



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 : ESTS-P22082009

Date of issue : 2022-12-01

Total number of pages : 89 Pages

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

Applicant's name : Sharp NEC Display Solutions, Ltd.

Address : 4-28, Mita 1-chome, Minato-ku, Tokyo, 108-0073 Japan.

Test specification:

Standard : IEC 62368-1:2014

Test procedure : CB Scheme

Non-standard test method : N/A

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

Test Report Form No. : IEC62368_1D

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

Master TRF : Dated 2022-04-14

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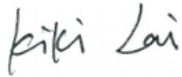
If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

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

General disclaimer:

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

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Test Item description	LCD MONITOR	
Trade Mark(s)	NEC	
Manufacturer	Same as applicant	
Model/Type reference	M861	
Ratings	Input: 100-240V~, 50/60Hz, 6.6-2.6A	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ CB Testing Laboratory:	EST Technology Co., Ltd.	
Testing location/ address	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China	
Tested by (name, function, signature)	Kiki Lai (Project handler)	
Approved by (name, function, signature)	John Lan (Reviewer)	
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: Photo documentation (25 pages)
- Attachment 2: National Differences (60 pages)
- Attachment 3: Product documentation (6 pages)
- Attachment 4: J3000 (H25) documentation (2 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	Electrical energy source classifications
5.4.1.4, 6.3.2, 9.0, B.2.6	Maximum operating temperatures for materials, components and systems
5.4.1.8	Determination of working voltage
5.4.1.10.3	Ball pressure
5.4.8	Humidity conditioning
5.4.9	Electric strength test
5.5.2.2	Safeguards against capacitance discharge test
5.6.6.2	Resistance of protective conductors and terminations
5.7.4	Earthed accessible conductive part
6.2.2	Electrical power sources (PS) measurements for classification
8.6	Stability
8.7	Equipment mounted to wall or ceiling
8.8.2	Handles strength test
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
G.5.3.3	Transformer overload
M.3.2	Protection circuits for batteries
P.4.2	Metallized coatings and adhesive securing parts
Q.1.2	Limited power sources
T.2	Steady force test, 10 N
T.3	Steady force test, 30 N
T.5	Steady force test. 250N
T.6	Impact test

Remark:

1. The EUT passed the above all tests.

Testing location:

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

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

EU group differences, United Kingdom (per customer's request shown separately), Canada and United States, Australia /New Zealand, Japan, Denmark, Italy.

- ☒ The product fulfils the requirements of CAN/CSA C22.2 No. 62368-1-14.
- ☒ The product fulfils the requirements of EN 62368-1:2014/A11:2017, BS EN 62368-1:2014/A11:2017.
- ☒ The product fulfils the requirements of UL 62368-1, Second Edition.
- ☒ The product fulfils the requirements of AS/NZS 62368.1:2018.
- ☒ The product fulfils the requirements of J62368-1 (2020).
- ☒ The product fulfils the requirements of CEI EN 62368-1:2016.
- ☒ The product fulfils the requirements of DS/EN 62368-1:2014.

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(s):

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.

NEC MultiSync M861

VOLTS Вольт 输入电压 輸入電壓 : 100-240V~

AMPERES Ампер 电流 電流 : 6.6-2.6A

FREQUENCY Частота 工作频率 工作頻率 : 50/60Hz

LCD MONITOR**ЖК-МОНИТОР**

液晶显示器 彩色顯示器

모니터 (86인치 LCD 모니터)

(MODEL / Модель / 型号 / 型號 / 모델명 : M861)

**CAUTION:** TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THE ENCLOSURE.

NO USER-SERVICEABLE PARTS INSIDE.

ATTENTION: AFIN DE PREVENIR DE TOUT CHOC ELECTRIQUES, NE PAS OUVRIR CE BOITIER.

AUCUNE PIECE INTERNE NE PEUT-ETRE CHANGEES PAR L'UTILISATEUR.

ACHTUNG: ZUR TRENNUNG VOM NETZ IST DER NETZSTECKER AUS DER STECKDOSE ZU ZIEHEN.

GERÄT NICHT ÖFFNEN. ES SIND KEINE DURCH DEN BENUTZER AUSWECHSELBAREN TEILE IM GERÄT VORHANDEN.

PRECAUCIÓN: PARA PREVENIR DESCARGA ELÉCTRICA, NO quite EL RECINTO.

NINGUNAS PIEZAS DEL USUARIO SERVICABLE ADENTRO.

VAROITUS: LAITE ON LIITETTÄVÄ SUOJAKOSKETTIMILLA VARUSTETTUUN PISTORASIAAN.**WARNING:** APPARATEN SKALL ANSLUTAS TILL JORDAT UTGÅT.**ADVARSSEL:** APPARATET MÅ TILKOPLES JORDET STIKKONTAKT.**ADVARSSEL:** APPARATETS STIKKPROP SKAL TILSLUTTES EN STIKKONTAKT

MED JORD SOM GIVER FORBINDELSE TIL STIKKPROPPENS JORD.

⚠️ **注意:** 請勿打開後蓋, 小心高壓電擊。機內並無用戶配件。⚠️ **注意:** 請勿打開後蓋, 小心高壓電擊。機內並無用戶配件。⚠️ **警告:** 使用過度恐傷視力。

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

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

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

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

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

تنبيه

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

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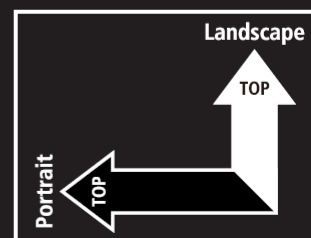
4 Furzground Way, Stockley Park, Uxbridge, Middlesex, UB11 1EZ, United Kingdom

生産廠: 瑞能科技 (杭州) 有限公司 生产厂: 瑞能科技 (杭州) 有限公司

生产地址: 浙江杭州经济技术开发区综合保税区东门3号2幢2楼

제조: Dynabook Technology (Hangzhou) Inc.

Applicant: Huizhou KTC Technology Co., Ltd.



中国製造 中國製造

MADE IN CHINA FABRIQUE EN CHINE

FABRICADO EN CHINA Сделано в Китае

For USB Type-A and USB SERVICE ports output marking:



Remark:

1. The above markings are the minimum requirements by the safety standard. For the final production samples, additional markings which do not give rise to misunderstanding may be added.
2. When this apparatus is vended to Europe, the CE marking, WEEE symbol, manufacture/import name and address should be added in the making plate, at the same time, The CE marking and WEEE symbol should be at least 5.0mm and 7.0mm respectively in height.
3. For some special national requirement, the USB ports rating shall be provided on marking but will not listed in page 2 ratings.

TEST ITEM PARTICULARS:	
Classification of use by	☒ Ordinary person ☐ Instructed person ☐ Skilled person ☒ Children likely to be present
Supply Connection.....	☒ AC Mains ☐ DC Mains ☐ External Circuit - not Mains connected - ☐ ES1 ☐ ES2 ☐ ES3
Supply % Tolerance	☒ +10%/-10% ☐ +20%/-15% ☐ + ____ %/ - ____ % ☐ None
Supply Connection – Type	☒ pluggable equipment type A - ☐ non-detachable supply cord ☒ appliance coupler ☐ direct plug-in ☐ mating connector ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☐ mating connector ☐ other: ____
Considered current rating of protective device as part of building or equipment installation	US, CA: 20 A; UK: 13 A; Others: 16 A. Equipment: 15A. Installation location: ☒ building; ☒ equipment
Equipment mobility	☐ movable ☐ hand-held ☐ transportable ☒ stationary ☐ for building-in ☐ direct plug-in ☐ rack-mounting ☒ wall-mounted
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other: ____
Class of equipment	☒ Class I ☐ Class II ☐ Class III ☐ Class II with functional earthing ☐ Not classified
Access location	☐ restricted access area ☒ N/A
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified maximum operating ambient	40°C
IP protection class	☐ IPX0 ☒ IP30
Power Systems	☒ TN ☐ TT ☐ IT - ____ V _{L-L} ; ☐ dc mains ☐ N/A
Altitude during operation (m)	☐ 2000 m or less ☒ 5000 m
Altitude of test laboratory (m)	☒ 2000 m or less ☐ ____ m
Mass of equipment (kg)	☒ Approx. 51.87kg (include stand base: 4.45kg)

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	2022-08-20
Date (s) of performance of tests	2022-08-20 to 2022-09-30
GENERAL REMARKS:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.	
Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC62368-1:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided	☒ Yes ☐ Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies)	1) Huizhou KTC Technology Co., Ltd. NO.38 Guangtai Road, Huinan HI-TECH Industrial Park, Huizhou City, Guangdong Province, China 2) Dynabook Technology (Hangzhou) Inc. 2/F, Building2, NO.3, East Gate, Comprehensive bonded Zone, Hangzhou Economic and Technical Development Zone, Zhejiang, China
General product information and other remarks:	
Product Description – 1. The equipment is Class I 86" LCD MONITOR. 2. The equipment is configured with following ports: EXTERNAL SPEAKER(S), AUDIO OUT, LAN1, LAN2, REMOTE, DisplayPort IN1 (8K), DisplayPort IN2, DisplayPort OUT, HDMI IN1 (ARC), HDMI IN2, HDMI OUT, USB-A (Hub/0.5A), USB-B (Ctrl), SEVICE (2A), RS-232C. 3. External metal enclosure used as fire enclosure, mechanical enclosure and electrical enclosure fixed by screws. 4. This equipment is intended to be operated under altitude up to 5000m, so the clearance is multiplied by the altitude correction factors of 1.48. 5. The suitable power supply cord shall be provided and evaluated during national approval. 6. The monitor can be used in the portrait and landscape position, and inclination angle $\pm 30^\circ$. When using the monitor in the portrait position, it should be rotated counter clock wise so that the right side is moved to the top and the left side is moved to the bottom, details see user manual. 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. 12V/5.5A;

Power supply for Raspberry Pi Compute Module: Max. 12V/1.67A;

Power supply for Optional Board and Raspberry Pi Compute Module: Max. 12V/5.5A.

8. The attachment of J3000(H25) is for information only.

Model Differences –

N/A

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

N/A

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.)	
Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input ES1	
Source of electrical energy	Corresponding classification (ES)
All circuits except for after CN201 and CN203 of power board	ES3
X capacitor connected between L and N	ES3
Y capacitor connected between L/N to earth	ES1
Power board output CN201 and CN203	ES1
All accessible ports outside the fire enclosure	ES1
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): PS2	
Source of power or PIS	Corresponding classification (PS)
All circuits except for main board output CN603, CN403, CN404 and accessible ports	PS3, Arching PIS, Resistive PIS
Main board output CN603 (for internal speaker)	PS2, Resistive PIS
Main board output CN403 and CN404 (for KEY&IR board)	PS1
All accessible ports	PS1
Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component Glycol	
Source of hazardous substances	Corresponding chemical
RTC cap. on main board	Electrolyte
Mechanically-caused injury (Clause 8) (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit MS2	
Source of kinetic/mechanical energy	Corresponding classification (MS)
Wall/ceiling mount	MS3
Mass of the unit	MS3
Plastic fan blades	MS3 (declared)
Edges and corners of enclosure	MS1
Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure TS1	
Source of thermal energy	Corresponding classification (TS)
External enclosure surfaces	TS1 for accessible part

Internal circuits	TS3 for Internal parts
Radiation (Clause 10) (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product RS1	
Type of radiation	Corresponding classification (RS)
LED Indicator	RS1
LED panel	RS1

ENERGY SOURCE DIAGRAM	
Indicate which energy sources are included in the energy source diagram. Insert diagram below	
☐ ES ☐ PS ☐ MS ☐ TS ☐ RS	
Details see ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE	

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplement ary	Reinforced (Enclosure)
Ordinary	ES3: The circuits connected to AC mains	N/A	N/A	Enclosure See 5.4.2, 5.4.3, 5.5.3 and 5.5.4
Ordinary	ES3: The circuits connected to AC mains	Basic Insulation, See 5.4.2, 5.4.3	Protective Earthing	N/A
Ordinary	ES3: Line to Neutral (Stored energy in X Capacitors)	N/A	N/A	See 5.5.2.2
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source	Safeguards		
		Basic	Supplement ary	Reinforced
Enclosure	PS3 and PS2 circuit	See 6.3	See 6.4.5, 6.4.6	N/A
PCB	PS3 and PS2 circuit	See 6.3	See 6.4.5, 6.4.6	N/A
Internal/external wiring	PS3 and PS2 circuit	See 6.3	See 6.5	N/A
The other components/materials	PS3 and PS2 circuit	See 6.3	See 6.4.5, 6.4.6	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplement ary	Reinforced
Ordinary	Electrolyte (RTC cap. on	N/A	N/A	See annex

	main board)			M.3
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplement ary	Reinforced (Enclosure)
Ordinary	MS3: Wall/ceiling mount	N/A	N/A	See 8.7
Ordinary	MS3: Mass of the unit	N/A	N/A	See 8.6, 8.8.2
Ordinary	MS3: Plastic fan blades (declared)	N/A	N/A	Enclosure
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplement ary	Reinforced
Ordinary	TS3: Internal parts/circuits	N/A	N/A	Enclosure
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplement ary	Reinforced
N/A	N/A	N/A	N/A	N/A
Supplementary Information:				
(1) See attached energy source diagram for additional details.				
(2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

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

4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment. See also Annex G. See appended table 4.1.2	P
4.1.3	Equipment design and construction		P
4.1.15	Markings and instructions.....:	(See Annex F)	P
4.4.4	Safeguard robustness	See below.	P
4.4.4.2	Steady force tests.....:	(See Annex T.5)	P
4.4.4.3	Drop tests.....:		N/A
4.4.4.4	Impact tests.....:	(See Annex T.6)	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests.....:	The external enclosure cannot be opened without damaging the product.	N/A
4.4.4.6	Glass Impact tests.....:	Laminated glass	N/A
4.4.4.7	Thermoplastic material tests.....:		N/A
4.4.4.8	Air comprising a safeguard.....:	(See Annex T)	P
4.4.4.9	Accessibility and safeguard effectiveness		P
4.5	Explosion	No explosion occurs during normal/abnormal operation and single fault conditions	P
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard		P
4.6.2	10 N force test applied to.....:	See appended table 5.4.2.2, 5.4.2.4 and 5.4.3	P
4.7	Equipment for direct insertion into mains socket – outlets		N/A
4.7.2	Mains plug part complies with the relevant standard.....:		N/A
4.7.3	Torque (Nm).....:		N/A
4.8	Products containing coin/button cell batteries	No coin/button cell batteries used.	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery.....:		—
4.8.4	Battery Compartment Mechanical Tests.....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object..... :	See Annex P	P

5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications :	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits..... :	(See appended table 5.2)	P
5.2.2.4	Single pulse limits :		N/A
5.2.2.5	Limits for repetitive pulses :		N/A
5.2.2.6	Ringing signals :	No such ringing signals within the EUT	N/A
5.2.2.7	Audio signals :	(See Annex E)	P
5.3	Protection against electrical energy sources	See below	P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See only 4.3 and 5.3 to 5.5 which applies to protection between the accessible parts and hazardous parts of other circuits.	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only ES1 circuit can be accessed for this product.	P
5.3.2.2	Contact requirements		P
	a) Test with test probe from Annex V..... :	No openings allowing entry of a probe. No access with test probe to any ES3 circuit or parts.	P
	b) Electric strength test potential (V) :	Not applicable	N/A
	c) Air gap (mm) :	More than 1.0mm	P
5.3.2.4	Terminals for connecting stripped wire	External speaker terminal: ES1. No access with test probe to any ES3 or ES2 circuit or parts.	P
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	The choice and application have taken into account as specified in this Clause 5 and Annex T and natural rubber, hygroscopic materials or asbestos are not used as insulation.	P
5.4.1.3	Humidity conditioning :	Humidity conditioning test was conducted, refer to 5.4.8.	P
5.4.1.4	Maximum operating temperature for insulating materials :	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
5.4.1.5	Pollution degree :	2	—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2 is applied. No insulating compound applied (however see 5.5.4).	N/A
5.4.1.5.3	Thermal cycling	See above	N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such transformer.	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such starting pulses.	N/A
5.4.1.8	Determination of working voltage	(See attachment 3 appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P
5.4.1.10.2	Vicat softening temperature		N/A
5.4.1.10.3	Ball pressure	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances	The highest value of 5.4.2.2 and 5.4.2.3 be used.	P
5.4.2.2	Determining clearance using peak working voltage	Temporary overvoltage 2000V _{peak} assumed. (See appended table 5.4.2.2)	P
5.4.2.3	Determining clearance using required withstand voltage	(See appended table 5.4.2.3)	P
	a) a.c. mains transient voltage	2500 V _{pk} considered for Overvoltage Cat. II	—
	b) d.c. mains transient voltage	Not d.c. mains.	—
	c) external circuit transient voltage.....	No such transient	—
	d) transient voltage determined by measurement :	Not applicable.	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages	1.48	P
5.4.3	Creepage distances.....	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group	IIIb	—
5.4.4	Solid insulation	See below	P
5.4.4.2	Minimum distance through insulation	(See appended table 5.4.4.2)	P
5.4.4.3	Insulation compound forming solid insulation	No such insulation applied.	N/A
5.4.4.4	Solid insulation in semiconductor devices	Considered in approved power supply	P
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material	See below	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	(See appended Table 5.4.9)	P
	Number of layers (pcs) :	Min. 2 layers	P
5.4.4.6.3	Non-separable thin sheet material	No such insulation used within the EUT	N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components	See G.5.3 and G.6.1 only.	P
5.4.4.9	Solid insulation at frequencies >30 kHz :	(See appended table 5.4.9)	P
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ) :		—
5.4.6	Insulation of internal wire as part of supplementary safeguard..... :	No such insulation of internal wire as part of supplementary safeguard.	N/A
5.4.7	Tests for semiconductor components and for cemented joints	No tests necessary –see only 5.4.4.4.	N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%) :	93%	—
	Temperature (°C) :	40°C	—
	Duration (h) :	120h	—
5.4.9	Electric strength test..... :	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for a solid insulation type test	(See appended table 5.4.9)	P
5.4.9.2	Test procedure for routine tests	Should be considered and conducted during production at factory.	N/A
5.4.10	Protection against transient voltages between external circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test..... :		N/A
5.4.10.2.3	Steady-state test :		N/A
5.4.11	Insulation between external circuits and earthed circuitry :		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U _{op} (V) :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Nominal voltage U_{peak} (V)		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		P
5.5.1	General		P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector	(See appended table 5.5.2.2)	P
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	(See Annex G.12)	P
5.5.5	Relays	Insulation of relays not used as a safeguard	N/A
5.5.6	Resistors		N/A
5.5.7	SPD's		N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable	No such external circuits.	N/A
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation	Green and yellow	P
5.6.3	Requirement for protective earthing conductors		P
	Protective earthing conductor size (mm ²)	Max. rated current of equipment is 6.6 A, cross-sectional area is min. 0.75 mm ² (length less than 2m) or min. 16 AWG.	—
5.6.4	Requirement for protective bonding conductors		P
5.6.4.1	Protective bonding conductors	Comply with 5.6.6 and Table 31	P
	Protective bonding conductor size (mm ²).....	Max. rated current of equipment is 6.6 A, cross-sectional area is min. 0.75 mm ² or min. 18 AWG.	—
	Protective current rating (A)	16 A or 13 A (UK) or 20 A (North America)	—
5.6.4.3	Current limiting and overcurrent protective devices		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.5	Terminals for protective conductors	The earthing terminal in the appliance inlet is regarded as the main protective earthing terminal.	P
5.6.5.1	Requirement	Terminals for protective bonding conductors comply with Table 32.	P
	Conductor size (mm ²), nominal thread diameter (mm)	Cross-sectional area of protective bonding conductor is min. 0.75 mm ² (length less than 2m) or min. 16 AWG from table G.7. Screw type, min. nominal thread diameter is 4.0 mm	P
5.6.5.2	Corrosion	No combination above the line in annex N is used.	P
5.6.6	Resistance of the protective system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method Resistance	(See appended table 5.6.6.2)	P
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current	(See appended table 5.2)	P
5.7.2.2	Measurement of prospective touch voltage		P
5.7.3	Equipment set-up, supply connections and earth connections		P
	System of interconnected equipment (separate connections/single connection)		—
	Multiple connections to mains (one connection at a time/simultaneous connections)		—
5.7.4	Earthed conductive accessible parts	(See appended table 5.7.4)	P
5.7.5	Protective conductor current		N/A
	Supply Voltage (V)		—
	Measured current (mA)		—
	Instructional Safeguard		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA)		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	(See appended table 6.2.2)	P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault :	(See appended table 6.2.2)	P
6.2.2.4	PS1 :	(See appended table 6.2.2)	P
6.2.2.5	PS2 :	(See appended table 6.2.2)	P
6.2.2.6	PS3 :	See page of energy source identification and classification table for details.	P
6.2.3	Classification of potential ignition sources	See the following details.	P
6.2.3.1	Arcing PIS :	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS :	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials :	No ignition and no such temperature attained within the equipment. (See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure		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	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions :		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		P
6.4.5	Control of fire spread in PS2 circuits		P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.5.2	Supplementary safeguards	Compliance detailed as follows: – Printed board: rated V-1 or better. – Wire insulation (tubing): complying with Clause 6 (See Table 4.1.2 for wiring used). – All other components: at least V-2/VTM-2 except for mounted on min. V-1 material or small parts (<4g) of combustible material. – Isolating transformer: complying with G.5.3. (See Annex G). – Not ignite during single fault conditions as specified in 6.4.3.2. (For speakers, see appended table B.3, B.4).	P
6.4.6	Control of fire spread in PS3 circuit	Metal enclosure used	P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.1	General.....		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers	See below.	P
6.4.8.1	Fire enclosure and fire barrier material properties	Metal enclosure used	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 in Fire Enclosure: dimensions (mm)	For all operating position, no any opening on metal enclosure exceeds 3 mm in any dimensions: Round holes diameter with approx. 2.4mm and 1.8mm.	P
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm)	For all operating position: 1) Openings do not exceed 3 mm in any dimension (Round holes diameter with approx. 2.4mm and 1.8mm). 2) Openings do not exceed 1 mm in width regardless of length.	P
	Flammability tests for the bottom of a fire enclosure		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating.....:	Metal enclosure used	P
6.5	Internal and external wiring		P
6.5.1	Requirements	VW-1 wires used, Which considered to equivalent to IEC/TS 60695-11-21	P
6.5.2	Cross-sectional area (mm ²)	See appended table 4.1.2 for detail.	—
6.5.3	Requirements for interconnection to building wiring		N/A
6.6	Safeguards against fire due to connection to additional equipment		P
	External port limited to PS2 or complies with Clause Q.1		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 (PPE)		N/A
	Personal safeguards and instructions		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010)		—
7.6	Batteries.....:	(See Annex M)	P

8	MECHANICALLY-CAUSED INJURY		P
8.1	General		P
8.2	Mechanical energy source classifications	See page of energy source identification and classification table for details.	P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners	Edges and corners of the enclosure are rounded.	P
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts		P
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment	DC fan cannot accessible for ordinary person	P
8.5.2	Instructional Safeguard		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N)		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test.....		N/A
8.6	Stability		P
8.6.1	Product classification		P
	Instructional Safeguard	Not television sets	—
8.6.2	Static stability		P
8.6.2.2	Static stability test		P
	Applied Force	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, and does not tip over during the tests.	—
8.6.2.3	Downward Force Test	Test for base stand	P
8.6.3	Relocation stability test		P
	Unit configuration during 10° tilt.....	Not tip over	—
8.6.4	Glass slide test	During the test, the equipment does not slide and tip over	P
8.6.5	Horizontal force test (Applied Force).....	The equipment is placed on a plane and is rotated through an angle of 360° about its normal vertical axis while tilted at an angle of 15°, During the test, the equipment does not tip over.	P
	Position of feet or movable parts.....	Not applicable	—
8.7	Equipment mounted to wall or ceiling		P
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)	Four screws provided, and each rated M8 with a length of 14-16mm.	P

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Clause	Requirement + Test	Result - Remark	Verdict
8.7.2	Direction and applied force	Weight: 47.42kg*9.8N/kg=465N. Test 2: Each of four threaded holes is subjected to below force 453N, one at a time, shall be subjected to the following six test forces: – a shear force perpendicular to its centre axis for 1 min. The force shall be applied in four directions, one direction at a time, separated by 90°. – an inward directed push force parallel to its centre axis for 1 min. – an outward directed pull force parallel to its centre axis for 1 min. Test 3: Each of four screws is loosened and then tightened 5 times with a torque 2.5 Nm.	P
8.8	Handles strength		P
8.8.1	Classification	MS3	P
8.8.2	Applied Force	Total force: (51.87+100) kg x 9.8kg/N=1489N 1) Tested for each of four handles: 373N; 2) Tested for each of two eyebolt brackets: 745N.	P
8.9	Wheels or casters attachment requirements		N/A
8.9.1	Classification		N/A
8.9.2	Applied force		—
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)		—
8.10.6	Thermoplastic temperature stability (°C).....		N/A
8.11	Mounting means for rack mounted equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable N		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas	No such parts.	N/A
	Button/Ball diameter (mm)		—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications		P
9.3	Safeguard against thermal energy sources	Temperature of enclosure classed as TS1.	P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard		P
9.4.2	Instructional safeguard		N/A

10	RADIATION		P
10.2	Radiation energy source classification	RS1	P
10.2.1	General classification		P
10.3	Protection against laser radiation		N/A
	Laser radiation that exists in the equipment:		—
	Normal, abnormal, single-fault..... :		N/A
	Instructional safeguard		—
	Tool..... :		—
10.4	Protection against visible, infrared, and UV radiation	1) The LED only used for indicating, which is considered as low power & inherently exempt group according to IEC 62471. 2) The luminance of LED panel does not exceed 10^4 cd/m ² , the radiation does not exceed the exposure limits given in 4.3 of IEC 62471:2006	P
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons		N/A
10.4.1.b)	RS3 accessible to a skilled person..... :		N/A
	Personal safeguard (PPE) instructional safeguard..... :		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1 . :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.4.1.d)	Normal, abnormal, single-fault conditions		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque.....		N/A
10.4.1.f)	UV attenuation.....		N/A
10.4.1.g)	Materials resistant to degradation UV		N/A
10.4.1.h)	Enclosure containment of optical radiation.....		N/A
10.4.1.i)	Exempt Group under normal operating conditions.....		N/A
10.4.2	Instructional safeguard		N/A
10.5	Protection against x-radiation		N/A
10.5.1	X- radiation energy source that exists equipment :		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards.....		N/A
	Instructional safeguard for skilled person.....		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation		—
	Abnormal and single-fault condition		N/A
	Maximum radiation (pA/kg).....		N/A
10.6	Protection against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)		N/A
	Output voltage, unweighted r.m.s.....		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards		N/A
	Equipment safeguard prevent ordinary person to RS2.....		—
	Means to actively inform user of increase sound pressure.....		—
	Equipment safeguard prevent ordinary person to RS2.....		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output.....		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)		—
10.6.5.3	Cordless listening device		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Maximum dB(A)..... :		—

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements..... :	(See summary of testing for tested models, each loaded according to its output ratings. See also appended table B.2.5.)	P
	Audio Amplifiers and equipment with audio amplifiers :	(See Annex E)	P
B.2.3	Supply voltage and tolerances	+10 % and -10 % for AC mains considered.	P
B.2.5	Input test..... :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements..... :	(See appended table B.3)	P
B.3.2	Covering of ventilation openings	(See appended table B.3)	P
B.3.3	D.C. mains polarity test	The EUT is not connected to a D.C. mains	N/A
B.3.4	Setting of voltage selector :	No voltage selector was used.	N/A
B.3.5	Maximum load at output terminals :	(See appended table B.3)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	(See appended table B.3)	P
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effective.	P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited :	No such device used.	N/A
B.4.3	Motor tests		P
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature :	(See appended table B.4)	P
B.4.4	Short circuit of functional insulation	See below.	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards used.	N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4 for faults on semiconductor components)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	P

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.7	Continuous operation of components	The EUT is continuous operating type and no such components intended for short time operation or intermittent operation	N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		P
B.4.9	Battery charging under single fault conditions ... :	RTC Cap. Considered. (See Annex M.3)	P

C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A

D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A

E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		P
E.1	Audio amplifier normal operating conditions		P
	Audio signal voltage (V):	1) Internal speaker: 9.67V 2) External speaker: 9.56V	—
	Rated load impedance (Ω):	(See appended table B.2.5)	—
E.2	Audio amplifier abnormal operating conditions	(See appended table B.4)	P

F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements	See below.	P
	Instructions – Language:	English version provided (Version in other language will be provided when submitted for national approval)	—
F.2	Letter symbols and graphical symbols		P

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Clause	Requirement + Test	Result - Remark	Verdict
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 IEC, ISO or manufacturer specific	Graphical symbols are complied with IEC 60417, ISO 3864-2, ISO 7000 or ISO 7010.	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	The required marking is located on the enclosure of the equipment and is easily visible.	P
F.3.2	Equipment identification markings	See copy of marking plate.	P
F.3.2.1	Manufacturer identification	See copy of marking plate.	—
F.3.2.2	Model identification	See page 2	—
F.3.3	Equipment rating markings	See the following details.	P
F.3.3.1	Equipment with direct connection to mains	The equipment is direct connected to AC mains, see F.3.3.3 to F.3.3.6.	P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage.....	See copy of marking plate.	—
F.3.3.4	Rated voltage	See copy of marking plate.	—
F.3.3.4	Rated frequency	See copy of marking plate.	—
F.3.3.6	Rated current or rated power	See copy of marking plate.	—
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices	See below.	P
F.3.5.1	Mains appliance outlet and socket-outlet markings	No outlet used.	N/A
F.3.5.2	Switch position identification marking	1. A two-position power switch provided, and use the symbols "I" and "O" to indicate the "ON" and "OFF" positions. 2. A stand-by switch provided, and indicated by symbol "⏻".	P
F.3.5.3	Replacement fuse identification and rating markings	The current fuse is located within the equipment and not replaceable by an ordinary person or an instructed person. The current fuse is anyway marked with FP1: T15AH 250Vac	P
F.3.5.4	Replacement battery identification marking	See user manual	P
F.3.5.5	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification	See below.	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.1	Class I Equipment		P
F.3.6.1.1	Protective earthing conductor terminal	Appliance coupler was provided.	P
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals	A symbol IEC 60417-5017 (2006-08) is marked on metal chassis adjacent to screw type protective bonding terminal.	P
F.3.6.2	Class II equipment (IEC60417-5172)	Class I equipment	N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking	IP30	—
F.3.8	External power supply output marking		P
F.3.9	Durability, legibility and permanence of marking	Marking is considered to be legible and easily discernible. See also the following details.	P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec with the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge. After each test, the marking remained legible.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking		N/A
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place		P
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1	No such terminals provided.	N/A
	f) Protective earthing employed as safeguard		P
	g) Protective earthing conductor current exceeding ES2 limits		N/A
	h) Symbols used on equipment		N/A
	i) Permanently connected equipment not provided with all-pole mains switch	Not permanently connected equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	j) Replaceable components or modules providing safeguard function	No such markings.	N/A
F.5	Instructional safeguards		P
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction		P

G	COMPONENTS		P
G.1	Switches		P
G.1.1	General requirements	Approved switch used and is checked and complies with the requirements	P
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	Relays		P
G.2.1	General requirements	Considered in approved power supply	P
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	Protection Devices		P
G.3.1	Thermal cut-offs	No thermal cut-off used.	N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691	No thermal link used.	N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H)		—
	Single Fault Condition		—
	Test Voltage (V) and Insulation Resistance (Ω). :		—
G.3.3	PTC Thermistors	No PTC thermistor used.	N/A
G.3.4	Overcurrent protection devices	Current fuse complying with IEC 60127 as overcurrent protection device.	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.4	Connectors		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration	AC inlet complies with IEC/EN 60320-1, See appended table 4.1.2	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	Output connector with a shape that insert into mains connector is unlikely to occur.	P
G.5	Wound Components		P
G.5.1	Wire insulation in wound components.....	(See annex J)	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	By tube and insulation tape for TF2	P
G.5.1.2 b)	Construction subject to routine testing	See G.5.1	P
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s)		—
	Temperature (°C)		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	Transformers		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1).....	The transformer meets the requirements given in G.5.3.2 and G.5.3.3.	P
	Position.....	Considered in approved power supply	—
	Method of protection	By protection circuit design.	—
G.5.3.2	Insulation	Primary windings and secondary windings are separated by Reinforced insulation	P
	Protection from displacement of windings.....	By bobbin and insulation tape	—
G.5.3.3	Overload test	(See appended table B.3)	P
G.5.3.3.1	Test conditions	Tested in the complete equipment.	P
G.5.3.3.2	Winding Temperatures testing in the unit	(See appended table B.3)	P
G.5.3.3.3	Winding Temperatures - Alternative test method	Alternative test method was not considered.	N/A
G.5.4	Motors		P
G.5.4.1	General requirements	Approved DC motor (DC fan) used	P
	Position	See table 4.1.2	—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V)		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		P
G.6.1	General	Approved TIW used, Considered in approved power supply	P
G.6.2	Solvent-based enamel wiring insulation	Insulation does not rely on solvent-based enamel.	N/A
G.7	Mains supply cords		P
G.7.1	General requirements	Approved mains supply cords used	P
	Type.....	(See appended table 4.1.2)	—
	Rated current (A)	(See appended table 4.1.2)	—
	Cross-sectional area (mm ²), (AWG).....	(See appended table 4.1.2)	—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)....		—

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g)		—
	Diameter (m)		—
	Temperature (°C)		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		P
G.8.1	General requirements	Considered in approved power supply	P
G.8.2	Safeguard against shock	Method by control of fire spread applied	N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test		N/A
G.8.3.3	Temporary overvoltage		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No IC current limiter provided within the equipment.	N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA		—
G.9.1 d)	IC limiter output current (max. 5A)		—
G.9.1 e)	Manufacturers' defined drift		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	Resistors		N/A
G.10.1	General requirements		N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results)	Considered in approved power supply	P
	Type test voltage Vini	Considered	—
	Routine test voltage, Vini,b	Considered	—
G.13	Printed boards		P
G.13.1	General requirements	See the following details.	P
G.13.2	Uncoated printed boards	The insulation between conductors on the outer surfaces of an uncoated printed board complied with the minimum clearance and creepage requirements	P
G.13.3	Coated printed boards	No coated printed board or multilayer board applied for within the equipment.	N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction)		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements	No coating on component terminals considered to affect creepage or clearances.	N/A
G.15	Liquid filled components		N/A
G.15.1	General requirements	No such device provided within the equipment.	N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		P
a)	Humidity treatment in accordance with sc 5.4.8 – 120 hours	Considered in approved power supply	N/A
b)	Impulse test using circuit 2 with U_c = to transient voltage		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance		—
D3)	Resistance		—

