	Ref. Certif. No.
	JPTUV-170989

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

CB TEST CERTIFICATE

Product	LED TV Set
Name and address of the applicant	TPV Display Technology (Xiamen) Co., Ltd No. 1 Xianghai Road, Xiamen Torch Hi-Tech Industrial Development Zone (Xiang'An) Xiamen City 361101 Fujian, P.R. China
Name and address of the manufacturer	TPV Display Technology (Xiamen) Co., Ltd No. 1 Xianghai Road, Xiamen Torch Hi-Tech Industrial Development Zone (Xiang'An) Xiamen City 361101 Fujian, P.R. China
Name and address of the factory Note: *When more than one factory, please report on page 2*	See additional page(s) for the listing of 30 factories
Ratings and principal characteristics	I/P: 1) 100-240VAC, 50Hz or 50/60Hz or 50-60Hz, 130 W or 220-240VAC, 50Hz or 50/60Hz or 50-60Hz, 130 W; 2) 100-240VAC, 50Hz or 50/60Hz or 50-60Hz, 145 W or 220-240VAC, 50Hz or 50/60Hz or 50-60Hz, 145 W Class II
Trademark / Brand (if any)	PHILIPS
Customer's Testing Facility (CTF) Stage used	N/A
Model / Type Ref.	1) 55PU*81*0/****; 2) 55PU*82*0/**** (* can be 0-9, A-Z, a-z, +, -, /, \ or blank)
Additional information (if necessary may also be reported on page 2)	For model differences, refer to the test report.
A sample of the product was tested and found to be in conformity with	IEC 62368-1:2018 See Test Report for National Differences
As shown in the Test Report Ref. No. which forms part of this Certificate	CN25UVL2 001

This CB Test Certificate is issued by the National Certification Body

TÜVRheinland®

TÜV Rheinland Japan Ltd.
4-25-2 Kita-Yamata, Tsuzuki-ku
Yokohama 224-0021, Japan
Mail: info@jpn.tuv.com

Date: 2025-03-13

Signature: Aegean Li

10/061SMD 2024-12 rke-simplified

Factories :

1. Arab Company for Computer Manufacturing
El Obour City, Industrial Zone A, Lot 14, Block 12006
Egypt

2. Skyblu Technolgies (Pty) Ltd
46 Siphosethu Road, Mount Edgecombe 4300 Kwa-Zulu Natal,
South Africa

3. Anyview Technology (Pty) Ltd
Longmeadow Business Estate, 14 Angus Crescent, Longmeadow East, 1609 Postnet
Suite #433, Private Bag X 1 Melrose Arch, 2076
South Africa

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

5. Dixon Technologies (India) Ltd. EMC-2, Shed No. 2,4,5,6 & 7, Near
Tirupati Airport, Village Govindhavaram, Munagalapalem Post, Revenue
Vikruthamala, Yerpedu Mandelam, District-Chittoor, Andhra Pradesh, 517526
India

6. MIRC Electronics Ltd
Onida House, G-1 MIDC Mahakali Caves Road, Andheri (E) Mumbai 400093
India

7. AMTEC ELECTRONICS CORPORATION
Plot A, No. 10A, 01 street, Hiep Phuoc industrial park, Long Thoi commune, Nha
Be district, Ho Chi Minh city 700000
Vietnam

8. Pt.Tridharma Kencana
Gudang Berikat, Jl.Raya Serang Jakarta,Km. 12 No 66, Kelurahan Cisait,
Kecamatan Keragilan, Serang, Banten, Jakarta
Indonesia

9. Cal-Comp Electronics (Thailand) Public Co., Ltd.
60 Moo 8, Sethakij Rd., Klong Maduea, Kratoom Bean Samut Sakhon 74110
Thailand

10. Pro Concept Manufacturer Co., Ltd
88/1 Moo 12, Soi Phetkasem120, Phetkasem Road, Omnoi, Krathumbaen, Samutsakorn
74130
Thailand

11. CJ CENTURY TECHNOLOGY SDN. BHD.
LOT 4A, JALAN SULTAN MOHAMED 3 KAWASAN PERINDUSTRIAN BANDAR SULTAN SULEIMAN
42000 PORT KLANG SELANGOR DARUL EHSAN
Malaysia

TÜVRheinland®

Date: 2025-03-13 Signature: as on page 1

Factories :

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

13. Digital Fueguina S.A
Combate de Montevideo 1141, CP 9420 Rio-Grande - Tierra del Fuego
Argentina

14. Fabrica Austral de Productos Electricos SA
Islas Malvinas 1180 (V9420AIR) Rio Grande Tierra del Fuego
Argentina

15. Envision Industry of Electronic Products Ltd.
Av Torquato Tapajós 7503, Galpão : II Bloco: Bcondomínio de Galpões-Tarumã-Manaus, - AM 69041-025
Brazil

16. Envision Industry of Electronic Products Ltd.
895, Joao Marcos Pozzetti Street, Industrial District II, Manaus - AM 69075-215
Brazil

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

18. TPV CIS Ltd.
177A Moskovskoe Shosse, Shushary settlement, 196626 St. Petersburg
Russian Fed.

19. Novatech Technology GmbH
Siemensring 66-68 47877 Willich
Germany

20. EMEK INOVATIF ELEKTRIK VE ELEKTRONIK TEKNOLOJILERI
SAN.TIC. A.S. Osman uzun caddesi No:25 Veliköy Organize Sanayi Bölgesi, Çerkezköy-Tekirdağ,
Türkiye

21. TPV Displays Polska Sp. z o.o.
ul. Zlotego Smoka 9 66-400 Gorzów Wlkp.,
Poland

22. Hefei Kaidi Weier Electronics Co., Ltd.
Haier Color Television Workshop No. 200 Fanhua Road Econ. &Techno. Dev. Zone
Hefei 230601 Anhui
P.R. China

TÜVRheinland®

Date: 2025-03-13 Signature: as on page 1

10/061SMD 2024-12 rke-simplified

Factories :

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

24. TPV Display Technology (Xianyang) Co., Ltd
No.1, Xingguang Avenue, Qindu District, Xianyang City Shaanxi
P.R. China

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

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

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

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

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

30. TPV Display Technology (Xiamen) Co., Ltd
No. 1 Xianghai Road, Xiamen Torch Hi-Tech Industrial Development Zone (Xiang'An) Xiamen City 361101 Fujian
P.R. China

TÜVRheinland®

Date: 2025-03-13 Signature: as on page 1

Test Report issued under the responsibility of:

TÜVRheinland®

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

Report Number.....:	CN25UVL2 001
Date of issue .....:	11.Mar.2025
Total number of pages.....:	76
Name of Testing Laboratory preparing the Report.....:	**TÜV Rheinland (Shenzhen) Co., Ltd.**
Applicant's name .....:	TPV Display Technology (Xiamen) Co., Ltd
Address .....:	No.1 Xianghai Road, Xiamen Torch Hi-Tech Industrial Development Zone (Xiang'An), Xiamen City, 361101, Fujian, P.R.China
Test specification:	
Standard.....:	IEC 62368-1:2018
Test procedure.....:	CB Scheme
Non-standard test method.....:	N/A
TRF template used.....:	IECEE OD-2020-F1:2021, Ed.1.4
Test Report Form No. .....:	IEC62368_1E
Test Report Form(s) Originator....:	UL(US)
Master TRF .....:	Dated 2022-04-14

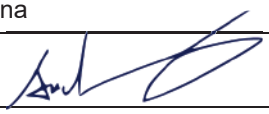
If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

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

General disclaimer:

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

Test item description ..... :	LED TV Set
Trade Mark(s) ..... :	PHILIPS
Manufacturer ..... :	Same as applicant
Model/Type reference ..... :	1) 55PU*81*0/****; 2) 55PU*82*0/**** (* can be 0-9, A-Z, a-z, "+", "-", "/", "\" or blank for marketing purpose.)
Ratings ..... :	I/P: 1) 100-240 V~, 50 or 50/60 or 50-60 Hz, 130 W or 220-240 V~, 50 or 50/60 or 50-60 Hz, 130 W; 2) 100-240 V~, 50 or 50/60 or 50-60 Hz, 145 W or 220-240 V~, 50 or 50/60 or 50-60 Hz, 145 W

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	**TÜV Rheinland/CCIC (Fujian) Co.,Ltd.**	
Testing location/ address ..... :		Unit 01, 02, 3F, Building A, Dade Plaza, No. 50, Rujiang Road, Mawei, Fuzhou, P.R. China	
Tested by (name, function, signature) ..... :		Anderson Wang Project Handler	
Approved by (name, function, signature) .. :		Crystal Xu Authorizer	
☐	**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):

- National Differences (23 Pages)
- Photo documentation (3 Pages)

Summary of testing:

Tests performed (name of test and test clause):

name of test	test clause number
Classification of electrical energy sources	5.2
Accessibility to electrical energy sources and safeguards (Accessibility test)	5.3.2
Maximum operating temperature test (Heating test)	5.4.1.4, 9.3, B.1.5, B.2.6
Minimum Clearances/Creepage distance	5.4.2, 5.4.3
Antenna terminal insulation	5.4.5
Humidity test	5.4.8
Electric strength test	5.4.9
Unearthed accessible parts	5.7.4
Electrical Power Source (PS) measurements for classification	6.2.2
Stability	8.6
Wall or ceiling mount loading test	8.7
Input test	Annex B.2.5
Abnormal operating and fault condition tests	Annex B.3, B.4
Test for permanence of markings	Annex F.3.10
Safeguards against entry of foreign object	Annex P.2.2
Adhesive test	Annex P.4
Limited power source test (LPS)	Annex Q.1
Steady force test, 10N, 250N	Annex T.2, T.5
Enclosure impact test	Annex T.6
Stress relief test	Annex T.8

Note:

- Specified maximum ambient temperature for operation is +45 °C.
- Load conditions: The equipment operated under maximum brightness, maximum contrast, maximum resolution of LED backlight circuit with three vertical bar signal (according to 3.2.1.3 of IEC 60107-1:1997); audio with volume with 1kHz recorder adjusted to maximum one-eight non-clipped output power; LED ambient lamp turn on and adjust to Max. brightness; two USB port loaded with dummy load of 5V/0.5A (if any).
- The equipment has been evaluated according to the specified by the manufacturer maximum operating altitude of 3500 m (correction factor for clearances according to IEC 60664:1992+A1:2000+A2:2002 of 1.22 is considered).

Testing location:

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

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

EU Group Differences, EU Special National Conditions.

☒ **The product fulfils the requirements of EN IEC 62368-1:2020+ A11:2020**

For National Differences see corresponding Attachment.

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

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

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

Information on uncertainty of measurement:

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

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

Copy of marking plate:

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

Note:
The rated frequency of above representative label can be 50Hz or 50/60Hz or 50-60Hz.
The rated voltage of above representative label can be 100-240 V~ or 220-240 V~.
All models' rating labels are similar except for type designation. Above labels are represent labels for model names other than above.

Test item particulars:	
Product group ..... :	☒ end product ☐ built-in component
Classification of use by ..... :	☒ Ordinary person ☒ Children likely present ☐ Instructed person ☐ Skilled person
Supply connection ..... :	☒ AC mains ☐ DC mains ☐ not mains connected: ☐ ES1 ☐ ES2 ☐ ES3
Supply tolerance ..... :	☒ +10%/-10% ☐ +20%/-15% ☐ + %/ - % ☐ None
Supply connection – type ..... :	☒ pluggable equipment type A - ☐ non-detachable supply cord ☒ appliance coupler ☐ direct plug-in ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☐ mating connector ☐ other:
Considered current rating of protective device ..... :	☒ 20 A; Location: ☒ building ☐ equipment ☐ N/A
Equipment mobility ..... :	☒ movable ☐ hand-held ☐ transportable ☐ direct plug-in ☐ stationary ☐ for building-in ☒ wall/ceiling-mounted ☐ SRME/rack-mounted ☐ other:
Overvoltage category (OVC) ..... :	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Class of equipment ..... :	☐ Class I ☒ Class II ☐ Class III ☐ Not classified ☐
Special installation location ..... :	☒ N/A ☐ restricted access area ☐ outdoor location ☐
Pollution degree (PD) ..... :	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified T_{ma} ..... :	45 °C ☐ Outdoor: minimum °C
IP protection class ..... :	☒ IPX0 ☐ IP___
Power systems ..... :	☒ TN ☐ TT ☐ IT - V_{L-L} ☐ not AC mains
Altitude during operation (m) ..... :	☐ 2000 m or less ☒ 3500 m
Altitude of test laboratory (m) ..... :	☒ 2000 m or less ☐ m
Mass of equipment (kg) ..... :	For model 55PU*81*0/**: Approx. 9.88kg (with base stand); base stand is 0.40kg; For model 55PU*82*0/****: Approx. 10.20kg (with base stand); base stand is 0.17kg

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 ..... :	21.Jan.2025
Date (s) of performance of tests..... :	17.Feb.2025 – 22.Feb.2025
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. **Throughout this report a ☐ comma / ☒ point is used as the decimal separator.**	
Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... :	☒ **Yes** ☐ **Not applicable**
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies) ..... :	1 TPV Display Technology (Xiamen) Co., Ltd No. 1 Xianghai Road, Xiamen Torch Hi-Tech Industrial Development Zone (Xiang'An), Xiamen City, 361101, Fujian, P. R. China 2 TPV Electronics (Fujian) Co., Ltd. Shangzheng, Yuan Hong Road, Fuqing City, Fujian, P. R. China 3 TPV Electronics (Fujian) Co., Ltd. Rongqiao Economic and Technological Development Zone, Fuqing City, Fujian, P. R. China 4 TPV Display Technology (Wuhan) Co., Ltd. Unique No. 11, Zhuankou Development District of Economic Technological Development Zone, 430056 Wuhan City, P. R. China 5 TPV Technology (Qingdao) Co., Ltd. No.99 Huoju Road, High-tech Industrial Development Zone, Qingdao City, Shandong, P. R. China 6 TPV Display Technology (China) Co., Ltd. No. 106 Jinghai 3 Rd., BDA, 100176 Beijing, P. R. China 7 TPV Display Technology (Xianyang) Co., Ltd No.1, Xingguang Avenue, Qindu District, Xianyang City Shaanxi, P.R. China 8 TPV Display Technology (Beihai) Co., Ltd. China Electronic Beihai Industry Park, Northeast of the Crossing Between Taiwan Road and Jilin Road, Beihai City, Guangxi, P.R. China

