Ref. Certif. No.

FI-60446

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	See page 2
Note: *When more than one factory, please report on 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 62368-1:2014 National Differences: EU Group Differences, AU, NZ, JP, US, CA, DK, IT
As shown in the Test Report Ref. No. which forms part of this Certificate	SZES240200125901

This CB Test Certificate is issued by the National Certification Body

SGS Fimko Ltd
Takomotie 8
FI-00380 Helsinki, Finland

SGS

Date: 2024-05-28

Signature:

Ralf Klingberg
Certification Manager

	Ref. Certif. No.
	FI-60446

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: 2024-05-28

Signature:

Ralf Klingberg
Certification Manager

Test Report issued under the responsibility of:

TEST REPORT
IEC 62368-1
Audio/video, information and communication technology equipment
Part 1: Safety requirements

Report Number.....:	SZES240200125901
Date of issue.....:	2024-05-28
Total number of pages.....:	85 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 62368-1:2014
Test procedure.....:	CB Scheme
Non-standard test method.....:	N/A
TRF template used.....:	IECEE OD-2020-F1:2021, Ed.1.4
Test Report Form No.....:	IEC62368_1D
Test Report Form(s) Originator ..:	UL(US)
Master TRF .....:	Dated 2022-04-14

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(s) .....:		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:**		
Testing location/ address..... :			
Tested by (name, function, signature).....:			
Approved by (name, function, signature).....:			
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Witnessed by (name, function, signature).....:			
Approved by (name, function, signature).....:			
☐	**Testing procedure: CTF Stage 3 :**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Witnessed by (name, function, signature).....:			
Approved by (name, function, signature).....:			
Supervised by (name, function, signature) .....:			

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

Attachment 1: 13 pages of Photos;

Attachment 2: 4 pages of Construction of Transformer;

Attachment 3: 10 pages of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES;

Attachment 4: 32 pages of AUSTRALIA / NEW ZEALAND NATIONAL DIFFERENCES;

Attachment 5: 4 pages of JAPAN NATIONAL DIFFERENCES;

Attachment 6: 5 pages of U.S.A. AND CANADA NATIONAL DIFFERENCES;

Attachment 7: 2 pages of DENMARK NATIONAL DIFFERENCES;

Attachment 8: 2 pages of ITALY NATIONAL DIFFERENCES.

Summary of testing:

The sample(s) tested complies with the requirements of IEC 62368-1: 2014.

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

T-type thermocouple used for temperature measurement.

Representative model(s) for full testing: CQ32G4VE

Remark: There are two types of main board (715GE276 version 1 and 715GE276 version 2) that are similar to each other except for different number of output ports, one main board 715GE276 version 1 shall be selected for full testing, and Annex B.2.5 for the other main board 715GE276 version 2.

Tests performed (name of test and test clause):

☒ 4. General requirements

☒ 5. Electrically-caused injury

☒ 6. Electrically-caused fire

☐ 7. Injury caused by hazardous substances

☒ 8. Mechanically-caused injury

☒ 9. Thermal burn injury

☒ 10. Radiation

☒ Annex B. Normal operating condition tests, abnormal operating condition tests and single fault condition tests

☒ Annex F.3.9. Performance of Marking test

☐ Annex M. Equipment Containing Batteries And Their Protection Circuits

☒ Annex P.4 Metallized coatings and adhesive securing parts

☒ Annex Q. Limited Power Source

☒ Annex T. Mechanical strength tests

☒ Annex V. Determination of accessible parts

Testing location:

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):

EU Group Differences, AU, NZ, JP, US, CA, DK, IT

☒ **The product fulfils the requirements of EN 62368-1:2014 + A11:2017, AS/NZS 62368.1:2018, J62368-1 (2020), UL 62368-1: 2014 Ed.2, CSA C22.2 No. 62368-1: 2014 Ed.2, BS EN 62368-1:2014 + A11:2017, DS/EN 62368-1:2014, CEI EN 62368-1:2016.**

Use of uncertainty of measurement for decisions on conformity (decision rule):

☒ No decision rule is specified by the IEC 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").

☐ Other:… (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

Information on uncertainty of measurement:

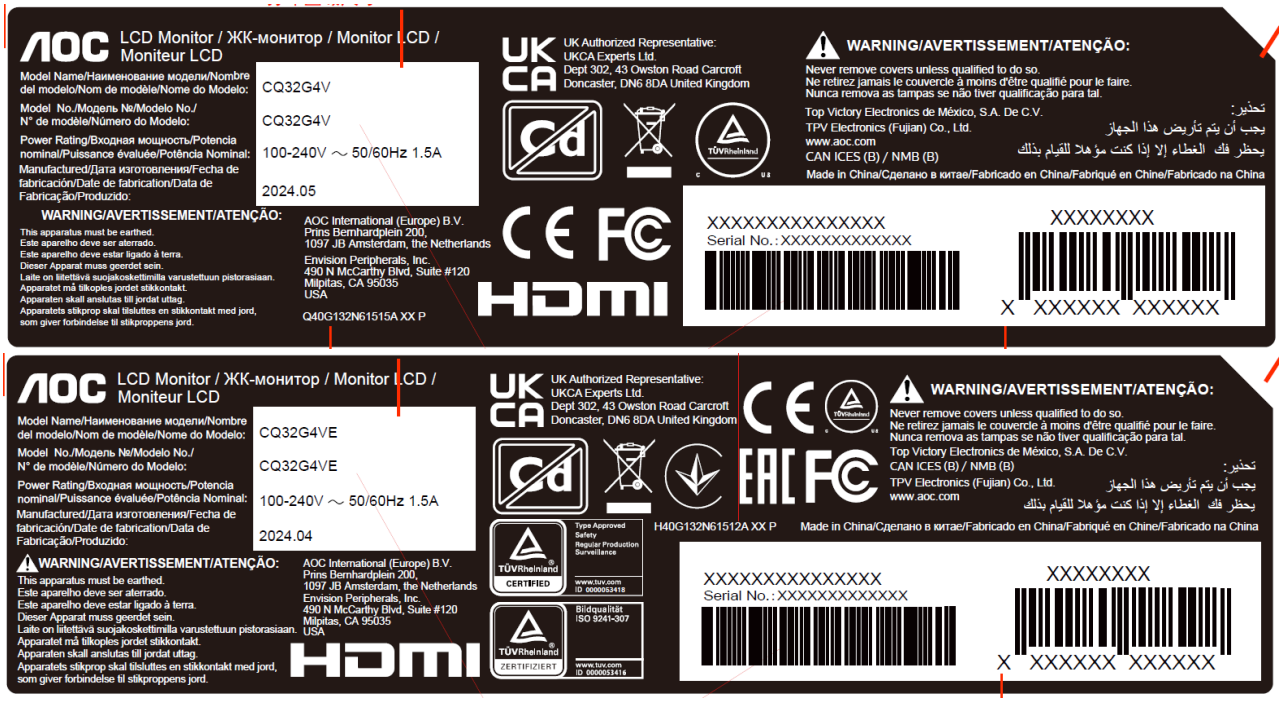
The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

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

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:

1. As declared by the applicant, the importer (and manufacturer, if it is different)'s name, registered trade name or registered trade mark and the postal address will be marked on the products before being place on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities.

2. Marking on the packaging or in a document accompanying the electrical equipment is only acceptable if it is not possible to place such markings on the product.

3. The Height of CE & UKCA logo shall not be less than 5 mm; Height of WEEE logo shall not be less than 7 mm.

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

TEST ITEM PARTICULARS:	
Classification of use by ..... :	☒ Ordinary person ☐ Instructed person ☐ Skilled person ☒ Children likely to be present
Supply Connection ..... :	☒ AC Mains ☐ DC Mains ☐ External Circuit - not Mains connected - ☐ ES1 ☐ ES2 ☐ ES3
Supply % Tolerance ..... :	☒ +10%/-10% ☐ +20%/-15% ☐ +____%/ -_____% ☐ None
Supply Connection – Type ..... :	☒ pluggable equipment type A - ☐ non-detachable supply cord ☒ appliance coupler ☐ direct plug-in ☐ mating connector ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☐ mating connector ☐ other:
Considered current rating of protective device as part of building or equipment installation ..... :	16 A; 20A for US/CA Installation location: ☒ building; ☐ equipment
Equipment mobility ..... :	☒ movable ☐ hand-held ☐ transportable ☐ stationary ☐ for building-in ☐ direct plug-in ☐ rack-mounting ☒ wall-mounted
Over voltage category (OVC) ..... :	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Class of equipment ..... :	☒ Class I ☐ Class II ☐ Class III ☐ Class II with functional earthing ☐ Not classifed
Access location ..... :	☐ restricted access area ☒ N/A
Pollution degree (PD) ..... :	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified maxium operating ambient ..... :	40 °C
IP protection class ..... :	☒ IPX0 ☐ IP___
Power Systems ..... :	☒ TN ☒ TT ☐ IT - ____ $V_{L-L;}$ ☐ dc mains ☐ N/A
Altitude during operation (m) ..... :	☐ 2000 m or less ☒ 5000 m
Altitude of test laboratory (m) ..... :	☐ 2000 m or less ☒ <120 m
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 and other remarks:

Product Description:

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

Model Differences: All models are identical except for model name.

Additional application considerations – (Considerations used to test a component or sub-assembly) –

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.	
Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input ES1	
Source of electrical energy	**Corresponding classification (ES)**
All Internal primary circuit	**ES3**
Output port, accessible enclosure	**ES1**
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): PS2	
Source of power or PIS	**Corresponding classification (PS)**
Primary circuit	**PS3**
Secondary circuit	**PS2**
Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component Glycol	
Source of hazardous substances	**Corresponding chemical**
N/A	**N/A**
Mechanically-caused injury (Clause 8) (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit MS2	
Source of kinetic/mechanical energy	**Corresponding classification (MS)**
Sharp edges and corners	**MS1**
Mass of the unit	**MS2**
Wall mount unit	**MS3**
Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure TS1	
Source of thermal energy	**Corresponding classification (TS)**
Accessible enclosure	**TS1**
Radiation (Clause 10) (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product RS1	
Type of radiation	**Corresponding classification (RS)**
LED for indicating only	**RS1**

ENERGY SOURCE DIAGRAM
Indicate which energy sources are included in the energy source diagram. Insert diagram below
☐ ES ☐ PS ☐ MS ☐ TS ☐ RS

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	**Possible Hazard**			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary: Accessible plastic enclosure	ES3: Primary circuit	--	--	Plastic enclosure
Ordinary: Accessible metal enclosure	ES3: Primary circuit	Internal metal enclosure with protective conductor	Meet clause 5.4.2.2, 5.4.2.4 and 5.4.3	--
Ordinary: Accessible output port	ES3: Primary circuit	--	--	Isolation transformer, Y1 cap.
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
Combustible material	PS3: Primary circuit	1, No ignition occurred 2, No parts exceeding 90% of its spontaneous ignition temperature	1, PWB (V-0); 2, VW-1 internal wires; 3, All other components: at least V-2 except for mounted on min. V-1 material or small parts of combustible material.	Internal metal fire barrier covering primary circuit and secondary circuit.
Combustible material	PS2: Secondary circuit	1, No ignition occurred 2, No parts exceeding 90% of its spontaneous ignition temperature	1, PWB (V-0); 2, VW-1 internal wires; 3, All other components: at least V-2 except for mounted on min. V-1 material or small parts of combustible material.	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			

Body Part (e.g. Ordinary)	Energy Source (MS3: High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	MS1: Edges and corners of enclosure	N/A	N/A	N/A
Ordinary	MS2: Whole unit (When using the base)	Test clause 8.6 evaluated	N/A	N/A
Ordinary	MS3: Wall mount unit	Test clause 8.7 evaluated	Instruction	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
TS1: Accessible enclosure	Ordinary	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
RS1: LEDs for indicating only	Ordinary	N/A	N/A	N/A
Supplementary Information:				
(1) See attached energy source diagram for additional details. (2) “N” – Normal Condition; “A” – Abnormal Condition; “S” Single Fault				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

4	**GENERAL REQUIREMENTS**		P
4.1.1	Acceptance of materials, components and subassemblies		P
4.1.2	Use of components		P
4.1.3	Equipment design and construction		P
4.1.15	Markings and instructions .....:	(See Annex F)	P
4.4.4	Safeguard robustness		P
4.4.4.2	Steady force tests.....:	(See Annex T.2, T.3, T.4, T.5)	P
4.4.4.3	Drop tests.....:		N/A
4.4.4.4	Impact tests.....:	(See Annex T.6)	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests .....:		N/A
4.4.4.6	Glass Impact tests .....:		N/A
4.4.4.7	Thermoplastic material tests .....:	(See Annex T.8)	P
4.4.4.8	Air comprising a safeguard .....:	Enclosure is securely fixed	P
4.4.4.9	Accessibility and safeguard effectiveness		P
4.5	Explosion		N/A
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard	All secondary lead wires are reliably fixed and can't access hazardous live parts.	P
4.6.2	10 N force test applied to .....:	Components are adequately fixed	P
4.7	Equipment for direct insertion into mains socket - outlets		N/A
4.7.2	Mains plug part complies with the relevant standard .....:		N/A
4.7.3	Torque (Nm).....:		N/A
4.8	Products containing coin/button cell batteries		N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery.....:		—
4.8.4	Battery Compartment Mechanical Tests.....:		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object.....:	(See Annex P)	P

5	**ELECTRICALLY-CAUSED INJURY**		P
5.2.1	Electrical energy source classifications ..... :		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current ..... :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits..... :	(See appended table 5.5.2.2)	P
5.2.2.4	Single pulse limits ..... :		N/A
5.2.2.5	Limits for repetitive pulses ..... :		N/A
5.2.2.6	Ringing signals ..... :		N/A
5.2.2.7	Audio signals ..... :		N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.2.1	Accessibility to electrical energy sources and safeguards	Ordinary person can access to ES1 part only	P
5.3.2.2	Contact requirements		P
	a) Test with test probe from Annex V ..... :	Test probes are unlikely to touch hazardous voltage part	P
	b) Electric strength test potential (V) ..... :		N/A
	c) Air gap (mm) ..... :	No opening for the entrance of test probe (and air gap to the high-voltage part was far more than 0,3 mm)	P
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Humidity conditioning ..... :		P
5.4.1.4	Maximum operating temperature for insulating materials ..... :	See appended table	P
5.4.1.5	Pollution degree..... :	Pollution degree 2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage		P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat softening temperature..... :		N/A
5.4.1.10.3	Ball pressure ..... :		N/A
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage	(See appended table 5.4.2.2)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.3	Determining clearance using required withstand voltage ..... :	(See appended table 5.4.2.3)	P
	a) a.c. mains transient voltage ..... :	2500 Vpeak	—
	b) d.c. mains transient voltage ..... :		—
	c) external circuit transient voltage..... :		—
	d) transient voltage determined by measurement ..... :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages..... :	Multiplication factor is 1,48 for altitude up to 5000m.	P
5.4.3	Creepage distances..... :	(See appended table 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group ..... :	Material group IIIb assumed	—
5.4.4	Solid insulation		P
5.4.4.2	Minimum distance through insulation ..... :	(See appended table 5.4.4.2)	P
5.4.4.3	Insulation compound forming solid insulation	Optocouplers were used	P
5.4.4.4	Solid insulation in semiconductor devices	Optocouplers were used	P
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material		P
	Number of layers (pcs) ..... :	Two layers insulation tape wrapping ferrite core of transformer	P
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material ..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		P
5.4.4.9	Solid insulation at frequencies >30 kHz ..... :		N/A
5.4.5	Antenna terminal insulation	Without antenna terminal	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ)..... :		—
5.4.6	Insulation of internal wire as part of supplementary safeguard..... :		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Relative humidity (%) ..... :	95 % RH	—
	Temperature (°C) ..... :	40 °C	—
	Duration (h) ..... :	120 h	—
5.4.9	Electric strength test..... :	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for a solid insulation type test		P
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test..... :		N/A
5.4.10.2.3	Steady-state test ..... :		N/A
5.4.11	Insulation between external circuits and earthed circuitry ..... :		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V) ..... :		—
	Nominal voltage U_{peak} (V)..... :		—
	Max increase due to variation U_{sp} ..... :		—
	Max increase due to ageing ΔU_{sa} ..... :		—
	$U_{op}= U_{peak} + \Delta U_{sp} + \Delta U_{sa}$ ..... :		—
5.5	Components as safeguards		P
5.5.1	General		P
5.5.2	Capacitors and RC units	Approved X and Y capacitors provided.	P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector ..... :	(See appended table 5.5.2.2)	P
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	(See sub-clause 5.4 or Clause G.12)	P
5.5.5	Relays	No such component	N/A
5.5.6	Resistors	Bleeding resistors are approved component. See Table 4.1.2 for the details	P
5.5.7	SPD's	No such component	N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable ..... :		N/A
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		P
	Protective earthing conductor size (mm^2) .....:	The earthing terminal in approved AC connector serves as main PE terminal.	—
5.6.4	Requirement for protective bonding conductors	Cross-sectional area of protective bonding traces and metal cramp of AC inlet complied with Clause 5.6.6 and Table 31	P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm^2). .....:	Min. 0,6	—
	Protective current rating (A) ..... :	16 A; 20A for US/CA	—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		P
5.6.5.1	Requirement		P
	Conductor size (mm^2), nominal thread diameter (mm). .....:		N/A
5.6.5.2	Corrosion		P
5.6.6	Resistance of the protective system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method Resistance (Ω).....:	(See appended table 5.6.6.2)	P
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current.....:	(See appended table 5.7.2.2, 5.7.4)	P
5.7.2.2	Measurement of prospective touch voltage		P
5.7.3	Equipment set-up, supply connections and earth connections		P
	System of interconnected equipment (separate connections/single connection).....:		—
	Multiple connections to mains (one connection at a time/simultaneous connections).....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.4	Earthed conductive accessible parts.....:	(See appended table 5.7.2.2, 5.7.4)	P
5.7.5	Protective conductor current		P
	Supply Voltage (V) .....:	(See appended table 5.7.2.2, 5.7.4)	—
	Measured current (mA).....:	(See appended table 5.7.2.2, 5.7.4)	—
	Instructional Safeguard.....:	Instructional Safeguard was unnecessary.	N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA).....:		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA) .....:		N/A

6	**ELECTRICALLY- CAUSED FIRE**		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications		P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault....:	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault.....:	(See appended table 6.2.2)	P
6.2.2.4	PS1 .....:		N/A
6.2.2.5	PS2 .....:	(See appended table 6.2.2)	P
6.2.2.6	PS3 .....:	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS .....:	Primary circuit	P
6.2.3.2	Resistive PIS .....:	Primary circuit and secondary circuit were considered as source of resistive PIS.	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials.....:	(See appended table 5.4.1.5, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure		P
6.4	Safeguards against fire under single fault conditions		P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.1	Safeguard Method		P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions ..... :		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits		P
6.4.5.2	Supplementary safeguards .....:	See below.	P
6.4.6	Control of fire spread in PS3 circuit	1. V-0 PWB, 2. All other components: at least V-2 except for mounted on min. V-1 material or small parts of combustible material. 3. Internal metal fire barrier covering primary circuit and secondary circuit. 4. Internal wires complied with cl. 6.5.1	P
6.4.7	Separation of combustible materials from a PIS		P
6.4.7.1	General.....:	Internal metal fire barrier covering primary circuit and secondary circuit.	P
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		P
6.4.8	Fire enclosures and fire barriers	Internal metal fire enclosure covering power board.	P
6.4.8.1	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier		P
6.4.8.2.2	Requirements for a fire enclosure		N/A
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3.3	Top Openings in Fire Enclosure: 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. No opening was fall in Volume of PS3 component shown as Figure 41 and 42 of this standard. Right side: One rectangle opening. No hazardous part within vertical projection of 5° from the opening. No opening was fall in Volume of PS3 component shown as Figure 41 and 42 of this standard. Left side: One L shape opening covered by mylar V-0 No hazardous part within vertical projection of 5° from the opening. No opening was fall in Volume of PS3 component shown as Figure 41 and 42 of this standard. No hazards 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.	P
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm) ..... :	Internal metal enclosure cover power board: Numerous circular openings with max. ∅ 1,8 mm, less than 3 mm in any dimension.	P
	Flammability tests for the bottom of a fire enclosure ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c) ..... :		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating ..... :	Internal metal fire barrier used.	P
6.5	Internal and external wiring		P
6.5.1	Requirements		P
6.5.2	Cross-sectional area (mm^2) ..... :		—
6.5.3	Requirements for interconnection to building wiring ..... :		N/A
6.6	Safeguards against fire due to connection to additional equipment		P
	External port limited to PS2 or complies with Clause Q.1	External ports comply with Clause Q.1.	P
7	**INJURY CAUSED BY HAZARDOUS SUBSTANCES**		N/A
7.2	Reduction of exposure to hazardous substances		N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions ..... :		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010) ..... :		—
7.6	Batteries ..... :		N/A
8	**MECHANICALLY-CAUSED INJURY**		P
8.1	General		P
8.2	Mechanical energy source classifications	MS1: sharp edges and corners; MS2: Mass of the unit; MS3: Wall mount unit	P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners	No sharp edges / corners	P
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts		N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard..... :		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks..... :		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard..... :		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N) ..... :		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test ..... :		N/A
8.6	Stability		P
8.6.1	Product classification	Whole unit (When using the base), MS2	P
	Instructional Safeguard..... :	See user manual.	—
8.6.2	Static stability		P
8.6.2.2	Static stability test	The equipment did not be tipped at any angle from the vertical up to and including 10°. No overturn	P
	Applied Force.....:		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt .....:		—
8.6.4	Glass slide test		P
8.6.5	Horizontal force test (Applied Force) .....:		N/A
	Position of feet or movable parts.....:		—
8.7	Equipment mounted to wall or ceiling	MS3	P
8.7.1	Mounting Means (Length of screws (mm) and mounting surface) .....:	No wall mounting system provided. Only four ∅ 4,0 mm screws evaluated.	P
8.7.2	Direction and applied force .....:	Test 2: 61 N max. for each point of four directions, inward and outward directed force. Test 3: 1,2 Nm for each screws, tested and complied. Nominal diameter: 4,0 mm.	P
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.9	Wheels or casters attachment requirements		N/A
8.9.1	Classification		N/A
8.9.2	Applied force.....:		—
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard.....:		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force.....:		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N) .....:		—
8.10.6	Thermoplastic temperature stability (°C).....:		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable *N* ..... :		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas		N/A
	Button/Ball diameter (mm) ..... :		—
9	**THERMAL BURN INJURY**		P
9.2	Thermal energy source classifications	TS1	P
9.3	Safeguard against thermal energy sources		P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard		P
9.4.2	Instructional safeguard .....:	Instruction safeguard is unnecessary.	N/A
10	**RADIATION**		P
10.2	Radiation energy source classification		P
10.2.1	General classification	RS1	P
10.3	Protection against laser radiation		N/A
	Laser radiation that exists in the equipment:		—
	Normal, abnormal, single-fault.....:		N/A
	Instructional safeguard.....:		—
	Tool .....:		—
10.4	Protection against visible, infrared, and UV		P

