Shenzhen Global Test Service Co., Ltd.
No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road,
Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong

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

Report Number.....:	GTS20250610019-1-01
Date of issue.....:	2025-07-30
Total number of pages.....:	87 pages
Testing Laboratory..... .....:	**Shenzhen Global Test Service Co., Ltd.**
Address.....:	No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong
Tested by (name + signature).....:	Cecilia Wan
Reviwed by (printed name + signature)..... :	Sky Shi
Approved by (printed name + signature)..... :	Jason Hu
Applicant's name.....:	**Audio Effetti S.r.l.**
Address.....:	Via A. Manuzio, 57A, 16143 Genova (GE) Italy.
Test specification:	
Standard..... :	IEC 62368-1:2018
Test procedure.....:	LVD
Non-standard test method.....:	N/A
Test Report Form No.....:	IEC62368_1E
Test Report Form(s) Originator.....:	UL(US)
Master TRF.....:	Dated 2022-04-14
Test item description.....:	LED Display
Trade Mark.....:	audio/effetti® ego® DISPLAY
Manufacturer.....:	Same as applicant
Model/Type reference.....:	EasyHP P1.2,EasyHP P1.5 ,EasyHP P1.8 ,EasyHP P2 EasyHP P2.5
Ratings.....:	Input: 200-240VAC, 50/60Hz, 3.0A (Max.)

List of Attachments (including a total number of pages in each attachment): Attachment 1: National differences Attachment 2: Photo document	
Summary of testing: **The product covered by this report has been tested and complies with the applicable requirements of this standard.**	
Tests performed (name of test and test clause): Refer to content of this test report	**Testing location:** Shenzhen Global Test Service Co., Ltd. No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong
Summary of compliance with National Differences (List of countries addressed): **Group and National differences of all CENELEC members have been considered.** ☒ **The product fulfils the requirements of IEC 62368-1:2018 and EN IEC 62368-1:2020+A11:2020.**	

Copy of marking plate:

The artwork below may be only a draft.

Made in China

Note:

The above marking is the minimum requirements required by the safety standard. For the final production sample, the marking which do not give rise to misunderstanding may be added.

The full name and full address of EU importer and manufacturer shall be marked. The height of CE mark shall be at least 5 mm. The height of WEEE symbol shall be at least 7 mm.

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: should be evaluated in end system
Considered current rating of protective device..... :	☒ 16 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 ☐ m
Altitude of test laboratory (m) ..... :	☒ 2000 m or less ☐ m
Mass of equipment (kg) ..... :	☒ Approx. 6.85kg

Possible test case verdicts:	
- test case does not apply to the test object.... :	N/A
- test object does meet the requirement..... :	P (Pass)
- test object does not meet the requirement.... :	F (Fail)
Testing:	
Date of receipt of test item..... :	2023-02-06
Date (s) of performance of tests.....:	From 2023-02-06 to 2023-02-23
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.** **The related applicable CTL decisions have been considered and the requirements found fulfilled.** **Determination of the test results includes consideration of measurement uncertainty from the test equipment and methods.**	
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 for factory(ies)……..:	Guangdong Unilumin Energy Resource Co. Ltd No.3 Longsheng 5th Rd, Daya Bay Western District, Huiyang District 516200

General product information and other remarks:

1. The equipment is class I LED Display which is intended to use for audio/video, information and communication technology equipment.
2. The EUT including below parts:

   - The equipment consists of 1pcs building-in type approved Switching Power Supply, 1pcs HUB board and 6pcs LED modules (with LED HUB board) housed with metal and plastic enclosure, all electrical components mounted on PCB;

   - AC output connector will be used for connecting to another LED Display and power for it;

   - Front fire enclosure rated V-0 and rear metal enclosure were considered as fire enclosure;

   - The opening on the side is reserved for installation.
3. The maximum operating temperature is 45°C.
4. Engineering Conditions of Acceptability:

When installed in an end-product, consideration must be given to the following:

- The following product-line tests are conducted for this product: Earthing Continuity, Electric Strength.
- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary – Earthed Dead Metal: 240 Vrms/ 420 Vpk, Primary-Secondary: 240 Vrms/ 420 Vpk.
- The following output circuits are at ES1 energy levels: All output terminal of SWITCHING POWER SUPPLY.
- The following output circuits are at ES3 energy levels: AC out connector.
- The following output circuits are at PS1 energy levels: Signal port.
- The following output circuits are at PS3 energy levels: All circuits inside equipment (except signal port), AC output connector.
- The maximum investigated branch circuit rating is: 16A or 20 A.
- The investigated Pollution Degree is: 2.
- Proper bonding to the end-product main protective earthing termination is: required.
- An investigation of the protective bonding terminals has: been conducted.
- The following end-product enclosures are required: fire.
- The equipment is suitable for direct connection to: AC mains supply.
- These units are intended to be fastened in place before servicing, the mounting means shall be considered during end system evaluation.
- Additional consideration should be given to front fire enclosure in final system.
- Interconnection of AC mains power supply between different units were not investigated as part of this report and should be considered in end system.

Remark:

The report was issued basing on previous GTS report with report no GTS20221205011-1-1. dated on February 23, 2023 and due to amendments as following:

