



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.....: JCS230706202-001

Date of issue.....: 2023-09-12

Total number of pages.....: 79 pages

Name of Testing Laboratory preparing the Report.....: Guangzhou Jingce Testing Technology Co., Ltd.

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

Address.....: No. 192 KeZhu Road Science Park, Economic-Technological Development Area, Guangzhou, Guangdong, 510530, China

Test specification:

Standard.....: IEC 62368-1:2018

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_1E

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

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

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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..... :	100-240V~ 50/60Hz 2.0-0.8A (2.5A for Mexico)	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ CB Testing Laboratory:	Guangzhou Jingce Testing Technology Co., Ltd.	
Testing location/ address..... :	No.10, Hefeng No.1 street, Huangpu District, Guangzhou, Guangdong, China	
Tested by (name, function, signature)..... :	Qiusi Fan / Project Handler	<i>Qiusi Fan</i>
Approved by (name, function, signature)... :	Tony Yang / Reviewer	<i>Tony Yang</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 (45 pages): National differences. - Attachment 2 (11 pages): Product photos.	
Summary of testing: The sample(s) tested complies with the requirements of IEC 62368-1:2018.	
Tests performed (name of test and test clause): - Steady Force Test (5.4.2.6, 5.4.3.2, T.2) - Steady Force Test (4.4.3.2, T.5) - Impact test (4.4.3.4, T.6) - Glass fixation tests (4.4.3.7, T.9) - Stress Relief Test (4.4.3.8, T.8) - Electrical energy source classification (5.2) - Accessibility test (5.3.2) - Hygroscopic Material Provided As an Insulation Material (5.4.1.3) - Temperature Tests (5.4.1.4, 6.3, 9.3, B.1.5, B.2.6) - Ball pressure test (5.4.1.10.3) - Minimum Clearance and Creepage Distance Measurement (5.4.2, 5.4.3) - Humidity Conditioning (5.4.8) - Electric Strength (5.4.9) - Ground continuity test (5.6.6.2) - Unearthed accessible parts (5.7.4) - Earthed accessible conductive parts (5.7.5) - Electrical power sources (PS) measurements for classification (6.2.2) - Stability of equipment (8.6) - Equipment mounted to wall or ceiling (8.7) - Handles strength (8.8) - Input Current (Annex B.2.5) - Abnormal Operating and Fault Conditions (Annex B.3, B.4) - Test for the permanence of markings (Annex F.3.10) - Protection circuits for batteries (Annex M.3.2) - Limited power sources (Annex Q.1.2)	Testing location: Guangzhou Jingce Testing Technology Co., Ltd. No.10, Hefeng No.1 street, Huangpu District, Guangzhou, Guangdong, China

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

List of countries addressed: EU Group, United Kingdom (per customer's request shown separately), Canada and United States, Australia, New Zealand, Singapore, Saudi Arabia, Japan, Argentina*, Korea*, Mexico*, Russian Federation*, South Africa*.

*=No National or Group Differences declared.

- ☒ The product fulfils the requirements of EN IEC 62368-1:2020+A11:2020.
- ☒ The product fulfils the requirements of BS EN IEC 62368-1:2020+A11:2020.
- ☒ The product fulfils the requirements of CSA/UL 62368-1:2019.
- ☒ The product fulfils the requirements of AS/NZS 62368.1:2022.
- ☒ The product fulfils the requirements of J62368-1(2023).
- ☒ The product fulfils the requirements of Special National Conditions for Singapore.
- ☒ The product fulfils the requirements of SASO-IEC 62368-1:2020.

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

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)

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

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THE ENCLOSURE, NO USER-SERVICEABLE PARTS INSIDE.
ATTENTION: AFIN DE PREVENIR DE TOUT CHOC ELECTRIQUE, NE PAS OUVRIR CE BOITIER. AUCUNE PIECE INTERNE NE PEUT-ETRE CHANGEE 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 SUOJAKOKEITTIMILLA VARUSTETTUUN 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 (효성ITX주식회사)
* 본 라벨과 전화번호는 국내 규정 내에서 적절한 목적으로만 사용되어야 합니다.

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** **RoHS** **REACH** **TÜV Rheinland** **ZERTIFIZIERT** **www.tuv.com** **ID: 0235004891**

UL **US** **E494471** **I.T.E.** **JRZN** **LISTED** **TÜV Rheinland** **CERTIFICADO** **www.tuv.com** **ID: 0003160000**

SAFETY MARK **IP30**

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: 浙江久融智能技術有限公司
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.

LANDSCAPE Mounting Interface 400mm x 400mm 4-M6 Depth 14mm Max
Portrait

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

SHARP MultiSync ME502

LCD MONITOR
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AUCUNE PIECE INTERNE NE PEUT-ETRE CHANGE 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.
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ADVARSEL: APPARATET MÅ TILKOLES JORDET STIKKONTAKT.
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인중 서비스 센터 전화 번호: 080-022-1155 (호성ITX주식회사)
* 본 라벨과 전화번호는 국내 규정 내에서 적절한 목적으로만 사용되어야 합니다.

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

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

HDMI **CE** **UKCA** **RoHS** **REACH** **IP30**

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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: 杭能科技 (杭州) 有限公司 生产厂: 杭能科技 (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.

FOR JAPAN ONLY

警告 ⚡
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
PS E **TÜV Rheinland**

VCCI **RoHS** **CCC** **777777** **RoHS** **EAC** **SAFETY MARK** **IP30**

Mounting Interface
400mm x 400mm
4-M6 Depth 14mm Max

MADE IN CHINA **FABRIQUE EN CHINE**
FABRICADO EN CHINA **Сделано в Китае**

Remark:

- The above markings are the minimum requirements required by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.
- Above information was labeled on rear enclosure.
- The CE marking and WEEE symbol (if any) should be at least 5.0 mm and 7.0 mm respectively in height.
- The UKCA marking should be at least 5.0 mm in height.

Test item particulars:			
Product group	☒ end product	☐ built-in component	
Classification of use by	☒ Ordinary person	☒ Children likely present	
	☐ Instructed person		
	☐ Skilled person		
Supply connection	☒ AC mains	☐ DC mains	
	☐ 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		
	☐ pluggable equipment type B -		
	☐ non-detachable supply cord		
	☐ appliance coupler		
	☐ permanent connection		
	☐ mating connector	☐ other:	
Considered current rating of protective device	☒ US, CA: 20A, UK: 13A, Others: 16A ;		
	Location: ☒ building	☐ equipment	
	☐ N/A		
Equipment mobility	☒ movable (when base stand used)	☐ hand-held	
	☐ transportable	☐ direct plug-in	
	☒ stationary (when mounting means used)		
	☐ for building-in	☒ wall/ceiling-mounted	
	☐ SRME/rack-mounted	☐ other:	
Overvoltage category (OVC)	☐ OVC I	☒ OVC II	☐ OVC III
	☐ OVC IV	☐ other:	
Class of equipment	☒ Class I	☐ Class II	☐ Class III
	☐ Not classified	☐	
Special installation location	☒ N/A	☐ restricted access area	
	☐ outdoor location	☐	
Pollution degree (PD)	☐ PD 1	☒ PD 2	☐ PD 3
Manufacturer's specified T_{ma}	40 °C	☐ Outdoor: minimum	°C
IP protection class	☒ IP30	☐ IP__	
Power systems	☒ TN	☐ TT	☐ IT - V _{L-L}
	☐ not AC mains		
Altitude during operation (m)	☐ 2000 m or less	☒ 5000	m
Altitude of test laboratory (m)	☒ 2000 m or less	☐	m
Mass of equipment (kg)	Main unit: 12.5 kg, Base: 1.9 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..... : 2023-07-06 Date (s) of performance of tests..... : 2023-07-06 to 2023-08-10	
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).....: Factory 1:

Dynabook Technology (Hangzhou) Inc
2/F, Building 2, NO.3, East Gate Comprehensive
Bonded Zone Economic and Technical Development
Zone HANGZHOU, ZHEJIANG,310018, China

Factory 2:

Zhejiang Jiurong Intelligent Technology Co., Ltd.
Room 101, Building 1, No. 2, 8th Street, Baiyang Street,
Qiantang New District, Hangzhou City, Zhejiang
Province, China

Factory 3:

K-Tronics (Suzhou) Technology Co., Ltd.
No.1088, Dajing Road, Economic And Technological
Development Zone Wujiang District, Suzhou, 215200
Jiangsu Province, China

Factory 4:

Guangzhou Shiyuan Ruichuang Electronics
Technology Co., Ltd
Building 69, Fenglang 1th Road, Huangpu District,
Guangzhou, China

Factory 5:

Guangzhou Shiyuan Ruichuang Electronics
Technology Co., Ltd
1F, 2F, 4F, BUILDING B, NO. 13, ZHISHAN ROAD,
HUANGPU DISTRICT, GUANGZHOU CITY,
GUANGDONG PROVINCE, CHINA

General product information and other remarks:**Product Description**

The equipment is a 50" 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 Type: 50 inch TFT LCD With LED backlight;
2. Maximum declared ambient: 40°C;
3. Terminal information: USB 2.0(5V/0.5A)*1, USB 3.0(5V/0.9A)*2, USB-C (5V/3.0A)*1, HDMI IN*3, RS-232C*1, LAN*1, AUDIO OUT*1, REMOTE*1, OPTICAL OUT*1.
4. Build-in power board was separately approved according to IEC 62368-1, see appended 4.1.2 for details;
5. The product supports positive and negative 30 degree use;
6. External metal enclosure used as fire enclosure, mechanical enclosure and electrical enclosure;
7. External Plastic enclosure used as fire enclosure and mechanical enclosure;
8. The user manual specified the relevant information for installation instruction;
9. Please install the product in accordance with the user manual. This product can only use the recommended stand or other mounting accessory for support in the manual..
10. The base is optional.
11. The equipment is operated up to 5000m above sea level as declared by manufacturer. Clearances have been evaluated according to IEC 62368-1: table 16 with a multiplication factor of 1.48 throughout this report.

Model Differences:

N/A

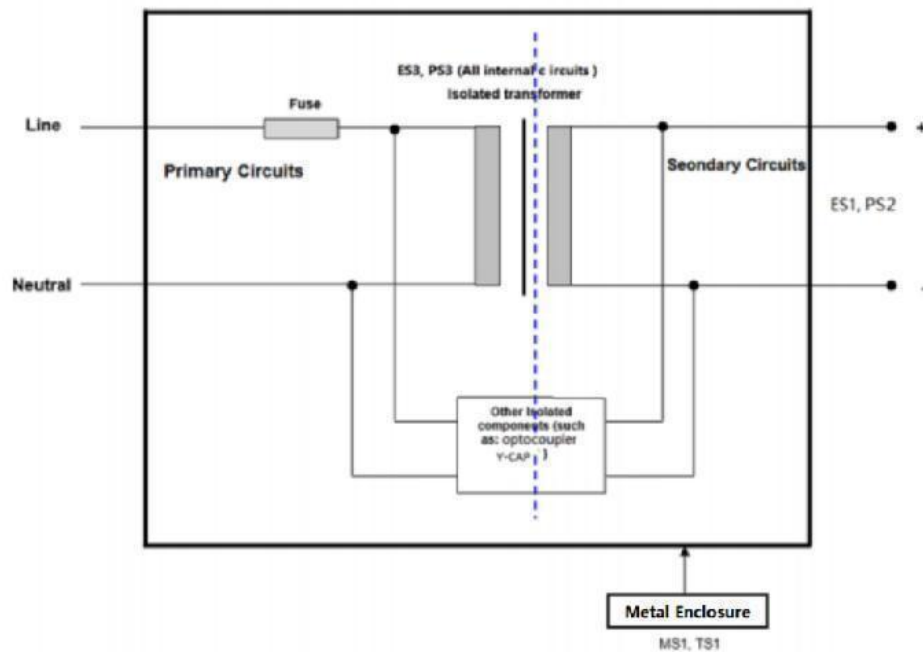
OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	Possible Hazard			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
ES3: All internal circuit inside metal enclosure except for listed as below	Ordinary person	See 5.4.2 and 5.4.3	Protective Earthing of metal enclosure	N/A
ES3: Input and internal primary circuits of approved power supply board	Ordinary person	N/A	N/A	Enclosure, see 5.5.3, 5.5.4, 5.4.2, 5.4.3
ES3: LED circuit	Ordinary person	N/A	N/A	Enclosure, see 5.2.2.2, 5.3
ES1: Y-capacitor (L/N to G)	Ordinary person	N/A	N/A	N/A
ES3: X-capacitor	Ordinary person	N/A	N/A	See 5.5.2.2
ES1: Output of power supply Board PW.D232W2.751 except for LED output	Ordinary person	N/A	N/A	N/A
ES1: All accessible connectors and parts accessible	Ordinary person	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1 st S	2 nd S
PS3 circuit	Enclosure	See 6.3	Fire enclosure	N/A
PS2, PS3 circuit	Internal wiring	See 6.3	See 6.5	N/A
PS3 circuit	PCB	See 6.3	V-1 or better	N/A
PS2, PS3 circuit	The other components/materials	See 6.3	See 6.4.5, 6.4.6	N/A
PS2 circuit	USB except for other output terminals	See 6.3	See 6.4.5	N/A
PS1 circuit	Speaker	N/A	N/A	N/A
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
Ultra-capacitor	Ordinary	N/A	N/A	See Annex M

8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
MS1: Edges and corners	Ordinary person	N/A	N/A	N/A
MS2: Equipment mass	Ordinary person	N/A	N/A	Fixed installation
MS3: Wall mount	Ordinary person	N/A	N/A	See 8.7
MS2: Handle	Ordinary person	N/A	N/A	See 8.8
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS1: Accessible part	Ordinary	N/A	N/A	N/A
TS3: Internal part	Ordinary	N/A	N/A	Enclosure
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
RS1: LED for indicating, LCD panel	Ordinary	N/A	N/A	N/A
Supplementary Information: “B” – Basic Safeguard; “S” – Supplementary Safeguard; “R” – Reinforced Safeguard				

ENERGY SOURCE DIAGRAM

Optional. Manufacturers are to provide the energy sources diagram identify declared energy sources and identifying the demarcations are between power sources. Recommend diagram be provided included in power supply and multipart systems.

Insert diagram below. Example diagram designs are; Block diagrams; image(s) with layered data; mechanical drawings



☒ ES ☒ PS ☒ MS ☒ TS ☐ RS

See OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS for details.

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	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 62368-1.	P
4.1.3	Equipment design and construction	Evaluation of safeguards regarding preventing access to ES3 parts, limiting the source supplying outputs to fulfill ES1, and protection in regard to risk of ignition, mechanical-caused injury and thermal burn considered.	P
4.1.4	Specified ambient temperature for outdoor use (°C) :	Not used in outdoor.	N/A
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids and liquid filled components (LFC)	No such component used.	N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General	See below.	P
4.4.3.2	Steady force tests	(See Annex T.2, T.3, T.4, T.5)	P
4.4.3.3	Drop tests		N/A
4.4.3.4	Impact tests	(See Annex T.6, T.9)	P
4.4.3.5	Internal accessible safeguard tests		N/A
4.4.3.6	Glass impact tests	No such glass used.	N/A
4.4.3.7	Glass fixation tests	(See Annex T.9)	P
	Glass impact test (1J)		P
	Push/pull test (10 N)		P
4.4.3.8	Thermoplastic material tests	(See Annex T.8)	P
4.4.3.9	Air comprising a safeguard	(See Annex T)	P
4.4.3.10	Accessibility, glass, safeguard effectiveness	After tests, no safeguard damaged.	P
4.4.4	Displacement of a safeguard by an insulating liquid	No insulating liquid used.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.4.5	Safety interlocks	No such component used.	N/A
4.5	Explosion		P
4.5.1	General		P
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	P
	No harm by explosion during single fault conditions	(See Clause B.3, B.4)	P
4.6	Fixing of conductors	Conductors are connected by connector and glue.	P
	Fix conductors not to defeat a safeguard	The wires are secured so that a loosening of the terminal connection is unlikely.	P
	Compliance is checked by test..... :	(See Clause T.2)	P
4.7	Equipment for direct insertion into mains socket-outlets		N/A
4.7.2	Mains plug part complies with relevant standard... :	Not direct plug-in equipment.	N/A
4.7.3	Torque (Nm)..... :		N/A
4.8	Equipment containing coin/button cell batteries		N/A
4.8.1	General	No coin/button cell batteries used.	N/A
4.8.2	Instructional safeguard..... :		N/A
4.8.3	Battery compartment door/cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance		N/A
	30N force test with test probe		N/A
	20N force test with test hook		N/A
4.9	Likelihood of fire or shock due to entry of conductive object		P
4.10	Component requirements		P
4.10.1	Disconnect Device	(See Annex L)	P
4.10.2	Switches and relays	Approved switch used.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5	ELECTRICALLY-CAUSED INJURY		P
5.2	Classification and limits of electrical energy sources		P
5.2.2	ES1, ES2 and ES3 limits	EUT is supplied by approved building-in power supply that output voltage is ES1, and no boost circuits, LED output is ES3.	P
5.2.2.2	Steady-state voltage and current limits..... :	(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..... :	No single pulse	N/A
5.2.2.5	Limits for repetitive pulses..... :	No repetitive pulses	N/A
5.2.2.6	Ringing signals	No ringing signals	N/A
5.2.2.7	Audio signals	(See Clause E.1)	P
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See 4.3 and 5.3 to 5.5 which applies to protection between the accessible parts and hazardous parts of other circuits.	P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits	Separated from ES3 mains by reinforced safeguard.	P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors	Bare conductors at ES3 can not be unintentional contact by skilled persons.	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only ES1 circuit and the enclosure (safeguard) are accessed to person.	P
	Accessibility to outdoor equipment bare parts	Not used in outdoor.	N/A
5.3.2.2	Contact requirements		P
	Test with test probe from Annex V	No contact to any ES3 parts with test probe.	—
5.3.2.2 a)	Air gap – electric strength test potential (V)..... :		N/A
5.3.2.2 b)	Air gap – distance (mm) :	>0.39mm	P
5.3.2.3	Compliance		P
5.3.2.4	Terminals for connecting stripped wire	No stripped wire used.	N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	The choice and application have taken into account as specified in this Clause 5 and Annex T and natural rubber, hygroscopic materials or asbestos are not used as insulation.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.3	Material is non-hygroscopic	Relative humidity: 93% Temperature: 40°C Duration: 120h	P
5.4.1.4	Maximum operating temperature for insulating materials..... :	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
5.4.1.5	Pollution degrees..... :	2	P
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling test		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..... :	Evaluated in approved power supply. For PW.D232W2.751: Max. 630Vp, 332Vrms	P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P
5.4.1.10.2	Vicat test..... :		N/A
5.4.1.10.3	Ball pressure test..... :	(See table 5.4.1.10.3)	P
5.4.2	Clearances		P
5.4.2.1	General requirements		P
	Clearances in circuits connected to AC Mains, Alternative method		N/A
5.4.2.2	Procedure 1 for determining clearance		P
	Temporary overvoltage :	2000 V peak	—
5.4.2.3	Procedure 2 for determining clearance		P
5.4.2.3.2.2	a.c. mains transient voltage..... :	2500V peak	—
5.4.2.3.2.3	d.c. mains transient voltage :	No such transient voltage	—
5.4.2.3.2.4	External circuit transient voltage..... :	No such transient voltage	—
5.4.2.3.2.5	Transient voltage determined by measurement..... :	Option was not used	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test :	Using procedure 2 to determine the clearance according to 5.4.2.3.	N/A
5.4.2.5	Multiplication factors for clearances and test voltages :	Up to 5000m, multiplication factor 1.48.	P
5.4.2.6	Clearance measurement..... :	(See appended table 5.4.2)	P
5.4.3	Creepage distances	(See appended table 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material group..... :	IIIb	—