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Clause	Requirement + Test	Result - Remark	Verdict
	radiation		
10.4.1	General	LED for indicate only	P
10.4.1.a)	RS3 for Ordinary and instructed persons.....:		N/A
10.4.1.b)	RS3 accessible to a skilled person.....:		N/A
	Personal safeguard (PPE) instructional safeguard:		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1 .:	LED for indicate only	P
10.4.1.d)	Normal, abnormal, single-fault conditions .....:		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque .....:		N/A
10.4.1.f)	UV attenuation.....:		N/A
10.4.1.g)	Materials resistant to degradation UV.....:		N/A
10.4.1.h)	Enclosure containment of optical radiation .....:		N/A
10.4.1.i)	Exempt Group under normal operating conditions .....:		N/A
10.4.2	Instructional safeguard.....:		N/A
10.5	Protection against x-radiation		N/A
10.5.1	X- radiation energy source that exists equipment:		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards.....:		N/A
	Instructional safeguard for skilled person..... :		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation..... :		—
	Abnormal and single-fault condition.....:		N/A
	Maximum radiation (pA/kg) .....:		N/A
10.6	Protection against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A) .....:		N/A
	Output voltage, unweighted r.m.s. .....:		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards.....:		N/A
	Equipment safeguard prevent ordinary person to RS2 .....:		—
	Means to actively inform user of increase sound pressure .....:		—
	Equipment safeguard prevent ordinary person to RS2 .....:		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.6.5.1	Corded passive listening devices with analogue input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output.....:		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A).....:		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A).....:		—
B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers..... :		N/A
B.2.3	Supply voltage and tolerances		P
B.2.5	Input test ..... :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements..... :	(See appended table B.3)	P
B.3.2	Covering of ventilation openings		P
B.3.3	D.C. mains polarity test		N/A
B.3.4	Setting of voltage selector..... :		N/A
B.3.5	Maximum load at output terminals ..... :	(See appended table B.3)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions		P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited..... :		N/A
B.4.3	Motor tests		N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature ..... :		N/A
B.4.4	Short circuit of functional insulation		P
B.4.4.1	Short circuit of clearances for functional insulation		P
B.4.4.2	Short circuit of creepage distances for functional insulation		P

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors		P
B.4.6	Short circuit or disconnect of passive components		P
B.4.7	Continuous operation of components		N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		P
B.4.9	Battery charging under single fault conditions ... :		N/A
C	**UV RADIATION**		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
D	**TEST GENERATORS**		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	**TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS**		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V).....:		—
	Rated load impedance (Ω) .....:		—
E.2	Audio amplifier abnormal operating conditions		N/A
F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		P
F.1	General requirements		P
	Instructions – Language .....:	English version only	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations		P
F.3.2	Equipment identification markings		P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.2.1	Manufacturer identification .....:	AOC	—
F.3.2.2	Model identification .....:	CQ32G4VE, CQ32G4E, CQ32G4V, **32G4********** (* can be A-Z, a-z, 0-9, blank or symbol +, -, /, \, or sign absence or no mark or no symbol)	—
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage .....:	~	—
F.3.3.4	Rated voltage .....:	100 - 240 V	—
F.3.3.5	Rated frequency .....:	50 / 60 Hz	—
F.3.3.6	Rated current or rated power .....:	1,5 A	—
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings ..... :		N/A
F.3.5.2	Switch position identification marking..... :		N/A
F.3.5.3	Replacement fuse identification and rating markings ..... :		N/A
F.3.5.4	Replacement battery identification marking..... :		N/A
F.3.5.5	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I Equipment		P
F.3.6.1.1	Protective earthing conductor terminal	The earthing terminal in approved AC connector serves as main PE terminal.	P
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)		N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking .....:		—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings		P

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Clause	Requirement + Test	Result - Remark	Verdict
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking		N/A
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place	For wall-mounted installation.	P
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard		P
	g) Protective earthing conductor current exceeding ES 2 limits		N/A
	h) Symbols used on equipment		P
	i) Permanently connected equipment not provided with all-pole mains switch		N/A
	j) Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards		P
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		P
G	**COMPONENTS**		P
G.1	**Switches**		N/A
G.1.1	General requirements		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	**Relays**		N/A
G.2.1	General requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	**Protection Devices**		P
G.3.1	Thermal cut-offs		N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H) ..... :		—
	Single Fault Condition..... :		—
	Test Voltage (V) and Insulation Resistance (Ω). :		—
G.3.3	PTC Thermistors		N/A
G.3.4	Overcurrent protection devices		P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions .....:		N/A
G.4	**Connectors**		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration .....:	Certified AC-inlet used.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	**Wound Components**		P
G.5.1	Wire insulation in wound components	Approved triple insulated wire of all transformers used as separation for insulation between primary windings and secondary windings.	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Physical separation provided by insulation tube to relieve mechanical stress at the crossover point.	P
G.5.1.2 b)	Construction subject to routine testing		P
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s).....:		—
	Temperature (°C) .....:		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	**Transformers**		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1) .....:	Meet the requirements given in G.5.3.2 and G.5.3.3	P
	Position .....:	Transformer used between pri. to sec. circuit	—
	Method of protection .....:	Fuse was used in the circuit	—
G.5.3.2	Insulation	(See appended tables 5.4.9)	P
	Protection from displacement of windings .....:	Triple insulated winding wire, insulating tape and bobbin	—

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.3.3	Overload test..... :	(See appended table B.3)	P
G.5.3.3.1	Test conditions		P
G.5.3.3.2	Winding Temperatures testing in the unit		P
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	**Motors**		N/A
G.5.4.1	General requirements		N/A
	Position .....:		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days) .....:		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V) .....:		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h) .....:		N/A
	Electric strength test (V) .....:		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature .....:		N/A
	Electric strength test (V) .....:		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h).....:		N/A
	Electric strength test (V) .....:		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage .....:		—
G.6	**Wire Insulation**		P
G.6.1	General		P
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	**Mains supply cords**		N/A
G.7.1	General requirements		N/A
	Type.....:		—
	Rated current (A).....:		—
	Cross-sectional area (mm^2), (AWG)..... :		—
G.7.2	Compliance and test method		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N).....:		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)....:		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry..... :		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g) .....:		—
	Diameter (m) .....:		—
	Temperature (°C) .....:		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	**Varistors**		N/A
G.8.1	General requirements		N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test.....:		N/A
G.8.3.3	Temporary overvoltage.....:		N/A
G.9	**Integrated Circuit (IC) Current Limiters**		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.		N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA .....:		—
G.9.1 d)	IC limiter output current (max. 5A) .....:		—
G.9.1 e)	Manufacturers' defined drift .....:		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	**Resistors**		P
G.10.1	General requirements	Used with approved components. See table 4.1.2	P
G.10.2	Resistor test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	**Capacitor and RC units**		P
G.11.1	General requirements		P
G.11.2	Conditioning of capacitors and RC units	Certified Y1 and X2 type capacitor was used	P
G.11.3	Rules for selecting capacitors	Certified Y1 type capacitor was used to bridge primary circuit and secondary circuit Certified X2 type capacitor was used in primary circuit	P
G.12	**Optocouplers**		P
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results).....:	(See appended table 4.1.2)	P
	Type test voltage Vini .....:	Certified optocoupler was used (Min. 4000 Vp)	—
	Routine test voltage, Vini,b .....:	Certified optocoupler was used (Min. 4000 Vp)	—
G.13	**Printed boards**		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction).....:		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation..... :		N/A
	Number of insulation layers (pcs) .....:		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	**Coating on components terminals**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.14.1	Requirements ..... :		N/A
G.15	**Liquid filled components**		N/A
G.15.1	General requirements		N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	**IC including capacitor discharge function (ICX)**		N/A
a)	Humidity treatment in accordance with sc 5.4.8 – 120 hours		N/A
b)	Impulse test using circuit 2 with Uc = to transient voltage .....:		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage .....:		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance .....:		—
D3)	Resistance .....:		—
H	**CRITERIA FOR TELEPHONE RINGING SIGNALS**		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz) .....:		—
H.3.1.2	Voltage (V) .....:		—
H.3.1.3	Cadence; time (s) and voltage (V) .....:		—
H.3.1.4	Single fault current (mA): .....:		—
H.3.2	Tripping device and monitoring voltage.....:		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V).....:		—

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Clause	Requirement + Test	Result - Remark	Verdict

J	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		P
	General requirements	Certified TIW used	P
K	**SAFETY INTERLOCKS**		N/A
K.1	General requirements		N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance ..... :		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method ..... :		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location) ..... :		N/A
K.7.2	Overload test, Current (A)..... :		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test ..... :		N/A
L	**DISCONNECT DEVICES**		P
L.1	General requirements	Appliance Inlet as disconnect device.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources		N/A
M	**EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS**		N/A
M.1	General requirements		N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method) ..:		N/A
M.3	Protection circuits		N/A
M.3.1	Requirements		N/A
M.3.2	Tests		N/A
	- Overcharging of a rechargeable battery		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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
M.3.3	Compliance .....:		N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature..... :		—
M.4.2.2 b)	Single faults in charging circuitry..... :		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method) .....:		N/A
M.6.2	Leakage current (mA) .....:		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume *Vz* (m^3/s).....:		—
M.8.2.3	Correction factors.....:		—
M.8.2.4	Calculation of distance *d* (mm) .....:		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing) .....:		N/A
N	**ELECTROCHEMICAL POTENTIALS**		P
	Metal(s) used .....:	The combined electrochemical potential is below 0,6 V according to Annex N.	—
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		P
	Figures O.1 to O.20 of this Annex applied.....:	Considered	—
P	**SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS**		P
P.1	General requirements		P
P.2.2	Safeguards against entry of foreign object		N/A
	Location and Dimensions (mm) .....:		—
P.2.3	Safeguard against the consequences of entry of foreign object		P
P.2.3.1	Safeguards against the entry of a foreign object	Internal metal enclosure used. Numerous circle top openings less than 5 mm in any dimension; Numerous circle side openings less than 3 mm in any dimension; and other top or side openings did not fall in ES3, PS3 and PIS area.	P
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts.....:		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard) .....:		N/A
P.3	Safeguards against spillage of internal liquids		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts	Adhesive for Mylar sheet is considered as safeguard.	P
P.4.2 a)	Conditioning testing		P
	Tc (°C) ..... :	100 °C for adhesive for mylar sheet	—
	Tr (°C) ..... :	100°C	—
	Ta (°C) ..... :	Refer to appended table 5.4.1.4, 6.3.2, 9.0, B.2.6	—
P.4.2 b)	Abrasion testing ..... :		N/A
P.4.2 c)	Mechanical strength testing ..... :	After test mentioned above, all safeguards remain effective.	P
Q	**CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING**		P
Q.1	Limited power sources		P
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		P
	- Regulating network limited output under normal operating and simulated single fault condition		P
Q.1.1 c)	Overcurrent protective device limited output		P
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method	See appended table Q.1	P
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) ..... :		—
	Current limiting method ..... :		—
R	**LIMITED SHORT CIRCUIT TEST**		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A). ..... :		N/A
S	**TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material ..... :		—
	Wall thickness (mm) ..... :		—
	Conditioning (°C) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material.....:		—
	Wall thickness (mm).....:		—
	Conditioning (°C).....:		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material.....:		—
	Wall thickness (mm).....:		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosure materials of equipment with a steady-state power exceeding 4000 W		N/A
	Samples, material.....:		—
	Wall thickness (mm).....:		—
	Conditioning (test condition), (°C).....:		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A
T	**MECHANICAL STRENGTH TESTS**		P
T.1	General requirements		P
T.2	Steady force test, 10 N ..... :	(See appended table T.2, T.3, T.4, T.5)	P
T.3	Steady force test, 30 N ..... :	(See appended table T.2, T.3, T.4, T.5)	P
T.4	Steady force test, 100 N ..... :		N/A
T.5	Steady force test, 250 N ..... :	(See appended table T.2, T.3, T.4, T.5)	P
T.6	Enclosure impact test		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Fall test		P
	Swing test		P
T.7	Drop test ..... :		N/A
T.8	Stress relief test ..... :	(See appended table T.8)	P
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J)..... :		—
	Height (m)..... :		—
T.10	Glass fragmentation test..... :		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm) ..... :		—
U	**MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFECTS OF IMPLOSION**		N/A
U.1	General requirements		N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen..... :		N/A
V	**DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)**		P
V.1	Accessible parts of equipment		P
V.2	Accessible part criterion		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	TABLE: Critical components information				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	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)

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Clause	Requirement + Test	Result - Remark	Verdict

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)
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)

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

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)
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)

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	INEOS Styrolution Polymers (Foshan) Company Limited	260-XX	HB or Better, Min. thickness: 1,7 mm	ANSI/UL 94	UL (E314268)
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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Clause	Requirement + Test	Result - Remark	Verdict

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 ºC	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 ºC	ANSI/UL 94	UL (E339070)
Alt.	SUZHOU OMAY OPTICAL MATERIALS CO LTD	SE42B, SE42B-F	Polycarbonate, min. thickness: 0,4mm, V-0, 80 ºC	ANSI/UL 94	UL (E249605)
Alt.	JINGMEN GORUN TECHNOLOGY CO LTD	HF70, HE70(x)(#)	Polycarbonate, thickness: 0,40 mm min. V-0, 80 ºC	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 ºC	ANSI/UL 94	UL (E329660)

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

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)
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)

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

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)

IEC 62368-1			
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)

IEC 62368-1			
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)

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	JIANGSU JIUTONG PHOTOELECTRIC MATERIAL CO., LTD	JTZ42B	Polycarbonate, thickness: 0,4 mm min. V-0, 80 °C	ANSI/UL 94	UL (E509998)
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

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
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

Alt.	RIALS CORP	G4000	80 °C, thickness: 0,05mm min.	IEC/EN 62368-1	UL (MH15431) Tested With appliance
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)

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

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)
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)

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Clause	Requirement + Test	Result - Remark	Verdict

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)
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)

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

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)
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)

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

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)
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)

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

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)
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

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)
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)

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Clause	Requirement + Test	Result - Remark	Verdict

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)
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)

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Clause	Requirement + Test	Result - Remark	Verdict

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)
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)

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

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)
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

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)
- 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)

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Clause	Requirement + Test	Result - Remark	Verdict

- 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)
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

Alt.	Interchangeable	Interchangeable	Max. 680 K ohm, 1/4 W	IEC/EN 62368-1	CB report & certification issued by NCB
Power cord set (Saudi Arabia) (Optional)					
Power plug (13A)	Honglin	HL-044	13A/250V	BS 1363 SASO 2203:2018	Intertek CN-GSOG-2016011R5
Alt.	Honglin	HL-044s	13A/250V	BS 1363-1 SASO 2203:2018	Intertek CN-GSOG-20171110R2
Alt.	ASAP	A12-0136-AC2, A12-0137-AC2	13A/250V	BS 1363 SASO 2203:2018	CVC certificate no. RZKSA181053626-M1
Alt.	SANGLE	DTII-3P-22	13A/250V	BS 1363 SASO 2203:2018	CVC certificate no. RZKSA201159813
Alt.	I-SHENG	SP-62, SP-65	13A/250V	BS 1363 SASO 2203:2018	CVC certificate no. 2017GTC3223027128-M3(R1) CVC certificate no. RZKSA191060425-M1
Alt.	Interchangeable	Interchangeable	13A/250V	BS 1363 SASO 2203:2018	EU certification mark
Power connector (13A)	Volex	VSC19	13A/250V	IEC/EN 60320-1	ASTA
Alt.	Interchangeable	Interchangeable	13A/250V	IEC/EN 60320-1:2015	EU certification mark
Power plug (10A)	Fund Resources	BS-01J	10A/250V	BS1363 SASO 2203:2018	Intertek CN-GSOG-20180506
Alt.	Honglin	HL-044	10A/250V	BS 1363 SASO 2203:2018	Intertek CN-GSOG-2016011R5
Alt.	Honglin	HL-044s	10A/250V	BS 1363-1 SASO 2203:2018	Intertek CN-GSOG-20171110R2

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

Alt.	ASAP	A12-0136-AC2, A12-0137-AC2	10A/250V	BS 1363 SASO 2203:2018	CVC certificate no. RZKSA181053626-M1
Alt.	SANGLE	DTII-3P-22	10A/250V	BS 1363 SASO 2203:2018	CVC certificate no. RZKSA201159813
Alt.	I-SHENG	SP-62, SP-65	10A/250V	BS 1363 SASO 2203:2018	CVC certificate no. 2017GTC3223027128-M3(R1) CVC certificate no. RZKSA191060425-M1
Alt.	Interchangeable	Interchangeable	10A/250V	BS 1363 SASO 2203:2018	EU certification mark
Power connector (10A)	Honglin	HL-026, HL-029, HL-029L	10A/250V	IEC/EN 60320-1	ENEC 35-101702
Alt.	Honglin	HL-026S	10A/250V	IEC/EN 60320-1	ENEC 35-100964
Alt.	ASAP	A12-0012-AC2, A12-0056-AC2	10A/250V	IEC/EN 60320-1	VDE 40048182
Alt.	I-SHENG	IS-14	10A/250V	IEC/EN 60320-1	Intertek Licence No. 443 ENEC/FI 2017044 284423-3
Alt.	Interchangeable	Interchangeable	10A/250V	IEC/EN 60320-1:2015	EU certification mark
Power cord	Honglin	H03VV-F, H05VV-F	3x0,75 mm² 3x0,75-1,5 mm²	EN 50525-2-11	VDE 40022785
Alt.	Honglin	H03VV-F, H05VV-F	3x0,75 mm² 3x0,75-1,5 mm²	EN 50525-2-11	VDE 40022785
Alt.	Fund Resources	H03VV-F, H05VV-F	3x0,5-0,75 mm² 3x0,75-2,5 mm²	EN 50525-2-11	VDE 40031233
Alt.	ASAP	H03VV-F, H05VV-F	3x0,5-0,75 mm² 3x0,75-2,5 mm²	EN 50525-2-11	VDE 40027103

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	CHANGZHOU HONGCHANG ELECTRONICS CO LTD	H03VV-F, H05VV-F	3x0,5-0,75 mm² 3x0,75-2,5 mm²	EN 50525-2-11	VDE 124978
Alt.	I-SHENG	H03VV-F, H05VV-F	3x0,5-0,75 mm² 3x0,75-2,5 mm²	EN 50525-2-11	VDE 40015762
Alt.	Interchangeable	Interchangeable	3x0,5-0,75 mm² 3x0,75-2,5 mm²	EN 50525-2-11	EU certification mark
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.8.4, 4.8.5	**TABLE: Lithium coin/button cell batteries mechanical tests**	N/A

(The following mechanical tests are conducted in the sequence noted.)

4.8.4.2 **TABLE: Stress Relief test** —

Part	Material	Oven Temperature (°C)	Comments
--	--	--	--

4.8.4.3 **TABLE: Battery replacement test** —

Battery part no. ..... :	--	—
Battery Installation/withdrawal	Battery Installation/ Removal Cycle	Comments
--	1	--
	2	--
	3	--
	4	--
	5	--
	6	--
	8	--
	9	--
	10	--

4.8.4.4 **TABLE: Drop test** —

Impact Area	Drop Distance	Drop No.	Observations
--	--	1	--
--	--	2	--
--	--	3	--

4.8.4.5 **TABLE: Impact** —

Impacts per surface	Surface tested	Impact energy (Nm)	Comments
--	--	--	--
--	--	--	--
--	--	--	--

4.8.4.6 **TABLE: Crush test** —

Test position	Surface tested	Crushing Force (N)	Duration force applied (s)
--	--	--	--
--	--	--	--

Supplementary information:

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.8.5	**TABLE: Lithium coin/button cell batteries mechanical test result**		N/A
Test position	Surface tested	Force (N)	Duration force applied (s)
--	--	--	--
--	--	--	--
--	--	--	--
Supplementary information:			

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Clause	Requirement + Test	Result - Remark	Verdict

5.2	**Table: Classification of electrical energy sources**						P
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
1	264 V, 60 Hz	+19V output of PWB	Normal	19,0 V DC	--	--	ES1
			Abnormal – (see table B.3 for details, maximum result recorded)	19,0 V DC	--	--	
			Single fault – (see table B.4 for details, maximum result recorded)	19,0 V DC	--	--	
2	264 V, 60 Hz	L/N of plug and metal enclosure	Normal	--	0,010 mApk	--	ES1
			Abnormal – (see table B.3 for details, maximum result recorded)	--	0,338 mApk	--	
			Single fault – (see table B.4 for details, maximum result recorded)	--	0,338 mApk	--	
3	264 V, 60 Hz	L/N of plug and output terminal	Normal	--	0,010 mApk	--	ES1
			Abnormal – (see table B.3 for details, maximum result recorded)	--	0,010 mApk	--	
			Single fault – (see table B.4 for details, maximum result recorded)	--	0,010 mApk	--	
4	264 V, 60 Hz	L/N of plug and plastic enclosure	Normal	--	0,010 mApk	--	ES1
			Abnormal – (see table B.3 for details, maximum result recorded)	--	0,010 mApk	--	

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Clause	Requirement + Test	Result - Remark	Verdict

			Single fault – (see table B.4 for details, maximum result recorded)	--	0,010 mApk	--	
5	264 V, 60 Hz	Backlight output of PWB	Normal	42,5 V DC	--	--	ES1
			Abnormal – (see table B.3 for details, maximum result recorded)	42,5 V DC	--	--	
			Single fault – (see table B.4 for details, maximum result recorded)	42,5 V DC	--	--	

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
--	--	--	Normal	--	--	--
			Abnormal	--	--	
			Single fault – SC/OC	--	--	

5.2.2.4 - Single Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

5.2.2.5 - Repetitive Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Conditions:

Normal –

Abnormal -

Supplementary information: SC=Short Circuit, OC=Short Circuit

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					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	--	--	—
	Tma (°C) .....:	40,0	40,0	--	--	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
Below values for T (°C) are re-calculated to 40 °C from actual ambient respectively:						
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
Below values for T (°C) are re-calculated to 25 °C from actual ambient respectively:						
Non-metallic enclosure surface		31,4	31,9	--	--	77
Accessible metallic enclosure surface		33,0	33,6	--	--	60
Surface of screen		37,1	37,7	--	--	77
Non-metallic button surface		31,6	31,9	--	--	77

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

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:
Note 1: Tma should be considered as directed by appliable requirement Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9) For components with temperature marking, allowed T = Tmax + Tamb – Tma (Tma =40 °C, Tamb=25 °C)

5.4.1.10.2	**TABLE: Vicat softening temperature of thermoplastics**		N/A
Penetration (mm)…….:	--		—
Object/ Part No./Material	Manufacturer/trademark	T softening (°C)	
--	--	--	
Supplementary information:			

5.4.1.10.3	**TABLE: Ball pressure test of thermoplastics**		N/A
Allowed impression diameter (mm) ……:	≤ 2 mm		—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)
--	--	--	--
Supplementary information:			

5.4.2.2, 5.4.2.4 and 5.4.3	**TABLE: Minimum Clearances/Creepage distance**						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz)[1]	Required cl (mm)	cl (mm) [2]	Required[3] cr (mm)	cr (mm)
Under fuse (F901)	<420	<250	--	1,3 x 1,48 = 2,0	2,9	2,5	2,9
Before fuse (between L-N)	<420	<250	--	1,3 x 1,48 = 2,0	6,2	2,5	6,2
Line-GND	<420	<250	--	1,3 x 1,48 = 2,0	3,1	2,5	3,1
Neutral-GND	<420	<250	--	1,3 x 1,48 = 2,0	3,1	2,5	3,1
Under C920	<420	<250	--	1,3 x 1,48 = 2,0	3,1	2,5	3,1
Under C921	<420	<250	--	1,3 x 1,48 = 2,0	3,1	2,5	3,1
Primary copper foil- metal enclosure edge	<420	<250	--	1,3 x 1,48 = 2,0	9,1	2,5	9,1
Primary E-CAP C902– Metal enclosure	<420	<250	--	1,3 x 1,48 = 2,0	4,0	2,5	>8,0
Primary Heatsink HS1– Metal	<420	<250	--	1,3 x 1,48 =	3,5	2,5	>8,0

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Clause	Requirement + Test	Result - Remark	Verdict

enclosure				2,0			
Primary component T901– Metal enclosure (insulation sheet Isolation)	504	265	--	1,3 x 1,48 = 2,0	>8,0	2,7	>8,0
Secondary component HS2 - T901 core (pri)	504	265	--	2,6 x 1,48 = 3,9	8,5	5,3	>8,0
T901: Pri coil to Sec pin	504	265	--	2,6 x 1,48 = 3,9	8,5	5,3	8,5
T901 sec – core (Pri)	504	265	--	2,6 x 1,48 = 3,9	10,7	5,3	10,7
PCB pri. – sec.	504	265	--	2,6 x 1,48 = 3,9	8,0	5,3	8,0
U902 pri. – sec.	<420	<250	--	2,6 x 1,48 = 3,9	8,0	5,0	8,0
Under C935	<420	<250	--	2,6 x 1,48 = 3,9	7,5	5,0	7,5
Primary component – panel (insulation sheet isolation)	<420	<250	--	2,6 x 1,48 = 3,9	>8,0	5,0	>8,0

Supplementary information:

1) Only for frequency above 30 kHz.

