Ref. Certif. No.

JPTUV-113067

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

CB TEST CERTIFICATE

Product	LCD MONITOR (LED Backlight)
Name and address of the applicant	TPV Electronics (Fujian) Co., Ltd. Rongqiao Economic and Technological Development Zone, Fuqing City, Fujian, P.R. China
Name and address of the manufacturer	TPV Electronics (Fujian) Co., Ltd. Rongqiao Economic and Technological Development Zone, Fuqing City, Fujian, P.R. China
Name and address of the factory	See additional page(s)
Ratings and principal characteristics	I/P: 100-240VAC; 50/60Hz; 1.5A; Class I
Trademark (if any)	AOC
Customer's Testing Facility (CTF) Stage used	N/A
Model / Type Ref.	28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, -, \, /, + or blank)
Additional information (if necessary may also be reported on page 2)	For model differences, refer to the test report.
A sample of the product was tested and found to be in conformity with	IEC 62368-1:2014 See Test Report for National Differences
As shown in the Test Report Ref. No. which forms part of this Certificate	60395028 001

This CB Test Certificate is issued by the National Certification Body

TÜVRheinland®

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Date: 2020-08-25

Signature: Aegean Li

10/061 CB 06/20v9rk

1. TPV Display Technology (Wuhan)
   Co., Ltd.
   Unique No. 11, Zhuankou Development
   District of Economic Technological
   Development Zone, 430056 Wuhan City, P.R. China

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

3. L&T Display Technology (Fujian) Ltd.
   Optoelectronic Park, Rongqiao
   Economic and Technological
   Development Zone
   Fuqing, 350301 Fujian, P.R. China

4. TPV Electronics (Fujian) Co., Ltd.
   Rongqiao Economic and
   Technological Development Zone
   Fuqing City
   Fujian, P.R. China

5. TPV Display Technology (Beihai)
   Co., Ltd.
   China Electronic Beihai Industry
   Park, Northeast of the Crossing
   Between Taiwan Road and Jilin Road, Beihai City, Guangxi, P.R. China

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

7. Trend Smart CE Mexico S de RL de CV
   Avenida Sor Juana Ines de la Cruz
   de 19602 Nueva Tijuana,
   22435 Tijuana Baja California
   MEXICO

Additional information (if necessary) Report Ref. No. : 60395028 001

Date: 2020-08-25 Signature: Aegean Li

8. TPV Technology (Qingdao)
Co., Ltd.
No.99 Huoju Road, High-tech
Industrial Development Zone
Qingdao City, Shandong, P.R. China

9. Envision Indústria de Produtos
Eletrônicos Ltda.
Av. Torquato Tapajós, 2236,
Flores - CEP 69058-830 - Manaus/AM
Brazil

10. Pro Concept Manufacturer Co., Ltd
88/1 Moo 12, Soi
Phetkasem 120, Phetkasem
Road, Omnoi, Krathumbaen,
Samutsakhon 74130, Thailand

11. TPV Technology (Thailand) Co., Ltd.
No.267 Mu7,
Tha Tum Sub- District, Si Maha Pho District,
Prachin Buri Province
Thailand

12. TPV Electronics (Fujian) Co., Ltd.
Optoelectronic Park,
Rongqiao Economic and
Technological Development Zone,
Fuqing City, 350301 Fujian, P.R. China

13. GeneTouch Corp.
No. 9 Neixi Rd.,
Luzhu Dist., Taoyuan City 33852
Taiwan

Additional information (if necessary) Report Ref. No. : 60395028 001

Date: 2020-08-25 Signature: Aegean Li

Test Report issued under the responsibility of:

TÜVRheinland®

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

Report Number .....:	60395028 001
Date of issue .....:	2020-Aug-23
Total number of pages .....:	71
Applicant's name.....:	**TPV Electronics (Fujian) Co., Ltd.**
Address .....:	Rongqiao Economic and Technological Development Zone, Fuqing City, Fujian, P.R. China
Test specification:	
Standard.....:	IEC 62368-1:2014 (Second Edition)
Test procedure .....:	CB Scheme
Non-standard test method.....:	N/A
Test Report Form No. .....:	IEC62368_1B
Test Report Form(s) Originator.....:	UL(US)
Master TRF .....:	2014-03

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 (LED Backlight)		
Trade Mark ..... :	AOC		
Manufacturer ..... :	**Same as applicant.**		
Model/Type reference ..... :	28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)		
Ratings ..... :	I/P: 100-240V~, 50/60Hz, 1.5A		
Testing procedure and testing location:			
☒ CB Testing Laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.		
Testing location/ address .....:	1601 R&D Room, 1602-1604, 17-18F, Building 7 Site C, Vanke Cloud City Phase I, Xingke First Street, Xili Street, Xili Community, Nanshan District, Shenzhen 518052, P.R. China		
☐ Associated CB Testing Laboratory:			
Testing location/ address .....:			
Tested by (name + signature) .....:	Anderson Wang Senior Project Manager		
Approved by (name + signature).....:	Steven Lin Technical Reviewer		
☐ Testing procedure: TMP/CTF Stage 1			
Testing location/ address ..... :			
Tested by (name + signature) .....:			
Approved by (name + signature).....:			
☐ Testing procedure: WMT/CTF Stage 2			
Testing location/ address .....:			
Tested by (name + signature) .....:			
Witnessed by (name + signature).....:			
Approved by (name + signature).....:			
☐ Testing procedure: SMT/CTF Stage 3 or 4			
Testing location/ address .....:			
Tested by (name + signature) .....:			
Approved by (name + signature).....:			
Supervised by (name + signature) .....:			

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

- Photo documentation (13 Pages)
- National Differences (50 Pages)
- Measurement Section (4 Pages)

Summary of testing:

Tests performed (name of test and test clause):

name of test	test clause number
Classification of electrical energy sources	5.2
Accessibility to electrical energy sources and safeguards (Accessibility test)	5.3.2
Maximum operating temperature test (Heating test)	5.4.1.4, 6.3.2, 9.0, B.2.6
Determination of working voltage	5.4.1.8
Humidity test	5.4.8
Electric strength test	5.4.9
Safeguards against capacitance discharge test	5.5.2.2
Resistance of the protective bonding system (Ground continuity test)	5.6.6.2
Earthed accessible conductive part test	5.7.2.2, 5.7.4
Electrical Power Source (PS) measurements for classification	6.2.2
Stability	8.6
Wall or ceiling mount loading test	8.7
Input test	Annex B.2.5
Simulated abnormal operating and single fault conditions	B.3, B.4
Test for permanence of markings	Annex F.3.10
Safeguards against entry of foreign object	Annex P2.2
Adhesive test	Annex P.4
Limited power source test (LPS)	Annex Q.1
Limited short circuit test	Annex R
Steady force test, 10N, 30N, 250N	Annex T.2, T.3, T.5
Enclosure impact test	Annex T.6
Stress relief test	Annex T.8

Testing location:

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

Summary of compliance with National Differences:

List of countries addressed:

Summary of compliance with National Differences to IEC 62368-1:2014 (Second Edition) and EN 62368-1:2014+ A11: 2017 (for explanation of codes see below):

EU Group Differences, EU Special National Conditions, AU, CA, DE, DK, FI, IT, JP, NO, SE, US

Explanation of used codes: AU=Australia, CA=Canada, DE=Germany, DK=Demark, FI=Finland, IT=Italy, JP=Japan, NO=Norway, SE=Sweden, US=United States of America

The product fulfils the requirements of EN 62368-1:2014+ A11:2017

For National Differences see corresponding Attachment.

Copy of marking plate:

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

Note: The above labels represent labels for model names other than above covered by the model name.

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..... :	__20__ A; 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
Access location ..... :	☐ restricted access location ☒ 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 $_{L-L}$
Altitude during operation (m) ..... :	☐ 2000 m or less ☒ __5000__ m
Altitude of test laboratory (m) ..... :	☒ 2000 m or less ☐ _____ m
Mass of equipment (kg) ..... :	☒ Whole unit with rotatable base: Max. 6.45kg; Base weight type A: 1.70kg; Base weight type B: 1.34kg
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)
- test object not yet conducted .....:	N/T
TESTING:	
Date of receipt of test item .....:	07.May.2020
Date (s) of performance of tests .....:	07.May.2020 – 14.Jul.2020

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**

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

Name and address of factory (ies).....:

1 TPV Display Technology (Wuhan) Co., Ltd
Unique No.11 Zhuankou Development District of Economic Technological Development Zone , 430056 Wuhan City, P. R. China

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

3 L&T Display Technology (Fujian) Ltd
Optoelectronic Park, Rongqiao Economic and Technological Development Zone Fuqing, 350301 Fujian, P.R. China

4 TPV Electronics (Fujian) Co., Ltd.
Rongqiao Economic and Technological Development Zone Fuqing City, Fujian, P.R.China

5 TPV Display Technology (Beihai) Co.,Ltd.
China Electronic Beihai Industry Park, Northeast of the Crossing between Taiwan Road and Jilin Road, Beihai City, Guangxi, P.R.China

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

7 Trend Smart CE Mexico S de RL de CV
Avenida Sor Juana Ines de la Cruz de 19602 Nueva Tijuana, 22435 Tijuana Baja California, MEXICO

8 TPV Technology(Qingdao) Co.,Ltd.
NO.99 Huoju Road, High-tech Industrial Development Zone, Qingdao City, Shandong, P. R. China

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

10 Pro Concept Manufacturer Co., Ltd.
88/1 Moo 12, Soi Phetkasem 120, Phetkasem Road, Omnoi, Krathumbaen, Samutsakhon 74130, Thailand

11 TPV Technology (Thailand) Co., Ltd.
No.267 Mu7, Tha Tum Sub- District, Si Maha Pho District,Prachin Buri Province, Thailand
12 TPV Electronics (Fujian) Co., Ltd.
Optoelectronic Park, Rongqiao Economic and Technological Development Zone, Fuqing City, 350301, Fujian, P. R. China
13 GeneTouch Corp.
No. 9 Neixi Rd., Luzhu Dist., Taoyuan City, 33852 Taiwan

GENERAL PRODUCT INFORMATION:

Product Description –

The models are LCD monitor intended for general office use and information technology equipment with following features:

1. LCD Type: 28.0 inch curve TFT LCD with LED backlight;
2. Building-in power supply board 715GB018, with DC/DC converter circuit;
3. Main board 715GA732 with DisplayPort, HDMI *2 and Audio-out, which is supplied by DC output of power board mentioned above;
4. USB board 715GA629 (optional use), which is supplied by main board mentioned above;
5. Two speaker sets (optional use);
6. The internal metal chassis is considered as fire enclosure and mechanical enclosure, and the external plastic enclosure is regarded as electrical enclosure and mechanical enclosure, made of min. HB material;
7. Maximum declared ambient: 40°C.
8. Stand base (optional) type A and type B. And type A can be height adjustment and rotatable with 90° clockwise; type B is stationary type;
9. All models are identical except for mode designation.

Model Differences –

All models are identical except for mode designation.

Additional application considerations –

Speaker sets will be only used in the construction without USB board 715GA629 mentioned above.

And the power consumption of speaker sets is less than that of USB board. Unless otherwise stated, all tests have been perform with construction with USB board.

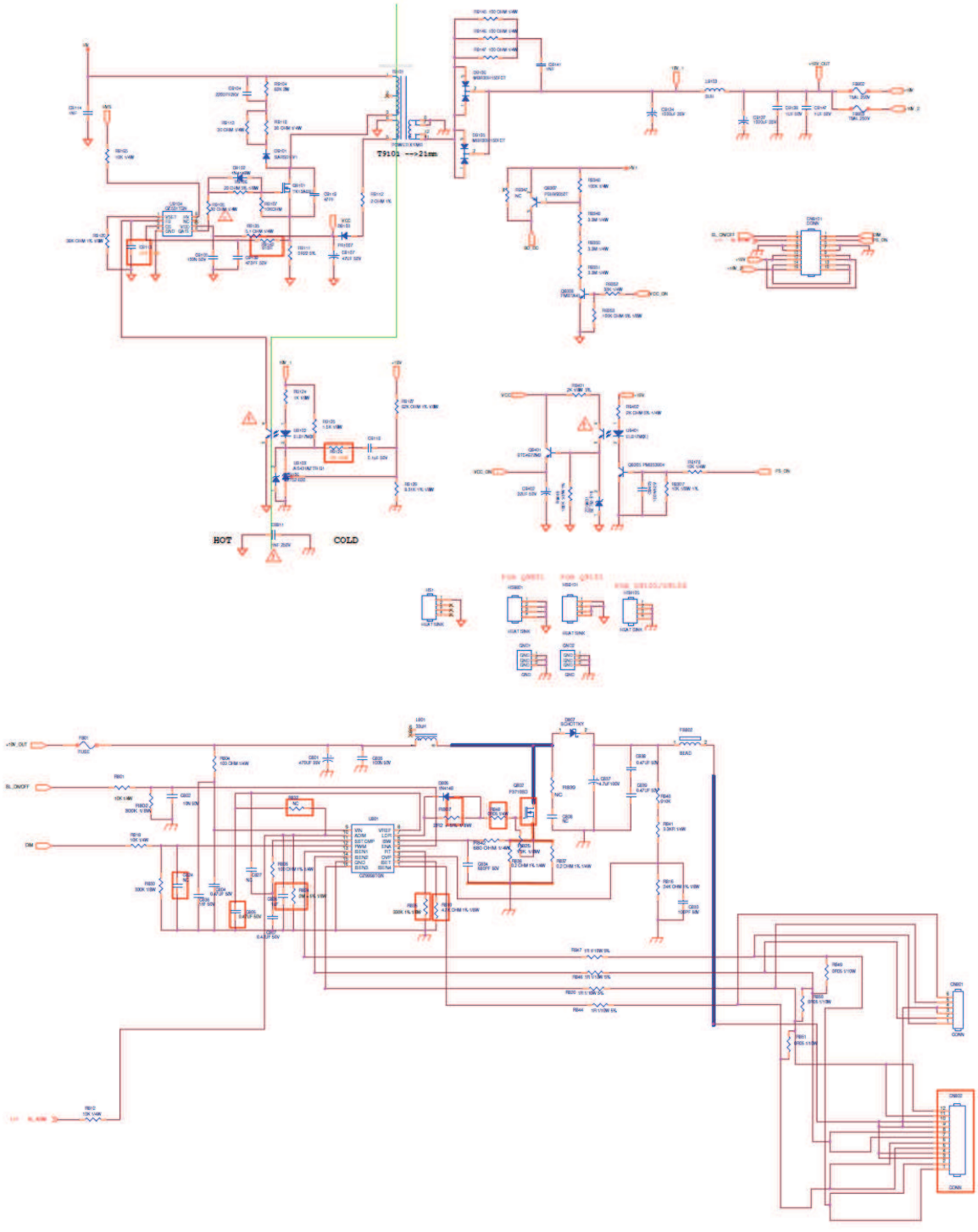
ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite 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)**
L/N pin of appliance inlet	ES3
Primary circuit of power boards	ES3
All DC outputs of power board	ES1
External accessible part	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)**
All circuit on power board	PS3
All DC outputs of power board	PS2
Output ports on main board	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
Equipment mass	MS1
Wall mount	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 parts	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)**
Indicating lights	RS1

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
LED backlight of LCD panel	RS1

ENERGY SOURCE DIAGRAM

Indicate which energy sources are included in the energy source diagram. Insert diagram below

ES3, ES1 (See Source of electrical energy for the details),
PS3, PS2 (See Source of power or PIS for the details)



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	ES3: L/N pin of appliance inlet	--	--	Discharge IC
Ordinary	ES3: Primary circuit	Air gap	Enclosure	Transformers, Y1-caps, Photo Couplers
Ordinary	ES2: LED backlight output	Air gap	Enclosure	--
Ordinary	ES1: DC outputs of SPS	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
Combustible materials inside primary circuit	PS3	Ignition not occur	Fire enclosure	--
Combustible materials supplied by DC outputs of SPS	PS2	Ignition not occur	Mounted on V-1 min. PCB	--
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	MS3: Wall mount	--	--	Compliance with test 8.7.2
Ordinary	MS1: Equipment mass	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	TS1: Accessible parts	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	RS1: Indicating lights	N/A	N/A	N/A
Ordinary	RS1: LED backlight of LCD panel	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	See appended table 4.1.2.	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
4.1.3	Equipment design and construction	No accessible part which could cause injury.	P
4.1.15	Markings and instructions .....:	(See Annex F)	P
4.4.4	Safeguard robustness	For adhesives securing parts serving as safeguards, see Annex P.4. Others see below.	P
4.4.4.2	Steady force tests .....:	See Annex T.	P
4.4.4.3	Drop tests .....:		N/A
4.4.4.4	Impact tests .....:	See Annex T.	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests .....:	See Annex T.	P
4.4.4.6	Glass Impact tests .....:	Laminated glass used.	N/A
4.4.4.7	Thermoplastic material tests.....:	Phenolic material used and described in subclauses 5.4.1.10 to 5.4.1.10.3. 70ºC, 7 hours, no deformation on all sources of plastic enclosure.	P
4.4.4.8	Air comprising a safeguard.....:		P
4.4.4.9	Accessibility and safeguard effectiveness	Compliance checked.	P
4.5	Explosion	No explosion occurs during normal/abnormal operation and single fault conditions.	P
4.6	Fixing of conductors	See below.	P
4.6.1	Fix conductors not to defeat a safeguard		P
4.6.2	10 N force test applied to .....:	See appended table 5.4.2.2, 5.4.2.4 and 5.4.3	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	No lithium coin/button batteries used.	N/A
4.8.2	Instructional safeguard		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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.....:	Complied.	P
5	**ELECTRICALLY-CAUSED INJURY**		P
5.2.1	Electrical energy source classifications.....:	See ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE.	P
5.2.2	ES1, ES2 and ES3 limits	See below.	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 5.2)	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 .....:	(See Clause E.1)	N/A
5.3	Protection against electrical energy sources	See below.	P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See “OVERVIEW OF EMPLOYED SAFEGUARDS” table.	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	ES2 or ES3 source cannot access by ordinary persons and ES3 source cannot accessed by instructed persons. Double or reinforced safeguard is provided between ES2 or ES3 and ordinary persons or instructed persons.	P
5.3.2.2	Contact requirements	See above.	P
	a) Test with test probe from Annex V.....:	Test probe V.1, V.2 applied.	P
	b) Electric strength test potential (V) .....:		N/A
	c) Air gap (mm) .....:	Complied with the minimum distance requirement. (See appended table 5.4.2.2, 5.4.2.4 and 5.4.3.)	P
5.3.2.4	Terminals for connecting stripped wire	No such terminals.	N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	Hygroscopic materials are not used for insulating material.	P
5.4.1.3	Humidity conditioning .....:	(See sub-clause 5.4.8)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.4	Maximum operating temperature for insulating materials ..... :	(See appended table 5.4.1.4)	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	Max. Vpeak of T9101 = 525V Max. Vrms of T9101 = 276V	P
5.4.1.9	Insulating surfaces	Considered.	P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	Bobbin materials of transformer and line choke are Phenolic that is accepted without further tests. Others see appended table 5.4.1.10.3.	P
5.4.1.10.2	Vicat softening temperature..... :		N/A
5.4.1.10.3	Ball pressure ..... :		N/A
5.4.2	Clearances	See below.	P
5.4.2.2	Determining clearance using peak working voltage	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
5.4.2.3	Determining clearance using required withstand voltage ..... :	(See appended table 5.4.2.3)	P
	a) a.c. mains transient voltage ..... :	2500V	—
	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 5.4.2.2, 5.4.2.4 and 5.4.3)	P
5.4.3.1	General	See below.	P
5.4.3.3	Material Group ..... :	Material group IIIb assumed.	—
5.4.4	Solid insulation	See below.	P
5.4.4.2	Minimum distance through insulation ..... :	No such component.	N/A
5.4.4.3	Insulation compound forming solid insulation	Alternative by 5.4.4.4.	N/A
5.4.4.4	Solid insulation in semiconductor devices	See above	P
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.6.1	General requirements	See below.	P
5.4.4.6.2	Separable thin sheet material	(See appended Table 5.4.9)	P
	Number of layers (pcs) .....:	2	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	See Annex G.5	P
5.4.4.9	Solid insulation at frequencies >30 kHz .....:	(See appended Table 5.4.4.9) or (See appended Table 5.4.9)	P
5.4.5	Antenna terminal insulation		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	Complied.	P
	Relative humidity (%).....:	95	—
	Temperature (°C) .....:	40	—
	Duration (h) .....:	120	—
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	Method 1 is chose.	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).....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	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		P
5.5.2.1	General requirement	X-Cap. and Y-Cap. are IEC 60384-14 approval components and complied with Annex G.11.	P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector.....:	See below.	N/A
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	(See sub-clause 5.4)	P
5.5.5	Relays		N/A
5.5.6	Resistors	ICX U9104 is approved component. (See Annex G.10)	P
5.5.7	SPD's		N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
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	Protective conductor served as a supplementary safeguard to prevent accessible conductive parts from exceeding ES2 limits.	P
5.6.2.1	General requirements	No switch or overcurrent protective device in protective conductor.	P
5.6.2.2	Colour of insulation	No green-and-yellow wire used.	N/A
5.6.3	Requirement for protective earthing conductors	No power cord used provided.	N/A
	Protective earthing conductor size (mm^2) .....:		—
5.6.4	Requirement for protective bonding conductors	See below.	P
5.6.4.1	Protective bonding conductors	Protective bonding traces complied with 5.6.6 and Table G.5.	P
	Protective bonding conductor size (mm^2). .....:	Min. 0.5	—
	Protective current rating (A) ..... :	20A	—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.5.1	Requirement	Screws fixing earthed PCB trace to metal chassis for protective bonding. Size of screws is according with Table 32.	P
	Conductor size (mm^2), nominal thread diameter (mm). .....:	3.7 mm	P
5.6.5.2	Corrosion	Complied.	P
5.6.6	Resistance of the protective system	See below.	P
5.6.6.1	Requirements	See below.	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	Figure 5 of IEC 60990 was used in determining of the limit of ES2.	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	(See appended table 5.7.2.2, 5.7.4)	P
5.7.3	Equipment set-up, supply connections and earth connections	Clause 4, 5.3 and 5.4 of IEC 60990: 1999 applied.	P
	System of interconnected equipment (separate connections/single connection) .....:	Single equipment.	—
	Multiple connections to mains (one connection at a time/simultaneous connections) .....:	Single connection.	—
5.7.4	Earthed conductive accessible parts.....:	(See appended Table 5.7.4)	P
5.7.5	Protective conductor current	Protective conductor current does not exceed the ES2 limits.	P
	Supply Voltage (V).....:	240	—
	Measured current (mA).....:	0.5 (tested with normal, abnormal and single-fault condition, and maximum value was recorded.)	—
	Instructional Safeguard.....:		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

