Ref. Certif. No.

FI-60559

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	TPV Electronics (Fujian) Co., Ltd. Rongqiao Economic & Technological Development Zone, Fuqing, Fujian, China
Name and address of the manufacturer	TPV Electronics (Fujian) Co., Ltd. Rongqiao Economic & Technological Development Zone, Fuqing, Fujian, China
Name and address of the factory Note: *When more than one factory, please report on page 2*	See page 2 ☒ Additional Information on page 2
Ratings and principal characteristics	100 V - 240 V~, 50 Hz / 60 Hz, 1,5 A; Class I
Trademark / Brand (if any)	AOC
Customer's Testing Facility (CTF) Stage used	-
Model / Type Ref.	CQ32G4VE, CQ32G4E, CQ32G4V, **32G4********** (* can be A-Z, a-z, 0-9, blank or symbol +, -, /, \, or sign absence or no mark or no symbol)
Additional information (if necessary may also be reported on page 2)	Other rating: IPX0; Tma: 40 °C; Max. altitude: 5000 m ☐ Additional Information on page 2
A sample of the product was tested and found to be in conformity with	IEC 60950-1:2005, IEC 60950-1:2005/AMD1:2009, IEC 60950-1:2005/AMD2:2013 National Differences: CN, JP, US, CA
As shown in the Test Report Ref. No. which forms part of this Certificate	SZES240200125801

This CB Test Certificate is issued by the National Certification Body

SGS Fimko Ltd
Takomotie 8
FI-00380 Helsinki, Finland

SGS

Date: 2024-06-07

Signature:

Ralf Klingberg
Certification Manager

	Ref. Certif. No.
	FI-60559

Name and address of the factories:

1. TPV Electronics (Fujian) Co., Ltd.
Rongqiao Economic & Technological Development Zone, Fuqing, Fujian, China

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

3. TPV Electronics (Fujian) Co., Ltd.
Optoelectronic Park, Rongqiao Economic and Technological Development Zone, Fuqing, Fujian, China

4. TPV Display Technology (China) Co., Ltd.
No.106 Jinghai 3 Rd., BDA, Beijing, 100176, China

5. TPV Display Technology (Wuhan) Co., Ltd.
Unique No. 11 Zhuankou Development District of Economic Technological Development Zone, Wuhan, Hubei, China

6. L&T Display Technology (Fujian) Ltd.
Optoelectronic Park, Rongqiao Economic and Technological Development Zone, Fuqing, Fujian, China

7. Envision Indústria de Produtos Eletrônicos Ltda.
Av. Torquato Tapajós, 2236, Flores, CEP 69058-830, Manaus, AM, Brasil

8. TPV Technology (Thailand) Co., Ltd.
No. 267 Mu7, Tha Tum Sub- District, Si Maha Pho District, Prachinburi, Thailand

SGS Fimko Ltd
Takomotie 8
FI-00380 Helsinki, Finland

Date: 2024-06-07

Signature:

Ralf Klingberg
Certification Manager

Test Report issued under the responsibility of:

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

Report Number.....:	SZES240200125801
Date of issue .....:	2024-06-06
Total number of pages.....	69 pages
Name of Testing Laboratory preparing the Report.....:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Applicant's name .....:	TPV Electronics (Fujian) Co., Ltd.
Address .....:	Rongqiao Economic & Technological Development Zone, Fuqing, Fujian, China
Test specification:	
Standard.....:	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Test procedure.....:	CB Scheme
Non-standard test method.....:	N/A
Test Report Form No.....:	IEC60950_1G
Test Report Form(s) Originator ....:	SGS Fimko Ltd
Master TRF .....:	Dated 2019-07-02

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

General disclaimer:

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

Test item description ..... :	LCD Monitor
Trade Mark ..... :	AOC
Manufacturer ..... :	Same as applicant
Model/Type reference ..... :	CQ32G4VE, CQ32G4E, CQ32G4V, **32G4********** (* can be A-Z, a-z, 0-9, blank or symbol +, -, /, \, or sign absence or no mark or no symbol)
Ratings ..... :	100 - 240 V ~, 50 / 60 Hz, 1,5 A, Class I

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):

☒	**CB Testing Laboratory:**	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch	
Testing location/ address ..... :		No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China	
Tested by (name, function, signature) ..... :		Lynn Sun / Project Engineer	Lynn Sun
Approved by (name, function, signature) .. :		Emily Wang / Report Reviewer	Emily Wang
☐	**Testing procedure: CTF Stage 1:**	N/A	
Testing location/ address ..... :			
Tested by (name, function, signature) ..... :			
Approved by (name, function, signature) .. :			
☐	**Testing procedure: CTF Stage 2:**	N/A	
Testing location/ address ..... :			
Tested by (name + signature) ..... :			
Witnessed by (name, function, signature) . :			
Approved by (name, function, signature) .. :			
☐	**Testing procedure: CTF Stage 3:**	N/A	
☐	**Testing procedure: CTF Stage 4:**	N/A	
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):

Attachment 1: 13 pages of Photos;

Attachment 2: 5 pages of Deviations of China;

Attachment 3: 14 pages of Deviations of Japan;

Attachment 4: 5 pages of Deviations of USA;

Attachment 5: 5 pages of Deviations of Canada.

Summary of testing:

The sample(s) tested complies with the requirements of IEC 60950-1:2005 + Am 1:2009 + Am 2:2013.
No decision rule is specified by standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method")

Heating test: Tma = 40 °C (Declared by manufacturer).

T-type thermocouple used for temperature measurement.

Representative model(s) for full testing: CQ32G4VE

Tests performed (name of test and test clause):	**Testing location:**
☒ 1. GENERAL ☒ 2. PROTECTION FROM HAZARDS ☒ 3. WIRING, CONNECTIONS AND SUPPLY ☒ 4. PHYSICAL REQUIREMENTS ☒ 5. ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS ☐ 6. CONNECTION TO TELECOMMUNICATION NETWORKS ☐ 7. CONNECTION TO CABLE DISTRIBUTION SYSTEMS	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China

Summary of compliance with National Differences:

List of countries addressed: CN, JP, US, CA

☒ **The product fulfils the requirements of** GB 4943.1-2011; J60950-1 (H29);

UL 60950-1-07(Second Edition) + A1: 2011 + A2: 2014;

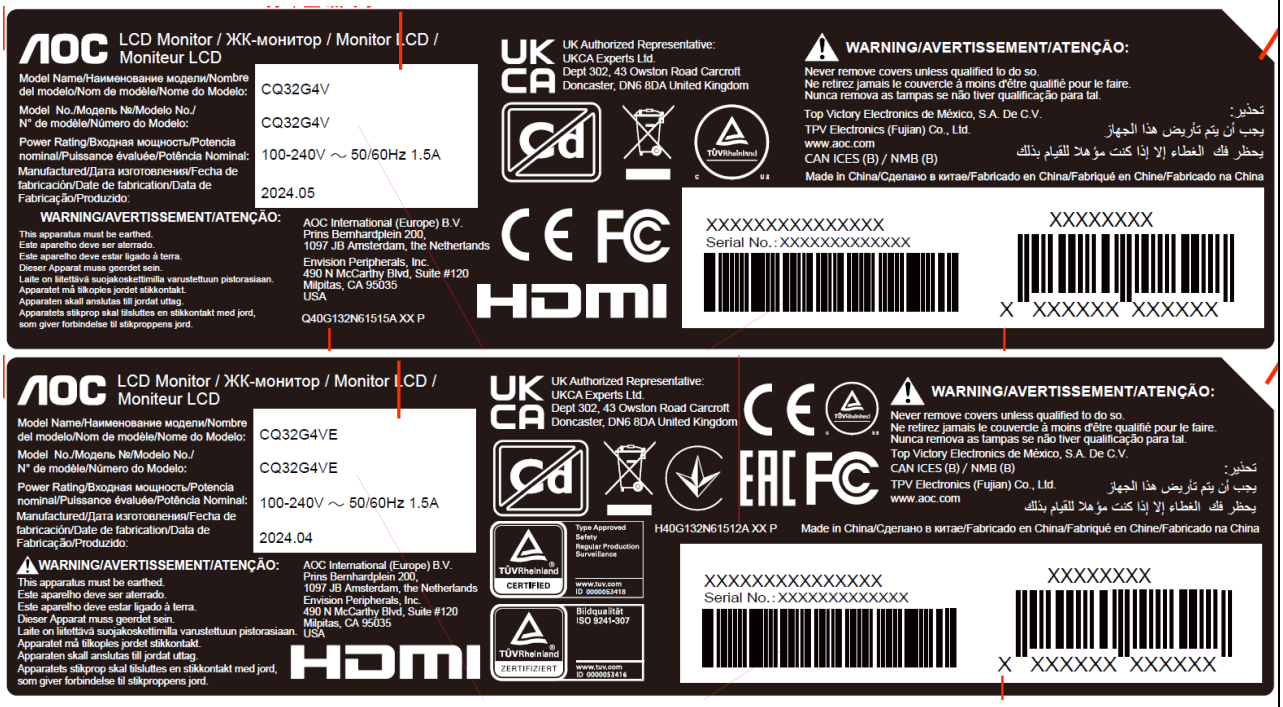
CAN/CSA-C22.2 No. 60950-1-07, Amd 1:2011, Amd 2:2014

The national differences of AR, BE, GR, HU, IN, MY, SK, KEN, CZ have been also checked and found to include no nation differences or deviations from the IEC 60950-1: 2005 + Am 1:2009 + Am 2:2013.

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)

Copy of marking plate:

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



Remark:

- The marking plates as above of other models are of the same pattern.

- The above markings are the minimum requirements required by the safety standard. For the final production, the additional markings which do not give rise to misunderstanding may be added.

Test item particulars.....:	
Equipment mobility.....:	[x] movable [] hand-held [] transportable [] stationary [] for building-in [] 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:
Mains supply tolerance (%) or absolute mains supply values .....:	-10%, +10% (As manufacturer required)
Tested for IT power systems .....:	[] Yes [x] No
IT testing, phase-phase voltage (V) .....:	N/A
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 A; 20A for US/CA
Pollution degree (PD) .....:	[] PD 1 [x] PD 2 [] PD 3
IP protection class .....:	IPX0
Altitude during operation (m) .....:	Max. 5000 m
Altitude of test laboratory (m) .....:	Less than 2000m
Mass of equipment (kg) .....:	Base stand A: Max. 8,41 kg with base stand, Base stand: 2,26 kg; Base stand B: Max. 7,31 kg with base stand, Base stand: 1,09 kg.
Possible test case verdicts:	
- test case does not apply to the test object .....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement .....:	F (Fail)
Testing.....:	
Date of receipt of test item .....:	2024-02-28
Date (s) of performance of tests.....:	2024-02-28 to 2024-04-30

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☒ comma / ☐ point is used as the decimal separator.

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

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :	☒ **Yes** ☐ **Not applicable** Factory declaration letter.pdf, dated on 2024-05-20

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

Name and address of factory (ies) ..... :	1, TPV Electronics (Fujian) Co., Ltd. Rongqiao Economic & Technological Development Zone, Fuqing, Fujian, China 2, TPV Electronics (Fujian) Co., Ltd. Shangzheng, Yuan Hong Road, Fuqing, Fujian, China 3, TPV Electronics (Fujian) Co., Ltd. Optoelectronic Park, Rongqiao Economic and Technological Development Zone, Fuqing, Fujian, China 4, TPV Display Technology (China) Co., Ltd. No.106 Jinghai 3 Rd., BDA, Beijing, 100176, China 5, TPV Display Technology (Wuhan) Co., Ltd. Unique No. 11 Zhuankou Development District of Economic Technological Development Zone, Wuhan, Hubei, China 6, L&T Display Technology (Fujian) Ltd. Optoelectronic Park, Rongqiao Economic and Technological Development Zone, Fuqing, Fujian, China 7, Envision Indústria de Produtos Eletrônicos Ltda. Av. Torquato Tapajós, 2236, Flores, CEP 69058-830, Manaus, AM, Brasil 8, TPV Technology (Thailand) Co., Ltd. No. 267 Mu7, Tha Tum Sub- District, Si Maha Pho District, Prachinburi, Thailand

General product information:

Product	31,5 inch TFT LCD monitor with LED backlight
Functions	Monitor, HDMI (Optional), Earphone (Optional), DP (Optional)
Power source	AC mains
Material of enclosure	Plastic enclosure and metallic enclosure covered power board
Other features	Indoor use only

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**		—
1.5	**Components**		—
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components		P
1.5.3	Thermal controls		N/A
1.5.4	Transformers	See Annex C	P
1.5.5	Interconnecting cables		P
1.5.6	Capacitors bridging insulation	Y-Cap bridging reinforce insulation	P
1.5.7	Resistors bridging insulation		P
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	Resistors bridging functional insulation	P
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.5.9	Surge suppressors		N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	**Power interface**		—
1.6.1	AC power distribution systems		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		P
1.7	**Marking and instructions**		—
1.7.1	Power rating and identification markings		P
1.7.1.1	Power rating marking		P
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V) .....:	100 - 240 V~	P
	Symbol for nature of supply, for d.c. only .....:		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Rated frequency or rated frequency range (Hz) ...:	50/60 Hz	P
	Rated current (mA or A) .....:	1,5 A	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark .....:	AOC	P
	Model identification or type reference .....:	CQ32G4VE, CQ32G4E, CQ32G4V, **32G4********** (* can be A-Z, a-z, 0-9, blank or symbol +, -, /, \, or sign absence or no mark or no symbol)	P
	Symbol for Class II equipment only .....:	Class I	N/A
	Other markings and symbols .....:	See marking plates	P
1.7.1.3	Use of graphical symbols		P
1.7.2	Safety instructions and marking		P
1.7.2.1	General		P
1.7.2.2	Disconnect devices	AC inlet provided as the disconnect devices	P
1.7.2.3	Overcurrent protective device		P
1.7.2.4	IT power distribution systems		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 .....:		N/A
	Methods and means of adjustment; reference to installation instructions .....:		N/A
1.7.5	Power outlets on the equipment .....:		N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....:	F901: T4AL 250V~	P
1.7.7	Wiring terminals		P
1.7.7.1	Protective earthing and bonding terminals .....:	The earthing terminal in approved AC connector serves as main PE terminal.	P
1.7.7.2	Terminals for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators		N/A
1.7.8.1	Identification, location and marking .....:		N/A
1.7.8.2	Colours .....:		N/A
1.7.8.3	Symbols according to IEC 60417.....:		N/A
1.7.8.4	Markings using figures .....:		N/A
1.7.9	Isolation of multiple power sources .....:		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.10	Thermostats and other regulating devices .....:		N/A
1.7.11	Durability		P
1.7.12	Removable parts		N/A
1.7.13	Replaceable batteries .....:		N/A
	Language(s) .....:		—
1.7.14	Equipment for restricted access locations .....:		N/A
2	**PROTECTION FROM HAZARDS**		—
2.1	**Protection from electric shock and energy hazards**		P
2.1.1	Protection in operator access areas		P
2.1.1.1	Access to energized parts		P
	Test by inspection .....:	No hazard	P
	Test with test finger (Figure 2A) .....:	No hazard	P
	Test with test pin (Figure 2B) .....:	No hazard	P
	Test with test probe (Figure 2C) .....:		N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring		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		P
	Measured voltage (V); time-constant (s) .....:	Measured original voltage: 384,0 V, decayed to 37% of the original voltage; Time-constant: 0,920 s, less than 1 s	—
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 .....:		N/A
2.1.2	Protection in service access areas		P
2.1.3	Protection in restricted access locations		N/A
2.2	**SELV circuits**		—
2.2.1	General requirements	(see appended table 2.2)	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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.2.4	Connection of SELV circuits to other circuits ..... :	SELV	P
2.3	**TNV circuits**		—
2.3.1	Limits		N/A
	Type of TNV circuits..... :		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions ..... :		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed ..... :		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed ..... :		—
2.3.5	Test for operating voltages generated externally		N/A
2.4	**Limited current circuits**		—
2.4.1	General requirements		P
2.4.2	Limit values	Figure D.1 was used, and 0,7 mA peak is limit	P
	Frequency (Hz) ..... :	--	—
	Measured current (mA) ..... :	0,462mA for C935	—
	Measured voltage (V)..... :	231 mV for C935	—
	Measured circuit capacitance (nF or µF)..... :	C935: 2200pF	—
2.4.3	Connection of limited current circuits to other circuits	SELV	P
2.5	**Limited power sources**		—
	a) Inherently limited output		N/A
	b) Impedance limited output		P
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition		N/A
	Use of integrated circuit (IC) current limiters		N/A
	d) Overcurrent protective device limited output		P
	Max. output voltage (V), max. output current (A), max. apparent power (VA) ..... :	See appened tabel 2.5	—
	Current rating of overcurrent protective device (A) .:	See appened tabel 1.5.1	—
2.6	**Provisions for earthing and bonding**		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.1	Protective earthing	Accessible conductive parts are reliably connected to protective earth.	P
2.6.2	Functional earthing		P
	Use of symbol for functional earthing .....:	Functional earthing is in the secondary circuit and separated from the primary by reinforced insulation.	P
2.6.3	Protective earthing and protective bonding conductors		P
2.6.3.1	General		P
2.6.3.2	Size of protective earthing conductors	The earthing terminal in approved AC connector serves as main PE terminal.	N/A
	Rated current (A), cross-sectional area (mm^2), AWG.....:	16 A; 20A for US/CA, Comply with the requirement of 2.6.3.4	—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG.....:		—
	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) .....:	32 A / 2 minutes, Measured (PE terminal of AC inlet to internal metal enclosure): 0,004 Ω (Limit: 0,1 Ω); 40 A / 2 minutes, Measured (PE terminal of AC inlet to internal metal enclosure): 0,004 Ω (Limit: 0,1 Ω); 32 A / 2 minutes, Measured (PE terminal of AC inlet to C920 secondary trace): 0,0047 Ω (Limit: 0,1 Ω); 40 A / 2 minutes, Measured (PE terminal of AC inlet to C920 secondary trace): 0,0047 Ω (Limit: 0,1 Ω); 32 A / 2 minutes, Measured (PE terminal of AC inlet to C921 secondary trace): 0,0064 Ω (Limit: 0,1 Ω); 40 A / 2 minutes, Measured (PE terminal of AC inlet to C921 secondary trace): 0,0064 Ω (Limit: 0,1 Ω);	P
2.6.3.5	Colour of insulation .....:		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.4	Terminals		P
2.6.4.1	General		P
2.6.4.2	Protective earthing and bonding terminals		P
	Rated current (A), type, nominal thread diameter (mm)....:	Comply with the requirement of 2.6.3.4	—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		P
2.6.5.1	Interconnection of equipment	No depending on interconnection for protective earthing.	N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switch or overcurrent protective device in protective earthing or bonding conductor	N/A
2.6.5.3	Disconnection of protective earth		P
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		P
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A
2.7	**Overcurrent and earth fault protection in primary circuits**		—
2.7.1	Basic requirements		P
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		P
2.7.3	Short-circuit backup protection		P
2.7.4	Number and location of protective devices .....:	Fuse used in live phase	P
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel.....:		N/A
2.8	**Safety interlocks**		—
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) ..... :		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A
2.9	**Electrical insulation**		—
2.9.1	Properties of insulating materials		P
2.9.2	Humidity conditioning	After the humidity treatment of 2.9.2, the insulation is then subjected to the electric strength test of clause 5.2.2.	P
	Relative humidity (%), temperature (°C) ..... :	120 h, 95%, 40°C	—
2.9.3	Grade of insulation	Functional insulation, basic insulation and reinforced insulation	P
2.9.4	Separation from hazardous voltages		P
	Method(s) used ..... :	b) (Method 1)	—
2.10	**Clearances, creepage distances and distances through insulation**		—
2.10.1	General		P
2.10.1.1	Frequency ..... :	Considered	P
2.10.1.2	Pollution degrees ..... :	Pollution degree 2	P
2.10.1.3	Reduced values for functional insulation		P
2.10.1.4	Intervening unconnected conductive parts		N/A
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 appended table 2.10.2)	P
2.10.2.1	General		P
2.10.2.2	RMS working voltage	(See appended table 2.10.2)	P
2.10.2.3	Peak working voltage	(See appended table 2.10.2)	P
2.10.3	Clearances		P
2.10.3.1	General		P
2.10.3.2	Mains transient voltages		P
	a) AC mains supply ..... :	Overvoltage category II	P
	b) Earthed d.c. mains supplies ..... :		N/A
	c) Unearthed d.c. mains supplies ..... :		N/A
	d) Battery operation ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply ..... :	2500 Vpeak	P
2.10.3.7	Transients from d.c. mains supply ..... :		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems ..... :		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply ..... :		N/A
	For a d.c. mains supply ..... :		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances		P
2.10.4.1	General		P
2.10.4.2	Material group and comparative tracking index		P
	CTI tests..... :	Material group IIIb is assumed to be used	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation		P
2.10.5.1	General		P
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	P
2.10.5.3	Insulating compound as solid insulation		P
2.10.5.4	Semiconductor devices		P
2.10.5.5.	Cemented joints		P
2.10.5.6	Thin sheet material – General		P
2.10.5.7	Separable thin sheet material		P
	Number of layers (pcs)..... :	2 layers insulation tape wrapping ferrite core of transformer.	—
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		P
	Electric strength test	(see appended table 5.2)	—
2.10.5.11	Insulation in wound components		P
2.10.5.12	Wire in wound components		P
	Working voltage ..... :	(see appended table 2.10.2)	P
	a) Basic insulation not under stress ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	b) Basic, supplementary, reinforced insulation ..... :		N/A
	c) Compliance with Annex U ..... :	Certified triple insulated wire used as secondary winding of transformers. See appended table 1.5.1	P
	Two wires in contact inside wound component; angle between 45° and 90° ..... :	Tubing used as physical separation	P
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage ..... :		N/A
	- Basic insulation not under stress ..... :		N/A
	- Supplementary, reinforced insulation ..... :		N/A
2.10.6	Construction of printed boards		P
2.10.6.1	Uncoated printed boards		P
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)..... :		N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
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**		—
3.1	**General**		P
3.1.1	Current rating and overcurrent protection		P

