



Test Report issued under the responsibility of:



TEST REPORT

IEC 62368-1

Audio/video, information and communication technology equipment

Part 1: Safety requirements

Report Number : CN234Y0T 001

Date of issue : Sept. 06, 2023

Total number of pages..... : 75

Name of Testing Laboratory
preparing the Report : TÜV Rheinland (Shenzhen) Co., Ltd.

Applicant's name : Guangzhou Shirui Electronics Co., Ltd.

Address : 192 Kezhu Road, Science Park, Guangzhou Economic & Technology,
Development District, Guangzhou, 510663 Guangdong, P.R. China

Test specification:

Standard : IEC 62368-1:2014

Test procedure : CB Scheme

Non-standard test method : N/A

TRF template used : IECEE OD-2020-F1:2021, Ed.1.4

Test Report Form No. : IEC62368_1D

Test Report Form(s) Originator ... : UL(US)

Master TRF..... : Dated 2022-04-14

Copyright © 2022 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE System). All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

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

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

General disclaimer:

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

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

Test item description	LCD MONITOR	
Trade Mark(s)	SHARP	
Manufacturer	Sharp NEC Display Solutions, Ltd. 4-28, Mita 1-chome, Minato-ku, Tokyo, 108-0073 Japan	
Model/Type reference	PN-ME502	
Ratings	Input: 100-240V~, 50/60Hz, 2.0-0.8 A (2.5A for Mexico)	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒	CB Testing Laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.
Testing location/ address.....	1601-1604, 17-18F, Tower A Building 2, Shenzhen International Innovation Valley, Dashi 1st Road, Xili Street, Xili Community, Shenzhen 518052 Nanshan District, China	
Tested by (name, function, signature)	Jace Chen / Project Handler	<i>Jace chen</i>
Approved by (name, function, signature)....	Julia Yan / Reviewer	<i>Julia Yan</i>
☐	Testing procedure: CTF Stage 1:	
Testing location/ address.....		
Tested by (name, function, signature)		
Approved by (name, function, signature)		
☐	Testing procedure: CTF Stage 2:	
Testing location/ address.....		
Tested by (name, function, signature)		
Witnessed by (name, function, signature).....		
Approved by (name, function, signature)		
☐	Testing procedure: CTF Stage 3 :	
☐	Testing procedure: CTF Stage 4:	
Testing location/ address.....		
Tested by (name, function, signature)		
Witnessed by (name, function, signature).....		
Approved by (name, function, signature)		
Supervised by (name, function, signature) ...		

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

Attachment 1: National differences (38 pages)

Attachment 2: Photo documentation (9 pages)

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

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

- The manufacturer specified the maximum ambient temperature as +40°C.
- Test samples without serial numbers.
- Highest load condition for this equipment is to operate at maximum brightness and contrast.

Testing location:

Unless otherwise indicated, all tests were performed at the location stated in "Testing procedure and testing location".

5.2	Electrical energy source classifications
5.3.2	Accessibility to electrical energy sources and safeguards (Accessibility test)
5.4.1.4, 6.3.2, 9.0, B.2.6	Maximum operating temperatures for materials, components and systems
5.4.2.2, 5.4.2.4 & 5.4.3	Minimum Clearances/Creepage distance
5.4.1.10.3	Ball pressure test
5.4.8	Humidity test
5.4.9	Electric strength test
5.6.6.2	Ground continuity test
5.7.4	Earthed conductive accessible parts test
6.2.2	Electrical power sources (PS) measurements for classification
8.6	Stability test
8.7	Equipment mounted to wall or ceiling
8.8	Handles strength
9.2	Thermal energy source Classifications
B.2.5	Input tests
B.3	Simulated Abnormal operating condition tests
B.4	Simulated single fault conditions
F.3.9	Durability, legibility and permanence of markings
Q.1.2	Limited power sources
T.2	Steady force test, 10 N
T.3	Steady force test, 30 N
T.5	Steady force test, 250N
T.6	Enclosure impact test
T.8	Stress relief test
T.9	Impact Test (glass)

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

EU Group Differences, EU Special National Conditions, US, CA, JP, DK, IT, SA.

Explanation of used codes: US=United States of America, CA=Canada, JP=Japanese, DK= Denmark, IT= ITALY

For National Differences see attachment 1 of this test report.

☒ The product fulfils the requirements of EN 62368-1:2014+A11:2017, BS EN 62368-1:2014+A11:2017, UL 62368-1:2014, CAN/CSA C22.2 No. 62368-1-14, J62368-1 (2020)

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

☒ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

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

Information on uncertainty of measurement:

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE. IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

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

Copy of marking plate:

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

SHARP MultiSync ME502

VOLTS Вольт 输入电压 輸入電壓 : 100-240V~
 AMPERES Ампер 电流 電流 : 2.0-0.8A (2.5A FOR MEXICO)
 FREQUENCY Частота 工作频率 工作頻率 : 50/60Hz

(MODEL / Модель / 型号 / 型號 / 모델명 : PN-ME502)



CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THE ENCLOSURE.
 NO USER-SERVICEABLE PARTS INSIDE.

ATTENTION: AFIN DE PREVENIR DE TOUT CHOC ELECTRIQUES, NE PAS OUVRIR CE BOITIER.
 AUCUNE PIECE INTERNE NE PEUT-ETRE CHANGEES PAR L'UTILISATEUR.

ACHTUNG: ZUR TRENNUNG VOM NETZ IST DER NETZSTECKER AUS DER STECKDOSE ZU ZIEHEN.
 GERÄT NICHT ÖFFNEN. ES SIND KEINE DURCH DEN BENUTZER AUSWECHSELBAREN TEILE IM GERÄT VORHANDEN.

PRECAUCIÓN: PARA PREVENIR DESCARGA ELÉCTRICA, NO quite el recinto.
 NINGUNAS PIEZAS DEL USUARIO SERVICABLE ADENTRO.

VAROITUS: LAITE ON LITETTÄVÄ SUOJAKOSKETTIMILLA VARUSTETTUN PISTORASIAAN.

VARNING: APPARATEN SKALL ANSLUTAS TILL JORDAT UTTAG.

ADVARSEL: APPARATET MÅ TILKOPLES JORDET STIKKONTAKT.

ADVARSEL: APPARATETS STIKPROP SKAL TILSLUTTES EN STIKKONTAKT
 MED JORD SOM GIVER FORBINDELSE TIL STIKPROPPENS JORD.

⚠ 注意：请勿打开后盖，小心高压电击，机内并无用户配件。

⚠ 注意：請勿打開後蓋，小心高壓電擊，機內並無用戶配件。

⚠ 警告：使用過度恐傷害視力。

사용상 주의사항 감전의 위험 및 제품의 손상이 발생할 수
 있으므로 제품의 커버를 열지 마십시오.

인증 서비스 센터 전화 번호: 080-022-1155 (호성ITX주식회사)

* 본 라벨과 전화번호는 국내 규정 내에서 적절한 목적으로만
 사용되어야 합니다.

FC THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.
 OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:
 (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND
 (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED,
 INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRABLE OPERATION.

CAN ICES-003(B) / NMB-003(B)

تنبيه

تجنب فتح الغطاء العلوي للجهاز منعاً للتعرض لصدمة كهربائية.
 لا يحتوي الجهاز على أجزاء داخلية قابلة للصيانة من قبل المستخدم.

HDMI

CE

UK



E494471
 I.T.E.
 JRZN



Brand contact:

Sharp NEC Display Solutions, Ltd.

シャープNECディスプレイソリューションズ株式会社

東京都港区三田一丁目4番28号

日本国東京都港区三田一丁目4番28号

4-28, Mita 1-chome, Minato-ku, Tokyo, Japan

Contact address for EMEA

Sharp NEC Display Solutions Europe GmbH

Landshuter Allee 12-14, 80637 Munich, Germany

Contact address for UK

Sharp Electronics (Europe) Limited

4 Furzeground Way, Stockley Park, Uxbridge, Middlesex, UB11 1EZ, United Kingdom

生産廠：浙江久融智能技術有限公司 生产厂：浙江久融智能技术有限公司

生产地址：浙江省杭州市钱塘新区白杨街道8号大街2号1幢101室

제조：Zhejiang Jiurong Intelligent Technology Co., Ltd.

LCD MONITOR
ЖК-монитор

液晶显示器 彩色显示器

모니터 (50 인치 LCD 모니터)

FOR JAPAN ONLY



高圧注意

サービスマン以外の方は分解しないで
 ください。内部には高圧電圧部分があり、
 万一触ると危険です。

感電注意

電源コードのアースリード線は必ず接
 地ください。故障のときに感電の原因
 になります。

定格電圧 : 100V-240V~

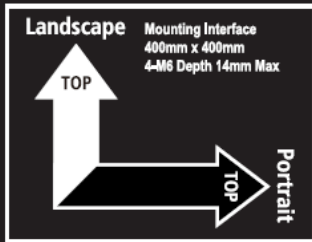
定格電流 : 2.0-0.8A

定格周波数 : 50/60Hz



??????-??

IP30



中国製造 中國製造
MADE IN CHINA FABRIQUE EN CHINE
FABRICADO EN CHINA Сделано в Китае

SHARP MultiSync ME502

VOLTS Вольт 输入电压 輸入電壓: 100-240V~
 AMPERES Ампер 电流 電流: 2.0-0.8A (2.5A FOR MEXICO)
 FREQUENCY Частота 工作频率 工作頻率: 50/60Hz

(MODEL / Модель / 型号 / 型號 / 모델명: PN-ME502)



CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THE ENCLOSURE.
 NO USER-SERVICEABLE PARTS INSIDE.

ATTENTION: AFIN DE PREVENIR DE TOUT CHOC ELECTRIQUES, NE PAS OUVRIR CE BOITIER.
 AUCUNE PIECE INTERNE NE PEUT-ETRE CHANGEES PAR L'UTILISATEUR.

ACHTUNG: ZUR TRENNUNG VOM NETZ IST DER NETZSTECKER AUS DER STECKDOSE ZU ZIEHEN.
 GERÄT NICHT ÖFFNEN. ES SIND KEINE DURCH DEN BENUTZER AUSWECHSELBAREN TEILE IM GERÄT VORHANDEN.

PRECAUCIÓN: PARA PREVENIR DESCARGA ELÉCTRICA, NO quite el recinto.
 NINGUNAS PIEZAS DEL USUARIO SERVICABLE ADENTRO.

VAROITUS: LAITE ON LITETTÄVÄ SUOJAKOSKETTIMILLA VARUSTETTUUN PISTORASIAAN.

VARNING: APPARATEN SKALL ANSLUTAS TILL JORDAT UTGÅG.

ADVARSEL: APPARATET MÅ TILKOPLES JORDET STIKKONTAKT.

ADVARSEL: APPARATETS STIKPROP SKAL TILSLUTTES EN STIKKONTAKT
 MED JORD SOM GIVER FORBINDELSE TIL STIKPROPPENS JORD.

⚠ 注意: 请勿打开后盖, 小心高压电击, 机内并无用户配件。

⚠ 注意: 請勿打開後蓋, 小心高壓電擊, 機內並無用戶配件。

⚠ 警語: 使用過度恐傷害視力。

사용상 주의사항 감전의 위험 및 제품의 손상이 발생할 수
 있으므로 제품의 커버를 열지 마십시오.

인증 서비스 센터 전화 번호: 080-022-1155 (효성ITX주식회사)

* 본 라벨과 전화번호는 국내 규정 내에서 적절한 목적으로만
 사용되어야 합니다.

FC THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.
 OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:
 (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND
 (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED,
 INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRABLE OPERATION.

CAN ICES-003(B) / NMB-003(B)

تنبيه

تجنب فتح الغطاء العلوي للجهاز منعاً للتعرض لصدمة كهربائية.
 لا يحتوي الجهاز على أجزاء داخلية قابلة للصيانة من قبل المستخدم.

HDMI **CE** **UK** **CA**



E494471
 I.T.E.
 DBH



Brand contact:

Sharp NEC Display Solutions, Ltd.
 シャープNECディスプレイソリューションズ株式会社
 東京都港区三田一丁目4番28号
 日本国東京都港区三田一丁目4番28号
 4-28, Mita 1-chome, Minato-ku, Tokyo, Japan

Contact address for EMEA

Sharp NEC Display Solutions Europe GmbH
 Landshuter Allee 12-14, 80637 Munich, Germany

Contact address for UK

Sharp Electronics (Europe) Limited
 4 Furzeground Way, Stockley Park, Uxbridge, Middlesex, UB11 1EZ, United Kingdom
 生産廠: 瑞能科技 (杭州) 有限公司 生产厂: 瑞能科技 (杭州) 有限公司
 生产地址: 浙江杭州经济技术开发区综合保税区东门3号2幢2楼
 제조: Dynabook Technology (Hangzhou) Inc.

LCD MONITOR

ЖК-монитор

液晶显示器 彩色显示器

모니터 (50 인치 LCD 모니터)

(MODEL / Модель / 型号 / 型號 / 모델명: PN-ME502)

FOR JAPAN ONLY



高圧注意

サービスマン以外の方は分解しないで
 ください。内部には高圧電圧部分があ
 り、万一触ると危険です。

感電注意

電源コードのアースリード線は必ず接
 地ください。故障のときに感電の原因
 になります。

定格電圧: 100V-240V~

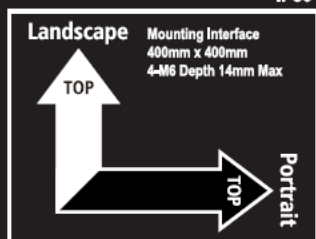
定格電流: 2.0-0.8A

定格周波数: 50/60Hz



??????-??

IP30



中国製造 中國製造
 MADE IN CHINA FABRIQUE EN CHINE
 FABRICADO EN CHINA Сделано в Китае

TEST ITEM PARTICULARS:	
Classification of use by	☒ Ordinary person ☐ Instructed person ☐ Skilled person ☒ Children likely to be present
Supply Connection	☒ AC Mains ☐ DC Mains ☐ External Circuit - not Mains connected - ☐ ES1 ☐ ES2 ☐ ES3
Supply % Tolerance	☒ +10%/-10% ☐ +20%/-15% ☐ +____%/ -____% ☐ None
Supply Connection – Type	☒ pluggable equipment type A - ☐ non-detachable supply cord ☒ appliance coupler ☐ direct plug-in ☐ mating connector ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☐ mating connector ☐ other: _____
Considered current rating of protective device as part of building or equipment installation	16 A (20A for US and CA, 13A for UK); Installation location: ☒ building; ☐ equipment
Equipment mobility	☒ movable (when base stand used) ☐ hand-held ☐ transportable ☒ stationary (when mounting means used) ☐ for building-in ☐ direct plug-in ☐ rack-mounting ☒ wall-mounted
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other: _____
Class of equipment	☒ Class I ☐ Class II ☐ Class III ☐ Class II with functional earthing ☐ Not classified
Access location	☐ restricted access location ☒ N/A
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified maximum operating ambient	40°C
IP protection class	☐ IPX0 ☒ IP_30__
Power Systems	☒ TN ☐ TT ☐ IT - ____ V _{L-L} ; ☐ dc mains ☐ N/A
Altitude during operation (m)	☐ 2000 m or less ☒ Up to 5000 m
Altitude of test laboratory (m)	☒ 2000 m or less ☐ ____ m
Mass of equipment (kg)	☒ Weight: 12.5 kg (Unit only); Base weight 1.88 kg.