	9 Hefei Kaidi Weier Electronics Co., Ltd. Haier Color Television Workshop, No. 200 Fanhua Road, Econ. &Techno. Dev. Zone, Hefei, 230601 Anhui, P. R. China 10 TPV Displays Polska Sp. z o.o. ul. Zlotego Smoka 9 66-400, Gorzów Wlkp., Poland 11 EMEK INOVATIF ELEKTRIK VE ELEKTRONIK TEKNOLOJILERI SAN.TIC. A.S. Osman uzun caddesi No:25 Veliköy Organize Sanayi Bölgesi, Çerkezköy-Tekirdağ, Turkey 12 Novatech Technology GmbH Siemensring 66-68 47877 Willich Germany 13 TPV CIS Ltd. 177A Moskovskoe Shosse, Shushary settlement, 196626 St. Petersburg, Russian Federation 14 Envision Indústria de Produtos Eletrônicos Ltda. Av. Torquato Tapajós 2236, Flores - CEP - Manaus - AM, 69058-830, Brazil 15 Envision Industry of Electronic Products Ltd. 895, Joao Marcos Pozzetti Street, Industrial District II, Manaus - AM, 69075-215, Brazil 16 Envision Industry of Electronic Products Ltd. Av Torquato Tapajós 7503, Galpão : II Bloco: Bcondomínio de Galpões-Tarumã-Manaus, - AM, 69041-025, Brazil 17 Fabrica Austral de Productos Electricos SA Islas Malvinas 1180 (V9420AIR) Rio Grande Tierra del Fuego, Argentina 18 Digital Fueguina S.A Combate de Montevideo 1141, CP 9420 Rio-Grande - Tierra del Fuego, Argentina 19 Trend Smart CE Mexico S de RL de CV Avenida Sor Juana Ines de la Cruz de 19602 Nueva Tijuana, 22435 Tijuana Baja California, MEXICO 20 CJ CENTURY TECHNOLOGY SDN. BHD. LOT 4A, JALAN SULTAN MOHAMED 3 KAWASAN PERINDUSTRIAN BANDAR SULTAN SULEIMAN PORT KLANG 42000 SELANGOR DARUL EHSAN, Malaysia 21 Pro Concept Manufacturer Co., Ltd 88/1 Moo 12, Soi Phetkasem120, Phetkasem Road, Omnoi, Krathumbaen, Samutsakorn 74130, Thailand 22 Cal-Comp Electronics (Thailand) Public Co., Ltd. 60 Moo 8, Sethakij Rd., Klong Maduea, Kratoom Bean, Samut Sakhon 74110, Thailand 23 Pt.Tridharma Kencana Gudang Berikat, Jl.Raya Serang Jakarta,Km. 12 No 66, Kelurahan Cisait, Kecamatan Keragilan, Serang, Banten, Jakarta, Indonesia

	24 AMTEC ELECTRONICS CORPORATION Plot A, No. 10A, 01 street, Hiep Phuoc industrial park, Long Thoi commune, Nha Be district, Ho Chi Minh city 700000, Vietnam 25 MIRC Electronics Ltd Onida House, G-1 MIDC, Mahakali Caves Road, Andheri (E), Mumbai 400093, India 26 Dixon Technologies (India) Ltd. EMC-2, Shed No. 2,4,5,6 & 7, Near Tirupati Airport, Village Govindhavaram, Munagalapalem Post, Revenue Vikruthamala, Yerpedu Mandelam, District-Chittoor, Andhra Pradesh, 517526, India 27 TPV Technology (Thailand) Co., Ltd. No.267 Mu7, Tha Tum Sub- District, Si Maha Pho District, Prachin Buri Province, Thailand 28 Anyview Technology (Pty) Ltd Longmeadow Business Estate, 14 Angus Crescent, Longmeadow East, 1609 Postnet Suite #433, Private Bag X 1 Melrose Arch, 2076, South Africa 29 Skyblu Technolgies (Pty) Ltd 46 Siphosethu Road, Mount Edgecombe 4300 Kwa-Zulu Natal, South Africa 30 Arab Company for Computer Manufacturer El Obour City, Industrial Zone A, Lot 14, Block 12006 Egypt

General product information and other remarks:

Product Description –

The equipment is an LCD TV Set with LED backlight for audio/video use in the scope of this standard.

The equipment is incorporated with following critical parts:

- TFT LCD module with LED backlight type.
- Approved building-in type switching power supply board 715GF247 (only for construction 3, refer to appended table 14 for source details), which is combined with secondary decoding circuit and data ports for connecting with additional equipment. The power board mentioned above is abbreviated as “approved PSU” in this report.
- Plastic enclosure (refer to appended table 14 for source details).
- T-con board (all secondary circuits).
- Key control board (all secondary circuits).
- Two speaker sets (Optional used).
- Models are identical except for type designation and user function setting.

Table: Definition of variable(s):

Variable:	Range of variable:	Content:
*	0-9, A-Z, a-z, –, \, /, + or blank	For marketing purpose only, no technical difference.

Additional information:

1. The product fulfils the requirements of BS EN IEC 62368-1: 2020 + A11:2020;

2. There were some ambient lights located on the plastic enclosure. Four ambient lights were tested according to IEC 62471-1:2006/EN62471-1:2008 by SGS:
   a) LED type GPTM8524RGBD1-D manufacturer by Xiamen Guangpu Electronics, report No. GZES141001183831;
   b) LED type P5018-2K15 manufacturer by EVERLIGHT Electronics, report No. OC-2015-90054;
   c) LED type LTX-X45T manufacturer by LITE-ON technology, report No. OC-2015-90039;
   d) LED type ES8523S/RGBW-Z3-A, ES8523S/RGBW-Z3-B manufacturer by Shenzhen Hengyaoda Technology Co., Ltd., report No. 434877.

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	**Possible Hazard**			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
ES3: L/N pin of appliance inlet	Ordinary	--	--	Bleeder Resistors
ES3: Primary circuits (Switching Power Supply primary parts)	Ordinary	Air gap	Enclosure	Transformers, Y-caps, Photo couple
ES1: VLED output of Switching Power Supply	Ordinary	N/A	N/A	N/A
ES1: 12V output of Switching Power Supply	Ordinary	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1st S	2nd S
PS3 circuit	Internal wiring material	See 6.3.1	Equipment safeguards (rated VW-1, see 6.5 for details)	--
PS3 circuit	Plastic Enclosure	See 6.3.1	See 6.4.3 and 6.4.7 (V-1 class material)	--
PS2 circuit	LED ambient lights	Ignition not occur	Mounted on V-1 min. PCB	--
PS1 circuit	Speakers and Key board	N/A	N/A	N/A
7	All circuits on main board except for USB type-C and all data ports of main board			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
N/A	N/A	N/A	N/A	N/A
8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
MS3: Wall mount	Ordinary	--	--	Compliance with test 8.7.2
MS2: Equipment mass	Ordinary	--	--	Compliance with test 8.6
MS1: Sharp edges and corners	Ordinary	N/A	N/A	N/A
9	Thermal burn			

Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS1: Accessible parts	Ordinary	N/A	N/A	N/A
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
RS1: Indicating lights	Ordinary	N/A	N/A	N/A
RS1: LED ambient lamp	Ordinary	N/A	N/A	N/A
RS1: LED backlight of LCD panel	Ordinary	N/A	N/A	N/A
Supplementary Information: "B" – Basic Safeguard; "S" – Supplementary Safeguard; "R" – Reinforced Safeguard				

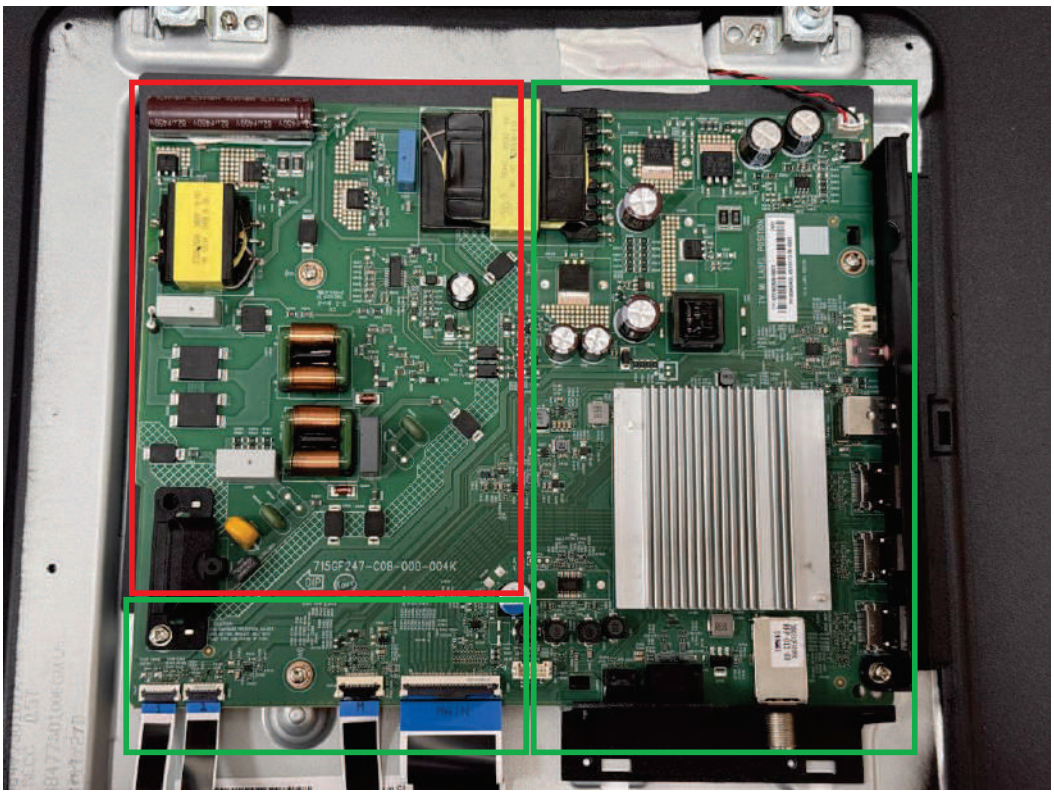
ENERGY SOURCE DIAGRAM

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

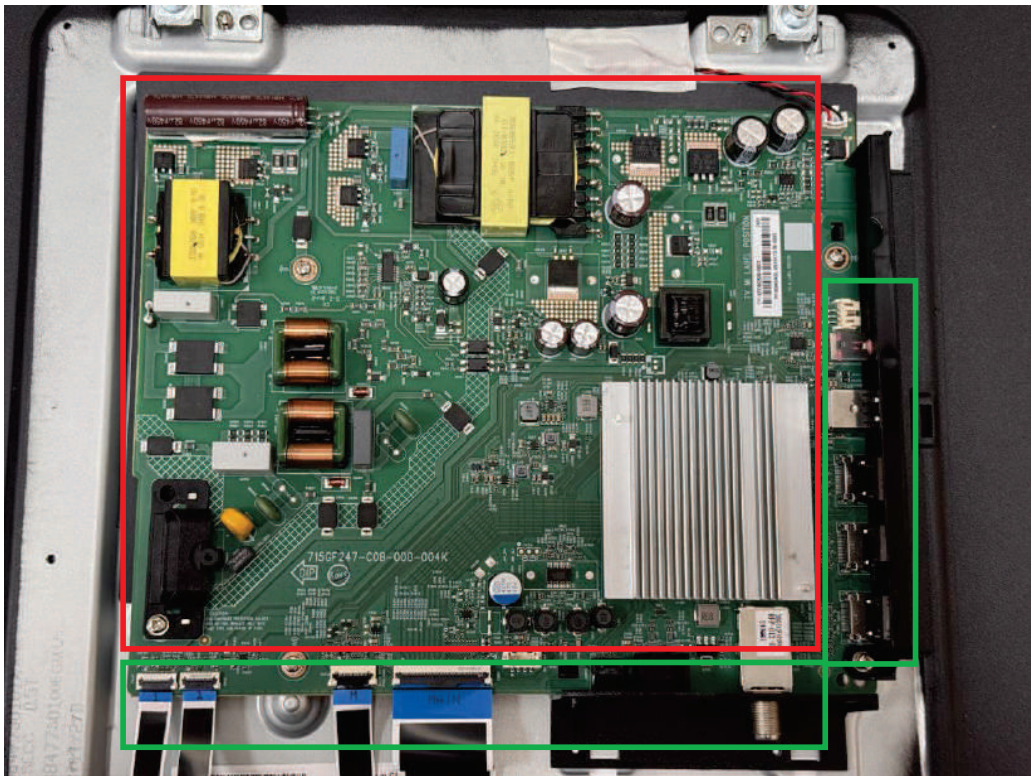
Insert diagram below. Example diagram designs are; Block diagrams; image(s) with layered data; mechanical drawings

ES3, ES2, ES1, PS3, PS2, PS1 (see "OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS")

Red ES3 Yellow ES2 Green ES1



Red PS3 Yellow PS2 Green PS1



☒ ES ☒ PS ☐ MS ☐ TS ☐ RS

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Clause	Requirement + Test	Result - Remark	Verdict
4	**GENERAL REQUIREMENTS**		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2.	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
4.1.3	Equipment design and construction	No accessible part which could cause injury.	P
4.1.4	Specified ambient temperature for outdoor use (°C) ..... :		N/A
4.1.5	Constructions and components not specifically covered	Considered.	P
4.1.8	Liquids and liquid filled components (LFC)	(See G.15)	N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness	For adhesives securing parts serving as safeguards, see Annex P.4. Others see below.	P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Clause T.3, T.5)	P
4.4.3.3	Drop tests		N/A
4.4.3.4	Impact tests	See Annex T.6	P
4.4.3.5	Internal accessible safeguard tests		N/A
4.4.3.6	Glass impact tests	Used with glass that is laminated or has a construction such that glass particles do not separate from each other if the glass is broken.	N/A
4.4.3.7	Glass fixation tests	No such construction.	N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests	Phenolic material used and described in Annex T.8, no deformation on all sources of plastic enclosure.	P
4.4.3.9	Air comprising a safeguard		P
4.4.3.10	Accessibility, glass, safeguard effectiveness	Compliance checked.	P
4.4.4	Displacement of a safeguard by an insulating liquid	No such component.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.4.5	Safety interlocks		N/A
4.5	**Explosion**		P
4.5.1	General	No explosion occurs during normal/abnormal operation and single fault conditions.	P
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	P
	No harm by explosion during single fault conditions	(See Clause B.4)	P
4.6	**Fixing of conductors**		P
	Fix conductors not to defeat a safeguard	Screws with toothed washer fixing earthed PCB trace to metal chassis for protective bonding conductor.	P
	Compliance is checked by test..... :	(See Clause T.2)	P
4.7	**Equipment for direct insertion into mains socket–outlets**		N/A
4.7.2	Mains plug part complies with relevant standard .. :		N/A
4.7.3	Torque (Nm)..... :		N/A
4.8	**Equipment containing coin/button cell batteries**		N/A
4.8.1	General	No lithium coin/button batteries used.	N/A
4.8.2	Instructional safeguard..... :		N/A
4.8.3	Battery compartment door/cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance		N/A
	30N force test with test probe		N/A
	20N force test with test hook		N/A
4.9	**Likelihood of fire or shock due to entry of conductive object**		P
4.10	**Component requirements**		P
4.10.1	Disconnect Device	(See Annex L)	P
4.10.2	Switches and relays		N/A