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.3.4	Creepage distances measurement..... :	(See appended table 5.4.3)	P
5.4.4	Solid insulation	See below	P
5.4.4.1	General requirements		P
5.4.4.2	Minimum distance through insulation :	Evaluated in approved power supply board. (See appended table 5.4.4.2)	P
5.4.4.3	Insulating compound forming solid insulation	No such insulation used.	N/A
5.4.4.4	Solid insulation in semiconductor devices	Evaluated in approved power supply board.	P
5.4.4.5	Insulating compound forming cemented joints	No such construction within the EUT.	N/A
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements	Evaluated in approved power supply board.	P
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
	Number of layers (pcs) :		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	Evaluated in approved power supply board	P
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P , K_R , d , V_{PW} (V)..... :	(See appended Tables 5.4.4.9 and 5.4.9)	P
	Alternative by electric strength test, tested voltage (V), K_R :		N/A
5.4.5	Antenna terminal insulation	No Antenna terminal used.	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
5.4.5.3	Insulation resistance ($M\Omega$)..... :		N/A
	Electric strength test..... :		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard	No such insulation of internal wire used	N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%), temperature ($^{\circ}C$), duration (h)..... :	Relative humidity: 93% Temperature: 40 $^{\circ}C$ Duration: 120h	—

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.9	Electric strength test	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for type test of solid insulation..... :	(See appended table 5.4.9)	P
5.4.9.2	Test procedure for routine test		N/A
5.4.10	Safeguards against transient voltages from external circuits	No transient voltage from external circuit.	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test..... :		N/A
5.4.10.2.3	Steady-state test..... :		N/A
5.4.10.3	Verification for insulation breakdown for impulse test..... :		N/A
5.4.11	Separation between external circuits and earth	No such external circuit	N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	SPDs bridge separation between external circuit and earth		N/A
	Rated operating voltage U_{op} (V)..... :		—
	Nominal voltage U_{peak} (V)..... :		—
	Max increase due to variation ΔU_{sp} :		—
	Max increase due to ageing ΔU_{sa} :		—
5.4.11.3	Test method and compliance..... :		N/A
5.4.12	Insulating liquid	No such insulating liquid used.	N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid..... :		N/A
5.4.12.3	Compatibility of an insulating liquid..... :		N/A
5.4.12.4	Container for insulating liquid..... :		N/A
5.5	Components as safeguards		P
5.5.1	General		P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector..... :	Evaluated in approved power supply.	P
5.5.3	Transformers	Evaluated in approved power supply.	P
5.5.4	Optocouplers	Evaluated in approved power supply.	P
5.5.5	Relays		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.6	Resistors		N/A
5.5.7	SPDs	Evaluated in approved power supply.	P
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable.....:	No coaxial cable used.	N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment	No such component used.	N/A
	RCD rated residual operating current (mA).....:		—
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors	Protective conductor served as a supplementary safeguard to prevent accessible conductive parts from exceeding ES2 limits.	P
5.6.2.1	General requirements	Detachable power cord and appliance coupler used.	P
5.6.2.2	Colour of insulation	Green-and-yellow wire is used as protective bonding conductor.	P
5.6.3	Requirement for protective earthing conductors		P
	Protective earthing conductor size (mm ²) :	PE pin on approved AC inlet used as protective earthing conductor.	—
	Protective earthing conductor serving as a reinforced safeguard	Protective earthing conductor serving as a supplementary safeguard.	N/A
	Protective earthing conductor serving as a double safeguard	Protective earthing conductor serving as a supplementary safeguard.	N/A
5.6.4	Requirements for protective bonding conductors	See below	P
5.6.4.1	Protective bonding conductors	See 5.6.6	P
	Protective bonding conductor size (mm ²)..... :	Protective bonding conductor has sufficient current carrying capacity, also see sub-clause 5.6.6.2.	—
5.6.4.2	Protective current rating (A)..... :	13A or 16A or 20A	P
5.6.5	Terminals for protective conductors	The earthing terminal in approved AC inlet serves as main PE terminal. The screw connection to metal chassis, as the protective bonding terminal, star washer used.	P
5.6.5.1	Terminal size for connecting protective earthing conductors (mm)..... :	Complied with Table 32 and clause 5.6.6	P
	Terminal size for connecting protective bonding conductors (mm)..... :	Screw type, min. 3.5 thread diameter.	P
5.6.5.2	Corrosion		P
5.6.6	Resistance of the protective bonding system		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.6.1	Requirements		P
5.6.6.2	Test Method..... :	(See appended table 5.6.6)	P
5.6.6.3	Resistance (Ω) or voltage drop..... :	(See appended table 5.6.6)	P
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm ²)..... :		N/A
	Class II with functional earthing marking :		N/A
	Appliance inlet cl & cr (mm)..... :		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current	(See appended table 5.2)	P
5.7.2.2	Measurement of voltage		P
5.7.3	Equipment set-up, supply connections and earth connections		P
5.7.4	Unearthed accessible parts..... :	(See appended table 5.7.4)	P
5.7.5	Earthed accessible conductive parts..... :	(See appended table 5.7.5)	P
5.7.6	Requirements when touch current exceeds ES2 limits	Touch current did not exceed ES2 limits.	N/A
	Protective conductor current (mA)..... :		N/A
	Instructional Safeguard..... :		N/A
5.7.7	Prospective touch voltage and touch current associated with external circuits	No such external circuits	N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits	No such external circuits	N/A
	a) Equipment connected to earthed external circuits, current (mA)..... :		N/A
	b) Equipment connected to unearthed external circuits, current (mA)..... :		N/A
5.8	Backfeed safeguard in battery backed up supplies		N/A
	Mains terminal ES..... :	No battery backed up supply used.	N/A
	Air gap (mm)..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of PS and PIS		P
6.2.2	Power source circuit classifications.....:	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources	All conductors and devices are considered as PIS. No PIS in speaker circuit (PS1)	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
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials.....:	No ignition and no such temperature attained within the equipment. (See appended table B.1.5 and B.3, B.4)	P
	Combustible materials outside fire enclosure.....:	No such materials	N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard method	Method of control fire spread used (Fire enclosure is used).	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	Method by control of fire spread applied as 6.4.1.	N/A
6.4.3.1	Supplementary safeguards		N/A
6.4.3.2	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	All electrical component mount on min.V-1 PCB	P
6.4.5.2	Supplementary safeguards	(See appended tables 4.1.2 and Annex G)	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.6	Control of fire spread in PS3 circuits	Compliance detailed as follows: – Printed board: rated min. V-1 – Wire insulation: complying with Clause 6 (See Table 4.1.2). – Metal material fire enclosure used. – Plastic material fire enclosure: rated min. V-0 – Others considered in certified internal power supply. – Internal plastic parts, Minimum V-2, HF-2, or equivalent, or less than 4g or less than 1750mm ³ – Secondary connectors were mounted on material made of V-1 class material and have a mass of less than 4g, Minimum V-2	P
6.4.7	Separation of combustible materials from a PIS	Fire enclosure provided	N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.2	Fire enclosure and fire barrier material properties	Fire enclosure provided	P
6.4.8.2.1	Requirements for a fire barrier	No fire barrier	N/A
6.4.8.2.2	Requirements for a fire enclosure	Fire enclosure provided	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions	No fire barrier	N/A
6.4.8.3.3	Top openings and properties		P
	Openings dimensions (mm).....:	Horizontal: Numerous rectangle openings (0.95mm x 47.5mm); Vertical: Numerous circle openings (Max. Ø1.8mm)	P
6.4.8.3.4	Bottom openings and properties		P
	Openings dimensions (mm).....:	Numerous rectangle openings for speaker (2.03mm x 8.03mm) but locate outside figure 42 of all PIS.	P
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard.....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3.5	Side openings and properties		P
	Openings dimensions (mm).....:	Horizontal: Numerous circle openings (Max. Ø1.8mm) Vertical: Numerous rectangle openings (0.95mm x 47.5mm);	P
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c).....:	No doors or covers	N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating.....:	Fire enclosure provided.	N/A
6.4.9	Flammability of insulating liquid.....:	No such insulating liquid used.	N/A
6.5	Internal and external wiring		P
6.5.1	General requirements	Internal lead wire comply with UL 758, which has the equivalent requirement with IEC/TS 60695-11-21	P
6.5.2	Requirements for interconnection to building wiring.....:	No such building wiring used.	N/A
6.5.3	Internal wiring size (mm ²) for socket-outlets.....:	No socket-outlet used.	N/A
6.6	Safeguards against fire due to the connection to additional equipment		P

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		P
7.2	Reduction of exposure to hazardous substances		N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards or personal protective equipment (PPE)		N/A
	Personal safeguards and instructions.....:		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010).....:		—
7.6	Batteries and their protection circuits		P

8	MECHANICALLY-CAUSED INJURY		P
8.2	Mechanical energy source classifications		P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners		N/A
8.4.1	Safeguards	Accessible edges and corners are classified as MS1.	N/A
	Instructional Safeguard.....:		N/A
8.4.2	Sharp edges or corners		N/A
8.5	Safeguards against moving parts		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts	No moving parts	N/A
	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional safeguard..... :		N/A
8.5.4	Special categories of equipment containing moving parts		N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts		N/A
8.5.4.2.1	Protection of persons in the work cell		N/A
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m)..... :		N/A
	Space between end point and nearest fixed mechanical part (mm)..... :		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A
	- Mechanical function check and visual inspection		N/A
	- Cable assembly..... :		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts..... :		N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N)..... :		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps	No high pressure lamps used.	N/A
	Explosion test..... :		N/A
8.5.5.3	Glass particles dimensions (mm)..... :		N/A
8.6	Stability of equipment		P
8.6.1	General	Classification MS2 according to table 35, line 5.	P
	Instructional safeguard..... :		N/A
8.6.2	Static stability		P

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Clause	Requirement + Test	Result - Remark	Verdict
8.6.2.2	Static stability test.....:	Test conducted under the worst position: The equipment was secured on the highest position of the stand, then placed on a plane at an angle of 10° from the horizontal and rotated slowly through an angle of 360° about its normal vertical axis, and does not tip over during the tests	P
8.6.2.3	Downward force test		N/A
8.6.3	Relocation stability		N/A
	Wheels diameter (mm).....:		—
	Tilt test		N/A
8.6.4	Glass slide test	Test conducted under the worst position: The equipment was secured on the highest position of the stand. During the test, the equipment does not slide and tip over	P
8.6.5	Horizontal force test.....:		N/A
8.7	Equipment mounted to wall, ceiling or other structure		P
8.7.1	Mount means type.....:	Fixing screws: M6*14mm, metal surface	P
8.7.2	Test methods	Test 2 and Test 3	P
	Test 1, additional downwards force (N).....:		N/A
	Test 2, number of attachment points and test force (N).....:	Four attachment points; Four times the weight of the EUT (123N for each screw) applied; (four directions plus inward and outward)	P
	Test 3 Nominal diameter (mm) and applied torque (Nm).....:	2.5Nm for each screws, tested and complied.	P
8.8	Handles strength		P
8.8.1	General		P
8.8.2	Handle strength test		P
	Number of handles.....:	2	—
	Force applied (N).....:	25.0kg for each handle, two handles provided	—
8.9	Wheels or casters attachment requirements		N/A
8.9.2	Pull test	Not such equipment	N/A
8.10	Carts, stands and similar carriers		N/A
8.10.1	General	Not such equipment	N/A
8.10.2	Marking and instructions.....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N)..... :		N/A
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Force applied (N)..... :		—
8.10.6	Thermoplastic temperature stability		N/A
8.11	Mounting means for slide-rail mounted equipment (SRME)		N/A
8.11.1	General	Not such equipment	N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard..... :		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force (N) applied..... :		N/A
8.11.3.2	Lateral push force test		N/A
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance		N/A
8.12	Telescoping or rod antennas		N/A
	Button/ball diameter (mm)..... :	Not such equipment	—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications		P
9.3	Touch temperature limits		P
9.3.1	Touch temperatures of accessible parts..... :	Accessible parts are limited to TS1. (See appended table 5.4.1.4, 9.3, B.1.5, B.2.6, B.3 and B.4)	P
9.3.2	Test method and compliance		P
9.4	Safeguards against thermal energy sources		P
9.5	Requirements for safeguards		P
9.5.1	Equipment safeguard	Enclosure provided to limit the transfer of thermal energy of internal parts under normal operating conditions and abnormal operating conditions.	P
9.5.2	Instructional safeguard..... :	Instructional safeguard is not Required.	N/A
9.6	Requirements for wireless power transmitters		N/A
9.6.1	General	Not such equipment	N/A
9.6.2	Specification of the foreign objects		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
9.6.3	Test method and compliance.....:		N/A
10	RADIATION		P
10.2	Radiation energy source classification		P
10.2.1	General classification	Indicating LED are low power application and LCD panel are classified as RS1 and the luminance of the source does not exceed 10^4 cd/m ² .	P
	Lasers.....:		—
	Lamps and lamp systems.....:		—
	Image projectors.....:		—
	X-Ray.....:		—
	Personal music player.....:		—
10.3	Safeguards against laser radiation		N/A
	The standard(s) equipment containing laser(s) comply.....:	No laser radiation	N/A
10.4	Safeguards against optical radiation from lamps and lamp systems (including LED types)		P
10.4.1	General requirements	Indicating LED are low power application and LCD panel are classified as RS1 and the luminance of the source does not exceed 10^4 cd/m ² .	P
	Instructional safeguard provided for accessible radiation level needs to exceed		N/A
	Risk group marking and location.....:		N/A
	Information for safe operation and installation		N/A
10.4.2	Requirements for enclosures		N/A
	UV radiation exposure.....:	No UV	N/A
10.4.3	Instructional safeguard.....:		N/A
10.5	Safeguards against X-radiation		N/A
10.5.1	Requirements	No X-radiation	N/A
	Instructional safeguard for skilled persons.....:		—
10.5.3	Maximum radiation (pA/kg).....:		—
10.6	Safeguards against acoustic energy sources		N/A
10.6.1	General	No acoustics energy	N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A).....:		N/A
	Unweighted RMS output voltage (mV).....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Digital output signal (dBFS)..... :		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30)..... :		N/A
	Warning for MEL ≥ 100 dB(A)..... :		N/A
10.6.4	Measurement methods		N/A
10.6.5	Protection of persons		N/A
	Instructional safeguards..... :		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV)..... :		N/A
10.6.6.2	Corded listening devices with digital input		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A)..... :		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A)..... :		N/A

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.1	General		P
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	P
B.2	Normal operating conditions		P
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers..... :	(See Annex E)	P
B.2.3	Supply voltage and tolerances		P
B.2.5	Input test..... :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General	(See appended table B.3, B.4)	P
B.3.2	Covering of ventilation openings		P
	Instructional safeguard..... :		N/A
B.3.3	DC mains polarity test	A.C. mains supply only	N/A
B.3.4	Setting of voltage selector	No such voltage selector	N/A
B.3.5	Maximum load at output terminals	(See appended table B.3, B.4)	P
B.3.6	Reverse battery polarity	No batteries used	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.7	Audio amplifier abnormal operating conditions		P
B.3.8	Safeguards functional during and after abnormal operating conditions..... :	(See appended table B.3, B.4)	P
B.4	Simulated single fault conditions		P
B.4.1	General		P
B.4.2	Temperature controlling device	No temperature controlling device	N/A
B.4.3	Blocked motor test	No motor used	N/A
B.4.4	Functional insulation	See below for details	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.3, B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.3, B.4)	P
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 disconnection of passive components	(See appended table B.3, B.4)	P
B.4.7	Continuous operation of components	The EUT is continuous operating type and no such components intended for short time operation or intermittent operation.	N/A
B.4.8	Compliance during and after single fault conditions :	(See appended table B.3, B.4)	P
B.4.9	Battery charging and discharging under single fault conditions	No batteries used	N/A
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements	No UV radiation	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 test		N/A
C.2.4	Xenon-arc light-exposure test		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

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Clause	Requirement + Test	Result - Remark	Verdict
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		P
E.1	Electrical energy source classification for audio signals		P
	Maximum non-clipped output power (W)..... :	Medium speaker: L/R=8.93	—
	Rated load impedance (Ω)	L=R=6	—
	Open-circuit output voltage (V)..... :	Medium speaker: L=R=7.32	—
	Instructional safeguard..... :	No safeguard necessary	—
E.2	Audio amplifier normal operating conditions		P
	Audio signal source type..... :	1K Hz audio signal	—
	Audio output power (W)..... :	Medium speaker: L=R=1.12	—
	Audio output voltage (V)..... :	Medium speaker: L=R=2.59	—
	Rated load impedance (Ω)	L=R=6 Ω	—
	Requirements for temperature measurement	(See appended table B.1.5)	P
E.3	Audio amplifier abnormal operating conditions	(See appended table B.3, B.4)	P
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General		P
	Language	English	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1	Letter symbols for quantities and units are complied with IEC 60027-1	P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific	Graphical symbols are complied with IEC 60417, ISO 3864-2, ISO 7000 or ISO 7010	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	The required marking is located on the enclosure of the equipment and is easily visible.	P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification	See copy of marking plate	P
F.3.2.2	Model identification	See copy of marking plate	P
F.3.3	Equipment rating markings	See below for details	P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage..... :	Symbol “~” provided	P
F.3.3.4	Rated voltage..... :	100-240V	P
F.3.3.5	Rated frequency..... :	50/60Hz	P
F.3.3.6	Rated current or rated power..... :	See copy of marking plate	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.3.7	Equipment with multiple supply connections	Single supply connection	N/A
F.3.4	Voltage setting device	No voltage setting device	N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings :	No appliance outlet and socket outlet	N/A
F.3.5.2	Switch position identification marking..... :	The IEC60417-5007 and IEC60417-5008 (I and O) are marked on the power switch.	P
F.3.5.3	Replacement fuse identification and rating markings :	Evaluated in approved Switching power supply	P
	Instructional safeguards for neutral fuse..... :		N/A
F.3.5.4	Replacement battery identification marking..... :	See Annex M.10	P
F.3.5.5	Neutral conductor terminal		N/A
F.3.5.6	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I equipment		P
F.3.6.1.1	Protective earthing conductor terminal..... :	Symbol  used.	P
F.3.6.1.2	Protective bonding conductor terminals :	No need to be identified.	N/A
F.3.6.2	Equipment class marking..... :	Class I equipment	N/A
F.3.6.3	Functional earthing terminal marking..... :		N/A
F.3.7	Equipment IP rating marking..... :	IP30	P
F.3.8	External power supply output marking..... :	Not such apparatus	N/A
F.3.9	Durability, legibility and permanence of marking	Marking is considered to be legible and easily discernible. See also the following details.	P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec, with the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge. After each test, the marking remained legible.	P
F.4	Instructions		P
	a) Information prior to installation and initial use		P
	b) Equipment for use in locations where children not likely to be present		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	c) Instructions for installation and interconnection		P
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place		P
	f) Instructions for audio equipment terminals	Audio terminals classified as ES1	N/A
	g) Protective earthing used as a safeguard		P
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment	No such symbols used as a safeguard considered	N/A
	j) Permanently connected equipment not provided with all-pole mains switch	No permanently connected equipment.	N/A
	k) Replaceable components or modules providing safeguard function	Provided in user manual	P
	l) Equipment containing insulating liquid	No insulating liquid used.	N/A
	m) Installation instructions for outdoor equipment	No outdoor equipment.	N/A
F.5	Instructional safeguards		P
G	COMPONENTS		P
G.1	Switches		P
G.1.1	General	Approved switch used	P
G.1.2	Ratings, endurance, spacing, maximum load	(See appended table 4.1.2)	P
G.1.3	Test method and compliance		N/A
G.2	Relays		N/A
G.2.1	Requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		N/A
G.3	Protective devices		P
G.3.1	Thermal cut-offs	No thermal cut-offs used.	N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links	No thermal link used.	N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors	No PTC thermistor used.	N/A
G.3.4	Overcurrent protection devices	Evaluated in approved power supply board.	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions..... :		N/A
G.4	Connectors		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration..... :	IEC/EN 60320-1 approved appliance inlet used	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	No such equipment	P
G.5	Wound components		P
G.5.1	Wire insulation in wound components	Evaluated in approved power supply board	P
G.5.1.2	Protection against mechanical stress		N/A
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Test time (days per cycle)..... :		—
	Test temperature (°C)..... :		—
G.5.2.3	Wound components supplied from the mains		N/A
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers		P
G.5.3.1	Compliance method..... :	Evaluated in approved power supply board	P
	Position..... :		N/A
	Method of protection..... :		N/A
G.5.3.2	Insulation		N/A
	Protection from displacement of windings..... :		—
G.5.3.3	Transformer overload tests		N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding temperatures		N/A
G.5.3.3.3	Winding temperatures - alternative test method		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	FIW wire nominal diameter..... :		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation..... :		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A
G.5.4	Motors	No motor used	N/A
G.5.4.1	General requirements		N/A
G.5.4.2	Motor overload test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4.2	Locked-rotor overload test		N/A
	Test duration (days) :		—
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
G.5.4.5.3	Alternative method		N/A
G.5.4.6	Locked-rotor overload test for DC motors		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature :		N/A
G.5.4.6.3	Alternative method		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	Evaluated in approved power supply board.	P
G.6.2	Enamelled winding wire insulation		N/A
G.7	Mains supply cords		P
G.7.1	General requirements		P
	Type..... :	(See appended table 4.1.2)	—
G.7.2	Cross sectional area (mm ² or AWG)..... :	(See appended table 4.1.2)	P
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords	Detachable power supply cord used.	N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Strain relief test force (N)..... :		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)..... :		N/A
G.7.3.2.4	Strain relief and cord anchorage material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, D (mm)..... :		—
	Radius of curvature after test (mm)..... :		—
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	Varistors		P
G.8.1	General requirements	Evaluated in approved power supply board.	P
G.8.2	Safeguards against fire	Metal enclosure used around the varistor	N/A
G.8.2.1	General		N/A
G.8.2.2	Varistor overload test	Near the varistor, metal material fire enclosure was provided.	N/A
G.8.2.3	Temporary overvoltage test		N/A
G.9	Integrated circuit (IC) current limiters		N/A
G.9.1	Requirements	No such component used.	N/A
	IC limiter output current (max. 5A)..... :		—
	Manufacturers' defined drift :		—
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
G.10	Resistors		N/A
G.10.1	General	No such resistors used.	N/A
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.11	Capacitors and RC units		P
G.11.1	General requirements	Evaluated in approved power supply board.	P
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5 with specifics	Evaluated in approved power supply board.	P
	Type test voltage $V_{ini,a}$:		—
	Routine test voltage, $V_{ini,b}$:		—
G.13	Printed boards		P
G.13.1	General requirements	See the below for details	P
G.13.2	Uncoated printed boards	The insulation between conductors on the outer surfaces of an uncoated printed board complied with the minimum clearance and creepage requirements of 5.4.2 and 5.4.3.	P
G.13.3	Coated printed boards	No coated printed board or multilayer board applied for within the equipment.	N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
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.13.6.2	Test method and compliance		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements	No such component used.	N/A
G.15	Pressurized liquid filled components		N/A
G.15.1	Requirements	No such component used.	N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		P
G.16.1	Condition for fault tested is not required	Evaluated in approved power supply board.	P
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately		N/A
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test..... :		—
	Mains voltage that impulses to be superimposed on :		—
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test..... :		—
G.16.3	Capacitor discharge test..... :		N/A
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal	No telephone ringing signal generated within the equipment.	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		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)..... :		N/A
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
J.1	General		N/A
	Winding wire insulation..... :	Evaluated in approved power supply board.	—
	Solid round winding wire, diameter (mm)..... :		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm ²)..... :		N/A
J.2/J.3	Tests and Manufacturing		—

