



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..... : SAF250306030-03-001

Date of issue : 2025-07-03

Total number of pages : 95

Name of Testing Laboratory preparing the Report : Shenzhen Haiyun Testing Co., Ltd.

Applicant's name : Shenzhen KTC Commercial Display Technology Co., Ltd.

Address : The B district of the first floor, third floor and fourth floor, 1# Building, NO. 4023, Wuhe Street, Bantian, longgang District, Shenzhen City, Guangdong Province, 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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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 CORPORATION	
	1 Takumi-cho, Sakai-ku, Sakai-City, Osaka 590-8522, Japan	
Model/Type reference	PN-M862	
Ratings	Input: 100-240V~, 50/60Hz, 5.9-2.4A	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ CB Testing Laboratory:	Shenzhen Haiyun Testing Co., Ltd.	
Testing location/ address	Room201, #3 Factory, Gongjin Electronics, Shatian, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China	
Tested by (name, function, signature)	Zora Xie Project Handler	<i>Zora Xie</i>
Approved by (name, function, signature) ..	John He Reviewer	<i>John He</i>
Testing procedure: CTF Stage 1:		
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature) ..		
Testing procedure: CTF Stage 2:		
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature) . :		
Approved by (name, function, signature) ..		
Testing procedure: CTF Stage 3:		
Testing procedure: CTF Stage 4:		
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature) . :		
Approved by (name, function, signature) ..		
Supervised by (name, function, signature) :		

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

- Attachment 1: National differences. (51 pages)
- Attachment 2: Enclosures documentation. (19 pages)

Summary of testing:

Tests performed (name of test and test clause):

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

5.2	Classification of electrical energy sources
5.4.1.4, 9.3, B.1.5, B.2.6	Temperature measurements
5.4.1.10.3	Ball pressure test
5.4.2, 5.4.3	Clearances and creepage distances measurement
5.4.4.2	Minimum distance through insulation
5.4.8	Humidity conditioning
5.4.9	Electric strength test
5.5.2.2	Capacitor discharge test
5.6.6	Resistance of protective conductors
5.7.4	Unearthed accessible parts
5.7.5	Earthed accessible conductive part
6.2.2	Power source circuit classifications
8.6.2.2	Static stability test
8.6.2.3	Downward Force Test
8.6.3	Relocation stability test
8.6.4	Glass slide test
8.6.5	Horizontal force test
8.7	Wall or ceiling mount loading test
8.8	Handles strength
B.2.5	Input tests
B.3	Simulated Abnormal operating condition tests
B.4	Simulated single fault conditions
F.3.9	Durability, legibility and permanence of markings
M.3	Battery test
Q.1	Limited power source test (LPS)
T.2	Steady force test, 10N

Testing location:

Shenzhen Haiyun Testing Co., Ltd.

Room201, #3 Factory, Gongjin Electronics, Shatian, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China

T.3	Steady force test, 30N	
T.5	Steady force test, 250N	
T.6	Impact test	
T.8	Stress relief test	
T.9	Glass Impact Test	
The EUT passed tests above.		
Summary of compliance with National Differences (List of countries addressed): EU Group Differences, EU Special National Conditions, DE, DK, FI, FR, GB, NO, SE, CA, US, SA, JP, AU, NZ, KR, CN. Explanation of used codes: DE=Germany, DK=Denmark, FI=Finland, FR=France, GB= United Kingdom, NO=Norway, SE=Sweden, CA=Canada, US=United State of America, SA= Saudi Arabia, JP= Japan, AU=Australia, NZ=New Zealand, KR= Republic of Korea, CN=China, Singapore*. *: No National or Group Differences declared For National Differences see attachment 1 of this test report. ☒ The product fulfils the requirements of EN IEC 62368-1:2020+A11:2020, BS EN IEC 62368-1:2020+A11:2020. ☒ The product fulfils the requirements of UL 62368-1 3rd Edition, Revised October 22, 2021. ☒ The product fulfils the requirements of CAN/CSA C22.2 No. 62368-1:19, 3rd Edition, Revised October 22, 2021. ☒ The product fulfils the requirements of J62368-1(2023). ☒ The product fulfils the requirements of National standard SASO-IEC-62368-1. ☒ The product fulfils the requirements of AS/NZS 62368.1:2022. ☒ The product fulfils the requirements of KC 62368-1(2021-08). ☒ The product fulfils the requirements of GB 4943.1-2022.		

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 M862

VOLTS 볼트 输入电压 輸入電壓 : 100-240V~

AMPERES 암페어 电流 電流 : 5.9-2.4A

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 ELECTRIQUES, NE PAS OUVRIR CE BOITIER.
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.

PRECAUCIÓN: PARA PREVENIR DESCARGA ELÉCTRICA, NO QUITE EL RECIENTO.
NINGUNAS PIEZAS DEL USUARIO SERVICABLE ADENTRO.

VAROITUS: LAITE ON LITETTÄVÄ SUOJAKOKEITIMILLA VARUSTETTUUN HISTORASIAAN.

VARNING: APPARATEN SKALL ANSLUTAS TILL JORDAT UTTAG.

ADVASEL: APPARATET MÅ TILKOPLES JORDET STIKKONTAKT.

ADVASEL: APPARATETS STIKKPROP SKAL TILSLUTTES EN STIKKONTAKT
MED JORD SOM GIVER FORBINDELSE TIL STIKKPROPPENS JORD.

△注意：请勿打开后盖，小心高压电击，机内并无用户配件。

△注意：請勿打開後蓋，小心高壓電擊，機內並無用戶配件。

△警語：使用過度恐傷害視力。

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

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

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

تنبيه

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

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

CAN ICES (B) / NMB (B)



E227390
US I.T.E.
H



CRESTRON
CONNECTED

HDMI™

BRAND OWNER:
SHARP CORPORATION
1 Takumi-cho, Sakai-ku, Sakai-City, Osaka 590-8522, Japan

シャープ株式会社

大阪府堺市堺区匠町 1 番地

夏普株式会社

日本大阪府堺市堺区匠町1番地

Contact address for EU

Sharp NEC Display Solutions Europe GmbH

Landshuter Allee 12-14, 80637 Munich, Germany

Contact address for UK

Sharp Electronics (Europe) Limited

6-9 The Square, Stockley Park, Uxbridge, UB11 1FW, United Kingdom

www.sharpeddisplays.eu

生産廠：惠州市康冠科技有限公司 生产厂：惠州市康冠科技有限公司

生产地址：广东省惠州市惠城区三栋镇惠南高新科技产业园广泰路38号

제조/국가：HUIZHOU KTC TECHNOLOGY Co., Ltd. / 중국

LCD MONITOR
インフォメーションディスプレイ

液晶显示器 彩色顯示器

모니터 (86 인치 LCD 모니터)

(MODEL / 型号 / 型號 / 모델명: PN-M862)

FOR JAPAN ONLY



高圧注意

サービスマン以外の方は分解しないでください。内部には高電圧部分があり、万一さわると危険です。

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 : 100-240V~

定格電流 : 5.9-2.4A

定格周波数 : 50/60Hz

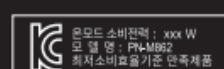


UL Japan
JP24046

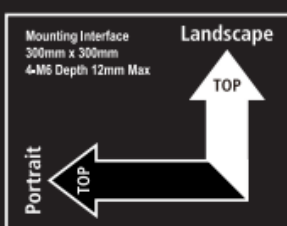


SHARP

IP30



AR 2175



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

Note:

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.

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	☒ 16A (13A for UK, 20A for US/CSA and JP);		
	Location: ☒ building	☐ equipment	
	☐ N/A		
Equipment mobility	☐ movable	☐ hand-held	☐ transportable
	☐ direct plug-in	☒ stationary	☐ 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	☐ IPX0	☒ IP30__	
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)	Unit Approx. 47.45kg		
	Base stand(optional): 4.59kg		

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: 2025-03-06 Date (s) of performance of tests: 2025-03-06 to 2025-04-22	
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 IEC60335-1:	
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)	1. HUIZHOU KTC TECHNOLOGY CO.,LTD. NO.38 GUANGTAI ROAD,HUINAN HI-TECH INDUSTRIAL PARK,HUIZHOU,CHINA 2. Shenzhen KTC Commercial Display Technology CO., LTD. The B district of the first floor, third floor and fourth floor, 1# Building, NO. 4023, Wuhe Street, Bantian, longgang District, Shenzhen City, Guangdong Province, China 3. SHARP CORPORATION NARA PLANT 492 MINOSHO-CHO, YAMATOKORIYAMA-SHI, NARA 639-1186 JAPAN 4. SHARP OFFICE EQUIPMENTS (CHANGSHU) CO., LTD. NO272 HUANGHE ROAD, CHANGSHU ECONOMIC DEVELOPMENT ZONE, CHANGSHU CITY JIANGSU 215500 CHINA 5. SHARP MANUFACTURING FRANCE S A ROUTE DE BOLLWILLER, SOULTZ, 68360 FRANCE 6. SHARP MANUFACTURING (THAILAND) CO., LTD. 58, MOO 3, TAMBOL SAMPATUAN, AMPHUR NAKORNCHAISRI, NAKORNPATTHOM 73120, THAILAND 7. NANJING SHARP ELECTRONICS CO., LTD. 318 YAOXIN ROAD, NANJING ECONOMIC & TECHNICAL DEVELOPMENT ZONE, JIANGSU, CHINA 8. ADI Systems Mexico, S.A. de C.V. Carretelra Tijuana Ensenada 8040, Col. EL Tecolote, Tijuana, B.C.Mexico C.P. 22644
General product information and other remarks:	
The equipment is LCD MONITOR with 86 inches LCD with LED backlight for use in scope of Audio/video, information and communication technology equipment. The equipment was evaluated for a maximum operating altitude of 5000 m. Therefore the requirements of sub clause 5.4.2.5 for clearances were considered and the required clearance was multiplied with an altitude correction factor of 1.48. The Unit has following features: 1. The equipment contains SERVICE port x 1 (USB port) (load with 5Vdc 0.5A), Audio output terminal x1, LAN terminal x2, REMOTE input terminal x1 , HDMI IN1 terminal (ARC) x1 , HDMI IN2 terminal x1 , HDMI output terminal x1 , DisplayPort input terminal x1, DisplayPort output terminal x1, USB-C1 port x1(load with 5V/9V/12V/15Vdc, 3A; 20Vdc, 3.25A) , USB-A port x1 (load with 5Vdc, 0.9A), USB-C2 port x1 (load with 5Vdc,1.5A) on bottom enclosure, and RS-232C input terminal x1 , Raspberry Pi Compute Module Slot/ Option Board Slot x1 on the side enclosure. 2. Metal enclosure used as fire enclosure, mechanical enclosure and electrical enclosure fixed by screw. 3. Wall mounted function or base stand is provided, so the equipment mobility is classified as wall-mounted or stationary. 4. The suitable power supply cord shall be provided and evaluated during national approval. 5. The equipment was evaluated in landscape (horizontal) and portrait (vertical) orientations, viewed from the front. Stability related tests (clause 8.6) are only conducted in the horizontal. Wall mounted tests (clause 8.7) is conducted in the landscape (horizontal) and portrait (vertical) orientations, and $\pm 30^\circ$ for both landscape and portrait orientations. Relevant information on installation procedures can be found in the user manual. 6. The power consumed by the KT-RC3 and PN-ZRO3 connected to the REMOTE port is very small and no light-emitting components, so it does not affect the test results.	

7. There are two slots on the side of equipment for installing an optional "Option Board" and "Raspberry Pi Compute Module", "Option Board" and "Raspberry Pi Compute Module" are available separately and must be physically installed in the monitor by a qualified technician, the technical specifications of them as below:

Power supply for Optional Board: Max. 12Vdc, 5.5A;
Power supply for Raspberry Pi Compute Module: Max. 12Vdc, 1.67A;
Power supply for Optional Board and Raspberry Pi Compute Module: Max. 12Vdc, 5.5A(Total).
Raspberry Pi board: as ES1 circuit; with PS2 output ports.
8. The dustproof and waterproof rating of this product is evaluated as IP30, see IEC 60529:2013 test report (Report No.: RET250306030-03-001), issued on April 29, 2025 by ISO/IEC17025 CNAS accredited laboratory: Shenzhen Haiyun Testing Co., Ltd.

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: Power board Primary circuits when connected to mains, Power board LED terminal	Ordinary person	N/A	N/A	Enclosure, See 5.4.2, 5.4.3, 5.5.3, and 5.5.4
ES3: Primary circuits (X capacitor)	Ordinary person	N/A	N/A	Considered in approved power supply.
ES1: Output terminals (STB, V12, V24) of power board, other circuits of PWB boards except for LED board and power board	Ordinary person	N/A	N/A	N/A
ES1: Accessible part	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: > 100 Watt circuit (Primary and secondary circuits)	PCB	See 6.3	Min. V-1	N/A
PS3 circuit	Other combustible materials within equipment	See 6.3	See 6.4.5, 6.4.6	N/A
PS3: > 100 Watt circuit (Primary and secondary circuits)	Internal/external wiring	N/A	N/A	See 6.5
PS2 circuit	Output terminals USB-C1 port, optional slot for OPS board and optional board	See 6.3	See 6.4.5, 6.4.6	N/A
PS1 circuit	Output terminals (SERVICE(USB) port, Audio output terminal, LAN terminal x2, REMOTE input terminal, HDMI IN1 terminal (ARC), HDMI IN2 terminal, HDMI output terminal, DisplayPort input terminal, DisplayPort output terminal, USB-C1 port, USB-A port, USB-C2 port, RS-232C input terminal)	N/A	N/A	N/A
7	Injury caused by hazardous substances			
Class and Energy Source	Body Part	Safeguards		

(e.g. Ozone)	(e.g., Skilled)	B	S	R
Supercapacitor (used in main board)	Ordinary person	N/A	N/A	(Complied with 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
MS3: Equipment mass (>25 kg)	Ordinary person	Means to stabilize the equipment	Instructional safeguard	See 8.6
MS1: Smooth edges and corners of enclosure	Ordinary person	N/A	N/A	N/A
MS3: Wall mount	Ordinary person	Provided robust mounting means	Instructional safeguards	See 8.7
MS3: Handles	Ordinary person	N/A	N/A	See 8.8
MS1: DC Fan	Ordinary person	N/A	N/A	N/A
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS1: External accessible parts	Ordinary person	N/A	N/A	N/A
TS3: Internal parts/ circuits	Ordinary person	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: LCD panel ($<10^4 \text{cd/m}^2$)	Ordinary person	N/A	N/A	N/A
RS1: LED indicating lights	Ordinary person	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

SEE OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS☒ ES☒ PS☒ MS☒ TS☒ RS

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	(See appended table 4.1.2)	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment. See also Annex G	P
4.1.3	Equipment design and construction	No accessible part which could cause injury. Also see sub-clause B.2, B.3 and B.4	P
4.1.4	Specified ambient temperature for outdoor use (°C) :	Indoor used.	N/A
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids and liquid filled components (LFC)		N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness	See below.	P
4.4.3.1	General	See below.	P
4.4.3.2	Steady force tests	See Clause T.5	P
4.4.3.3	Drop tests		N/A
4.4.3.4	Impact tests	See Annex T.6.	P
4.4.3.5	Internal accessible safeguard tests	No such part.	N/A
4.4.3.6	Glass impact tests	Used laminated glass	N/A
4.4.3.7	Glass fixation tests		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	No damaged. The class 3 energy sources could not become accessible to an ordinary person, and all other safeguards remain effective during and after above tests.	P
4.4.4	Displacement of a safeguard by an insulating liquid		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.4.5	Safety interlocks		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.4)	P
4.6	Fixing of conductors		P
	Fix conductors not to defeat a safeguard		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 such 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 lithium coin/button batteries are 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		P

5	ELECTRICALLY-CAUSED INJURY		P
5.2	Classification and limits of electrical energy sources		P
5.2.2	ES1, ES2 and ES3 limits	See below.	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

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Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.4	Single pulse limits		N/A
5.2.2.5	Limits for repetitive pulses		N/A
5.2.2.6	Ring signals		N/A
5.2.2.7	Audio signals	(See Clause E)	P
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits	ES3 source cannot access by ordinary persons Double or reinforced safeguard is provided between ES3 and ordinary persons.	P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		P
5.3.2.1	Accessibility to electrical energy sources and safeguards		P
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements	See below.	P
	Test with test probe from Annex V		--
5.3.2.2 a)	Air gap – electric strength test potential (V)		N/A
5.3.2.2 b)	Air gap – distance (mm)	> 5.0mm	P
5.3.2.3	Compliance		P
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Material is non-hygroscopic	Hygroscopic materials are not used for insulating material. Also see sub-clause 5.4.8 and 5.4.9.1	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	Pollution degree 2 considered	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	Considered in approved power supply.	P
5.4.1.9	Insulating surfaces	Considered.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	Considered in approved power supply.	P
5.4.1.10.2	Vicat test.....:		N/A
5.4.1.10.3	Ball pressure test	(See appended table 5.4.10.3)	P
5.4.2	Clearances	See below.	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	2000V	—
5.4.2.3	Procedure 2 for determining clearance		P
5.4.2.3.2.2	a.c. mains transient voltage	2500V for Overvoltage Cat. II	—
5.4.2.3.2.3	d.c. mains transient voltage	No such transient	—
5.4.2.3.2.4	External circuit transient voltage.....	No such transient	—
5.4.2.3.2.5	Transient voltage determined by measurement		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	Refer to 5.4.2.3	N/A
5.4.2.5	Multiplication factors for clearances and test voltages	1.48	P
5.4.2.6	Clearance measurement	(See appended table 5.4.2, 5.4.3)	P
5.4.3	Creepage distances		P
5.4.3.1	General	See below.	P
5.4.3.3	Material group	Material group IIIb assumed.	—
5.4.3.4	Creepage distances measurement	(See appended table 5.4.2, 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	(See appended table 5.4.4.2)	P
5.4.4.3	Insulating compound forming solid insulation	Considered in approved power supply.	P
5.4.4.4	Solid insulation in semiconductor devices	Considered in approved power supply.	P
5.4.4.5	Insulating compound forming cemented joints		N/A
5.4.4.6	Thin sheet material	Considered in approved power supply.	P
5.4.4.6.1	General requirements		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.6.2	Separable thin sheet material	Considered in approved power supply.	P
	Number of layers (pcs)	Considered in approved power supply.	P
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	Considered in approved power supply.	P
5.4.4.9	Solid insulation at frequencies >30 kHz, EP, KR, d, VPW (V)	Considered in approved power supply. (See appended table 5.4.4.9)	P
	Alternative by electric strength test, tested voltage (V), KR	Considered in approved power supply.	P
5.4.5	Antenna terminal insulation	Considered in approved power supply.	P
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
5.4.5.3	Insulation resistance (MΩ).....		N/A
	Electric strength test		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning	Humidity treatment performed for 120hrs for equipment with every transformer and insulation tape source, after humidity test, Hi-pot test has been performed.	P
	Relative humidity (%), temperature (°C), duration (h)	93%, 40°C, 120hrs.	—
5.4.9	Electric strength test	See below.	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 intend connected to external circuits	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		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 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	See the following details.	P
5.5.2	Capacitors and RC units	Considered in approved power supply.	P
5.5.2.1	General requirement	Considered in approved power supply.	P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector	Considered in approved power supply.	P
5.5.3	Transformers	Considered in approved power supply.	P
5.5.4	Optocouplers	Considered in approved power supply.	P
5.5.5	Relays	Considered in approved power supply.	P
5.5.6	Resistors		N/A
5.5.7	SPDs	Considered in approved power supply.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A
	RCD rated residual operating current (mA)		—
5.6	Protective conductor	See below.	P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation	Green and yellow	P
5.6.3	Requirement for protective earthing conductors	The earth pin of the approved appliance inlet.	P
	Protective earthing conductor size (mm ²)	(See appended table 5.6.6)	—
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirements for protective bonding conductors		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm ²).	Min. 18 AWG (cross-sectional area 0.75mm ²) used.	—
5.6.4.2	Protective current rating (A)	16A (20A for USA and Canada)	P
5.6.5	Terminals for protective conductors	AC inlet pin provided as protective earthing terminal.	P
5.6.5.1	Terminal size for connecting protective earthing conductors (mm)	AC inlet pin provided as protective earthing terminal.	P
	Terminal size for connecting protective bonding conductors (mm)	AC inlet pin provided as protective earthing terminal. Min. 18 AWG (cross-sectional area 0.75mm ²) used. Nominal thread diameter: min. 3.5mm.	P
5.6.5.2	Corrosion	No combination above the line in Annex N is used.	P
5.6.6	Resistance of the protective bonding system	See below.	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
	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	Figure 5 of IEC 60990 was used in determining of the limit of ES2. Figure 4 of IEC 60990 was used in determining of the limit of ES1.	P
5.7.2.2	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		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		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		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 supplies	N/A
	Air gap (mm)..... :		N/A
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		P
6.2.3.1	Arcing PIS :	(See appended table 6.2.3.1)	P

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Clause	Requirement + Test	Result - Remark	Verdict
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 5.4.1.4, 9.3, B.1.5, B.2.6)	P
	Combustible materials outside fire enclosure	(See appended table 4.1.2)	P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard method	Method by control of fire spread applied. Fire enclosure provided.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	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		P
6.4.5.2	Supplementary safeguards	Compliance detailed as follows: – Printed board: rated min. V-1 – Wire insulation (tubing): complying with Clause 6 (See Table 4.1.2 for tubing used). – All other components: at least V-2 except for mounted on min. V-1 material or small parts of combustible material. – Isolating transformer: complying with G.5.3. (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 (tubing): complying with Clause 6 (See Table 4.1.2 for tubing used). – All other components: at least V-2 except for mounted on min. V-1 material or small parts of combustible material. – Isolating transformer: complying with G.5.3. – Fire enclosure provided. (See appended tables 4.1.2 and Annex G).	P
6.4.7	Separation of combustible materials from a PIS		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	Metal enclosure was evaluated as a fire enclosure.	P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure		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		N/A
6.4.8.3.3	Top openings and properties		P
	Openings dimensions (mm)..... :	Maximum diameter 2.4mm, openings didn't exceed 5mm in any dimension.	P
6.4.8.3.4	Bottom openings and properties		P
	Openings dimensions (mm)..... :	Maximum diameter 1.8mm, openings didn't exceed 3mm in any dimension.	P
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard..... :		N/A
6.4.8.3.5	Side openings and properties		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Openings dimensions (mm)..... :	Maximum diameter 2.4mm, openings didn't exceed 3mm in any dimension. Metal barriers are used around the lock hole to separate it from PIS.	P
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)..... :	No such door or cover can be opened by ordinary persons.	P
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating :	Metal enclosure was evaluated as a fire enclosure.	P
6.4.9	Flammability of insulating liquid..... :		N/A
6.5	Internal and external wiring		P
6.5.1	General requirements	The material of VW-1 on internal or external wiring were considered compliance equivalent to IEC/TS 60695-11-21 relevant standards.	P
6.5.2	Requirements for interconnection to building wiring :	No such interconnection to building wiring.	N/A
6.5.3	Internal wiring size (mm ²) for socket-outlets..... :	No such interconnection to building wiring.	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		P
8.4.1	Safeguards	No sharp edges and corners in accessible area.	P
	Instructional Safeguard..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.4.2	Sharp edges or corners	No sharp edges and corners in accessible area.	P
8.5	Safeguards against moving parts		N/A
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts	DC fan is classified as MS1: M=0.029kg, r=30mm, N=4600 (for maximum speed) $K = 6 \times 10^{-7}(m r^2 N^2)=250.56$ $N/15000+K/2400=0.371 < 1$	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		N/A
	Explosion test.....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.5.3	Glass particles dimensions (mm)		N/A
8.6	Stability of equipment		P
8.6.1	General	MS3 classification for equipment mass	P
	Instructional safeguard.....	Relevant warnings were mentioned in user manual	P
8.6.2	Static stability		P
8.6.2.2	Static stability test	The equipment is 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. During the tests, the equipment was not tip over.	P
8.6.2.3	Downward force test		P
8.6.3	Relocation stability	For Floor standing used.	P
	Wheels diameter (mm)		—
	Tilt test		N/A
8.6.4	Glass slide test	During the tests, the equipment was not tip over.	P
8.6.5	Horizontal force test	89N, during the tests, the equipment was not tip over.	P
8.7	Equipment mounted to wall, ceiling or other structure		P
8.7.1	Mount means type	Screws: M8 x 16-18mm, quantity 4.	P
8.7.2	Test methods	Test 2 and test 3 were performed.	P
	Test 1, additional downwards force (N).....		N/A
	Test 2, number of attachment points and test force (N).....	Direction: four shear force, an inward directed push force and an outward directed pull force; applied force: 453N.	P
	Test 3 Nominal diameter (mm) and applied torque (Nm).....	8.0 mm diameter of screw and 2.5 Nm of torque was applied, for a total of 5 times.	P
8.8	Handles strength		P
8.8.1	General		P
8.8.2	Handle strength test		P
	Number of handles.....	4 handles.	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Force applied (N)	Applied Force: (47.45+4.59+100)kg*9.8N/kg/ 4=373N for each handle.	P
8.9	Wheels or casters attachment requirements		N/A
8.9.2	Pull test	No such devices	N/A
8.10	Carts, stands and similar carriers		N/A
8.10.1	General	No carts, stands and similar carriers used	N/A
8.10.2	Marking and instructions		N/A
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)		—