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Clause	Requirement + Test	Result - Remark	Verdict
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	See ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE.	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 ..... :	(See appended table 6.2.2)	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 ..... :	All components located within power board are considered as arcing PIS.	P
6.2.3.2	Resistive PIS ..... :	All components located within the equipment are considered as 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	(See appended table 5.4.1.5, 6.3.2, 9.0, B.2.6)	P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	The method “Control fire spread” is selected.	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	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.5.2	Supplementary safeguards .....:	- All components in a PS2 are mounted on V-1 class material of printed boards and comply with the requirements of the relevant IEC components standard. - Certified wire insulation is used.	P
6.4.6	Control of fire spread in PS3 circuit	Providing fire enclosure for PS3 circuit.	P
6.4.7	Separation of combustible materials from a PIS	Providing fire enclosure for PS3 circuit.	N/A
6.4.7.1	General .....:		NA
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers	See below.	P
6.4.8.1	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	Metal enclosure and V-0 Mylar sheet as fire enclosure.	N/A
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	See below.	P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) .....:	See attachment: Measurement Section for the details.	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) .....:	See attachment: Measurement Section for the details.	P
	Flammability tests for the bottom of a fire enclosure .....:		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c) .....:	No door or cover in fire enclosure	N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating ..... :	Metal enclosure and V-0 Mylar sheet as fire enclosure.	P
6.5	Internal and external wiring		P
6.5.1	Requirements	Internal or external wiring materials are compliant with IEC 60950-1 according to Sub-clause 4.1.1. Furthermore, the test method described in IEC 60695-11-21 is considered equivalent to that test wiring materials for VW-1. All internal wiring are using VW-1 material.	P
6.5.2	Cross-sectional area (mm^2) .....:	See above.	—

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Clause	Requirement + Test	Result - Remark	Verdict
6.5.3	Requirements for interconnection to building wiring .....:		N/A
6.6	Safeguards against fire due to connection to additional equipment	The connections to additional equipment are supplied by LPS.	P
	External port limited to PS2 or complies with Clause Q.1	(See appended table Annex 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	See ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE.	P
8.3	Safeguards against mechanical energy sources	See “OVERVIEW OF EMPLOYED SAFEGUARDS” table.	P
8.4	Safeguards against parts with sharp edges and corners	No sharp edges and corners in accessible area.	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
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

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Clause	Requirement + Test	Result - Remark	Verdict
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	See below	P
8.6.1	Product classification	See Clause 8.2 & 8.3	P
	Instructional Safeguard ..... :		—
8.6.2	Static stability	MS1 equipment.	P
8.6.2.2	Static stability test	Test performed by client's request. The equipment does not overbalance when tilted to 10°	P
	Applied Force .....:	See above.	—
8.6.2.3	Downward Force Test	Not floor standing equipment.	N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt.....:		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force).....:		N/A
	Position of feet or movable parts .....:		—
8.7	Equipment mounted to wall or ceiling		P
8.7.1	Mounting Means (Length of screws (mm) and mounting surface) .....:	See below	P
8.7.2	Direction and applied force .....:	Test 1: An additional force 139.7N applied downwards through the centre of gravity of the equipment for 1 min after the removal of base. A horizontal force of 50 N is applied laterally for 60 s. Test 3: 1.2Nm applied.	P
8.8	Handles strength	No handles.	N/A
8.8.1	Classification		N/A
8.8.2	Applied Force .....:		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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	See ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE.	P
9.3	Safeguard against thermal energy sources	No safeguards are required for TS1.	N/A
9.4	Requirements for safeguards		N/A
9.4.1	Equipment safeguard		N/A
9.4.2	Instructional safeguard .....:		N/A
10	**RADIATION**		P
10.2	Radiation energy source classification	See below.	P
10.2.1	General classification	The following parts are considered as RS1 without tests: - Indicating lights; - LED backlight of LCD panel	P
10.3	Protection against laser radiation		N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault..... :		N/A
	Instructional safeguard ..... :		—
	Tool ..... :		—
10.4	Protection against visible, infrared, and UV radiation		N/A
10.4.1	General		N/A
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.....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1 . :		N/A
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
10.6.5.1	Corded passive listening devices with analog 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) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
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	See below	P
B.2.1	General requirements ..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers ..... :	No such equipment.	N/A
B.2.3	Supply voltage and tolerances	Considered	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	(See appended table B.3)	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.	(See appended table B.3)	P
B.3.8	Safeguards functional during and after abnormal operating conditions	Abnormal operating condition does not lead to a single fault condition, all safeguards remain effective. After restoration of normal operating conditions, all safeguards comply with applicable requirements.	P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited ..... :	No such devices.	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	For traces before fuse, comply with the clearance/creepage for basic insulation, others are considered to perform short-circuited during the tests.	P
B.4.4.1	Short circuit of clearances for functional insulation	See above.	P
B.4.4.2	Short circuit of creepage distances for functional insulation	See above.	P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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	No such equipment.	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	See below.	P
	Instructions – Language ..... :	English. Versions in other languages will be provided when national certificate approval.	—
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	The equipment marking is provided and is readily visible in operator access area.	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.2	Equipment identification markings	See below.	P
F.3.2.1	Manufacturer identification .....:	See copy of marking plate.	—
F.3.2.2	Model identification .....:	See copy of marking plate.	—
F.3.3	Equipment rating markings	See below.	P
F.3.3.1	Equipment with direct connection to mains	See below.	P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage..... :	See copy of marking plate.	—
F.3.3.4	Rated voltage ..... :	See copy of marking plate.	—
F.3.3.4	Rated frequency ..... :	See copy of marking plate.	—
F.3.3.6	Rated current or rated power..... :	See copy of marking plate.	—
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	See below.	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 ..... :	The fuse marking is marked near fuse on PCB as follow: F9901(on primary): T5AL/250V CAUTION: RISK OF FIRE REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE. F9902 and F9903 (on secondary): T5AL/250V F801 (on secondary): T3.15AL/250V Not located in operator access areas.	P
F.3.5.4	Replacement battery identification marking ..... :		N/A
F.3.5.5	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I Equipment	See below.	P
F.3.6.1.1	Protective earthing conductor terminal	Appliance inlet is provided. The symbol IEC 60417-5019 was located on appliance inlet.	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

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Clause	Requirement + Test	Result - Remark	Verdict
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	See below.	P
F.3.10	Test for permanence of markings	Marking is durable and legible. The marking plate has no curling and is not able to be removed easily.	P
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	Provided in user's manual.	P
	c) Equipment intended to be fastened in place		N/A
	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	The instruction is provided in the user's manual.	P
	g) Protective earthing conductor current exceeding ES 2 limits	Not exceed the ES2 limits.	N/A
	h) Symbols used on equipment	Graphical symbols not used as an instructional safeguard.	N/A
	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	No instructional safeguard required.	N/A
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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
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	Current fuse complying with IEC 60127 as overcurrent protection device.	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	The appliance inlet complied with IEC 60320-1.	P
G.4.2	Mains connector configuration .....:	The appliance inlet complied with IEC 60320-1.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	No misconnection likely.	P
G.5	**Wound Components**		P
G.5.1	Wire insulation in wound components.....	Approved triple insulated wire used for secondary windings of transformer T9101 as separation for insulation between primary windings and secondary windings. Bobbin of transformer T9101 used as separation for insulation between primary pins and secondary pins.	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Physical separation provided by insulation tape or tube to relieve mechanical stress at the crossover point.	P

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.1.2 b)	Construction subject to routine testing		N/A
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 in G.5.3.2 and G.5.3.3.	P
	Position.....:	T9101	—
	Method of protection .....:	Overcurrent protection.	—
G.5.3.2	Insulation	See attachment Transformer table.	P
	Protection from displacement of windings.....:	Displacement of windings is unlikely.	—
G.5.3.3	Overload test ..... :	(See appended table B.3 & B.4)	P
G.5.3.3.1	Test conditions	Tested in the complete equipment.	P
G.5.3.3.2	Winding Temperatures testing in the unit	(See appended table B.3 & B.4)	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

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Clause	Requirement + Test	Result - Remark	Verdict
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	No mains supply cord provided.	N/A
	Type..... :		—
	Rated current (A)..... :		—
	Cross-sectional area (mm^2), (AWG)..... :		—
G.7.2	Compliance and test method		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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**		N/A
G.10.1	General requirements	ICX U9104 is approved component. (See Annex G.16)	N/A
G.10.2	Resistor test		N/A
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	X-Capacitors and Y-Capacitors used as safeguard and complied with IEC/EN 60384-14. (See appended table 4.1.2)	P
G.11.2	Conditioning of capacitors and RC units	At least 21 days at 40 ± 2°C and 93±3% RH.	P
G.11.3	Rules for selecting capacitors	The selection followed with tables G.9 and G.12.	P
G.12	**Optocouplers**		P
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results) ..... :	Approved components used. (See appended table 4.1.2)	P
	Type test voltage Vini .....:		—
	Routine test voltage, Vini,b .....:		—
G.13	**Printed boards**		P
G.13.1	General requirements	See below.	P
G.13.2	Uncoated printed boards	(see appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
G.13.3	Coated printed boards		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
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)**		P
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours	Used with approved ICX U9104. (See Table 4.1.2 for the details.)	P
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	See above.	N/A
D2)	Capacitance .....:		—
D3)	Resistance .....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
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) ..... :		—
J	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		P
	General requirements	Triple insulated wire used in transformer (T9101) was separately approved.	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

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Clause	Requirement + Test	Result - Remark	Verdict
L.3	Parts that remain energized	When the power cord is removed from the inlet no remaining parts with hazardous voltage in the equipment.	P
L.4	Single phase equipment	The disconnect device disconnects both poles simultaneously.	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
	- 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

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Clause	Requirement + Test	Result - Remark	Verdict
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
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.....:	Complied.	—
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	See below.	P
P.2.2	Safeguards against entry of foreign object	Internal metal chassis are provided as internal barrier.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Location and Dimensions (mm) .....:	See attachment: Measurement Section for the details.	—
P.2.3	Safeguard against the consequences of entry of foreign object	See above.	P
P.2.3.1	Safeguards against the entry of a foreign object		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
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	Ripple Capacitor (C9814) is considered as safeguard; Adhesive for Mylar sheet is considered as safeguard.	P
P.4.2 a)	Conditioning testing		P
	Tc (°C).....:	112.4 for Ripple Capacitor (C9814); 100 for Mylar sheet.	—
	Tr (°C).....:	100	—
	Ta (°C).....:	84.4 for Ripple Capacitor (C9814); 70.0 for Mylar sheet.	—
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		N/A
	- Regulating network limited output under normal operating and simulated single fault condition	All data ports of main board applied. (See appended table Annex Q.1)	P
Q.1.1 c)	Overcurrent protective device limited output	(See appended table Annex Q.1)	P
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method	(See appended table Annex Q.1)	P
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) .....:		—
	Current limiting method .....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
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**		**P**
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).....:		—
	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	See table 4.1.2 for detail	P
S.5	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 (test condition), (°C) .....:		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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	(See appended table T.6, T.9)	P
	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

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Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	**TABLE: List of critical components**	P

Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1]
LCD Panel	INNOLUX	M280***-*** (* can be 0-9, A-Z or blank for marketing purpose only)	28.0 inch TFT LCD (power consumption: 35.31W; LED Array Voltage: 42.9V)	--	Tested in equipment
Plastic Enclosure	LOTTE ADVANCED MATERIALS CO LTD (SAMSUNG SDI)	SD-0150(+), VH-0810(+), VE-0812(+), NH-1000T(+)(&), GC-0700(+++)(RR28), GC-0700A(RR), GC-0750(+)(RR70), GC-1017(+)(RR30), VE-1890(+), BF-0675(+), BF-0670(+), NH-1017(p), NH-1017T, NH-1017SG(+), BF-0677(+), HS-7000(+), HG-0760(+), NE-1030(+), HR-1360(+), LX-0951(+), LX-0957(+), TH-1100(+), TN-1100(+)	HB or better, min. 2.0mm thickness	UL 94	UL (E115797)
Alt.)	GRAND PACIFIC PETROCHEMICAL CORP	D-150, D-1000, D-1000A	HB or better, min. 2.0mm thickness	UL 94	UL (E88637)
Alt.)	CHI MEI CORPORATION	PA-757(+), PH-88, PA-756S	HB or better, min. 2.0mm thickness	UL 94	UL (E56070)
Alt.)	ALBIS PLASTIC GMBH	GP-35, GP-22, 495F	HB or better, min. 2.0mm thickness	UL 94	UL (E80168)
Alt.)	COVESTRO DEUTSCHLAND AG [PC RESINS]	FR3000 series, FR3005 series	HB or better, min. 2.0mm thickness	UL 94	UL (E41613)

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

Alt.)	LG CHEM LTD	HF350(#), HF380(m), HF380NS, HF380(#), HF-380(#), HF-380(m), HF-380, HF-380NS, HF380X, AF312T1, AF342T1, LUPOY GN-5001TF(#), GN-5001RFD, LUPOY GN-5008HF(#), LUPOY GP-5008BF(#), SE750(#), XG568(#), XG569(#), GP-1000L, GP-1000F(#), GP-1000(m)(#), LUMILOY GP-1000(#), SE750(#), LUPOY GN-5001RF(T), SE885(#), HF388(#)	HB or better, min. 2.0mm thickness	UL 94	UL (E171666)
Alt.)	CHI LIN	GA-1535	HB or better, min. 2.0mm thickness	UL 94	UL (E177071)
Alt.)	PONTEX	AFE5000N, AFE5100N, 9004BK	HB or better, min. 2.0mm thickness	UL 94	UL (E205938)

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

Alt.)	KINGFA SCI & TECH CO LTD	4418, 5197, FRABS-518, HIPS-5197, HF-606, HF-626, FRABS-518, GAR-011C, JH960 6(M), FRHIPS-960, RS-900, RS-300, RS-400, GAR-011, GAR-011(L65), GAR-011(L85), GAR-011(HG6), CK-100, CK-900, CK-55111, JH960 6(M), FRHIPS-960, HIPS-4418, HIPS-3399, HIPS-CM(ee), HIPS-HG(ee), HIPS-510 (o), HIPS-550, CK-61(M) (##), RS-(hh)0, HP-126, ABS-660, ABS-122, GAR-322, GAR-332, GAR-220, H12, G360, CK-55(M) (##), CK-58(M) (##), GAR-011C, GAR-011(ww)	HB or better, min. 2.0mm thickness	UL 94	UL (E230779)
Alt.)	QINGDAO HAIER NEW MATERIAL R & D CO LTD	HRABS-RS, HRABS-HG, CR-3002	HB or better, min. 2.0mm thickness	UL 94	UL (E328304)
Alt.)	DONGGUAN HINGLONG PLASTIC TECHNOLOGY CO LTD	HL-ABS-PCR85, HL-ABS-PCR65, HL-ABS-PCR35	HB or better, min. 2.0mm thickness	UL 94	UL (E471190)
Alt.)	ORINKO (HEFEI) ADVANCED PLASTIC CO LTD	ABS-3070H, HIPS-2000	HB or better, min. 2.0mm thickness	UL 94	UL (E471190)

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

Alt.)	WISTRON ADVANCED MATERIALS (KUNSHAN) CO LTD	GA(M)(b)(c), GA35(a), NC30)	HB or better, min. 2.0mm thickness	UL 94	UL (E310240) (E359575)
Alt.)	UNIC TECHNOLOGY CORP	UR-3006+(RXX), UR-200+	HB or better, min. 2.0mm thickness	UL 94	UL (E135175)
Alt.)	GUO HENG (DONGGUAN)	YOUHO(####)(Y)	HB or better, min. 2.0mm thickness	UL 94	UL (E471190)
Alt.)	HUIZHOU WOTE	2100	HB or better, min. 2.0mm thickness	UL 94	UL (E135175)
Alt.)	TEIJIN LIMITED RESIN AND PLASTIC	TN-7500(c), TN-7500F(#), MN-3600V(#), MN-3600H(#)	HB or better, min. 2.0mm thickness	UL 94	UL (E98529)
Alt.)	INEOS STYROLUTION GROUP GMBH	495F GR2, 495F KG2, 495F GR21, 495F KG21, PC2065	HB or better, min. 2.0mm thickness	UL 94	UL (E108538)
Alt.)	STYRON	STYRON A-TECH 1200	HB or better, min. 2.0mm thickness	UL 94	UL (E162447)
Alt.)	TOTAL PETROCHEMICALS SOUTH EAST ASIA PTE LTD	3441; 260-XX	HB or better, min. 2.0mm thickness	UL 94	UL (E314268)
Alt.)	DOOSAN CORPORATION ELECTRO-MATERIALS BG	DS-1107A; DS-1202G; DS-7106	HB or better, min. 2.0mm thickness	UL 94	UL (E103670)
Alt.)	SABIC JAPAN L L C	C6600(GG)(X)(VS) C6600E (VS)(X)	HB or better, min. 2.0mm thickness	UL 94	UL (E207780)
Mylar sheet (between power board and panel plate; between power board and metal cover)	SUZHOU OMAY OPTICAL MATERIALS CO LTD	SE42B, SE42B-F	min. 0.4mm thickness, min. V-0, 105°C	UL 94	UL
Alt.)	SICHUAN LONGHUA FILM CO LTD	PC-770F, PC-770F-A, PC-770	min. 0.4mm thickness, min. V-0, 105°C	UL 94	UL
Alt.)	SICHUAN DONGFANG INSULATING MATERIAL CO LTD	DFR700, DFR700F	min. 0.4mm thickness, min. V-0, 105°C	UL 94	UL

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.)	CHENGDU KANGLONGXIN PLASTICS CO LTD	KLX FRPC-1860B, KLX FRPC-1870B	min. 0.4mm thickness, min. V-0, 105°C	UL 94	UL
Alt.)	CHENGDU KANGLONGXIN PLASTICS CO LTD	KLX FRPC-870B	min. 0.4mm thickness, min. V-0, 105°C	UL 94	UL
Alt.)	SICHUAN DONGFANG INSULATING MATERIAL CO LTD	DFR117ECOC, DFR117ECOB	min. 0.4mm thickness, min. V-0, 105°C	UL 94	UL
Alt.)	SICHUAN DONGFANG INSULATING MATERIAL CO LTD	DFR117ECO	min. 0.4mm thickness, min. V-0, 105°C	UL 94	UL
Alt.)	JINGMEN GORUN TECHNOLOGY CO LTD	HF70	min. 0.4mm thickness, min. V-0, 105°C	UL 94	UL
Alt.)	SICHUAN DONGFANG INSULATING MATERIAL CO LTD	DFR3A(d)	min. 0.4mm thickness, min. V-0, 105°C	UL 94	UL
Alt.)	SHENZHEN TEESUN TECHNOLOGY CO LTD	FR370, FR370F, FE383	min. 0.4mm thickness, min. V-0, 105°C	UL 94	UL
Alt.)	CHENGDU KANGLONGXIN PLASTICS CO LTD	KLX PP BK-10	min. 0.4mm thickness, min. V-0, 105°C	UL 94	UL
Alt.)	KUNSHAN DOBESTY OPTOELECTRO NIC MATERIALS CO LTD	PC9842B	min. 0.4mm thickness, min. V-0, 105°C	UL 94	UL
Adhesive for mylar sheet	SYMBIO	DS50-A, DS50L	100°C, 0.05mm Thickness	UL 969	UL
Alt.)	3M	55236	100°C, 0.05mm Thickness	UL 969	UL
Switching mode power supply board: 715GB018 by TPV					

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

AC-Inlet (CN9901)	Solteam	ST-01	10A, 250Vac	IEC/ EN 60320-1 UL60320-1	VDE, UL
Alt.)	Hua Jie	SA-4S, SA-4S 9	10A, 250Vac	IEC/ EN 60320-1 UL60320-1	VDE, UL
Alt.)	Rong Feng	SS-120, SS-7B	10A, 250Vac	IEC/ EN 60320-1 UL60320-1	VDE, UL
Alt.)	DELIKANG/ Douling	CDJ-3, CDJ-3-1	10A, 250Vac	IEC/ EN 60320-1 UL60320-1	VDE, UL
Alt.)	Inalways	0707-1, 0711-2, 0714	10A, 250Vac	IEC/ EN 60320-1 UL60320-1	VDE, UL
Alt.)	TECX	TU-301-A, TU-301-AP, TU-301-S, TU-301-SP	10A, 250Vac	IEC/ EN 60320-1 UL60320-1	VDE, UL
Alt.)	Yueqing Hongchang	DB-14 DB-14-14-R, Series DB-14	10A, 250Vac	IEC/ EN 60320-1 UL60320-1	VDE, UL
Fuse (F9901 in primary)	Littelfuse, Inc. Wickmann	382-series, 392	T5AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Alt.)	Littelfuse Phils. Inc.	TE5 400 series	T5AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE
Alt.)	Conquer	MET series MST series PTU	T5AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Alt.)	Cooper Bussmann	SR-5, SS-5	T5AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Alt.)	Ever Island Electric Co., Ltd. & Walter Electric	2000, 2010 series	T5AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Alt.)	Littelfuse Phils. Inc.	877	T5AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Fuse (F9902 and F9903 in secondary for L.P.S.)	Littelfuse, Inc. Wickmann	382-series, 392	T5AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Alt.)	Littelfuse Phils. Inc.	TE5 400 series	T5AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE

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

Alt.)	Conquer	MET series MST series PTU	T5AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Alt.)	Cooper Bussmann	SR-5, SS-5	T5AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Alt.)	Ever Island Electric Co., Ltd. & Walter Electric	2000, 2010 series	T5AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Alt.)	Littelfuse Phils. Inc.	877	T5AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Fuse (F801 in secondary for L.P.S.)	Littelfuse, Inc. Wickmann	382-series, 392	T3.15AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Alt.)	Littelfuse Phils. Inc.	TE5 400 series	T3.15AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE
Alt.)	Conquer	MET series MST series PTU	T3.15AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Alt.)	Cooper Bussmann	SR-5, SS-5	T3.15AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Alt.)	Ever Island Electric Co., Ltd. & Walter Electric	2000, 2010 series	T3.15AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Alt.)	Littelfuse Phils. Inc.	877	T3.15AL, 250Vac	IEC/ EN 60127-1 IEC/ EN 60127-3 UL 248-1	VDE, UL
Y- Capacitor (C9901, C9902, C9909, C9910) Y1 or Y2 type (optional)	Walsin	AC, AH	Max. 680pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
Alt.)	Wansheng	CT7	Max. 680pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
Alt.)	TDK	CS, CD	Max. 680pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
Alt.)	Murata	KH, KX	Max. 680pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
Alt.)	Matsushita	NS-A, NS-B	Max. 680pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL