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Clause	Requirement + Test	Result - Remark	Verdict
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
	Instructional safeguard..... :	No safety interlocks used.	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
K.5.1	Under single fault condition		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance..... :		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm)..... :		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm)..... :		N/A
	Electric strength test before and after the test of K.7.2..... :		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 coupler used as disconnect device.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single-phase equipment		P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources	Only one a.c. mains connection	N/A
	Instructional safeguard..... :		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		P
M.1	General requirements		N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Batteries and their cells comply with relevant IEC standards..... :	No batteries used.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.3	Protection circuits for batteries provided within the equipment	Tests on Ultra-Capacitor CN1 see M.3.2	P
M.3.1	Requirements		P
M.3.2	Test method		P
	Overcharging of a rechargeable battery	See appended table M.3.2	P
	Excessive discharging	See appended table M.3.2	P
	Unintentional charging of a non-rechargeable battery		N/A
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance	(See appended table M.3)	P
M.4	Additional safeguards for equipment containing a portable secondary lithium battery		N/A
M.4.1	General	No batteries used.	N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Requirements		N/A
M.4.2.2	Compliance.....:		N/A
M.4.3	Fire enclosure.....:		N/A
M.4.4	Drop test of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation and procedure for the drop test		N/A
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%):		N/A
M.4.4.4	Check of the charge/discharge function		N/A
M.4.4.5	Charge / discharge cycle test		N/A
M.4.4.6	Compliance		N/A
M.5	Risk of burn due to short-circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Test method and compliance		N/A
M.6	Safeguards against short-circuits		N/A
M.6.1	External and internal faults		N/A
M.6.2	Compliance		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
	Calculated hydrogen generation rate.....:		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, Q (m ³ /h).....:		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%).....:		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate.....:		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%).....:		N/A
M.7.4	Marking.....:		N/A
M.8	Protection against internal ignition from external spark sources of batteries with aqueous electrolyte		N/A
M.8.1	General		N/A
M.8.2	Test method		N/A
M.8.2.1	General		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		P
	Instructional safeguard..... :	See user manual.	P
N	ELECTROCHEMICAL POTENTIALS		P
	Material(s) used..... :	The screw, star washer and metal chassis are all made of mild steel.	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Value of X (mm)..... :	1 mm.	—
P	SAFEGUARDS AGAINST CONDUCTIVE OBJECTS		P
P.1	General		P
P.2	Safeguards against entry or consequences of entry of a foreign object		P
P.2.1	General		P
P.2.2	Safeguards against entry of a foreign object		P
	Location and Dimensions (mm) :	Top opening: Numerous rectangle openings (0.95mm x 47.5mm); Rear opening: Max. Ø2.0mm	—
P.2.3	Safeguards against the consequences of entry of a foreign object		N/A
P.2.3.1	Safeguard requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment	Not transportable equipment	N/A
	Transportable equipment with metalized plastic parts..... :		N/A
P.2.3.2	Consequence of entry test..... :	No openings	N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General	No internal liquids	N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	Metallized coatings and adhesives securing parts		N/A
P.4.1	General	No such coatings and securing parts.	N/A
P.4.2	Tests		N/A
	Conditioning, T _c (°C)..... :		—
	Duration (weeks)..... :		—
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	Requirements		P
	a) Inherently limited output		P
	b) Impedance limited output		N/A
	c) Regulating network limited output	A regulating network limits the output in compliance with table Q.1 both under normal operating conditions and after any single fault.	P
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance..... :	(See appended table Q.1)	P
	Current rating of overcurrent protective device (A) :	No such circuit for connection to the EUT	N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) :		N/A
	Current limiting method..... :		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
R.2	Test setup		N/A
	Overcurrent protective device for test..... :		—
R.3	Test method		N/A
	Cord/cable used for test..... :		—
R.4	Compliance		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material..... :		—
	Wall thickness (mm)..... :		—
	Conditioning (°C)..... :		—
	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)..... :		—
S.3	Flammability test for the bottom of a fire enclosure		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance		N/A
	Mounting of samples :		—
	Wall thickness (mm)..... :		—
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosure materials of equipment with a steady state power exceeding 4 000 W		N/A
	Samples, material..... :		—
	Wall thickness (mm)..... :		—
	Conditioning (°C)..... :		—
T	MECHANICAL STRENGTH TESTS		P
T.1	General		P
T.2	Steady force test, 10 N	(See appended table T.2, T.3, T.4, T.5)	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
T.7	Drop test		N/A
T.8	Stress relief test.....	(See appended table T.8)	P
T.9	Glass Impact Test.....	(See appended table T.6, T.9)	P
T.10	Glass fragmentation test		N/A
	Number of particles counted.....		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)	No such antennas provided within the equipment.	N/A
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General		N/A
	Instructional safeguard :	No CRT provided.	N/A
U.2	Test method and compliance for non-intrinsically protected CRTs		N/A
U.3	Protective screen		N/A
V	DETERMINATION OF ACCESSIBLE PARTS		P
V.1	Accessible parts of equipment		P
V.1.1	General	No access with test probes to any hazardous parts.	P
V.1.2	Surfaces and openings tested with jointed test probes		P
V.1.3	Openings tested with straight unjointed test probes		P
V.1.4	Plugs, jacks, connectors tested with blunt probe		N/A
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		N/A
V.2	Accessible part criterion		P
X	ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)		N/A
	Clearance.....		N/A
Y	CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES		N/A
Y.1	General		N/A
Y.2	Resistance to UV radiation		N/A
Y.3	Resistance to corrosion		N/A
Y.3	Resistance to corrosion		

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Clause	Requirement + Test	Result - Remark	Verdict
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by.....:		N/A
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A
Y.3.4	Test procedure.....:		N/A
Y.3.5	Compliance		N/A
Y.4	Gaskets		N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests		N/A
	Alternative test methods.....:		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A
Y.4.6	Securing means		N/A
Y.5	Protection of equipment within an outdoor enclosure		N/A
Y.5.1	General		N/A
Y.5.2	Protection from moisture		N/A
	Relevant tests of IEC 60529 or Y.5.3.....:		N/A
Y.5.3	Water spray test		N/A
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		N/A
Y.5.5.1	General		N/A
Y.5.5.2	IP5X equipment		N/A
Y.5.5.3	IP6X equipment		N/A
Y.6	Mechanical strength of enclosures		N/A
Y.6.1	General		N/A
Y.6.2	Impact test.....:		N/A

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
5.2	TABLE: Classification of electrical energy sources						P
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters				ES Class
			U (V)	I (mA)	Type ¹⁾	Additional Info ²⁾	
264Va.c, 60Hz	All primary circuits	Normal	264V rms	--	SS	--	ES3
264Va.c, 60Hz	All primary circuits	Abnormal	--	--	--	--	ES3
264Va.c, 60Hz	All primary circuits	Single fault – SC/OC	--	--	--	--	ES3
264Va.c, 60Hz	CON1 of power board PW.D232W2.751 (+18V) output + to GND	Normal	18.60Vdc	--	SS	--	ES1
264Va.c, 60Hz	CON1 of power board PW.D232W2.751 (+18V) output + to GND	Abnormal	--	--	--	--	ES1
264Va.c, 60Hz	CON1 of power board PW.D232W2.751 (+18V) output + to GND	Single fault: SC (CON2 LED “+” to GND short)	0Vdc	--	SS	--	ES1
264Va.c, 60Hz	CON1 of power board PW.D232W2.751 (+18V) output + to GND	Single fault (CON2 LED “+” to metal enclosure short)	0Vdc	--	SS	--	ES1
264Va.c, 60Hz	CON1 of power board PW.D232W2.751 (+18V) output + to GND	Single fault (CON2 LED “+” to panel short)	18.60Vdc	--	SS	--	ES1
264Va.c, 60Hz	CON1 of power board PW.D232W2.751 (+18V) output + to GND	Single fault (CON2 LED “+” to CON1 +18V “+” short)	0Vdc	--	SS	--	ES1
264Va.c, 60Hz	CON1 of power board PW.D232W2.751 (+12V) output + to GND	Normal	12.80Vdc	--	SS	--	ES1

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
264Va.c, 60Hz	CON1 of power board PW.D232W2.751 (+12V) output + to GND	Abnormal	--	--	--	--	ES3
264Va.c, 60Hz	CON1 of power board PW.D232W2.751 (+12V) output + to GND	Single fault: SC (CON2 LED "+" to GND short)	0Vdc	--	SS	--	ES1
264Va.c, 60Hz	CON1 of power board PW.D232W2.751 (+12V) output + to GND	Single fault: SC (CON2 LED "+" to metal enclosure short)	0Vdc	--	SS	--	ES1
264Va.c, 60Hz	CON1 of power board PW.D232W2.751 (+12V) output + to GND	Single fault: SC (CON2 LED "+" to panel short)	12.80Vdc	--	SS	--	ES1
264Va.c, 60Hz	CON1 of power board PW.D232W2.751 (+12V) output + to GND	Single fault: SC (CON2 LED "+" to CON1 +12V "+" short)	0Vdc	--	SS	--	ES1
264Va.c, 60Hz	USB 3.0 (JU101) on main board "+" to GND	Normal	5.15Vdc	--	SS	DC	ES1
264Va.c, 60Hz	USB 3.0 (JU101) on main board "+" to GND	Abnormal (See table B.3, B.4 for details)	5.15Vdc	--	SS	DC	ES1
264Va.c, 60Hz	USB 3.0 (JU101) on main board "+" to GND	Single fault (See table B.3, B.4 for details)	5.15Vdc	--	SS	DC	ES1
264Va.c, 60Hz	USB 3.0 (JU101) on main board "+" to GND	Single fault (CON2 LED "+" to JU101 "+" short)	0Vdc	--	SS	DC	ES1
264Va.c, 60Hz	USB 3.0 (JU161) on main board "+" to GND	Normal	5.15Vdc	--	SS	DC	ES1
264Va.c, 60Hz	USB 3.0 (JU161) on main board "+" to GND	Abnormal (See table B.3, B.4 for details)	5.15Vdc	--	SS	DC	ES1
264Va.c, 60Hz	USB 3.0 (JU161) on main board "+" to GND	Single fault (See table B.3, B.4 for details)	5.15Vdc	--	SS	DC	ES1

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Clause	Requirement + Test			Result - Remark			Verdict
264Va.c, 60Hz	USB 3.0 (JU161) on main board "+" to GND	Single fault (CON2 LED "+" to JU116 "+" short)	0Vdc	--	SS	DC	ES1
264Va.c, 60Hz	USB 2.0 (JU1) on main board "+" to GND	Normal	5.15Vdc	--	SS	DC	ES1
264Va.c, 60Hz	USB 2.0 (JU1) on main board "+" to GND	Abnormal (See table B.3, B.4 for details)	5.15Vdc	--	SS	DC	ES1
264Va.c, 60Hz	USB 2.0 (JU1) on main board "+" to GND	Single fault (See table B.3, B.4 for details)	5.15Vdc	--	SS	DC	ES1
264Va.c, 60Hz	USB 2.0 (JU1) on main board "+" to GND	Single fault (CON2 LED "+" to JU1 "+" short)	0Vdc	--	SS	DC	ES1
264Va.c, 60Hz	Type-C IN (JU2) on main board "+" to GND	Normal	5.15Vdc	--	SS	DC	ES1
264Va.c, 60Hz	Type-C IN (JU2) on main board "+" to GND	Abnormal (See table B.3, B.4 for details)	5.15Vdc	--	SS	DC	ES1
264Va.c, 60Hz	Type-C IN (JU2) on main board "+" to GND	Single fault (See table B.3, B.4 for details)	5.15Vdc	--	SS	DC	ES1
264Va.c, 60Hz	Type-C IN (JU2) on main board "+" to GND	Single fault (CON2 LED "+" to JU2 "+" short)	0Vdc	--	SS	DC	ES1
264Va.c, 60Hz	All output "+"/- to earth	Normal	--	0.022mA peak	SS	60Hz	ES1
264Va.c, 60Hz	All output "+"/- to earth	Abnormal (See table B.3, B.4 for details)	--	0.022mA peak	SS	60Hz	ES1
264Va.c, 60Hz	All output "+"/- to earth	Single fault (See table B.3, B.4 for details)	--	0.022mA peak	SS	60Hz	ES1
264Va.c, 60Hz	Display screen surface with metal foil to earth	Normal	--	0.014mA peak	SS	60Hz	ES1
264Va.c, 60Hz	Display screen surface with metal foil to earth	Abnormal (See table B.3, B.4 for details)	--	0.014mA peak	SS	60Hz	ES1

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
264Va.c, 60Hz	Display screen surface with metal foil to earth	Single fault (See table B.3, B.4 for details)	--	0.014mA peak	SS	60Hz	ES1
264Va.c, 60Hz	L to N	Normal	374V pk	--	CP	CX1=CX2=470nF±20%	ES3
264Va.c, 60Hz	L to N	Abnormal	--	--	--	--	--
264Va.c, 60Hz	L to N	Single fault – SC/OC	--	--	--	--	--
264Va.c, 60Hz	L to Earth	Normal	374V pk	--	CP	CY2=0.47nF±20%	ES1
264Va.c, 60Hz	L to Earth	Abnormal	--	--	--	--	--
264Va.c, 60Hz	L to Earth	Single fault – SC/OC	--	--	--	--	--
264Va.c, 60Hz	N to Earth	Normal	1.0V	--	CP	CY1=0.47nF±20% CY3=0.1nF±20%	ES1
264Va.c, 60Hz	N to Earth	Abnormal	--	--	--	--	--
264Va.c, 60Hz	N to Earth	Single fault – SC/OC	--	--	--	--	--
--	--	Normal	--	--	SP	--	--
--	--	Abnormal	--	--	SP	--	--
--	--	Single fault – SC/OC	--	--	SP	--	--
--	--	Normal	--	--	RP	--	--
--	--	Abnormal	--	--	RP	--	--
--	--	Single fault – SC/OC	--	--	RP	--	--
Supplementary information:							
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.							
2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.							

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Clause	Requirement + Test		Result - Remark	Verdict
5.4.1.8	TABLE: Working voltage measurement			N/A
Location	RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments
--	--	--	--	--
--	--	--	--	--
Supplementary information:				

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics				N/A
Method..... :		ISO 306 / B50			—
Object/ Part No./Material	Manufacturer/trademark	Thickness (mm)		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	Thickness (mm)	Test temperature (°C)	Impression diameter (mm)	
Mylar sheet / Plastic	Suzhou Omay Optical Materials Co., Ltd. / Model:SE42B	0.40*7layer	125	1.25	
Mylar sheet / Plastic	SABIC Japan LLC / Model:FR500	0.40*7layer	125	1.30	
Mylar sheet / Plastic	Suzhou Omay Optical Materials Co., Ltd. / Model: SE42B	0.40*7layer	125	1.35	
Supplementary information:					
*: min. 2,5 mm thick with approx. with upper and lower surface parallel to one another.					

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.2, 5.4.3 TABLE: Minimum Clearances/Creepage distance								P
Clearance (cl) and creepage distance (cr) at/of/between:	U _p (V)	U _{rms} (V)	Freq ¹⁾ (Hz)	Required cl (mm)	cl (mm)	E.S. ²⁾ (V)	Required cr (mm)	cr (mm)
Primary component of PW.D232W2.751 to secondary wire (R)	630	332	96.9K	4.5	9.5	--	6.7	9.5
Primary component of PW.D232W2.751 to back metal enclosure (B)	630	332	96.9K	2.3	5.6	--	3.4	5.6
Line to Neural for AC inlet (B)	420	250	60K	2.3	11.5	--	2.5	11.5
Line to Earth for AC inlet (B)	420	250	60K	2.3	4.8	--	2.5	4.8
Neural to Earth for AC inlet (B)	420	250	60K	2.3	4.8	--	2.5	4.8
Supplementary information:								
1) Only for frequency above 30 kHz 2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied)								
Note 1: Primary to secondary components and internal wire (with 10N) B=Basic insulation, R=Reinforced insulation 1. Certified internal power supply used. 2. Mylar sheet used between power board and LCD panel. 3. Material group: IIIb. 4. * The equipment is operated up to 5000m above sea level as declared by manufacturer. Clearances have been evaluated according to IEC 62368-1: table 16 with a multiplication factor of 1.48 throughout this report. 5. Unless otherwise specified, the worst case conditions of Cl. & Cr. in above mentioned locations have been considered and listed.								