H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General	No telephone ringing signal generated within the equipment.	N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):.....		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		P
	General requirements	Certified triple insulation wire used, Considered in approved power supply	P
K	SAFETY INTERLOCKS		N/A
K.1	General requirements	No safety interlock provided.	N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location)		N/A
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		P
L.1	General requirements	AC inlet used as disconnect device.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources	Only one a.c. mains connection.	N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		P
M.1	General requirements	Dry battery used in remote control, Complete instructional safeguard is provided in the instructions.	P
M.2	Safety of batteries and their cells		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method) ... :		N/A
M.3	Protection circuits	RTC cap. considered.	P
M.3.1	Requirements		P
M.3.2	Tests		P
	- Overcharging of a rechargeable battery	See appended table M.3	P
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery	See appended table M.3	P
M.3.3	Compliance :	See appended table M.3	P
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature :		—
M.4.2.2 b)	Single faults in charging circuitry :		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method) :		N/A
M.6.2	Leakage current (mA) :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume V_z (m ³ /s)..... :		—
M.8.2.3	Correction factors..... :		—
M.8.2.4	Calculation of distance d (mm) :		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing) :	Compliance is checked by evaluation of available data provided by the manufacturer.	P

N	ELECTROCHEMICAL POTENTIALS		P
	Metal(s) used :	The combined electrochemical potential is below 0.6 V.	—

O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Figures O.1 to O.20 of this Annex applied :	Considered.	—

P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		P
P.1	General requirements		P
P.2.2	Safeguards against entry of foreign object		P
	Location and Dimensions (mm) :	Openings that meet the requirements of IP3X	—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts :	Not transportable equipment	N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard) :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
P.3	Safeguards against spillage of internal liquids	No such liquids.	N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		P
P.4.2 a)	Conditioning testing	Adhesive (for base stand non-slip mat)	P
	Tc (°C)..... :	100 (1 week)	—
	Tr (°C) :	100 ± 2	—
	Ta (°C)..... :	56.9 (reference metal enclosure temp.)	—
P.4.2 b)	Abrasion testing :		N/A
P.4.2 c)	Mechanical strength testing :		N/A

Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources		P
Q.1.1 a)	Inherently limited output		P
Q.1.1 b)	Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition	See appended table Annex Q.1	P
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method	See appended table Annex Q.1	P
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) :		—
	Current limiting method..... :		—

R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements	No such consideration.	N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)). :		N/A

S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material :		—

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

T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements		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

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Clause	Requirement + Test	Result - Remark	Verdict
T.5	Steady force test, 250 N	(See appended table T.2, T.3, T.4, T.5)	P
T.6	Enclosure impact test	(See appended table T. 6, T.9)	P
	Fall test		P
	Swing test		N/A
T.7	Drop test		N/A
T.8	Stress relief test		N/A
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J).....		—
	Height (m)		—
T.10	Glass fragmentation test		N/A
T.11	Test for telescoping or rod antennas	No such antennas provided within the equipment.	N/A
	Torque value (Nm)		—

U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General requirements	No CRT provided.	N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....		N/A

V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		P
V.1	Accessible parts of equipment	No access with test probes to any hazardous parts	P
V.2	Accessible part criterion		P

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

4.1.2	TABLE: List of critical components				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity ¹⁾
Mains cord set (Saudi Arabia) (Optional)	--	--	--	--	--
Plug	I-Sheng	SP-62	10A/13A, 250V	BS 1363-1; SASO 2203:2018	CVC
(Alternative)	I-Sheng	SP-65	10A, 250V	BS 1363-1; SASO 2203:2018	CVC
(Alternative)	Interchangeable	Interchangeable	10A/13A, 250V	BS 1363-1; SASO 2203:2018	CVC or other certification marks
Cord	I-Sheng	H05VV-F	3X0.75mm ² (length less than 2m), 3X1.0mm ² , 3X1.5mm ²	EN 50525-2-11; IEC 60227-5	VDE
(Alternative)	I-Sheng	H03VV-F	3X0.75mm ² (length less than 2m)	EN 50525-2-11; IEC 60227-5	VDE
(Alternative)	I-Sheng	H05RR-F	3X0.75mm ² (length less than 2m)	EN 50525-2-21; IEC 60245-4	VDE
(Alternative)	Interchangeable	Interchangeable	3X0.75mm ² (length less than 2m), 3X1.0mm ² , 3X1.5mm ²	EN 50525-2-11; IEC 60227-5; IEC 60245-4	VDE or other certification marks
Connector	I-Sheng	IS-14	10A, 250Vac	IEC 60320-1	ENEC
(Alternative)	Interchangeable	Interchangeable	10A, 250Vac	IEC 60320-1	ENEC or other certification marks
Metal enclosure	Interchangeable	Interchangeable	Min. 0.81mm thickness	--	--
Base stand (optional)	Interchangeable	Interchangeable	Metal, two provided,	--	--
- Base stand non- slip mat	SHIN-ETSU CHEMICAL CO LTD	KE-9510@, KE-9511@	Silicone, HB, min. 0.75mm thickness, 150°C	UL 94, UL 746C	UL
- Adhesive (for base stand non- slip mat)	3M	9080	90°C, Comply with P.4.2 test	IEC/EN 62368-1	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
LCD panel	SHENZHEN KTC COMMERCIAL DISPLAY TECHNOLOGY CO., LTD	K860WD97	85.6 inch TFT LCD, with LED backlight, Power consumption: Total 349.18W(Typ.)[Logic 26.58W(mosaic 7X5)/BL 322.6W]	IEC/EN 62368-1	Tested with appliance
Speaker	Interchangeable	Interchangeable	Two speakers, each 6 ohm, 12W max.	--	--
AC inlet (CN1)	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	ST-A01-001L, ST-A01-002L, ST-A01-003J, ST-A01-003K	10A, 250Vac, Standard sheet C14 type, min. 70°C	IEC/EN/UL 60320-1	VDE, UL
(Alternative)	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	ST-A01-003JC, ST-A01-003JD, ST-A01-003JE, ST-A01-003JK, ST-A01-003JL	10A, 250Vac, Standard sheet C14 type, min. 70°C	IEC/EN/UL 60320-1	VDE, UL
(Alternative)	LECI Electronics Co., Ltd	DB-14, DB-14-1, DB-14-2, DB-14-3, DB-14-5	10A, 250Vac, Standard sheet C14 type, min. 70°C	IEC/EN/UL 60320-1	VDE, UL
(Alternative)	Yueqing Yanhui Electronic Co., Ltd	DB-14	10A, 250Vac, Standard sheet C14 type, min. 70°C	IEC/EN/UL 60320-1	VDE, UL
(Alternative)	Steady Electronics Corporation	2107	10A, 250Vac, Standard sheet C14 type, min. 70°C	IEC/EN/UL 60320-1	VDE, UL
Power switch	ZHE JIANG BEI ER JIA ELECTRONIC CO LTD	PS8A	VDE: 6(4)A, 250Vac; UL: 8A 250Vac, 10A 125Vac; min. 105°C, Endurance minimum 10000 cycle, PD2, Glow-wire test 850°C	IEC/ EN 61058-1; UL 61058-1	VDE, UL
(Alternative)	ZHE JIANG BEI ER JIA ELECTRONIC CO LTD	PS8A-11	VDE: 12(4)A 250Vac, 8A/108A 250Vac; UL: 12(6)A, 125/250Vac; min. 125°C, Endurance minimum 10000 cycle, PD2, Glow-wire test 850°C	IEC/ EN 61058-1; UL 61058-1	VDE, UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Zhejiang Yuyang Technology Co., Ltd.	RS-2206	6(4)A, 250Vac, min. 85°C, Endurance minimum 10000 cycle, PD2, Glow-wire test 850°C	IEC/ EN 61058-1; UL 61058-1	TUV, UL
(Alternative)	Zhejiang LECI Electronics Co., Ltd.	RS601 series	VDE: 6(4)A 250Vac, 8/108A 250Vac; UL: 10.1A 125Vac, 6A 250Vac; min. 105°C, Endurance minimum 10000 cycle, PD2, Glow-wire test 850°C	IEC/ EN 61058-1; UL 61058-1	VDE, UL
Primary lead wire (AC inlet to power switch)	DONGGUAN ZELONGKANG WIRE CO., LTD	1617	600V, 22 AWG, 105°C, VW-1	UL 758	UL
(Alternative)	Interchangeable	Interchangeable	Min. 300V, min. 22AWG, min. 80°C, VW-1	UL 758	UL
Primary lead wire (Power switch to power board)	DONGGUAN ZELONGKANG WIRE CO., LTD	1617	600V, 22 AWG, 105°C, VW-1	UL 758	UL
(Alternative)	Interchangeable	Interchangeable	Min. 300V, min. 22 AWG, min. 80°C, VW-1	UL 758	UL
Protective bonding wire	DONGGUAN ZELONGKANG WIRE CO., LTD	1015	600V, 18 AWG, 105°C, VW-1, green and yellow	UL 758	UL
(Alternative)	Interchangeable	Interchangeable	Min. 300V, min. 18 AWG, min. 80°C, VW-1, green and yellow	UL 758	UL
Internal secondary wire (Power board output)	Interchangeable	Interchangeable	Min. 300V, min. 22 AWG, min. 80°C, VW-1	UL 758	UL
Internal secondary wire (except power board output)	Interchangeable	Interchangeable	Min. 30V, min. 32 AWG, min. 80°C, VW-1	UL 758	UL
PCB (except power board)	Shenzhen Stariver Circuits Co Ltd	SR-01	V-0, 125°C	UL 796	UL
(Alternative)	Interchangeable	Interchangeable	V-1 or better, min. 105°C	UL 796	UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
RTC. Cap. (CSE1)	Korchip Corporation	DCLT5R5105CF	1.0F, 5.5V, max. charge current 50mA, max. discharge current 70mA	IEC 62368-1	Tested with appliance
DC fan	DONGGUAN WANHANG ELECTRONICS TECHNOLOGY CO LTD	WSA06010F12M	12 Vdc, 0.2 A, min. 0.42 m³/min	IEC/EN 62368-1; UL 507	TUV, UL
Built-in Switching Power Supply	Shenzhen MEGMEET Electrical Co., Ltd.	MP700DM-M861	Input: 100-240V~, 50/60Hz, 7.92A Max. Output: STB (5.2Vdc, 8.0A); V12 (12Vdc, 16.0A); V24 (24Vdc, 2.0A); LED (66.0V- 80.4Vdc, Max. 4.48A)	IEC/EN 62368-1	CB by UL (Certif. No.: DK-132114- UL. Report No.: 2208221160 CB-1)
Supplementary information: 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039. 2) License available upon request.					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests		N/A
(The following mechanical tests are conducted in the sequence noted.)			
4.8.4.2	TABLE: Stress Relief test		—
	Part	Material	Oven Temperature (°C)
4.8.4.3	TABLE: Battery replacement test		—
	Battery part no.:		—
	Battery Installation/withdrawal	Battery Installation/Removal Cycle	Comments
		1	
		2	
		3	
		4	
		5	
		6	
		8	
		9	
		10	
4.8.4.4	TABLE: Drop test		—
	Impact Area	Drop Distance	Drop No.
			1
			2
			3
4.8.4.5	TABLE: Impact		—
	Impacts per surface	Surface tested	Impact energy (Nm)
4.8.4.6	TABLE: Crush test		—
	Test position	Surface tested	Crushing Force (N)
			Duration force applied (s)
Supplementary information:			
4.8.5	TABLE: Lithium coin/button cell batteries mechanical test result		N/A
	Test position	Surface tested	Force (N)
			Duration force applied (s)

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
Supplementary information:							
5.2		Table: Classification of electrical energy sources					P
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions ¹⁾	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
1	264Va.c. 60Hz	Power board output CN203 “+12V” to “-”	Normal	12.13Vdc	--	--	ES1
			Abnormal (see table B.3 for details)	12.13Vdc max.	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Fuse opened)	0V	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Unit shutdown)	0V	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Panel shutdown, others normal operation)	12.13Vdc max.	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Unit normal operation)	12.13Vdc max.	--	--	ES1
			Single fault (LED “+” to “+12V” SC)*	0V	--	--	ES1
2	264Va.c. 60Hz	Power board output CN203 “+24V” to “-”	Normal	24.01Vdc	--	--	ES1
			Abnormal (see table B.3 for details)	24.01Vdc max.	--	--	ES1

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
5.2		Table: Classification of electrical energy sources					P
			Single fault (Refer to fault condition on table B.4, Fuse opened)	0V	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Unit shutdown)	0V	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Panel shutdown, others normal operation)	24.01Vdc max.	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Unit normal operation)	24.01Vdc max.	--	--	ES1
			Single fault (LED “+” to “+24V” SC)*	0V	--	--	ES1
3	264Va.c. 60Hz	Power board output CN203 “+5VSB” to “-”	Normal	5.11Vdc	--	--	ES1
			Abnormal (see table B.3 for details)	5.11Vdc max.	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Fuse opened)	0V	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Unit shutdown)	0V	--	--	ES1

IEC 62368-1							
Clause		Requirement + Test			Result - Remark		Verdict
5.2		Table: Classification of electrical energy sources					P
			Single fault (Refer to fault condition on table B.4, Panel shutdown, others normal operation)	5.11Vdc max.	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Unit normal operation)	5.11Vdc max.	--	--	ES1
			Single fault (LED “+” to “+5VSB” SC)*	0V	--	--	ES1
4	264Va.c. 60Hz	USB Type-A port (CN706) "+" to "-"	Normal	5.02Vdc	--	--	ES1
			Abnormal (see table B.3 for details)	5.02Vdc max.	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Fuse opened)	0V	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Unit shutdown)	0V	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Panel shutdown, others normal operation)	5.02Vdc max.	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Unit normal operation)	5.02Vdc max.	--	--	ES1

IEC 62368-1							
Clause		Requirement + Test		Result - Remark			Verdict
5.2		Table: Classification of electrical energy sources					P
			Single fault (LED “+” to USB Type-A “+” SC)*	0V	--	--	ES1
5	264Va.c. 60Hz	USB SERVICE port (CN406) "+" to "-"	Normal	5.06Vdc	--	--	ES1
			Abnormal (see table B.3 for details)	5.06Vdc max.	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Fuse opened)	0V	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Unit shutdown)	0V	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Panel shutdown, others normal operation)	5.06Vdc max.	--	--	ES1
			Single fault (Refer to fault condition on table B.4, Unit normal operation)	5.06Vdc max.	--	--	ES1
			Single fault (LED “+” to USB Type-A “+” SC)*	0V	--	--	ES1
6	264Va.c. 60Hz	LCD Panel/Plastic control panel with metal foil to earth	Normal	--	0.050mApeak	60	ES1
			Abnormal (see table B.3 for details)	--	0.050mApeak max.	60	ES1
			Single fault (Refer to fault condition on table B.4, Fuse opened)	--	0.050mApeak max.	60	ES1

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

5.2	Table: Classification of electrical energy sources						P
			Single fault (Refer to fault condition on table B.4, Unit shutdown)	--	0.050mA _{peak} max.	60	ES1
			Single fault (Refer to fault condition on table B.4, Panel shutdown, others normal operation)	--	0.050mA _{peak} max.	60	ES1
			Single fault (Refer to fault condition on table B.4, Unit normal operation)	--	0.050mA _{peak} max.	60	ES1
			Single fault (Earth opened)	--	0.050mA _{peak} max.	60	ES1

1) *: It was considered to be representative of all other accessible secondary terminals when simulate fault condition LED "+" to accessible part shorted, as a result of unit shutdown.

2) Power board output CN201 and CN203 output "-" and all accessible ports "-" earthed.

3) SC=short circuit.

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
1	264Va.c. 60Hz	Phase to Neutral	Normal	1470±20%	374	ES1
			Abnormal	--	--	--
			Single fault: OC	--	--	--
2	264Va.c. 60Hz	Phase/Neutral to earth	Normal	0.47±20%	374	ES1
			Abnormal	--	--	--
			Single fault: OC	--	--	--

Overall capacity: CX3=0.47µF±20%, CX1=1.0µF±20%, CY3=CY4=470pF±20%.

Limit: ES1=60V, ES2=120V (for Phase to Neutral); ES1=5000V, ES2=10000V (for Phase/Neutral to earth).

5.2.2.4 - Single Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
			Abnormal	--	--	--	
			Single fault	--	--	--	
5.2.2.5 - Repetitive Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault	--	--	--	
Test Conditions: Normal – Full load and no load. Abnormal – Overload output Supplementary information: SC=Short Circuit, OC=Open Circuit							

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P
	Supply voltage (V)	See below	See below	See below	See below	—
	Ambient T _{min} (°C)	--	--	--	--	—
	Ambient T _{max} (°C)	--	--	--	--	—
	T _{ma} (°C)	--	--	--	--	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T _{max} (°C)
Test conditions:		90V/50Hz	264V/50Hz	90V/50Hz	264V/50Hz	--
		Landscape position	Landscape position	Portrait position	Portrait position	
AC inlet		49.6	46.9	58.4	52.2	70
Input wire		53.2	48.9	62.8	57.2	80
Earth wire		51.9	47.2	71.7	63.4	80
AC connector CN101		57.9	50.8	68.3	59.8	85
Line chock of LP1 winding		70.4	51.8	76.3	61.0	130
X-capacitor CX1		60.0	50.6	72.4	62.3	100
Line chock of LP2 winding		74.2	52.7	92.3	67.9	130
PCB under RT1		66.9	55.6	82.6	70.8	130
Relay RLY1 winding		76.4	65.8	82.4	75.7	130
Relay RLY1 body		70.9	63.0	78.4	72.1	105
Line chock of LP3 winding		72.4	67.8	91.4	73.0	130
X-capacitor CX3		68.3	55.8	82.1	72.4	100
PCB under BD2		84.8	61.7	100.3	79.3	130

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
PCB under BD1	78.3	60.6	103.4	78.6	130
PCB under RT2	78.7	66.3	94.0	84.3	130
Varistor RV2	78.9	60.8	94.2	79.3	105
Line chock of LP4 winding	80.1	62.6	85.9	75.2	130
Line chock of LP6 winding	93.7	70.0	94.2	75.8	130
Line chock of LP5 winding	86.2	72.7	86.2	74.6	130
Line chock of LP7 winding	86.2	73.1	85.6	73.7	130
PCB under QP1	81.1	75.4	97.6	91.6	130
PCB under DP2	74.0	73.9	86.6	85.5	130
E-capacitor CP23 body	55.4	54.0	68.2	65.9	105
E-capacitor CP22 body	56.9	56.8	68.7	68.0	105
PCB under QH6	76.1	76.1	80.2	79.3	130
TH3 winding	108.5	108.6	107.5	107.4	130
TH3 core	106.3	106.5	95.8	96.0	130
TH2 winding	105.9	106.0	101.6	101.4	130
TH2 core	98.2	98.3	96.6	96.5	130
TH1 winding	72.3	72.8	83.6	83.6	130
TH1 core	70.9	71.6	80.3	81.8	130
TF2 winding	60.5	61.4	69.6	69.7	130
TF2 core	57.8	59.2	68.0	68.1	130
Opto-coupler PH2 body	70.5	70.7	70.7	70.4	110
Opto-coupler PH3 body	68.3	68.7	69.1	69.1	110
Opto-coupler PF3 body	52.4	54.2	64.3	63.9	110
Y-capacitor CY1 body	53.8	55.4	65.4	64.9	125
Y-capacitor CY3 body	56.1	56.6	59.3	58.8	125
E-capacitor CF27 body	59.9	60.5	67.0	67.2	105
PCB under DF16	63.3	63.9	70.0	71.3	130
E-capacitor CH66 body	69.9	70.5	73.7	77.3	105
PCB under QH12	71.4	71.6	64.1	65.4	130
E-capacitor CH38 body	72.4	73.0	76.6	80.5	105
PCB under DH5	74.0	74.2	66.0	67.4	130
E-capacitor CH46 body	87.0	87.2	85.2	86.5	105
PCB under DH4	82.4	82.2	78.6	81.0	130
PCB under QL11 (Local dimming board)	50.1	48.3	73.8	67.5	105
E-capacitor CSE1 body (main board)	61.9	62.7	57.0	58.2	For ref.

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
PCB under UA1 (main board)	78.5	79.4	81.1	82.1	105
PCB under U717 (main board)	58.6	59.1	58.1	58.9	105
PCB under U420 (main board)	60.4	60.9	59.8	60.7	105
PCB under U546 (main board)	65.7	66.1	60.3	61.3	105
PCB under HS401 near U401 (main board)	68.2	68.8	68.1	69.3	105
Internal wire	57.9	58.6	58.9	60.4	80
Fan winding	62.8	62.6	54.0	55.1	130
Ambient	40.0	40.0	40.0	40.0	--
Accessible parts:	--	--	--	--	--
Metal enclosure outside near TH3	38.4	38.7	38.4	38.3	60*
Metal enclosure outside near TH1	30.5	31.2	34.2	34.1	60*
Metal enclosure near ventilation	40.1	40.3	34.7	36.0	60*
Panel surface	33.4	33.6	34.1	34.9	71*
Power switch	30.2	30.3	33.0	33.8	77*
Handle	30.2	30.3	32.4	33.4	60*
Button	30.4	30.5	32.5	33.5	77*
Ambient	25.0	25.0	25.0	25.0	--
Test conditions:	90V/50Hz	90V/50Hz	90V/50Hz	90V/50Hz	--
	Landscape position (inclined - 30°)	Landscape position (inclined +30°)	Portrait position (inclined - 30°)	Portrait position (inclined +30°)	
AC inlet	49.5	48.9	57.9	58.2	70
Input wire	53.4	52.0	63.0	63.1	80
Earth wire	51.8	48.5	71.1	71.2	80
AC connector CN101	57.2	57.3	68.0	68.2	85
Line chock of LP1 winding	70.4	69.2	76.3	76.9	130
X-capacitor CX1	60.3	59.7	71.2	71.7	100
Line chock of LP2 winding	74.5	73.7	91.1	91.6	130
PCB under RT1	66.3	66.4	81.8	82.3	130
Relay RLY1 winding	74.6	73.6	81.9	82.2	130
Relay RLY1 body	71.2	70.3	78.1	78.3	105
Line chock of LP3 winding	71.8	68.6	90.9	91.2	130
X-capacitor CX3	68.9	68.4	81.4	81.6	100
PCB under BD2	84.5	85.1	98.8	99.1	130
PCB under BD1	79.2	78.7	102.4	102.7	130

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
PCB under RT2	78.4	78.7	92.8	93.3	130
Varistor RV2	77.8	79.5	92.8	93.3	105
Line chock of LP4 winding	82.1	80.0	85.2	85.3	130
Line chock of LP6 winding	92.2	93.6	93.3	94.0	130
Line chock of LP5 winding	85.4	86.1	86.1	86.4	130
Line chock of LP7 winding	86.6	85.5	84.7	85.2	130
PCB under QP1	80.2	81.2	97.3	97.3	130
PCB under DP2	74.2	74.4	85.6	86.2	130
E-capacitor CP23 body	55.9	54.8	68.0	68.3	105
E-capacitor CP22 body	57.0	56.4	67.8	68.6	105
PCB under QH6	75.8	76.7	80.5	80.4	130
TH3 winding	108.6	107.9	106.9	107.5	130
TH3 core	106.0	104.9	95.1	95.3	130
TH2 winding	105.6	104.7	101.6	101.6	130
TH2 core	97.8	96.8	96.6	97.0	130
TH1 winding	71.7	71.2	82.9	83.2	130
TH1 core	70.2	70.0	79.8	80.5	130
TF2 winding	59.6	59.2	69.4	70.0	130
TF2 core	57.7	56.8	67.5	68.1	130
Opto-coupler PH2 body	69.4	70.8	70.1	70.3	110
Opto-coupler PH3 body	66.9	68.4	68.6	68.9	110
Opto-coupler PF3 body	52.4	52.1	63.1	63.6	110
Y-capacitor CY1 body	53.6	53.4	65.2	65.3	125
Y-capacitor CY3 body	56.4	55.5	58.3	58.8	125
E-capacitor CF27 body	60.5	59.4	66.4	67.0	105
PCB under DF16	63.9	62.7	70.4	71.1	130
E-capacitor CH66 body	70.7	69.6	73.1	73.4	105
PCB under QH12	72.4	71.8	63.8	64.0	130
E-capacitor CH38 body	73.3	72.3	76.1	76.6	105
PCB under DH5	75.1	74.7	65.9	66.3	130
E-capacitor CH46 body	87.2	87.2	84.4	84.7	105
PCB under DH4	82.3	82.1	78.5	78.5	130
PCB under QL11 (Local dimming board)	50.1	50.6	73.0	73.6	105
E-capacitor CSE1 body (main board)	61.7	61.1	55.9	56.6	For ref.
PCB under UA1 (main board)	78.1	77.9	80.8	81.1	105

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Clause	Requirement + Test		Result - Remark		Verdict
PCB under U717 (main board)	58.0	57.6	57.8	57.8	105
PCB under U420 (main board)	59.8	59.4	59.0	59.3	105
PCB under U546 (main board)	64.7	64.8	59.5	59.7	105
PCB under HS401 near U401 (main board)	67.4	67.6	67.1	67.4	105
Internal wire	58.4	57.5	58.5	58.8	80
Fan winding	62.5	65.3	53.4	54.0	130
Ambient	40.0	40.0	40.0	40.0	--
Accessible parts:	--	--	--	--	--
Metal enclosure outside near TH3	38.6	37.8	37.8	38.3	60*
Metal enclosure outside near TH1	30.3	29.8	33.9	34.2	60*
Metal enclosure near ventilation	41.9	40.8	34.0	34.7	60*
Panel surface	33.8	33.5	33.7	33.8	71*
Power switch	30.4	29.7	32.0	32.7	77*
Handle	30.3	29.8	31.5	32.1	60*
Button	30.5	29.9	32.3	32.4	77*
Ambient	25.0	25.0	25.0	25.0	--
Simulated abnormal operating conditions:	90V/50Hz, Portrait position	90V/50Hz, Portrait position	90V/50Hz, Portrait position	90V/50Hz, Portrait position	--
	Speaker max. attainable power	One speaker short	USB SERVICE output overload	USB Type-A output overload	
TH3 winding	111.3	100.7	108.2	108.6	200
TH3 core	101.5	91.7	96.9	97.3	200
TH2 winding	103.4	99.9	102.2	102.9	200
TH2 core	97.4	96.0	96.9	97.3	200
TH1 winding	84.5	81.0	84.1	86.5	200
TH1 core	82.6	78.5	82.4	83.2	200
TF2 winding	72.5	68.0	70.4	71.8	200
TF2 core	70.2	67.3	68.9	69.5	200
PCB under UA1 (main board)	88.9	70.5	82.6	82.8	300
PCB under U717 (main board)	59.4	56.3	60.2	63.3	300
PCB under U420 (main board)	61.1	56.9	65.2	61.3	300
PCB under U546 (main board)	61.7	59.6	62.1	62.2	300
Ambient	40.0	40.0	40.0	40.0	--
Accessible parts:	--	--	--	--	--

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Metal enclosure outside near TH3	39.5	35.5	38.9	39.3	70*
Metal enclosure outside near TH1	34.9	32.3	34.6	35.2	70*
Metal enclosure near ventilation	36.6	31.2	36.5	36.7	70*
Panel surface	35.4	33.5	35.2	34.5	81*
Power switch	34.1	31.6	34.1	34.3	87*
Handle	33.6	31.5	33.5	33.6	70*
Button	33.9	31.6	33.9	34.0	87*
Ambient	25.0	25.0	25.0	25.0	--
Simulated abnormal operating conditions:	90V/50Hz, Portrait position	90V/50Hz, Portrait position	--	--	--
	Optional Board overload	Ventilation blocked	--	--	
TH3 winding	107.9	109.6	--	--	200
TH3 core	96.6	99.3	--	--	200
TH2 winding	102.2	105.5	--	--	200
TH2 core	97.2	100.7	--	--	200
TH1 winding	84.4	88.0	--	--	200
TH1 core	82.2	84.3	--	--	200
TF2 winding	70.4	73.2	--	--	200
TF2 core	68.9	70.3	--	--	200
PCB under UA1 (main board)	82.5	83.6	--	--	300
PCB under U717 (main board)	59.4	60.3	--	--	300
PCB under U420 (main board)	61.1	61.2	--	--	300
PCB under U546 (main board)	66.9	62.0	--	--	300
Ambient	40.0	40.0	--	--	--
Accessible parts:	--	--	--	--	--
Metal enclosure outside near TH3	39.0	39.5	--	--	70*
Metal enclosure outside near TH1	34.5	35.9	--	--	70*
Metal enclosure near ventilation	36.4	36.8	--	--	70*
Panel surface	35.2	35.6	--	--	81*
Power switch	34.1	34.4	--	--	87*
Handle	33.6	34.6	--	--	70*
Button	33.6	34.0	--	--	87*
Ambient	25.0	25.0	--	--	--

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Simulated abnormal operating conditions:	90V/50Hz, Portrait position	90V/50Hz, Portrait position	90V/50Hz, Portrait position	90V/50Hz, Portrait position	--
	Transformer TH2/TH3 overload	Transformer TH1 overload (CH66)	Transformer TH1 overload (CH38)	Transformer TF2 overload	
TH3 winding	108.7	108.4	108.4	111.2	200
TH3 core	96.8	97.3	97.8	99.2	200
TH2 winding	107.3	103.1	104.4	103.1	200
TH2 core	101.2	98.8	99.4	98.4	200
TH1 winding	87.3	88.4	93.1	85.6	200
TH1 core	83.8	85.4	89.6	83.7	200
TF2 winding	71.1	71.2	72.2	93.9	200
TF2 core	69.7	70.3	70.4	92.5	200
PCB under UA1 (main board)	82.4	83.0	83.2	83.4	300
PCB under U717 (main board)	59.2	60.6	61.0	59.9	300
PCB under U420 (main board)	60.9	61.3	61.2	61.2	300
PCB under U546 (main board)	62.0	63.1	63.1	62.5	300
Ambient	40.0	40.0	40.0	40.0	--
Accessible parts:	--	--	--	--	--
Metal enclosure outside near TH3	40.8	39.8	41.5	39.5	70*
Metal enclosure outside near TH1	36.0	37.0	38.9	36.9	70*
Metal enclosure near ventilation	36.2	36.6	39.2	38.2	70*
Panel surface	35.4	35.8	36.2	36.1	81*
Power switch	34.4	34.1	35.0	34.6	87*
Handle	34.0	34.5	35.4	34.4	70*
Button	33.8	33.8	33.8	34.2	87*
Ambient	25.0	25.0	25.0	25.0	--
Simulated abnormal operating conditions:	90V/50Hz, Portrait position	90V/50Hz, Portrait position	90V/50Hz, Portrait position	--	--
	DC fan near power board locked	DC fan near main board locked	DC fan near local dimming board locked	--	
TH3 winding	111.4	108.2	108.1	--	200
TH3 core	101.5	96.7	96.7	--	200

IEC 62368-1							
Clause	Requirement + Test			Result - Remark		Verdict	
TH2 winding	107.2	102.5	102.2	--		200	
TH2 core	101.4	97.3	97.3	--		200	
TH1 winding	89.8	84.3	84.3	--		200	
TH1 core	88.0	82.7	82.7	--		200	
TF2 winding	72.4	70.3	71.0	--		200	
TF2 core	70.4	69.0	69.0	--		200	
PCB under UA1 (main board)	83.0	82.9	85.1	--		300	
PCB under U717 (main board)	59.9	59.6	62.0	--		300	
PCB under U420 (main board)	61.2	61.3	63.3	--		300	
PCB under U546 (main board)	62.0	62.1	64.9	--		300	
Ambient	40.0	40.0	40.0	--		--	
Accessible parts:	--	--	--	--		--	
Metal enclosure outside near TH3	41.4	39.5	39.3	--		70*	
Metal enclosure outside near TH1	38.0	34.9	34.9	--		70*	
Metal enclosure near ventilation	38.4	37.8	37.5	--		70*	
Panel surface	36.2	35.5	35.5	--		81*	
Power switch	34.4	34.4	34.4	--		87*	
Handle	34.1	33.9	33.9	--		70*	
Button	33.9	34.2	34.1	--		87*	
Ambient	25.0	25.0	25.0	--		--	
Supplementary information:							
* Temperature limit for TS1 or TS2 of accessible enclosure according to Table 38. Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (T_{ma}) of 40°C. Note 2: The temperatures were measured under the worse case normal mode defined in clause B.2.1. Note 3: Temperature limits are calculated as follows: Winding components providing safety isolation: - Class F T_{max} = 140 °C - 10 °C = 130 °C (For normal temperature measurements). - Class F T_{max} = 200 °C (For abnormal temperature measurements) Note 4: Maximum normal load -- Test with HDMI mode (Select internal speaker), 1kHz sine wave signal input, adjust volume to 1/8 maximum attainable output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value; USB Type-A load: 5Vdc, 0.5A; USB SERVICE load: 5Vdc, 2A, Optional Board load: 12Vdc, 5.5A.							
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:							
Note 1: T_{ma} should be considered as directed by applicable requirement Note 2: T_{ma} is not included in assessment of Touch Temperatures (Clause 9)							

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics		N/A
Penetration (mm).....			—
Object/ Part No./Material		Manufacturer/trademark	T softening (°C)
--		--	--
Supplementary information:			

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics			P
Allowed impression diameter (mm) : ≤ 2 mm				—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)	
AC connector (CN101)	CKM Electronics Co Ltd / 3962WR-5PF-EVN-HF (material: Toray Industries Inc./ CM3004-V0(rg))	125	1.1	
AC connector (CN101)	CKM Electronics Co Ltd / 3962WR-5PF-EVN-HF (material: E I Dupont De Nemours & Co Inc./ HTNFR52G30NH(r6))	125	0.9	
AC connector (CN101)	Weli Sheng Terminal Industrial Co Ltd/ M5-I39606R (material: BASF CORP/ KR4205)	125	1.3	
AC connector (CN101)	Weli Sheng Terminal Industrial Co Ltd/ M5-I39606R (material: ASAHI KASEI CORP/FG172)	125	1.2	
Case of transformer	CHANG CHUN PLASTICS CO LTD / 4130	125	0.9	
Supplementary information:				
Materials of bobbin are no need to conduct this test, see appended table 4.1.2 of CB test report for power board.				