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	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	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	P

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Clause	Requirement + Test	Result - Remark	Verdict
9.5.2	Instructional safeguard.....:		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
9.6.3	Test method and compliance		N/A

10	RADIATION		P
10.2	Radiation energy source classification		P
10.2.1	General classification	LED used for indicating light and LCD panel, classify RS1 classification. For LED backlight, the luminance is far below 10^4cd/m^2 . With reference to sub clause 4.1 of IEC 62471: 2006 no further test is necessary.	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		N/A
10.4	Safeguards against optical radiation from lamps and lamp systems (including LED types)		P
10.4.1	General requirements	Exempt Group	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		N/A
10.4.3	Instructional safeguard		N/A
10.5	Safeguards against X-radiation		N/A
10.5.1	Requirements		N/A
	Instructional safeguard for skilled persons		—
10.5.3	Maximum radiation (pA/kg)		—

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Clause	Requirement + Test	Result - Remark	Verdict
10.6	Safeguards against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A).....:		N/A
	Unweighted RMS output voltage (mV).....:		N/A
	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 $MEL \geq 100$ 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 5.4.1.4, 9.3, B.1.5, B.2.6)	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	+10% and -10% for a.c. mains.	P
B.2.5	Input test	(See appended table B.2.5)	P

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Clause	Requirement + Test	Result - Remark	Verdict
B.3	Simulated abnormal operating conditions		P
B.3.1	General	See below.	P
B.3.2	Covering of ventilation openings	(See appended table B.3, B.4)	P
	Instructional safeguard :		N/A
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals	(See appended table B.3, B.4)	P
B.3.6	Reverse battery polarity	(See Annex M)	P
B.3.7	Audio amplifier abnormal operating conditions	(See Annex E)	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	See below.	P
B.4.2	Temperature controlling device		N/A
B.4.3	Blocked motor test	(See appended table B.3, B.4)	P
B.4.4	Functional insulation	(See appended table B.3, B.4)	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	(See appended table B.3, B.4)	P
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		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	See Annex M.	P
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus :		N/A
C.2.2	Mounting of test samples		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
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)..... :	Speaker: 10.77W	—
	Rated load impedance (Ω) :	Speaker: 6 Ω , 2pcs	—
	Open-circuit output voltage (V)..... :	8.04Vrms	—
	Instructional safeguard :	ES1	—
E.2	Audio amplifier normal operating conditions		P
	Audio signal source type :	1kHz sine waveform	—
	Audio output power (W)..... :	Speaker: 1.34W	—
	Audio output voltage (V) :	Speaker: 2.84Vrms	—
	Rated load impedance (Ω) :	Speaker: 6 Ω , 2pcs	—
	Requirements for temperature measurement	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
E.3	Audio amplifier abnormal operating conditions	1kHz sine waveform	P
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General		P
	Language :	English version provided. (Version in other language will be provided when submitted for national approval)	—
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	Marking is on rear enclosure which is not removable part	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.2	Equipment identification markings	See below.	P
F.3.2.1	Manufacturer identification	See copy of marking plate	P
F.3.2.2	Model identification	See copy of marking plate	P
F.3.3	Equipment rating markings	See below	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	See copy of marking plate	P
F.3.3.4	Rated voltage.....	See copy of marking plate	P
F.3.3.5	Rated frequency	See copy of marking plate	P
F.3.3.6	Rated current or rated power.....	See copy of marking plate	P
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device	No such device.	N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings		N/A
F.3.5.2	Switch position identification marking.....	Symbols O and I used according to IEC 60417 on power switch.	P
F.3.5.3	Replacement fuse identification and rating markings	Considered in approved 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	No permanently connected equipment	N/A
F.3.5.6	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification	See below.	P
F.3.6.1	Class I equipment		P
F.3.6.1.1	Protective earthing conductor terminal	Protective earthing symbol marked on the appliance inlet.	P
F.3.6.1.2	Protective bonding conductor terminals		P
F.3.6.2	Equipment class marking		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		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

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.10	Test for permanence of markings	The marking plate was subjected to the permanence of marking test. The marking plate was rubbed with cloth soaked with water for 15 s and then again for 15 s with the cloth soaked with petroleum spirit. After each test, there was no damage to the marking plate. The marking on the label did not fade. There was no curling of the marking plate and removed by hand.	P
F.4	Instructions		P
	a) Information prior to installation and initial use	User manual is available	P
	b) Equipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection	Provided in user's manual.	P
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place	Provided in user's manual.	P
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard	Provided in user's manual.	P
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment		P
	j) Permanently connected equipment not provided with all-pole mains switch		N/A
	k) Replaceable components or modules providing safeguard function		N/A
	l) Equipment containing insulating liquid		N/A
	m) Installation instructions for outdoor equipment		N/A
F.5	Instructional safeguards		P
G	COMPONENTS		P
G.1	Switches		P
G.1.1	General	Approved switch used. (See appended table 4.1.2)	P
G.1.2	Ratings, endurance, spacing, maximum load		P
G.1.3	Test method and compliance		N/A
G.2	Relays		P
G.2.1	Requirements	Considered in approved power supply.	P

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Clause	Requirement + Test	Result - Remark	Verdict
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-off provided within the equipment.	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 links 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
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors	No PTC thermistors used.	N/A
G.3.4	Overcurrent protection devices	Considered in approved power supply.	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	See below.	P
G.4.2	Mains connector configuration..... :	Approved according to IEC/EN 60320-1 primary inlet was used.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	No mismatching of connectors, plugs or sockets possible.	P
G.5	Wound components		P
G.5.1	Wire insulation in wound components	Considered in approved power supply.	P
G.5.1.2	Protection against mechanical stress	Considered in approved power supply.	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
	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	Considered in approved power supply.	P
G.5.3.1	Compliance method		N/A
	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
	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		P
G.5.4.1	General requirements	Certified component DC Fan.	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
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	The winding wire is considered in the approved power supply. (See appended table 4.1.2).	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		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	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	Not such equipment.	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, <i>D</i> (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

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	Varistors		P
G.8.1	General requirements	Considered in approved power supply.	P
G.8.2	Safeguards against fire	Use Metal Enclosure	P
G.8.2.1	General		N/A
G.8.2.2	Varistor overload test		N/A
G.8.2.3	Temporary overvoltage test		N/A
G.9	Integrated circuit (IC) current limiters		N/A
G.9.1	Requirements		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 device.	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
G.11	Capacitors and RC units		P
G.11.1	General requirements	Considered in approved power supply.	P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors	Considered in approved power supply.	P
G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5 with specifics	Considered in approved power supply.	P
	Type test voltage $V_{ini,a}$:		—
	Routine test voltage, $V_{ini,b}$:		—
G.13	Printed boards		P
G.13.1	General requirements	See below.	P
G.13.2	Uncoated printed boards	(see appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P

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Clause	Requirement + Test	Result - Remark	Verdict
G.13.3	Coated printed boards		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 coating on component terminals considered to affect creepage or clearances.	N/A
G.15	Pressurized liquid filled components		N/A
G.15.1	Requirements	No such device.	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
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	Considered in approved power supply.	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

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Clause	Requirement + Test	Result - Remark	Verdict
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringling signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage		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		P
J.1	General		P
	Winding wire insulation	Considered in approved power supply.	—
	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		—
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
	Instructional safeguard		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

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Clause	Requirement + Test	Result - Remark	Verdict
	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	Mains plug and appliance Inlet as disconnect device.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized	See table 5.5.2.2	P
L.4	Single-phase equipment	The disconnect device disconnects both poles simultaneously.	P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		P
L.8	Multiple power sources		N/A
	Instructional safeguard		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		P
M.1	General requirements		P
M.2	Safety of batteries and their cells		N/A
M.2.1	Batteries and their cells comply with relevant IEC standards		N/A
M.3	Protection circuits for batteries provided within the equipment	2pcs AAA size alkaline batteries used in remote controller, no hazardous.	P
M.3.1	Requirements		P
M.3.2	Test method		P
	Overcharging of a rechargeable battery		N/A
	Excessive discharging		N/A
	Unintentional charging of a non-rechargeable battery		P
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance		P

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Clause	Requirement + Test	Result - Remark	Verdict
M.4	Additional safeguards for equipment containing a portable secondary lithium battery		N/A
M.4.1	General		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
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

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Clause	Requirement + Test	Result - Remark	Verdict
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	Relevant warnings were mentioned in user manual	P
N	ELECTROCHEMICAL POTENTIALS		P
	Material(s) used	Complied.	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Value of X (mm)..... :	Considered.	—
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)	Maximum diameter: 2.4mm. Side and Rear openings didn't exceed 5 mm in any dimension.	—
P.2.3	Safeguards against the consequences of entry of a foreign object		N/A
P.2.3.1	Safeguard requirements	Not transportable equipment.	N/A
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A
	Transportable equipment with metalized plastic parts..... :		N/A
P.2.3.2	Consequence of entry test..... :		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	Metallized coatings and adhesives securing parts		N/A
P.4.1	General		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		P
Q.1.1	Requirements		P
	a) Inherently limited output		P
	b) Impedance limited output		N/A
	c) Regulating network limited output		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 table annex Q.1)	P
	Current rating of overcurrent protective device (A)		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
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)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
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	See Table 4.1.2 only.	N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the 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	(See appended table T.2, T.3, T.4, T.5)	P
T.4	Steady force test, 100 N		N/A
T.5	Steady force test, 250 N	(See appended table T.2, T.3, T.4, T.5)	P
T.6	Enclosure impact test	(See appended table T.6, T.9)	P
	Fall test		P
	Swing test		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

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Clause	Requirement + Test	Result - Remark	Verdict
	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 :		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		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		P
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		P
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		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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	LED output +/- to earth	Normal	--	0.01mApeak	SS	60Hz	ES1
		Abnormal: Max. non-clipped	--	0.01mApeak	SS	60Hz	
		Single fault: LED + to accessible terminals	--	0.01mApeak	SS	60Hz	
		Single fault: LED + to metal enclosure	--	0.01mApeak	SS	60Hz	
264Va.c./60Hz	SERVICE(USB) port (Main board) + to –/GND	Normal	5.19Vdc	--	SS	DC	ES1
		Abnormal (See appended table B.3)	5.19Vdc	--	SS	DC	
		Single fault – IC401 pin 1-6 SC	5.19Vdc	--	SS	DC	
264Va.c./60Hz	USB-A port (Main board) + to –/GND	Normal	5.16Vdc	--	SS	DC	ES1
		Abnormal (See appended table B.3)	5.16Vdc	--	SS	DC	
		Single fault – IC1300 pin 1-6 SC	5.16Vdc	--	SS	DC	
264Va.c./60Hz	USB-C1 port (Main board) + to –/GND	Normal	20.15Vdc	--	SS	DC	ES1
		Abnormal (See appended table B.3)	20.15Vdc	--	SS	DC	
		Single fault – IC1501 pin 6-30 SC	20.15Vdc	--	SS	DC	
264Va.c./60Hz	USB-C2 port (Main board) + to –/GND	Normal	5.12Vdc	--	SS	DC	ES1
		Abnormal (See appended table B.3)	5.12Vdc	--	SS	DC	
		Single fault – IC1308 pin 1-6 SC	5.12Vdc	--	SS	DC	
264Va.c./	HDMI OUT	Normal	5.08Vdc	--	SS	DC	ES1

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
60Hz	(Main board) + to –/GND	Abnormal (See appended table B.3)	5.08Vdc	--	SS	DC	
		Single fault – Q1007 pin 2-3 SC	5.08Vdc	--	SS	DC	
264Va.c./ 60Hz	DisplayPort OUT (Main board) + to – /GND	Normal	5.05Vdc	--	SS	DC	ES1
		Abnormal (See appended table B.3)	5.05Vdc	--	SS	DC	
		Single fault – IC1108 pin 1-6 SC	5.05Vdc	--	SS	DC	
264Va.c./ 60Hz	Speaker	Normal	2.84Vrms	--	SS	1KHz	ES1
		Abnormal: Max. non-clipped	8.04Vrms	--	SS	1KHz	
		Single fault: speaker SC	0Vrms	--	SS	--	
264Va.c./ 60Hz	All secondary output terminals to GND	Normal	--	0.017mApeak	SS	60Hz	ES1
		Abnormal: Max. non-clipped	--	0.017mApeak	SS	60Hz	
		Single fault: speaker SC	--	0.017mApeak	SS	60Hz	
264Va.c./ 60Hz	Screen with foil to GND	Normal	--	0.01mApeak	SS	60Hz	ES1
		Abnormal: Max. non-clipped	--	0.01mApeak	SS	60Hz	
		Single fault: speaker SC	--	0.01mApeak	SS	60Hz	
264Va.c./ 60Hz	Switch button to GND	Normal	--	0.01mApeak	SS	60Hz	ES1
		Abnormal: Max. non-clipped	--	0.01mApeak	SS	60Hz	
		Single fault: speaker SC	--	0.01mApeak	SS	60Hz	
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.							

5.4.1.8	TABLE: Working voltage measurement					N/A
Location		RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments	
--		--	--	--	--	

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
--	--	--	--	--
Supplementary information:				
Test voltage 240Vac/60Hz				

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)	
AC female connector for power board / NH600	CHANGZHOU DESSIN PLASTICS TECHNOLOGY CO LTD	3.0	125	1.8	
AC female connector for power board / FR3A	ZHONGSHAN ROILON ENGINEERING PLASTICS CO LTD	3.0	125	1.7	
AC female connector for power board / Grilon AS V0	EMS-CHEMIE (TAIWAN) LTD	3.0	125	1.2	
AC female connector for power board / B3(X)1	HENGDIAN GROUP TOSPO ENGINEERING PLASTICS CO LTD	3.0	125	1.0	
Supplementary information:					
--					

IEC 62368-1			
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_0 (V)	U_{rms} (V)	Freq ¹⁾ (Hz)	Required cl (mm)	cl (mm)	E.S. ²⁾ (V)	Required cr (mm)	cr (mm)
Basic/ Supplementary								
L/N before power supply board to metal enclosure (BI)	420	250	60	2.3 (1.5*1.48)	6.3	--	2.5	6.3
Primary part to metal enclosure (BI)	780	336	85.6K	2.3 (1.5*1.48)	6.4	--	3.4	6.4
Reinforced insulation:								
Primary live parts of power supply board to secondary wire (RI)	420	250	60	4.5 (3.0*1.48)	>10.0	--	5.0	>10.0
Supplementary information:								
1) Only for frequency above 30 kHz. 2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied). 3) Material Group IIIb considered. 4) All internal secondary wires are fixed in position by tape so that it is far away from primary circuit. 5) Equipment designed for use at an altitude of 5000m, that is to say, it is multiplied by the multiplication factor 1.48 of 5000m above sea level specified in table 16. 6) Before distance measurement, apply 10N force on the part.								

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)	
Insulation sheet	584	Basic Insulation	--	0.25	
Supplementary information					

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)	
Insulation sheet	--	94	0.35	--	--	584	
Supplementary information:							
Considered in approved power supply board.							

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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:			
Primary to Metal Enclosure		DC	2500 No
Insulation sheet		DC	2500 No
Reinforced:			
Mains input (L/N) to secondary terminals		DC	4000 No
Mains input (L/N) to LCD panel with metal foil		DC	4000 No
Supplementary information:			
1) By applying a d.c. voltage in one polarity and then repeat it in reverse polarity.			
2) All source of component and alternative materials listed in table 4.1.2 were considered.			

5.5.2.2	TABLE: Stored discharge on capacitors				P
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class
Phase to Neutral	264Vac, 60 Hz	N	on	4	ES1
Phase to Neutral	264Vac, 60 Hz	S (RX1 and RF1 open)	on	28	ES1
Phase to Neutral	264Vac, 60 Hz	N	off	0	ES1
Phase to Neutral	264Vac, 60 Hz	S (RX1 and RF1 open)	off	0	ES1
Supplementary information:					
X-capacitors installed for testing: CX1=1uF, CX3=0.47uF					
☒ bleeding resistor rating: RX1=RX2=RX3=RX4=RX5=RX6=RX7=RX8=200Kohm					
☒ ICX: UP2					
1) Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit Considered in approval power supply board					

5.6.6	TABLE: Resistance of protective conductors and terminations				P
Location	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
AC inlet to the farthest point of metal enclosure	32	2	0.133	0.004	
AC inlet to the farthest point of metal enclosure	40	2	0.290	0.006	
Supplementary information:					

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Clause	Requirement + Test	Result - Remark	Verdict
Supplementary Information: Limit is 0.1Ω.			

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)	
LCD panel with metal foil	Normal	264Va.c./60Hz	--	0.01mA _{pk}	60	ES1
	Abnormal: all test condition	264Va.c./60Hz	--	Max.0.01mA _{pk}	60	
	Single fault: all test condition	264Va.c./60Hz	--	Max.0.01mA _{pk}	60	
Switch button	Normal	264Va.c./60Hz	--	0.01mA _{pk}	60	ES1
	Abnormal: all test condition	264Va.c./60Hz	--	Max.0.01mA _{pk}	60	
	Single fault: all test condition	264Va.c./60Hz	--	Max.0.01mA _{pk}	60	
Output terminal	Normal	264Va.c./60Hz	--	0.017mA _{pk}	60	ES1
	Abnormal: all test condition	264Va.c./60Hz	--	Max.0.017mA _{pk}	60	
	Single fault: all test condition	264Va.c./60Hz	--	Max.0.017mA _{pk}	60	
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						

5.7.5	TABLE: Earthed accessible conductive part			P
Supply voltage (V)		264V/60Hz		—
Phase(s)		[X] 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 (e open, normal and reverse polarity p)	0.475mA _{pk} /0.473mA _{pk}	--
Supplementary Information: the touch current shall not exceed 5mA rms.				

5.8	TABLE: Backfeed safeguard in battery backed up supplies	N/A
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IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
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						

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	
SERVICE (USB) port (CN400)	Normal	4.52	1.48	6.69	3	PS1	
	Single fault –IC401 pin 1-6 SC	4.76	0.5	2.38	3	PS1	
USB-A port (CN1201)	Normal	4.33	1.35	5.85	3	PS1	
	Single fault – IC1300 pin 1-6 SC	4.78	0.9	4.30	3	PS1	
LAN 1 port (CN2300)	Normal	0	0	0	3	PS1	
LAN 2 port (CN2301)	Normal	0	0	0	3	PS1	
USB-C1 port (CN1400) (5V)	Normal	4.58	3.52	16.12	5	PS2	
	Single fault – IC1501 pin 6-30 SC	0	0	0	3	PS1	
USB-C1 port (CN1400) (9V)	Normal	8.10	3.52	28.51	5	PS2	
	Single fault – IC1501 pin 6-30 SC	0	0	0	3	PS1	
USB-C1 port (CN1400) (12V)	Normal	11.12	3.54	39.36	5	PS2	
	Single fault – IC1501 pin 6-30 SC	0	0	0	3	PS1	
USB-C1 port (CN1400) (15V)	Normal	14.11	3.52	49.47	5	PS2	
	Single fault – IC1501 pin 6-30 SC	0	0	0	3	PS1	
USB-C1 port (CN1400) (20V)	Normal	19.08	4.08	77.85	5	PS2	
	Single fault – IC1501 pin 6-30 SC	0	0	0	3	PS1	
USB-C2 port (CN1301)	Normal	4.31	1.82	7.84	5	PS2	
	Single fault – IC1308 pin 1-6 SC	0	0	0	3	PS1	
HDMI OUT port (CN1002)	Normal	4.34	0.45	1.95	3	PS1	
	Single fault – Q1007 pin 2-3 SC	4.76	0.45	2.14	3	PS1	
HDMI IN1 port (ARC)	Normal	5.03	0	0	3	PS1	

IEC 62368-1						
Clause	Requirement + Test	Result - Remark				Verdict
(CN1000)						
HDMI IN2 port (CN1001)	Normal	5.03	0	0	3	PS1
DisplayPort OUT	Normal	4.34	0.45	1.95	3	PS1
	Single fault – IC1108 pin 1-6 SC	4.75	0.45	2.14	3	PS1
Raspberry Pi output	Normal	11.26	6.10	68.69	5	PS2
	Single fault – IC1700 pin 1-7 SC	11.20	6.51	71.91	3	PS1
Speaker output	Normal– Max. non clipped output power	8.04	1.34	10.77	3	PS1
	Single fault- IC2201 pin 2-4 SC	0	0	0	3	PS1
Keyboard output (CN1800)	Normal	3.28	0.12	0.39	3	PS1
	Single fault- R1803 SC	3.31	0.15	0.50	3	PS1
DisplayPort IN port	Normal	0	0	0	3	PS1
REMOTE IN port (CN2401)	Normal	0	0	0	3	PS1
AUDIO OUT port (CN2201)	Normal	0	0	0	3	PS1
RS-232C port (CN2400)	Normal	0	0	0	3	PS1
Batteries output (used in remote controller)*	Normal	1.72	1.95	3.35	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.						
2) *: means that 2pcs fresh batteries were used in the remote controller for test.						