5.4.4.2 TABLE: Minimum distance through insulation					P
Distance through insulation (DTI) at/of	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)	
Mylar sheet under power board	630	Basic	--	Min. 0.40	
Internal primary wire	420	Reinforced	0.40	Min. 0.40	
Supplementary information:					

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Clause	Requirement + Test				Result - Remark		Verdict
5.4.4.9	TABLE: Solid insulation at frequencies >30 kHz						P
Insulation material	E_P	Frequency (kHz)	K_R	Thickness d (mm)	Insulation	V_{PW} (Vpk)	
Mylar sheet (all sources)	160KV/mm	>30 kHz	0.30	Min. 0.4	Basic	630	
Supplementary information:							
Mylar sheet is Polycarbonate material. Vw=160*0.30*0.40=19.2kV, exceed twice the measured high frequency peak of the WORKING VOLTAGE VPW by 20 %.							

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
Basic/supplementary:				
Unit primary to metal enclosure		DC	2500	No
Unit primary to PE pin		DC	2500	No
Mylar sheet under power board		DC	2500	No
Reinforced:				
Unit primary to secondary terminals		DC	4000	No
Unit primary to LCD Panel (attached with metal foil)		DC	4000	No
Unit primary to plastic enclosure (attached with metal foil)		DC	4000	No
Internal primary wire		DC	4000	No
Supplementary information:				
1. Test after humidity treatment, heating test, and for unit primary to secondary terminals, primary to enclosure electric strength after each fault condition test. 2. The DC voltage source was performed on all testing once in forward and once in reverse. 3. For other consideration which is not mentioned in this report, see CB report of Build-in power board. 4. All mylar sheet source was considered.				

5.5.2.2	TABLE: Stored discharge on capacitors					N/A
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class	
--	--	--	--	--	--	
Supplementary information:						
- Evaluated in approved power supply. X-capacitors installed for testing: [] bleeding resistor rating: [] ICX: UB101 1) Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit;						

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

5.6.6	TABLE: Resistance of protective conductors and terminations				P	
Location		Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
PE terminal to farthest metal enclosure		32	2	0.448	0.014	
PE terminal to farthest metal enclosure		40	2	0.720	0.018	
Supplementary information:						
5.7.4	TABLE: Unearthed accessible parts				P	
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V _{rms} or V _{pk})	Current (A _{rms} or A _{pk})	Freq. (Hz)	
Display screen with metal foil to “earth”	Normal	264Va.c, 60Hz	--	0.014 mA peak	60Hz	ES1
Display screen with metal foil to “earth”	Single fault (N polarity open circuit)	264Va.c, 60Hz	--	0.014 mA peak	60Hz	ES1
Display screen with metal foil to “earth”	Single fault (CON2 LED “+” to CON1 +18V “+” SC)	264Va.c, 60Hz	--	0.014 mA peak	60Hz	ES1
Display screen with metal foil to “earth”	Single fault (CON2 LED “+” to CON1 +12V “+” SC)	264Va.c, 60Hz	--	0.014 mA peak	60Hz	ES1
Display screen with metal foil to “earth”	Single fault (CON2 LED “+” to GND SC)	264Va.c, 60Hz	--	0.014 mA peak	60Hz	ES1
Display screen with metal foil to “earth”	Single fault (Earth open)	264Va.c, 60Hz	--	0.022 mA peak	60Hz	ES1
Output “+” to “earth”	Normal	264Va.c, 60Hz	--	0.026 mA peak	60Hz	ES1
Output “+” to “earth”	Abnormal (see table B.3, B.4 for details)	264Va.c, 60Hz	--	--	60Hz	ES1
Output “+” to “earth”	Single fault (see table B.3, B.4 for details)	264Va.c, 60Hz	--	--	60Hz	ES1
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						

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Clause	Requirement + Test	Result - Remark	Verdict

Note: All conditions had considered Normal/Reverse test. Only recorded only the most unfavorable data.

5.7.5	TABLE: Earthed accessible conductive part			P
Supply voltage (V).....:	264Va.c			—
Phase(s)	[☒] Single Phase; [] Three Phase: [] Delta [] Wye			
Power Distribution System	[☒] TN [] TT [] IT			
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment	
Metal enclosure	1	Switch on: 0.222mA _{pk} / 0.236mA _{pk} (Normal/Reverse) Switch off: 0.014mA _{pk} /0.020mA _{pk} (Normal/Reverse)	--	
Metal enclosure	2*	--	--	
Metal enclosure	3	--	--	
Metal enclosure	4	--	--	
Metal enclosure	5	--	--	
Metal enclosure	6	--	--	
Metal enclosure	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.

5.8	TABLE: Backfeed safeguard in battery backed up supplies					N/A
Location	Supply voltage (V)	Operating and fault condition	Time (s)	Open-circuit voltage (V)	Touch current (A)	ES Class
--	--	--	--	--	--	--
Supplementary information:						
Abbreviation: SC= short circuit, OC= open circuit						

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.2	TABLE: Power source circuit classifications					P
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power ¹⁾ (W)	Time (S)	PS class
Output circuit*	--	--	--	--	--	PS2
All internal circuits except for output circuit	--	--	--	--	--	PS3 (declaration)
Speaker	Worst-case load	9.38	1.2	11.25	3	PS1
Speaker	SC UA1 pin (26-27)	0	0	0	3	PS1
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						
1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3.						
Note: *means Output circuits comply with LPS, which assumed to be PS2, details refer to Annex Q.1.						

6.2.3.1	TABLE: Determination of Arcing PIS				P
Location	Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No	
All internal circuits/ components except for output	--	--	--	Yes (declaration)	
Supplementary information:					

6.2.3.2	TABLE: Determination of resistive PIS			P
Location	Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No	
All internal circuits / components except for speaker	--	--	Yes (declaration)	
Supplementary information:				
Abbreviation: SC= short circuit; OC= open circuit				

8.5.5	TABLE: High pressure lamp				N/A
Lamp manufacturer	Lamp type	Explosion method	Longest axis of glass particle (mm)	Particle found beyond 1 m Yes / No	
--	--	--	--	--	
Supplementary information:					

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Clause	Requirement + Test	Result - Remark	Verdict

9.6	TABLE: Temperature measurements for wireless power transmitters							N/A
Supply voltage (V).....:			--					—
Max. transmit power of transmitter (W).....:			--					—
Foreign objects	w/o receiver and direct contact		with receiver and direct contact		with receiver and at distance of 2 mm		with receiver and at distance of 5 mm	
	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)
--	--	--	--	--	--	--	--	--
Supplementary information:								

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements					P
Supply voltage (V) :		90V, 60Hz	90V, 60Hz	264V, 50Hz	264V, 50Hz	—
Ambient temperature during test T_{amb} (°C) :		See below	See below	See below	See below	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
Vertical normal operation						
AC inlet surface		40.9	56.7	39.5	54.8	70
Internal primary wire surface		47.6	63.4	45.0	60.3	105
AC connector surface		49.6	65.4	47.2	62.5	85
MOV1 body on power board		54.5	70.3	50.1	65.4	85
PCB near NTC2 on power board		67.3	83.1	55.4	70.7	130
E201 body on power board		56.9	72.7	53.7	69.0	105
CX1 body on power board		56.0	71.8	50.8	66.1	100
LC2 winding on power board		68.8	84.6	56.3	71.6	130
LC3 winding on power board		71.5	87.3	58.5	73.8	130
PCB near BD1 on power board		74.1	89.9	59.6	74.9	130
PCB near Q205 on power board		71.1	86.9	62.8	78.1	130
PCB near D201 on power board		70.8	86.6	63.0	78.3	130
T101 core on power board		72.6	88.4	72.7	88.0	110
T101 winding on power board		75.7	91.5	75.9	91.2	110
L201 winding on power board		72.2	88.0	59.5	74.8	130
Mylar sheet surface		64.4	80.2	63.8	79.1	125-15 =110*

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Clause	Requirement + Test		Result - Remark		Verdict
CY5 body on power board	55.7	71.5	55.6	70.9	125
PC102 body on power board	56.1	71.9	56.2	71.5	110
Internal secondary backlight wire	42.9	58.7	43.5	58.8	80
L801 winding on power board	77.2	93.0	77.2	92.5	130
PCB near U1 on T-con board	76.3	92.1	76.4	91.7	105
PCB near UA1 on main board	63.6	79.4	63.3	78.6	105
PCB near LA6 on main board	55.9	71.7	56.1	71.4	105
PCB near U1 on main board	63.2	79.0	63.1	78.4	105
CN1 body on main board	52.5	68.3	52.6	67.9	For reference
Internal plastic enclosure	40.8	56.6	40.9	56.2	80
Ambient	24.2	Shifted to 40.0	24.7	Shifted to 40.0	--
External plastic enclosure	37.4	36.6	36.6	36.9	94
External metal enclosure	36.6	35.8	35.2	35.5	70
Switch body	42.1	41.3	40.3	40.6	77
Key button	29.0	28.2	28.2	28.5	77
Handle	27.5	26.7	26.3	26.6	48
LCD panel	34.9	34.1	34.7	35.0	60
Ambient	24.2	Shifted to 25.0	24.7	Shifted to 25.0	--
Supply voltage (V) :	90V, 60Hz	90V, 60Hz	90V, 60Hz	90V, 60Hz	—
Ambient temperature during test T_{amb} (°C) :	See below	See below	See below	See below	—
Maximum measured temperature T of part/at:	T (°C)				Allowed T_{max} (°C)
--	Horizontal_Tilt angle -30		Horizontal_Tilt angle +30		--
AC inlet surface	35.2	50.9	31.8	47.5	70
Internal primary wire surface	36.6	52.3	33.9	49.6	105
AC connector surface	37.1	52.8	34.6	50.3	85
MOV1 body on power board	42.5	58.2	39.5	55.2	85
PCB near NTC2 on power board	72.3	88.0	59.6	75.3	130
E201 body on power board	48.2	63.9	45.3	61.0	105
CX1 body on power board	44.8	60.5	42.0	57.7	100
LC2 winding on power board	55.0	70.7	52.2	67.9	130
LC3 winding on power board	60.3	76.0	57.1	72.8	130
PCB near BD1 on power board	68.1	83.8	65.3	81.0	130
PCB near Q205 on power board	69.0	84.7	66.1	81.8	130
PCB near D201 on power board	68.2	83.9	65.3	81.0	130

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Clause	Requirement + Test		Result - Remark		Verdict
T101 core on power board	68.4	84.1	65.6	81.3	110
T101 winding on power board	71.9	87.6	69.6	85.3	110
L201 winding on power board	72.1	87.8	68.8	84.5	130
Mylar sheet surface	61.2	76.9	57.9	73.6	125-15 =110*
CY5 body on power board	48.9	64.6	45.7	61.4	125
PC102 body on power board	49.7	65.4	46.4	62.1	110
Internal secondary backlight wire	60.0	75.7	54.8	70.5	80
L801 winding on power board	80.2	95.9	77.4	93.1	130
PCB near U1 on T-con board	76.5	92.2	73.0	88.7	105
PCB near UA1 on main board	68.6	84.3	65.3	81.0	105
PCB near LA6 on main board	66.8	82.5	63.7	79.4	105
PCB near U1 on main board	69.4	85.1	65.8	81.5	105
CN1 body on main board	61.6	77.3	58.2	73.9	For reference
Internal plastic enclosure	41.0	56.7	37.1	52.8	80
Ambient	24.3	Shifted to 40.0	24.3	Shifted to 40.0	--
External plastic enclosure	38.1	38.8	34.0	34.7	94
External metal enclosure	48.3	49.0	45.7	46.4	70
Switch body	35.7	36.4	32.7	33.4	77
Key button	28.4	29.1	27.9	28.6	77
Handle	27.7	28.4	28.0	28.7	48
LCD panel	35.6	36.3	35.6	36.3	60
Ambient	24.3	Shifted to 25.0	24.3	Shifted to 25.0	--
Supply voltage (V) :	90V, 60Hz	90V, 60Hz	90V, 60Hz	90V, 60Hz	—
Ambient temperature during test T_{amb} (°C) :	See below	See below	See below	See below	—
Maximum measured temperature T of part/at:	T (°C)				Allowed T_{max} (°C)
--	Vertical_Tilt angle -30		Vertical_Tilt angle +30		--
AC inlet surface	40.2	55.5	36.9	52.7	70
Internal primary wire surface	47.2	62.5	43.7	59.5	105
AC connector surface	49.1	64.4	45.3	61.1	85
MOV1 body on power board	54.0	69.3	50.7	66.5	85
PCB near NTC2 on power board	65.3	80.6	62.3	78.1	130
E201 body on power board	56.6	71.9	53.5	69.3	105
CX1 body on power board	55.4	70.7	52.4	68.2	100

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Clause	Requirement + Test		Result - Remark		Verdict
LC2 winding on power board	69.4	84.7	65.1	80.9	130
LC3 winding on power board	72.6	87.9	68.7	84.5	130
PCB near BD1 on power board	75.0	90.3	72.2	88.0	130
PCB near Q205 on power board	72.9	88.2	70.3	86.1	130
PCB near D201 on power board	72.3	87.6	69.7	85.5	130
T101 core on power board	72.8	88.1	70.4	86.2	110
T101 winding on power board	75.9	91.2	73.8	89.6	110
L201 winding on power board	73.0	88.3	70.4	86.2	130
Mylar sheet surface	64.4	79.7	61.6	77.4	125-15 =110*
CY5 body on power board	55.2	70.5	52.8	68.6	125
PC102 body on power board	56.0	71.3	53.0	68.8	110
Internal secondary backlight wire	43.3	58.6	40.5	56.3	80
L801 winding on power board	77.3	92.6	75.7	91.5	130
PCB near U1 on T-con board	76.1	91.4	73.6	89.4	105
PCB near UA1 on main board	63.3	78.6	61.5	77.3	105
PCB near LA6 on main board	55.7	71.0	53.8	69.6	105
PCB near U1 on main board	63.1	78.4	61.2	77.0	105
CN1 body on main board	52.5	67.8	50.8	66.6	For reference
Internal plastic enclosure	40.9	56.2	38.4	54.2	80
Ambient	24.7	Shifted to 40.0	24.2	Shifted to 40.0	--
External plastic enclosure	36.8	37.1	33.5	34.3	94
External metal enclosure	34.9	35.2	34.2	35.0	70
Switch body	40.7	41.0	34.5	35.3	77
Key button	28.2	28.5	25.7	26.5	77
Handle	26.7	27.0	26.6	27.4	48
LCD panel	34.2	34.5	33.8	34.6	60
Ambient	24.7	Shifted to 25.0	24.2	Shifted to 25.0	--
Supply voltage (V) :	90V, 60Hz	90V, 60Hz	90V, 60Hz	90V, 60Hz	—
Ambient temperature during test T_{amb} (°C) :	See below	See below	See below	See below	—
Maximum measured temperature T of part/at:	T (°C)				Allowed T_{max} (°C)
--	Horizontal		--		--
AC inlet surface	34.3	50.0	--	--	70
Internal primary wire surface	35.3	51.0	--	--	105

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Clause	Requirement + Test				Result - Remark			Verdict
AC connector surface		35.8	51.5	--	--			85
MOV1 body on power board		41.1	56.8	--	--			85
PCB near NTC2 on power board		72.5	88.2	--	--			130
E201 body on power board		46.9	62.6	--	--			105
CX1 body on power board		43.5	59.2	--	--			100
LC2 winding on power board		53.6	69.3	--	--			130
LC3 winding on power board		59.0	74.7	--	--			130
PCB near BD1 on power board		66.7	82.4	--	--			130
PCB near Q205 on power board		67.5	83.2	--	--			130
PCB near D201 on power board		66.7	82.4	--	--			130
T101 core on power board		66.9	82.6	--	--			110
T101 winding on power board		70.6	86.3	--	--			110
L201 winding on power board		70.6	86.3	--	--			130
Mylar sheet surface		59.8	75.5	--	--			125-15 =110*
CY5 body on power board		47.1	62.8	--	--			125
PC102 body on power board		48.1	63.8	--	--			110
Internal secondary backlight wire		58.2	73.9	--	--			80
L801 winding on power board		78.5	94.2	--	--			130
PCB near U1 on T-con board		75.0	90.7	--	--			105
PCB near UA1 on main board		68.1	83.8	--	--			105
PCB near LA6 on main board		64.6	80.3	--	--			105
PCB near U1 on main board		68.4	84.1	--	--			105
CN1 body on main board		59.9	75.6	--	--			For reference
Internal plastic enclosure		39.6	55.3	--	--			80
Ambient		24.3	Shifted to 40.0	--	--			--
External plastic enclosure		36.6	37.3	--	--			94
External metal enclosure		47.2	47.9	--	--			70
Switch body		34.8	35.5	--	--			77
Key button		27.4	28.1	--	--			77
Handle		25.6	26.3	--	--			48
LCD panel		34.3	35.0	--	--			60
Ambient		24.3	Shifted to 25.0	--	--			--
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:								

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Clause	Requirement + Test	Result - Remark	Verdict
Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (Tma) of 40°C. Note 2: The temperatures were measured under the worse case normal mode defined in clause B.2.1. Note 3: Temperature limits are calculated as follows: Winding components providing safety isolation: Class B Tmax = 120-10 =110°C. Note 4: The unit test in HDMI model. Note 5: * means the temperature were evaluated by ball pressure test.			