Possible test case verdicts:	
- test case does not apply to the test object: N/A	
- test object does meet the requirement: P (Pass)	
- test object does not meet the requirement: F (Fail)	
Testing	
Date of receipt of test item: July 06, 2023	
Date (s) of performance of tests: July 06, 2023 to Aug. 09, 2023	
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 IEC62368-1:	
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).....:	Dynabook Technology (Hangzhou) Inc 2/F, Building2, NO.3, East Gate, Comprehensive bonded Zone, Hangzhou Economic and Technical Development Zone, 310018 Zhejiang, P.R. China Zhejiang Jiurong Intelligent Technology Co., Ltd. Room 101, Building 1, No. 2, 8th Street, Baiyang Street, Qiantang New District, Hangzhou City, Zhejiang, P.R. China K-tronics (Suzhou) Technology Co., Ltd. No.1088, Dajing Road, Economic and Technological Development Zone, Wujiang District, Suzhou, 215200 Jiangsu, P.R. China Guangzhou Shiyuan Ruichuang Electronic Technology Co., Ltd. 1F, 2F, 4F, Building B, No. 13, Zhishan Road, Huangpu District, Guangzhou, Guangdong, P.R. China Guangzhou Shiyuan Ruichuang Electronic Technology Co., Ltd. Building 69, Fenglang 1th Road, Huangpu District, Guangzhou, Guangdong, P.R. China
General product information and other remarks:	

Product Description –

The equipment is a LCD Monitor for indoor use only and for the use in information technology equipment or Audio and Video equipment.

The Unit has following features:

1. LCD panel type: S50N-UHD with LED backlight, 50 inch.
2. One optical output, one LAN port, one RS-232C, one AUDIO OUT, one remote in port, USB 2.0 (5V/0.5A), HDMI 1 (ARC)/HDMI 2/HDMI 3, USB3.0 (2 ports) (5V/0.9A), one Type-C port (5V/3A).
3. The equipment has tilt angle $\pm 30^\circ$
4. Build-in power board was separately approved according to IEC 62368-1, see appended 4.1.2 for details.
5. External metal enclosure used as fire enclosure, mechanical enclosure and electrical enclosure.
6. Base stand (optional) or mounting accessory should be used.
7. When using this monitor in a portrait position (viewing from the front), ensure to rotate it clockwise so that the left side is moved to the top and the right side is moved to the bottom.
8. The user manual specified the relevant information for installation instruction.
9. The equipment is operated up to 5000m above sea level as declared by manufacturer. Clearances have been evaluated according to IEC 62368-1: table 17 with a multiplication factor of 1.48 throughout this report.
10. For AU, NZ National Differences, see attachment 1 of this test report.
Explanation of used codes: AU=Australia, NZ=New Zealand.
National differences to AS/NZS 62368.1:2018 evaluated.

Model Differences –

N/A

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

N/A

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)
Internal circuits	ES3
LCD panel	ES1
Earthed metal enclosure	ES1
Accessible connectors and panel	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 internal circuit	PS3
USB port and Type-C port output	PS2
Accessible connectors	PS1
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)
Edges and corners of enclosure	MS1
Mass of the unit	MS2
Handle of unit	MS2
Wall mount unit	MS2 (mounting height not exceed 2m)
Wall mount unit	MS3 (mounting height exceed 2m)
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)
All accessible parts	TS1
Internal Parts/circuit of the unit in enclosure	TS3

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
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 Light	RS1
Backlight of LCD panel	RS1

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

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplement ary	Reinforced (Enclosure)
Ordinary	ES3: All internal circuits	N/A	N/A	Enclosure See 5.4.2, 5.4.3
Ordinary	ES1: Accessible parts	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source	Safeguards		
		Basic	Supplement ary	Reinforced
PCB	PS3 circuit	See 6.3	V-1 or better	N/A
Internal wiring	PS3 circuit	N/A	N/A	See 6.5
The other internal components/materials	PS3 circuit	See 6.3	See 6.4.6	N/A
USB port and Type-C port output	PS2 circuit	See 6.3	N/A	N/A
Accessible connectors and parts	PS1 circuit	N/A	N/A	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplement ary	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	Supplement ary	Reinforced (Enclosure)
Ordinary	MS1: Edges and corners	N/A	N/A	N/A
Ordinary	MS2: Equipment mass – max. 14.38 kg < 25 kg	N/A	N/A	See 8.6
Ordinary	MS2: Handle of unit and Mass of the unit	N/A	N/A	See 8.8
Ordinary	MS2: Wall mounted function, height not exceed 2m	N/A	N/A	See 8.7
Ordinary	MS3: Wall mounted function, height exceed 2m	N/A	N/A	See 8.7
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplement	Reinforced

			ary	
Ordinary	TS1: Accessible part	N/A	N/A	N/A
Ordinary	TS3: Internal parts/circuits	N/A	N/A	Enclosure
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplement ary	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. Also see sub-clause B.2, B.3 and B.4	P
4.1.15	Markings and instructions	(See Annex F)	P
4.4.4	Safeguard robustness	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	No such part.	N/A
4.4.4.6	Glass Impact tests	Similar laminated glass used.	N/A
4.4.4.7	Thermoplastic material tests	(See Annex T.8)	P
4.4.4.8	Air comprising a safeguard	(See Annex T)	P
4.4.4.9	Accessibility and safeguard effectiveness	No damaged. The class 3/2 energy sources could not become accessible to an ordinary person, and all other safeguards remain effective during and after above tests.	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	Compliance checked.	P
4.6.2	10 N force test applied to	10 N applied to all components other than the parts serving as an enclosure	P
4.7	Equipment for direct insertion into mains socket - outlets	The equipment is not for direct insertion into mains socket-outlets.	N/A
4.7.2	Mains plug part complies with the relevant standard		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3	Torque (Nm)		N/A
4.8	Products containing coin/button cell batteries	No such lithium coin/button batteries are used.	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery		—
4.8.4	Battery Compartment Mechanical Tests		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object	See Annex P	P

5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications	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 Annex E	P
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	Only ES1 circuit may be accessed to person in end system.	P
5.3.2.2	Contact requirements	See below.	P
	a) Test with test probe from Annex V	No bare parts at ES2 or ES3 or ES3 basic safeguard could be accessed by operator.	P
	b) Electric strength test potential (V)		N/A
	c) Air gap (mm)	Complied with the minimum distance requirement.	P
5.3.2.4	Terminals for connecting stripped wire	No such terminals.	N/A
5.4	Insulation materials and requirements		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.2	Properties of insulating material	Hygroscopic materials are not used for insulating material. Also see sub-clause 5.4.8 and 5.4.9.1	P
5.4.1.3	Humidity conditioning	(See sub-clause 5.4.8)	P
5.4.1.4	Maximum operating temperature for insulating materials	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degree	2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	No such part	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	Also considered in certified internal power supply	P
5.4.1.9	Insulating surfaces	Considered.	P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	Considered in certified internal power supply	P
5.4.1.10.2	Vicat softening temperature		N/A
5.4.1.10.3	Ball pressure	(See appended table 5.4.1.10.3)	P
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	2500 V _{peak}	—
	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	Not applicable.	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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.2	Minimum distance through insulation	(See appended table 5.4.4.2) Considered in certified internal power supply	P
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	Considered in certified internal power supply	N/A
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material	Considered in certified internal power supply	N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs)		N/A
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	Considered in certified internal power supply	N/A
5.4.4.9	Solid insulation at frequencies >30 kHz	Considered in certified internal power supply	N/A
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 (Electric strength test conducted after humidity treatment.)	P
	Relative humidity (%)	93	—
	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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test		N/A
5.4.10.2.3	Steady-state test		N/A
5.4.11	Insulation between external circuits and earthed circuitry		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V)		—
	Nominal voltage U_{peak} (V)		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		
5.5.1	General	Considered in certified internal power supply	N/A
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector	Considered in certified internal power supply	P
5.5.3	Transformers		N/A
5.5.4	Optocouplers		N/A
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPD's	See Annex G.8	P
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.....	No such external circuits.	N/A
5.6	Protective conductor		
5.6.2	Requirement for protective conductors	Protective conductor served as a supplementary safeguard to prevent accessible conductive parts from exceeding ES2 limits.	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.2.1	General requirements	Certified detachable power supply cord used and appliance coupler used	P
5.6.2.2	Colour of insulation	Green-and-yellow	P
5.6.3	Requirement for protective earthing conductors	Certified detachable power supply cord used	P
	Protective earthing conductor size (mm ²)	(See appended table 4.1.2)	—
5.6.4	Requirement for protective bonding conductors	See below.	P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm ²).....	18 AWG	—
	Protective current rating (A)	20A	—
5.6.4.3	Current limiting and overcurrent protective devices	No current limiting and overcurrent protective devices in parallel with any other components.	P
5.6.5	Terminals for protective conductors	Approved appliance inlet used. Others complied with Table 32	P
5.6.5.1	Requirement	See below.	P
	Conductor size (mm ²), nominal thread diameter (mm).	The screw connection with terminal and washer as in 5.6.5.2 to metal parts, as the protective bonding terminal, star washer screw type used for the connection which nominal thread diameter is 3.5 mm min.	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. Figure 4 of IEC 60990 was used in determining of the limit of ES1.	P
5.7.2.1	Measurement of touch current	See above	P
5.7.2.2	Measurement of prospective touch voltage		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.	—

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

	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.	N/A
	Supply Voltage (V)		—
	Measured current (mA)		—
	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
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	See the following details.	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)	P
6.2.2.5	PS2	(See appended table 6.2.2) Also considered in certified internal power supply.	P
6.2.2.6	PS3	Also considered in certified internal power supply.	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	No ignition and such temperature attained within the plastic fire enclosure (See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6).	P
6.3.1 (b)	Combustible materials outside fire enclosure		N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Method by control of fire spread applied, detail see sub-clauses 6.4.4, 6.4.5 and 6.4.6	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		P
6.4.5	Control of fire spread in PS2 circuits	See below.	P
6.4.5.2	Supplementary safeguards	(See appended tables 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuit	Compliance detailed as follows: - <u>All printed board</u>: rated min. V-1 - <u>Wire insulation</u>: complying with Clause 6 (See Table 4.1.2). - <u>All other components or parts</u>: at least V-2 except for parts mounted on V-1 material or small parts of combustible material (with mass less than 4g) or components complying to relevant IEC standard. - <u>USB connector</u>: complying with annex Q. - 5VB and metal material fire enclosure used. - Others considered in certified internal power supply.	P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.1	General		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier	No specific barrier provided.	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.8	Fire enclosures and fire barriers	See below.	P
6.4.8.1	Fire enclosure and fire barrier material properties	5VB and metal material fire enclosure provided.	P
6.4.8.2.1	Requirements for a fire barrier	No fire barrier used.	N/A
6.4.8.2.2	Requirements for a fire enclosure	See above.	P
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	Figure 41 and Figure 42 considered, detail see 6.4.8.3.3 and 6.4.8.3.4.	P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions(mm) :	Horizontal used: For top side: Openings that do not exceed 1 mm in width regardless of length; or Openings that do not exceed 5 mm in any dimension Top side: Numerous rectangle openings (0.95mm x 47.5mm); Side: Numerous circle openings (1.95mm) Vertical used: For top side: No openings Front side: Openings that do not exceed 3 mm in any dimension Numerous circle openings (1.95mm) Left side: Openings that do not exceed 1 mm in width regardless of length; or Openings that do not exceed 3 mm in any dimension Numerous rectangle openings (0.95mm x 47.5mm) and locate outside figure 44 of all PIS. Right side: Numerous rectangle openings for speaker (2.03mm x 8.03mm) but locate outside figure 44 of all PIS.	P
	Needle Flame test		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm)..... :	Horizontal used: Numerous rectangle openings for speaker (2.03mm x 8.03mm) but locate outside figure 42 of all PIS. Vertical used: For Bottom side: No openings	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 such door or cover can be opened by ordinary persons.	N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating	Metal enclosure used.	N/A
6.5	Internal and external wiring		P
6.5.1	Requirements	The material of VW-1 on internal wiring were considered compliance equivalent to IEC/TS 60695-11-21 relevant standards.	P
6.5.2	Cross-sectional area (mm ²)	See above.	—
6.5.3	Requirements for interconnection to building wiring	See appended tables 4.1.2	P
6.6	Safeguards against fire due to connection to additional equipment	All power delivering output connectors complied with Annex Q.1	P
	External port limited to PS2 or complies with Clause Q.1	See above.	P

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		P
7.2	Reduction of exposure to hazardous substances	No hazardous chemicals within the equipment.	P
7.3	Ozone exposure	No ozone production within the equipment.	N/A
7.4	Use of personal safeguards (PPE)	No such consideration.	N/A
	Personal safeguards and instructions..... :	See above.	—
7.5	Use of instructional safeguards and instructions	No chemical-caused injuries, the instruction safeguard was not required.	N/A
	Instructional safeguard (ISO 7010)	(See Annex F)	—
7.6	Batteries	Dry battery used in remote control.	P

8	MECHANICALLY-CAUSED INJURY		P
8.1	General	See the following details.	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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
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	Classification MS2 according to table 35, line 5	P
8.6.1	Product classification		P
	Instructional Safeguard..... :		—
8.6.2	Static stability		P
8.6.2.2	Static stability test		P
	Applied Force..... :	Rotated 360° at an angle of 10°. During the test, the EUT did not tip over.	—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.4	Glass slide test	During the test, the EUT did not tip over or slide.	P
8.6.5	Horizontal force test (Applied Force)	Rotated 360° at an angle of 15°. During the test, the EUT did not tip over.	P
	Position of feet or movable parts.....	No such parts	—
8.7	Equipment mounted to wall or ceiling	See below	P
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)	4 pcs, M6 x 14 mm screws were used	P
8.7.2	Direction and applied force.....	Test 2: 123 N applied for each point (four directions plus inward and outward). Test 3: 2.5Nm for each screws, tested and complied.	P
8.8	Handles strength		P
8.8.1	Classification	Classification MS2 according to table 35, line 5.	P
8.8.2	Applied Force	Additional 369N/2 plus equipment weight (123N/2) for each handle it can not be considered capable of being carried by only one handle.	P
8.9	Wheels or casters attachment requirements		N/A
8.9.1	Classification		N/A
8.9.2	Applied force		—
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard.....		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)		—
8.10.6	Thermoplastic temperature stability (°C)		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i>		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A