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.2	Protection against mechanical damage		P
3.1.3	Securing of internal wiring		P
3.1.4	Insulation of conductors	Basic insulated pri. wire used	P
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		P
3.1.7	Insulating materials in electrical connections		P
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors	Metal strips are connected to the pins of mains plug. The strips transmit the contact pressure to the PWB.	P
	10 N pull test		P
3.1.10	Sleeving on wiring		N/A
3.2	**Connection to a mains supply**		—
3.2.1	Means of connection		P
3.2.1.1	Connection to an a.c. mains supply	Appliance coupler	P
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm) ..... :		—
3.2.4	Appliance inlets		P
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type ..... :		—
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) ..... :		—
	Longitudinal displacement (mm) ..... :		—
3.2.7	Protection against mechanical damage		N/A
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**		—
3.3.1	Wiring terminals		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm^2) ..... :		—
3.3.5	Wiring terminal sizes		N/A
	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**		—
3.4.1	General requirement		P
3.4.2	Disconnect devices	Appliance coupler	P
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment	Single-phase	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		N/A
3.4.11	Multiple power sources		N/A
3.5	**Interconnection of equipment**		—
3.5.1	General requirements		P
3.5.2	Types of interconnection circuits ..... :	SELV	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**		—
4.1	**Stability**		N/A
	Angle of 10°		N/A
	Test force (N) ..... :		N/A
4.2	**Mechanical strength**		—
4.2.1	General		P
	Rack-mounted equipment.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.2	Steady force test, 10 N		P
4.2.3	Steady force test, 30 N		P
4.2.4	Steady force test, 250 N		P
4.2.5	Impact test		P
	Fall test		P
	Swing test		P
4.2.6	Drop test; height (mm) .....:		N/A
4.2.7	Stress relief test	70 °C	P
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified .....:		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....:	183 N	P
4.3	**Design and construction**		—
4.3.1	Edges and corners		P
4.3.2	Handles and manual controls; force (N).....:		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts		P
4.3.5	Connection by plugs and sockets		N/A
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		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids .....:		N/A
	Quantity of liquid (l) .....:		N/A
	Flash point (°C) .....:		N/A
4.3.13	Radiation		P
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Measured radiation (pA/kg) ..... :		—
	Measured high-voltage (kV) ..... :		—
	Measured focus voltage (kV) ..... :		—
	CRT markings ..... :		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification ..... :		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation ..... :		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs		P
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class ..... :		—
4.3.13.5.2	Light emitting diodes (LEDs)		—
4.3.13.6	Other types ..... :	LED used as indicator	P
4.4	**Protection against hazardous moving parts**		—
4.4.1	General		N/A
4.4.2	Protection in operator access areas ..... :		N/A
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations ..... :		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a)……:		N/A
	Is considered to cause pain, not injury. b) ……...:		N/A
	Considered to cause injury. c) ……:		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning ……..:		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning ……..:		N/A
4.5	**Thermal requirements**		—
4.5.1	General		P
4.5.2	Temperature tests		P
	Normal load condition per 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 ..... :	(see appended table 4.5.5)	N/A
4.6	**Openings in enclosures**		—

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Clause	Requirement + Test	Result - Remark	Verdict
4.6.1	Top and side openings		P
	Dimensions (mm) ..... :	Internal metal enclosure cover power board: Top openings: 1) Numerous circular openings with max. ∅ 3,8 mm, less than 5 mm in any dimension. 2) one rectangle opening. No hazardous part within vertical projection of 5° from the opening. Right side: One rectangle opening. No hazardous part within vertical projection of 5° from the opening. Left side: One L shape opening covered by mylar V-0. No hazardous part within vertical projection of 5° from the opening. Rear side: 1) Numerous circular openings with max. ∅ 4,0 mm, less than 5 mm in any dimension. 2) Three circular opening covered by internal mylar V-0.	—
4.6.2	Bottoms of fire enclosures		P
	Construction of the bottom, dimensions (mm) ..... :	Internal metal enclosure cover power board: Numerous circular openings with max. ∅ 1,8 mm, less than 3 mm in any dimension.	—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) ..... :		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		P
	Conditioning temperature (°C), time (weeks) ..... :	100 °C for one week	—

4.7	**Resistance to fire**		—
4.7.1	Reducing the risk of ignition and spread of flame		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure		P
4.7.2.1	Parts requiring a fire enclosure		P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General		P
4.7.3.2	Materials for fire enclosures	Metal internal fire enclosure	P
4.7.3.3	Materials for components and other parts outside fire enclosures		P
4.7.3.4	Materials for components and other parts inside fire enclosures		P
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A
5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		—
5.1	**Touch current and protective conductor current**		P
5.1.1	General	(see appended Table 5.1)	P
5.1.2	Configuration of equipment under test (EUT)		P
5.1.2.1	Single connection to an a.c. mains supply		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		P
5.1.4	Application of measuring instrument		P
5.1.5	Test procedure		P
5.1.6	Test measurements		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) ..... :	(See appended table 5.1)	—
	Max. allowed protective conductor current (mA) .. :	(See appended table 5.1)	—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General ..... :		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) ..... :		—
	Measured touch current (mA) ..... :		—
	Max. allowed touch current (mA) ..... :		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports .... :		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A
5.2	**Electric strength**		—
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure		P
5.3	**Abnormal operating and fault conditions**		—
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors		P
5.3.3	Transformers	(see appended Annex C)	P
5.3.4	Functional insulation ..... :	c)	P
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE ..... :		N/A
5.3.7	Simulation of faults		P
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests		P
5.3.9.2	After the tests		P
6	**CONNECTION TO TELECOMMUNICATION NETWORKS**		—
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**		—
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**		—
	Max. output current (A) ..... :		—
	Current limiting method ..... :		—
7	**CONNECTION TO CABLE DISTRIBUTION SYSTEMS**		—
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**		—
A.1	**Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)**		N/A
A.1.1	Samples ..... :		—
	Wall thickness (mm)..... :		—
A.1.2	Conditioning of samples; temperature (°C) ..... :		N/A
A.1.3	Mounting of samples ..... :		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D ..... :		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s) ..... :		—
	Sample 2 burning time (s) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	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)**		—
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)**		—
B.1	**General requirements**		N/A
	Position ..... :		—
	Manufacturer ..... :		—
	Type ..... :		—
	Rated values ..... :		—
B.2	**Test conditions**		N/A
B.3	**Maximum temperatures**		N/A
B.4	**Running overload test**		N/A
B.5	**Locked-rotor overload test**		N/A
	Test duration (days) ..... :		—
	Electric strength test: test voltage (V) ..... :		—
B.6	**Running overload test for d.c. motors in secondary circuits**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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)**		—
	Position ..... :	Between primary circuit and secondary circuit	—
	Manufacturer ..... :	(see appended table 1.5.1)	—
	Type ..... :	(see appended table 1.5.1)	—
	Rated values ..... :	(see appended table 1.5.1)	—
	Method of protection ..... :	By protective circuit	—
C.1	**Overload test**	(see appended table 5.3)	P
C.2	**Insulation**	(see appended tables 5.2 and C2)	P
	Protection from displacement of windings..... :		P
D	**ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)**		—
D.1	**Measuring instrument**		P
D.2	**Alternative measuring instrument**		N/A
E	**ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)**		—
F	**ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)**		P

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Clause	Requirement + Test	Result - Remark	Verdict
G	**ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		—
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)**		—

J	**ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)**		—
	Metal(s) used ..... :		—

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

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Clause	Requirement + Test	Result - Remark	Verdict
L	**ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)**		—
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		P
M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		—
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz) .....:		—
M.3.1.2	Voltage (V) .....:		—
M.3.1.3	Cadence; time (s), voltage (V) .....:		—
M.3.1.4	Single fault current (mA) .....:		—
M.3.2	Tripping device and monitoring voltage .....:		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) .....:		N/A
N	**ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)**		—
N.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)**		—
	- Preferred climatic categories .....:		N/A
	- Maximum continuous voltage .....:		N/A
	- Combination pulse current .....:		N/A
	Body of the VDR Test according to IEC60695-11-5.....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Body of the VDR. Flammability class of material (min V-1).....:		N/A
R	**ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES**		—
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)**		—
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)**		—
			—
U	**ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)**		—
			—
V	**ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)**		—
V.1	Introduction		P
V.2	TN power distribution systems		P
W	**ANNEX W, SUMMATION OF TOUCH CURRENTS**		—
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)**		—
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Y	**ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)**		—
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)**		—
BB	**ANNEX BB, CHANGES IN THE SECOND EDITION**		—
CC	**ANNEX CC, Evaluation of integrated circuit (IC) current limiters**		—
CC.1	General		N/A
CC.2	Test program 1……..:		N/A
CC.3	Test program 2……..:		N/A
CC.4	Test program 3.....:		N/A
CC.5	Compliance.....:		N/A
DD	**ANNEX DD, Requirements for the mounting means of rack-mounted equipment**		—
DD.1	General		N/A
DD.2	Mechanical strength test, variable N……..:		N/A
DD.3	Mechanical strength test, 250N, including end stops……:		N/A
DD.4	Compliance……..:		N/A
EE	**ANNEX EE, Household and home/office document/media shredders**		—
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

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Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: Critical components information				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard (Edition / year)	Mark(s) of conformity[1]
Plastic material of enclosure	Orinko Advanced Plastics Co., Ltd	ABS-3070H, HIPS-2000	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E328304)
Alt.	Orinko Advanced Plastics Co., Ltd	ABS-340X(X=0-10)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E328304)
Alt.	Orinko Advanced Plastics Co., Ltd	ABS900F23	V-0, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E328304)
Alt.	SABIC JAPAN L L C	C6600(GG)(X)(VS)	HB or better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E207780)
Alt.	CHI MEI CORPORATION	PA-757(+), PC-345(+), PA-756(+)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E56070)
Alt.	CHI MEI CORPORATION	PA-756S	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E56070)
Alt.	LG CHEM LTD	HF350	HB or Better, thickness: 1,7 mm	ANSI/UL 94	UL (E67171)
Alt.	LG CHEM LTD	HF380	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E67171)
Alt.	LG CHEM LTD	LUPOX GP1000(Z)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E67171)
Alt.	LG CHEM LTD	LUPOY GN1000LG	V-2 or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E67171)
Alt.	LG CHEM LTD	XG568, XG568(#)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E67171)
Alt.	LG CHEM LTD	XG569C, XG569(#)	HB or Better, Min. thickness:1,7 mm	ANSI/UL 94	UL (E67171)
Alt.	LG CHEM LTD	AF365	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E67171)
Alt.	LG CHEM LTD	LUPOY GN1002F(m)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E67171)
Alt.	LOTTE CHEMICAL CORPORATION	SD-0150, SD-0150 U, SD-0150 W, ABF-0200E, SD-0150	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E115797)
Alt.	LOTTE CHEMICAL CORPORATION	LX-0957(+), HG-0760(+)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E115797)
Alt.	LOTTE CHEMICAL CORPORATION	BF-0677(+), BF-0675(+), GC-0700(+++), LX-0951(+)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E115797)

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Alt.	LOTTE CHEMICAL CORPORATION	NH-1027HF	V-1 or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E115797)
Alt.	LOTTE CHEMICAL CORPORATION	BF-0670F, BF-0670(+)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E115797)
Alt.	LOTTE CHEMICAL CORPORATION	GC-1036, LS-1159SF, LS-1159F, NH-1036, GC-1036, ABF-1030NH	V-0 or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E115797)
Alt.	LOTTE CHEMICAL CORPORATION	NH-1017SG(+)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E115797)
Alt.	GRAND PACIFIC PETROCHEMICAL CORP	SD-0150	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E88637)
Alt.	KINGFA SCI & TECH CO LTD	5197	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E171666)
Alt.	KINGFA SCI & TECH CO LTD	GAR-011C, GAR-011(HG6), CK-55(M) (##), HP-126	HB or Better, Min. thickness:1,7 mm	ANSI/UL 94	UL (E171666)
Alt.	KINGFA SCI & TECH CO LTD	GAR-011(L65), GAR-011(L85)	HB or Better, Min. thickness:1,7 mm	ANSI/UL 94	UL (E171666)
Alt.	KINGFA SCI & TECH CO LTD	CK-100	HB or Better, Min. thickness:1,7 mm	ANSI/UL 94	UL (E171666)
Alt.	KINGFA SCI & TECH CO LTD	CK-61(M) (##), RS-900, RS-300, RS-400, RS-(hh)0	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E171666)
Alt.	KINGFA SCI & TECH CO LTD	JH960 6(M), JH960 6(M) (ccc) (##), JH960-6(M) (ccc) (##)	V-0 or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E171666)
Alt.	KINGFA SCI & TECH CO LTD	JH960 62(M4), JH960 62(M4) (ccc) (##), JH960-62(M4) (ccc) (##)	V-0 or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E171666)
Alt.	KINGFA SCI & TECH CO LTD	CK-61(M) (##)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E171666)

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Alt.	KINGFA SCI & TECH CO LTD	5197, 4418, HIPS-4418, HIPS-5197, HIPS-3399, HIPS-CM(ee), HIPS-HG(ee)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E171666)
Alt.	KINGFA SCI & TECH CO LTD	GAR-011C	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E171666)
Alt.	KINGFA SCI & TECH CO LTD	GAR-011(ll)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E171666)
Alt.	KINGFA SCI & TECH CO LTD	HP-126, ABS-660, ABS-122, GAR-332, H12, G360, GAR-322, GAR-220, GAR-011, CK-55(M) (##), CK-58(M) (##), GAR-011C, GAR-011(ww)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E171666)
Alt.	QINGDAO HAIER NEW MATERIAL R & D CO LTD	HRABS-RS, HRABS-HG	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E230779)
Alt.	DOOSAN CORPORATION ELECTRO-MATERIALS BG	DS-1107A, DS-1202G	V-0, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E103670)
Alt.	DOOSAN CORPORATION ELECTRO-MATERIALS BG	DS-7106	V-0, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E103670)
Alt.	INEOS Styrolution Polymers (Foshan) Company Limited	3441	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E314268)
Alt.	INEOS Styrolution Polymers (Foshan) Company Limited	260-XX	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E314268)

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	WISTRON ADVANCED MATERIALS (KUNSHAN) CO LTD	GA1(e), GA35, GA65, GA85, GC(t), AO(t)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E359575)
Alt.	WISTRON ADVANCED MATERIALS (KUNSHAN) CO LTD	NC(N)(a)	V-0 or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E359575)
Alt.	HUIZHOU WOTE ADVANCED Materials Co Ltd	2100	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E310240)
Alt.	UNIC	UR-200+, UR-3006+(R35)(a), UR-3006+(R90)(a), UR-3006+(RXX)(a), UP-700+	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E135175)
Alt.	PONTEX POLYBLEND CO LTD	AFE5000N, AFE5100N, 9004BK	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E205938)
Alt.	CHI LIN TECHNOLOGY CO LTD	GA-1535 GA-1(aaa)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E177071)
Alt.	SHENZHEN FUHENG NEW Material Co Ltd	HIPS-568	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E234833)
Alt.	QING DAO GON TECHNOLOGY CO., LTD.	ABS21(B)G-A	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E330547)
Alt.	QING DAO GON TECHNOLOGY CO., LTD.	ABS2030A, ABS20(xx)B	V-0 or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E330547)
Alt.	DONGGUAN HINGLONG PLASTIC TECHNOLOGY CO LTD	HL-ABS-PCR35/65/85, HL-ABS-PCC85/90/95	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E345434)

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	GUO HENG (DONGGUAN) PLASTIC TECHNOLOGY CO LTD	YOUHO(1302)(B), YOUHO(1303)(B), YOUHO(1304)(B), YOUHO(1333)(B), YOUHO(####)(Y), YOUHO13(##)(YY)	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E471190)
Alt.	Chongqing Gengye New Materials Technology Co Ltd	GU-022	HB or better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E514505)
Alt.	TEIJIN CHEMICALS PLASTIC COMPOUNDS SHANGHAI LTD	MN-3600H(#)	HB or better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E244324)
Alt.	RUNYE(CHONG QING) NEW MATERIALS CO.,LTD	Becrex® BF-203(R90), Ecorex® RN -+(R #)	HB, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E514505)
Alt.	TEIJIN LIMITED RESIN AND PLASTIC	TN-7500(c)	HB or better, Min. thickness: 1,7mm	ANSI/UL 94	UL (E98529)
Alt.	UNIC TECHNOLOGY CORP	UR-7085+(R90)	HB, Min. thickness:1,7 mm	ANSI/UL 94	UL (E135175)
Alt.	WISTRON ADVANCED MATERIALS (KUNSHAN) CO LTD	NC(N)(a)	V-0, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E359575)
Alt.	WISTRON ADVANCED MATERIALS (KUNSHAN) CO LTD	GA(M)(b)(c)	HB, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E359575)
Alt.	QING DAO GON TECHNOLOGY CO., LTD.	ABS2(XXX)GN	HB, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E330547)

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Alt.	QINGDAO HAIER NEW MATERIAL R & D CO LTD	CR-3002	HB, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E230779)
Alt.	Interchangeable	Interchangeable	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL
Internal metal enclosure	Interchangeable	Interchangeable	Metal, Min, thickness: 0,5 mm	IEC/EN 62368-1	Tested With appliance
Base stand (optional)	LOTTE CHEMICAL CORPORATION	SD-0150(+)	HB or Better thickness: 1,4 mm, 60 °C	ANSI/UL 94	UL (E115797)
Alt.	Interchangeable	Interchangeable	HB or Better thickness: 1,4 mm, 60 °C	ANSI/UL 94	UL
PWB	Interchangeable	Interchangeable	V-1 or better, Min. 105 °C	UL 796	UL
Insulation Sheet (between power board and LCD panel, between power board and metal cover, between metal cover and plastic enclosure)	SICHUAN DONGFANG INSULATING MATERIAL CO LTD	DFR700, DFR700F, DFR700-83, DFR700-83A, DFR700-83B, DFR117, DFR117ECOA, DFR117ECOB, DFR117ECOC	Polycarbonate, min. thickness: 0,4mm, V-0, 80 °C	ANSI/UL 94	UL (E199019)
Alt.	SICHUAN DONGFANG INSULATING MATERIAL CO LTD	DFR3A(d)	Polycarbonate, min. thickness: 0,4 mm, V-0, 110 °C	ANSI/UL 94	UL (E199019)
Alt.	SICHUAN DONGFANG INSULATING MATERIAL CO LTD	DFR117ECO	Polycarbonate, min. thickness: 0,4 mm, V-0, 130 °C	ANSI/UL 94	UL (E199019)

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	Sichuan Longhua Film Co Ltd	PC-770 series PC-770, PC-770 A, PC-870 A PC-770-60B, PC-770-60B-A, PC-770-63B, PC-770-63B-A, PC-770-65B, PC-770-65B-A, PC-770-83, PC-770-83B, PC-770-83F, PC-770F, PC-770F-A	Polycarbonate, min. thickness: 0,4mm, V-0, 80 °C	ANSI/UL 94	UL (E254551)
Alt.	KunShan Dobesty Optoelectronic Materials Co Ltd	PC9821B, PC9832B, PC9842B, DB98HD, DB98, PC9821BK1, PC9832BK1, PC9821W1, PC98MNb1	Polycarbonate, min. thickness: 0,4mm, V-0, 80 °C	ANSI/UL 94	UL (E339070)
Alt.	SUZHOU OMAY OPTICAL MATERIALS CO LTD	SE42B, SE42B-F	Polycarbonate, min. thickness: 0,4mm, V-0, 80 °C	ANSI/UL 94	UL (E249605)
Alt.	JINGMEN GORUN TECHNOLOGY CO LTD	HF70, HE70(x)(#)	Polycarbonate, thickness: 0,40 mm min. V-0, 80 °C	ANSI/UL 94	UL (E305163)
Alt.	SHENZHEN TEESUN TECHNOLOGY CO LTD	TS-FR370DL, TS-FR370F TS-FR383H, TS-FR360H	Polycarbonate, thickness: 0,40 mm min. V-0, 80 °C	ANSI/UL 94	UL (E329660)
Alt.	SHENZHEN TEESUN TECHNOLOGY CO LTD	TS-FR1365, TS-FR1363, TS-FR1360, TS-FR1362, TS-FR160Y, TS-FR1370F, TS-FR1370, TS-FR1383, TS-FR1370-32, TS-FR1383-13	Polycarbonate, thickness: 0,40 mm min. V-0, 125 °C	ANSI/UL 94	UL (E329660)