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 circuits within equipment	--	--	--	Yes (declaration)	
Supplementary information:					

6.2.3.2	TABLE: Determination of resistive PIS				P
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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Location	Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No
All internal circuits/ components	--	--	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:					
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
	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)
--	--	--	--	--	--
Supplementary information:					

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements					P
Supply voltage (V)..... :	90Va.c/ 50Hz Horizontal	264Va.c./ 60Hz Horizontal	90Va.c/ 50Hz Vertical	264Va.c./ 60Hz Vertical	—	
Ambient temperature during test T_{amb} (°C) :	--	--	--	--	—	
Maximum measured temperature T of part/at:	T (°C)				Allowed T_{max} (°C)	
The following parts Shift to 40°C.						
AC inlet	46.0	43.4	46.9	43.8	70	
AC input wire	52.9	46.9	53.4	47.2	80	
Grounding wire	50.5	49.4	50.6	49.7	80	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
CN101 body	56.0	48.8	56.2	49.2	85
LP1 coil	66.6	51.0	66.6	51.3	130
CX1 body	57.3	49.5	57.4	49.5	100
LP2 coil	69.3	51.9	69.3	51.9	130
PCB near RT1	58.3	52.8	58.5	52.9	130
LP3 coil	74.0	55.3	74.1	55.2	130
CY3 body	80.9	70.6	80.9	70.2	125
CX3 body	63.5	55.0	63.8	55.2	100
PCB near BD4	74.2	59.6	74.2	59.6	130
PCB near BD2	78.7	60.4	78.7	60.5	130
RV2 body	71.7	59.3	71.7	59.3	105
PCB near BD5	67.6	60.0	67.6	60.0	130
PCB near RT2	73.0	60.8	73.0	60.7	130
LP4 coil	79.0	61.7	78.9	61.5	130
LP6 coil	81.8	67.2	81.9	66.6	130
LP5 coil	51.3	49.1	51.4	49.1	130
LP7 coil	78.3	69.7	78.4	69.4	130
PCB near QP1	74.9	72.7	74.9	72.8	130
PCB near QP4	75.0	73.8	75.2	73.9	130
PCB near QP3	75.9	76.9	75.9	77.0	130
PCB near QH4	64.6	64.4	64.7	64.6	130
CP18 body	55.0	54.1	55.2	54.2	105
PCB near QF4	60.6	61.0	60.9	61.2	130
PCB near QF2	59.5	61.6	59.8	62.0	130
PF3 body	52.1	52.0	52.4	52.2	110
CY1 body	52.2	52.0	52.4	52.3	125
TF2 core	56.2	56.1	56.4	56.2	130
TF2 coil	57.3	57.1	57.2	56.9	130
TH1 coil	72.0	71.8	72.2	72.1	130
TH1 core	67.2	67.1	67.4	67.3	130
PH5 body	64.6	64.7	64.8	65.1	110
PH2 body	67.2	67.2	67.4	67.6	110
TH2 coil	88.2	88.0	88.4	88.1	130
TH2 core	83.6	83.4	83.9	83.8	130
TH3 coil	92.8	92.5	93.0	92.7	130

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Clause	Requirement + Test				Result - Remark		Verdict
TH3 core		88.2	88.0	88.5	88.4		130
PCB near DH12		88.1	88.0	88.5	88.2		130
PCB near DH6		83.3	83.2	83.7	83.3		130
PCB near QH13		68.0	67.9	68.4	68.0		130
PCB near DF16		57.6	57.4	58.0	57.5		130
Insulation sheet		62.1	61.7	62.3	62.0		80
PCB near QL10(Drive board)		81.7	81.5	81.9	81.5		105
PCB near QL9(Drive board)		73.7	73.4	73.9	73.6		105
PCB near UL3A(Drive board)		42.6	43.9	43.0	43.2		105
PCB near UL6(Drive board)		61.7	61.7	61.9	62.0		105
Internal secondary wire		59.4	59.4	59.6	59.6		80
CE1900 body(Main board)		63.9	63.9	64.3	64.2		105
CE2701 body(Main board)		65.2	65.1	65.5	65.2		105
PCB near IC400(Main board)		61.0	61.1	61.3	61.3		105
PCB near IC200(Main board)		60.6	60.7	60.9	61.0		105
PCB near IC2401(Main board)		57.9	57.9	58.1	58.1		105
PCB near HSL900(Main board)		57.5	57.7	57.8	58.0		105
DC Fan(Side)		49.2	49.6	49.4	49.7		Ref.
DC Fan(Top)		56.5	56.3	56.6	56.6		Ref.
Ambient		40.0	40.0	40.0	40.0		--
The following Accessible part Shift to 25°C.							
Metal enclosure outside TH3		40.0	39.0	40.2	39.4		60
Switch surface		31.9	31.2	32.0	32.1		77
Button		36.0	30.7	36.4	30.9		77
Handle		29.7	30.0	30.2	30.3		60
Display surface		36.7	36.2	36.9	37.3		71
Ambient		25.0	25.0	25.0	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:							
*Temperature limit for TS1 of accessible enclosure outside according to Table 38. (External surfaces of enclosure will be touched occasionally for very short periods (>1 s and <10 s)) Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (Tma) of 40°C.							

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Clause	Requirement + Test	Result - Remark	Verdict

Note 2: The temperatures were measured under the worst case normal mode defined in clause B.2.1.

Note 3. Temperature limits are calculated as follows:

Winding components providing safety isolation:

Class 155 (F) Tmax = 140°C - 10°C = 130°C (for TH1, TH2, TH3, TF2)

The load conditions used during testing as below:

Used LCD Panel (Type B). Tested HDMI model condition: 1kHz sine wave input , adjust volume to 1/8 max. non-clipped output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value. One SERVICE(USB) port loaded with 0.5A, USB-A Load 0.9A, USB-C1 Load 20Vdc, 3.25A, USB-C2 Load 1.5A, OPS (12Vdc, 5.5A) Load with 66W.

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
Used LCD Panel (Type B)								
HDMI mode:								
90	50	5.444	--	484.3	--	FP1	5.444	1kHz sine wave input, adjust volume to max. non-clipped output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value. SERVICE port loaded 0.5A, USB-A Load 0.9A, USB-C1 Load 20Vdc, 3.25A, USB-C2 Load 1.5A, OPS (12Vdc, 5.5A) Load with 66W.
90	60	5.449	--	484.6	--	FP1	5.449	
100	50	4.868	5.9	480.9	--	FP1	4.868	
100	60	4.872	5.9	480.7	--	FP1	4.872	
240	50	2.017	2.4	466.7	--	FP1	2.017	
240	60	2.023	2.4	467.8	--	FP1	2.023	
264	50	1.792	--	404.2	--	FP1	1.792	
264	60	1.856	--	458.9	--	FP1	1.856	
HDMI mode:								
90	50	5.166	--	459.4	--	FP1	5.166	1kHz sine wave input, adjust volume to 1/8 max. non-clipped output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value. SERVICE port loaded 0.5A, USB-A Load 0.9A, USB-C1 Load 20Vdc, 3.25A, USB-C2 Load 1.5A, OPS (12Vdc, 5.5A) Load with 66W.
90	60	5.164	--	459.4	--	FP1	5.164	
100	50	4.623	5.9	455.6	--	FP1	4.623	
100	60	4.625	5.9	456.1	--	FP1	4.625	
240	50	1.923	2.4	443.9	--	FP1	1.923	
240	60	1.928	2.4	444.2	--	FP1	1.928	
264	50	1.695	--	429.4	--	FP1	1.695	

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Clause		Requirement + Test						Result - Remark	Verdict
264	60	1.771	--	437.2	--	FP1	1.771		
DP mode:									
90	50	5.157	--	458.6	--	FP1	5.157	1kHz sine wave input, adjust volume to 1/8 max. non-clipped output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value. SERVICE port loaded 0.5A, USB-A Load 0.9A, USB-C1 Load 20Vdc, 3.25A, USB-C2 Load 1.5A, OPS (12Vdc, 5.5A) Load with 66W.	
90	60	5.156	--	458.5	--	FP1	5.156		
100	50	4.617	5.9	455.1	--	FP1	4.617		
100	60	4.618	5.9	455.6	--	FP1	4.618		
240	50	1.918	2.4	443.2	--	FP1	1.918		
240	60	1.922	2.4	443.5	--	FP1	1.922		
264	50	1.689	--	428.6	--	FP1	1.689		
264	60	1.767	--	436.5	--	FP1	1.767		
USB-A mode:									
90	50	5.136	--	456.4	--	FP1	5.136	1kHz sine wave input, adjust volume to 1/8 max. non-clipped output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value. SERVICE port loaded 0.5A, USB-C1 Load 20Vdc, 3.25A, USB-C2 Load 1.5A, OPS (12Vdc, 5.5A) Load with 66W.	
90	60	5.134	--	456.3	--	FP1	5.134		
100	50	4.595	5.9	453.0	--	FP1	4.595		
100	60	4.596	5.9	453.4	--	FP1	4.596		
240	50	1.895	2.4	441.0	--	FP1	1.895		
240	60	1.899	2.4	441.3	--	FP1	1.899		
264	50	1.665	--	426.5	--	FP1	1.665		
264	60	1.742	--	434.3	--	FP1	1.742		
USB-C2 mode:									
90	50	5.076	--	452.0	--	FP1	5.076	1kHz sine wave input, adjust volume to 1/8 max. non-clipped output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value. SERVICE port loaded 0.5A, USB-A Load 0.9A, USB-C1 Load 20Vdc, 3.25A, OPS (12Vdc, 5.5A) Load with 66W.	
90	60	5.074	--	451.8	--	FP1	5.074		
100	50	4.536	5.9	448.6	--	FP1	4.536		
100	60	4.537	5.9	448.8	--	FP1	4.537		
240	50	1.835	2.4	436.5	--	FP1	1.835		

IEC 62368-1									
Clause		Requirement + Test						Result - Remark	Verdict
240	60	1.838	2.4	436.8	--	FP1	1.838		
264	50	1.605	--	422.0	--	FP1	1.605		
264	60	1.682	--	429.8	--	FP1	1.682		
RS-232C mode:									
90	50	5.155	--	458.3	--	FP1	5.155	1kHz sine wave input, adjust volume to 1/8 max. non-clipped output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value. SERVICE port loaded 0.5A, USB-A Load 0.9A, USB-C1 Load 20Vdc, 3.25A, USB-C2 Load 1.5A, OPS (12Vdc, 5.5A) Load with 66W.	
90	60	5.154	--	458.3	--	FP1	5.154		
100	50	4.614	5.9	454.8	--	FP1	4.614		
100	60	4.616	5.9	455.1	--	FP1	4.616		
240	50	1.916	2.4	442.9	--	FP1	1.916		
240	60	1.919	2.4	443.1	--	FP1	1.919		
264	50	1.688	--	428.3	--	FP1	1.688		
264	60	1.764	--	436.2	--	FP1	1.764		
Used LCD Panel (Type L)									
HDMI mode:									
90	50	4.956	--	431.5	--	FP1	4.956	1kHz sine wave input, adjust volume to max. non-clipped output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value. SERVICE port loaded 0.5A, USB-A Load 0.9A, USB-C1 Load 20Vdc, 3.25A, USB-C2 Load 1.5A, OPS (12Vdc, 5.5A) Load with 66W.	
90	60	4.925	--	431.2	--	FP1	4.925		
100	50	4.445	5.9	429.8	--	FP1	4.445		
100	60	4.443	5.9	429.8	--	FP1	4.443		
240	50	1.926	2.4	422.3	--	FP1	1.926		
240	60	1.926	2.4	422.3	--	FP1	1.926		
264	50	1.865	--	370.5	--	FP1	1.865		
264	60	1.798	--	422.8	--	FP1	1.798		
HDMI mode:									
90	50	4.720	--	405.8	--	FP1	4.720	1kHz sine wave input, adjust volume to 1/8 max. non-clipped output power. The video signal is	
90	60	4.620	--	405.6	--	FP1	4.620		

IEC 62368-1										
Clause		Requirement + Test						Result - Remark		Verdict
100	50	4.204	5.9	405.7	--	FP1	4.204	three vertical bar signals, adjust the brightness and contrast to maximum value. SERVICE port loaded 0.5A, USB-A Load 0.9A, USB-C1 Load 20Vdc, 3.25A, USB-C2 Load 1.5A, OPS (12Vdc, 5.5A) Load with 66W.		
100	60	4.202	5.9	408.8	--	FP1	4.202			
240	50	1.867	2.4	408.8	--	FP1	1.867			
240	60	1.837	2.4	400.5	--	FP1	1.837			
264	50	1.790	--	355.4	--	FP1	1.790			
264	60	1.717	--	399.7	--	FP1	1.717			
DP mode:										
90	50	4.712	--	405.1	--	FP1	4.712	1kHz sine wave input, adjust volume to 1/8 max. non-clipped output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value. SERVICE port loaded 0.5A, USB-A Load 0.9A, USB-C1 Load 20Vdc, 3.25A, USB-C2 Load 1.5A, OPS (12Vdc, 5.5A) Load with 66W.		
90	60	4.612	--	404.8	--	FP1	4.612			
100	50	4.196	5.9	405.0	--	FP1	4.196			
100	60	4.194	5.9	408.2	--	FP1	4.194			
240	50	1.859	2.4	408.1	--	FP1	1.859			
240	60	1.829	2.4	399.8	--	FP1	1.829			
264	50	1.782	--	354.6	--	FP1	1.782			
264	60	1.709	--	399.0	--	FP1	1.709			
USB-A mode:										
90	50	4.690	--	402.8	--	FP1	4.690	1kHz sine wave input, adjust volume to 1/8 max. non-clipped output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value. SERVICE port loaded 0.5A, USB-C1 Load 20Vdc, 3.25A, USB-C2 Load 1.5A, OPS (12Vdc, 5.5A) Load with 66W.		
90	60	4.589	--	402.5	--	FP1	4.589			
100	50	4.175	5.9	402.7	--	FP1	4.175			
100	60	4.172	5.9	405.8	--	FP1	4.172			
240	50	1.836	2.4	405.6	--	FP1	1.836			
240	60	1.807	2.4	397.4	--	FP1	1.807			
264	50	1.760	--	352.4	--	FP1	1.760			
264	60	1.686	--	396.7	--	FP1	1.686			
USB-C2 mode:										

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Clause		Requirement + Test						Result - Remark		Verdict
90	50	4.631	--	398.2	--	FP1	4.631	1kHz sine wave input, adjust volume to 1/8 max. non-clipped output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value. SERVICE port loaded 0.5A, USB-A Load 0.9A, USB-C1 Load 20Vdc, 3.25A, OPS (12Vdc, 5.5A) Load with 66W.		
90	60	4.520	--	397.6	--	FP1	4.520			
100	50	4.114	5.9	397.6	--	FP1	4.114			
100	60	4.112	5.9	400.6	--	FP1	4.112			
240	50	1.775	2.4	400.8	--	FP1	1.775			
240	60	1.747	2.4	392.6	--	FP1	1.747			
264	50	1.697	--	347.4	--	FP1	1.697			
264	60	1.625	--	391.7	--	FP1	1.625			
RS-232C mode:										
90	50	4.710	--	404.7	--	FP1	4.710	1kHz sine wave input, adjust volume to 1/8 max. non-clipped output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value. SERVICE port loaded 0.5A, USB-A Load 0.9A, USB-C1 Load 20Vdc, 3.25A, USB-C2 Load 1.5A, OPS (12Vdc, 5.5A) Load with 66W.		
90	60	4.610	--	404.7	--	FP1	4.610			
100	50	4.194	5.9	404.7	--	FP1	4.194			
100	60	4.191	5.9	407.9	--	FP1	4.191			
240	50	1.857	2.4	407.6	--	FP1	1.857			
240	60	1.826	2.4	399.5	--	FP1	1.826			
264	50	1.780	--	354.3	--	FP1	1.780			
264	60	1.707	--	398.7	--	FP1	1.707			
Supplementary information:										
1). The maximum measured current under rated voltage did not exceed 110% of the rated current.										

B.3, B.4		TABLE: Abnormal operating and fault condition tests					P
Ambient temperature T_{amb} (°C):					See below		—
Power source for EUT: Manufacturer, model/type, output rating:					See label		—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
Speaker	SC	264Vac	10mins	FP1	1.674	The unit was working normally except speaker output shutdown, no damaged, no hazard. Touch current: All secondary output terminals to GND:	

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Clause	Requirement + Test				Result - Remark	Verdict
						0.017mA _{pk} , Screen with foil to GND: 0.01mA _{pk} , Switch button to GND: 0.01mA _{pk} . SERVICE (USB) output: 5.19V _{dc} , USB-A output: 5.16V _{dc} , USB-C1 output: 20.15V _{dc} , USB-C2 output: 5.12V _{dc} , HDMI OUT: 5.08V _{dc} , DisplayPort OUT: 5.05V _{dc} .
Speaker	Max. non-clipped	264Vac	2hrs 40mins	FP1	1.856	The unit was working normally, no damaged, no hazard. Speaker output: 8.04V _{rms} , 10.77W TF2 coil: 60.7°C, TH1 coil: 74.6°C, TH2 coil: 89.1°C, TH3 coil: 93.4°C, Ambient: 40.0°C. Metal enclosure outside TH3: 41.0°C, Switch surface: 32.7°C, Button: 31.0°C, Handle: 30.5°C, Display surface: 37.5°C, Ambient: 25.0°C. Touch current: All secondary output terminals to GND: 0.017mA _{pk} , Screen with foil to GND: 0.01mA _{pk} , Switch button to GND: 0.01mA _{pk} . SERVICE (USB) output: 5.19V _{dc} , USB-A output: 5.16V _{dc} , USB-C1 output: 20.15V _{dc} , USB-C2 output: 5.12V _{dc} , HDMI OUT: 5.08V _{dc} , DisplayPort OUT: 5.05V _{dc} .
Opening	blocked	264Vac	2hrs 15mins	FP1	1.771	The unit was working normally, no damaged, no hazard. TF2 coil: 63.0°C, TH1 coil: 76.2°C, TH2 coil: 92.9°C, TH3 coil: 97.4°C, Ambient: 40.0°C. Metal enclosure outside TH3: 40.5°C, Switch surface: 32.3°C,

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	Verdict
						Button: 31.5°C, Handle: 30.5°C, Display surface: 37.6°C, Ambient: 25.2°C. Touch current: All secondary output terminals to GND: 0.017mA _{pk} , Screen with foil to GND: 0.01mA _{pk} , Switch button to GND: 0.01mA _{pk} . SERVICE (USB) output: 5.19Vdc, USB-A output: 5.16Vdc, USB-C1 output: 20.15Vdc, USB-C2 output: 5.12Vdc, HDMI OUT: 5.08Vdc, DisplayPort OUT: 5.05Vdc.
DC Fan	Locked	264Vac	7hrs	FP1	1.797	The unit was working normally except DC Fan output shutdown, no damaged, no hazard. TF2 coil: 59.4°C, TH1 coil: 72.4°C, TH2 coil: 88.6°C, TH3 coil: 93.3°C, Ambient: 40.0°C. Metal enclosure outside TH3: 40.6°C, Switch surface: 32.4°C, Button: 30.6°C, Handle: 31.2°C, Display surface: 37.6°C, Ambient: 25.0°C. Touch current: All secondary output terminals to GND: 0.017mA _{pk} , Screen with foil to GND: 0.01mA _{pk} , Switch button to GND: 0.01mA _{pk} . SERVICE (USB) output: 5.19Vdc, USB-A output: 5.16Vdc, USB-C1 output: 20.15Vdc, USB-C2 output: 5.12Vdc, HDMI OUT: 5.08Vdc, DisplayPort OUT: 5.05Vdc.
USB-C1 output (20V)	Overload	264Vac	3hrs 55mins	FP1	1.771 to 1.789 to 1.821 to	Max. overload was 3.9A, the USB-C1 output shutdown when load to 4.0A. EUT was working normally, no damaged, no hazard.

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Clause	Requirement + Test				Result - Remark	
					1.673	TF2 coil: 59.2°C, TH1 coil: 74.9°C, TH2 coil: 88.9°C, TH3 coil: 93.6°C, Ambient: 40.0°C. Metal enclosure outside TH3: 40.8°C, Switch surface: 32.4°C, Button: 31.3°C, Handle: 30.5°C, Display surface: 37.8°C, Ambient: 25.0°C. Touch current: All secondary output terminals to GND: 0.017mA_{pk}, Screen with foil to GND: 0.01mA_{pk}, Switch button to GND: 0.01mA_{pk}. SERVICE (USB) output: 5.19V_{dc}, USB-A output: 5.16V_{dc}, USB-C1 output: 20.15V_{dc}, USB-C2 output: 5.12V_{dc}, HDMI OUT: 5.08V_{dc}, DisplayPort OUT: 5.05V_{dc}.
USB-C2 output	Overload	264Vac	3hrs 10mins	FP1	1.771 to 1.784 to 1.679	Max. overload was 1.8A, the USB-C2 output shutdown when load to 1.9A. EUT was working normally, no damaged, no hazard. TF2 coil: 59.2°C, TH1 coil: 72.4°C, TH2 coil: 88.4°C, TH3 coil: 93.3°C, Ambient: 40.0°C. Metal enclosure outside TH3: 40.4°C, Switch surface: 32.4°C, Button: 31.3°C, Handle: 30.4°C, Display surface: 37.7°C, Ambient: 25.0°C. Touch current: All secondary output terminals to GND: 0.017mA_{pk}, Screen with foil to GND: 0.01mA_{pk}, Switch button to GND: 0.01mA_{pk}.

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Clause	Requirement + Test				Result - Remark	
						SERVICE (USB) output: 5.19Vdc, USB-A output: 5.16Vdc, USB-C1 output: 20.15Vdc, USB-C2 output: 5.12Vdc, HDMI OUT: 5.08Vdc, DisplayPort OUT: 5.05Vdc.
USB (SERVICE) port	Overload	264Vac	3hrs 08mins	FP1	1.771 to 1.803 to 1.667	Max. overload was 1.4A, the USB 2.0 output shutdown when load to 1.5A, EUT was working normally, no damaged, no hazard. TF2 coil: 58.0°C, TH1 coil: 72.2°C, TH2 coil: 87.3°C, TH3 coil: 93.2°C, Ambient: 40.0°C. Metal enclosure outside TH3: 41.0°C, Switch surface: 33.0°C, Button: 30.7°C, Handle: 30.8°C, Display surface: 38.3°C, Ambient: 25.8°C. Touch current: All secondary output terminals to GND: 0.017mApk, Screen with foil to GND: 0.01mApk, Switch button to GND: 0.01mApk. SERVICE (USB) output: 5.19Vdc, USB-A output: 5.16Vdc, USB-C1 output: 20.15Vdc, USB-C2 output: 5.12Vdc, HDMI OUT: 5.08Vdc, DisplayPort OUT: 5.05Vdc.
USB-A output	Overload	264Vac	3hrs 15mins	FP1	1.771 to 1.777 to 1.660	Max. overload was 1.3A, the USB-A output shutdown when load to 1.4A, EUT was working normally, no damaged, no hazard. TF2 coil: 59.0°C, TH1 coil: 72.6°C, TH2 coil: 89.2°C, TH3 coil: 93.0°C, Ambient: 40.0°C. Metal enclosure outside TH3: 40.4°C, Switch surface: 32.4°C,

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Clause	Requirement + Test				Result - Remark	
						Button: 30.7°C, Handle: 30.6°C, Display surface: 37.6°C, Ambient: 25.0°C. Touch current: All secondary output terminals to GND: 0.017mA _{pk} , Screen with foil to GND: 0.01mA _{pk} , Switch button to GND: 0.01mA _{pk} . SERVICE (USB) output: 5.19V _{dc} , USB-A output: 5.16V _{dc} , USB-C1 output: 20.15V _{dc} , USB-C2 output: 5.12V _{dc} , HDMI OUT: 5.08V _{dc} , DisplayPort OUT: 5.05V _{dc} .
HDMI OUT	Overload	264Vac	2hrs 45mins	FP1	1.771 to 1.783 to 1.676	Max. overload was 0.45A, the HDMI OUT output shutdown when load to 0.46A, EUT was working normally, no damaged, no hazard. TF2 coil: 58.0°C, TH1 coil: 74.4°C, TH2 coil: 89.1°C, TH3 coil: 93.1°C, Ambient: 40.0°C. Metal enclosure outside TH3: 40.8°C, Switch surface: 32.7°C, Button: 31.8°C, Handle: 30.7°C, Display surface: 38.7°C, Ambient: 25.0°C. Touch current: All secondary output terminals to GND: 0.017mA _{pk} , Screen with foil to GND: 0.01mA _{pk} , Switch button to GND: 0.01mA _{pk} . SERVICE (USB) output: 5.19V _{dc} , USB-A output: 5.16V _{dc} , USB-C1 output: 20.15V _{dc} , USB-C2 output: 5.12V _{dc} , HDMI OUT: 5.08V _{dc} , DisplayPort OUT: 5.05V _{dc} .
DisplayPort OUT	Overload	264Vac	2hrs 48mins	FP1	1.771 to 1.781 to 1.676	Max. overload was 0.45A, the DisplayPort OUT output shutdown when load to 0.46A, EUT was working normally, no damaged, no hazard.