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

Alt.)	JYA-NAY	JY, JN	Max. 680pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
Alt.)	Hongming	F	Max. 680pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
Alt.)	Yinan Don's	CT81	Max. 680pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
Alt.)	SUCCESS	SB, SE	Max. 680pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
Y- Capacitor (C9911) Y1 type (optional)	Walsin	AH	Max. 1000pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
Alt.)	TDK	CD	Max. 1000pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
Alt.)	Murata	KX	Max. 1000pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
Alt.)	Kunshan Wansheng	CT7	Max. 1000pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
Alt.)	YINAN DON'S ELECTRONI C COMPONENT CO.,LTD	CT81	Max. 1000pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
Alt.)	SUCCESS	SE	Max. 1000pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
Alt.)	SUCCESS	SB	Max. 1000pF, 250Vac, 105°C	IEC/EN 60384-14, UL 60384-14	VDE, UL
X-Capacitor (X1 or X2 type) (C9905, C9906) (optional)	Ultra Tech Xiphi	HQX	Max. 0.33µF, Min. 250Vac, 85°C	IEC/EN 60384-14 UL 60384-14	VDE, UL
Alt.)	Europtronic	MPX	Max. 0.33µF, Min. 250Vac, 85°C	IEC/EN 60384-14 UL 60384-14	VDE, UL
Alt.)	Europtronic	MPX2	Max. 0.33µF, Min. 250Vac, 85°C	IEC/EN 60384-14 UL 60384-14	VDE, UL
Alt.)	Liow Gu	GS-L	Max. 0.33µF, Min. 250Vac, 85°C	IEC/EN 60384-14 UL 60384-14	VDE, UL
Alt.)	Arcotronics (KEMET)	R.46	Max. 0.33µF, Min. 250Vac, 85°C	IEC/EN 60384-14 UL 60384-14	ENEC, UL
Alt.)	EPCOS	B3292#	Max. 0.33µF, Min. 250Vac, 85°C	IEC/EN 60384-14 UL 60384-14	VDE, UL
Alt.)	Nanjing Tengen Rongguangda	MKP	Max. 0.33µF, Min. 250Vac, 85°C	IEC/EN 60384-14 UL 60384-14	VDE, UL

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.)	Faratronic	MKP62	Max. 0.33µF, Min. 250Vac, 85°C	IEC/EN 60384-14 UL 60384-14	VDE, UL
Alt.)	Farad	PXK	Max. 0.33µF, Min. 250Vac, 85°C	IEC/EN 60384-14 UL 60384-14	VDE, UL
Alt.)	ZhuHai Sung Ho	CMPP	Max. 0.33µF, Min. 250Vac, 85°C	IEC/EN 60384-14 UL 60384-14	VDE, UL
Discharge IC (U9104)	O2Micro Electronics, Inc.	OZ531TGN	240Vac	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013	CB (CB cert No. JPTUV-067802)
Photo Coupler (U9102, U9401)	Sharp	PC123	Di more than 0.4mm, int = thermal cycling test,ext. more than 8.0mm, 5000Vac, 100°C.	DIN EN 60747-5-5:2007 IEC60747-5-5:2007 IEC/EN 60950-1 UL 1577	VDE, UL, Semko, Nemko, Fimko
Alt.)	Vishay Semiconductor	TCET1103	Di more than 0.5mm, int. cr more than 6.0mm, ext. cr more than 7.7mm, 3000Vac, 100°C.	DIN EN 60747-5-5:2007 IEC60747-5-5:2007 IEC/EN 60950-1 UL 1577	VDE, UL, Semko, Fimko
Alt.)	Everlight Electronics Co., Ltd.	EL817, EL817M	Di more than 0.5mm, int. cr = thermal cycling test, ext. cr more than 7.7mm, 3000Vac, 100°C.	DIN EN 60747-5-5:2007 IEC60747-5-5:2007 IEC/EN 60950-1 UL 1577	VDE, UL, Semko, Nemko, Fimko
Alt.)	TOSHIBA	TLP781F , TLP781	Di more than 0.5mm, int. cr =thermal cycling test, ext. cr more than 8.0mm, 4800Vac, 100°C.	DIN EN 60747-5-5:2007 IEC60747-5-5:2007 IEC/EN 60950-1 UL 1577	VDE, UL, Semko
Alt.)	TOSHIBA	TLP421F	Di more than 0.4mm, int.cr=thermal cycling test, ext. cr more than 8.0mm, 5000Vac, 100°C.	DIN EN 60747-5-5:2007 IEC60747-5-5:2007 IEC/EN 60950-1 UL 1577	VDE, UL

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.)	RENESAS ELECTRONICS CORPORATION	PS2561-1, PS2561L-1, PS2561L1-1, PS2561L2-1. PS2561DL1-1	Di more than 0.4mm, int.cr=thermal cycling test, ext. cr more than 8.0mm, 5000Vac, 100°C.	DIN EN 60747-5-5:2007 IEC60747-5-5:2007 IEC/EN 60950-1 UL 1577	VDE, UL, Nemko, Fimko
Alt.)	Everlight Electronics Co., Ltd.	EL1013	Di more than 0.4mm, int.cr=thermal cycling test, ext. cr more than 8.1mm, 3000Vac, 100°C.	DIN EN 60747-5-5:2007 IEC60747-5-5:2007 IEC/EN 60950-1 UL 1577	VDE, UL, Semko, Fimko
Alt.)	Lite-On	LTV-817	Di more than 0.6mm, int.cr=thermal cycling test, ext. cr more than 8.0mm, 4800Vac, 100°C.	DIN EN 60747-5-5:2007 IEC60747-5-5:2007 IEC/EN 60950-1 UL 1577	VDE, UL, Semko, Fimko
PFC choke (L9801) (Optional)	CHANNELON	373G0174528H	130°C	--	--
Alt.)	ASET	373G0174528X	130°C	--	--
Line Choke (L9901, L9902) (Optional)	CHANNELON	373G0174588H	130°C	--	--
Alt.)	LIANFENG DONGJIN	373G0174588J	130°C	--	--
Alt.)	Tai Chang	373G0174588S	130°C	--	--
Transformer (T9101) (Alt.)	LI TAI	380GL32P591L	Class 130 material (B)	Applicable parts of IEC 60950-1 and according to IEC 60085	Accepted by TÜV Rheinland
Bobbin	CHANG CHUN	T200HF	V-0, Phenolic, 150°C	UL 94	UL
Triple insulation wire	Cosmolink	TIW-M	Max.130°C	IEC/EN 60950-1, VDE0805 Teil1, UL 2353	UL, VDE
Teflon tube	GREAT HOLDING	TEFLON TUBE TFL	200°C	UL 224	UL
Transformer (T9101) (Alt.)	PHOENIX	380GL32P591P	Class 130 material (B)	Applicable parts of IEC 60950-1 and according to IEC 60085	Accepted by TÜV Rheinland
Bobbin	Sumitomo	PM-9750	V-0, Phenolic, 150°C	UL 94	UL

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Clause	Requirement + Test	Result - Remark	Verdict

Triple insulation wire	YUSHENG	TIW-B+@ TIW-B	Max.130°C	IEC/EN 60950-1, VDE0805 Teil1, UL 2353	UL, VDE
Teflon tube	GREAT HOLDING	TEFLON TUBE TFL	200°C	UL 224	UL
Rating information of components which are not critical components:					
Stand base (Optional)	Interchangeable	Interchangeable	HB or better	UL94	UL
Internal Metal enclosure	Interchangeable	Interchangeable	Metallic , min. 0.6mm thickness.	--	--
Internal Metal enclosure under power board	Interchangeable	Interchangeable	Metallic , min. 0.81mm thickness.	--	--
P.C.B	Interchangeable	Interchangeable	V-1 or better Min. 130°C.	UL 796	UL
Current sensor resistor (R9111)	Interchangeable	Interchangeable	Min. 0.22Ω, 2W	--	Tested in equipment
Thermistor (NR9901, NR9902)	Interchangeable	Interchangeable	Min. 2.5Ω, Min. 2A, 25°C	--	Tested in equipment
Bridging Diode (BD9901, BD9902)	Interchangeable	Interchangeable	Min. 2A, Max 800V.	--	Tested in equipment
Ripple Capacitor (C9814)	Interchangeable	Interchangeable	30-150uF, min. 450 V, min .105°C	--	Tested in equipment
Transistor (Q9101, Q9801)	Interchangeable	Interchangeable	Min. 5A, 500V min.	--	Tested in equipment
Internal Speaker (two provided) (optional)	Interchangeable	Interchangeable	Max. 16Ω, max. 12W	--	--
Power cord set listed below by client's request					
Mains cord set (Saudi Arabia) (Optional)					
Plug	I-SHENG	SP-62	13A,250V or 10A, 250V or 5A, 250V	SASO 2203:2018	CVC
Connector	I-SHENG	IS-14	10A,250V	SASO 2203:2018	ENEC
		IS-034	2.5A/250V		
Cable	I-SHENG	H05VV-F	3X0.75mm^2	SASO 2203:2018	CVC

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Clause	Requirement + Test	Result - Remark	Verdict

Plug	CHANGHZOU Hongchang Electronics CO., Ltd	DTII-3P-22	13A,250V or 5A, 250V	SASO 2203:2018	Intertek (ASTA)
Connector	CHANGHZOU Hongchang Electronics CO., Ltd	DTII-3P-04	10A,250V or 2.5A,250V	SASO 2203:2018	Intertek (ASTA)
Cable	CHANGHZOU Hongchang Electronics CO., Ltd	H05VV-F	3 x 0.75 mm^2	SASO 2203:2018	Intertek (ASTA)
Plug	HONGLIN	HL-044	13A,250V or 5A, 250V	SASO 2203:2018	Intertek (ASTA)
Connector	HONGLIN	H05VV-F	10A,250V or 2.5A,250V	SASO 2203:2018	Intertek (ASTA)
Cable	HONGLIN	HL-052	3 x 0.75 mm^2	SASO 2203:2018	Intertek (ASTA)
Plug	FUND RESOURCES ELECTRIC INDUSTRY CO.,LTD	BS-01J	13A,250V or 10A,250V or 5A, 250V	SASO 2203:2018	Intertek (ASTA)
Connector	FUND RESOURCES ELECTRIC INDUSTRY CO.,LTD	CE-608J	13A,250V or 5A, 250V or 2.5A, 250V	SASO 2203:2018	Intertek (ASTA)
		CE-602J	2.5A, 250V		
Cable	FUND RESOURCES ELECTRIC INDUSTRY CO.,LTD	H05VV-F	3 x 0.75 mm^2	SASO 2203:2018	Intertek (ASTA)
Plug	Longwell	LP-61L, LP-61LA	13A, 250V	SASO 2203:2018	CVC
Connector	Longwell	LS-18	2.5A,250V	SASO 2203:2018	CVC
Cable	Longwell	H05VV-F	3 x 0.75 mm^2	SASO 2203:2018	CVC
Plug	ASAP	A12-0031-AC2, A12-0058-AC2, A12-0059-AC2	3A, 250V or 5A, 250V or 10A, 250V or 13A, 250V	SASO 2203:2018	CVC
Connector	ASAP	A12-0012-AC2	10A,250V	SASO 2203:2018	CVC
		A12-0011-AC2	2.5A,250V		CVC

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Clause	Requirement + Test	Result - Remark	Verdict

Cable	ASAP	H05VV-F	3 x 0.75 mm^2	SASO 2203:2018	CVC
Plug	ASAP	A12-0136-AC2, A12-0137-AC2	3A, 250V or 5A, 250V or 10A, 250V or 13A, 250V	SASO 2203:2018	CVC
Connector	ASAP	A12-0012-AC2	10A,250V	SASO 2203:2018	CVC
		A12-0011-AC2	2.5A,250V		
Cable	ASAP	H05VV-F	3 x 0.75 mm^2	SASO 2203:2018	CVC

Supplementary information:

[1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.

[2)] Description line content is optional. Main line description needs to clearly detail the component used for testing

[3)] All sources of transformer were checked with same construction.

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	
	7	
	8	
	9	
	10	

4.8.4.4	**TABLE: Drop test**	—

Impact Area	Drop Distance	Drop No.	Observations
		2	

4.8.4.5	**TABLE: Impact**	—

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

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Clause	Requirement + Test	Result - Remark	Verdict

4.8.4.6	TABLE: Crush test		—
Test position	**Surface tested**	**Crushing Force (N)**	**Duration force applied (s)**
Supplementary information:			

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:			

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	240V, 60Hz	All +19V outputs of SPS to "-"/GND	Normal	19.1Vdc	-- / --	ES1
			Abnormal – (see table B.3 for details, maximum result recorded)	19.1Vdc	-- / --	
			Single fault – (see table B.4 for details, maximum result recorded)	19.1Vdc	-- / --	
2	240V, 60Hz	LED backlight output to "-" /GND	Normal	37.4Vdc	-- / --	ES2
			Abnormal – (see table B.3 for details, maximum result recorded)	37.4Vdc	-- / --	
			Single fault – (see table B.4 for details, maximum result recorded)	37.4Vdc	-- / --	
3	240V, 60Hz	L/N to all secondary ports	Normal	--	0.01mApk / --	ES1
			Abnormal – (see table B.3 for details, maximum result recorded)	--	0.01mApk / --	

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			Single fault – (see table B.4 for details, maximum result recorded)	--	0.01mApk	--	
4	240V, 60Hz	L/N to button of key board	Normal	--	0.01mApk	--	ES1
			Abnormal – (see table B.3 for details, maximum result recorded)	--	0.01mApk	--	
			Single fault – (see table B.4 for details, maximum result recorded)	--	0.01mApk	--	

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
1	240V, 60Hz	L&N pin of AC inlet	Normal	0.66µF (C9905, C9906)	373	ES3
			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	--	--	--	

Test Conditions:
Normal – Max. normal load
Supplementary information: SC=Short Circuit, OC=Open Circuit

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5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					P
	Supply voltage (V) ..... :	90V/ 60Hz	264V/ 60Hz	264V/ 60Hz	--	—
	Ambient T_{min} (°C) ..... :	See below	See below	See below	--	—
	Ambient T_{max} (°C) ..... :	See below	See below	See below	--	—
	Tma (°C) ..... :	40.0	40.0	40.0	--	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
HDMI mode		Horizontal		Vertical		
AC inlet CN901 (on power board)		62.2	65.2	69.7	--	70
Y-cap C9901 (on power board)		65.5	67.3	70.3	--	105
Y-cap C9911 (on power board)		74.9	73.5	80.3	--	105
X-cap C9905 (on power board)		70.0	71.5	74.0	--	85
PCB near NR9901 (on power board)		71.3	87.1	84.2	--	130
L9801 coil (on power board)		81.0	92.0	91.7	--	130
L9902 coil (on power board)		72.3	80.6	79.5	--	130
PCB near BD9901 (on power board)		77.8	87.4	89.4	--	130
E-cap C9814 (on power board)		72.8	79.1	84.4	--	105
PCB near Q9101 (on power board)		79.5	83.6	85.4	--	130
PCB near Q9801 (on power board)		83.9	79.6	80.3	--	130
Opto-coupler U9401 body (on power board)		77.1	76.0	85.7	--	100
T9101 coil (on power board)		90.9	94.1	88.8	--	110
T9101 core (on power board)		87.0	89.6	85.3	--	110
PCB near main IC (on power board)		86.1	91.4	79.4	--	130
PCB near D9105 (on power board)		86.9	88.3	91.9	--	130
PCB near main IC (on main board)		76.1	77.4	78.5	--	130
Ambient		26.7 (40.0)	26.8 (40.0)	28.2 (40.0)	--	--
Touch temperature for accessible part under normal condition						
Plastic enclosure outside		42.6	45.9	47.3	--	94
Metal enclosure		54.1	55.7	54.8	--	70
Panel surface		48.8	48.2	46.0	--	94
Ambient		26.7 (25)	26.8 (25)	28.2 (25)	--	--
Supplementary information:						

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

Supplementary information:

1. The temperatures were measured under the worst case normal mode defined in 1.2.2.1 and as described in sub-clause 1.6.2 at voltages as described above.
2. With a specified ambient temperature of 40°C. All values for T (°C) are re-calculated from actual ambient. Temperature limits are calculated as follows:

   Winding components providing safety isolation:

   - Class B: Tmax = 120 - 10

   Components with maximum absolute temperature of others:

   - Tmax = Tmax of component

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		P
Allowed impression diameter (mm) ..... :		≤ 2 mm	—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)
Plastic enclosure: HIPS-5197, 2.5mm	Kingfa	90	1.59
Plastic enclosure: GAR-011(L85), 2.5mm	Kingfa	85	1.31
Plastic enclosure: GAR-011(L65), 2.5mm	Kingfa	85	1.29
Plastic enclosure: HIPS-510(H), 2.5mm	Kingfa	80	1.29
Plastic enclosure: FRHIPS-960, 2.5mm	Kingfa	85	1.88
Plastic enclosure: GC-0750(+), 2.5mm	Cheil	80	1.61
Plastic enclosure: GC-0700(+), 2.5mm	Cheil	80	1.94
Plastic enclosure: HG-0760(+), 2.5mm	Cheil	85	1.73
Plastic enclosure: LX-0951(+), 2.5mm	Cheil	85	1.83
Plastic enclosure: SD-0150, 2.5mm	Cheil	85	1.48
Plastic enclosure: HR-1360, 2.5mm	Cheil	85	1.71
Plastic enclosure: BF-0670F, 2.5mm	Cheil	80	1.59
Plastic enclosure: HF380, 2.5mm	LG	85	1.48
Plastic enclosure: SE885, 2.5mm	LG	80	1.42

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Plastic enclosure: LUPOY GP-1000(#), 2.5mm	LG	95	1.21
Plastic enclosure: XG568, 2.5mm	LG	80	1.81
Plastic enclosure: XG569C, 2.5mm	LG	80	1.85
Plastic enclosure: HF388H, 2.5mm	LG	85	1.39
Plastic enclosure: SE750, 2.5mm	LG	80	1.5
Plastic enclosure: TN-7500, 2.5mm	Teijin	85	1.57
Plastic enclosure: HIPS-2000, 2.5mm	ORINKO	85	1.48
Plastic enclosure: GAR-011C, 2.5mm	Kingfa	90	1.91
Supplementary information: Above mentioned plastic enclosure material was tested by client's request.			

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)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
Basic/supplementary:							
Under fuse (F9901)	420	250	--	2.3	2.6	2.5	2.6
Before fuse (between L-N)	420	250	--	2.3	3.2	2.5	3.2
Line-GND [1.]	420	250	--	2.3	3.1	2.5	4.2
Neutral-GND [1.]	420	250	--	2.3	3.1	2.5	4.2
Under C9901	420	250	--	2.3	7.6	2.5	7.6
Under C9902	420	250	--	2.3	7.6	2.5	7.6
Under C9909	420	250	--	2.3	7.6	2.5	7.6
Under C9910	420	250	--	2.3	7.6	2.5	7.6
Primary component (main transformer) to metal enclosure	**525**	**276**	Above 30	2.3	5.7	2.8	5.7
Reinforced:							
Under T9101	**525**	**276**	Above 30	4.5	13.4	5.6	13.4
U9102 primary pin to U9102 secondary pin (trace side)	420	250	--	4.5	8.0	5.0	8.0
U9401 primary pin to U9401 secondary pin (trace side)	420	250	--	4.5	8.0	5.0	8.0
Under C9911	420	250	--	4.5	7.8	5.0	7.8
Secondary component D805 to core of T9101	**525**	**276**	Above 30	4.5	6.7	5.6	6.7

Supplementary information:

1. There is one slot measured 1mm width.
2. Core of main transformer T9101 consider as primary.

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3. One mylar sheet is fixed between primary component trace and panel to fulfill the requirement for reinforced insulation. See table 5.2 for the electric strength test for mylar.
4. Glued component: C9814
5. Considered altitude correction factor 1.48 for clearances for an altitude of 5000m.

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)
Basic	2500	See table 5.4.2.2, 5.4.2.4 and 5.4.3	See table 5.4.2.2, 5.4.2.4 and 5.4.3
Reinforce	2500	See table 5.4.2.2, 5.4.2.4 and 5.4.3	See table 5.4.2.2, 5.4.2.4 and 5.4.3

Supplementary information:

Consider the altitude up to 5000m, multiplication factor (according to Table 17) is 1.48.

* For clearance and creepage that did not describe above are far larger than limit above.

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)
Plastic enclosure	420	--	See table 4.1.2	0.4	See table 4.1.2
Bobbin of transformer	See Table 5.4.2.2, 5.4.2.4 and 5.4.3	Above 30	See table 4.1.2	0.4	See table 4.1.2
Photo coupler	420	--	See table 4.1.2	0.4	See table 4.1.2

Supplementary information:

1) For details refer to appended table 4.1.2.

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Basic/supplementary:				
Unit primary to earthed metal part		AC	2500	No
Mylar sheet [2)]		AC	2500	No
Reinforced:				
L/N to external plastic enclosure with metal foil		AC	4000	No
L/N to output terminals		AC	4000	No
T9101 [1)]: primary to secondary		AC	4000	No
T9101 [1)]: core to primary		AC	4000	No
T9101 [1)]: each layer of insulation tape		AC	4000	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.				