5	**ELECTRICALLY-CAUSED INJURY**	P
5.2	**Classification and limits of electrical energy sources**	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.2.2	ES1, ES2 and ES3 limits	Evaluated in approved SPS.	P
5.2.2.2	Steady-state voltage and current limits..... :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits..... :	ES3.	N/A
5.2.2.4	Single pulse limits ..... :		N/A
5.2.2.5	Limits for repetitive pulses ..... :		N/A
5.2.2.6	Ringing signals		N/A
5.2.2.7	Audio signals	(See Clause E.1)	P
5.3	**Protection against electrical energy sources**		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits	Evaluated in approved SPS.	P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors	See above.	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	ES2 or ES3 source cannot accessed by ordinary persons and ES3 source cannot accessed by instructed persons. Double or reinforced safeguard is provided between ES2 or ES3 and ordinary persons or instructed persons.	P
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements	See below.	P
	Test with test probe from Annex V	Test probe V.1, V.2 applied.	--
5.3.2.2 a)	Air gap – electric strength test potential (V) ..... :	(See appended table 5.4.9)	P
5.3.2.2 b)	Air gap – distance (mm) ..... :	Complied with the minimum distance requirement. (See appended table 5.4.2, 5.4.3.)	P
5.3.2.3	Compliance		P
5.3.2.4	Terminals for connecting stripped wire	No such terminals.	N/A
5.4	**Insulation materials and requirements**		P
5.4.1.2	Properties of insulating material	Hygroscopic materials are not used for insulating material.	P
5.4.1.3	Material is non-hygroscopic	(See sub-clause 5.4.8)	P
5.4.1.4	Maximum operating temperature for insulating materials..... :	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degrees ..... :	Pollution degree 2	P
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.5.3	Thermal cycling test		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage ..... :	Approved SPS used.	P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	Approved SPS used.	P
5.4.1.10.2	Vicat test ..... :		N/A
5.4.1.10.3	Ball pressure test ..... :		N/A
5.4.2	Clearances	Approved SPS used, also see appended table 5.4.2, 5.4.3.	P
5.4.2.1	General requirements	See above.	P
	Clearances in circuits connected to AC Mains, Alternative method	See below.	P
5.4.2.2	Procedure 1 for determining clearance	(See appended table 5.4.2, 5.4.3.)	P
	Temporary overvoltage ..... :	2000V	—
5.4.2.3	Procedure 2 for determining clearance	(See appended table 5.4.2, 5.4.3.)	P
5.4.2.3.2.2	a.c. mains transient voltage ..... :	2500V	—
5.4.2.3.2.3	d.c. mains transient voltage ..... :		—
5.4.2.3.2.4	External circuit transient voltage ..... :		—
5.4.2.3.2.5	Transient voltage determined by measurement ..... :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test ..... :	(See appended table 5.4.2)	N/A
5.4.2.5	Multiplication factors for clearances and test voltages ..... :	Multiplication factor is 1.22 for altitude up to 3500m.	P
5.4.2.6	Clearance measurement ..... :	(See appended table 5.4.2)	P
5.4.3	Creepage distances		P
5.4.3.1	General		P
5.4.3.3	Material group..... :	Material group IIIb assumed.	—
5.4.3.4	Creepage distances measurement ..... :	(See appended table 5.4.3)	P
5.4.4	Solid insulation		P
5.4.4.1	General requirements		P
5.4.4.2	Minimum distance through insulation ..... :	(See appended table 5.4.4.2)	P
5.4.4.3	Insulating compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.5	Insulating compound forming cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs) ..... :		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
	Number of layers (pcs) ..... :		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P, K_R, d, V_{PW} (V)..... :		N/A
	Alternative by electric strength test, tested voltage (V), K_R..... :		N/A
5.4.5	Antenna terminal insulation		P
5.4.5.1	General	See below.	P
5.4.5.2	Voltage surge test		P
5.4.5.3	Insulation resistance (MΩ)..... :	More than 4.	P
	Electric strength test..... :		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%), temperature (°C), duration (h)..... :	Performed at 40 °C, 93% R.H. for 120h.	—
5.4.9	Electric strength test		P
5.4.9.1	Test procedure for type test of solid insulation ..... :	(See appended table 5.4.9)	P
5.4.9.2	Test procedure for routine test		N/A
5.4.10	Safeguards against transient voltages from external circuits		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

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.10.3	Verification for insulation breakdown for impulse test..... :		N/A
5.4.11	Separation between external circuits and earth		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	SPDs bridge separation between external circuit and earth		N/A
	Rated operating voltage U_{op} (V) ..... :		—
	Nominal voltage U_{peak} (V)..... :		—
	Max increase due to variation ΔU_{sp} ..... :		—
	Max increase due to ageing ΔU_{sa} ..... :		—
5.4.11.3	Test method and compliance..... :		N/A
5.4.12	Insulating liquid		N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid ..... :		N/A
5.4.12.3	Compatibility of an insulating liquid ..... :		N/A
5.4.12.4	Container for insulating liquid..... :		N/A
5.5	**Components as safeguards**		P
5.5.1	General		P
5.5.2	Capacitors and RC units	Approved SPS used.	P
5.5.2.1	General requirement		N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector ..... :		N/A
5.5.3	Transformers		N/A
5.5.4	Optocouplers		N/A
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPDs		N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable ..... :		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A
	RCD rated residual operating current (mA)..... :		—
5.6	**Protective conductor**		N/A
5.6.2	Requirement for protective conductors		N/A
5.6	**Protective conductor**		N/A
5.6.2	Requirement for protective conductors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.2.1	General requirements	Class II equipment.	N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm^2) ..... :		—
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirements for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm^2). ..... :		—
5.6.4.2	Protective current rating (A)..... :		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Terminal size for connecting protective earthing conductors (mm) ..... :		N/A
	Terminal size for connecting protective bonding conductors (mm)..... :		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective bonding system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method ..... :		N/A
5.6.6.3	Resistance (Ω) or voltage drop ..... :		N/A
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm^2)..... :		N/A
	Class II with functional earthing marking ..... :		N/A
	Appliance inlet cl & cr (mm) ..... :		N/A
5.7	**Prospective touch voltage, touch current and protective conductor current**		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current	Figure 4 of IEC 60990 was used in determining of the limit of ES1; Figure 5 of IEC 60990 was used in determining of the limit of ES2.	P
5.7.2.2	Measurement of voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections		N/A
5.7.4	Unearthed accessible parts ..... :	(See appended table 5.7.4)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.5	Earthed accessible conductive parts..... :		N/A
5.7.6	Requirements when touch current exceeds ES2 limits		N/A
	Protective conductor current (mA) ..... :		N/A
	Instructional Safeguard..... :		N/A
5.7.7	Prospective touch voltage and touch current associated with external circuits		N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to earthed external circuits, current (mA) ..... :		N/A
	b) Equipment connected to unearthed external circuits, current (mA) ..... :		N/A
5.8	**Backfeed safeguard in battery backed up supplies**		N/A
	Mains terminal ES..... :		N/A
	Air gap (mm)..... :		N/A

6	**ELECTRICALLY- CAUSED FIRE**		P
6.2	**Classification of PS and PIS**		P
6.2.2	Power source circuit classifications..... :	See ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE.	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS ..... :	All components located within power board are considered as arcing PIS.	P
6.2.3.2	Resistive PIS ..... :	All components located within the equipment are considered as resistive PIS.	P
6.3	**Safeguards against fire under normal operating and abnormal operating conditions**		P
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials ..... :	(See appended table B.1.5 and B.3)	P
	Combustible materials outside fire enclosure..... :	Min. HB	P
6.4	**Safeguards against fire under single fault conditions**		P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.1	Safeguard method	The methods “Control fire spread” and “Reduce the likelihood of ignition” are selected.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	Supplementary safeguards		N/A
6.4.3.2	Single Fault Conditions ..... :		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits	See below.	P
6.4.5.2	Supplementary safeguards	Compliance detailed as follows: – Printed board: rated min. V-1 – Wire insulation and tubing: complying with Clause 6.5 – All other components: at least V-2 except for mounted on min. V-1 material or small parts of combustible material or components complying to relevant IEC standard; have a mass of combustible material of less than 4g – Isolating transformer: complying with G.5.3. (See appended tables 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuits	Providing fire enclosure for PS3 circuit.	P
6.4.7	Separation of combustible materials from a PIS	The plastic enclosure is made of V-0 class min.	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.7.2	Separation by distance	**For opening of SERV.U port:** The distance between a PIS and combustible materials is less than specified in Figure 37 and Figure 38 as applicable, the combustible materials of plastic enclosure is made by material of V-0 or better. And opening of SERV.U port is not fall in Volume of PS3 component shown as Figure 37 and Figure 38 as applicable. No hazards.	P
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.2	Fire enclosure and fire barrier material properties	See below	P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	V-0 plastic enclosure used as fire enclosure.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties		P
	Openings dimensions (mm)..... :	Numerous rectangle opening: Max. 4.5mm for diagonal. Openings do not exceed 5mm in any dimension. No hazards.	P
6.4.8.3.4	Bottom openings and properties		P
	Openings dimensions (mm)..... :	1) Numerous rectangle openings: Max. 2.6mm for diagonal. Openings do not exceed 3mm in any dimension. No hazards; 2) Eight circle openings for installed stand base: ∅5.6mm. No opening was fall in Volume of PS3 component shown as Figure 41 and Figure 42 as applicable. No hazards.	P
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard ..... :		N/A
6.4.8.3.5	Side openings and properties		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Openings dimensions (mm)..... :	Numerous rectangle opening: Max. 2.6mm for diagonal. Openings do not exceed 3mm in any dimension. No hazards.	P
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c) ..... :		N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating ..... :	V-0 plastic enclosure used as fire enclosure.	P
6.4.9	Flammability of insulating liquid ..... :		N/A
6.5	**Internal and external wiring**		P
6.5.1	General requirements	Internal or external wiring materials are compliant with IEC 60950-1 according to Sub-clause 4.1.1. Furthermore, the test method described in IEC 60695-11-21 is considered equivalent to that test wiring materials for VW-1. All internal wiring are using VW-1 material.	P
6.5.2	Requirements for interconnection to building wiring ..... :		N/A
6.5.3	Internal wiring size (mm^2) for socket-outlets..... :		N/A
6.6	**Safeguards against fire due to the connection to additional equipment**		P

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

8	**MECHANICALLY-CAUSED INJURY**		P
8.2	**Mechanical energy source classifications**		P
8.3	**Safeguards against mechanical energy sources**		P
8.4	**Safeguards against parts with sharp edges and corners**		P
8.4.1	Safeguards	No sharp edges and corners in accessible area.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Instructional Safeguard .....:		N/A
8.4.2	Sharp edges or corners		N/A
8.5	**Safeguards against moving parts**		N/A
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts		N/A
	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional safeguard.....:		N/A
8.5.4	Special categories of equipment containing moving parts		N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts		N/A
8.5.4.2.1	Protection of persons in the work cell		N/A
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m).....:		N/A
	Space between end point and nearest fixed mechanical part (mm) .....:		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A
	- Mechanical function check and visual inspection		N/A
	- Cable assembly.....:		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts.....:		N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N) .....:		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps	Not that equipment.	N/A
	Explosion test.....:		N/A
8.5.5.3	Glass particles dimensions (mm).....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.6	**Stability of equipment**		P
8.6.1	General	See below	P
	Instructional safeguard.....:	Provided in user's manual.	P
8.6.2	Static stability		P
8.6.2.2	Static stability test.....:	Unit did not fall over when tilted to an angle of 10° from its normal upright position.	P
8.6.2.3	Downward force test	Not floor standing equipment.	N/A
8.6.3	Relocation stability		N/A
	Wheels diameter (mm).....:		—
	Tilt test		N/A
8.6.4	Glass slide test	The equipment does not tip over during the test.	P
8.6.5	Horizontal force test.....:		N/A
8.7	**Equipment mounted to wall, ceiling or other structure**		P
8.7.1	Mount means type.....:	No wall mounting system provided. Only four M6 x 9mm screws evaluated.	P
8.7.2	Test methods		P
	Test 1, additional downwards force (N).....:		N/A
	Test 2, number of attachment points and test force (N).....:	9.8kg applied for each point (four directions plus inward and outward).	P
	Test 3 Nominal diameter (mm) and applied torque (Nm).....:	2.5Nm applied.	P
8.8	**Handles strength**		N/A
8.8.1	General		N/A
8.8.2	Handle strength test		N/A
	Number of handles.....:		—
	Force applied (N).....:		—
8.9	**Wheels or casters attachment requirements**		N/A
8.9.2	Pull test		N/A
8.10	**Carts, stands and similar carriers**		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions.....:		N/A
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N).....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Force applied (N).....:		—
8.10.6	Thermoplastic temperature stability		N/A
8.11	**Mounting means for slide-rail mounted equipment (SRME)**		N/A
8.11.1	General		N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard .....:		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force (N) applied .....:		N/A
8.11.3.2	Lateral push force test		N/A
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance		N/A
8.12	**Telescoping or rod antennas**		N/A
	Button/ball diameter (mm).....:		—
9	**THERMAL BURN INJURY**		P
9.2	**Thermal energy source classifications**		P
9.3	**Touch temperature limits**		P
9.3.1	Touch temperatures of accessible parts..... :	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
9.3.2	Test method and compliance	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
9.4	**Safeguards against thermal energy sources**		N/A
9.5	**Requirements for safeguards**		N/A
9.5.1	Equipment safeguard	TS1 considered.	N/A
9.5.2	Instructional safeguard ..... :		N/A
9.6	**Requirements for wireless power transmitters**		N/A
9.6.1	General		N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance..... :	(See appended table 9.6)	N/A
10	**RADIATION**		P
10.2	**Radiation energy source classification**		P
10.2.1	General classification	The following parts are considered as RS1 without	P

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Clause	Requirement + Test	Result - Remark	Verdict
		tests: - Indicating lights; - LED ambient lamp; - LED backlight of LCD panel comply with IEC 62471:2008 are regards as RS1.	
	Lasers ..... :		—
	Lamps and lamp systems ..... :		—
	Image projectors..... :		—
	X-Ray..... :		—
	Personal music player ..... :		—
10.3	**Safeguards against laser radiation**		N/A
	The standard(s) equipment containing laser(s) comply..... :		N/A
10.4	**Safeguards against optical radiation from lamps and lamp systems (including LED types)**		N/A
10.4.1	General requirements		N/A
	Instructional safeguard provided for accessible radiation level needs to exceed		N/A
	Risk group marking and location ..... :		N/A
	Information for safe operation and installation		N/A
10.4.2	Requirements for enclosures		N/A
	UV radiation exposure..... :		N/A
10.4.3	Instructional safeguard..... :		N/A
10.5	**Safeguards against X-radiation**		N/A
10.5.1	Requirements		N/A
	Instructional safeguard for skilled persons..... :		—
10.5.3	Maximum radiation (pA/kg) ..... :		—
10.6	**Safeguards against acoustic energy sources**		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A) ..... :		N/A
	Unweighted RMS output voltage (mV)..... :		N/A
	Digital output signal (dBFS) ..... :		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30) ..... :		N/A
	Warning for MEL ≥ 100 dB(A) ..... :		N/A
10.6.4	Measurement methods		N/A
10.6.5	Protection of persons		N/A
	Instructional safeguards..... :		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV)..... :		N/A
10.6.6.2	Corded listening devices with digital input		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A) ..... :		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A) ..... :		N/A
B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		P
B.1	**General**		P
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	P
B.2	**Normal operating conditions**		P
B.2.1	General requirements ..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers..... :	For internal speakers, adjusted to volume with 1kHz recorder adjusted to maximum one-eight non-clipped output power.	P
B.2.3	Supply voltage and tolerances		P
B.2.5	Input test ..... :	(See appended table B.2.5)	P
B.3	**Simulated abnormal operating conditions**		P
B.3.1	General	(See appended table B.3, B.4)	P
B.3.2	Covering of ventilation openings	(See appended table B.3, B.4)	P
	Instructional safeguard..... :		N/A
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals	(See appended table B.3, B.4)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Audio amplifier abnormal operating conditions	(See appended table B.3, B.4)	P