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequenc y (kHz) ¹	Required cl (mm)	cl (mm) ²	Required ³ cr (mm)	cr (mm)
L-N before fuse FP1 (F)*	420	250	0.06	1.9	4.6	2.5	4.6
Different polarity of trace under FP1 (F)*	420	250	0.06	1.9	4.6	2.5	4.6
Primary circuit to metal enclosure (B)*	528	360	93.88	1.9	5.0	3.6	5.0
PCB trace under CY3 (B)*	420	250	0.06	1.9	7.8	2.5	7.8
PCB trace under CY4 (B)*	420	250	0.06	1.9	7.8	2.5	7.8

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
PCB trace of UP2 to earth (B)*	420	250	0.06	1.9	8.0	2.5	8.0
PCB trace under CY1 (R)*	420	250	0.06	3.8	7.7	5.0	7.7
PCB trace under PF1, PF2 and PF3 (R)*	420	250	0.06	3.8	8.3	5.0	8.3
PCB trace under PH1, PH2, PH3, PH4 and PH5 (R)*	420	250	0.06	3.8	8.3	5.0	8.3
PCB trace under TH1 (R)*	440	290	93.88	3.8	>10.0	5.8	>10.0
PCB trace under TF2 (R)*	528	360	45.01	3.8	>10.0	7.2	>10.0
PCB trace under TH2/TH3 (R)*	420	269	80.64	3.8	>10.0	5.4	>10.0
Transformer TH1 (core considered as floating):							
Primary winding to secondary winding (R)*	440	290	93.88	3.8	8.4	5.8	8.4
Core to primary winding (B)*	440	290	93.88	1.9	4.0	2.9	4.0
Core to secondary winding (S)*	440	290	93.88	1.9	4.0	2.9	4.0
Core to primary component CH3 (B)*	440	290	93.88	1.9	8.8	2.9	8.8
Transformer TF2 (core considered as secondary):							
Primary winding to secondary winding (R)*	528	360	45.01	3.8	10.0	7.2	10.0
Core to primary winding (R)*	528	360	45.01	3.8	10.0	7.2	10.0
Core to CY1 primary pin (R)*	528	360	45.01	3.8	7.8	7.2	7.8
Transformer TH2/TH3 (core considered as floating):							
Primary winding to secondary winding (R)*	420	269	80.64	4.5	8.5	5.4	8.5
Core to primary winding (B)*	420	269	80.64	2.3	5.7	2.7	5.7
Core to secondary winding (S)*	420	269	80.64	2.3	5.7	2.7	5.7
Supplementary information:							
Note 1: Only for frequency above 30 kHz Note 2: See table 5.4.2.4 if this is based on electric strength test Note 3: Provide Material Group 1) The maximum operating altitude of 5000m. Clearance values have been evaluated for an operating altitude of max. 5000 meters, based on Table 17 altitude adjustment factor 1.48. 2) Unless otherwise specified, the worst case conditions of Cl. & Cr. in above mentioned locations have been considered and listed. 3) Provide Material Group: IIIb. 4) *F=Functional insulation; B=Basic insulation; S=Supplementary insulation; R=Reinforce insulation.							

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage	P
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IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
	Overvoltage Category (OV):			II
	Pollution Degree:			2
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measured cl (mm)
See table 5.4.2.2, 5.4.2.4 and 5.4.3 above.		2500V	2.3 for FI/BI/SI, 4.5 for RI	See table 5.4.2.2, 5.4.2.4 and 5.4.3 above.
Supplementary information:				
The equipment is operated up to 5000 m above sea level as declared by manufacturer. Clearance values have been evaluated for an operating altitude of max. 5000 meters, based on Table 17 altitude adjustment factor 1.48.				
FI=Functional insulation; BI=Basic insulation; SI=Supplementary insulation; RI=Reinforced insulation				

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

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements					P
Distance through insulation di at/of:	Peak voltage (V)	Frequency (Hz)	Material	Required DTI (mm)	DTI (mm)	
Opto-coupler	420	60	1)	0.4	1)	
Bobbin of transformers TH2/TH3	420 (max.)	80.64K	1)	0.4	1)	
Case of transformers TH2/TH3	420 (max.)	80.64K	1)	0.4	1)	
Insulation tape of transformers TH2/TH3	420 (max.)	80.64K	1)	Min. 2 layers	Min. 2 layers	
Bobbin of transformer TH1	440	93.88K	1)	0.4	1)	
Insulation tape of transformer TH1	440	93.88K	1)	Min. 2 layers	Min. 2 layers	
Bobbin of transformer TF2	528	45.01K	1)	0.4	1)	
Insulation tape of transformer TF2	528	45.01K	1)	Min. 2 layers	Min. 2 layers	
Supplementary information:						
1) See appended table 4.1.2 for details.						
2) Solid insulation at frequencies higher than 30Khz was evaluated by the electric strength test, see details in table of 5.4.9.						

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (Vpeak)	Breakdown Yes / No
Basic/supplementary:				
Line to Neutral (with fuse disconnect)		DC	2500	No
Line / Neutral to earth		DC	2500	No
L/N & metal enclosure		DC	2500	No
Core to primary winding of Transformers TH2/TH3		DC	2500	No
Core to secondary winding of Transformers TH2/TH3		DC	2500	No
Core to primary winding of Transformer TH1		DC	2500	No
Core to secondary winding of Transformer TH1		DC	2500	No
Reinforced:				
L/N & accessible ports		DC	4000	No
L/N & LCD panel wrapped with metal foil		DC	4000	No
Primary winding to secondary winding of Transformers TH2/TH3		DC	4000	No
Primary winding to secondary winding of Transformer TH1		DC	4000	No
Primary winding to secondary winding of Transformer TF2		DC	4000	No
Core to primary winding of Transformer TF2		DC	4000	No
Insulation tape used in and around all transformers (single layer, all sources)		DC	4000	No
Bobbin of all transformers		DC	4000	No
Case of Transformers TH2/TH3		DC	4000	No
Routine Tests:				
--		--	--	--
Supplementary information:				
1) Core of transformer TF2 was considered as secondary, core of transformers TH1, TH2 and TH3 were considered as floating conductor. 2) Test after humidity treatment, heating test, and for unit primary to secondary, primary to LCD panel/metal enclosure electric strength after each fault condition test. 3) Tests were performed on product with each source listed in table 4.1.2 of this report and CB test report of power board. 4) The DC voltage source was performed on all testing once in forward and once in reverse.				

5.5.2.2	TABLE: Stored discharge on capacitors					P
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification	

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
264Vac/60Hz	Phase to Neutral	N (RF1 opened)	on	22V	ES1
264Vac/60Hz	Phase to Neutral	N (RF1 and RX1 opened)	on	54V	ES1
Supplementary information:					
X-capacitors installed for testing are: CX3=0.47μF±20%, CX1=1.0μF±20%. [X] bleeding resistor rating: RX1=RX2=RX3=RX4=RX5=RX6=RX7=RX8=200Kohm. [X] ICX: UP2. Notes: Approved ICX (UP2) used. A. Test Location: Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth B. Operating condition abbreviations: N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition (Bleeder Resistor open circuit)					

5.6.6.2	TABLE: Resistance of protective conductors and terminations				P
Accessible part	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
Earthing pin of appliance inlet to metal enclosure farthest	32	2	0.717	0.0224	
Earthing pin of appliance inlet to metal enclosure farthest	40	2	1.040	0.0260	
Supplementary Information:					
Limit 0.1ohm, Voltage drop <2.5V.					

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		P
Supply voltage	264Vac, 60Hz	—	
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)	
Metal enclosure	1	0.726mApeak/ 0.726mApeak	
--	2*	--	
--	3	--	
--	4	--	
--	5	--	
--	6	--	
--	8	--	
Supplementary Information:			
Notes: [1] Supply voltage is the anticipated maximum Touch Voltage			

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Clause	Requirement + Test	Result - Remark	Verdict

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

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

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

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

6.2.2	Table: Electrical power sources (PS) measurements for classification				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification
AUDIO OUT port (CON1) All pins to GND	Normal	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	
LAN 1/2 port (CON16) Pin A9/A11/B9/B11 to GND	Normal	Power (W) :	0	--	PS1
		V _A (V) :	3.24	--	
		I _A (A) :	0	--	
LAN 1/2 port (CON16) Pin others to GND	Normal	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	
REMOTE IN port (CN407) Pin 1 to GND	Normal	Power (W) :	3.8	--	PS1
		V _A (V) :	1.89	--	
		I _A (A) :	2.0	--	
REMOTE IN port (CN407) Pin 1 to GND	Single fault (UM53 pin 4-3 short)	Power (W) :	5.8	--	PS1
		V _A (V) :	2.90	--	
		I _A (A) :	2.0	--	
REMOTE IN port (CN407) Pin others to GND	Normal	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	
DisplayPort IN 1/2 port (CN505/CN506) Pin 20 to GND	Normal	Power (W) :	1.6	--	PS1
		V _A (V) :	2.05	--	
		I _A (A) :	0.8	--	
DisplayPort IN 1/2 port (CN505/CN506) Pin 20 to GND	Single fault (U527/U530 pin 5-1 short)	Power (W) :	1.9	--	PS1
		V _A (V) :	2.05	--	
		I _A (A) :	0.8	--	
DisplayPort IN 1/2 port	Single fault (U528/U525)	Power (W) :	2.5	--	PS1
		V _A (V) :	3.12	--	

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Clause	Requirement + Test		Result - Remark		Verdict
(CN505/CN506) Pin 20 to GND	pin 2-3 short)	I _A (A) :	0.8	--	
DisplayPort IN 1/2 port (CN505/CN506) Pin others to GND	Normal	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	
DisplayPort OUT port (CN507) Pin 20 to GND	Normal	Power (W) :	1.6	--	PS1
		V _A (V) :	2.06	--	
		I _A (A) :	0.8	--	
DisplayPort OUT port (CN507) Pin 20 to GND	Single fault (U532 pin 5-1 short)	Power (W) :	1.6	--	PS1
		V _A (V) :	2.06	--	
		I _A (A) :	0.8	--	
DisplayPort OUT port (CN507) Pin 20 to GND	Single fault (U533 pin 2-3 short)	Power (W) :	2.6	--	PS2
		V _A (V) :	3.21	--	
		I _A (A) :	0.8	--	
DisplayPort OUT port (CN507) Pin others to GND	Normal	Power (W) :	0	--	PS2
		V _A (V) :	0	--	
		I _A (A) :	0	--	
HDMI IN 1/2 port (CN501/CN502) Pin 18 to GND	Normal	Power (W) :	0	--	PS1
		V _A (V) :	4.92	--	
		I _A (A) :	0	--	
HDMI IN 1/2 port (CN501/CN502) Pin others to GND	Normal	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	
HDMI OUT port (CN504) Pin 18 to GND	Normal	Power (W) :	0.5	--	PS1
		V _A (V) :	4.95	--	
		I _A (A) :	0.1	--	
HDMI OUT port (CN504) Pin others to GND	Normal	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	
USB Type-A port (CN706)	Normal	Power (W) :	7.4	--	PS1
		V _A (V) :	4.10	--	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Pin + to -		I _A (A) :	1.8	--	
USB Type-A port (CN706) Pin + to -	Single fault (U717 pin 1-5 short)	Power (W) :	2.5	--	PS1
		V _A (V) :	4.96	--	
		I _A (A) :	0.5	--	
USB Type-B port (CN704) All Pins to GND	Normal	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	
USB SERVICE port (CN406) Pin + to -	Normal	Power (W) :	9.6	--	PS1
		V _A (V) :	4.18	--	
		I _A (A) :	2.3	--	
USB SERVICE port (CN406) Pin + to -	Single Fault (U420 pin 1-6 short)	Power (W) :	9.7	--	PS1
		V _A (V) :	4.86	--	
		I _A (A) :	2.0	--	
RS-232C port (CN408) all Pin to GND	Normal	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	
External speaker port (JA3) "+" to "-"	Normal	Power (W) :	1.92	--	PS1
		V _A (V) :	3.20	--	
		I _A (A) :	0.60	--	
External speaker port (JA3) "+" to "-"	Abnormal (Max. attainable power)	Power (W) :	11.42	--	PS1
		V _A (V) :	9.56	--	
		I _A (A) :	1.20	--	
External speaker port (JA3) "+" to "-"	Single fault (UA1 pin 2,3-1 short)	Power (W) :	0 (Speaker shutdown)	--	PS1
		V _A (V) :	0 (Speaker shutdown)	--	
		I _A (A) :	0 (Speaker shutdown)	--	
Main board CN603 output "+" to "-" (internal speaker)	Normal	Power (W) :	2.58	--	PS1
		V _A (V) :	3.22	--	
		I _A (A) :	0.80	--	
Main board CN603 output "+" to "-" (internal speaker)	Abnormal (Max. attainable power)	Power (W) :	--	15.57	PS2
		V _A (V) :	--	9.67	
		I _A (A) :	--	1.61	
Main board CN603	Single fault (UA1 pin 2,3-1 short)	Power (W) :	0 (Speaker shutdown)	--	PS1
		V _A (V) :	0 (Speaker shutdown)	--	

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Clause	Requirement + Test		Result - Remark		Verdict
output “+” to “-” (internal speaker)	short)	I _A (A) :	0 (Speaker shutdown)	--	
Main board CN403 output pin 4 to GND	Normal	Power (W) :	0.30	--	PS1
		V _A (V) :	2.45	--	
		I _A (A) :	0.12	--	
Main board CN403 output pin 4 to GND	Single Fault (UM53 pin 3 to pin 4 short)	Power (W) :	0.30	--	PS1
		V _A (V) :	2.48	--	
		I _A (A) :	0.12	--	
Main board CN404 output pin 5 to GND	Normal	Power (W) :	0.28	--	PS1
		V _A (V) :	2.50	--	
		I _A (A) :	0.11	--	
Main board CN404 output pin 5 to GND	Single Fault (UM53 pin 3 to pin 4 short)	Power (W) :	0.28	--	PS1
		V _A (V) :	2.50	--	
		I _A (A) :	0.11	--	
Main board CN404 output pin 10 to GND	Normal	Power (W) :	0.31	--	PS1
		V _A (V) :	2.58	--	
		I _A (A) :	0.12	--	
Main board CN404 output pin 10 to GND	Single Fault (UM53 pin 3 to pin 4 short)	Power (W) :	0.31	--	PS1
		V _A (V) :	2.58	--	
		I _A (A) :	0.12	--	
Main board CN509 output pin 1,2,3 to GND*	Normal	Power (W) :	--	72.6	PS3 (declared)
		V _A (V) :	--	10.67	
		I _A (A) :	--	6.8	
Main board CN508 output pin 1,2,3 to GND*	Normal	Power (W) :	--	45.6	PS3 (declared)
		V _A (V) :	--	10.85	
		I _A (A) :	--	4.2	
Supplementary information:					
(*) Measurement taken only when limits at 3 seconds exceed PS1 limits. SC=Short circuit, OC=Open circuit. *: Reference of select which port to performed overload test.					

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)	P
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IEC 62368-1				
Clause	Requirement + Test	Result - Remark		Verdict
Location	Open circuit voltage After 3 s (Vp)	Measured r.m.s current (Irms)	Calculated value (V _p x I _{rms})	Arcing PIS? Yes / No
All internal circuits /components except for power board output CN201 and CN203	--	--	--	Yes (declaration)
Supplementary information:				
An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (Vp) and normal operating condition rms current (Irms) is greater than 15.				

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

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

IEC 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
Test condition: HDMI mode							
90V/50Hz	5.883	--	528.0	--	FP1	5.883	1kHz sine wave signal input, adjust volume to 1/8 maximum attainable output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value.
90V/60Hz	5.853	--	525.5	--	FP1	5.853	
100V/50Hz	5.252	6.6	521.3	--	FP1	5.252	
100V/60Hz	5.269	6.6	520.0	--	FP1	5.269	
240V/50Hz	2.175	2.6	505.9	--	FP1	2.175	
240V/60Hz	2.158	2.6	504.9	--	FP1	2.158	
264V/50Hz	1.979	--	495.7	--	FP1	1.979	
264V/60Hz	1.978	--	495.6	--	FP1	1.978	Internal speaker (6ohm*2) voltage: 3.42Vrms; USB Type-A load: 5Vdc, 0.5A; USB SERVICE load: 5Vdc, 2A; Optional board load: 12Vdc, 5.5A.
Test condition: DisplayPort1 mode							
90V/50Hz	5.880	--	527.1	--	FP1	5.880	1kHz sine wave signal input, adjust volume to 1/8 maximum attainable output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value.
90V/60Hz	5.851	--	524.9	--	FP1	5.851	
100V/50Hz	5.238	6.6	520.7	--	FP1	5.238	
100V/60Hz	5.260	6.6	519.7	--	FP1	5.260	
240V/50Hz	2.148	2.6	505.0	--	FP1	2.148	
240V/60Hz	2.140	2.6	504.2	--	FP1	2.140	
264V/50Hz	1.958	--	495.1	--	FP1	1.958	
264V/60Hz	1.955	--	494.9	--	FP1	1.955	Internal speaker (6ohm*2) voltage: 3.42Vrms; USB Type-A load: 5Vdc, 0.5A; USB SERVICE load: 5Vdc, 2A; Optional board load: 12Vdc, 5.5A.
Test condition: USB Type-A mode (Select internal speaker)							
90V/50Hz	5.879	--	527.1	--	FP1	5.879	1kHz sine wave signal input, adjust volume to 1/8 maximum attainable output power. The video signal is three
90V/60Hz	5.848	--	524.8	--	FP1	5.848	
100V/50Hz	5.236	6.6	520.4	--	FP1	5.236	
100V/60Hz	5.254	6.6	519.3	--	FP1	5.254	

IEC 62368-1								
Clause	Requirement + Test				Result - Remark		Verdict	
240V/50Hz	2.148	2.6	505.1	--	FP1	2.148	vertical bar signals, adjust the brightness and contrast to maximum value.	
240V/60Hz	2.143	2.6	504.2	--	FP1	2.143		
264V/50Hz	1.956	--	495.0	--	FP1	1.956		
264V/60Hz	1.955	--	494.7	--	FP1	1.955	Internal speaker (6ohm*2) voltage: 3.42Vrms; USB Type-A load: 5Vdc, 0.5A; USB SERVICE load: 5Vdc, 2A; Optional board load: 12Vdc, 5.5A.	
Test condition: USB Type-A mode (Select external speaker)								
90V/50Hz	5.871	--	525.6	--	FP1	5.871	1kHz sine wave signal input, adjust volume to 1/8 maximum attainable output power. The video signal is three vertical bar signals, adjust the brightness and contrast to maximum value.	
90V/60Hz	5.842	--	523.0	--	FP1	5.842		
100V/50Hz	5.232	6.6	519.5	--	FP1	5.232		
100V/60Hz	5.250	6.6	518.2	--	FP1	5.250		
240V/50Hz	2.142	2.6	504.5	--	FP1	2.142		
240V/60Hz	2.140	2.6	503.6	--	FP1	2.140		
264V/50Hz	1.952	--	494.5	--	FP1	1.952		
264V/60Hz	1.952	--	494.1	--	FP1	1.952	External speaker (8ohm*2) voltage: 3.38Vrms; USB Type-A load: 5Vdc, 0.5A; USB SERVICE load: 5Vdc, 2A; Optional board load: 12Vdc, 5.5A.	
Supplementary information:								
Equipment may be have rated current or rated power or both. Both should be measured.								

B.3		TABLE: Abnormal operating condition tests						P
Ambient temperature (°C)						25°C, if not specified		—
Power source for EUT: Manufacturer, model/type, output rating . :						--		—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Test condition: HDMI mode (Select internal speaker)								

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
One speaker (External)	S-C	90	30min	FP1	5.782	--	--	External speaker shutdown immediately, others normal operation, Recoverable when fault removed, no hazard, all safeguards remained effective during and after abnormal condition.
Test condition: HDMI mode (Select internal speaker)								
USB Type-A output	S-C	90	30min	FP1	5.864	--	--	USB Type-A output shutdown immediately, others normal operation, recoverable, no hazard.
USB SERVICE output	S-C	90	30min	FP1	5.842	--	--	USB SERVICE output shutdown immediately, others normal operation, recoverable, no hazard.
Optional Board output	S-C	90	30min	FP1	5.587	--	--	Optional Board output shutdown immediately, others normal operation, recoverable, no hazard.
Speaker	Maximum attainable power	90	1h59min	FP1	6.073	6)	6)	Unit normal operation, no hazard. all safeguards remained effective during and after abnormal condition.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
One speaker (Internal)	S-C	90	1h22min	FP1	5.788	6)	6)	Internal speaker shutdown immediately, others normal operation, Recoverable when fault removed, no hazard, all safeguards remained effective during and after abnormal condition.
USB SERVICE output	O-L	90	2h30min	FP1	5.883 → 5.925 → 5.842	6)	6)	USB SERVICE output overload to 2.2A and USB SERVICE shutdown at 2.3A, others normal operation, Recoverable when fault removed, no hazard, all safeguards remained effective during and after abnormal condition.
USB Type-A output	O-L	90	3h15min	FP1	5.883 → 6.001 → 5.864	6)	6)	USB Type-A output overload to 1.6A and USB Type-A shutdown at 1.7A, others normal operation, Recoverable when fault removed, no hazard, all safeguards remained effective during and after abnormal condition.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
Optional Board output	O-L	90	2h40min	FP1	5.883 → 6.112 → 0.048	6)	6)	Optional Board output overload to 6.3A and Optional Board output shutdown at 6.4A, others normal operation, Recoverable when fault removed, no hazard, all safeguards remained effective during and after abnormal condition.
Ventilation	Blocked	90	2h01min	FP1	5.883	6)	6)	Unit normal operation, no hazard. all safeguards remained effective during and after abnormal condition.
Transformer TH2/TH3 (Across CH46)	O-L	90	3h46min	FP1	5.883 → 6.076 → 6.297 → 0.058	6)	6)	Transformer overload to 0.5A and panel shutdown at 0.6A, others normal operation, Recoverable when fault removed, no hazard. all safeguards remained effective during and after abnormal condition.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
Transformer TH1 (Across CH66)	O-L	90	6h12min	FP1	5.883 → 6.113 → 6.367 → 0.058	6)	6)	Transformer overload to 3.8A and shutdown at 3.9A, Recoverable when fault removed, no hazard. all safeguards remained effective during and after abnormal condition.
Transformer TH1 (Across CH38)	O-L	90	5h12min	FP1	5.883 → 6.139 → 6.330 → 0.058	6)	6)	Transformer overload to 1.6A and shutdown at 1.7A, Recoverable when fault removed, no hazard. all safeguards remained effective during and after abnormal condition.
Transformer TF2 (Across CF27)	O-L	90	4h27min	FP1	5.883 → 6.078 → 6.209 → 0.048	6)	6)	Transformer overload to 5.5A and shutdown at 5.6A, Recoverable when fault removed, no hazard. all safeguards remained effective during and after abnormal condition.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
DC fan near power board	Locked	90	1h21min	FP1	5.883 → 5.880	6)	6)	Unit normal operation, no hazard. all safeguards remained effective during and after abnormal condition.
DC fan near main board	Locked	90	2h01min	FP1	5.883 → 5.878	6)	6)	Unit normal operation, no hazard. all safeguards remained effective during and after abnormal condition.
DC fan near local dimming board	Locked	90	1h44min	FP1	5.883 → 5.879	6)	6)	Unit normal operation, no hazard. all safeguards remained effective during and after abnormal condition.
Supplementary information:								
Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column "Abnormal/Fault." Specify if test condition by indicating "Abnormal" then the condition for a Clause B.3 test or "Single Fault" then the condition for Clause B.4. 1) O-L: Overload. S-C: Short-circuit. 2) The test result shown all safeguards remained effective and didn't lead to a single fault condition during abnormal operating condition; In addition all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions. 3) The test result showed no Class 1 or 2 energy source become Class 3 level during and after single fault condition. 4) The overloaded condition is applied according to annex G.5.3.3. Winding Limit for transformer: 200°C for class F. 5) For USB output connector: During and after abnormal and single fault operating condition test, the output voltage did not increase by more than 3V or 10% which one is higher of its rated output voltage under normal operating condition. 6) For T-couple and Temp.(°C), see table 5.4.1.4, 6.3.2, 9, B.2.6 for details.								

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

B.4	TABLE: Fault condition tests							P
Ambient temperature (°C)						25°C, if not specified		—
Power source for EUT: Manufacturer, model/type, output rating ..						--		—
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Test condition: HDMI mode								
RV2	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, no hazard.
BD1 pin 1-2	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, no hazard.
CP18	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, no hazard.
QP4 pin G-S	S-C	264	30min	FP1	0.052	--	--	Unit shutdown immediately and recoverable, no hazard.
QP4 pin G-D	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, QP4 damaged, no hazard.
QP4 pin D-S	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, QP4 damaged, no hazard..
RP25	S-C	264	30min	FP1	1.970	--	--	Unit normal operation, no hazard.
QP1 pin G-S	S-C	264	30min	FP1	0.048	--	--	Unit shutdown immediately and recoverable, no hazard.
QP1 pin G-D	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, QP1 damaged, no hazard.
QP1 pin D-S	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, QP1 damaged, no hazard.
RP23	S-C	264	30min	FP1	1.972	--	--	Unit normal operation, no hazard.
QH6 pin G-S	S-C	264	30min	FP1	0.382	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
QH6 pin G-D	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, QH6 damaged, no hazard.
QH6 pin D-S	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, QH6 damaged, no hazard.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
QH8 pin G-S	S-C	264	30min	FP1	0.382	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
QH8 pin G-D	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, QH6 and QH8 damaged, no hazard.
QH8 pin D-S	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, QH6 and QH8 damaged, no hazard.
QH3 pin G-S	S-C	264	30min	FP1	0.052	--	--	Unit shutdown immediately and recoverable, no hazard.
QH3 pin G-D	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, QH3 damaged, no hazard.
QH3 pin D-S	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, QH3 damaged, no hazard.
QF4 pin G-S	S-C	264	30min	FP1	0.054	--	--	Unit shutdown immediately and recoverable, no hazard.
QF4 pin G-D	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, QF4 damaged, no hazard.
QF4 pin D-S	S-C	264	1s	FP1	0	--	--	Fuse FP1 opened immediately, QF4 damaged, no hazard.
RF55	S-C	264	30min	FP1	1.974	--	--	Unit normal operation, no hazard.
UH4 pin 12-10	S-C	264	30min	FP1	0.388	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
UH4 pin 12-4	S-C	264	30min	FP1	0.382	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
UH1 pin 12-10	S-C	264	30min	FP1	0.050	--	--	Unit shutdown immediately and recoverable, no hazard.
UH1 pin 12-4	S-C	264	30min	FP1	0.056	--	--	Unit shutdown immediately and recoverable, no hazard.
UF3 pin 8-2	S-C	264	30min	FP1	0.058	--	--	Unit shutdown immediately and recoverable, no hazard.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
UF3 pin 8-1	S-C	264	30min	FP1	0.059	--	--	Unit shutdown immediately and recoverable, no hazard.
UP4 pin 8-7	S-C	264	30min	FP1	0.055	--	--	Unit shutdown immediately and recoverable, no hazard.
UP4 pin 8-6	S-C	264	30min	FP1	0.055	--	--	Unit shutdown immediately and recoverable, no hazard.
UP1 pin 8-7	S-C	264	30min	FP1	0.050	--	--	Unit shutdown immediately and recoverable, no hazard.
UP1 pin 8-6	S-C	264	30min	FP1	0.054	--	--	Unit shutdown immediately and recoverable, no hazard.
PF1 pin 1-2	S-C	264	30min	FP1	0.053	--	--	Unit shutdown immediately and recoverable, no hazard.
PF1 pin 3-4	S-C	264	30min	FP1	1.972	--	--	Unit normal operation, no hazard.
PF1 pin 1	O-C	264	30min	FP1	0.086	--	--	Unit shutdown immediately and recoverable, no hazard.
PF1 pin 3	O-C	264	30min	FP1	1.974	--	--	Unit normal operation, no hazard.
PF2 pin 1-2	S-C	264	30min	FP1	0.087	--	--	Unit shutdown immediately and recoverable, no hazard.
PF2 pin 3-4	S-C	264	30min	FP1	1.972	--	--	Unit normal operation, no hazard.
PF2 pin 1	O-C	264	30min	FP1	0.052	--	--	Unit shutdown immediately and recoverable, no hazard.
PF2 pin 3	O-C	264	30min	FP1	1.971	--	--	Unit normal operation, no hazard.
PF3 pin 1-2	S-C	264	30min	FP1	0.056	--	--	Unit shutdown immediately and recoverable, no hazard.
PF3 pin 3-4	S-C	264	30min	FP1	1.974	--	--	Unit normal operation, no hazard.
PF3 pin 1	O-C	264	30min	FP1	0.055	--	--	Unit shutdown immediately and recoverable, no hazard.
PF3 pin 3	O-C	264	30min	FP1	1.974	--	--	Unit normal operation, no hazard.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
PH3 pin 1-2	S-C	264	30min	FP1	0.056	--	--	Unit shutdown immediately and recoverable, no hazard.
PH3 pin 3-4	S-C	264	30min	FP1	1.972	--	--	Unit normal operation, no hazard.
PH3 pin 1	O-C	264	30min	FP1	0.058	--	--	Unit shutdown immediately and recoverable, no hazard.
PH3 pin 3	O-C	264	30min	FP1	1.974	--	--	Unit normal operation, no hazard.
PH1 pin 1-2	S-C	264	30min	FP1	0.382	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
PH1 pin 3-4	S-C	264	30min	FP1	0.386	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
PH1 pin 1	O-C	264	30min	FP1	0.382	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
PH1 pin 3	O-C	264	30min	FP1	0.381	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
PH2 pin 1-2	S-C	264	30min	FP1	0.310	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
PH2 pin 3-4	S-C	264	30min	FP1	0.383	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
PH2 pin 1	O-C	264	30min	FP1	0.385	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
PH2 pin 3	O-C	264	30min	FP1	0.381	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
PH4 pin 1-2	S-C	264	30min	FP1	0.055	--	--	Unit shutdown immediately and recoverable, no hazard.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
PH4 pin 3-4	S-C	264	30min	FP1	0.052	--	--	Unit shutdown immediately and recoverable, no hazard.
PH4 pin 1	O-C	264	30min	FP1	0.058	--	--	Unit shutdown immediately and recoverable, no hazard.
PH4 pin 3	O-C	264	30min	FP1	0.059	--	--	Unit shutdown immediately and recoverable, no hazard.
PH5 pin 1-2	S-C	264	30min	FP1	0.056	--	--	Unit shutdown immediately and recoverable, no hazard.
PH5 pin 3-4	S-C	264	30min	FP1	0.058	--	--	Unit shutdown immediately and recoverable, no hazard.
PH5 pin 1	O-C	264	30min	FP1	0.052	--	--	Unit shutdown immediately and recoverable, no hazard.
PH5 pin 3	O-C	264	30min	FP1	0.054	--	--	Unit shutdown immediately and recoverable, no hazard.
TH1 pin 2-4	S-C	264	30min	FP1	0.056	--	--	Unit shutdown immediately and recoverable, no hazard.
TH1 pin 8-13	S-C	264	30min	FP1	0.055	--	--	Unit shutdown immediately and recoverable, no hazard.
TH1 pin 8-14	S-C	264	30min	FP1	0.055	--	--	Unit shutdown immediately and recoverable, no hazard.
TH1 pin 9,10-11,12	S-C	264	30min	FP1	0.056	--	--	Unit shutdown immediately and recoverable, no hazard.
TH1 pin 7-11,12	S-C	264	30min	FP1	0.053	--	--	Unit shutdown immediately and recoverable, no hazard.
DH5 pin 1-2	S-C	264	30min	FP1	0.057	--	--	Unit shutdown immediately and recoverable, no hazard.
DH5 pin 2-3	S-C	264	30min	FP1	0.055	--	--	Unit shutdown immediately and recoverable, no hazard.
CH38	S-C	264	30min	FP1	0.058	--	--	Unit shutdown immediately and recoverable, no hazard.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
QH12 pin 2-3	S-C	264	30min	FP1	0.053	--	--	Unit shutdown immediately and recoverable, no hazard.
QH13 pin 2-3	S-C	264	30min	FP1	0.055	--	--	Unit shutdown immediately and recoverable, no hazard.
CH22	S-C	264	30min	FP1	0.058	--	--	Unit shutdown immediately and recoverable, no hazard.
TF2 pin 6-9	S-C	264	30min	FP1	0.054	--	--	Unit shutdown immediately and recoverable, no hazard.
TF2 pin 10-11	S-C	264	30min	FP1	0.056	--	--	Unit shutdown immediately and recoverable, no hazard.
TF2 pin 1,2-4,5	S-C	264	30min	FP1	0.056	--	--	Unit shutdown immediately and recoverable, no hazard.
DF13 pin 1,3-2	S-C	264	30min	FP1	0.057	--	--	Unit shutdown immediately and recoverable, no hazard.
CF36	S-C	264	30min	FP1	0.058	--	--	Unit shutdown immediately and recoverable, no hazard.
TH2/TH3 pin 3-6	S-C	264	30min	FP1	1.974	--	--	Unit normal operation, no hazard.
TH2/TH3 pin 10-15	S-C	264	30min	FP1	0.385	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
DH11 pin 1-2	S-C	264	30min	FP1	0.382	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
DH6 pin 2-3	S-C	264	30min	FP1	0.383	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
CH26	S-C	264	30min	FP1	0.383	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.
LED "+" to "-"	S-C	264	30min	FP1	0.385	--	--	The panel shutdown immediately, others normal operation, recoverable, no hazard.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
LED "+" to CN201 "+5VSB"	S-C	264	30min	FP1	0.057	--	--	Unit shutdown immediately and recoverable, no hazard.
LED "+" to CN203 "+12V"	S-C	264	30min	FP1	0.057	--	--	Unit shutdown immediately and recoverable, no hazard.
LED "+" to CN203 "+24V"	S-C	264	30min	FP1	0.059	--	--	Unit shutdown immediately and recoverable, no hazard.
UA1 pin 2,3-1	S-C	264	30min	FP1	1.960	--	--	Speakers shutdown immediately, others normal operation, Recoverable when fault removed, no hazard, all safeguards remained effective during and after abnormal condition.
Supplementary information:								
Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column "Abnormal/Fault." Specify if test condition by indicating "Abnormal" then the condition for a Clause B.3 test or "Single Fault" then the condition for Clause B.4. 1) S-C: Short-circuit; O-C: Open-circuit; 2) The test result shown all safeguards remained effective and didn't lead to a single fault condition during abnormal operating condition; In addition all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions. 3) The test result showed no Class 1 or 2 energy source become Class 3 level during and after single fault condition. 4) The same as result test conducted on all fuse sources, all fuse sources see table 4.1.2 of CB test report for power supply for details. 5) For component damaged without fuse opened condition have been repeated twice (three tests total) with same result. 6) For USB output connector: During and after single fault operating condition test, the output voltage did not increase by more than 3V or 10% which one is higher of its rated output voltage under normal operating condition.								