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	SHENZHEN TEEBON PLASTICS TECHNOLOGY CO LTD	TB-FR65, TB-FR63, TB-FR60, TB-FR1, TB-FR60Y, TB-FR70F, TB-FR70, TB-FR183, TB-FR700, TB-FR83	Polycarbonate, thickness: 0,4 mm min. V-0, 125 °C	ANSI/UL 94	UL (E357515)
Alt.	CHENGDU KANGLONGXIN Plastics Co Ltd	KLX FRPC-870B, KLX FRPC-870BF, KLX FRPC-870BH, KLX FRPC-870BFH, KLX FRPC-83B, KLX FRPC-83,KLX FRPC-F70, KLX FRPC-700B, KLX FRPC-700BF, KLX FRPC-60, KLX FRPC-60H, KLX FRPC-63,KLX FRPC-63H, KLX FRPC-65, KLX FRPC-65H, KLX FRPC-1870B	Polycarbonate, thickness: 0,4 mm min. V-0, 80 °C	ANSI/UL 94	UL (E315185)
Alt.	CHENGDU KANGLONGXIN Plastics Co Ltd	KLX FRPC-1860, KLX FRPC-1860B, KLX FRPC-1860-83, KLX FRPC-1860-83B, KLX FRPC-1860-1, KLX FRPC-1860-NTC, KLX FRPC-1860B-NTC, KLX FRPC-1860B-3, KLX FRPC-1870B-K, KLX FRPC-1860B-HY, KLX FRPC-1860-HY, KLX FRPC-1860B-K, KLX FRPC-1860-K, KLX FRPC-1860W	Polycarbonate, thickness: 0,4 mm min. V-0, 80 °C	ANSI/UL 94	UL (E315185)

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	CHENGDU KANGLONGXIN Plastics Co Ltd	KLX FRPC-1880, KLX FRPC-1880B, KLX FRPC-1880-83, KLX FRPC-1880-83B, KLX FRPC-1880-1, KLX FRPC-1880B-1, KLX FRPC-1880-2, KLX FRPC-1880B-2, KLX FRPC-1880-3, KLX FRPC-1880B-3, KLX FRPC-1880-NTC, KLX FRPC-1880B-NTC, KLX FRPC-1880B-HY, KLX FRPC-1880-HY, KLX FRPC-1880B-K, KLX FRPC-1880-K, KLX FRPC-1860-YM, KLX FRPC-1860B-YM, KLX FRPC-1880-YM, KLX FRPC-1880B-YM, KLX FRPC-1880W, KLX FRPC-1880W-1, KLX FRPC-1860B-KS, KLX FRPC-1860-KS, KLX FRPC-1880-KS, KLX FRPC-1880B-KS	Polycarbonate, thickness: 0,4 mm min. V-0, 125 °C	ANSI/UL 94	UL (E315185)
Alt.	CHENGDU KANGLONGXIN Plastics Co Ltd	KLX PP BK-10-KS	Polycarbonate, thickness: 0,4 mm min. V-0, 110 °C	ANSI/UL 94	UL (E315185)
Alt.	CHENGDU KANGLONGXIN Plastics Co Ltd	KLX FRPC-1880 series	Polycarbonate, thickness: 0,4 mm min. V-0, 125 °C	ANSI/UL 94	UL (E315185)
Alt.	CHENGDU KANGLONGXIN PLASTICS CO LTD	KLX FRPC-870B, KLX FRPC-1860B, KLX FRPC-83	Polycarbonate, thickness: 0,40 mm, V-0, 80 °C	ANSI/UL 94	UL (E315185)

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	CHENGDU KANGLONGXIN Plastics Co Ltd	KLX FRPC-1890 series	Polycarbonate, thickness: 0,4 mm min. V-0, 115 °C	ANSI/UL 94	UL (E315185)
Alt.	CHENGDU KANGLONGXIN Plastics Co Ltd	KLX FRPC-1890B,KLX FRPC-1890, KLX FRPC-1890-83, KLX FRPC-1890-83B, KLX FRPC-1890-1, KLX FRPC-1890B-1, KLX FRPC-1890-2, KLX FRPC-1890B-2,KLX FRPC-1890B-2, KLX FRPC-1890-3, KLX FRPC-1890B-3, KLX FRPC-1890-NTC, KLX FRPC-1890B-NTC, KLX FRPC-1890B-HY, KLX FRPC-1890-HY, KLX FRPC-1890B-K, KLX FRPC-1890-K, KLX FRPC-1890-YM, KLX FRPC-1890B-YM KLX FRPC-1890W, KLX FRPC-1890W-1, KLX FRPC-1890B-KS, KLX FRPC-1890-KS	Polycarbonate, thickness: 0,4 mm min. V-0, 115 °C	ANSI/UL 94	UL (E315185)
Alt.	SHENZHEN TEESUN TECHNOLOGY CO LTD	TS-FR1370	Polycarbonate, thickness: 0,4 mm min. V-0, 125 °C	ANSI/UL 94	UL (E329660)
Alt.	NANTONG HUAPU PHOTOELECTRIC MATERIAL CO., LTD	HPC-EFR87X	Polycarbonate, thickness: 0,4 mm min. V-0, 80 °C	ANSI/UL 94	UL (E508063)
Alt.	JIANGSU JIUTONG PHOTOELECTRIC MATERIAL CO., LTD	JTZ42B	Polycarbonate, thickness: 0,4 mm min. V-0, 80 °C	ANSI/UL 94	UL (E509998)

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	Ningbo Exciport New Material Co., Ltd	GZEFR99	Polycarbonate, thickness: 0,4 mm min. VTM-0, 80 °C	ANSI/UL 94	UL (E524218)
Alt.	Ningbo Exciport New Material Co., Ltd	GZEFR99A	Polycarbonate, thickness: 0,4 mm min. V-0, 80 °C	ANSI/UL 94	UL (E524218)
Alt.	Hunan Dobesty Optical Material Co Ltd	DB9842B	Polycarbonate, thickness: 0,4 mm min. V-0, 80 °C	ANSI/UL 94	UL (E524866)
Alt.	Hunan Dobesty Optical Material Co Ltd	DB98KJ	Polycarbonate, thickness: 0,4 mm min. V-0, 80 °C	ANSI/UL 94	UL (E524866)
Alt.	Interchangeable	Interchangeable	Polycarbonate, thickness: 0,4 mm min. V-0, 80 °C	ANSI/UL 94	UL
LCD Panel	TPV	TPM315********** (* can be A to Z, a to z, 0 to 9, '+', '–', '\', '/', '.' , sign absence or blank)	31,5” with LED backlight	IEC/EN 62368-1	Tested with appliance
Alt.	TPV	TPT315********** (* can be A to Z, a to z, 0 to 9, '+', '–', '\', '/', '.' , sign absence or blank)	31,5” with LED backlight	IEC/EN 62368-1	Tested with appliance
Alt.	BOE	MV315********** (* can be A to Z, a to z, 0 to 9, '+', '–', '\', '/', '.', sign absence or blank)	31,5” with LED backlight	IEC/EN 62368-1	Tested with appliance
Alt.	AUO	M315********** (* can be A to Z, a to z, 0 to 9, '+', '–', '\', '/', '.', sign absence or blank)	31,5” with LED backlight	IEC/EN 62368-1	Tested with appliance

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

Alt.	LGD	LM315********** (* can be A to Z, a to z, 0 to 9, '+', '–', '\', '/', '.', sign absence or blank)	31,5” with LED backlight	IEC/EN 62368-1	Tested with appliance
Alt.	INNOLUX	M315********** (* can be A to Z, a to z, 0 to 9, '+', '–', '\', '/', '.', sign absence or blank)	31,5” with LED backlight	IEC/EN 62368-1	Tested with appliance
Alt.	BOE	ME315********** (* can be A to Z, a to z, 0 to 9, '+', '–', '\', '/', '.', sign absence or blank)	31,5” with LED backlight	IEC/EN 62368-1	Tested with appliance
Adhesive for mylar sheet (between power board and metal cover, between metal cover and plastic enclosure)	SYMBIO	DS50-A, DS50L	100 °C, thickness: 0,05mm min.	IEC 62368-1	UL (MH13008) Tested With appliance
Alt.	3M	55235, 55236, 9448A, 55230, 9495MP	80 °C, thickness: 0,05mm min.	IEC 62368-1	UL (E256906) Tested With appliance
Alt.	XIAMEN LABAO OPTICS & ELECTRONIC CO LTD	TD-10, LA9120	80 °C, thickness: 0,05mm min.	IEC 62368-1	UL (E349099) Tested With appliance
Alt.	NITTO DENKO CORP	GA835	80 °C, thickness: 0,05mm min.	IEC 62368-1	UL (MH13557) Tested With appliance
Alt.	TESA SE	68646	80 °C, thickness: 0,05mm min.	IEC 62368-1	UL (MH25809) Tested With appliance
Alt.	RIALS CORP	G4000	80 °C, thickness: 0,05mm min.	IEC/EN 62368-1	UL (MH15431) Tested With appliance

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	FUJIAN YOUYI ADHESIVE TAPE GROUP CO., LTD	YS310	80 °C, thickness: 0,05mm min.	IEC/EN 62368-1	UL (E532174) and tested with appliance
For power board model No. 715GD178:					
AC-Inlet (CN901)	Solteam	ST-01 (For ENEC) ST-01A ST-01C (For VDE) ST-01 Series (For UL)	10A, 250Vac	IEC 60320-1: 2015 EN 60320-1: 2015 + AC: 2016 UL 60320-1	ENEC (ENEC16/FI/20/10036) VDE (40015691) UL (E200241)
Alt.	Zhangjiagang Huajie Electronic Co., Ltd.	SA-4S, SA-4S 1 (For VDE), SA-4S 7, SA-4S 9, SA-4S 28, SA-4S 29 (For TUV), SA-4S 6, SA-4S 12 (For UL)	10A, 250Vac	IEC 60320-1: 2015 EN 60320-1: 2015 + AC: 2016 UL 60320-1	VDE (40003610) TUV (R 50293856) UL (E154342)
Alt.	Rong Feng Industrial Co., Ltd.	SS-120, SS-7B	10A, 250Vac	IEC 60320-1: 2015 EN 60320-1: 2015 + AC: 2016 UL 60320-1	VDE (40028101) UL (E102641)
Alt.	Kunshan DLK Electronics Technology Co., Ltd (For VDE) SHENZHEN DELIKANG ELECTRONICS TECHNOLOGY CO LTD (For UL)	CDJ-3	10A, 250Vac	IEC 60320-1: 2015 EN 60320-1: 2015 + AC: 2016 UL 60320-1	VDE (40010513) UL (E217394)
Alt.	Kunshan DLK Electronics Technology Co., Ltd (For VDE) SHENZHEN DELIKANG ELECTRONICS TECHNOLOGY CO LTD (For UL)	CDJ-3-1	10A, 250Vac	IEC 60320-1: 2015 EN 60320-1: 2015 + AC: 2016 UL 60320-1	VDE (40015913) UL (E217394)

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

Alt.	INALWAYS ELECTRONICS INC	0707-1, 0711-2, 0714	10A, 250Vac	UL 60320-1	UL (E94191)
Alt.	TECX-UNIONS TECHNOLOGY CORP	TU-301 series	10A, 250Vac	UL 60320-1	UL (E220004)
Alt.	Yueqing Hongchang Radio Co., Ltd	DB-14 series, DB-14-14-L, DB-14-14, DB-14-05, DB-14-14-R	10A, 250Vac	IEC 60320-1: 2015 EN 60320-1: 2015 + AC: 2016 UL 60320-1	VDE (40028645) UL (E327347)
Alt.	Solteam Incorporation	SC04 (For ENEC), SC04-1BWW，SC04-2BTT	10A, 250Vac	IEC 60320-1: 2015 EN 60320-1: 2015 + AC: 2016 UL 60320-1	ENEC (ENEC16/FI/20/10040) UL (E200241)
Alt.	DLK	CDJ-7, CDJ-7 1	10A, 250Vac, For UL: 15A, 250Vac.	IEC 60320-1:2015, EN 60320-1: 2015, UL 60320-1	ENEC (SE-ENEC-2001967) Intertek (SE-91104) UL (E317189)
Alt.	Interchangeable	Int erchangeable	10A, 250Vac	IEC 60320-1: 2015 EN 60320-1: 2015 + AC: 2016 UL 60320-1	EU / UL certification mark
Fuse (F901) in primary circuit	Cooper Bussmann LLC	SR-5	T4AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (122052) UL (E19180)
Alt.	Littelfuse Inc.	382	T4AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (40018249) UL (E67006)

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

Alt.	Littelfuse Inc.	392	T4AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (126983) UL (E67006)
Alt.	Cooper Bussmann LLC	SS-5	T4AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (40015513) UL (E19180)
Alt.	Conquer Electronics Co., Ltd.	MET	T4AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (40017157) UL (E82636)
Alt.	Conquer Electronics Co., Ltd.	MST	T4AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (40017118) UL (E82636)
Alt.	Suzhou Walter Electronic Co. Ltd.	2010	T4AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (40018781) UL (E56092)
Alt.	Suzhou Walter Electronic Co. Ltd.	2000	T4AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (40018790) UL (E56092)

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

Alt.	DONGGUAN BETTER ELECTRONICS TECHNOLOGY CO LTD	932	T4AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (40033369) UL (E300003)
Alt.	Interchangeable	Interchangeable	T4AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	EU / UL certification mark
Fuse (F902) In secondary circuit for L.P.S.	Cooper Bussmann LLC	SR-5	T5AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (122052) UL (E19180)
Alt.	Littelfuse Inc.	382	T5AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (40018249) UL (E67006)
Alt.	Littelfuse Inc.	392	T5AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (126983) UL (E67006)
Alt.	Cooper Bussmann LLC	SS-5	T5AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (40015513) UL (E19180)

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

Alt.	Conquer Electronics Co., Ltd.	MET	T5AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (40017157) UL (E82636)
Alt.	Conquer Electronics Co., Ltd.	MST	T5AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (40017118) UL (E82636)
Alt.	Suzhou Walter Electronic Co. Ltd.	2010	T5AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (40018781) UL (E56092)
Alt.	Suzhou Walter Electronic Co. Ltd.	2000	T5AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (40018790) UL (E56092)
Alt.	DONGGUAN BETTER ELECTRONICS TECHNOLOGY CO LTD	932	T5AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	VDE (40033369) UL (E300003)
Alt.	Interchangeable	Interchangeable	T5AL, 250Vac	IEC/EN 60127-1: 2006 + A1: 2011 + A2: 2015 IEC/EN 60127-3: 2015 UL 248-1 UL 248-14	EU / UL certification mark
Y-cap (C935) (optional)	TDK CORPORATION	CD	Max. 2200pF, 250 Vac, 125°C, Y1 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40029780) UL (E37861)

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

Alt.	Murata Mfg. Co., Ltd.	KX	Max. 2200pF, AC 250/300 V, 125°C, Y1 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40002831) UL (E37921)
Alt.	Walsin Technology Corp.	AH	Max. 2200pF, AC 250/400 V, 125°C, Y1 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40001804) UL E146544
Alt.	JYA-NAY CO LTD	JN	Max. 2200pF, AC 400 / 250 V, 125°C, Y1 type	UL1414	UL (E201384)
Alt.	Yinan Don's Electronic Component Co., Ltd.	CT81	Max. 2200pF, AC 250/400 V, 125°C, Y1 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (135256) UL (E145038)
Alt.	Success Electronics Co., Ltd.	SB	Max. 2200pF, AC 250/500 V, 125°C, Y1 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013/A1:2016 UL1414	VDE (40037221) UL (E114280)
Alt.	Kunshan Wansheng Electronics Co., Ltd.	CT7	Max. 2200pF, AC 500 / 400 / 300 / 250 V, 125 °C, Y1 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40012143) UL (E249006)
Alt.	Interchangeable	Interchangeable	Max. 2200pF, Min. 250Vac, Min. 125 °C, Y1 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	EU / UL certification mark
Y-cap (C920, C921) (optional)	TDK CORPORATION	CD	Max. 1000pF, 250 Vac, 125°C, Y1 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40029780) UL (E37861)
Alt.	TDK CORPORATION	CS	Max. 1000pF, 250/ 300 Vac, 125 °C, Y2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40029781) UL (E37861)

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

Alt.	Murata Mfg. Co., Ltd.	KH	Max. 1000pF, AC 300 / 250 V, 125°C, Y2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40002796) UL (E37921)
Alt.	Murata Mfg. Co., Ltd.	KX	Max. 1000pF, AC 250/300 V, 125°C, Y1 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40002831) UL (E37921)
Alt.	Walsin Technology Corp.	AC	Max. 1000pF, AC 250/300V, 125°C, Y2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40001829) UL (E146544)
Alt.	Walsin Technology Corp.	AH	Max. 1000pF, AC 250/400 V, 125°C, Y1 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40001804) UL E146544
Alt.	Guangdong South Hongming Electronic Science and Technology Co., Ltd.	F	Max. 1000pF, AC 300 / 250 V, 125°C, Y2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40036246) UL (E154899)
Alt.	JYA-NAY CO LTD	JY	Max. 1000pF, AC 300 / 250 V, 125°C, Y2 type	UL1414	UL (E201384)
Alt.	JYA-NAY CO LTD	JN	Max. 1000pF, AC 400 / 250 V, 125°C, Y1 type	UL1414	UL (E201384)
Alt.	Haohua Electronic Co.	CT7	Max. 1000pF, AC250/275/300V, 125°C, Y2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40013601) UL (E233106)
Alt.	Yinan Don's Electronic Component Co., Ltd.	CT81	Max. 1000pF, AC 250/400 V, 125°C, Y1 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (135256) UL (E145038)
Alt.	Success Electronics Co., Ltd.	SE	Max. 1000pF, AC 250/300 V, 125°C, Y2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (122995) UL (E114280)

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	Success Electronics Co., Ltd.	SB	Max. 1000pF, AC 250/500 V, 125°C, Y1 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013/A1:2016 UL1414	VDE (40037221) UL (E114280)
Alt.	Kunshan Wansheng Electronics Co., Ltd.	CT7	Max. 1000pF, AC 500 / 400 / 300 / 250 V, 125 °C, Y1 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40012143) UL (E249006)
Alt.	Interchangeable	Interchangeable	Max. 1000pF, Min. 250Vac, Min. 125 °C, Y1/Y2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	EU / UL certification mark
X- Cap. (C914) (optional)	Ultra Tech Xiphi Enterprise Co. Ltd.	HQX	Max. 0,47 μF, AC 250/275/280 /300/305/310V; 110°C, X2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40015608) UL (E183780)
Alt.	Europtronic (SuZhou) Co. Ltd.	MPX	Max. 0,47 μF, AC 275V; Min. 105 °C, X2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40018238) UL (E211347)
Alt.	Europtronic (SuZhou) Co. Ltd.	MPX2	Max. 0,47 μF, AC 275/305 V; 110 °C, X2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40025981) UL (E211347)
Alt.	Xiamen Faratronic Co. Ltd.	MKP62	Max. 0,47 μF, 275 / 305 /310 VAC, X2 type, Min. 105 °C	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40000358) UL (E186600)
Alt.	KEMET ELECTRONICS ITALIA SRL	R.46	Max. 0,47 μF, 275/300/310 Vac; 110°C, X2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	ENEC (V4413) UL (E97797)
Alt.	LIOW GU ELECTRONICS Industry Co Ltd	GS-L	Max. 0,47 μF, 250/275/310 Vac; 110°C, X2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40023391) UL (E186321)

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	TDK (Zhuhai FTZ) Co., Ltd.	B3292	Max. 0,47 μF, 305Vac; 105°C, X2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40010694) UL (E97863)
Alt.	NANJING TENGEN RONG GUANG DA ELECTRONICS (GROUP) CO LTD	MKP	Max. 0,47 μF, AC 250 V / 275 / 305 / 310 V; 110°C, X2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40028680) UL (E200596)
Alt.	SHENZHEN JINGHAO CAPACITOR CO LTD	CBB62B	Max. 0,47 μF, AC 250/280/ 305V, Min. 110°C X2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	VDE (40018690) UL (E252286)
Alt.	Interchangeable	Interchangeable	Max. 0,47 μF, Min. 250Vac Min. 105°C, X1 or X2 type	IEC 60384-14: 2013 + A1:2016 EN 60384-14: 2013 + A1:2016 UL1414	UL / EU certification mark
Optocoupler (U902)	Lite-on	LTV-817	Ext. cr ≥7,0 mm, Dti ≥ 0,4 mm, 105°C	IEC 60747-5-5: 2007 + A1:2013 EN 60747-5-5: 2011+A1:2015 ANSI/UL 1577	VDE (40015248) UL (E113898)
Alt.	Sharp	PC123	Ext. cr ≥6,4 mm, Dti ≥ 0,4 mm, 110°C	IEC 60747-5-5: 2007 + A1:2013 EN 60747-5-5: 2011+A1:2015 ANSI/UL 1577	VDE (40008087) UL (E64380)
Alt.	VISHAY Semiconductor GmbH	TCET1103-3034	Ext. cr ≥ 8,4 mm, Dti ≥ 0,4 mm, 100°C	IEC 60747-5-5: 2007 + A1:2013 EN 60747-5-5: 2011+A1:2015	VDE (40028080)
Alt.	Everlight Electronics Co., Ltd.	EL817M, EL817	Ext. cr ≥ 7,6 mm, Dti ≥ 0,4 mm, 110°C	IEC 60747-5-5: 2007 + A1:2013 EN 60747-5-5: 2011+A1:2015 ANSI/UL 1577	VDE (132249) UL (E214129)
Alt.	TOSHIBA CORP	TLP781, TLP781F	Ext. cr ≥ 6,5 mm, Dti ≥ 0,4 mm, 110°C	IEC 60747-5-5: 2007 + A1:2013 EN 60747-5-5: 2011+A1:2015 ANSI/UL 1577	VDE (40021173) UL (E67349)