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5		TABLE: Input test							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
HDMI mode									
90	50	1.558	--	139.9	--	F1	1.558	Maximum normal load	
90	60	1.551	--	139.7	--	F1	1.551		
100	50	1.395	2.0	138.5	--	F1	1.395		
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		
Android mode									
90	50	1.552	--	139.4	--	F1	1.552	Maximum normal load	
90	60	1.546	--	139.2	--	F1	1.546		
100	50	1.390	2.0	138.0	--	F1	1.390		
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		

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Clause		Requirement + Test				Result - Remark		Verdict
USB2.0 mode								
90	50	1.530	--	137.4	--	F1	1.530	Maximum normal load
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	
264	60	0.526	--	132.5	--	F1	0.526	
USB3.0 mode								
90	50	1.508	--	135.4	--	F1	1.508	Maximum normal load
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	
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	
Supplementary information:								
1. Equipment maybe have rated current or rated power or both. Both should be measured. 2. Maximum normal load: EUT operated with full screen, maximum brightness contrast and continuously three vertical bar signal for video input terminal, 1K Hz signal was applied to the audio input terminal, speakers loaded with 1/8 maximum non-clipped output power, USB2.0 ports load 5V /0.5A * 1, USB3.0 ports load 5V/0.9A *2, Type-C in port max load 5V/3.0A* 1								

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Clause	Requirement + Test				Result - Remark	
B.3, B.4	TABLE: Abnormal operating and fault condition tests					P
Ambient temperature T_{amb} (°C)..... :					25°C, if not specified	—
Power source for EUT: Manufacturer, model/type, output rating.. :					--	—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
Speaker	Maximum attainable	264	2 hours 31 mins	F1	0.610	Observation: Apparatus temperature rise until stability, no damage, no hazards. Measured maximum temperature: Transformer T101 core: 94.0°C Transformer T101 winding: 96.2°C Ambient: 40.0°C (shifted) Plastic enclosure outside: 37.9°C Metal enclosure outside: 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) Touch voltage: (USB3.0 + to -): 5.15Vdc. (USB2.0 + to -): 5.15Vdc. (USB-C out + to -): 5.15Vdc. Touch current (output “+”/“-” to earth and Display screen surface to earth): 0.022mA _{peak} and 0.014mA HV test: ☒ Pass / ☐ Fail

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Clause	Requirement + Test				Result - Remark	Verdict
Speaker	SC	264	3 hours 09 mins	F1	0.524	Observation: Apparatus temperature rise until stability, no damage, no hazards. Measured maximum temperature: Transformer T101 core: 88.2°C Transformer T101 winding: 91.6°C Ambient: 40.0°C (shifted) Plastic enclosure outside: 37.9°C Metal enclosure outside: 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) Touch voltage: (USB3.0 + to -): 5.15Vdc. (USB2.0 + to -): 5.15Vdc. (USB-C out + to -): 5.15Vdc. Touch current (output "+" / "-" to earth and Display screen surface to earth): 0.022mA_{peak} and 0.014mA HV test: ☒ Pass / ☐ Fail

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Clause	Requirement + Test				Result - Remark	Verdict
Openings	Blocked	264	2 hours 34 mins	F1	0.538	Observation: Apparatus temperature rise until stability, no damage, no hazards. Measured maximum temperature: Transformer T101 core: 92.9°C Transformer T101 winding: 95.6°C Ambient: 40.0°C (shifted) Plastic enclosure outside: 40.1°C Metal enclosure outside: 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) Touch voltage: (USB3.0 + to -): 5.15Vdc. (USB2.0 + to -): 5.15Vdc. (USB-C out + to -): 5.15Vdc. Touch current (output "+" / "-" to earth and Display screen surface to earth): 0.022mA_{peak} and 0.014mA HV test: ☒ Pass / ☐ Fail

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	
USB2.0 (JU1) Output	OL	264	4 hours 09 mins	F1	0.538→ 0.563→ 0.532	Observation: Apparatus 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. Measured maximum temperature: Transformer T101 core: 91.3°C Transformer T101 winding: 94.1°C Ambient: 40.0°C (shifted) Plastic enclosure outside: 38.2°C Metal enclosure outside: 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) Touch voltage: (USB3.0 + to -): 5.15Vdc. (USB2.0 + to -): 5.15Vdc. (USB-C out + to -): 5.15Vdc. Touch current (output “+”/“-” to earth and Display screen surface to earth): 0.022mA_{peak} and 0.014mA HV test: ☒ Pass / ☐ Fail

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	
USB3.0 (JU101) Output	OL	264	3 hours 27 mins	F1	0.538→ 0.553→ 0.521	Observation: Apparatus 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. Measured maximum temperature: Transformer T101 core: 89.2°C Transformer T101 winding: 92.2°C Ambient: 40.0°C (shifted) Plastic enclosure outside: 37.0°C Metal enclosure outside: 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) Touch voltage: (USB3.0 + to -): 5.15Vdc. (USB2.0 + to -): 5.15Vdc. (USB-C out + to -): 5.15Vdc. Touch current (output "+" / "-" to earth and Display screen surface to earth): 0.022mA_{peak} and 0.014mA HV test: ☒ Pass / ☐ Fail

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	Verdict
USB-C (JU2) terminal output	OL	264	3 hours 16 mins	F1	0.538→ 0.545→ 0.469	Observation: Apparatus USB-C output load Max. current is 3.20A, Main USB-C shut down immediately when load to 3.30A and display screen normal working, no damage, no hazards. Measured maximum temperature: Transformer T101 core: 88.7°C Transformer T101 winding: 92.0°C Ambient: 40.0°C (shifted) Plastic enclosure outside: 38.0°C Metal enclosure outside: 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) Touch voltage: (USB3.0 + to -): 5.15Vdc. (USB2.0 + to -): 5.15Vdc. (USB-C out + to -): 5.15Vdc. Touch current (output “+”/“-” to earth and Display screen surface to earth): 0.022mA_{peak} and 0.014mA HV test: ☒ Pass / ☐ Fail
USB2.0 (JU1)	SC	264	10mins	F1	0.532	Observation: USB 2.0 no output, other USB terminals normal working, panel normal working, no higher temperature rise occurred. no hazard. Touch voltage: (USB3.0 + to -): 5.15Vdc. (USB2.0 + to -): 0Vdc. (USB-C out + to -): 5.15Vdc. Touch current (output “+”/“-” to earth and Display screen surface to earth): 0.022mA_{peak} and 0.014mA HV test: ☒ Pass / ☐ Fail

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	Verdict
USB3.0 (JU101)	SC	264	10mins	F1	0.521	Observation: USB 3.0 no output, other USB terminals normal working, panel normal working, no higher temperature rise occurred. no hazard. Touch voltage: (USB3.0 + to -): 0Vdc. (USB2.0 + to -): 5.15Vdc. (USB-C out + to -): 5.15Vdc. Touch current (output “+”/“-” to earth and Display screen surface to earth): 0.022mApeak and 0.014mA HV test: ☒ Pass / ☐ Fail
USB-C in (JU2)	SC	264	10mins	F1	0.469	Observation: USB-C in no output, other USB terminals normal working, panel normal working, no higher temperature rise occurred. no hazard. Touch voltage: (USB3.0 + to -): 5.15Vdc. (USB2.0 + to -): 5.15Vdc. (USB-C out + to -): 0Vdc. Touch current (output “+”/“-” to earth and Display screen surface to earth): 0.022mApeak and 0.014mA HV test: ☒ Pass / ☐ Fail
UA1 pin 26-27	SC	264	10mins	F1	0.524	Observation: The Left speaker shut down and Other normal work. Touch voltage: (USB3.0 + to -): 5.15Vdc. (USB2.0 + to -): 5.15Vdc. (USB-C out + to -): 5.15Vdc. Touch current (output “+”/“-” to earth and Display screen surface to earth): 0.022mApeak and 0.014mA HV test: ☒ Pass / ☐ Fail
Supplementary information:						
1. Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4. 2. Max=max non-clipped or available output power, SC=short circuit, OC=open circuit, OL=over load,						

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
BL=block.			
3. Temperature limit for component: Transformer (T101): 175-10=165°C, Metal enclosure: 80 °C, Plastic enclosure: 104 °C, Screen panel surface: 70 °C, Handle 58 °C, power switch and button: 87°C.			
4. The unit test in HDMI model			

M.3	TABLE: Protection circuits for batteries provided within the equipment						P
Is it possible to install the battery in a reverse polarity position?.....:				No		—	
Equipment Specification	Charging						
	Voltage (V)			Current (A)			
	--			--			
Manufacturer/type	Battery specification						
	Non-rechargeable batteries		Rechargeable batteries				
	Discharging current (A)	Unintentional charging current (A)	Charging		Discharging current (A)	Reverse charging current (A)	
			Voltage (V)	Current (A)			
--	--	--	--	--		--	
Note: The tests of M.3.2 are applicable only when above appropriate data is not available.							
Specified battery temperature (°C).....:				--			
Component No.	Fault condition	Charge/discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation
Max. current	Normal	Charge	--	--	2.5mA	--	NL, NS, NE, NF
Max. current	Normal	Discharge	--	--	0.2mA	--	NL, NS, NE, NF
Q5 pin (D-G)	SC	Charge	--	--	5.5mA	--	NL, NS, NE, NF
Q5 pin (D-S)	SC	Discharge	--	--	3.8mA	--	NL, NS, NE, NF
RC9	SC	Charge	7H	26.5*	6.6mA	--	NL, NS, NE, NF
QC1 pin (E-C)	SC	Charge	7H	26.8*	7.0mA	--	NL, NS, NE, NF
Supplementary information:							
Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.							
*=mean the Temp. of Ultra-capacitor on main board (CN1).							

M.4.2	TABLE: Charging safeguards for equipment containing a secondary lithium battery					N/A
Maximum specified charging voltage (V).....:				--	—	
Maximum specified charging current (A)				--	—	
Highest specified charging temperature (°C)				--		
Lowest specified charging temperature (°C)				--		
Battery manufacturer/type	Operating and fault	Measurement			Observation	
		Charging	Charging	Temp.		

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
	condition	voltage (V)	current (A)	(°C)	
--	--	--	--	--	--
Supplementary information:					
Abbreviation: SC= short circuit; OC= open circuit; MSCV= maximum specified charging voltage; MSCC= maximum specified charging current; HSCT= highest specified charging temperature; LSCT= lowest specified charging temperature					

Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)						P
Output Circuit	Condition	U _{oc} (V)	Time (s)	I _{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
USB2.0 (JU1) Pin 1-GND	Normal operation	5.15	5	1.52	8	6.63	100
USB2.0 (JU1) Pin 1-GND	SC UU1 pin (1-5)	5.15	5	5.20	8	15.86	100
USB2.0 (JU1) other pins – GND	Normal	0	5	0	8	0	100
USB3.0 (JU101) Pin 1-GND	Normal	5.15	5	1.52	8	6.19	100
USB3.0 (JU101) Pin 1-GND	SC UU101 pin (1-5)	5.15	5	5.20	8	15.67	100
USB3.0 (JU101) other pins – GND	Normal	0	5	0	8	0	100
USB3.0 (JU116) Pin 1-GND	Normal	5.15	5	1.52	8	6.65	100
USB3.0 (JU116) Pin 1-GND	SC UU116 pin (1-5)	5.15	5	5.20	8	15.88	100
USB3.0 (JU116) other pins – GND	Normal	0	5	0	8	0	100
Main Type-C in (JU2) Pin A4/A9/B4/B9- GND	Normal operation	5.15	5	3.30	8	11.52	100
Main Type-C in (JU2) Pin A4/A9/B4/B9- GND	SC R439	5.15	5	3.36	8	12.70	100

IEC 62368-1							
Clause	Requirement + Test	Result - Remark					Verdict
Main Type-C in (JU2) Pin A4/A9/B4/B9-GND	SC U46 pin (19-31)	0	5	0	8	0	100
Main Type-C in (JU2) Other pins -GND	Normal operation	0	5	0	8	0	100
Main board LAN (CN7) all pins – GND	Normal	0	5	0	8	0	100
Main board RS-232C (JZ1) all pin to GND	Normal	0	5	0	8	0	100
Main board HDMI IN (JH1) pin 18 – GND	Normal	0	5	0	8	0	100
Main board HDMI IN (JH1) Other pin – GND	Normal	0	5	0	8	0	100
Main board HDMI IN (JH21) pin 18 – GND	Normal	0	5	0	8	0	100
Main board HDMI IN (JH21) Other pin – GND	Normal	0	5	0	8	0	100
Main board HDMI IN (JH40) pin 18 – GND	Normal	0	5	0	8	0	100
Main board HDMI IN (JH40) Other pin – GND	Normal	0	5	0	8	0	100
Main board Audio Out (CNA1) all pins – GND	Normal	0	5	0	8	0	100

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
Main board Remote (CNA2) all pins – GND	Normal	0	5	0	8	0	100
Supplementary Information:							
SC=Short circuit, OC=Open circuit							

T.2, T.3, T.4, T.5	TABLE: Steady force test						P
Location/Part	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation	
Internal wire/component	--	--	--	10	5	No insulation breakdown. No reduction the clearances and creepage distances	
Metal enclosure Top/side/rear	Metal	1)	--	250	5	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Plastic enclosure rear	Plastic	1)	--	250	5	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Supplementary information:							
1). See appended table 4.1.2							

T.6, T.9	TABLE: Impact test					P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation		
Metal enclosure Top/side/rear	Metal	1)	1300	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.		
Plastic enclosure rear	Plastic	1)	1300	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.		
Screen	Glass	1)	408	No crack/opening developed		

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Supplementary information:			
1). See appended table 4.1.2			

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

T.8	TABLE: Stress relief test					P
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Enclosure	Plastic	2.5	70	7	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Supplementary information:						

X	TABLE: Alternative method for determining minimum clearances distances			N/A
Clearance distanced between:	Peak of working voltage (V)	Required cl (mm)	Measured cl (mm)	
--	--	--	--	
Supplementary information:				

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	Mark(s) of conformity ¹
Metal Enclosure	Interchangeable	Interchangeable	Mid steel, min. 0.8mm thick	IEC/EN 62368-1	Tested with appliance
Side plastic enclosure	CHI MEI CORPORATION	PC-540(Y)(a)	5VB, 80°C, Min. thickness: 2.5mm	UL 746C, UL 94	UL E56070
LCD panel	Guangzhou Shirui Electronics Co., Ltd	S50N-UHD	50 inch TFT-LCD type with LED backlight	IEC/EN 62368-1	Tested with appliance
Detachable power cord set (Saudi Arabia) (optional)	--	--	See below	--	--
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
Appliance connector (optional)	I-Sheng	IS-033	2.5A, 250V 85°C	IEC 60320-1	ENEC
(Alternative)	I-Sheng	IS-14	10A, 250V 85°C	IEC 60320-1	ENEC

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Interchangeable	Interchangeable	Min. 2.5A, 250Vac 85°C	IEC 60320-1	ENEC or other certification marks
Material of primary connector	ASAHI KASEI CORP	FR370(j)	PA66, V-0, 90°C Min. thickness 0.75mm	UL 94, UL 746C IEC/EN/62368-1	UL Test with appliance
(Alternative)	TORAY INDUSTRIES INC	3004-V0(rr), CM3004-V0(rr)	PA66, V-0, 105°C, Min. thickness 0.66mm	UL 94, UL 746C IEC/EN/62368-1	UL Test with appliance
(Alternative)	KUNSHAN LIZHAO PLASTICS CO LTD	AG(x)V0	PA66, V-0, 65°C, Min. thickness 1.5mm	UL 94, UL 746C IEC/EN/62368-1	UL Test with appliance
Quick connector	Dongguan Jian Hui Metal & Plastic Parts Co Ltd	B187552	AWM Range: 16-22	UL 310	UL E207921
Plastic tube covered on the quick connector	Interchangeable	Interchangeable	300 V, VW-1, 90°C	UL 224	UL
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	10 A(for VDE), 15A (for UL), 250 Vac, min. 70°C	UL 60320-1 IEC/EN 60320-1	UL, VDE
(Alternative)	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	ST-A01-002LTA	10 A(for VDE), 15A(for UL), 250 Vac, min. 70°C	UL 60320-1 IEC/EN 60320-1	UL, VDE
(Alternative)	Interchangeable	Interchangeable	Min. 250Vac Min. 10A Min. 70°C for pins	UL 60320-1 IEC/EN 60320-1	UL, VDE
Power Switch	Zhe Jiang Bei Er Jia Electronic Co., Ltd	PS8A-11	12(6)A,125/250Vac for UL; 8/108A, 12(4)A, 250Vac for VDE Min.10000 cycles, Min. 85°C Glow-wire test (GWT):850°C	UL 61058-1, IEC/EN 61058-1	UL, VDE

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Zhejiang LECI Electronics Co., Ltd	RS601 series	Min. 6A, 250Vac, Min.10000 cycles, Min. 85°C Glow-wire test (GWT):850°C	UL 61058-1, IEC/EN 61058-1	UL, VDE
(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	UL 61058-1, IEC/EN 61058-1	UL, VDE
Bonding screw	Interchangeable	Interchangeable	Thread diameter min. 3.5mm	IEC/EN 62368-1	Tested with appliance
Internal primary wire	DONGGUAN EVK ELECTRIC TECHNIQUE CO LTD	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
(Alternate)	SHENZHEN XIN YUAN SHENG ELECTRONICS CO LTD	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
Protective bonding wire	Interchangeable	Interchangeable	Green-and-yellow Wire, Min. 18 AWG, 300V~, 80 °C, VW-1	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 provided)	Interchangeable	Interchangeable	Two: 6.0Ω, 16W.	IEC/EN 62368-1	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Switching Power Supply	Guangzhou Shikun Electronics Co., Ltd.	PW.D232W2.75 1	Input: 100-240V~, 50/60Hz, 4A MAX Output: +12V DC 5A MAX, +18V DC 2.2A MAX, +100-165V DC 150W MAX 5000m, 40°C	IEC/EN 62368-1	CB cert. No.: DK-143236-UL issued by UL
Mylar sheet under Power board	Shenzhen Bormsun Industrial Co., Ltd	BN-FP	V-0, Minimum thickness :0.4mm, 120 °C	UL 94, UL746C	UL
(Alternative)	SABIC Japan LLC	FR700	V-0, Minimum thickness: 0.4mm, 125 °C	UL 94, UL746C	UL
(Alternative)	SABIC Japan LLC	FR500	V-0, Minimum thickness: 0.4mm, 80 °C	UL 94, UL746C	UL
(Alternative)	Suzhou Omay Optical Materials Co., Ltd.	SE42B	V-0, Minimum thickness: 0.4mm, 80 °C	UL 94, UL746C	UL
(Alternative)	Shenzhen Teesun Technology Co., Ltd	TS-FR1370	V-0, Minimum thickness: 0.4mm, 125 °C	UL 94, UL746C	UL
Ultra-capacitor (CN1)	Shandong Goldencell Electronics Technology Co., Ltd	HESC5R5105Z	1.0F, 5.5V, 70°C	IEC/EN 62368-1	Tested with appliance
Secondary Connector	Interchangeable	Interchangeable	Minimum V-2	UL 1977 or UL 94, UL 746C	UL
Handle	China Petrochemical Development Corporation	P6G130	Min. HB, Size:153mm*51.3mm*14.1mm	UL 94, UL746C	UL
Base (optional)	Interchangeable	Interchangeable	SGCC, two provided total weight: 1.9Kg	IEC/EN 62368-1	Tested with appliance
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039. License available upon request.					

IEC62368_1E - 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 IEC 62368-1:2020+A11:2020		
Attachment Form No.: EU_GD_IEC62368_1E		
Attachment Originator: UL(Demko)		
Master Attachment: 2021-02-04		
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	CENELEC COMMON MODIFICATIONS (EN)	P
	Clause numbers in the cells that are shaded light grey are clause references in EN IEC 62368-1:2020+A11:2020. All other clause numbers in that column, except for those in the paragraph below, refers to IEC 62368-1:2018. Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2018 are prefixed "Z".	P
	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
1	Modification to Clause 3 .	
3.3.19	Sound exposure <i>Replace 3.3.19 of IEC 62368-1 with the following definitions:</i>	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.19.1	momentary exposure level, MEL metric for estimating 1 s sound exposure level from the HD 483-1 S2 test signal applied to both channels, based on EN 50332-1:2013, 4.2. Note 1 to entry: MEL is measured as A-weighted levels in dB. Note 2 to entry: See B.3 of EN 50332-3:2017 for additional information.		N/A
3.3.19.3	sound exposure, E A-weighted sound pressure (p) squared and integrated over a stated period of time, T Note 1 to entry: The SI unit is Pa ² s. $E = \int_0^T p(t)^2 dt$		N/A
3.3.19.4	sound exposure level, SEL logarithmic measure of sound exposure relative to a reference value, E_0 , typically the 1 kHz threshold of hearing in humans. Note 1 to entry: SEL is measured as A-weighted levels in dB. $SEL = 10 \lg \left(\frac{E}{E_0} \right) \text{ dB}$ Note 2 to entry: See B.4 of EN 50332-3:2017 for additional information.		N/A
3.3.19.5	digital signal level relative to full scale, dBFS levels reported in dBFS are always r.m.s. Full scale level, 0 dBFS, is the level of a dc-free 997-Hz sine wave whose undithered positive peak value is positive digital full scale, leaving the code corresponding to negative digital full scale unused Note 1 to entry: It is invalid to use dBFS for non-r.m.s. levels. Because the definition of full scale is based on a sine wave, the level of signals with a crest factor lower than that of a sine wave may exceed 0 dBFS. In particular, square wave signals may reach +3,01 dBFS.		N/A
2	Modification to Clause 10		
10.6	Safeguards against acoustic energy sources Replace 10.6 of IEC 62368-1 with the following:		N/A
10.6.1.1	Introduction Safeguard requirements for protection against long-term exposure to excessive sound pressure	Not such equipment.	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	levels from personal music players closely coupled to the ear are specified below. Requirements for earphones and headphones intended for use with personal music players are also covered. A personal music player is a portable equipment intended for use by an ordinary person, that: – is designed to allow the user to listen to audio or audiovisual content / material; and – uses a listening device, such as headphones or earphones that can be worn in or on or around the ears; and – has a player that can be body worn (of a size suitable to be carried in a clothing pocket) and is intended for the user to walk around with while in continuous use (for example, on a street, in a subway, at an airport, etc.). EXAMPLES Portable CD players, MP3 audio players, mobile phones with MP3 type features, PDAs or similar equipment. Personal music players shall comply with the requirements of either 10.6.2 or 10.6.3. NOTE 1 Protection against acoustic energy sources from telecom applications is referenced to ITU-T P.360. NOTE 2 It is the intention of the Committee to allow the alternative methods for now, but to only use the dose measurement method as given in 10.6.5 in future. Therefore, manufacturers are encouraged to implement 10.6.5 as soon as possible. Listening devices sold separately shall comply with the requirements of 10.6.6. These requirements are valid for music or video mode only. The requirements do not apply to: – professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment. – hearing aid equipment and other devices for assistive listening; – the following type of analogue personal music players: • long distance radio receiver (for example, a multiband radio receiver or world band radio receiver, an AM radio receiver), and • cassette player/recorder; NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. – a player while connected to an external amplifier		