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

Annex M.3	TABLE: Batteries								P
The tests of Annex M are applicable only when appropriate battery data is not available									P
Is it possible to install the battery in a reverse polarity position?..... :							No		P
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	--	--	--	3.4mA	50mA	0.6uA	70mA	--	--
Max. current during fault condition (RS7 short)	--	--	--	3.4mA	50mA	0.6uA	70mA	--	--
Max. current during fault condition (US3 pin 3-8 short)	--	--	--	9.0mA	50mA	338uA	70mA	--	--
Test results:									Verdict
- Chemical leaks							No		P
- Explosion of the battery							No		P
- Emission of flame or expulsion of molten metal							No		P
- Electric strength tests of equipment after completion of tests							No		P
Supplementary information:									

Annex M.4	Table: Additional safeguards for equipment containing secondary lithium batteries					N/A
Battery/Cell No.	Test conditions	Measurements			Observation	
		U	I (A)	Temp (C)		
	Normal					
	Abnormal					
	Single fault –SC/OC					
Supplementary Information:						
Battery identification	Charging at T _{lowest} (°C)	Observation	Charging at T _{highest} (°C)	Observation		
Supplementary Information:						

IEC 62368-1			
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
AUDIO OUT port (CON1) All pins to GND	Normal	0	0	8	0	100
LAN 1/2 port (CON16) Pin A9/A11/B9/B11 to GND	Normal	3.24	0	8	0	100
LAN 1/2 port (CON16) Pin others to GND	Normal	0	0	8	0	100
REMOTE IN port (CN407) Pin 1 to GND	Normal	3.25	2.0	8	3.8	100
REMOTE IN port (CN407) Pin 1 to GND	Single fault (UM53 pin 4-3 short)	5.14	2.8	8	9.3	100
REMOTE IN port (CN407) Pin others to GND	Normal	0	0	8	0	100
DisplayPort IN 1/2 port (CN505/CN 506) Pin 20 to GND	Normal	3.31	0.8	8	1.6	100

IEC 62368-1						
Clause	Requirement + Test	Result - Remark				Verdict
DisplayPort IN 1/2 port (CN505/CN 506) Pin 20 to GND	Single fault (U527/U530 pin 5-1 short)	3.31	1.2	8	2.4	100
DisplayPort IN 1/2 port (CN505/CN 506) Pin 20 to GND	Single fault (U528/U525 pin 2-3 short)	5.04	0.8	8	2.5	100
DisplayPort IN 1/2 port (CN505/CN 506) Pin others to GND	Normal	0	0	8	0	100
DisplayPort OUT port (CN507) Pin 20 to GND	Normal	3.25	0.8	8	1.6	100
DisplayPort OUT port (CN507) Pin 20 to GND	Single fault (U532 pin 5-1 short)	3.25	1.2	8	2.5	100
DisplayPort OUT port (CN507) Pin 20 to GND	Single fault (U533 pin 2-3 short)	5.14	0.8	8	2.6	100
DisplayPort OUT port (CN507) Pin others to GND	Normal	0	0	8	0	100
HDMI IN 1/2 port (CN501/CN 502) Pin 18 to GND	Normal	4.92	0	8	0	100
HDMI IN 1/2 port (CN501/CN 502) Pin others to GND	Normal	0	0	8	0	100

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
HDMI OUT port (CN504) Pin 18 to GND	Normal	5.14	0.1	8	0.5	100
HDMI OUT port (CN504) Pin others to GND	Normal	0	0	8	0	100
USB Type-A port (CN706) Pin + to -	Normal	5.02	1.8	8	7.4	100
USB Type-A port (CN706) Pin + to -	Single fault (U717 pin 1-5 short)	5.02 (USB Type-A normal operation)	2.3 (USB Type-A normal operation)	8	9.6 (USB Type-A normal operation)	100
USB Type-B port (CN704) All Pins to GND	Normal	0	0	8	0	100
USB SERVICE port (CN406) Pin + to -	Normal	5.06	2.3	8	9.6	100
USB SERVICE port (CN406) Pin + to -	Single Fault (U420 pin 1-6 short)	5.06 (USB SERVICE normal operation)	4.0 (USB SERVICE normal operation)	8	17.0 (USB SERVICE normal operation)	100
RS-232C port (CN408) all Pin to GND	Normal	0	0	8	0	100
External speaker port (JA3) “+” to “-”	Normal	3.38	0.60	8	1.92	100
External speaker port (JA3) “+” to “-”	Abnormal (Max. attainable power)	9.56	1.94	8	18.07	100

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
External speaker port (JA3) “+” to “-”	Single fault (UA1 pin 2,3-1 short)	0 (Speaker shutdown)	0 (Speaker shutdown)	8	0 (Speaker shutdown)	100
Supplementary Information:						
SC=Short circuit, OC=Open circuit						

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Enclosure top, closed to transformer (T.5)	Metal	See table 4.1.2	250	5	Enclosure remained intact, safeguards remained effectively	
Enclosure side (T.5)	Metal	See table 4.1.2	250	5	Enclosure remained intact, safeguards remained effectively	
Enclosure bottom, closed to transformer (T.5)	Metal	See table 4.1.2	250	5	Enclosure remained intact, safeguards remained effectively	
Enclosure rear, closed to transformer (T.5)	Metal	See table 4.1.2	250	5	Enclosure remained intact, safeguards remained effectively	
Internal components (T.2)	--	--	10	5	No reduction the clearances and creepage distances	
Enclosure openings (T.3)	Metal	See table 4.1.2	30	5	Enclosure remained intact, safeguards remained effectively	
Supplementary information:						

T.6, T.9	TABLE: Impact tests				P
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
Enclosure top, closed to transformer (T.6)	Metal	See table 4.1.2	1300	Enclosure remained intact, safeguards remained effectively	
Enclosure side (T.6)	Metal	See table 4.1.2	1300	Enclosure remained intact, safeguards remained effectively	
Enclosure bottom, closed to transformer (T.6)	Metal	See table 4.1.2	1300	Enclosure remained intact, safeguards remained effectively	

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
Enclosure rear, closed to transformer (T.6)	Metal	See table 4.1.2	1300	Enclosure remained intact, safeguards remained effectively
Supplementary information:				

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

T.8	TABLE: Stress relief test					N/A
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Supplementary information:						



Photo 1 External view



Photo 2 External view

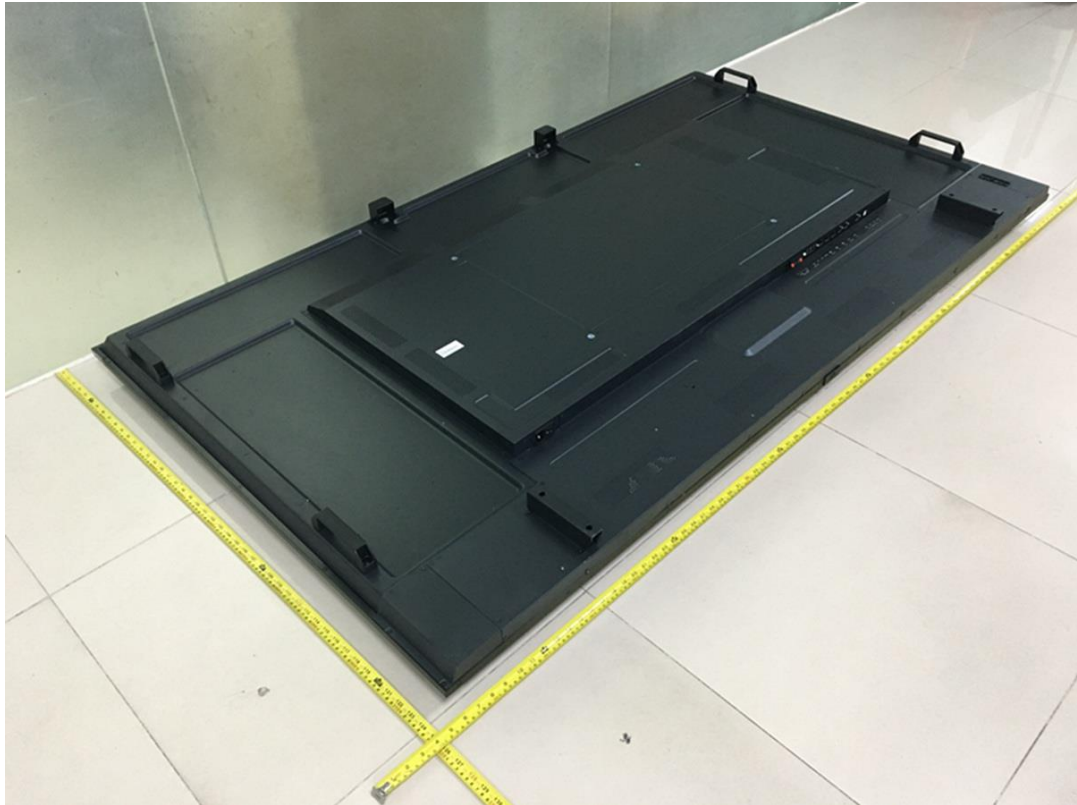


Photo 3 External view

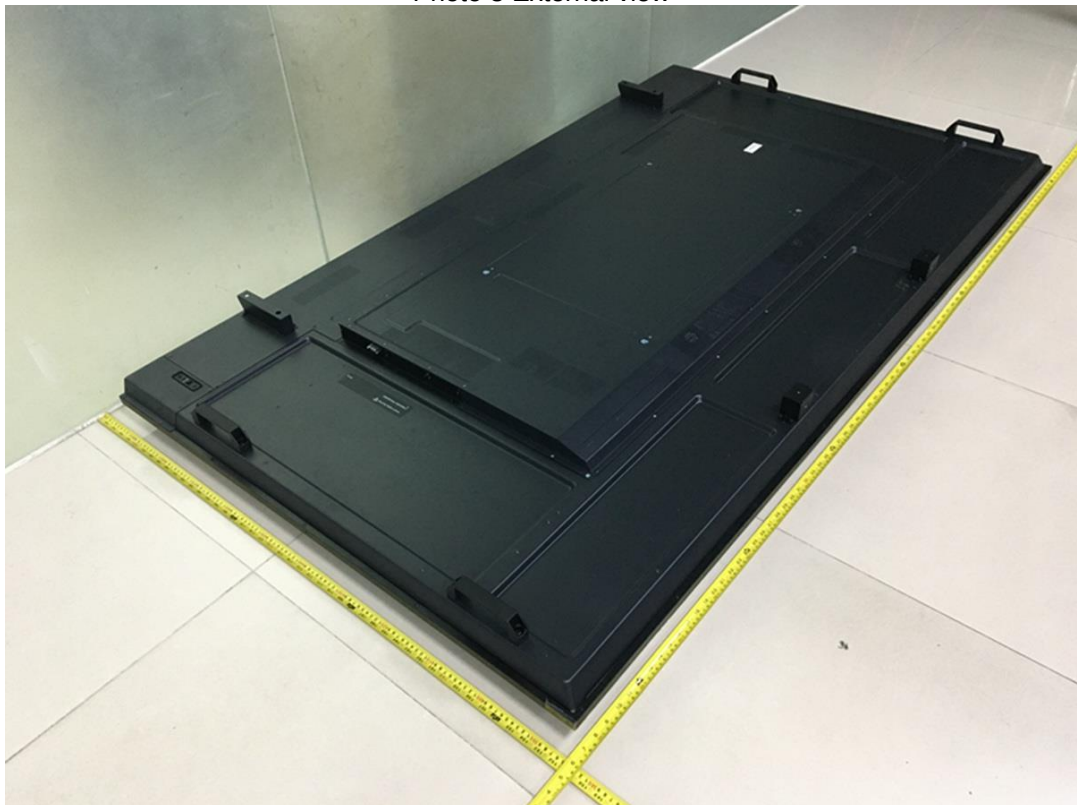


Photo 4 External view

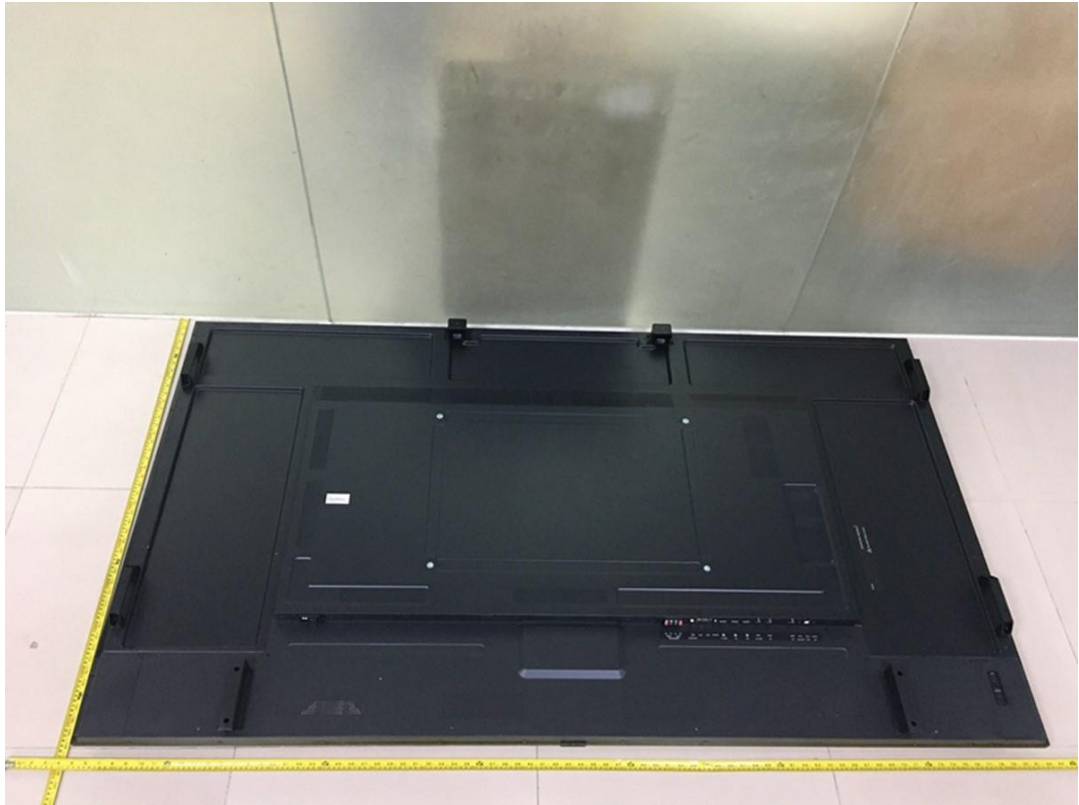


Photo 5 External view



Photo 6 Terminal view

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Photo 7 Terminal view



Photo 8 Terminal view

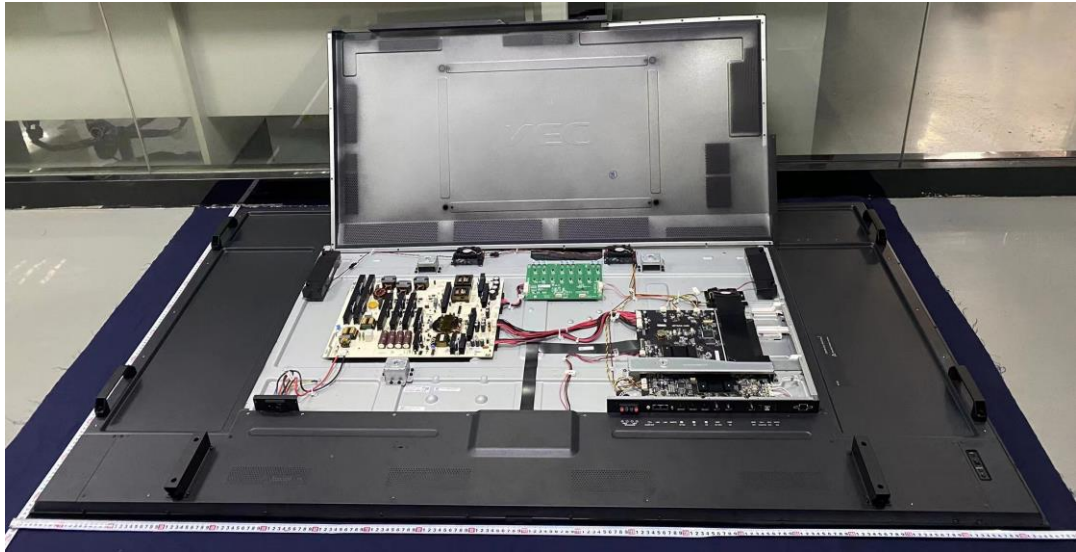


Photo 9 Internal view

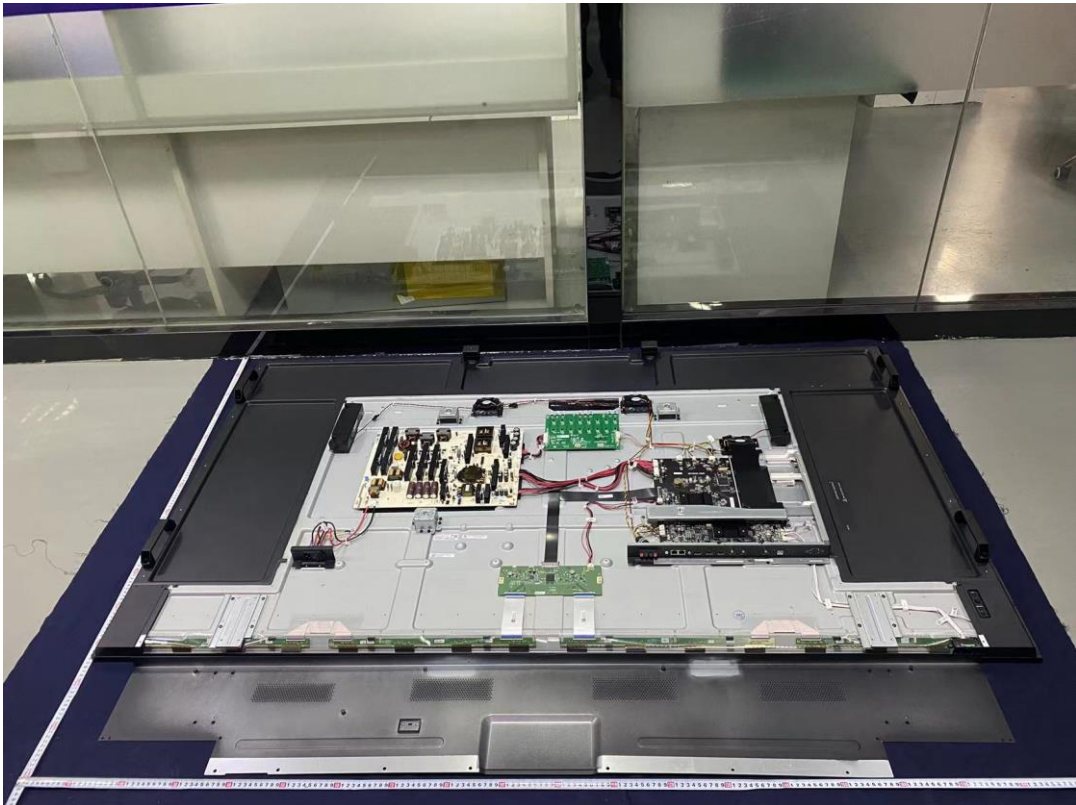


Photo 10 Internal view

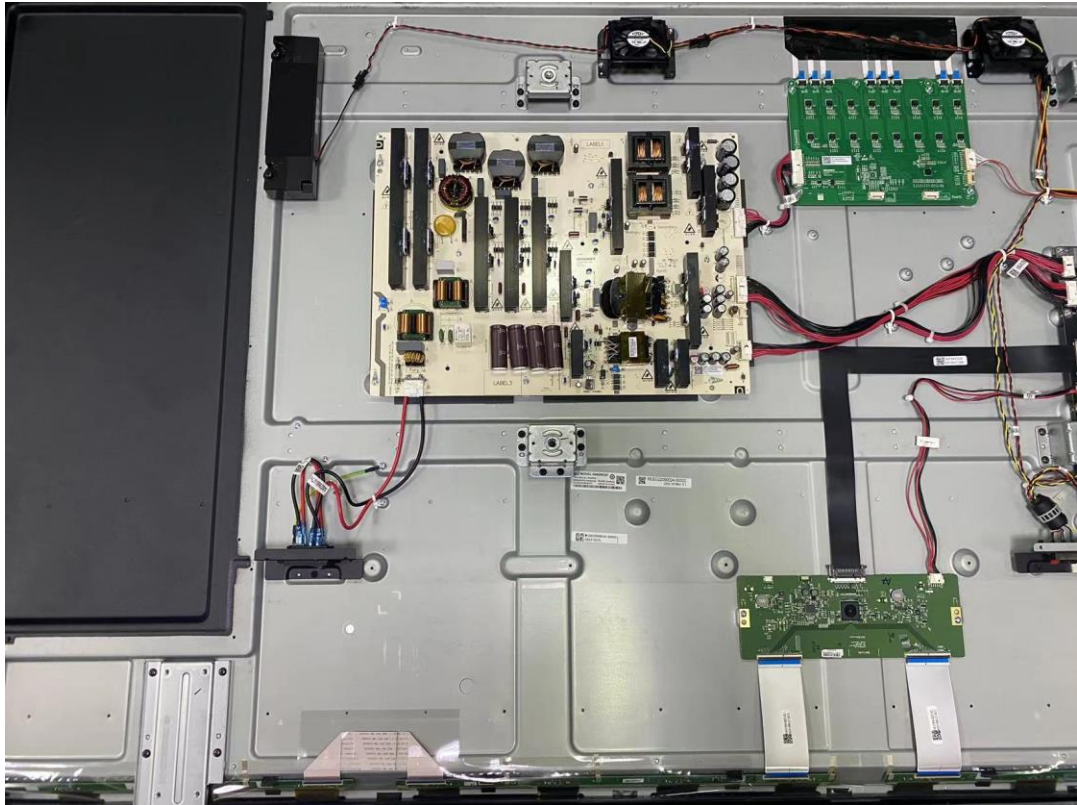


Photo 11 Internal view

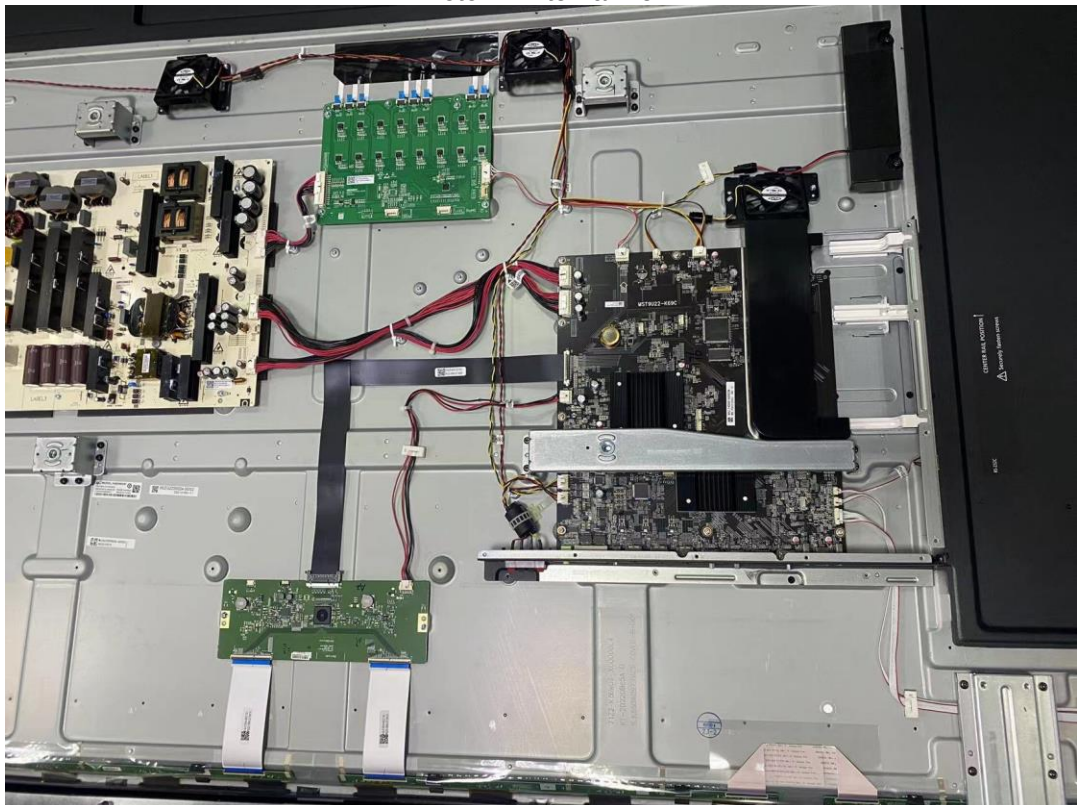


Photo 12 Internal view

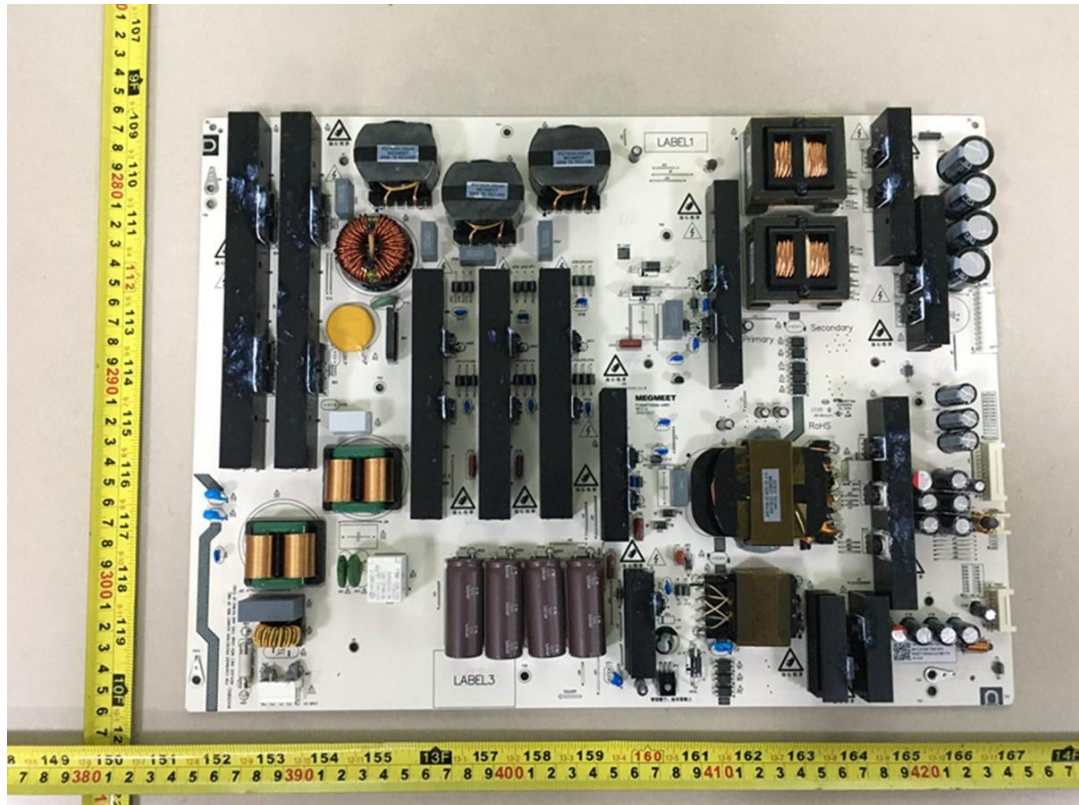


Photo 13 Power board view

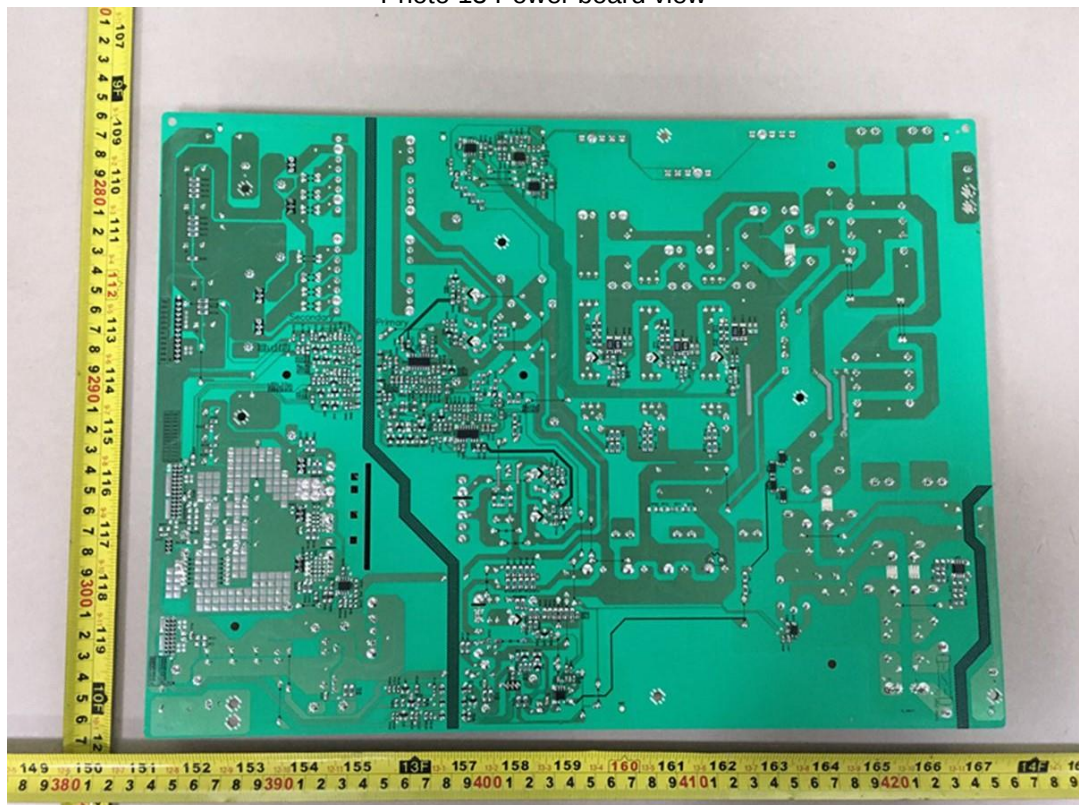


Photo 14 Power board view

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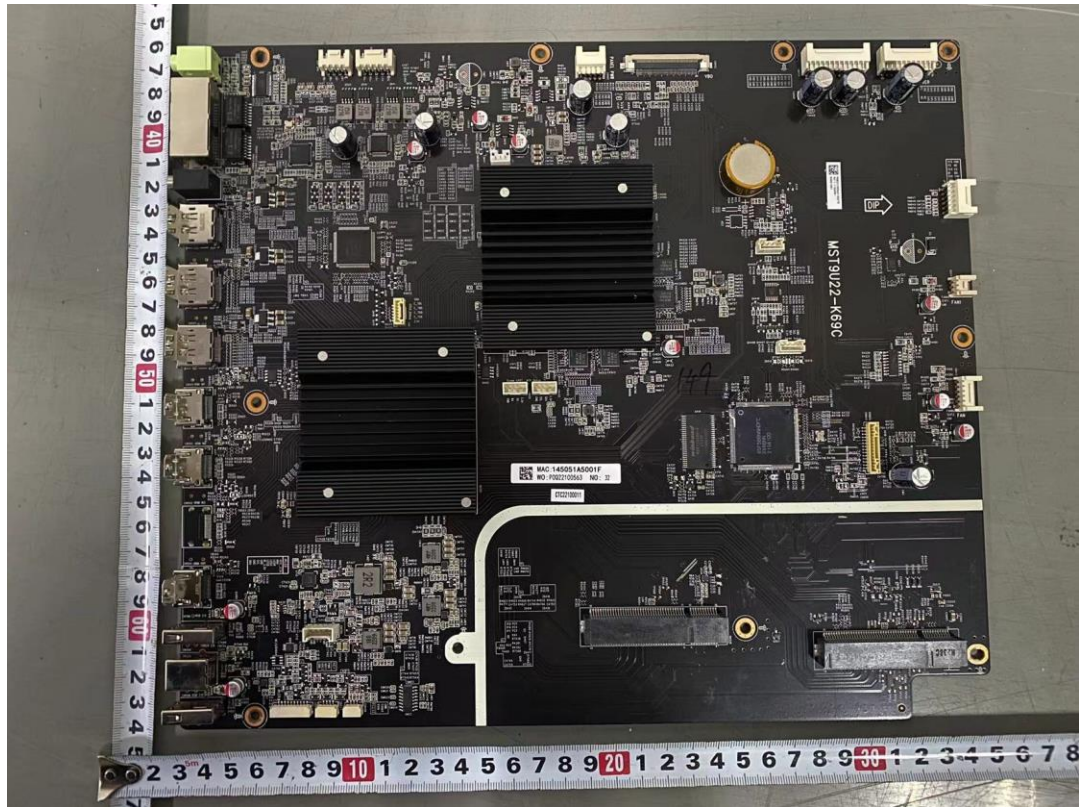