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

Alt.	TOSHIBA CORP	TLP421F, TLP421	Min. Ext. cr ≥ 7,0 mm, Dti ≥ 0,4 mm, 110°C	IEC 60747-5-5: 2007 + A1:2013 EN 60747-5-5: 2011+A1:2015 ANSI/UL 1577	VDE (40010944) UL (E67349)
Alt.	Everlight Electronics Co., Ltd.	EL1013 V (VDE), EL1013 (UL)	Min. Ext. cr ≥ 8,1 mm, Dti ≥ 0,4 mm, 110°C	IEC 60747-5-5: 2007 + A1:2013 EN 60747-5-5: 2011+A1:2015 ANSI/UL 1577	VDE (40028391) UL (E214129)
Alt.	RENESAS	PS2561DL1-1, PS2561-1, PS2561L-1, PS2561L1-1, PS2561L2-1	Min. Ext. cr ≥ 7,1 mm, Dti ≥ 0,4 mm, 100°C	IEC 60747-5-5: 2007 + A1:2013 EN 60747-5-5: 2011+A1:2015 ANSI/UL 1577	VDE (40008862) UL (E72422)
Alt.	Interchangeable	Interchangeable	Min. Ext. cr ≥ 6,4 mm, Dti ≥ 0,4 mm, 100°C	IEC 60747-5-5: 2007 + A1:2013 EN 60747-5-5: 2011+A1:2015 ANSI/UL 1577	UL / EU certification mark
Line Choke (L901) (Optional)	HA	73G174-241-H	105°C	IEC/EN 62368-1	Tested With appliance
Alt.	YUVA	73G174-241-N	105°C	IEC/EN 62368-1	Tested With appliance
Alt.	ASET	73G174-241-X	105°C	IEC/EN 62368-1	Tested With appliance
Transformer (T901)	TC	380GL32P565S	Class B	IEC/EN 62368-1	Tested With appliance
Alt.	TC	BCK-PQ38-20016	Class B	IEC/EN 62368-1	Tested With appliance
Alt.	PHOENIX	380GL32P565P	Class B	IEC/EN 62368-1	Tested With appliance
Alt.	PHOENIX	PH01028800	Class B	IEC/EN 62368-1	Tested With appliance
Alt.	LI TAI	380GL32P565L	Class B	IEC/EN 62368-1	Tested With appliance
Alt.	LI TAI	PT-021750HR	Class B	IEC/EN 62368-1	Tested With appliance
- Bobbin	SUMITOMO Bakelite Co Ltd	PM-9820	V-0, 150 °C	UL 94	UL (E41429)
- Alt.	CHANG CHUN Plastics Co Ltd	T200HF	V-0, 150 °C	UL 94	UL (E59481)

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Clause	Requirement + Test	Result - Remark	Verdict

- Magnet Wire	SHANGHAI ASIA PACIFIC Electric Co Ltd	UEW	130 °C	ANSI/UL 1446	UL (E214423)
- Alt.	ZHEJIANG HONGBO TECHNOLOGY CO LTD	xUEW/130, QA-x/130	130 °C	ANSI/UL 1446	UL (E221719)
- Alt.	HANGZHOU HONGTONG WIRE & CABLE CO LTD	xUEW, QA-x/130	130 °C	ANSI/UL 1446	UL (E326617)
- Alt.	SHANDONG SAINT Electric Co Ltd	*UEW/130	130 °C	ANSI/UL 1446	UL (E194410)
- Alt.	PACIFIC ELECTRIC WIRE & CABLE CO LTD	DD-NYU	130 °C	ANSI/UL 1446	UL (E84081)
--Magnet winding	Interchangeable	Interchangeable	Polyurethane, 130 ºC	ANSI/UL 1446	UL
- Triple insulation wire	GREAT LEOFLON INDUSTRIAL CO.，LTD	TRW(B)* (for VDE), TRW(B) (for UL)	Reinforced insulation, 130°C	EN 62368-1: 2014 + A11:2017 IEC 62368-1: 2014 ANSI/UL 2353	VDE (136581) UL (E211989)
- Alt.	SUZHOU YUSHENG ELECTRONIC CO LTD	TIW-B* (for UL), TIW-B (for VDE)	Reinforced insulation, 130°C	EN 62368-1: 2014 + A11:2017 IEC 62368-1: 2014 ANSI/UL 2353	VDE (40033527) UL (E332529)
- Alt.	KBI COSMOLINK CO., LTD.	TIW-M	Reinforced insulation, 130°C	ANSI/UL 2353 IEC 62368-1: 2014	VDE (138053) UL (E213764)
- Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT* (c)(g)	PET film insulating tape, 130°C	CAN/UL 510A	UL (E165111)
- Alt.	SYMBIO INC	35660 (a), 35660Y (e)	PET film insulating tape, 130°C	CAN/UL 510A	UL (E50292)
- Tube	GREAT HOLDING Industrial Co Ltd	TFL	PTFE, 200°C, VW-1	UL 224	UL (E156256)

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Clause	Requirement + Test	Result - Remark	Verdict

Bleeding resistors (R917, R918, R916)	Guangdong Fenghua Advanced Technology Holding Co., Ltd.	RS-06#xxxFT series	Max. 680 K ohm, 1/4 W	IEC 62368-1: 2014	CB of Nemko NO99693
Alt	Guangdong Fenghua Advanced Technology Holding Co., Ltd.	RVS-06#xxxFT series	Max. 680 K ohm, 1/4 W	IEC 62368-1: 2014	CB of Nemko NO99692
Alt	YAGEO	RV0603, RV0805, RV1206	Max. 680 K ohm, 1/4 W	IEC 62368-1: 2014	CB of UL certificate no. DK-64853-UL
Alt	TZAIYUAN	HSMD********* SMD*********	Max. 680 K ohm, 1/4 W	IEC 62368-1: 2010	CB of UL certificate no. DK-29431-A1-UL
Alt.	Tzai Yuan Enterprise Co., Ltd.	MGUL1/4Wseries	Max. 680 K ohm, 1/4 W	IEC 62368-1: 2014	CB issued by UL(CB cert No. DK-69874-UL)
Alt	Guangdong Fenghua Advanced Technology Holding Co., Ltd.	RVS-06********* series	Max. 680 Kohm, 1/4 W	IEC 62368-1: 2018	CB of Nemko NO127737
Alt	Guangdong Fenghua Advanced Technology Holding Co., Ltd.	RS-06********* series	Max. 680 Kohm, 1/4 W	IEC 62368-1: 2018	CB of Nemko NO127738
Alt.	Interchangeable	Interchangeable	Max. 680 K ohm, 1/4 W	IEC/EN 62368-1	CB report & certification issued by NCB
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

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Clause	Requirement + Test	Result - Remark	Verdict

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

supplementary information
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1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
Power board: 715GD178 and mainboard: 715GE276 version 2						
90 V / 50 Hz	0,946	--	50,43	F901	0,946	DP mode: Max. brightness, contrast No speaker
90 V / 60 Hz	0,962	--	50,53	F901	0,962	
100 V / 50 Hz	0,871	1,5	49,93	F901	0,871	
100 V / 60 Hz	0,887	1,5	49,99	F901	0,887	
240 V / 50 Hz	0,456	1,5	48,96	F901	0,456	
240 V / 60 Hz	0,461	1,5	48,97	F901	0,461	
264 V / 50 Hz	0,425	--	49,00	F901	0,425	
264 V / 60 Hz	0,426	--	49,04	F901	0,426	
90 V / 50 Hz	0,949	--	50,09	F901	0,949	HDMI mode: Max. brightness, contrast No speaker
90 V / 60 Hz	0,969	--	50,18	F901	0,969	
100 V / 50 Hz	0,874	1,5	49,64	F901	0,874	
100 V / 60 Hz	0,893	1,5	49,69	F901	0,893	
240 V / 50 Hz	0,453	1,5	48,72	F901	0,453	
240 V / 60 Hz	0,460	1,5	48,72	F901	0,460	
264 V / 50 Hz	0,422	--	48,80	F901	0,422	
264 V / 60 Hz	0,424	--	48,82	F901	0,424	
Power board: 715GD178 and mainboard: 715GE276 version 1						
90 V / 50 Hz	0,963	--	50,84	F901	0,963	DP mode: Max. brightness, contrast No speaker
90 V / 60 Hz	0,981	--	50,94	F901	0,981	
100 V / 50 Hz	0,885	1,5	50,33	F901	0,885	
100 V / 60 Hz	0,903	1,5	50,40	F901	0,903	

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Clause	Requirement + Test	Result - Remark	Verdict

240 V / 50 Hz	0,460	1,5	49,35	F901	0,460	
240 V / 60 Hz	0,466	1,5	49,36	F901	0,466	
264 V / 50 Hz	0,428	--	49,43	F901	0,428	
264 V / 60 Hz	0,430	--	49,45	F901	0,430	
90 V / 50 Hz	0,966	--	50,63	F901	0,966	HDMI mode: Max. brightness, contrast No speaker
90 V / 60 Hz	0,986	--	50,72	F901	0,986	
100 V / 50 Hz	0,890	1,5	50,16	F901	0,890	
100 V / 60 Hz	0,909	1,5	50,20	F901	0,909	
240 V / 50 Hz	0,456	1,5	49,20	F901	0,456	
240 V / 60 Hz	0,464	1,5	49,21	F901	0,464	
264 V / 50 Hz	0,424	--	49,33	F901	0,424	
264 V / 60 Hz	0,427	--	49,35	F901	0,427	
Supplementary information:						

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)
+19Vout	--	19,0	3,72	70,6
supplementary information:				
Test voltage is 264Vac, 60Hz. Vout output on power board was not accessible by operator. For accessible secondary connectors, refer to table 2.5 for details.				

2.1.1.5 c) 2)	TABLE: stored energy	N/A

Capacitance C (µF)	Voltage U (V)	Energy E (J)
--	--	--
supplementary information:		
--		

2.2	TABLE: evaluation of voltage limiting components in SELV circuits	P

Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
T901 pin6 –9	99,2	--	--
After R901	95,2	--	--
After C901	40,0	--	--
After D906	--	19,0	--
LED Backlight	--	42,5	--

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Clause	Requirement + Test	Result - Remark	Verdict

Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)
R901 (s-c)	19,0 (for +19V)
C901 (s-c)	19,0 (for +19V)
D906 (s-c)	19,0 (for +19V)
supplementary information:	
--	

2.5	TABLE: Limited power sources	P

Circuit output tested: See below

Note: Measured Uoc (V) with all load circuits disconnected: See below

Components	Test condition (Single fault)	Uoc (V)	I_{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
Test on the power board: 715GD178						
+19V (Fuse F902 bypass T4AL, 250V)	Abnormal condition	19,0	3,9	1000/Uoc= 52,63	70,6	250
Test on the main board: Main board: 715GE276 version 1						
DP CN5501 pin20-GND	Normal	3,3	0,78	8	2,4	100
	U5502 pin1-5 S-C	3,3	2,4	8	6,4	100
HMDI CN5101 pin15, 16	Normal	4,7	0	8	0	100
HMDI CN5101 other pins	Normal	3,3	0	8	0	100
HMDI CN5201 pin15, 16	Normal	4,7	0	8	0	100
HMDI CN5201 other pins	Normal	3,3	0	8	0	100
CN602 audio out	Normal	0	0	8	0	100
Test on the main board: Main board: 715GE276 version 2						
DP CN5501 pin20-GND	Normal	3,3	0,78	8	2,4	100
	U5502 pin1-5 S-C	3,3	2,4	8	6,4	100
HMDI CN5101 pin15, 16	Normal	4,7	0	8	0	100
HMDI CN5101 other pins	Normal	3,3	0	8	0	100
CN602 audio out	Normal	0	0	8	0	100

supplementary information:

1) Sc=Short circuit, Oc=Open circuit
2) +19V output of power boards protected by fuses that will break the circuit within 120s with a current equal to 210%.

2.10.2	Table: working voltage measurement	P

Location	RMS voltage (V)	Peak voltage (V)	Comments
T901 pin1-6	212	352	--
T901 pin1-9	217	428	--
T901 pin3-6	**265**	**504**	**Max. RMS & Max. Vpeak**

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Clause	Requirement + Test	Result - Remark	Verdict

2.10.2	Table: working voltage measurement			P
T901 pin3-9		237	472	--
T901 pin4-6		216	408	--
T901 pin4-9		215	356	--
T901 pin5-6		215	340	--
T901 pin5-9		214	360	--
U902 pin 1-3		218	348	--
U902 pin 1-4		218	348	--
U902 pin 2-3		218	348	--
U902 pin 2-4		215	340	--
C935		215	340	--
C921		0	0	--
C920		218	348	--
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:						
Under fuse (F901)	<420	<250	2,3 (1,5 x 1,48)	2,9	2,5	2,9
Before fuse (between L-N)	<420	<250	2,3 (1,5 x 1,48)	6,2	2,5	6,2
Basic/supplementary:						
Line-GND	<420	<250	3,0 (2,0 x 1,48)	3,1	3,0	3,1
Neutral-GND	<420	<250	3,0 (2,0 x 1,48)	3,1	3,0	3,1
C920	<420	<250	3,0 (2,0 x 1,48)	3,1	3,0	3,1
C921	<420	<250	3,0 (2,0 x 1,48)	3,1	3,0	3,1
Primary copper foil- metal enclosure edge	<420	<250	3,0 (2,0 x 1,48)	9,1	3,0	9,1
Primary E-CAP C902– Metal enclosure edge	<420	<250	3,0 (2,0 x 1,48)	4,0	3,0	>8,0

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Clause	Requirement + Test	Result - Remark	Verdict

Primary Heatsink HS1– Metal enclosure	<420	<250	3,0 (2,0 x 1,48)	3,5	3,0	>8,0
Primary component T901– Metal enclosure (insulation sheet Isolation)	504	265	3,3 (2,2 x 1,48)	>8,0	3,0	>8,0
Reinforced:						
Secondary component HS2 -T901 core (pri)	504	265	6,6 (4,4 x 1,48)	8,5	6,6	>8,0
T901: Pri coil to Sec pin	504	265	6,6 (4,4 x 1,48)	8,5	6,6	8,5
T901 sec– core (Pri.)	504	265	6,6 (4,4 x 1,48)	10,7	6,6	10,7
PCB pri. -sec	504	265	6,6 (4,4 x 1,48)	8,0	6,6	8,0
U902 pri. -sec	<420	<250	6,0 (4,0 x 1,48)	8,0	6,0	8,0
C935	<420	<250	6,0 (4,0 x 1,48)	7,5	6,0	7,5
Primary component – panel (insulation sheet isolation)	<420	<250	6,0 (4,0 x 1,48)	>8,0	6,0	>8,0
Supplementary information: Same construction for all source of transformer T901. Operated at Max. 5000 m sea level, multiplied by the factor 1,48 according to Table A.2 of IEC 60664-1.						

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)
Mylar sheet	< 420	<250	3000 VAC	0,4	Min. 0,4
Bobbin of transformer	504	265	3000 VAC	0,4	Min. 1,0
Plastic enclosure	< 420	<250	3000 VAC	0,4	See table 1.5.1
Supplementary information: Same construction for all source of transformer T901.					

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Clause	Requirement + Test	Result - Remark	Verdict

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

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

MARKINGS AND INSTRUCTIONS (1.7.13)	
Location of replaceable battery	--
Language(s) ……..:	--
Close to the battery ……..:	--
In the servicing instructions ……..…:	--
In the operating instructions ……..:	--

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Clause	Requirement + Test	Result - Remark	Verdict

4.5	TABLE: Thermal requirements						P
	Supply voltage (V) .....:	90 V 60 Hz	264 V 60 Hz	--	--	--	—
	Ambient T_{min} (°C) .....:	40,0	40,0	--	--	--	—
	Ambient T_{max} (°C) .....:	40,0	40,0	--	--	--	—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T_{max} (40 °C)
Surface of inlet (CN901)		55,3	53,6	--	--	--	70
Surface of X-cap (C914)		72,0	65,3	--	--	--	105
Surface of Y-cap (C920)		61,9	59,0	--	--	--	125
Surface of Y-cap (C921)		56,5	55,5	--	--	--	125
Surface of Y-cap (C935)		75,0	74,6	--	--	--	125
Surface of Opto-coupler (U902)		75,9	72,4	--	--	--	100
Surface of E-cap (C903)		71,9	63,4	--	--	--	105
Winding of Line filter (L901)		85,0	66,4	--	--	--	105
Winding of transformer (T901)		91,1	89,0	--	--	--	110
Winding of transformer (T901)		94,0	93,1	--	--	--	110
Ferrite core of transformer (T901)		90,8	89,0	--	--	--	For Ref.
PWB surface (TH901)		97,1	75,6	--	--	--	105
PWB surface (BD901)		86,7	68,6	--	--	--	105
PWB surface (Q901)		82,1	79,9	--	--	--	105
PWB surface (HS4001)		70,1	70,6	--	--	--	105
Mylar (between power board and metal cover)		62,4	60,4	--	--	--	80
Internal surface of enclosure		47,7	48,0	--	--	--	For Ref.
Mylar (between power board and LCD panel)		62,2	60,7	--	--	--	80
Non-metallic enclosure surface		31,4	31,9	--	--	--	95
Accessible metallic enclosure surface		33,0	33,6	--	--	--	70
Surface of screen		37,1	37,7	--	--	--	95
Non-metallic button surface		31,6	31,9	--	--	--	85

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
--	--	--	--	--	--	--	B

Supplementary information: --

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Clause	Requirement + Test	Result - Remark	Verdict

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

4.7	TABLE: Resistance to fire				P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
--	--	--	--	--	--
Supplementary information: *see table 1.5.1					

5.1	TABLE: touch current measurement		P
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions
L/N of plug and earthed metallic enclosure	0,338	3,5	Input voltage 264 V~, 60 Hz, normal, Switch “e” opened
L/N of plug and earthed metallic enclosure	0,338	3,5	Input voltage 264 V~, 60 Hz, reverse, Switch “e” opened
L/N of plug and plastic enclosure	0,01	0,25	Input voltage 264 V~, 60 Hz, normal, Switch “e” closed
L/N of plug and plastic enclosure	0,01	0,25	Input voltage 264 V~, 60 Hz, reverse, Switch “e” closed
L/N of plug and output terminal	0,01	0,25	Input voltage 264 V~, 60 Hz, normal, Switch “e” close
L/N of plug and output terminal	0,01	0,25	Input voltage 264 V~, 60 Hz, reverse, Switch “e” closed
supplementary information:			
--			

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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:				
L/N of plug with fuse opened		AC	1772 V	No
L/N of plug and accessible metallic enclosure		AC	1772 V	No
Reinforced:				
L/N of plug and output terminal		AC	3000 V	No
L/N of plug and accessible plastic enclosure		AC	3000 V	No
Transformer: pri. coil – sec. pin		AC	3000 V	No
Transformer: sec – pri		AC	3000 V	No
Mylar sheet		AC	3000 V	No
One layers of insulation tape wrapping transformer ferrite core		AC	3000 V	No
Supplementary information: 1. For all sources of transformer; 2. For all source of mylar sheet; 3. The tests mentioned above were performed after humidity test and heating test.				