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	that does not allow the user to walk around while in use. For equipment that is clearly designed or intended primarily for use by children, the limits of the relevant toy standards may apply. The relevant requirements are given in EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.		
10.6.1.2	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.	No such radiation from the equipment.	N/A
10.6.2	Classification of devices without the capacity to estimate sound dose		N/A
10.6.2.1	General This standard is transitioning from short-term based (30 s) requirements to long-term based (40 hour) requirements. These clauses remain in effect only for devices that do not comply with sound dose estimation as stipulated in EN 50332-3. For classifying the acoustic output $L_{Aeq,T}$, measurements are based on the A-weighted equivalent sound pressure level over a 30 s period. For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, measurements may be done over the duration of the complete song. In this case, T becomes the duration of the song. NOTE Classical music, acoustic music and broadcast typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the content and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song does not exceed the required limit. For example, if the player is set with the programme simulation noise to 85 dB, but the average music level of the song is only 65 dB, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dB.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.6.2.2	RS1 limits (to be superseded, see 10.6.3.2) RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 85 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 27 mV (analogue interface) or -25 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1. – The RS1 limits will be updated for all devices as per 10.6.3.2.		N/A
10.6.2.3	RS2 limits (to be superseded, see 10.6.3.3) RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or when the combination of player and listening device is known by other means such as setting or automatic 130 detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 100 dB(A) when playing the fixed “programme simulation noise” as described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 150 mV (analogue interface) or -10 dBFS (digital interface) when playing the fixed “programme simulation noise” as described in EN 50332-1.		N/A
10.6.2.4	RS3 limits RS3 is a class 3 acoustic energy source that exceeds RS2 limits.		N/A
10.6.3	Classification of devices (new)		N/A
10.6.3.1	General Previous limits (10.6.2) created abundant false negative and false positive PMP sound level warnings. New limits, compliant with The Commission Decision of 23 June 2009, are given below.		N/A
10.6.3.2	RS1 limits (new) RS1 is a class 1 acoustic energy source that does not		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 80 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1.		
10.6.3.3	RS2 limits (new) RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the weekly sound exposure level, as described in EN 50332-3, shall be ≤ 80 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output level, integrated over one week, as described in EN50332-3, shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1.		N/A
10.6.4	Requirements for maximum sound exposure		N/A
10.6.4.1	Measurement methods All volume controls shall be turned to maximum during tests. Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.		N/A
10.6.4.2	Protection of persons Except as given below, protection requirements for parts accessible to ordinary persons, instructed persons and skilled persons are given in 4.3. NOTE 1 Volume control is not considered a safeguard. Between RS2 and an ordinary person, the basic safeguard may be replaced by an instructional		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	safeguard in accordance with Clause F.5, except that the instructional safeguard shall be placed on the equipment, or on the packaging, or in the instruction manual. Alternatively, the instructional safeguard may be given through the equipment display during use. The elements of the instructional safeguard shall be as follows:  – element 1a: the symbol , IEC 60417-6044 (2011-01) – element 2: “High sound pressure” or equivalent wording – element 3: “Hearing damage risk” or equivalent wording – element 4: “Do not listen at high volume levels for long periods.” or equivalent wording An equipment safeguard shall prevent exposure of an ordinary person to an RS2 source without intentional physical action from the ordinary person and shall automatically return to an output level not exceeding what is specified for an RS1 source when the power is switched off. The equipment shall provide a means to actively inform the user of the increased sound level when the equipment is operated with an output exceeding RS1. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an output exceeding RS1. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time. NOTE 2 Examples of means include visual or audible signals. Action from the user is always needed. NOTE 3 The 20 h listening time is the accumulative listening time, independent of how often and how long the personal music player has been switched off. A skilled person shall not be unintentionally exposed to RS3.		
10.6.5	Requirements for dose-based systems		N/A
10.6.5.1	General requirements Personal music players shall give the warnings as provided below when tested according to EN 50332-3, using the limits from this clause. The manufacturer may offer optional settings to allow the users to modify when and how they wish to receive the notifications and warnings to promote a better user experience without defeating the safeguards. This allows the users to be informed in a		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	method that best meets their physical capabilities and device usage needs. If such optional settings are offered, an administrator (for example, parental restrictions, business/educational administrators, etc.) shall be able to lock any optional settings into a specific configuration. The personal music player shall be supplied with easy to understand explanation to the user of the dose management system, the risks involved, and how to use the system safely. The user shall be made aware that other sources may significantly contribute to their sound exposure, for example work, transportation, concerts, clubs, cinema, car races, etc.		
10.6.5.2	Dose-based warning and requirements When a dose of 100 % <i>CSD</i> is reached, and at least at every 100 % further increase of <i>CSD</i>, the device shall warn the user and require an acknowledgement. In case the user does not acknowledge, the output level shall automatically decrease to compliance with class RS1. The warning shall at least clearly indicate that listening above 100 % <i>CSD</i> leads to the risk of hearing damage or loss.		N/A
10.6.5.3	Exposure-based requirements With only dose-based requirements, cause and effect could be far separated in time, defying the purpose of educating users about safe listening practice. In addition to dose-based requirements, a PMP shall therefore also put a limit to the short-term sound level a user can listen at. The exposure-based limiter (EL) shall automatically reduce the sound level not to exceed 100 dB(A) or 150 mV integrated over the past 180 s, based on methodology defined in EN 50332-3. The EL settling time (time from starting level reduction to reaching target output) shall be 10 s or faster. Test of EL functionality is conducted according to EN 50332-3, using the limits from this clause. For equipment provided as a package (player with its listening device), the level integrated over 180 s shall be 100 dB or lower. For equipment provided with a standardized connector, the unweighted level integrated over 180 s shall be no more than 150 mV for an analogue interface and no more than -10 dBFS for a digital interface. NOTE In case the source is known not to be music (or test signal), the EL may be disabled.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input With 94 dB L_{Aeq} acoustic pressure output of the listening device, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the input voltage of the listening device when playing the fixed "programme simulation noise" as described in EN 50332-1 shall be ≥ 75 mV. NOTE The values of 94 dB and 75 mV correspond with 85 dB and 27 mV or 100 dB and 150 mV.		N/A
10.6.6.2	Corded listening devices with digital input With any playing device playing the fixed "programme simulation noise" described in EN 50332-1, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the $L_{Aeq,T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.		N/A
10.6.6.3	Cordless listening devices In cordless mode, – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the cordless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the receiving device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the above mentioned programme simulation noise, the $L_{Aeq,T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.		N/A
10.6.6.4	Measurement method <i>Measurements shall be made in accordance with EN 50332-2 as applicable.</i>		N/A
3	Modification to the whole document		

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Clause	Requirement + Test			Result - Remark		Verdict
	Delete all the “country” notes in the reference document according to the following list:					N/A
	0.2.1	Note 1 and 2	1	Note 4 and 5	3.3.8.1	Note 2
	3.3.8.3	Note 1	4.1.15	Note	4.7.3	Note 1 and 2
	5.2.2.2	Note	5.4.2.3.2.2 Table 12	Note c	5.4.2.3.2.4	Note 1 and 3
	5.4.2.3.2.4 Table 13	Note 2	5.4.2.5	Note 2	5.4.5.1	Note
	5.4.10.2.1	Note	5.4.10.2.2	Note	5.4.10.2.3	Note
	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3 and 4
	5.6.8	Note 2	5.7.6	Note	5.7.7.1	Note 1 and Note 2
	8.5.4.2.3	Note	10.2.1 Table 39	Note 3 and 4 and 5	10.5.3	Note 2
	10.6.4	Note 3	F.3.3.6	Note 3	Y.4.1	Note
	Y.4.5	Note				
4	Modification to Clause 1					
1	Add the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU; see Directive 2011/65/EU.					P

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Clause	Requirement + Test	Result - Remark	Verdict

5	Modification to 4.Z1		
4.Z1	<i>Add the following new subclause after 4.9:</i> 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
6	Modification to 5.4.2.3.2.4		
5.4.2.3.2.4	<i>Add the following to the end of this subclause:</i> The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.		N/A
7	Modification to 10.2.1		
10.2.1	Add the following to ^{c)} and ^{d)} in table 39: For additional requirements, see 10.5.1.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8	Modification to 10.5.1		
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 pre-sets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made. NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus. Moreover, the measurement shall be made under fault conditions causing an increase of the high voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made. For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level. NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		N/A
9	Modification to G.7.1		
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

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Clause	Requirement + Test	Result - Remark	Verdict
10	Modification to Bibliography		
	Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		N/A
11	ADDITION OF ANNEXES		
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 jordnet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
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 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.	No TNV circuits.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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.		
5.5.2.1	Norway After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Considered	P
5.5.6	Finland, Norway and Sweden To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.	No such resistors.	N/A
5.6.1	Denmark Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. <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.		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.4.2.1	France After the indent for pluggable equipment type A , the following is added: – in certain cases, the protective current rating of the circuit supplied from the mains is taken as 20 A instead of 16 A.		P
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.		N/A
5.6.8	Norway To the end of the subclause the following is added: Equipment connected with an earthed mains plug is classified as class I equipment . See the Norway marking requirement in 4.1.15. The symbol IEC 60417-6092, as specified in F.3.6.2, is accepted.		N/A
5.7.6	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

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.2	Denmark To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .	No external circuits.	N/A
5.7.7.1	Norway and Sweden To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.”	Not such system.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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."		
8.5.4.2.3	United Kingdom Add the following after the 2nd dash bullet in 3rd paragraph: An emergency stop system complying with the requirements of IEC 60204-1 and ISO 13850 is required where there is a risk of personal injury.		N/A
B.3.1 and B.4	Ireland and United Kingdom The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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 polyphase 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 less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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.		P
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		P
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 mm² is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
10.5.2	Germany The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. <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, D-38116 Braunschweig, Tel.: Int+49-531-592-6320, Internet: http://www.ptb.de	No CRT within the equipment.	N/A

IEC62368_1E - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
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ZD	IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS (EN)		N/A					
	<table><tr><th rowspan="2">Type of flexible cord</th><th colspan="2">Code designations</th></tr><tr><th>IEC</th><th>CENELEC</th></tr></table>		Type of flexible cord	Code designations		IEC	CENELEC	N/A
	Type of flexible cord	Code designations						
		IEC	CENELEC					
	PVC insulated cords							
	Flat twin tinsel cord	60227 IEC 41	H03VH-Y					
	Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F					
	Ordinary polyvinyl chloride sheathed flexible cord	60227 IEC 53	H05VV-F H05VVH2-F					
	Rubber insulated cords							
	Braided cord	60245 IEC 51	H03RT-F					
	Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F					
	Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F					
	Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F					
	Cords having high flexibility							
	Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H					
	Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H					
	Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H					
	Cords insulated and sheathed with halogen-free thermoplastic compounds							
Light halogen-free thermoplastic insulated and sheathed flexible cords		H03Z1Z1-F H03Z1Z1H2-F						
Ordinary halogen-free thermoplastic insulated and sheathed flexible cords		H05Z1Z1-F H05Z1Z1H2-F						

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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 62368-1:2019			
TRF template used: IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No: US_CA_ND_IEC62368_1E			
Attachment Originator: UL(US)			
Master Attachment: Dated 2022-03-04			
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IEC 62368-1 - US and Canadian National Differences Special National Conditions based on Regulations and Other National Differences			
1 (1DV.1) (1.3)	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part 1, 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 (1DV.2.1)	This standard includes additional requirements for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities. See Annex DVB.		N/A
1 (1DV.2.2)	This standard includes additional requirements for equipment intended for mounting under cabinets. See Annex DVC.		N/A
1 (1DV.2.3)	IEC 62368-3 clause 5 for DC power transfer at ES1 or ES2 voltage levels is considered informative. IEC 62368-3 clause 6 for remote power feeding telecommunication (RFT) circuits is considered normative (see ITU K.50). Alternatively, equipment with RFT circuits are given in either UL 2391 or CSA/UL 60950-21. RFT-C circuits are not permitted unless the RFT-C circuit complies with RFT-V limits ($\leq 200V$ per conductor to earth).		N/A
1 (1DV.3)	For protection against direct lightning strikes, reference is made to NFPA 780 and CAN/CSA-B72 for additional requirements.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1 (DV.5)	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.		N/A
4.1 (4.1.17)	For lengths exceeding 3.05 m, external interconnecting 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 cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.		P
4.6 (4.6.2)	Wire-wrap terminals have special construction and performance requirements.		N/A
4.8 (4.8.3, 4.8.4.5, 4.8.5)	Coin / button cell batteries have modified special construction and performance requirements.	No such batteries.	N/A
5.4.2.3.2 (5.4.2.3.2.1)	Surge Arrestors and Transient Voltage Surge Suppressors installed external to the equipment are required to comply with the appropriate NEC and CEC requirements		N/A
5.5.9	Receptacles, rated 125-V, single phase, 15- or 20-A accessible to either ordinary, instructed, or skilled persons are required to be provided with GFCI Protection for Personnel if the equipment containing the receptacles is installed outdoors. The protection devices are required to comply with UL 943, and CAN/CSA C22.2 No.144.		N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.7, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment.		P
5.7.8 (5.7.8.1)	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	No TNV circuits within the equipment.	N/A
6.5.1	PS3 wiring outside a fire enclosure is required to comply 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.3.3.9)	Output terminals provided for supply of other equipment, except mains supply, are required to be marked with a maximum rating or reference to equipment permitted to be connected.		N/A
Annex F (F.3.7)	Outdoor Enclosures are required to be classified and marked in accordance with UL 50 or 50E, or CAN/CSA C22.2 No. 94.1 or 94.2.		N/A
Annex G (G.7)	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		P
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		P

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Clause	Requirement + Test	Result - Remark	Verdict
	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.		P
	Power supply cords for outdoor equipment are required to be suitable outdoor use type as required by Section 400.4 of the NEC and Rule 4-012 of the CEC, i.e., marked "W."		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 Q (Q.3)	Equipment with paired conductor and/or coax communications cables/wiring connected to building wiring are required to have special voltage, current, power and marking requirements.		N/A
Annex DVA (1)	Equipment that is designed such that it may be powered from a separate electrical service, is required to meet applicable requirements for service equipment for control and protection of services and their installation and complies with Article 230 of the National Electrical Code (NEC), NFPA 70 and Section 6 of the Canadian Electrical Code, Part I, CSA C22.1.		N/A
	Equipment intended for use in spaces used for environmental air (plenums) are subjected to special flammability requirements for heat and visible smoke release.	The equipment not intended to be used within such environments.	N/A
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	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. and Canadian Regulations.	The equipment is not for children used.	N/A
	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.	Not a baby monitors.	N/A
	Storage batteries and battery management equipment, other than associated with lead-acid batteries, and including battery backup systems that are not an integral part of stationary AV and ICT equipment, such as provided in separate cabinets, are required to be certified (listed) to the appropriate standard(s) for such storage batteries and equipment.	Not a storage batteries.	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (5.6)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	No such application.	P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment is required to comply 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) are required to 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 minimum flammability classification of V-1.	No such application.	N/A
Annex DVA (10.3)	Equipment with lasers is required to meet the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No such parts.	N/A
Annex DVA (10.5)	Equipment that produces ionizing radiation is required to comply with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No such parts.	N/A
Annex DVA (F.3.3.4)	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 that 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.3.3.6)	Equipment identified for ITE (computer) room installation is required to be marked with the rated current.	Not such application.	N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position, where mounted in an enclosure, vertically mounted disconnect switches and circuit breakers with vertical operating means extending outside the enclosure are required to indicate in a location visible when accessing the external operating means whether the switch or circuit breaker is in the open (off) or closed (on) position.	No such parts.	N/A
Annex DVA (G.3.4)	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.	No standard supply outlets, receptacles, medium-base or smaller lampholders provided.	N/A
	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non- interchangeable.		
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles is required to comply with NEC 250.146(D) and CEC 10-400 and 10-612.	No such parts.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (G.4.3)	Interconnection of units by conductors supplied by a limited power source, or a Class 2 circuit defined in the NEC/CEC may have field wiring connections other than specified in DVH.3, such as wire-wrap and crimp-on types, if the limited power source and Class 2 circuits are separated from all other circuits by barriers, routing or fixing.	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 (G.7)	Flexible cords used outdoors are required to have the suffix "W" marked on the flexible cord.	No such parts.	N/A
Annex DVA (M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the ITE room remote power-off circuit.	Not such application.	N/A
Annex DVA (Q)	If applicable per NEC 725.121(C), some limited power sources supplied from AV/ICT equipment are required to have a label indicating the maximum voltage and rated current output for per conductor for each connection point. Where multiple connection points have the same rating, a single label is permitted to be used.	Not applicable for the Equipment.	N/A
	Wiring terminals intended to supply Class 2 outputs in accordance with the NEC or CEC Part 1 are required to be marked with the voltage rating and "Class 2" or equivalent. The marking is located adjacent to the terminals and visible during wiring.		N/A
	Applicable parts of Chapter 8 of the NEC, and Rules 54 and 60 of the CEC, may be applicable to ITE installed outdoors with connections to communication systems.		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

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Clause	Requirement + Test	Result - Remark	Verdict
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These equipment and components include: appliance couplers, attachment plugs, battery backup systems, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, modular data centres, power supply cords, some power distribution equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.	UL approved components used. Refer to table 4.1.2 of IEC 62368-1 test report for details.	P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.	The equipment is not permanently connected equipment.	N/A
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are required to be in accordance with the NEC/CEC.		N/A
Annex DVH (DVH.2.1)	For safe and reliable connection to a mains, permanently connected equipment is to be provided.		N/A
Annex DVH (DVH.2.2)	Additional considerations for D.C. mains.		N/A
Annex DVH (DVH.3.2.1)	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified.	No terminals for permanent wiring.	N/A
Annex DVH (DVH.3.2.3)	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.3.2.4)	All associated mains supply terminals are located in proximity to each other and to the main protective earthing terminal, if any.		N/A
Annex DVH (DVH.3.2.5)	Terminals are located, guarded or insulated so that, should a strand of a conductor escape when the conductor is fitted, there is no likelihood of accidental contact between such a strand and accessible conductive parts or unearthed conductive parts separated from accessible conductive parts by supplementary insulation only.		N/A
Annex DVH (DVH.3.3)	When field connection to an external circuit is via wires (example, free conductors), the wires are not smaller than 18 AWG (0.82 mm ²) and the free length of the wire inside an outlet box or wiring compartment is 150 mm or more.		N/A
Annex DVH (DVH.3.4)	Size of protective earthing conductors and terminals		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
Annex DVH (DVH.4.1)	Wire bending space		N/A
Annex DVH (DVH.4.2)	Volume of wiring compartment		N/A
Annex DVH (DVH.4.3)	Separation of circuits		N/A
Annex DVH (DVH.5)	Equipment markings and instructional safeguards		N/A
Annex DVH (DVH.5.1)	Identification of protective earthing terminal		N/A
Annex DVH (DVH.5.2)	Identification of terminal for earthed conductor (neutral)		N/A
Annex DVH (DVH.5.3)	Identification of terminals for aluminium conductors		N/A
Annex DVH (DVH.5.4)	Wire temperature ratings		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, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.		N/A
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