- Changed the information of applicant and manufacturer from “Name: Unilumin Group Co.,Ltd.; Address: Yongfu Rd #112,Qiaotou Village,Fuyong Street,Baoan District,Shenzhen,China.” to “Name: Audio Effetti S.r.l.; Address: Via A. Manuzio, 57A, 16143 Genova (GE) Italy.”;
- Changed the Model/Type reference from “TB0.86, TB0.91, TB1, TB1.25, TB1.379, TB1.38, TB1.538, TB1.667, TB1.839, TB1.84, TB1.86, TB1.875, TB2, TB2.5, TB2.963, TB3, TB3.076, TB3.91, TB4, TB0.86 Pro, TB0.91 Pro, TB1 Pro, TB1.25 Pro, TB1.379 Pro, TB1.38 Pro, TB1.538 Pro, TB1.667 Pro, TB1.839 Pro, TB1.84 Pro, TB1.86 Pro, TB1.875 Pro, TB2 Pro, TB2.5 Pro, TB2.963 Pro, TB3 Pro, TB3.076 Pro, TB3.91 Pro, TB4 Pro, TB0.86E Pro, TB0.91E Pro, TB1E Pro, TB1.25E Pro, TB1.379E Pro, TB1.38E Pro, TB1.538E Pro, TB1.667E Pro, TB1.839E Pro, TB1.84E Pro, TB1.86E Pro, TB1.875E Pro, TB2E Pro, TB2.5E Pro, TB2.963E Pro, TB3E Pro, TB3.076E Pro, TB3.91E Pro, TB4E Pro, TB0.86 Lite, TB0.91 Lite, TB1 Lite, TB1.25 Lite, TB1.379 Lite, TB1.38 Lite, TB1.538 Lite, TB1.667 Lite, TB1.839 Lite, TB1.84 Lite, TB1.86 Lite, TB1.875 Lite, TB2 Lite, TB2.5 Lite, TB2.963 Lite, TB3 Lite, TB3.076 Lite, TB3.91 Lite, TB4 Lite, TB0.86 Plus, TB0.91 Plus, TB1 Plus, TB1.25 Plus, TB1.379 Plus, TB1.38 Plus, TB1.538 Plus, TB1.667 Plus, TB1.839 Plus, TB1.84 Plus, TB1.86 Plus, TB1.875 Plus, TB2 Plus, TB2.5 Plus, TB2.963 Plus, TB3 Plus, TB3.076 Plus, TB3.91 Plus, TB4 Plus, USF0.86, USF0.91, USF1, USF1.25, USF1.379, USF1.38, USF1.538, USF1.667, USF1.839, USF1.84, USF1.86, USF2, USF2.5, USF2.963, USF3, USF3.076, USF3.91, USF4, UDA1.2, UDA1.25, UDA1.3, UDA1.379, UDA1.5, UDA1.538, UDA1.6, UDA1.667, UDA1.8, UDA1.839, UDA2, UDA2.5, UDA3.0, UDA3.076, UDA4, UDA1.2L, UDA1.25L, UDA1.3L, UDA1.379L, UDA1.5L, UDA1.538L, UDA1.6L, UDA1.667L, UDA1.8L, UDA1.839L, UDA2L, UDA2.5L, UDA3.0L, UDA3.076L, UDA4L, UDA1.2 Lite, UDA1.25 Lite, UDA1.3 Lite, UDA1.379 Lite, UDA1.5 Lite, UDA1.538 Lite, UDA1.6 Lite, UDA1.667 Lite, UDA1.8 Lite, UDA1.839 Lite, UDA2 Lite, UDA2.5 Lite, UDA3.0 Lite, UDA3.076 Lite, UDA4 Lite, UDA Ⅱ 1.2, UDA Ⅱ 1.25, UDA Ⅱ 1.3, UDA Ⅱ 1.379, UDA Ⅱ 1.5, UDA Ⅱ 1.538, UDA Ⅱ 1.6,

UDA Ⅱ 1.667, UDA Ⅱ 1.8, UDA Ⅱ 1.839, UDA Ⅱ 2, UDA Ⅱ 2.5, UDA Ⅱ 3.0, UDA Ⅱ 3.076, UDA Ⅱ 4, UDA Ⅱ 1.2 Pro, UDA Ⅱ 1.25 Pro, UDA Ⅱ 1.3 Pro, UDA Ⅱ 1.379 Pro, UDA Ⅱ 1.5 Pro, UDA Ⅱ 1.538 Pro, UDA Ⅱ 1.6 Pro, UDA Ⅱ 1.667 Pro, UDA Ⅱ 1.8 Pro, UDA Ⅱ 1.839 Pro, UDA Ⅱ 2 Pro, UDA Ⅱ 2.5 Pro, UDA Ⅱ 3.0 Pro, UDA Ⅱ 3.076 Pro, UDA Ⅱ 4 Pro, FMX0.9, FMX1.2, FMX1.5, FMX1.8, FHW0.9, FHW1.2, FHW1.5, FHW1.8, FM0.9, FM1.2, FM1.5, FM1.8, FHM0.9, FHM1.2, FHM1.5, FHM1.8, GLW0.9, GLW1.2, GLW1.5, GLW1.8" to "EasyHP P1.2,EasyHP P1.5 ,EasyHP P1.8 ,EasyHP P2 EasyHP P2.5";

- Updated the Copy of marking plate;
- Updated the description of model difference.

Model Differences –

All models are identical to each other except for model name and point spacing of LED.

Unless otherwise specified, all tests were performed on model EasyHP P1.2 which represents all models.

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

N/A

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	**Possible Hazard**			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
ES3: All primary circuits	Ordinary, Instructed, Skilled	See 5.3, 5.4, 5.5	See 5.6	N/A
ES3: All primary circuits	Ordinary, Instructed, Skilled	N/A	N/A	Enclosure
ES1: All secondary circuit after approved Switching Power Supply output	Ordinary, Instructed, Skilled	N/A	N/A	N/A
ES1: Signal port (Ethernet terminal)	Ordinary, Instructed, Skilled	N/A	N/A	N/A
ES1: Metal enclosure	Ordinary, Instructed, Skilled	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	S	R
PS3: All internal circuit except for signal port (Ethernet terminal)	LED Panel	See 6.3	N/A	Shall be evaluated in the end system
PS3: All internal circuit except for signal port (Ethernet terminal)	PCB	See 6.3	V-1 or better	N/A
PS3: All internal circuit except for signal port (Ethernet terminal)	Internal wiring	See 6.3	See 6.5	N/A
PS3: All internal circuit except for signal port (Ethernet terminal)	The other components/ materials	See 6.3	See 6.4.5, 6.4.6	N/A
PS1: Signal port (Ethernet terminal)	Ordinary, Instructed, Skilled	N/A	N/A	N/A
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
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
MS1: Sharp edges and corners	Ordinary, Instructed, Skilled	N/A	N/A	N/A