2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied).

3) Considered altitude correction factor 1,48 for clearances for an altitude of 5000m.

4). Core of main transformer T901 consider as primary part, same construction for all source of transformer.

5.4.2.3	**TABLE: Minimum Clearances distances using required withstand voltage**	P
	Overvoltage Category (OV):	II
	Pollution Degree:	2

Clearance distanced between:	Required withstand voltage	Required cl (mm)	Measured cl (mm)
Under fuse (F901)	2500	1,5 x 1,48 = 2,3	2,9
Before fuse (between L-N)	2500	1,5 x 1,48 = 2,3	6,2
Line-GND	2500	1,5 x 1,48 = 2,3	3,1
Neutral-GND	2500	1,5 x 1,48 = 2,3	3,1
Under C920	2500	1,5 x 1,48 = 2,3	3,1
Under C921	2500	1,5 x 1,48 = 2,3	3,1
Primary copper foil- metal enclosure edge	2500	1,5 x 1,48 = 2,3	9,1
Primary E-CAP C902– Metal enclosure	2500	1,5 x 1,48 = 2,3	4,0
Primary Heatsink HS1– Metal enclosure	2500	1,5 x 1,48 = 2,3	3,5
Primary component T901– Metal enclosure (insulation sheet Isolation)	2500	1,5 x 1,48 = 2,3	>8,0

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Clause	Requirement + Test	Result - Remark	Verdict

Secondary component HS2 -T901 core (pri)	2500	3,0 x 1,48 = 4,5	8,5
T901: Pri coil to Sec pin	2500	3,0 x 1,48 = 4,5	8,5
T901 sec – core (Pri)	2500	3,0 x 1,48 = 4,5	10,7
PCB pri. – sec.	2500	3,0 x 1,48 = 4,5	8,0
U902 pri. – sec.	2500	3,0 x 1,48 = 4,5	8,0
Under C935	2500	3,0 x 1,48 = 4,5	7,5
Primary component – panel (insulation sheet isolation)	2500	3,0 x 1,48 = 4,5	>8,0
Primary component – panel (insulation sheet isolation)			
1) Considered altitude correction factor 1,48 for clearances for an altitude of 5000m. 2). Core of main transformer T901 consider as primary part, same construction for all source of transformer.			

5.4.2.4	**TABLE: Clearances based on electric strength test**			N/A
Test voltage applied between:		Required cl (mm)	Test voltage (kV) peak/ r.m.s. / d.c.	Breakdown Yes / No
--		--	--	--
Supplementary information:				

5.4.4.2, 5.4.4.5 c) 5.4.4.9	**TABLE: Distance through insulation measurements**				P
Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)
Bobbin of transformer	504	--	See table 4.1.2	0,4	Min. 1,0
Mylar sheet	< 420	--	See table 4.1.2	0,4	Min. 0,4
Plastic enclosure	< 420	--	See table 4.1.2	0,4	See table 4.1.2
Supplementary information:					

5.4.9	**TABLE: Electric strength tests**		P
Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
L/N of plug with fuse opened	DC	2500 V	No
L/N of plug and accessible metallic enclosure	DC	2500 V	No
L/N of plug and output terminal	DC	4000 V	No
L/N of plug and accessible plastic enclosure	DC	4000 V	No
Transformer: pri. coil – sec. pin	DC	4000 V	No
Transformer: sec – pri	DC	4000 V	No
Mylar sheet	DC	4000 V	No

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Clause	Requirement + Test	Result - Remark	Verdict

One layers of insulation tape wrapping transformer ferrite core	DC	4000 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.			

5.5.2.2	TABLE: Stored discharge on capacitors				P
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification
264 V/ 60 Hz	Plug	N	--	50	ES1
Supplementary information:					
X-capacitors installed for testing are: See Table 4.1.2 [X] bleeding resistor rating: See Table 4.1.2 [ ] ICX: Notes: A. Test Location: Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth B. Operating condition abbreviations: N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition					

5.6.6.2	TABLE: Resistance of protective conductors and terminations			P
Accessible part	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
PE terminal of AC inlet to internal metal enclosure	32	2	0,128	0,004
PE terminal of AC inlet to internal metal enclosure	40	2	0,160	0,004
PE terminal of AC inlet to C920 secondary trace	32	2	0,150	0,0047
PE terminal of AC inlet to C920 secondary trace	40	2	0,190	0,0047
PE terminal of AC inlet to C921 secondary trace	32	2	0,210	0,0064
PE terminal of AC inlet to C921 secondary trace	40	2	0,260	0,0064
Supplementary information:				
--				

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part	P
Supply voltage .....:	264 V AC	—
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)

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Clause	Requirement + Test	Result - Remark	Verdict

L/N to metal enclosure	1	Max. 0,338 mApk (Switch “e” open)
	2	--
	3	--
	4	--
	5	--
	6	--
	8	--

Supplementary Information:

Notes:
[1] Supply voltage is the anticipated maximum Touch Voltage
[2] Earthed neutral conductor [Voltage differences less than 1% or more]
[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3
[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.
[5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.
[6] Tested with normal, abnormal and single-fault condition, and maximum value was recorded.

6.2.2	**Table: Electrical power sources (PS) measurements for classification**				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification
Input	--	Power (W) :	--	--	PS3*
		V_A (V) :	--	--	
		I_A (A) :	--	--	
DC output of power board	--	Power (W) :	--	--	PS2 (Refer to table Annex Q.1)
		V_A (V) :	--	--	
		I_A (A) :	--	--	
All data ports	--	Power (W) :	--	--	PS2 (Refer to table Annex Q.1)
		V_A (V) :	--	--	
		I_A (A) :	--	--	

Supplementary Information:

(*) Measurement taken only when limits at 3 seconds exceed PS1 limits

6.2.3.1	**Table: Determination of Potential Ignition Sources (Arcing PIS)**			P
Location	Open circuit voltage After 3 s (Vp)	Measured r.m.s current (Irms)	Calculated value (V_p x I_{rms})	Arcing PIS? Yes / No

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Clause	Requirement + Test	Result - Remark	Verdict

Primary circuit	--	--	--	Yes
Supplementary information:				
An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15.				

6.2.3.2	**Table: Determination of Potential Ignition Sources (Resistive PIS)**				P
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
Primary circuit and secondary circuit	--	--	--	--	Yes
Supplementary Information:					
A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter. If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification. A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.					

8.5.5	**TABLE: High Pressure Lamp**	N/A
Description	Values	Energy Source Classification
Lamp type.....:	--	—
Manufacturer.....:	--	—
Cat no.....:	--	—
Pressure (cold) (MPa) .....:	--	MS_
Pressure (operating) (MPa).....:	--	MS_
Operating time (minutes) .....:	--	—
Explosion method.....:	--	—
Max particle length escaping enclosure (mm) .:	--	MS_
Max particle length beyond 1 m (mm).....:	--	MS_
Overall result .....:	--	
Supplementary information:		
--		

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5		**TABLE: Input test**						P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/ status
Power board: 715GD178 and mainboard: 715GE276 version 2								
90	50	0,946	--	50,43	--	F901	0,946	DP mode: Max. brightness,contrast No speaker
90	60	0,962	--	50,53	--	F901	0,962	
100	50	0,871	1,5	49,93	--	F901	0,871	
100	60	0,887	1,5	49,99	--	F901	0,887	
240	50	0,456	1,5	48,96	--	F901	0,456	
240	60	0,461	1,5	48,97	--	F901	0,461	
264	50	0,425	--	49,00	--	F901	0,425	
264	60	0,426	--	49,04	--	F901	0,426	
90	50	0,949	--	50,09	--	F901	2,368	HDMI mode: Max. brightness,contrast No speaker
90	60	0,969	--	50,18	--	F901	2,369	
100	50	0,874	1,5	49,64	--	F901	2,114	
100	60	0,893	1,5	49,69	--	F901	2,116	
240	50	0,453	1,5	48,72	--	F901	0,892	
240	60	0,460	1,5	48,72	--	F901	0,896	
264	50	0,422	--	48,80	--	F901	0,824	
264	60	0,424	--	48,82	--	F901	0,829	
Power board: 715GD178 and mainboard: 715GE276 version 1								
90	50	0,963	--	50,84	--	F901	0,963	DP mode: Max. brightness,contrast No speaker
90	60	0,981	--	50,94	--	F901	0,981	
100	50	0,885	1,5	50,33	--	F901	0,885	
100	60	0,903	1,5	50,40	--	F901	0,903	
240	50	0,460	1,5	49,35	--	F901	0,460	
240	60	0,466	1,5	49,36	--	F901	0,466	
264	50	0,428	--	49,43	--	F901	0,428	
264	60	0,430	--	49,45	--	F901	0,430	
90	50	0,966	--	50,63	--	F901	0,966	HDMI mode: Max. brightness,contrast No speaker
90	60	0,986	--	50,72	--	F901	0,986	
100	50	0,890	1,5	50,16	--	F901	0,890	
100	60	0,909	1,5	50,20	--	F901	0,909	
240	50	0,456	1,5	49,20	--	F901	0,456	

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5		**TABLE: Input test**						P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/ status
240	60	0,464	1,5	49,21	--	F901	0,464	
264	50	0,424	--	49,33	--	F901	0,424	
264	60	0,427	--	49,35	--	F901	0,427	
Equipment may be have rated current or rated power or both. Both should be measured								

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Clause	Requirement + Test	Result - Remark	Verdict

B.3	TABLE: Abnormal operating condition tests						P
Ambient temperature (°C)				See below			—
Power source for EUT: Manufacturer, model/type, output rating .				--			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	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	
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	
Supplementary information:							
Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.							

B.4	TABLE: Fault condition tests							P
Ambient temperature (°C)				25,0				—
Power source for EUT: Manufacturer, model/type, output rating .				--				—
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
BD901 pin1-4	SC	264	<1 sec	F901	--	F901 open No hazards.		
BD902 pin1-4	SC	264	<1 sec	F901	--	F901 open No hazards.		

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Clause	Requirement + Test	Result - Remark	Verdict

C902	SC	264	<1 sec	F901	--	F901 open No hazards.
D906	SC	264	10 min	F901	0,04	Unit shutdown, No damage, No hazards
R901	SC	264	10 min	F901	0,42	Unit working as normally, No damage, No hazards
C901	SC	264	10 min	F901	0,42	Unit working as normally, No damage, No hazards
Q901 G-S	SC	264	10 min	F901	0,03	Unit shutdown, No damage, No hazards
Q901 G-D	SC	264	10 min	F901	0,03	Unit shutdown, No damage, No hazards
Q901 D-S	SC	264	10 min	F901	0,03	Unit shutdown, No damage, No hazards
U901 pin 2-5	SC	264	10 min	F901	0,04	Unit shutdown, No damage, No hazards
U901 pin 2-8	SC	264	10 min	F901	0,04	Unit shutdown, No damage, No hazards
U901 pin 5-8	SC	264	10 min	F901	0,04	Unit shutdown, No damage, No hazards
U902 pin 1-2	SC	264	10 min	F901	0,04	Unit shutdown, No damage, No hazards
U902 pin 3-4	SC	264	10 min	F901	0,04	Unit shutdown, No damage, No hazards
U902 pin 1	OC	264	10 min	F901	0,04	Unit shutdown, No damage, No hazards
U902 pin 3	OC	264	10 min	F901	0,04	Unit shutdown, No damage, No hazards
T901 pin 1-3	SC	264	10 min	F901	0,05	Unit shutdown, No damage No hazards
T901 pin 4-5	SC	264	10 min	F901	0,05	Unit shutdown, No damage No hazards
T901 pin 6-9	SC	264	10 min	F901	0,05	Unit shutdown, No damage No hazards
+19V output to earth	SC	264	10 min	F901	0,05	Unit shutdown, No damage No hazards
Supplementary information:						

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Clause	Requirement + Test	Result - Remark	Verdict

1. Dielectric strength test between primary and secondary circuit after all abnormal operating and fault condition tests: DC 4000 V / min.
2. In fault column, where SC=short-circuited, OC=open-circuited
3. For fuse opened conditions were tested with each source of fuse.
4. For component damaged conditions have been repeated twice (three tests total) with same result.
5. For heating test mentioned above was tested under DP mode.
6. All source of each transformer considered with maximum value recorded.

Annex M.3	**TABLE: Batteries**									N/A
The tests of Annex M 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:										

Annex M.4	**Table: Additional safeguards for equipment containing secondary lithium batteries**				N/A
Battery/Cell No.	Test conditions	Measurements			Observation
		U	I (A)	Temp (C)	
--	Normal	--	--	--	--
--	Abnormal	--	--	--	--
--	Single fault –SC/OC	--	--	--	--
Supplementary Information:					

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Clause	Requirement + Test	Result - Remark	Verdict

Battery identification	Charging at T_{lowest} (°C)	Observation	Charging at $T_{highest}$ (°C)	Observation
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--
Supplementary Information:				

Annex Q.1	**TABLE: Circuits intended for interconnection with building wiring (LPS)**					P
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U_{oc} (V)	I_{sc} (A)		S (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) s-c=short circuit, o-c=open circuit. 2) The fuses that will break the circuit within 120s with a current equal to 210%.						

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Internal components	--	--	10	5	No visible damage	
Internal fire enclosure	Metal	See table 4.1.2	30	5	No visible damage	
External enclosure	Plastic	See table 4.1.2	250	5	No visible damage	
Supplementary information:						

T.6, T.9	TABLE: Impact tests				P
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
Enclosure/ Whole unit	Plastic	See table 4.1.2	1300	No visible damage	
Supplementary information:					

T.7	TABLE: Drop tests				N/A
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
--	--	--	--	--	
Supplementary information:					

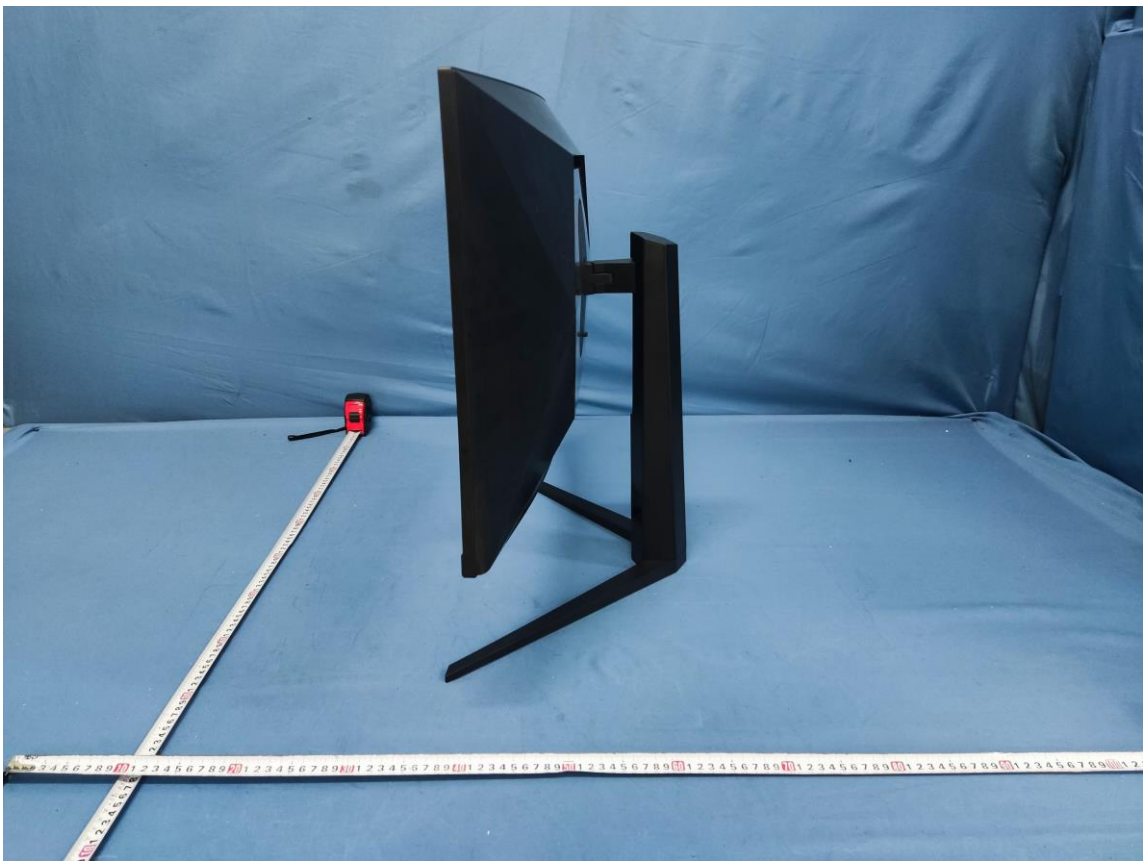
T.8	TABLE: Stress relief test					P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Enclosure/ Whole unit	Plastic	See table 4.1.2	70	7	No visible damage	
Supplementary information:						

