the connector does not comply with these standards, the one having equivalent to or better performance need not be tested during disconnection. Note 4 Connectors complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.	Replaced.	N/A
2.5	Replace "IEC 60730-1" with "JIS C 9730-1" (in item b)).	Replaced.	N/A
2.6.2	Delete the following line. • the symbol  , IEC 60417-5018 (2011-07);		N/A
2.6.3.2	Add the following after the first paragraph. However where the single core conductor is used for protective earthing lead or earthing cord for CLASS 01 EQUIPMENT, either of the following condition shall be met. - Use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having equivalent to or more strength and thickness. - Single core cord or single core cable with 1.25 mm² or more cross-sectional area	Added.	P
2.6.3.5	Add the following after the first paragraph. However this requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector.	Added. No power cord provided.	N/A

IEC 60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.4.2	Replace the first paragraph with the following. 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. However, for CLASS 0I EQUIPMENT provided with the separate main protective earthing terminal other than appliance inlet, the separate main protective earthing terminal may be treated as mains protective earthing terminal.	Added.	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 in each of the following: Add the following after last paragraph: Note For CLASS 0I EQUIPMENT, 1.7.14A is applied instead of this requirement.	Added.	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
2.7.6	Replace "ISO 3864, No. 5036" with "6.2.4 of JIS S 0101".	Replaced.	N/A
2.10.3.1	Replace the 8th paragraph with the following The above minimum CLEARANCE for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series of standards, JIS C 8283 series of standards, IEC60320 series of standards, JIS C 8303, or even if it does not comply with the above standards but the one having equivalent to or better performance and dimension which comply with JIS C 8283 series of standards, JIS C 8303 or IEC 60309-2. Note Connectors complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.	Replaced.	P

IEC 60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.2 Table 2J	In Japan, the value of the main power supply transient voltage for the nominal ac main power supply voltage of 100 V is determined by applying the row of AC main power supply voltage 150 V.	Added.	P
2.10.4.3	Replace the 6th paragraph with the following The above minimum CREEPAGE DISTANCE for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series of standards, JIS C 8283 series of standards, IEC60320 series of standards, JIS C 8303, or even if it does not comply with the above standards but the one having equivalent to or better performance and dimension which comply with JIS C 8283 series of standards, JIS C 8303 or IEC 60309-2. Note Connectors complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.	Replaced.	P
2.10.9	Replace “1.4.5” in the third paragraph with “1.4.12”.	Replaced.	N/A
3.2.3	Add the following after the third paragraph. Table 3A applies when cables complying JIS C 3662 series of standards or JIS C 3663 series of standards are used. In case of other cables, cable entries shall be so designed that the cable could be fitted in a conduit.	Added.	N/A
3.2.4	Add the following as 4th dashed paragraph. - be so constructed that mechanical stress shall not transmit to the soldering part of inlet terminal during insertion or removal of the connector except that the body of the inlet is secured and is secured not only soldering.	Added. Inlet is cover by adequate mechanical construction, not rely on soldering.	P

IEC 60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5.1	Add the following after Note 3: Note 4 In Japan, mains cords having equivalent to or better electro-mechanical and fire safety performance as above and complying with Appendix 1 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance can be used. Replace the paragraph after Note 3 with the following. For equipment required to have protective earthing, a PROTECTIVE EARTHING CONDUCTOR shall be included in the MAINS SUPPLY cord except for CLASS 0I EQUIPMENT having separate protective earthing conductor from mains cord. Add the following after the second paragraph after Note 3: Note 5 For the cross-sectional area of mains cord described in Note 4, relevant Japanese wiring regulation can be applied.	Added.	N/A
3.2.5A	Add the following new clause after 3.2.5 3.2.5A AC mains plug Mains plug for PLUGGABLE EQUIPMENT TYPE A shall comply with JIS C 8282-1 or equivalent to or better performance. Power supply cord set complying with JIS C 8286 is regarded to meet the requirements. Mains plug with fuse link for PLUGGABLE EQUIPMENT TYPE A shall comply with JIS C 8282-2-1 or equivalent to or better performance. Note Mains plug complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.	Added.	N/A
3.3.4 Table 3D	Add the following note to Table 3D: Note For cables other than those complying with JIS C 3662 series of standards or JIS C 3663 series of standards, the terminals shall be suitable for the size of the intended cables.	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.	Added.	N/A
4.2.8	Add the following after the first paragraph: Note Intrinsically protected picture tube is required to comply with JIS C 6965 in clause 18 of JIS C 6065. No intrinsically protected picture tube which is out of scope of JIS C 6965 is required to test according to sub-clause 18.2 of JIS C 6065.	Added.	N/A

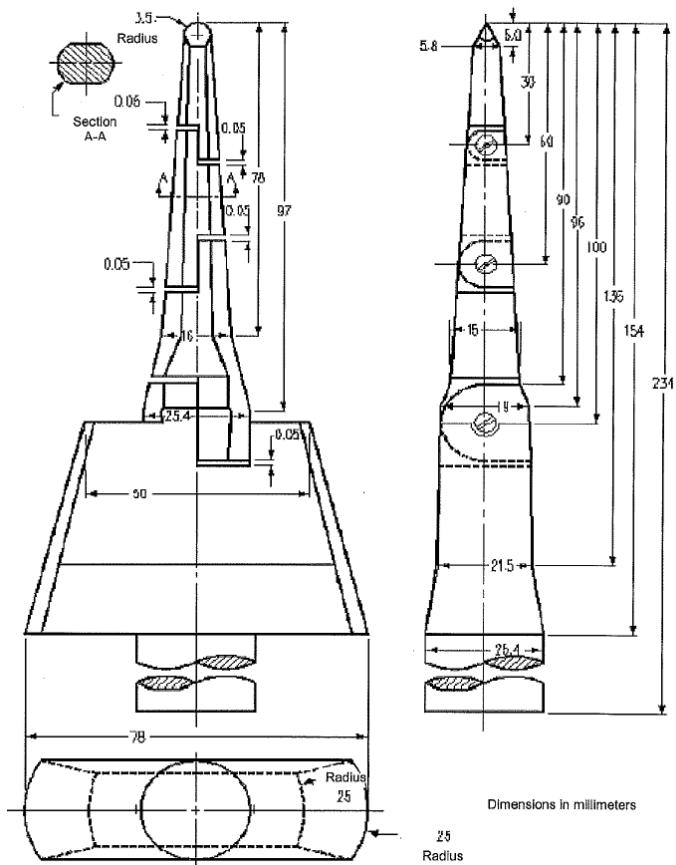
IEC 60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.4	Add the following after the first sentence: This requirement also applies to those connections in CLASS 0I EQUIPMENT, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.	Added.	N/A
4.3.5	Replace the first dashed paragraph with the following. Within a manufacturer's unit or system, plugs and sockets likely to be used by the OPERATOR or by a SERVICE PERSON shall not be employed in a manner likely to create a hazard due to misconnection. In particular, connectors complying with IEC 60320/JIS C 8283 series of standards or JIS C 8303 or JIS C 8358 shall not be used for SELV CIRCUITS or TNV CIRCUITS. Keying, location or, in the case of connectors accessible only to a SERVICE PERSON, clear markings are permitted to meet the requirement.	Replaced.	N/A
4.3.6	Replace the 1st paragraph with the following DIRECT PLUG-IN EQUIPMENT shall not impose undue stress on the socket-outlet. The mains plug part shall comply with the standard for the relevant mains plug. (see 3.2.5A)		N/A
4.4.2	Replace the paragraph with the following: HOUSEHOLD AND HOME/OFFICE DOCUMENT/MEDIA SHREDDERS shall also comply with Annex JA.		N/A
4.5.3	Add the following note to footnote b) of Table 4B: NOTE In case no data for the material is available, Appendix 4, 1. (1). b. 3 of the Interpretation on the Ministerial Ordinance stipulating Technical Specifications for Electrical Appliances is regarded as maximum temperature limit of the material.	Replaced.	N/A
5.1.3	Add a note after the first paragraph 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.	Added. Single phase power distribution system used.	N/A