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
264V, 60Hz	C9901 C9902	N	On	0V	ES1
Supplementary information: X-capacitors installed for testing are: See Table 4.1.2 ☐ Bleeding resistor rating: ■ ICX: See Table 4.1.2 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 (mΩ)
PE terminal of AC inlet to internal metal enclosure	40	2	0.24	6
PE terminal of AC inlet to C9901/C9902 trace	40	2	0.14	6

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PE terminal of AC inlet to C9909/C9910 trace	40	2	0.32	8
Supplementary information:				

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		P
Supply voltage .....:			—
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)
Line to earth, Neutral to earth, Line to metal enclosure, Neutral to metal enclosure,		1	0.36 max. (for earthed part)
		2*	--
		3	--
		4	--
		5	--
		6	--
		7	--
		8	--

Supplementary information:
[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
A	All DC outputs of SPS	Power (W) :	--	--	PS2 (See Table Annex Q.1)
		V_A (V) :	--	--	
		I_A (A) :	--	--	
B	All output ports of main board	Power (W) :	--	--	PS2 (See Table Annex Q.1)
		V_A (V) :	--	--	
		I_A (A) :	--	--	

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

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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	
2)	2)	2)	2)	Yes	

Supplementary information:

1) 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.
2) All components located within power board are considered as arcing PIS.

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
3)	3)	3)	3)	--	Yes

Supplementary information:

1) 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.
2) 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.
3) All components located within the EUT are considered as resistive PIS.

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)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
Test with power board 715GB018, main board 715GA732							
HDMI mode							
90V/50Hz	0.598	--	52.6	--	F9901	0.598	Maximum normal load
90V/60Hz	0.599	--	52.6	--	F9901	0.599	Maximum normal load
100V/50Hz	0.540	1.5	52.4	--	F9901	0.540	Maximum normal load
100V/60Hz	0.539	1.5	52.4	--	F9901	0.539	Maximum normal load
240V/50Hz	0.248	1.5	52.2	--	F9901	0.248	Maximum normal load
240V/60Hz	0.254	1.5	52.3	--	F9901	0.254	Maximum normal load
264V/50Hz	0.239	--	52.2	--	F9901	0.239	Maximum normal load
264V/60Hz	0.239	--	52.3	--	F9901	0.239	Maximum normal load
DP mode							
90V/50Hz	0.600	--	52.7	--	F9901	0.600	Maximum normal load
90V/60Hz	0.601	--	52.7	--	F9901	0.601	Maximum normal load
100V/50Hz	0.539	1.5	52.3	--	F9901	0.539	Maximum normal load
100V/60Hz	0.539	1.5	52.4	--	F9901	0.539	Maximum normal load
240V/50Hz	0.248	1.5	52.2	--	F9901	0.248	Maximum normal load
240V/60Hz	0.253	1.5	52.3	--	F9901	0.253	Maximum normal load
264V/50Hz	0.234	--	52.0	--	F9901	0.234	Maximum normal load
264V/60Hz	0.238	--	52.1	--	F9901	0.238	Maximum normal load

Supplementary information:

1. Maximum normal load: maximum brightness, maximum contrast, full white screen; each USB 3.0 loaded 5V/0.9A and one USB fast charging port loaded 5V/1.5A.

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B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C) .....:						See below		—
Power source for EUT: Manufacturer, model/type, output rating ..:						See table 4.1.2		—
Component No.	Abnormal Condition	Supply voltage (V)	Test time (ms)	Fuse no.	Fuse current (A)	T-couple	Temp. (°C)	Observation
Ventilation openings	blocked	264	2h	F9901	0.238	Yes	Max. measured temperature: T9101 coil = 69.9°C, T9101 core = 64.8°C, AC inlet = 41.5C, Metal enclosure =45.3°C, Plastic enclosure outside=36.3°C, Panel =39.8°C, Ambient = 28.4°C	Unit operated normally, no hazards, no damage.
USB 3.0	o-l	264	2h	F9901	0.253	Yes	Max. measured temp. in T9101 coil = 68.2°C, T9101 core = 63.2°C, AC inlet = 39.4C, Metal enclosure =42.0°C, Plastic enclosure outside=34.9°C, Panel = 33.9°C, Ambient = 27.4°C	Before shutdown USB port is loaded to 2.0A/7.8W. No damage, no hazards.
USB Fast charge	o-l	264	2h	F9901	0.258	Yes	Max. measured temp. in T9101 coil = 70.7°C, T9101 core = 65.4°C, AC inlet = 41.5C, Metal enclosure =43.7°C, Plastic enclosure outside=35.7°C, Panel = 34.4°C, Ambient = 28.5°C	Before shutdown USB port is loaded to 2.3A/9.7W. No damage, no hazards.
+19V	o-l	264	2h	F9901	0.434	Yes	Max. measured temp. in T9101 coil = 83.6°C, T9101 core = 76.4°C, AC inlet = 41.0C, Metal enclosure =44.4°C, Plastic enclosure outside=35.9°C, Panel = 34.3°C, Ambient = 27.1°C	Before shutdown winding is loaded to 2.5A/46.7W additional. No damage, no hazards.

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Test on 27.0 inch model								
Ventilation openings	blocked	264	2h	F9901	0.666	Yes	Max. measured temperature: T9101 coil = 86.0°C, T9101 core = 77.7°C, U9102 = 69.1°C, ambient =27.6 °C. Touch temperature of accessible parts on UUT is not exceed TS1 limit in Table 38 of this standard.	Unit operated normally, no hazards, no damage.
T9101 pin 7,8,9,10-GND (+20V)	o-l	264	3h	F9901	0.951	Yes	Max. measured temp. in T9101 coil =95.4 °C, T9101 core = 79.0°C, U9102 = 63.3°C, ambient = 26.6°C. Touch temperature of accessible parts on UUT is not exceed TS1 limit in Table 38 of this standard.	Before shutdown winding is loaded to 3.59A additional. No damage, no hazards.
USB type C output (CN7601)	o-l	264	3h	F9901	0.688	Yes	Max. measured temp. in T9101 coil =76.7 °C, T9101 core = 68.0°C, U9102 =58.8 °C, ambient = 28.0°C. Touch temperature of accessible parts on UUT is not exceed TS1 limit in Table 38 of this standard.	Before shutdown USB port is loaded to 3.6A/68.0 W. No damage, no hazards.
Supplementary information: 1. 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. 2. Temp. limit of transformer according to table C.1 is 175°C - 10 - (40°C - Tamb) (worst case) for Class B.								

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B.4	TABLE: Fault condition tests		P
Ambient temperature (°C) .....:		See below	—
Power source for EUT: Manufacturer, model/type, output rating ..:		See table 4.1.2	—

Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
BD9901 pin1-4	s-c	264	<1 sec	F9901	--	--	--	Fuse open immediately, no hazards.
BD9902 pin1-4	s-c	264	<1 sec	F9901	--	--	--	Fuse open immediately, no hazards.
C9814	s-c	264	<1 sec	F9901	--	--	--	Fuse open immediately, no hazards.
Q9101 pin G-S	s-c	264	5 min	F9901	0.09	--	--	EUT shut down, no damage, no hazards.
Q9101 pin G-D	s-c	264	<1 sec	F9901	--	--	--	Fuse F9901 opened instantly, Q9101, R9111 damaged, no hazard.
Q9101 pin D-S	s-c	264	<1 sec	F9901	--	--	--	Fuse F9901 opened instantly, Q9101, R9111 damaged, no hazard.
Q9801 pin G-S	s-c	264	5 min	F9901	0.25	--	--	Unit working as normally No damage No hazards
Q9801 pin G-D	s-c	264	<1 sec	F9901	--	--	--	Fuse F9901 opened instantly, Q9801, R9808 damaged, no hazard.
Q9801 pin D-S	s-c	264	<1 sec	F9901	--	--	--	Fuse F9901 opened instantly, Q9801, R9808 damaged, no hazard.
T9102 pin 1 to pin 3	s-c	264	5 min	F9901	0.09	--	--	EUT shut down, no damage, no hazards.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
T9102 pin 5 to pin 6	s-c	264	5 min	F9901	0.09	--	--	EUT shut down, no damage, no hazards.
T9102 pin 7,8 to pin 11,12	s-c	264	5 min	F9901	0.09	--	--	EUT shut down, no damage, no hazards.
U9401 pin1-2	s-c	264	5 min	F9901	0.09	--	--	EUT shut down, no damage, no hazards.
U9401 pin3-4	s-c	264	5 min	F9901	0.06	--	--	EUT shut down, no damage, no hazards.
U9401 pin 1	o-c	264	5 min	F9901	0.06	--	--	EUT shut down, no damage, no hazards.
U9102 pin1-2	s-c	264	5 min	F9901	0.06	--	--	EUT shut down, no damage, no hazards.
U9102 pin3-4	s-c	264	5 min	F9901	0.06	--	--	EUT shut down, no damage, no hazards.
U9102 pin 1	o-c	264	5 min	F9901	0.06	--	--	EUT shut down, no damage, no hazards.
U9801 Pin 3-8	s-c	264	5 min	F9901	0.17	--	--	Unit working as normally No damage No hazards
U9801 Pin 2-8	s-c	264	5 min	F9901	0.17	--	--	Unit working as normally No damage No hazards
D9105	s-c	264	5 min	F9901	0.09	--	--	EUT shut down, no damage, no hazards.
D9106	s-c	264	5 min	F9901	0.09	--	--	EUT shut down, no damage, no hazards.
CN801 Pin 3,4-GND	s-c	264	5 min	F9901	0.06	--	--	EUT shut down, no damage, no hazards.
+19V output to earth	s-c	264	5 min	F9901	0.07	--	--	EUT shut down, no damage, no hazards.

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

One speaker	s-c	264	5 min	F9901	0.220	--	--	Unit operated normally, no excessive temp., no damaged, no hazards.

Supplementary information:

1) The unit passed 4000V hi-pot test between primary and accessible output connector after single fault test above.
2) In fault column, where s-c=short-circuited, o-c=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) All source of each transformer considered with maximum value recorded.

Annex M	**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				

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

	Normal				
	Abnormal				
	Single fault – SC/OC				
Supplementary information:					

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
Circuit output tested: DC outputs on power board						
Note: Measured Uoc (V) with all load circuits disconnected:						
See above	Normal condition	19.1	5.0	1000/Uoc =52.4	90.6	250
Circuit output tested: data ports on main board 715GA732						
Note: Measured Uoc (V) with all load circuits disconnected:						
HDMI (CN501) pin 18 to GND	Normal condition	4.9	0 (can't loaded)	8	0 (can't loaded)	100
HDMI (CN501) other pins to GND	Normal condition	0	--	8	--	100
HDMI (CN502) pin 18 to GND	Normal condition	4.9	0 (can't loaded)	8	0 (can't loaded)	100
HDMI (CN502) other pins to GND	Normal condition	0	--	8	--	100

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
DP (CN503) pin 20 to GND	Normal condition	3.3	1.6	8	4.2	100
See above	Single fault condition (U545 Pin 3-4 SC)	3.3	2.0	8	5.4	100
See above	Single fault condition (C545 SC)	0 [2.]	0 [2.]	8	0 [2.]	100
DP (CN503) other pins to GND	Normal condition	0	--	8	--	100
Audio out port all pins to earth	Normal condition	0	--	8	--	100
Circuit output tested: data ports on USB board 715GA629						
Note: Measured Uoc (V) with all load circuits disconnected:						
USB (CN7002) pin 1 to GND	Normal condition	5.0	3.8	8	12.5	100
USB (CN7002) other pins to GND	Normal condition	0	--	8	--	100
USB (CN7003) pin 1 to GND	Normal condition	5.0	2.7	8	10.1	100
See above	Single fault condition (U7007 Pin 1-5 Sc)	5.0	6.4	8	16.6	100
USB (CN7003) other pins to GND	Normal condition	0	--	8	--	100
USB (CN7004) pin 1 to GND	Normal condition	5.0	3.2	8	10.7	100

IEC 62368-1						
Clause	Requirement + Test		Result - Remark			Verdict
USB (CN7004) other pins to GND	Normal condition	0	--	8	--	100
USB (CN7005) pin 1 to GND	Normal condition	5.0	3.2	8	10.9	100
USB (CN7005) other pins to GND	Normal condition	0	--	8	--	100

Supplementary information:

1) Input Voltage is 264Vac, 60Hz. s-c=short circuit, o-c=open circuit.
2) Unit shut down.
3) DC outputs of power board protected by fuses that will break the circuit within 120s with a current equal to 210%. Current limit of table 2C reduced to breaking capacity of the fuse (40A or 50A).
4) USB outputs (CN7002, CN7004, CN7005) of USB board 715GA629 protected by fuses that will break the circuit within 120s with a current equal to 210%.

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	The clearance and creepage distances do not be reduced below the required values.
External plastic enclosure	See table 4.1.2	See table 4.1.2	250	5	All safeguards remained effective.
Internal metal enclosure	See table 4.1.2	See table 4.1.2	30	5	All safeguards remained effective.
Supplementary information:					

T.6, T.9	TABLE: Impact tests			P
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation
External plastic enclosure	See table 4.1.2	See table 4.1.2	1300	All safeguards remained effective.
Supplementary information:				

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

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
Whole unit	See table 4.1.2	See table 4.1.2	70	7	All safeguards remained effective.
Supplementary information:					

List of test equipment used:

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

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

Information:

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

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

4.6.1, 4.6.2	**Table: enclosure openings**		**P**
Location	Size (mm)	Comments	
External Plastic enclosure, a) at horizontal orientation, b) at vertical orientation (main board on bottom)			
Top	No opening.	--	
Rear	1) Rectangle openings: Max. 18.0mm x 1.1mm 2) Numerous circle openings: ∅4.3mm.	Not fire enclosure.	
Left	No opening.	--	
Right	No opening.	--	
Bottom	--	Not fire enclosure.	
Internal metal chassis (metal thickness min.0.6mm except part under power board)			
Top/Right	1) Numerous circle openings: ∅2.7mm. 2) One oval opening above main board: Max. 39.6mm x 14.5mm	1) Openings do not exceed 3mm in any dimension. No hazards. 2) No opening was fall in Volume of PS3 component shown as Figure 41 & 42 of this standard. No hazards.	
Rear	1) Two circle openings above main board: ∅3.8mm 2) One rectangle opening near power board: 49.5mm x 16.6mm. 3) One rectangle opening near main board: 64.1mm x 30.1mm.	No opening was fall in Volume of PS3 component shown as Figure 41 & 42 of this standard. No hazards.	
Left/Top	1) Two circle openings above main board: ∅2.8mm 2) One rectangle opening near power board: 49.5mm x 13.1mm.	1) Openings do not exceed 3mm in any dimension. No hazards. 2) Opening is covered by V-1 Mylar sheet. No hazard.	
Right/Bottom	One rectangle opening above main board: 64.1mm x 20.4mm.	Opening is covered by internal V-1 Mylar sheet. No hazard.	
Bottom/Left	Numerous ∅1.7mm holes; spacing of holes (centre to centre): 3.9mm; thickness of metal: min.0.81mm;	Comply with requirement of fire enclosure, no hazards. No hazards.	

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

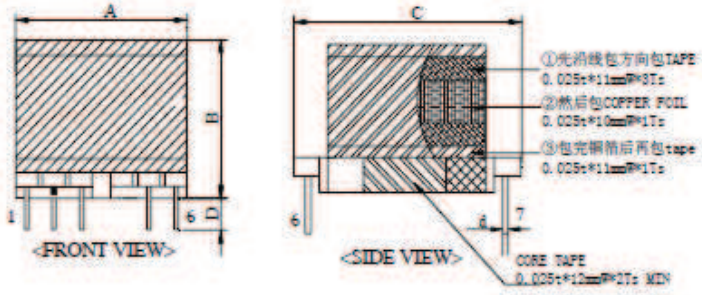
G.5.3.2	**TABLE: transformers**						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
T9101	Primary / input winding and secondary / output winding (internal)	525	276	AC 4000V	4.5	5.6	See below transformer construction
T9101	Primary / input winding and core (internal)	525	276	AC 3000V	4.5	5.6	See below transformer construction
T9101	Secondry / output winding and core (internal)	525	276	AC 3000V	4.5	5.6	See below transformer construction
T9101	Primary / input part and secondary / output part (external)	--	--	--	--	--	--
T9101	Primary / input part and core (external)	--	--	--	--	--	--
T9101	Secondary / output part and core (external)	525	276	AC 3000V	4.5	5.6	--
T9101	Secondary / output part and primary / input winding (external)	525	276	AC 3000V	4.5	5.6	See below transformer construction
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
T9101	Input terminal to output winding (RI)			AC 3000V	Triple insulated wire used	Triple insulated wire used	--
T9101	Input terminal to output terminal (RI)			AC 3000V	30.5	30.5	2 layers tape
T9101	Input winding to output winding (RI)			AC 3000V	Triple insulated wire used	Triple insulated wire used	--
T9101	Input winding to output terminal (RI)			AC 3000V	7.2	7.2	2 layers tape
T9101	Output winding to Core (RI)			AC 3000V	Triple insulated wire used	Triple insulated wire used	--

IEC 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
T9101	Output terminal to Core (RI)	AC 3000V	7.2	7.2	--
supplementary information:					
1. The required clearances multiplied by 1.48 considering that EUT operates up to 5000m.					

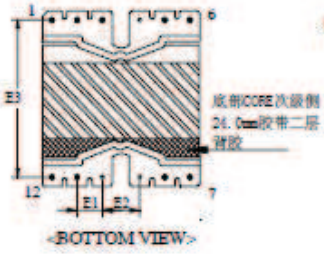
G.5.3.2	TABLE: transformers	P

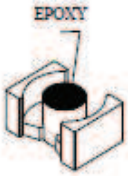
3, Mechanical Characteristics

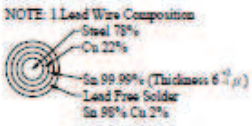
3.1 Dimensions



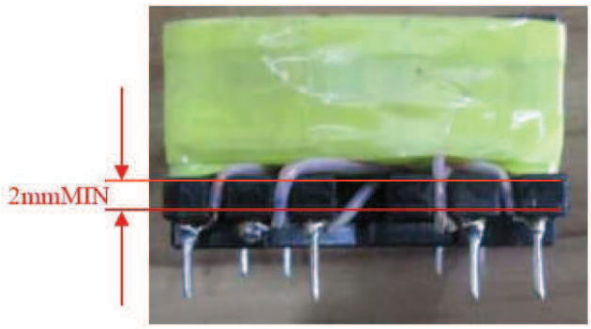
A = 36.5mmMAX
B = 20.0 mmMAX
C = 37.0 mmMAX
D = 3.5±0.3mm
E 1= 5.08±0.5mm
E2= 7.6±0.5mm
E3 = 30.5±0.5mm
Φd= 0.8±0.1mm
WEIGHT IS 54.0g±2g.

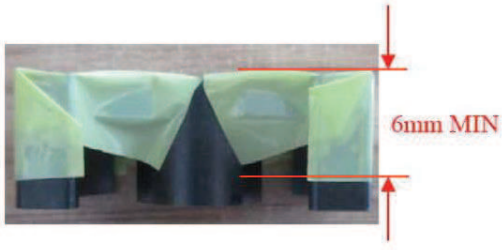






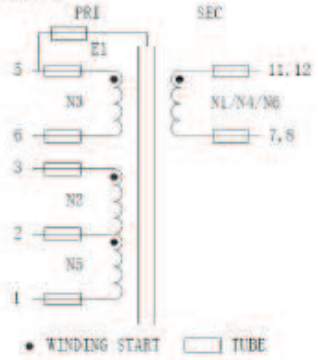
NOTE:
1.CORE GAP ON PIN SIDE.
2.中柱点胶.
3.引线共PIN圈数.
配线ALL PINS 1.0TS MIN.
4.PIN 4,9,10 CUT OFF.
PIN2 CUTOFF2/3.





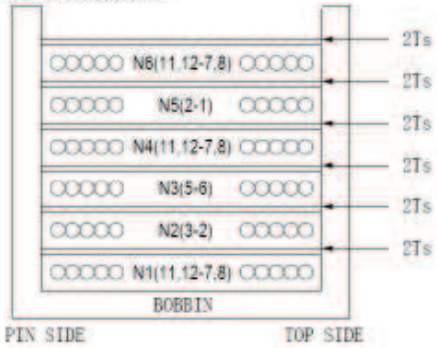
IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

3.4 Schematic



PIN	TUBE LENGTH
1,2,3,5,6,7,8,11,12	10mm MIN
E1	7mm MIN

3.5 Winding construction



NOTE:Malay tape:25um*9.0mmW
1:PIN1,2,3,5,6,7,8,11,12ADD TUBE

3.6 Winding mode:

No.	COIL	TERMINAL	WIRE GAUGE	WIRE TYPE	TUNS	WINDING METHOD	TAPE
1	N1	11,12---7,8	φ0.40x2	TIW-M	6	CLOSED	2Ts
2	N2	3---2	φ0.55	UEW/U	16	CLOSED	2Ts
3	N3	5---6	φ0.20*3	UEW/U	6	SPACE	2Ts
4	N4	11,12---7,8	φ0.40*2	TIW-M	6	CLOSED	2Ts
5	N5	2---1	φ0.55	UEW/U	16	CLOSED	2Ts
6	N6	11,12---7,8	φ0.40*2	TIW-M	6	CLOSED	2Ts
7	外包铜箔 E1	5-		COPPER FOIL 0.025mmT*10mmW	1.1	LEAD WIRE 0.55	3Ts

Description of design: Concentric windings on bobbin (horizontal type core). Two layers of insulation tape around the outer winding and the outer winding is primary. Triple insulated wire used for secondary. The core is considered as primary part.