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Clause	Requirement + Test				Result - Remark	Verdict
					TF2 coil: 58.5°C, TH1 coil: 72.2°C, TH2 coil: 88.6°C, TH3 coil: 93.0°C, Ambient: 40.0°C. Metal enclosure outside TH3: 40.7°C, Switch surface: 32.5°C, Button: 30.5°C, Handle: 30.7°C, Display surface: 38.0°C, Ambient: 25.0°C. Touch current: All secondary output terminals to GND: 0.017mA _{pk} , Screen with foil to GND: 0.01mA _{pk} , Switch button to GND: 0.01mA _{pk} . SERVICE (USB) output: 5.19V _{dc} , USB-A output: 5.16V _{dc} , USB-C1 output: 20.15V _{dc} , USB-C2 output: 5.12V _{dc} , HDMI OUT: 5.08V _{dc} , DisplayPort OUT: 5.05V _{dc} .	
OPS	Overload	264Vac	3hrs 52mins	FP1	1.771 to 1.802 to 1.522 Max. overload was 6.0A, the OPS output shutdown when load to 6.1A. EUT was working normally, no damaged, no hazard. TF2 coil: 58.7°C, TH1 coil: 72.5°C, TH2 coil: 102.7°C, TH3 coil: 109.6°C, Ambient: 40.0°C. Metal enclosure outside TH3: 44.5°C, Switch surface: 32.4°C, Button: 31.6°C, Handle: 30.6°C, Display surface: 39.0°C, Ambient: 25.0°C. Touch current: All secondary output terminals to GND: 0.017mA _{pk} , Screen with foil to GND: 0.01mA _{pk} , Switch button to GND: 0.01mA _{pk} .	

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Clause	Requirement + Test				Result - Remark	Verdict
						SERVICE (USB) output: 5.19Vdc, USB-A output: 5.16Vdc, USB-C1 output: 20.15Vdc, USB-C2 output: 5.12Vdc, HDMI OUT: 5.08Vdc, DisplayPort OUT: 5.05Vdc.
IC1900 pin 8-3	SC	264	7h	FP1	1.672	The Ultra-capacitor no spillage of liquid, no explosion, no emission of flame or expulsion of molten metal. Charge Current: 6mA Touch current: All secondary output terminals to GND: 0.017mA _{pk} , Screen with foil to GND: 0.01mA _{pk} , Switch button to GND: 0.01mA _{pk} . SERVICE (USB) output: 5.19Vdc, USB-A output: 5.16Vdc, USB-C1 output: 20.15Vdc, USB-C2 output: 5.12Vdc, HDMI OUT: 5.08Vdc, DisplayPort OUT: 5.05Vdc.
R1911	SC	264	7h	FP1	1.672	The Ultra-capacitor no spillage of liquid, no explosion, no emission of flame or expulsion of molten metal. Charge Current: 3mA Touch current: All secondary output terminals to GND: 0.017mA _{pk} , Screen with foil to GND: 0.01mA _{pk} , Switch button to GND: 0.01mA _{pk} . SERVICE (USB) output: 5.19Vdc, USB-A output: 5.16Vdc, USB-C1 output: 20.15Vdc, USB-C2 output: 5.12Vdc, HDMI OUT: 5.08Vdc, DisplayPort OUT: 5.05Vdc.
USB-C1 output	SC	264Vac	10mins	FP1	1.503	Unit operated normally except USB-C1 output shutdown, no damage, no hazard, all safeguards remained effectively. Touch current: All secondary output terminals to GND: 0.017mA _{pk} , Screen with foil to GND: 0.01mA _{pk} , Switch button to GND: 0.01mA _{pk} . SERVICE (USB) output: 5.19Vdc, USB-A output: 5.16Vdc, USB-C1 output: 0Vdc, USB-C2 output: 5.12Vdc, HDMI OUT: 5.08Vdc, DisplayPort OUT: 5.05Vdc.
USB-C2 output	SC	264Vac	10mins	FP1	1.649	Unit operated normally except USB-C2 output shutdown, no damage, no

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Clause	Requirement + Test				Result - Remark	Verdict
						hazard, all safeguards remained effectively. Touch current: All secondary output terminals to GND: 0.017mA _p , Screen with foil to GND: 0.01mA _p , Switch button to GND: 0.01mA _p . SERVICE (USB) output: 5.19V _{dc} , USB-A output: 5.16V _{dc} , USB-C1 output: 20.15V _{dc} , USB-C2 output: 0V _{dc} , HDMI OUT: 5.08V _{dc} , DisplayPort OUT: 5.05V _{dc} .
USB (SERVICE) port	SC	264Vac	10mins	FP1	1.670	Unit operated normally except USB 2.0 output shutdown, no damage, no hazard, all safeguards remained effectively. Touch current: All secondary output terminals to GND: 0.017mA _p , Screen with foil to GND: 0.01mA _p , Switch button to GND: 0.01mA _p . SERVICE (USB) output: 0V _{dc} , USB-A output: 5.16V _{dc} , USB-C1 output: 20.15V _{dc} , USB-C2 output: 5.12V _{dc} , HDMI OUT: 5.08V _{dc} , DisplayPort OUT: 5.05V _{dc} .
USB-A output	SC	264Vac	10mins	FP1	1.665	Unit operated normally except USB-A output shutdown, no damage, no hazard, all safeguards remained effectively. Touch current: All secondary output terminals to GND: 0.017mA _p , Screen with foil to GND: 0.01mA _p , Switch button to GND: 0.01mA _p . SERVICE (USB) output: 5.19V _{dc} , USB-A output: 0V _{dc} , USB-C1 output: 20.15V _{dc} , USB-C2 output: 5.12V _{dc} , HDMI OUT: 5.08V _{dc} , DisplayPort OUT: 5.05V _{dc} .
HDMI OUT	SC	264Vac	10mins	FP1	1.676	Unit operated normally except HDMI OUT output shutdown, no damage, no hazard, all safeguards remained effectively. Touch current: All secondary output terminals to GND: 0.017mA _p , Screen with foil to GND: 0.01mA _p ,

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Clause	Requirement + Test				Result - Remark	Verdict
						Switch button to GND: 0.01mA _{pk} . SERVICE (USB) output: 5.19V _{dc} , USB-A output: 5.16V _{dc} , USB-C1 output: 20.15V _{dc} , USB-C2 output: 5.12V _{dc} , HDMI OUT: 0V _{dc} , DisplayPort OUT: 5.05V _{dc} .
DisplayPort OUT	SC	264Vac	10mins	FP1	1.676	Unit operated normally except DisplayPort OUT output shutdown, no damage, no hazard, all safeguards remained effectively. Touch current: All secondary output terminals to GND: 0.017mA _{pk} , Screen with foil to GND: 0.01mA _{pk} , Switch button to GND: 0.01mA _{pk} . SERVICE (USB) output: 5.19V _{dc} , USB-A output: 5.16V _{dc} , USB-C1 output: 20.15V _{dc} , USB-C2 output: 5.12V _{dc} , HDMI OUT: 5.08V _{dc} , DisplayPort OUT: 0V _{dc} .
OPS	SC	264Vac	10mins	FP1	1.522	Unit operated normally except OPS output shutdown, no damage, no hazard, all safeguards remained effectively. Touch current: All secondary output terminals to GND: 0.017mA _{pk} , Screen with foil to GND: 0.01mA _{pk} , Switch button to GND: 0.01mA _{pk} . SERVICE (USB) output: 5.19V _{dc} , USB-A output: 5.16V _{dc} , USB-C1 output: 20.15V _{dc} , USB-C2 output: 5.12V _{dc} , HDMI OUT: 5.08V _{dc} , DisplayPort OUT: 5.05V _{dc} .
One battery%	Reversed	--	10mins	--	--	No explosion, no chemical leaks, no damage, no hazard
Batteries output%	SC	3VDC	10mins	--	--	No explosion, no chemical leaks, no damage, no hazard
Supplementary information:						
The load conditions used during testing as below: Used LCD Panel (Type B). Tested HDMI model condition: 1kHz sine wave input , adjust volume to 1/8 max. non-clipped output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value. SERVICE port loaded 0.5A, USB-A Load 0.9A, USB-C1 Load 20V_{dc}, 3.25A, USB-C2 Load 1.5A, OPS (12V_{dc}, 5.5A) Load with 66W. %: means that 2pcs fresh batteries were used in the remote controller for test.						

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Clause	Requirement + Test				Result - Remark		Verdict
M.3	TABLE: Protection circuits for batteries provided within the equipment						P
Is it possible to install the battery in a reverse polarity position?					The remote control battery can be installed in reverse polarity.		—
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)			
Korchip Corporation/ DCLT 5R5 105	--	--	5.5	0.01	0.01	--	
Note: The tests of M.3.2 are applicable only when above appropriate data is not available.							
Specified battery temperature (°C)					85		--
Component No.	Fault condition	Charge/ discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation
IC1900 pin 8-3	SC	Charge mode	7hrs	51.8	0.006	5.48	NL, NS ,NE, NF
R1911	SC	Charge mode	10mins	--	0.003	5.45	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.							
2pcs AAA size alkaline batteries used in remote controller, no hazardous.							

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 condition	Measurement			Observation	
		Charging voltage (V)	Charging current (A)	Temp. (°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						

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Clause	Requirement + Test	Result - Remark	Verdict

Annex Q.1 TABLE: Circuits intended for interconnection with building wiring (LPS)						P
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
SERVICE(USB) port (CN400)	Normal	5.18	1.48	8	6.69	100
	Single fault – IC401 pin 1-6 SC	5.18	1.58	8	6.95	100
USB-A port (CN1201)	Normal	5.16	1.35	8	5.85	100
	Single fault – IC1300 pin 1-6 SC	5.16	1.45	8	6.08	100
LAN 1 port (CN2300)	Normal	0	0	8	0	100
LAN 2 port (CN2301)	Normal	0	0	8	0	100
USB-C1 port (CN1400) (5V)	Normal	5.16	3.52	8	16.12	100
	Single fault – IC1501 pin 6-30 SC	0	0	8	0	100
USB-C1 port (CN1400) (9V)	Normal	9.16	3.52	8	28.51	100
	Single fault – IC1501 pin 6-30 SC	0	0	8	0	100
USB-C1 port (CN1400) (12V)	Normal	12.15	3.54	8	39.36	100
	Single fault – IC1501 pin 6-30 SC	0	0	8	0	100
USB-C1 port (CN1400) (15V)	Normal	15.15	3.52	8	49.47	100
	Single fault – IC1501 pin 6-30 SC	0	0	8	0	100
USB-C1 port (CN1400) (20V)	Normal	20.12	4.08	8	77.85	100
	Single fault – IC1501 pin 6-30 SC	0	0	8	0	100
USB-C2 port (CN1301)	Normal	5.12	1.85	8	7.84	100
	Single fault – IC1308 pin 1-6 SC	0	0	8	0	100
HDMI OUT port	Normal	5.05	0.45	8	1.95	100

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Clause	Requirement + Test			Result - Remark		Verdict
(CN1002)	Single fault – Q1007 pin 2-3 SC	5.05	0.45	8	2.14	100
HDMI IN1 port (ARC) (CN1000)	Normal	0	0	8	0	100
HDMI IN2 port (CN1001)	Normal	0	0	8	0	100
DisplayPort OUT	Normal	5.06	0.45	8	1.95	100
	Single fault – IC1108 pin 1-6 SC	5.06	0.45	8	2.14	100
REMOTE IN port (CN2401)	Normal	0	0	8	0	100
AUDIO OUT port (CN2201)	Normal	0	0	8	0	100
RS-232C port (CN2400)	Normal	0	0	8	0	100
DisplayPort IN	Normal	0	0	8	0	100
Supplementary Information:						
(*) Unit Shut down						
SC=Short circuit, OC=Open circuit						
Input voltage is 264Va.c., 50Hz						

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 components (according to T.2)	--	--	--	10	5	Clearances and creepage distances still complied with the requirements of this standard
External enclosure (top side, bottom) (according to T.3)	Metal	0.6	Figure V.1 and V.2	30	5	No cracking. All safeguards remain effective
External enclosure (top side, bottom) (according to T.5)	Metal	0.6	Diameter 30mm	250	5	No cracking. All safeguards remain effective
Supplementary information:						

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Clause	Requirement + Test	Result - Remark	Verdict

1) Containing all sources during the test. For details refer to appended table 4.1.2

T.6, T.9	TABLE: Impact test				P
Location/part	Material	Thickness (mm)	Height (mm)	Observation	
External enclosure (top side, bottom) (according to T.6)	Metal	0.6	1300	Enclosure remained intact; no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
LCD panel (according to T.9)	--	--	204	Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Supplementary information:					
1) Containing all sources during the test. For details refer to 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	
Insulation sheet	1)	1)	73	7	No insulation breakdown.	
Supplementary information:						
1). See appended table 4.1.2.						
Each source in table 4.1.2 was applied and passed the relevant tests.						

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:					

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Clause	Requirement + Test			Result - Remark	Verdict
4.1.2	TABLE: Critical components information				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾
Metal enclosure	Interchangeable	Interchangeable	SGCC, min. thickness 0.6mm	IEC/EN IEC 62368-1	Tested with appliance
Base stand (Optional)	Interchangeable	Interchangeable	SGCC, two provided	IEC/EN IEC 62368-1	Tested with appliance
LCD Panel (Type B)	KTC	K860WD97	86 inch TFT LCD, with LED backlight, Type B OC	IEC/EN IEC 62368-1	Tested with appliance
LCD Panel (Type L) (Alternative)	KTC	K860WD97	86 inch TFT LCD, with LED backlight, Type L OC	IEC/EN IEC 62368-1	Tested with appliance
Speaker (Optional)	Interchangeable	Interchangeable	Two speakers, each 6Ω, 12W max.	IEC/EN IEC 62368-1	Tested with appliance
Plastic enclosure of speaker	Interchangeable	Interchangeable	Min. HB, Min. 0.5mm thickness	UL 94	UL
Tube of input wire	Foshan Fangpu Dipping Technology Co Ltd	Series FP	VW-1, 600V, 105°C	UL 224	UL E185679
(Alternative)	DONGGUAN SALIPT CO LTD	SALIPT S-901-600	VW-1, 600V, 125°C	UL 224	UL E209436
(Alternative)	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	RSFR, RSFR-HPF	VW-1, 600V, 125°C	UL 224	UL E203950
(Alternative)	Interchangeable	Interchangeable	VW-1, min. 300V, min. 85°C	UL 224	UL
AC inlet	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	ST-A01-001L, ST-A01-002L, ST-A01-003J, ST-A01-003K	250VAC, min. 10A, min. 70°C, C14 type	IEC/EN 60320-1 UL 60320-1 CAN/CSA-C22.2 No. 60320-1	VDE 40013388 UL E225980

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Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	ST-A01-003JC, ST-A01-003JD, ST-A01-003JE, ST-A01-003JK, ST-A01-003JL	250VAC, min. 10A, min. 70°C, C14 type	IEC/EN 60320-1 UL 60320-1 CAN/CSA-C22.2 No. 60320-1	VDE 40028852 UL E225980
(Alternative)	LECI Electronics Co., Ltd	DB-14, DB-14-1, DB-14-2, DB-14-3, DB-14-5	250VAC, min. 10A, min. 70°C, C14 type	IEC/EN 60320-1 UL 60320-1 CAN/CSA-C22.2 No. 60320-1	VDE 40032137 UL E302229
(Alternative)	Yueqing Yanhui Electronic Co., Ltd.	DB-14	250VAC, min. 10A, min. 70°C, C14 type	IEC/EN 60320-1 UL 60320-1 CAN/CSA-C22.2 No. 60320-1	VDE 40032008 UL E334847
Power switch	Zhejiang Yuyang Technology Co., Ltd.	RS-2206	TUV: 6(4)A 250Vac, 8/108A 250Vac; Endurance minimum 10000 cycle, PD2, Glow wire test 850°C; UL: 10.1A 125Vac, 6A 250Vac; min. 65°C Endurance minimum 6000 cycle	IEC/EN IEC 61058-1 CSA-C22.2 No. 61058-1-1 CSA-C22.2 No. 61058-1-2	TUV R 50085305 UL E239935
(Alternative)	LECI Electronics Co., Ltd	VDE: RS601 series UL: RS601	VDE: 6(4)A 250Vac, 13A 250Vac; Endurance minimum 10000 cycle, PD2, Glow wire test 850°C; UL: 10A 125Vac; Min. 65°C, Endurance minimum 6000 cycle	IEC/EN IEC 61058-1, UL 1054 CSA-C22.2 No. 61058-1-1 CSA-C22.2 No. 61058-1-2	VDE 40017430 UL E258800
(Alternative)	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	VDE: PS8A UL: PS8A Series	VDE: 6(4)A, 250Vac; 12A, 125Vac Endurance minimum 10000 cycle, PD2, Glow-wire test 850°C; UL: 8A 250Vac, 10A 125Vac; Min. 65°C; Endurance minimum 6000 cycle	IEC/EN IEC 61058-1, UL 1054 CSA-C22.2 No. 61058-1-1 CSA-C22.2 No. 61058-1-2	VDE 40027141 UL E236875

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	PS8A-11	VDE: 12(4)A, 8A/108A 250Vac; Endurance minimum 10000 cycle, PD2, Glow wire test 850°C; UL: 12(6)A, 125/250VAC, Min. 65°C Endurance minimum 6000 cycle	IEC/EN IEC 61058-1, UL 1054 CSA-C22.2 No. 61058-1-1 CSA-C22.2 No. 61058-1-2	VDE 40024550 UL E236875
PCB material (other than power board)	SHENZHEN STARIVER CIRCUITS CO LTD	SR-01	V-0, 125°C	UL 796	UL E258603
(Alternative)	Interchangeable	Interchangeable	V-1 or better, min. 105°C	UL 796	UL
Built-in Switching Power Supply	Shenzhen MEGMEET Electrical Co., Ltd.	MP700DM-M862	Input: 100-240V~, 50/60Hz, 7.92A. Output: STB (5.2Vdc, 8.0A); V12 (12Vdc, 16.0A); V24 (24Vdc, 2.0A); LED (60.0V-78.0Vdc, Max.4.48A); 40°C, 5000m	IEC 62368-1:2018	CB by UL (Demko) (Certif. No: DK-132114-UL, DK-132114-M1-UL, DK-132114-M2-UL; Report No.: 2208221160 CB-1, 2208221160 CB-2, 2208221160 CB-3
AC connector-female	CHANGZHOU DESSIN PLASTICS TECHNOLOGY CO LTD	NH600	V-0, 65°C, Min. 0.8mm thickness	ANSI/UL 94	UL E358951
(Alternative)	ZHONGSHAN ROILON ENGINEERING PLASTICS CO LTD	FR3A	V-0, 65°C, Min. 0.8mm thickness	ANSI/UL 94	UL E357946
(Alternative)	EMS-CHEMIE (TAIWAN) LTD	Grilon AS V0	V-0, 105°C, Min. 0.75mm thickness	ANSI/UL 94	UL E132701

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Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	HENGDIAN GROUP TOSPO ENGINEERING PLASTICS CO LTD	B3(X)1	V-0, 130°C, Min. 0.8mm thickness	ANSI/UL 94	UL E187910
Internal primary lead wire	DONGGUAN ZELONGKANG WIRE CO., LTD	1617	VW-1, 600V, 105°C, 22AWG	UL 758 IEC/EN/UL 62368-1	UL E330488 and test with appliance
(Alternative)	Anhui Londa Electronic Technology Co Ltd	1617	VW-1, 600V, 105°C, 22AWG	UL 758 IEC/EN/UL 62368-1	UL E205056 and test with appliance
(Alternative)	Interchangeable	Interchangeable	VW-1, Min. 300V, min. 80°C, min. 22AWG	UL 758	UL
Grounding wire	DONGGUAN ZELONGKANG WIRE CO., LTD	1015	VW-1, 600V, 105°C, 18AWG, yellow and green	UL 758	UL E330488
(Alternative)	YUTONG ELECTRONICS (HUI ZHOU) CO LTD	1015	VW-1, 600V, 105°C, 18AWG, yellow and green	UL 758	UL E301048
(Alternative)	Interchangeable	Interchangeable	VW-1, Min. 300V, min. 80°C, min. 18AWG, yellow and green	UL 758	UL
Secondary lead wire (power board output)	Interchangeable	Interchangeable	VW-1, Min. 300V, min. 80°C min. 32AWG	UL 758	UL
Secondary lead wire (other than power board output)	Interchangeable	Interchangeable	VW-1, Min. 30V, min. 80°C min. 48AWG	UL 758	UL
RTC.Cap. (CE1900)	Korchip Corporation	DCLT 5R5 105	1.0F, 5.5V, max. charge current 10mA, max. discharge current 10mA	IEC/EN IEC 62368-1	Tested with appliance
DC fan	DONGGUAN WANHANG ELECTRONICS TECHNOLOGY CO LTD	WSA06010F12 M	12Vdc, 0.2A max, min. 14.82CFM , 3pcs	IEC/EN 62368-1 UL 507	TUV: R 50508210 UL E359680

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Clause	Requirement + Test		Result - Remark		Verdict
Insulation sheet	Sichuan Longhua Film Co Ltd	PC-870, PC-870-A	V-0, 80 °C, min. 0.25 mm	UL 94	UL E254551
(Alternative)	Shenzhen Hengyinghui Investment Co Ltd	HYHF832B	V-0, 80 °C, min. 0.25 mm	UL 94	UL E524539
(Alternative)	SHENZHEN TEESUN TECHNOLOGY CO LTD	TS-FR370F	V-0, 80 °C, min. 0.25 mm	UL 94	UL E329660
(Alternative)	CHENGDU KANGLONGXIN PLASTICS CO LTD	KLX FRPC-870B	V-0, 80 °C, min. 0.25 mm	UL 94	UL E315185
(Alternative)	Mylar Hongji Films Foshan Co Ltd	EM	VTM-2, 105 °C, min. 0.25 mm	UL 94	UL E241830
(Alternative)	JIANGSU YUXING FILM TECHNOLOGY CO LTD	6021	VTM-2, 105 °C, min. 0.25 mm	UL 94	UL E212271
(Alternative)	FORMEX, DIV OF ILLINOIS TOOL WORKS INC	Formex N1J-(a)(b)(e)(k)(L)(f2)	VTM-0, 105 °C, min. 0.25 mm	UL 94	UL E121855
(Alternative)	SUZHOU OMAY OPTICAL MATERIALS CO LTD	SE42B	V-0, 80 °C, min. 0.25 mm	UL 94	UL E249605
(Alternative)	KunShan Dobesty Optoelectronic Materials Co Ltd	PC9821B, PC9832B, PC9842B, DB98HD, DB98	V-0, 80 °C, min. 0.25 mm	UL 94	UL E339070
(Alternative)	Hunan Dobesty Optical Material Co Ltd	PC9842BND, PC9832B, PC9842B, DB98HD	V-0, 80 °C, min. 0.25 mm	UL 94	UL E524866
(Alternative)	SICHUAN DONGFANG INSULATING MATERIAL CO LTD	DFR117ECO, DFR117ECOB	VTM-0, 80 °C, min. 0.25 mm	UL 94	UL E199019

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Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	SHENZHEN TEESUN TECHNOLOGY CO LTD	TS-FR1365, TS-FR1363, TS-FR1360, TS-FR1362, TS-FR160Y, TS-FR1370F, TS-FR1370, TS-FR1383, TS-FR1370-32, TS-FR1383-13	V-0, 125 °C, min. 0.25 mm	UL 94	UL E329660
(Alternative)	Dongguan Da Zhan Plastics Co Ltd	HX FRPC 1810, HX FRPC 1810B	V-0, 80 °C, min. 0.25 mm	UL 94	UL E527019
(Alternative)	SICHUAN COREMER MATERIALS CO LTD	FRPC200	VTM-0, 80 °C, min. 0.25 mm	UL 94	UL E255235
Internal plastic parts	Interchangeable	Interchangeable	Min.V-2, Min.65°C	UL 94	UL
Power plug (Saudi Arabia type) (optional)	I-Sheng Electric Wire & Cable Co., Ltd.	SP-62	10A/13A, 250Vac	BS 1363-1 SASO 2203:2018	CVC
(Alternative)	I-Sheng Electric Wire & Cable Co., Ltd.	SP-65	10A, 250Vac	BS 1363-1 SASO 2203:2018	CVC
(Alternative)	Interchangeable	Interchangeable	10A/13A, 250Vac	BS 1363-1 SASO 2203:2018	CVC or other cert. marking
- Power cord	I-Sheng Electric Wire & Cable Co., Ltd.	H05VV-F	3 × 0.75mm ² , 3 × 1.0mm ² , 3 × 1.5mm ²	EN 50525-2-11	VDE
(Alternative)	I-Sheng Electric Wire & Cable Co., Ltd.	H03VV-F	3X0.75mm ²	EN 50525-2-11	VDE
(Alternative)	I-Sheng Electric Wire & Cable Co., Ltd.	H05RR-F	3X0.75mm ²	EN 50525-2-11	VDE