MS2: Equipment mass (>7kg) (built-in equipment)	Ordinary, Instructed, Skilled	Shall be evaluated in the end system	Shall be evaluated in the end system	Shall be evaluated in the end system
MS3: Wall/ceiling or other structure mount (for equipment)	Ordinary, Instructed, Skilled	Shall be evaluated in the end system	Shall be evaluated in the end system	Shall be evaluated in the end system
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS3: Internal parts/circuits	Ordinary, Instructed, Skilled	N/A	N/A	Enclosure
TS1: Accessible parts	Ordinary, Instructed person, Skilled person	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 – LEDs, LED module	Ordinary, Instructed, Skilled	N/A	N/A	N/A
RS1: LED module	Ordinary, Instructed, Skilled	N/A	N/A	N/A
Supplementary Information: "B" – Basic Safeguard; "S" – Supplementary Safeguard; "R" – Reinforced Safeguard				

ENERGY SOURCE DIAGRAM
Optional. Manufacturers are to provide the energy sources diagram identify declared energy sources and identifying the demarcations are between power sources. Recommend diagram be provided included in power supply and multipart systems. Insert diagram below. Example diagram designs are; Block diagrams; image(s) with layered data; mechanical drawings
☒ ES ☒ PS ☒ MS ☒ TS ☒ RS **Details see OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS**

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	**GENERAL REQUIREMENTS**		P
4.1.1	Acceptance of materials, components and subassemblies		P
4.1.2	Use of components	(See appended table 4.1.2)	P
4.1.3	Equipment design and construction		P
4.1.4	Specified ambient temperature for outdoor use (°C) ..... :	Indoor use only	N/A
4.1.5	Constructions and components not specifically covered		P
4.1.8	Liquids and liquid filled components (LFC)		N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Clause T.2, T.5)	P
4.4.3.3	Drop tests	Not applicable.	N/A
4.4.3.4	Impact tests	(See Annex T.6)	P
4.4.3.5	Internal accessible safeguard tests	Not applicable.	N/A
4.4.3.6	Glass impact tests	No glass used.	N/A
4.4.3.7	Glass fixation tests	No glass used.	N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests	(See Annex T.8)	N/A
4.4.3.9	Air comprising a safeguard	(See Annex T)	P
4.4.3.10	Accessibility, glass, safeguard effectiveness	(See Annex P)	P
4.4.4	Displacement of a safeguard by an insulating liquid		N/A
4.4.5	Safety interlocks		N/A
4.5	**Explosion**		P
4.5.1	General		P
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	P
	No harm by explosion during single fault conditions	(See Clause B.4)	P
4.6	**Fixing of conductors**		P
	Fix conductors not to defeat a safeguard		P
	Compliance is checked by test..... :	(See Clause T.2)	P

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Clause	Requirement + Test	Result - Remark	Verdict
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 coin/ button cell batteries	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
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current limits..... :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits..... :	Evaluated in approved built-in switching power supply	N/A
5.2.2.4	Single pulse limits.....:	No single pulse	N/A
5.2.2.5	Limits for repetitive pulses.....:	(See appended table 5.2)	P
5.2.2.6	Ringing signals	No analogue telephone network ringing signals	N/A
5.2.2.7	Audio signals	No audio amplifiers	N/A
5.3	**Protection against electrical energy sources**		P

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Clause	Requirement + Test	Result - Remark	Verdict
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		P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		P
5.3.2.1	Accessibility to electrical energy sources and safeguards	For built-in equipment, shall be evaluated in the end system.	N/A
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements	For built-in equipment, shall be evaluated in the end system.	N/A
	Test with test probe from Annex V		—
5.3.2.2 a)	Air gap – electric strength test potential (V)..... :	Cannot contact with the conductive part for ES3 voltage	P
5.3.2.2 b)	Air gap – distance (mm) ..... :		N/A
5.3.2.3	Compliance		P
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	**Insulation materials and requirements**		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Material is non-hygroscopic		P
5.4.1.4	Maximum operating temperature for insulating materials..... :	(See appended table)	P
5.4.1.5	Pollution degrees..... :	2	P
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	No such insulation compound	N/A
5.4.1.5.3	Thermal cycling test		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage..... :	Evaluated in approved built-in switching power supply	N/A
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat test..... :		N/A
5.4.1.10.3	Ball pressure test..... :		P
5.4.2	Clearances		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.1	General requirements		P
	Clearances in circuits connected to AC Mains, Alternative method		N/A
5.4.2.2	Procedure 1 for determining clearance	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
	Temporary overvoltage .....:	2000Vpeak	—
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..... :	2500 Vpeak	—
5.4.2.3.2.3	d.c. mains transient voltage ..... :	No connections to d.c. mains.	—
5.4.2.3.2.4	External circuit transient voltage.....:	No connections to external circuit with transient voltage.	—
5.4.2.3.2.5	Transient voltage determined by measurement..... :	Option was not used.	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test .....:		N/A
5.4.2.5	Multiplication factors for clearances and test voltages .....:		N/A
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	—
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	Evaluated in approved built-in switching power supply	N/A
5.4.4.4	Solid insulation in semiconductor devices	Evaluated in approved built-in switching power supply	N/A
5.4.4.5	Insulating compound forming cemented joints		N/A
5.4.4.6	Thin sheet material	Evaluated in approved built-in switching power supply	N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs) ..... :		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Number of layers (pcs) ..... :		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components	Evaluated in approved built-in switching power supply	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		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
5.4.5.3	Insulation resistance (MΩ)..... :		N/A
	Electric strength test..... :		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%), temperature (°C), duration (h)..... :	93 %, 40°C, 120 hours	—
5.4.9	Electric strength test	Electric strength tests were conducted after 5.4.8 humidity conditioning test for each manufacturer source in table 4.1.2.	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
5.4.10.3	Verification for insulation breakdown for impulse test..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector.....:	Evaluated in approved built-in switching power supply	N/A
5.5.3	Transformers	Evaluated in approved built-in switching power supply	N/A
5.5.4	Optocouplers	Evaluated in approved built-in switching power supply	N/A
5.5.5	Relays	No such component	N/A
5.5.6	Resistors		N/A
5.5.7	SPDs	No such SPD	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**		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.2	Requirement for protective conductors	The internal green/yellow wire was connected to earth pin of metal enclosure by green/yellow wire, screw and spring washer.	P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation	Green and yellow	P
5.6.3	Requirement for protective earthing conductors		P
	Protective earthing conductor size (mm^2) ..... :	Pillar type or stud type: 3.5mm; Green /yellow color wire: Min. 1.5mm^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		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm^2)..... :	Min. 18AWG complies with the requirement of 5.6.6	—
5.6.4.2	Protective current rating (A)..... :	Rated current: 16A	P
5.6.5	Terminals for protective conductors	The stud connection to metal chassis, as the protective bonding terminal, Φ=3.5mm, stud used.	P
5.6.5.1	Terminal size for connecting protective earthing conductors (mm)..... :	The diameter of screw: ≥ 3.5mm	P
	Terminal size for connecting protective bonding conductors (mm)..... :		N/A
5.6.5.2	Corrosion		P
5.6.6	Resistance of the protective bonding system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method..... :	(See appended table 5.6.6)	P
5.6.6.3	Resistance (Ω) or voltage drop..... :	(See appended table 5.6.6)	P
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm^2)..... :		N/A
	Class II with functional earthing marking ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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		P
5.7.2.2	Measurement of voltage		P
5.7.3	Equipment set-up, supply connections and earth connections		P
5.7.4	Unearthed accessible parts..... :	(See appended table 5.7.4)	P
5.7.5	Earthed accessible conductive parts.....:	(See appended table 5.7.5)	P
5.7.6	Requirements when touch current exceeds ES2 limits		N/A
	Protective conductor current (mA)..... :		N/A
	Instructional Safeguard.....:		N/A
5.7.7	Prospective touch voltage and touch current associated with external circuits		N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to earthed external circuits, current (mA)..... :		N/A
	b) Equipment connected to unearthed external circuits, current (mA)..... :		N/A
5.8	**Backfeed safeguard in battery backed up supplies**		N/A
	Mains terminal ES..... :		N/A
	Air gap (mm)..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