5.3	TABLE: Fault condition tests						P
	Ambient temperature (°C) .....:					See below	—
	Power source for EUT: Manufacturer, model/type, output rating .....:					--	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	
Ventilation openings	Blocked	90	2H	F901	1,16	Unit operated normally, no hazards, no damage. T901Coil=82,2°C, T901core=79,0°C Palstic outside=38,8°C Accessible metal enclosure =37,1°C Non-metallic button surface=32,8°C Surface of screen=38,6°C Ambient=25°C	

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Clause	Requirement + Test	Result - Remark	Verdict

After T901 +19V output	Overload	90	4H	F901	0,82	Before shutdown winding is additionally loaded to 1,0A. No damage, no hazards. T901Coil=99,8°C, T901core=94,8°C Palstic enclosure= 33,0°C Accessible metal enclosure =34,7°C Surface of screen = 37,8°C Non-metallic button surface =33,7°C Ambient=25°C
BD901 pin1-4	SC	264	<1 sec	F901	--	F901 open No hazards.
BD902 pin1-4	SC	264	<1 sec	F901	--	F901 open No hazards.
C902	SC	264	<1 sec	F901	--	F901 open No hazards.
D906	SC	264	5 min	F901	0,04	Unit shutdown, No damage, No hazards
R901	SC	264	5 min	F901	0,42	Unit working as normally, No damage, No hazards
C901	SC	264	5 min	F901	0,42	Unit working as normally, No damage, No hazards
Q901 G-S	SC	264	5 min	F901	0,03	Unit shutdown, No damage, No hazards
Q901 G-D	SC	264	5 min	F901	0,03	Unit shutdown, No damage, No hazards
Q901 D-S	SC	264	5 min	F901	0,03	Unit shutdown, No damage, No hazards
U901 pin 2-5	SC	264	5 min	F901	0,04	Unit shutdown, No damage, No hazards
U901 pin 2-8	SC	264	5 min	F901	0,04	Unit shutdown, No damage, No hazards
U901 pin 5-8	SC	264	5 min	F901	0,04	Unit shutdown, No damage, No hazards
U902 pin 1-2	SC	264	5 min	F901	0,04	Unit shutdown, No damage, No hazards
U902 pin 3-4	SC	264	5 min	F901	0,04	Unit shutdown, No damage, No hazards
U902 pin 1	OC	264	5 min	F901	0,04	Unit shutdown, No damage, No hazards
U902 pin 3	OC	264	5 min	F901	0,04	Unit shutdown, No damage, No hazards
T901 pin 1-3	SC	264	5 min	F901	0,05	Unit shutdown, No damage No hazards
T901 pin 4-5	SC	264	5 min	F901	0,05	Unit shutdown, No damage No hazards
T901 pin 6-9	SC	264	5 min	F901	0,05	Unit shutdown, No damage No hazards

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Clause	Requirement + Test	Result - Remark	Verdict

+19V output to earth	SC	264	5 min	F901	0,05	Unit shutdown, No damage No hazards

Supplementary information:

s-c: short circuit; o-c: open circuit

1. Electric strength test for primary – secondary after test: 3000 VAC, 1 min with PASS result.
2. For fuse opened conditions were tested with each source of fuse.
3. For component damaged conditions have been repeated twice (three tests total) with same result.
4. For heating test mentioned above was tested under DP mode.
5. All source of each transformer considered with maximum value recorded.

C.2	TABLE: transformers	P

Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
T901: Pri coil to Sec pin	Reinforced insulation	504	265	3000 VAC	6,6	6,6	0,4
T901 sec pin – core (Pri)	Reinforced insulation	504	265	3000 VAC	6,6	6,6	0,4

Loc.	Tested insulation	Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
T901: Pri coil to Sec pin	Reinforced insulation	3000 VAC	8,5	8,5	2
T901 sec pin – core (Pri)	Reinforced insulation	3000 VAC	10,7	10,7	2

supplementary information:
--

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

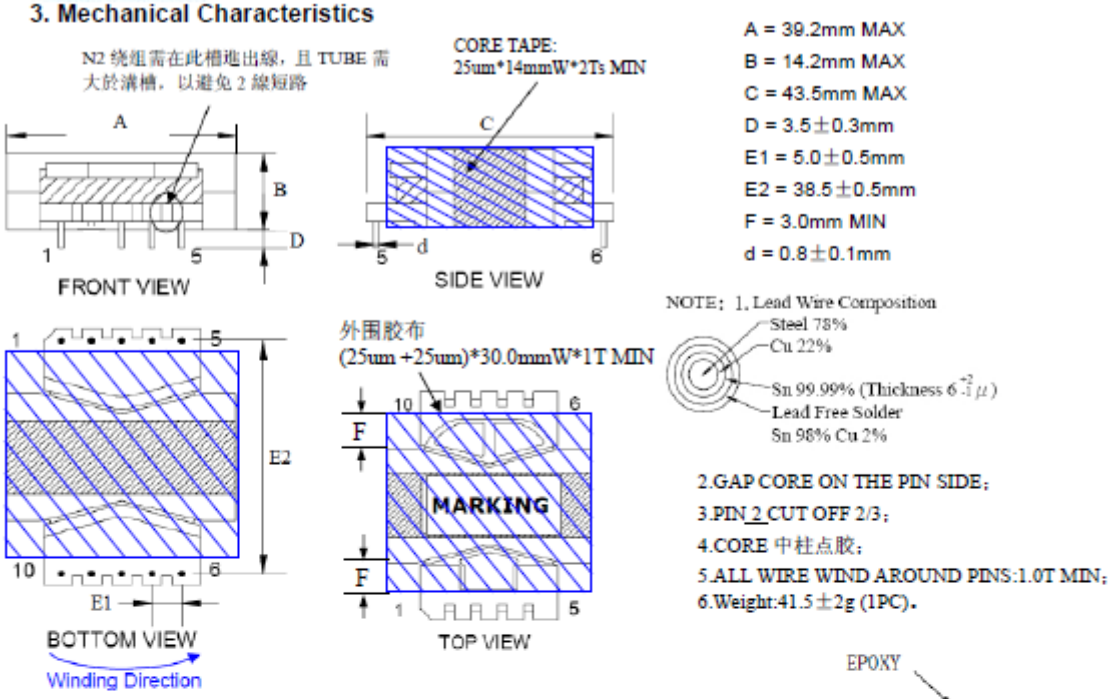
C.2	TABLE: transformers	P

Remark: All models of transformer have the same structure, only for manufacturer difference.

TPV VISION INNOVATOR

TPV Component Specification

3. Mechanical Characteristics



3.2 Marking Contents

3.2.1 TPV P/N : 380GL32P565P 00

3.2.2 Vendor Name or Trade Mark : PHOENIX

3.2.3 Date Code: XXXX X ---XX(YEAR) &XX(WEEK) & X(PRODUCT LINE)

3.2.4 "HI-POT OK" Model of Written Characters.

3.2.5 Insulation System Designation:

E480767 PH-130(YS-130) CLASS B(130℃) TABLE V

3.2.6 Marking Standards:

380GL32P565P 00 HI-POT OK

E480767 PH-130 XXXX X **

NO.	Supplie of core
02	DMEGC
10	DAWHA

3.2.7 Manufacture site:

PHOENIX: HEFEI , ANHUI , CHINA

3.3 Technique Request:

(1) The part must be dipped varnish and must be dipped in vacuum. Varnish must go through the neighborhood layers of the coil. The coil should not loose.

(2) External of part must be immaculate, marking must be clear.

(3) Two cores must be aim, not shift. Core and winding should not move.

(4) Script or marking orient Pin 1 .

(5) Lead wire of every pin must set an individual groove.

(6) The transformer is a lead free product.

(7) All bobbin and winding must be covered entirely by insulation tape.

(8) 零件腳處套管長度需超過 BOBBIN 開槽處槽長 2/3(立式) .

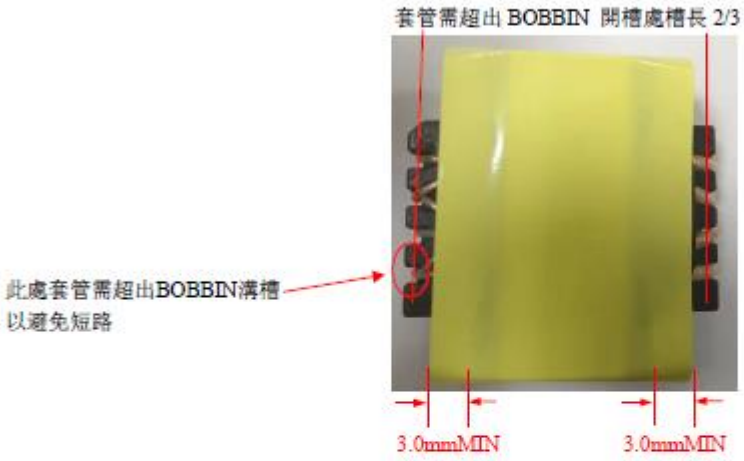
(9) Mylar tape: 25um*5.0mmW REF.

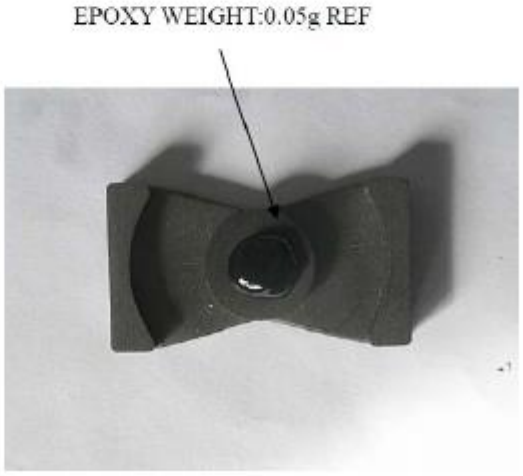
IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

TPV VISION INNOVATOR

TPV Component Specification

(Tube / Core tape picture):



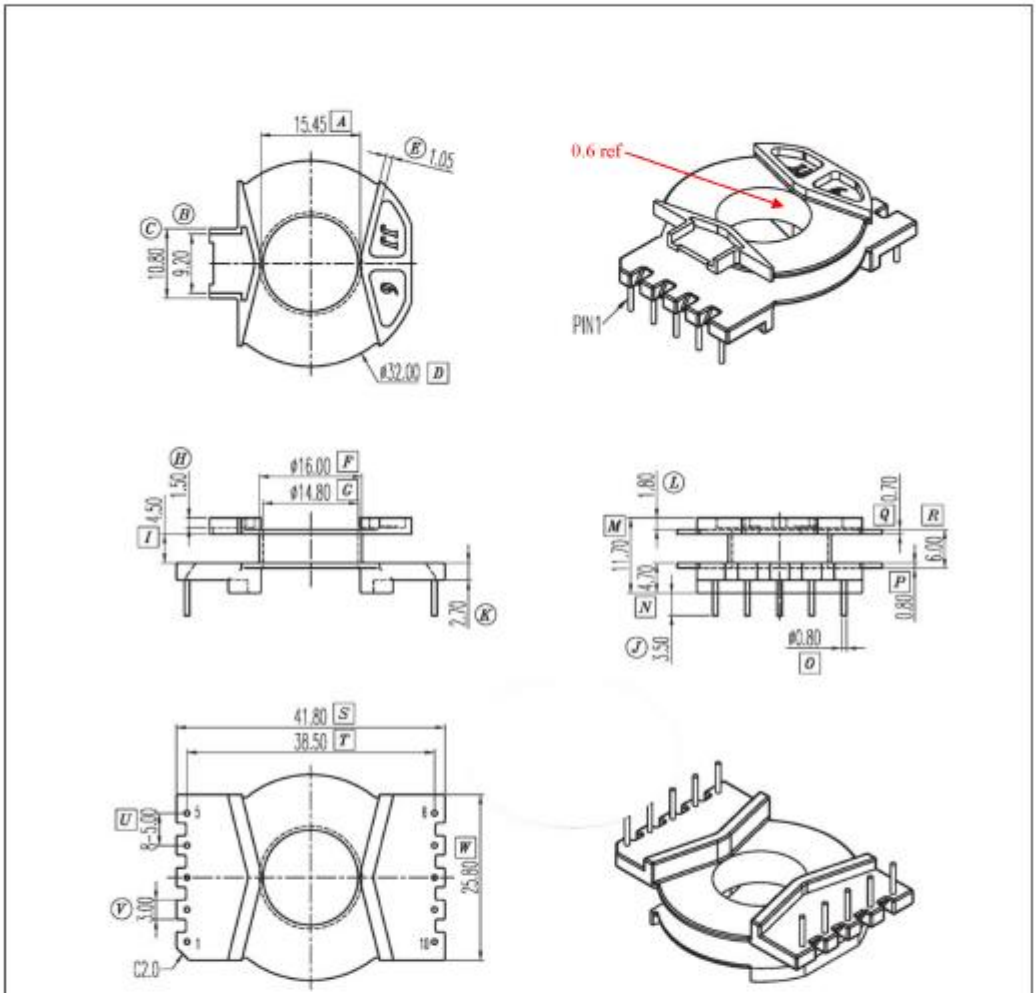


IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

TPV VISION INNOVATOR

TPV Component Specification

(Bobbin picture):



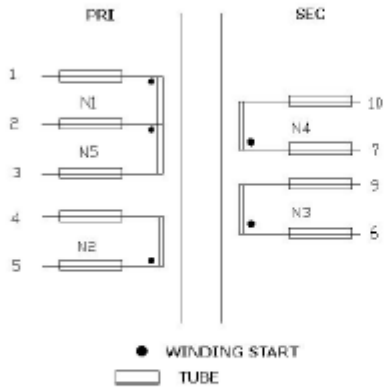
规格描述：(TITLE)	本体材质：(MATERIAL)	日期:（DATE）
PQ38	PM9820	2016-5-15

一般公差 TOL: 单位：mm	0<L≤4: ±0.1 4<L≤16: ±0.2 16<L≤64: ±0.3	合肥市菲力克斯电子科技有限公司 Heifei Phoenix Electronics Technology CO.,LTD

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

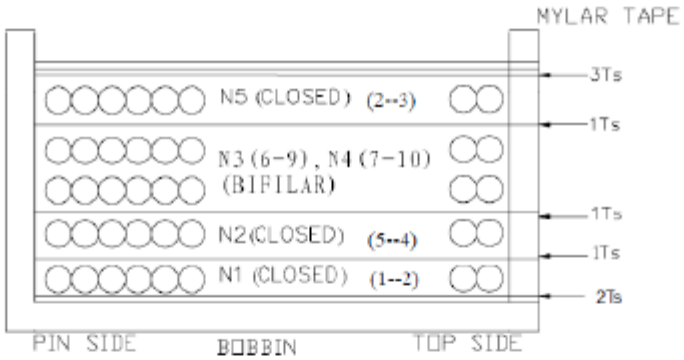
TPV Component Specification

3.4 Schematic



PIN	TUBE LENGTH
1,2	18mm MIN
4,5	18mm MIN
6,8	16mm MIN
9,10	16mm MIN
2,3	12mm MIN

3.5 Winding Specification



NOTE: 1. EVERYLEAD WIRE MUST HAVE FIX TAPE;
2. ALL PINS ADD TUBE.

3.6 Winding mode:

NO.	Winding	Terminal	Wire	Turns	Remark	TAPE
						2Ts
1	N1	1--2	UEW Φ0.25*2	14	CLOSED	1T
2	N2	5--4	UEW Φ0.16*1	5	CLOSED	1T
3	N3	6--9	TIW-B Φ0.45*2	6	BIFILAR	1T
4	N4	7--10	TIW-B Φ0.45*2	6		
5	N5	2--3	UEW Φ0.25*2	14	CLOSED	3Ts

3.7 Winding direction: IT IS ANTI-CLOCKWISE FROM BOTTOM SIDE

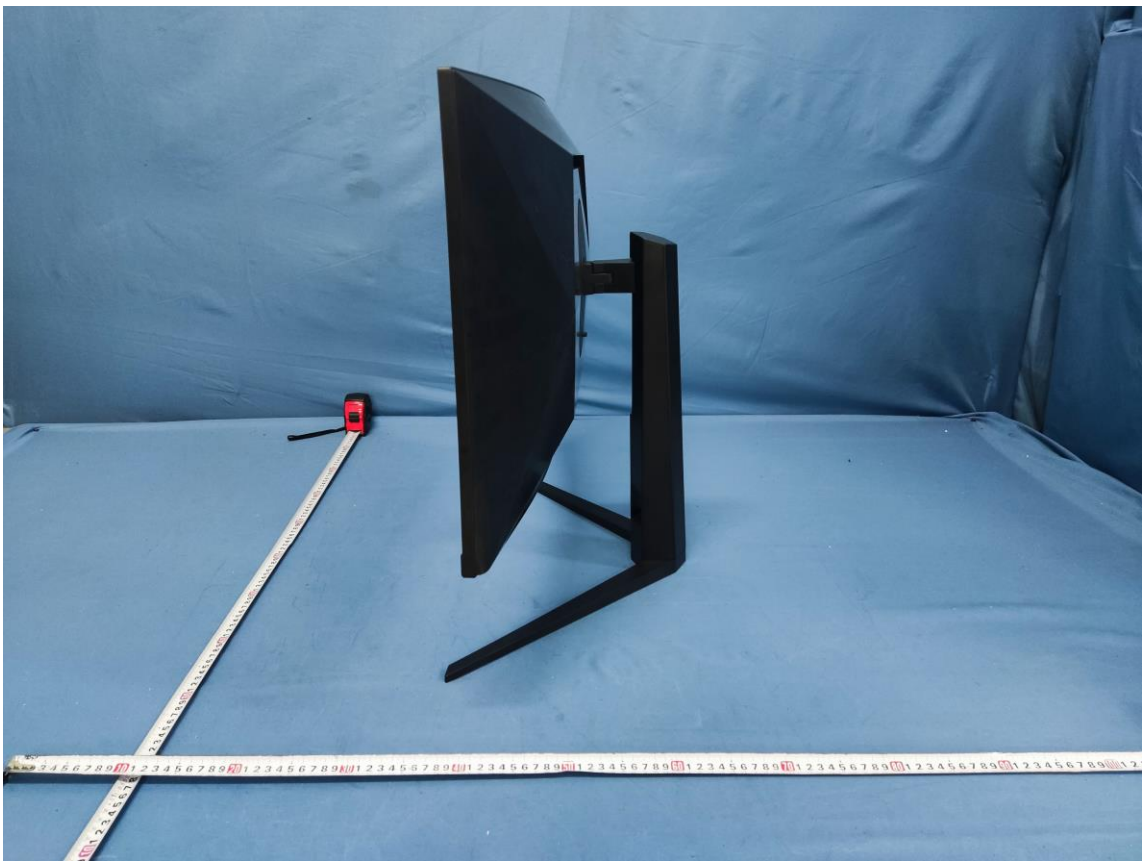
Note: 1) Bare wires and insulated wires should not intersect contacts each other.
(漆包线和绝缘线不能相互交叉接触)
2) Reflexed tape of copper foil : N/A