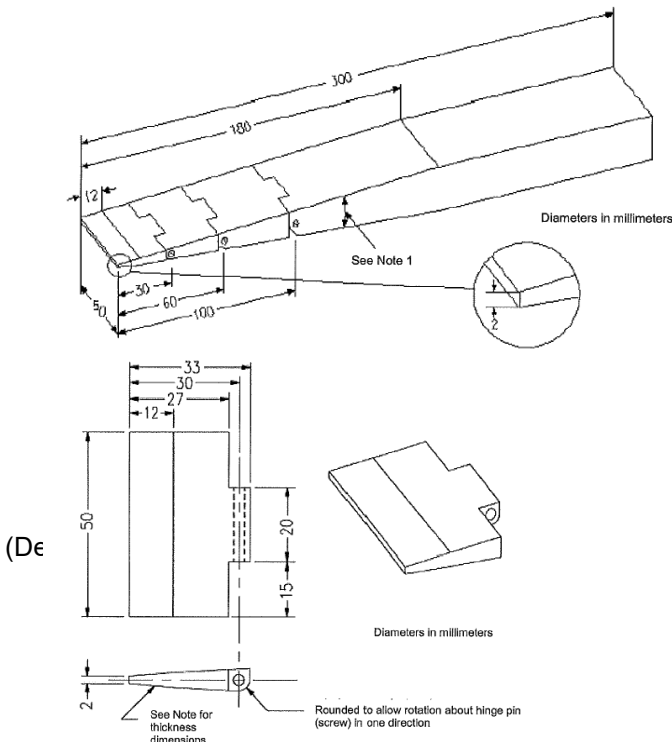
IEC 60950_1G ATTACHMENT																																							
Clause	Requirement + Test	Result - Remark	Verdict																																				
5.1.6	Replace Table 5A. as follows <table border="1"> <thead> <tr> <th>Type of equipment</th><th>Terminal A of measuring instrument connected to:</th><th>Maximum TOUCH CURRENT mA r.m.s. ^a</th><th>Maximum PROTECTIVE CONDUCTOR CURRENT</th></tr> </thead> <tbody> <tr> <td>ALL equipment</td><td>Accessible parts and circuits not connected to protective earth ^b</td><td>0,25</td><td>-</td></tr> <tr> <td rowspan="2">HAND-HELD</td><td>Main protective earthing terminal of CLASS I EQUIPMENT</td><td>0,75</td><td>-</td></tr> <tr> <td>Main protective earthing terminal of CLASS 0 I EQUIPMENT</td><td>0,5</td><td>-</td></tr> <tr> <td rowspan="2">MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT)</td><td>Main protective earthing terminal of CLASS I EQUIPMENT</td><td>3,5</td><td>-</td></tr> <tr> <td>Main protective earthing terminal of CLASS 0 I EQUIPMENT</td><td>1,0</td><td>-</td></tr> <tr> <td rowspan="2">STATIONARY, PLUGGABLE TYPE A</td><td>Main protective earthing terminal of CLASS I EQUIPMENT</td><td>3,5</td><td>-</td></tr> <tr> <td>Main protective earthing terminal of CLASS 0 I EQUIPMENT</td><td>1,0</td><td>-</td></tr> <tr> <td rowspan="2">ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7</td><td>Main protective earthing terminal of CLASS I EQUIPMENT</td><td>3,5 -</td><td>- 5 % of input current</td></tr> <tr> <td>Main protective earthing terminal of CLASS 0 I EQUIPMENT</td><td>1,0 -</td><td>- -</td></tr> </tbody> </table> a If peak values of TOUCH CURRENT are measured, the maximum values are obtained by multiplying the r.m.s.values in the table by 1,414. b Some unearthed accessible parts are covered in 1.5.6 and 1.5.7 and the requirements of 2.4 apply. These may be different from those in 5.1.6.	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. ^a	Maximum PROTECTIVE CONDUCTOR CURRENT	ALL equipment	Accessible parts and circuits not connected to protective earth ^b	0,25	-	HAND-HELD	Main protective earthing terminal of CLASS I EQUIPMENT	0,75	-	Main protective earthing terminal of CLASS 0 I EQUIPMENT	0,5	-	MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT)	Main protective earthing terminal of CLASS I EQUIPMENT	3,5	-	Main protective earthing terminal of CLASS 0 I EQUIPMENT	1,0	-	STATIONARY, PLUGGABLE TYPE A	Main protective earthing terminal of CLASS I EQUIPMENT	3,5	-	Main protective earthing terminal of CLASS 0 I EQUIPMENT	1,0	-	ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7	Main protective earthing terminal of CLASS I EQUIPMENT	3,5 -	- 5 % of input current	Main protective earthing terminal of CLASS 0 I EQUIPMENT	1,0 -	- -	Replaced. See IEC 60950-1 report	P
Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. ^a	Maximum PROTECTIVE CONDUCTOR CURRENT																																				
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ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7	Main protective earthing terminal of CLASS I EQUIPMENT	3,5 -	- 5 % of input current																																				
	Main protective earthing terminal of CLASS 0 I EQUIPMENT	1,0 -	- -																																				
Annex G	Replace the paragraph before Table G.2 with the following The above minimum CLEARANCE for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series of standards, JIS C 8283 series of standards, IEC60320 series of standards, JIS C 8303, and 1.5.1 of this standard in which dimension is comply with JIS C 8283 series, JIS C 8303 or IEC 60309-2.	Replaced.	N/A																																				
Annex V V.1	Replace "3.1.2" in the first line of V.1 with "312" in the first line.	Replaced.	P																																				

IEC 60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex W W.1	Replace the third sentence in the first paragraph with the following: Floating circuits can exist in CLASS I EQUIPMENT, CLASS 0I EQUIPMENT and earthed circuits can exist in CLASS II EQUIPMENT.	Replaced.	N/A
Annex BB	This annex is not applicable.		N/A
Annex CC CC.2	Replace the third dashed paragraph with the following: <i>- 10 000 cycles of turning enable on and off with the input connected to a capacitor rated 425 uF ± 10 uF and shorting the output;</i>		N/A
CC.3	Add note at end of CC.3: Note: The fast blow fuse should be the one complying with JIS C 6575-2.		N/A
CC.4	Replace the 2nd dashed paragraph with the following: - 10 000 cycles of turning enable on and off with a 100 Ω ± 5 Ω resistor and a 425 uF ± 10 uF capacitor in parallel with the output; Replace the 4th dashed paragraph with the following: - 10 000 cycles of turning enable on and off with the input connected to a capacitor rated 425 uF ± 10 uF and shorting the output; Replace the 5th dashed paragraph with the following: -10 000 cycles of turning the input pin on and off with a capacitor rated 425 uF ± 10 uF connected to the input supply while keeping enable active and shorting the output; Replace the 6th dashed paragraph with the following: -10 000 cycles of turning the input pin on and off with an ferrite-core inductor having 350 mH ± 10 mH inductance at 1 kHz and less than 1 Ω d.c. resistance connected to the input supply and return while keeping enable active and shorting the output; Replace the 10th dashed paragraph with the following: -3 cycles of exposing the device (not energized) to 70 °C ± 2 °C for 24 h; followed by at least 1 h at room ambient; followed by at least 3 h at -30 °C ±		N/A

IEC 60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	2 °C; followed by 3 h at room ambient; Replace the 11th dashed paragraph with the following: –10 cycles of exposing the device (while energized) to 50 °C ± 2 °C for 10 min; followed by 10 min at 0 °C ± 2 °C with a 5 min period of transition from one state to the other;		
Annex EE	Replace Annex EE with the following Annex JA. Annex JA (normative) Document shredding machines HOUSEHOLD AND HOME/OFFICE DOCUMENT/MEDIA SHREDDERS shall additionally comply with the requirements of this annex. JA.1 Markings and instructions The symbol  (JIS S 0101:2000, 6.2.1) 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; 子供が使用することによって、傷害などの危害が発生するおそれがある。; (that use by infants/children may cause a hazard of injury etc.) 文書投入口に手を触れることによって、細断機構に引き込まれるおそれがある。; (that a hand can be drawn into the mechanical section for shredding when touching the document-slot) 文書投入口に衣類が触れることによって、細断機構に引き込まれるおそれがある。; (that clothing can be drawn into the mechanical section for shredding when touching the document-slot) 文書投入口に髪の毛が触れることによって、細断機構に引き込まれるおそれがある。; (that hairs can be drawn into the mechanical section for shredding when touching the document-slot) - in case of equipment incorporating a commutator motor, 可燃性ガスを噴射することによって引火又は爆発するおそれがある。 (that equipment may catch fire or explode by spraying of flammable gas.)	Not document shredding machine.	N/A