6	**ELECTRICALLY- CAUSED FIRE**		P
6.2	**Classification of PS and PIS**		P
6.2.2	Power source circuit classifications.....:	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS .....:	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS .....:	(See appended table 6.2.3.2)	P
6.3	**Safeguards against fire under normal operating and abnormal operating conditions**		P
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials.....:	(See appended table B.1.5 and B.3)	P
	Combustible materials outside fire enclosure.....:		N/A
6.4	**Safeguards against fire under single fault conditions**		P
6.4.1	Safeguard method	Method of “control of fire spread” is used.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	Supplementary safeguards		N/A
6.4.3.2	Single Fault Conditions.....:		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		P
6.4.5	Control of fire spread in PS2 circuits		N/A
6.4.5.2	Supplementary safeguards		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.6	Control of fire spread in PS3 circuits	Components other than PCB and wires are: - mounted on PCB rated V-1 min, and/or - made of V-2/VTM-2 or better. - Enclosure: V-0 (See appended tables 4.1.2 and Annex G for detail) Internal and external wire: VW-1 Fire enclosure (for front panel) shall be provided in the end system.	P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers	Fire enclosure provided (For front panel) Built-in equipment, fire enclosure shall be provided in end product.	P
6.4.8.2	Fire enclosure and fire barrier material properties	Metal and V-0	P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	Providing a metal and plastic enclosure except for front enclosure for LED shall be considered in the end system.	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		N/A
6.4.8.3.2	Fire barrier dimensions	No fire barrier.	N/A
6.4.8.3.3	Top openings and properties	Reserve hole (The further evaluation and testing must be checked and performed in the end system.).	N/A
	Openings dimensions (mm)..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3.4	Bottom openings and properties	Reserve hole (The further evaluation and testing must be checked and performed in the end system.).	N/A
	Openings dimensions (mm)..... :		N/A
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard.....:		N/A
6.4.8.3.5	Side openings and properties	Reserve hole (The further evaluation and testing must be checked and performed in the end system.).	N/A
	Openings dimensions (mm)..... :		N/A
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.....:	The metal chassis and V-0 or better plastic enclosure are considered 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		P
6.5.2	Requirements for interconnection to building wiring .....:		N/A
6.5.3	Internal wiring size (mm^2) for socket-outlets..... :	$1.5mm^2$	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
8.3	**Safeguards against mechanical energy sources**		P
8.4	**Safeguards against parts with sharp edges and corners**		P
8.4.1	Safeguards		N/A
	Instructional Safeguard.....:		N/A
8.4.2	Sharp edges or corners	The sharp edges and corners of the equipment are considered as MS1.	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N)..... :		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps		N/A
	Explosion test.....:		N/A
8.5.5.3	Glass particles dimensions (mm)..... :		N/A
8.6	**Stability of equipment**		N/A
8.6.1	General	The further evaluation and testing must be checked and performed in the end system.	N/A
	Instructional safeguard..... :		N/A
8.6.2	Static stability		N/A
8.6.2.2	Static stability test.....:		N/A
8.6.2.3	Downward force test		N/A
8.6.3	Relocation stability		N/A
	Wheels diameter (mm)..... :		—
	Tilt test		N/A
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test..... :		N/A
8.7	**Equipment mounted to wall, ceiling or other structure**		N/A
8.7.1	Mount means type.....:	The further evaluation and testing must be checked and performed in the end system.	N/A
8.7.2	Test methods		N/A
	Test 1, additional downwards force (N)..... :		N/A
	Test 2, number of attachment points and test force (N).....:		N/A
	Test 3 Nominal diameter (mm) and applied torque (Nm)..... :		N/A
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).....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
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
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..... :	TS1: no safeguards are required.	P
9.3.2	Test method and compliance		P
9.4	**Safeguards against thermal energy sources**		P
9.5	**Requirements for safeguards**		P
9.5.1	Equipment safeguard		P
9.5.2	Instructional safeguard..... :		N/A