- - - End of Report - - -

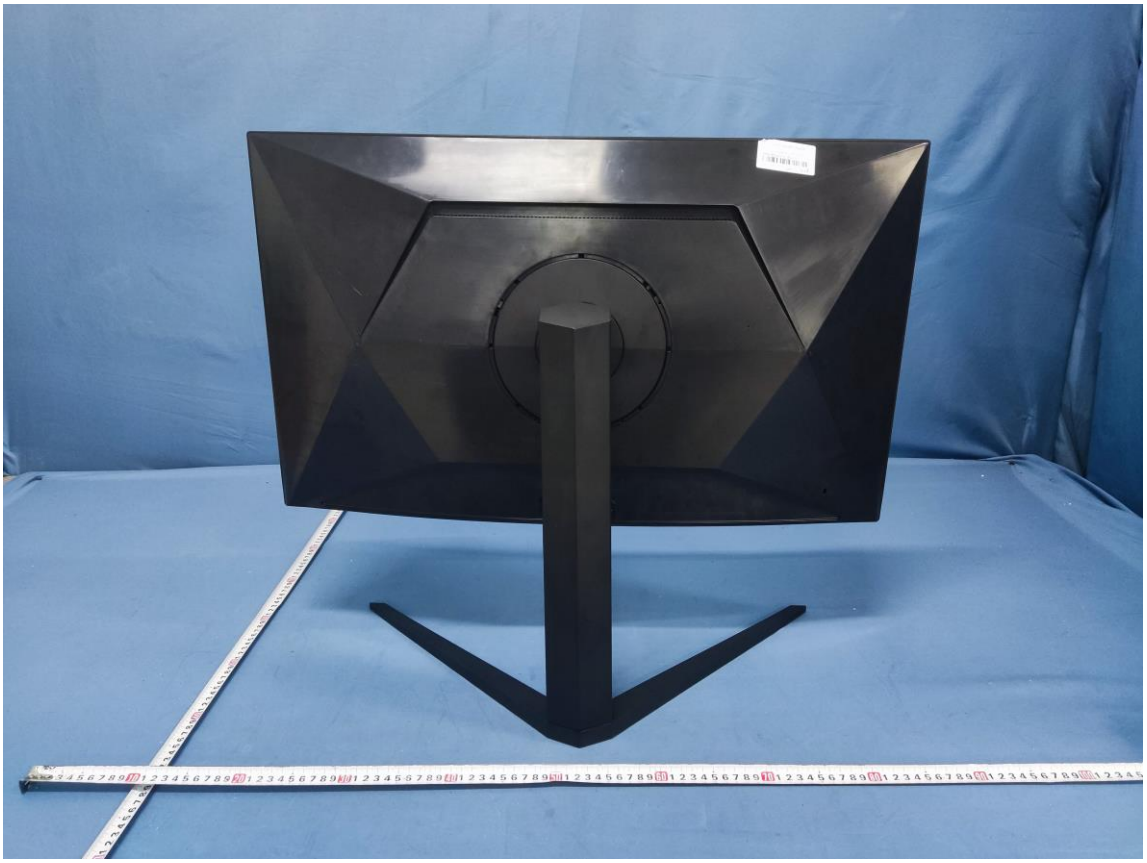
Front view with base stand A

Side view with base stand A

Side view with base stand A

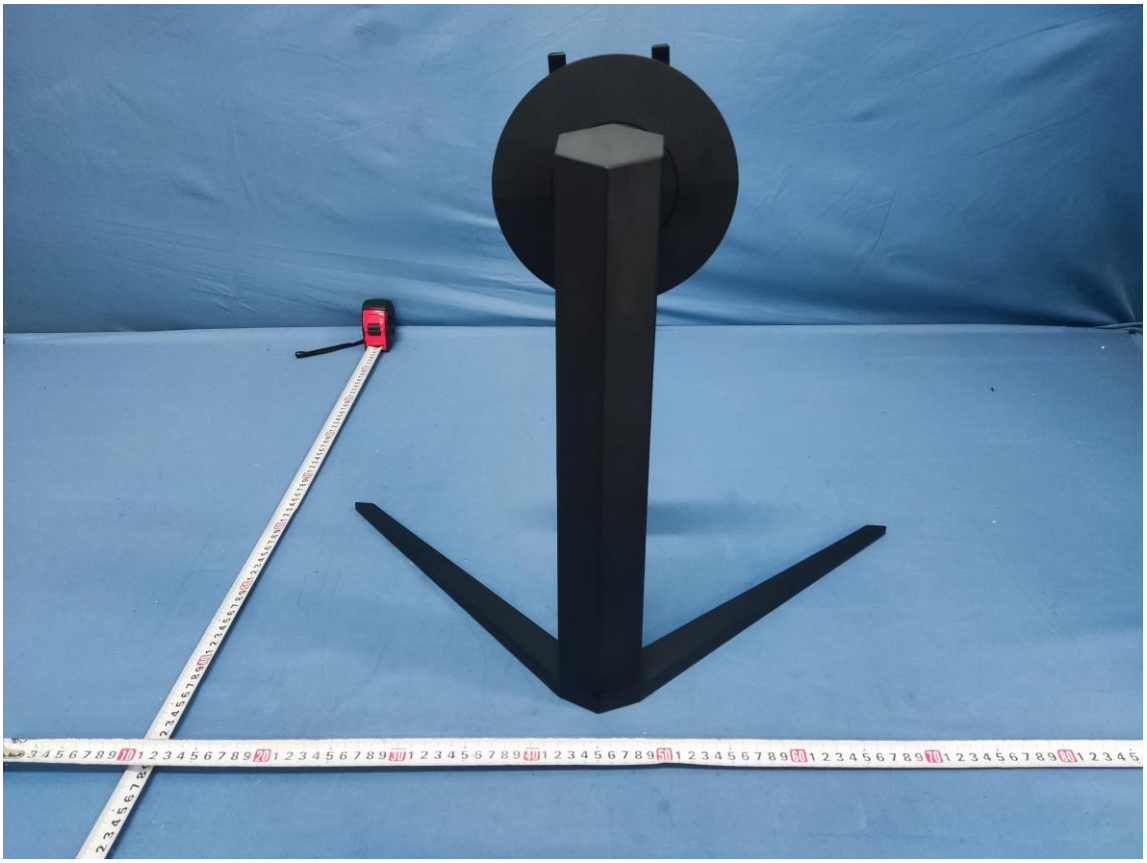


Rear view with base stand A



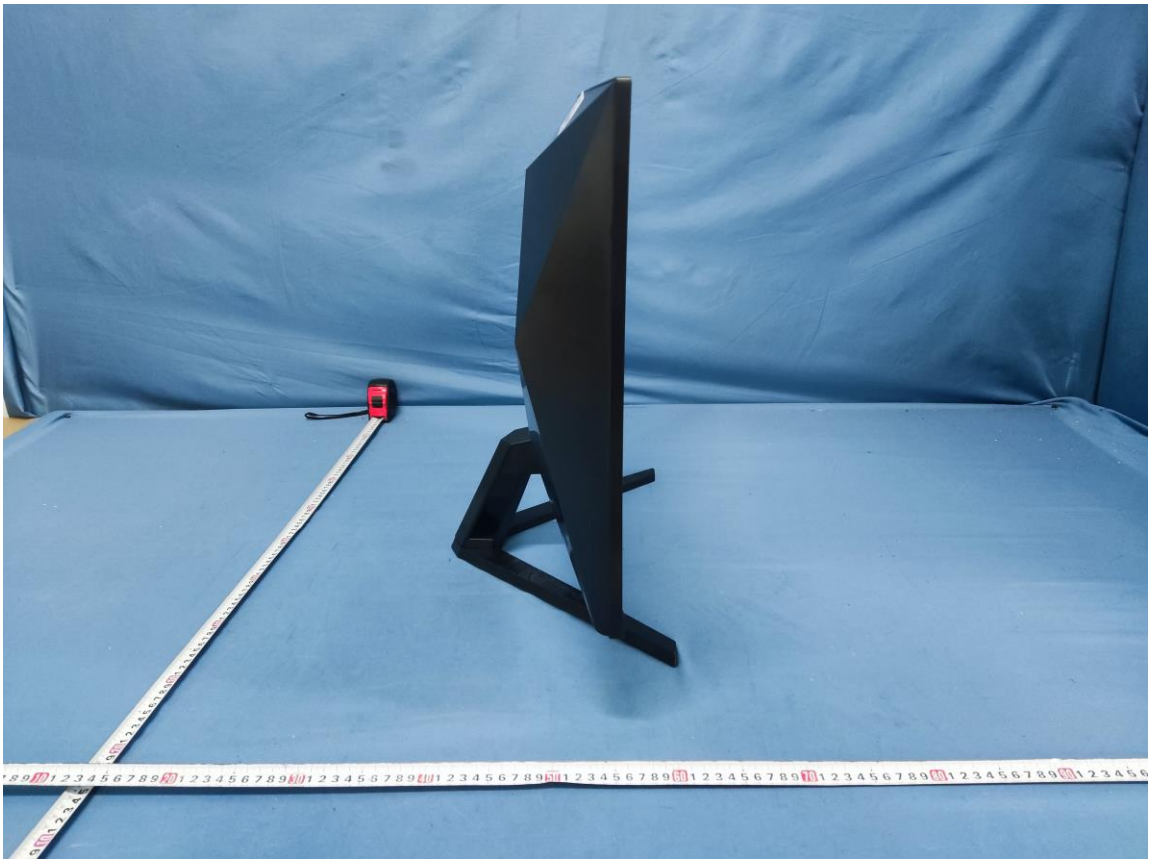
Base stand A

Base stand A

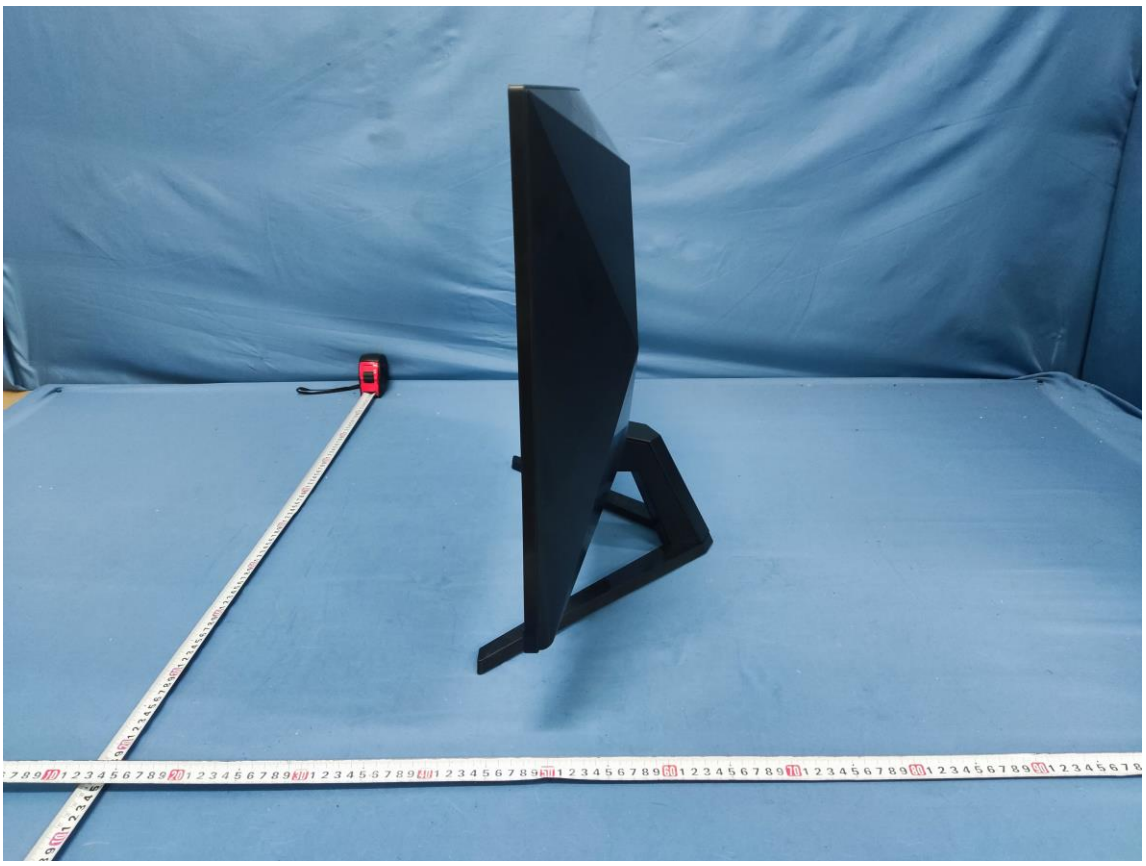


Front view with base stand B

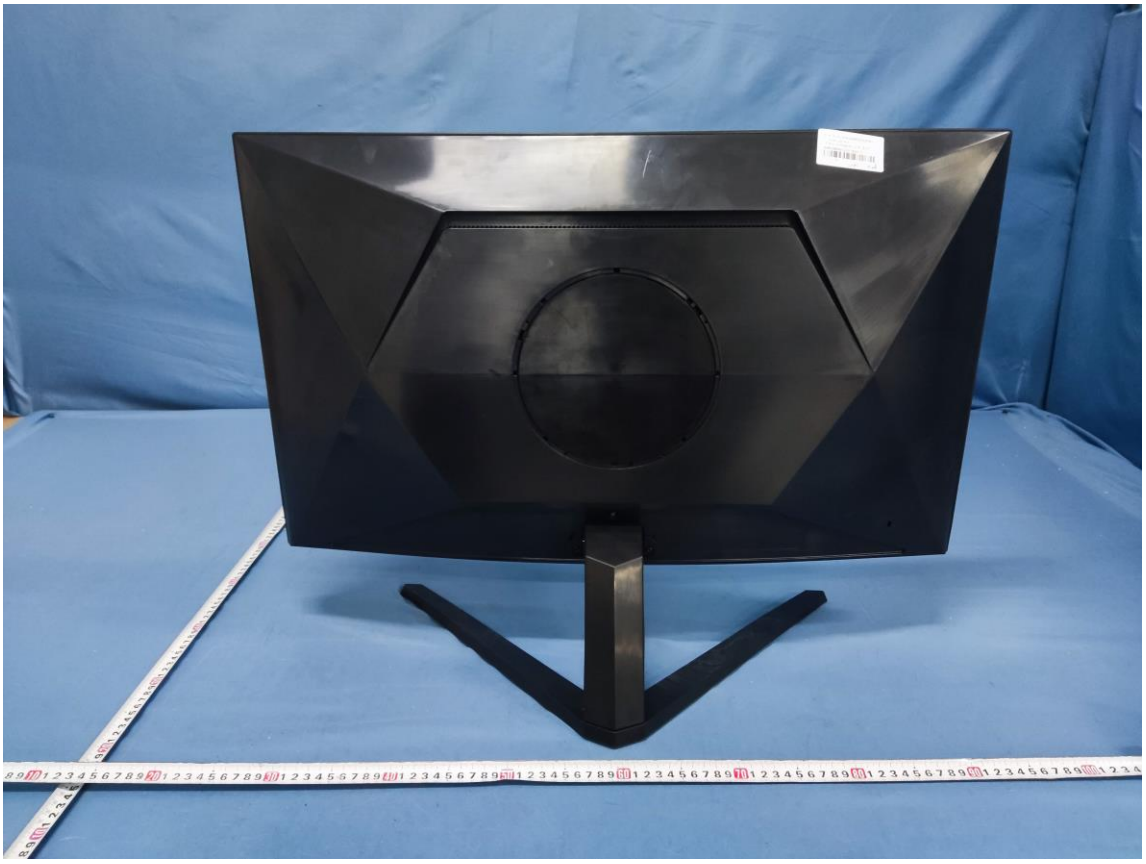
Side view with base stand B



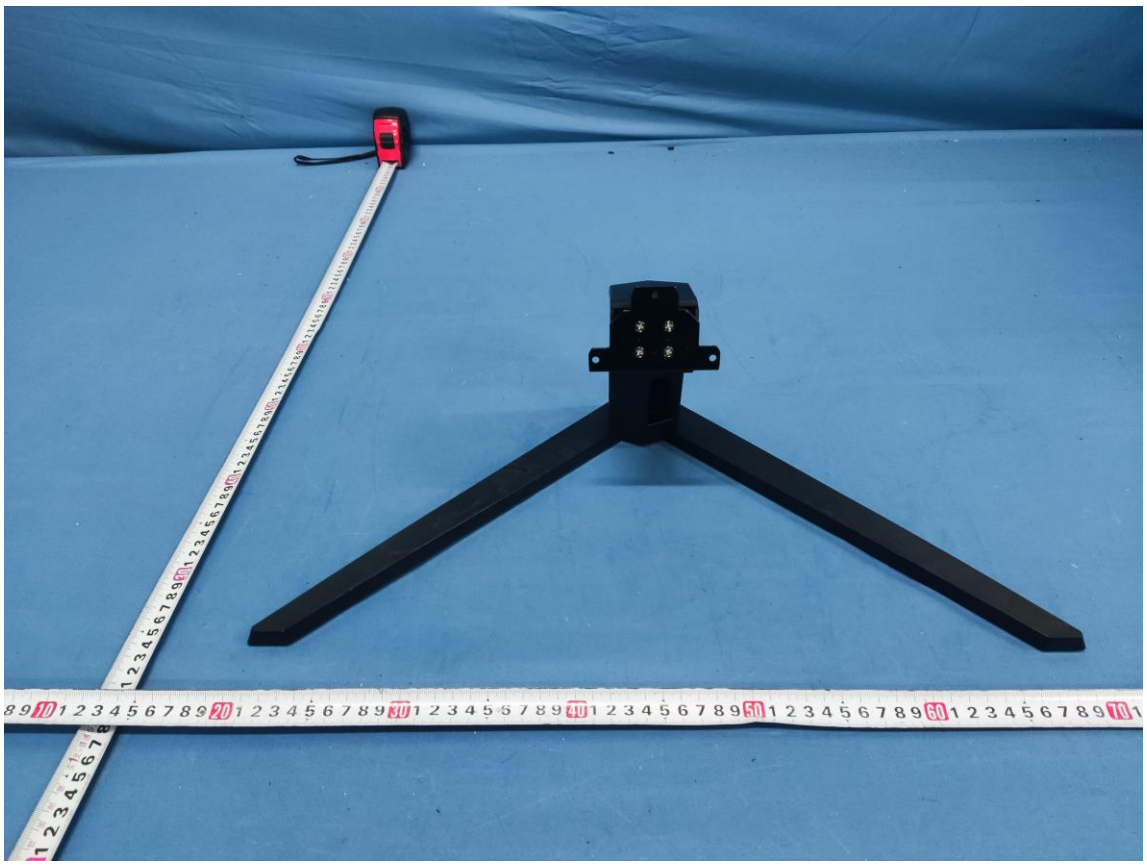
Side view with base stand B



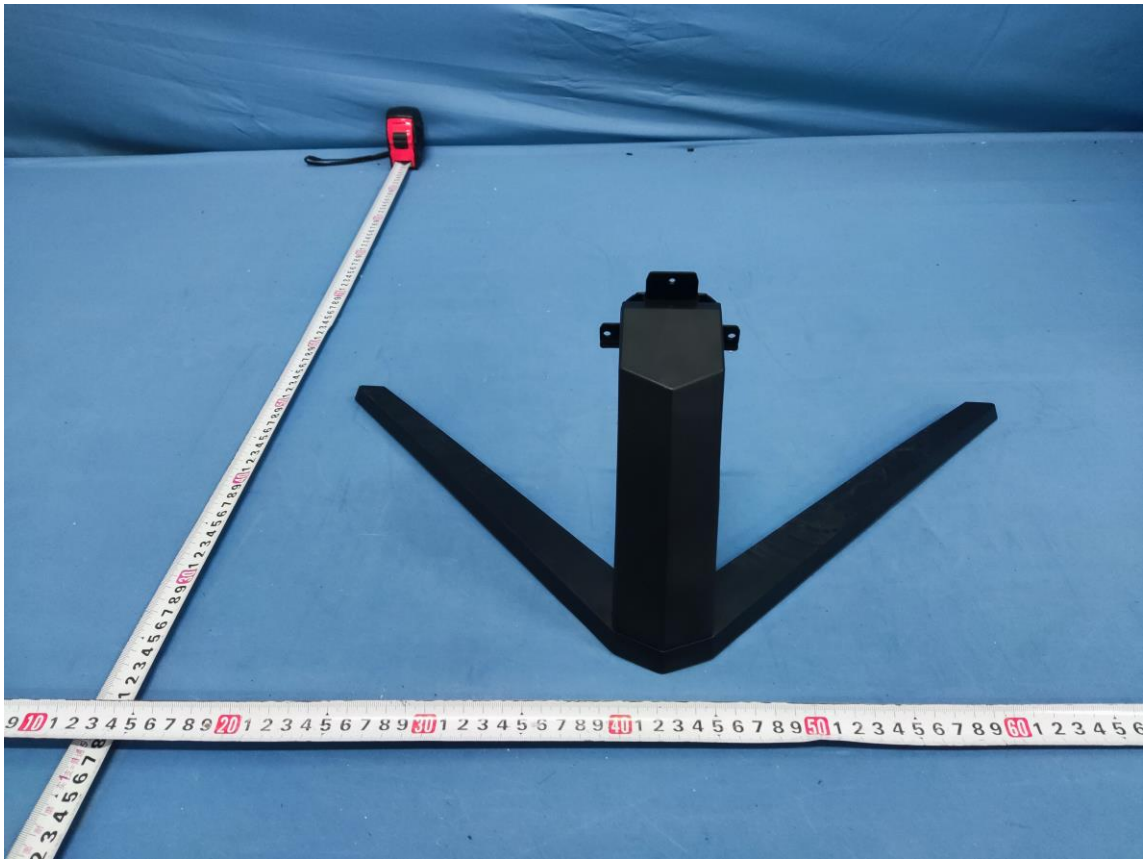
Rear view with base stand B



Base stand B



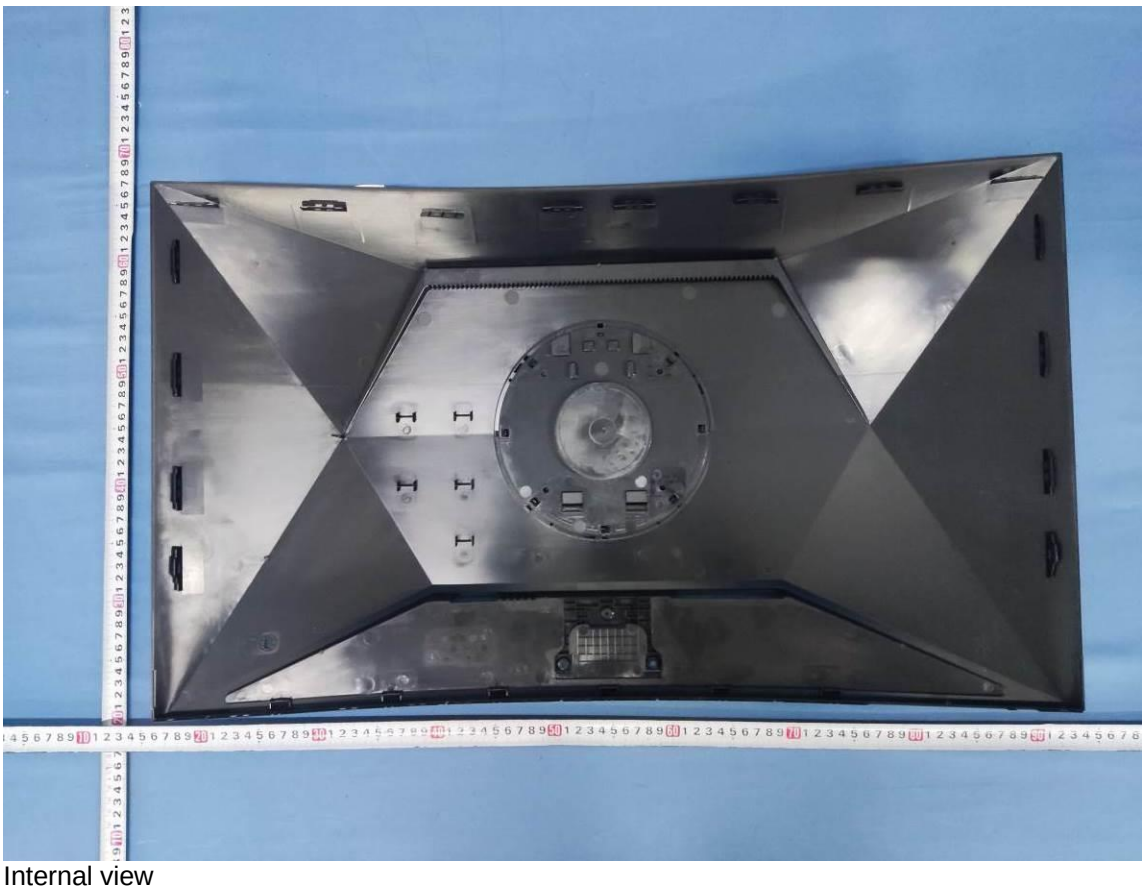
Base stand B



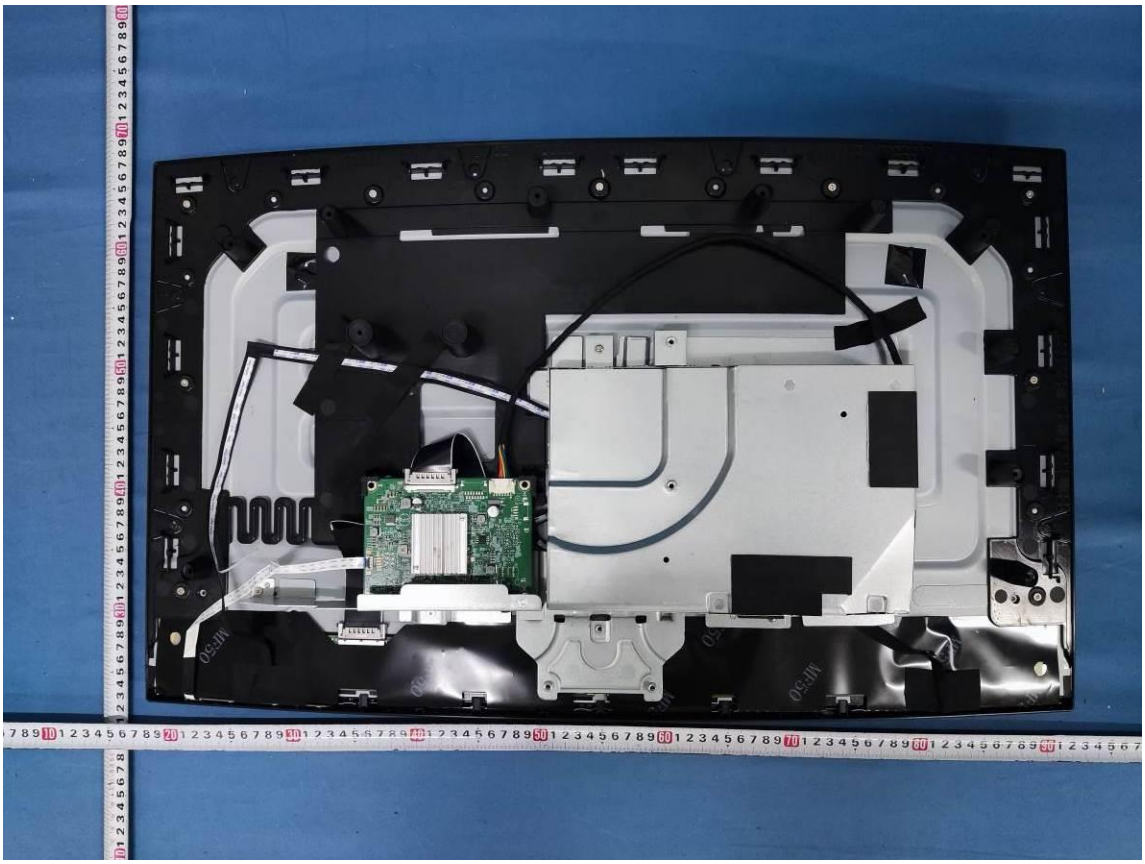
AC Inlet & signal terminals (Main board: 715GE276 version 1)

AC Inlet & signal terminals (Main board: 715GE276 version 2)