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

8.12	Telescoping or rod antennas.....:		N/A
	Button/Ball diameter (mm).....:		—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications	No part considered to be accessible other than enclosure. The equipment evaluated by temperature test (see table 5.4.1.4).	P
9.3	Safeguard against thermal energy sources	Temperature of enclosure classed as TS1.	P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard	Enclosure provided to limit the transfer of thermal energy of internal parts under normal operating conditions and abnormal operating conditions.	P
9.4.2	Instructional safeguard	Instructional safeguard is not required.	N/A

10	RADIATION		P
10.2	Radiation energy source classification	See below.	P
10.2.1	General classification	RS1	P
10.3	Protection against laser radiation		N/A
	Laser radiation that exists in the equipment:		—
	Normal, abnormal, single-fault		
	Instructional safeguard		—
	Tool		—
10.4	Protection against visible, infrared, and UV radiation		P
10.4.1	General	The following parts are considered as RS1 without tests: - Indicating lights; - backlight of LCD panel (brightness $\leq 10000 \text{cd/m}^2$)	P
10.4.1.a)	RS3 for Ordinary and instructed persons.....:		N/A
10.4.1.b)	RS3 accessible to a skilled person		N/A
	Personal safeguard (PPE) instructional safeguard		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1.:		N/A

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

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

	Maximum dB(A)..... :		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)..... :		—

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions	See the following details.	P
B.2.1	General requirements	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers	(See appended table B.2.5)	P
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		P
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	See below.	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors		N/A
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	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	No change to circuits classified in 5.3.	P
B.4.9	Battery charging under single fault conditions:	See Annex M	P
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		P
E.1	Audio amplifier normal operating conditions		P
	Audio signal voltage (V)	ES1	—
	Rated load impedance (Ω)	See table 4.1.2	—
E.2	Audio amplifier abnormal operating conditions	(See appended table B.3)	P
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements	See the following details.	P
	Instructions – Language	English. The other languages will be provided during the national approval.	—
F.2	Letter symbols and graphical symbols	See the following details.	P
F.2.1	Letter symbols according to IEC 60027-1		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.2.2	Graphic symbols IEC, ISO or manufacturer specific	Graphical symbols are complied with IEC 60417, ISO 3864-2, ISO 7000 or ISO 7010. - The product also marked with  (IEC 60417-5009) for the stand-by condition.	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Equipment marking is located on the exterior surface and is easily visible.	P
F.3.2	Equipment identification markings	See the following details.	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 the following details.	P
F.3.3.1	Equipment with direct connection to mains	The equipment is connected to AC mains supply.	P
F.3.3.2	Equipment without direct connection to mains	See above.	N/A
F.3.3.3	Nature of supply voltage	AC	—
F.3.3.4	Rated voltage	See copy of marking plate.	—
F.3.3.5	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	Only one supply connection.	N/A
F.3.4	Voltage setting device	No such devices within the equipment.	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		P
F.3.5.3	Replacement fuse identification and rating markings.....	Considered in certified power supply	P
F.3.5.4	Replacement battery identification marking	See M.10	P
F.3.5.5	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification	See the following details.	P
F.3.6.1	Class I Equipment	See the following details.	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	The equipment is not permanently connected equipment.	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.1.3	Protective bonding conductor terminals		P
F.3.6.2	Class II equipment (IEC 60417-5172)		N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking :	IP30	—
F.3.8	External power supply output marking	Not external power supply	N/A
F.3.9	Durability, legibility and permanence of marking	See the following details.	P
F.3.10	Test for permanence of markings	The marking plate was subjected to the permanence of marking test. The marking plate was rubbed with cloth soaked with water for 15 s and then again for 15 s with the cloth soaked with petroleum spirit. After each test, there was no damage to the marking plate. The marking on the label did not fade. There was no curling of the marking plate and removed by hand.	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	Provided in user's manual.	P
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard	The instruction is provided in the user's manual.	P
	g) Protective earthing conductor current exceeding ES2 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	Provided in user's manual.	P
F.5	Instructional safeguards		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction	The instruction is provided in the user's manual.	P
G	COMPONENTS		P
G.1	Switches		P
G.1.1	General requirements	Approved switch used.	P
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	Relays		N/A
G.2.1	General requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	Protection Devices		P
G.3.1	Thermal cut-offs		N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691		N/A
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	Certified internal power supply used	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	No such connector with insulated surfaces accessible within the EUT	N/A
G.4.2	Mains connector configuration	Approved AC inlet used.	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	Certified internal power supply used	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°		N/A
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)	Certified internal power supply used	P
	Position.....		—
	Method of protection		—
G.5.3.2	Insulation		N/A
	Protection from displacement of windings		—
G.5.3.3	Overload test.....		N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding Temperatures testing in the unit		N/A
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).....		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		P
G.6.1	General	Certified internal power supply used	P
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		P
G.7.1	General requirements	Certified detachable power supply cord used	P
	Type	(See appended table 4.1.2)	—
	Rated current (A)	(See appended table 4.1.2)	—
	Cross-sectional area (mm ²), (AWG)	(See appended table 4.1.2)	—
G.7.2	Compliance and test method		P
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
G.8.1	General requirements	Certified internal power supply used	P
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test		N/A
G.8.3.3	Temporary overvoltage		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No IC current limiter provided within the equipment.	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		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	Certified internal power supply used	P
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A

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

G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results).....:	Certified internal power supply used	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
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.16	IC including capacitor discharge function (ICX)		P
a)	Humidity treatment in accordance with sc 5.4.8 – 120 hours	Certified internal power supply used	P
b)	Impulse test using circuit 2 with U_c = to transient voltage		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance		—
D3)	Resistance		—
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringling 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	Certified internal power supply used	P
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method.....:		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location)		N/A
K.7.2	Overload test, Current (A).....:		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		P
L.1	General requirements	Appliance Inlet as disconnect device.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized	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		P
L.8	Multiple power sources		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		P
M.1	General requirements	Only dry battery used in remote control.	P
M.2	Safety of batteries and their cells	Two AAA batteries for Remote control are not Provided with appliance), which shall comply with IEC 60086-5	N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method) .. :		N/A
M.3	Protection circuits		P
M.3.1	Requirements		P
M.3.2	Tests		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery	Remote control only supplied by dry battery, and no charge circuit in remote control.	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery	Non-rechargeable alkaline batteries are considered safe under short-circuiting conditions and therefore are not tested for discharge.	N/A
M.3.3	Compliance :		N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature :		—
M.4.2.2 b)	Single faults in charging circuitry :		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method) :		N/A
M.6.2	Leakage current (mA) :		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 V_z (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) :	See user manual	P
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 the following details.	P
P.2.2	Safeguards against entry of foreign object	See below	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Location and Dimensions (mm) :	Horizontal used: For top side: Openings that do not exceed 1 mm in width regardless of length; or Openings that do not exceed 5 mm in any dimension Top side: Numerous rectangle openings (0.95mm x 47.5mm); Side: Numerous circle openings (1.95mm) Vertical used: For top side: No openings Front side: Openings that do not exceed 3 mm in any dimension Numerous circle openings (1.95mm) Left side: Openings that do not exceed 1 mm in width regardless of length; or Openings that do not exceed 5 mm in any dimension Numerous rectangle openings (0.95mm x 47.5mm) Right side: Numerous rectangle openings for speaker (2.03mm x 8.03mm) but there are no PIS and no bare conductive parts of ES3 or PS3 circuits within figure P.3	—
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	See above.	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	No such consideration.	N/A
P.3.1	General requirements		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	See table 4.1.2	N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C)..... :		—
	Tr (°C) :		—
	Ta (°C) :		—
P.4.2 b)	Abrasion testing :		N/A
P.4.2 c)	Mechanical strength testing :		N/A
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources	Certified internal power supply used and see appended table Annex Q.1	P
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		P
	- Regulating network limited output under normal operating and simulated single fault condition	A regulating network limits the output in compliance with table Q.1 both under normal operating conditions and after any single fault.	P
Q.1.1 c)	Overcurrent protective device limited output		N/A
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	No such circuit for connection to the EUT	N/A
	Maximum output current (A) :		—
	Current limiting method..... :		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)). :		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material :		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
S.5	Flammability test for fire enclosure materials of equipment with a steady-state power exceeding 4000 W		N/A
	Samples, material :		—
	Wall thickness (mm)..... :		—
	Conditioning (test condition), (°C)..... :		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A
T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements	See the following details.	P
T.2	Steady force test, 10 N :	10 N applied to all components other than the parts serving as an enclosure.	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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)	See appended table T.6, T.9	P
T.9.1	General requirements		P
T.9.2	Impact test and compliance		P
	Impact energy (J).....	1 J	—
	Height (m)	204	—
T.10	Glass fragmentation test		N/A
T.11	Test for telescoping or rod antennas	No such antennas are provided within the equipment.	N/A
	Torque value (Nm).....	See above.	—
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS 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	No access with test probes to any hazardous parts	P
V.2	Accessible part criterion		P

IEC 62368-1			
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 (Edition / year)	Mark(s) of conformity ¹)	
Metal Enclosure	Interchangeable	Interchangeable	Mid steel, min. 0.8mm thick	IEC 62368-1 EN 62368-1	Tested with appliance	
Plastic enclosure covered speaker	CHI MEI CORPORATION	PC-540(Y)(a)	5VB, 80°C, Min. thickness: 2.0mm	UL 746C, UL 94	UL E56070	
LCD panel	Guangzhou Shirui Electronics Co., Ltd	S50N-UHD	50 inch TFT- LCD type with LED backlight	IEC 62368-1 EN 62368-1	Tested with appliance	
SOSA plug (Optional)	I-Sheng	SP-62	13A/10A/5A/3A . 250V	BS 1363-1; SASO 2203:2018	CVC	
(Alternative)	I-Sheng	SP-65	10A/5A/3A. 250V	BS 1363-1; SASO 2203:2018	CVC	
(Alternative)	Interchangeable	Interchangeable	13A/10A/5A/3A . 250V	BS 1363-1; SASO 2203:2018	CVC	
Power cord (Optional)	I-Sheng	H05VV-F	Min. 3 x 0.75 mm ²	DIN EN 50525- 2- 11, EN 50525-2- 11:2011	VDE	
(Alternative)	I-Sheng	H03VV-F	Min. 3 x 0.75 mm ²	DIN EN 50525- 2- 11, EN 50525-2- 11:2011	VDE	
(Alternative)	I-Sheng	H05RR-F	Min. 3 x 0.75 mm ²	DIN EN 50525- 2- 11, EN 50525-2- 11:2011	VDE	
(Alternative)	Interchangeable	Interchangeable	Min. 3 x 0.75 mm ²	DIN EN 50525- 2- 11, EN 50525-2- 11:2011	VDE or other certification marks	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Appliance connector (optional)	I-Sheng	IS-033	2.5A, 250V	IEC/EN 60320-1	ENEC
(Alternative)	I-Sheng	IS-14	10A, 250V	IEC/EN 60320-1	ENEC
(Alternative)	Interchangeable	Interchangeable	Min.2.5A, 250Vac	IEC/EN 60320-1	ENEC or other certification marks
PCB (except for power board)	Interchangeable	Interchangeable	V-1 or better, Min.105°C.	UL 796	UL
AC Inlet	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	ST-A01-001L, ST-A01-002L, ST-A01-003J, ST-A01-003K ST-A01-002LTA	10 A(for VDE), 15A (for UL), 250 Vac, min. 70°C	IEC/EN 60320-1 UL 60320-1 or UL 498	VDE: 40013388 UL: E225980
(Alternative)	Interchangeable	Interchangeable	Min. 250Vac Min. 10A Min. 70°C for pins	IEC/EN 60320-1 UL 60320-1 or UL 498	UL, VDE
Power Switch	Zhe Jiang Bei Er Jia Electronic Co., Ltd	PS8A-11	12(6)A,125/250 Vac for UL; 8/108A, 12(4)A, 250Vac for VDE Min.10000 cycles, Min. 85°C Glow-wire test (GWT):850°C	IEC/EN 61058-1, ANSI/UL 61058-1	VDE: 40024550, UL: E23687 5
(Alternative)	LECI Electronics Co., Ltd	RS601 series	Min. 6A, 250Vac, Min.10000 cycles, Min. 85°C Glow-wire test (GWT):850°C	IEC 61058-1 IEC 61058-1-1 EN 61058-1-1, EN IEC 61058-1, ANSI/UL 61058-1	UL E258800, VDE 40017430

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Interchangeable	Interchangeable	Min. 125V~, 4A for UL, Min. 250V~, 4A for VDE Min.10000 cycles, Min. 85°C Glow-wire test (GWT):850°C	IEC/EN 61058-1, ANSI/UL 61058-1	UL, VDE
Internal primary wire	Interchangeable	1617, 1672	VW-1, Min. 300V, Min. 105°C, Min. 18AWG, Comply with double insulation., Each of insulation min. 0.4mm thick.	UL 758	UL
Earth wire	Interchangeable	Interchangeable	Min.18 AWG, 300VAC, 80 °C, VW-1, Green-and-yellow	UL 758	UL
Internal secondary wire (except LED output wire)	Interchangeable	Interchangeable	Min. 28 AWG, 30V~,80 °C, VW-1	UL 758	UL
Internal secondary wire (LED output wire)	Interchangeable	Interchangeable	Min. 28 AWG, 300V~,80 °C, VW-1	UL 758	UL
Speaker (two pcs)	Interchangeable	Interchangeable	Two: 6.0Ω, 16W.	IEC 62368-1 EN 62368-1	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Switching Power Supply	Guangzhou Shikun Electronics Co., Ltd.	PW.D232W2.751	Rated Input: 100-240V~, 50/60Hz, 4A Max., Class II Output: +12V DC 5A MAX, +18V DC 2.2A MAX, +100-165V DC 150W MAX	IEC 62368-1 EN 62368-1	CB by UL, Cert. No.: DK-143236-UL Test report No.: JCS230620 202-001
Mylar sheet under Power board / under AC inlet board	Shenzhen Bornsun Industrial Co., Ltd	BN-FP	V-0, Minimum thickness :0.4mm, 120 °C	UL 94, UL746C	UL E256822
(Alternative)	SABIC Japan LLC	FR700	V-0, Minimum thickness: 0.4mm, 125 °C	UL 94, UL746C	UL E207780
(Alternative)	SABIC Japan LLC	FR500	V-0, Minimum thickness: 0.4mm, 80 °C	UL 94, UL746C	UL E207780
(Alternative)	Suzhou Omay Optical Materials Co., Ltd.	SE42B	V-0, Minimum thickness: 0.4mm, 80 °C	UL 94, UL746C	UL E249605
(Alternative)	Shenzhen Teesun Technology Co., Ltd	TS-FR1370	V-0, Minimum thickness: 0.4mm, 125 °C	UL 94, UL746C	UL E329660
Ultra-capacitor (CN1)	Shandong Goldencell Electronics Technology Co., Ltd	HESC5R5105Z	1.0F, 5.5V, 70°C	IEC 62368-1 EN 62368-1	Tested with appliance

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

Tube of appliance inlet terminal	Foshan Fangpu Dipping Technology Co Ltd	Series FP	V-0, 105 °C	UL 746	UL E185679
Base stand (optional)	Interchangeable	Interchangeable	SGCC	IEC 62368-1 EN 62368-1	Tested with appliance

Supplementary Information:

- 1) Provided Evidence Ensures The Agreed Level Of Compliance. See OD-CB2039.
- 2) License available upon request.