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.8	Safeguards functional during and after abnormal operating conditions..... :	(See appended table B.3, B.4)	P
B.4	**Simulated single fault conditions**		P
B.4.1	General	Approved SPS used, also see appended table B.3, B.4	P
B.4.2	Temperature controlling device		N/A
B.4.3	Blocked motor test		N/A
B.4.4	Functional insulation		N/A
B.4.4.1	Short circuit of clearances for functional insulation		N/A
B.4.4.2	Short circuit of creepage distances for functional insulation		N/A
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors		N/A
B.4.6	Short circuit or disconnection of passive components		N/A
B.4.7	Continuous operation of components		N/A
B.4.8	Compliance during and after single fault conditions ..... :	(See appended table B.3, B.4)	P
B.4.9	Battery charging and discharging under single fault conditions		N/A
C	**UV RADIATION**		N/A
C.1	**Protection of materials in equipment from UV radiation**		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	**UV light conditioning test**		N/A
C.2.1	Test apparatus ..... :		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure test		N/A
C.2.4	Xenon-arc light-exposure test		N/A
D	**TEST GENERATORS**		N/A
D.1	**Impulse test generators**		N/A
D.2	**Antenna interface test generator**		N/A
D.3	**Electronic pulse generator**		N/A
E	**TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS**		N/A
E.1	**Electrical energy source classification for audio signals**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Maximum non-clipped output power (W) ..... :	Internal speaker and its supply circuit cannot be accessible by ordinary person.	—
	Rated load impedance (Ω) ..... :		—
	Open-circuit output voltage (V)..... :		—
	Instructional safeguard..... :		—
E.2	**Audio amplifier normal operating conditions**		N/A
	Audio signal source type..... :		—
	Audio output power (W) ..... :		—
	Audio output voltage (V) ..... :		—
	Rated load impedance (Ω) ..... :		—
	Requirements for temperature measurement		N/A
E.3	Audio amplifier abnormal operating conditions		N/A
F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		P
F.1	**General**		P
	Language ..... :	English. Versions in other languages will be provided when national certificate approval.	—
F.2	**Letter symbols and graphical symbols**		P
F.2.1	Letter symbols according to IEC60027-1		N/A
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific	Graphical symbols are complied with IEC 60417, ISO 3864-2, ISO 7000 or ISO 7010.	P
F.3	**Equipment markings**		P
F.3.1	Equipment marking locations	The equipment marking is provided and is readily visible in operator access area.	P
F.3.2	Equipment identification markings	See below.	P
F.3.2.1	Manufacturer identification ..... :	See copy of marking plate.	P
F.3.2.2	Model identification ..... :	See copy of marking plate.	P
F.3.3	Equipment rating markings	See below.	P
F.3.3.1	Equipment with direct connection to mains	See below.	P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage ..... :	See copy of marking plate.	P
F.3.3.4	Rated voltage ..... :	See copy of marking plate.	P
F.3.3.5	Rated frequency ..... :	See copy of marking plate.	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.3.6	Rated current or rated power ..... :	See copy of marking plate.	P
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings ..... :		N/A
F.3.5.2	Switch position identification marking..... :		N/A
F.3.5.3	Replacement fuse identification and rating markings ..... :	Approved SPS used.	N/A
	Instructional safeguards for neutral fuse..... :	No such fuse used.	N/A
F.3.5.4	Replacement battery identification marking..... :		N/A
F.3.5.5	Neutral conductor terminal		N/A
F.3.5.6	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification	See below.	P
F.3.6.1	Class I equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal ..... :		N/A
F.3.6.1.2	Protective bonding conductor terminals ..... :		N/A
F.3.6.2	Equipment class marking..... :	See copy of marking plate.	P
F.3.6.3	Functional earthing terminal marking ..... :		N/A
F.3.7	Equipment IP rating marking..... :		N/A
F.3.8	External power supply output marking..... :		N/A
F.3.9	Durability, legibility and permanence of marking	See below.	P
F.3.10	Test for permanence of markings	Marking is durable and legible. The marking plate has no curling and is not able to be removed easily.	P
F.4	**Instructions**		P
	a) Information prior to installation and initial use	Provided in user's manual.	P
	b) Equipment for use in locations where children not likely to be present	Figure V.1 considered for test.	N/A
	c) Instructions for installation and interconnection	Provided in user's manual.	P
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place	Provided in user's manual.	P
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment	Graphical symbols not used as an instructional safeguard.	N/A
	j) Permanently connected equipment not provided with all-pole mains switch		N/A
	k) Replaceable components or modules providing safeguard function		N/A
	l) Equipment containing insulating liquid		N/A
	m) Installation instructions for outdoor equipment		N/A
F.5	Instructional safeguards		N/A
G	**COMPONENTS**		P
G.1	**Switches**		N/A
G.1.1	General		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.1.3	Test method and compliance		N/A
G.2	**Relays**		N/A
G.2.1	Requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		N/A
G.3	**Protective devices**		P
G.3.1	Thermal cut-offs		N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links		N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors		N/A
G.3.4	Overcurrent protection devices	Approved SPS used.	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions ..... :		N/A
G.4	**Connectors**		P
G.4.1	Spacings	Approved SPS used.	P
G.4.2	Mains connector configuration ..... :		N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	Approved SPS used.	P
G.5	**Wound components**		P
G.5.1	Wire insulation in wound components	Approved SPS used.	P
G.5.1.2	Protection against mechanical stress	Approved SPS used.	P
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Test time (days per cycle)..... :		—
	Test temperature (°C)..... :		—
G.5.2.3	Wound components supplied from the mains		N/A
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers		P
G.5.3.1	Compliance method..... :	Approved SPS used.	P
	Position ..... :	See above.	P
	Method of protection..... :	See above.	P
G.5.3.2	Insulation	Approved SPS used.	P
	Protection from displacement of windings ..... :	See above.	—
G.5.3.3	Transformer overload tests	Approved SPS used.	P
G.5.3.3.1	Test conditions	Approved SPS used.	P
G.5.3.3.2	Winding temperatures	Approved SPS used.	P
G.5.3.3.3	Winding temperatures – alternative test method		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter ..... :		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation..... :	Approved SPS used.	P
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A
G.5.4	Motors		N/A
G.5.4.1	General requirements		N/A
G.5.4.2	Motor overload test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4.2	Locked-rotor overload test		N/A
	Test duration (days) ..... :		—
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
G.5.4.5.3	Alternative method		N/A
G.5.4.6	Locked-rotor overload test for DC motors		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature ..... :		N/A
G.5.4.6.3	Alternative method		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage ..... :		—
G.6	**Wire Insulation**		P
G.6.1	General		P
G.6.2	Enamelled winding wire insulation		N/A
G.7	**Mains supply cords**		N/A
G.7.1	General requirements		N/A
	Type..... :		—
G.7.2	Cross sectional area (mm^2 or AWG) ..... :		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)..... :		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)..... :		N/A
G.7.3.2.4	Strain relief and cord anchorage material		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, *D* (mm)..... :		—
	Radius of curvature after test (mm)..... :		—
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	**Varistors**		P
G.8.1	General requirements	Approved SPS used.	P
G.8.2	Safeguards against fire	V-0 Plastic enclosure is made of combustible material and located less than 14 mm from the varistor, no further test was required.	N/A
G.8.2.1	General		N/A
G.8.2.2	Varistor overload test		N/A
G.8.2.3	Temporary overvoltage test		N/A
G.9	**Integrated circuit (IC) current limiters**		N/A
G.9.1	Requirements		N/A
	IC limiter output current (max. 5A)..... :		—
	Manufacturers' defined drift ..... :		—
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
G.10	**Resistors**		P
G.10.1	General	Bleeder Resistors (R9901, R9902, R9903, R9904, R9905 and R9906) are used in parallel. See Table 4.1.2 for the details.	P
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.11	**Capacitors and RC units**		P
G.11.1	General requirements	Approved SPS used.	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 with specifics	Approved SPS used.	P
	Type test voltage $V_{ini,a}$ ..... :	See above.	—
	Routine test voltage, $V_{ini,b}$ ..... :	See above.	—
G.13	**Printed boards**		P
G.13.1	General requirements	See below.	P
G.13.2	Uncoated printed boards	Approved SPS used.	P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation ..... :		N/A
	Number of insulation layers (pcs) ..... :		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A
G.14	**Coating on components terminals**		N/A
G.14.1	Requirements ..... :		N/A
G.15	**Pressurized liquid filled components**		N/A
G.15.1	Requirements		N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	**IC including capacitor discharge function (ICX)**		N/A
G.16.1	Condition for fault tested is not required		N/A
	ICX with associated circuitry tested in equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	ICX tested separately		N/A
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test..... :		—
	Mains voltage that impulses to be superimposed on ..... :		—
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test..... :		—
G.16.3	Capacitor discharge test ..... :		N/A
H	**CRITERIA FOR TELEPHONE RINGING SIGNALS**		N/A
H.1	**General**		N/A
H.2	**Method A**		N/A
H.3	**Method B**		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz) ..... :		—
H.3.1.2	Voltage (V) ..... :		—
H.3.1.3	Cadence; time (s) and voltage (V) ..... :		—
H.3.1.4	Single fault current (mA): ..... :		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)..... :		N/A
J	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		P
J.1	**General**		P
	Winding wire insulation ..... :	Approved SPS used.	—
	Solid round winding wire, diameter (mm) ..... :		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm^2) ..... :		N/A
J.2/J.3	Tests and Manufacturing		—
K	**SAFETY INTERLOCKS**		N/A
K.1	**General requirements**		N/A
	Instructional safeguard..... :		N/A
K.2	**Components of safety interlock safeguard mechanism**		N/A
K.3	**Inadvertent change of operating mode**		N/A
K.4	**Interlock safeguard override**		N/A
K.5	**Fail-safe**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
K.5.1	Under single fault condition		N/A
K.6	**Mechanically operated safety interlocks**		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance ..... :		N/A
K.7	**Interlock circuit isolation**		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm)..... :		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm)..... :		N/A
	Electric strength test before and after the test of K.7.2..... :		N/A
K.7.2	Overload test, Current (A)..... :		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	**DISCONNECT DEVICES**		P
L.1	**General requirements**	Appliance Inlet as disconnect device.	P
L.2	**Permanently connected equipment**		N/A
L.3	**Parts that remain energized**	When the power cord is removed from the inlet no remaining parts with hazardous voltage in the equipment.	P
L.4	**Single-phase equipment**	The disconnect device disconnects both poles simultaneously.	P
L.5	**Three-phase equipment**		N/A
L.6	**Switches as disconnect devices**		N/A
L.7	**Plugs as disconnect devices**		N/A
L.8	**Multiple power sources**		N/A
	Instructional safeguard..... :		N/A
M	**EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS**		N/A
M.1	**General requirements**		N/A
M.2	**Safety of batteries and their cells**		N/A
M.2.1	Batteries and their cells comply with relevant IEC standards ..... :		N/A
M.3	**Protection circuits for batteries provided within the equipment**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.3.1	Requirements		N/A
M.3.2	Test method		N/A
	Overcharging of a rechargeable battery		N/A
	Excessive discharging		N/A
	Unintentional charging of a non-rechargeable battery		N/A
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance		N/A
M.4	**Additional safeguards for equipment containing a portable secondary lithium battery**		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Requirements		N/A
M.4.2.2	Compliance ..... :		N/A
M.4.3	Fire enclosure..... :		N/A
M.4.4	Drop test of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation and procedure for the drop test		N/A
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%): ..... :		N/A
M.4.4.4	Check of the charge/discharge function		N/A
M.4.4.5	Charge / discharge cycle test		N/A
M.4.4.6	Compliance		N/A
M.5	**Risk of burn due to short-circuit during carrying**		N/A
M.5.1	Requirement		N/A
M.5.2	Test method and compliance		N/A
M.6	**Safeguards against short-circuits**		N/A
M.6.1	External and internal faults		N/A
M.6.2	Compliance		N/A
M.7	**Risk of explosion from lead acid and NiCd batteries**		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
	Calculated hydrogen generation rate ..... :		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, Q (m^3/h)..... :		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%)..... :		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate..... :		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%)..... :		N/A
M.7.4	Marking ..... :		N/A
M.8	**Protection against internal ignition from external spark sources of batteries with aqueous electrolyte**		N/A
M.8.1	General		N/A
M.8.2	Test method		N/A
M.8.2.1	General		N/A
M.8.2.2	Estimation of hypothetical volume V_Z (m^3/s)..... :		—
M.8.2.3	Correction factors ..... :		—
M.8.2.4	Calculation of distance *d* (mm) ..... :		—
M.9	**Preventing electrolyte spillage**		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse		N/A
	Instructional safeguard..... :		N/A
N	**ELECTROCHEMICAL POTENTIALS**		P
	Material(s) used..... :	The internal metal enclosure is made of mild steel, screw spring washer are made of Ni on steel, the combined electrochemical potential is below 0.6V according to Annex N.	—
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		P
	Value of *X* (mm)..... :	Considered.	—
P	**SAFEGUARDS AGAINST CONDUCTIVE OBJECTS**		P
P.1	**General**		P
P.2	**Safeguards against entry or consequences of entry of a foreign object**		P
P.2.1	General	See below.	P
P.2.2	Safeguards against entry of a foreign object		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Location and Dimensions (mm) ..... :	Numerous rectangle opening: Max. 4.5mm for diagonal. Openings do not exceed 5mm in any dimension. No hazards.	—
P.2.3	Safeguards against the consequences of entry of a foreign object	See above.	N/A
P.2.3.1	Safeguard requirements		N/A
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A
	Transportable equipment with metalized plastic parts ..... :		N/A
P.2.3.2	Consequence of entry test ..... :		N/A
P.3	**Safeguards against spillage of internal liquids**		N/A
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	**Metallized coatings and adhesives securing parts**		P
P.4.1	General	Adhesive for mylar sheet is considered as safeguard.	P
P.4.2	Tests	After test mentioned above, all safeguards remain effective.	P
	Conditioning, T_C (°C) ..... :	100.0 for adhesive for Mylar	—
	Duration (weeks) ..... :	1	—
Q	**CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING**		P
Q.1	**Limited power sources**		P
Q.1.1	Requirements		P
	a) Inherently limited output	(See appended table Annex Q.1)	P
	b) Impedance limited output		N/A
	c) Regulating network limited output	(See appended table Annex Q.1)	P
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance ..... :	(See appended table Q.1)	P
	Current rating of overcurrent protective device (A) ..... :		N/A
Q.2	**Test for external circuits – paired conductor cable**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Maximum output current (A) ..... :		N/A
	Current limiting method..... :		—
R	**LIMITED SHORT CIRCUIT TEST**		N/A
R.1	**General**		N/A
R.2	**Test setup**		N/A
	Overcurrent protective device for test..... :		—
R.3	**Test method**		N/A
	Cord/cable used for test..... :		—
R.4	**Compliance**		N/A
S	**TESTS FOR RESISTANCE TO HEAT AND FIRE**		P
S.1	**Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W**		N/A
	Samples, material..... :		—
	Wall thickness (mm) ..... :		—
	Conditioning (°C) ..... :		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	**Flammability test for fire enclosure and fire barrier integrity**		
	Samples, material..... :		—
	Wall thickness (mm) ..... :		—
	Conditioning (°C) ..... :		—
S.3	**Flammability test for the bottom of a fire enclosure**		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance		N/A
	Mounting of samples ..... :		—
	Wall thickness (mm) ..... :		—
S.4	**Flammability classification of materials**	See table 4.1.2 for detail.	P
S.5	**Flammability test for fire enclosure materials of equipment with a steady state power exceeding 4 000 W**		N/A
	Samples, material..... :		—
	Wall thickness (mm) ..... :		—
	Conditioning (°C) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
T	**MECHANICAL STRENGTH TESTS**		P
T.1	**General**		P
T.2	**Steady force test, 10 N ..... :**	(See appended table T.2)	P
T.3	**Steady force test, 30 N ..... :**		N/A
T.4	**Steady force test, 100 N ..... :**		N/A
T.5	**Steady force test, 250 N ..... :**	(See appended table T.5)	P
T.6	**Enclosure impact test**	(See appended table T.6)	P
	Fall test	A 500g steel sphere ball fell freely from rest through a vertical distance of 1300 mm onto the sample.	P
	Swing test	A 500g steel sphere ball suspended by a cord droping through a vertical distance of 1300 mm onto the sample.	P
T.7	**Drop test ..... :**		N/A
T.8	**Stress relief test..... :**	(See appended table T.8)	P
T.9	**Glass Impact Test..... :**		N/A
T.10	**Glass fragmentation test**		N/A
	Number of particles counted ..... :		N/A
T.11	**Test for telescoping or rod antennas**		N/A
	Torque value (Nm) ..... :		N/A
U	**MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION**		N/A
U.1	**General**		N/A
	Instructional safeguard **:**		N/A
U.2	**Test method and compliance for non-intrinsically protected CRTs**		N/A
U.3	**Protective screen**		N/A
V	**DETERMINATION OF ACCESSIBLE PARTS**		P
V.1	**Accessible parts of equipment**		P
V.1.1	General		P
V.1.2	Surfaces and openings tested with jointed test probes		P
V.1.3	Openings tested with straight unjointed test probes		P
V.1.4	Plugs, jacks, connectors tested with blunt probe		N/A
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		P