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
(Alternative)	Interchangeable	Interchangeable	3X0.75mm ² , 3X1.0mm ² , 3X1.5mm ²	EN 50525-2-11 IEC 60227-5 IEC 60245-4	VDE or other certification marks
- Appliance connector	I-Sheng Electric Wire & Cable Co., Ltd.	IS-14	10A, 250Vac	IEC/EN 60320-1	ENEC
(Alternative)	Interchangeable	Interchangeable	10A, 250Vac	IEC/EN 60320-1	ENEC or other certification marks
Power plug (JP type, 100V) (Optional)	I-SHENG MANUFACTUR ING (SONG GANG) FACTORY	SP-18C	12A, min. 125Vac	Description of the technical requirements by the METI Ordinance Appendix 4 Section 1. Section 6 and Appendix 10 Chapter 5	JET0985- 43001-1006
(Alternative)	Interchangeable	Interchangeable	Min. 7A, min. 125Vac	Description of the technical requirements by the METI Ordinance Appendix 4 Section 1. Section 6 and Appendix 10 Chapter 5	JET
- Power cord	I-SHENG MANUFACTUR ING (SONG GANG) FACTORY	VCTF, VCTFK	3 x 1.25 mm ²	Description of the technical requirements by the METI Ordinance Appendix 1 Section 1.(1),(6) and (9)	JET 0985- 12009-1003

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Interchangeable	Interchangeable	3x0.75mm ² , 3x1.0mm ² or 3x1.25mm ²	Description of the technical requirements by the METI Ordinance Appendix 1 Section 1.(1),(6) and (9)	JET
- Appliance connector	I-SHENG MANUFACTURING (SONG GANG) FACTORY	IS-14	12A, min. 125Vac	Description of the technical requirements by the METI Ordinance Appendix 4 Section 1, Section 6 and Appendix 10 Chapter 5	JET0985-43004-1003
(Alternative)	Interchangeable	Interchangeable	Min. 7A, min. 125Vac	Description of the technical requirements by the METI Ordinance Appendix 4 Section 1, Section 6 and Appendix 10 Chapter 5	JET
Power plug (JP type, 200V) (Optional)	LONGWELL SONG GANG FACTORY	LP-78	12A, 250Vac	Description of the technical requirements by the METI Ordinance Appendix 1 Section 1.(1),(6) and (9)	JET1358-43001-1008
(Alternative)	Interchangeable	Interchangeable	Min.7A, min. 125Vac	Description of the technical requirements by the METI Ordinance Appendix 4 Section 1. Section 6 and Appendix 10 Chapter 5	JET

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
- Power cord	LONGWELL SONG GANG FACTORY	HVCTF	3 x 1.25 mm ²	Description of the technical requirements by the METI Ordinance Appendix 1 Section 1.(1),(6) and (9)	JET1358-12009-1003
(Alternative)	Interchangeable	Interchangeable	3x0.75mm ² , 3x1.0mm ² or 3x1.25mm ²	Description of the technical requirements by the METI Ordinance Appendix 1 Section 1.(1),(6) and (9)	JET
- Appliance connector	LONGWELL SONG GANG FACTORY	LS-60J	12A, 250Vac	Description of the technical requirements by the METI Ordinance Appendix 4 Section 1, Section 6 and Appendix 10 Chapter 5	JET1358-43004-1006
(Alternative)	Interchangeable	Interchangeable	Min. 7A, min. 125Vac	Description of the technical requirements by the METI Ordinance Appendix 4 Section 1, Section 6 and Appendix 10 Chapter 5	JET

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Power Supply Cord (US type) (Optional)	Interchangeable	Interchangeable	Detachable, Types S, SE, SJ, SJE, SJO, SJOO, SJT, SJTO, SJTOO, SO, SOO, ST, STO, STOO or PEE rated VW-1 or FT-1, minimum 18AWG, minimum 125Vac, minimum 60 degree C, minimum 1.5m and maximum 4.5 m long, one end with grounding type NEMA 5-15P, the other end with appliance coupler.	UL 817	UL
(Alternative)	Interchangeable	Interchangeable	Detachable, Types SJ, SJE, SJT, NISP-2, NISPE-2, NISPT-2, SP-2, SPE-2, SPT-2, SP-3, SPE-3, SPT-3, SV, SVE, SVO, SVOO, SVT, SVTO or SVTOO, rated VW-1 or FT-1, minimum 18AWG, minimum 125Vac, minimum 60degree C, minimum 1.5 m and maximum 2.4 m long, one end with grounding type NEMA 5-15P, the other end with appliance coupler.	UL 817	UL
Built-in Switching Power Supply					
PCB	Interchangeable	Interchangeable	V-1 or better, min. 130°C	UL 796	UL
AC connector (CN101)	CKM Electronics Co Ltd	3962WR, 3962WR-5PF-EVN-HF	Min. 250V, min. 7A, min. 85°C	UL 1977	UL E186634
(Alternative)	Weli Sheng Terminal Industrial Co Ltd	M5-I39606R	Min. 250V, min. 7A, min. 110°C	UL 1977	UL E149293

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Current fuse (FP1)	Suzhou Walter Electronic Co. Ltd.	TSC, TSC+P (for UL) TSC-Serie(s) (for VDE)	T15AH, 250Vac	IEC/EN 60127-1; IEC/EN 60127-2; UL 248-1; UL 248-14	VDE 40026062 UL E56092
(Alternative)	Conquer Electronics Co., Ltd.	UDA, UDA-A (for UL) UDA series, UDA-A series (for TUV)	T15AH, 250Vac	IEC/EN 60127-1; IEC/EN 60127-2; UL 248-1; UL 248-14	UL E82636 TUV TA 50196188 01
(Alternative)	HOLLYLAND CO LTD (for UL) Hollyland Company Limited (for TUV)	50CT	T15AH, 250Vac	IEC/EN 60127-1; IEC/EN 60127-2; UL 248-1; UL 248-14	UL E156471 TUV R 50341798
(Alternative)	XC ELECTRONICS (SHENZHEN) CORP LTD	5H	T15AH, 250Vac	IEC/EN 60127-1; IEC/EN 60127-2; UL 248-1; UL 248-14	UL E249609 TUV R 50528191
(Alternative)	DONGGUAN BETTER ELECTRONICS TECHNOLOGY CO LTD	524	T15AH, 250Vac	IEC/EN 60127-1; IEC/EN 60127-2; UL 248-1; UL 248-14	UL E300003 TUV J50157552
Varistor ((RV2) (optional)	Thinking Electronic Industrial Co Ltd	TVR20681-D	Min. 300Vac, min. 105°C, (tested by UL for 6KV/3KA combination pulse), Coating rated V-0	IEC 61051-1 IEC 61051-2, IEC 61051-2-2, UL 1449	UL E314979 VDE 40021243
(Alternative)	BESTBRIGHT ELECTRONICS CO LTD	681KD20X (for UL) 681KD20 (for VDE)	Min. 300Vac, min. 105°C, (tested by UL for 6KV/3KA combination pulse), Coating rated V-0	IEC 61051-1 IEC 61051-2, IEC 61051-2-2, UL 1449	UL E327997 VDE 40050493
X-capacitor (CX3) (optional)	Shenzhen Jinghao Capacitor Co., Ltd.	CBB62B	Max. 0.47µF±10%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40018690 UL E252286

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Europtronic (SuZhou)Co. Ltd.	MPX	Max. 0.47 μ F $\pm$ 20%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40018238 UL E211347 UL E521918
(Alternative)	Europtronic (SuZhou)Co. Ltd.	MPX2	Max. 0.47 μ F $\pm$ 20%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40025981 UL E211347 UL E521918
(Alternative)	Xiamen Faratronic Co., Ltd.	MKP62	Max. 0.47 μ F $\pm$ 20%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40000358 UL E186600
(Alternative)	NISTRONICS (JIANGXI) CO LTD	MPR	Max. 0.47 μ F $\pm$ 20%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40032056 UL E338685
(Alternative)	YANGZHOU NISSEI ELECTRONICS CO LTD	MP1	Max. 0.47 μ F $\pm$ 20%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40041628 UL E351313
(Alternative)	SHENZHEN YIMANFENG SCIENCE AND TECHNOLOGY CO LTD	MPX/MKP	Max. 0.47 μ F $\pm$ 10%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40028516 UL E315567
(Alternative)	ULTRA TECH XIPHI ENTERPRISE CO LTD	HQX	Max. 0.47 μ F $\pm$ 20%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40024534 UL E183780
(Alternative)	GUANGDONG FENGMING ELECTRONIC TECH CO LTD	MKP-X2	Max. 0.47 μ F $\pm$ 20%, min. 250Vac, min. 105°C, X2 type	IEC/EN/UL 60384-14	UL E345487 VDE 40025702
(Alternative)	Sichuan Sincerity Technology Co Ltd	MPX/MKP	Max. 0.47 μ F $\pm$ 20%, min. 275Vac, 110°C, X2 type	IEC/EN/UL 60384-14	UL E528513 VDE 40052140
(Alternative)	SICHUAN ZHONGXING ELECTRONIC CO LTD	MKP61 Series(for UL) MKP61(for VDE)	Max. 0.47 μ F $\pm$ 20%, min. 250Vac, min. 100°C, X2 type	UL 60384-14 CAN/CSA-E60384-1 IEC 60384-14	UL E217215 VDE 40032626 CB : DE1-58854 TUV RH HN 69261979
X-capacitor (CX1) (optional)	Shenzhen Jinghao Capacitor Co., Ltd.	CBB62B	Max. 1 μ F $\pm$ 10%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40018690 UL E252286

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Europtronic (SuZhou)Co. Ltd.	MPX	Max. 1 μ F $\pm$ 20%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40018238 UL E211347 UL E521918
(Alternative)	Europtronic (SuZhou)Co. Ltd.	MPX2	Max. 1 μ F $\pm$ 20%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40025981 UL E211347 UL E521918
(Alternative)	Xiamen Faratronic Co., Ltd.	MKP62	Max. 1 μ F $\pm$ 20%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40000358 UL E186600
(Alternative)	NISTRONICS (JIANGXI) CO LTD	MPR	Max. 1 μ F $\pm$ 20%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40032056 UL E338685
(Alternative)	YANGZHOU NISSEI ELECTRONICS CO LTD	MP1	Max. 1 μ F $\pm$ 20%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40041628 UL E351313
(Alternative)	SHENZHEN YIMANFENG SCIENCE AND TECHNOLOGY CO LTD	MPX/MKP	Max. 1 μ F $\pm$ 10%, min. 250Vac, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40028516 UL E315567
(Alternative)	ULTRA TECH XIPHI ENTERPRISE CO LTD	HQX	Max. 1 μ F $\pm$ 20%, min. 250Vac, min. 100°C, X2 type, min. 100°C	IEC/EN/UL 60384-14	VDE 40024534 UL E183780
(Alternative)	GUANGDONG FENGMING ELECTRONIC TECH CO LTD	MKP-X2	Max. 1 μ F $\pm$ 20%, min. 250Vac, min. 105°C, X2 type	IEC/EN/UL 60384-14	UL E345487 VDE 40025702
(Alternative)	Sichuan Sincerity Technology Co Ltd	MPX/MKP	Max. 1 μ F $\pm$ 20%, min. 275Vac, 110°C, X2 type	IEC/EN/UL 60384-14	UL E528513 VDE 40052140
(Alternative)	SICHUAN ZHONGXING ELECTRONIC CO LTD	MKP61 Series(for UL) MKP61(for VDE)	Max. 1 μ F $\pm$ 20%, min. 250Vac, min. 100°C, X2 type	UL 60384-14 CAN/CSA-E60384-1 IEC 60384-14	UL E217215 VDE 40032626 CB : DE1-58854 TUV RH HN 69261979
Y-capacitor (CY3, CY4) (optional)	Walsin Technology Corp	VDE: AH UL: AH Series (&)	Each rated max. 470pF, min. 250Vac, min. 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40001804 UL E146544

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Yinan Don's Electronic Component Co.,Ltd.	CT81	Each rated max. 470pF, min. 250Vac, min. 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 135256 UL E145038
(Alternative)	TDK CORPORATION	CD (miniature series) (for VDE) CD (for UL)	Each rated max. 470pF, min. 250Vac, min. 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40017931 VDE 40029780 UL E37861
(Alternative)	Xiamen Wanming Electronics Co., Ltd.	HJ	Each rated max. 470pF, min. 250Vac, min. 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40034438 UL E221839
(Alternative)	KunShan WanSheng Electronics Co., Ltd	CT7	Each rated max. 470pF, min. 250Vac, min. 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40012143 UL E249006
(Alternative)	Guangdong Huiwan Electronics Technology Co., LTD.	AR	Each rated max. 470pF, min. 250Vac, min. 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40043989 UL E480105
Y-capacitor (CY1) (optional)	Walsin Technology Corp	VDE: AH UL: AH Series (&)	Max. 680pF, min. 250Vac, min. 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40001804 UL E146544
(Alternative)	Yinan Don's Electronic Component Co.,Ltd.	CT81	Max. 680pF, min. 250Vac, min. 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 135256 UL E145038
(Alternative)	TDK CORPORATION	CD (miniature series) (for VDE) CD (for UL)	Max. 680pF, min. 250Vac, min. 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40017931 VDE 40029780 UL E37861
(Alternative)	Xiamen Wanming Electronics Co., Ltd.	HJ	Max. 680pF, min. 250Vac, min. 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40034438 UL E221839
(Alternative)	KunShan WanSheng Electronics Co., Ltd	CT7	Max. 680pF, min. 250Vac, min. 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40012143 UL E249006

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Guangdong Huiwan Electronics Technology Co., LTD.	AR	Max. 680pF, min. 250Vac, min. 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40043989 UL E480105
Bleeder resistor (RX1, RX2, RX3, RX4, RX5, RX6, RX7, RX8)	Interchangeable	Interchangeable	Each rated 200kohm, min. 1/4W	IEC/EN IEC 62368-1	Tested with appliance
ICX (UP2)	Chengdu Monolithic Power systems Co.,Ltd	HF81	100-240V~, 50-60Hz (Tested for 85-265V~, 47-63Hz)	IEC 62368-1: 2018	CB by NEMKO (Certif. No. NO110178, Report Number: 387093)
(Alternative)	Power Integrations, Inc.	CAP200DG	240V AC nominal (tested for 90-264V AC, 50-60Hz)	IEC 62368-1: 2018	CB by NEMKO (Certif. No. NO112245/A 1/M1, Report Number: 461229)
(Alternative)	CHIPOWN	PN8200	85~265Vac(with tolerance considered), 50-60Hz	IEC62368-1:2018	CB by UL CB Certificate No.: DK-135411-UL CB Report No.: NC29528-A6004-CB-1
Relay (RLY1)	Sanyou Corporation Limited	SRG-S-112DM, SRG-SH-112DM-F (for UL) SRG Serie(s) (for VDE)	Contact: min.10A, min. 250VAC; Coil voltage: 12Vdc; min.105 °C; Electrical endurance: min. 10000 switching cycles	IEC/EN 61810-1 UL 508 UL 60947-1 UL 60947-4-1	VDE 40037165 UL E190598
(Alternative)	XIAMEN HONGFA ELECTROACO USTIC CO LTD	HF152F-T Serie(s) (for VDE) HF152F-T(for UL)	Contact: min.10A, min. 250VAC; Coil voltage: 12Vdc; min.105 °C; Electrical endurance: min. 10000 switching cycles	IEC/EN 61810-1 UL 508 UL 60947-1 UL 60947-4-1	UL E134517 VDE 40017837

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Thermistor (RT2)	Interchangeable	Interchangeable	NTC, rated 2.5Ω at 25°C, min. 8A	IEC/EN IEC 62368-1	Tested with appliance
Thermistor (RT1, RT3)	Interchangeable	Interchangeable	NTC, rated 15Ω at 25°C, min. 4A	IEC/EN IEC 62368-1	Tested with appliance
Bridge Diode (BD1, BD2, BD3, BD4)	Interchangeable	Interchangeable	Min.10A, min. 1000V	IEC/EN IEC 62368-1	Tested with appliance
Electrolytic (CP18, CP19, CP22, CP23)	Interchangeable	Interchangeable	Each rated max. 150μF, min. 450V, min. 105°C	IEC/EN IEC 62368-1	Tested with appliance
MOSFET (QH3, QH4)	Interchangeable	Interchangeable	Min. 500V, min. 5A.	IEC/EN IEC 62368-1	Tested with appliance
MOSFET (QF4)	Interchangeable	Interchangeable	Min. 700V, min. 3A.	IEC/EN IEC 62368-1	Tested with appliance
MOSFET (QP1, QP3, QP4, QH6, QH8)	Interchangeable	Interchangeable	Min. 500 V, min. 8 A.	IEC/EN IEC 62368-1	Tested with appliance
Limit current resistor (RP23, RP25, RP93)	Interchangeable	Interchangeable	Each rated min. 75mΩ, min. 2W	IEC/EN IEC 62368-1	Tested with appliance
Limit current resistor (RP1, RP26, RP57)	Interchangeable	Interchangeable	Each rated min. 100 mΩ, min. 2W	IEC/EN IEC 62368-1	Tested with appliance
Limit current resistor (RF58, RF60)	Interchangeable	Interchangeable	Each rated min. 2.0Ω, min. 1/4W	IEC/EN IEC 62368-1	Tested with appliance
Limit current resistor (RF55, RF56, RF57, RF61)	Interchangeable	Interchangeable	Each rated min. 1.5Ω, min. 1/4W	IEC/EN IEC 62368-1	Tested with appliance
Opto-coupler (PF1, PF2, PF3, PH1, PH2, PH3, PH4, PH5)	Lite-On Technology Corporation	LTV-817, LTV- 817M	Cr≥7.0mm, Cl≥7.0mm, DTI≥0.4mm, reinforced insulation, min. 110°C	IEC/EN 60747-5-5 UL 1577	VDE 40015248 UL E113898
(Alternative)	EVERLIGHT Electronics Co., Ltd	EL817 (blank;M;S;S1;S2;M2) (blank;V) (for VDE) EL817 (for UL)	Cr≥7.6mm, Cl≥7.6mm, DTI≥0.4mm, reinforced insulation, min. 110°C	IEC/EN 60747-5-5 UL 1577	VDE 132249 UL E214129

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	NingBo Qunxin Microelectronics Co., LTD	QX817x-UNY-W (for UL) QX817X-UNY-WVZZ (for VDE)	Cr≥7.0mm, Cl≥7.0mm, DTI≥0.4mm, reinforced insulation, min. 110°C	EN 60747-5-5 UL 1577	VDE 40051490 UL E509768
(Alternative)	COSMO Electronics Corp.	K1010	Cr≥6.5mm, Cl≥6.5mm, DTI≥0.4mm, reinforced insulation, min. 110°C	IEC/EN 60747-5-5 UL 1577	VDE 101347 UL E169586
(Alternative)	VDE: CT Micro International Corporation; UL: CT Microelectronics Far East Ltd	CT817(X2)(X3)(Y)(Z)-(G) (for VDE) CT81(X1)(X2) (for UL)	Cr≥7.0mm, Cl≥7.0mm, DTI≥0.4mm, reinforced insulation, min. 110°C	IEC/EN 60747-5-5 UL 1577	VDE 40039590 UL E364000
(Alternative)	Shenzhen Orient Components Co. Ltd.	ORPC817x, ORPC817Mx	Cr≥7.6mm, Cl≥7.6mm, DTI≥0.4mm, reinforced insulation, min. 110°C	IEC/EN 60747-5-5 UL 1577	VDE 40029733 UL E323844
(Alternative)	Xiamen Hualian Semiconductor Technology Co., Ltd	HPC817xx-xx (for VDE) HPC817 (for UL)	Cr≥7.0mm, Cl≥7.0mm, DTI≥0.4mm, reinforced insulation, min. 110°C	EN 60747-5-5 UL 1577	VDE 40004708 UL E178703
(Alternative)	Toshiba Electronic Devices & Storage Corporation	TLP785 (for UL) TLP785 Option D4 (for VDE)	Cr≥7.0mm, Cl≥7.0mm, DTI≥0.4mm, reinforced insulation, min. 110°C	IEC/EN 60747-5-5 UL 1577	VDE 40031808 UL E67349
Filter Choke (LP1)	Shenzhen MEGMEET Electrical Co., Ltd.	MP750SG-5R64-LP10	Min.130°C	IEC/EN IEC 62368-1	Tested with appliance
- Triple Insulation wire	GREAT LEOFLON INDUSTRIAL CO LTD	TRW(F)*	Min. 155°C	IEC/EN 62368-1 UL 2353	VDE 136581 UL E211989
(Alternative)	TOTOKU ELECTRIC CO LTD	TIW-3X	Min. 155°C	IEC/EN 62368-1 UL 2353	VDE 40051888 UL E166483
- Base	Interchangeable	Interchangeable	V-0, min. 130°C	UL 94	UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Filter Choke (LP4)	Shenzhen MEGMEET Electrical Co., Ltd.	MP700HC-X65-PSU-LP15	Min. 130°C	IEC/EN IEC 62368-1	Tested with appliance
- PC board	KINGBOARD LAMINATES HOLDINGS LTD	KB-6150	PMC,V-0,130°C, Min.thickness:0.43 mm	UL94	UL E123995
- Magnet wire	Interchangeable	Interchangeable	Min. 130°C	UL1446	UL
Filter Choke (LP2, LP3)	Shenzhen MEGMEET Electrical Co., Ltd.	SQ3125-8.0mH	Min. 130°C	IEC/EN IEC 62368-1	Tested with appliance
- Bobbin	CHANG CHUN PLASTICS CO LTD	T375HF	PMC, V-0, 150°C, min. thickness: 0.43mm.	UL 94	UL E59481
- Magnet wire	Interchangeable	Interchangeable	Min. 130°C	UL1446	UL
PFC Inductor (LP5,LP6,LP7)	Shenzhen MEGMEET Electrical Co., Ltd.	POT4020-200uH	Min. 130°C	IEC/EN IEC 62368-1	Tested with appliance
- Bobbin	SUMITOMO BAKELITE CO LTD	PM-9823	Phenolic, V-0, 150°C, min. thickness: 0.15mm.	UL 94	UL E41429
- Magnet wire	Interchangeable	Interchangeable	Min. 155°C	UL1446	UL
- Triple Insulation wire	SHENZHEN KAIZHONG HEDONG NEW MATERIALS CO LTD	TIW-F	Min. 155°C	IEC/EN 62368-1 UL 2353	VDE 40038861 UL E357240
(Alternative)	GREAT LEOFLON INDUSTRIAL CO LTD	TRW(F)*	Min. 155°C	IEC/EN 62368-1 UL 2353	VDE 136581 UL E211989
- Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT* (b)(g)	Min. 130°C	UL 510A	UL E165111
Transformer (TH1)	Shenzhen MEGMEET Electrical Co., Ltd	EE5015-12V-24V	Class F	Applicable part according to IEC 62368-1 and UL 1446	Tested in appliance.
-Insulation system	Shenzhen MEGMEET Electrical Co., Ltd	G-F	Class F	UL 1446	UL E340116

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
- Magnet wire	Interchangeable	Interchangeable	Min. 155°C.	UL 1446	UL
- Bobbin	SUMITOMO BAKELITE CO LTD	PM-9630	Phenolic, V-0, min. 0.71 mm thickness, 155 °C.	UL 94	UL E41429
- Insulation Tape	P LEO&CO LED	1K7170	220°C.	UL 510A	UL E126174
(Alternative)	XINFENG GHILLIE ELECTRICAL MATERIALS CO LTD	JL-N408	180°C.	UL510A	UL E326305
-Tube	CHANGYUAN ELECTRONICS GROUP CO LTD	CB-TT-T	200°C	UL 224	UL E180908
- Varnish	ELANTAS PDG, Inc.	V1630FS	155°C.	UL 1446	UL E75225
Transformer (TF2)	Shenzhen MEGMEET Electrical Co., Ltd	EQ3314-5V11A	Class F	Applicable part according to IEC 62368-1 and UL 1446	Tested in appliance.
-Insulation system	Shenzhen MEGMEET Electrical Co., Ltd	G-F	Class F	UL 1446	UL E340116
- Magnet wire	Interchangeable	Interchangeable	Min.155°C.	UL 1446	UL
- Bobbin	SUMITOMO BAKELITE CO LTD	PM-9630	Phenolic, V-0, min. 0.71 mm thickness, 155°C.	UL 94	ULE41429
- Insulation Tape	P LEO&CO LED	1K7170	220°C.	UL 510A	UL E126174
- Triple Insulation Wire	E&B TECHNOLOGY CO LTD	E&B- XXX*YYYYZF	155°C.	IEC/EN 62368-1, UL 2353	VDE 40023473, UL E315265
-Tube	CHANGYUAN ELECTRONICS GROUP CO LTD	CB-TT-T	200°C	UL 224	UL E180908
- Varnish	ELANTAS PDG, Inc.	V1630FS	155°C.	UL 1446	UL E75225
Transformer (TH2, TH3)	Shenzhen MEGMEET Electrical Co., Ltd	EFD40-75V- 55V-35V	Class F	Applicable part according to IEC 62368-1 and UL 1446	Tested in appliance.