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

4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests			N/A
(The following mechanical tests are conducted in the sequence noted.)				
4.8.4.2	TABLE: Stress Relief test			—
Part		Material	Oven Temperature (°C)	Comments
--		--	--	--
4.8.4.3	TABLE: Battery replacement test			—
Battery part no..... :		--	—	
Battery Installation/withdrawal			Battery Installation/Removal Cycle	Comments
--			1	--
			2	--
			3	--
			4	--
			5	--
			6	--
			8	--
			9	--
4.8.4.4	TABLE: Drop test			—
Impact Area		Drop Distance	Drop No.	Observations
--		--	--	--
--		--	--	--
--		--	--	--
4.8.4.5	TABLE: Impact			—
Impacts per surface		Surface tested	Impact energy (Nm)	Comments
--		--	--	--
--		--	--	--
--		--	--	--
4.8.4.6	TABLE: Crush test			—
Test position		Surface tested	Crushing Force (N)	Duration force applied (s)
--		--	--	--
--		--	--	--
Supplementary information:				

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

4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests	N/A
(The following mechanical tests are conducted in the sequence noted.)		

4.8.5	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	264 Vac, 60 Hz	Primary circuits supplied by a.c. mains supply	Normal	264Vrms	--	60	ES3
			Abnormal	--	--	--	
			Single fault	--	--	--	
2	264Vac, 60Hz	USB 3.0 on main board output “+” to “-”	Normal	5.15Vdc	--	DC	ES1
			Abnormal (for all conditions in Table B.3)	--	--	DC	
			Single fault (for all conditions in Table B.4)	--	--	DC	
3	264Vac, 60Hz	USB 2.0 on main board output “+” to “-”	Normal	5.15Vdc	--	DC	ES1
			Abnormal (for all conditions in Table B.3)	--	--	DC	
			Single fault (for all conditions in Table B.4)	--	--	DC	
4	264Vac,	Type-C on main board	Normal	5.15Vdc	--	DC	ES1

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

5.2	Table: Classification of electrical energy sources						P
	60Hz	output “+” to “-”	Abnormal (for all conditions in Table B.3)	--	--	DC	
			Single fault (for all conditions in Table B.4)	--	--	DC	
5	264Vac, 60Hz	Power board (output “+” to “-” for LED backlight) (CON2)	Normal	135.5 Vdc	--	DC	ES3
			Abnormal (for all conditions in Table B.3)	--	--	DC	
			Single fault (for all conditions in Table B.4)	--	--	DC	
6	264Vac, 60Hz	USB Output “+”/- to earth	Normal	--	0.022mApk	DC	ES1
			Abnormal (for all conditions in Table B.3)	--	--	DC	
			Single fault (for all conditions in Table B.4)	--	--	DC	
7	264Vac, 60Hz	Display screen surface with metal foil to earth	Normal	--	0.014mApk	DC	ES1
			Abnormal (for all conditions in Table B.3)	--	--	DC	
			Single fault (for all conditions in Table B.4)	--	--	DC	

5.2.2.3 - Capacitance Limits

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

Note: Certified internal power supply used.

5.2.2.4 - Single Pulses

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

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
				Duration (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

Test Conditions:

Normal – Max. normal load

Abnormal – No load

Supplementary information: SC = Short-circuited, OC = Open-circuited

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P
	Supply voltage (V)	See below	See below	See below	See below	—
	Ambient T _{min} (°C)	--	--	--	--	—
	Ambient T _{max} (°C)	--	--	--	--	—
	T _{ma} (°C)	--	--	--	--	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T _{max} (°C)
Test condition		Mode A	Mode B	Mode C	Mode D	--
AC inlet surface		56.7	54.8	50.9	47.5	70
Internal primary wire surface		63.4	60.3	52.3	49.6	105
AC connector surface		65.4	62.5	52.8	50.3	85
MOV1 body on power board		70.3	65.4	58.2	55.2	85
PCB near NTC2 on power board		83.1	70.7	88.0	75.3	130
E201 body on power board		72.7	69.0	63.9	61.0	105
CX1 body on power board		71.8	66.1	60.5	57.7	100
LC2 winding on power board		84.6	71.6	70.7	67.9	130
LC3 winding on power board		87.3	73.8	76.0	72.8	130
PCB near BD1 on power board		89.9	74.9	83.8	81.0	130
PCB near Q205 on power board		86.9	78.1	84.7	81.8	130
PCB near D201 on power board		86.6	78.3	83.9	81.0	130
T101 core on power board		88.4	88.0	84.1	81.3	110
T101 winding on power board		91.5	91.2	87.6	85.3	110
L201 winding on power board		88.0	74.8	87.8	84.5	130
Mylar sheet surface		80.2	79.1	76.9	73.6	See table 5.4.1.10.3 and 4.1.2
CY5 body on power board		71.5	70.9	64.6	61.4	125
PC102 body on power board		71.9	71.5	65.4	62.1	110
Internal secondary backlight wire		58.7	58.8	75.7	70.5	80
L801 winding on power board		93.0	92.5	95.9	93.1	130
PCB near U1 on T-con board		92.1	91.7	92.2	88.7	105
PCB near UA1 on main board		79.4	78.6	84.3	81.0	105
PCB near LA6 on main board		71.7	71.4	82.5	79.4	105

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

PCB near U1 on main board	79.0	78.4	85.1	81.5	105
Internal plastic enclosure	56.6	56.2	56.7	52.8	80
Ambient	Shifted to 40.0	Shifted to 40.0	Shifted to 40.0	Shifted to 40.0	--
External plastic enclosure	37.4	36.9	38.8	34.7	77
External metal enclosure	36.6	35.5	49.0	46.4	60
Switch body	42.1	40.6	36.4	33.4	77
Key button	29.0	28.5	29.1	28.6	77
Handle	27.5	26.6	28.4	28.7	48
LCD panel	34.9	35.0	36.3	36.3	71
Ambient	Shifted to 25.0	Shifted to 25.0	Shifted to 25.0	Shifted to 25.0	--

Supplementary information:

* Temperature limit for TS1 of accessible enclosure according to Table 38 to be measured at normal ambient temperature.

Note 3: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (T_{ma}) of 40°C. Above temperature value have been re-calculate to ambient temperature: 40°C.

Note 4: HDMI input mode, speaker was adjusted to 1/8 max. non-clipped output power; LCD panel was adjusted to maximum brighten and contrast.

Note 5: Temperature limits are calculated as follows:

Winding components providing safety isolation:

Class B → T_{max} = 120-10= 110°C

Mode A: Vertical normal operation, 90V/ 60Hz

Mode B: Vertical normal operation, 264V/ 50Hz

Mode C: Horizontal Tilt angle -30, 90V/ 60Hz

Mode D: Horizontal Tilt angle +30, 90V/ 60Hz

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:

Supplementary information:

Note 1: T_{ma} should be considered as directed by applicable requirement

Note 2: T_{ma} is not included in assessment of Touch Temperatures (Clause 9)

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P
	Supply voltage (V)	See below	See below	See below	--	—
	Ambient T _{min} (°C)	--	--	--	--	—
	Ambient T _{max} (°C)	--	--	--	--	—
	T _{ma} (°C)	--	--	--	--	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T _{max} (°C)
Test condition		Mode E	Mode F	Mode G	--	--
AC inlet surface		55.5	52.7	50.0	--	70
Internal primary wire surface		62.5	59.5	51.0	--	105
AC connector surface		64.4	61.1	51.5	--	85
MOV1 body on power board		69.3	66.5	56.8	--	85
PCB near NTC2 on power board		80.6	78.1	88.2	--	130
E201 body on power board		71.9	69.3	62.6	--	105
CX1 body on power board		70.7	68.2	59.2	--	100
LC2 winding on power board		84.7	80.9	69.3	--	130
LC3 winding on power board		87.9	84.5	74.7	--	130
PCB near BD1 on power board		90.3	88.0	82.4	--	130
PCB near Q205 on power board		88.2	86.1	83.2	--	130
PCB near D201 on power board		87.6	85.5	82.4	--	130
T101 core on power board		88.1	86.2	82.6	--	110
T101 winding on power board		91.2	89.6	86.3	--	110
L201 winding on power board		88.3	86.2	86.3	--	130
Mylar sheet surface		79.7	77.4	75.5	--	See table 5.4.1.10.3 and 4.1.2
CY5 body on power board		70.5	68.6	62.8	--	125
PC102 body on power board		71.3	68.8	63.8	--	110
Internal secondary backlight wire		58.6	56.3	73.9	--	80
L801 winding on power board		92.6	91.5	94.2	--	130
PCB near U1 on T-con board		91.4	89.4	90.7	--	105
PCB near UA1 on main board		78.6	77.3	83.8	--	105
PCB near LA6 on main board		71.0	69.6	80.3	--	105

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

PCB near U1 on main board	78.4	77.0	84.1	--	105
Internal plastic enclosure	56.2	54.2	55.3	--	80
Ambient	Shifted to 40.0	Shifted to 40.0	Shifted to 40.0	--	--
External plastic enclosure	37.1	34.3	37.3	--	77
External metal enclosure	35.2	35.0	47.9	--	60
Switch body	41.0	35.3	35.5	--	77
Key button	28.5	26.5	28.1	--	77
Handle	27.0	27.4	26.3	--	48
LCD panel	34.5	34.6	35.0	--	71
Ambient	Shifted to 25.0	Shifted to 25.0	Shifted to 25.0	--	--

Supplementary information:

* Temperature limit for TS1 of accessible enclosure according to Table 38 to be measured at normal ambient temperature.

Note 3: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (T_{ma}) of 40°C. Above temperature value have been re-calculate to ambient temperature: 40°C.

Note 4: HDMI input mode, speaker was adjusted to 1/8 max. non-clipped output power; LCD panel was adjusted to maximum brighten and contrast.

Note 5: Temperature limits are calculated as follows:

Winding components providing safety isolation:

Class B → T_{max} = 120-10= 110°C

Mode E: Vertical Tilt angle -30, 90V/ 60Hz

Mode F: Vertical Tilt angle +30, 90V/ 60Hz

Mode G: Horizontal normal operation, 90V/ 60Hz

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:

Supplementary information:

Note 1: T_{ma} should be considered as directed by applicable requirement

Note 2: T_{ma} is not included in assessment of Touch Temperatures (Clause 9)

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

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)	
Mylar sheet under Power board / Model: SE42B	Suzhou Omay Optical Materials Co., Ltd.		125	1.25	
Mylar sheet under Power board / Model: FR500	SABIC Japan LLC		125	1.30	
Supplementary information:					
Evaluated in certified internal power supply.					

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz) ¹	Required cl (mm)	cl (mm) ²	Required ³ cr (mm)	cr (mm)
Primary component to secondary wire (R)	630 ³⁾	332 ³⁾	--	3.8 (2.54*1.48) (4.5(3.0*1.48 for appended table 5.4.2.3))	9.5	6.8	9.5
Primary component to back metal enclosure (B)	630 ³⁾	332 ³⁾	--	1.9 (1.27*1.48) (2.3(1.5*1.48 for appended table 5.4.2.3))	5.6	3.4	5.6

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

L-N (AC Inlet) (B)	420	250	--	1.9 (1.27*1.48) (2.3(1.5*1.48 for appended table 5.4.2.3))	11.5	2.5	11.5
L/N-PE (AC Inlet) (B)	420	250	--	1.9 (1.27*1.48) (2.3(1.5*1.48 for appended table 5.4.2.3))	4.8	2.5	4.8

Supplementary information:

Note 1: Only for frequency above 30 kHz

Note 2: See table 5.4.2.4 if this is based on electric strength test

Note 3: Provide Material Group

B=Basic insulation, R=Reinforce insulation

Internal secondary wires are shortly enough and cannot touch any primary circuit.

Approved power board used.

The metal plate of panel connected to metal chassis considered as earthed.

Insulation sheets used between power board and metal enclosure.

Tubes were used at appliance inlet/outlet terminal

Material group: IIb.

*The equipment is operated up to 5000m above sea level as declared by manufacturer. Clearances have been evaluated according to IEC 62368-1: table 17 with a multiplication factor of 1.48 throughout this report.

Unless otherwise specified, the worst case conditions of Cl. & Cr. in above mentioned locations have been considered and listed.

3) Evaluated in CB report of Build-in power board

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage			P
	Overtoltage Category (OV):			II
	Pollution Degree:			2
Clearance distanced between:		Required withstand voltage	Required cl (mm)*	Measured cl (mm)
Basic Insulation		2500	2.3 (1.5*1.48)	See table 5.4.2.2, 5.4.2.4 and 5.4.3
Reinforce Insulation		2500	4.5 (3.0*1.48)	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.				

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

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)
--		--	--	--	--	--
--		--	--	--	--	--
Supplementary information:						
Insulation sheet used under power board and AC inlet board considered as basic insulation. others see CB report of Build-in power board.						

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Basic/supplementary:				
L to N (fuse disconnected)	DC	2500	No	
L/N to GND	DC	2500	No	
Primary circuit to metal enclosure	DC	2500	No	
Mylar sheet under power board	DC	2500	No	
Output wire from CON1 to LED	DC	2500	No	
Reinforced:				
Unit primary to secondary terminals	DC	4000	No	
Unit primary to LCD panel with metal foil	DC	4000	No	
Unit primary to plastic enclosure with metal foil	DC	4000	No	
Internal primary wire	DC	4000	No	
Supplementary information:				

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

Test after humidity treatment, heating test, and for unit primary to secondary terminals, primary to enclosure electric strength after each fault condition test.