IEC 60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	JA.2 Inadvertent reactivation 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. JA.3 Disconnection from the mains supply 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.		
	JA.4 Protection against hazardous moving parts 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.	See above.	N/A

IEC 60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	 Figure JA.1 Test finger		N/A

IEC 60950_1G ATTACHMENT											
Clause	Requirement + Test	Result - Remark	Verdict								
	 <table> <tr> <th>Distance from the tip (mm)</th> <th>Thickness of probe (mm)</th> </tr> <tr> <td>0</td> <td>2</td> </tr> <tr> <td>12</td> <td>4</td> </tr> <tr> <td>180</td> <td>24</td> </tr> </table> 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; for ≤ 25 mm: +/- 0.13 mm for > 25 mm: +/- 0.3 mm. Figure JA.2 Wedge-probe	Distance from the tip (mm)	Thickness of probe (mm)	0	2	12	4	180	24		N/A
Distance from the tip (mm)	Thickness of probe (mm)										
0	2										
12	4										
180	24										

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
	Enclosed by metal or ceramic		N/A

J3000(H25)

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National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

	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

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.	P
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

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
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
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.		P
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

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
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
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.		P
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.		P

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.3& 2.10.3.4	Add "(applicable for altitude up to 2000m)" in header of Table 2K、2L and 2M.		P
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.		P
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

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
Annex BB (informative)	Amended as : The differences between Chinese national standards GB 4943.1-2011 and GB 4943-2001.		N/A
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, therefore 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, therefore 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		N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
	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 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.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
APPENDIX X	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

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

National Differences			
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

National Differences			
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			
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.		N/A
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National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950 - 1, ed2, amd1 ISRAEL NATIONAL DIFFERENCES (INFORMATION TECHNOLOGY EQUIPMENT – SAFETY: GENERAL REQUIREMENTS)			
Differences according to.....: National standard SI 60950 - 1, ed2, amd1.			
Attachment Form No.....: IL_ND_IEC60950_1C			
Attachment Originator Standards Institution of Israel			
Master Attachment Date 2015-12			
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	National Differences		P
1.6	Power interface The clause is applicable with the following addition:		P
1.6.1	AC Power distribution systems		P
	- At the end of the clause, the following note shall be added: Note: In Israel, the clause is subject to the Electricity Law, 1954, its Regulations and updates.		P
1.7	Marking and instructions The clause is applicable with the following additions:		N/A
1.7.1	Power rating		N/A
	- Subclause 1.7.201 shall be added after the clause, as follows:		N/A
1.7.201	Marking in the Hebrew language	Shall be evaluated during national approval	N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
	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 items shall be marked in the Hebrew language: 1. Name of the apparatus and its commercial designation; 2. Manufacturer's name and his address; if the equipment is imported, the importer's name and his address; 3. Manufacturer's registered trademark, if any; 4. Name of the model and serial number, if any; 5. Country of manufacture. The items shall be marked on the apparatus or on its packaging, or on a label well attached to the apparatus or its packaging, by bonding or sewing, such that the label cannot be easily removed.		N/A
1.7.2	Safety instructions and marking	See below	N/A
1.7.2.1	General - The following shall be added at the end of the clause: All the instruction and all the warnings related to safety shall also be written in the Hebrew language.	Shall be evaluated during national approval	N/A
- At the end of clause 1, clause 1.201 shall be added as follows:			
1.201	Power consumption in standby mode The equipment shall comply with the requirements of the Energy Sources Regulations (Maximum electrical power in standby mode for domestic and office electrical appliances), 2011, with a permitted deviation of up to 10 %.	Shall be evaluated during national approval	N/A
2	Protection from hazards The clause is applicable with the following additions:		P

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.4	Separation from hazardous voltages The following shall be added at the beginning of the clause: According to the Electricity Law, 1954, and the Electricity Regulations (Earthing and protection means from electricity at voltages up to 1,000 V), 1991, in Israel, seven means of protection from electricity are permitted, as follows: 1) Network system earthing - (TN-C-S, TN-S); 2) Network system earthing - (TT); 3) Network Insulation Terre - (IT); 4) Isolated transformer; 5) Safety extra low voltage; 6) Residual current circuit breaker; 7) Reinforced insulation; Double insulation		P
- Clause 2.201 shall be added at the end of clause 2, as follows:			
2.201	Prevention of electromagnetic interference The device shall meet the requirements of the relevant part of the Israeli Standard series, SI 961. If the device contains components for prevention of electromagnetic interference, the devices shall not lower the safety level of the device, as required by this Standard.		N/A
3	Wiring, connections and supply The clause is applicable with the following additions:		N/A
3.2	Connection to a mains supply		N/A
3.2.1	Means of connection		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 supply plug shall comply with the requirements in Israeli Standard, SI 32 Part 1.1.	No power cord provided.	N/A
3.2.1.2	Connection to a d.c. mains supply After the first paragraph, the following note shall be added: Note: As of the date of publication of this Standard, there is no Israeli Standard for connection accessories to d.c.		N/A

National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
	Special national conditions (if any)		N/A
	ANNEX P Normative references		N/A
	The annex is applicable with the following modifications and additions: In place of some of the International Standards cited in the Standard and noted in this annex, the following Israeli Standards shall apply:		N/A

National Differences			
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

Product: LCD Monitor

Type Designation: P435, MA431

Overall front view (Horizontal)



Overall rear view (Horizontal)



Product: LCD Monitor

Type Designation: P435, MA431

Overall front view (Vertical)



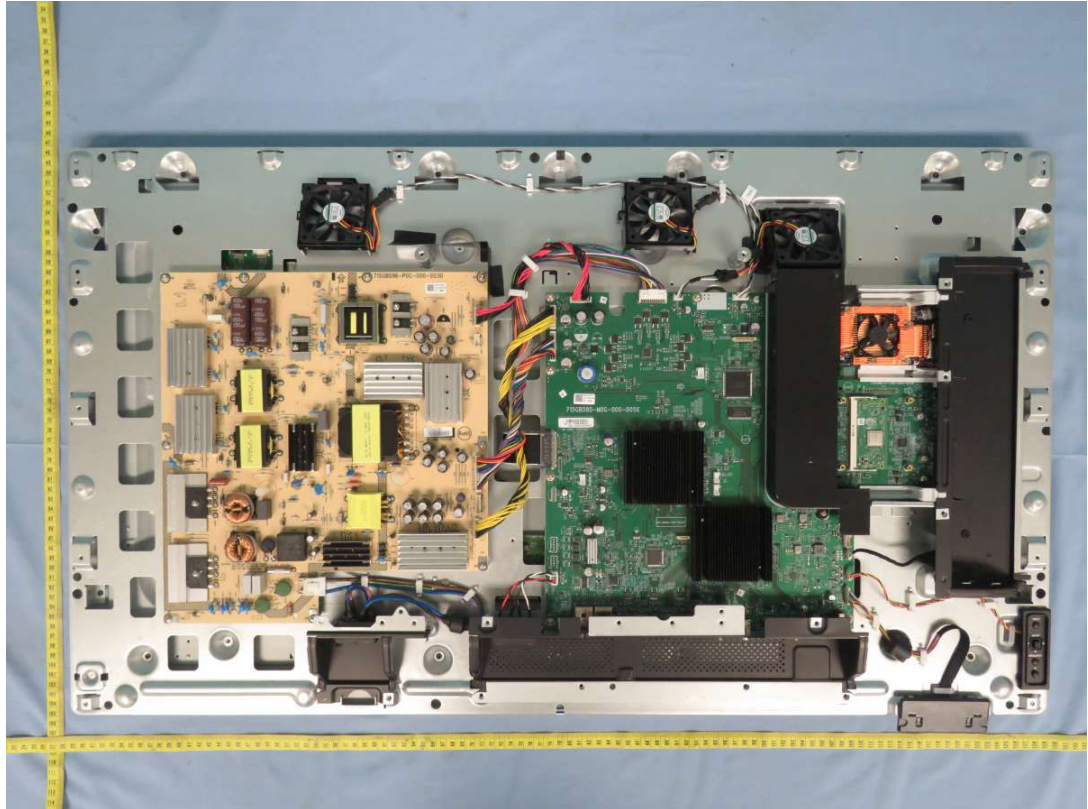
Overall rear view (Vertical)