Photo 15 Main board view

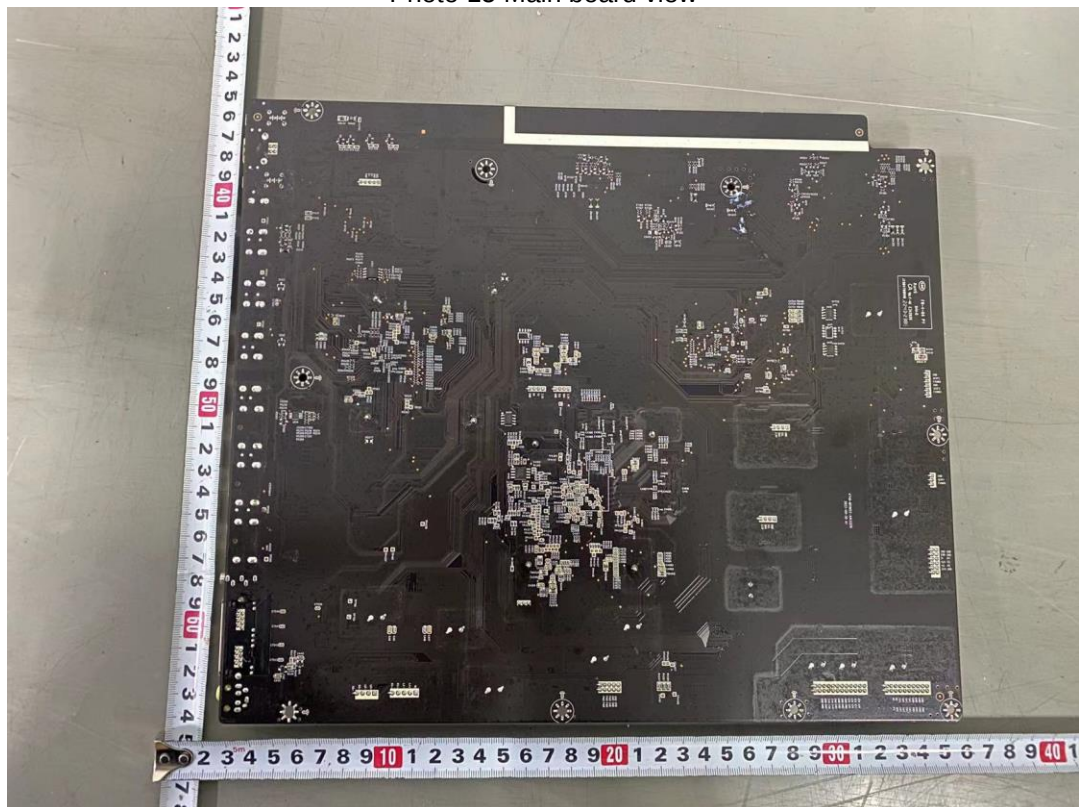


Photo 16 Main board view

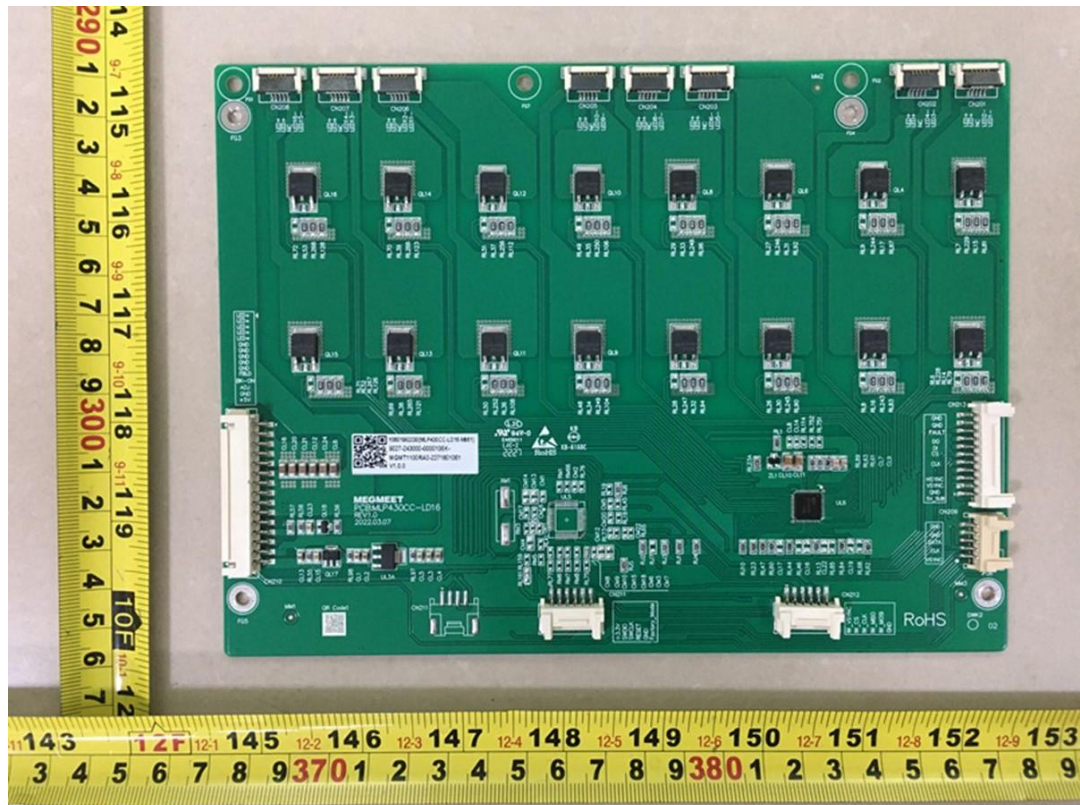


Photo 17 Local dimming board view

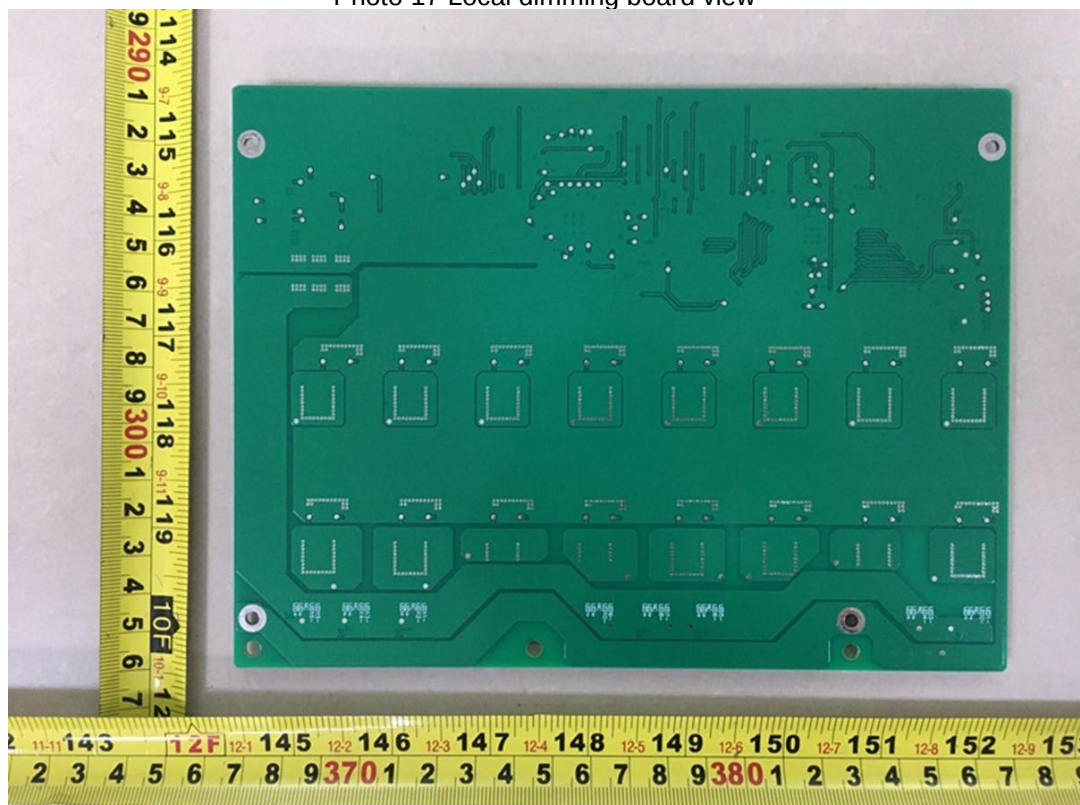


Photo 18 Local dimming board view

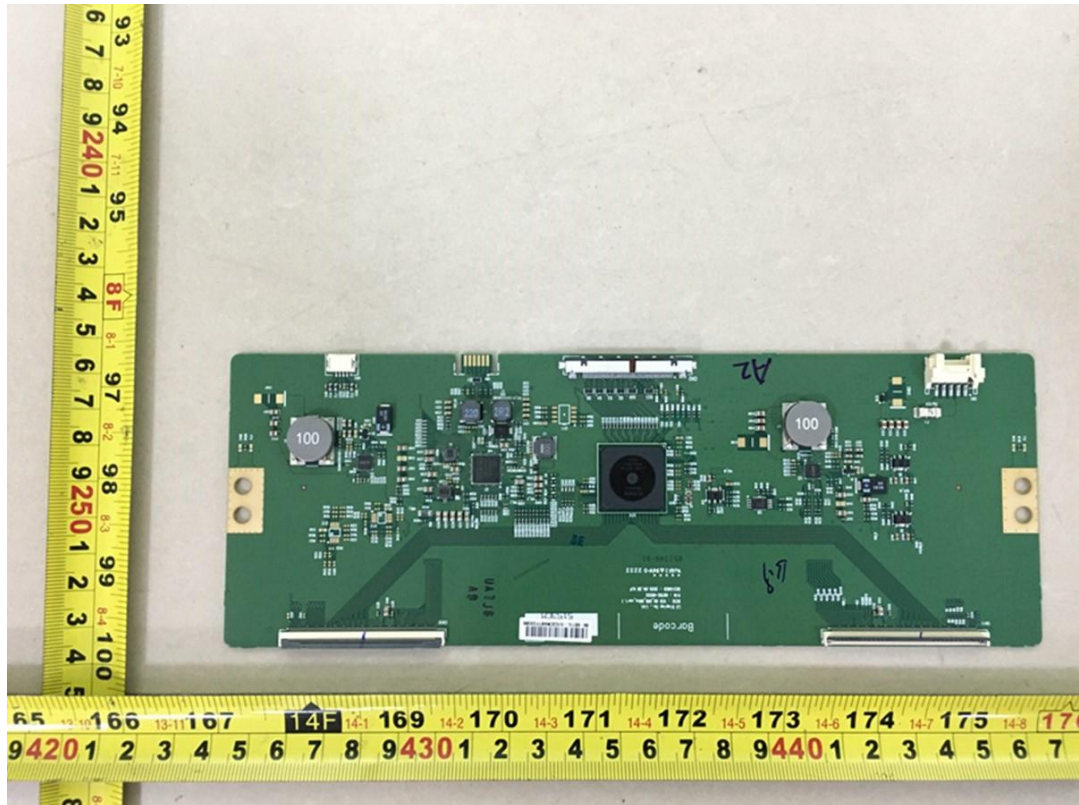


Photo 19 T CON board view

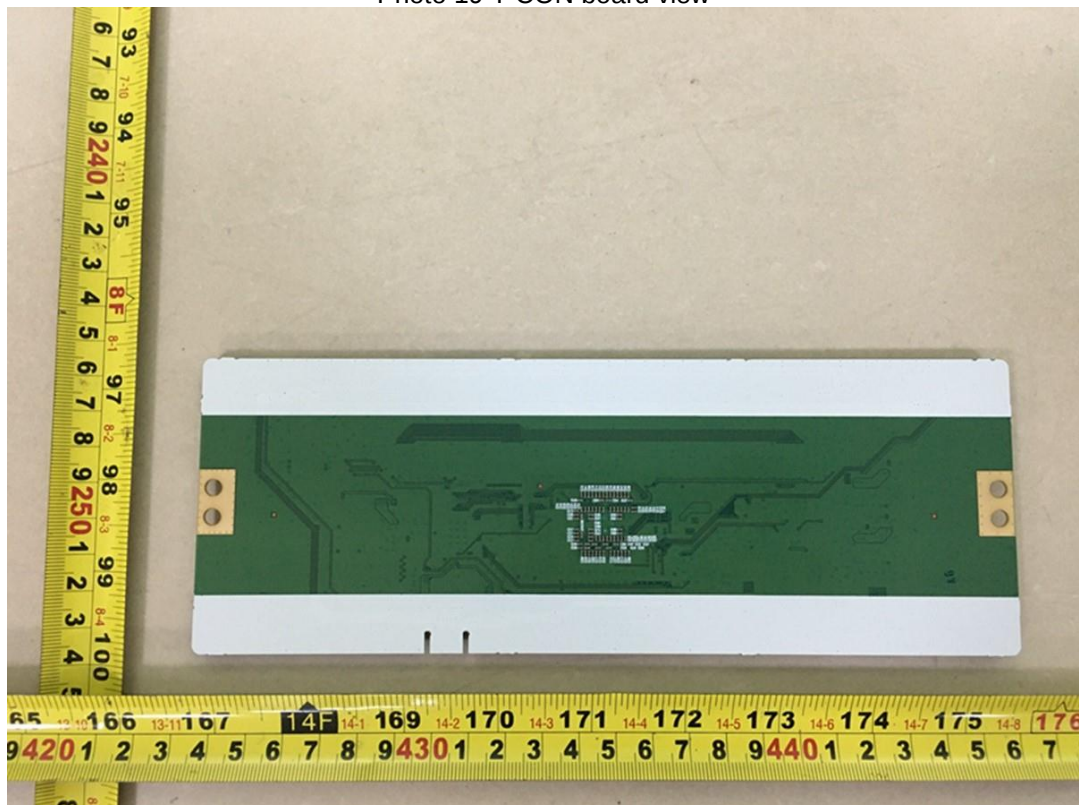


Photo 20 T CON board view



Photo 21 Base stand view



Photo 22 Base stand view



Photo 23 Remote control

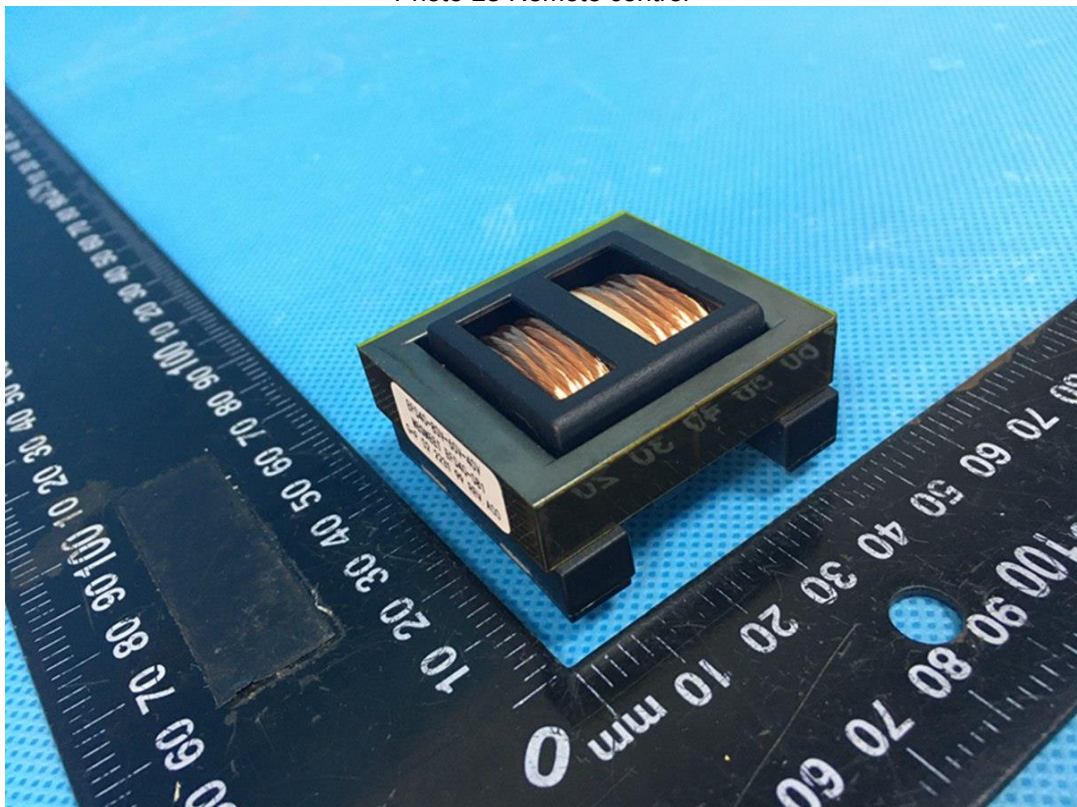


Photo 24 Transformer TH2/TH3 view

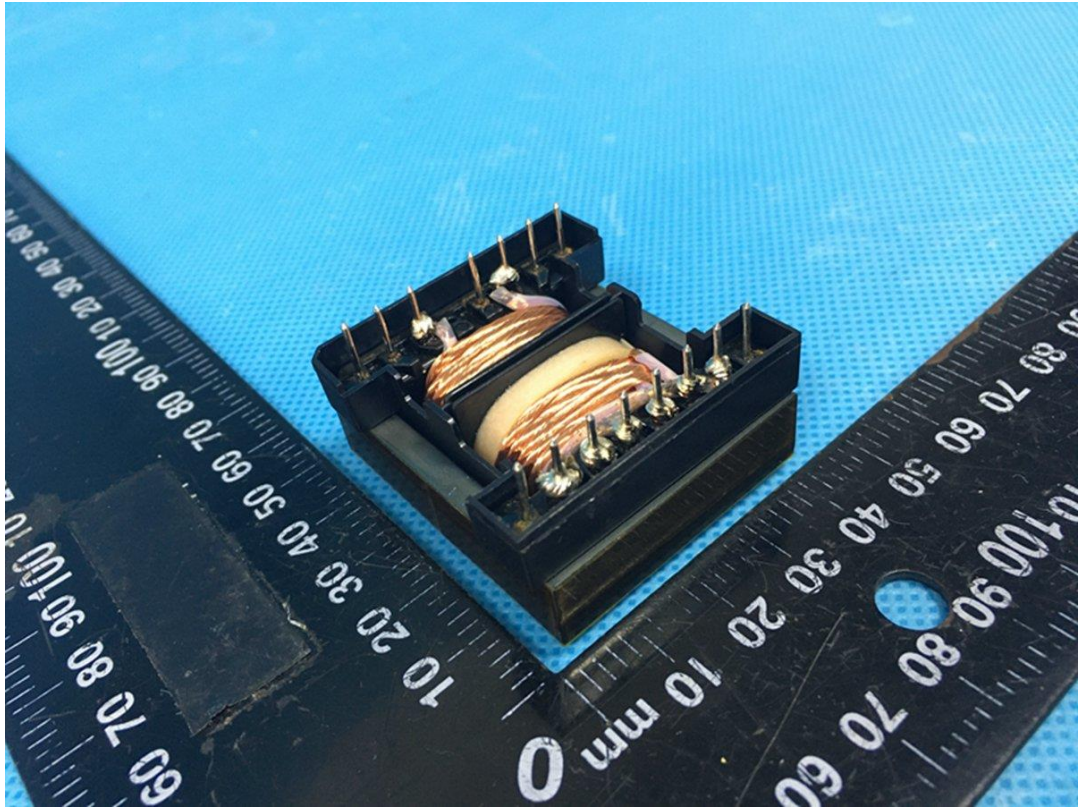


Photo 25 Transformer TH2/TH3 view

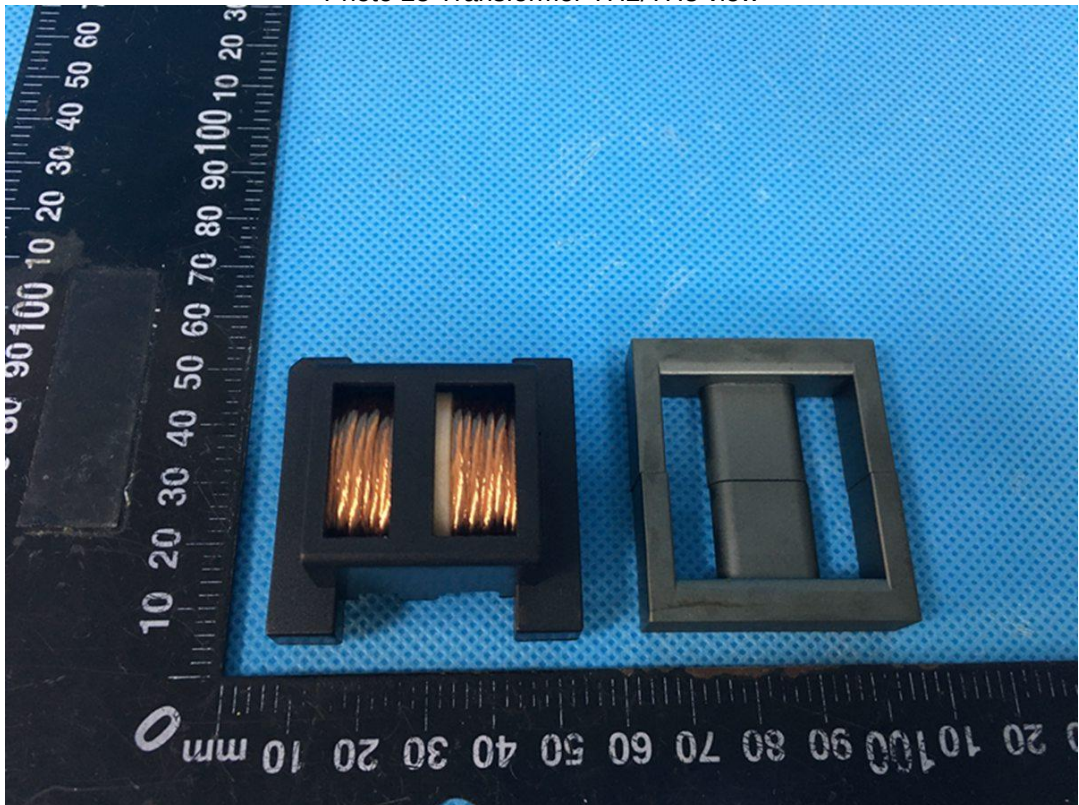


Photo 26 Transformer TH2/TH3 view

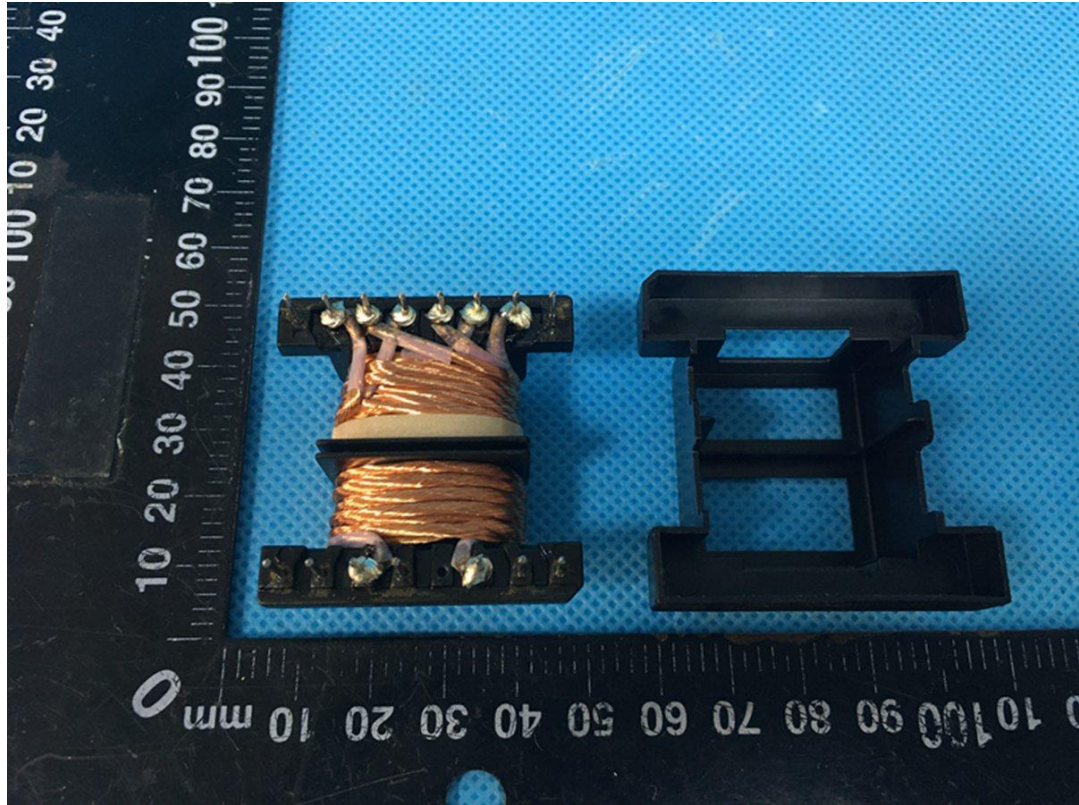


Photo 27 Transformer TH2/TH3 view

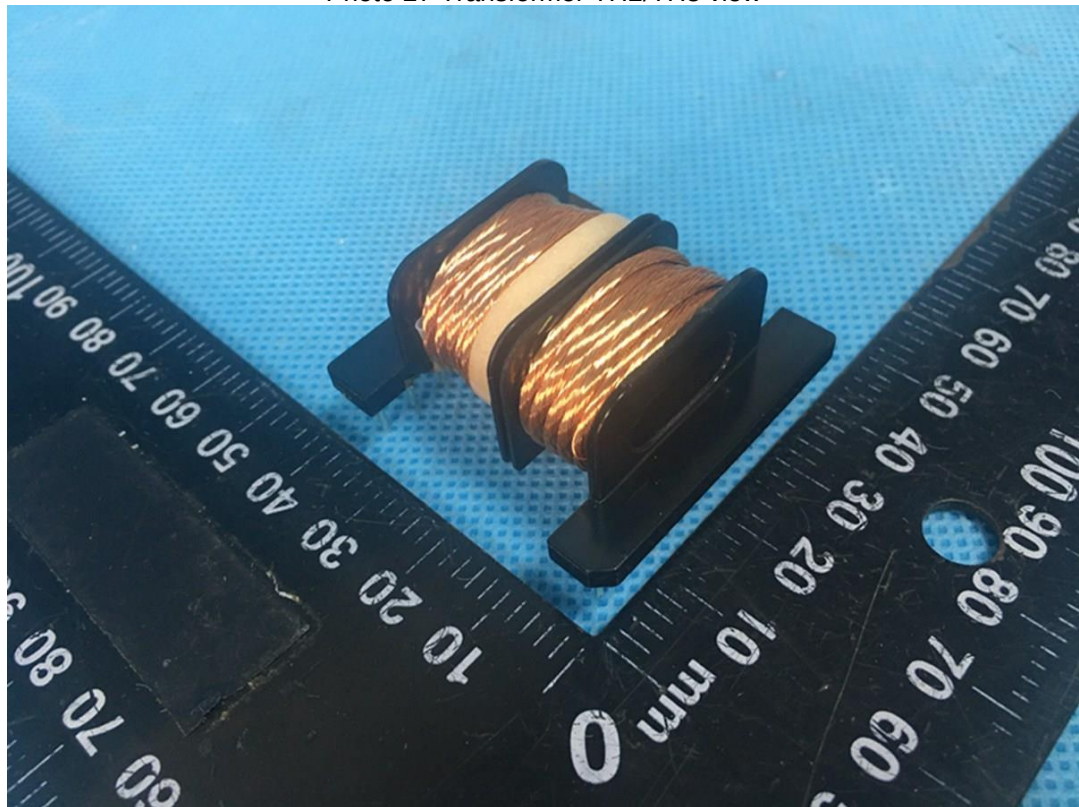


Photo 28 Transformer TH2/TH3 view

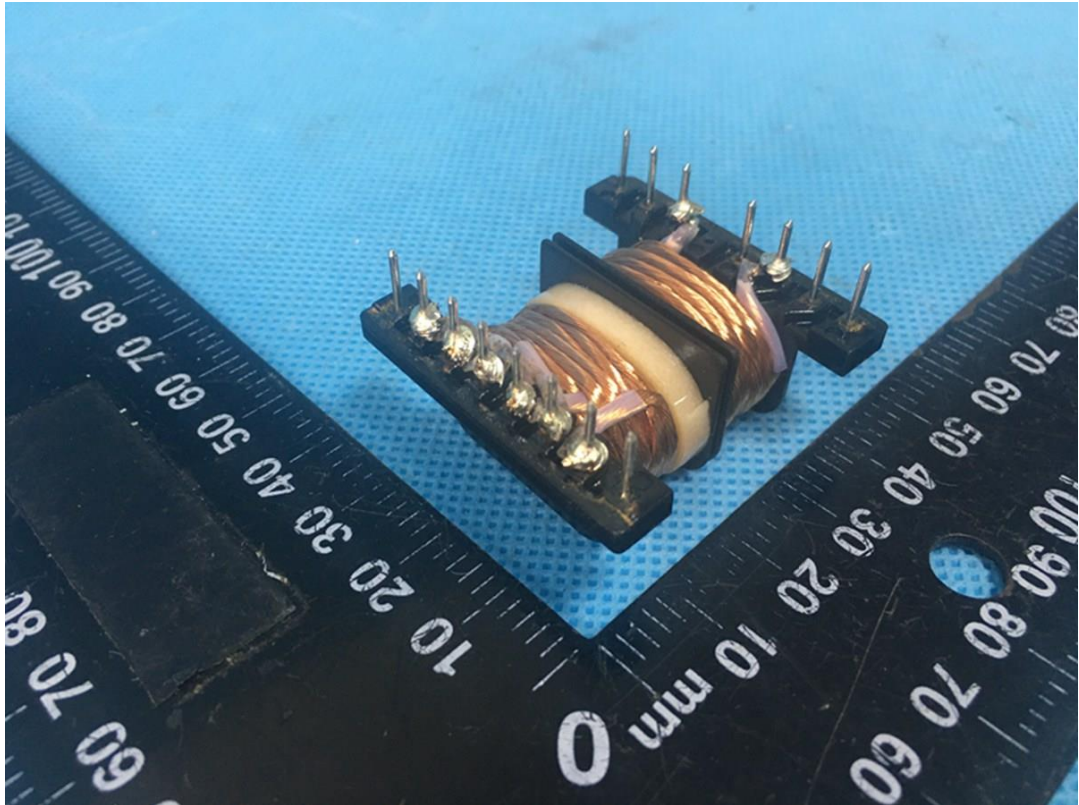


Photo 29 Transformer TH2/TH3 view

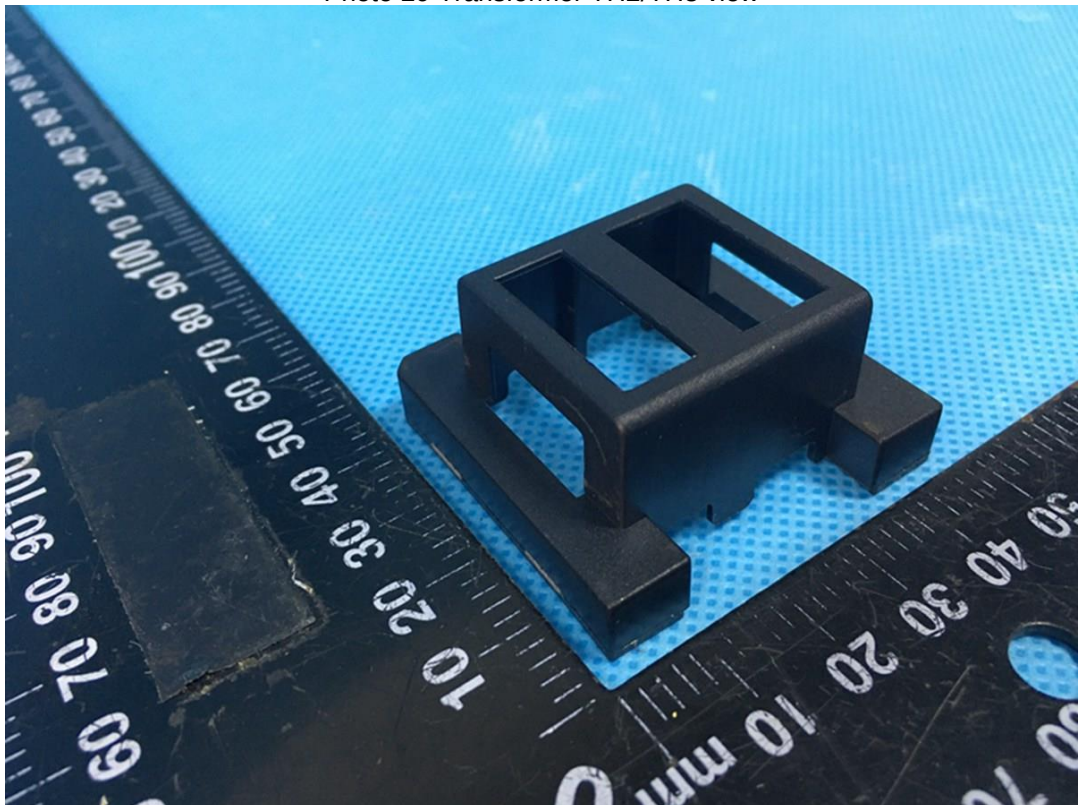


Photo 30 Transformer TH2/TH3 view

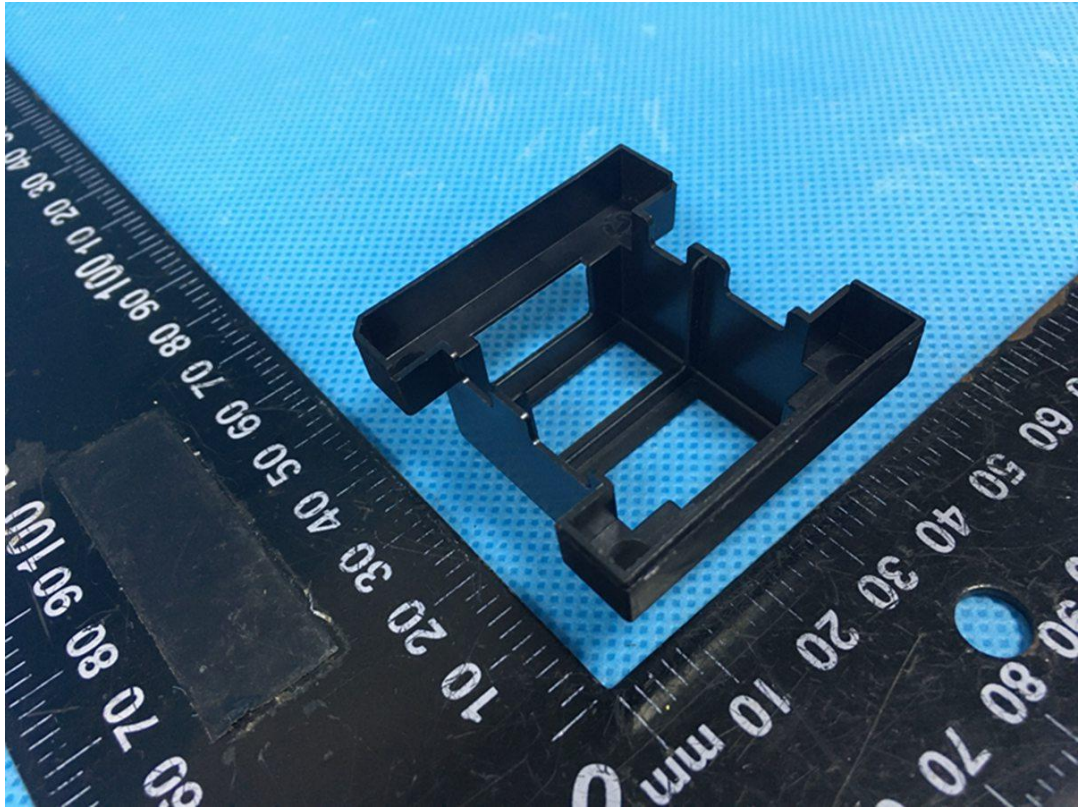


Photo 31 Transformer TH2/TH3 view



Photo 32 Transformer TH1 view

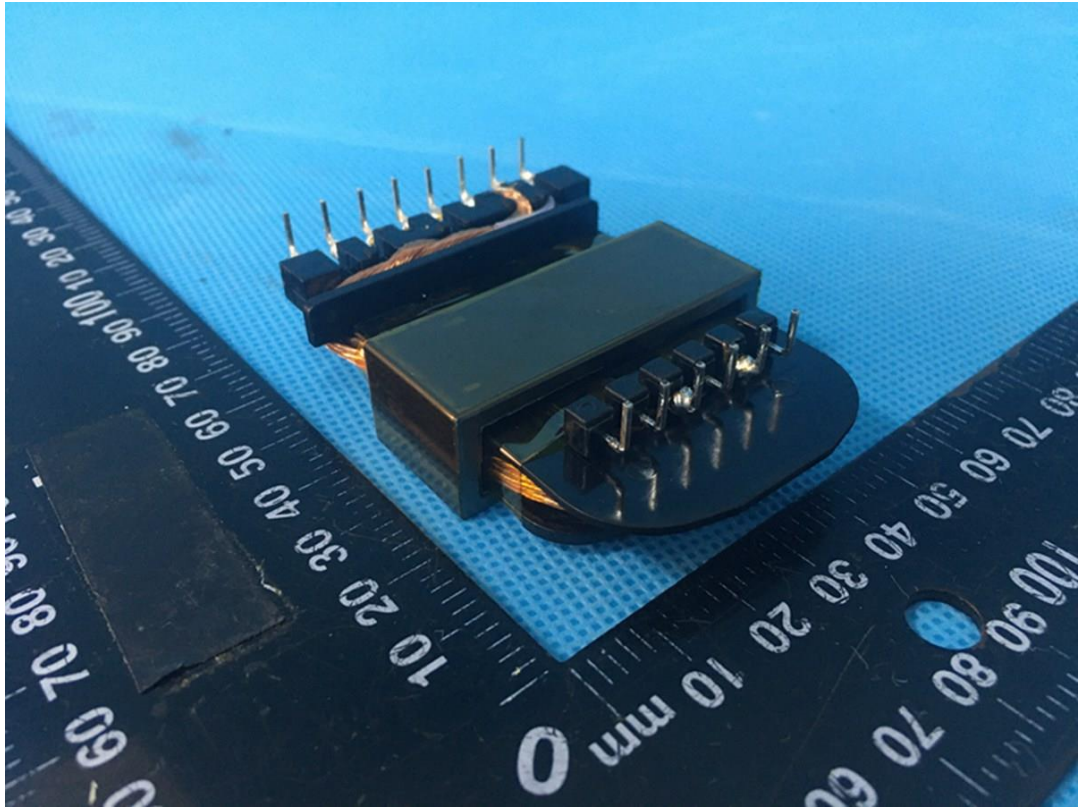


Photo 33 Transformer TH1 view

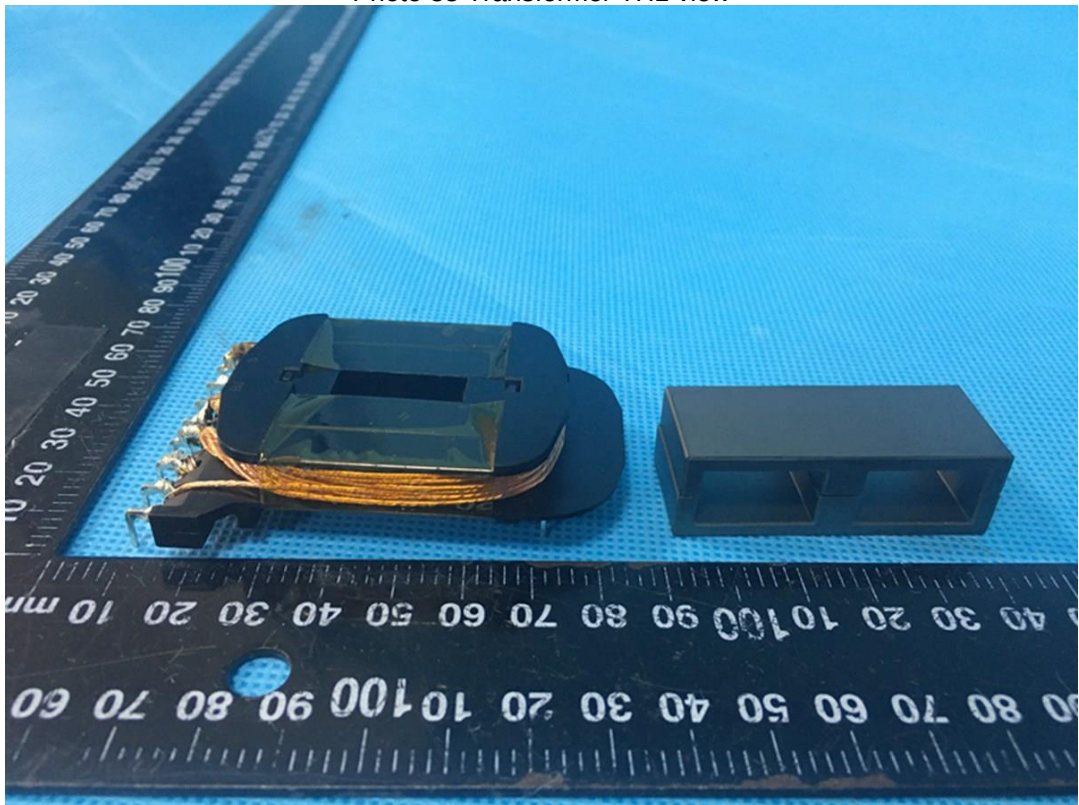


Photo 34 Transformer TH1 view

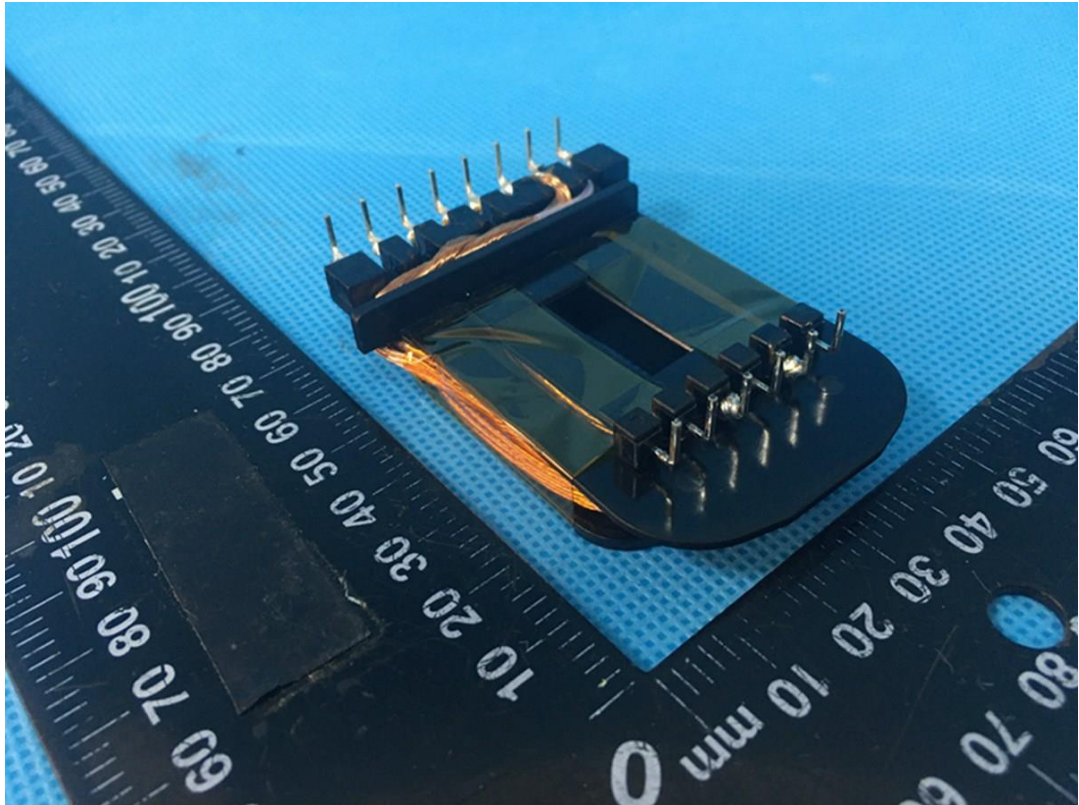


Photo 35 Transformer TH1 view

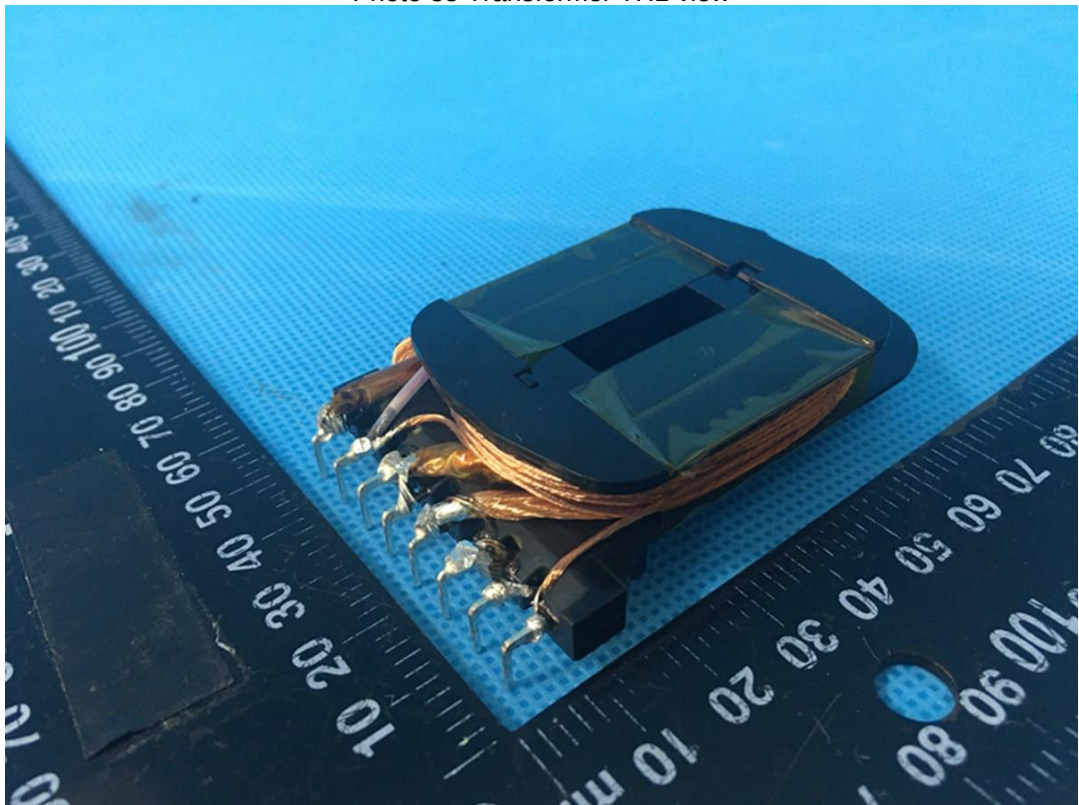


Photo 36 Transformer TH1 view



Photo 37 Transformer TH1 view

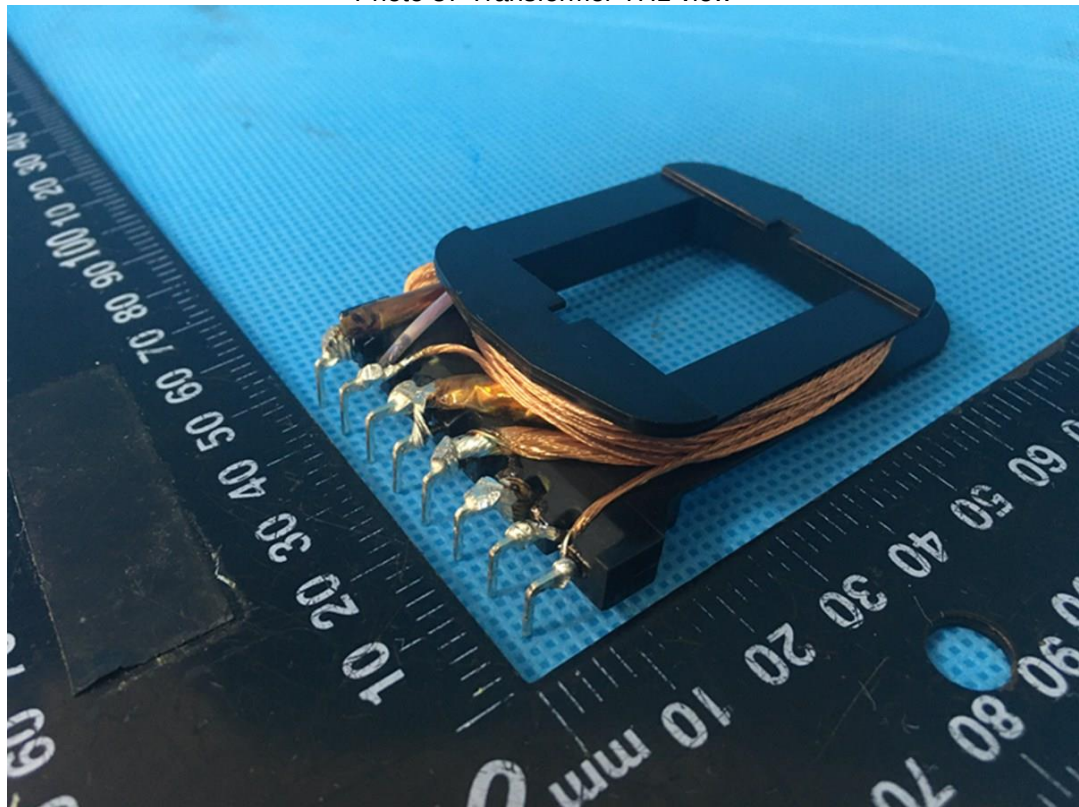


Photo 38 Transformer TH1 view

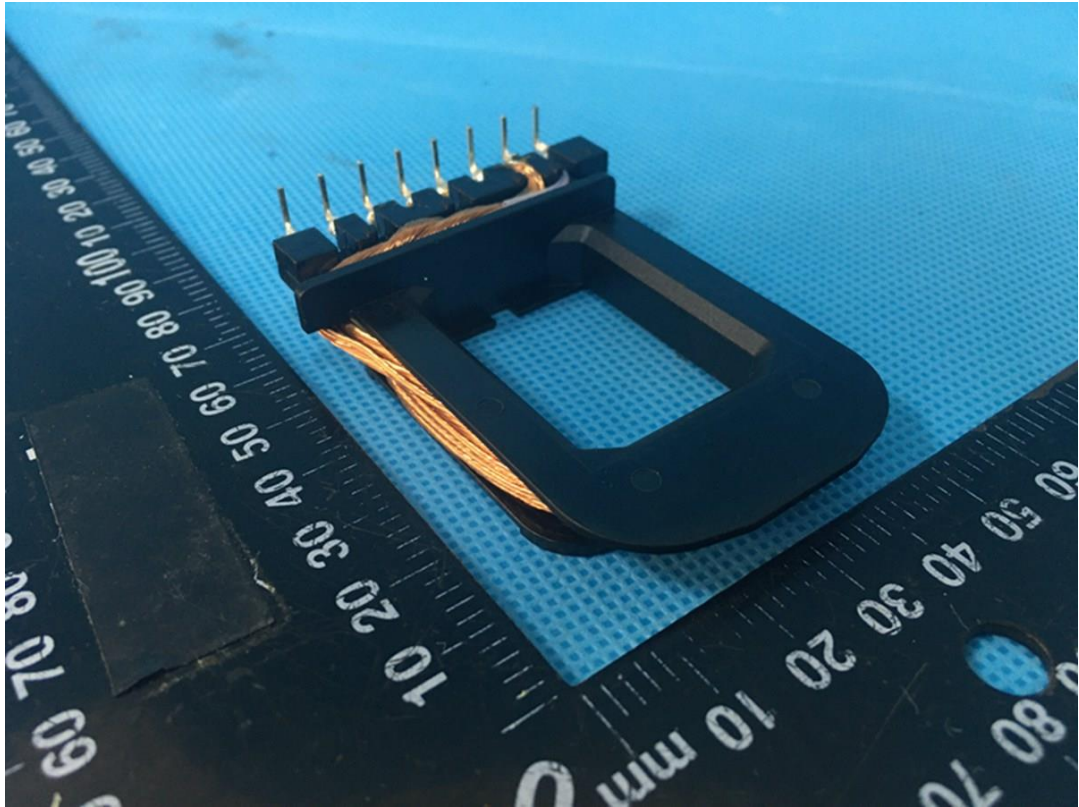


Photo 39 Transformer TH1 view

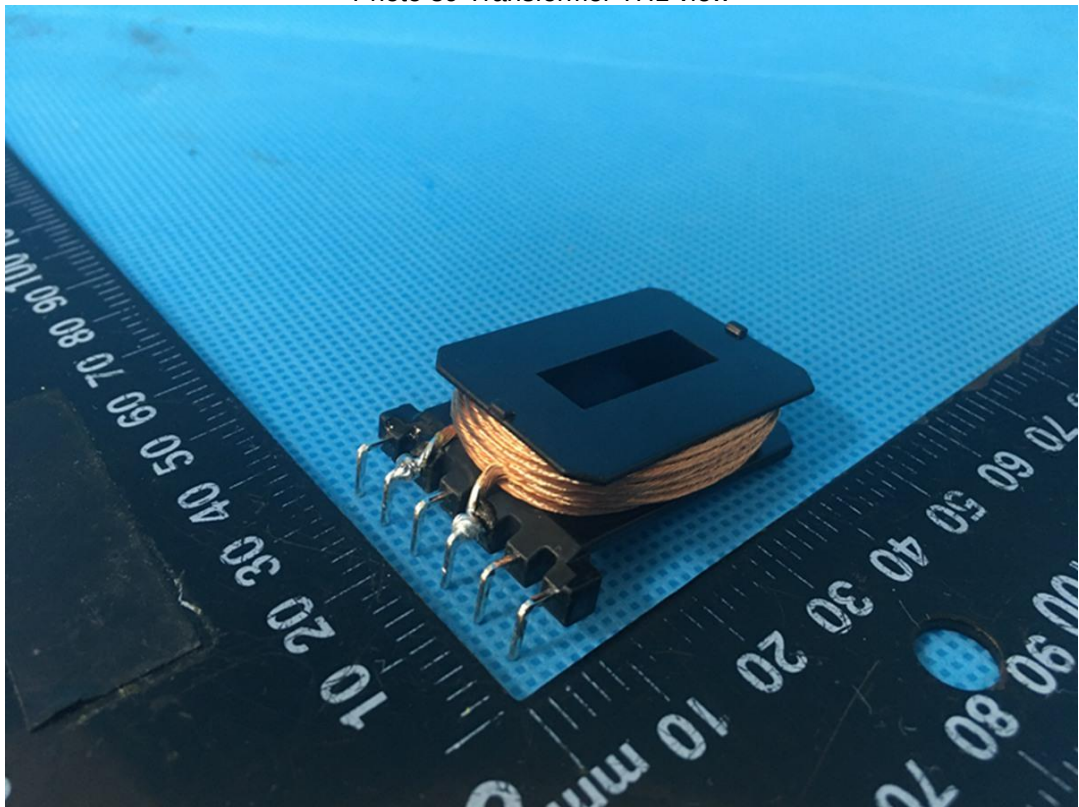


Photo 40 Transformer TH1 view

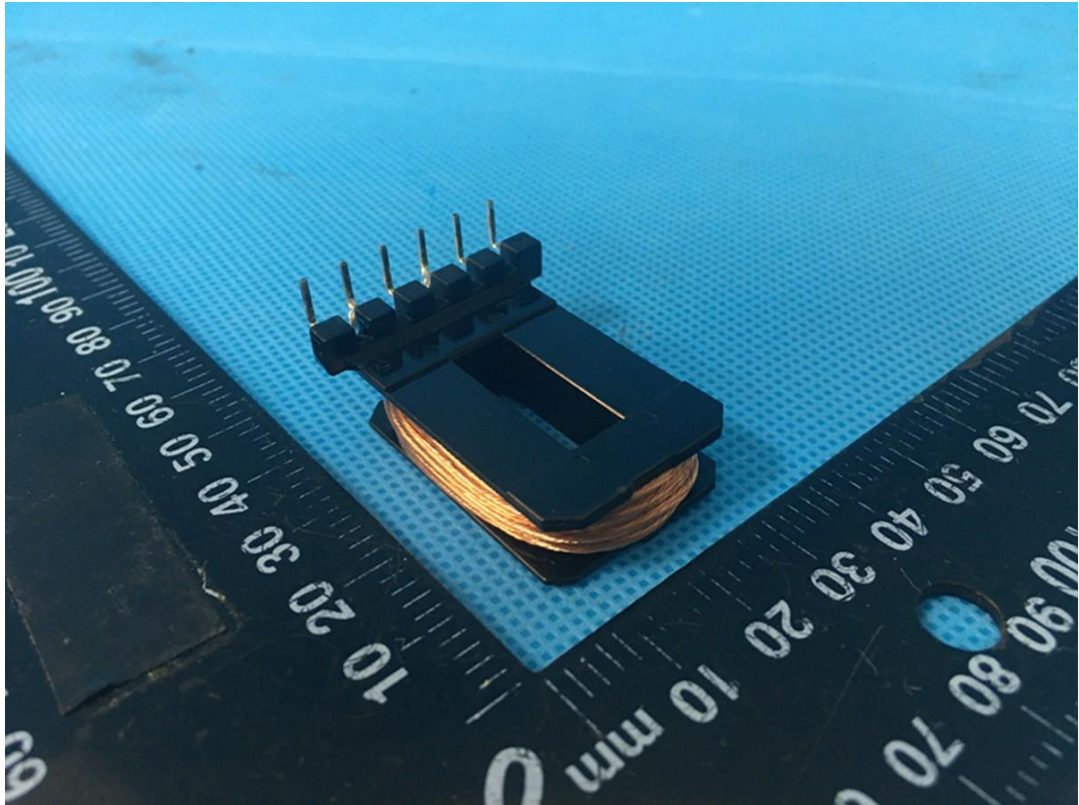


Photo 41 Transformer TH1 view

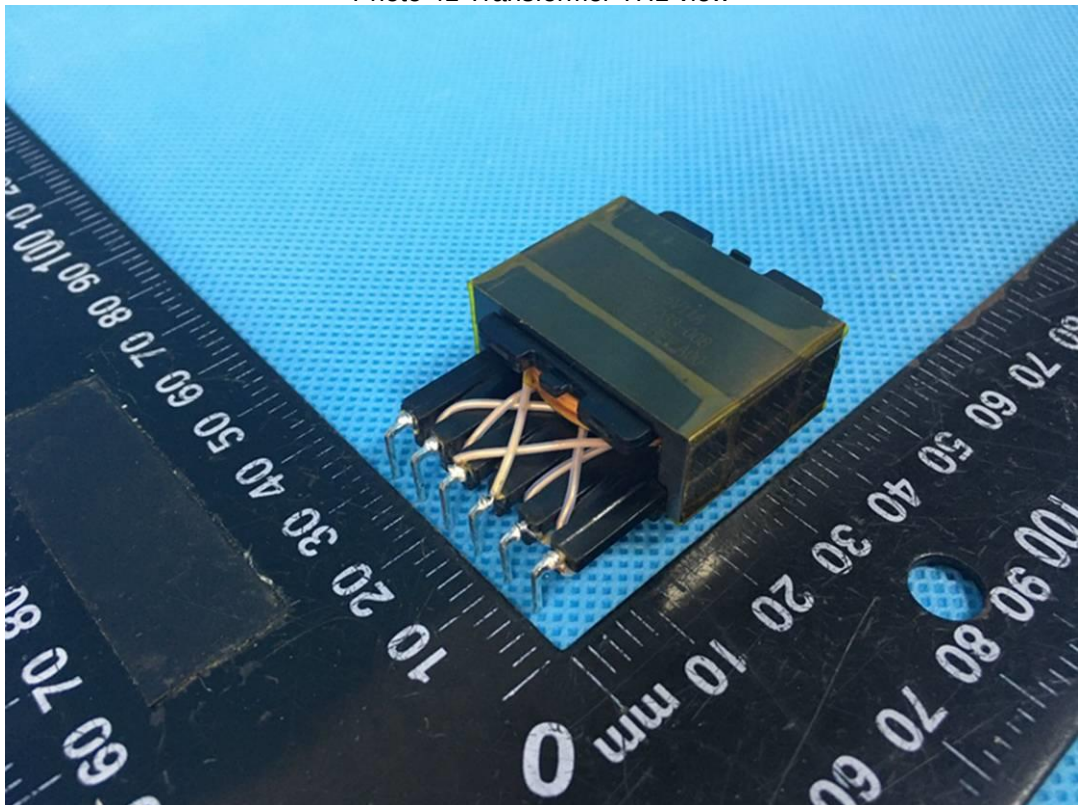


Photo 42 Transformer TF2 view

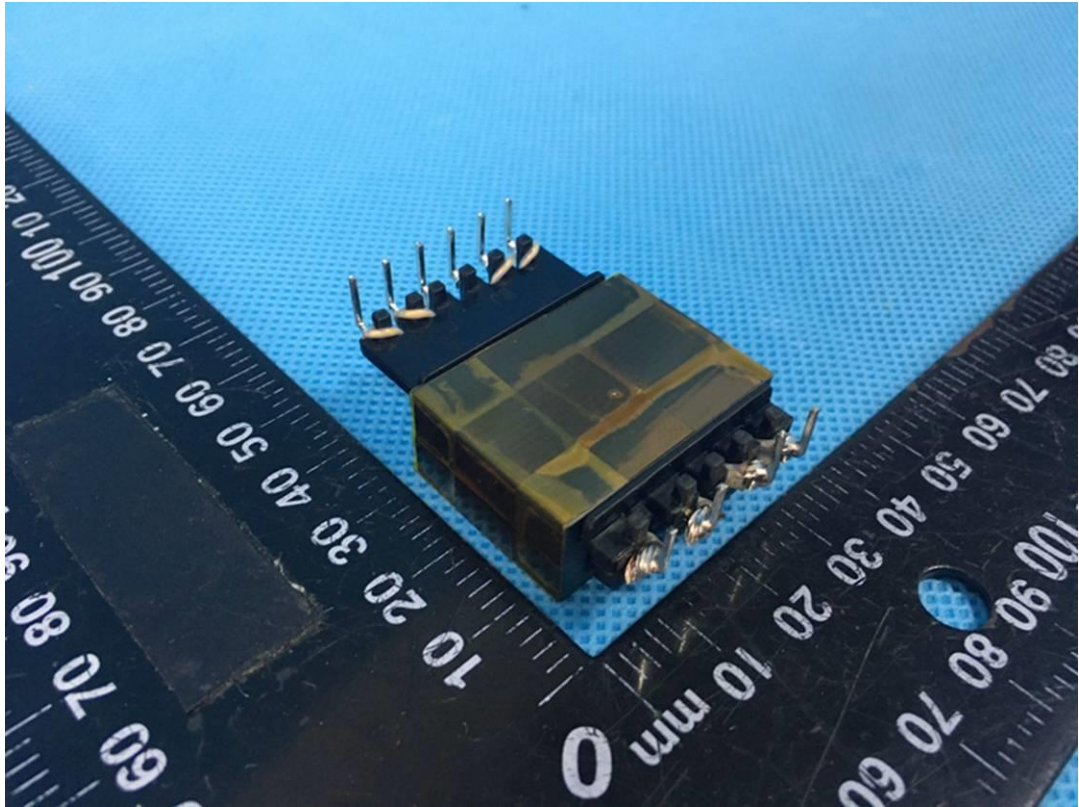


Photo 43 Transformer TF2 view

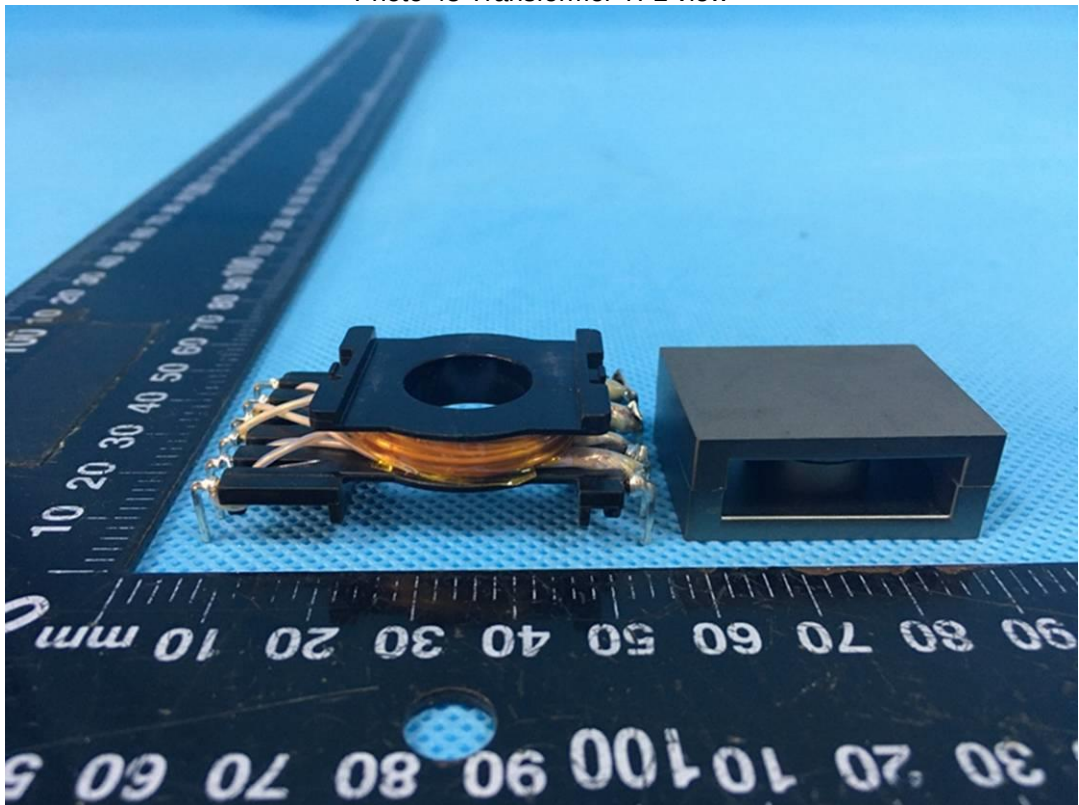


Photo 44 Transformer TF2 view

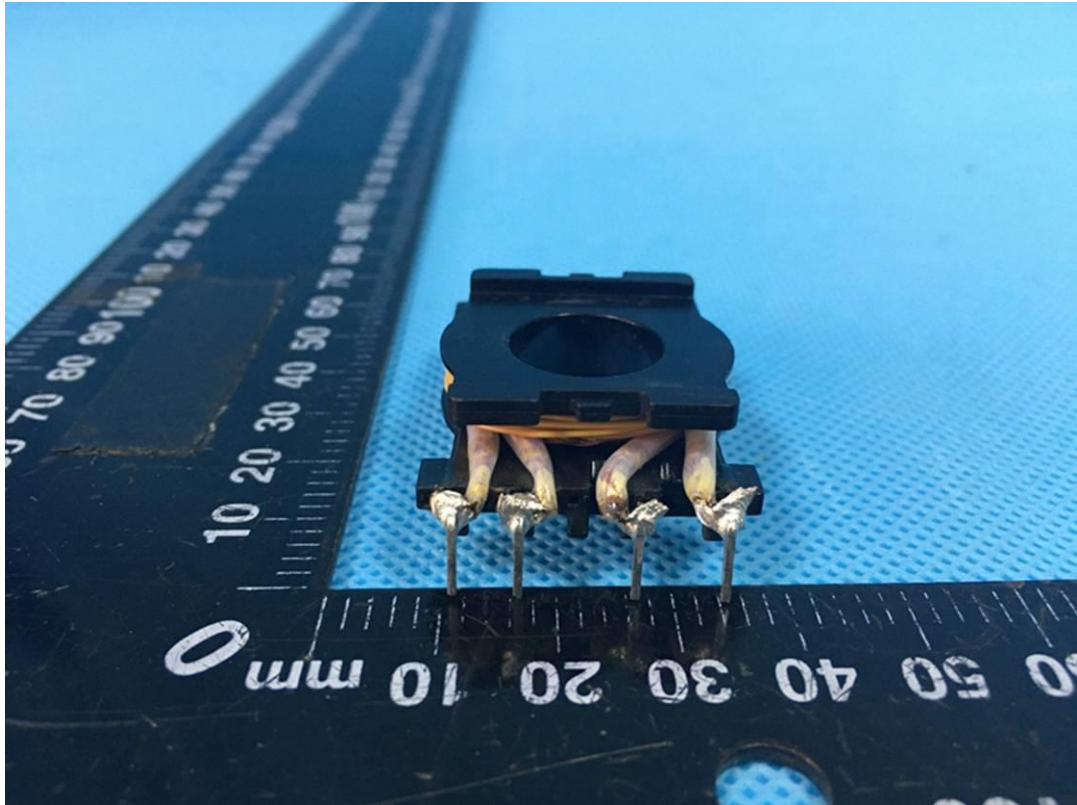


Photo 45 Transformer TF2 view

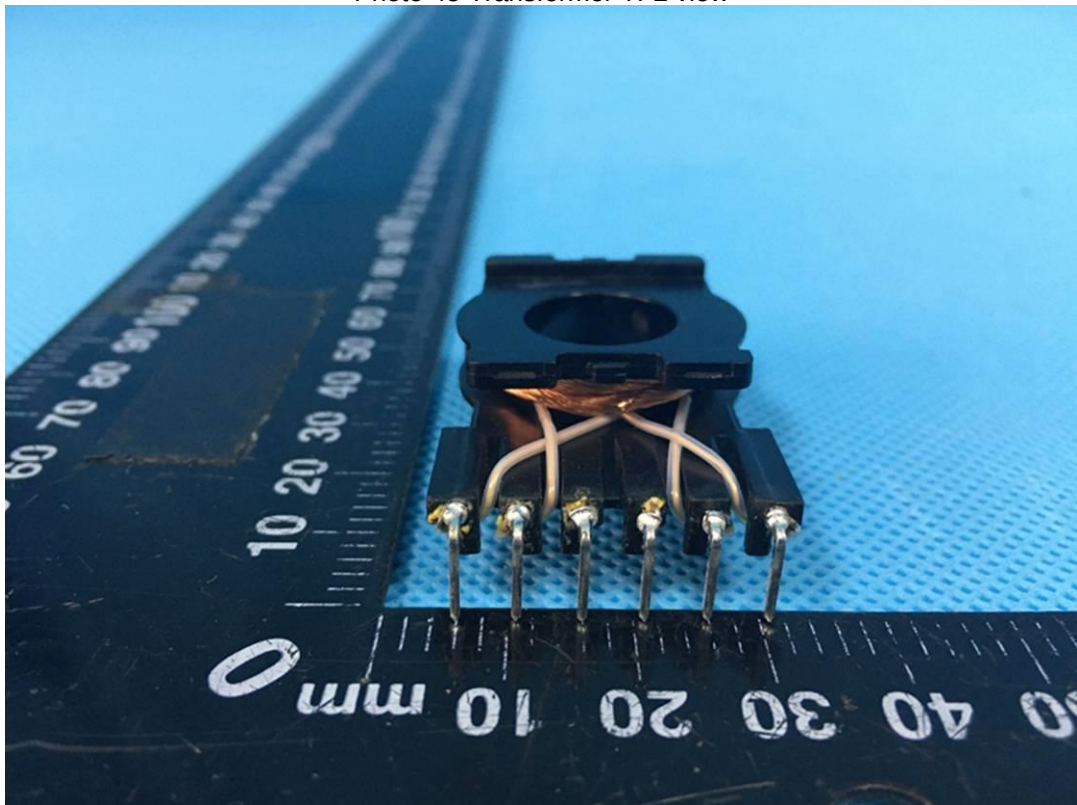


Photo 46 Transformer TF2 view

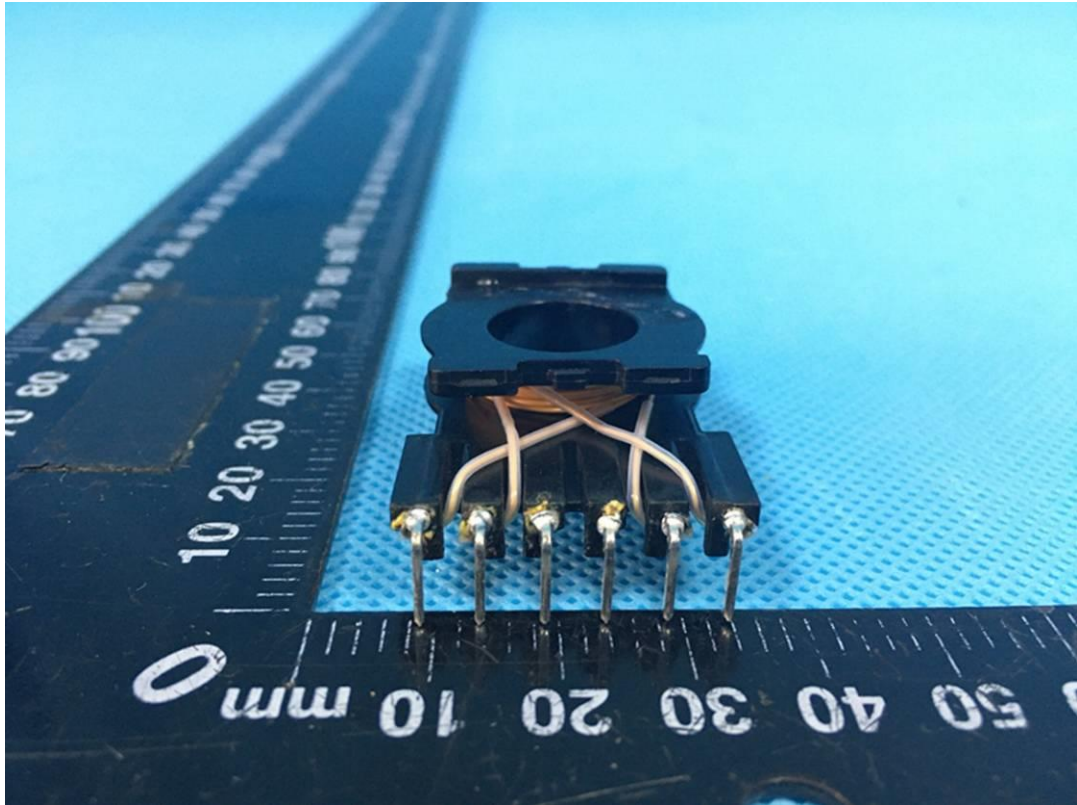


Photo 47 Transformer TF2 view

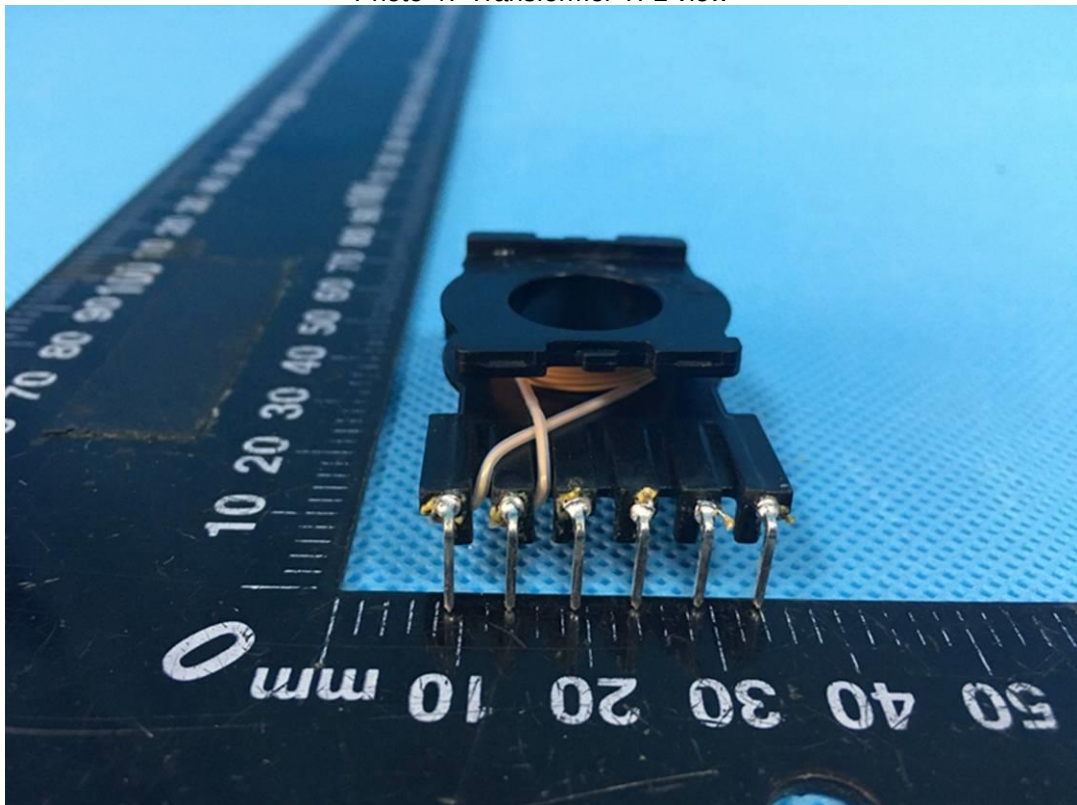


Photo 48 Transformer TF2 view

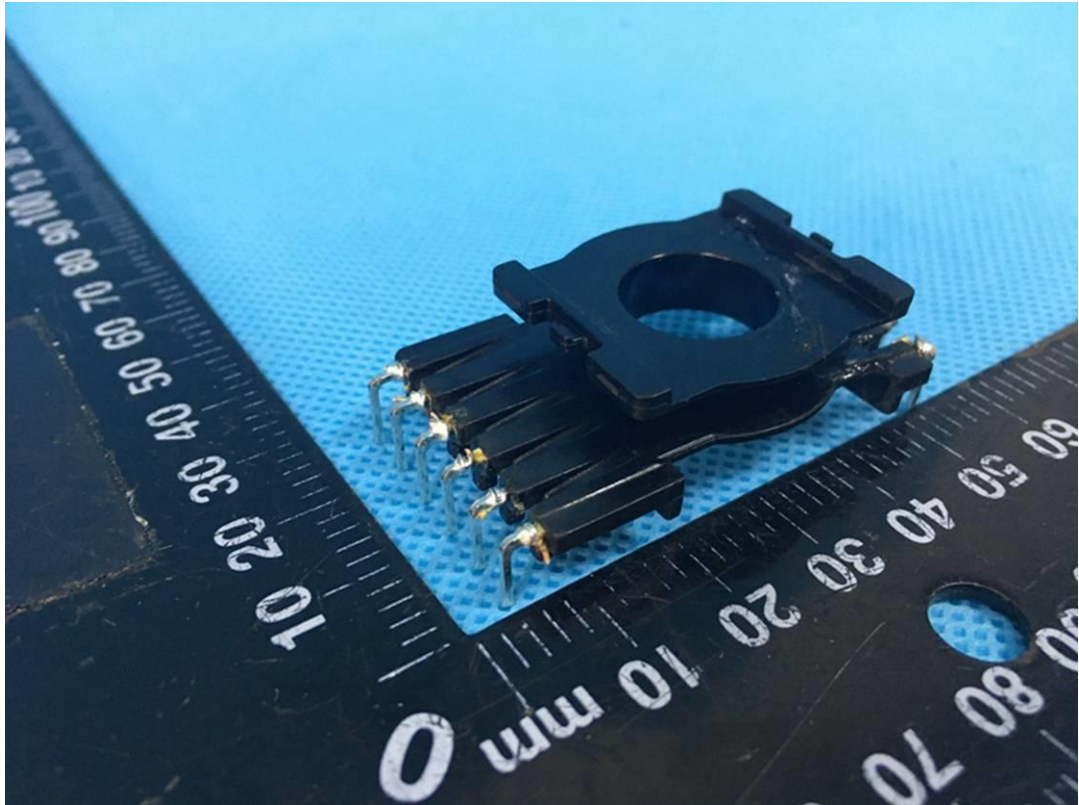


Photo 49 Transformer TF2 view

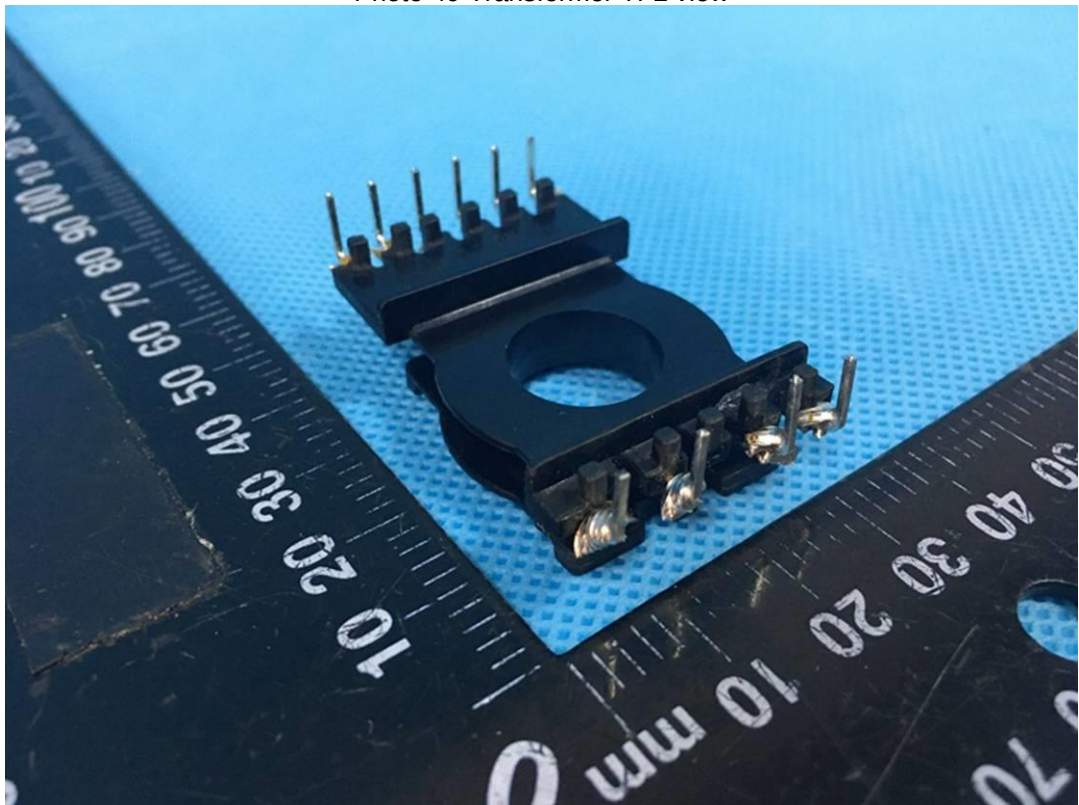


Photo 50 Transformer TF2 view

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT																																										
IEC 62368-1																																										
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES																																										
(Audio/video, information and communication technology equipment - Part 1: Safety requirements)																																										
Differences according to.....: EN 62368-1:2014+A11:2017																																										
Attachment Form No.....: EU_GD_IEC62368_1D_II																																										
Attachment Originator: Nemko AS																																										
Master Attachment.....: Date 2021-02-04																																										
Copyright © 2021IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.																																										
	CENELEC COMMON MODIFICATIONS (EN)					P																																				
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed “Z”.					P																																				
CONTENTS	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords					P																																				
	Delete all the “country” notes in the reference document (IEC 62368-1:2014) according to the following list: <table><tr><td>0.2.1</td><td>Note</td><td>1</td><td>Note 3</td><td>4.1.15</td><td>Note</td></tr><tr><td>4.7.3</td><td>Note 1 and 2</td><td>5.2.2.2</td><td>Note</td><td>5.4.2.3.2.2 Table 13</td><td>Note c</td></tr><tr><td>5.4.2.3.2.4</td><td>Note 1 and 3</td><td>5.4.2.5</td><td>Note 2</td><td>5.4.5.1</td><td>Note</td></tr><tr><td>5.5.2.1</td><td>Note</td><td>5.5.6</td><td>Note</td><td>5.6.4.2.1</td><td>Note 2 and 3</td></tr><tr><td>5.7.5</td><td>Note</td><td>5.7.6.1</td><td>Note 1 and 2</td><td>10.2.1 Table 39</td><td>Note 2, 3 and 4</td></tr><tr><td>10.5.3</td><td>Note 2</td><td>10.6.2.1</td><td>Note 3</td><td>F.3.3.6</td><td>Note 3</td></tr></table>					0.2.1	Note	1	Note 3	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	P
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5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4																																					
10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3																																					
	For special national conditions, see Annex ZB.					P																																				
1	Add the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.					P																																				

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.Z1	Add the following new subclause after 4.9: To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c.mains, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		P
5.4.2.3.2.4	Add the following to the end of this subclause: The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.	No connection to external circuit.	N/A
10.2.1	Add the following to ^{c)} and ^{d)} in table 39: For additional requirements, see 10.5.1.	No radiation.	N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	Add the following after the first paragraph: <i>For RS 1 compliance is checked by measurement under the following conditions:</i> <i>In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</i> NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. <i>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.</i> <i>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.</i> <i>For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.</i> NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		N/A
10.6.1	Add the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.		N/A
10.Z1	Add the following new subclause after 10.6.5. 10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566	The equipment does incorporate only non-intentional radiators, but does not contain radio transmitters; the typical usage, installation and physical characteristics make the equipment inherently compliant with all applicable EMF exposure levels (EN 62479:2010 clause 4.1 Route A).	N/A
G.7.1	Add the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Bibliography	Add the following standards: Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		N/A
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		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"	.	N/A
4.7.3	United Kingdom To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex	Not direct plug - in equipment	N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.2	Denmark After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.	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 • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.	No connection to such a network.	N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.2.1	Norway After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
5.5.6	Finland, Norway and Sweden To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.	No such resistor used.	N/A
5.6.1	Denmark Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
5.6.4.2.1	Ireland and United Kingdom After the indent for pluggable equipment type A , the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.		N/A
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.		N/A
5.7.5	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.1	Norway and Sweden To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.” Translation to Swedish: “Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.2	Denmark To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .	See for 5.2.2.2 above.	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 shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a <i>Justification:</i> Heavy Current Regulations, Section 6c		N/A

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

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		--
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	Not such equipment.	N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 U.S.A.AND CANADA NATIONAL DIFFERENCES Audio/video, information and communication technology equipment – Part 1: Safety requirements			
Differences according to : CSA/UL 62368-1:2014			
TRF template used: : IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No. : US_CA_ND_IEC62368_1D			
Attachment Originator : UL(US)			
Master Attachment : Dated 2021-02-04			
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IEC 62368-1 - US and Canadian National Differences Special National Conditions based on Regulations and Other National Differences			
1.1	All equipment is to be designed to allow installation according to the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, for such equipment marked or otherwise identified, installation is allowed per the Standard for the Protection of Information Technology Equipment, ANSI/NFPA 75.		P
1.4	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.		N/A
4.1.17	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the NEC.		P
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.		P
4.8	Lithium coin / button cell batteries have modified special construction and performance requirements.		N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.5, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment	See only 5.6.3 in main report.	P

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.7	Equipment intended to receive telecommunication ringing signals complies with a special touch current measurement tests.	Not such equipment	N/A
6.5.1	PS3 wiring outside a fire enclosure complies with single fault testing in B.4, or be current limited per one of the permitted methods.		N/A
Annex F (F.3.3.8)	Output terminals provided for supply of other equipment, except mains, supply are marked with a maximum rating or references to which equipment it is permitted to be connected.		P
Annex G (G.7.1)	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
Annex G (G.7.3)	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		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
Annex G (G.7.5)	Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Power supply cords are required to be no longer than 4.5 m in length if used in ITE Rooms.		N/A
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex H.4	For circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V d.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
Annex M	Battery packs for stationary applications comply with special component requirements.	No battery.	N/A
Annex DVA (1)	Equipment intended for use in spaces used for environmental air are subjected to special flammability requirements for heat and visible smoke release.	Not such equipment or application.	N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
	Consumer products designed or intended primarily for children 12 years of age or younger are subject to additional requirements in accordance with U.S. & Canadian Regulations.		N/A
	Baby monitors additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
Annex DVA (5.6.3)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.		N/A
Annex DVA (6.4.8)	For ITE room applications, enclosures with metal material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less. For equipment with the same dimensions for other applications, an external surface that is not a fire enclosure requires a min. flammability classification of V-1.		N/A
Annex DVA (10.3.1)	Equipment with lasers meets the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (10.5.1)	Equipment that produces ionizing radiation complies with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (F.3.3.3)	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. Additional considerations apply for voltage ratings that exceed the attachment cap rating or are lower than the "Normal Operating Condition" in Table 2 of CAN/CSA C22.2 No. 235."		P
Annex DVA (F.3.3.5)	Equipment identified for ITE (computer) room installation is marked with the rated current		N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (G.3.4)	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles complies with NEC 250.146(D) and CEC 10-112 and 10-906(8).		N/A
Annex DVA (G.4.3)	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non- interchangeable.	No such fuse provided.	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
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
Annex DVA (Annex M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the ITE room remote power-off circuit.		N/A