(a) Bobbin	
Primary/input pins ..... :	1-2-3, 5-6
Secondary/output pins ..... :	7,8-11,12
Material (manufacturer, type, ratings) ..... :	See table 1.5.1
Thickness (mm)..... :	Min. 0.45mm

IEC62368_1B - 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_1B_II

Attachment Originator.....: Nemko AS

Master Attachment .....: Date 2017-09-22

	CENELEC COMMON MODIFICATIONS (EN)		
	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.		
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.	Added.	P

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_1B - 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.	Replaced.	P
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.	Added.	N/A
10.2.1	Add the following to [c] and [d] in table 39: For additional requirements, see 10.5.1.	No such radiation from the equipment.	N/A

IEC62368_1B - 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.	LED indicator used.	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.	No such consideration for the purpose of personal music players.	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.		P

IEC62368_1B - 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.		P
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		
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”	The equipment is Class I equipment. The marking text must be provided when marketed in applicable countries.	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	The equipment is not direct plug-in equipment.	N/A

IEC62368_1B - 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.	No high touch current.	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.	No TNV circuits.	N/A

IEC62368_1B - 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).	Considered.	P
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.	No such resistors.	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.	Considered.	P
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.	Considered.	P
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.	See above.	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.	No high protective conductor current.	N/A

IEC62368_1B - ATTACHMENT			
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.”.	Not such system.	N/A

IEC62368_1B - 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 .	No external circuits.	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	The equipment is not direct plug-in equipment.	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	No power supply cord is provided.	N/A

IEC62368_1B - 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.	The equipment is not direct plug-in equipment.	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.	No power supply cord is provided.	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	The power supply cord has not been checked, see GENERAL PRODUCT INFORMATION.	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.	The power supply cord has not been checked, see GENERAL PRODUCT INFORMATION.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		P
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	No CRT within the equipment.	N/A

IEC62368_1B - 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_1B
Attachment Originator .....:	UL (Demko)
Master Attachment.....:	2014-10

	National Differences		P
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.”	Added. The equipment is Class I equipment. The marking text must be provided when marketed in Denmark.	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.	Added.	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.	Added. No socket outlet is provided.	N/A
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.	Added.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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.	Added.	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	Added.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 2th Ed.
U.S.A. NATIONAL DIFFERENCES

Audio/video, information and communication technology equipment – Part 1: Safety requirements

Differences according to.....:	CSA/UL 62368-1:2014
Attachment Form No.....:	US&CA_ND_IEC623681B
Attachment Originator .....:	UL(US)
Master Attachment.....:	Date 2015-06

IEC 62368-1 - US and Canadian 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.	In accordance with the National Electrical Code (NEC) and the Canadian Electrical Code (CEC) part 1 CAN/CSA C22.1, ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	P
1.4	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.	Considered.	P
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.	Not exceeding 3.05 m.	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.	Overall acceptance has to be evaluated during the national approval process.	N/A
4.8	Lithium coin / button cell batteries have modified special construction and performance requirements.	No such parts.	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	An appliance inlet provided that is connected by an approved appliance coupler serves as main protective earthing terminal. No power supply cord is provided.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.7	Equipment intended to receive telecommunication ringing signals complies with a special touch current measurement tests.	No TNV circuits within the equipment.	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.	No such parts.	N/A
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.	No DC output connector is provided.	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.	The equipment is not permanent connection equipment.	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.	No power supply cord is provided.	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.	See above.	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.	See above.	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.	No TNV circuits within the equipment.	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.	No TNV circuits within the equipment.	N/A
Annex M	Battery packs for stationary applications comply with special component requirements.	No such parts.	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.	The equipment not intended to be used within such environments.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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.	Not such equipment.	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.	The equipment is not for children used.	N/A
	Baby monitors additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.	Not a baby monitors.	N/A
Annex DVA (5.6.3)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered.	P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.	No flammable liquids within the equipment.	N/A
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.	No such application.	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).	No such parts.	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).	No such parts.	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.”	Single phase only.	N/A
Annex DVA (F.3.3.5)	Equipment identified for ITE (computer) room installation is marked with the rated current	Not such application.	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	No such parts.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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.	No standard supply outlets, receptacles, medium-base or smaller lampholders are provided.	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).	No such parts.	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.	No such parts.	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.	No such parts.	N/A
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).	No such parts.	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.	Not such application.	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.	Not applicable for the equipment.	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.	Not such application.	N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.	Not such application.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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.	UL approved components are used. Refer to table 4.1.2 of IEC 62368-1 test report for details.	P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.	The equipment is not permanently connected equipment.	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.	The equipment is pluggable equipment type A.	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.	No terminals for permanent wiring.	N/A
Annex DVH (DVH.3.2)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm^2).	No wire binding screws.	N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	The equipment is not permanently connected equipment.	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.	The equipment not connected to a centralized d.c. power system.	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.	No TNV circuits within the equipment.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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.	No TNV circuits within the equipment.	N/A

IEC62368_1B - 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

Attachment Form No.....: AU_NZ_ND_IEC62368_1B

Attachment Originator .....: JAS-ANZ

Master Attachment.....: 2018-02

	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—*	Added.	P

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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* -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'.	Replaced.	P
4.7	**Equipment for direct insertion into mains socket-outlets**		
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.	Deleted.	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.*	Deleted.	N/A
4.8	*Delete* existing clause title and *replace* with the following: **4.8 Products containing coin/button cell batteries**		

IEC62368_1B - 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.*	Deleted.	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.	Deleted.	N/A
Table 29	*Replace* the table with the following:		

IEC62368_1B - 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	Added	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)		N/A
8.5.4	**Special categories of equipment comprising moving parts**		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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'	Considered.	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)	Added. No such equipment.	N/A
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'.	Replaced.	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.	Added.	P

IEC62368_1B - 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'.	Considered.	P
Paragraph G.7.1	**Mains supply cords, General** In the fourth dashed paragraph, *replace* 'IEC 60320-1' with 'AS/NZS 60320.1'	Considered.	P
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'	Considered.	P
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.	No such construction.	N/A
	Special national conditions (if any)		

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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*	Replaced.	N/A
6.202	**Resistance to fire—Alternative tests**		P
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,		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	according to AS/NZS 60695.11.10. NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another.		
	Compliance shall be checked by the tests of 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
	The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

		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 ± 1 s.	
		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.			
6.202.4	**Testing in the event of non-extinguishing material** If parts, other than enclosures, do not withstand			N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	the glow wire tests of Clause 6.202.3, by failure to extinguish within 30 s after the removal of the glow wire 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. 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.		
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		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		
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	Mentioned in instruction	P

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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.	Mentioned in user manual.	P

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
National Differences - Japan			
3.3	**Addition:** Before Item CLASS I listed in sub-clause 3.3, add “CLASS 0I …… 3.3.15.4A”.	Added. Class I equipment	N/A
3.3.3.5	**Replacement:** NOTE in sub-clause 3.3.3.5, replace “IEC/TR 60083 and IEC 60320-1.” with “JIS C 8282 sereis, JIS C 8283-1 and JIS C 8303”.	Replaced.	P
3.3.3.6	**Replacement:** NOTE in sub-clause 3.3.3.6, replace “IEC 60309-1” with “JIS C 8285 and IEC 60309-1”.	Replaced.	P
3.3.4.2	**Replacement:** NOTE in sub-clause 3.3.4.2, replace “IEC 60695-11-10, IEC 60695-11-20, ISO 9772 or ISO 9773” with “JIS C 60695-11-10, JIS C 60695-11-20, JIS K 7341 or ISO 9772”.	Replaced.	P
3.3.15.1	**Addition:** After sub-clause 3.3.15.4, add the following Note 3. Note 3: Even if class I equipment, 2-pin conversion plug with protective earthing lead-wire or cord set provided 2 pin plug with protective earthing lead-wire shall be probided as an optional parts or recommend for user to use the them, refer to the 3.3.15.4A	Added. Class I equipment	N/A

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.15.4A	**Addition:** After sub-clause 3.3.15.4, add the following new sub-clause. 3.3.15.4A CLASS 0I equipment equipment in which protection against electric shock does not rely on basic insulation only, as a supplementary safeguard, which, for the connection of accessible conductive parts to the protective (earthing) conductor in the fixed wiring of the installation in such a way, pluggable equipment with protective earthing conductor or protective earthing lead-wire instead of plug without earthing blade. 2-pin conversion plug with protective earthing lead-wire or cord set provided 2 pin plug with protective earthing lead-wire shall be probided as an optional parts or recommend for user to use the them. Note to entry: CLASS01 equipment may be provided with CLASS II construction.	Added. Class I equipment used.	N/A
4.1.2	**Replacement:** In the sub-clause 4.1.2, replace the first paragraph with the following. 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 or IEC component standards, otherwise, shall have same or better performances than those components.	Replaced.	P
	Addition: After the first paragraph of sub-clause 4.1.2, addition to the existing NOTE with the following. NOTE 0A Components complying with “Interpretation of Ministerial Ordinance establishing Technical Requirements for Electrical Appliances and Materials (20130605, shokyoku No. 3)” (hereinafter, described as “Interpretation of Technical Requirements”) are regarded to be of having equivalent or better performances.	Added.	P

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
	Replacement: After the first paragraph of sub-clause 4.1.2, replace the existing NOTE with the following. NOTE 2 A JIS or IEC component standard etc. (hereinafter, described as “component standard”) is considered relevant only if the component in question clearly falls within its scope.	Replaced.	P
4.1.3	**Addition:** After the last paragraph of sub-clause 4.1., addition to the existing NOTE with the following. NOTE: transportable equipment or similar equipment, for equipment used by moving often and used, for equipments installed under the circumstances where the earthing connection is obviously difficult when installing, by considering the power distribution circumstances in Japan, it is recommended to avoid the insulation construction of CLASS I or CLASS 0I, except apparatus intended for installation by the instructed person or skilled person.	Not such equipment.	N/A
5.3.2.3	**Replacement:** In the sub-clause 5.3.2.3, replace the third paragraph with the following. Comply with clause 4.1.2, components and subassemblies that comply with their respective IEC standards do not have to be tested when such components and subassemblies are used in the final product.	Replaced.	P
5.4.1.4.3 Table10	**Addition:** In the bottom cell of Table 10 in sub-clause 5.4.1.4.3 add the following NOTE between Footnote b and Footnote c. NOTE For the case where no data for the material is available, 1. (1) ロ(ハ) of Appendix 4 of “Interpretation of Ministerial Ordinance establishing Technical Requirements for Electrical Appliances and Materials” is regarded that it is for determining the maximum temperature limit of the material concerned.	Added.	P

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.3.2.4	**Addition:** After the Note 2 of sub-clause 5.4.2.3.2.4, addition to the existing NOTE with the following. Refer to the Annex JA additional applicable requirement.	Added.	N/A
5.4.3.4 Table 18	**Addition:** At the end of table 18 sub-clause 5.4.3.4, add the following. NOTE “-” measns it is not exist the requirement.	Added.	P
5.4.9.2	**Addition:** After the Note of sub-clause 5.4.9.2, addition to the existing NOTE with the following. Additonally routine testing for manufacturing may be used sub-clause 5.2 of IEC 62911.	Added. No additionally routine testing for manufacturer.	N/A
5.6.1	**Addition:** After the last paragraph of sub-clause 5.6.1, addition to the existing NOTE with the following. Mains appliance outlet and interconnection couplers shall comply with the requirements specified in the sub-clause G 4.2A.	Not such equipment.	N/A
5.6.2.1	**Addition:** After the third paragraph of sub-clause 5.6.2.1, addition to the existing NOTE with the following. Mains connection for Class 01 complying with F3.6.1A are regarded to comply with this requirement.	Added. Class I equipment used.	N/A

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
	Addition: Add the following new sub-clause after sub-clause 5.6.2.1 Mains plug with a protective earthing lead-wire of class 01 is followings Plugs with a protective earthing lead-wire shall not be used for equipment of which the rated voltage of the plug is to be of 150V or more. For plug with a protective earthing lead-wire, the protective earthing lead-wire shall not be earthed by a clip. The earthing lead-wire which is provided in the MAINS plug shall be a length of at least 10 cm. For CLASS 0I EQUIPMENT provided with an independent terminal as the main protective earthing terminal, if ordinary person intended for install the equipment, a protective earthing connection wire is not packed together with the equipment.	Added. Class I equipment used.	N/A
5.6.2.2	**Addition:** At the end of the first paragraph of sub-clause 5.6.2.2, add the following. However, this requirement does not apply to the internal conductor of the supply cord (cord set) which was covered by sheath and integrally molded together with plug and coupler.	Added. Class I equipment used.	N/A
5.6.3	**Addition:** At the end of the first paragraph of sub-clause 5.6.3, add the following. Additionally, if single-core conductor is used for the protective earthing lead wire or protective earthing connection wire for CLASS 0I EQUIPMENT, it shall be any of: - annealed copper wire of a diameter of 1,6 mm, or metal wire having equivalent to or more strength and thickness than that and not easily corroding easily; and - single-core cord or single-core cabtire cable with a cross-sectional area of 1,25 mm^2 or more.	Added. Class I equipment used.	N/A

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
	Replacement: NOTE 3 in sub-clause 5.6.3, replace to following. NOTE 3 Heavy duty is defined in IEC 62440.	Replaced. Class I equipment used.	N/A
5.6.4.2.1	**Addition:** After Note3 of sub-clause 5.6.4.2.1, addition to the existing NOTE4 with the following. NOTE 4 In Japan, the protective current rating of the circuit supplied from the mains is widly taken as 20 A in case of connection to outlet rated at 20A or less.	Added.	P
5.7.3	**Addition:** At the end of sub-clause F.3.5.1, add the following. According to the requirement of G.4.2A, JIS C 8282 series, JIS C 8303 or Class 01 equipment have mains appliance outlet can connect class 1 equipment specified related standard Intended for interconnection, or provided with mains appliance outlet specified JIS C 8232-2-2, shall be measured as a interconnected equipment system have only connection to the mains. NOTE 2 Limit of class 01 equipment is specified 5.7.4. NOTE 3 Complying with Appendix 4 of “Interpretation of Technical Requirements” are regarded to be compied with relevant standard.	Added. Class I equipment used.	N/A
5.7.4	**Addition:** At the end of the first paragraph of sub-clause 5.7.4, add the following. For Class 01 equipment, measuring the touch current using the circuit specified Figure 4 of IEC 60990, the touch current shall not exceed 1.41mA (peak value) or 1.0mA (r.m.s value) in case if sine wave.	Added. Class I equipment used.	N/A
6.4.3.2	**Replacement:** In the paragraph of second, third and fourth dash in sub-clause 6.4.3.2 replace “the relevant IEC component standard” with “the relevant JIS or IEC component standard”.	Replaced.	N/A

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.3.3	**Replacement:** First dash in sub-clause 6.4.3.3, replace the following. a fuse complying with the IEC 60127 series or having equivalent or better properties shall open within 1 s. NOTE Fuses complying with Appendix 3 of "Interpretation of Technical Requirements" are regarded to be of having equivalent or better properties.	Replaced.	N/A
	Replacement: Second dash in sub-clause 6.4.3.3, replace the following. a fuse not complying with the IEC 60127 series and not having equivalent or better properties shall open within 1 s for three consecutive times	Replaced.	P
	Addition: After the last dash in sub-clause 6.4.3.3, add the following new paragraph including NOTE 3. For Type A fuse specified in JIS C 6575 series of standards, replace "2,1 times" with "1,35 times", and for Type B fuse, "2,1 times" with "1,6 times". For fuses having other than operating characteristics specified in JIS C 6575 series of standards, the tests shall be carried out by taking into account the characteristics. NOTE According to pre-arcing time-current characteristics specified in Appendix 3 of "Interpretation of Technical Requirements", for Type A fuse, "2,1 times" is replaceable with "1,35 times", and for Type B fuse, "2,1 times" is replaceable with "1,6 times".	Replaced.	P
8.5.4.1	**Replacement:** First dash in sub-clause 8.5.4.1, replace the following. Replace the requirement of Safety interlock (Protection of persons in the work cell) of sub-clause 4 by Annex sub-clause K	Replaced.	N/A

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
	Replacement: Second dash in sub-clause 8.5.4.1, replace the following. Replace the requirement of interlock override (General of Interlock override) of sub-clause 5.1 by Annex sub-clause K	Replaced.	N/A
8.5.4.2.1	**Replacement:** After Note1 of in sub-clause 8.5.4.2.1, replace the following. For equipment that it is limited to a stationary type that is directly connected to a power supply of 3 phase 200 V or more, for use in locations where children are not likely to be present, see sub-clause F.4.	Replaced.	N/A
8.5.4.2.2	**Replacement:** Replace first paragraph of sub-clause 8.5.4.2.2 with the following. For equipment installed where children may be present, an instructional safeguard shall be provided in accordance with Clause F.5, except that element 3 is optional.	Replaced.	N/A
	Addition: After the element 1a of sub-clause 8.5.4.2.2, addition to the following. Instructed safeguard shall be provided and marked with the symbol of JIS S 0101:2000, 6.2.1 (general precaution) using easily understandable word and the following precautions for use, on the readily visible part adjacent to the feed opening for documents, by a method being clearly legible and permanent, and with easily understandable terms: - that use by an infant/children may cause a hazard of injury etc.; - that touching by a hand to the feed opening for documents may cause drawing of the hand into the shred mechanism; - that contacting of clothes with the feed opening for documents may cause drawing of the clothes into the shred mechanism; - that contacting of hairs with the feed opening for documents may cause drawing of hairs into the shred mechanism; and - that spraying of flammable gas may course ignition or explosion (limited to equipment incorporated with a commutator motor).	Added.	N/A

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.2.4	**Replacement:** After the first paragraph of sub-clause 8.5.4.2.4, replace the following. The media destruction device is tested with the wedge probe of Figure V.4 applied to the opening using test probe with provided applicable jointed tset probe by applied sub-clause V1.2, further is tested with the wedge probe of Figure V.4 applied in any direction relative to the opening.		N/A
8.5.4.2.5	**Replacement:** After the first paragraph of sub-clause 8.5.4.2.5, replace the following. Compliance is checked in accordance with sub-clause V.1.2 and sub-clause V.1.5. Applicable jointed test prove of Annex V and the wedge probe of Figure V.4 shall not contact any moving part.		N/A
	Addition: At the end of sub-clause 8.5.4.2.5, add the following. Alternative construction that prevent access to the hazard moving parts shall not use the warnings.		N/A
8.9.1	**Replacement:** In the paragraph of sub-clause 8.9.1, replace “MS3 and some MS2 equipment” with “MS3 equipment”.		N/A
9.2.5	**Replacement:** In the paragraph of sub-clause 9.2.5, replace “room ambient temperature shall be 25 $^{-5}_{+0}$” with “room ambient temperature shall be 25 $^{-5}_{+5}$”.	Replaced.	P
9.2.6 Table38	**Addition:** In the top cell of TS2 of Table 38 in sub-clause 9.2.6 add the following Handles, knobs, grips, etc., and external surfaces held, touched or worn against the body in normal use(> 1 min) [c]	Added.	P

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.5.1	**Addition:** At the end of sub-clause F.3.5.1, add the following. According to the requirement of sub-clause G.4.2A, JIS C 8282 series, JIS C 8303 or Class 01 equipment have mains appliance outlet can connect class 1 equipment specified related standard Intended for interconnection, shall be provided with instructed safeguard specified F.5. However mains socket-outlet exclude only accessible to a skilled person. NOTE Appendix 4 of “Interpretation of Ministerial Ordinance establishing Technical Requirements for Electrical Appliances and Materials” is relevant national standard. The elements of the instructed safeguard shall be as follows: - element 1a: not applied - element 2: “(equipment name) Exclusive socket-outlet” or equivalent text - element 4: “This socket-outlet intended for connect only with (manufacturer’s name), (model number or series), (equipment name)” or better wording - element 3: “Connect with other equipment may result in electric hazard” or equivalent text This elements shall be in the order 2,4, and 3. element 2 shall be marked near the mains socket-outlet. If this instructed safeguard provided, may not mark rated valtage and assigned current or power.		N/A
F.3.5.3	**Addition:** As examples in the first dash of sub-clause F.3.5.3, add the following at the end of the first dash. Ⓐ, denoting Type A; Ⓑ, denoting Type B;	Added.	P

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.1A	**Addition:** After sub-clause F.3.6.1, add the following new sub-clause. F.3.6.1A Marking for CLASS 0I EQUIPMENT Requirement of sub-clause F.3.6.1.1 and sub-clause F.3.6.1.1 also apply for CLASS 0I EQUIPMENT. For CLASS 0I EQUIPMENT, mains plug or on the easily visible location shall be provided with the marking of the following content or the equivalent. Make an earthing connection Additionally for CLASS 0I EQUIPMENT, it shall be marked on the easily visible location of equipment body or indicated in the operating instructions: Make an earthing connection before plugging the mains plug to the mains, and when disconnecting the earthing connection, disconnect after unplugging the mains plug from the mains.	Added. Class I equipment used.	N/A
F.3.6.2.1	**Addition:** After second paragraph of sub-clause F.3.6.2.1, add the following. The above symbols shall not be used for class I equipment and class 0I equipment.	Not such construction.	N/A
F.4	**Replacement:** Replace fourth dash of sub-clause F.4 with the following. – 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, the instructions shall require that the external wiring connected to these terminals shall be installed by a skilled person, or shall be connected by means of ready-made leads or cords that are constructed in a way that would prevent contact with any ES3 circuit.		N/A

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
G.3.2.1	**Replacement:** Replace second paragraphs of sub-clause G.3.2.1 with the following. The thermal link when tested as a separate component, shall comply with the requirements of JIS C 60691 or be of having equivalent or better performances. NOTE Fuses complying with Appendix 3 of “Interpretation of Technical Requirements” are regarded to be of having equivalent or better properties.		N/A
G.3.4	**Replacement:** Replace second paragraphs of sub-clause G.3.4 with the following. Except for devices covered by sub-clause G.3.5, overcurrent protective devices used as a safeguard shall comply with their applicable JIS standards confirming to the IEC standard or be of having equivalent or better properties. If they do not applied, shall be comply with their applicable IEC standard. NOTE Fuses complying with Appendix 3 of “Interpretation of Technical Requirements” circuit breaker or leakage detection devices complying with Appendix 4 of “Interpretation of Technical Requirements” are regarded to be of having equivalent or better properties.	Replaced.	P
G.4.1	**Addition:** After the last paragraph of sub-clause G.4.1., addition to the following. sub-clause G.4.2 and sub-clause G.4.2A are not applied to above requirements.	Added.	P

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	**Replacement:** In sub-clause G.4.2, replace including NOTE with the following. Mains connectors shall be compied with one of the following standards JIS C 8282 series, JIS C 8283 series, JIS C 8285, JIS C 8303 or IEC 60309 series. Mains plug and appliance couplers shall be compied with one of the following standards JIS C 8282 series, JIS C 8285, JIS C 8303 or IEC 60309 series or be of having equivalent or better performances NOTE Complying with Appendix 4 of "Interpretation of Technical Requirements" are regarded to be compied with relevant standard. Power cord set have a shape not fittingable into the connection part specified in other relevant JIS standards than JIS C 8285 shall comply with JIS C 8286 Where using an appliance coupler, the apparatus shall have a construction that the soldered parts of terminals of the appliance inlet is not subjected to mechanical stress, during insertion and removal of the connector, except the case where the appliance inlet itself is secured so that the fixing does not rely on only soldering. By limiting to the case where the rated voltage of the apparatus is 125 V or less, appliance inlets of type C14 and C18, complying with JIS C 8283 series may be used up to 15 A, if following all requirement shall be complied. - the temperature of the appliance inlet does not exceed the limit specified in JIS C 8283-1 even under the normal operation conditions specified in B.2.1. - "It shall be only used specified power cord set packed together with the equipment. ", or having same or better wording was described in the operation manual. If power cord set was not packed together with the equipment, applicable information of power cord set shall be described in the operation manual.	Replaced. Class I equipment used.	N/A