The DC voltage source was performed on all testing once in forward and once in reverse.

For other consideration which is not mentioned in this report, see CB report of Build-in power board.

5.5.2.2	TABLE: Stored discharge on capacitors					N/A
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification	
--	--	--	--	--	--	
Supplementary information:						
X-capacitors installed for testing are: ☐ bleeding resistor rating: ☐ ICX: Notes: A. Test Location: Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth B. Operating condition abbreviations: N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition OC= open circuit Evaluated in certified power board, see CB report of Build-in power board for details.						

5.6.6.2	TABLE: Resistance of protective conductors and terminations				P
Accessible part		Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
Metal enclosure to inlet protective earthing conductor		32	2	0.448	0.014
Metal enclosure to inlet protective earthing conductor		40	2	0.720	0.018
Supplementary information:					

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part			P
Supply voltage	264V/60Hz			—
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)

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

Metal enclosure	1	max. 0.236mA _{pk}
	2*	--
	3	--
	4	--
	5	--
	6	--
	8	--

Supplementary information:

Notes:

[1] Supply voltage is the anticipated maximum Touch Voltage

[2] Earthed neutral conductor [Voltage differences less than 1% or more]

[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3

[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.

[5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.

6.2.2	Table: Electrical power sources (PS) measurements for classification					P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s ^{*)}	PS Classification	
Power board (output “+” to “-” for LED backlight) (CON2)	Normal	Power (W) :	117.2	117.2	PS3	
		V _A (V) :	135.5	135.5		
		I _A (A) :	0.865	0.865		
Supplementary Information: (*) Measurement taken only when limits at 3 seconds exceed PS1 limits						

6.2.3.1	TABLE: Determination of Potential Ignition Sources (Arcing PIS)				P
Location	Open circuit voltage After 3 s (V _p)	Measured r.m.s current (I _{rms})	Calculated value (V _p x I _{rms})	Arcing PIS? Yes / No	
2)	2)	2)	2)	Yes (declared)	
Supplementary information:					
An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V _p) and normal operating condition rms current (I _{rms}) is greater than 15.					
2) All primary components located within the EUT are considered as arcing PIS.					

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

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)	3)	Yes (declared)	
Supplementary information:						
A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter. If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification. A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, <u>or</u> (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 primary 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:			

B.2.5	TABLE: Input test							P
U (Vac)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
90	50	1.558	--	139.9	--	F1	1.558	HDMI mode: USB2.0=5Vdc, 0.5A*1
90	60	1.551	--	139.7	--	F1	1.551	

IEC 62368-1									
Clause		Requirement + Test						Result - Remark	
100	50	1.395	2.0	138.5	--	F1	1.395	USB3.0=5Vdc, 0.9A*2 Main Type-C terminal= 5Vdc, 3.0A*1 1kHz sine wave signal input, 1/8 maximum non-clipped, three vertical bar, maximum brightness, contrast.	
100	60	1.392	2.0	138.2	--	F1	1.392		
240	50	0.584	0.8	135.3	--	F1	0.584		
240	60	0.582	0.8	135.2	--	F1	0.582		
264	50	0.538	--	135.1	--	F1	0.538		
264	60	0.536	--	135.0	--	F1	0.536		
90	50	1.530	--	137.4	--	F1	1.530	USB2.0 Mode: USB2.0=5Vdc, 0.5A*1 USB3.0=5Vdc, 0.9A*2 Main Type-C terminal=5Vdc, 3.0A*1 1kHz sine wave signal input, 1/8 maximum non-clipped, three vertical bar, maximum brightness, contrast.	
90	60	1.523	--	137.2	--	F1	1.523		
100	50	1.370	2.0	136.0	--	F1	1.370		
100	60	1.367	2.0	135.7	--	F1	1.367		
240	50	0.573	0.8	132.8	--	F1	0.573		
240	60	0.571	0.8	132.7	--	F1	0.571		
264	50	0.528	--	132.6	--	F1	0.528	Main USB3.0: USB2.0=5Vdc, 0.5A*1 USB3.0=5Vdc, 0.9A*2 Main Type-C terminal=5Vdc, 3.0A*1 1kHz sine wave signal input, 1/8 maximum non-clipped, three vertical bar, maximum brightness, contrast.	
264	60	0.526	--	132.5	--	F1	0.526		
90	50	1.508	--	135.4	--	F1	1.508		
90	60	1.501	--	135.2	--	F1	1.501		
100	50	1.350	2.0	134.0	--	F1	1.350		
100	60	1.347	2.0	133.7	--	F1	1.347		
240	50	0.563	0.8	130.8	--	F1	0.563	Android mode: USB2.0=5Vdc, 0.5A*1 USB3.0=5Vdc, 0.9A*2 Main Type-C terminal=5Vdc, 3.0A*1 1kHz sine wave signal input, 1/8 maximum non-clipped, three vertical bar, maximum brightness, contrast.	
240	60	0.561	0.8	130.7	--	F1	0.561		
264	50	0.520	--	130.6	--	F1	0.520		
264	60	0.518	--	130.5	--	F1	0.518		
90	50	1.552	--	139.4	--	F1	1.552		
90	60	1.546	--	139.2	--	F1	1.546		
100	50	1.390	2.0	138.0	--	F1	1.390	LAN mode: USB2.0=5Vdc, 0.5A*1 USB3.0=5Vdc, 0.9A*2 Main Type-C terminal=5Vdc, 3.0A*1	
100	60	1.387	2.0	137.7	--	F1	1.387		
240	50	0.581	0.8	134.8	--	F1	0.581		
240	60	0.579	0.8	134.7	--	F1	0.579		
264	50	0.536	--	134.6	--	F1	0.536		
264	60	0.534	--	134.5	--	F1	0.534		
90	50	1.541	--	138.4	--	F1	1.541	LAN mode: USB2.0=5Vdc, 0.5A*1 USB3.0=5Vdc, 0.9A*2 Main Type-C terminal=5Vdc, 3.0A*1	
90	60	1.535	--	138.2	--	F1	1.535		
100	50	1.380	2.0	137.0	--	F1	1.380		
100	60	1.377	2.0	136.7	--	F1	1.377		

IEC 62368-1			
Clause	Requirement + Test		Verdict

240	50	0.576	0.8	133.8	--	F1	0.576	1kHz sine wave signal input, 1/8 maximum non-clipped, three vertical bar, maximum brightness, contrast.
240	60	0.574	0.8	133.7	--	F1	0.574	
264	50	0.532	--	133.6	--	F1	0.532	
264	60	0.530	--	133.5	--	F1	0.530	

Supplementary information:

The measured input current at rated voltage shall be less than or equal to 110 % of rated current.

Audio signal voltage:

for maximum non-clipped output power was 7.32 V,

for 1/8 maximum non-clipped output power was 2.59 V.

B.3		TABLE: Abnormal operating condition tests						P
Ambient temperature (°C)						See below		—
Power source for EUT: Manufacturer, model/type, output rating						--		—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Speaker	Max. non-clipped	264	2 hours 31 mins	F1	0.610	Type K	T101 transformer winding on power board: 96.2°C T101 transformer core on power board: 94.0°C Ambient: 40.0°C (shifted) Plastic enclosure: 37.9 °C Metal enclosure: 36.5°C Switch body: 41.6°C Key button: 29.2°C Handle: 27.6°C LCD Panel: 35.3°C Ambient: 25.0°C (shifted)	Apparatus temperature rise until stability, no damage, no hazards. Touch voltage: (Main USB3.0 + to -): 5.15Vdc. (Main USB2.0 + to -): 5.15Vdc. (Main Type-C + to -): 5.15Vdc. Touch current (output “+”/“-” to earth and Display screen surface to earth): 0.022mA _{peak} and 0.014mA
Openings	Blocked	264	2 hours	F1	0.538	Type K	T101 transformer	Apparatus

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
			34 mins				winding on power board: 95.6°C T101 transformer core on power board: 92.9°C Ambient: 40.0°C (shifted) Plastic enclosure: 40.1 °C Metal enclosure: 40.1°C Switch body: 41.8°C Key button: 28.7°C Handle: 27.1°C LCD Panel: 35.2°C Ambient: 25.0°C (shifted)	temperature rise until stability, no damage, no hazards. Touch voltage: (Main USB3.0 + to -): 5.15Vdc. (Main USB2.0 + to -): 5.15Vdc. (Main Type-C + to -): 5.15Vdc. Touch current (output “+”/“-” to earth and Display screen surface to earth): 0.022mApeak and 0.014mA
Main USB2.0 Output	OL	264	4 hours 09 mins	F1	0.538→ 0.563→ 0.532	Type K	T101 transformer winding on power board: 94.1°C T101 transformer core on power board: 91.3°C Ambient: 40.0°C (shifted) Plastic enclosure: 38.2 °C Metal enclosure: 36.9°C Switch body: 42.0°C Key button: 29.4°C Handle: 27.8°C LCD Panel: 36.4°C Ambient: 25.0°C (shifted)	Apparatus main USB2.0 output load Max. current is 1.50A, main USB2.0 shut down immediately when load to 1.60A and display screen normal working, no damage, no hazards. Touch voltage: (Main USB3.0 + to -): 5.15Vdc. (Main USB2.0 + to -): 5.15Vdc. (Main Type-C + to -): 5.15Vdc. Touch current

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

								(output “+”/“-” to earth and Display screen surface to earth): 0.022mA _{peak} and 0.014mA
Main USB3.0 Output	OL	264	3 hours 27 mins	F1	0.538→ 0.553→ 0.521	Type K	T101 transformer winding on power board: 92.2°C T101 transformer core on power board: 89.2°C Ambient: 40.0°C (shifted) Plastic enclosure: 37.0 °C Metal enclosure: 35.8°C Switch body: 40.7°C Key button: 28.9°C Handle: 27.0°C LCD Panel: 35.3°C Ambient: 25.0°C (shifted)	Apparatus main USB3.0 output load Max. current is 1.50A, main USB3.0 shut down immediately when load to 1.60A and display screen normal working, no damage, no hazards. Touch voltage: (Main USB3.0 + to -): 5.15Vdc. (Main USB2.0 + to -): 5.15Vdc. (Main Type-C + to -): 5.15Vdc. Touch current (output “+”/“-” to earth and Display screen surface to earth): 0.022mA _{peak} and 0.014mA
Type-C Terminal output	OL	264	3 hours 16 mins	F1	0.538→ 0.545→ 0.469	Type K	T101 transformer winding on power board: 92.0°C T101 transformer core on power board: 88.7°C Ambient: 40.0°C (shifted) Plastic enclosure:	Apparatus main Type-C output load Max. current is 3.20A, main Type-C shut down immediately when load to 3.30 A and

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

							38.0 °C Metal enclosure: 36.6°C Switch body: 41.7°C Key button: 29.6°C Handle: 27.8°C LCD Panel: 36.1°C Ambient: 25.0°C (shifted)	display screen normal working, no damage, no hazards. Touch voltage: (Main USB3.0 + to -): 5.15Vdc. (Main USB2.0 + to -):5.15Vdc. (Main Type-C + to -): 5.15Vdc. Touch current (output “+”/“-” to earth and Display screen surface to earth): 0.022mA _{peak} and 0.014mA
--	--	--	--	--	--	--	--	--

Supplementary information:

Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.

In abnormal column, OL=over-loaded, SC: Short-circuited.

1) Winding Limit for transformer: 175-10=165°C. Enclosure outside: TS2=70°C (metal enclosure), TS2=87°C (Plastic enclosure); TS2=87°C (switch); TS2=81°C (panel surface); TS2=61°C (Handle).

2). Tested with HDMI mode.

B.4 TABLE: Fault condition tests							P	
Ambient temperature (°C) :							25°C, if not specified	
Power source for EUT: Manufacturer, model/type, output rating :							--	
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
Speaker	SC	264	3 hour 09 mins	F1	0.524	Type K	T101 transformer winding on power board: 91.6°C T101 transformer core on power board: 88.2°C Ambient: 40.0°C (shifted) Plastic enclosure: 37.9 °C Metal enclosure: 36.4°C Switch body: 41.4°C Key button: 29.4°C Handle: 27.6°C LCD Panel: 36.1°C Ambient: 25.0°C (shifted)	Apparatus temperature rise until stability, no damage, no hazards. Touch voltage: (Main USB3.0 + to -): 5.15Vdc. (Main USB2.0 + to -): 5.15Vdc. (Main Type-C + to -): 5.15Vdc. Touch current (output “+”/“-” to earth and Display screen surface to earth): 0.022mApeak and 0.014mA
USB2.0 (Main board)	SC	264	10mins	F1	0.532	--	--	Main USB 2.0 no output, other USB terminals normal working, panel normal working, no higher temperature rise occurred, no hazard. Touch voltage: (Main USB3.0 + to -): 5.15Vdc. (Main USB2.0 + to -): 0Vdc. (Main Type-C + to -): 5.15Vdc. Touch current (output “+”/“-” to earth and Display screen surface to earth): 0.022mApeak and 0.014mA

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

USB3.0 (Main board)	SC	264	10mins	F1	0.521	--	--	Main USB 3.0 no output, other USB terminals normal working, panel normal working, no higher temperature rise occurred, no hazard. Touch voltage: (Main USB3.0 + to -): 0Vdc. (Main USB2.0 + to -):5.15Vdc. (Main Type-C + to -): 5.15Vdc. Touch current (output "+" / "-" to earth and Display screen surface to earth): 0.022mA_{peak} and 0.014mA
Type-C Terminal Output	SC	264	10mins	F1	0.469	--	--	Main Type-C output no output, other USB terminals normal working, panel normal working, no higher temperature rise occurred, no hazard. Touch voltage: (Main USB3.0 + to -): 5.15Vdc. (Main USB2.0 + to -):5.15Vdc. (Main Type-C + to -): 0 Vdc. Touch current (output "+" / "-" to earth and Display screen surface to earth): 0.022mA_{peak} and 0.014mA

IEC 62368-1								
Clause	Requirement + Test						Result - Remark	Verdict
Ultracapacitor (CN1) Q5 pin D-G	SC	264	7 h	--	--	--	0.538	No chemical leakage, no spillage of liquid, no explosion, no emission of flame and expulsion of molten metal.
Ultracapacitor (CN1) RC9	SC	264	7 h	--	--	--	0.538	No chemical leakage, no spillage of liquid, no explosion, no emission of flame and expulsion of molten metal.
Supplementary information:								
Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column "Abnormal/Fault." Specify if test condition by indicating "Abnormal" then the condition for a Clause B.3 test or "Single Fault" then the condition for Clause B.4. 1) SC: Short-circuited; 2) The test result shown all safeguards remained effective and didn't lead to a single fault condition during abnormal operating condition; In addition all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions. 3) The test result showed no Class 1 or 2 energy source become Class 3 level during and after single fault condition. 4) Winding Limit for transformer: 175-10=165°C. Enclosure outside: TS2=70°C (metal enclosure), TS2=87°C (Plastic enclosure); TS2=87°C (switch); TS2=81°C (panel surface); TS2=61°C (Handle). 5). Tested with HDMI mode.								