Annex DVA (Q)	Wiring terminals intended to supply Class 2 outputs according to the NEC or CEC Part 1 are marked with the voltage rating and "Class 2" or equivalent; marking is located adjacent to the terminals and visible during wiring.		N/A
Annex DVB (1)	Additional requirements apply for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities.		N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. Components required to comply include: appliance couplers, attachment plugs, battery back-up systems, battery packs, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultra-capacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, data storage equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.	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 in accordance with the NEC/CEC.	Inlet for detachable power cord.	N/A
Annex DVH (DVH.3.2)	Terminals for permanent wiring, including protective earthing terminals, are suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and are specially marked when specified.		N/A
Annex DVH (DVH.3.2)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
Annex DVH (DVH 5.5)	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, complies with special earthing, wiring, marking and installation instruction requirements.		N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT			
IEC 62368-1 (AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment)			
Differences according to : AS/NZS 62368.1:2018			
TRF template used:..... : IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No..... : AU_NZ_ND_IEC62368_1D			
Attachment Originator : JAS-ANZ			
Master Attachment..... : 2022-05-01			
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	National Differences		
Appendix ZZ	Variations to IEC 62368-1:2014 (ED. 2.0) for Australia and New Zealand		P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2014 (ED. 2.0)		P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:		P
2	Add the following to the list of normative references: The following normative documents are referenced in Appendix ZZ: -AS/NZS 3112, <i>Approval and test specification—Plugs and socket-outlets</i> -AS/NZS 3123, <i>Approval and test specification—Plugs, socket-outlets and couplers for general industrial application</i> -AS/NZS 3191, <i>Electric flexible cords</i> -AS/NZS 60065, <i>Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)</i> -AS/NZS 60320.1, <i>Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)</i> -AS/NZS 60320.2.2, <i>Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)</i> -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>		P

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	-AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i> -AS/NZS 60695.11.10, <i>Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods</i> -AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i> -AS/NZS 60950.1:2015, <i>Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i> IEC 61032:1997, <i>Protection of persons and equipment by enclosures—Probes for verification</i> -AS/NZS 61558.1:2008 (including Amendment 2:2015), <i>Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 2.1, MOD)</i> -AS/NZS 61558.2.16, <i>Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.</i>		
4.1.1	Application of requirements and acceptance of materials, components and subassemblies 1 Replace the text ‘IEC 60950-1’ with ‘AS/NZS 60950.1:2015’. 2 Replace the text ‘IEC 60065’ with ‘AS/NZS 60065’.		P
4.7	Equipment for direct insertion into mains socket-outlets		N/A
4.7.2	Requirements Delete the text of the second paragraph and replace with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3	Compliance Criteria <i>Delete the first paragraph and Note 1 and Note 2 and replace with the following:</i> <i>Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.</i>		N/A
4.8	<i>Delete existing clause title and replace with the following:</i> 4.8 Products containing coin/button cell batteries		N/A
4.8.1	General 1 Second dashed point, <i>delete</i> the text and <i>replace</i> with the following: – include coin/button cell batteries with a diameter of 32 mm or less. 2 After the second dashed point, <i>insert</i> the following Note: NOTE 1: Batteries are specified in IEC 60086-2. 3 After the third dashed point, <i>renumber</i> the existing Note as 'NOTE 2'. 4 Fifth dashed point, <i>delete</i> the word 'lithium'.		N/A
4.8.2	Instructional Safeguard First line, <i>delete</i> the word 'lithium'.		N/A
4.8.3	Construction First line, after the word 'Equipment' <i>insert</i> the words 'containing one or more coin/button batteries and'		N/A
4.8.5	Compliance criteria <i>Delete the first paragraph and replace with the following:</i> <i>Compliance is checked by applying a force of 30 N +/-1 N for 10 s to the battery compartment door/cover by a rigid test finger according to test probe 11 of IEC 61032:1997 at the most unfavourable place and in the most unfavourable direction. The force shall be applied in one direction at a time.</i>		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General <i>Delete the first paragraph and replace with the following:</i> In Australia only, the separation is checked by the test of both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test of either Clause 5.4.10.2.2 or Clause 5.4.10.2.3.		N/A
Table 29	<i>Replace the table with the following:</i>		N/A

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IEC62368_1D ATTACHMENT				
Clause	Requirement + Test		Result - Remark	Verdict
Parts	Impulse test		Steady state test	
	New Zealand	Australia	New Zealand	Australia
Parts indicated in Clause 5.4.10.1 a) ^a	2.5 kV 10/700 µs	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment. 10/700 µs	1.5 kV	3 kV
Parts indicated in Clause 5.4.10.1 b) and c) ^b	1.5 kV 10/700 µs ^c		1.0 kV	1.5 kV
^a Surge suppressors shall not be removed.				
^b Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment.				
^c During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.				
5.4.10.2.2	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.			N/A
5.4.10.2.3	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.			N/A
6	Electrically-caused fire			P
6.1	General After the first paragraph, <i>insert</i> the following new paragraph: Alternatively, the requirements of Clauses 6.2 to 6.5.2 are considered to be fulfilled if the equipment complies with the requirements of Clause 6.202			P
6.6	After Clause 6.6, <i>add</i> the new Clauses 6.201 and 6.202 as follows: 6.201 External power supplies, docking stations and other similar devices and 6.202 Resistance to fire—Alternative tests (see special national conditions)			P
8.5.4	Special categories of equipment comprising moving parts			N/A

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

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

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.201	External power supplies, docking stations and other similar devices For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage— – at all ES1 outlets or connectors shall not increase by more than 10% of its rated output voltage under normal operating condition; and – of a USB outlet or connector shall not increase by more than 3 V or 10% of its rated output voltage under normal operating conditions, whichever is higher. For equipment with multiple rated output voltages, the requirements apply with the equipment configured for each rated output voltage in turn. NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries. <i>Compliance shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single-fault conditions of Annex B.4</i>	During and after abnormal operating condition test, the output voltage did not increase by more than 3 V or 10% of its rated output voltage under normal operating condition.	P
6.202	Resistance to fire—Alternative tests		N/A
6.202.1	General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the equipment, or the following: a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length. b) The following parts which would contribute negligible fuel to a fire: – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1 750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	material offflammability category V-1, or better, according to AS/NZS 60695.11.10. NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another.		
	<i>Compliance shall be checked by the tests of Clauses 6.202.2, 6.202.3 and 6.202.4.</i> For the base material of printed boards, compliance shall be checked by the test of Clause 6.202.5. The tests shall be carried out on parts of non-metallic material which have been removed from the equipment. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring.		N/A
6.202.2	Testing of non-metallic materials Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the relevant part is not thinner than the sample tested.		N/A
6.202.3	Testing of insulating materials Parts of insulating material supporting Potential Ignition Sources shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE: Contacts in components such as switch contacts are considered to be connections		N/A
	For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test need not be tested		N/A

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IEC62368_1D ATTACHMENT				
Clause	Requirement + Test		Result - Remark	Verdict
	The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:			N/A
	Clause of AS/NZS 60695.11.5	Change		
	9 Test procedure			
	9.2 Application of needle-flame	<i>Delete</i> the first and second paragraphs and <i>replace</i> with the following: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner. The duration of application of the test flame shall be 30 s ± 1 s.		
	9.3 Number of test specimens	<i>Replace</i> with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.		
	11 Evaluation of test results	<i>Replace</i> with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.		

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the relevant part is not thinner than the sample tested.		
6.202.4	Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow wire tests of Clause 6.202.3, by failure to extinguish within 30 s after the removal of the glow wire tip, the needle-flame test detailed in Clause 6.202.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of Clause 6.202.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested. NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing. NOTE 2: If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing. NOTE 3: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.		N/A
6.202.5	Testing of printed boards The base material of printed boards shall be subjected to the needle-flame test of Clause 6.202.3. The flame shall be applied to the edge of the board where the heatsink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a potential ignition source. The test is not carried out if— – the printed board does not carry any potential ignition source; – the base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or – the base material of printed boards, on which the available equipment power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. <i>Conformance shall be determined using the smallest thickness of the material.</i> NOTE: Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximize the apparent power for more than 2 min when the circuit supplied is disconnected.		
6.202.6	For open circuit voltages greater than 4 kV Potential ignition sources with open circuit voltages exceeding 4 kV (peak) a.c. or d.c. under normal operating conditions shall be contained in a FIRE ENCLOSURE which shall comply with flammability category V-1 or better according to AS/NZS 60695.11.10.		N/A
8.6.1.201	8.6.1.201 Instructional safeguard for fixed-mount television sets MS2 and MS3 television sets and display devices designed only for fixed mounting to a wall of ceiling or equipment rack shall, where required in Table 36, footnote 201, have an instructional safeguard in accordance with Clause F.5 which may be on the equipment or included in the installation instructions or equivalent document accompanying the equipment. The elements of the instructional safeguard shall be as follows: – element 1a: not available; – element 2: 'Stability Hazard' or equivalent wording; – element 3: 'The television set may fall, causing serious personal injury or death' or equivalent text; – element 4: the following or equivalent text: To prevent injury, this television set must be securely attached to the floor/wall in accordance with the installation instructions		N/A

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

AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT AS_NZS_3112:2017_+A1:2021 Appendix J AUSTRALIAN / NEW ZEALAND NATIONAL DIFFERENCES (Approval and test specification—Plugs and socket-outlets)			
Differences according to : AS_NZS_3112:2017_Amendment 1:2021_Appendix J			
TRF template used:..... : IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No. : AS_NZS_3112:2017_Appendix J			
Attachment Originator : JAS-ANZ			
Master Attachment..... : 2022-06			
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	Note: AS/NZS 3112 is NOT covered by IECEE Accreditation for Testing / Reporting Please State Laboratory Accreditation for this Standard		N/A
	Accreditation		N/A
J1 SCOPE	General: This Appendix specifies additional dimensional and constructional requirements for detachable plug portions, or equipment incorporating integral supply pins or equipment incorporating detachable plug portions. This Appendix shall be read in conjunction with Section 2 of this Standard. For the purposes of this Appendix, where the term 'plug' is used in Section 2 it shall be taken to mean the plug portion of equipment or the detachable plug portion. The equipment shall comply with the relevant product Standard. The tests and requirements specified in this Appendix are in addition to any test and requirements of the relevant product Standard for the equipment. (AS/NZS 3112:2017/A1:2021)		N/A
J2	DEFINITION		N/A
J2.1	Detachable plug portion A plug portion that is detachable from the equipment and with connections including the following standardized outputs and other contacts (a) Type A (see Figure J1): A detachable plug portion with a connection intended for plugging directly into equipment. The connection being via the equipment group 1 appliance inlet within the scope of AS/NZS 60320.1. (b) Type B (see Figure J2): A detachable plug portion with a non-standardized connection intended for plugging directly into equipment		N/A

	(c) Type C (see Figure J3): A detachable plug portion with a connection intended for use with an adaptor connected to a flexible cord so as to replicate a supply plug and flexible cord configuration. The connection being via a group 1 appliance outlet within scope of AS/NZS 60320.2.2, which is integral with the plug portion (AS/NZS 3112:2017)	
J2.2	Integral plug portion A plug portion that is integral to the equipment enclosure and is not detachable (AS/NZS 3112:2017)	N/A
J2.3	Plug portion A plug portion is that portion of equipment with pins for insertion into a socket-outlet, including the plug pins, terminals of the plug pins, external dimensions of the 'maximum projection' and any connections of a detachable plug portion. (AS/NZS 3112:2017/A1:2021)	N/A

J3	REQUIREMENTS FOR THE PLUG PORTION	N/A
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J3.1	General The following provisions apply to the dimensional and constructional requirements of plug portions of equipment and any detachable connection between the plug portion and the equipment:	N/A
(a)	For detachable plug portions intended for connection to the equipment in multiple orientations, the relevant tests are performed in the most onerous orientation.	N/A
(b)	For Type A detachable plug portion, the relevant requirements of AS/NZS 3105:2014 are applicable, in addition to conformance with relevant clauses of this Appendix	See Test Report xxx to AS/NZS 3105:2014 Test Report xxx to AS/NZS 60320.1 for the Group 1 appliance inlet portion.
(c)	For Type B detachable plug portions, the conformance is shown by the relevant clauses of this Appendix.	N/A
(d)	For Type C detachable plug portions, conformance is shown by assessment to Section 2 of this Standard (plugs) and relevant clauses of this Appendix (AS/NZS 3112:2017)	See also Test Report xxx to AS/NZS 60320.2.2 for the Group 1 appliance outlet portion.

J3.2	Plug pins of plug portions The requirements of Clause 2.2 are applicable for plug pins.	N/A
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2.2	PLUG PINS	N/A
2.2.1	Current carrying parts of plug pins of metal having	N/A

	sufficient mechanical strength, electrical conductivity and resistance to corrosion adequate for the intended use		
	Plug pin material?		N/A
2.2.3	Plug pins adequately proportioned throughout and portion adjacent to the connection designed to not introduce a stress concentration which may lead to a fracture of the pin, and suitably shaped to prevent abrasion or cutting of conductor strands due to flexure in normal use		N/A
	Exposed ends of plug pins have a lead-in, bevel or radius to facilitate entry into socket-outlets and to operate shutters		N/A
	Flat-pins with the following profile are deemed to comply:		N/A
(a)	Flat-pins with a radius on the end with side bevels may have a width and thickness profile as specified in Figure 2.1(h)		N/A
(b)	Flat-pins square on the end with corner and side bevels may have a width and thickness profile as specified in Figure 2.1(i)		N/A
(c)	Flat-pins square on the end with corner bevels and a radius on the sides may have a width and thickness profile as specified in Figure 2.1(j)		N/A
	Contact portion of the pins smooth and free from openings or indentations		N/A
	Flat pin plugs having a longitudinal seam or opening in the contact portion of one face; width not exceeding 0.3 mm and		N/A
	Thickness not exceeding 1.58 mm		N/A
	Exposed portion of earthing pins and pins other than insulated pins free from any non-metallic coverings or coatings (AS/NZS 3112:2017)		N/A
2.2.4	Live parts of insulated pin plugs not exposed when plug is partially or fully engaged with associated socket		N/A
	Compliance by measurement to Figure 2.4	(see appended table)	N/A
	Lacquer, enamel or sprayed insulating coating not considered to be insulation material		N/A
	All live pins on low voltage plugs except for those shown in Figure 2.1 (a2), (b) and (g) of the insulated pin type		N/A
	Colour green or green / yellow not used for insulation of insulated pins (AS/NZS 3112:2017)		N/A

J3.3	Ratings and dimensions for low-voltage plug portions Requirements of clauses 2.8.1 and 2.8.4 apply for rating and dimensions	N/A
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2.8	Ratings and Dimensions of Low Voltage Plugs		N/A
2.8.1	Plugs with ratings up to and including 20A; shall conform to the appropriate dimensions shown in Figure 2.1	(see appended results)	N/A
	Rating of plug	___A	N/A
	Nominal dimensions covering disposition of pins checked by gauge of Appendix A		N/A
	Distance between live pin and edge of moulding to not less than 9 mm		N/A
	Measured distance	___mm	N/A
	No point on plug face protrudes more than 0.5 mm		N/A
	Measured protrusion	___mm	N/A
	Dimensional requirements of Figure 2.1(e2) did not applied to plugs with greater than three pins (AS/NZS 3112:2017)		N/A
2.8.4	Low voltage plugs comply with dimensions of Figure 2.1	(see appended table 2.8.1)	N/A
	Disposition of pins checked by gauge complying with Appendix A, B or F as appropriate		N/A
	Low voltage plug having rating up to 15A and of the Figure 2.1 (a1), (c), (d), (f) or (g) type; comply with dimensional requirements of Figure 2.1 (e1 and e2)		N/A
	20A plug of Figure 2.1(a2) type complies with dimensional requirements of Figure 2.1 (e2)		N/A
	Plugs with insulated pins need not comply with dimension $R20.0 \pm 1$ mm requirement of Figure 2.1 (e3) provided there is at least 9mm from the edge of the live pins to the edge of the plug face Figure 2.1(e3). (AS/NZS 3112:2017)		N/A

J3.4	Internal connections for plug portions Requirements of clause 2.9 apply for internal connections, unless requirements contained in the relevant product standard (AS/NZS 3112:2017)	N/A
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2.9	INTERNAL CONNECTIONS		N/A
	Plug provided with earthing connections designed and constructed so that when plug is correctly wired and assembled:		N/A

(a)	Loose terminal screw or conductive material cannot bridge any live or earthed parts		N/A
(b)	Earthing parts effectively isolated from contact with live conductor which may become detached		N/A
(c)	Live parts effectively isolated from contact with any earthing conductor which may become detached		N/A
	Any connections for auxiliary devices comply with above requirements (AS/NZS 3112:2017)		N/A

J3.5	Arrangement of earthing connections for plug portions Requirements of clause 2.10 apply for arrangement of earthing connections		N/A
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2.10	Arrangement of earthing connections		N/A
	Earthing pin radial to the circle embracing the pins (AS/NZS 3112:2017)		N/A

J3.6	Configuration of plug portions Requirements of clause 2.12.6 apply for configuration of the plug portion (AS/NZS 3112:2017)		N/A
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2.12	Marking		N/A
2.12.6	Configuration of plugs		N/A
	Pins disposed so that configuration, as viewed from the pins, is earth, neutral and active in a clockwise direction		N/A
	Where there is no earthing pin; live pins conform to this configuration (AS/NZS 3112:2017)		N/A

J4	Tests		N/A
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J4.1	General Plug portions of equipment shall be subjected to the following tests and unless stated otherwise, shall comply with the requirements specified in Section 2 for each test. The number of test samples shall be in accordance with Table J1 For equipment with a detachable plug portion, the assessment(s) of Table J1 tests 2, 3, 5, 10 and 11 shall be conducted on the— (a) assembled equipment with the detachable plug portion connected; and (b) the detachable plug portion after it has been separated from the equipment (AS/NZS 3112:2017/A1:2021)		N/A
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J4.2	High voltage test The requirements of Clause 2.13.3 are applicable unless requirements are contained in the relevant product standard (AS/NZS 3112:2017)	N/A
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2.13.3	Test No.1 - High voltage test	N/A
	Plug withstands without failure electric strength test as specified (AS/NZS 3112:2017)	(see appended table) N/A

J4.3	Mechanical strength	N/A
J4.3.1	Tumbling barrel test The tumbling barrel test is applied to determine the mechanical strength of the plug portions and equipment having integral or detachable plug portions. For equipment with a detachable plug portion, the detachable plug portion may become detached during the test. If this occurs the detachable plug portion shall be reassembled with the equipment when the pins are straightened as per (a) and (b) below. Three samples (Samples BCD in Table J1) that have not been subjected to any previous test are tested as specified in <u>Clause 2.13.7.1</u> , however the test is modified as follows:	N/A
	They are tested in a tumbling barrel as described in AS 60068.2.32 or test Free fall repeated – Procedure 2 in IEC 60068-2.31. The samples shall be dropped from a height of 500 mm onto a steel plate, 3 mm thick. The barrel shall be turned at a rate of 5 r/min, to yield 10 falls per minute. Only one sample shall be tested at a time. A sample is dropped— (a) 500 times if the mass of the specimen does not exceed 250 g. The pins being straightened after each 100 drops and at the completion of the test to pass through the appropriate gauge of <u>Figure A1</u> , <u>Figure B1</u> or <u>Figure F1</u> ; and (b) 250 times if the mass of the specimen exceeds 250 g. The pins being straightened after each 25 drops and at the completion of the test to pass through the appropriate gauge of <u>Figures A1</u> , <u>Figure B1</u> or <u>Figure F1</u> . (AS/NZS 3112:2017/A1:2021)	N/A
	Mass of sample	____ Grams
	Number of drops	500 / 250

	Compliance shall be checked by <u>Paragraph J4.3.3</u> (See appended table)	N/A
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J4.3.2	Test No.3 Impact test. Plug portions and equipment having integral plug portions or detachable plug portions shall withstand lateral impact forces. All samples that were subjected to the tests in <u>Paragraph J4.3.1</u>(Samples BCD in Table J1) shall be tested as follows:	N/A
	(a) The sample shall be positioned at the centre of a steel plate with a thickness of at least 6 mm. Apertures in the steel plate for the plug pins to pass through shall conform to the corresponding socket Standard. The sample shall be held against the steel plate by clamping all the pins.	N/A
	(b) Samples shall be subjected to blows, with an impact energy of 1.0 ± 0.05 J by any means having the same performance as the spring-operated impact-test apparatus of AS/NZS 3100.	N/A
	(c) Three blows shall be applied to every point that is most likely to directly or indirectly stress the enclosure joints of the sample	N/A
	Compliance shall be checked by <u>Paragraph J4.3.3</u>	N/A