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
-Insulation system	Shenzhen MEGMEET Electrical Co., Ltd	M-F	Class F	UL 1446	UL E340116
- Magnet wire	Interchangeable	Interchangeable	Min.155°C.	UL 1446	UL
- Bobbin	SUMITOMO BAKELITE CO LTD	PM-9630	Phenolic, V-0, min. 0.71 mm thickness, 155 °C.	UL 94	UL E41429
- Insulation Tape	P LEO&CO LED	1K7170	220°C.	UL 510A	UL E126174
- Tube	GREAT HOLDING INDUSTRIAL CO LTD	TFL	VW-1, 200 degree C	UL 224	UL E156256
- Varnish	ELANTAS PDG, Inc.	V1630FS	155°C.	UL 1446	UL E75225
- Case	CHANG CHUN PLASTICS CO LTD	4130	PBT, V-0, 140 degree C, minimum 0.74 mm thick.	UL 94	UL E59481
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) 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.	Not such equipment	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 $\text{Pa}^2 \text{ s}$. $E = \int_0^T p(t)^2 dt$		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		N/A
10.6	Safeguards against acoustic energy sources Replace 10.6 of IEC 62368-1 with the following:		N/A
10.6.1.1	Introduction	Not such equipment	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Safeguard requirements for protection against long-term exposure to excessive sound pressure 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:		

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	• 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 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.		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		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		
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		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		
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.	Not such equipment	N/A
10.6.3.2	RS1 limits (new) 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 ≤ 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.		N/A
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		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		
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.	Not such equipment	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 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		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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 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.	Not such equipment	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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
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 <i>L_{Aeq}</i> 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	Not such equipment	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		
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		N/A

IEC62368_1E - ATTACHMENT

IEC62368_1E - ATTACHMENT						
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
	10.6.1	Note 3	F.3.3.6	Note 3	Y.4.1	Note
	Y.4.5	Note				
4	Modification to Clause 1					P
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

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5	Modification to 4.Z1		P
4.Z1	Add the following new subclause after 4.9: To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. mains, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.	Considered. Complied with item a) for internal fuse used and for parts as described in b) reliance on the protection in the building installation.	P
6	Modification to 5.4.2.3.2.4		N/A
5.4.2.3.2.4	Add the following to the end of this subclause: The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.	No connection to external circuit.	N/A
7	Modification to 10.2.1		N/A
10.2.1	Add the following to ^{c)} and ^{d)} in table 39: For additional requirements, see 10.5.1.	No such radiation from the equipment.	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8	Modification to 10.5.1		N/A
10.5.1	Add the following after the first paragraph: For RS 1 compliance is checked by measurement under the following conditions: In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or 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		P
G.7.1	Add the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.	Approved mains cord used (see appended table 4.1.2)	P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10	Modification to Bibliography		P
	Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		P
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 jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"		P

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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	Use certified plug	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 measured.	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	No such external circuits.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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. 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).	X-capacitors, Y-capacitors rated min. 250V.	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

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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.		P
5.6.4.2.1	Ireland and United Kingdom After the indent for pluggable equipment type A, the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.	Use certified plug	P
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 mm² to 1,5 mm² in cross-sectional area.	Use certified plug	P
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.		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 .		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	Not such system.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet." Translation to Swedish: "Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet."		
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.	No external circuits.	N/A
B.3.1 and B.4	Ireland and United Kingdom The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met	Not direct plug-in equipment	N/A
G.4.2	Denmark To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules	Not exceed 13A	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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		
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.	Not direct plug-in equipment	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.	Should be evaluated during national approval	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	Should be evaluated during national approval	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.	Should be evaluated during national approval	P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
10.5.2	Germany The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. <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

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Clause	Requirement + Test	Result - Remark	Verdict																																																					
ZD	IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS (EN)		P																																																					
	<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><tr><td colspan="3">PVC insulated cords</td></tr><tr><td>Flat twin tinsel cord</td><td>60227 IEC 41</td><td>H03VH-Y</td></tr><tr><td>Light polyvinyl chloride sheathed flexible cord</td><td>60227 IEC 52</td><td>H03VV-F H03VVH2-F</td></tr><tr><td>Ordinary polyvinyl chloride sheathed flexible cord</td><td>60227 IEC 53</td><td>H05VV-F H05VVH2-F</td></tr><tr><td colspan="3">Rubber insulated cords</td></tr><tr><td>Braided cord</td><td>60245 IEC 51</td><td>H03RT-F</td></tr><tr><td>Ordinary tough rubber sheathed flexible cord</td><td>60245 IEC 53</td><td>H05RR-F</td></tr><tr><td>Ordinary polychloroprene sheathed flexible cord</td><td>60245 IEC 57</td><td>H05RN-F</td></tr><tr><td>Heavy polychloroprene sheathed flexible cord</td><td>60245 IEC 66</td><td>H07RN-F</td></tr><tr><td colspan="3">Cords having high flexibility</td></tr><tr><td>Rubber insulated and sheathed cord</td><td>60245 IEC 86</td><td>H03RR-H</td></tr><tr><td>Rubber insulated, crosslinked PVC sheathed cord</td><td>60245 IEC 87</td><td>H03RV4-H</td></tr><tr><td>Crosslinked PVC insulated and sheathed cord</td><td>60245 IEC 88</td><td>H03V4V4-H</td></tr><tr><td colspan="3">Cords insulated and sheathed with halogen-free thermoplastic compounds</td></tr><tr><td>Light halogen-free thermoplastic insulated and sheathed flexible cords</td><td></td><td>H03Z1Z1-F H03Z1Z1H2-F</td></tr><tr><td>Ordinary halogen-free thermoplastic insulated and sheathed flexible cords</td><td></td><td>H05Z1Z1-F H05Z1Z1H2-F</td></tr></table>		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	P
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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			
Copyright © 2022 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
IEC 62368-1 - US and Canadian National Differences Special National Conditions based on Regulations and Other National Differences			
1 (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.		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

IEC62368_1E - ATTACHMENT			
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)	<i>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.</i>		N/A
	<i>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.</i>		N/A
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.		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.		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 PS3 wiring outside a fire enclosure	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.		P
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

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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.	Not permanent connection.	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
	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.	Considered.	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."	Not outdoor equipment.	N/A
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex H.4	For circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
Annex 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.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
	Consumer products designed or intended primarily for children 12 years of age or younger are subject to additional requirements in accordance with U.S. and Canadian Regulations.		N/A
	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for 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.		N/A
Annex DVA (5.6)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Class I equipment	P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		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.		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).		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).		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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."	One phase.	P
Annex DVA (F.3.3.6)	Equipment identified for ITE (computer) room installation is required to be marked with the rated current.		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.		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 outlet.	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.		N/A
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 isolated ground.	N/A
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.		N/A
Annex DVA (G.5.3)	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
Annex DVA (G.7)	Flexible cords used outdoors are required to have the suffix "W" marked on the flexible cord.		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.		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.		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.		N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury 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.	Critical components are IEC or UL certified. See list of critical components in main CB report (See table 4.1.2).	P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.		N/A
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are required to be in accordance with the NEC/CEC.	Mains plug used	P
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.		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).		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

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	Not permanently connected equipment.	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.	Not for connection to a DC mains supply.	N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.	No telephone ringing signal.	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

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 (AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment)			
Differences according to : AS/NZS 62368.1:2022			
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		--
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>	Not intended to plug directly into a wall socket-outlet.	P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	-AS/NZS 60320.1, <i>Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)</i> -AS/NZS 60320.2.2, <i>Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)</i> -AS/NZS 60695.2.11, <i>Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products</i> -AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i> -AS/NZS 60695.11.10, <i>Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods</i> -AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i> -AS/NZS 60950.1, <i>Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i> IEC 61032:1997, <i>Protection of persons and equipment by enclosures—Probes for verification</i> -AS/NZS 61558.1, <i>Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 3, MOD)</i> -AS/NZS 61558.2.16, <i>Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.</i>		

IEC62368_1E - ATTACHMENT					
Clause	Requirement + Test		Result - Remark	Verdict	
4.7.2	Requirements <i>Delete</i> the text of the second paragraph and <i>replace</i> with the following: 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</i> this clause			N/A	
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..		No such battery.	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:			P	
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.					

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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
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

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex F Paragraph F.3.3.4	Rated Voltage Delete "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"		N/A
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
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

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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	Add "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)		N/A

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.	See table 5.2 of main report	P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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	Select only wall mounting.	N/A
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.	Select only wall mounting.	N/A

IEC62368_1E - ATTACHMENT			
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.	Not used.	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.	Rated voltage is 100 Vac, not clip is used. The lead wire for earthing is 10 cm long	P

IEC62368_1E - ATTACHMENT			
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.		P
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	Use the detachable power cord with grounding function required for certification	P
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.	No applicable.	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.		P
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.	No applicable.	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.	Considered.	P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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
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.	Considered.	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.		P
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.	Considered.	P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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.	No CRT television used.	N/A
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.		P
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.	No thermal link used.	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.		P
G.4.1	This requirement does not apply to connectors covered in Clauses G.4.2 and G.4.2A.		P

IEC62368_1E - ATTACHMENT			
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.		P
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.		P
G.7.2 Table G.7	Cross-sectional area of equipment rated up to and including 3 A shall be 0.75 mm ² .		P
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



ATTACHMENT to TRF (IEC62368_1E)		
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		
TRF template used:..... : IECEE OD-2020-F3:2024, Ed. 1.3		
Attachment Form No..... : SA_ND_IEC62368_1E		
Attachment Originator : Saudi Standards, Metrology and Quality Organization (SASO)		
Master Attachment..... : 2025-04-28		
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National Differences		--
Plugs used for pluggable equipment comply with standard SASO-2203		N/A
Type of plug & socket-outlets: G type		N/A
Frequency and tolerance (Hz)		P
60 Hz ± 0.2		P
Rated Voltage (V)		P
Single phase 230 V Three phase 400 V Voltage tolerance (%) ± 5	Input 100-240Vac, covering 230Vac	P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1:2018 Republic of Korea NATIONAL DIFFERENCES Audio/video, information and communication technology equipment - Part 1: Safety requirements			
Differences according to: KC 62368-1(2021-08)			
TRF template used: : IECEE OD-2020-F3, Ed. 1.2			
Attachment Form No.: KR_ND_IEC62368_1E			
Attachment Originator: KTL			
Master Attachment: 2024-09-02			
Copyright © 2024 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	National Differences		
4.1.1	As of January 1, 2023, internal and external components and subassemblies that comply with IEC 60950-1 or IEC 60065 are not acceptable if those components and subassemblies mandates KC certification.		P
G.4.2	Plugs for the connection of the apparatus to the supply main shall comply with the Korean requirement (KS C 8305 or KC 60884-1 or KC 60799).	Must be considered when marketing in Republic of Korea.	N/A
	Special national conditions (if any)		—
Voltage	The marking of rated voltage or rated voltage range, for appliances intended to be connected to the supply mains, shall include 110 V, 220 V or 380 V.	Input 100-240Vac, covering 110Vac, 220Vac	P
Frequency	Only appliances having supply frequency of 60 Hz or a frequency range including 60 Hz are accepted.	50/60Hz	P
Instruction	Instruction manuals and appliance marking related safety, including nameplate shall be in Korean	Must be considered when marketing in Republic of Korea.	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1:2018 CHINA NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment -Part 1: Safety requirements)			
Differences according to: GB 4943.1-2022			
TRF template used:: IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No.: CN_ND_IEC62368_1E			
Attachment Originator: CQC			
Master Attachment: 2025-02-25			
Copyright © 2025 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	National Differences		--
4.1.2	Use of components Add a paragraph: A component used shall comply with related requirements corresponding altitude of the equipment.		P
4.11	Add clause 4.11,as follows: Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except the device shall meet the all requirement of Fault conditions. If pluggable equipment type B or permanently connected equipment depends on protective devices outside the equipment for protection, this shall be stated in the installation instructions of the equipment, with requirements for short-circuit protection, over-current protection, or both if necessary.		P
5.3.2.2	Contact requirements Amend the 2 nd paragraph of table 8 to be: For equipment intended to be used at altitude of 2000m to 5000m, the values in this table are multiplied by the multiplication factor corresponding altitude of 5000m.	Altitude of 5000m considered, See main report	P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.5	Multiplication factors for altitudes higher than 2 000 m above sea level Amend the 1st paragraph to be: For equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE in tables 10,11 and 14, and resistance test voltages required in table 15, shall meet the requirements of 5000 m above sea level, this is multiplied by the multiplication factor corresponding altitude of 5000m in table 16. For equipment to be used at equal or less than 2000 m above sea level, the minimum CLEARANCE in tables 10, 11 and 14, and resistance test voltages required in table 15, shall meet the requirements of 2000 m above sea level. This is multiplied by the multiplication factor corresponding altitude of 2000m in table 16. Delete note 2 of Clause 5.4.2.5.	Altitude of 5000m considered, See main report	P
5.4.5.1	General Delete the 2nd paragraph of Clause 5.4.5.1: This test does not apply to equipment where one antenna terminal on the equipment is connected to earth in accordance with 5.6.7. Add the following: The Insulation resistance between CATV antenna coaxial sockets and protective earth of apparatus shall comply with BASIC INSULATION. If it's possible that CLASS II apparatus with CATV antenna coaxial sockets connect with protective earth of another CLASS I apparatus by other terminals, the insulation resistance between them shall comply with BASIC INSULATION as well. If antenna cable separated from the protective earth before connection to the apparatus, there is no requirements of Insulation resistance between them but F.4 requirements shall be meet. Delete "NOTE" of Clause 5.4.5.1		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.8	Humidity conditioning Amend clause 5.4.8 as follows : The humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature $(40\pm 2)^\circ\text{C}$ and a relative humidity of $(93\pm 3)\%$. During this conditioning, the component or subassembly is not energized. For equipment not to be operated at tropical climatic conditions, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of $(93\pm 3)\%$. The temperature of the air, at all places where samples can be located, is maintained within 2°C of any convenient value between 20°C and 30°C such that condensation does not occur. Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered. Pre-processing conditions and requirements below 2000m can be used until additional data is available.	Considered	P
6.4.9 Y.4.3	Delete references to ASTM and NEMA.		N/A
6.5.1	General requirements Delete the text of the Note "Wire complying with UL 2556 VW-1 is considered to comply with these requirements".	Must be considered when marketing in China.	N/A
F.1	Amend the second paragraph of annex F.1 to be: Unless symbols are used or otherwise specified, safety related equipment markings, instructions, and instructional safeguards shall be in normative Chinese.	Must be considered when marketing in China.	P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
F.2.2	After the first paragraph of annex F.2.2 ,add the following: For apparatus intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording or a symbol shown below shall fixed to the equipment at readily visible place. "Only used at altitude not exceeding 2000m."  For apparatus intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording or a symbol shown below shall fixed to the equipment at readily visible place. "Only used in not-tropical climate regions."  If only symbol used, the explanation of the symbol shall be contained in the instruction manual. The statements above shall be given in a language acceptable to the regions where the apparatus is intended to be used.	Altitude of 5000m and tropical climate regions considered, See main report	P
F.3.3.4	After the last paragraph, Added: ...for single rated voltage, "220 V" or three-phase "380V" shall be marked only. For a rating voltage range, 220 V or three-phase 380V shall be covered. For multiple rated voltages, one of them shall be 220 V or three-phase 380V and which default setting from manufacture shall be 220 V or three-phase 380V as well.	Input 100-240Vac; It contains 220V	P
F.3.3.5	After the last paragraph, Added: Rated frequency shall be 50Hz or frequency range shall cover 50Hz.	50/60Hz	P
F.4	Instructions Added: – For apparatus incorporating antenna coaxial sockets which is non-separated with CATV network, a warning wording or a similar shall be given in the instruction manual: "A CATV cable intended to be connected to apparatus shall be separated with the protective earth of the apparatus, otherwise fire hazard might be caused."	No applicable.	N/A
F.5	Instructional safeguards In table F.2 , change 230V to 220V , change 400Y/230V 3Ø to 380 Y/220 V 3Ø	Considered	P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	Amend clause G.4.2 as follows : Plugs connected to the MAINS in apparatus shall comply with GB/T 1002,GB/T 1003,GB/T 2099.1 or GB/T11918 (All parts) series. Appliance coupler shall comply with GB/T 17465 (All parts) series or GB/T 11918 (All parts) series.	Must be considered when marketing in China.	N/A
	Special national conditions (if any)		--
0.12	Add clause 0.12 Description of relevant information.		P
1	GB 4943.1-2022 applies to equipment used at altitudes not exceeding 5000m above sea level, For apparatus intended to be used at altitude not exceeding 2000m, The requirements can be appropriately reduced, but warning instructions shall be provided.. Revise the sixth paragraph of 1 as: In addition to specified by the manufacturer, this document assumes a maximum altitude of 5000m	Altitude of 5000m considered, See main report	P
B.2.6.1	Amend T_{ma} as follows: T_{ma} is the maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater. Add note 1: For equipment not to be operated at tropical climatic conditions, T_{ma} is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater. Add note 2: For equipment to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration. temperature test conditions and temperature limits below 2000m can be used until additional data is available.	Must be considered when marketing in China.	P
Annex Z (normative)	Added annex Z: Instructions of the new safety warning labels.	Must be considered when marketing in China.	P
Annex AA (informative)	Added annex AA: Illustration relative to safety explanation in normative Chinese, Tibetan, Mongolian, Zhuang Language and Uighur.	Must be considered when marketing in China.	P

Enclosures

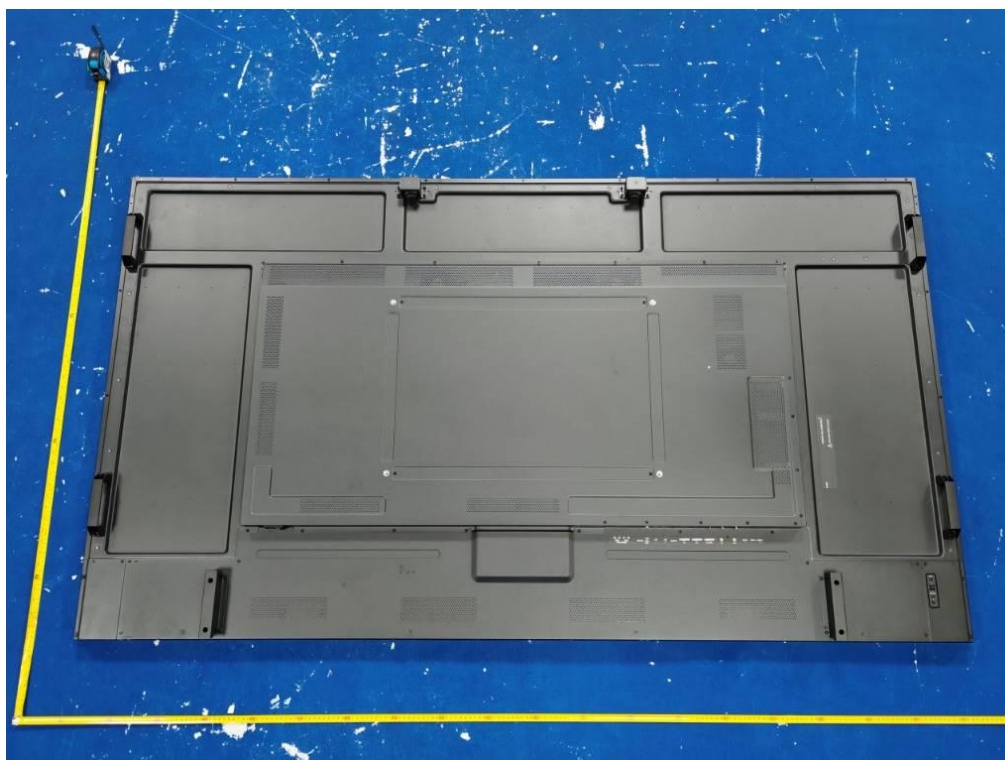
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Photographs	2-01	External view-1
Photographs	2-02	External view-2
Photographs	2-03	External view-3
Photographs	2-04	Terminal view-1
Photographs	2-05	Terminal view-2
Photographs	2-06	AC Inlet and switch view
Photographs	2-07	Internal view-1
Photographs	2-08	Internal view-2
Photographs	2-09	Internal view-3
Photographs	2-10	Internal view-4
Photographs	2-11	Internal view-5 (Type B OC)
Photographs	2-12	Internal view-6 (Type B OC)
Photographs	2-13	Internal view-7 (Type B OC)
Photographs	2-14	Internal view-8 (Type L OC)
Photographs	2-15	Internal view-9 (Type L OC)
Photographs	2-16	Internal view-10 (Type L OC)
Photographs	2-17	Internal view-11 (Type L OC)
Photographs	2-18	Internal view-12 (Type L OC)
Photographs	2-19	Power board view-1
Photographs	2-20	Power board view-2
Photographs	2-21	Main board view-1
Photographs	2-22	Main board view-2
Photographs	2-23	Drive board view-1
Photographs	2-24	Drive board view-2
Photographs	2-25	T-CON board view-1 (Type B OC)
Photographs	2-26	T-CON board view-2 (Type B OC)
Photographs	2-27	T-CON board view-3 (Type L OC)
Photographs	2-28	T-CON board view-4 (Type L OC)
Photographs	2-29	Internal wiring of switch view
Photographs	2-30	Ground terminal view
Photographs	2-31	Lock hole baffle view
Photographs	2-32	Base stand view
Photographs	2-33	DC Fan view