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

Annex M.3	TABLE: Batteries								N/A
The tests of Annex M are applicable only when appropriate battery data is not available									
Is it possible to install the battery in a reverse polarity position?:									
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	--	--	--	--	--	--	--	--	--
Max. current during fault condition	--	--	--	--	--	--	--	--	--
Test results:								Verdict	
- Chemical leaks							--	--	
- Explosion of the battery							--	--	
- Emission of flame or expulsion of molten metal							--	--	
- Electric strength tests of equipment after completion of tests							--	--	
Supplementary information:									

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

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

Battery identification	Charging at Tlowest (°C)	Observation	Charging at Thighest (°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
Main USB 2.0 output	Normal condition	5V	5	1.52	8	6.63
Main USB 2.0 output	UU1 pin1-5 SC	5V	5	5.20	8	15.86
Main USB 3.0 output	Normal condition	5V	5	1.52	8	6.19
Main USB 3.0 output	UU101 pin1-5 SC	5V	5	5.20	8	15.67
Main Type-C output	Normal condition	5V	5	3.30	8	11.52
Main Type-C output	R439 SC	5V	5	3.36	8	12.70
Main Type-C output	U46 pin (19-31) SC	0V	5	0	8	0
Supplementary Information:						
SC = short circuit						
The other ports are only for signal using, no tests required, such as RS232 port and audio/video port.						

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test duration (sec)	Observation	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Internal components (T.2)	--	--	10	5	No insulation breakdown. No reduction the clearances and creepage distances
Enclosure (T.3)	1)	1)	30	5	Contact to hazardous parts not possible.
Enclosure Top/side/rear (T.5)	1)	1)	250	5	Enclosure remained intact, no crack/ opening developed. Internal TS3 were not accessible after test.
Supplementary information:					
1) See appended table 4.1.2.					

T.6, T.9	TABLE: Impact tests				P
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
Enclosure Top/rear/side (T.6)	1)	1)	1300	Enclosure remained intact, no crack/ opening developed. Internal TS3 were not accessible after test.	
Enclosure Front (T.9)	glass	--	204	Glass was not expelled pieces of glass. Internal ES3, TS3 were not accessible after test	
Supplementary information:					
1) See appended table 4.1.2.					

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
Mylar sheet	Plastics	0.4	91	7	Mylar sheet remained intact, No insulation breakdown

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
External enclosure	Plastic	1)	70	7	All safeguards remained effective.
Supplementary information:					
Containing all sources during the test. For details refer to appended table 4.1.2.					

ATTACHMENT 1

Report No. CN234Y0T 001

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT	
IEC 62368-1	
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES	
(Audio/video, information and communication technology equipment - Part 1: Safety requirements)	
Differences according to.....:	EN 62368-1:2014+A11:2017
Attachment Form No.....:	EU_GD_IEC62368_1D_II
Attachment Originator	Nemko AS
Master Attachment	Date 2021-02-04
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.	

	CENELEC COMMON MODIFICATIONS (EN)																																									
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed “Z”.																																									
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: <table><tr><td>0.2.1</td><td>Note</td><td>1</td><td>Note 3</td><td>4.1.15</td><td>Note</td></tr><tr><td>4.7.3</td><td>Note 1 and 2</td><td>5.2.2.2</td><td>Note</td><td>5.4.2.3.2.2 Table 13</td><td>Note c</td></tr><tr><td>5.4.2.3.2.4</td><td>Note 1 and 3</td><td>5.4.2.5</td><td>Note 2</td><td>5.4.5.1</td><td>Note</td></tr><tr><td>5.5.2.1</td><td>Note</td><td>5.5.6</td><td>Note</td><td>5.6.4.2.1</td><td>Note 2 and 3</td></tr><tr><td>5.7.5</td><td>Note</td><td>5.7.6.1</td><td>Note 1 and 2</td><td>10.2.1 Table 39</td><td>Note 2, 3 and 4</td></tr><tr><td>10.5.3</td><td>Note 2</td><td>10.6.2.1</td><td>Note 3</td><td>F.3.3.6</td><td>Note 3</td></tr></table>					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	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																																					
	For special national conditions, see Annex ZB.					P																																				
1	Add the following note: NOTE Z1 The use of certain substances in electrical and					P																																				

ATTACHMENT 1

Report No. CN234Y0T 001

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	electronic equipment is restricted within the EU: see Directive 2011/65/EU.		
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.		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.	No external circuits.	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
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.		N/A

ATTACHMENT 1

Report No. CN234Y0T 001

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		
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 x-radiation generated from the equipment.	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	Added. The equipment is a low power touch display, it does incorporate only non-intentional radiators, but does not contain radio transmitters; the typical usage, installation and physical characteristics make the equipment inherently compliant with all applicable EMF exposure levels (EN 62479:2010 clause 4.1 Route A).	N/A
G.7.1	Add the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		N/A
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.		N/A

ATTACHMENT 1

Report No. CN234Y0T 001

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
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"		P
4.7.3	United Kingdom To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex		N/A
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

ATTACHMENT 1

Report No. CN234Y0T 001

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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
5.5.2.1	Norway		N/A

ATTACHMENT 1

Report No. CN234Y0T 001

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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).		
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. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
5.6.4.2.1	Ireland and United Kingdom After the indent for pluggable equipment type A , the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.		N/A
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.		N/A
5.7.5	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.	No high protective conductor current.	N/A
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	Not such system.	N/A

ATTACHMENT 1

Report No. CN234Y0T 001

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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 jordtilkøp utstyr – og er tilkøp et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkøp 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.”.		
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

ATTACHMENT 1

Report No. CN234Y0T 001

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

ATTACHMENT 1

Report No. CN234Y0T 001

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		
G.7.1	United Kingdom To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
G.7.1	Ireland To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	Ireland and United Kingdom To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm ² is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		
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. <i>Justification:</i> 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,	No CRT within the equipment.	N/A

ATTACHMENT 1

Report No. CN234Y0T 001

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de		

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 U.S.A. AND CANADA NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment – Part 1: Safety requirements)			
Differences according to: CSA/UL 62368-1:2014			
TRF template used:: IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No.: US_CA_ND_IEC62368_1D			
Attachment Originator: UL(US)			
Master Attachment: Dated 2021-02-04			
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			

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.		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.	No lead wire	N/A
4.8	Lithium coin / button cell batteries have modified special construction and performance requirements.	No such batteries.	N/A
5.6.3	Protective earthing conductors comply with the		N/A

Disclaimer: This document is controlled and has been released electronically.
Only the version on the IECEE Website is the current document version

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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		
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.		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.		N/A
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
Annex G (G.7.5)	Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Power supply cords are required to be no longer than 4.5 m in length if used in ITE Rooms.		N/A
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	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	The equipment not intended to be used within such environments.	N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	smoke release.		
	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.	No such application.	N/A
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	Vertically-mounted disconnect switches and circuit	No such parts.	N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
(G.1)	breakers have the "on" position indicated by the handle in the up position		
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 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 1 are 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
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	UL approved components used. Refer to table 4.1.2 of IEC 62368-1 test report for details.	P

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		
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.	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
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_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 (JAPAN) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment – Part 1: Safety requirements)			
Differences according to : J62368-1 (2020)			
TRF template used: : IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No. : JP_ND_IEC62368_1D			
Attachment Originator : UL (JP)			
Master Attachment : Date 2021-02-04			
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	National Differences		—
4.1.2	Where the component, or a characteristic of a component, is a safeguard or a part of a safeguard, components shall comply with the requirements of this standard or, where specified in a requirements clause, with the safety aspects of the relevant JIS component standards or IEC component standards, or components shall have properties equivalent to or better than these.		P
5.6.1	Mains socket-outlet and appliance outlet shall comply with Clause G.4.2A if they are incorporated as part of the equipment.		N/A
5.6.2.1	Mains connection of class 0I equipment: Instructional safeguard in accordance with Clause F.3.6.1A; Mains plug having a lead wire for protective earthing connection of class 0I equipment; Independent main protective earthing terminal installed by ordinary person.		N/A
5.6.2.2	This requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.3	In case of class 0I equipment using power supply cord having two conductors (no earthing conductor), the conductor of protective earthing lead wire shall comply with either of the following: – use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having size and strength that are equivalent to or more than the above copper wire – single core cord or single core cable with 1.25 mm² or more cross-sectional area		N/A
5.7.3	For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS C 8282 series or JIS C 8303, or otherwise being considered to comply with relevant regulations, or that is provided with mains appliance outlet as specified in JIS C 8283-2-2 for the purpose of interconnection, the measurement is conducted on the system of the interconnected equipment having a single connection to the mains.		N/A
5.7.4	In case of class 0I equipment, touch current shall not exceed 1.41 mA peak or for sinusoidal wave, 1.0 mA r.m.s. when measured using the network specified in Figure 4 of IEC 60990.		N/A
6.4.3.3	A fuse complying with JIS C 6575 series or a fuse having equivalent characteristics shall open within 1 s. For Class A fuse of JIS C 6575, replace “2.1 times” by “1.35 times” and in case of Class B fuse of JIS C 6575, replace “2.1 times” by “1.6 times”. A fuse not complying with JIS C 6575 series shall be tested with the breaking capacity taken into account.		N/A
8.5.4.2.1	Only three-phase stationary equipment rated more than 200 V ac can be considered as being for use in locations where children are not likely to be present, when complying with Clause F.4.		N/A
8.5.4.2.2	For equipment installed where children may be present, an instructional safeguard shall be provided by easily understandable wording in accordance with Clause F.5, except that element 3 is optional.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.2.4	The media destruction device is tested according to Clause V.1.2 with applicable jointed test probes to the opening. And then the wedge probe per Figure V.4 shall not contact any moving part.		N/A
8.5.4.2.5	The wedge probe of Figure V.4 and applicable jointed test probes specified in Clause V.1.2 shall not contact any moving part. Instructional safeguard shall not be used instead of equipment safeguard for preventing access to hazardous moving parts.		N/A
9.2.6, Table 38	Handles, Knobs, grips, etc. and external surfaces either held, touched or worn against the body in normal use (> 1 min) ^{b,c}		N/A
F.3.5.1	Instructional safeguard of class 0I equipment in accordance with Clause F.5 when a mains socket-outlet as specified in JIS C 8282 series, JIS C 8303 or relevant regulation to which class I equipment can be connected is provided in accordance with Clause G.4.2A except for the cases where the socket-outlet is accessible only to skilled persons.		N/A
F.3.5.3	If the fuse is necessary for the safeguard function, the symbols indicating pre-arcing time-current characteristic.		N/A
F.3.6.1A	Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.3 shall be applied to class 0I equipment. For class 0I equipment, a marking of instructions and instructional safeguard shall be provided regarding the earthing connection.		N/A
F.3.6.2.1	Symbols, IEC 60417-5172 (2003-02) or IEC 60417-6092 (2011-10), shall not be used for class I equipment or class 0I equipment.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
F.4	Instruction for audio equipment with terminals classified as ES3 in accordance with Table E.1, and for other equipment with terminals marked in accordance with F.3.6.1 and F.3.6.1A. Installation instruction for the protective earthing connection for class 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided within the package for the equipment.		N/A
G.3.2.1	The thermal link when tested as a separate component, shall comply with the requirements of JIS C 6691 or have properties equivalent to or better than that.		N/A
G.3.4	Except for devices covered by Clause G.3.5, overcurrent protective devices used as a safeguard shall comply with the relevant part of JIS C 6575 (corresponding to IEC60127) or shall have equivalent characteristics. If there are no applicable IEC standards, overcurrent protective devices used as a safeguard shall comply with their applicable IEC standards.		N/A
G.4.1	This requirement is not applicable to Clauses G.4.2 and G.4.2A.		N/A
G.4.2	Mains connector shall comply with JIS C 8282 series, JIS C 8283 series, JIS C 8285, JIS C 8303 or IEC 60309 series. Mains plugs and socket-outlets shall comply with JIS C 8282 series, JIS C 8303, IEC 60309 series, or have equivalent or better performance. A power supply cord set provided with appliance connector that can fit appliance inlet complying with JIS C 8283-1 shall comply with JIS C 8286. Construction preventing mechanical stress not to transmit to the soldering part of inlet terminal. Consideration for an equipment rated not more than 125 V provided with Type C14 and C18 appliance coupler complying with JIS C 8283 series.		N/A

ATTACHMENT 1

Report No. CN234Y0T 001

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2A	Mains socket-outlet and interconnection coupler provided with the class II, class I and class 0I equipment respectively.		N/A
G.7.1	A mains supply cord need not include the protective earthing conductor for class 0I equipment provided with independent protective earthing conductor.		N/A
G.8.3.3	Withstand $1,71 \times 1.1 \times U_0$ for 5 s.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 DENMARK NATIONAL DIFFERENCES Audio/video, information and communication technology equipment – Part 1: Safety requirements			
Differences according to.....: DS/EN 62368-1:2014			
Attachment Form No.....: DK_ND_IEC62368_1D			
Attachment Originator UL (Demko)			
Master Attachment 2021-02-04			
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			

	National Differences		
4.1.15	To the end of the subclause the following is added: Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.”		P
5.2.2.2	After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

ATTACHMENT 1

Report No. CN234Y0T 001

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.1	Add to the end of the subclause: Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. Justification: In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
5.7.5	To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.7.6.2	To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA.		N/A

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

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 ITALY NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment – Part 1: Safety requirements)			
Differences according to : CEI EN 62368-1:2016			
Attachment Form No. : IT_ND_IEC62368_1D			
Attachment Originator..... : IMQ S.p.A.			
Master Attachment..... : Date 2021-02-04			
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	National Differences		
F.1	Italy The following requirements shall be fulfilled: • The power consumption in Watts (W) shall be indicated on TV receivers and in their instruction for use (Measurement according to EN 60555-2). <i>Note: EN 60555-2 has since been replaced by IEC 60107-1:1997.</i> • TV receivers shall be provided with an instruction for use, schematic diagrams and adjustments procedure in Italian language. • Marking for controls and terminals shall be in Italian language. Abbreviation and international symbols are allowed provided that they are explained in the instruction for use. • The ECC manufacturers are bound to issue a conformity declaration according to the above requirements in the instruction manual. The correct statement for conformity to be written in the instruction manual, shall be: <i>Questo apparecchio è fabbricato nella CEE nel rispetto delle disposizioni del D.M. marzo 1992 ed è in particolare conforme alle prescrizioni dell'art. 1 dello stesso D.M.</i> • The first importers of TV receivers manufactured outside EEC are bound to submit the TV receivers		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	for previous conformity certification to the Italian Post Ministry (PP.TT). The TV receivers shall have on the backcover the certification number in the following form: D.M. 26/03/1992 xxxxx/xxxxx/S or T or pT S for stereo T for Teletext pT for retrofitable teletext <i>Justification:</i> Ministerial Decree of 26 March 1992 : National rules for television receivers trade. NOTE/: Ministerial decree above contains additional, but not safety relevant requirements		