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

10	**RADIATION**		P
10.2	**Radiation energy source classification**		P
10.2.1	General classification		P
	Lasers.....:	Not applicable	—
	Lamps and lamp systems.....:	LED panel complies with exempt group according to IEC/EN 62471 and classified as RS1 LED indicator: MS1	—
	Image projectors.....:	Not applicable	—
	X-Ray.....:	Not applicable	—
	Personal music player.....:	Not applicable	—
10.3	**Safeguards against laser radiation**		N/A
	The standard(s) equipment containing laser(s) comply.....:		N/A
10.4	**Safeguards against optical radiation from lamps and lamp systems (including LED types)**		P
10.4.1	General requirements	LED panel complies with exempt group according to IEC/EN 62471 and classified as RS1 LED indicator is classified as Exempt Group	P
	Instructional safeguard provided for accessible radiation level needs to exceed		N/A
	Risk group marking and location.....:	RG0	N/A
	Information for safe operation and installation		N/A
10.4.2	Requirements for enclosures		N/A
	UV radiation exposure.....:	No UV	N/A
10.4.3	Instructional safeguard.....:	No UV	N/A
10.5	**Safeguards against X-radiation**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	Requirements	No X-radiation	N/A
	Instructional safeguard for skilled persons..... :		—
10.5.3	Maximum radiation (pA/kg)..... :		—
10.6	**Safeguards against acoustic energy sources**		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A)..... :		N/A
	Unweighted RMS output voltage (mV)..... :		N/A
	Digital output signal (dBFS)..... :		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30)..... :		N/A
	Warning for MEL ≥ 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

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Clause	Requirement + Test	Result - Remark	Verdict
	Audio Amplifiers and equipment with audio amplifiers.....:		N/A
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		P
B.3.2	Covering of ventilation openings	(See appended table B.3)	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		N/A
B.3.6	Reverse battery polarity		N/A
B.3.7	Audio amplifier abnormal operating conditions		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions.....:	(See appended table B.3)	P
B.4	**Simulated single fault conditions**		P
B.4.1	General		P
B.4.2	Temperature controlling device		N/A
B.4.3	Blocked motor test		N/A
B.4.4	Functional insulation	(See appended table B.4)	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4)	P
B.4.6	Short circuit or disconnection of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components		N/A
B.4.8	Compliance during and after single fault conditions .....:	(See appended table B.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

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Clause	Requirement + Test	Result - Remark	Verdict
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
	Maximum non-clipped output power (W)..... :		—
	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	—
F.2	**Letter symbols and graphical symbols**		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific		P
F.3	**Equipment markings**		P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.1	Equipment marking locations	Equipment marking is located on its exterior surface and is readily visible	P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification .....:	See copy of marking plate	P
F.3.2.2	Model identification .....:	See copy of marking plate	P
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage..... :	See copy of marking plate	P
F.3.3.4	Rated voltage..... :	See copy of marking plate	P
F.3.3.5	Rated frequency.....:	See copy of marking plate	P
F.3.3.6	Rated current or rated power.....:	See copy of marking plate	P
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings .....:	See copy of marking plate	P
F.3.5.2	Switch position identification marking.....:		N/A
F.3.5.3	Replacement fuse identification and rating markings.....:	Evaluated in approved built-in switching power supply	N/A
	Instructional safeguards for neutral fuse.....:		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		P
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I equipment		P
F.3.6.1.1	Protective earthing conductor terminal.....:	Terminal for protective earthing conductor is identified with the symbol 	P
F.3.6.1.2	Protective bonding conductor terminals .....:		N/A
F.3.6.2	Equipment class marking..... :	Class I equipment.	N/A
F.3.6.3	Functional earthing terminal marking..... :		N/A
F.3.7	Equipment IP rating marking..... :	IPX0	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.8	External power supply output marking.....:	See copy of marking plate	P
F.3.9	Durability, legibility and permanence of marking	See below	P
F.3.10	Test for permanence of markings	After the test, the marking remains legible, it was not possible to remove marking plate and no curling observed.	P
F.4	**Instructions**		P
	a) Information prior to installation and initial use		P
	b) Equipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection		P
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place		P
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard		P
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment		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

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Clause	Requirement + Test	Result - Remark	Verdict
G.2.4	Test method and compliance		N/A
G.3	**Protective devices**		N/A
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	Evaluated in approved built-in switching power supply.	N/A
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....:		N/A
G.4	**Connectors**		P
G.4.1	Spacings	Refer to table 5.4.2, 5.4.3	P
G.4.2	Mains connector configuration.....:	Approved AC input/output connector used	N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		P
G.5	**Wound components**		N/A
G.5.1	Wire insulation in wound components	Evaluated in approved built-in switching power supply.	N/A
G.5.1.2	Protection against mechanical stress		N/A
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Test time (days per cycle).....:		—
	Test temperature (°C).....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
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	Evaluated in approved built-in switching power supply.	N/A
G.5.3.1	Compliance method..... :		N/A
	Position.....:		N/A
	Method of protection..... :		N/A
G.5.3.2	Insulation		N/A
	Protection from displacement of windings.....:		—
G.5.3.3	Transformer overload tests		N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding temperatures		N/A
G.5.3.3.3	Winding temperatures - alternative test method		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter..... :		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation.....:		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A
G.5.4	Motors	No 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

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature ..... :		N/A
G.5.4.6.3	Alternative method		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage ..... :		—
G.6	**Wire Insulation**		N/A
G.6.1	General	Evaluated in approved built-in switching power supply.	N/A
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
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

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	**Varistors**		N/A
G.8.1	General requirements	Evaluated in approved built-in switching power supply.	N/A
G.8.2	Safeguards against fire		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**		N/A
G.10.1	General		N/A
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A
G.11	**Capacitors and RC units**		N/A
G.11.1	General requirements		N/A
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	**Optocouplers**		N/A
	Optocouplers comply with IEC 60747-5-5 with specifics	Evaluated in approved built-in switching power supply.	N/A
	Type test voltage $V_{ini,a}$.....:		—
	Routine test voltage, $V_{ini,b}$..... :		—
G.13	**Printed boards**		P
G.13.1	General requirements	Approved printed board used.	P
G.13.2	Uncoated printed boards		P