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Clause	Requirement + Test	Result - Remark	Verdict
V.2	**Accessible part criterion**		P
X	**ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)**		N/A
	Clearance ..... :	(See appended table X)	N/A
Y	**CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES**		N/A
Y.1	**General**		N/A
Y.2	**Resistance to UV radiation**		N/A
Y.3	**Resistance to corrosion**		N/A
Y.3	**Resistance to corrosion**		N/A
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by..... :		N/A
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A
Y.3.4	Test procedure..... :		N/A
Y.3.5	Compliance		N/A
Y.4	**Gaskets**		N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests		N/A
	Alternative test methods ..... :		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A
Y.4.6	Securing means	(See Annex P.4)	N/A
Y.5	**Protection of equipment within an outdoor enclosure**		N/A
Y.5.1	General		N/A
Y.5.2	Protection from moisture		N/A
	Relevant tests of IEC 60529 or Y.5.3 ..... :		N/A
Y.5.3	Water spray test		N/A
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		N/A
Y.5.5.1	General		N/A
Y.5.5.2	IP5X equipment		N/A
Y.5.5.3	IP6X equipment		N/A
Y.6	**Mechanical strength of enclosures**		N/A
Y.6.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Y.6.2	Impact test..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5.2	TABLE: Classification of electrical energy sources						P
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters				ES Class
			U (V)	I (mA)	Type[1)]	Additional Info [2)]	
264V, 60Hz	VLED output (CN8602 pin 1-3) of power board to "-" / GND	Normal	--	0.276mArms	SS	--	ES1
		Abnormal – (see table B.3 for details, maximum result recorded)	--	0.276mArms	SS	--	
		Single fault – (see table B.4 for details, maximum result recorded)	--	0.276mArms	SS	--	
264V, 60Hz	+12V output (After D9107) of power board to "-" / GND	Normal	12.1Vdc	--	SS	--	ES1
		Abnormal – (see table B.3 for details, maximum result recorded)	12.1Vdc	--	SS	--	
		Single fault – (see table B.4 for details, maximum result recorded)	12.1Vdc	--	SS	--	
Supplementary information:							
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.							
2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.							

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

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics		N/A
Method ..... :		ISO 306 / B50	—
Object/ Part No./Material	Manufacturer/trademark	Thickness (mm)	T softening (°C)
Supplementary information:			

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics			N/A
Allowed impression diameter (mm) ..... :		≤ 2 mm		—
Object/Part No./Material	Manufacturer/trademark	Thickness (mm)	Test temperature (°C)	Impression diameter (mm)
Supplementary information:				

5.4.2, 5.4.3	TABLE: Minimum Clearances/Creepage distance							P
Clearance (cl) and creepage distance (cr) at/of/between:	U_p (V)	U_{rms} (V)	Freq [1)] (Hz)	Required cl (mm)	cl (mm)	E.S. [2)] (V)	Required cr (mm)	cr (mm)
Reinforced:								
Primary live part and accessible metal part	420	250	--	3.7	>10 [4.]	--	5.0	>10 [4.]
Primary live part and secondary lead wires under 10N force	420	250	--	3.7	>10 [4.]	--	5.0	>10 [4.]
Supplementary information:								
Note 1: Only for frequency above 30 kHz Note 2: Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied) Note 3: Considered altitude correction factor 1.22 for clearances for an altitude of 3500m. Note 4: For clearance and creepage did not describe above are far larger than limit above.								

5.4.4.2	TABLE: Minimum distance through insulation			P
Distance through insulation (DTI) at/of	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)
Plastic Enclosure (Rear cover)	420	Reinforced	0.4	See appended table 4.1.2

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

5.4.4.9	TABLE: Solid insulation at frequencies >30 kHz					N/A
Insulation material	E_P	Frequency (kHz)	K_R	Thickness d (mm)	Insulation	V_{PW} (Vpk)
Supplementary information:						

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:	Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No	
Reinforced:				
L/N to accessible plastic enclosure with metal foil	AC	4000	No	
Unit primary to metal enclosure	AC	4000	No	
Unit primary to secondary (output)	DC	4000	No	
Supplementary information:				
The tests mentioned above were performed after humidity test and heating test.				

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

5.6.6	TABLE: Resistance of protective conductors and terminations			N/A
Location	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
Supplementary information:				

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

5.7.4	TABLE: Unearthed accessible parts					P
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V_{rms} or V_{pk})	Current (A_{rms} or A_{pk})	Freq. (Hz)	
L/N to All secondary port	Normal	264V, 60Hz	--	0.48mApk	--	ES1
	Abnormal		--	0.48mApk	--	
	Single fault		--	0.48mApk	--	
L/N to plastic enclosure	Normal	264V, 60Hz	--	0.47mApk	--	ES1
	Abnormal		--	0.47mApk	--	
	Single fault		--	0.47mApk	--	
L/N to panel	Normal	264V, 60Hz	--	0.01mApk	--	ES1
	Abnormal		--	0.01mApk	--	
	Single fault		--	0.01mApk	--	
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						

5.7.5	TABLE: Earthed accessible conductive part			N/A
Supply voltage (V).....:				—
Phase(s) .....:	[ ] Single Phase; [ ] Three Phase: [] Delta [ ] Wye			
Power Distribution System .....:	[ ] TN [ ]TT [ ] IT			
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment	
Supplementary Information:				
Tested with normal, abnormal and single-fault condition, and maximum value was recorded.				

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

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.2	TABLE: Power source circuit classifications					P
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power[1)] (W)	Time (S)	PS class
All circuits of power board	--	--	--	--	--	PS3
Output for LED backlight on power board (CN8602) to GND [3)]	--	--	--	--	--	PS3 (declared)
Output for T-con on power board (CN404) to GND	Normal	11.2	4.8	54.2	5	PS2
	Single fault (D9110 pin 1-2 SC)	0 [2)]	0 [2)]	0 [2)]	3	
	Single fault (L8601 SC)	0 [2)]	0 [2)]	0 [2)]	3	
	Single fault (U422 pin 1-6 SC)	9.3	9.1	85.0	5	
	Single fault (U9102 Pin 1-2 SC)	0 [2)]	0 [2)]	0 [2)]	3	
+12V_SSB output on power board (after D9107) to GND	Normal	11.7	6.9	82.7	5	PS2
	Single fault (D9107 pin 1-2 SC)	0 [2)]	0 [2)]	0 [2)]	3	
	Single fault (U9102 Pin 1-2 SC)	0 [2)]	0 [2)]	0 [2)]	3	
	Single fault (L8601 SC)	0 [2)]	0 [2)]	0 [2)]	3	
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit 1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3. 2) Unit shut down. 3) Circuit of LED backlight are protected by metal enclosure of LCD panel considered as fire enclosure, no further test was required.						

6.2.3.1	TABLE: Determination of Arcing PIS			P
Location	Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No
2)	2)	2)	2)	Yes
Supplementary information:				

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Clause	Requirement + Test	Result - Remark	Verdict

1) An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15.

2) All components located within primary circuit of power board are considered as arcing PIS.

6.2.3.2	**TABLE: Determination of resistive PIS**		P
Location	Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No
3)	3)	3)	Yes

Supplementary information:

1) A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter. If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification.

2) A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.

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

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

Supplementary information:

9.6	**TABLE: Temperature measurements for wireless power transmitters**	N/A
Supply voltage (V).....:		—
Max. transmit power of transmitter (W).....:		—

	w/o receiver and direct contact		with receiver and direct contact		with receiver and at distance of 2 mm		with receiver and at distance of 5 mm	
Foreign objects	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)

Supplementary information:

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	90V/ 60Hz	198V/ 60Hz	--	--	—
Ambient temperature during test T_{amb} (°C) .... :	See below	See below	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)				Allowed T_{max} (°C)
Tested under HDMI mode					
AC inlet CN9901	60.2	57.2	--	--	70
RV9901 body	69.0	61.0	--	--	85
PCB near NR9903	87.8	67.8	--	--	130
C9901 body	69.3	64.2	--	--	85
C9903 body	72.7	62.0	--	--	100
L9901 coil	96.4	65.3	--	--	130
C9904 body	69.7	62.0	--	--	100
PCB near NR9901	88.7	70.8	--	--	130
L9902 coil	99.9	66.7	--	--	130
PCB near BD9901	90.9	70.0	--	--	130
PCB near BD9903	86.2	68.7	--	--	130
C9801 body	81.5	65.0	--	--	85
L9801 coil	95.3	72.4	--	--	130
PCB near Q9102	91.5	85.8	--	--	130
C9112 body	80.7	77.2	--	--	85
U9102 body	79.4	77.0	--	--	100
C9915 body	83.5	81.7	--	--	85
T9101 coil	98.4	96.6	--	--	110
T9101 core	99.5	97.8	--	--	110
C9121 body	98.1	97.0	--	--	105
PCB near D9110	104.6	104.8	--	--	130
L8601 coil	97.3	96.5	--	--	105
PCB near D8602	99.1	98.7	--	--	130
C8622 body	82.6	82.5	--	--	105
PCB near Q8601	101.8	101.3	--	--	130
PCB near D9107	123.0	121.8	--	--	130
C9116 body	92.8	91.9	--	--	105

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Clause	Requirement + Test	Result - Remark	Verdict

Mylar sheet between power board and LCD panel	92.9	91.7	--	--	100
Plastic enclosure inside near T9101	81.1	81.5	--	--	Ref.
Ambient	45	45	--	--	--
Touch temperature for accessible part under normal condition					
LCD panel	35.5	33.9	--	--	94
Plastic enclosure	48.1	46.1	--	--	70
USB port	51.4	69.9	--	--	70
Button	30.5	29.1	--	--	77
Ambient	25.0	25.0	--	--	--

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

Supplementary information:

Note 1: Tma should be considered as directed by appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9).

Note 3: With a specified ambient temperature of 45°C. All recorded temperature have been calculated to ambient temperature 45°C. Temperature limits are calculated as follows:

Winding components providing safety isolation:

- Class B: Tmax = 120 - 10

Components with maximum absolute temperature of others:

- Tmax = Tmax of component

Note 4: For internal speakers, adjusted to volume with 1kHz recorder adjusted to maximum output power.

Note 5: Test condition of input of 90V/60Hz is chose as representative for others temperature test.

B.2.5	**TABLE: Input test**							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
Test with model 55PU*81*0/**								
90	50	1.127	--	99.84	--	F9901	1.127	Maximum normal load
90	60	1.139	--	101.08	--	F9901	1.139	Maximum normal load
100	50	1.011	--	100.19	130	F9901	1.011	Maximum normal load
100	60	1.015	--	100.25	130	F9901	1.015	Maximum normal load
198	50	0.517	--	100.83	--	F9901	0.517	Maximum normal load
198	60	0.520	--	100.96	--	F9901	0.520	Maximum normal load
220	50	0.471	--	98.95	130	F9901	0.471	Maximum normal load

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Clause	Requirement + Test	Result - Remark	Verdict

220	60	0.475	--	98.99	130	F9901	0.475	Maximum normal load
240	50	0.436	--	98.42	130	F9901	0.436	Maximum normal load
240	60	0.442	--	98.66	130	F9901	0.442	Maximum normal load
264	50	0.401	--	98.69	--	F9901	0.401	Maximum normal load
264	60	0.408	--	99.02	--	F9901	0.408	Maximum normal load
Test with model 55PU*82*0/**								
90	50	1.452	--	129.81	--	F9901	1.452	Maximum normal load
90	60	1.474	--	131.11	--	F9901	1.474	Maximum normal load
100	50	1.291	--	129.31	145	F9901	1.291	Maximum normal load
100	60	1.295	--	128.51	145	F9901	1.295	Maximum normal load
198	50	0.646	--	124.71	--	F9901	0.646	Maximum normal load
198	60	0.657	--	126.01	--	F9901	0.657	Maximum normal load
220	50	0.586	--	124.61	145	F9901	0.586	Maximum normal load
220	60	0.586	--	123.51	145	F9901	0.586	Maximum normal load
240	50	0.543	--	124.41	145	F9901	0.543	Maximum normal load
240	60	0.541	--	123.61	145	F9901	0.541	Maximum normal load
264	50	0.503	--	124.71	--	F9901	0.503	Maximum normal load
264	60	0.502	--	123.61	--	F9901	0.502	Maximum normal load

Supplementary information:

1. After comparing with all of the terminals, shows the result of the worst condition: HDMI mode.
2. Maximum normal load: see “Summary of testing” on Page 3 for the details.