- - - End of Report - - -

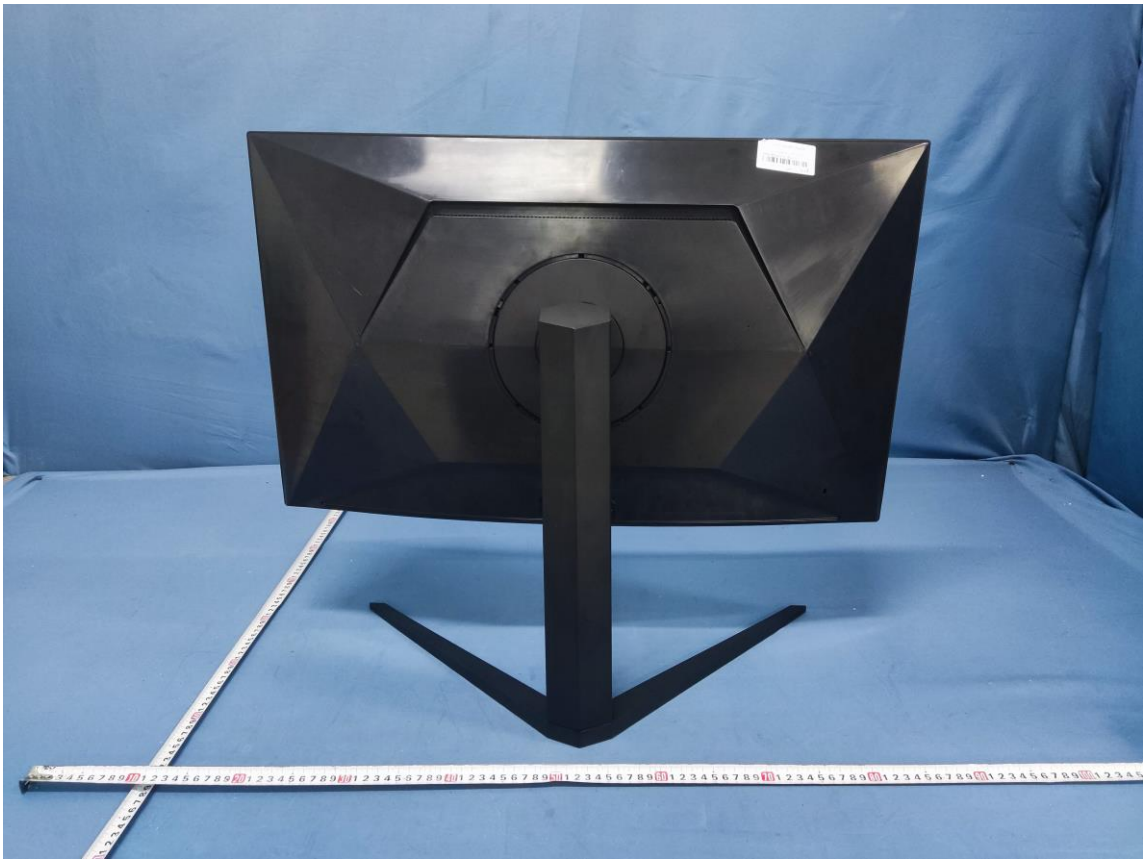
Front view with base stand A

Side view with base stand A

Side view with base stand A

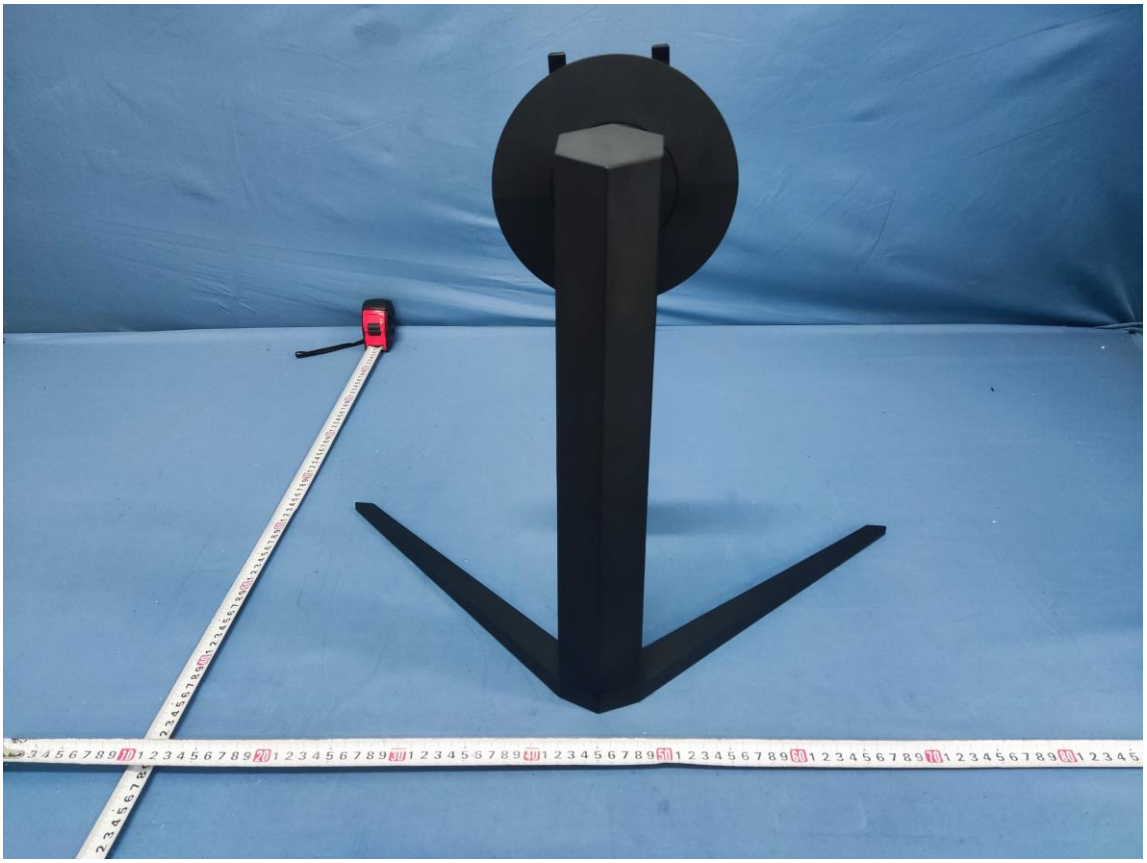


Rear view with base stand A



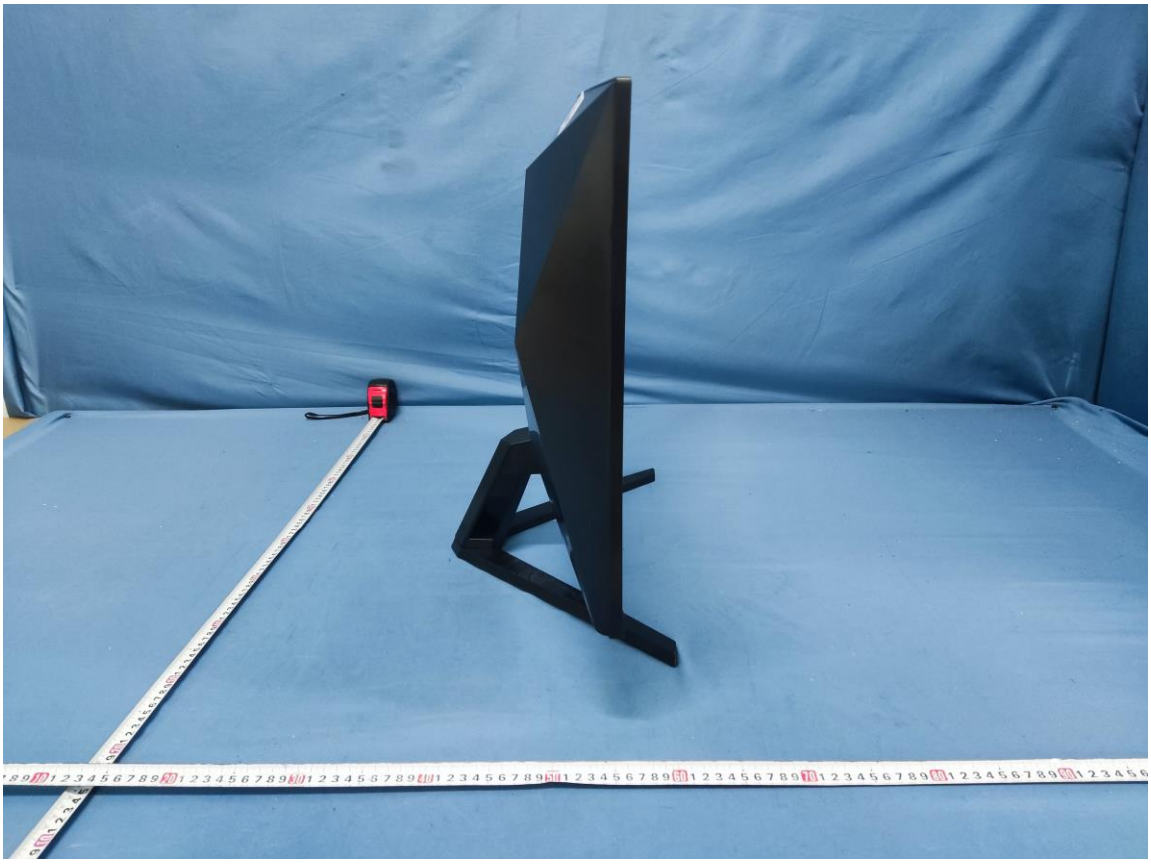
Base stand A

Base stand A

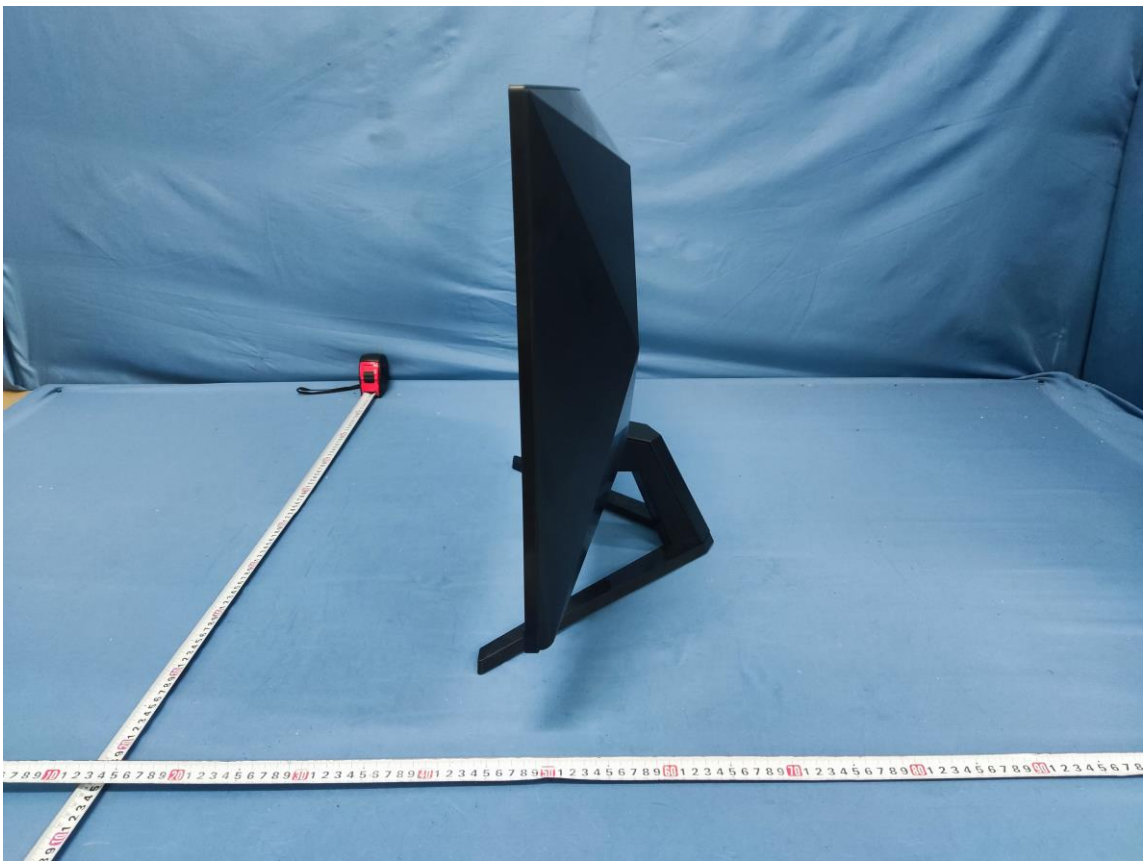


Front view with base stand B

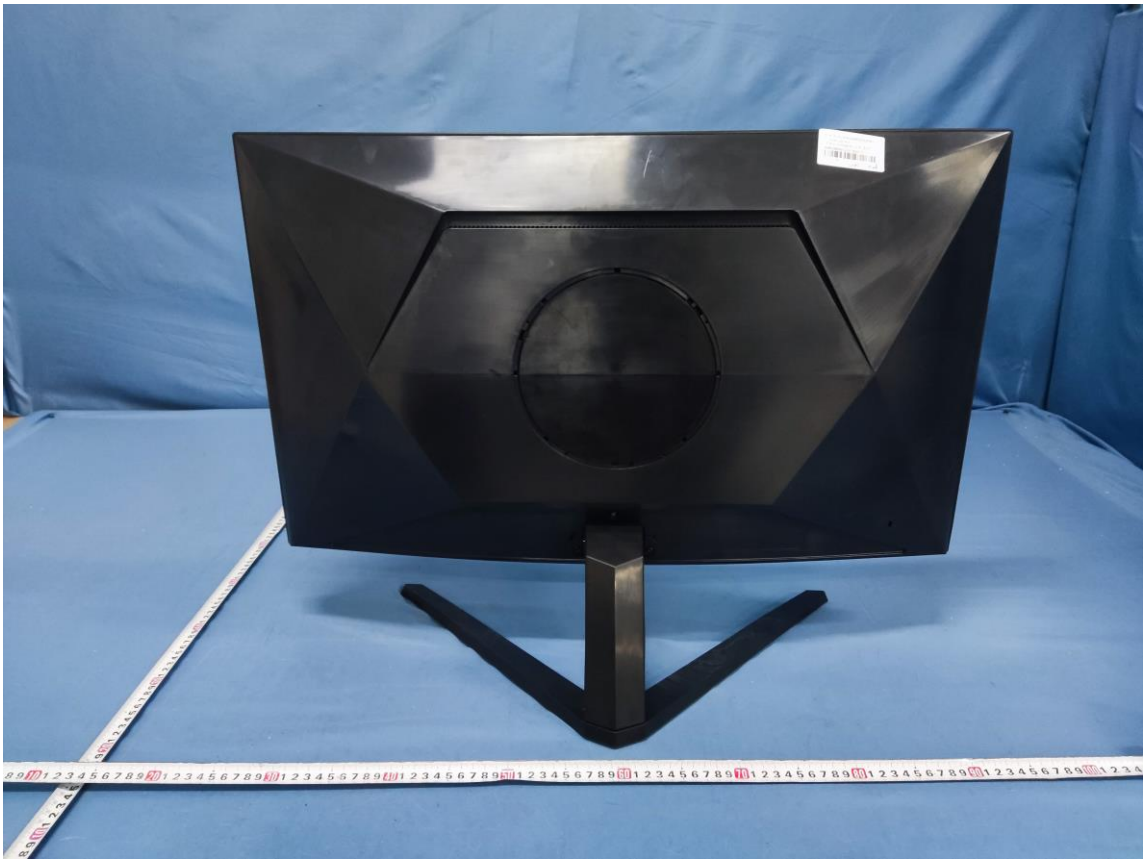
Side view with base stand B



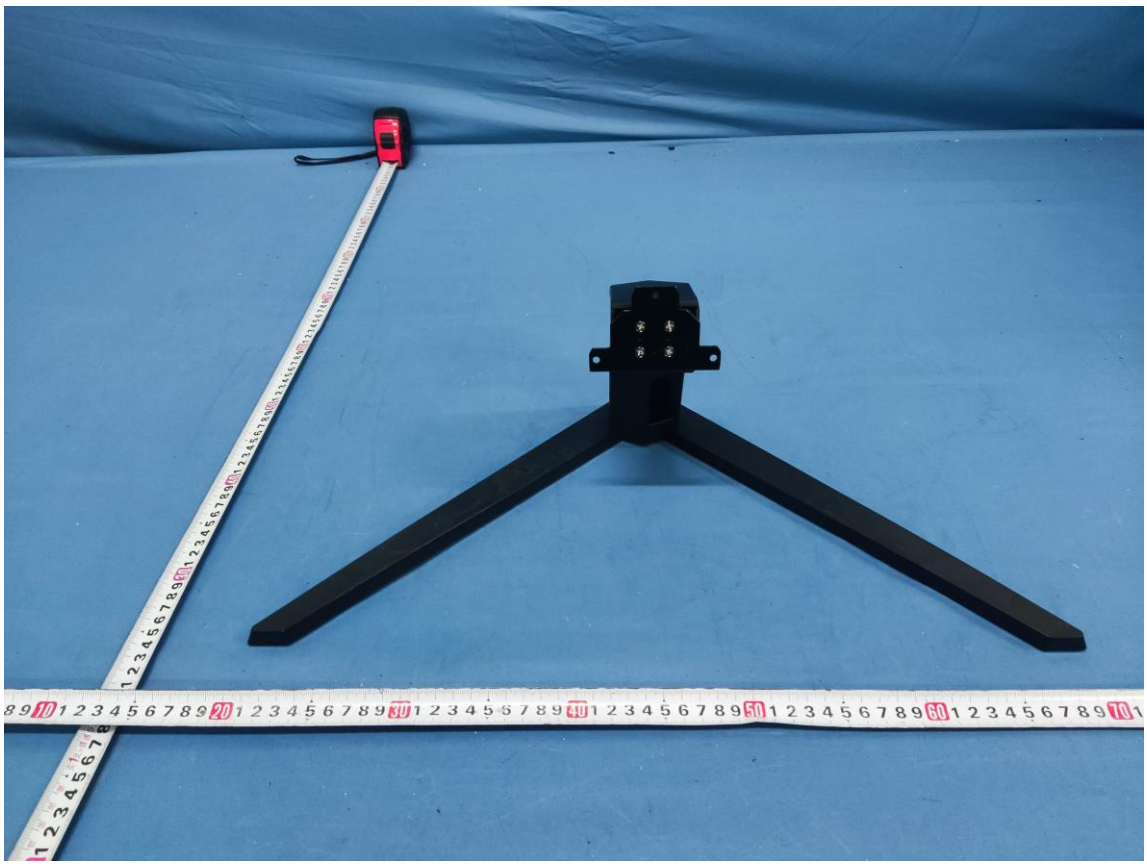
Side view with base stand B



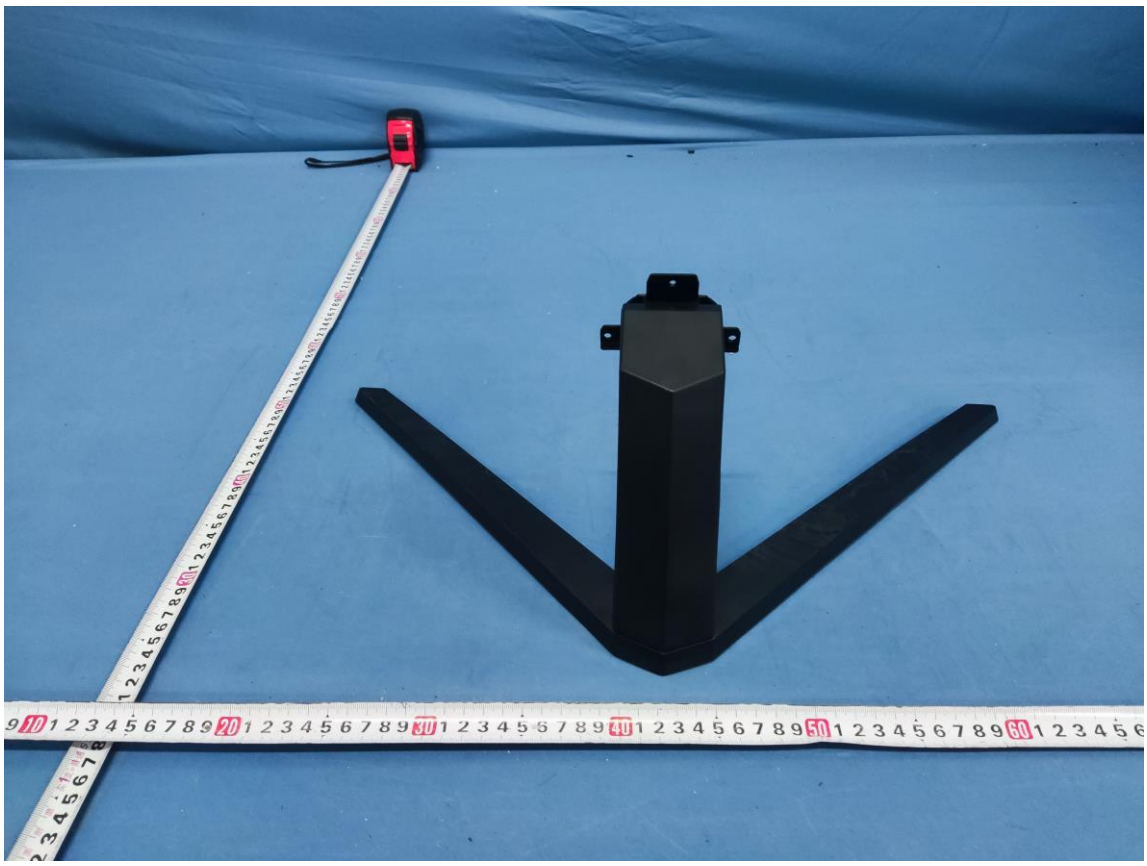
Rear view with base stand B



Base stand B



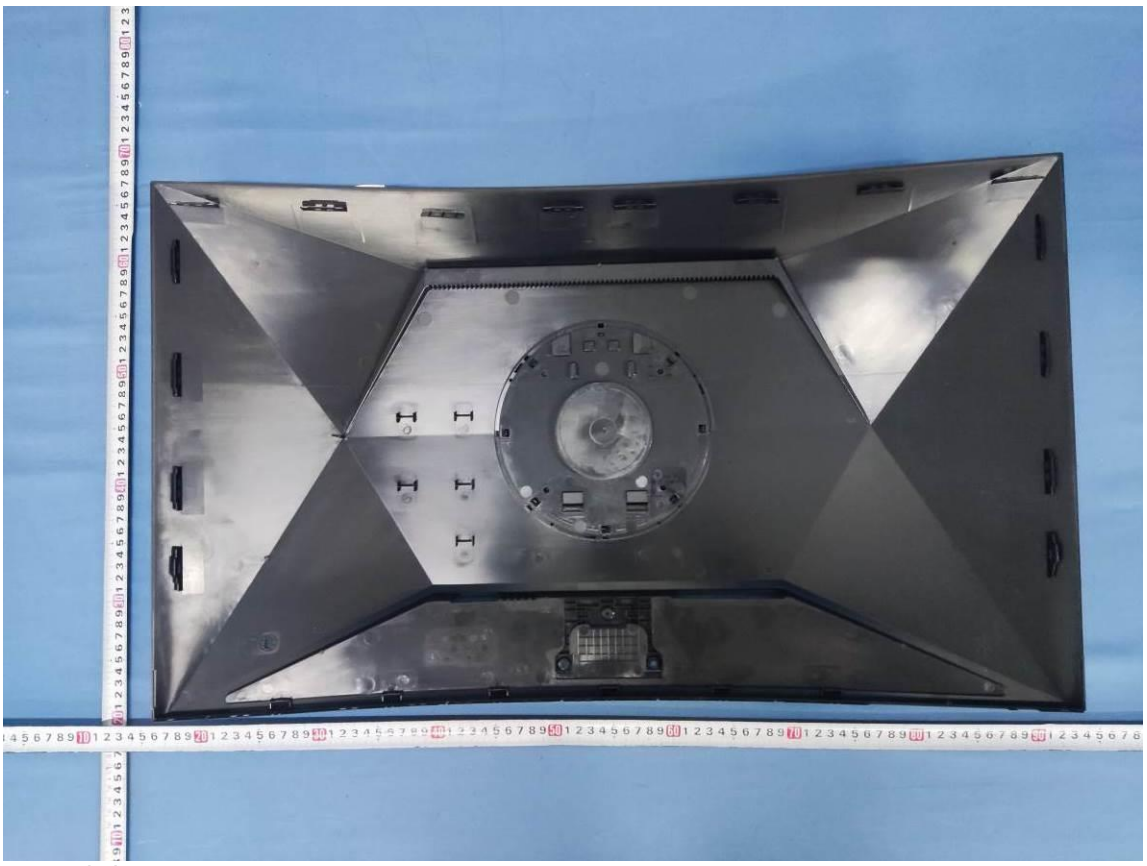
Base stand B



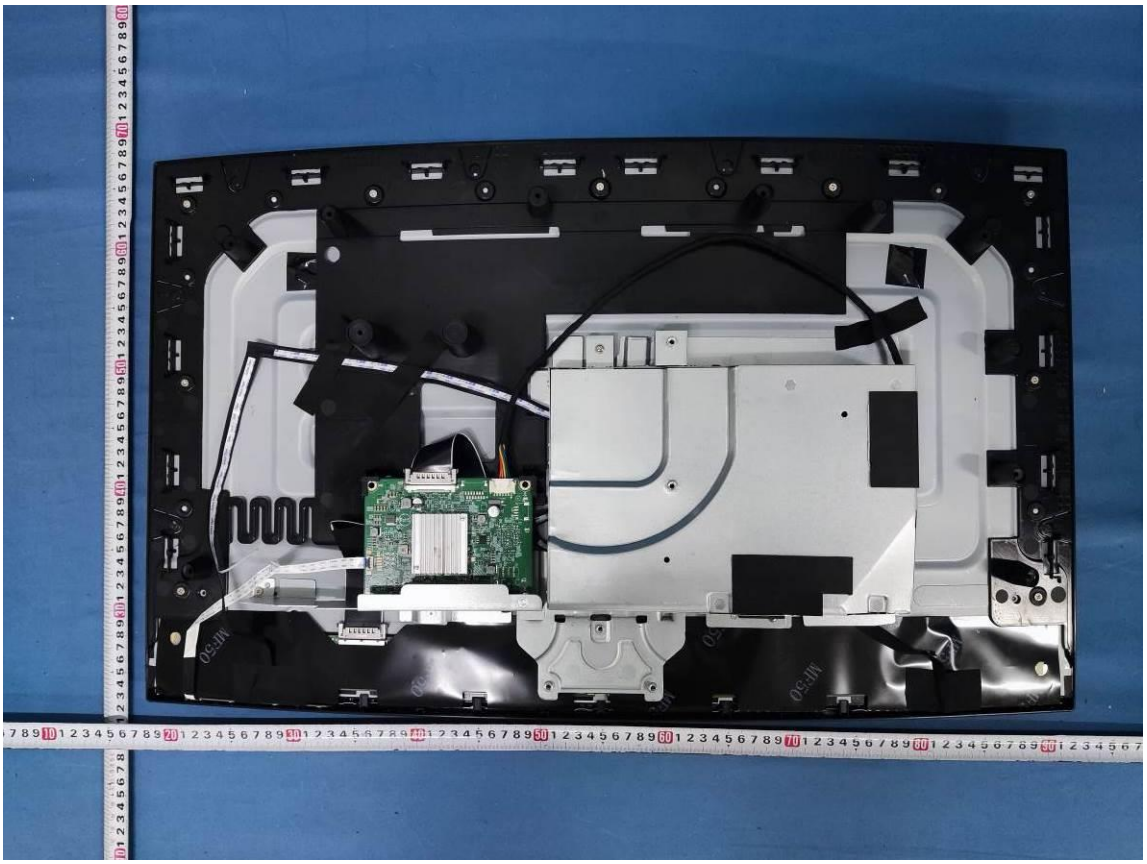
AC Inlet & signal terminals (Main board: 715GE276 version 1)