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Clause	Requirement + Test	Result - Remark	Verdict
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation.....:		N/A
	Number of insulation layers (pcs) ..... :		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A
G.14	**Coating on components terminals**		N/A
G.14.1	Requirements .....:		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
	ICX tested separately		N/A
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test.....:		—
	Mains voltage that impulses to be superimposed on .....:		—
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test.....:		—
G.16.3	Capacitor discharge test.....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
H	**CRITERIA FOR TELEPHONE RINGING SIGNALS**		N/A
H.1	**General**		N/A
H.2	**Method A**		N/A
H.3	**Method B**		N/A
H.3.1	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**		N/A
J.1	**General**		N/A
	Winding wire insulation..... :	Evaluated in approved built-in switching power supply.	—
	Solid round winding wire, diameter (mm)..... :		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm^2)..... :		N/A
J.2/J.3	Tests and Manufacturing	Evaluated in approved built-in switching power supply.	—
K	**SAFETY INTERLOCKS**		N/A
K.1	**General requirements**		N/A
	Instructional safeguard..... :		N/A
K.2	**Components of safety interlock safeguard mechanism**		N/A
K.3	**Inadvertent change of operating mode**		N/A
K.4	**Interlock safeguard override**		N/A
K.5	**Fail-safe**		N/A
K.5.1	Under single fault condition		N/A
K.6	**Mechanically operated safety interlocks**		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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**	Shall be evaluated in the end system	P
L.2	**Permanently connected equipment**		N/A
L.3	**Parts that remain energized**		N/A
L.4	**Single-phase equipment**		P
L.5	**Three-phase equipment**		N/A
L.6	**Switches as disconnect devices**		N/A
L.7	**Plugs as disconnect devices**		N/A
L.8	**Multiple power sources**		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
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

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Clause	Requirement + Test	Result - Remark	Verdict
	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
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

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Clause	Requirement + Test	Result - Remark	Verdict
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 metal enclosure is made of Aluminium alloy, screw spring washer is made of Nickel on steel, the combined electrochemical potential is below 0.6V.	—
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	Reserve hole (The further evaluation and testing must be checked and performed in the end system.)	N/A
P.2.2	Safeguards against entry of a foreign object		N/A
	Location and Dimensions (mm) ..... :		—
P.2.3	Safeguards against the consequences of entry of a foreign object		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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**		N/A
P.4.1	General		N/A
P.4.2	Tests		N/A
	Conditioning, T_C (°C).....:		—
	Duration (weeks).....:		—
Q	**CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING**		P
Q.1	**Limited power sources**		P
Q.1.1	Requirements		P
	a) Inherently limited output		P
	b) Impedance limited output		N/A
	c) Regulating network limited output		N/A
	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
	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

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Clause	Requirement + Test	Result - Remark	Verdict
	Overcurrent protective device for test..... :		—
R.3	**Test method**		N/A
	Cord/cable used for test..... :		—
R.4	**Compliance**		N/A
S	**TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
S.1	**Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W**		N/A
	Samples, material.....:		—
	Wall thickness (mm).....:		—
	Conditioning (°C)..... :		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	**Flammability test for fire enclosure and fire barrier integrity**		N/A
	Samples, material.....:		—
	Wall thickness (mm).....:		—
	Conditioning (°C)..... :		—
S.3	**Flammability test for the bottom of a fire enclosure**		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance		N/A
	Mounting of samples .....:		—
	Wall thickness (mm).....:		—
S.4	**Flammability classification of materials**		N/A
S.5	**Flammability test for fire enclosure materials of equipment with a steady state power exceeding 4 000 W**		N/A
	Samples, material.....:		—
	Wall thickness (mm).....:		—
	Conditioning (°C)..... :		—
T	**MECHANICAL STRENGTH TESTS**		P
T.1	**General**		P
T.2	**Steady force test, 10 N .....:**	(See appended table T.2)	P

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Clause	Requirement + Test	Result - Remark	Verdict
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		P
	Swing test		N/A
T.7	**Drop test ..... :**		N/A
T.8	**Stress relief test.....:**	(See appended table T.8)	N/A
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	Enclosure and LED panel are accessible. Openings are evaluated in the end system.	P
V.1.2	Surfaces and openings tested with jointed test probes	Shall be evaluated in the end system	N/A
V.1.3	Openings tested with straight unjointed test probes	Shall be evaluated in the end system	N/A
V.1.4	Plugs, jacks, connectors tested with blunt probe	Shall be evaluated in the end system	N/A
V.1.5	Slot openings tested with wedge probe	Shall be evaluated in the end system	N/A
V.1.6	Terminals tested with rigid test wire	Shall be evaluated in the end system	N/A
V.2	**Accessible part criterion**		P

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

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Clause	Requirement + Test	Result - Remark	Verdict
Y.6.1	General		N/A
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	All primary circuits	Normal	264Vrms	--	SS	60Hz	ES3(Declared)
		Abnormal	--	--	--	--	
		Single fault – SC/OC:	--	--	--	--	
264VAC/60Hz	RJ45 ports +/- to earth	Normal	--	0.076mApk#	RP	60	ES3(Declared)
		Abnormal: See B.3 for details	--	0.076mApk#	RP	60	
		Single fault: Earth open	--	0.076mApk@	RP	60	
264VAC/60Hz	LED Module to earth	Normal	--	0.055mApk#	RP	60	ES3(Declared)
		Abnormal: See B.3 for details	--	0.055mApk#	RP	60	
		Single fault: Earth open	--	0.065mApk@	RP	60	
264VAC/60Hz	Metal enclosure to earth	Normal	--	0.364mApk#	RP	60	ES3(Declared)
		Abnormal: See B.3 for details	--	0.364mApk#	RP	60	
		Single fault: Earth open	--	0.412mApk@	RP	60	
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. - #: Current (U2 / 500 peak value) is measured using the measuring network specified in Figure 4, IEC 60990:1999. - @: Current (U3 / 500 peak value) is measured using the measuring network specified in Figure 5, IEC 60990:1999.							