Photographs	2-34	Speaker view
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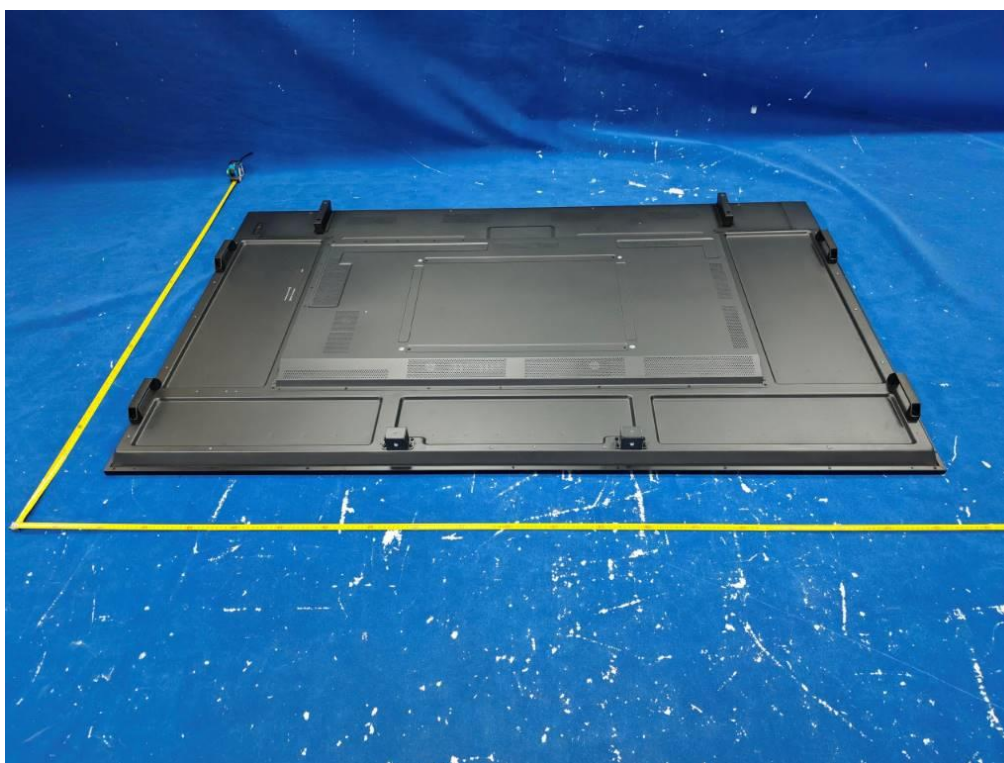
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Photographs 2-03



Photographs 2-04



Photographs 2-05



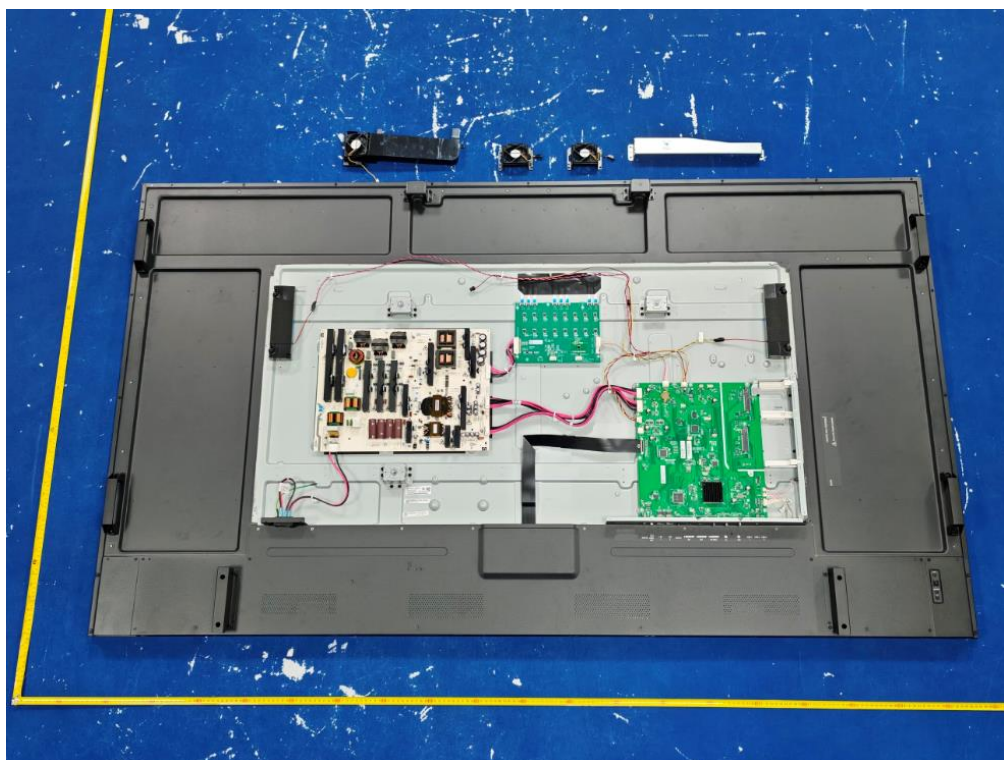
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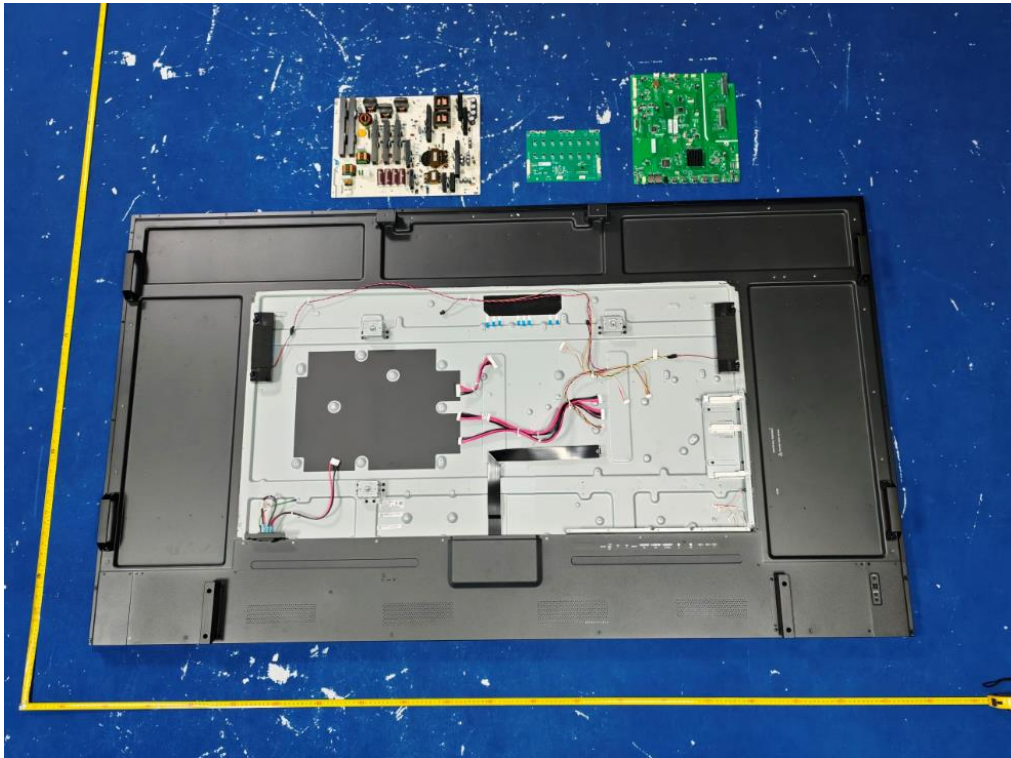
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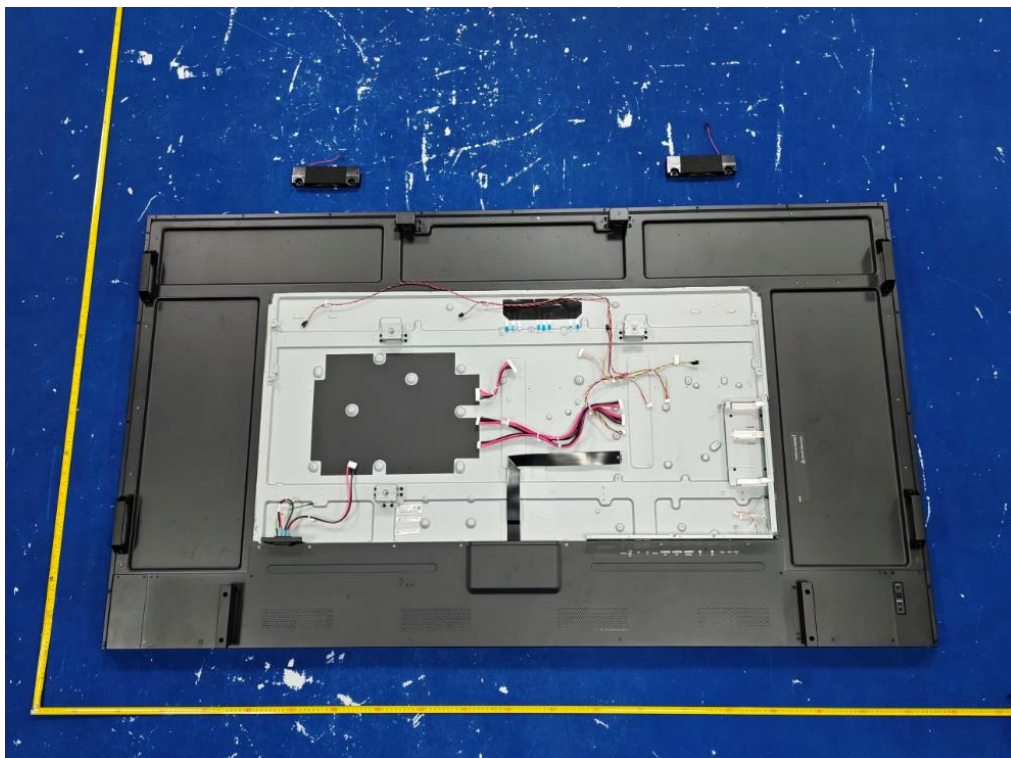
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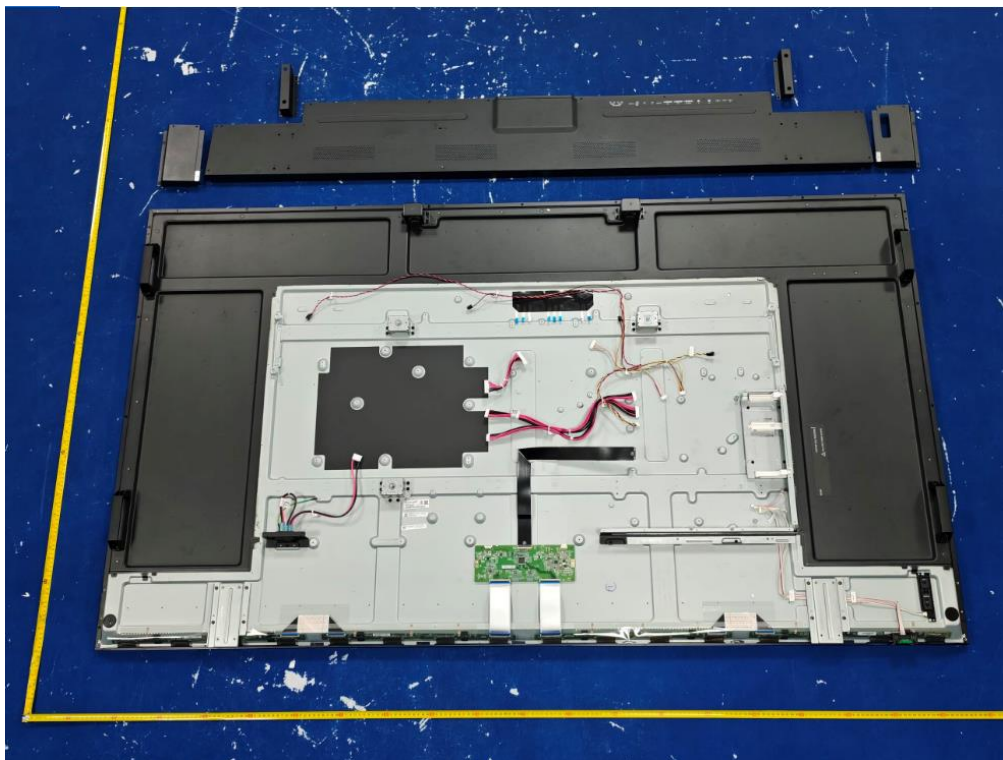
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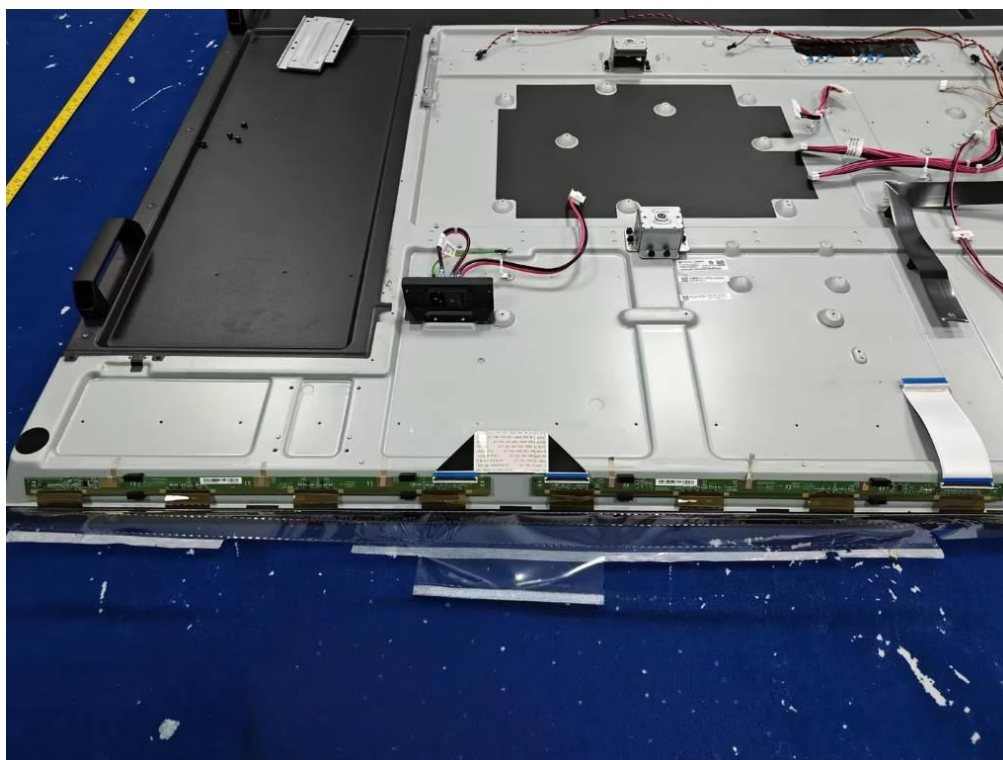
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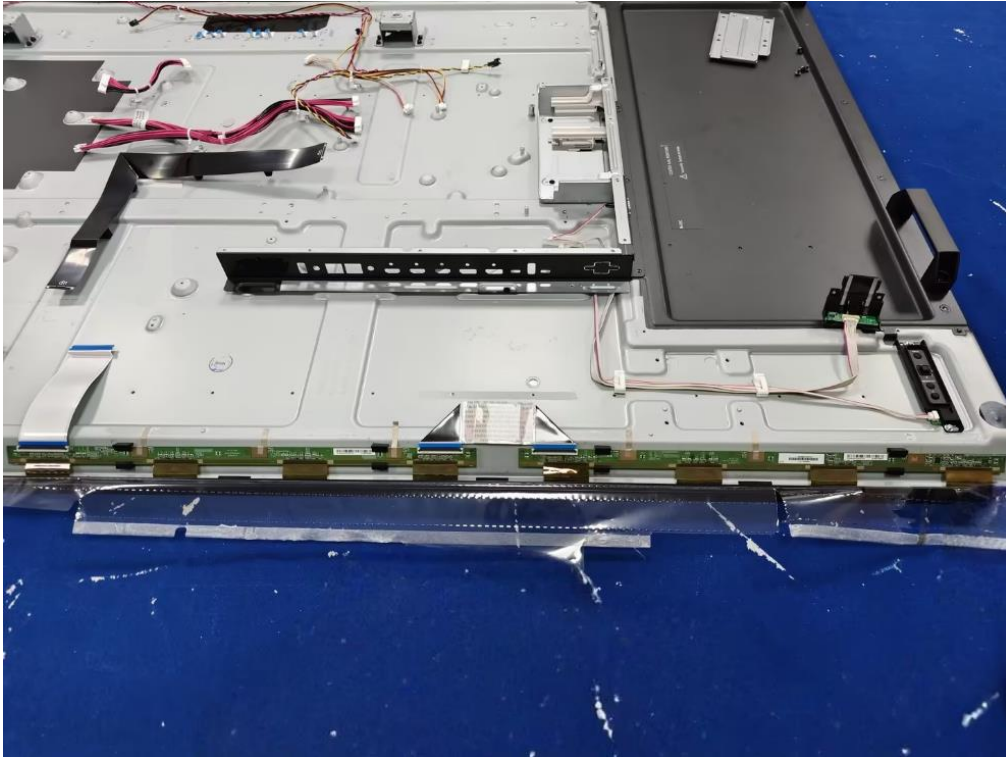
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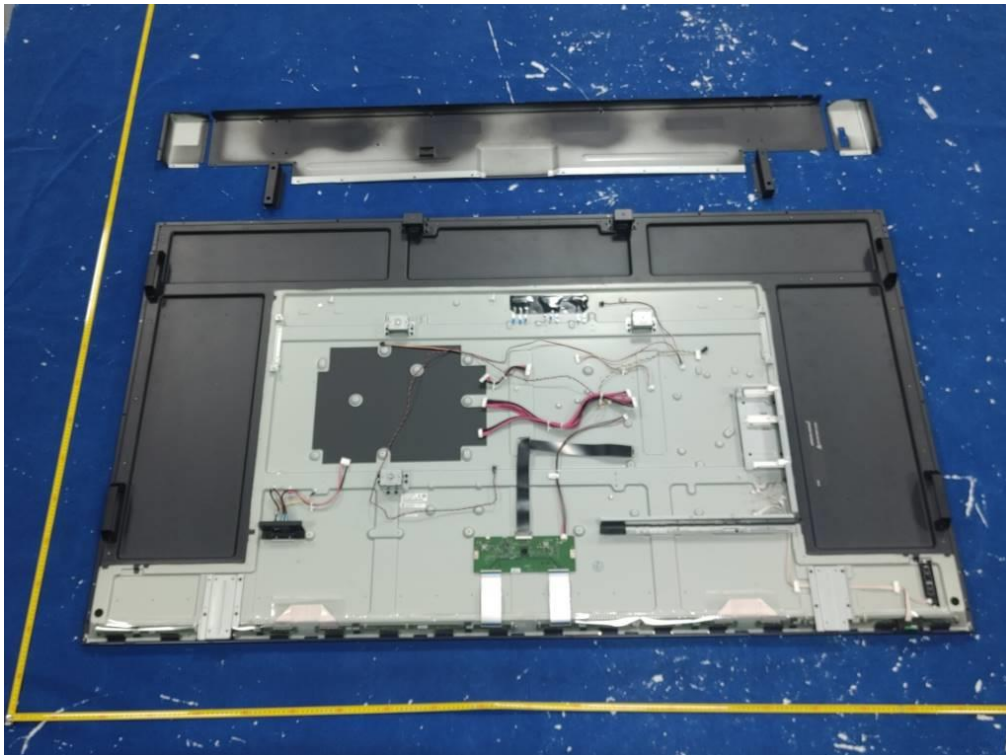
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Photographs 2-13



Photographs 2-14



Photographs 2-15



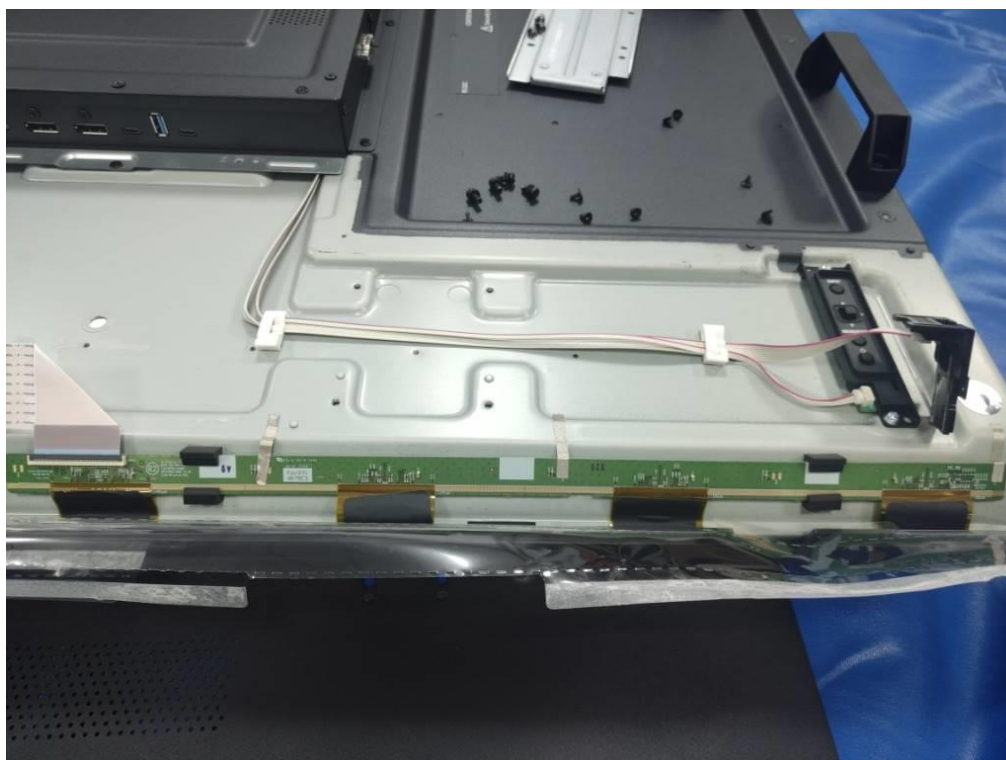
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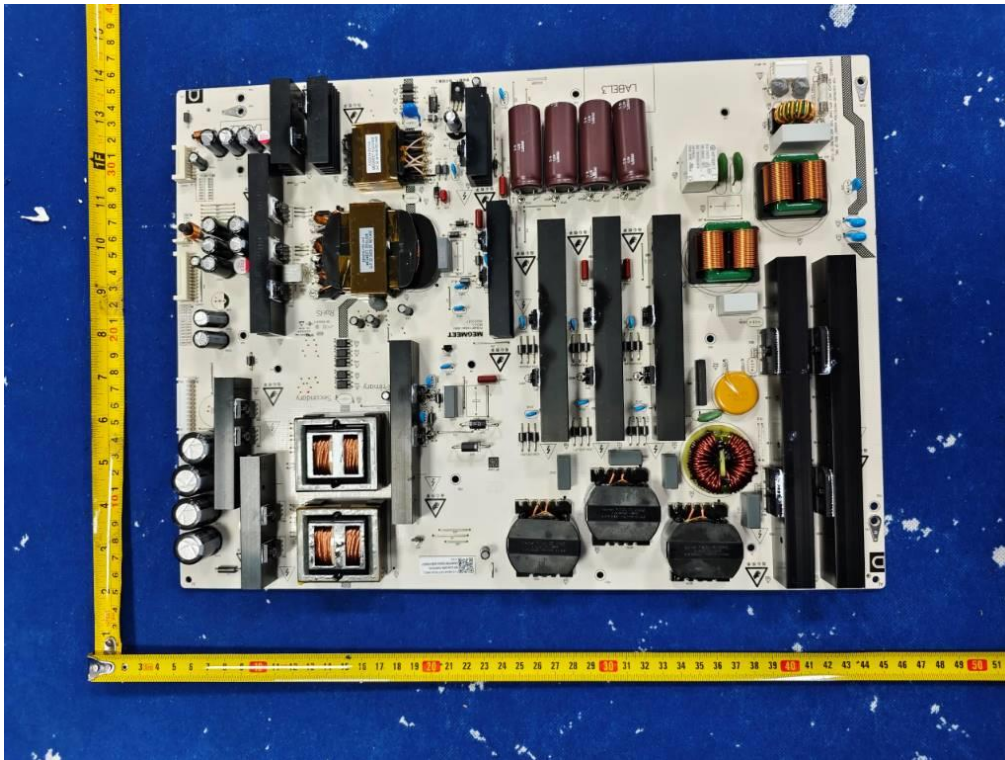
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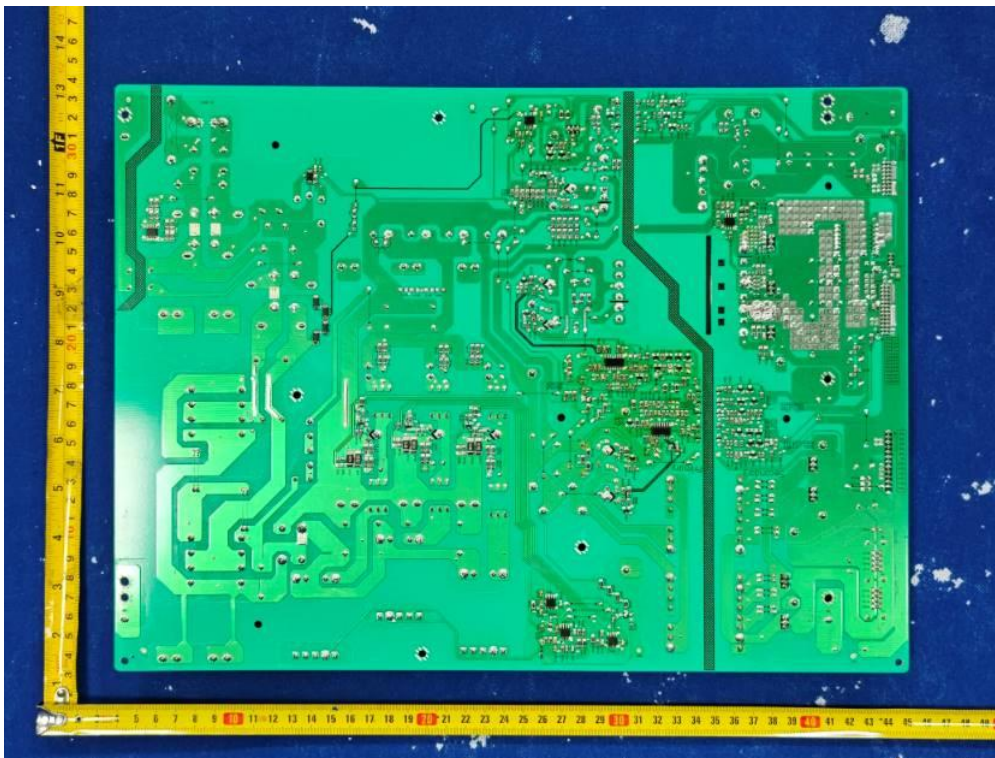
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Photographs 2-19