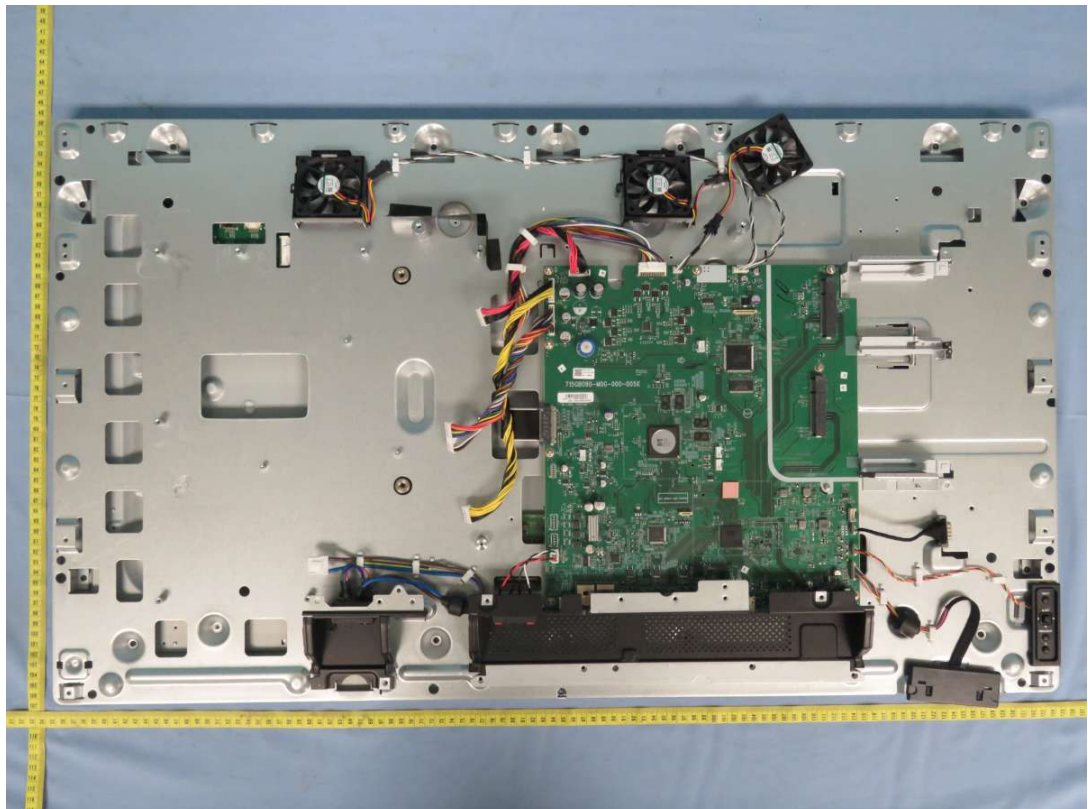
Product: LCD Monitor

Type Designation: P435, MA431

Internal view 1



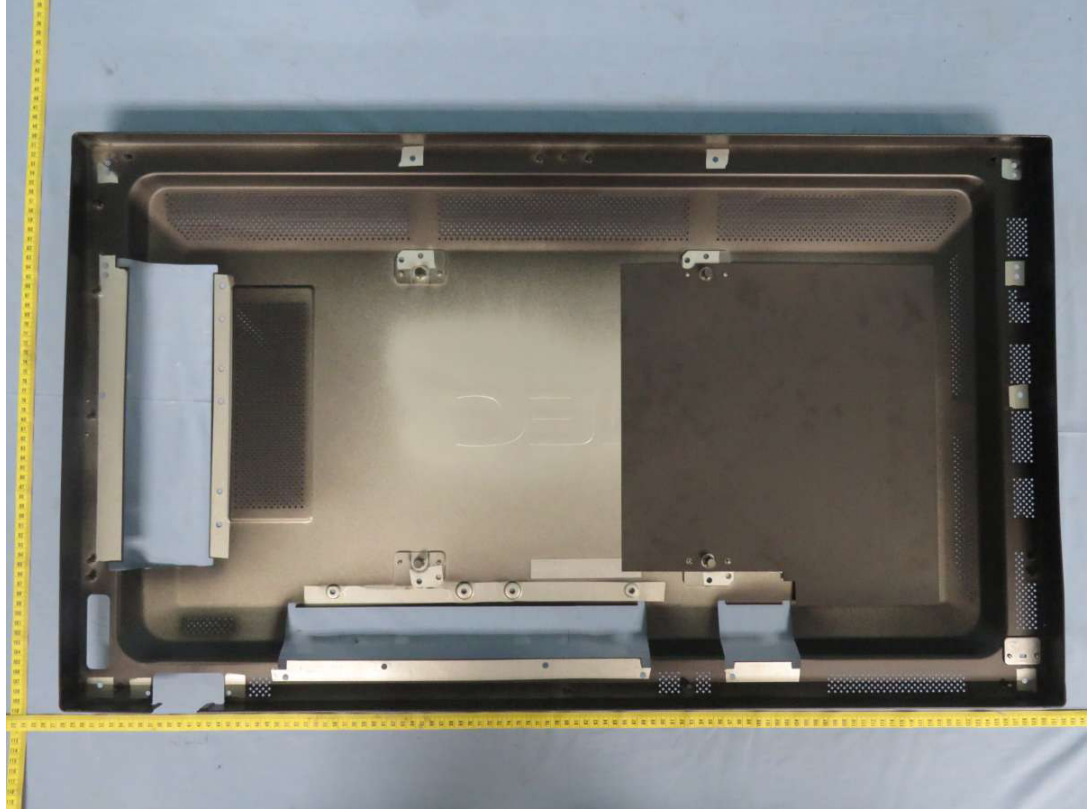
Internal view 2



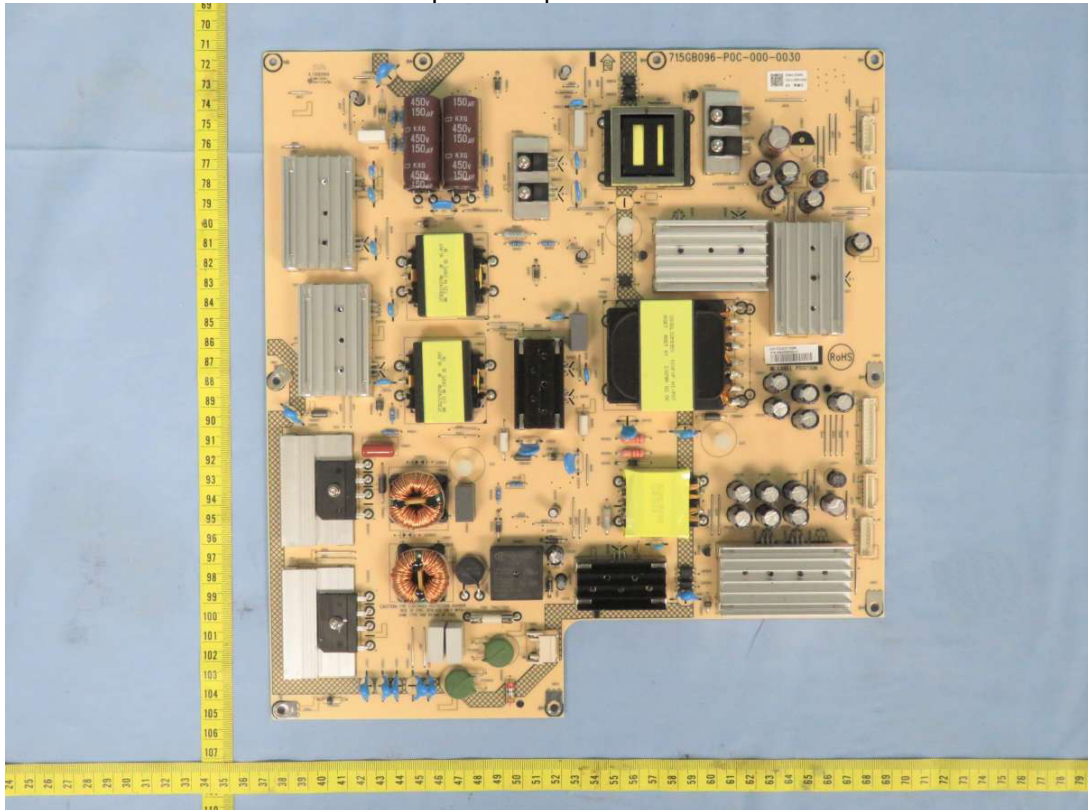
Product: LCD Monitor

Type Designation: P435, MA431

Metal enclosure view



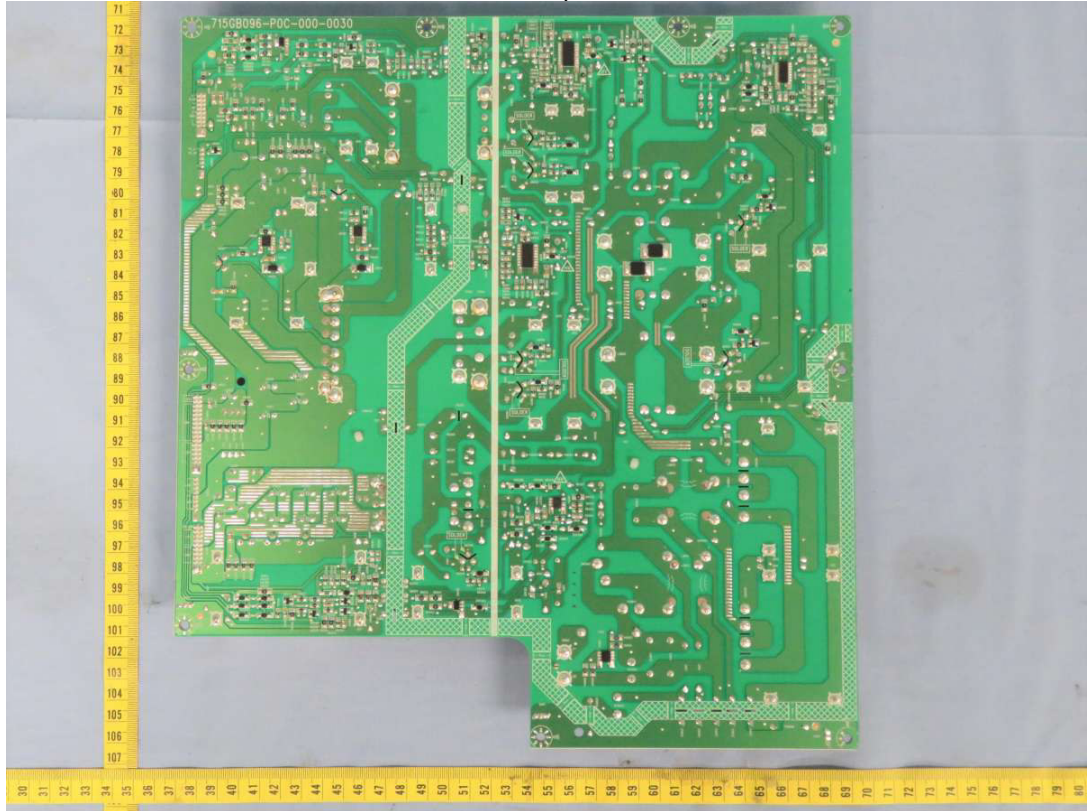