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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 62368.1:2022			
TRF template used: IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No: AU_NZ_ND_IEC62368_1E			
Attachment Originator: JAS-ANZ			
Master Attachment: 2022-07-01			
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	National Differences		P
Appendix ZZ	Variations to IEC 62368-1:2018 (ED. 3.0) for Australia and New Zealand		P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2018 (ED. 3.0)		P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:		P
2	After the first paragraph, <i>add</i> the following: The Australian or Australian/New Zealand Standards listed below are modified adoptions of, or not equivalent to, the IEC normative references and are required for the application of this Standard. All references in the source text to those IEC normative references shall be replaced by references to the corresponding Australian or Australian/New Zealand Standards. Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably -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 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i> -IEC 60086-2 <i>Primary batteries — Part 2: Physical and electrical specifications</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</i>		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<i>Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)</i> <i>-AS/NZS 60695.2.11, Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products</i> <i>-AS/NZS 60695.11.5, Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i> <i>-AS/NZS 60695.11.10, Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods</i> <i>-AS/NZS 60884.1, Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i> <i>-AS/NZS 60950.1, Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i> <i>IEC 61032:1997, Protection of persons and equipment by enclosures—Probes for verification</i> <i>-AS/NZS 61558.1, Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 3, MOD)</i> <i>-AS/NZS 61558.2.16, Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.</i>		
4.7.2	Requirements <i>Delete the text of the second paragraph and replace with the following:</i> Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet conforming to AS/NZS 3112, shall conform to the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets. Conformity is checked by inspection and, if necessary, by the tests in AS/NZS 3112. NOTE: Equipment with plug portions for use in countries other than Australia and New Zealand will need to conform to other countries' requirements Note Additional AS/NZS 3112 Appendix J, TRF is appended to end of this TRF.		N/A
4.7.3	Compliance Criteria <i>Delete this clause</i>		N/A

IEC62368_1E - ATTACHMENT				
Clause	Requirement + Test		Result - Remark	Verdict
4.8.1	General After second list, <i>add</i> the following: NOTE: Refer to the Consumer Goods (Products Containing Button/Coin Batteries) Safety Standard 2020 and Consumer Goods (Products Containing Button/Coin Batteries) Information Standard 2020 for more information on button cell batteries in Australia..			N/A
5.4.10.2.1	General <i>Delete</i> the first paragraph and <i>replace</i> with the following: In Australia, the separation is checked by the test given in both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test given in either 5.4.10.2.2 or 5.4.10.2.3..			N/A
Table 28	<i>Delete</i> Table 28 and <i>replace</i> with the following:			N/A
Parts		Impulse test		Steady state test
		New Zealand	Australia	New Zealand Australia
Parts indicated in Clause 5.4.10.1 a) ^a		2.5 kV	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment.	1.5 kV 3 kV
Parts indicated in Clause 5.4.10.1 b) and c) ^b		1.5 kV ^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	<i>Delete</i> "NOTE" and <i>replace</i> with "NOTE 1". After NOTE 1, <i>add</i> the following: NOTE 2: For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 3: 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	<i>Delete</i> "NOTE" and <i>replace</i> with "NOTE 1". After NOTE 1, <i>add</i> the following: NOTE 2: For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 3: The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.			N/A
6	Electrically-caused fire			P
6.6	After Clause 6.6, <i>add</i> the new Clauses 6.201 as follows: 6.201 External power supplies, docking stations and other similar devices (see special national conditions)			P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6	Stability of equipment		N/A
Table 36	Footnote ^a , after first sentence, <i>add</i> the following: Equipment having displays with moving images shall include "television sets and display devices".		N/A
8.6.1	After Clause 8.6.1 <i>add</i> the following new clauses: 8.6.201 Restraining Device fixing point (see special national conditions) 8.6.202 Restraining device (see special national conditions)		N/A
Annex F Paragraph F.3.3.4	Rated Voltage <i>Delete</i> "NOTE" and <i>replace</i> with NOTE1" After NOTE 1, <i>add</i> the following Equipment that is intended for connection to the supply mains in Australia and New Zealand shall be marked with: (a) A rated voltage of: • 230 V for single phase equipment • 400 V for poly phase equipment Or (b) A rated voltage range that includes: • 230 V for single phase equipment • 400 V for poly phase equipment NOTE 2: equipment that is not rated as above is not suitable for direct connection to the supply mains in Australia or new Zealand.		P
Annex F.3.3.5	After the list, <i>add</i> the following Equipment that is intended for connection to supply mains in Australia or New Zealand shall be marked with a rated frequency of 50 Hz or a rated frequency range or nominal value which includes 50Hz		P
Annex F.3.8	After "The DC output of an external power supply", insert "or docking stations and other similar external devices"		P
Annex G Paragraph G.4.2	Mains connectors 1 After "IEC 60320", insert "or AS/NZS 60320 series". 2 After "IEC 60906-1", insert "or AS/NZS 3123" 3 <i>After</i> first paragraph <i>add</i> the following: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Paragraph G.5.3.1	Transformers, General 1 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 Fourth dashed point <i>replace</i> 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.		N/A
Annex G.7.1	Mains supply cords, General Fourth dashed paragraph, <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Table G.7	Sizes of conductors 1 First column, second row, <i>delete</i> "6" and <i>replace</i> with "7.5" 2 Second column, second row, <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> '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 Footnote c <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1' 7 Footnote d <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Annex M M 2.1	<i>Add</i> "IEC 60086-2" to the list		N/A
Annex M Paragraph M.3.2	Test method Delete "NOTE" and replace with "NOTE 1" After NOTE 1 <i>add</i> the following: NOTE 2: 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 ES1 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)		P

IEC62368_1E - 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— (a) at all ES1 outlets or connectors shall not increase by more than 10 % of the output rated voltage under normal operating conditions, measured after 3 s of introducing a single fault condition and after 3 s of introducing abnormal operating conditions; and (b) of a USB outlet or connector shall not increase by more than 3 V or 10 % of the output rated voltage under normal operating conditions, whichever is higher, measured after 3 seconds of introducing a single fault condition and after 3 s of introducing abnormal operating conditions For equipment with multiple rated voltages at the output, the requirements apply with the equipment configured for each output rated 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. The 3 s measurement delay is based on IEC document 108/742/INF, <i>TC 108, Standards Interpretation Panel Question 15 — Output voltage</i>, in relation to similar requirements in IEC 62368-3:2017. Conformity shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single fault conditions of Annex B.4.		P
8.6.201	Restraining device fixing point Freestanding-capable MS2 and MS3 television sets and display devices shall be provided with a fixing point to facilitate the anchoring of the equipment from toppling The fixing point shall conform to Clause 8.7 where the fixing point uses a wall, ceiling or other structure mount. Alternatively, the fixing point shall be capable of withstanding a pull equal to the mass of the equipment in all directions without damage Instructions for installation or instructions for use shall be provided to specify correct use of the fixing point		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.202	Restraining device MS2 and MS3 television sets and display devices shall be provided with a restraining device and associated hardware to attach to the television set or display device. The restraining device shall be capable of withstanding a pull equal to the mass of the equipment in all directions. Instructions for installation or instructions for use shall be provided to specify correct use of the fixing point .		N/A

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

ATTACHMENT TO TEST REPORT AS_NZS_3112:2017_+A1:2021 APPENDIX J AUSTRALIAN / NEW ZEALAND NATIONAL DIFFERENCES (APPROVAL AND TEST SPECIFICATION—PLUGS AND SOCKET-OUTLETS)			
Differences according to AS_NZS_3112:2017_Amendment 1:2021_Appendix J			
TRF template used: IECCE OD-2020-F3, Ed. 1.1			
Attachment Form No. AS_NZS_3112:2017_Appendix J			
Attachment Originator JAS-ANZ			
Master Attachment 2022-06			
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	Note: AS/NZS 3112 is NOT covered by IECEE Accreditation for Testing / Reporting Please State Laboratory Accreditation for this Standard		N/A
	Accreditation		N/A
	Accreditation Stamp		N/A

J1 SCOPE	General: This Appendix specifies additional dimensional and constructional requirements for detachable plug portions, or equipment incorporating integral supply pins or equipment incorporating detachable plug portions. This Appendix shall be read in conjunction with Section 2 of this Standard. For the purposes of this Appendix, where the term 'plug' is used in Section 2 it shall be taken to mean the plug portion of equipment or the detachable plug portion. The equipment shall comply with the relevant product Standard. The tests and requirements specified in this Appendix are in addition to any test and requirements of the relevant product Standard for the equipment. (AS/NZS 3112:2017/A1:2021)	N/A
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IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 SINGAPORE NATIONAL DIFFERENCES Audio/video, information and communication technology equipment - Part 1: Safety requirements			
Differences according to: Special National Conditions			
TRF template used: IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No: SG_ND_IEC62368_1E			
Attachment Originator: Intertek Testing Services (Singapore) Pte Ltd			
Master Attachment: 2022-07-08			
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	National Differences		P
	Not Applicable		
Chapter 4.2	Special national conditions (if any) Controlled goods under the Consumer Protection (Safety Requirements) Registration Scheme (CPS) are required to be tested to additional requirements stipulated by the Consumer Product Safety Office (CPSO) of Enterprise Singapore in Chapter 7 of the CPS information booklet. The CPS information booklet is updated on an ongoing basis. At the point of testing, refer to the latest copy of the CPS information booklet for the minimum edition of standard to apply for testing of products under the CPS scheme and any new requirements. Link to CPS information booklet: https://www.consumerproductsafety.gov.sg/files/cps-info-booklet.pdf		N/A
<u>Clause</u> 1	All appliances must be tested to 230 VAC, 50 Hz.		P
4	Appliance fitted with voltage selector shall be tested as follows: Connect appliance to 230 VAC mains with voltage selector switch to settings not suitable for operation at 230 VAC.		N/A
5	All appliances (with tropical test requirements in applicable Standards) shall comply with the tropical condition test as stated in the relevant IEC Standards.		P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
7	All Class I appliances must be fitted with 3-pin mains plugs that are registered with the CPSO.		N/A
8	a) All Class II appliances must be fitted with 2-pin mains plug complying with EN 50075. b) Class II appliances that are fitted with 3-pin mains plugs must use plugs that are registered with the CPSO.		N/A
9	Detachable power cord set must be listed in the test report critical component list.		P
14	AC Adaptor incorporated with 13A socket-outlet to be tested to additional tests clauses 13, 17 and 18 of SS 145 Part 3: 2020.		N/A
15	Supplier who is supplying AC adaptors with detachable interchangeable plug pins must include with its products, written instructions to inform customer on the type of detachable interchangeable plug pins that are approved and suitable to use in Singapore. These instructions are to be submitted to the Conformity Assessment Body for verification when applying for Certificate of Conformity.		N/A
16	For AC Adaptors supplied together with Personal Mobility Devices: 1. Registered Supplier to declare the model of the AC adaptor that is to be used with/ bundled together with the PMDs; 2. Registered Supplier to provide valid IEC 60950-1 or IEC 62368-1 test reports for certification and registration of the declared AC adaptor under the CPS scheme; and 3. Registered Supplier to provide the UL 2272 test report as supporting document, showing that the listed AC adaptor in the UL 2272 test report is the model declared to be used with/ bundled together with the PMDs.		N/A
18	CD/ DVD ROMs (used in personal computers) to have test certificate showing that CD/DVD ROM drive has complied with IEC 60825- 1.		N/A
19	Modem card incorporated in the personal computer must be tested at set level (sub-clauses 5.1 & 6 of IEC 60950) or at component level.		N/A
20	Powerline Ethernet Adaptor incorporated with 13A socket-outlet, to be tested to additional test clauses 13, 17 & 18 of SS 145 Part 3: 2020.		N/A
	Other additional requirements which may be included in Chapter 7 of the information booklet in ongoing basis at the time of testing.		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1:2018 SAUDI ARABIA NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment Part 1: Safety requirements)			
Differences according to: National standard SASO-IEC 62368-1:2020			
TRF template used: IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No: SA_ND_IEC62368_1E			
Attachment Originator: SASO			
Master Attachment: 2022-12-22			
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	National Differences		P
	Plugs used for pluggable equipment comply with standard SASO-2203.		P
--	Frequency (Hz)		P
	60 Hz		P
--	Rated voltage (V)		P
	Single phase 230 V Three phase 400 V		P

ATTACHMENT to TRF IEC62368_1E			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1:2018 JAPAN NATIONAL DIFFERENCES Audio/video, information and communication technology equipment – Part 1: Safety requirements			
Differences according to: J62368-1(2023)			
TRF template used: IECEE OD-2020-F3:2022, Ed. 1.2			
Attachment Form No: JP_ND_IEC62368_1E			
Attachment Originator: UL Solutions (JP)			
Master Attachment: Dated 2023-05-12			
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	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 document 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 interconnection coupler shall comply with Clause G.4.2A if they are incorporated as part of the equipment.		N/A
5.6.2.1	Connection for protective conductor of class 0I equipment provided with instructional safeguard in accordance with Clause F.3.6.1A is considered to make earlier and break later than supply connection. Mains plug having a lead wire for protective earthing connection of class 0I equipment shall comply with all of the following: – Not to be used for equipment having a rated voltage of 150 V or more – Clip is not used for the earthing connection of the lead wire. – The lead wire for earthing is at least 10 cm long If class 0I equipment provides an independent main protective earthing terminal and is intended to be installed by ordinary person, earthing wire shall be provided in the package of the equipment.		N/A

ATTACHMENT to TRF IEC62368_1E

Clause	Requirement + Test	Result - Remark	Verdict
5.6.2.2	Internal earthing conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector need not be green-and-yellow.		N/A
5.6.3	In case of class 0I equipment using power supply cord having two conductors (no earthing conductor), the conductor of protective earthing lead wire shall comply with either of the following: – use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having size and strength that are equivalent to or more than the above copper wire – single core cord or single core cable with 1.25 mm ² 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, JIS C 8300 or JIS C 8303, or that is provided with mains appliance outlet as specified in JIS C 8283 series 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
5.7.5	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 60990:2016.		N/A
6.4.3.2	A fuse complying with JIS C 6575 series or a fuse having equivalent characteristics shall open within 1 s. A fuse having time/current characteristics other than those specified in IEC 60127 shall be tested with the characteristics taken into account. In case of 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”.		N/A
8.5.4.3.1	Only three-phase stationary equipment rated more than AC 200 V 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
8.5.4.3.2	For equipment installed where children may be present, an instructional safeguard shall be provided by easily understandable wording in accordance with Clause F.5, except that element 3 is optional.		N/A
8.5.4.3.4	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

ATTACHMENT to TRF IEC62368_1E

Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.3.5	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
F.3.5.1	When the mains socket-outlet is configured in accordance with JIS C 8282 series, JIS C 8300 or JIS C 8303, the assigned current or power shall be marked. If the voltage of the socket-outlet is the same as the mains voltage, the voltage need not be marked. Instructional safeguard of Class 0I equipment shall be provided with an instructional safeguard in accordance with Clause F.5 when a mains socket-outlet as specified in JIS C 8282 series, JIS C 8300 or JIS C 8303 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 shall be included.		P
F.3.6.1A	Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.2 shall be applied to class 0I equipment. For class 0I equipment, a marking of instructions shall be provided regarding the earthing connection. In addition to the above, for class 0I equipment, an instruction to connect earthing before and disconnect earthing after the connection of supply conductors shall be marked on the visible place of the main body or shall be in the text of an accompanying document.		N/A
F.3.6.2	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
F.3.8A	Attention marking for aging deterioration of CRT television Year of manufacture, standard usage period by design according to JIS C 9921-5 and cautionary statement for possible risks of aging deterioration when used beyond the specified period shall be marked on CRT television except for industrial use CRT television.		N/A

ATTACHMENT to TRF IEC62368_1E

Clause	Requirement + Test	Result - Remark	Verdict
F.4	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, the instructions shall require that the external wiring connected to these terminals shall be installed by a skilled person, or shall be connected by means of ready-made leads or cords that are constructed in a way that would prevent contact with any ES3 circuit. For class 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided in the package of the equipment, if the protective earthing connection is made by instructed person or skilled person, the suitable installation instruction for the protective earthing connection shall be provided.		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 applicable JIS or IEC standard in accordance with 4.1.2 or shall have equivalent or better properties. Such a protective device shall have adequate breaking (rupturing) capacity to interrupt the maximum fault current (including short-circuit current) that can flow.		N/A
G.4.1	This requirement does not apply to connectors covered in Clauses G.4.2 and G.4.2A.		N/A

ATTACHMENT to TRF IEC62368_1E			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	Mains connectors, mains plugs and socket-outlets shall comply with JIS C 8283 series, JIS C 8285, IEC 60309 series, JIS C 8282 series, JIS C 8300, JIS C 8303, or have equivalent or better properties. 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 shall prevent mechanical stress not to transmit to the soldering part of appliance inlet terminal. When an equipment is rated not more than 125 V and all of the following are met, Type C14 and C18 appliance inlet complying with JIS C 8283-3 can be considered as rated 15 A. – The temperature of appliance inlet does not exceed the value specified in JIS C 8283-1 under the most unfavourable normal operating condition as specified in Clause B.2.1. – "Use only designated cord set attached in this equipment" or equivalent text is described in the operating instruction. If the cord set is not provided in the package of the equipment, suitable information regarding to the cord set is described in the operating instruction.		N/A
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.7.2 Table G.7	Cross-sectional area of equipment rated up to and including 3 A shall be 0.75 mm ² .		N/A
G.7.6.1 Table G.9	The cross-sectional area of mains cords according to JIS C 3010 may comply with relevant Japanese wiring regulation. For cables other than those complying with JIS C 3662 series or JIS C 3663 series, the terminals shall be suitable for the size of the intended cables.		N/A

Product photos

Type	Supplement Id	Description
Photographs	Figure 1	External view_1
Photographs	Figure 2	External view_2
Photographs	Figure 3	External view_3
Photographs	Figure 4	External view_4
Photographs	Figure 5	Terminals view_1
Photographs	Figure 6	Terminals view_2
Photographs	Figure 7	Terminals view_3
Photographs	Figure 8	Internal view_1
Photographs	Figure 9	Internal view_2
Photographs	Figure 10	Internal view_3
Photographs	Figure 11	Power board PW.D232W2.751 component side view
Photographs	Figure 12	Power board PW.D232W2.751 Mylar sheet view
Photographs	Figure 13	Power board PW.D232W2.751 solder side view
Photographs	Figure 14	Main board T.MT9666.71 component side view
Photographs	Figure 15	Main board T.MT9666.71 solder side view
Photographs	Figure 16	Earthing terminal view
Photographs	Figure 17	Bonding terminal view
Photographs	Figure 18	Remote control view_1
Photographs	Figure 19	Remote control view_2
Photographs	Figure 20	Base view (Base is optional)