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2A	**Addition:** In sub-clause G.4.2, add including NOTE with the following. **G.4.2A Mains socket-outlet and main interconnection coupler provide with equipment** If mains socket-outlet specified with JIS C 8282 series, JIS C 8303 or related standard or main interconnection coupler in accordance with JIS C 8283-2-2 is provided on the equipment, it shall be complied with followings. - Mains socket-outlet and main interconnection coupler provided with Class II equipment shall be only connected to other Class II equipment. - Mains socket-outlet and main interconnection coupler provided with Class I equipment shall be only connected to other Class II equipment or be provided with protective earth pole ensurelly connected to protective earth terminal or protective earth point pole of the equipment. - Main interconnection coupler provided with Class 0I equipment shall be only connected to other Class II equipment. However Class I equipment may be connected if following condition complied. ・Main interconnection coupler shall be provided with protective earth pole ensurelly connected to protective earth terminal or protective earth point pole of the equipment. ・According to the sub-clause 5.7.3, touch current value measured as interconnected system provided with one connection to mains supply, is less than the limit of class 01 equipment specified in sub-clause 5.7.4. - Mains socket-outlet provided with Class 01 eauipment shall be only connected to other Class II equipment. However providing with mains socket-outlet as an interconnection coupler, Class I equipment can be connect if following condition complied. ・Main socket-outlet shall be provided with protective earth pole ensurelly connected to protective earth terminal or protective earth point pole of the equipment.	No mains socket-outlet and main interconnection coupler.	N/A

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
	・Mains socket-outlet exclude only accessible to a skilled person, shall be provided instructed safeguard specified sub-clause F3.5.1 only to connect to equipment which manufacture intended for. ・According to the sub-clause 5.7.3, touch current value measured as interconnected system provided with one connection to mains supply, is less than the limit of class 01 equipment specified in sub-clause 5.7.4. NOTE 1: transportable equipment or similar equipment, for equipment used by moving often and used, by considering the power distribution circumstances in Japan, it is recommended to avoid the insulation construction of CLASS 0I provided with mains socket outlet complied with JIS C 8282 series, JIS C 8303 or related standard, except apparatus intended for installation by the skilled person. NOTE 2: Appendix 4 of “Interpretation of Ministerial Ordinance establishing Technical Requirements for Electrical Appliances and Materials” is relevant national standard		
G.4.3	**Addition:** After the EXAMPLE in sub-clause G.4.3, add NOTE as follows. NOTE: It was deleted the sentence of “An example of a connector not meeting the requirements of this subclause is the socalled "banana" plug.” from national standard example.	Added.	P
G.7.1	**Replacement:** Third dash in sub-clause G.7.1, replace to following. - other types of cords may be used if they have similar electro-mechanical and fire safety properties as above having equivalent or better.	Replaced. Approved power cord set used.	P

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
	Addition: After the NOTE3 in sub-clause G.7.1, add NOTE 3A as follows. NOTE 3A Sheathed MAINS supply cords complying with Appendix 1 of “Interpretation of Technical Requirements” are regarded to be of having equivalent or better electro-mechanical and fire safety properties.		P
	Addition: After the NOTE3A in sub-clause G.7.1, add NOTE 3A as follows. For pluggable equipment type A or pluggable equipment type B that has protective earthing, a protective earthing conductor shall be included in the mains supply cord. However if Class 0I equipment have another protective earth terminal, mains power cord do not need to provided with protective earth cable. For all other equipment, if a mains supply cord is supplied without a protective earthing conductor, a protective earthing conductor cable shall be supplied as well		P
G.7.2	**Addition:** In sub-clause G.7.12 add NOTE 0A as follows. NOTE 0A Cross sectional area of power supply cord complying with Appendix 1 of “Interpretation of Technical Requirements” deemed to have equivalent or higher safety performance in sub-clause G 7.1 may be applied with related wiring standard.		P
G.7.6.1	**Replacement:** In the paragraph of sub-clause G.7.6.1, replace “Table G.4” with “Table G.5”.		P
	Addition: After the NOTE0A in sub-clause G.7.12 add as follows. NOTE 0A Cross sectional area of power supply cord complying with Appendix 1 of “Interpretation of Technical Requirements” deemed to have equivalent or higher safety performance in sub-clause G 7.1 may be applied with related wiring standard.		P

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
G.8.1	**Replacement:** In the second paragraph of sub-clause G.8.1, replace “a varistor” with “a varistor voltage of the varistor”.	Replaced.	P
G.8.3.3	**Replacement:** In the first dash of sub-clause G.8.3.3, replace “1.71” with “1.71 x 1.1”.	Replaced.	P
	Replacement: In sub-clause G.8.3.3, replace including NOTE with the following. NOTE 2 For different power distribution systems, the temporary overvoltages are defined in Table B.3 of JIS C 5381-11 (TOV tested parameter for Japan distribution system).	Replaced.	P
G9.3	**Replacement:** Last dash in sub-clause 6.4.3.3, replace the following. 7 days with the output short-circuited and the device wrapped in a double layer of cheesecloth. A quick acting 5 A fuse (complied with JIS C 6575-2) kept in series with the output shall not open and a current meter shall not show a current of more than 5 A.		N/A
G16.3	**Addition:** Beforer the NOTE in sub-clause G.16.3 add as follows. Refer to the sub-clause 5.2.2.2.	Replaced.	P
Annex H.1	**Replacement:** In the sub-clause Annex H.1, replace with the following. It can be select one of the two alternative methods described in this annex. Method A is typical of analogue telephone networks in Europe, and Method B of those in North America.		N/A

NDs of J62368-1(H30) (JIS C 62368-1:2018) for IEC 62368-1:2014			
Clause	Requirement + Test	Result - Remark	Verdict
M.2.1	**Replacement:** In the sub-clause M.2.1, replace with the following. Batteries and their cells shall comply with the relevant standards for batteries as listed below. - JIS C 8513 or IEC 60086-4 - JIS C 8514 or IEC 60086-5 - JIS C 8704-1 or IEC 60896-11 - JIS C 8704-2-1 or IEC 60896-21 - JIS C 8704-2-2 or IEC 60896-22 - JIS C 8702-1 or IEC 61056-1 - JIS C 8702-2 or IEC 61056-2 - IEC 61427 - IEC/TS 61430 - IEC 61434 - JIS C 8713 - JIS C 8712 or IEC 62133 - IEC 62281 - IEC 62485-2 NOTE Other battery safety standards are under development, and are intended to be included in future.		P
M.8.2.1	**Replacement:** In the sub-clause M.8.2.1, replace the first paragraph with the following. The test shall be carried out according to JIS C 8704-2-1 or IEC 60896-21:2004, 6.4		P
M.8.2.2	**Addition:** After the description of LEL in sub-clause M.8.2.2, add the follows. However it is necessary to convert to mass fraction (kg/m^3). The fraction refer to the Sub clause B.4.2.2 Note 1 of JIS C 60079-10.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Appendix	Appendix 12, J3000(H25) Special National conditions, National deviation and other information according to MITI Ordinance No. 85.		—
1	General requirement When equipment provides with appliance inlet complying with JIS C 8283-1(2008), soldered parts of appliance inlet is not applied by force during insert or removal of connector. This is not applied when inlet body is fixed itself and not fixed by solder.	Inlet is fixed by adequate mechanical construction, not rely on soldering.	P
2	Requirement for equipment		—
2.1	Heater Appliances When diode is used in parallel for adjustment of power, the equipment shall remain safe for operation under open condition of one diode.	Not electric stove.	N/A
	The current rating of one diode shall be more than main current. The diodes connected in parallel are same type.		N/A
	The heating test specified by clause 11 of JIS C 9335-2-30(2006) under open condition of one diode shall comply with the requirements.		N/A
2.2	Electric heater with glowing heating elements	Not electric stove.	N/A
	Surface treatment by paint or adhesive on protective frame or protective mesh shall not be used.		N/A
	Caution marking like below shall be on - easily visible place of the equipment or - Instruction manual 「注意　当該機器から、使用初期段階で揮発性有機化合物及びカルボニル化合物が最も放散するおそれがあるため、その際には十分換気を行うこと。」		N/A
3	Components used in equipment	No such equipment /components.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.1	Motor capacitors used in ventilating fan, electric fan, air conditioner, electric washing machine, refrigerator or electric freezer shall be comply with - capacitors with protective elements or protective mechanism complying with JIS C 4908(2007) - P2 capacitor complying with IEC 60252-1(2001) Capacitor complying with below is acceptable		N/A
	Enclosed by metal or ceramic		N/A
	No non-metallic materials within 50 mm from capacitor surface		N/A
	Non-metallic material within 50 mm from capacitor surface comply with needle frame test of JIS C 9335-1(2003), Annex E		N/A
	Non-metallic material within 50 mm from capacitor surface comply with V-1 test of JIS C 60965-11-10(2006).		N/A
3.2	Plug directly inserted to outlet used refrigerator or electric freezer. Shall comply with - Face contact with outlet shall have CTI with more than 400 according to JIS C 2134(2007) or - Supporting material of blades shall comply with glow wire test by temperature of 750ºC according to JIS C 60695-2-11(2004) or JIS C 60695-2-12(2004). Materials having glow wire frame temperature of 775 ºC are acceptable.		N/A

Product: LCD monitor (LED Backlight)

Type Designation: 28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)

Figure 1. Front view with base Type A

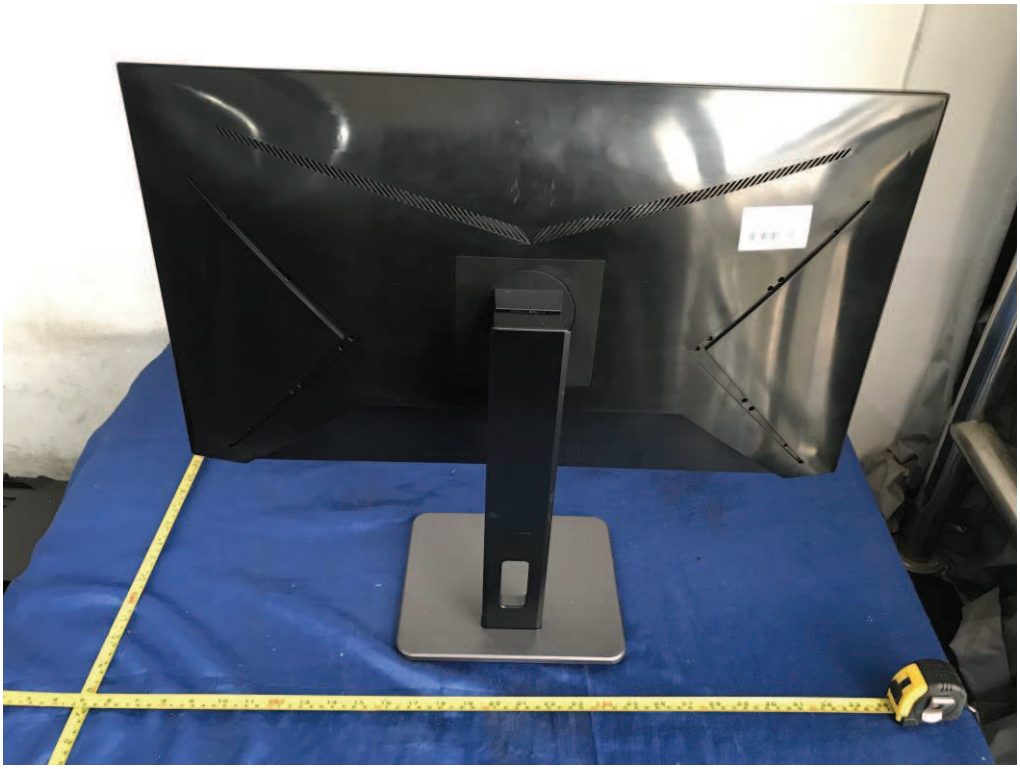


Figure 2. Rear view with base Type A

Product: LCD monitor (LED Backlight)

Type Designation: 28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)

Figure 3. Front view with base Type A with vertical position

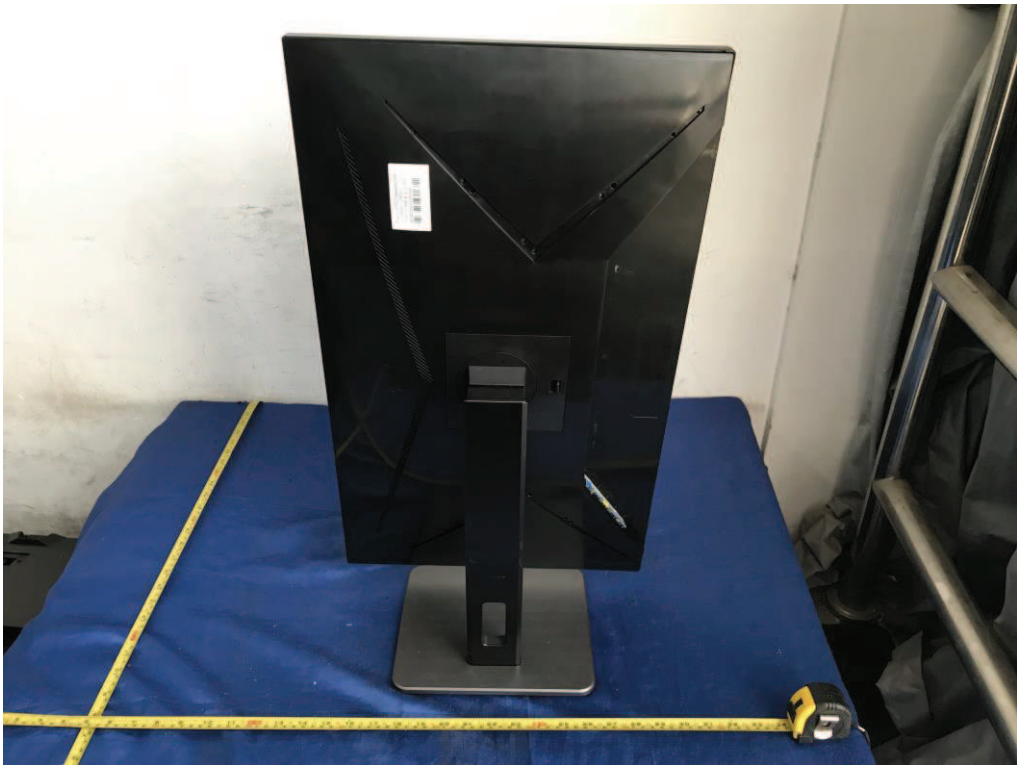


Figure 4. Rear view with base Type A with vertical position

Product: LCD monitor (LED Backlight)

Type Designation: 28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)

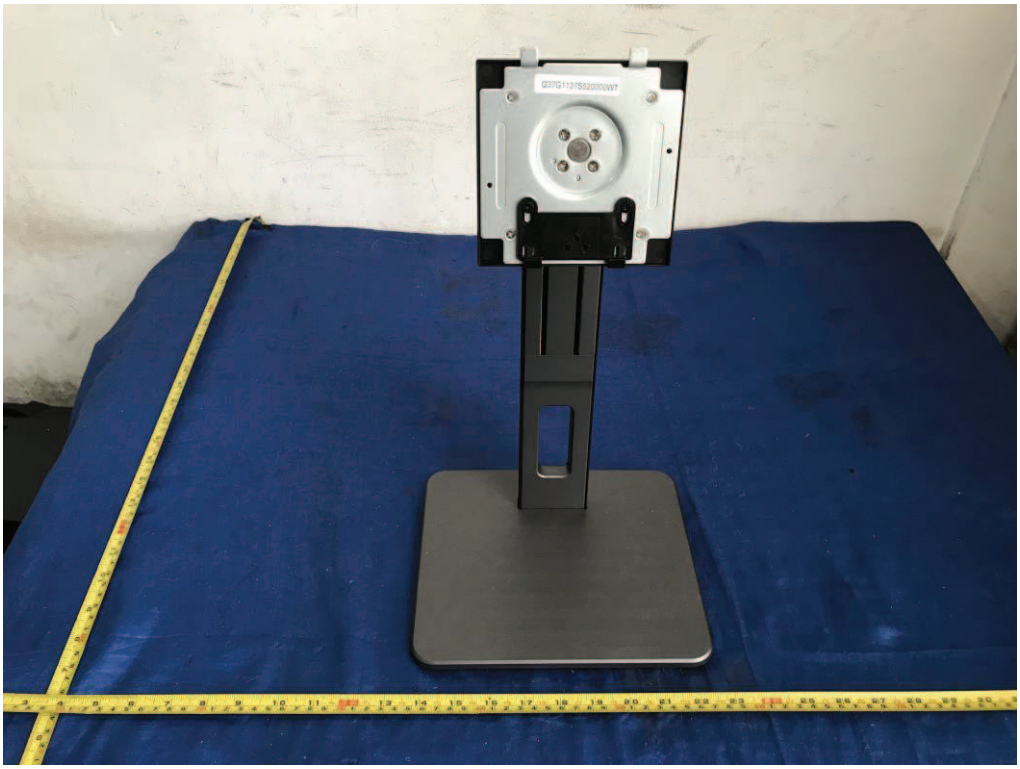


Figure 5. Stand Base A

Figure 6. Front view with base Type B

Product: LCD monitor (LED Backlight)

Type Designation: 28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)

Figure 7. Rear view with base Type B

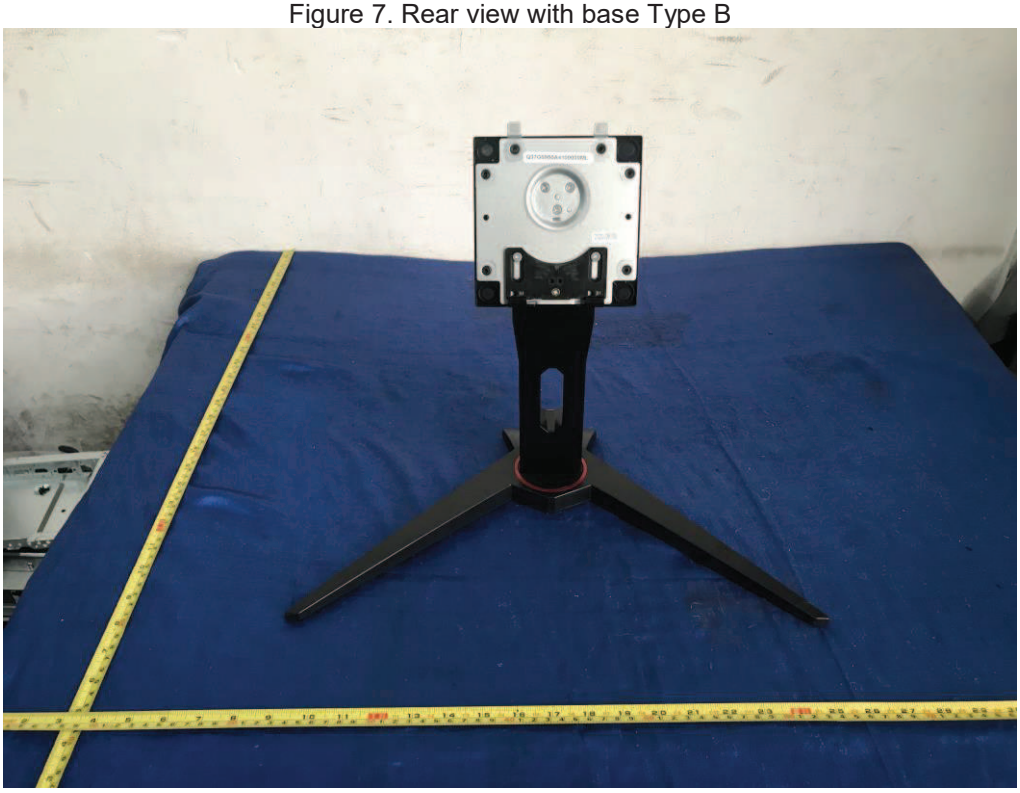


Figure 8. Base Type B

Product: LCD monitor (LED Backlight)

Type Designation: 28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)