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

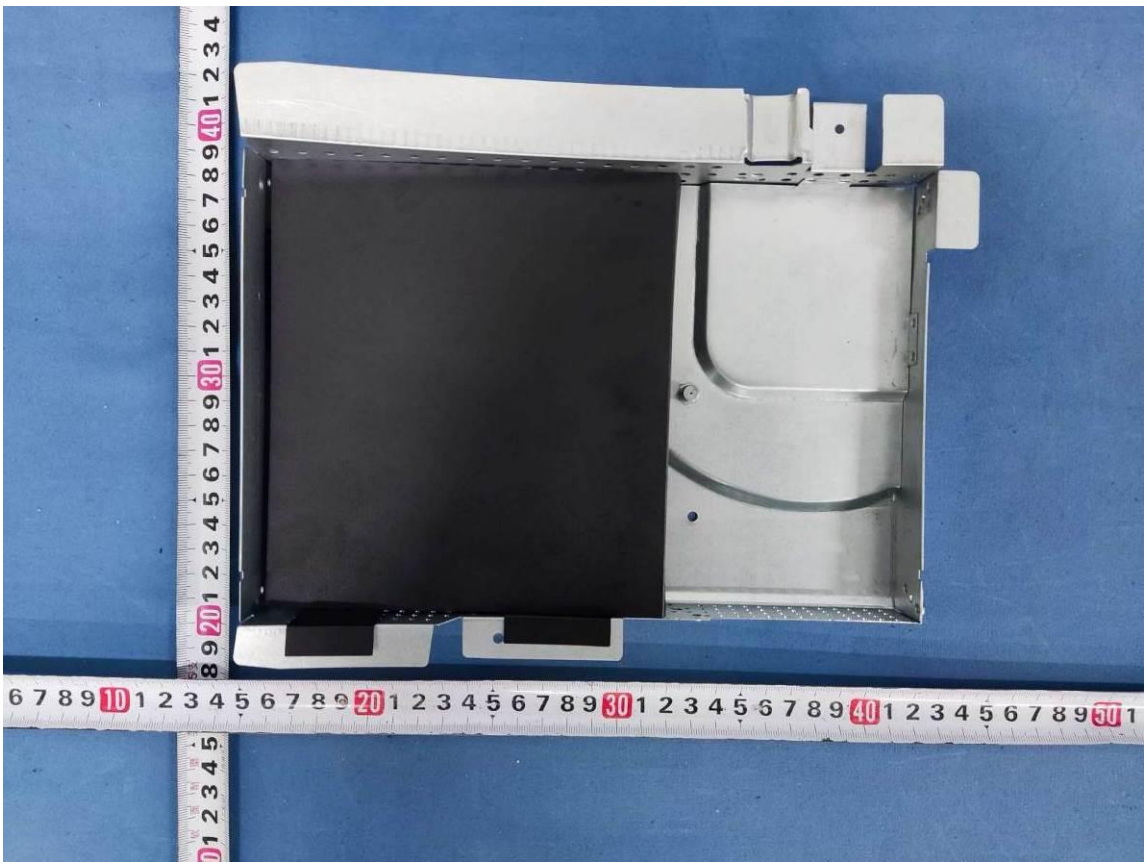
Internal view



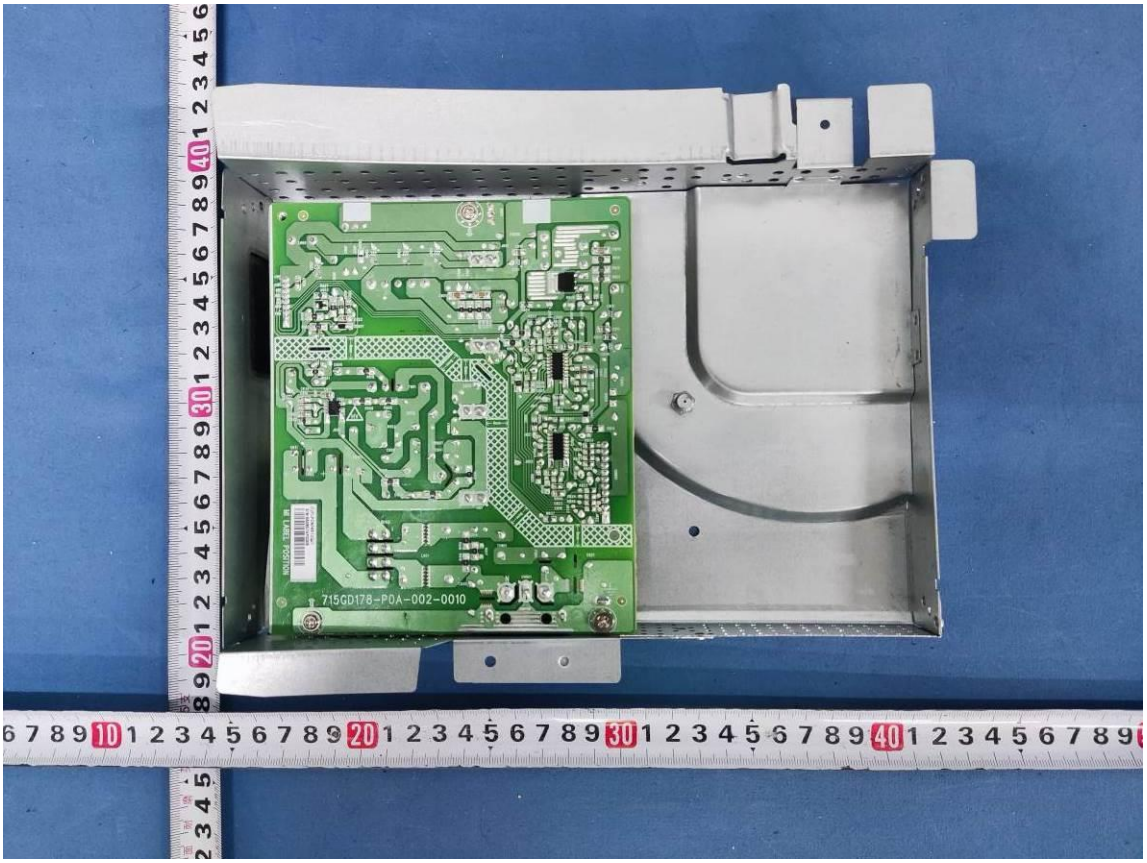
Internal view



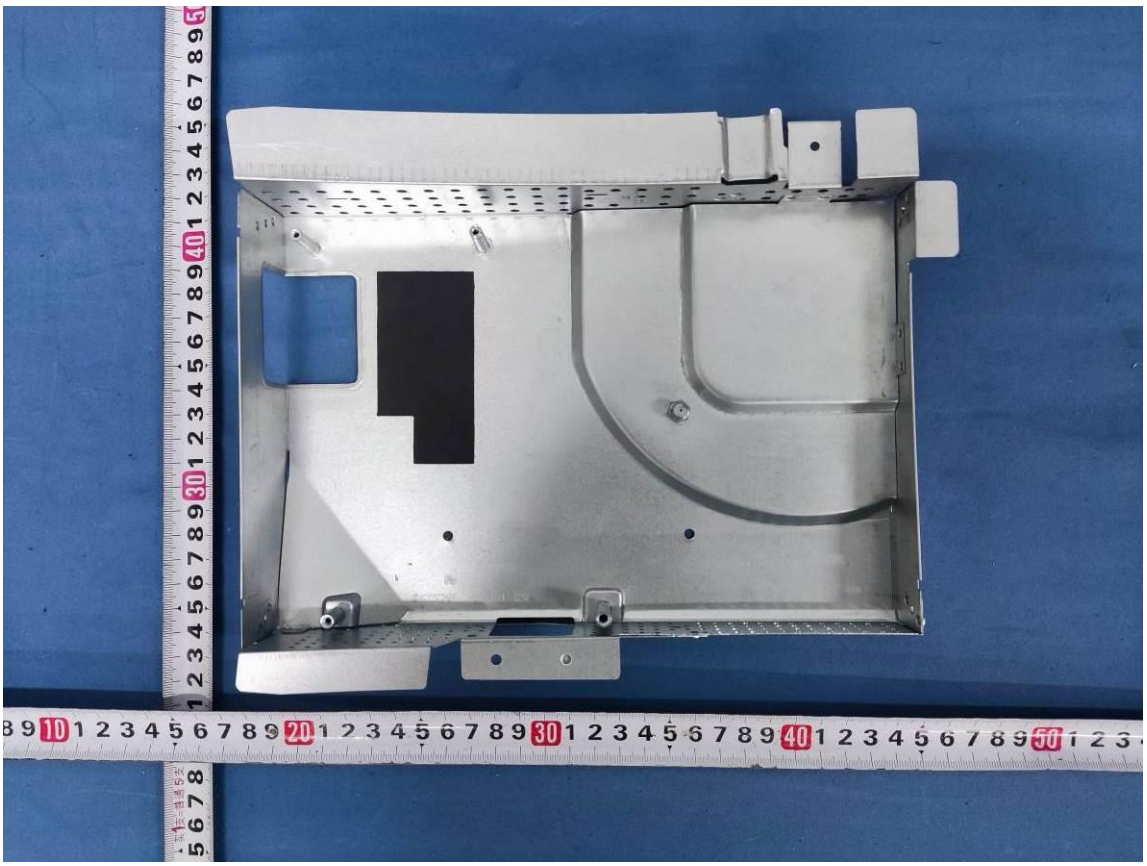
Insulation sheet under power board



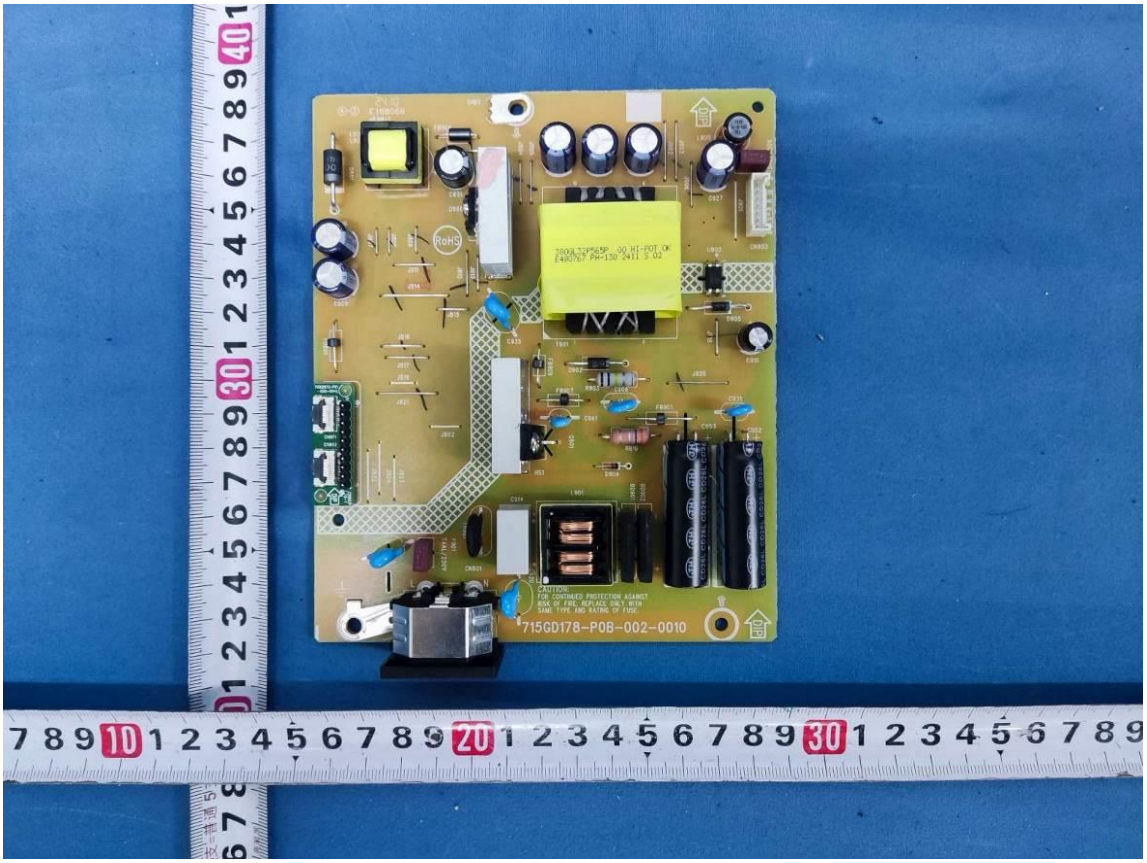
Internal view



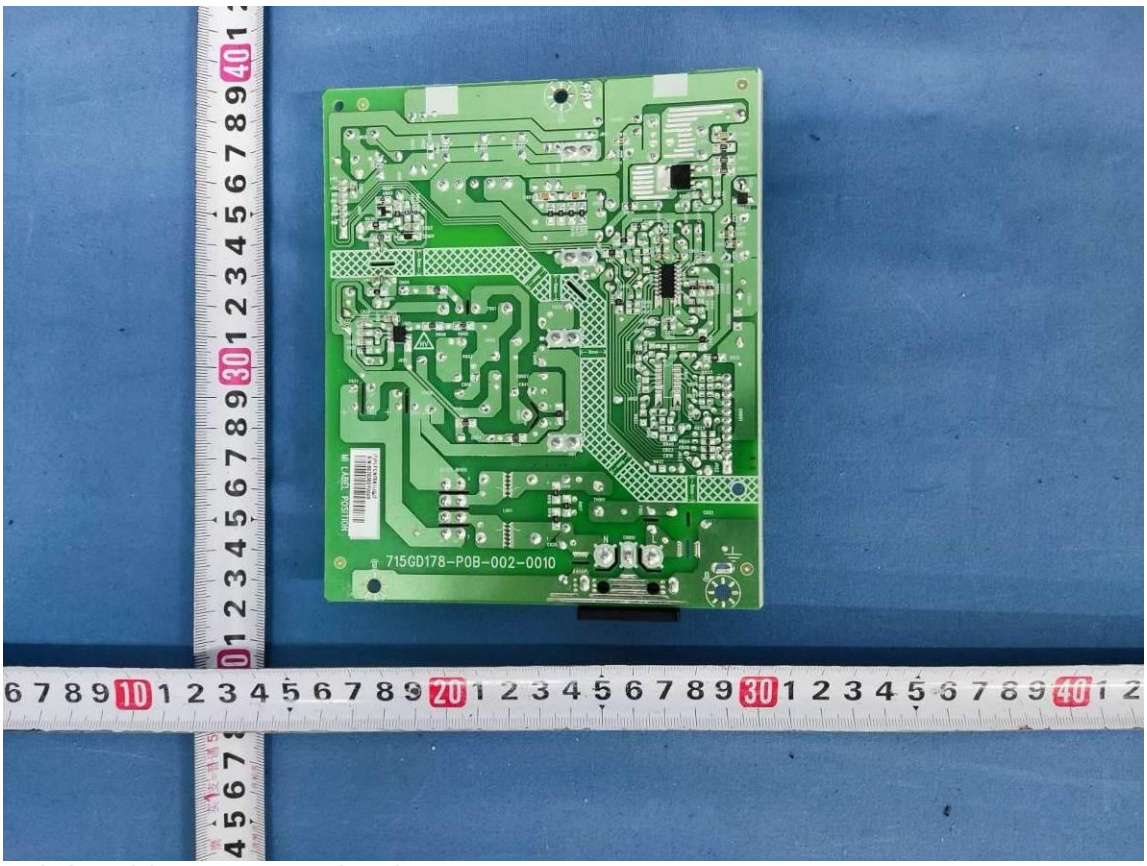
Power board enclosure



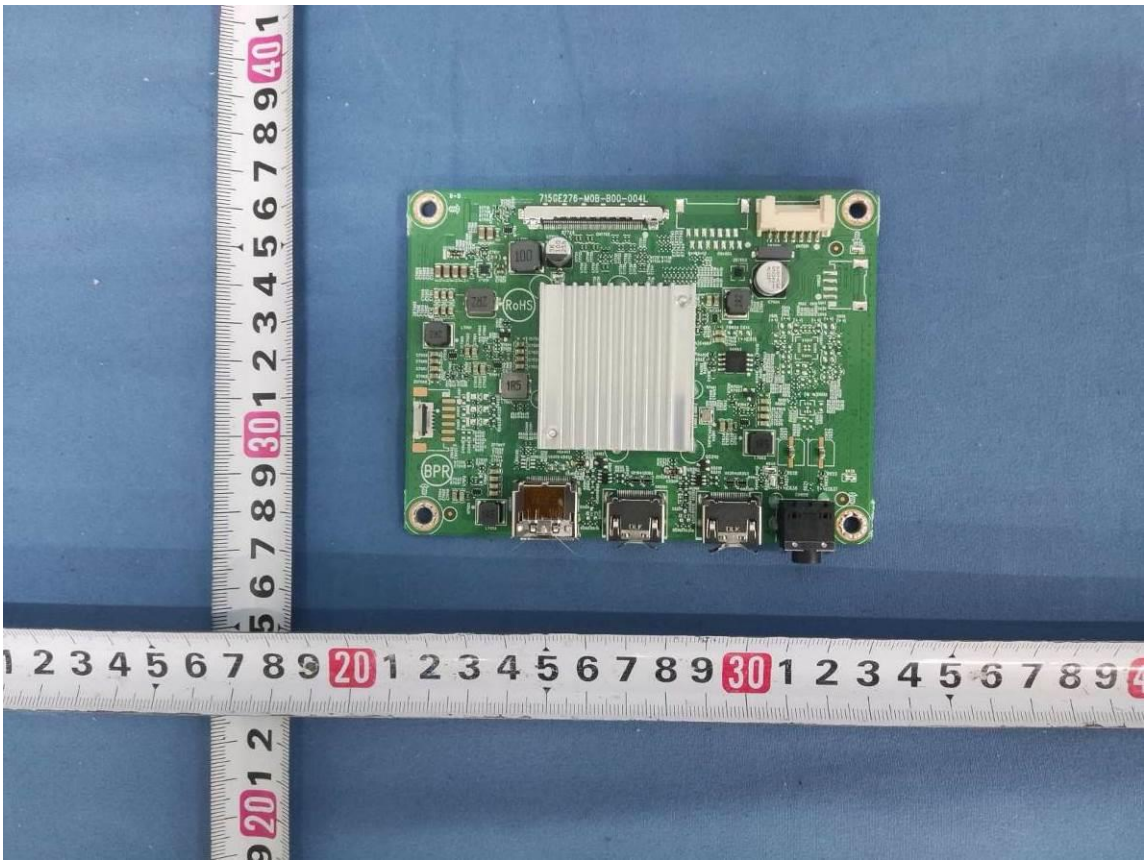
Power supply board



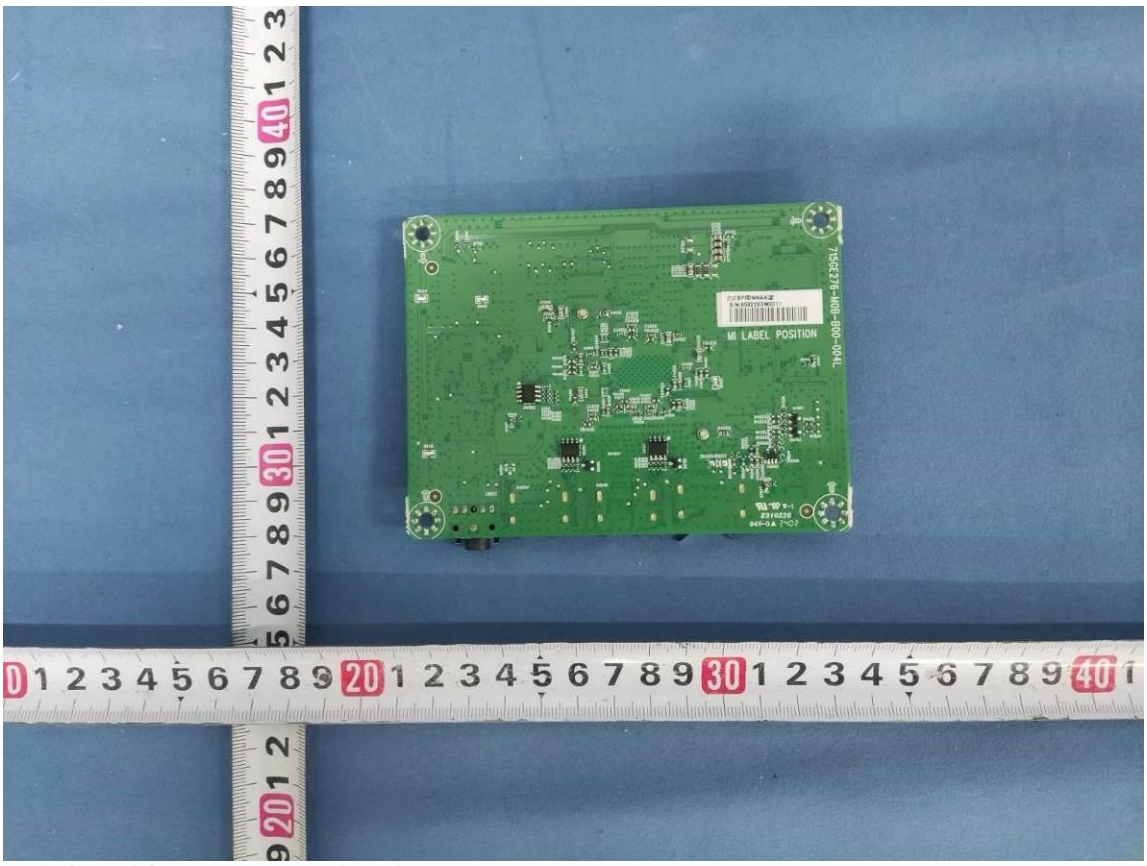
Power supply board



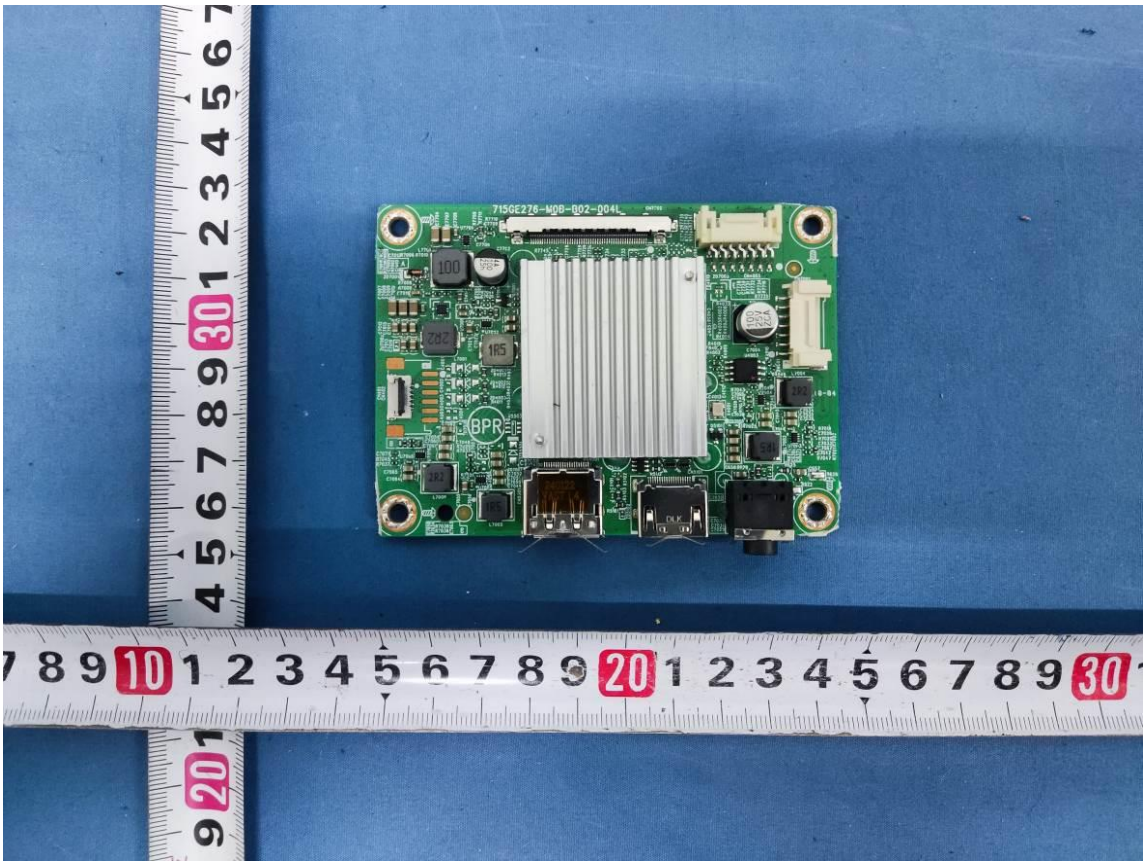
Main board (715GE276 version 1)



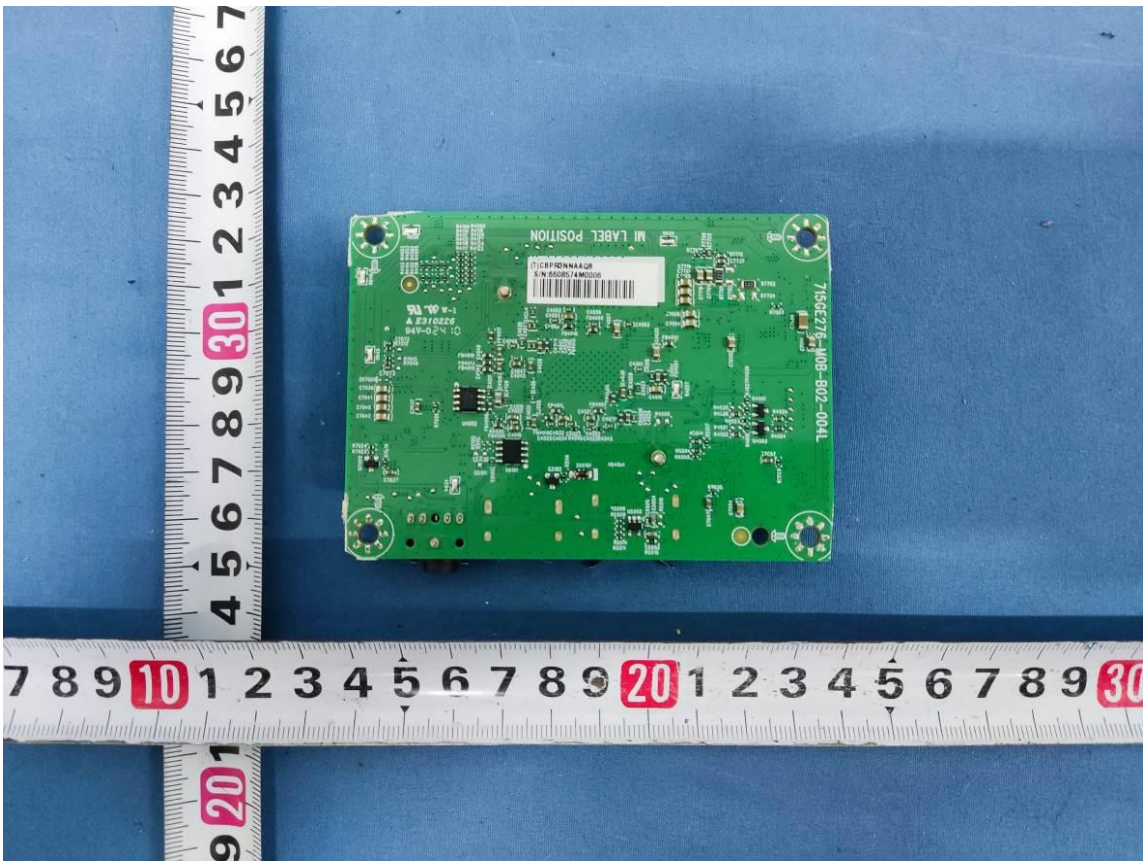
Main board (715GE276 version 1)



Main board (715GE276 version 2)



Main board (715GE276 version 2)



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

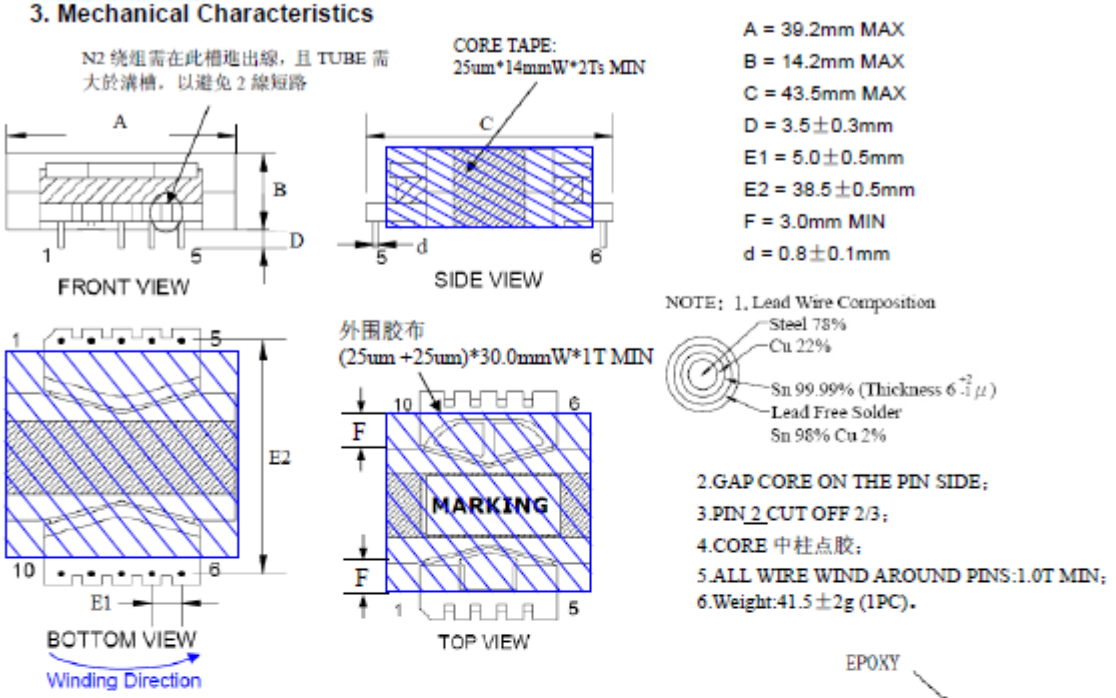
Construction of transformer

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.