Figure 1. External view_1



Figure 2. External view_2



Figure 3. External view_3



Figure 4. External view_4



Figure 5. Terminals view_1



Figure 6. Terminals view_2



Figure 7. Terminals view_3



Figure 8. Internal view_1

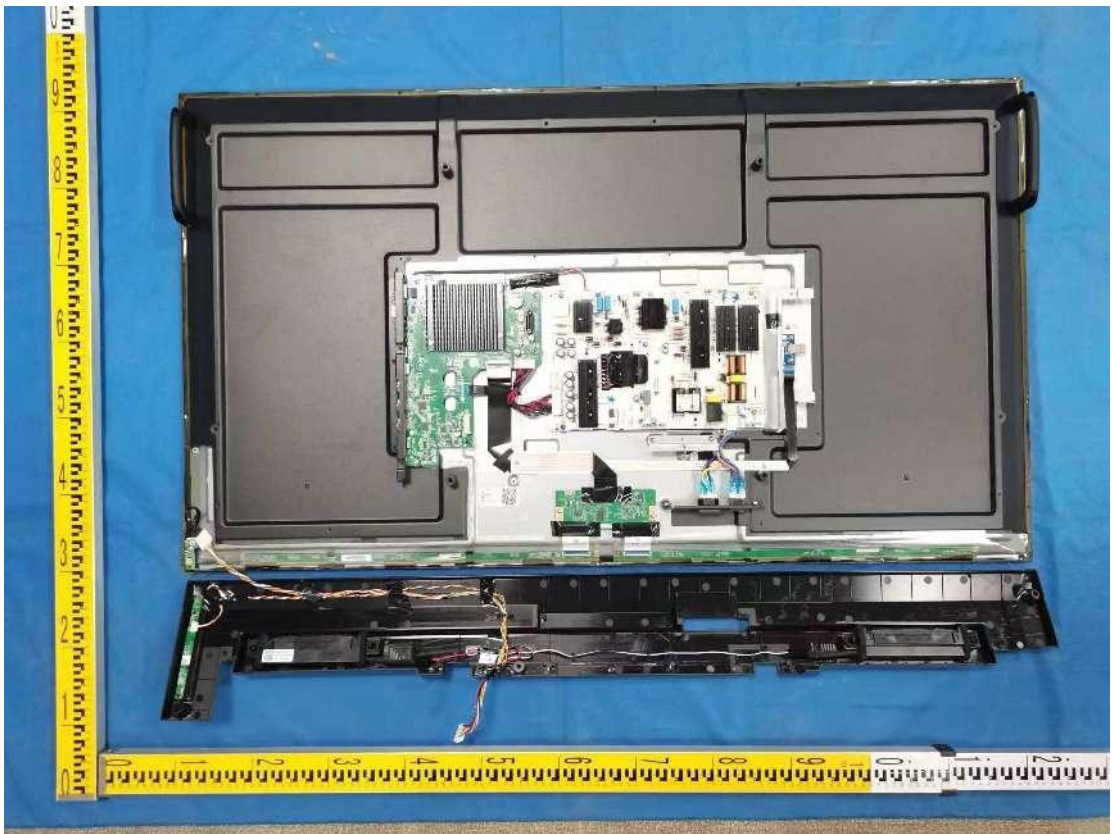


Figure 9. Internal view_2

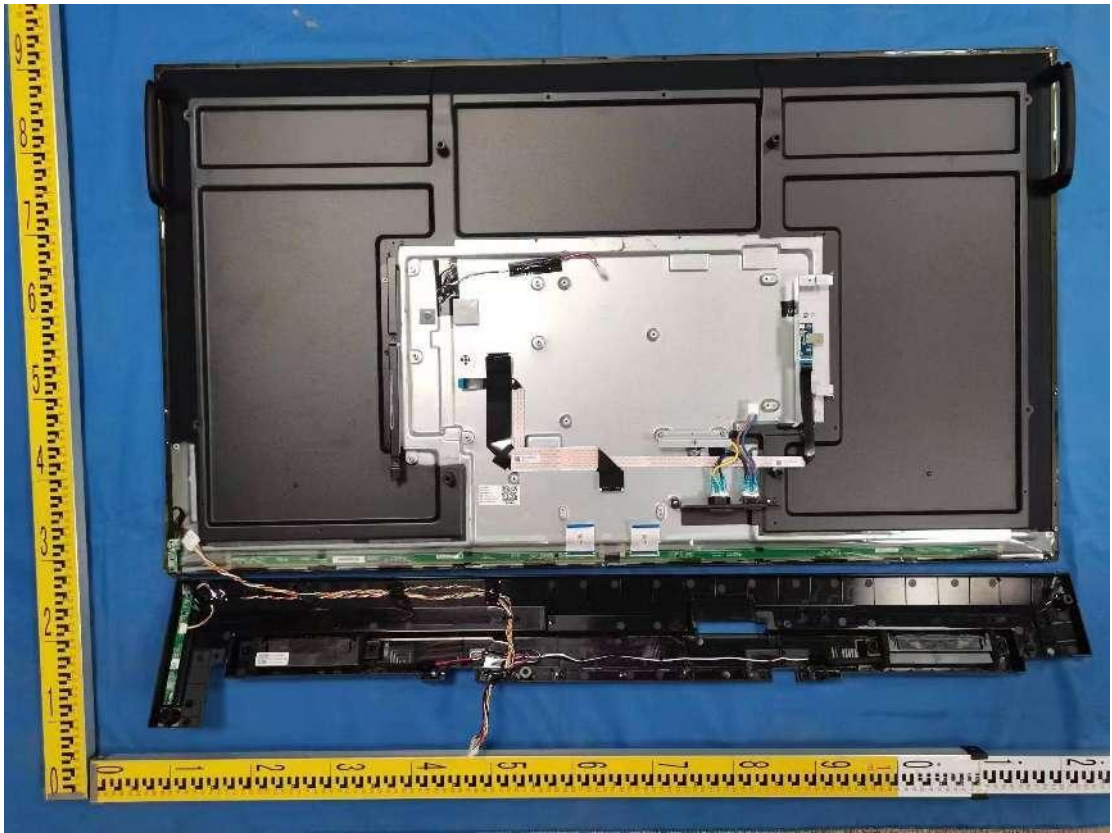


Figure 10. Internal view_3

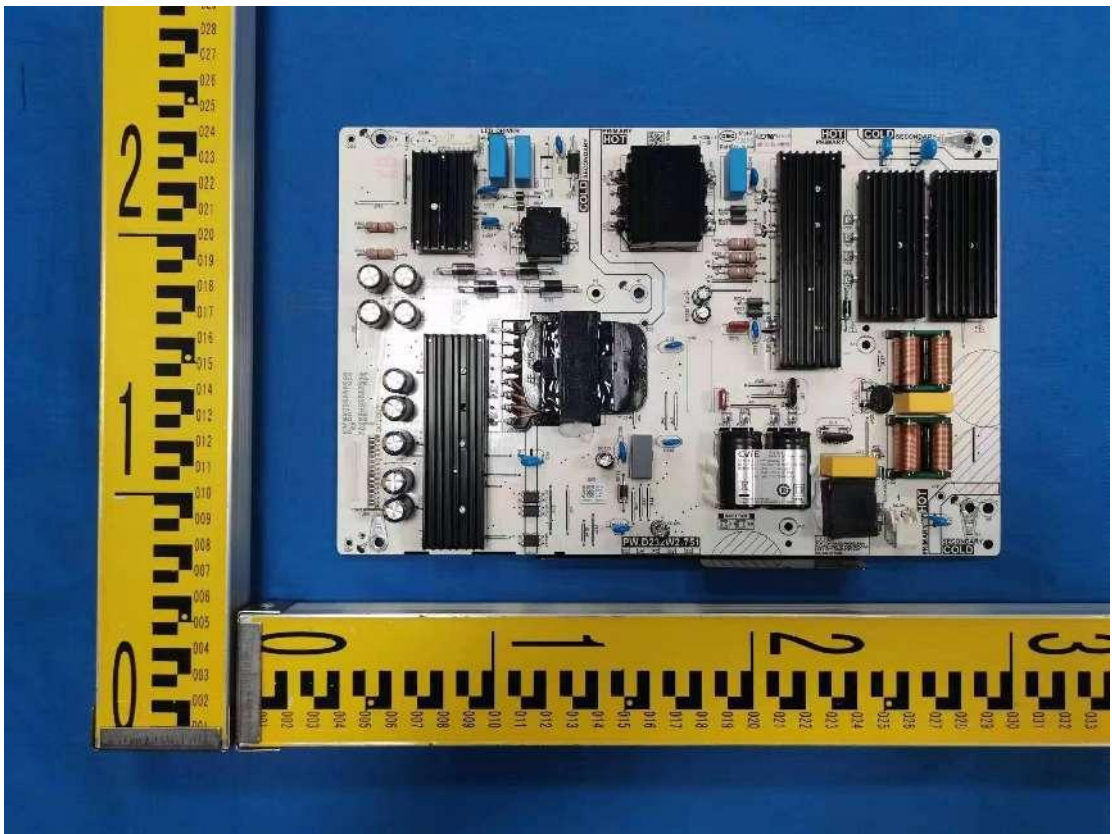


Figure 11. Power board PW.D232W2.751 component side view

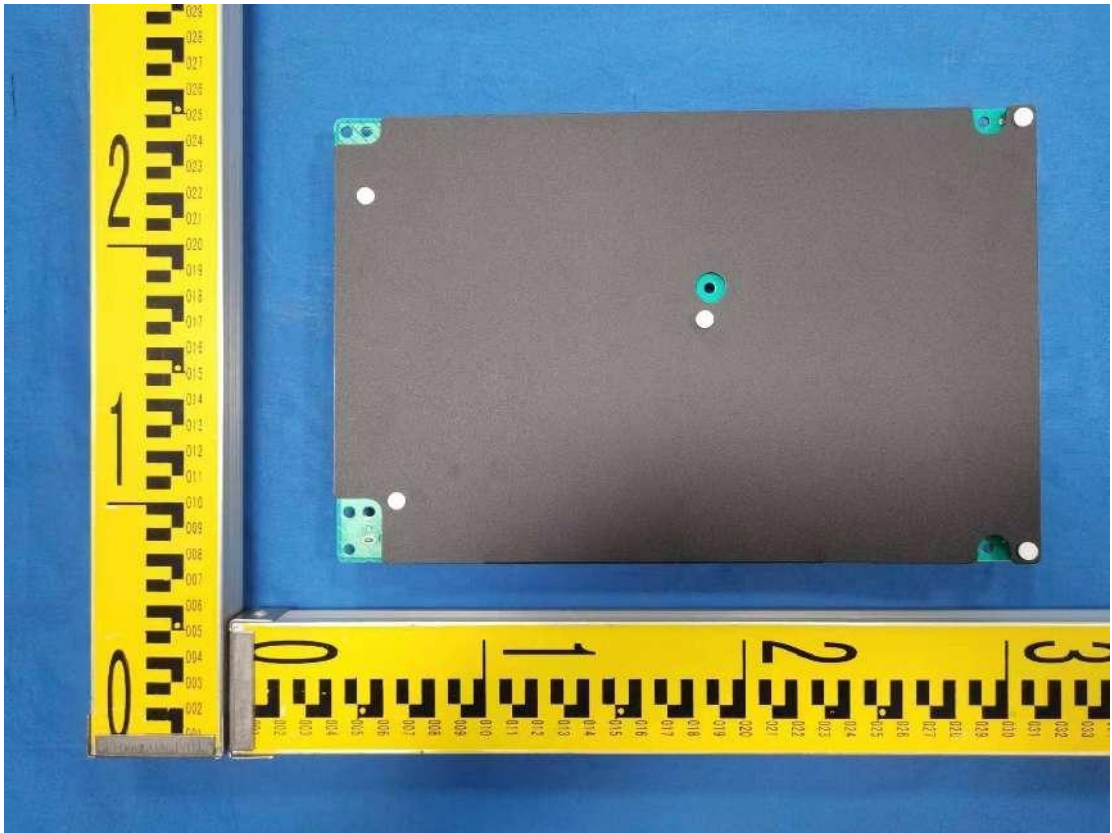


Figure 12. Power board PW.D232W2.751 Mylar sheet view

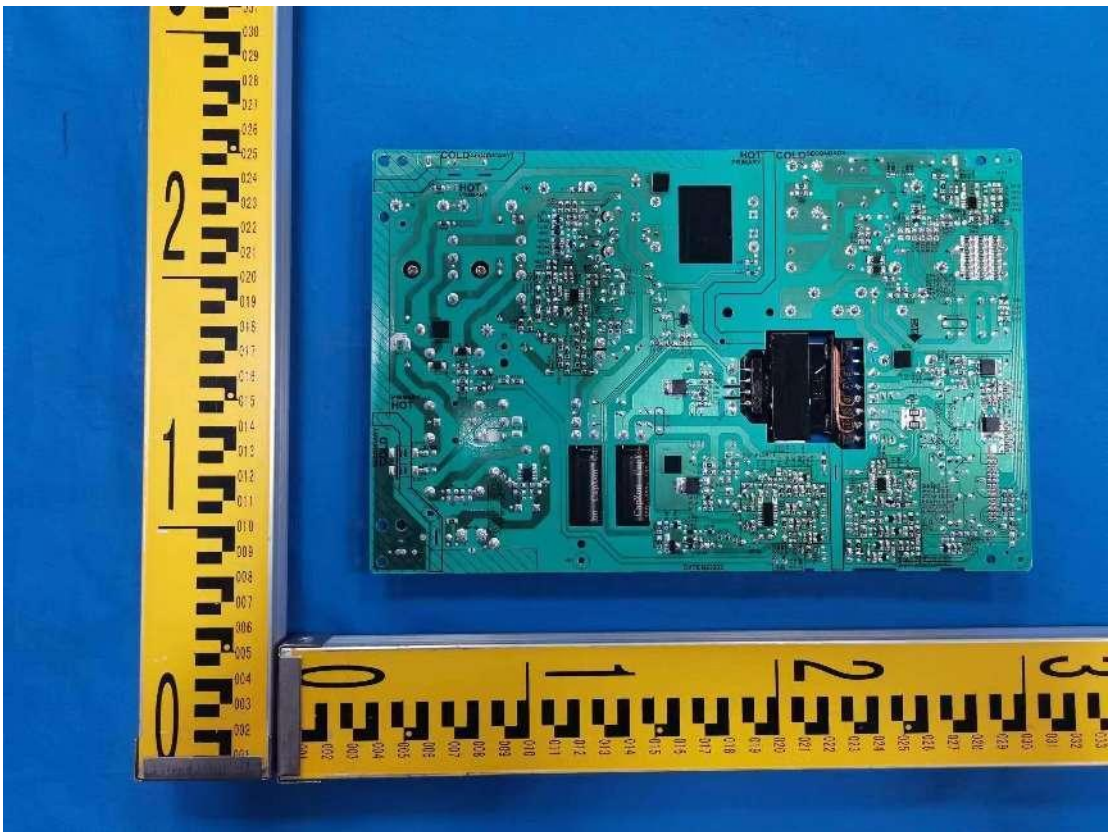


Figure 13. Power board PW.D232W2.751 solder side view

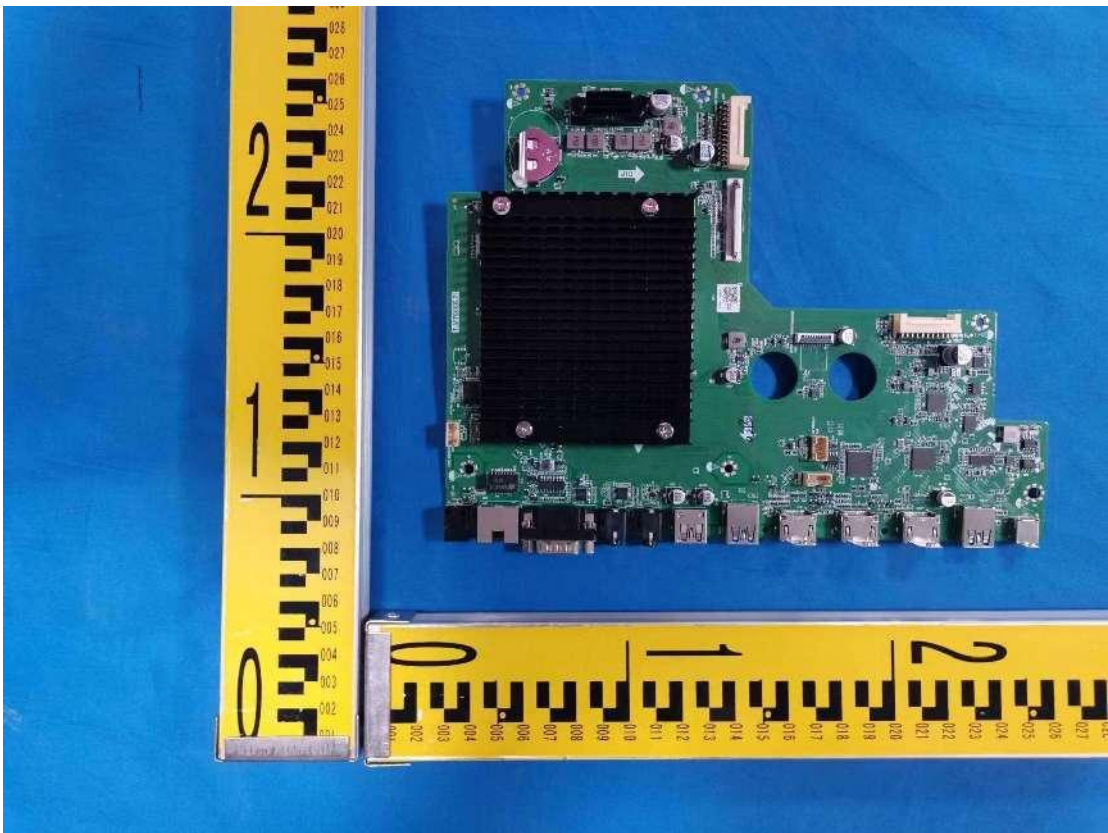


Figure 14. Main board T.MT9666.71 component side view



Figure 15. Main board T.MT9666.71 solder side view



Figure 16. Earthing terminal view

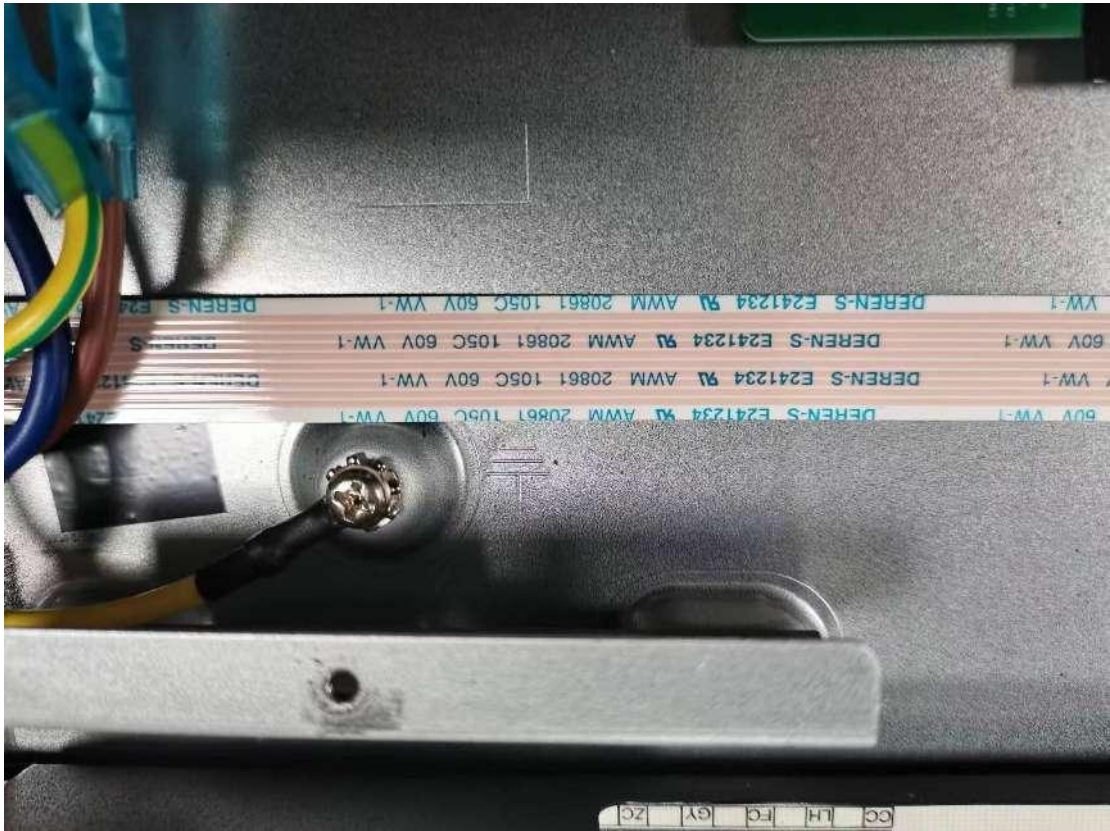


Figure 17. Bonding terminal view



Figure 18. Remote control view_1



Figure 19. Remote control view_2



Figure 20. Base view (Base is optional)

-----End of the report -----