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 (AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment)			
Differences according to AS/NZS 62368.1:2018			
TRF template used: IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No. AU_NZ_ND_IEC62368_1D			
Attachment Originator JAS-ANZ			
Master Attachment 2022-05-01			
Copyright © 2020 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	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, <i>Approval and test specification—Plugs and socket-outlets</i> -AS/NZS 3123, <i>Approval and test specification—Plugs, socket-outlets and couplers for general industrial application</i> -AS/NZS 3191, <i>Electric flexible cords</i> -AS/NZS 60065, <i>Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)</i> -AS/NZS 60320.1, <i>Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)</i> -AS/NZS 60320.2.2, <i>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)</i>		P

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	-AS/NZS 60695.2.11, <i>Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products</i> -AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i> -AS/NZS 60695.11.10, <i>Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods</i> -AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i> -AS/NZS 60950.1:2015, <i>Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i> IEC 61032:1997, <i>Protection of persons and equipment by enclosures—Probes for verification</i> -AS/NZS 61558.1:2008 (including Amendment 2:2015), <i>Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 2.1, MOD)</i> -AS/NZS 61558.2.16, <i>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.</i>		
4.1.1	Application of requirements and acceptance of materials, components and subassemblies 1 Replace the text 'IEC 60950-1' with 'AS/NZS 60950.1:2015'. 2 Replace the text 'IEC 60065' with 'AS/NZS 60065'.		P
4.7	Equipment for direct insertion into mains socket-outlets		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.2	Requirements Delete the text of the second paragraph and replace with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		N/A
4.7.3	Compliance Criteria Delete the first paragraph and Note 1 and Note 2 and replace with the following: Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.		N/A
4.8	Delete existing clause title and replace with the following: 4.8 Products containing coin/button cell batteries		N/A
4.8.1	General 1 Second dashed point, delete the text and replace with the following: – include coin/button cell batteries with a diameter of 32 mm or less. 2 After the second dashed point, insert the following Note: NOTE 1: Batteries are specified in IEC 60086-2. 3 After the third dashed point, renumber the existing Note as 'NOTE 2'. 4 Fifth dashed point, delete the word 'lithium'.		N/A
4.8.2	Instructional Safeguard First line, delete the word 'lithium'.		N/A
4.8.3	Construction First line, after the word 'Equipment' insert the words 'containing one or more coin/button batteries and'		N/A
4.8.5	Compliance criteria Delete the first paragraph and replace with the following: Compliance is checked by applying a force of 30 N +/- 1 N for 10 s to the battery compartment door/cover by a rigid test finger according to test probe 11 of IEC 61032:1997 at the most unfavourable place and in the most unfavourable direction. The force shall be applied in one direction at a time.		N/A
5.4.10.2	Test methods		N/A

IEC62368_1D - ATTACHMENT				
Clause	Requirement + Test		Result - Remark	Verdict
5.4.10.2.1	General Delete the first paragraph and <i>replace</i> with the following: In Australia only, the separation is checked by the test of both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test of either Clause 5.4.10.2.2 or Clause 5.4.10.2.3.			N/A
Table 29	Replace the table with the following:			N/A
Parts		Impulse test	Steady state test	
		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, <i>insert</i> 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, <i>insert</i> 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

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.1	General After the first paragraph, <i>insert</i> the following new paragraph: Alternatively, the requirements of Clauses 6.2 to 6.5.2 are considered to be fulfilled if the equipment complies with the requirements of Clause 6.202		P
6.6	After Clause 6.6, <i>add</i> the new Clauses 6.201 and 6.202 as follows: 6.201 External power supplies, docking stations and other similar devices and 6.202 Resistance to fire—Alternative tests (see special national conditions)		P
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment In the first dashed row and the second dashed rows <i>replace</i> 'IEC 60950-1:2005' with 'AS/NZS 60950.1:2015'.		N/A
8.6	Stability of equipment		N/A
8.6.1 and Table 36	Requirements 1. Table 36, <i>insert</i> Footnote c at the end of the 'Glass slide' heading, and <i>add</i> 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, <i>insert</i> ²⁰¹ at the end of 'No stability requirements' 3. Table 36, ninth row, <i>insert</i> ²⁰¹ at the end of 'No stability requirements' 4. Table 36, <i>add</i> 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, <i>delete</i> the words 'MS2 and MS3 television sets' and <i>replace</i> with 'MS2 and MS3 television sets and display devices'		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.1	After Clause 8.6.1 <i>add</i> the following new clauses: 8.6.1.201 Instructional safeguard for fixed-mount television sets (see special national conditions)		N/A
Annex F Paragraph F.3.5.1	Mains appliance outlet and socket-outlet markings <i>Replace</i> 'IEC 60320-2-2' with 'AS/NZS 60320.2.2'.		N/A
Annex G Paragraph G.4.2	Mains connectors 1 In the second line <i>insert</i> 'or AS/NZS 3123' after 'IEC 60906-1'. 2 In the second line <i>insert</i> 'or AS/NZS 60320 series' after 'IEC 60320 series' 3 <i>Add</i> the following new paragraph: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.		N/A
Paragraph G.5.3.1	Transformers, General 1 In the third dashed point <i>replace</i> '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 <i>replace</i> 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.		P
Paragraph G.7.1	Mains supply cords, General In the fourth dashed paragraph, <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Table G.5	Sizes of conductors 1 In the second row, first column, <i>delete</i> '6' and <i>replace</i> with '7.5' 2 In the second row, second column, <i>delete</i> '0,75' and <i>replace</i> with '0.75 ^b 3 <i>Delete</i> Note 1. 4 <i>Replace</i> 'NOTE 2' with 'NOTE:'. 5 <i>Delete</i> the text of 'Footnote b' and <i>replace</i> 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 mm ² three-core supply flexible cords are not permitted; see AS/NZS 3191). 6 In Footnote c <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1' 7 In Footnote d <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Annex M Paragraph M.3.2	Protection circuits for batteries provided within the equipment, Test method After the first dashed point <i>add</i> the following Note: NOTE 201: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A
	Special national conditions (if any)		N/A

IEC62368_1D - 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. <i>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</i>	During and after abnormal operating condition test, the output voltage did not increase by more than 3V or 10% of its rated output voltage under normal operating condition.	P
6.202	Resistance to fire—Alternative tests		N/A
6.202.1	General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the equipment, or the following: - 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. - 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 mm³, integrated circuits, transistors and optocoupler		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another.		
	<i>Compliance shall be checked by the tests of Clauses 6.202.2, 6.202.3 and 6.202.4.</i> 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.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	However, parts shielded by a barrier which meets the needle-flame test need not be tested		
	The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:		N/A
	Clause of AS/NZS 60695.11.5	Change	
	9 Test procedure		
	9.2 Application of needle-flame	Delete the first and second paragraphs and <i>replace</i> 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.	

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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 the glow wire tests of Clause 6.202.3, by failure to extinguish within 30 s after the removal of the glowwire tip, the needle-flame test detailed in Clause 6.202.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of Clause 6.202.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested. NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing. NOTE 2: If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing. NOTE 3: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.		N/A
6.202.5	Testing of printed boards The base material of printed boards shall be subjected to the needle-flame test of Clause 6.202.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a potential ignition source. The test is not carried out if—		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	– the printed board does not carry any potential ignition source; – the base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or – the base material of printed boards, on which the available equipment power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. <i>Conformance shall be determined using the smallest thickness of the material.</i> 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

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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	Evaluated in national certification	N/A
8.6.1.202	Restraining device MS2 and MS3 television sets and display devices that are not solely fixed-mounted should be provided with a restraining device such as a fixing point to facilitate restraining the equipment from toppling forward. The restraining device shall be capable of withstanding a pull of 100 N in all directions without damage. Where a restraining device is provided, instructions shall be provided in the instructions for installation or instructions for use to ensure correct and safe installation.	Evaluated in national certification	N/A

Product: LCD MONITOR

Type Designation: See test report



Figure 1 External view (with Base)



Figure 2 External view (with Base)