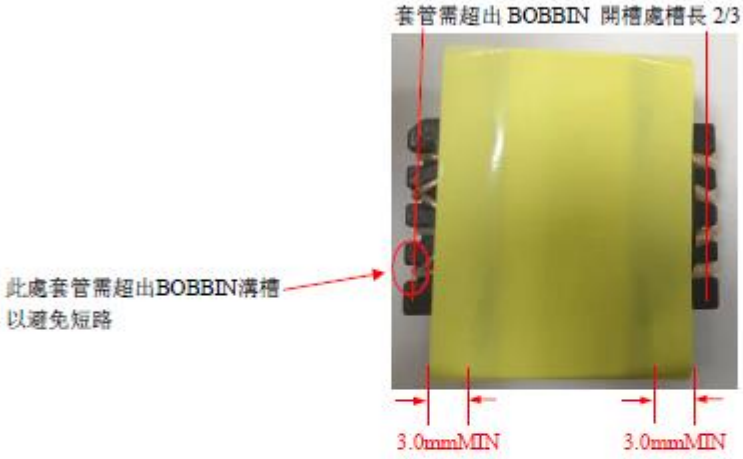
(7) All bobbin and winding must be covered entirely by insulation tape.

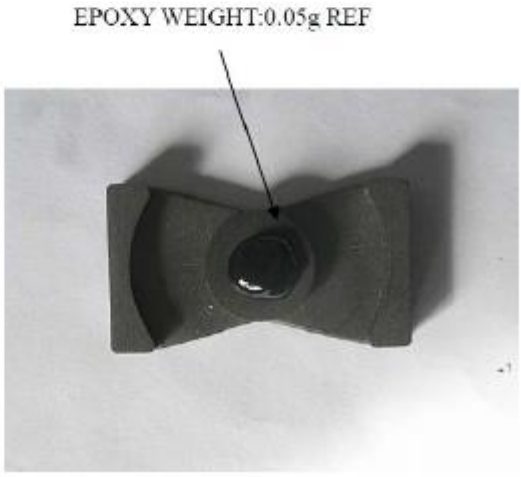
(8) 零件腳處套管長度需超過 BOBBIN 開槽處槽長 2/3(立式) .

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

TPV Component Specification

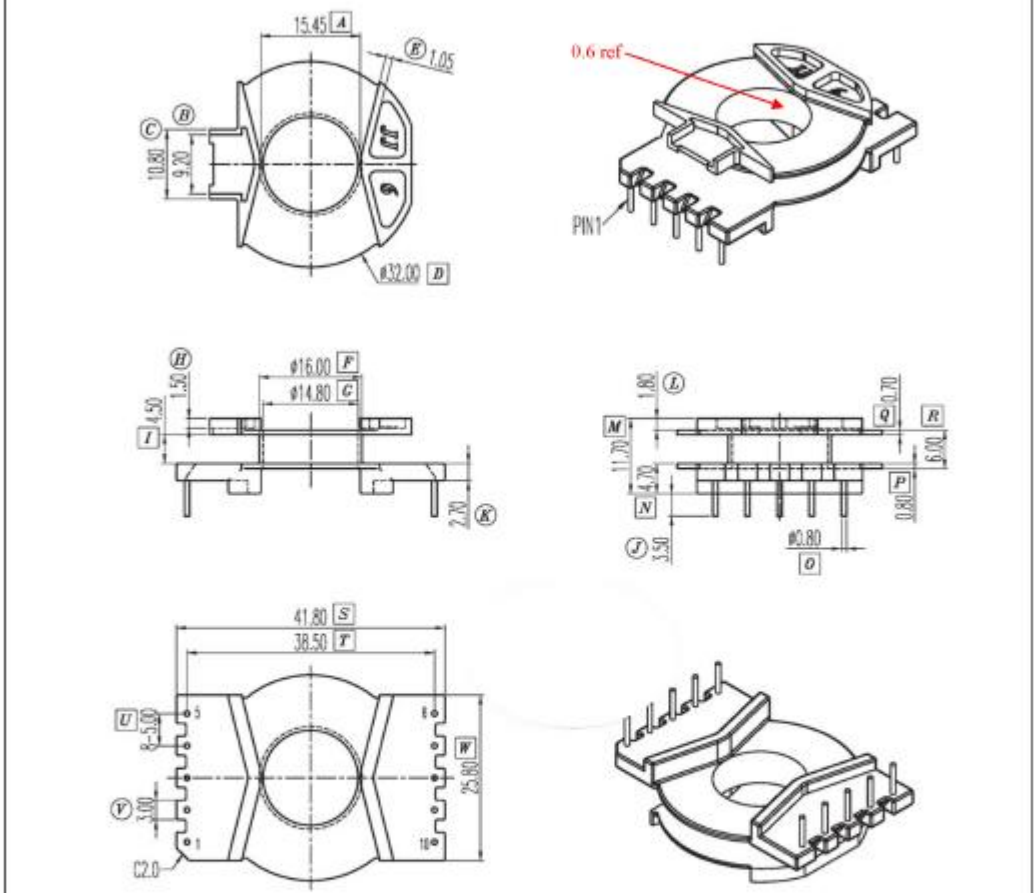
(Tube / Core tape picture):





TPV Component Specification

(Bobbin picture):

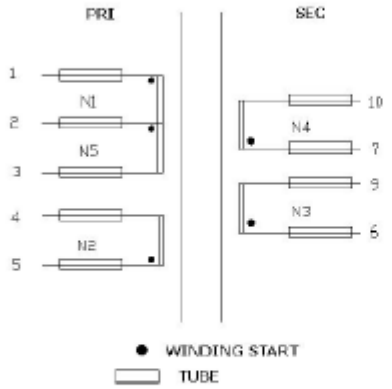


规格描述：(TITLE)	本体材质：(MATERIAL)	日期:（DATE）
PQ38	PM9820	2016-5-15

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

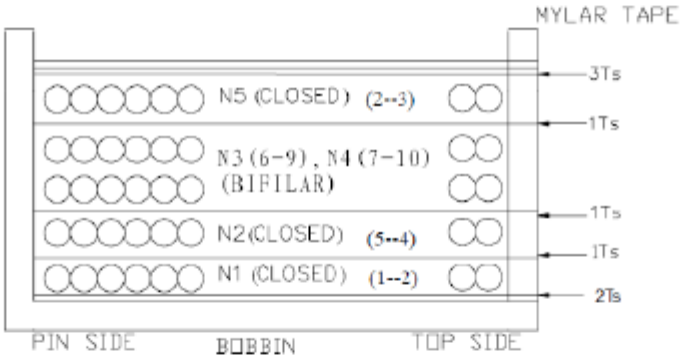
TPV Component Specification

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 Attachment 2----------

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT
IEC 62368-1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES
(Audio/video, information and communication technology equipment - Part 1: Safety requirements)

Differences according to..... : EN 62368-1:2014+A11:2017

Attachment Form No..... : EU_GD_IEC62368_1D_II

Attachment Originator ..... : Nemko AS

Master Attachment..... : Date 2021-02-04

	CENELEC COMMON MODIFICATIONS (EN)	P
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed "Z".	P
CONTENTS	**Add** the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords	P
	Delete all the "country" notes in the reference document (IEC 62368-1:2014) according to the following list:	P
	For special national conditions, see Annex ZB.	N/A
1	**Add** the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.	N/A

0.2.1	Note	1	Note 3	4.1.15	Note
4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c
5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note
5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3
5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4
10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.Z1	**Add** the following new subclause after 4.9: To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. **mains**, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for **pluggable equipment type B** or **permanently connected equipment**, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for **pluggable equipment type A** the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		N/A
5.4.2.3.2.4	**Add** the following to the end of this subclause: The requirement for interconnection with **external circuit** is in addition given in EN 50491-3:2009.		N/A
10.2.1	Add the following to [c] and [d] in table 39: For additional requirements, see 10.5.1.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	**Add** the following after the first paragraph: *For RS 1 compliance is checked by measurement under the following conditions:* *In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.* NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. *The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.* *Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.* *For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.* NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		N/A
10.6.1	**Add** the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.		N/A
10.Z1	**Add** the following new subclause after 10.6.5. **10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz** The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566		N/A
G.7.1	**Add** the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Bibliography	**Add** the following standards: **Add** the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		N/A
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		N/A
4.1.15	**Denmark, Finland, Norway** and **Sweden** To the end of the subclause the following is added: **Class I pluggable equipment type A** intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and **accessible** parts, have a marking stating that the equipment shall be connected to an earthed **mains** socket-outlet. The marking text in the applicable countries shall be as follows: In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.” In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”		N/A
4.7.3	**United Kingdom** To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.2	**Denmark** After the 2nd paragraph add the following: A warning (marking **safeguard**) for high **touch current** is required if the **touch current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.4.11.1 and Annex G	**Finland and Sweden** To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.2.1	**Norway** After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
5.5.6	**Finland, Norway** and **Sweden** To the end of the subclause the following is added: Resistors used as **basic safeguard** or bridging **basic insulation** in **class I pluggable equipment type A** shall comply with G.10.1 and the test of G.10.2.		N/A
5.6.1	**Denmark** **Add** to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. *Justification:* In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
5.6.4.2.1	**Ireland and United Kingdom** After the indent for **pluggable equipment type A**, the following is added: – the **protective current rating** is taken to be 13 A, this being the largest rating of fuse used in the **mains** plug.		N/A
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm^2 to 1,5 mm^2 in cross-sectional area.		N/A
5.7.5	**Denmark** To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the **protective conductor current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.1	**Norway and Sweden** To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.” Translation to Swedish: ”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.2	**Denmark** To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A
B.3.1 and B.4	**Ireland and United Kingdom** The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of **direct plug-in equipment**, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the **direct plug-in equipment**, until the requirements of Annexes B.3.1 and B.4 are met		N/A
G.4.2	**Denmark** To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a *Justification:* Heavy Current Regulations, Section 6c		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	**United Kingdom** To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
G.7.1	**United Kingdom** To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
G.7.1	**Ireland** To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	**Ireland and United Kingdom** To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm^2 is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		N/A
10.5.2	**Germany** The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. *Justification:* German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. **NOTE** Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de		N/A

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

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT

IEC 62368-1
(AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES
(**Audio/video, information and communication technology equipment**)

Differences according to..... : AS/NZS 62368.1:2018

TRF template used: ..... : IECEE OD-2020-F3, Ed. 1.1

Attachment Form No..... : AU_NZ_ND_IEC62368_1D

Attachment Originator ..... : JAS-ANZ

Master Attachment..... : 2022-05-01

	National Differences		--
Appendix ZZ	Variations to IEC 62368-1:2014 (ED. 2.0) for Australia and New Zealand		P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2014 (ED. 2.0)		P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:		P
2	*Add* the following to the list of normative references: The following normative documents are referenced in Appendix ZZ: -AS/NZS 3112, *Approval and test specification—Plugs and socket-outlets* -AS/NZS 3123, *Approval and test specification—Plugs, socket-outlets and couplers for general industrial application* -AS/NZS 3191, *Electric flexible cords* -AS/NZS 60065, *Audio, video and similar electronic apparatus—Safety requirements* *(IEC 60065:2015 (ED.8.0) MOD)* -AS/NZS 60320.1, *Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)* -AS/NZS 60320.2.2, *Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)* -AS/NZS 60695.2.11, *Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products* -AS/NZS 60695.11.5, *Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance* -AS/NZS 60695.11.10, *Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods*		P

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	-AS/NZS 60884.1, *Plugs and socket-outlets for household and similar purposes, Part 1: General requirements* -AS/NZS 60950.1:2015, *Information technology equipment—Safety*, Part 1: *General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)* IEC 61032:1997, *Protection of persons and equipment by enclosures—Probes for verification* -AS/NZS 61558.1:2008 (including Amendment 2:2015), *Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 2.1, MOD)* -AS/NZS 61558.2.16, *Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.*		
4.1.1	**Application of requirements and acceptance of materials, components and subassemblies** 1 *Replace* the text 'IEC 60950-1' with 'AS/NZS 60950.1:2015'. 2 *Replace* the text 'IEC 60065' with 'AS/NZS 60065'.		P
4.7	**Equipment for direct insertion into mains socket-outlets**		N/A
4.7.2	**Requirements** *Delete* the text of the second paragraph and *replace* with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		N/A
4.7.3	**Compliance Criteria** *Delete* the first paragraph and Note 1 and Note 2 and *replace* with the following: *Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.*		N/A
4.8	*Delete* existing clause title and *replace* with the following: **4.8 Products containing coin/button cell batteries**		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.1	**General** 1 Second dashed point, *delete* the text and *replace* with the following: – include coin/button cell batteries with a diameter of 32 mm or less. 2 After the second dashed point, *insert* the following Note: NOTE 1: Batteries are specified in IEC 60086-2. 3 After the third dashed point, *renumber* the existing Note as 'NOTE 2'. 4 Fifth dashed point, *delete* the word 'lithium'.		N/A
4.8.2	**Instructional Safeguard** First line, *delete* the word 'lithium'.		N/A
4.8.3	**Construction** First line, after the word 'Equipment' *insert* the words 'containing one or more coin/button batteries and'		N/A
4.8.5	**Compliance criteria** *Delete* the first paragraph and *replace* with the following: *Compliance is checked by applying a force of 30 N +/-1 N for 10 s to the battery compartment door/cover by a rigid test finger according to test probe 11 of IEC 61032:1997 at the most unfavourable place and in the most unfavourable direction. The force shall be applied in one direction at a time.*		N/A
5.4.10.2	**Test methods**		N/A
5.4.10.2.1	**General** *Delete* the first paragraph and *replace* with the following: In Australia only, the separation is checked by the test of both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test of either Clause 5.4.10.2.2 or Clause 5.4.10.2.3.		N/A
Table 29	*Replace* the table with the following:		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Parts	Impulse test		Steady state test	
	New Zealand	Australia	New Zealand	Australia
Parts indicated in Clause 5.4.10.1 a) [a]	2.5 kV 10/700 µs	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment. 10/700 µs	1.5 kV	3 kV
Parts indicated in Clause 5.4.10.1 b) and c) [b]	1.5 kV 10/700 µs [c]		1.0 kV	1.5 kV

[a] Surge suppressors shall not be removed.

[b] Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment.

[c] During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.

5.4.10.2.2	After the first paragraph, *insert* new Notes 201 and 202 as follows: NOTE 201 For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		N/A
5.4.10.2.3	After the first paragraph, *insert* new Notes 201 and 202 as follows: NOTE 201 For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A
6	**Electrically-caused fire**		P
6.1	**General** After the first paragraph, *insert* the following new paragraph: Alternatively, the requirements of Clauses 6.2 to 6.5.2 are considered to be fulfilled if the equipment complies with the requirements of Clause 6.202		P
6.6	After Clause 6.6, *add* the new Clauses 6.201 and 6.202 as follows: **6.201 External power supplies, docking stations and other similar devices** and **6.202 Resistance to fire—Alternative tests** (see special national conditions)		P

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.4	**Special categories of equipment comprising moving parts**		N/A
8.5.4.1	**Large data storage equipment** In the first dashed row and the second dashed rows *replace* 'IEC 60950-1:2005' with 'AS/NZS 60950.1:2015'		N/A
8.6	**Stability of equipment**		P
8.6.1 and Table 36	**Requirements** 1. Table 36, *insert* Footnote c at the end of the 'Glass slide' heading, and *add* a new Footnote c after the text of Footnote b in the last row of Table 36 as follows: [c] The glass slide test is not applicable to floor standing equipment, even though the equipment may have controls or a display. 2. Table 36, fifth row, *insert* '[201]' at the end of 'No stability requirements' 3. Table 36, ninth row, *insert* '[201]' at the end of 'No stability requirements' 4. Table 36, *add* the following new footnote: [201] MS2 and MS3 television sets and display devices, designed only for fixing to a wall, ceiling or equipment rack, are not subjected to stability requirements only if the instructional safeguard of Clause 8.6.1.201 is provided. Otherwise, the glass slide requirements of Clause 8.6.4 and horizontal force requirements of Clause 8.6.5 apply. 5. Second paragraph beneath Table 36, *delete* the words 'MS2 and MS3 television sets' and *replace* with 'MS2 and MS3 television sets and display devices'	Mass of LCD monitor: MS2	P
8.6.1	After Clause 8.6.1 *add* the following new clauses: **8.6.1.201 Instructional safeguard for fixed-mount television sets** (see special national conditions)		P
Annex F Paragraph F.3.5.1	**Mains appliance outlet and socket-outlet markings** *Replace* 'IEC 60320-2-2' with 'AS/NZS 60320.2.2'.		N/A
Annex G Paragraph G.4.2	**Mains connectors** 1 In the second line *insert* 'or AS/NZS 3123' after 'IEC 60906-1'. 2 In the second line *insert* 'or AS/NZS 60320 series' after 'IEC 60320 series' 3 *Add* the following new paragraph: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Paragraph G.5.3.1	**Transformers, General** 1 In the third dashed point *replace* 'IEC 61558-1 and the relevant parts of IEC 61558-2' with 'AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2' 2 In the fourth dashed point *replace* 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.		N/A
Paragraph G.7.1	**Mains supply cords, General** In the fourth dashed paragraph, *replace* 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Table G.5	**Sizes of conductors** 1 In the second row, first column, *delete* '6' and *replace* with '7.5' 2 In the second row, second column, *delete* '0,75' and *replace* with '0.75[b] 3 *Delete* Note 1. 4 *Replace* 'NOTE 2' with 'NOTE:'. 5 *Delete* the text of 'Footnote b' and *replace* with the following: [b] This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm2 three-core supply flexible cords are not permitted; see AS/NZS 3191). 6 In Footnote c *replace* 'IEC 60320-1' with 'AS/NZS 60320.1' 7 In Footnote d *replace* 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Annex M Paragraph M.3.2	**Protection circuits for batteries provided within the equipment, Test method** After the first dashed point *add* the following Note: NOTE 201: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Special national conditions (if any)		P
6.201	**External power supplies, docking stations and other similar devices** For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage— – at all ES1 outlets or connectors shall not increase by more than 10% of its rated output voltage under normal operating condition; and – of a USB outlet or connector shall not increase by more than 3 V or 10% of its rated output voltage under normal operating conditions, whichever is higher. For equipment with multiple rated output voltages, the requirements apply with the equipment configured for each rated output voltage in turn. NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries. *Compliance shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single-fault conditions of Annex B.4*		P
6.202	**Resistance to fire—Alternative tests**		N/A
6.202.1	**General** Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the equipment, or the following: a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length. b) The following parts which would contribute negligible fuel to a fire: – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1 750 mm^3, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Cont'd	NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another.		N/A
	Compliance shall be checked by the tests of Clauses 6.202.2, 6.202.3 and 6.202.4. For the base material of printed boards, compliance shall be checked by the test of Clause 6.202.5. The tests shall be carried out on parts of non-metallic material which have been removed from the equipment. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring.		N/A
6.202.2	**Testing of non-metallic materials** Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the relevant part is not thinner than the sample tested.		N/A
6.202.3	**Testing of insulating materials** Parts of insulating material supporting Potential Ignition Sources shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE: Contacts in components such as switch contacts are considered to be connections		N/A
	For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test need not be tested		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications: **Clause of AS/NZS 60695.11.5** — Change **9 Test procedure** **9.2 Application of needle-flame** — *Delete* the first and second paragraphs and *replace* with the following: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner. The duration of application of the test flame shall be 30 s ±1s. **9.3 Number of test specimens** — *Replace* with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test. **11 Evaluation of test results** — *Replace* with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s. The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the relevant part is not thinner than the sample tested.		N/A
6.202.4	**Testing in the event of non-extinguishing material** If parts, other than enclosures, do not withstand the glow wire tests of Clause 6.202.3, by failure to extinguish within 30 s after the removal of the glowwire tip, the needle-flame test detailed in Clause 6.202.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of Clause 6.202.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested. NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Cont'd	NOTE 2: If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing. NOTE 3: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.		N/A
6.202.5	**Testing of printed boards** The base material of printed boards shall be subjected to the needle-flame test of Clause 6.202.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a potential ignition source. The test is not carried out if— – the printed board does not carry any potential ignition source; – the base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or – the base material of printed boards, on which the available equipment power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. *Conformance shall be determined using the smallest thickness of the material.* NOTE: Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximize the apparent power for more than 2 min when the circuit supplied is disconnected.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.202.6	**For open circuit voltages greater than 4 kV** Potential ignition sources with open circuit voltages exceeding 4 kV (peak) a.c. or d.c. under normal operating conditions shall be contained in a FIRE ENCLOSURE which shall comply with flammability category V-1 or better according to AS/NZS 60695.11.10.		N/A
8.6.1.201	**8.6.1.201 Instructional safeguard for fixed-mount television sets** MS2 and MS3 television sets and display devices designed only for fixed mounting to a wall of ceiling or equipment rack shall, where required in Table 36, footnote 201, have an instructional safeguard in accordance with Clause F.5 which may be on the equipment or included in the installation instructions or equivalent document accompanying the equipment. The elements of the instructional safeguard shall be as follows: – element 1a: not available; – element 2: 'Stability Hazard' or equivalent wording; – element 3: 'The television set may fall, causing serious personal injury or death' or equivalent text; – element 4: the following or equivalent text: To prevent injury, this television set must be securely attached to the floor/wall in accordance with the installation instructions		N/A
8.6.1.202	**Restraining device** MS2 and MS3 television sets and display devices that are not solely fixed-mounted should be provided with a restraining device such as a fixing point to facilitate restraining the equipment from toppling forward. The restraining device shall be capable of withstanding a pull of 100 N in all directions without damage. Where a restraining device is provided, instructions shall be provided in the instructions for installation or instructions for use to ensure correct and safe installation.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT **AS_NZS_3112:2017_+A1:2021 Appendix J** **AUSTRALIAN / NEW ZEALAND NATIONAL DIFFERENCES** **(Approval and test specification—Plugs and socket-outlets)**
Differences according to..... : AS_NZS_3112:2017_Amendment 1:2021_Appendix J
TRF template used:..... : IECEE OD-2020-F3, Ed. 1.1
Attachment Form No..... : AS_NZS_3112:2017_Appendix J **Attachment Originator .....** : JAS-ANZ **Master Attachment**..... : 2022-06
Note: AS/NZS 3112 is NOT covered by IECEE Accreditation for Testing / Reporting **Please State Laboratory Accreditation for this Standard**
Accreditation
Accreditation Stamp