Top view of power board



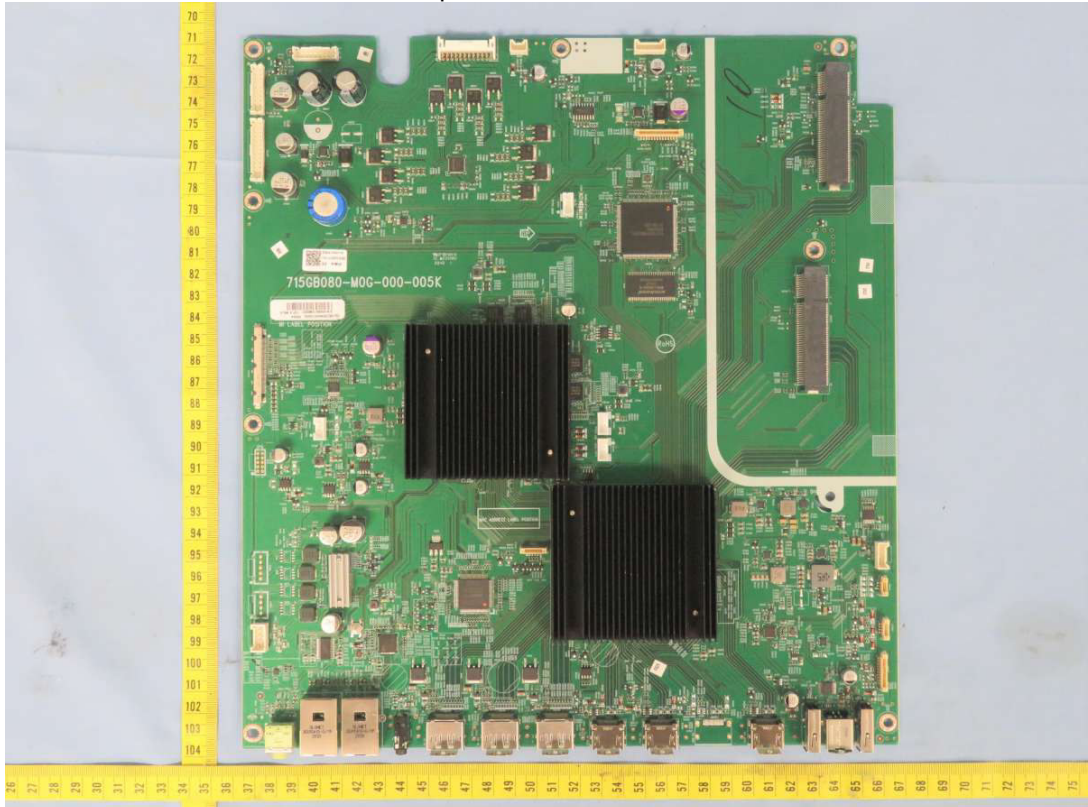
Product: LCD Monitor

Type Designation: P435, MA431

Bottom view of power board



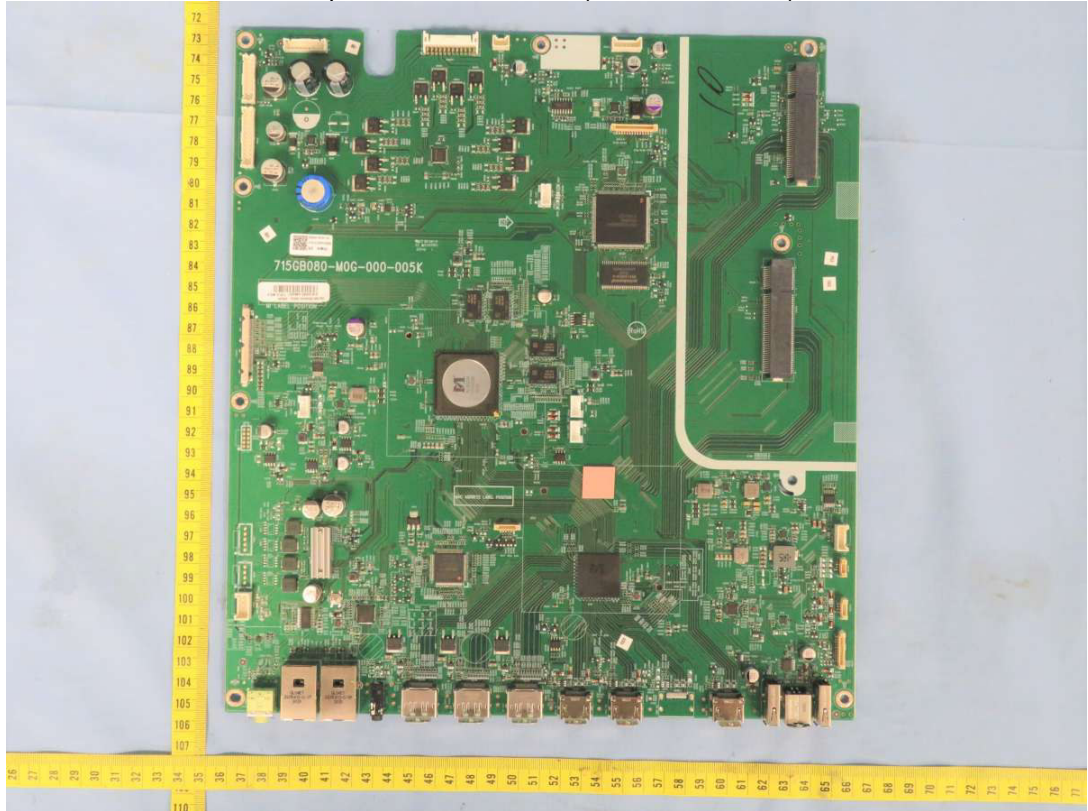
Top view of main board



Product: LCD Monitor

Type Designation: P435, MA431

Top view of main board (remove heatsink)