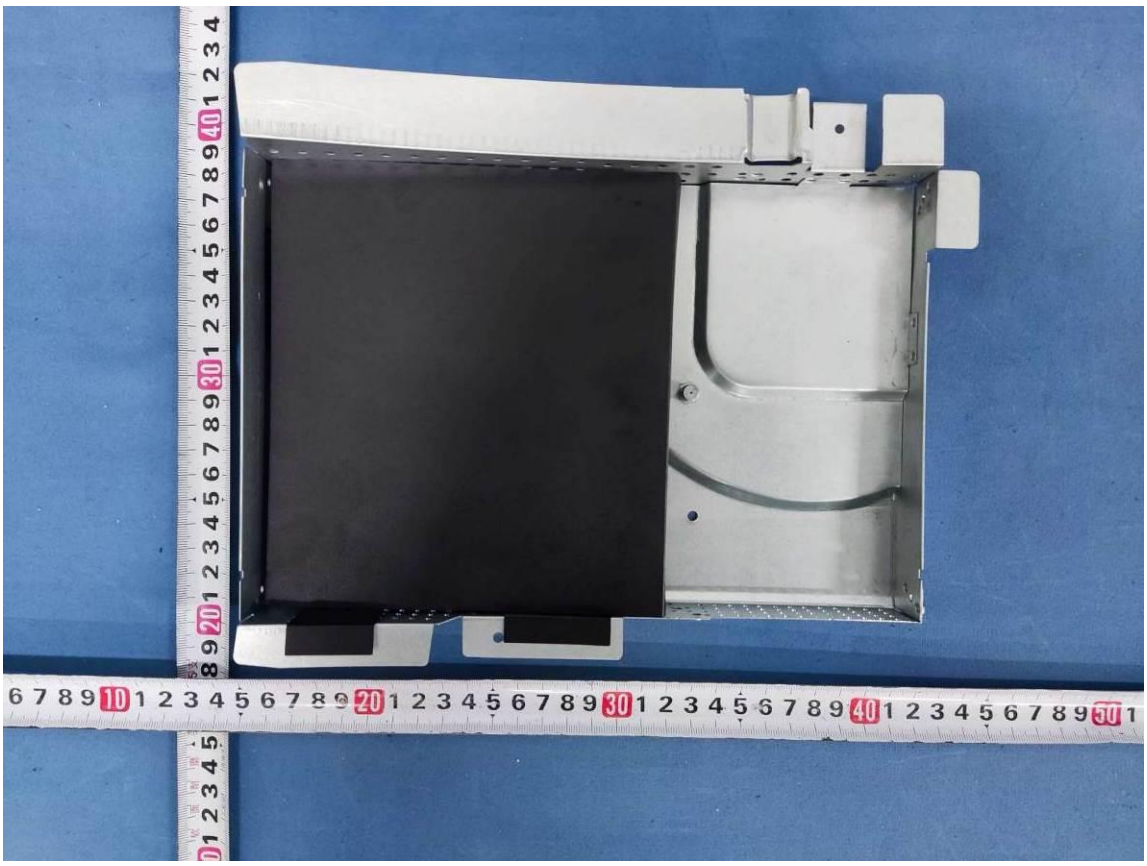
Internal view



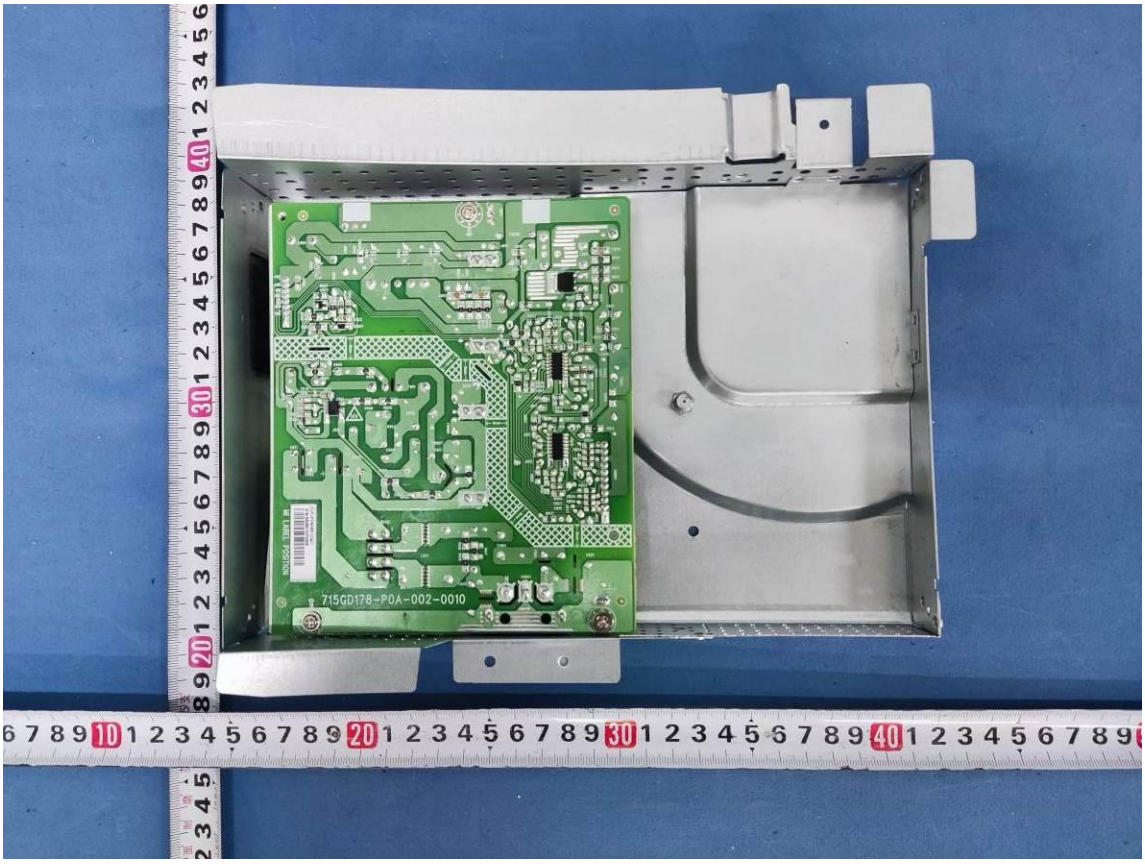
Internal view



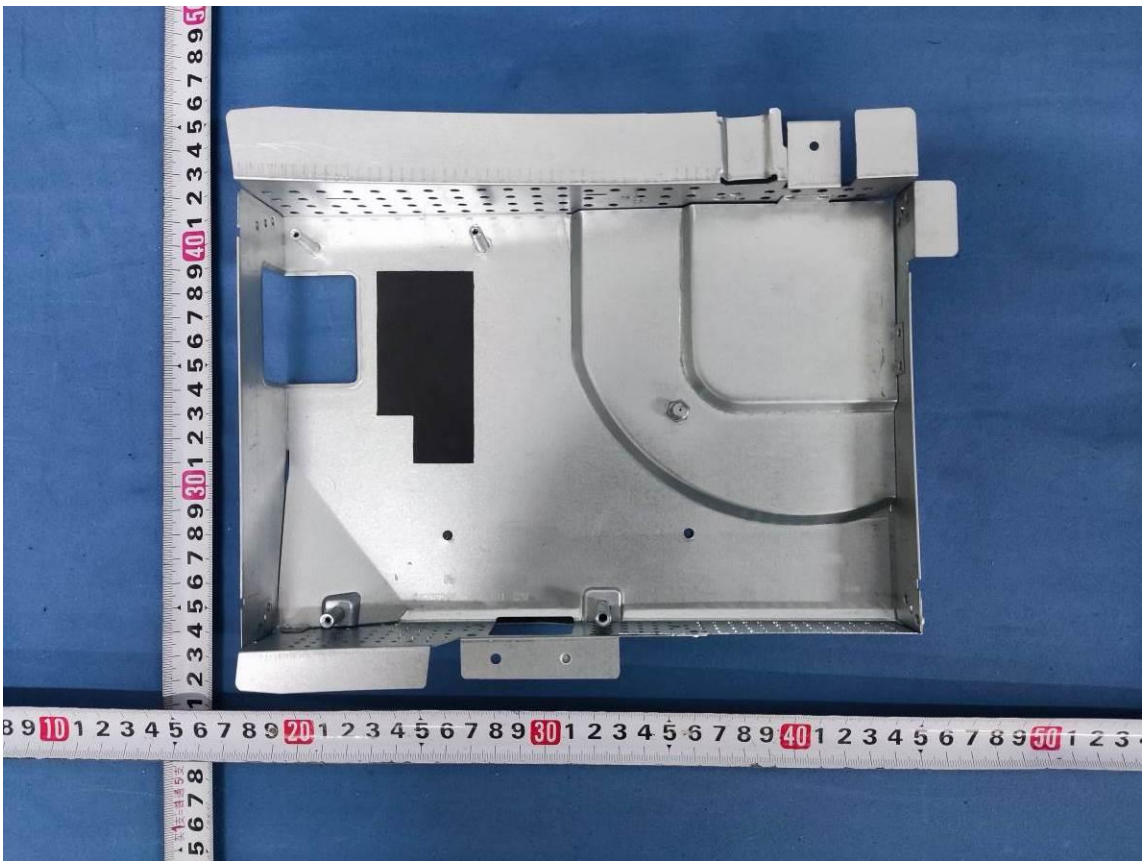
Insulation sheet under power board



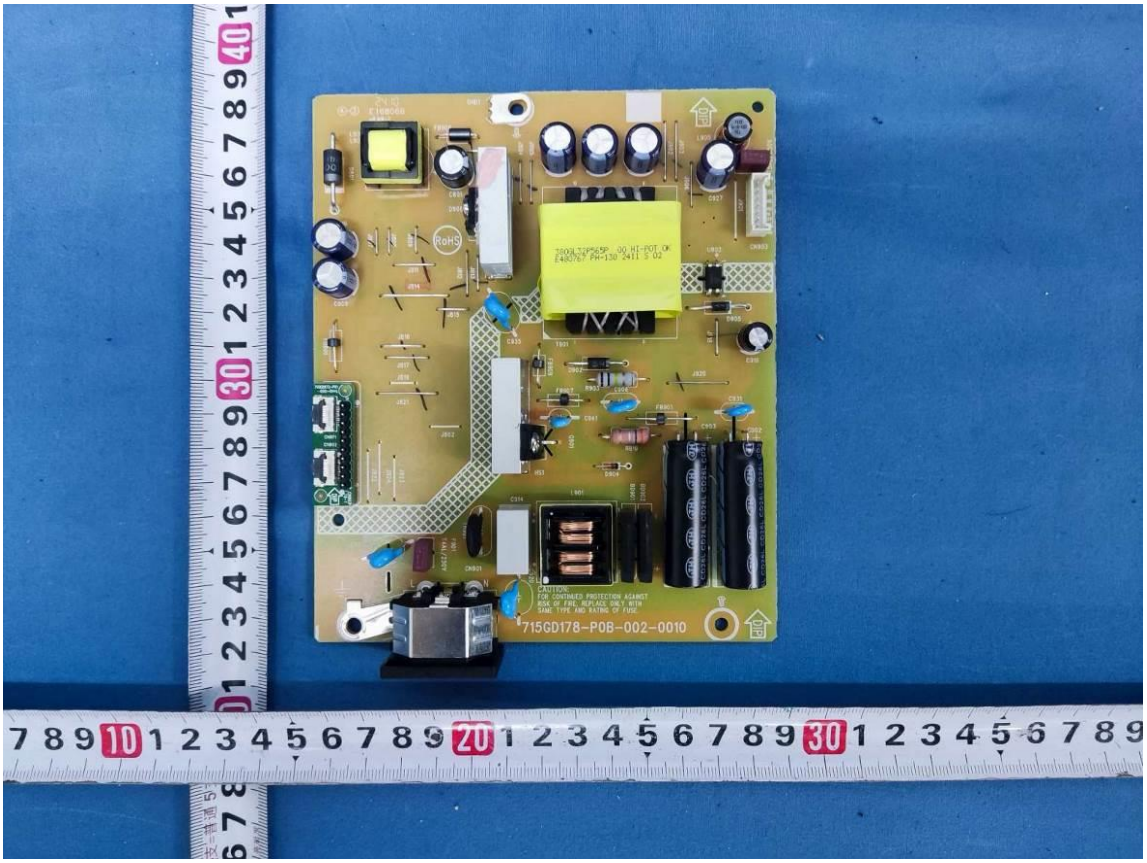
Internal view



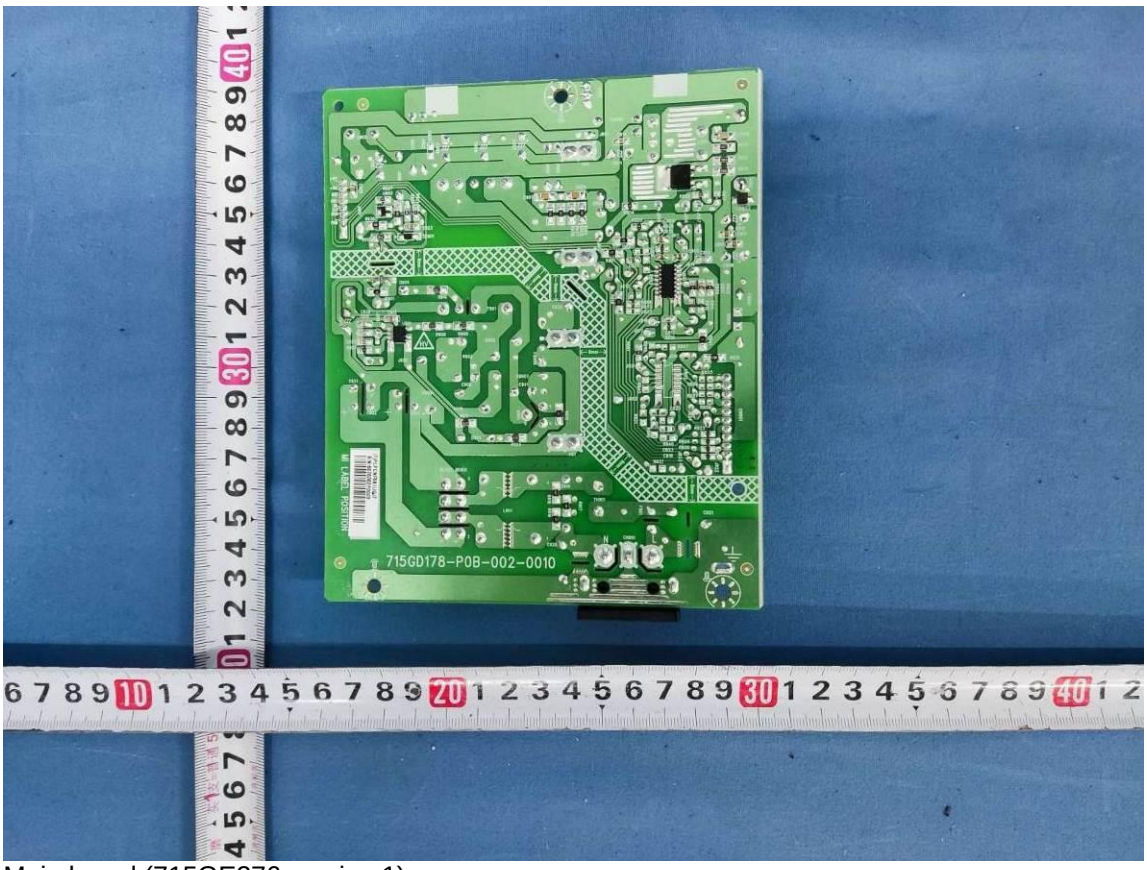
Power board enclosure



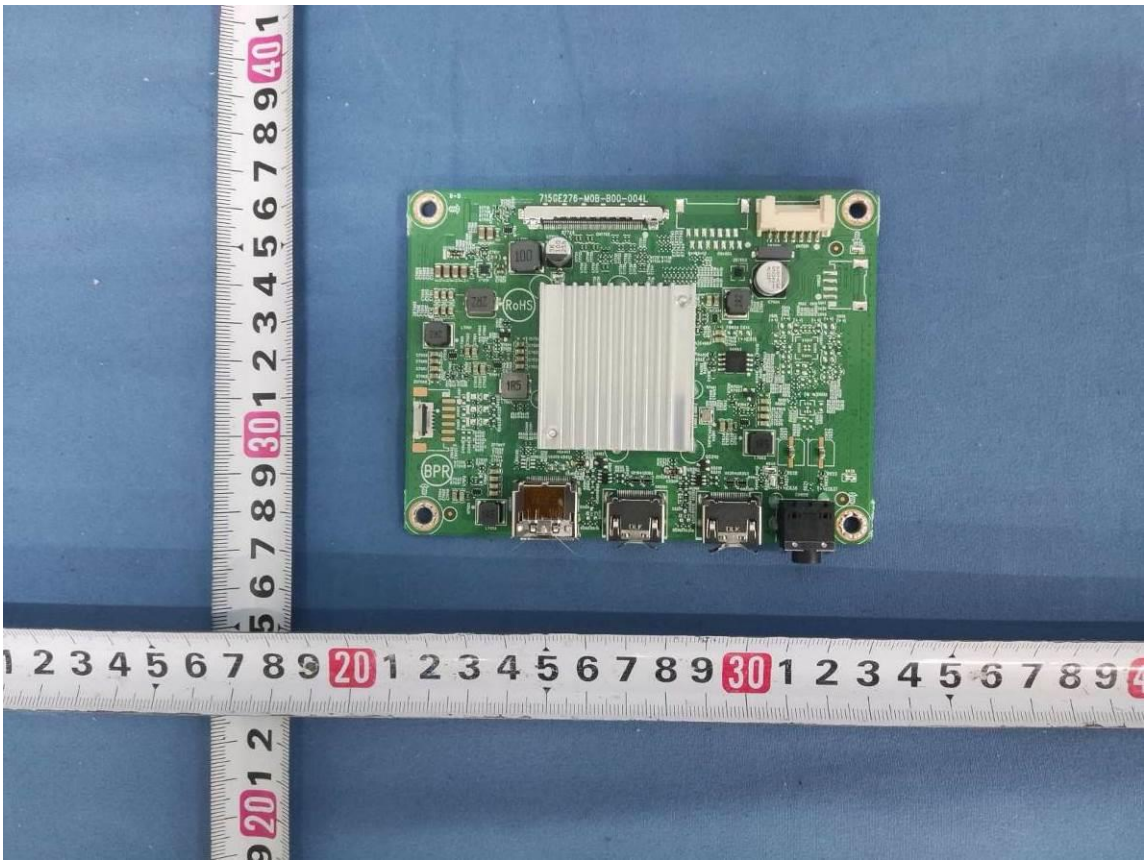
Power supply board



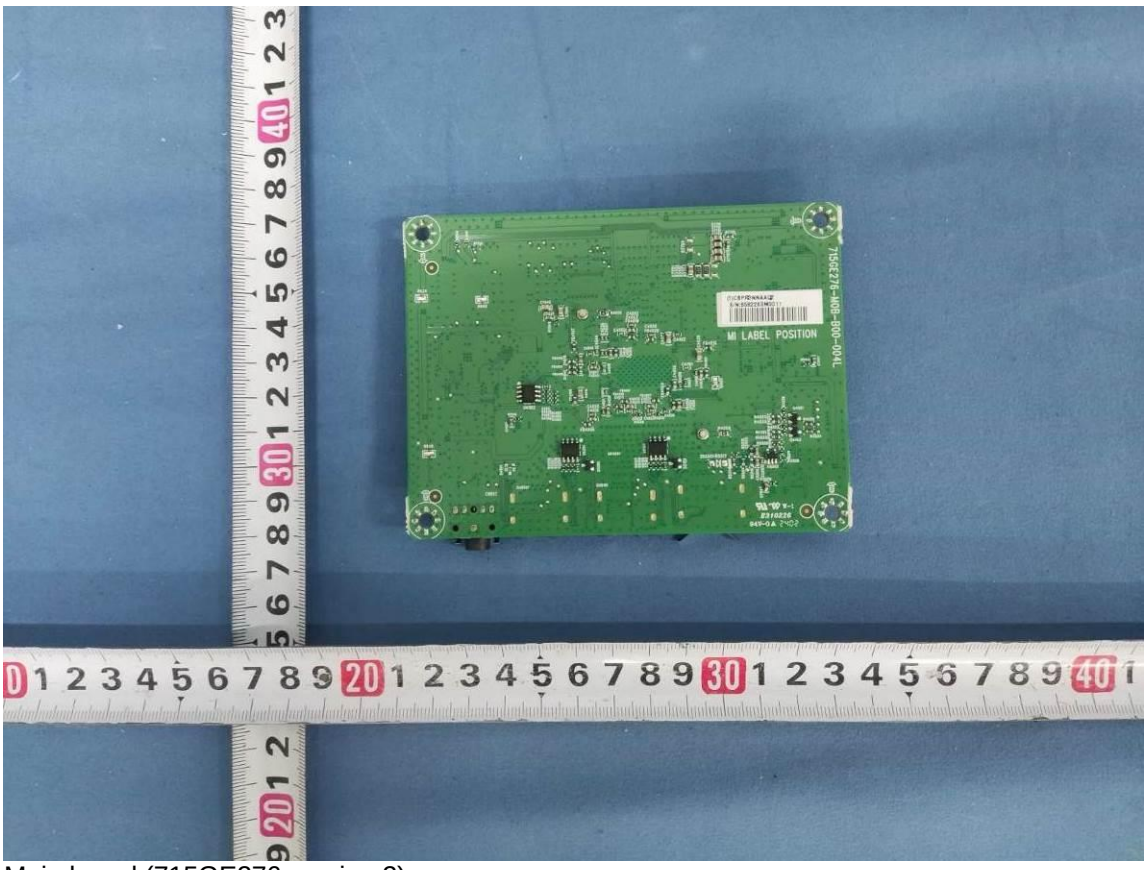
Power supply board



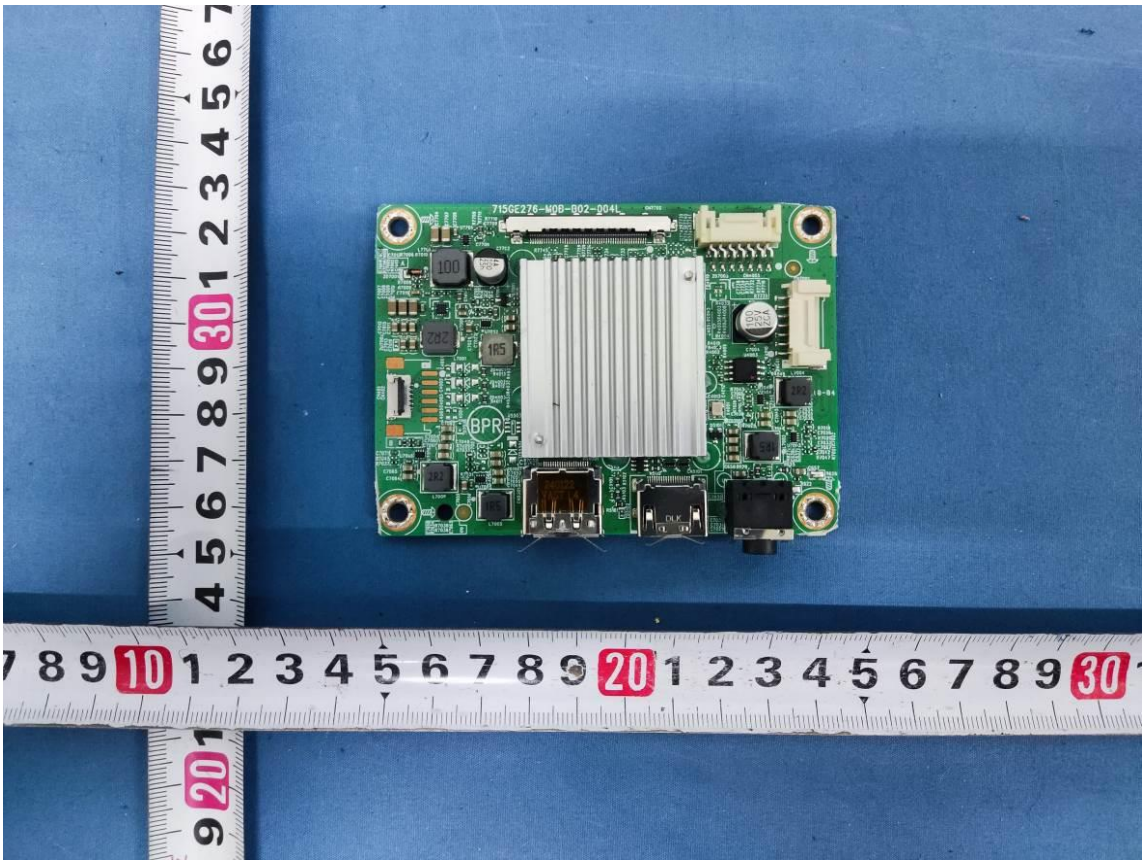
Main board (715GE276 version 1)



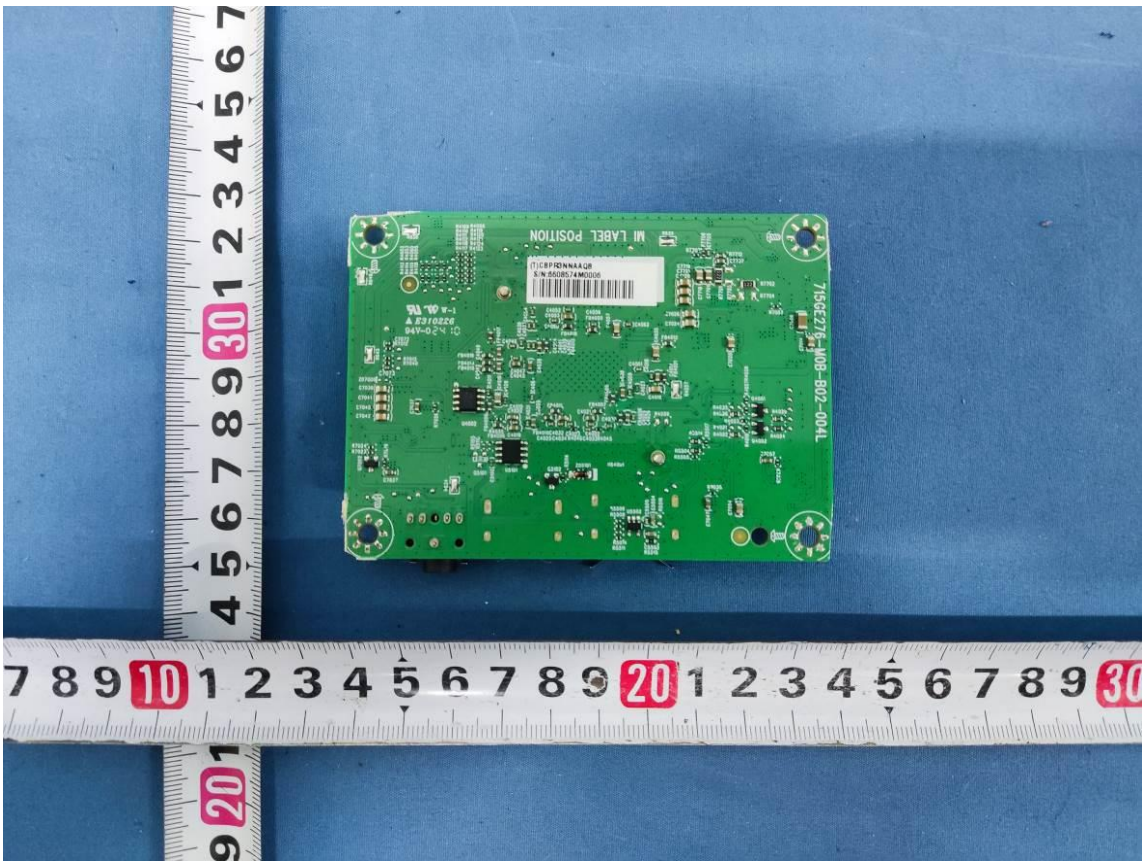
Main board (715GE276 version 1)



Main board (715GE276 version 2)



Main board (715GE276 version 2)



----------End of Attachment 1----------

IEC60950-1 - ATTACHMENT			
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..... : GB 4943.1--2011

Attachment Form No. ..... : CN_ND_IEC60950_1A

Attachment Originator..... : CQC-TIRT

Master Attachment..... : Date 2012-11

	China National Differences		--
1.5. 2	Add a note behind the first dashed paragraph. Note: A component used shall comply with related requirements corresponding altitude of 5000m.		P
1.7	Add a paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.	Need to be evaluated during national approval	N/A
1.7.1	Amend dashed paragraph at the fifth paragraph : 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

IEC60950-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	Add requirements of warning for equipment intended to be used at altitude 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.	Up to 5000m & Maximum ambient temperature: 40 °C Need to be evaluated during national approval	N/A
2.7.1	Amended the first paragraph as: Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except special provisions. And the protective device shall meet the requirement of Clause 5.3. Delete note of Clause 2.7.1.		P

IEC60950-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.2	First section of Clause 2.9.2 amended as two sections: Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature 40±2℃ and a relative humidity of (93±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±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.	Up to 5000m	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.	Up to 5000m	P
2.10.3.3& 2.10.3.4	Add "(applicable for altitude up to 2000m)" in header of Table 2K, 2L and 2M.		N/A

IEC60950-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.4	Add a new section above Table 2K and in Clause 2.10.3.4: Minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment 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.	Up to 5000m	N/A
3.2.1.1	Add a paragraph before the last paragraph: Plugs connected to AC mains supply shall comply with GB 1002 or GB 1003 or GB/T 11918 as applicable.	Need to be evaluated during national approval	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	Amend last section: 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. 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.	Up to 5000m	N/A

IEC60950-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DD (normative)	Added annex DD: Instructions for the new safety warning labels. DD.1 Altitude warning label  Meaning of the label: Evaluation for apparatus only based on altitude not exceeding 2000m, therefor it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used at altitude above 2000m. DD.2 Climate warning label  Meaning of the label: Evaluation for apparatus only based on temperate climate condition, therefor it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used in tropical climate region.		N/A
Annex EE (informative)	Added annex EE: Illustration relative to safety explanation in normative Chinese, Tibetan, Mongolian, Zhuang Language and Uighur.		N/A

	Special national conditions		--
1.1.2	GB4943.1-2011 applies to equipment used at altitudes not exceeding 5000m above sea level, primarily in regions with moderate or tropical climates. Revise 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;	Up to 5000m	P
1.4.5	Amend the second paragraph by the following: If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10% and -10%.		P
1.4.12.1	Tma: 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 to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration.	Maximum ambient temperature: 40 °C	P

----------End of Attachment 2----------

IEC60950_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

	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.		N/A
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.		N/A

IEC60950_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.		N/A
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.		P
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.		N/A
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.		N/A

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7	Replace EE.2 and EE.4 with the following: JA.1 Shredder warning JA.3 Shredder power disconnection		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;		P
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.		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).		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.		N/A
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" *Example in Japanese:* "この機器に同こん(梱)した指定の電源コードセットだけを使用して下さい。" 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 *instruction should provide the information that the cord set is exclusively used with the equipment and not allowed to use with other equipment.*		N/A

IEC60950_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” *Example in Japanese:* “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.” *Example in Japanese:* 接地接続は必ず，電源プラグを電源につなぐ前に行ってください。 また，接地接続を外す場合は，必ず電源プラグを電源から切り離してから行ってください。		N/A
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)		N/A
2.1.1.1	Replace item b) of 2.1.1.1with 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.		P

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.5	Replace “IEC 60730-1” with “JIS C 9730-1” (in item b)).		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 0I 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 cab tire cable with 1.25 mm^2 or more cross-sectional area		N/A
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.		N/A
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.		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.		N/A
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.		N/A

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.6	Replace “ISO 3864, No. 5036” with “6.2.4 of JIS S 0101”.		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.		N/A
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.		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.		N/A
2.10.9	Replace “1.4.5” in the third paragraph with “1.4.12”.		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.		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.		P

IEC60950_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.		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.		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.		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.		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.		N/A