J1 SCOPE	General: This Appendix specifies additional dimensional and constructional requirements for detachable plug portions, or equipment incorporating integral supply pins or equipment incorporating detachable plug portions. This Appendix shall be read in conjunction with Section 2 of this Standard. For the purposes of this Appendix, where the term 'plug' is used in Section 2 it shall be taken to mean the plug portion of equipment or the detachable plug portion. The equipment shall comply with the relevant product Standard. The tests and requirements specified in this Appendix are in addition to any test and requirements of the relevant product Standard for the equipment. (AS/NZS 3112:2017/A1:2021)	N/A
J2	DEFINITION	N/A
J2.1	Detachable plug portion A plug portion that is detachable from the equipment and with connections including the following standardized outputs and other contacts (a) Type A (see Figure J1): A detachable plug portion with a connection intended for plugging directly into equipment. The connection being via the equipment group 1 appliance inlet within the scope of AS/NZS 60320.1. (b) Type B (see Figure J2): A detachable plug portion with a non-standardized connection intended for plugging directly into equipment (c) Type C (see Figure J3): A detachable plug portion with a connection intended for use with an adaptor connected to a flexible cord so as to replicate a supply plug and flexible cord configuration. The connection being via a group 1 appliance outlet within scope of AS/NZS 60320.2.2, which is integral with the plug portion (AS/NZS 3112:2017)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
J2.2	Integral plug portion A plug portion that is integral to the equipment enclosure and is not detachable (AS/NZS 3112:2017)		N/A
J2.3	Plug portion A plug portion is that portion of equipment with pins for insertion into a socket-outlet, including the plug pins, terminals of the plug pins, external dimensions of the 'maximum projection' and any connections of a detachable plug portion. (AS/NZS 3112:2017/A1:2021)		N/A
J3	**REQUIREMENTS FOR THE PLUG PORTION**		N/A
J3.1	General The following provisions apply to the dimensional and constructional requirements of plug portions of equipment and any detachable connection between the plug portion and the equipment:		N/A
(a)	For detachable plug portions intended for connection to the equipment in multiple orientations, the relevant tests are performed in the most onerous orientation.		N/A
(b)	For Type A detachable plug portion, the relevant requirements of AS/NZS 3105:2014 are applicable, in addition to conformance with relevant clauses of this Appendix		N/A
(c)	For Type B detachable plug portions, the conformance is shown by the relevant clauses of this Appendix.		N/A
(d)	For Type C detachable plug portions, conformance is shown by assessment to Section 2 of this Standard (plugs) and relevant clauses of this Appendix (AS/NZS 3112:2017)		N/A
J3.2	**Plug pins of plug portions** The requirements of Clause 2.2 are applicable for plug pins.		N/A
2.2	PLUG PINS		N/A
2.2.1	Current carrying parts of plug pins of metal having sufficient mechanical strength, electrical conductivity and resistance to corrosion adequate for the intended use		N/A
	Plug pin material?		--
2.2.3	Plug pins adequately proportioned throughout and portion adjacent to the connection designed to not introduce a stress concentration which may lead to a fracture of the pin, and suitably shaped to prevent abrasion or cutting of conductor strands due to flexure in normal use		N/A
	Exposed ends of plug pins have a lead-in, bevel or radius to facilitate entry into socket-outlets and to operate shutters		N/A
	Flat-pins with the following profile are deemed to comply:		--
(a)	Flat-pins with a radius on the end with side bevels may		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	have a width and thickness profile as specified in Figure 2.1(h)		
(b)	Flat-pins square on the end with corner and side bevels may have a width and thickness profile as specified in Figure 2.1(i)		N/A
(c)	Flat-pins square on the end with corner bevels and a radius on the sides may have a width and thickness profile as specified in Figure 2.1(j)		N/A
	Contact portion of the pins smooth and free from openings or indentations		N/A
	Flat pin plugs having a longitudinal seam or opening in the contact portion of one face; width not exceeding 0.3 mm and		N/A
	Thickness not exceeding 1.58 mm		N/A
	Exposed portion of earthing pins and pins other than insulated pins free from any non-metallic coverings or coatings (AS/NZS 3112:2017)		N/A
2.2.4	Live parts of insulated pin plugs not exposed when plug is partially or fully engaged with associated socket		N/A
	Compliance by measurement to Figure 2.4	(see appended table)	N/A
	Lacquer, enamel or sprayed insulating coating not considered to be insulation material		N/A
	All live pins on low voltage plugs except for those shown in Figure 2.1 (a2), (b) and (g) of the insulated pin type		N/A
	Colour green or green / yellow not used for insulation of insulated pins (AS/NZS 3112:2017)		N/A
J3.3	**Ratings and dimensions for low-voltage plug portions** Requirements of clauses 2.8.1 and 2.8.4 apply for rating and dimensions		N/A
2.8	Ratings and Dimensions of Low Voltage Plugs		--
2.8.1	Plugs with ratings up to and including 20A; shall conform to the appropriate dimensions shown in Figure 2.1	(see appended results)	N/A
	Rating of plug	___A	--
	Nominal dimensions covering disposition of pins checked by gauge of Appendix A		N/A
	Distance between live pin and edge of moulding to not less than 9 mm		N/A
	Measured distance	___mm	--
	No point on plug face protrudes more than 0.5 mm		N/A
	Measured protrusion	___mm	--

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Clause	Requirement + Test	Result - Remark	Verdict
	Dimensional requirements of Figure 2.1(e2) did not applied to plugs with greater than three pins (AS/NZS 3112:2017)		N/A
2.8.4	Low voltage plugs comply with dimensions of Figure 2.1	(see appended table 2.8.1)	N/A
	Disposition of pins checked by gauge complying with Appendix A, B or F as appropriate		N/A
	Low voltage plug having rating up to 15A and of the Figure 2.1 (a1), (c), (d), (f) or (g) type; comply with dimensional requirements of Figure 2.1 (e1 and e2)		N/A
	20A plug of Figure 2.1 (a2) type complies with dimensional requirements of Figure 2.1 (e2)		N/A
	Plugs with insulated pins need not comply with dimension R20.0 ± 1 mm requirement of Figure 2.1 (e3) provided there is at least 9mm from the edge of the live pins to the edge of the plug face Figure 2.1(e3). (AS/NZS 3112:2017)		N/A
J3.4	**Internal connections for plug portions** Requirements of clause 2.9 apply for internal connections, unless requirements contained in the relevant product standard (AS/NZS 3112:2017)		N/A
2.9	INTERNAL CONNECTIONS		N/A
	Plug provided with earthing connections designed and constructed so that when plug is correctly wired and assembled:		N/A
(a)	Loose terminal screw or conductive material cannot bridge any live or earthed parts		N/A
(b)	Earthing parts effectively isolated from contact with live conductor which may become detached		N/A
(c)	Live parts effectively isolated from contact with any earthing conductor which may become detached		N/A
	Any connections for auxiliary devices comply with above requirements (AS/NZS 3112:2017)		N/A
J3.5	**Arrangement of earthing connections for plug portions** Requirements of clause 2.10 apply for arrangement of earthing connections		N/A
2.10	Arrangement of earthing connections		N/A
	Earthing pin radial to the circle embracing the pins (AS/NZS 3112:2017)		N/A
J3.6	**Configuration of plug portions** Requirements of clause 2.12.6 apply for configuration of the plug portion (AS/NZS 3112:2017)		N/A
2.12	Marking		--
2.12.6	Configuration of plugs		N/A
	Pins disposed so that configuration, as viewed from the pins, is earth, neutral and active in a clockwise direction		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Where there is no earthing pin; live pins conform to this configuration (AS/NZS 3112:2017)		N/A
J4	**Tests**		N/A
J4.1	General Plug portions of equipment shall be subjected to the following tests and unless stated otherwise, shall comply with the requirements specified in Section 2 for each test. The number of test samples shall be in accordance with Table J1 For equipment with a detachable plug portion, the assessment(s) of Table J1 tests 2, 3, 5, 10 and 11 shall be conducted on the— (a) assembled equipment with the detachable plug portion connected; and (b) the detachable plug portion after it has been separated from the equipment (AS/NZS 3112:2017/A1:2021)		N/A
J4.2	**High voltage test** The requirements of Clause 2.13.3 are applicable unless requirements are contained in the relevant product standard (AS/NZS 3112:2017)		N/A
2.13.3	Test No.1 - High voltage test		N/A
	Plug withstands without failure electric strength test as specified (AS/NZS 3112:2017)	(see appended table)	N/A
J4.3	**Mechanical strength**		N/A
J4.3.1	**Tumbling barrel test** The tumbling barrel test is applied to determine the mechanical strength of the plug portions and equipment having integral or detachable plug portions. For equipment with a detachable plug portion, the detachable plug portion may become detached during the test. If this occurs the detachable plug portion shall be reassembled with the equipment when the pins are straightened as per (a) and (b) below. Three samples (Samples BCD in Table J1) that have not been subjected to any previous test are tested as specified in Clause 2.13.7.1, however the test is modified as follows:		N/A
	They are tested in a tumbling barrel as described in AS 60068.2.32 or test Free fall repeated – Procedure 2 in IEC 60068-2.31. The samples shall be dropped from a height of 500 mm onto a steel plate, 3 mm thick. The barrel shall be turned at a rate of 5 r/min, to yield 10 falls per minute. Only one sample shall be tested at a time. A sample is dropped— (a) 500 times if the mass of the specimen does not exceed 250 g. The pins being straightened after each 100 drops and at the completion of the test to pass through the appropriate gauge of Figure A1, Figure B1 or Figure F1; and (b) 250 times if the mass of the specimen exceeds 250 g. The pins being straightened after each 25 drops and at the completion of the test to pass through the appropriate gauge of Figures A1, Figure B1 or Figure F1. (AS/NZS 3112:2017/A1:2021)		N/A
	Mass of sample	_____Grams	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Number of drops	500 / 250	N/A
	Compliance shall be checked by Paragraph J4.3.3	(See appended table)	N/A
J4.3.2	Test No.3 **Impact test.** Plug portions and equipment having integral plug portions or detachable plug portions shall withstand lateral impact forces. All samples that were subjected to the tests in Paragraph J4.3.1 (Samples BCD in Table J1) shall be tested as follows:		N/A
	(a) The sample shall be positioned at the centre of a steel plate with a thickness of at least 6 mm. Apertures in the steel plate for the plug pins to pass through shall conform to the corresponding socket Standard. The sample shall be held against the steel plate by clamping all the pins.		N/A
	(b) Samples shall be subjected to blows, with an impact energy of 1.0 ± 0.05 J by any means having the same performance as the spring-operated impact-test apparatus of AS/NZS 3100.		N/A
	(c) Three blows shall be applied to every point that is most likely to directly or indirectly stress the enclosure joints of the sample		N/A
	Compliance shall be checked by Paragraph J4.3.3		N/A
J4.3.3	**Specific compliance criteria** This Paragraph provides the common compliance assessment criteria for tests specified in Paragraphs J4.3.1 and J4.3.2.		N/A
	Following each test, the samples shall comply with Clause 2.13.7.1		N/A
(a)	**assembled equipment with the detachable plug portion connected;**		N/A
	After the test, samples show no damage	(See appended table)	N/A
(b)	**the detachable plug portion after it has been separated from the equipment**.		N/A
	After the test, samples show no damage	(See appended table)	N/A
4.3.4	**Pin bending test** The pins of the plug portion of three samples (Samples EFG in Table J1) not subjected to any previous tests shall be tested for compliance with the pin bending test of Clause 2.13.7.2 (AS/NZS 3112:2017/A1:2021)		N/A
2.13.7.2	Test No.4 – Pin bending test		N/A
	All flat–pin plugs rated up to and including 15 A shall be subjected to the pin bending test		N/A
	Three samples are subjected by clamping the plug in a rigid holding block and applying the bending force as specified		N/A
	After the test the pins shall not be broken off. (AS/NZS 3112:2017)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
J4.8.3	Test No.5 **Plug portion detachment requirements**		N/A
	For all Type B or C devices and for Type A devices where the outlet of the detachable plug portion is parallel to the plug supply pins, disengagement of the detachable plug portion from the equipment shall require at least two simultaneous independent actions or the use of a tool.		N/A
	The plug portion and the equipment/adaptor shall be connected and disconnected 50 times (100 strokes).		N/A
	Compliance is verified by the plugging test, a force which, over a period of 10 s, shall be increased steadily to 60 ±0.6 N and held at this value for a further 10 s, shall be applied evenly at the connecting equipment in a direction parallel to the pins. This procedure shall be conducted three times on the same plug portion, at intervals of 5 min, without disturbing the plug portions between tests		N/A
	During the test the plug portion shall not separate		N/A
	The test of AS/NZS 3112 'temperature rise test' for plugs shall be conducted immediately after the above test without disturbing the sample. Test No 6 Temperature Rise test J4.4 (AS/NZS 3112:2017/A1:2021)		N/A
J4.4	**Temperature rise test** The relevant requirements of Clause 2.13.8 are applicable for the temperature rise test, except that the test current shall be that specified in the relevant product standard		N/A
	The temperature rise of the pins shall not exceed 45 K irrespective of the temperature rise of parts specified in end-product standards.		N/A
	For detachable plug portions the temperature rise of terminals and contacts shall not exceed 45 K. (AS/NZS 3112:2017)		N/A
2.13.8	Test No.6 – **Temperature rise test**		N/A
	Plug tested in draught free environment as specified using clamping units as specified in Figure 2.10		N/A
	Test Current Relevant Product Standard	_____ Amps _____ (Standard?)	N/A
	Temperature of terminals and contacts of detachable plug portion not exceeding 45 K(AS/NZS 3112:2017)	(see appended table)	N/A
J4.5	**Securement of pins of the plug portion** The requirements of Clause 2.13.9 are applicable for the securement of pins. (AS/NZS 3112:2017)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.13.9	Test No.7. **Securement of pins**		N/A
2.13.9.1	Movement of pins		N/A
	Plug pins clamped 5 ± 0.5 mm from pin face; test equipment and sample pre-conditioning for 1 h at 40 ± 1°C		N/A
	Force of 18 ± 1 N applied to pin 14 ± 0.5 mm from plug face; applied gradually over 10 s and maintained for 10 s; applied in four directions		N/A
	Maximum deflection during test not exceeding 2.0 mm	(see appended results)	N/A
	Any distortion 5 minutes after test does not prevent insertion of plug into standard gauge(s) (AS/NZS 3112:2017 + A1:2021)		N/A
2.13.9.2	**Fixing of pins**		N/A
	Plug heated to 50 ± 2°C for 1h		N/A
	Force of 60 ± 0.6 N applied to each pin over 10 s and maintained for 10 minutes; applied in two directions along length of pin		N/A
	Maximum displacement during test not exceeding 2.4 mm		N/A
	Maximum measured displacement		--
	Pin returns to within 0.8 mm of nominal length within 5 minutes of removal of test force (AS/NZS 3112:2017)		N/A
J4.6	**Tests on the insulation material of insulated pin-plug portions** The requirements of Clause 2.13.13 are applicable for insulating material of insulated plug pins. (AS/NZS 3112:2017)		N/A
2.13.13	Test No.8 **Tests for insulation material of insulated pin plugs**		N/A
2.13.13.1	Material of pin-insulation resistant to stresses at temperature likely to occur		N/A
2.13.13.2	Pressure test at high temperature		N/A
	Specimen tested as per Figure 2.5 with force of 2.5 N applied as specified; maintained for 2 h at 160 ± 5°C; removed and cooled by immersion in water within 10 s		N/A
	Thickness of insulation at point of impression not reduced by more than 50%		N/A
	Initial thickness	mm	--
	Thickness after test	mm	--
	No visible cracks on insulation material		N/A
	Dimension of insulating material not below minimum size in Figure 2.4 (AS/NZS 3112:2017)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.13.13.3	**Static damp heat test**		N/A
	Specimen subjected to two damp heat cycles in accordance with IEC 60068-2-30; Db (12 + 12h), 95% RH, 25 ± 3°C; 40°C		N/A
	After this treatment and recovery to room temperature; specimen subjected to:		N/A
(a)	Insulation resistance test in accordance with clause 2.13.2 (e)	(see appended table)	N/A
(b)	High voltage test in accordance with clause 2.13.3	(see appended table)	N/A
(c)	Abrasion test in accordance with clause 2.13.13.6		N/A
2.13.13.4	**Low temperature test**		N/A
	Plug maintained at –15 ± 2°C for minimum of 24 h and returned to room temperature; after which specimen subjected to:		N/A
(a)	Insulation resistance test in accordance with clause 2.13.2 (e)	(see appended table)	N/A
(b)	High voltage test in accordance with clause 2.13.3	(see appended table)	N/A
(c)	Abrasion test in accordance with clause 2.13.13.6		N/A
2.13.13.5	**Impact test at low temperature**		N/A
	Specimen maintained at –15 ± 2°C for 24 h		N/A
	Specimen placed in position and subjected to impact test as per Figure 2.6; mass of 100 ±1 g falling through 100 mm		N/A
	Four impacts applied; specimen rotated through 90° between impacts		N/A
	After return to room temperature; no visible cracks of insulating material		N/A
2.13.13.6	**Abrasion test**		N/A
	Plug held in clamp and tested as per Figure 2.7; pin loaded at 4 N; 20 000 movements		N/A
	After test; pins show no damage affecting safety or impairing further use of the plug		N/A
	Insulating sleeve not punctured or rucked up (AS/NZS 3112:2017)		N/A
J4.7	Test no.9 **Equipment with a plug portion intended to be supported by the contacts of a socket-outlet**		N/A
	Equipment with pins intended to be introduced into fixed socket-outlets not imposing undue strain on socket-outlet		N/A
	Applied torque not exceeding 0.25 Nm		N/A
	Measured torque (AS/NZS 3112:2017)	____Nm	--
J4.8	**Additional requirements for detachable plug portions**		N/A
J4.8.1	Test no.10 **Access to live parts**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Small test finger of Figure 13 of IEC 61032 was not possible to contact live parts with the force of 20N		N/A
	incorrectly assemble the plug portion was not possible (AS/NZS 3112:2017)		N/A
J4.8.2	Test No.11 **Construction of detachable contacts where the input current of the equipment exceeds 0.2 A**		N/A
	Contacts of the equipment shall be such that they make and maintain, under normal service conditions, satisfactory electrical and mechanical contact with the corresponding contact of the detachable plug portion.		N/A
	For connections intended to accommodate pins, contact shall be made on two surfaces diametrically opposite, except if a single spring-assisted contact is used. (AS/NZS 3112:2017/A1:2021)		N/A
	Contacts shall not rely exclusively on the resilience of the contact material and shall have an opposite face of material other than thermoplastic or resilient insulating material. (AS/NZS 3112:2017/ A1:2021)		N/A
	The alignment and contact-making properties of contacts shall be independent of terminal screws		N/A
	The effectiveness of the contacts shall be independent of pressure from any thermoplastic or resilient moulding.		N/A
	A visual inspection is conducted to determine the existence of interference between the metal contacts and the thermoplastic or resilient moulding to provide supplementary contact pressure to the metal contacts.		N/A
	Conformance of the effectiveness of the contacts is checked by inspection and by the inspection and tests in J4.8.3 (AS/NZS 3112:2017)		N/A
J4.8.4	**Resistance of insulating material to heat and fire**		N/A
J4.8.4.1	Test no.12 **Resistance to heat** For Type B detachable plug portions parts of non-metallic material, parts of insulating material supporting live parts including connections, and parts of thermoplastic material providing supplementary insulation or reinforced insulation, shall be sufficiently resistant to heat if their deterioration could cause the appliance to fail to comply with this Standard.		N/A
	Ball pressure test conducted in accordance with IEC 60695-10-2		N/A
(a)	75°C ± 2°C, for external parts;		N/A
(b)	125°C ± 2°C, for parts supporting live parts.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

J4.8.4.2	Test no.13 **Resistance to fire**		N/A
	Plug portions comply with resistance to fire requirements of AS/NZS 3100 Annex A as follows:		N/A
	The glow wire test temperature 'T' for 'retaining parts' of fixed socket outlets shall be 750°C (AS/NZS 3112:2017)		N/A

TABLES OF RESULTS

2.2.4	TABLE: Dimensions of insulation on insulated pin plugs		N/A
Dimension (Figure 2.1 designation)		Measured (mm)	Allowed (mm)
Phase pin			8.7 ± 0.5
Neutral pin			8.7 ± 0.5

2.8.1	TABLE: Dimensions of plugs- 10A (a1)		N/A
Dimension (Figure 2.1 designation)		Measured (mm)	Allowed (mm)
Phase and neutral pin width (A)			6.35 ± 0.15
Earth pin width (B)			6.35 ± 0.15
Pin thickness (C)			1.63 + 0.15, -0.05
Pin disposition (D)			checked by test gauge
Pin disposition (E)			checked by test gauge
Phase and neutral pin length (F)			17.06 ± 0.4
Earth pin length (G)			19.94 ± 0.8
Pin boss radius - maximum			21.0 max
Pin boss height			8.6 min

2.8.1	TABLE: Dimensions of plugs- 15A (a1)		N/A
Dimension (Figure 2.1 designation)		Measured (mm)	Allowed (mm)
Phase and neutral pin width (A)			6.35 ± 0.15
Earth pin width (B)			9.08 ± 0.15
Pin thickness (C)			1.63 + 0.15, -0.05
Pin disposition (D)			checked by test gauge
Pin disposition (E)			checked by test gauge
Phase and neutral pin length (F)			17.06 ± 0.4
Earth pin length (G)			19.94 ± 0.8
Pin boss radius - maximum			21.0 max
Pin boss height			8.6 min

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Clause	Requirement + Test	Result - Remark	Verdict

2.8.1	TABLE: Dimensions of plugs-20A (a2)		N/A
Dimension (Figure 2.1 designation)		Measured (mm)	Allowed (mm)
Phase and neutral pin width (A)			9.08 ± 0.15
Earth pin width (B)			9.08 ± 0.15
Pin thickness (C)			1.63 + 0.15, -0.05
Pin disposition (D)			checked by test gauge
Pin disposition (E)			checked by test gauge
Phase and neutral pin length (F)			17.06 ± 0.4
Earth pin length (G)			19.94 ± 0.8
Pin boss radius - maximum			21.0 max
Pin boss height			8.6 min