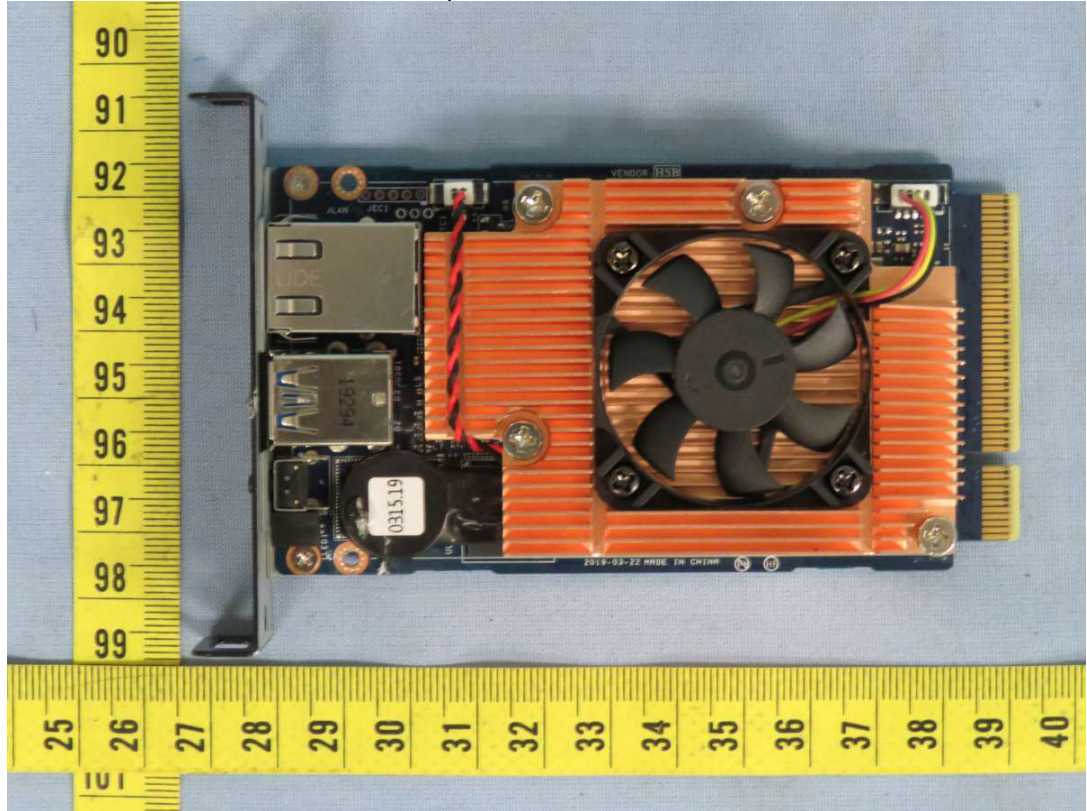
Bottom view of main board



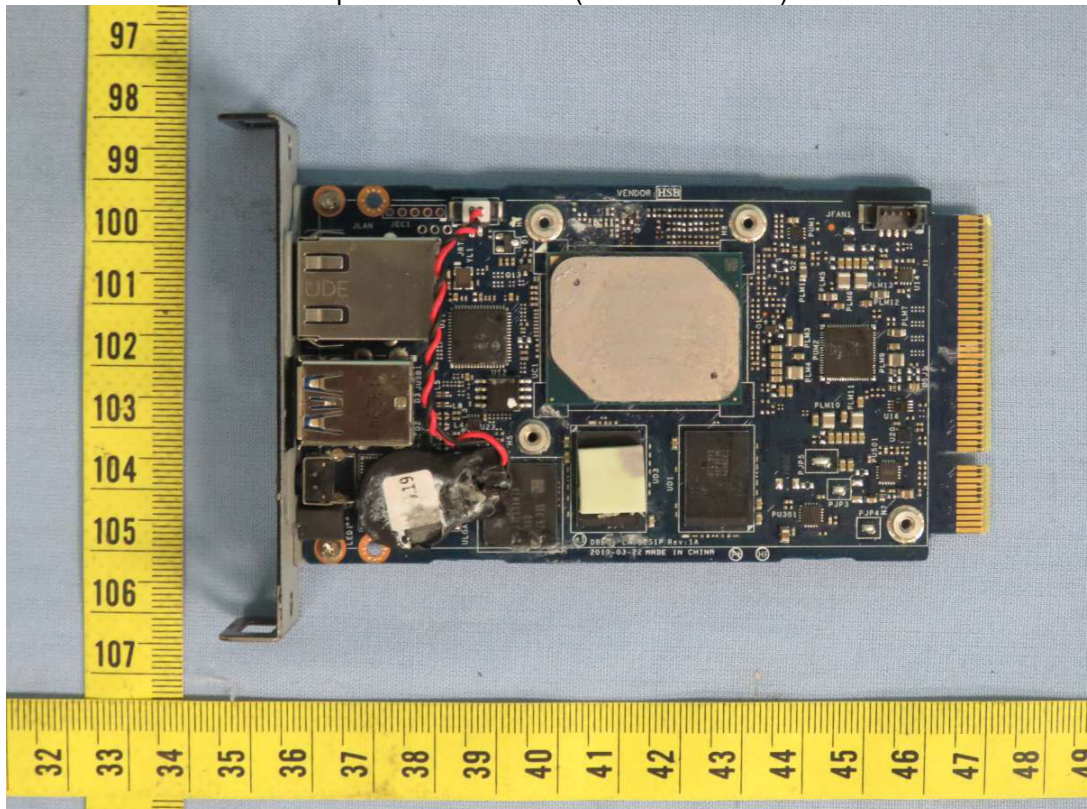
Product: LCD Monitor

Type Designation: P435, MA431

Top view of SDM card



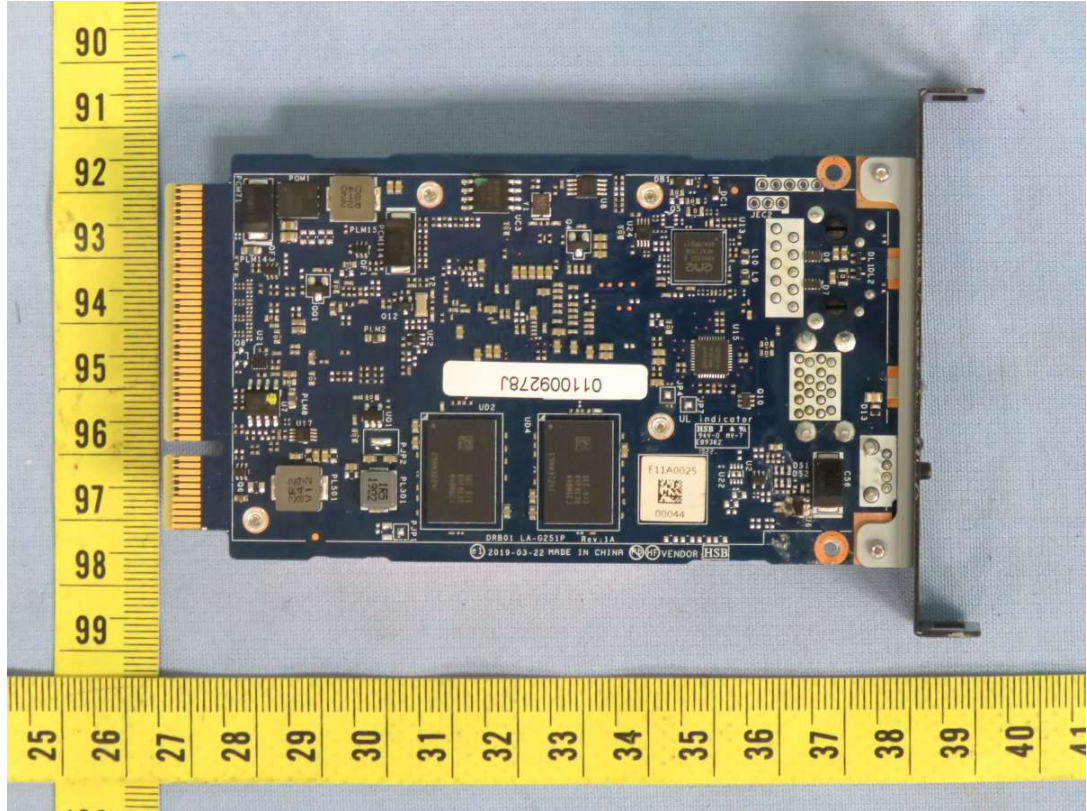
Top view of SDM card (remove heatsink)