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Clause	Requirement + Test	Result - Remark	Verdict

B.3, B.4	TABLE: Abnormal operating and fault condition tests						P
Ambient temperature T_{amb} (°C)..... :					See below		—
Power source for EUT: Manufacturer, model/type, outputrating .. :					See table 4.1.2		—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
Ventilation openings	Blocked	90	1hr 27mins	F9901	1.767	Unit operated normally, no hazards, no damaged. After temperature reached stable, max. measured temp. in T9101 Winding (power board): 67.7°C, T9101 core (power board): 70.5°C, Plastic enclosure outside near T9101: 41.1°C, USB port: 43.8 °C, Button body: 26.0°C; LCD panel: 31.2 °C; Ambient: 22.7 °C	
USB output (CN103)	OL	90	2hrs 14mins	F9901	1.890	Before shutdown port is loaded to 2.2A, no damage, no hazards. After temperature reached stable, max. measured temp. in T9101 Winding (power board): 81.3°C, T9101 core (power board): 81.7°C, Plastic enclosure outside near T9101: 46.4°C, USB port: 53.1°C, Button body: 26.4°C, LCD panel: 32.3°C, Ambient: 20.9°C	

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Clause	Requirement + Test	Result - Remark	Verdict

T9101 pin 13,14 to pin 11,12 after D9110	OL	90	2hrs20 mins	F9901	2.302	Before shutdown winding is loaded to 0.6A additional, no damage, no hazards. Max. temp.: T9101 Winding (power board): 87.3°C, T9101 core (power board): 85.6°C, Plastic enclosure outside near T9101: 48.3°C, USB port: 42.2°C, Button body: 26.1°C, LCD panel: 33.5°C, Ambient: 21.9 °C
T9101 pin 7,8 to pin 11,12 after D9107	OL	90	3hrs25 mins	F9901	2.137	Before shutdown winding is loaded to 2.5A additional, no damage, no hazards. Max. temp.: T9101 Winding (power board): 85.0°C, T9101 core (power board): 85.6°C, Plastic enclosure outside near T9101: 47.2°C, USB port:43.1 °C Button body: 26.5°C, LCD panel: 33.1°C, Ambient: 21.9°C
One speaker	SC	264	10mins	F9901	0.558	Unit operated normally, no hazards, no damaged.
USB output (CN103)	SC	264	10mins	F9901	0.586	The USB terminals output shutdown immediately, no damaged, no hazards
+12V output	SC	264	10mins	F9901	0.152	Unit shut down immediately, no damaged, no hazards
VLED output	SC	264	10mins	F9901	0.152	Unit shut down immediately, , no damaged, no hazards

Supplementary information:

1. The unit passed 4000V hi-pot test between primary and accessible output connector after single fault test above.
2. In fault column, where SC=short-circuited, OC=open-circuited.
3. For fuse opened conditions were tested with each source of fuse.
4. For component damaged conditions have been repeated twice (three tests total) with same result.
5. Temp. limit of transformer according to table G.3 is 175°C-10-(40°C-Tamb) for Class B.

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Clause	Requirement + Test	Result - Remark	Verdict

M.3	**TABLE: Protection circuits for batteries provided within the equipment**							N/A
Is it possible to install the battery in a reverse polarity position?.....:								—
Equipment Specification	Charging							
	Voltage (V)			Current (A)				
Manufacturer/type	Battery specification							
	Non-rechargeable batteries		Rechargeable batteries					
	Discharging current (A)	Unintentional charging current (A)	Charging		Discharging current (A)	Reverse charging current (A)		
			Voltage (V)	Current (A)				
Note: The tests of M.3.2 are applicable only when above appropriate data is not available.								
Specified battery temperature (°C) .....:								
Component No.	Fault condition	Charge/ discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation	
Supplementary information:								
Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.								

M.4.2	**TABLE: Charging safeguards for equipment containing a secondary lithium battery**				**N/A**
Maximum specified charging voltage (V) .....:					—
Maximum specified charging current (A) .....:					—
Highest specified charging temperature (°C) .....:					
Lowest specified charging temperature (°C) .....:					
Battery manufacturer/type	Operating and fault condition	Measurement			Observation
		Charging voltage (V)	Charging current (A)	Temp. (°C)	
Supplementary information:					
Abbreviation: SC= short circuit; OC= open circuit; MSCV= maximum specified charging voltage; MSCC= maximum specified charging current; HSCT= highest specified charging temperature; LSCT= lowest specified charging temperature					

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Clause	Requirement + Test	Result - Remark	Verdict

Q.1	**TABLE: Circuits intended for interconnection with building wiring (LPS)**						P
Output Circuit	Condition	U_{oc} (V)	Time (s)	I_{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
Circuit output tested: Test on data ports on power board							
USB1 port (CN103) pin 1 to GND	Normal condition	5.2	5	3.8	8	11.3	100
USB1 port (CN103) pin 1 to GND	Fault condition (U1201 pin 5-1 SC)	5.2	5	3.8	8	11.2	100
USB2 port (CN103) pin 5 to GND	Normal condition	5.2	5	3.8	8	11.2	100
USB2 port (CN103) pin 5to GND	Fault condition (U1201 pin 5-1 SC)	5.2	5	3.8	8	11.2	100
USB1 (CN103) other pins to GND	Normal condition	0	5	--	8	--	100
HDMI 1 (CN501) pin 18 to GND	Normal condition	3.3	5	0 (Can't be loaded)	8	0 (Can't be loaded)	100
HDMI 1 (CN501) other pins to GND	Normal condition	0	5	--	8	--	100
HDMI 2 (CN502) pin 18 to GND	Normal condition	3.3	5	0 (Can't be loaded)	8	0 (Can't be loaded)	100
HDMI 2 (CN502) other pins to GND	Normal condition	0	5	--	8	--	100
HDMI 3 (CN503) pin 18 to GND	Normal condition	3.3	5	0 (Can't be loaded)	8	0 (Can't be loaded)	100
HDMI 3 (CN503) other pins to GND	Normal condition	0	5	--	8	--	100

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Clause	Requirement + Test	Result - Remark	Verdict

ANTENNA port (TU201) all pins to GND	Normal condition	0	5	--	8	--	100
SERV.U port (CN706) pin 1,3 to GND	Normal condition	3.3	5	0 (Can't be loaded)	8	0 (Can't be loaded)	100
SERV.U port (CN706) other pins to GND	Normal condition	0	5	--	8	--	100
PHONE JACK (CN610) all pins to GND	Normal condition	0	5	--	8	--	100
Output for Key board (CN712) pin 1 to GND	Normal condition	3.3	5	0 (Can't be loaded)	8	0 (Can't be loaded)	100
Output for Key board (CN712) other pins to GND	Normal condition	0	5	--	8	--	100
Supplementary Information:							
1) Input Voltage is 264Vac, 60Hz. SC=short circuit.							

T.2, T.3, T.4, T.5	**TABLE: Steady force test**					P
Location/Part	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation
Internal components	--	--	--	10	5	The clearance and creepage distances do not be reduced below the required values.
External plastic enclosure	See table 4.1.2	See table 4.1.2	--	250	5	All safeguards remained effective.

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Clause	Requirement + Test	Result - Remark	Verdict

Bottom of metal enclosure	See table 4.1.2	See table 4.1.2	--	250	5	All safeguards remained effective.
Supplementary information:						

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

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

T.8	**TABLE: Stress relief test**					P
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Whole unit	See table 4.1.2	See table 4.1.2	91.5	7	All safeguards remained effective.	
Supplementary information:						

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

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Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	TABLE: List of critical components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1]
LCD Panel (with LED backlight)	TPV	TPT550WR	55 inch TFT-LCD Panel	Applicable parts of IEC 62368-1	Tested in appliance
Alt.)	Interchangeable	Interchangeable	55 inch TFT-LCD Panel	Applicable parts of IEC 62368-1	Tested in appliance
Switching Power Supply Board	TPV	715GF247	I/P: 100-240V~, 50-60Hz or 50/60Hz, 2.5A, Class II	IEC 62368-1: 2023	CB by intertek
Stand (Optional)	Interchangeable	Interchangeable	Metal	Applicable parts of IEC 62368-1	Tested in appliance
Stand (Optional)	Interchangeable	Interchangeable	HB or better	Applicable parts of IEC 62368-1 UL 94	Tested in appliance and UL
Enclosure (Front Bezel)	Interchangeable	Interchangeable	HB or better	UL 94	UL
Enclosure (Rear Cover)	LOTTE	VE-0819F, NE-1030(+), HM-1100(+), HN-3102(+)(f1), GC-1036, GC-1036RE, NH-1027HF	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Alt.	SAMYANG	2(xx)GNH(e), 210NHF(@), 210NHF(@)(co), DM280(+), 3025N1, EM210NHFT, 2D63	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	LG CHEM	LUPOY GN5001RF(T), LUPOY GN-5001RF(T), LUPOY GN1001F, LUPOY ER5151F, LUPOY GN5101F(#), LUPOY ER5001RF(#), LUPOY GN-2101F (m) (f1)	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Alt.	COVESTRO DEUTSCHLAND AG	FR3017 R30+, R3210 TV +, FR3060 EV +	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Alt.	HUIZHOU WOTE	2000	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Alt.	KINGFA SCI	JH960-6300 (##), JH960-7(M) (ccc) (##) (r3), FRHIPS-960, CK-572(M1) (##), CK-680(M1) (##), JH-R0G(e), FG-830(o), JH720-R0G(x), JH960-69(rc)(##)	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Alt.	ORINKO	HIPS-2230(B), HIPS-2330, PC/ABS-5140, PC/ABS-5142, PC/ABS-5143, PC/ABS-5144, PC/ABS-551(X), PC-TH112, PC-TH112(T), ABS-3230(T)	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized

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

Alt.	CHI LIN	FG-02(XX)(+)	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Alt.	UNIC	UR-360+, UN-100+ (a), UN-1200R(50) (a)	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Alt.	QINGDAO HAIER	FR-3007, NH-9012, NH-9018G10	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Alt.	GUO HENG	YOUHE2102, YOUHE26(##), YOUHE26(##)GY, YOUHE(####)(Y), YOUHER26(**)(H)	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Alt.	DONGGUAN ZHISHANG	ZS960	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Alt.	WISTRON ADVANCED MATERIALS	NC(N)(a)	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Alt.	XIAMEN DESU	DSFR519, DSFR519-CN	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Alt.	Chongqing Jinhong Technology Co., LTD	J(xxx)	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Alt.	Qingdao Jinsu	PC/ABS-80201 BK	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized

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Clause	Requirement + Test	Result - Remark	Verdict

Alt.	SICHUAN COREMER	FRPCG10	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Alt.	TPI	H5-R	Min. V-0	Applicable parts of IEC 62368-1, IEC 60695, UL 94, UL 746	UL recognized
Insulation sheet	CHENGDU KANGLONGXIN	KLX FRPC-870B, KLX PC-870B KLX FRPC-1860B, KLX PP BK-10	V-0 or better, 0.4 mm thickness min	Applicable parts of IEC 62368-1, UL94	UL recognized
Alt.	SUZHOU OMAY OPTICAL	SE42B, SE42B-F, SE11	V-0 or better, 0.4 mm thickness min	Applicable parts of IEC 62368-1, UL94	UL recognized
Alt.	Mianyang / Sichuan Longhua	PC-770F, PC-770F-A, PC-770	V-0 or better, 0.4 mm thickness min	Applicable parts of IEC 62368-1, UL94	UL recognized
Alt.	Sichuan Dongfang	DFR700, DFR700F, DFR117ECOC, DFR117ECO, DFR3A(d)	V-0 or better, 0.4 mm thickness min	Applicable parts of IEC 62368-1, UL94	UL recognized
Alt.	JINGMEN GORUN	HF70, HE70	V-0 or better, 0.4 mm thickness min	Applicable parts of IEC 62368-1, UL94	UL recognized
Alt.	NAN YA	FR-4-86(#1), FR-4-TL(#1), UV block FR-4-86(#1)	V-0 or better, 0.4 mm thickness min	Applicable parts of IEC 62368-1, UL94	UL recognized
Alt.	Ningbo Exciport	GZEFR99A	V-0 or better, 0.4 mm thickness min	Applicable parts of IEC 62368-1, UL94	UL recognized
Alt.	Interchangeable	Interchangeable	V-1 or better, 0.4 mm thickness min	Applicable parts of IEC 62368-1, UL94	UL recognized
The following list per client request.					
Mains cord set (Europe) (Optional)					

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Clause	Requirement + Test	Result - Remark	Verdict

Plug: Connector: Cord:	I-SHENG	SP-021A, SP-021H IS-033, IS-033C, IS-033F, IS-033L, IS-033LA, IS-033LS, IS-037, IS-037L, H03VVH2-F	2.5 A / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	EN 50075 IEC 60320-1 IEC 60227	VDE, KEMA
Plug: Connector: Cord:	Longwell	LP-21 LS-7, LS-7L H03VVH2-F	2.5 A / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	EN 50075 IEC 60320-1 IEC 60227	VDE, KEMA, S
Plug: Connector: Cord:	Fund Resources	CE-503J CE-602J, CE-602R H03VVH2-F	2.5 A / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	EN 50075 IEC 60320-1 IEC 60227	VDE
Plug: Connector: Cord:	HONGLIN	HL-024, HL-024L HL-028, HL-028B, HL-028LS, HL-028S, HL-028Z H03VVH2-F	2.5 A / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	EN 50075 IEC 60320-1 IEC 60227	VDE, KEMA
Plug: Connector: Cord:	Hong Chang	DTIII-2P-03, DTIII-2P-03L DTIII-2P-01, DTIII-2P-01A, DTIII-2P-01C, DTIII-2P-01L H03VVH2-F	2.5 A / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	EN 50075 EN 60320-1 IEC 60227	VDE, ENEC
Plug: Connector: Cord:	YUTONG	YT-05 YT-26, YT-06 H03VVH2-F	2.5 A / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	EN 50075 EN 60320-1 IEC 60227	VDE, ENEC
Plug: Connector: Cord:	Interchangeable	Interchangeable	2.5 A / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	EN 50075 IEC 60320-1 IEC 60227	VDE, KEMA, ENEC
Mains cord set (UK) (Optional)					

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Clause	Requirement + Test	Result - Remark	Verdict

Plug: Connector: Cord:	I-SHENG	SP-62, SP-65 IS-033, IS-033C, IS-033F, IS-033L, IS-033LS, IS-033LA, IS-037, IS-037L H03VVH2-F	13A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	BS 1363-1: 2016+A1:2018 EN 60320-1: 2015 IEC 60227-1: 2017	VDE, KEMA, S
Plug: Connector: Cord:	Longwell	LP-61L LS-7, LS-7L H03VVH2-F	13A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	BS 1363-1: 2016+A1:2018 EN 60320-1: 2015 IEC 60227-1: 2017	ASTA, PSB, VDE, KEMA, S, CEBEC
Plug: Connector: Cord:	Fund Resources	BS-01J CE-602J, CE-602R, H03VVH2-F	13A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	BS 1363-1: 2016+A1:2018 EN 60320-1: 2015 IEC 60227-1: 2017	ASTA, VDE
Plug: Connector: Cord:	LEONI	CW3202, 360 CW4771 H03VVH2-F	13A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	BS 1363-1: 2016+A1:2018 EN 60320-1: 2015 IEC 60227-1: 2017	ASTA, KEMA
Plug: Connector: Cord:	HONGLIN	HL-044, HL-044S HL-028, HL-028B, HL-028LS, HL-028S, HL-028Z, H03VVH2-F	13A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	BS 1363-1: 2016+A1:2018 EN 60320-1: 2015 IEC 60227-1: 2017	BSI, VDE, TUV
Plug: Connector: Cord:	Hong Chang	DTII-3P-14 DTIII-2P-01, DTIII-2P-01A, DTIII-2P-01C, DTIII-2P-01L H03VVH2-F	13A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	BS 1363-1: 2016+A1:2018 EN 60320-1: 2015 IEC 60227-1: 2017	BSI, PSB, VDE