2.8.1	TABLE: Projection from plug face centroid		N/A
Direction of projection		Measured (mm)	Allowed (mm)
Left			≤ 21.9 or ≥ 27.0
Right			≤ 21.9 or ≥ 27.0
Up			≤ 21.9 or ≥ 27.0
Down			≤ 21.9 or ≥ 27.0

2.13.3	TABLE: Test No. 1 – High voltage test		N/A
Test voltage applied between:		Test voltage (V)	Breakdown
All poles of the plug; taken in pairs		1000	Yes / No
Live poles of the plug and any external metal		3500	Yes / No
Live poles of the plug and the earthing terminal		1000	Yes / No
Live poles of the plug and a flexible electrode		3500	Yes / No
Live poles and metal foil applied around insulation on pins		1250	Yes / No

2.13.7.1	**Test No.2 – Tumbling barrel test**		N/A
	Following the test, the samples shall comply with Clause 2.13.7.1(a..e)		N/A
	(a)Live parts shall not have become exposed to the standard test finger		N/A
	(b)For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained. AS/NZS 3100 Cl 8.5 The resistance shall not exceed 0.1 Ω	___ Ω.	N/A
	(c) Any other function affecting safety shall not be impaired		N/A
	(d) No live part shall have become detached or loosened, to the extent that a hazardous situation is created (see Clause 2.9)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	(e) The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking		N/A

	Test No.**3 Impact test for assembled equipment with the detachable plug portion connected and for equipment with an integral plug portion.**		N/A
	Following the test, the samples shall comply with Clause 2.13.7.1 (a..e) as follows:		N/A
	(a)Live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	(b)For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained so that the resistance between the earthing terminal of any socket-outlet provided with an earthing contact and the earthing terminal of the plug used for testing shall be of a low resistance. Compliance is by the test of earthing connection in AS/NZS 3100 Clause 8.5. The resistance shall not exceed 0.1 Ω	___ Ω.	N/A
	(c)Any other function affecting safety shall not be impaired		N/A
	(d)No live part shall have become detached or loosened, to the extent that a hazardous situation is created		N/A
	(e)The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking.		N/A
	Following the test, the samples shall conform to the 'Guarding of live parts' requirements of AS/NZS 3100:2015 cl 5.1 as follows:		N/A
	Except for equipment intended for use only in a position not accessible to unauthorized persons, all equipment shall be so designed and constructed that, when the equipment is standing, supported, or fixed, in a normal manner, no person can inadvertently come into contact with any live part		N/A
	If a hole giving access to preset controls is marked as such on the enclosure or reference made to it in the instructions and the setting of this control requires a screwdriver or other tool, the adjustment of the control shall not allow contact with any live parts. A metal test pin having a diameter of 2 mm and a length of 100 mm shall not become live when it is inserted through the hole in every position with a force of 10 N.		N/A

AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	In addition, the opening or removal of any cover or component, with or without tools, where such opening or removal is necessary as a normal operation of the equipment as distinct from maintenance, repairs, or adjustment, shall not expose live parts to inadvertent personal contact.		N/A
	Any metal cover or casing enclosing live parts shall be of a strength sufficient to ensure that it cannot be deformed readily so as to come into contact with live parts.		N/A
	Compliance is checked by inspection, test and checking that live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Class II equipment and class II constructions shall be constructed and enclosed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only.		N/A
	It shall only be possible to touch parts which are separated from live parts by double insulation or reinforced insulation.		N/A
	Compliance is checked by application of the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Following the test, the samples shall conform to the ‘Separation of live parts from non-current-carrying conductive parts’ requirements of AS/NZS 3100.Cl 5.2.2 as follows:		N/A
	The support and insulation of every live part shall be such as will ensure that no live part can make contact with any non-current-carrying conductive part exposed to personal contact.		N/A
	In respect of terminals of components such as switches, adequate clearances shall be maintained or insulation shall be provided to prevent contact of the terminals, or loose strands of flexible cords intended to be terminated therein, with exposed conductive parts. Where necessary, provision shall be made to ensure that conductors protruding through terminals, when normally connected, will not contact exposed conductive parts.		N/A
	Compliance is checked by inspection.		N/A

AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	Test No.3 **Impact test for the detachable plug portion after it has been separated from the equipment**		N/A
	Following the test, the samples shall comply with Clause 2.13.7.1 (a..e)		N/A
	(a)Live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	(b)For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained so that the resistance between the earthing terminal of any socket-outlet provided with an earthing contact and the earthing terminal of the plug used for testing shall be of a low resistance. Compliance is by the test of earthing connection in AS/NZS 3100 Clause 8.5. The resistance shall not exceed 0.1 Ω	___ Ω.	N/A
	(c)Any other function affecting safety shall not be impaired		N/A
	(d)No live part shall have become detached or loosened, to the extent that a hazardous situation is created		N/A
	(e)The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking.		N/A
	Following the test, the samples shall conform to the 'Guarding of live parts' requirements of AS/NZS 3100:2015 cl 5.1 as follows:		N/A
	Except for equipment intended for use only in a position not accessible to unauthorized persons, all equipment shall be so designed and constructed that, when the equipment is standing, supported, or fixed, in a normal manner, no person can inadvertently come into contact with any live part		N/A
	If a hole giving access to preset controls is marked as such on the enclosure or reference made to it in the instructions and the setting of this control requires a screwdriver or other tool, the adjustment of the control shall not allow contact with any live parts. A metal test pin having a diameter of 2 mm and a length of 100 mm shall not become live when it is inserted through the hole in every position with a force of 10 N.		N/A
	In addition, the opening or removal of any cover or component, with or without tools, where such opening or removal is necessary as a normal operation of the equipment as distinct from maintenance, repairs, or adjustment, shall not expose live parts to inadvertent personal contact.		N/A

AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
	Any metal cover or casing enclosing live parts shall be of a strength sufficient to ensure that it cannot be deformed readily so as to come into contact with live parts.		N/A
	Compliance is checked by inspection, test and checking that live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Class II equipment and class II constructions shall be constructed and enclosed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only.		N/A
	It shall only be possible to touch parts which are separated from live parts by double insulation or reinforced insulation.		N/A
	Compliance is checked by application of the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Following the test, the samples shall conform to the 'Separation of live parts from non-current-carrying conductive parts' requirements of AS/NZS 3100.Cl 5.2.2 as follows:		N/A
	The support and insulation of every live part shall be such as will ensure that no live part can make contact with any non-current-carrying conductive part exposed to personal contact.		N/A
	In respect of terminals of components such as switches, adequate clearances shall be maintained or insulation shall be provided to prevent contact of the terminals, or loose strands of flexible cords intended to be terminated therein, with exposed conductive parts. Where necessary, provision shall be made to ensure that conductors protruding through terminals, when normally connected, will not contact exposed conductive parts.		N/A
	Compliance is checked by inspection.		N/A

AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict

2.13.8	TABLE: Test No. 6 - Temperature rise test		N/A
	Ambient temperature	°C	
	Test current	A	

Measured part	dT measured (K)	dT allowed (K)
Active (phase) terminal		45
Neutral terminal		45
Earthing terminal		45

2.13.9.1	TABLE: Movement of pins		N/A
	Earth and neutral pins clamped – phase pin loaded		

Force direction	Measured deflection (mm)	Allowed deflection (mm)
Force towards neutral plane parallel to pin plane		2.0
Force from neutral plane parallel to pin plane		2.0
Force outwards at 90° to pin plane		2.0
Force inwards at 90° to pin plane		2.0

2.13.9.1	TABLE: Movement of pins		N/A
	Phase and neutral pins clamped – earth pin loaded		

Force direction	Measured deflection (mm)	Allowed deflection (mm)
Force inwards parallel to pin plane		2.0
Force outwards parallel to pin plane		2.0
Force towards neutral		2.0
Force towards phase		2.0

2.13.9.1	TABLE: Movement of pins		N/A
	Phase and earth pins clamped – neutral pin loaded		

Force direction	Measured deflection (mm)	Allowed deflection (mm)
Force towards phase plane parallel to pin plane		2.0
Force from phase plane parallel to pin plane		2.0
Force outwards at 90° to pin plane		2.0
Force inwards at 90° to pin plane		2.0

AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict

2.13.13.3	TABLE: Test No.13(b) – Insulation resistance test after static damp heat test		N/A
Applied between:		Insulation resistance (MΩ)	Minimum required (MΩ)
Live poles and metal foil applied around insulation on pins			5

2.13.13.3	TABLE: Test No.1 – High voltage test after static damp heat test		N/A
Test voltage applied between:		Test voltage (V)	Breakdown
Live poles and metal foil applied around insulation on pins		1250	Yes / No

2.13.13.4	TABLE: Test No.1 – Insulation resistance test after low temperature test		N/A
Applied between:		Insulation resistance (MΩ)	Minimum required (MΩ)
Live poles and metal foil applied around insulation on pins			5

2.13.13.4	TABLE: Test No.1 – High voltage test after low temperature test		N/A
Test voltage applied between:		Test voltage (V)	Breakdown
Live poles and metal foil applied around insulation on pins		1250	Yes / No

J4.8.4.1	TABLE: Test no.12 Resistance to heat		N/A
Component tested		Temperature (°C)	Diameter of impression (mm)

Conformance is checked by subjecting the relevant part to the ball pressure test of IEC 60695-10-2.

J4.8.4.2	TABLE: Test no.13 Resistance to Fire	N/A
	Plug portions shall comply with the requirements for resistance to fire in accordance with AS/NZS 3100:2017 Annex A. The glow-wire test temperature 'T' shall be 750°C.	

Glow-wire testing was conducted in accordance with IEC 60695-2-11.

Test specimens arranged so that the surface in contact with the tip of the glow-wire was vertical and glow wire tip applied to surface of the specimen likely to be subjected to thermal stresses in normal use.

A layer of white pine board and wrapping tissue was placed beneath the sample at 200mm ± 5mm distance.

AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict

SPECIMEN NUMBER	1	2	3	4	5	6	7	8
SPECIMEN DESCRIPTION								
Material								
Colour								
Test specimen								
Glow wire tip temperature (°C)	750	750	750	750	750	750	750	750
Duration of glow wire application (t_a) (s)	30	30	30	30	30	30	30	30
OBSERVATIONS								
Duration from beginning of glow-wire tip application to ignition of specimen or layer (t_i) (s)								
Duration from beginning of glow-wire tip application to when flames extinguish (t_e) (s)								
Maximum height of flames after initial 1s (to nearest 5 mm) (mm)								
Flame impingement on other parts								
Degree of tip penetration								
Degree of specimen distortion								
Scorching of pinewood board								

AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict

EVALUATION CRITERIA								
Visible flame or sustained glowing								
Visible Flame Duration in Seconds during test.								
Duration of flaming or glowing after tip removal (max. allowable 30 s) (s)								
Surrounding parts burned away completely (not permitted)								
Ignition of wrapping tissue layer (not permitted)								
RESULTS If parts tested withstand the glow-wire test, but during the test produce a flame that persists for longer than 2 s, then the consequential needle flame test of AS/NZS 3100:2017 Annex A 6.1.5 applies.								

LEGEND:

CE	Complete Equipment	SA	Sub Assembly	SE	Self Extinguished
EBD	Emitted Burning Droplets	SBD	Specimen Burned and Distorted	SMD	Specimen Melted and Distorted
ME	Manually Extinguished	SC	Separate Component	SS	Specimen Scorched
NA	Not Applicable	SCC	Specimen Completely Consumed	WPNI	Wall Penetrated but no Ignition
NI	No Ignition	X	Flame Appeared for an Instant		

AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict

	TABLE: Needle- flame test (NFT)				N/A
Object/ Part No./ Material	**Manufacturer/ trademark**	**Duration of application of test flame (ta); (s)**	**Ignition of specified layer Yes/No**	**Duration of burning (tb) (s)**	**Verdict**

Supplementary information:
- NFT not relevant (or applicable) for Parts of material classified as V-0 or V-1
- NFT not relevant (or applicable) for Base material of PCBs classified as V-0 or if relevant VTM-0

	PHOTOGRAPHS	--

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

IEC62368-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT
IEC 62368-1
(JAPAN) NATIONAL DIFFERENCES
(Audio/video, information and communication technology equipment – Part 1: Safety requirements)

Differences according to..... : J62368-1 (2020)

TRF template used:..... : IECEE OD-2020-F3, Ed. 1.1

Attachment Form No..... : JP_ND_IEC62368_1D

Attachment Originator ..... : UL (JP)

Master Attachment..... : Date 2021-02-04

	National Differences		—
4.1.2	Where the component, or a characteristic of a component, is a safeguard or a part of a safeguard, components shall comply with the requirements of this standard or, where specified in a requirements clause, with the safety aspects of the relevant JIS component standards or IEC component standards, or components shall have properties equivalent to or better than these.		P
5.6.1	Mains socket-outlet and appliance outlet shall comply with Clause G.4.2A if they are incorporated as part of the equipment.		N/A
5.6.2.1	Mains connection of class 0I equipment: Instructional safeguard in accordance with Clause F.3.6.1A; Mains plug having a lead wire for protective earthing connection of class 0I equipment; Independent main protective earthing terminal installed by ordinary person.		N/A
5.6.2.2	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
5.6.3	In case of class 0I equipment using power supply cord having two conductors (no earthing conductor), the conductor of protective earthing lead wire shall comply with either of the following: – use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having size and strength that are equivalent to or more than the above copper wire – single core cord or single core cab tire cable with 1.25 mm^2 or more cross-sectional area		N/A

IEC62368-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.3	For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS C 8282 series or JIS C 8303, or otherwise being considered to comply with relevant regulations, or that is provided with mains appliance outlet as specified in JIS C 8283-2-2 for the purpose of interconnection, the measurement is conducted on the system of the interconnected equipment having a single connection to the mains.		N/A
5.7.4	In case of class 0I equipment, touch current shall not exceed 1.41 mA peak or for sinusoidal wave, 1.0 mA r.m.s. when measured using the network specified in Figure 4 of IEC 60990.		N/A
6.4.3.3	A fuse complying with JIC C 6575 series or a fuse having equivalent characteristics shall open within 1 s. For Class A fuse of JIS C 6575, replace “2.1 times” by “1.35 times” and in case of Class B fuse of JIS C 6575, replace “2.1 times” by “1.6 times”. A fuse not complying with JIS C 6575 series shall be tested with the breaking capacity taken into account.		N/A
8.5.4.2.1	Only three-phase stationary equipment rated more than 200 V ac can be considered as being for use in locations where children are not likely to be present, when complying with Clause F.4.		N/A
8.5.4.2.2	For equipment installed where children may be present, an instructional safeguard shall be provided by easily understandable wording in accordance with Clause F.5, except that element 3 is optional.		N/A
8.5.4.2.4	The media destruction device is tested according to Clause V.1.2 with applicable jointed test probes to the opening. And then the wedge probe per Figure V.4 shall not contact any moving part.		N/A
8.5.4.2.5	The wedge probe of Figure V.4 and applicable jointed test probes specified in Clause V.1.2 shall not contact any moving part. Instructional safeguard shall not be used instead of equipment safeguard for preventing access to hazardous moving parts.		N/A
9.2.6, Table 38	Handles, Knobs, grips, etc. and external surfaces either held, touched or worn against the body in normal use (> 1 min) [b,c]		P
F.3.5.1	Instructional safeguard of class 0I equipment in accordance with Clause F.5 when a mains socket-outlet as specified in JIS C 8282 series, JIS C 8303 or relevant regulation to which class I equipment can be connected is provided in accordance with Clause G.4.2A except for the cases where the socket-outlet is accessible only to skilled persons.		N/A

IEC62368-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.5.3	If the fuse is necessary for the safeguard function, the symbols indicating pre-arcing time-current characteristic.		N/A
F.3.6.1A	Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.3 shall be applied to class 0I equipment. For class 0I equipment, a marking of instructions and instructional safeguard shall be provided regarding the earthing connection.		N/A
F.3.6.2.1	Symbols, IEC 60417-5172 (2003-02) or IEC 60417-6092 (2011-10), shall not be used for class I equipment or class 0I equipment.		P
F.4	Instruction for audio equipment with terminals classified as ES3 in accordance with Table E.1, and for other equipment with terminals marked in accordance with F.3.6.1 and F.3.6.1A. Installation instruction for the protective earthing connection 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.		N/A
G.3.2.1	The thermal link when tested as a separate component, shall comply with the requirements of JIS C 6691 or have properties equivalent to or better than that.		N/A
G.3.4	Except for devices covered by Clause G.3.5, overcurrent protective devices used as a safeguard shall comply with the relevant part of JIS C 6575 (corresponding to IEC60127) or shall have equivalent characteristics. If there are no applicable IEC standards, overcurrent protective devices used as a safeguard shall comply with their applicable IEC standards.		N/A
G.4.1	This requirement is not applicable to Clauses G.4.2 and G.4.2A.		P
G.4.2	Mains connector shall comply with JIS C 8282 series, JIS C 8283 series, JIS C 8285, JIS C 8303 or IEC 60309 series. Mains plugs and socket-outlets shall comply with JIS C 8282 series, JIS C 8303, IEC 60309 series, or have equivalent or better performance. A power supply cord set provided with appliance connector that can fit appliance inlet complying with JIS C 8283-1 shall comply with JIS C 8286. Construction preventing mechanical stress not to transmit to the soldering part of inlet terminal. Consideration for an equipment rated not more than 125 V provided with Type C14 and C18 appliance coupler complying with JIS C 8283 series.		N/A

IEC62368-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2A	Mains socket-outlet and interconnection coupler provided with the class II, class I and class 0I equipment respectively.		N/A
G.7.1	A mains supply cord need not include the protective earthing conductor for class 0I equipment provided with independent protective earthing conductor.		N/A
G.8.3.3	Withstand 1,71 × 1.1 × U_0 for 5 s.		N/A

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

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT
IEC 62368-1
U.S.A. AND CANADA NATIONAL DIFFERENCES
(Audio/video, information and communication technology equipment – Part 1: Safety requirements)

Differences according to..... :	CSA/UL 62368-1:2014
TRF template used:..... :	IECEE OD-2020-F3, Ed. 1.1
Attachment Form No..... :	US_CA_ND_IEC62368_1D
Attachment Originator ..... :	UL(US)
Master Attachment..... :	Dated 2021-02-04

IEC 62368-1 - US and Canada National Differences **Special National Conditions based on Regulations and Other National Differences**			
1.1	All equipment is to be designed to allow installation according to 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, for such equipment marked or otherwise identified, installation is allowed per the Standard for the Protection of Information Technology Equipment, ANSI/NFPA 75.		P
1.4	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.		N/A
4.1.17	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 generally are required to have special construction features and identification markings.		N/A
4.8	Lithium coin / button cell batteries have modified special construction and performance requirements.		N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.5, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment		N/A
5.7.7	Equipment intended to receive telecommunication ringing signals complies with a special touch current measurement tests.		N/A
6.5.1	PS3 wiring outside a fire enclosure complies with single fault testing in B.4, or be current limited per one of the permitted methods.		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex F (F.3.3.8)	Output terminals provided for supply of other equipment, except mains, supply are marked with a maximum rating or references to which equipment it is permitted to be connected.		N/A
Annex G (G.7.1)	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
Annex G (G.7.3)	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
	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
Annex G (G.7.5)	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. Power supply cords are required to be no longer than 4.5 m in length if used in ITE Rooms.		N/A
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex H.4	For circuits with other than ringing signals and with voltages exceeding 42.4 V_{peak} or 60 V d.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
Annex M	Battery packs for stationary applications comply with special component requirements.		N/A
Annex DVA (1)	Equipment intended for use in spaces used for environmental air are subjected to special flammability requirements for heat and visible smoke release.		N/A
	For ITE 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
	Consumer products designed or intended primarily for children 12 years of age or younger are subject to additional requirements in accordance with U.S. & Canadian Regulations.		N/A
	Baby monitors additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (5.6.3)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.		P
Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m^2 (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less. For equipment with the same dimensions for other applications, an external surface that is not a fire enclosure requires a min. flammability classification of V-1.		N/A
Annex DVA (10.3.1)	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
Annex DVA (10.5.1)	Equipment that produces ionizing radiation complies with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (F.3.3.3)	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. Additional considerations apply for voltage ratings that exceed the attachment cap rating or are lower than the “Normal Operating Condition” in Table 2 of CAN/CSA C22.2 No. 235.”		P
Annex DVA (F.3.3.5)	Equipment identified for ITE (computer) room installation is marked with the rated current		N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position		N/A
Annex DVA (G.3.4)	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.		N/A
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles complies with NEC 250.146(D) and CEC 10-112 and 10-906(8).		N/A
Annex DVA (G.4.3)	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non- interchangeable.		N/A
Annex DVA (G.5.3)	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
Annex DVA (Annex M)	For ITE 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 ITE room remote power-off circuit.		N/A
Annex DVA (Q)	Wiring terminals intended to supply Class 2 outputs according to the NEC or CEC Part 1are marked with the voltage rating and “Class 2” or equivalent; marking is located adjacent to the terminals and visible during wiring.		N/A
Annex DVB (1)	Additional requirements apply for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities.		N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.		N/A
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. Components required to comply include: appliance couplers, attachment plugs, battery back-up systems, battery packs, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultra-capacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, data storage equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.		P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.		N/A
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are in accordance with the NEC/CEC.		N/A
Annex DVH (DVH.3.2)	Terminals for permanent wiring, including protective earthing terminals, are suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and are specially marked when specified.		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVH (DVH.3.2)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm^2).		N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
Annex DVH (DVH 5.5)	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, complies with special earthing, wiring, marking and installation instruction requirements.		N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.		N/A
Annex DVJ (10.6.1)	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 6----------

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1
DENMARK NATIONAL DIFFERENCES

Audio/video, information and communication technology equipment –

Part 1: Safety requirements

Differences according to.....:	DS/EN 62368-1:2014
Attachment Form No.....:	DK_ND_IEC62368_1D
Attachment Originator.....:	UL (Demko)
Master Attachment.....:	2021-02-04

	National Differences		--
4.1.15	To the end of the subclause the following is added: Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.”		N/A
5.2.2.2	After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.6.1	Add to the end of the subclause: Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. Justification: In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.5	To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.7.6.2	To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA.		N/A
G.4.2	To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a Justification: Heavy Current Regulations, Section 6c		N/A

----------End of Attachment 7----------

Report No.: SZES240200125901

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT **IEC 62368-1** **ITALY NATIONAL DIFFERENCES** (Audio/video, information and communication technology equipment – Part 1: Safety requirements)			
Differences according to.....: CEI EN 62368-1:2016			
Attachment Form No.....: IT_ND_IEC62368_1D **Attachment Originator .....**: IMQ S.p.A. **Master Attachment**.....: Date 2021-02-04			
	National Differences		P
F.1	**Italy** The following requirements shall be fulfilled: • The power consumption in Watts (W) shall be indicated on TV receivers and in their instruction for use (Measurement according to EN 60555-2). Note: *EN 60555-2 has since been replaced by IEC 60107-1:1997.* • TV receivers shall be provided with an instruction for use, schematic diagrams and adjustments procedure in Italian language. • Marking for controls and terminals shall be in Italian language. Abbreviation and international symbols are allowed provided that they are explained in the instruction for use. • The ECC manufacturers are bound to issue a conformity declaration according to the above requirements in the instruction manual. The correct statement for conformity to be written in the instruction manual, shall be: *Questo apparecchio è fabbricato nella CEE nel rispetto delle disposizioni del D.M. marzo 1992 ed è in particolare conforme alle prescrizioni dell'art. 1 dello stesso D.M.* • The first importers of TV receivers manufactured outside EEC are bound to submit the TV receivers for previous conformity certification to the Italian Post Ministry (PP.TT). The TV receivers shall have on the backcover the certification number in the following form: D.M. 26/03/1992 xxxxx/xxxxx/S or T or pT		P

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	S for stereo T for Teletext pT for retrofitable teletext *Justification:* Ministerial Decree of 26 March 1992 : National rules for television receivers trade. NOTE/: *Ministerial decree above contains additional, but not safety relevant requirements*		

----------End of Attachment 8----------