IEC60950_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.		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.		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.		P
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.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5.1.6

Replace Table 5A. as follows

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 -	- -

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.

P

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.

N/A

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex V V.1	Replace “3.1.2”in the first line of V.1 with “312” in the first line.		N/A
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.		N/A
Annex BB	This annex is not applicable.		N/A
Annex CC CC.2	Replace the third 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;*		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 ± 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;		N/A

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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.) **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.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Cont'd	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.		N/A

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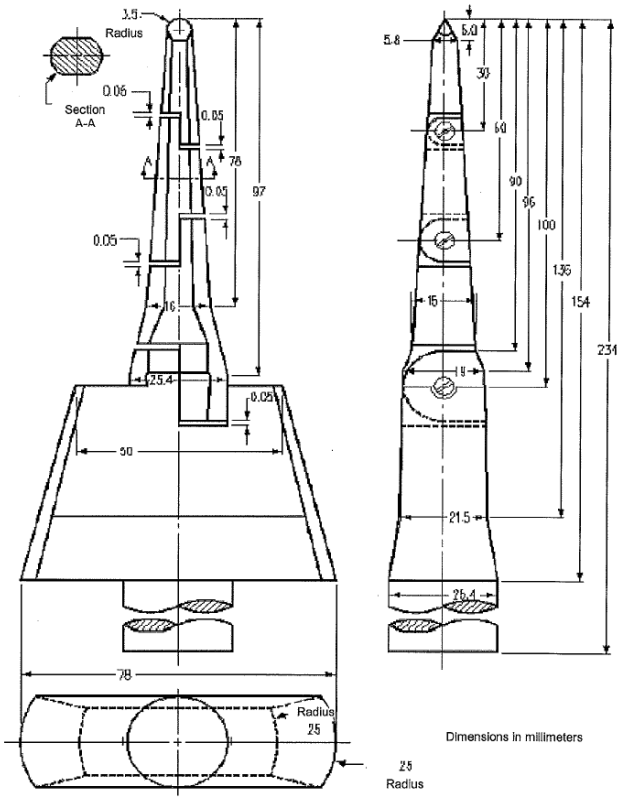
Clause	Requirement + Test	Result - Remark	Verdict
			N/A

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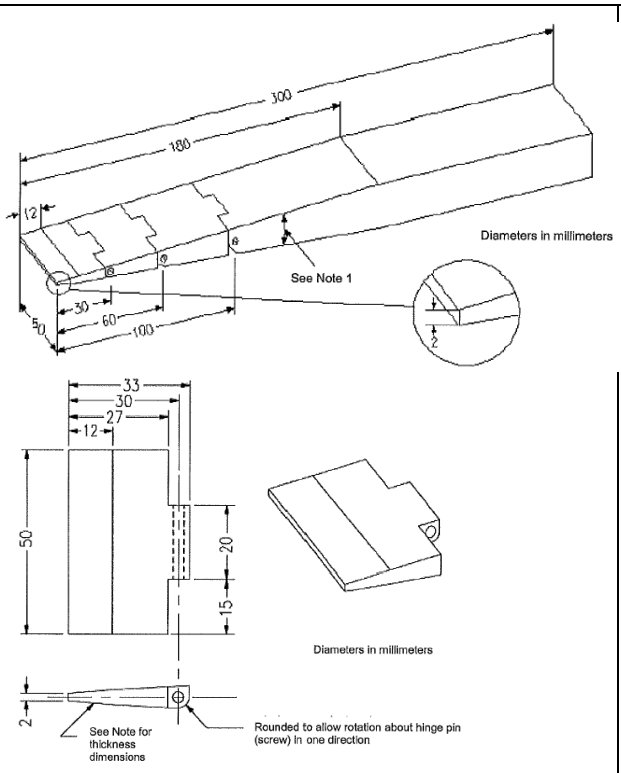
Clause	Requirement + Test	Result - Remark	Verdict
	 (Details of the tip of wedge) Distance from the tip (mm) / Thickness of probe (mm) 0 / 2 12 / 4 180 / 24 Note 1 - The thickness of the probe varies linearly, with slope changes at the respective points shown in the table. Note 2 –The allowable dimensional tolerance of the probe is; for ≤ 25 mm: +/- 0.13 mm for > 25 mm: +/- 0.3 mm. Figure JA.2 Wedge-probe		N/A

----------End of Attachment 3----------

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT

IEC 60950-1

U.S.A. NATIONAL DIFFERENCES

(Information technology equipment – Safety – Part 1: General requirements)

Differences according to ..... :	UL 60950-1-07(Second Edition) + A1: 2011 + A2: 2014
TRF template used:..... :	IECEE OD-2020-F3, Ed. 1.1
Attachment Form No. ..... :	US_ND_IEC60950_1G
Attachment Originator..... :	UL(US)
Master Attachment ..... :	Dated 2021-03-12

	Special National Differences		**--**
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		P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75		P
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors		N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A		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		N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings		P
	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		P
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions"		P

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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"		P
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		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.		N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC		N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements		N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs		N/A
3.2.5	Power supply cords are no longer than 4.5 m in length		N/A
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement		N/A
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC		N/A
3.2.9	Permanently connected equipment has a suitable wiring compartment and wire bending space		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0		N/A
3.3.3	Wire binding screws are not attached with conductors larger than 10 AWG (5.3 mm2)		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are		N/A
	- rated 125 per cent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7)		N/A
3.3.5	Revise first column of Table 3E to “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration”		N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,		N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30		N/A
4.3.13.5.1	Equipment with lasers meets the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		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
	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

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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)		N/A
	Other National Differences		--
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. 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		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		N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts		N/A
2.6.2	Equipment with functional earthing marked with the functional earthing symbol (IEC 60417-6092)		N/A

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more 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		N/A
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test is repeated twice (three tests total) using new components as necessary		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC		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

----------End of Attachment 4----------

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)

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		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:		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.		N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. 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."		N/A

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC shall be marked with the voltage rating and “Class 2” or equivalent. Marking shall be located adjacent to the terminals and shall be visible during wiring.		N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.		N/A
2.6	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.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.		N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.	See Fig/Ill ____ for marking. See Attachment ____ for installation instruction	N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
3.2.5	Power supply cords are required to be no longer than 4.5 m in length. 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.		N/A
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0		N/A

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm2).		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.		N/A
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).		N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m3 (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 m2 (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

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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).		N/A
OTHER DIFFERENCES The following key national differences are based on requirements other than national regulatory requirements.			
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.	See safety component list	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 Vpeak or 60 Vd.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		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

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.		N/A
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.		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.		N/A

----------End of Attachment 5----------