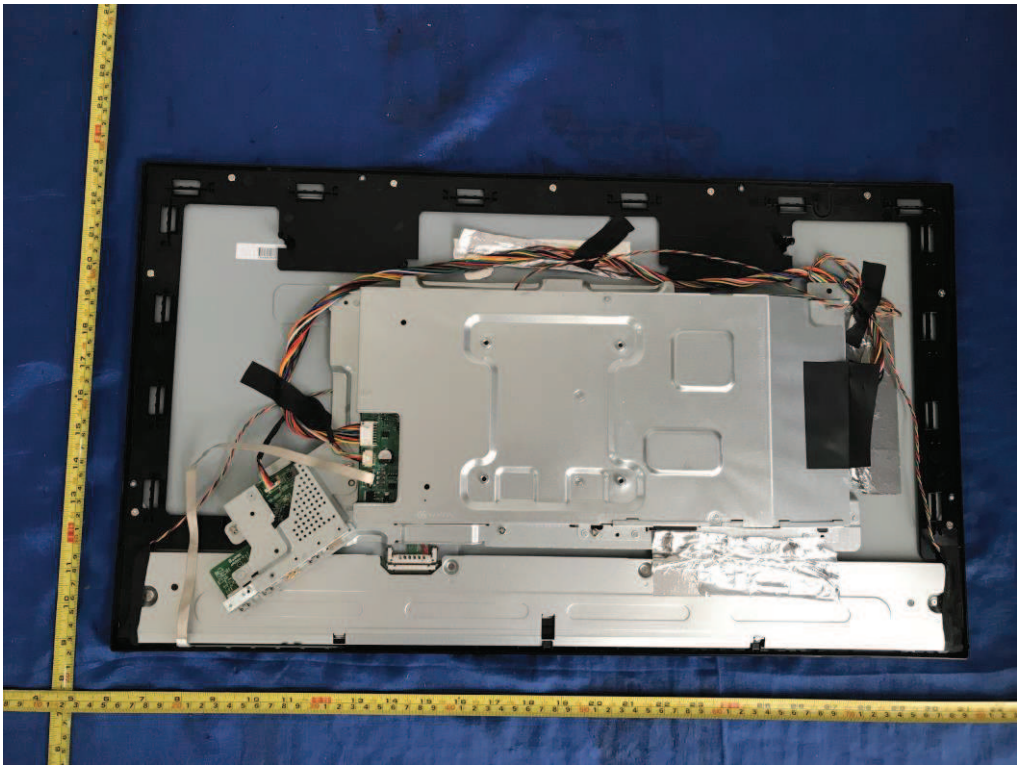


Figure 9. Metal enclosure

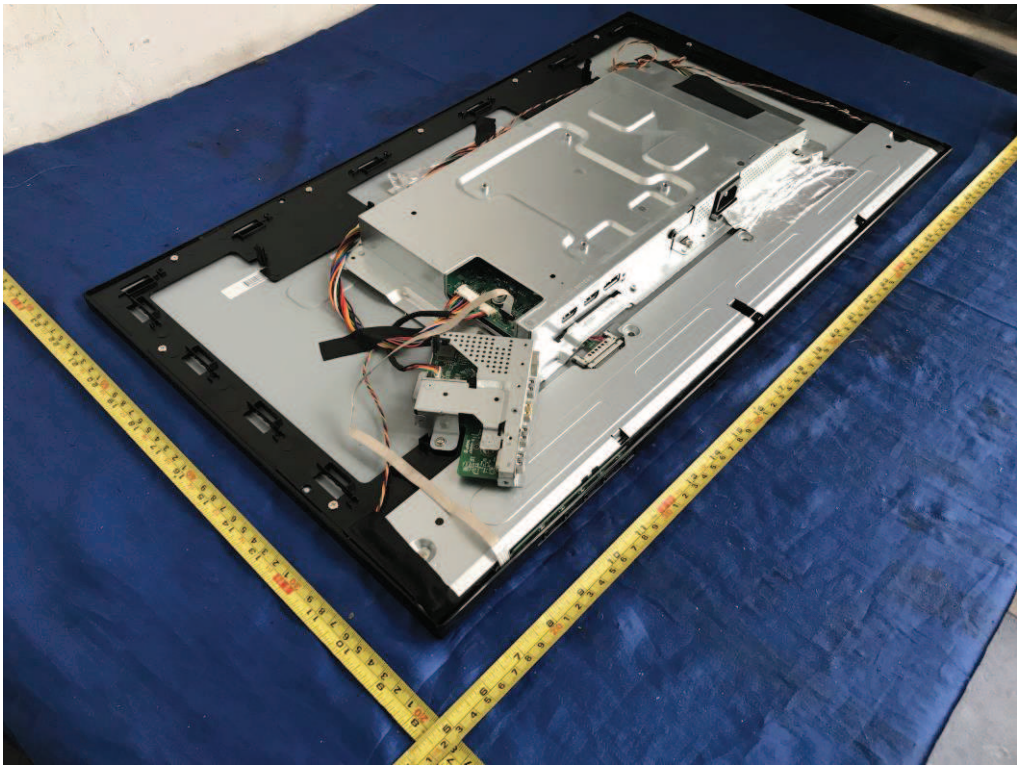


Figure 10. Metal enclosure

Product: LCD monitor (LED Backlight)

Type Designation: 28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)

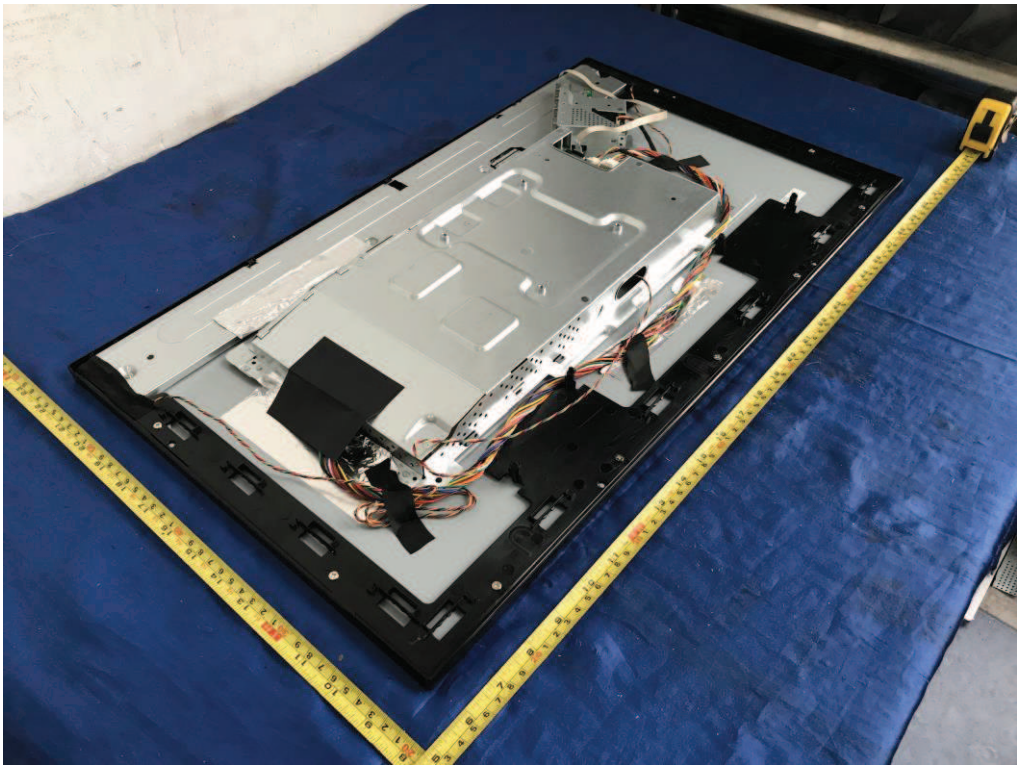


Figure 11. Metal enclosure

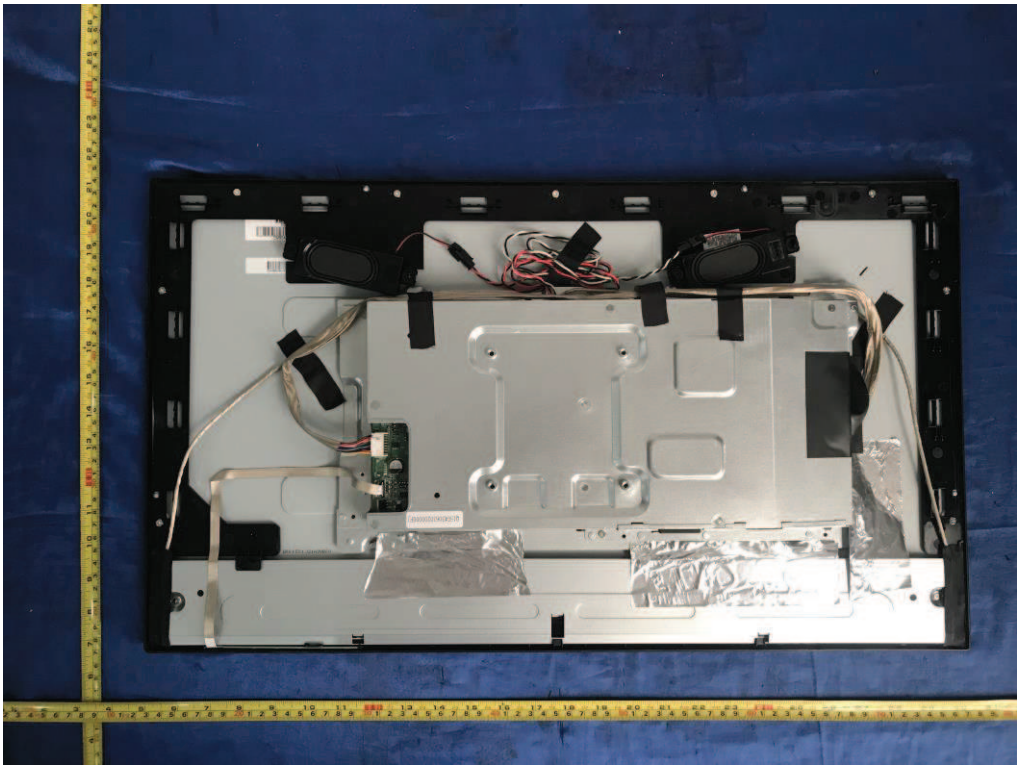


Figure 12. Metal enclosure (cancel USB board and add speakers)

Product: LCD monitor (LED Backlight)

Type Designation: 28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)

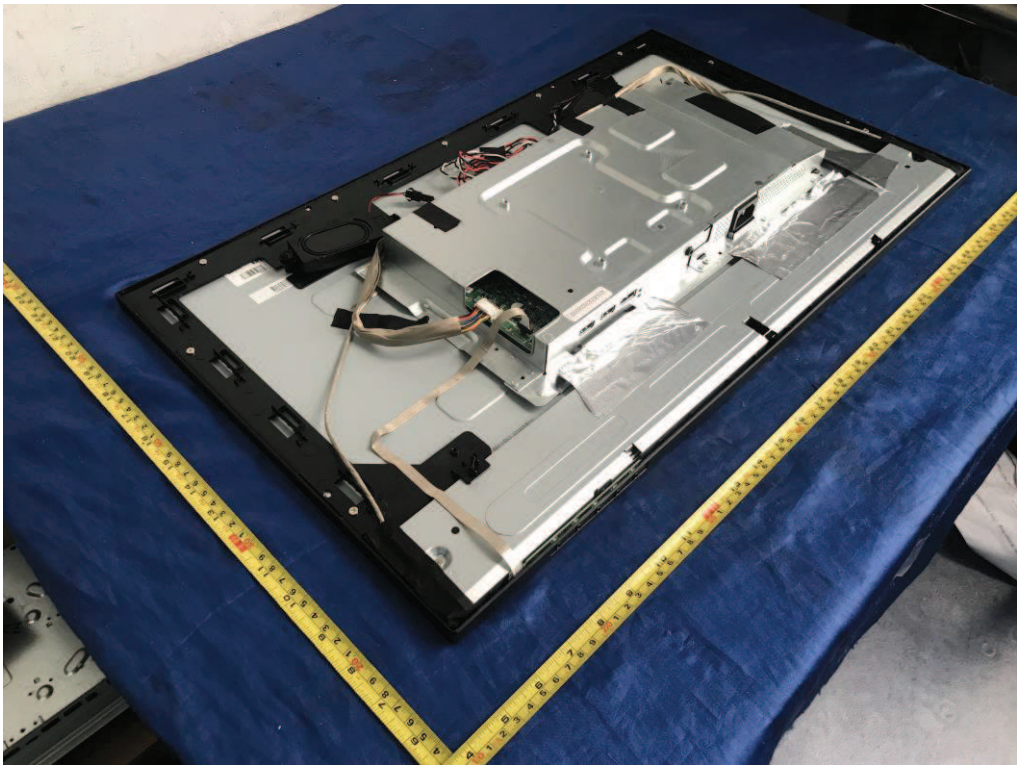


Figure 13. Metal enclosure (cancel USB board and add speakers)

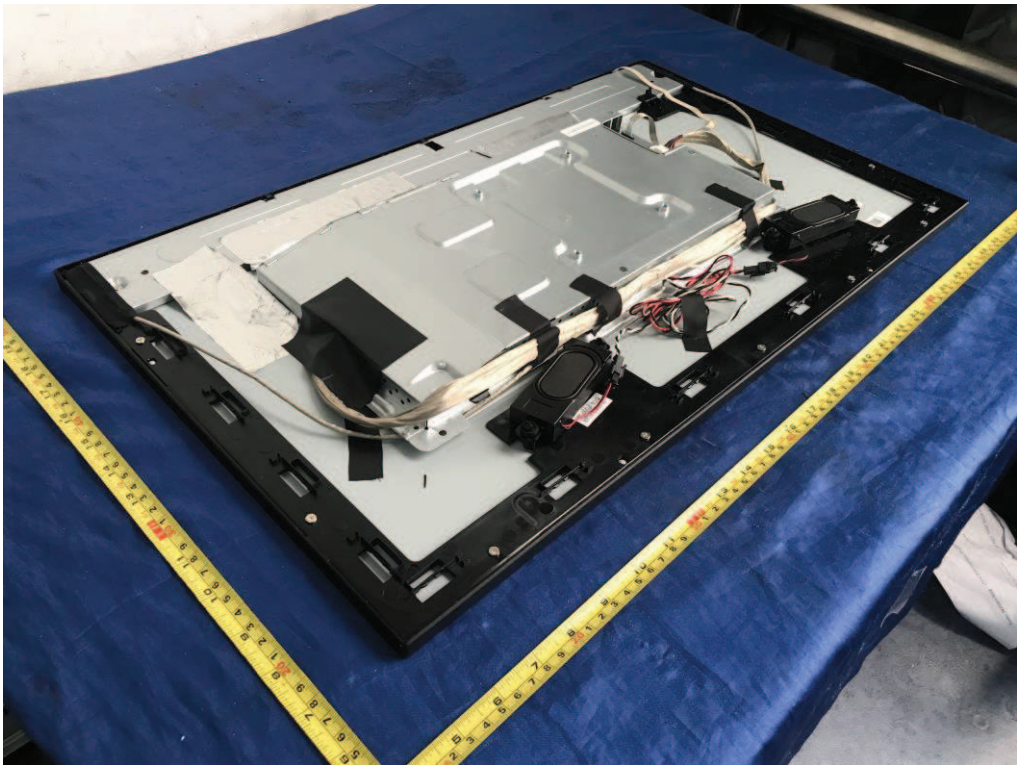


Figure 14. Metal enclosure (cancel USB board and add speakers)

Product: LCD monitor (LED Backlight)

Type Designation: 28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)

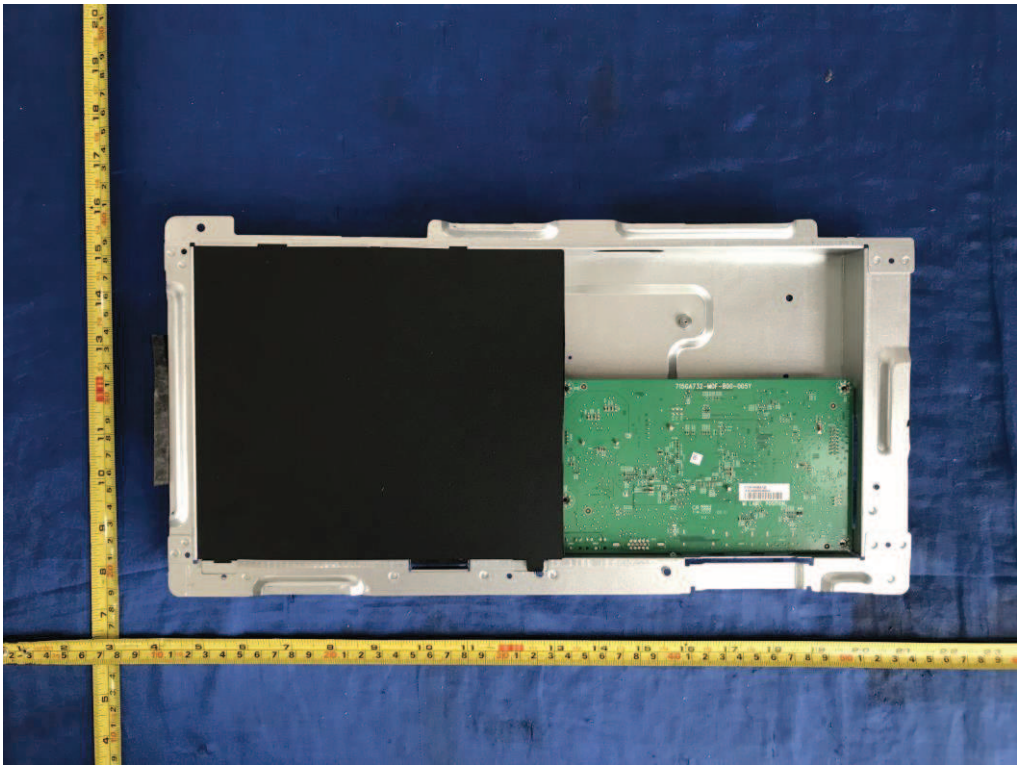


Figure 15. Internal view of metal enclosure

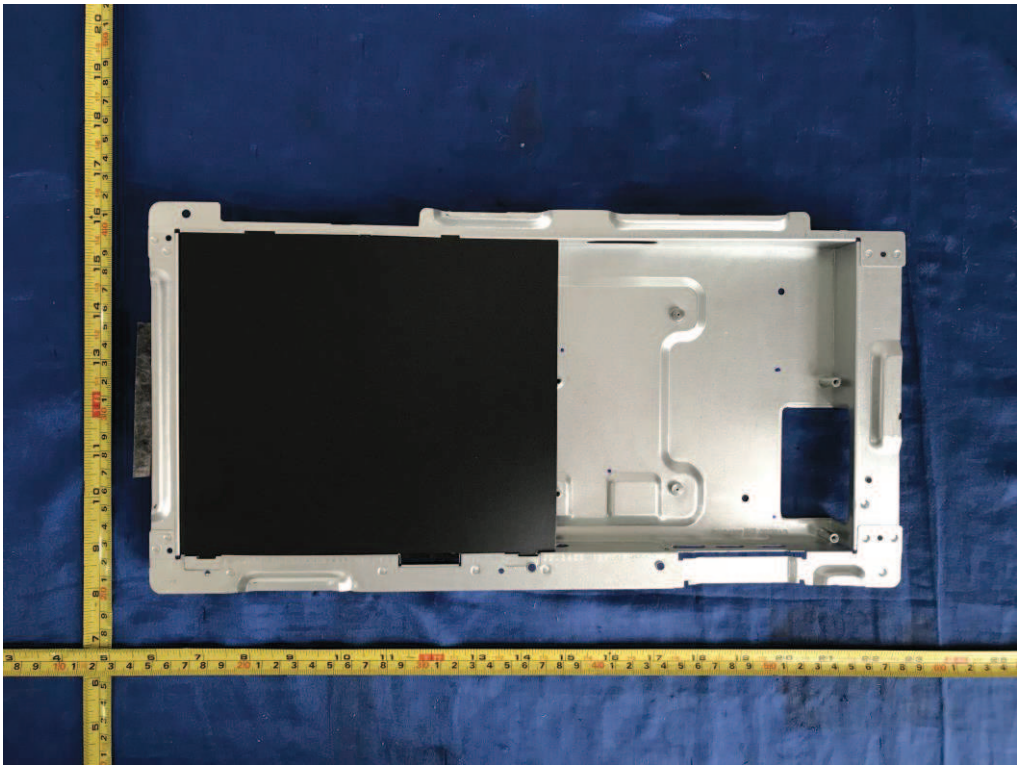


Figure 16. Internal view of metal enclosure

Product: LCD monitor (LED Backlight)

Type Designation: 28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)

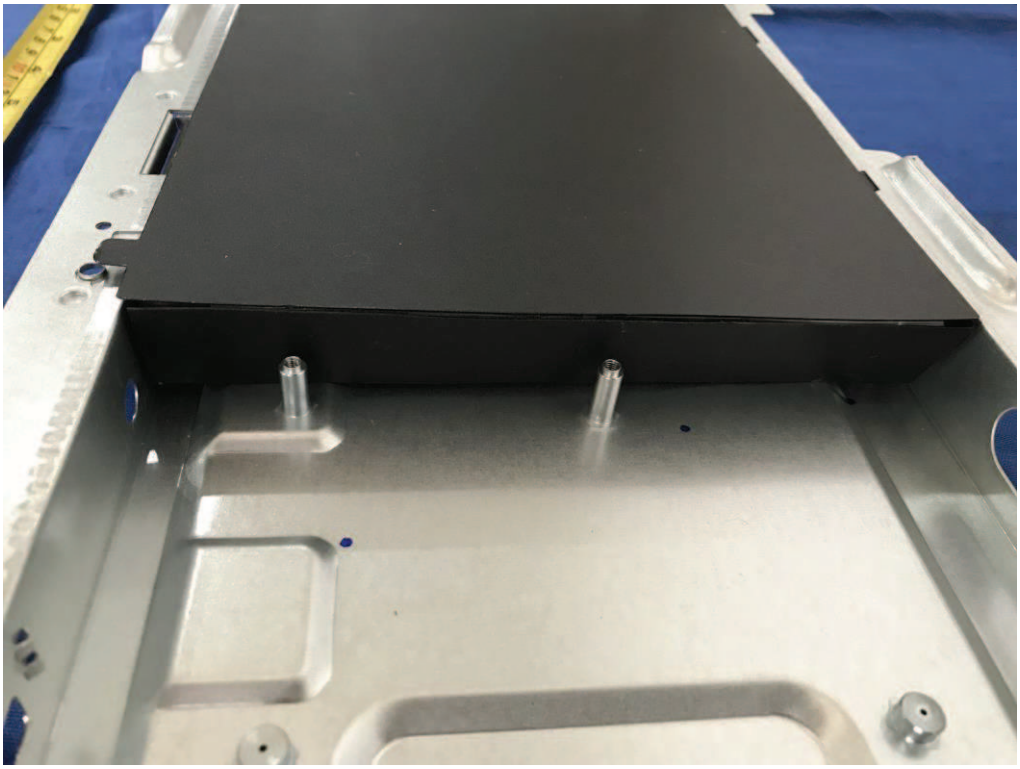


Figure 17. Internal view of metal enclosure

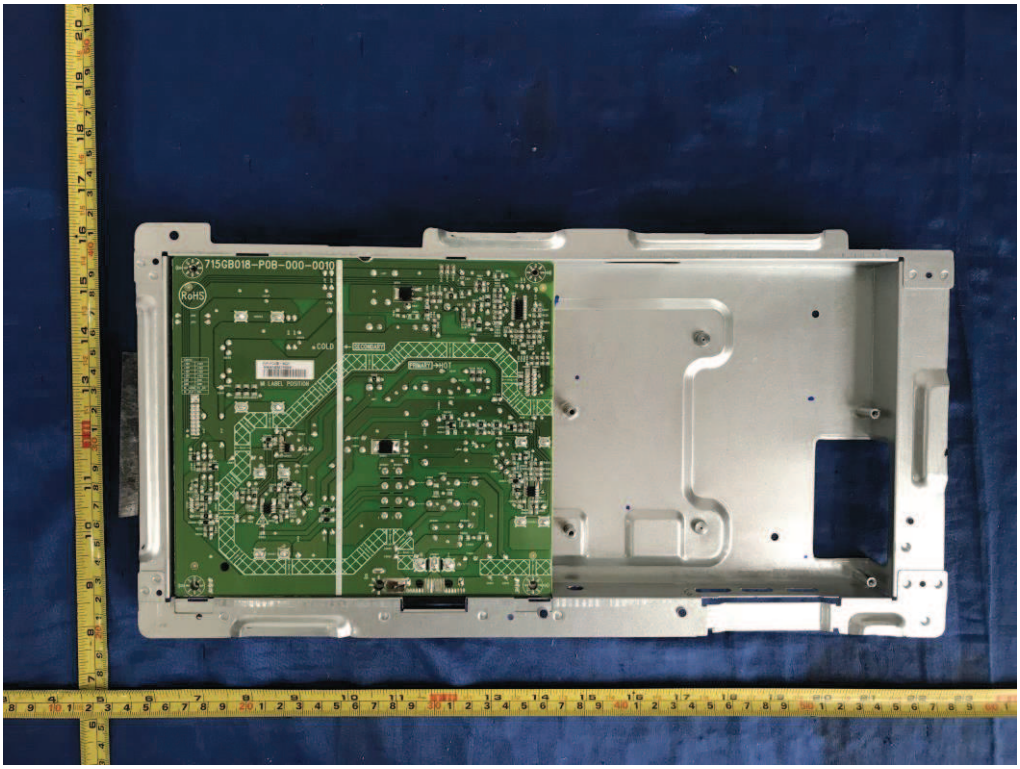


Figure 18. Internal view of metal enclosure

Product: LCD monitor (LED Backlight)