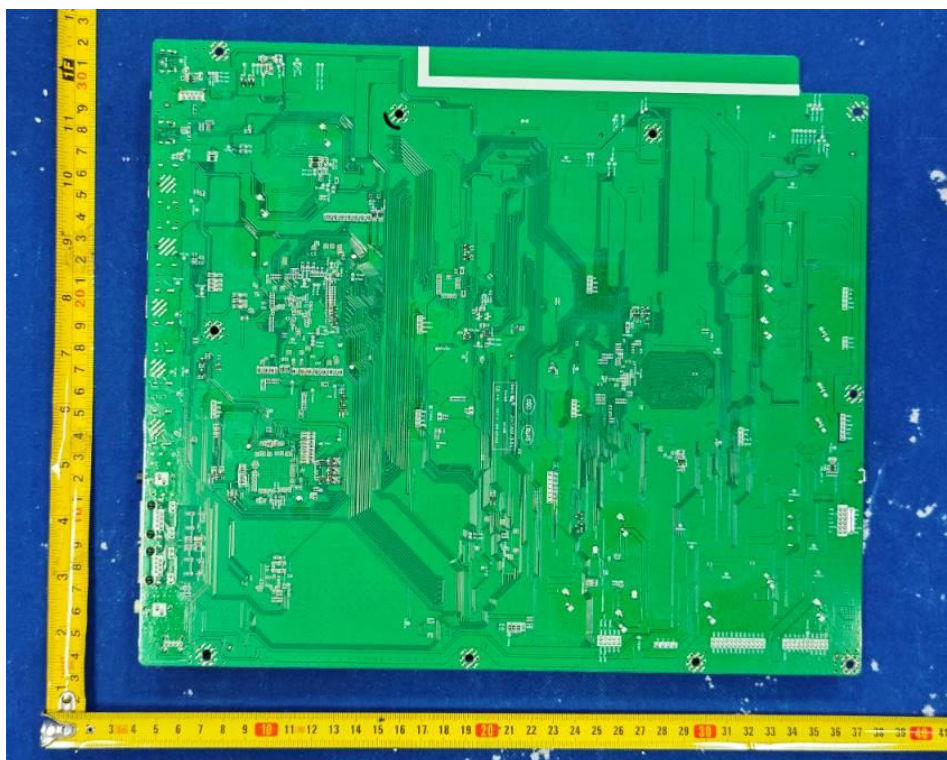
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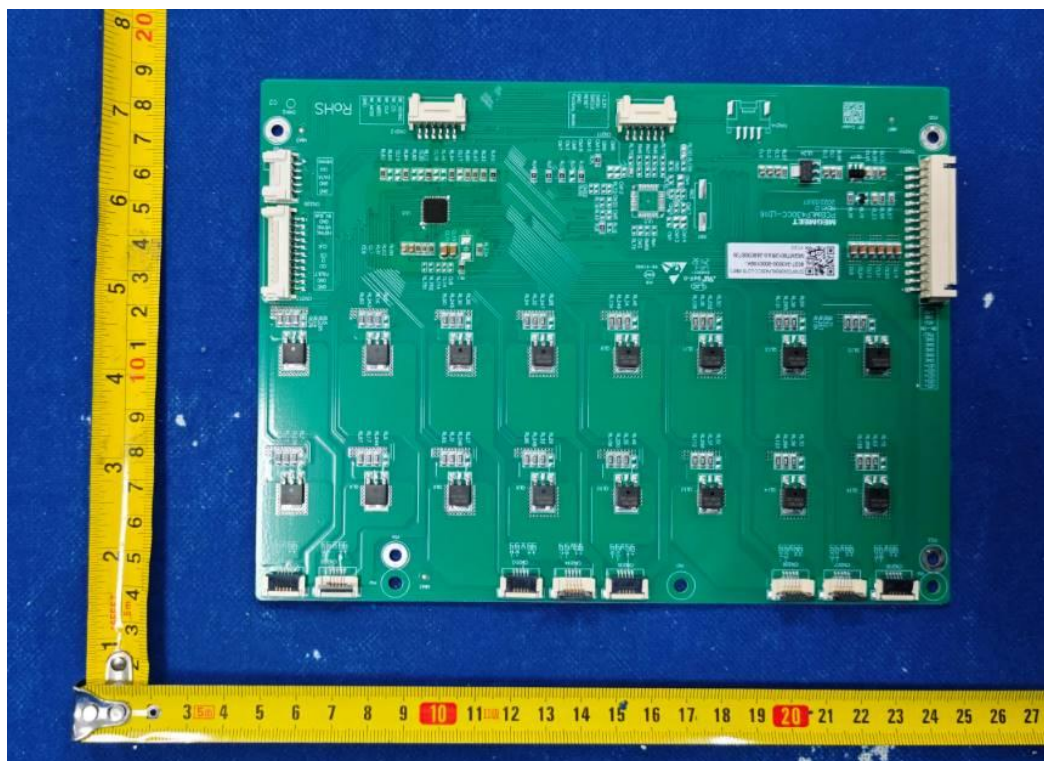
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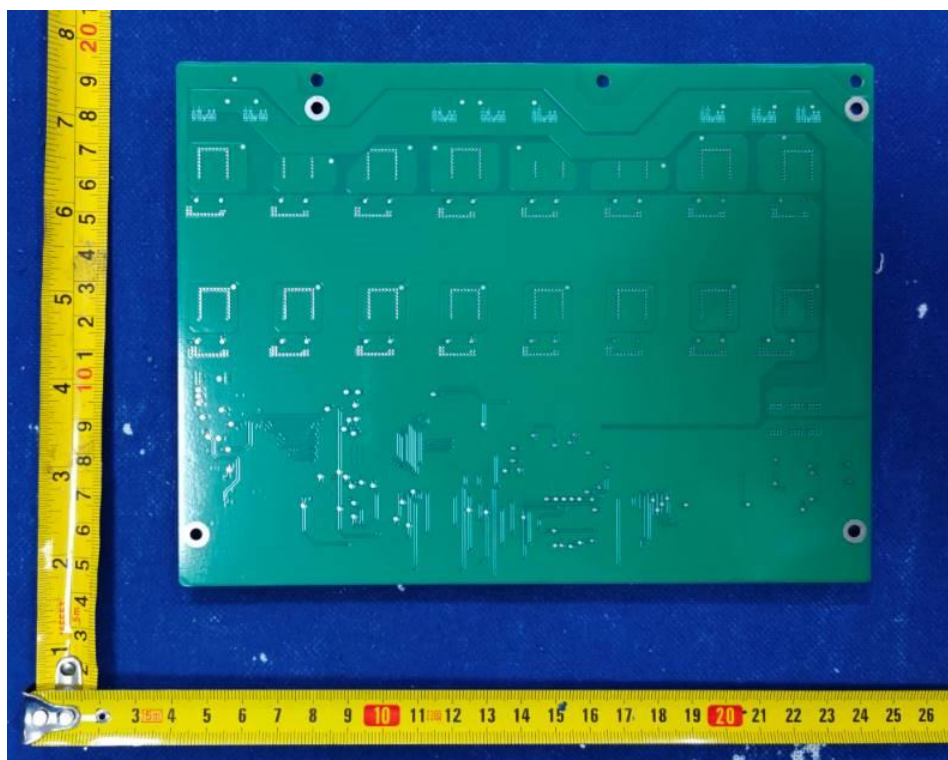
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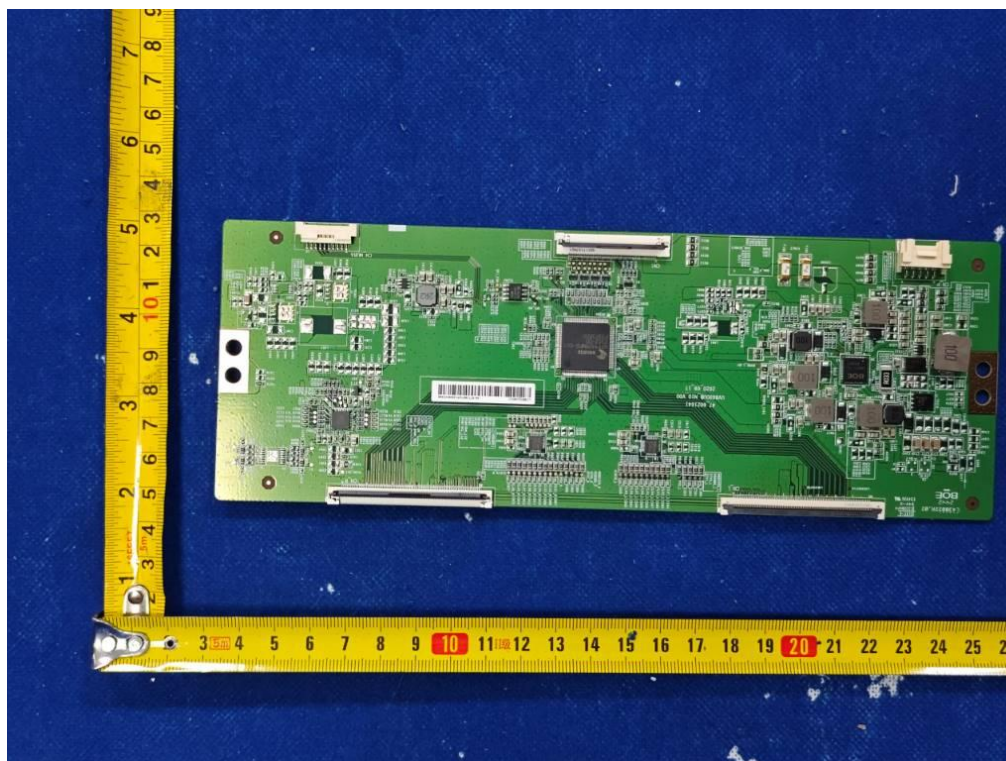
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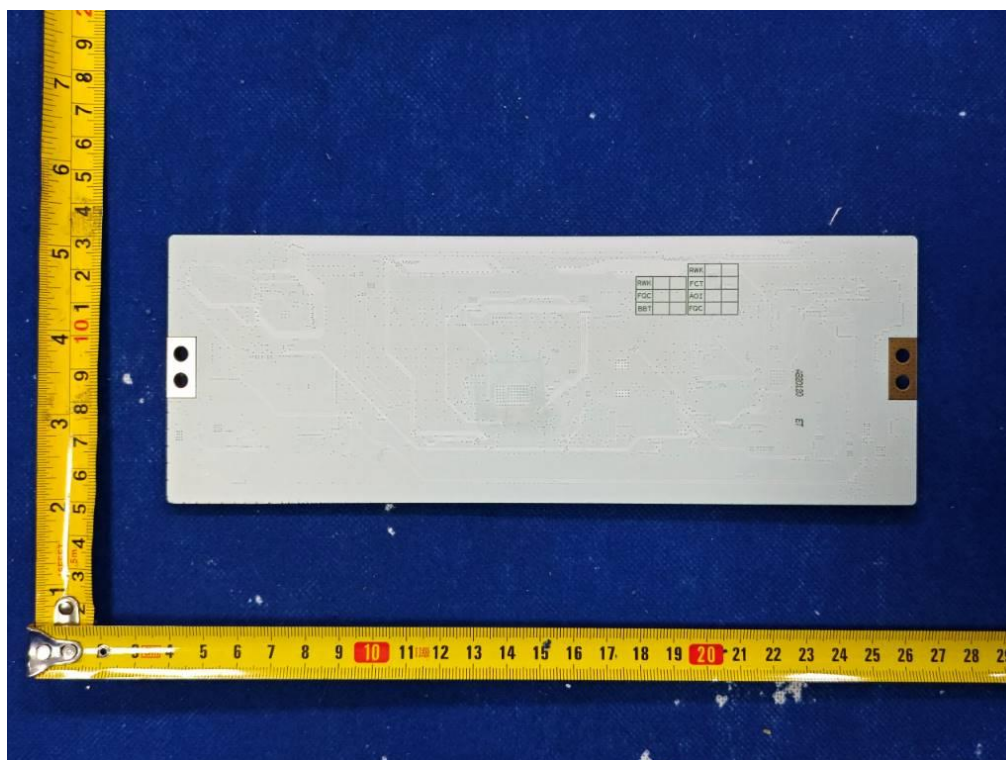
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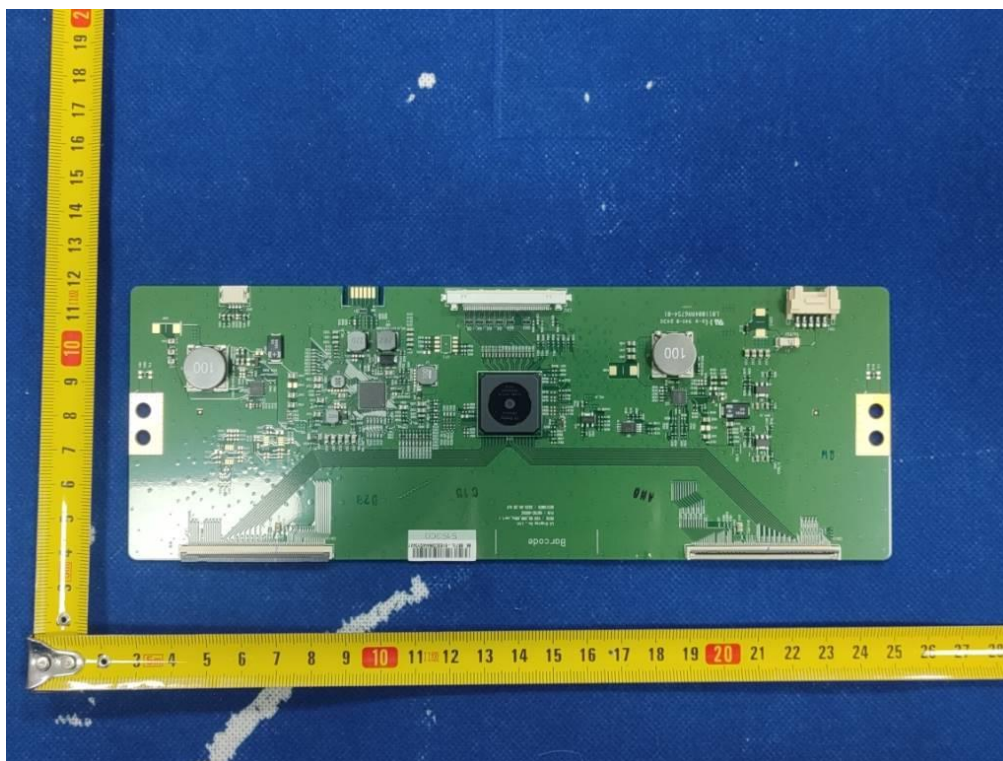
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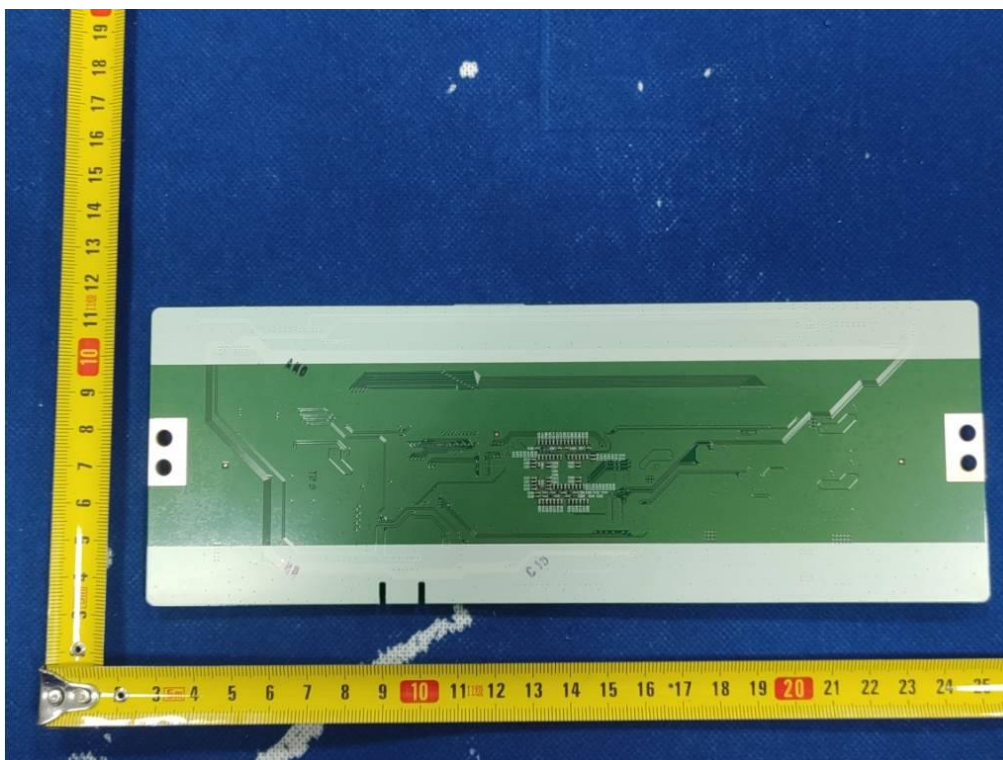
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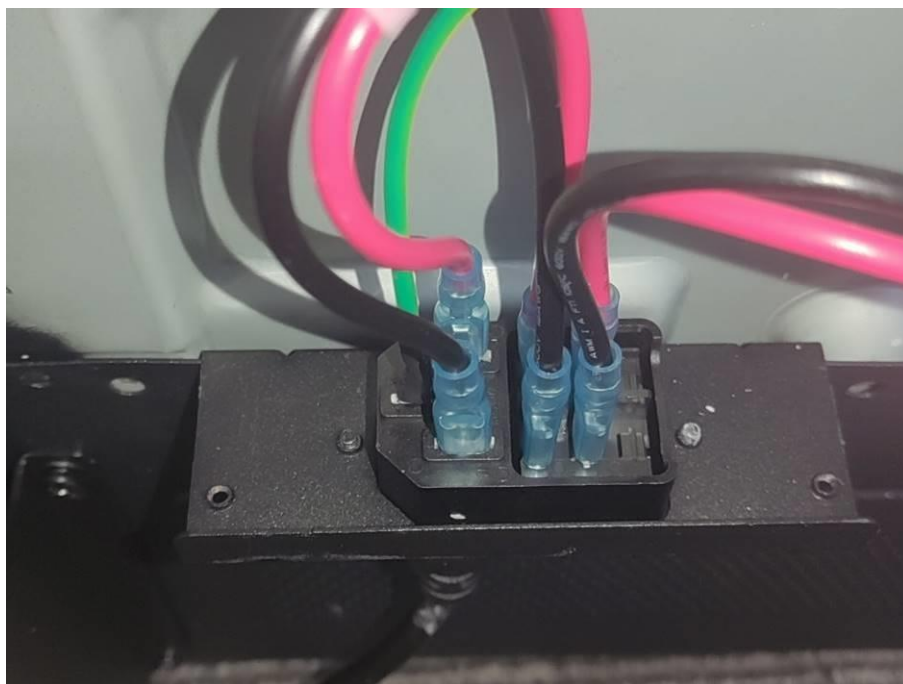
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Photographs 2-28



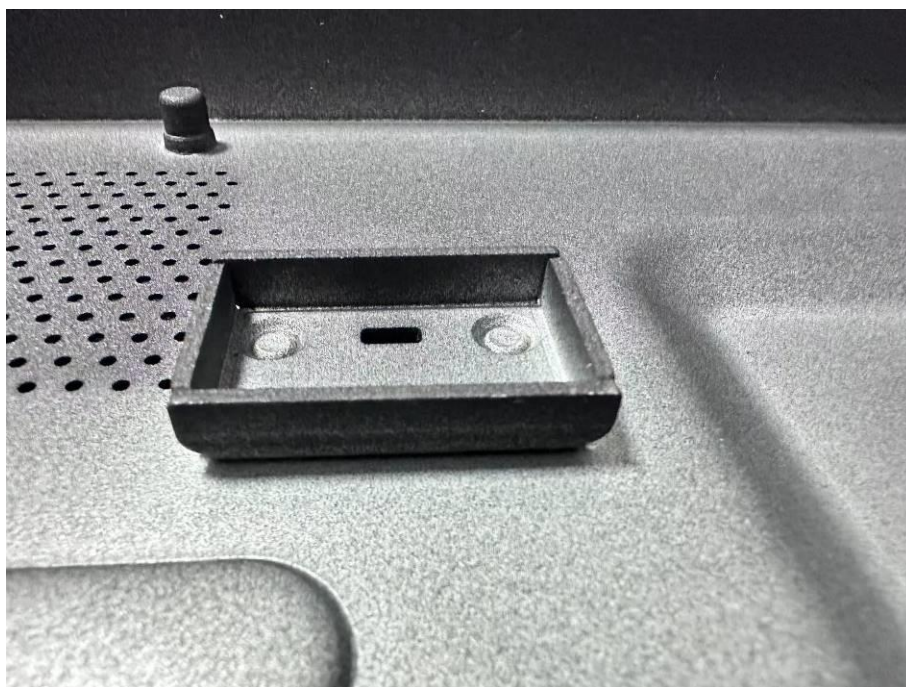
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Photographs 2-30



Photographs 2-31



Photographs 2-32



Photographs 2-33



Photographs 2-34