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Clause	Requirement + Test	Result - Remark	Verdict

Plug: Connector: Cord:	YUTONG	YT-19 YT-26, YT-06 H03VVH2-F	13A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	BS 1363-1: 2016+A1:2018 EN 60320-1: 2015 IEC 60227-1: 2017	BSI, PSB, VDE
Plug: Connector: Cord:	Interchangeable	Interchangeable	13A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	BS 1363-1: 2016+A1:2018 EN 60320-1: 2015 IEC 60227-1: 2017	ASTA, PSB, VDE, BSI, KEMA, TUV, CEBEC, S
Mains cord set (Argentina) (Optional)					
Plug: Connector: Cord:	I-SHENG	SP-851 IS-033, IS-033C, IS-033F, IS-033L, IS-033LS, IS-033LA, IS-037, IS-037L H03VVH2-F	10 A max./ 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	IRAM 2063: 1982, IEC 60320-1 IEC 60227-1	IRAM
Plug: Connector: Cord:	Longwell	LP-16 LS-7, LS-7L H03VVH2-F	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	IRAM 2063: 1982, IEC 60320-1 IEC 60227-1	IRAM
Plug: Connector: Cord:	Fund Resources	CS-016J CE-602J, CE-602R H03VVH2-F	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	IRAM 2063: 2003, IEC 60320-1 IEC 60227-1	Intertek, VDE
Plug: Connector: Cord:	GK&B	03A0053 C7G H03VVH2-F	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	IRAM 2063: 2003, IEC 60320-1 IEC 60227-1	IRAM
Plug: Connector: Cord:	CHECIKA	9210, 9510 C7 247 NM 52, 247 NM 53	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	IRAM 2063: 2009 IEC 60320-1 IEC 60227-1	IRAM
Plug: Connector: Cord:	HONGLIN	HL-075 HL-028 HL-028S H03VVH2-F	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	IRAM 2063: 2003, IEC 60320-1 IEC 60227-1	IRAM

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Clause	Requirement + Test	Result - Remark	Verdict

Plug: Connector: Cord:	Interchangeable	Interchangeable	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	IRAM 2063: 2003, IEC 60320-1 IEC 60227-1	IRAM, Intertek, VDE
Mains cord set (Brazil) (Optional)					
Plug: Connector: Cord:	I-SHENG	SP-021A, SP-021K, SP-021H IS-033, IS-033C, IS-033F, IS-033L, IS-033LS, IS-033LA, IS-037, IS-037L H03VVH2-F	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	NBR NM 60884-1/2004 EN 60320-1 IEC 60227	UCIEE
Plug: Connector: Cord:	Longwell	LP-18 LS-8, LS-7, LS-7L H03VVH2-F	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	NBR NM 60884-1/2004 EN 60320-1 IEC 60227	UCIEE
Plug: Connector: Cord:	Fund Resources	BR-505J CE-602J, CE-602R H03VVH2-F	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	NBR NM 60884-1/2004 EN 60320-1 IEC 60227	TUV
Plug: Connector: Cord:	GK&B	2P, 2P+T C7G H03VVH2-F	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	NBR NM 60884-1/2004 EN 60320-1 IEC 60227	BVQI
Plug: Connector: Cord:	HONGLIN	HL-046 HL-028, HL-028B, HL-028LS, HL-028S, HL-028Z H03VVH2-F	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	IEC 60884-1: 2002 EN 60320-1 IEC 60227	TUV
Plug: Connector: Cord:	HONGCHANG	DTIII-2P-09 DTIII-2P-01, DTIII-2P-01A, DTIII-2P-01C, DTIII-2P-01L H03VVH2-F	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	NBR NM 60884-1/2004 EN 60320-1, IEC 60227	UCIEE

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Clause	Requirement + Test	Result - Remark	Verdict

Plug: Connector: Cord:	Interchangeable	Interchangeable	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	NBR NM 60884-1/2004 EN 60320-1, IEC 60227	UCIEE, BVQI,TUV
Mains cord set (Peru) (Optional)					
Plug: Connector: Cord:	Fund Resources	SP-020 CE-602J, CE-602R H03VVH2-F	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	NBR NM 60884-1/2004 EN 60320-1 IEC 60227	TUV
Plug: Connector: Cord:	HONGCHANG	DTI-2P-L DTIII-2P-01, DTIII-2P-01A, DTIII-2P-01C, DTIII-2P-01L H03VVH2-F	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	NBR NM 60884-1/2004 EN 60320-1 IEC 60227	VDE
Plug: Connector: Cord:	Interchangeable	Interchangeable	10 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	NBR NM 60884-1/2004 EN 60320-1, IEC 60227	UCIEE, BVQI,TUV, VDE
Mains cord set (Australia / New Zealand) (Optional)					
Plug: Connector: Cord:	I-SHENG	SP-501D, SP-501A IS-033, IS-033C, IS-033F, IS-033L, IS-033LA, IS-033LS, IS-037, IS-037L H03VVH2-F	7.5 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	AS/NZS 3112:2011 A1 AS/NZS 60320.1:2012 AS/NZS 60227.5: 2003 A1	Queensland Government
Plug: Connector: Cord:	Longwell	LP-15A LS-7, LS-7L LFC-2F	7.5 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	AS/NZS 3112:2011 A1 AS/NZS 60320.1: 2004 AS/NZS 3191: 2008	Fair Trading Certificate
Plug: Connector: Cord:	Fund Resources	SP-501J, SP-503 CE-601J, CE-602J, CE-602R H03VVH2-F	7.5 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	AS/NZS 3112:2004 A1 AS/NZS 60320.1:2004	SAA, Fair Trading Certificate

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Clause	Requirement + Test	Result - Remark	Verdict

Plug: Connector: Cord:	Honglin	HL-055L HL-028, HL-028B, HL-028S H03VVH2-F	7.5 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	AS/NZS 3112:2004 A1 AS/NZS 60320.1:2004	SAA, Fair Trading Certificate
Plug: Connector: Cord:	Interchangeable	Interchangeable	7.5 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	AS/NZS 3112: 2004 A1 AS/NZS 60320.1: 2004	Queensland Government, SAA, Fair Trading Certificate
Mains cord set (Saudi Arabia) (Optional)					
Plug: Connector: Cord:	I-SHENG	SP-62, SP-65 IS-033, IS-033C, IS-033F, IS-033L, IS-033LA, IS-033LS, IS-037, IS-037L H03VVH2-F	13 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	SASO 2203 EN 60320-1 IEC 60227	Intertek
Plug: Connector: Cord:	Longwell	LP-61L, LS-7, LS-7L H03VVH2-F	13 A max. / 250V 2.5 A / 250 V 2 x min. 0.5 mm^2	SASO 2203 EN 60320-1 IEC 60227	Intertek
Plug: Connector: Cord:	Fund Resources	BS-01J CE-602J, CE-602R H03VVH2-F	13 A max. / 250V, 2.5 A / 250 V 2 x min. 0.5 mm^2	SASO 2203 EN 60320-1 IEC 60227	Intertek
Plug: Connector: Cord:	Interchangeable	Interchangeable	13 A max. / 250V, 2.5 A / 250 V 2 x min. 0.5 mm^2	SASO 2203 EN 60320-1 IEC 60227	Intertek
Mains cord set (Thailand) (Optional)					
Plug: Connector: Cord:	I-SHENG	SP-021G, SP-021G3, SP-021P3 IS-033, IS-033C, IS-033F, IS-033L, IS-033LA, IS-033LS, IS-037, IS-037L H03VVH2-F	2.5 A / 250 V 2.5 A / 250 V 2 x min. 0.75 mm^2	EN 50075 IEC 60320-1 IEC 60227	TISI

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Clause	Requirement + Test	Result - Remark		Verdict

Plug: Connector: Cord:	Honglin	HL-059-3, HL-077-3 HL-028, HL-028B, HL-028S H03VVH2-F	2.5 A / 250 V 2.5 A / 250 V 2 x min. 0.75 mm^2	EN 50075 IEC 60320-1 IEC 60227	TISI
Plug: Connector: Cord:	THAI WONDERFUL	WP209-2.5, WP209-6 WTP-007 H03VVH2-F	2.5 A / 250 V 2.5 A / 250 V 2 x min. 0.75 mm^2	EN 50075 IEC 60320-1 IEC 60227	TISI
Plug: Connector: Cord:	Interchangeable	Interchangeable	2.5 A / 250 V 2.5 A / 250 V 2 x min. 0.75 mm^2	EN 50075 IEC 60320-1 IEC 60227	TISI
Mains cord set (Africa) (Optional)					
Plug: Connector: Cord:	I-SHENG	SP-80A, SP-80B IS-033, IS-033C, IS-033F, IS-033L, IS-033LA, IS-033LS, IS-037, IS-037L H03VVH2-F	16 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	SANS 164-1 IEC 60320-1 IEC 60227, SANS 60227-5	SABS
Plug: Connector: Cord:	I-SHENG	SP-81A, SP-81B IS-033, IS-033C, IS-033F, IS-033L, IS-033LA, IS-033LS, IS-037, IS-037L H03VVH2-F	6 A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	SANS 164-3 IEC 60320-1 IEC 60227, SANS 60227-5	SABS
Plug: Connector: Cord:	HONGLIN	HL-035 HL-028, HL-028L, HL-028B, HL-028LS, HL-028S, HL-028Z H03VVH2-F	16A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	SANS 164-1 IEC 60320-1 IEC 60227, SANS 60227-5	SABS

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Clause	Requirement + Test	Result - Remark	Verdict

Plug: Connector: Cord:	Interchangeable	Interchangeable	6A or 16A max. / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	SANS 164-3 or SANS 164-1 IEC 60320-1 IEC 60227, SANS 60227-5	SABS
Mains cord set (India) (Optional)					
Plug: Connector: Cord:	I-SHENG	SP-021Q, SP-021 IS-033, IS-033C, IS-033F, IS-033L, IS-033LA, IS-033LS, IS-037, IS-037L H03VVH2-F, H03Z1Z1H2-F	2.5A or 6A or 16 A / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	ACT,1986(63 of 1986) IS 1293: 2005, IEC 60320-1 IS 694: 1990	BIS, VDE
Plug: Connector: Cord:	HONGLIN	HL-073, HL-067 HL-028, HL-028L, HL-028B, HL-028LS, HL-028S, HL-028Z H03VVH2-F, H03Z1Z1H2-F	2.5A or 6A or 16 A / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	ACT,1986(63 of 1986) IS 1293: 2005, IEC 60320-1 IS 694: 1990	BIS, ENEC
Plug: Connector: Cord:	Fund Resources	IN-201 CE-602J H03VVH2-F, H03Z1Z1H2-F	2.5A or 6A or 16 A / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	ACT,1986(63 of 1986) IS 1293: 2005, IEC 60320-1 IS 694: 1990	BIS, ENEC
Plug: Connector: Cord:	Yutong	YT-22 YT-06 H03VVH2-F, H03Z1Z1H2-F	2.5A or 6A or 16 A / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	ACT,1986(63 of 1986) IS 1293: 2005, IEC 60320-1 IS 694: 1990	BIS, ENEC
Plug: Connector: Cord:	Interchangeable	Interchangeable	2.5A or 6A or 16 A / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	ACT,1986(63 of 1986) IS 1293: 2005, IEC 60320-1 IS 694: 1990	BIS, VDE, ENEC
Mains cord set (Korea) (Optional)					

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Clause	Requirement + Test	Result - Remark	Verdict

Plug: Connector: Cord:	HONGLIN	HL-012 HL-028K H03VV-F, H03VVH2-F	2.5 A / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	KC60799, KC60884-1 KSC8305, KC60320-1 K60227-5, IEC 60227-5:2003	KTL
Plug: Connector: Cord:	Interchangeable	Interchangeable	2.5 A / 250 V 2.5 A / 250 V 2 x min. 0.5 mm^2	KC60799, KC60884-1 KSC8305, KC60320-1 K60227-5, IEC 60227-5:2003	KTL

Supplementary information:

1. [1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.
2. An approved power supply cord set which complies with relevant national requirements, will be provided by the mfr. when marketing in the specified countries.
3. All component standards refer to the certificates, the component is valid only if the certificate is valid.

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Customer's Testing Facility according to CTF stage 1 or CTF stage 2 procedure has been used.
Note: This page may be removed when CTF stage 1 or CTF stage 2 are not used. See also clause 4.8 in OD 2020 for more details.

Clause	Measurement / testing	Testing / measuring equipment / material used, (Equipment ID)	Range used	Last Calibration date	Calibration due date

Statement of Measurement Uncertainty

The Test Report shall include a statement concerning the uncertainty of the measurement systems used for the tests conducted when it is required by the standard, client or other authorities.
In such cases, the table below is to be used for reporting U of M.

This page may be removed from the final Test Report when not required. See also clause 4.8 in OD 2020 for more details.