J4.3.3	Specific compliance criteria This Paragraph provides the common compliance assessment criteria for tests specified in Paragraphs <u>J4.3.1</u> and <u>J4.3.2</u>.	N/A
	Following each test, the samples shall comply with <u>Clause 2.13.7.1</u>	N/A
(a)	assembled equipment with the detachable plug portion connected;	N/A
	After the test, samples show no damage (See appended table)	N/A
(b)	the detachable plug portion after it has been separated from the equipment.	N/A
	After the test, samples show no damage (See appended table)	N/A

4.3.4	Pin bending test The pins of the plug portion of three samples (Samples EFG in Table J1) not subjected to any previous tests shall be tested for compliance with the pin bending test of <u>Clause 2.13.7.2</u> (AS/NZS 3112:2017/A1:2021)	N/A
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2.13.7.2	Test No.4 – Pin bending test	N/A
	All flat-pin plugs rated up to and including 15 A shall be subjected to the pin bending test	N/A

	Three samples are subjected by clamping the plug in a rigid holding block and applying the bending force as specified		N/A
	After the test the pins shall not be broken off. (AS/NZS 3112:2017)		N/A

J4.8.3	Test No.5 Plug portion detachment requirements		N/A
	For all Type B or C devices and for Type A devices where the outlet of the detachable plug portion is parallel to the plug supply pins, disengagement of the detachable plug portion from the equipment shall require at least two simultaneous independent actions or the use of a tool.		N/A
	The plug portion and the equipment/adaptor shall be connected and disconnected 50 times (100 strokes).		N/A
	Compliance is verified by the plugging test, a force which, over a period of 10 s, shall be increased steadily to 60 ± 0.6 N and held at this value for a further 10 s, shall be applied evenly at the connecting equipment in a direction parallel to the pins. This procedure shall be conducted three times on the same plug portion, at intervals of 5 min, without disturbing the plug portions between tests		N/A
	During the test the plug portion shall not separate		N/A
	The test of AS/NZS 3112 'temperature rise test' for plugs shall be conducted immediately after the above test without disturbing the sample. Test No 6 Temperature Rise test J4.4 (AS/NZS 3112:2017/A1:2021)		N/A

J4.4	Temperature rise test The relevant requirements of <u>Clause 2.13.8</u> are applicable for the temperature rise test, except that the test current shall be that specified in the relevant product standard		
	The temperature rise of the pins shall not exceed 45 K irrespective of the temperature rise of parts specified in end-product standards.		N/A
	For detachable plug portions the temperature rise of terminals and contacts shall not exceed 45 K. (AS/NZS 3112:2017)		N/A

2.13.8	Test No.6 – Temperature rise test		N/A
	Plug tested in draught free environment as specified		N/A

	using clamping units as specified in Figure 2.10		
	Test Current Relevant Product Standard	_____ Amps _____ (Standard?)	N/A
	Temperature of terminals and contacts of detachable plug portion not exceeding 45 K (AS/NZS 3112:2017)	(see appended table)	N/A

J4.5	Securement of pins of the plug portion The requirements of <u>Clause 2.13.9</u> are applicable for the securement of pins. (AS/NZS 3112:2017)	N/A
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2.13.9	Test No.7. Securement of pins	N/A
2.13.9.1	Movement of pins	N/A
	Plug pins clamped 5 ± 0.5 mm from pin face; test equipment and sample pre-conditioning for 1 h at $40 \pm 1^\circ\text{C}$	N/A
	Force of 18 ± 1 N applied to pin 14 ± 0.5 mm from plug face; applied gradually over 10 s and maintained for 10 s; applied in four directions	N/A
	Maximum deflection during test not exceeding 2.0 mm	(see appended results) N/A
	Any distortion 5 minutes after test does not prevent insertion of plug into standard gauge(s) (AS/NZS 3112:2017 + A1:2021)	N/A
2.13.9.2	Fixing of pins	N/A
	Plug heated to $50 \pm 2^\circ\text{C}$ for 1h	N/A
	Force of 60 ± 0.6 N applied to each pin over 10 s and maintained for 10 minutes; applied in two directions along length of pin	N/A
	Maximum displacement during test not exceeding 2.4 mm	N/A
	Maximum measured displacement	N/A
	Pin returns to within 0.8 mm of nominal length within 5 minutes of removal of test force (AS/NZS 3112:2017)	N/A

J4.6	Tests on the insulation material of insulated pin-plug portions The requirements of <u>Clause 2.13.13</u> are applicable for insulating material of insulated plug pins. (AS/NZS 3112:2017)	N/A
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2.13.13	Test No.8 Tests for insulation material of insulated pin plugs	N/A
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2.13.13.1	Material of pin-insulation resistant to stresses at temperature likely to occur		N/A
2.13.13.2	Pressure test at high temperature		N/A
	Specimen tested as per Figure 2.5 with force of 2.5 N applied as specified; maintained for 2 h at $160 \pm 5^{\circ}\text{C}$; removed and cooled by immersion in water within 10 s		N/A
	Thickness of insulation at point of impression not reduced by more than 50%		N/A
	Initial thickness	mm	N/A
	Thickness after test	mm	N/A
	No visible cracks on insulation material		N/A
	Dimension of insulating material not below minimum size in Figure 2.4 (AS/NZS 3112:2017)		N/A

2.13.13.3	Static damp heat test		N/A
	Specimen subjected to two damp heat cycles in accordance with IEC 60068-2-30; Db (12 + 12h), 95% RH, $25 \pm 3^{\circ}\text{C}$; 40°C		N/A
	After this treatment and recovery to room temperature; specimen subjected to:		N/A
(a)	Insulation resistance test in accordance with clause 2.13.2 (e)	(see appended table)	N/A
(b)	High voltage test in accordance with clause 2.13.3	(see appended table)	N/A
(c)	Abrasion test in accordance with clause 2.13.13.6		N/A
2.13.13.4	Low temperature test		N/A
	Plug maintained at $-15 \pm 2^{\circ}\text{C}$ for minimum of 24 h and returned to room temperature; after which specimen subjected to:		N/A
(a)	Insulation resistance test in accordance with clause 2.13.2 (e)	(see appended table)	N/A
(b)	High voltage test in accordance with clause 2.13.3	(see appended table)	N/A
(c)	Abrasion test in accordance with clause 2.13.13.6		N/A
2.13.13.5	Impact test at low temperature		N/A
	Specimen maintained at $-15 \pm 2^{\circ}\text{C}$ for 24 h		N/A
	Specimen placed in position and subjected to impact test as per Figure 2.6; mass of 100 ± 1 g falling through 100 mm		N/A
	Four impacts applied; specimen rotated through 90° between impacts		N/A
	After return to room temperature; no visible cracks of insulating material		N/A

2.13.13.6	Abrasion test		N/A
	Plug held in clamp and tested as per Figure 2.7; pin loaded at 4 N; 20 000 movements		N/A
	After test; pins show no damage affecting safety or impairing further use of the plug		N/A
	Insulating sleeve not punctured or rucked up (AS/NZS 3112:2017)		N/A

J4.7	Test no.9 Equipment with a plug portion intended to be supported by the contacts of a socket-outlet		N/A
	Equipment with pins intended to be introduced into fixed socket-outlets not imposing undue strain on socket-outlet		N/A
	Applied torque not exceeding 0.25 Nm		N/A
	Measured torque (AS/NZS 3112:2017)	_____Nm	N/A

J4.8	Additional requirements for detachable plug portions		N/A
J4.8.1	Test no.10 Access to live parts		N/A
	Small test finger of Figure 13 of IEC 61032 was not possible to contact live parts with the force of 20N		N/A
	incorrectly assemble the plug portion was not possible (AS/NZS 3112:2017)		N/A

J4.8.2	Test No.11 Construction of detachable contacts where the input current of the equipment exceeds 0.2 A		N/A
	Contacts of the equipment shall be such that they make and maintain, under normal service conditions, satisfactory electrical and mechanical contact with the corresponding contact of the detachable plug portion.		N/A
	For connections intended to accommodate pins, contact shall be made on two surfaces diametrically opposite, except if a single spring-assisted contact is used. (AS/NZS 3112:2017/A1:2021)		N/A
	Contacts shall not rely exclusively on the resilience of the contact material and shall have an opposite face of material other than thermoplastic or resilient insulating material. (AS/NZS 3112:2017/ A1:2021)		N/A
	The alignment and contact-making properties of contacts shall be independent of terminal screws		N/A
	The effectiveness of the contacts shall be independent of pressure from any thermoplastic or resilient moulding.		N/A

	A visual inspection is conducted to determine the existence of interference between the metal contacts and the thermoplastic or resilient moulding to provide supplementary contact pressure to the metal contacts.		N/A
	Conformance of the effectiveness of the contacts is checked by inspection and by the inspection and tests in J4.8.3 (AS/NZS 3112:2017)		N/A

J4.8.4	Resistance of insulating material to heat and fire		N/A
J4.8.4.1	Test no.12 Resistance to heat For Type B detachable plug portions parts of non-metallic material, parts of insulating material supporting live parts including connections, and parts of thermoplastic material providing supplementary insulation or reinforced insulation, shall be sufficiently resistant to heat if their deterioration could cause the appliance to fail to comply with this Standard.		N/A
	Ball pressure test conducted in accordance with IEC 60695-10-2		N/A
(a)	75°C ± 2°C, for external parts;		N/A
(b)	125°C ± 2°C, for parts supporting live parts.		N/A

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

TABLES OF RESULTS

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

2.8.1	TABLE: Dimensions of plugs- 10A (a1)		N/A
Dimension (Figure 2.1 designation)		Measured (mm)	Allowed (mm)
Phase and neutral pin width (A)			6.35 ± 0.15
Earth pin width (B)			6.35 ± 0.15
Pin thickness (C)			1.63 + 0.15, -0.05

Pin disposition (D)		checked by test gauge
Pin disposition (E)		checked by test gauge
Phase and neutral pin length (F)		17.06 ± 0.4
Earth pin length (G)		19.94 ± 0.8
Pin boss radius - maximum		21.0 max
Pin boss height		8.6 min

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

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

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

Down		≤ 21.9 or ≥ 27.0
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2.13.3	TABLE: Test No. 1 – High voltage test		N/A
Test voltage applied between:		Test voltage (V)	Breakdown
All poles of the plug; taken in pairs		1000	Yes / No
Live poles of the plug and any external metal		3500	Yes / No
Live poles of the plug and the earthing terminal		1000	Yes / No
Live poles of the plug and a flexible electrode		3500	Yes / No
Live poles and metal foil applied around insulation on pins		1250	Yes / No

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

	Test No.3 Impact test for assembled equipment with the detachable plug portion connected and for equipment with an integral plug portion.		N/A
	Following the test, the samples shall comply with <u>Clause 2.13.7.1 (a..e) as follows:</u>		N/A
	(a) Live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A

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

	Compliance is checked by inspection, test and checking that live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Class II equipment and class II constructions shall be constructed and enclosed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only.		N/A
	It shall only be possible to touch parts which are separated from live parts by double insulation or reinforced insulation.		N/A
	Compliance is checked by application of the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Following the test, the samples shall conform to the 'Separation of live parts from non-current-carrying conductive parts' requirements of AS/NZS 3100.C1 5.2.2 as follows:		N/A
	The support and insulation of every live part shall be such as will ensure that no live part can make contact with any non-current-carrying conductive part exposed to personal contact.		N/A
	In respect of terminals of components such as switches, adequate clearances shall be maintained or insulation shall be provided to prevent contact of the terminals, or loose strands of flexible cords intended to be terminated therein, with exposed conductive parts. Where necessary, provision shall be made to ensure that conductors protruding through terminals, when normally connected, will not contact exposed conductive parts.		N/A
	Compliance is checked by inspection.		N/A

	Test No.3 Impact test for the detachable plug portion after it has been separated from the equipment		N/A
	Following the test, the samples shall comply with <u>Clause 2.13.7.1 (a..e)</u>		N/A
	(a) Live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A

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

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

2.13.8	TABLE: Test No. 6 - Temperature rise test		N/A
	Ambient temperature	°C	N/A
	Test current	A	N/A
Measured part		dT measured (K)	dT allowed (K)
Active (phase) terminal			45
Neutral terminal			45
Earthing terminal			45

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

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

2.13.9.1	TABLE: Movement of pins	N/A
	Phase and neutral pins clamped – earth pin loaded	
Force direction	Measured deflection (mm)	Allowed deflection (mm)
Force inwards parallel to pin plane		2.0
Force outwards parallel to pin plane		2.0
Force towards neutral		2.0
Force towards phase		2.0

2.13.9.1	TABLE: Movement of pins	N/A
	Phase and earth pins clamped – neutral pin loaded	
Force direction	Measured deflection (mm)	Allowed deflection (mm)
Force towards phase plane parallel to pin plane		2.0
Force from phase plane parallel to pin plane		2.0
Force outwards at 90° to pin plane		2.0
Force inwards at 90° to pin plane		2.0

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

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

2.13.13.4	TABLE: Test No.1 – Insulation resistance test after low temperature test	N/A
Applied between:	Insulation resistance (MΩ)	Minimum required (MΩ)

Live poles and metal foil applied around insulation on pins		5
---	--	---

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

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

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

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

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

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

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

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

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

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

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

TABLE: Needle- flame test (NFT)					N/A
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
Supplementary information: - NFT not relevant (or applicable) for Parts of material classified as V-0 or V-1 - NFT not relevant (or applicable) for Base material of PCBs classified as V-0 or if relevant VTM-0					

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

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 DENMARK NATIONAL DIFFERENCES Audio/video, information and communication technology equipment – Part 1: Safety requirements			
Differences according to.....: DS/EN 62368-1:2014			
Attachment Form No.....: DK_ND_IEC62368_1D			
Attachment Originator UL (Demko)			
Master Attachment 2021-02-04			
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	National Differences	P
4.1.15	To the end of the subclause the following is added: Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.”	N/A
5.2.2.2	After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.	N/A
5.6.1	Add to the end of the subclause: Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. Justification: In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.	N/A

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

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.3	In case of class 0I equipment using power supply cord having two conductors (no earthing conductor), the conductor of protective earthing lead wire shall comply with either of the following: – use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having size and strength that are equivalent to or more than the above copper wire – single core cord or single core cable with 1.25 mm ² or more cross-sectional area		N/A
5.7.3	For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS C 8282 series or JIS C 8303, or otherwise being considered to comply with relevant regulations, or that is provided with mains appliance outlet as specified in JIS C 8283-2-2 for the purpose of interconnection, the measurement is conducted on the system of the interconnected equipment having a single connection to the mains.		N/A
5.7.4	In case of class 0I equipment, touch current shall not exceed 1.41 mA peak or for sinusoidal wave, 1.0 mA r.m.s. when measured using the network specified in Figure 4 of IEC 60990.		N/A
6.4.3.3	A fuse complying with JIS C 6575 series or a fuse having equivalent characteristics shall open within 1 s. For Class A fuse of JIS C 6575, replace “2.1 times” by “1.35 times” and in case of Class B fuse of JIS C 6575, replace “2.1 times” by “1.6 times”. A fuse not complying with JIS C 6575 series shall be tested with the breaking capacity taken into account.		N/A
8.5.4.2.1	Only three-phase stationary equipment rated more than 200 V ac can be considered as being for use in locations where children are not likely to be present, when complying with Clause F.4.		N/A
8.5.4.2.2	For equipment installed where children may be present, an instructional safeguard shall be provided by easily understandable wording in accordance with Clause F.5, except that element 3 is optional.		N/A
8.5.4.2.4	The media destruction device is tested according to Clause V.1.2 with applicable jointed test probes to the opening. And then the wedge probe per Figure V.4 shall not contact any moving part.		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.2.5	The wedge probe of Figure V.4 and applicable jointed test probes specified in Clause V.1.2 shall not contact any moving part. Instructional safeguard shall not be used instead of equipment safeguard for preventing access to hazardous moving parts.		N/A
9.2.6, Table 38	Handles, Knobs, grips, etc. and external surfaces either held, touched or worn against the body in normal use (> 1 min) ^{b,c}		N/A
F.3.5.1	Instructional safeguard of class 0I equipment in accordance with Clause F.5 when a mains socket-outlet as specified in JIS C 8282 series, JIS C 8303 or relevant regulation to which class I equipment can be connected is provided in accordance with Clause G.4.2A except for the cases where the socket-outlet is accessible only to skilled persons.		N/A
F.3.5.3	If the fuse is necessary for the safeguard function, the symbols indicating pre-arcing time-current characteristic.		P
F.3.6.1A	Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.3 shall be applied to class 0I equipment. For class 0I equipment, a marking of instructions and instructional safeguard shall be provided regarding the earthing connection.	Shall be evaluated during the national approval.	N/A
F.3.6.2.1	Symbols, IEC 60417-5172 (2003-02) or IEC 60417-6092 (2011-10), shall not be used for class I equipment or class 0I equipment.		P
F.4	Instruction for audio equipment with terminals classified as ES3 in accordance with Table E.1, and for other equipment with terminals marked in accordance with F.3.6.1 and F.3.6.1A. Installation instruction for the protective earthing connection for class 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided within the package for the equipment.		N/A
G.3.2.1	The thermal link when tested as a separate component, shall comply with the requirements of JIS C 6691 or have properties equivalent to or better than that.		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.3.4	Except for devices covered by Clause G.3.5, overcurrent protective devices used as a safeguard shall comply with the relevant part of JIS C 6575 (corresponding to IEC60127) or shall have equivalent characteristics. If there are no applicable IEC standards, overcurrent protective devices used as a safeguard shall comply with their applicable IEC standards.		P
G.4.1	This requirement is not applicable to Clauses G.4.2 and G.4.2A.		P
G.4.2	Mains connector shall comply with JIS C 8282 series, JIS C 8283 series, JIS C 8285, JIS C 8303 or IEC 60309 series. Mains plugs and socket-outlets shall comply with JIS C 8282 series, JIS C 8303, IEC 60309 series, or have equivalent or better performance. A power supply cord set provided with appliance connector that can fit appliance inlet complying with JIS C 8283-1 shall comply with JIS C 8286. Construction preventing mechanical stress not to transmit to the soldering part of inlet terminal. Consideration for an equipment rated not more than 125 V provided with Type C14 and C18 appliance coupler complying with JIS C 8283 series.		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.		N/A
G.8.3.3	Withstand $1,71 \times 1,1 \times U_0$ for 5 s.		N/A

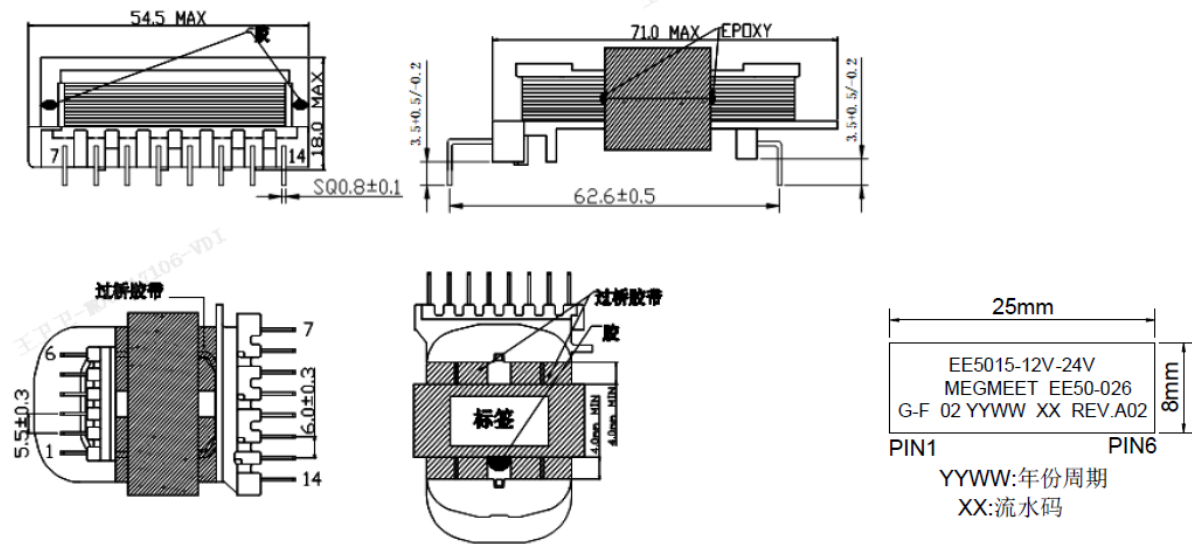
IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<i>Justification:</i> Ministerial Decree of 26 March 1992 : National rules for television receivers trade. <i>NOTE: Ministerial decree above contains additional, but not safety relevant requirements</i>		

Transformer specification (TH1):

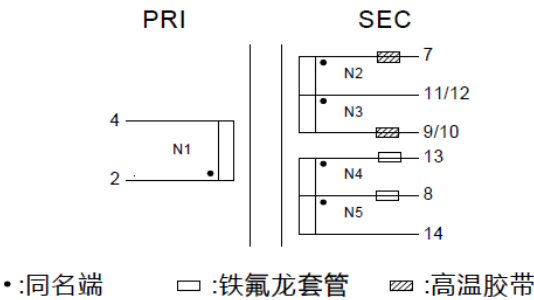
2. 外形尺寸(MECHANICAL DIMENSION/UNIT:mm)



工艺要求及备注:

- 1、骨架为全脚;
- 2、磁芯开气隙, 气隙磁芯装于骨架顶部, 磁芯外包20mm高温胶带3TS;
- 3、磁芯中柱点软胶固定;
- 4、两磁芯结合处点胶固定, 共4点,
产品1-6脚顶部骨架与磁芯结合处点胶固定, 共一点;(如图所示);
- 5、装磁芯前, 在骨架两侧装磁芯位置各贴二层厚0.025*33(W)*43(L)mm
1PCS过桥胶带(高温), 隔开绕组与磁芯;
- 6、焊点不高于骨架凸点;
- 7、产品真空浸油, 烘干处理;
- 8、标签(白底黑字, PET材质)贴于顶部, 字底朝1-6脚侧, 或喷印。

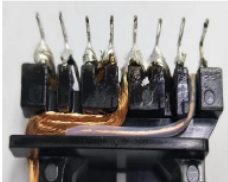
3. 电原理图(SCHEMATIC)



Winding No (组别)	Margin Tape (擋牆膠帶)	Wire 线材	Turns 圈數	端子/PIN		绝缘胶带 TAPE (茶色)	套管/Tube		备注NOTE
				入IN	出OUT		入IN	出OUT	
N1	A SECTION	2UEW-F $\Phi 0.15\text{mm} \times 30\text{P} \times 1\text{P}$	39TS	2	4	/	/	/	1, 7
N2	B SECTION	2UEW-F $\Phi 0.15\text{mm} \times 75\text{P} \times 2\text{P}$	2TS	7	11/12	/	TAPE	/	2, 4, 5, 6, 7
N3		2UEW-F $\Phi 0.15\text{mm} \times 75\text{P} \times 2\text{P}$	2TS	11/12	9/10		/	TAPE	
N4		2UEW-F $\Phi 0.15\text{mm} \times 20\text{P} \times 1\text{P}$	4TS	13	8	/	TFL	/	3, 4, 7
N5		2UEW-F $\Phi 0.15\text{mm} \times 20\text{P} \times 1\text{P}$	4TS	8	14		TFL	/	

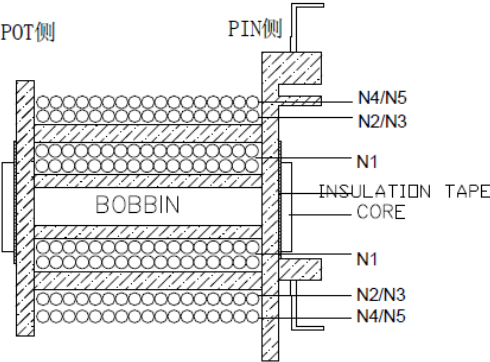
注解:

- 1、平整密绕;
- 2、N2/N3双线并绕;
- 3、N4/N5双线并绕;
- 4、N3/N4起线须经底部过线槽引出 (如图);
- 5、9/10 脚需用高温胶带包裹隔离;
- 6、PIN11, 12可以不连锡 (每个脚都挂线), PIN9, 10可不以连锡 (每个脚都挂线);
- 7、使用F级绞合线; 线材不可交叉打结或损伤漆包膜;



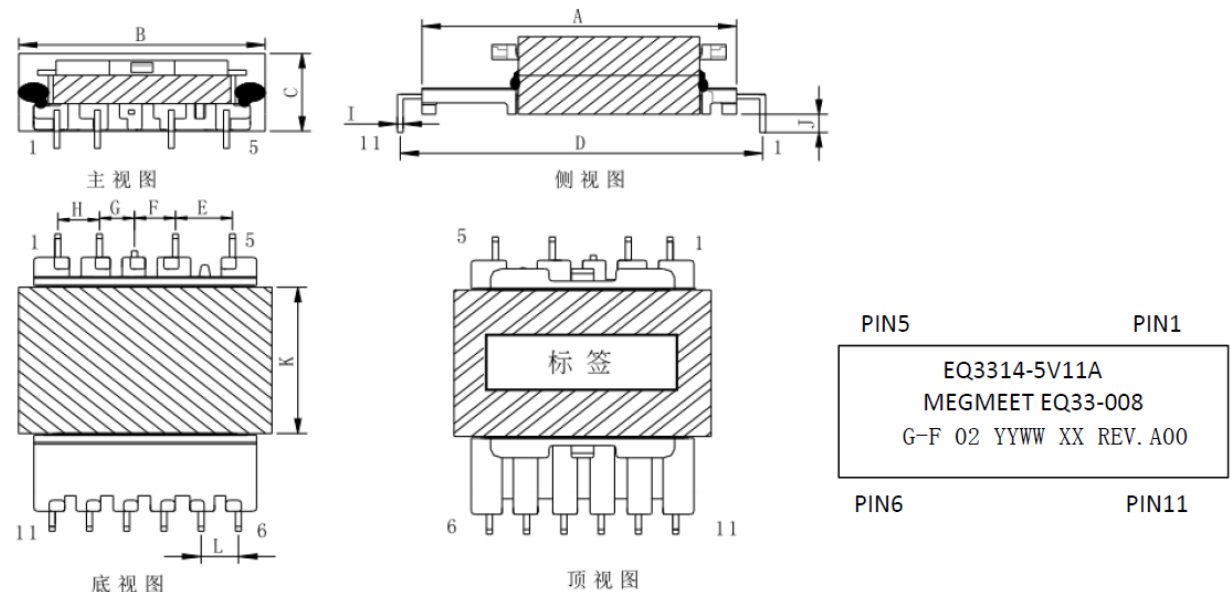
5. 内部结构图(WINDING CONSTRUCTION)

绕线方向: N1/N2/N3/N4/N5从PIN侧看为逆时针绕线(N1不交叉)



Transformer specification (TF2):

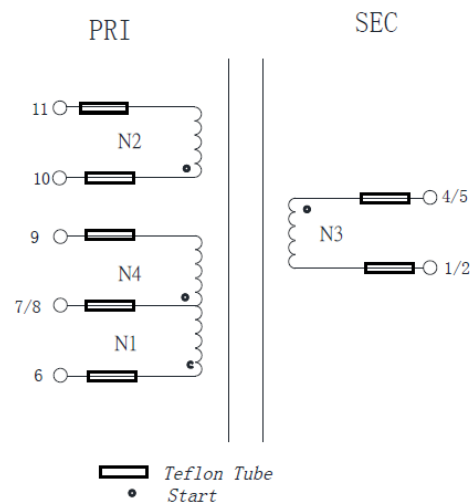
2. 外形尺寸(MECHANICAL DIMENSION/UNIT:mm)



工艺要求及备注:

- 1、PIN3剪掉;
- 2、磁芯开气隙,并装于骨架顶部,磁芯可先用10mm的高温胶带3圈固定,然后包25mm的茶色双层复合高温胶带1.3圈;
- 3、磁芯中柱点软胶,产品真空浸油,烘干处理;
- 4、在磁芯与磁芯结合处点胶固定,胶点与骨架相连,共4点(如图);
- 6、产品如图所示在顶部激光喷码,字底朝6-11侧(YYWW:年周,XX:流水码)。

3. 电原理图(SCHEMATIC)



Winding No (组别)	Margin Tape (擋牆膠帶)		Wire 线材	Turns 圈數	端子/PIN		绝缘胶带 茶色高温	套管/Tube		备注 NOTE
					入IN	出OUT		入IN	出OUT	
N1	/	/	E&B-Φ0.40mm*1P	13TS	6	7	2TS	CB-TT	CB-TT	1. 3. 5
N2	/	/	E&B-Φ0.30mm*1P	7TS	10	11	2TS	CB-TT	CB-TT	1. 2. 3
N3	/	/	2UEWF Φ0.15mm*60P*2C	2TS	4/5	1/2	2TS	CB-TT	CB-TT	1. 4
N4	/	/	E&B-Φ0.40mm*1P	13TS	8	9	2TS	CB-TT	CB-TT	1. 3. 5

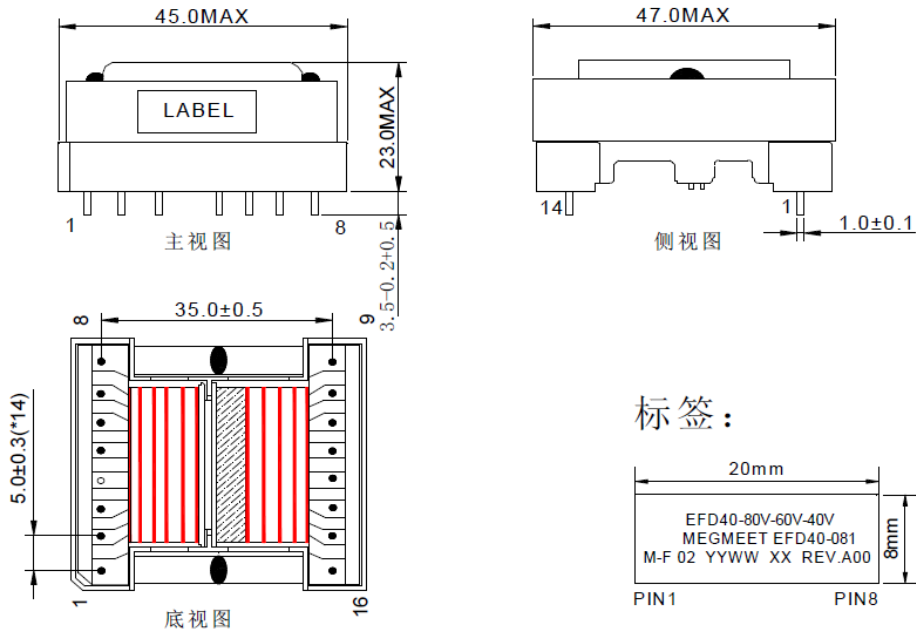
NOTE: 1、平整密绕; 2、疏绕; 3、使用三层绝缘线;
4、使用M-F绞合线; 5、PIN7、PIN8可连锡也可以不连锡。

5. 内部结构图(WINDING CONSTRUCTION) 入轴方向，从PIN脚看为顺时针绕线

The diagram illustrates the internal structure of the bobbin. It shows a cross-section with layers labeled N1, N2, N3, N4, and OVER CORE. The layers are stacked vertically, with N1 at the bottom and OVER CORE at the top. The bobbin is labeled BOBBIN. The top of the bobbin is labeled TOP, and the side is labeled PIN. A small inset shows a perspective view of the bobbin with a 'CNC' label and a curved arrow indicating '正转' (clockwise rotation).

Transformer specification (TH2, TH3):

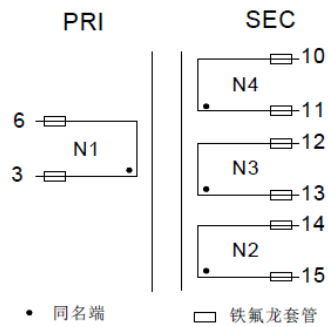
2. 外形尺寸(MECHANICAL DIMENSION/UNIT:mm)



工艺要求及备注:

- 1、骨架拔除PIN4脚;
- 2、磁芯开气隙, 气隙磁芯并装于产品1-8脚侧;
- 3、磁芯外包0.025*10.5mm高温胶带3TS固定;
- 4、产品真空浸油, 烘干处理;
- 5、磁芯中柱点软胶固定; 两磁芯结合处点胶连接外壳固定共4点;
- 6、标签(白底黑字, PET材质)贴于产品1-8脚边, 字底朝PIN, 或喷印。

3. 电原理图(SCHEMATIC)



IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Appendix	Appendix 12 J3000 (H25) Special National conditions, National deviation and other information according to MITI Ordinance No. 85.		—
1	General requirement When equipment provides with appliance inlet complying with JIS C 8283-1(2008), soldered parts of appliance inlet is not applied by force during insert or removal of connector. This is not applied when inlet body is fixed itself and not fixed by solder.	Inlet is fixed by adequate mechanical construction, not rely on soldering.	P
2	Requirement for equipment		—
2.1	Heater Appliances When diode is used in parallel at the power sources for adjustment of power consumption, the equipment shall remain safe for operation under open condition of one diode.		N/A
	The current rating of one diode shall be more than main current. The diodes connected in parallel are same type.		N/A
	The heating test specified by clause 11 of JIS C 9335-1(2003) and a specified in applicable individual requirements under open condition of one diode of parallel shall comply with the requirements.		N/A
2.2	Electric heater with glowing heating elements	Not electric stove.	N/A
	Surface treatment by paint or adhesive on protective frame or protective mesh shall not be used.		N/A
	Caution marking like below shall be on - easily visible place of the equipment or - Instruction manual 「注意 当該機器から、使用初期段階で揮発性有機化合物及びカルボニル化合物が最も放散するおそれがあるため、その際には十分換気を行うこと。」		N/A
3	Components used in equipment	No relevant equipment or component.	N/A
3.1	Motor capacitors used in ventilating fan, electric fan, air conditioner, electric washing machine, refrigerator or electric freezer shall be comply with - capacitors with protective elements or protective mechanism complying with JIS C 4908(2007) - P2 capacitor complying with IEC 60252-1(2001) Capacitor complying with below is acceptable		N/A
	Enclosed by metal or ceramic		N/A
	No non-metallic materials within 50 mm from capacitor surface		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Non-metallic material within 50mm from capacitor surface comply with needle frame test of JIS C 9335-1(2003), Annex E		N/A
	Non-metallic material within 50 mm from capacitor surface comply with V-1 test of JIS C 60965-11-10(2006).		N/A
3.2	Plug directly inserted to outlet used refrigerator or electric freezer. Shall comply with - Face contact with outlet shall have CTI with more than 400 according to JIS C 2134(2007) or - Supporting material of blades shall comply with glow wire test by temperature of 750°C according to JIS C 60695-2-11(2004) or JIS C 60695-2-12(2004). Materials having glow wire frame temperature of 775 °C are acceptable.		N/A