Type Designation: 28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)

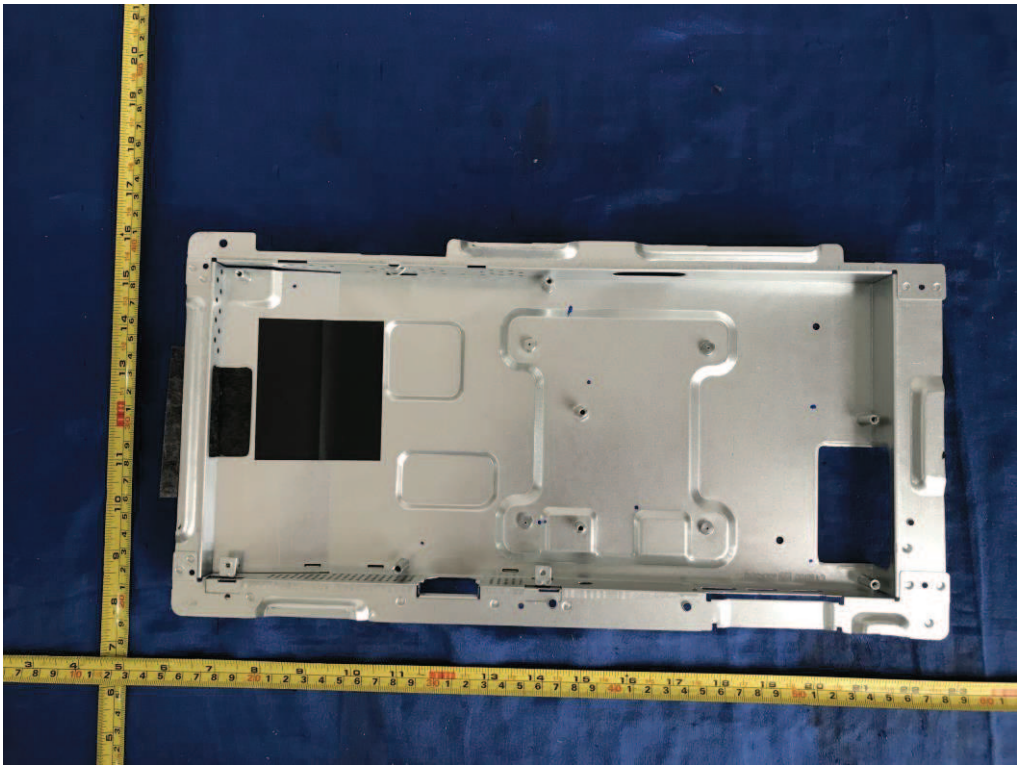


Figure 19. Internal view of metal enclosure

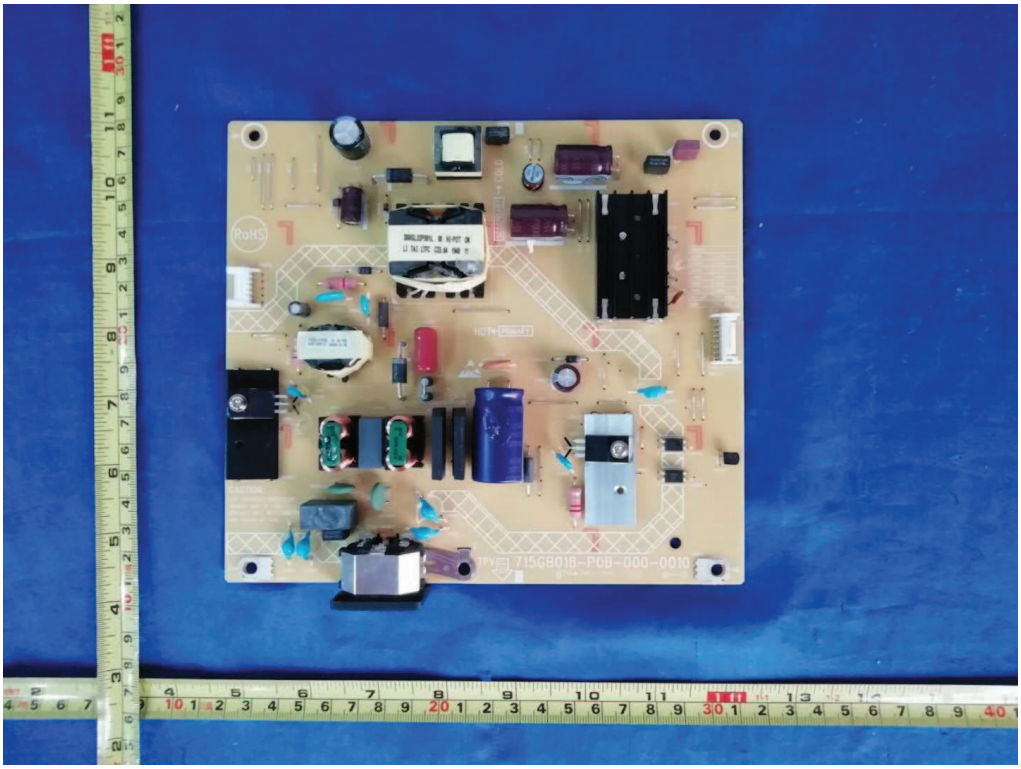


Figure 20. Power board 715GA018

Product: LCD monitor (LED Backlight)

Type Designation: 28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)

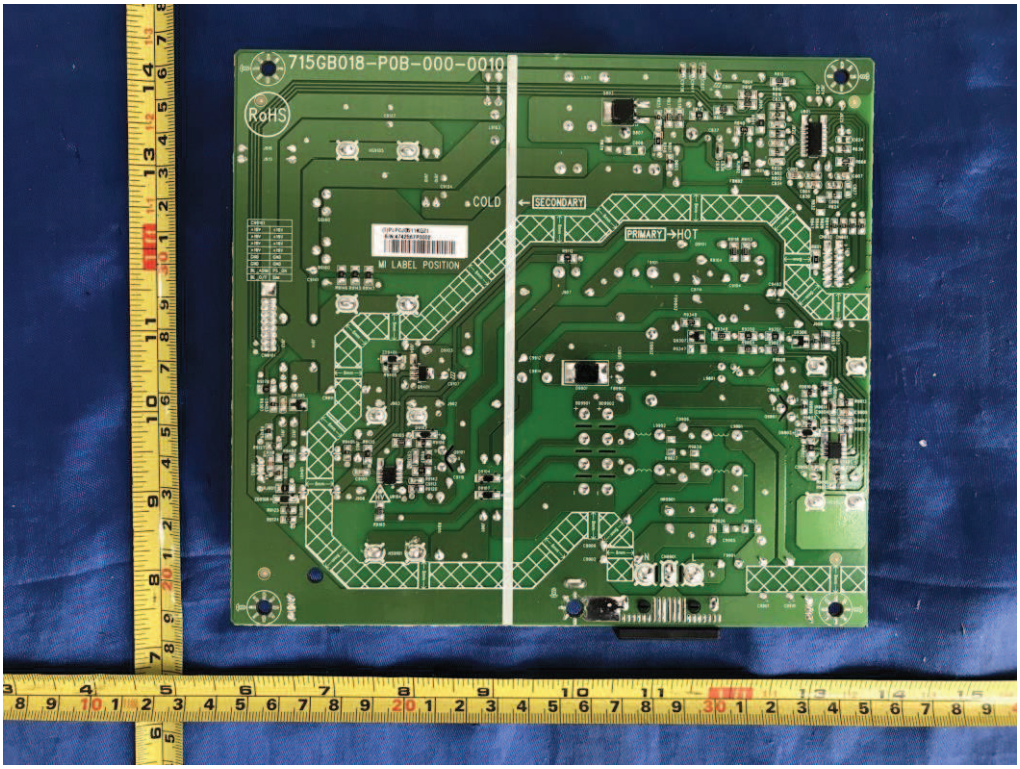


Figure 21. Power board 715GA018

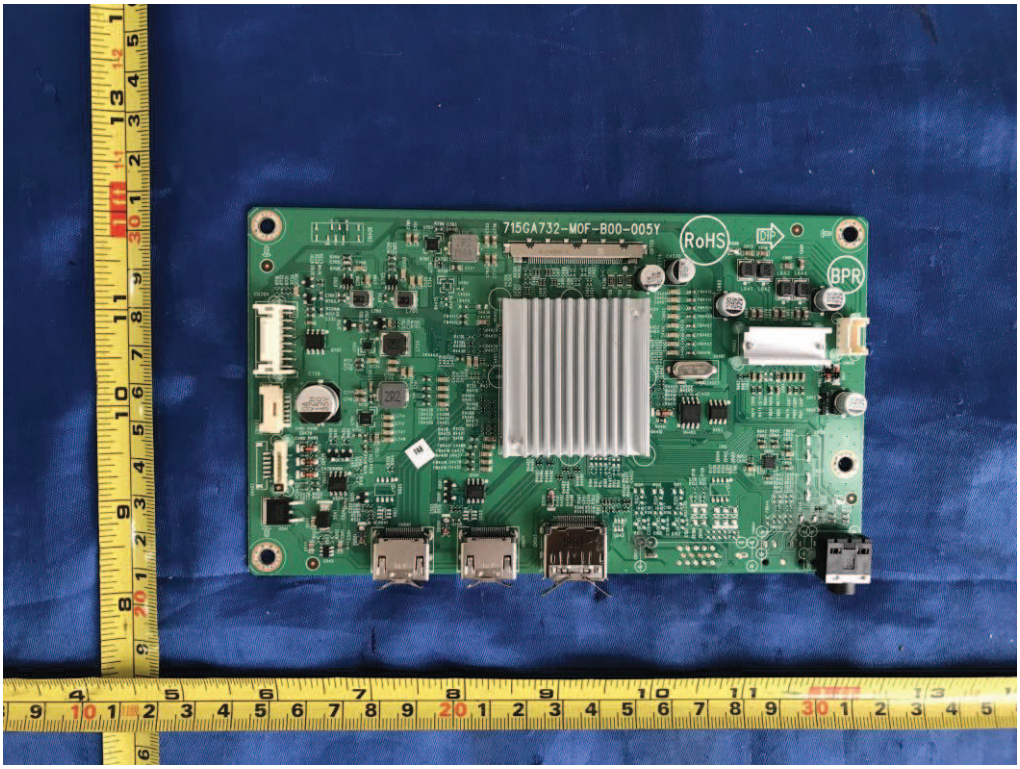


Figure 22. Main board 715GA732

Product: LCD monitor (LED Backlight)

Type Designation: 28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)

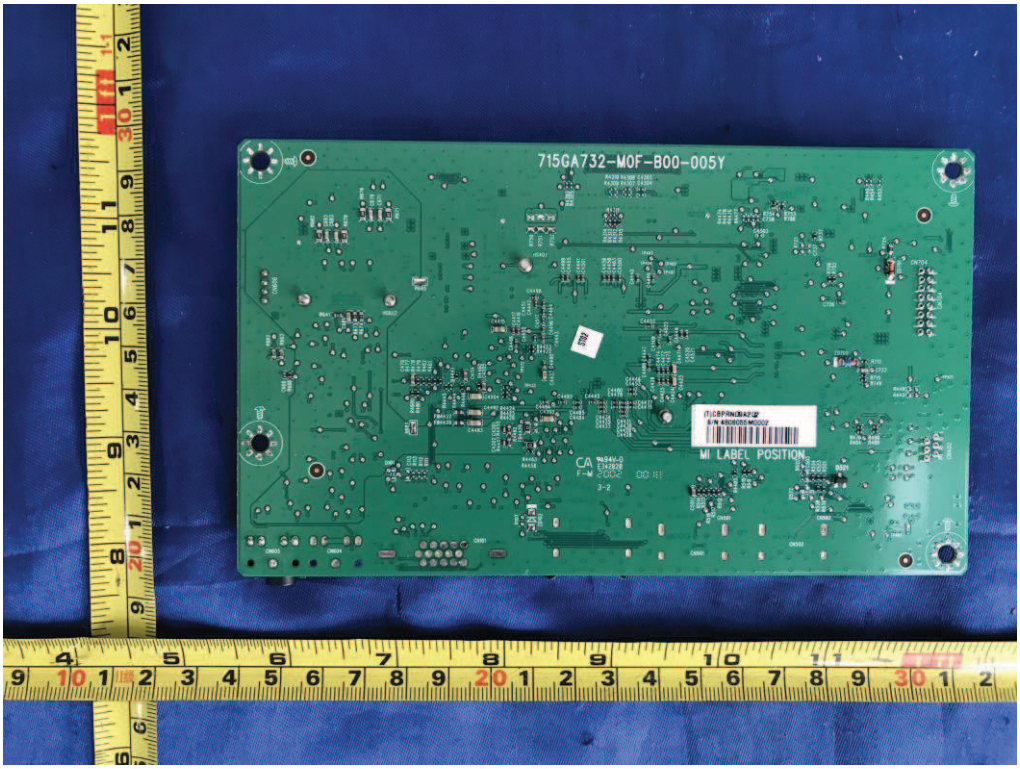


Figure 23. Main board 715GA732

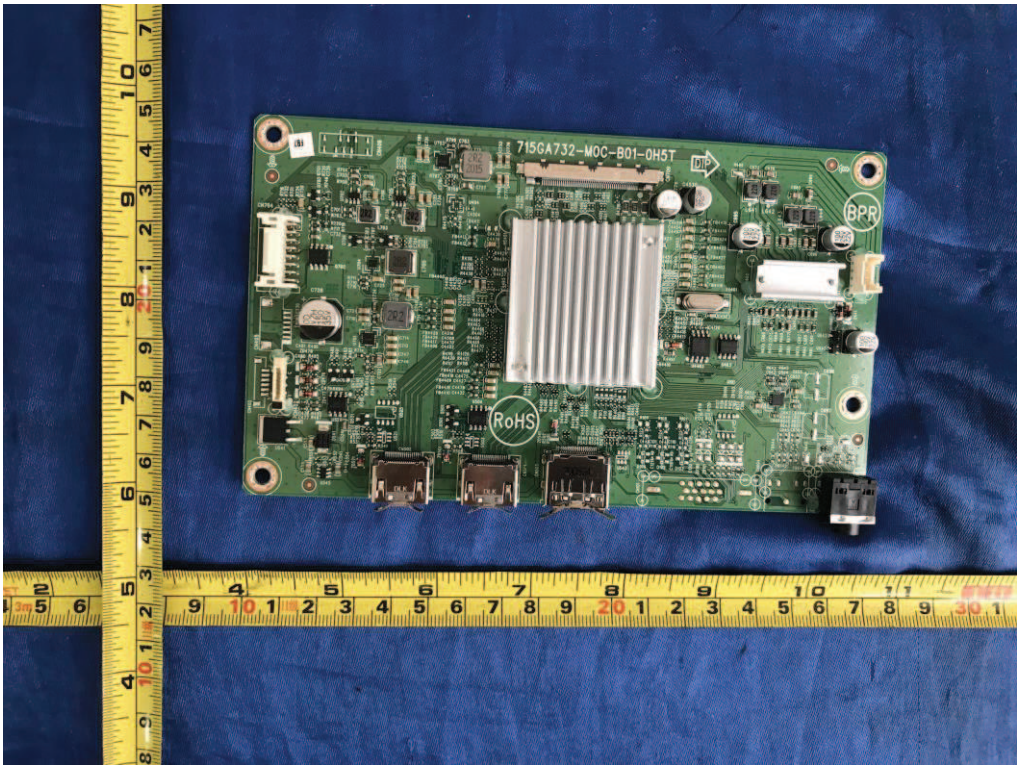


Figure 24. Main board 715GA732 (cancel output connector for USB board)

Product: LCD monitor (LED Backlight)

Type Designation: 28P2********, U28P2********, Q28P2********, 28G2********, U28G2********, Q28G2******** (* can be 0-9, A-Z, a-z, –, \, /, + or blank, represent different enclosure colour for marketing purpose)

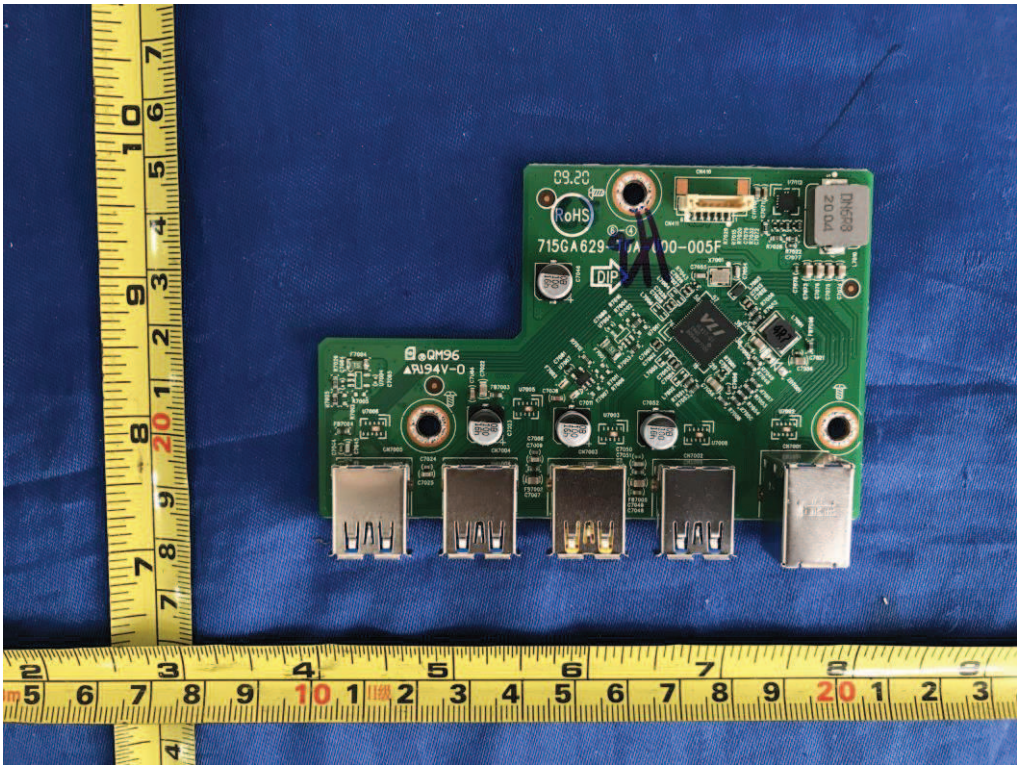


Figure 25. USB board 715GA629

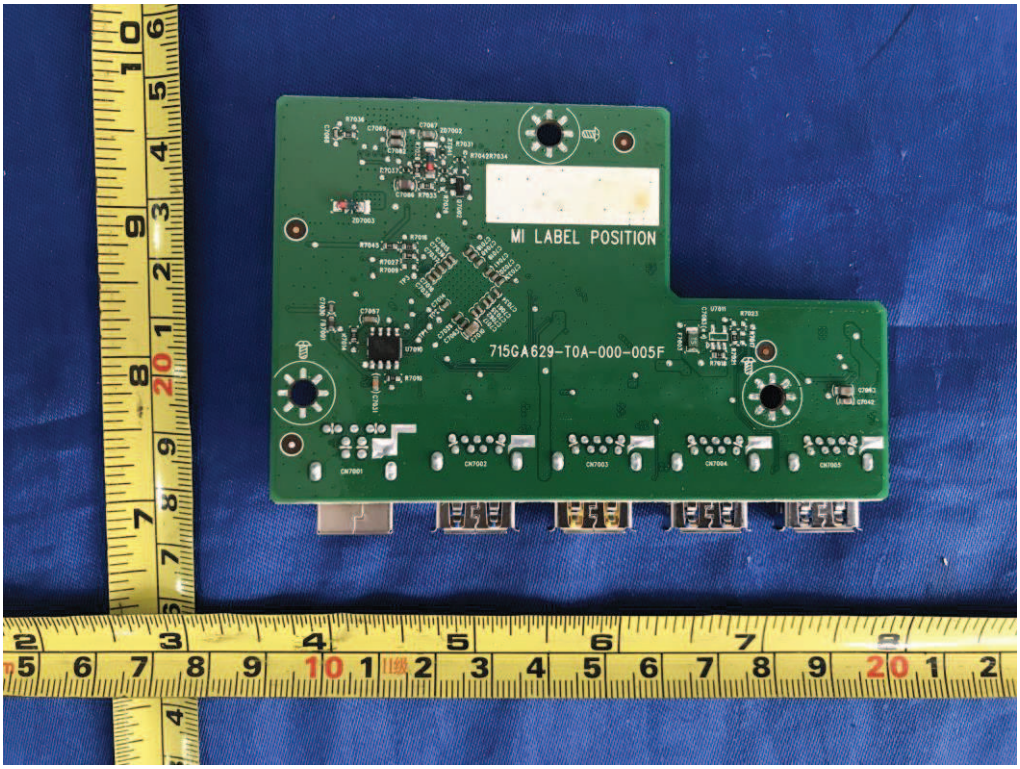


Figure 26. USB board 715GA629