Clause #	Parameter/ Measurement / test method	Requirement % or k	Calculated U of M*

*Note: Calculations leading to the reported value are on file with the NCB

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Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT
IEC 62368-1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES
(Audio/video, information and communication technology equipment - Part 1: Safety requirements)

Differences according to .....: EN IEC 62368-1:2020+A11:2020

Attachment Form No. .....: EU_GD_IEC62368_1E

Attachment Originator.....: UL(Demko)

Master Attachment .....: 2021-02-04

	CENELEC COMMON MODIFICATIONS (EN)		P
	Clause numbers in the cells that are shaded light grey are clause references in EN IEC 62368-1:2020+A11:2020. All other clause numbers in that column, except for those in the paragraph below, refers to IEC 62368-1:2018. Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2018 are prefixed "Z".		P
	Add the following annexes: Annex ZA (normative) publications — Normative references to international with their corresponding European publications Annex ZB (normative) — Special national conditions Annex ZC (informative) — A-deviations Annex ZD (informative) — IEC and CENELEC code designations for flexible cords		P
1	**Modification to Clause 3 .**		
3.3.19	**Sound exposure** *Replace 3.3.19 of IEC 62368-1 with the following definitions:*		N/A
3.3.19.1	**momentary exposure level, MEL** metric for estimating 1 s sound exposure level from the HD 483-1 S2 test signal applied to both channels, based on EN 50332-1:2013, 4.2. Note 1 to entry: MEL is measured as A-weighted levels in dB. Note 2 to entry: See B.3 of EN 50332-3:2017 for additional information.		N/A
3.3.19.3	**sound exposure, *E*** A-weighted sound pressure (p) squared and integrated over a stated period of time, T Note 1 to entry: The SI unit is Pa^2 s.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	$E = \int_0^T p(t)^2 \, dt$		
3.3.19.4	**sound exposure level, *SEL*** logarithmic measure of sound exposure relative to a reference value, E_0, typically the 1 kHz threshold of hearing in humans. Note 1 to entry: *SEL* is measured as A-weighted levels in dB. $SEL = 10 \lg\left(\frac{E}{E_0}\right)$ dB Note 2 to entry: See B.4 of EN 50332-3:2017 for additional information.		N/A
3.3.19.5	**digital signal level relative to full scale, dBFS** levels reported in dBFS are always r.m.s. Full scale level, 0 dBFS, is the level of a dc-free 997-Hz sine wave whose undithered positive peak value is positive digital full scale, leaving the code corresponding to negative digital full scale unused Note 1 to entry: It is invalid to use dBFS for non-r.m.s. levels. Because the definition of full scale is based on a sine wave, the level of signals with a crest factor lower than that of a sine wave may exceed 0 dBFS. In particular, square wave signals may reach +3,01 dBFS.		N/A
2	**Modification to Clause 10**		
10.6	**Safeguards against acoustic energy sources** Replace 10.6 of IEC 62368-1 with the following:		N/A
10.6.1.1	**Introduction** **Safeguard** requirements for protection against long-term exposure to excessive sound pressure levels from personal music players closely coupled to the ear are specified below. Requirements for earphones and headphones intended for use with personal music players are also covered. A personal music player is a portable equipment intended for use by an **ordinary person**, that: – is designed to allow the user to listen to audio		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
	amplifier that does not allow the user to walk around while in use. For equipment that is clearly designed or intended primarily for use by children, the limits of the relevant toy standards may apply. The relevant requirements are given in EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.		
10.6.1.2	**Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz** The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body mounted devices, attention is drawn to EN 50360 and EN 50566.		N/A
10.6.2	**Classification of devices without the capacity to estimate sound dose**		N/A
10.6.2.1	**General** This standard is transitioning from short-term based (30 s) requirements to long-term based (40 hour) requirements. These clauses remain in effect only for devices that do not comply with sound dose estimation as stipulated in EN 50332-3. For classifying the acoustic output $L_{Aeq,T}$, measurements are based on the A-weighted equivalent sound pressure level over a 30 s period. For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, measurements may be done over the duration of the complete song. In this case, T becomes the duration of the song. NOTE Classical music, acoustic music and broadcast typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the content and		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song does not exceed the required limit. For example, if the player is set with the programme simulation noise to 85 dB, but the average music level of the song is only 65 dB, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dB.		
10.6.2.2	**RS1 limits (to be superseded, see 10.6.3.2)** RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 85 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 27 mV (analogue interface) or -25 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1. – The RS1 limits will be updated for all devices as per 10.6.3.2.		N/A
10.6.2.3	**RS2 limits (to be superseded, see 10.6.3.3)** RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or when the combination of player and listening device is known by other means such as setting or automatic 130 detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 100 dB(A) when playing the fixed "programme simulation noise" as described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 150 mV (analogue interface) or -10 dBFS (digital interface) when playing the fixed "programme simulation noise" as described in EN 50332-1.		N/A
10.6.2.4	**RS3 limits**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	RS3 is a class 3 acoustic energy source that exceeds RS2 limits.		
10.6.3	**Classification of devices (new)**		N/A
10.6.3.1	**General** Previous limits (10.6.2) created abundant false negative and false positive PMP sound level warnings. New limits, compliant with The Commission Decision of 23 June 2009, are given below.		N/A
10.6.3.2	**RS1 limits (new)** RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1.		N/A
10.6.3.3	**RS2 limits (new)** RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the weekly sound exposure level, as described in EN 50332-3, shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output level, integrated over one week, as described in EN50332-3, shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed "programme simulation noise"		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	described in EN 50332-1.		
10.6.4	**Requirements for maximum sound exposure**		N/A
10.6.4.1	**Measurement methods** All volume controls shall be turned to maximum during tests. Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.		N/A
10.6.4.2	**Protection of persons** Except as given below, protection requirements for parts **accessible** to **ordinary persons**, **instructed persons** and **skilled persons** are given in 4.3. NOTE 1 Volume control is not considered a **safeguard.** Between RS2 and an **ordinary person**, the **basic safeguard** may be replaced by an **instructional safeguard** in accordance with Clause F.5, except that the **instructional safeguard** shall be placed on the equipment, or on the packaging, or in the instruction manual. Alternatively, the **instructional safeguard** may be given through the equipment display during use. The elements of the **instructional safeguard** shall be as follows: – element 1a: the symbol  , IEC 60417-6044 (2011-01) – element 2: “High sound pressure” or equivalent wording – element 3: “Hearing damage risk” or equivalent wording – element 4: “Do not listen at high volume levels for long periods.” or equivalent wording An **equipment safeguard** shall prevent exposure of an **ordinary person** to an RS2 source without intentional physical action from the **ordinary person** and shall automatically return to an output level not exceeding what is specified for an RS1 source when the power is switched off. The equipment shall provide a means to actively inform the user of the increased sound level when		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	the equipment is operated with an output exceeding RS1. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an output exceeding RS1. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time. NOTE 2 Examples of means include visual or audible signals. Action from the user is always needed. NOTE 3 The 20 h listening time is the accumulative listening time, independent of how often and how long the personal music player has been switched off. A **skilled person** shall not be unintentionally exposed to RS3.		
10.6.5	**Requirements for dose-based systems**		N/A
10.6.5.1	**General requirements** Personal music players shall give the warnings as provided below when tested according to EN 50332-3, using the limits from this clause. The manufacturer may offer optional settings to allow the users to modify when and how they wish to receive the notifications and warnings to promote a better user experience without defeating the safeguards. This allows the users to be informed in a method that best meets their physical capabilities and device usage needs. If such optional settings are offered, an administrator (for example, parental restrictions, business/educational administrators, etc.) shall be able to lock any optional settings into a specific configuration. The personal music player shall be supplied with easy to understand explanation to the user of the dose management system, the risks involved, and how to use the system safely. The user shall be made aware that other sources may significantly contribute to their sound exposure, for example work, transportation, concerts, clubs, cinema, car races, etc.		N/A
10.6.5.2	**Dose-based warning and requirements** When a dose of 100 % *CSD* is reached, and at least at every 100 % further increase of *CSD*, the device shall warn the user and require an acknowledgement. In case the user does not acknowledge, the output level shall automatically		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	decrease to compliance with class RS1. The warning shall at least clearly indicate that listening above 100 % *CSD* leads to the risk of hearing damage or loss.		
10.6.5.3	**Exposure-based requirements** With only dose-based requirements, cause and effect could be far separated in time, defying the purpose of educating users about safe listening practice. In addition to dose-based requirements, a PMP shall therefore also put a limit to the short-term sound level a user can listen at. The exposure-based limiter (EL) shall automatically reduce the sound level not to exceed 100 dB(A) or 150 mV integrated over the past 180 s, based on methodology defined in EN 50332-3. The EL settling time (time from starting level reduction to reaching target output) shall be 10 s or faster. Test of EL functionality is conducted according to EN 50332-3, using the limits from this clause. For equipment provided as a package (player with its listening device), the level integrated over 180 s shall be 100 dB or lower. For equipment provided with a standardized connector, the unweighted level integrated over 180 s shall be no more than 150 mV for an analogue interface and no more than -10 dBFS for a digital interface. NOTE In case the source is known not to be music (or test signal), the EL may be disabled.		N/A
10.6.6	**Requirements for listening devices (headphones, earphones, etc.)**		N/A
10.6.6.1	**Corded listening devices with analogue input** With 94 dB L_{Aeq} acoustic pressure output of the listening device, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the input voltage of the listening device when playing the fixed “programme simulation noise” as described in EN 50332-1 shall be ≥ 75 mV. NOTE The values of 94 dB and 75 mV correspond with 85 dB and 27 mV or 100 dB and 150 mV.		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict

	Delete all the "country" notes in the reference document according to the following list:		P
4	**Modification to Clause 1**		
1	***Add*** *the following note:* *NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.*	Added.	P
5	**Modification to 4.Z1**		

0.2.1	Note 1 and 2	1	Note 4 and 5	3.3.8.1	Note 2
3.3.8.3	Note 1	4.1.15	Note	4.7.3	Note 1 and 2
5.2.2.2	Note	5.4.2.3.2.2 Table 12	Note c	5.4.2.3.2.4	Note 1 and 3
5.4.2.3.2.4 Table 13	Note 2	5.4.2.5	Note 2	5.4.5.1	Note
5.4.10.2.1	Note	5.4.10.2.2	Note	5.4.10.2.3	Note
5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3 and 4
5.6.8	Note 2	5.7.6	Note	5.7.7.1	Note 1 and Note 2
8.5.4.2.3	Note	10.2.1 Table 39	Note 3 and 4 and 5	10.5.3	Note 2
~~10.6.1~~	Note 3	F.3.3.6	Note 3	Y.4.1	Note
Y.4.5	Note				

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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.	Added.	P
6	**Modification to 5.4.2.3.2.4**		
5.4.2.3.2.4	***Add*** *the following to the end of this subclause:* The requirement for interconnection with **external circuit** is in addition given in EN 50491-3:2009.	Added.	N/A
7	**Modification to 10.2.1**		
10.2.1	Add the following to [c] and [d] in table 39: For additional requirements, see 10.5.1.	Added.	N/A
8	**Modification to 10.5.1**		

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Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	***Add*** *the following after the first paragraph:* For RS 1 compliance is checked by measurement under the following conditions: In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or pre-sets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made. NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus. Moreover, the measurement shall be made under fault conditions causing an increase of the high voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made. For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level. NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.	Added.	N/A
9	**Modification to G.7.1**		P
G.7.1	***Add*** *the following note:* NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.	Added.	P
10	**Modification to Bibliography**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		N/A
11	**ADDITION OF ANNEXES**		
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		P
4.1.15	**Denmark, Finland, Norway** and **Sweden** To the end of the subclause the following is added: **Class I pluggable equipment type A** intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and **accessible** parts, have a marking stating that the equipment shall be connected to an earthed **mains** socket-outlet. The marking text in the applicable countries shall be as follows: In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.” In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”	Class II equipment.	N/A
4.7.3	**United Kingdom**	Approved power supply cord provided.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	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		
5.2.2.2	**Denmark** After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.	No high touch current.	N/A
5.4.11.1 and Annex G	**Finland and Sweden** To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and	No TNV circuits.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	• is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		
5.5.2.1	**Norway** After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Considered.	P
5.5.6	**Finland, Norway** and **Sweden** To the end of the subclause the following is added: Resistors used as **basic safeguard** or bridging **basic insulation** in **class I pluggable equipment type A** shall comply with G.10.1 and the test of G.10.2.		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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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.		
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
5.6.4.2.1	**France** After the indent for **pluggable equipment type A**, the following is added: – in certain cases, the **protective current rating** of the circuit supplied from the mains is taken as 20 A instead of 16 A.		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
5.6.8	**Norway** To the end of the subclause the following is added: Equipment connected with an earthed mains plug is classified as **class I equipment**. See the Norway marking requirement in 4.1.15. The symbol IEC 60417-6092, as specified in F.3.6.2, is accepted.		N/A
5.7.6	**Denmark** To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the **protective conductor current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.7.6.2	**Denmark** To the end of the subclause the following is added: The warning (marking safeguard) for high touch		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
	apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet." Translation to Swedish: "Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.".		
8.5.4.2.3	**United Kingdom** Add the following after the 2nd dash bullet in 3rd paragraph: An emergency stop system complying with the requirements of IEC 60204-1 and ISO 13850 is required where there is a risk of personal injury.		N/A
B.3.1 and B.4	**Ireland and United Kingdom** The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met		N/A
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.		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a polyphase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a *Justification:* Heavy Current Regulations, Section 6c		
G.4.2	**United Kingdom** To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	**United Kingdom** To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc. (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	Approved power supply cord provided.	P
G.7.1	**Ireland** To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		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_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		N/A
10.5.2	**Germany** The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. *Justification*: German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. **NOTE** Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int+49-531-592-6320, Internet: http://www.ptb.de		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

ZD	**IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS (EN)**	P

Type of flexible cord	Code designations	
	IEC	CENELEC
PVC insulated cords		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60227 IEC 53	H05VV-F H05VVH2-F
Rubber insulated cords		
Braided cord	60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
Cords having high flexibility		
Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H
Cords insulated and sheathed with halogen-free thermoplastic compounds		
Light halogen-free thermoplastic insulated and sheathed flexible cords		H03Z1Z1-F H03Z1Z1H2-F
Ordinary halogen-free thermoplastic insulated and sheathed flexible cords		H05Z1Z1-F H05Z1Z1H2-F

Product: LED TV Set

Type Designation: 1) 55PU*81*0/****; 2) 55PU*82*0/**** (* can be 0-9, A-Z, a-z, “+”, “-”, “/”, “\” or blank for marketing purpose.)

Figure 1. External view of model 55PU*81*0/****

Figure 2. External view of model 55PU*81*0/****

Product: LED TV Set

Type Designation: 1) 55PU*81*0/****; 2) 55PU*82*0/**** (* can be 0-9, A-Z, a-z, “+”, “-”, “/”, “\” or blank for marketing purpose.)

Figure 3. External view of model 55PU*82*0/****

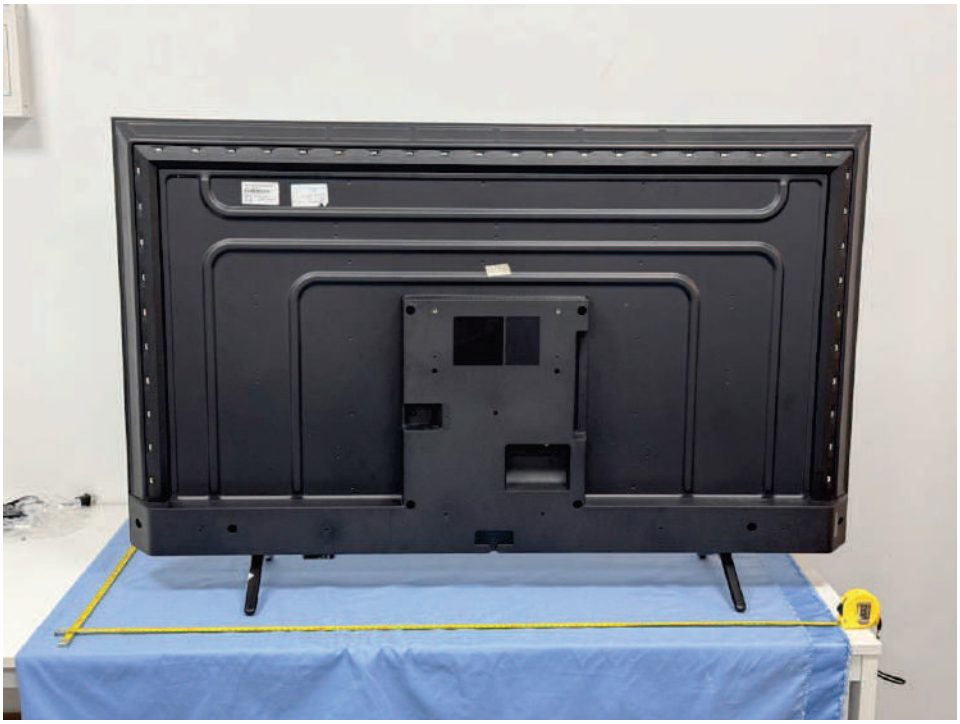

Figure 4. External view of model 55PU*82*0/****

Product: LED TV Set

Type Designation: 1) 55PU*81*0/****; 2) 55PU*82*0/**** (* can be 0-9, A-Z, a-z, “+”, “-”, “/”, “\” or blank for marketing purpose.)

Figure 5. Internal view