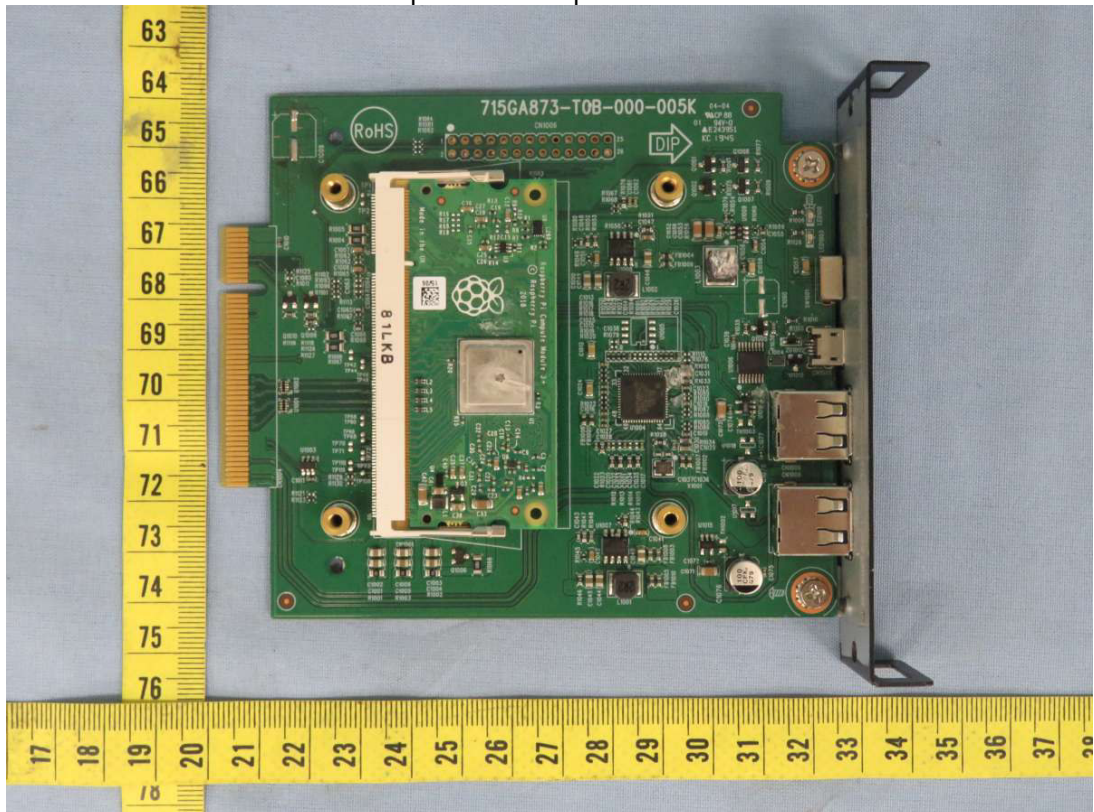
Product: LCD Monitor

Type Designation: P435, MA431

Bottom view of SDM card



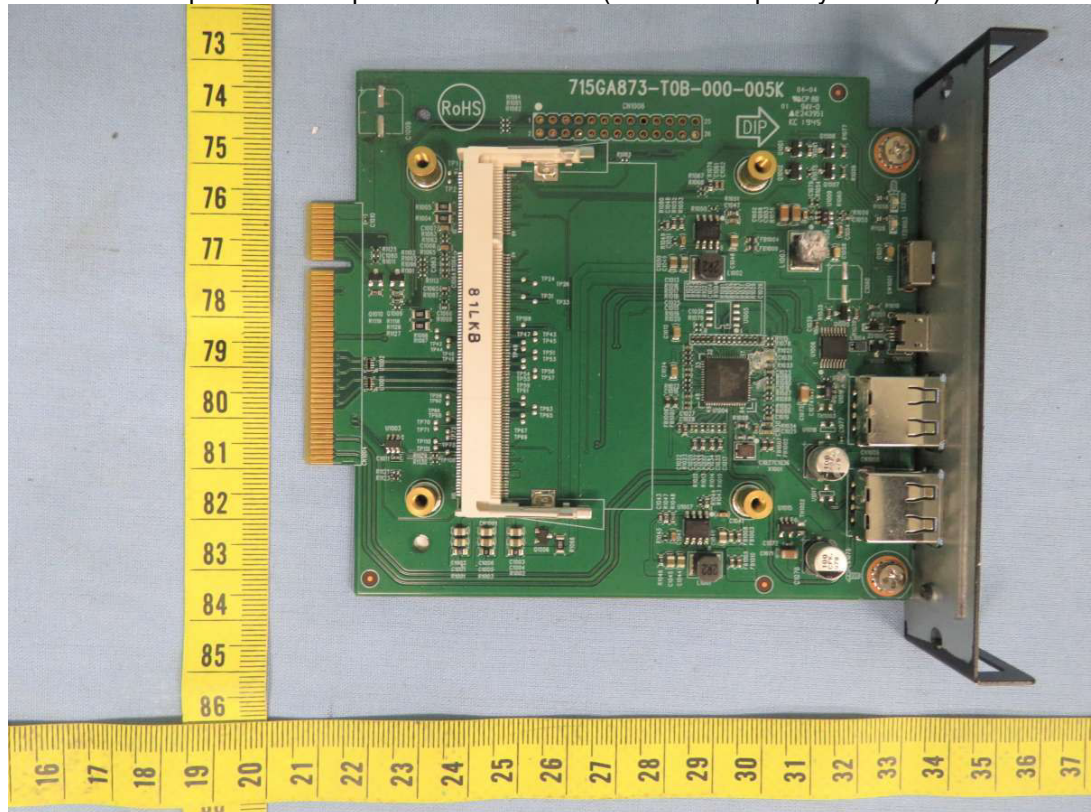
Top view of compute module



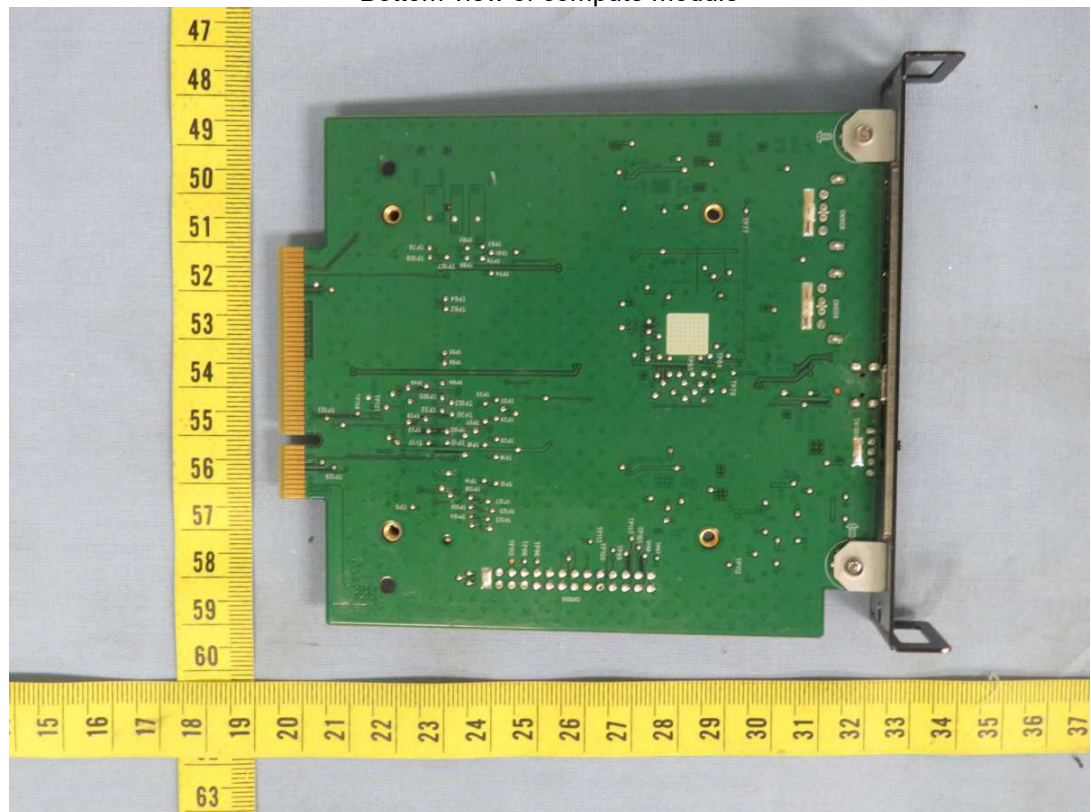
Product: LCD Monitor

Type Designation: P435, MA431

Top view of compute module if board (remove Raspberry Pi Linux)



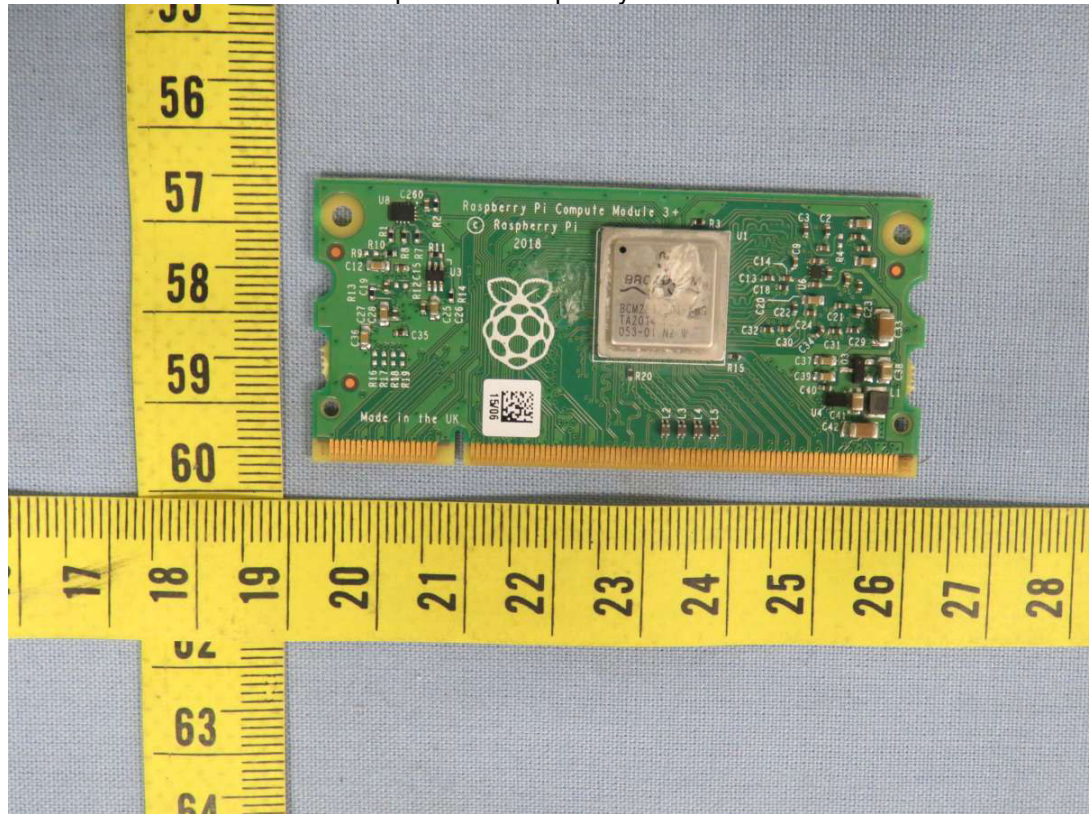
Bottom view of compute module



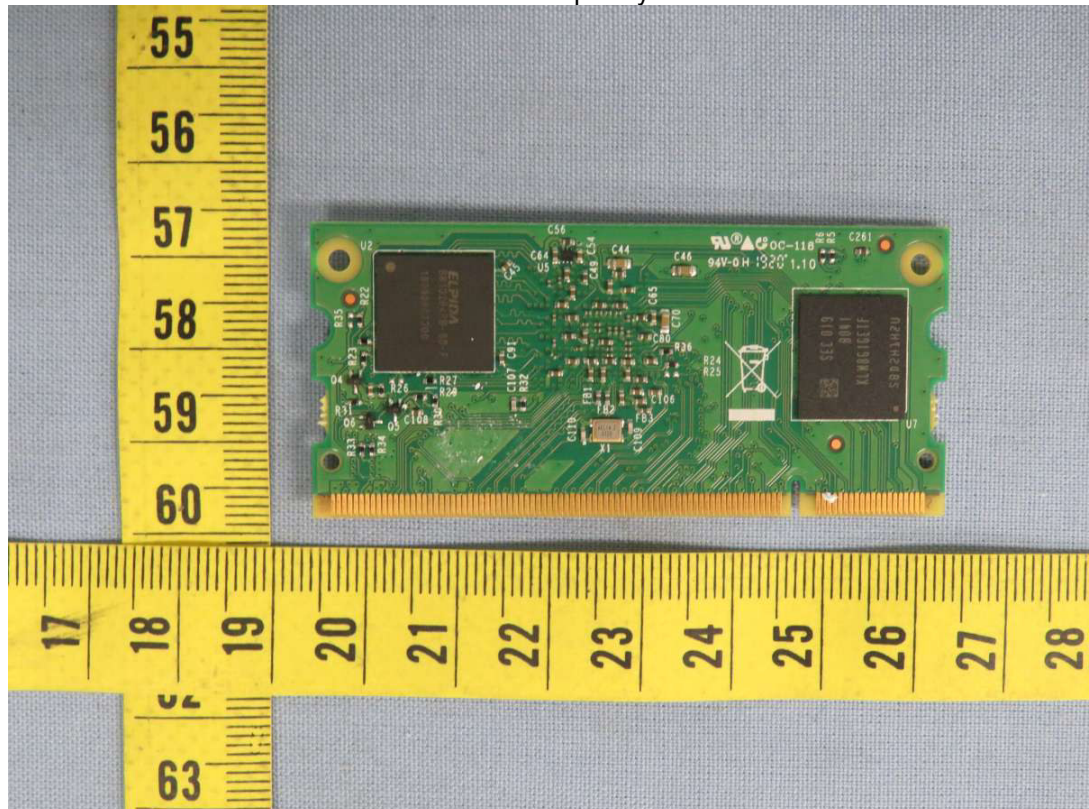
Product: LCD Monitor

Type Designation: P435, MA431

Top view of Raspberry Pi Linux



Bottom view of Raspberry Pi Linux



Product: LCD Monitor

Type Designation: P435, MA431

Connector side view 1



Connector side view 2 (without SDM card and computer module)



Product: LCD Monitor

Type Designation: P435, MA431

Connector side view 3 (with SDM card and computer module)



Base stand



Product: LCD Monitor

Type Designation: P435, MA431

AC inlet and switch view