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				P
Allowed impression diameter (mm)..... :		≤ 2 mm			—
Object/Part No./Material	Manufacturer/trademark	Thickness (mm)	Test temperature (°C)	Impression diameter (mm)	
Connector for SPS module	See table 4.1.2	1.5	125°C	1.23	
Supplementary information:					
--					

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

5.4.2, 5.4.3	TABLE: Minimum Clearances/Creepage distance							P
Clearance (cl) and creepage distance (cr) at/of/between:	U_p (V)	U_{rms} (V)	Freq [1] (Hz)	Required cl (mm)	cl (mm)	E.S. [2] (V)	Required cr (mm)	cr (mm)
Live parts of switching power supply to metal enclosure(RI)	<420	240	0.06	3.0	5.8	--	4.8	5.8
Signal port wire to primary live part (RI)	<420	240	0.06	3.0	>8.0	--	4.8	>8.0
Supplementary information:								
1) Only for frequency above 30 kHz 2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied) Note 1: Provide Material Group IIIb. Note 2: FI=Functional insulation; BI=Basic insulation; SI=Supplementary insulation; RI=Reinforced insulation. Note 3: Clearance was evaluated for altitude up to 2000m above sea level, correction factor for clearance is 1.0.								

5.4.4.2	TABLE: Minimum distance through insulation			
Distance through insulation (DTI) at/of	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)
Heat shrinkable tube	420	Supplementary insulation	Min. 0.4	See table 4.1.2
Connector for SPS module	420	Supplementary insulation	1.5	See table 4.1.2
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

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Clause	Requirement + Test	Result - Remark	Verdict

Test voltage applied between:	Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
L/N to metal enclosure	DC	2500V	No
Heat shrinkable tube (all source)	DC	2500V	No
L/N and RJ45 port	DC	4000V	No
L/N to LED module with metal foil (all source)	DC	4000V	No
Supplementary information:			
--			

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			P
Location	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
AC input connector earth pin to the farthest metal enclosure	32	2	0.736	0.023
AC input connector earth pin to AC output connector earth pin	32	2	0.672	0.021
AC input connector earth pin to the farthest metal enclosure	40	2	0.800	0.020
AC input connector earth pin to AC output connector earth pin	40	2	0.720	0.018
Supplementary information:				

5.7.4	TABLE: Unearthed accessible parts			P
Location	Operating and	Supply	Parameters	ES

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Clause	Requirement + Test	Result - Remark	Verdict

	fault conditions	Voltage (V)	Voltage (V_{rms} or V_{pk})	Current (A_{rms} or A_{pk})	Freq. (Hz)	class
LED Module wrapped with metal foil to earth	Normal, *Abnormal, *Single fault	264	--	0.055mApk#	60	ES1
	Single fault: Earth open	264	--	0.065mApk@	60	ES1
RJ45 port to earth	Normal, *Abnormal, *Single fault	264	--	0.076mApk#	60	ES1
	Single fault: Earth open	264	--	0.076mApk@	60	ES1
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit * See B.3, B.4 for single-fault and abnormal conditions. - #: Current (U2 / 500 peak value) is measured using the measuring network specified in Figure 4, IEC 60990:1999. - @: Current (U3 / 500 peak value) is measured using the measuring network specified in Figure 5, IEC 60990:1999.						

5.7.5	TABLE: Earthed accessible conductive part			P
Supply voltage (V).....:	264V/60Hz			—
Phase(s) ..... :	[X] Single Phase; [ ] Three Phase: [ ] Delta [ ] Wye			
Power Distribution System ..... :	[X] TN [ ]TT [ ] IT			
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment	
L/N to earthed metal enclosure	1	Normal/Reverse: 0.364mApk / 0.412mApk	Not exceed ES2 limit	
Supplementary Information:				
--				

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
--	--	--	--	--	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:
Abbreviation: SC= short circuit, OC= open circuit

6.2.2	TABLE: Power source circuit classifications					P
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power[1)] (W)	Time (S)	PS class
All circuits except for signal port	Normal & fault condition	--	--	--	--	PS3 (declared)
Signal port*	Normal	0	0	0	3	PS1
Signal port*	JP1 pin 1-2 SC	0	0	0	3	PS1
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit 1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3. All circuits are considered PS3 except for signal port. * The signal port is no voltage and current output, only used for data transmission. Signal port complied with LPS, are considered as PS1.						

6.2.3.1	TABLE: Determination of Arcing PIS			P
Location	Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No
All primary circuits	--	--	--	Yes (Declared)
All secondary circuit after approved Switching Power Supply output	3.76VDC	--	--	No
Supplementary information:				

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

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Clause	Requirement + Test	Result - Remark	Verdict

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

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

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements				P
Supply voltage (V).....:	180Vac, 50Hz	264Vac, 60Hz			—
Ambient temperature during test T_{amb} (°C).....:	25.0	25.0			—
Maximum measured temperature *T* of part/at:	*T* (°C)				Allowed T_{max} (°C)
Input connector (for SPS)	51.0	53.6			130
Metal enclosure outside for Switching Power Supply	57.2	60.9			Ref.
PCB near U16	52.8	55.4			130
T1 body	53.6	54.5			130
PCB near U1	60.9	63.2			130
PCB near U22	62.9	65.5			130

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Clause	Requirement + Test	Result - Remark	Verdict

PCB near U27	58.0	60.5			130
PCB near U15	56.9	58.8			130
CE8 body	56.2	58.2			105
Enclosure inside near Switching Power Supply	47.6	50.3			Ref.
Ambient	45.0	45.0			--
Below accessible parts test at Tamb = 25°C					
Metal enclosure	31.7	34.5			60
LED module surface	42.8	45.2			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:
Heating test was conducted at 24.1-25.0°C ambient, all points except for outside enclosure points were adjusted to 45°C Tma, the points of outside enclosure were adjusted to 25°C ambient.