Product: LCD MONITOR

Type Designation: See test report



Figure 3 External view



Figure 4 External view

Product: LCD MONITOR

Type Designation: See test report



Figure 5 AC inlet view



Figure 6 Terminals view

Product: LCD MONITOR

Type Designation: See test report



Figure 7 Buttons view

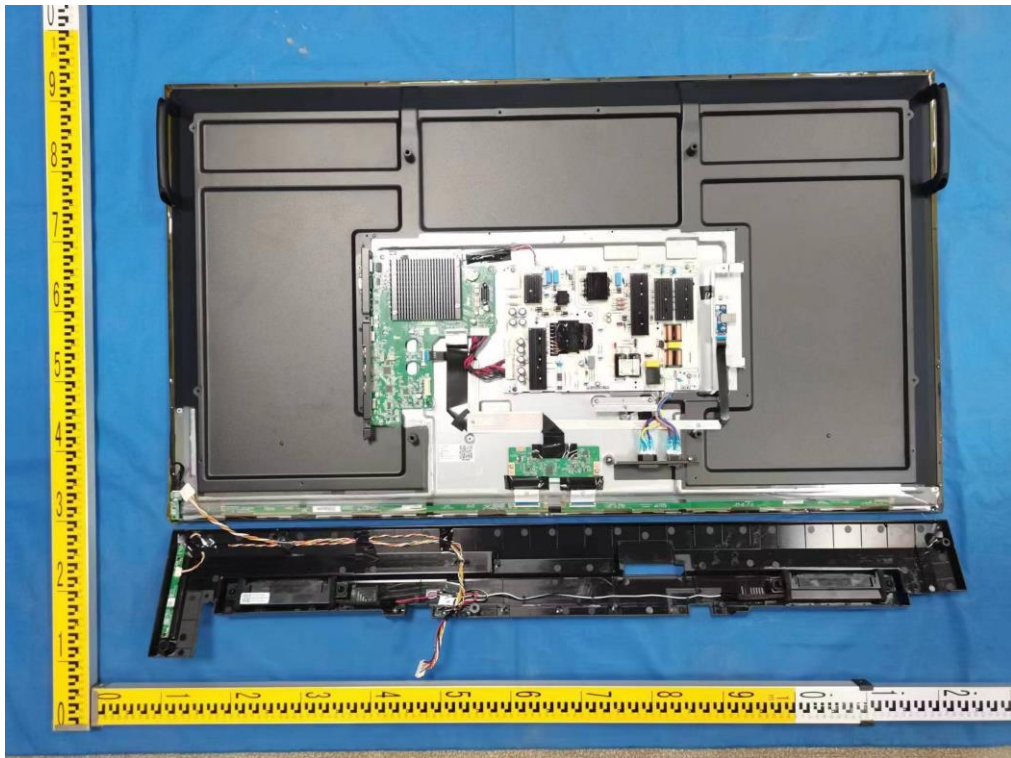


Figure 8 Internal view

Product: LCD MONITOR

Type Designation: See test report

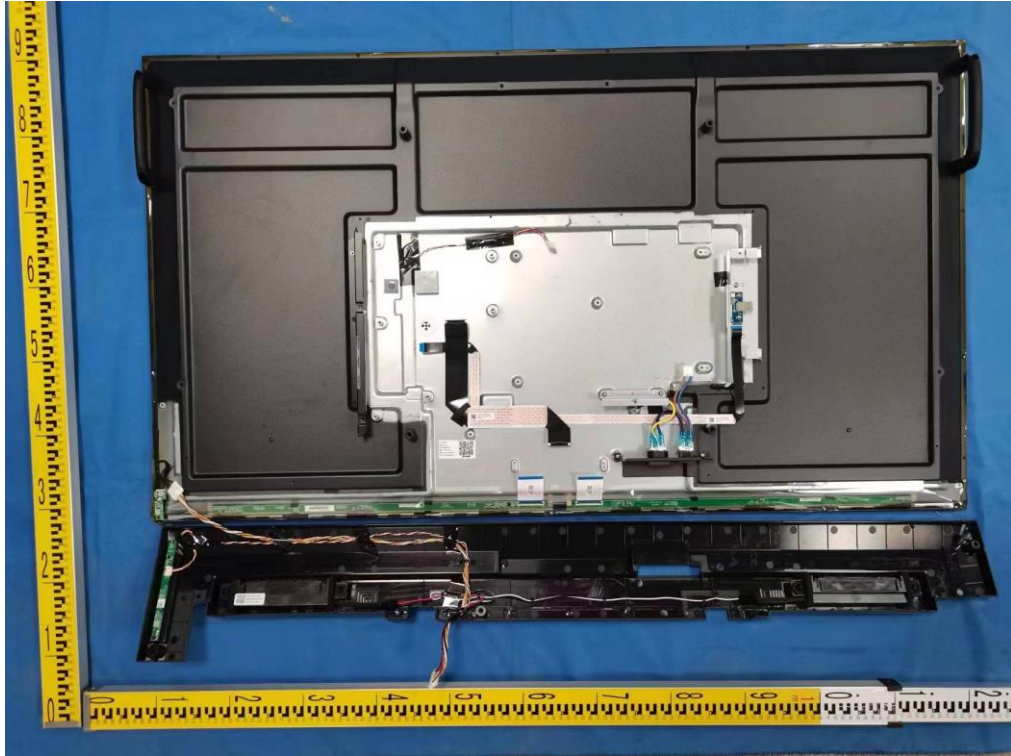


Figure 9 Internal view

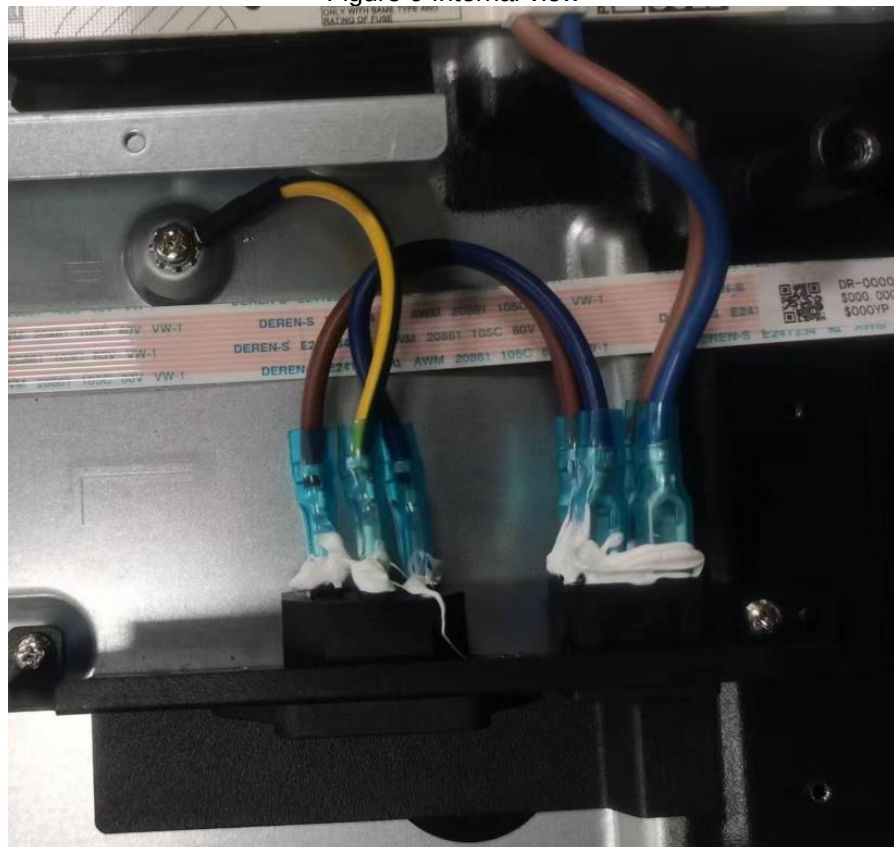


Figure 10 Internal view

Product: LCD MONITOR

Type Designation: See test report

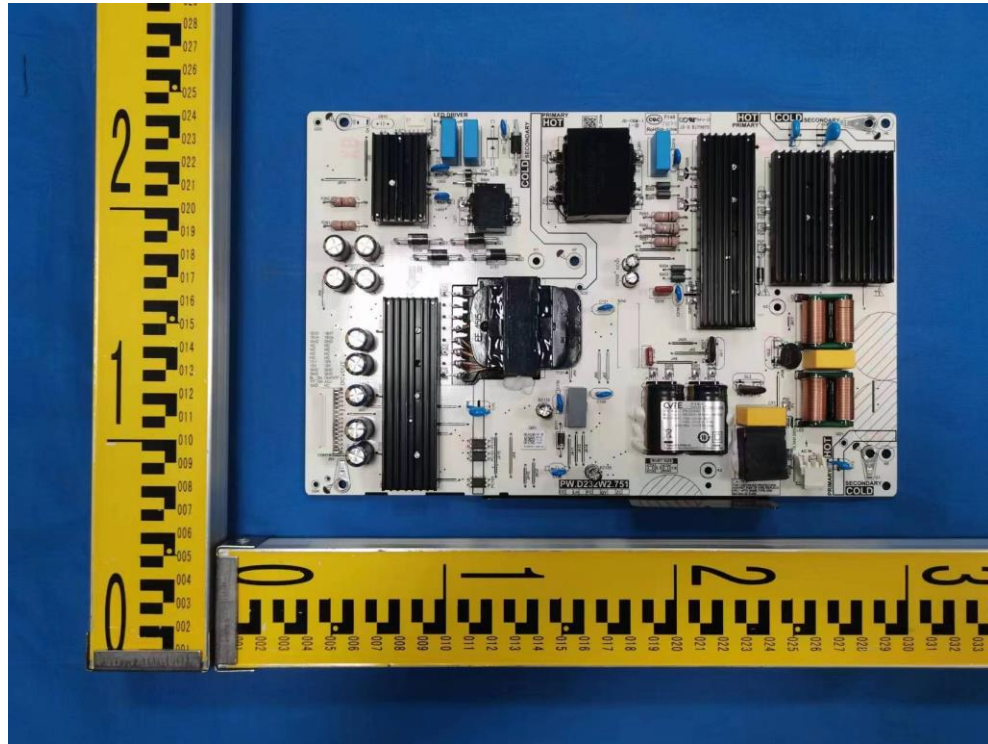


Figure 11 Switching Power Supply view

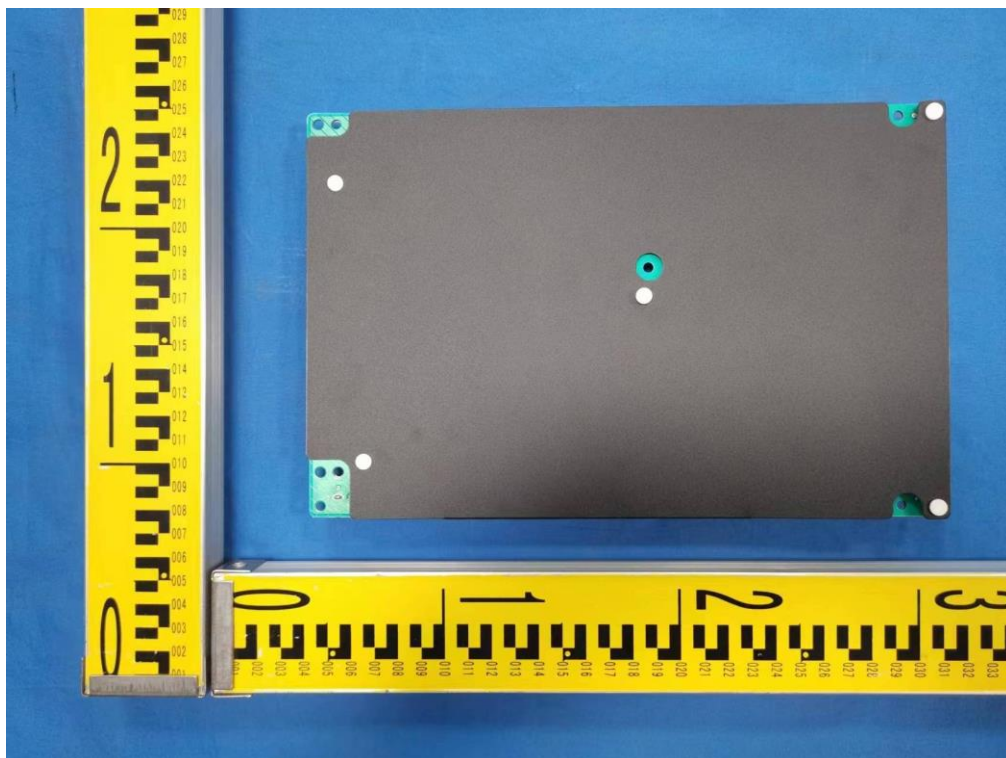


Figure 12 Switching Power Supply view

Product: LCD MONITOR

Type Designation: See test report

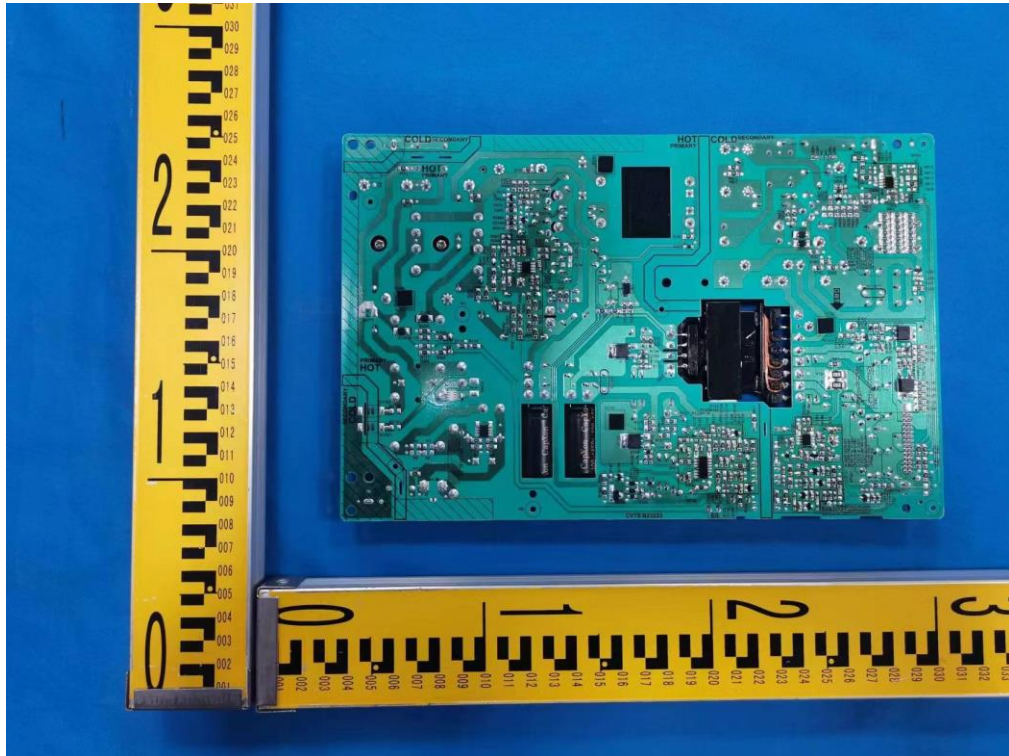


Figure 13 Switching Power Supply view

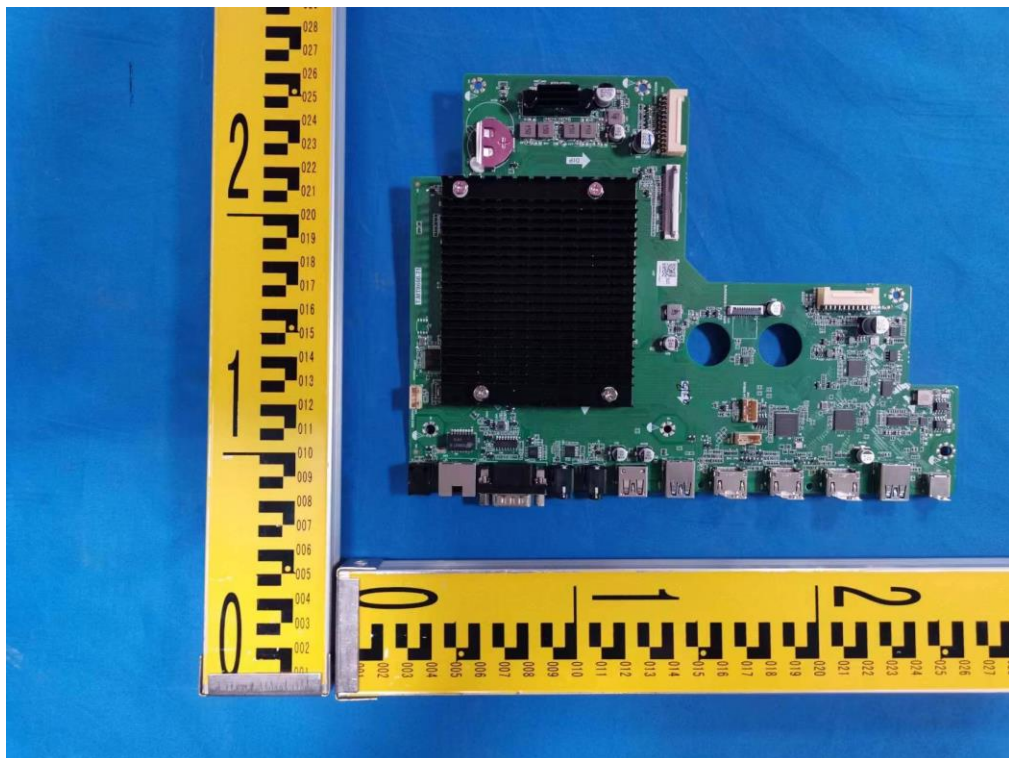


Figure 14 Main board view

Product: LCD MONITOR

Type Designation: See test report

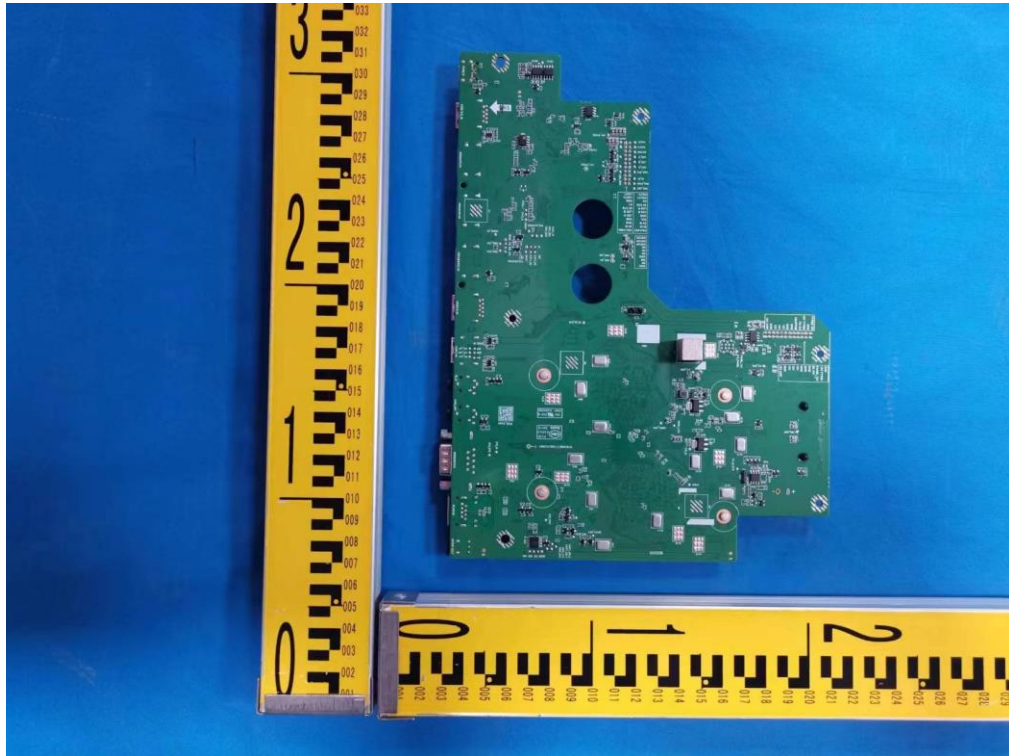


Figure 15 Main board view



Figure 16 Remote control view

Product: LCD MONITOR

Type Designation: See test report



Figure 17 Remote control view



Figure 18 Base stand view