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5	TABLE: Input test							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
180	50	0.822	--	83.6	--	--	--	Normal full display white light with max. brightness (test for ref. only)
180	60	0.810	--	83.7	--	--	--	
200	50	0.746	3	83.6	--	--	--	
200	60	0.737	3	83.6	--	--	--	
240	50	0.627	3	83.8	--	--	--	
240	60	0.622	3	83.7	--	--	--	
264	50	0.571	--	84.0	--	--	--	
264	60	0.565	--	83.9	--	--	--	
Supplementary information:								

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... :				--		—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
Reserve holes	Covering	264	3h35mins	--	--	During the test, EUT normal operation. No damage, no hazard. Temperature see below: Metal enclosure: 35.6°C LED module surface: 57.3°C Ambient: 24.7°C All signal ports: 0 W. Input current: 0.065A
EC7 (LED board)	SC	264	30min	--	--	After test, unit shutdown immediately, no damage, no hazard. All signal ports: 0 W. Input current: 0.052A
EC4 (LED board)	SC	264	30min	--	--	After test, Unit shutdown immediately, no damage, no

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Clause	Requirement + Test				Result - Remark	Verdict
						hazard. All signal ports: 0 W. Input current: 0.038A
U4 Pin 10-20 (LED board)	SC	264	30min	--	--	After test, Unit shutdown immediately, no damage, no hazard. All signal ports: 0 W. Input current: 0.063A
C69 (HUB board)	SC	264	30min	--	--	After test, Unit shutdown immediately, no damage, no hazard. All signal ports: 0 W. Input current: 0.067A
Q1 Pin 4-8 (HUB board)	SC	264	30min	--	--	After test, 1/8 of LED display shutdown immediately, no damage, no hazard All signal ports: 0 W. Input current: 0.071A
Supplementary information:						

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

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Clause	Requirement + Test	Result - Remark	Verdict

--	--	--	--	--	--	--	--
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						

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
Signal port	Normal	0	--	0	8	0	100
Signal port*	JP1 pin 1-2 SC	0	--	0	8	0	100
Supplementary Information:							
* The signal port is no voltage and current output, only used for data transmission. Signal port complied with LPS.							

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

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
Internal components (T.2)	--	--	--	10	5	No insulation breakdown. No reduction the clearances and creepage distances
Front enclosure (T.5)	See append table 4.1.2	See append table 4.1.2	--	250	5	Enclosure remained intact, no crack /opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Side enclosure (T.5)	See append table 4.1.2	See append table 4.1.2	--	250	5	Enclosure remained intact, no crack /opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Rear enclosure (T.5)	See append table 4.1.2	See append table 4.1.2	--	250	5	Enclosure remained intact, no crack /opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Supplementary information:						
All sources of plastic enclosure material have evaluation test, same result came out.						

T.6, T.9	**TABLE: Impact test**				P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation	
Front enclosure (T.6)	See append table 4.1.2 for details	See append table 4.1.2 for details	1300	Enclosure remained intact, no crack /opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	

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Clause	Requirement + Test	Result - Remark	Verdict

Side enclosure (T.6)	See append table 4.1.2 for details	See append table 4.1.2 for details	1300	Enclosure remained intact, no crack /opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Rear enclosure (T.6)	See append table 4.1.2 for details	See append table 4.1.2 for details	1300	Enclosure remained intact, no crack /opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Supplementary information:				
All sources of plastic enclosure material have evaluation test, same result came out.				

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

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

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

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

4.1.2	TABLE: Critical components information				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
Switching Power Supply	Changsha Hangte Electronic Technology Co., Ltd	UF-200-4.2-B	Input: 200-240VAC, 3A max, 50/60Hz Output: +4.2Vdc, 40A	EN 62368-1:2014+A11:2017	CE
LED Lamp	SHENZHEN KINGLIGHT CO.,LTD	JT-KF1212SURZGQBM-BB-S1	IF=5mA,VF=2.4V(Red color); IF=3mA,VF=3.4V(Green color); IF=2mA,VF=3.4V(Blue color)	EN 62471:2008	CE
Heat shrinkable tube (used for primary internal wire)	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	PSFR(CB)	600V, 125°C, VW-1, min. 0.4mm thickness	UL 224	UL E203950
AC input lead wires and AC output lead wires connected to AC input/output connector	Guangdong Biadi Electronics Co., Ltd.	H05VV-F	300/500VAC, 70°C, 3x2.5 mm²	EN 50525-2-11	VDE
-Alternate	Various	Various	300/500VAC, 70°C, 3x2.5 mm²	EN 50525-2-11	VDE
Internal primary wire	DONGGUAN DANYANG ELECTRONIC WIRE CO LTD	1015	600VAC, 80°C, min. 18AWG, VW-1	UL 758	UL E332522
-Alternate	DONGGUAN WENCHANG ELECTRONIC CO LTD	1015	600VAC, 80°C, min. 18AWG, VW-1	UL 758	UL E214500
Earthing	DONGGUAN WENCHANG ELECTRONIC CO LTD	1015	600VAC, 80°C, min. 18AWG, VW-1, Yellow-and-green	UL 758	UL E332522
-Alternate	DONGGUAN WENCHANG ELECTRONIC CO LTD	1015	600VAC, 80°C, min. 18AWG, VW-1, Yellow-and-green	UL 758	UL E214500

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

Protective earthing Screw	Various	Various	Stainless steel, Diameter: min.3.5mm	IEC/EN IEC 62368-1	Tested with appliance
Output wire of SPS	DONGGUAN ZIQIANG CABLE CO LTD	1569	300V, 105°C, VW-1, 14AWG and 6AWG	UL 758	UL E214500
Metal enclosure	Various	Various	Aluminium, min. thickness: 2.0mm	IEC/EN IEC 62368-1	Tested with appliance
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

ATTACHMENT1			
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, sub-clauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2018 are prefixed “Z”.		P
	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P
1	**Modification to Clause 3 .**		N/A
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

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict

3.3.19.3	**sound exposure, *E*** A-weighted sound pressure (p) squared and integrated over a stated period of time, T Note 1 to entry: The SI unit is Pa^2 s. $$E = \int_0^T p(t)^2 \, dt$$		N/A
3.3.19.4	**sound exposure level, *SEL*** logarithmic measure of sound exposure relative to a reference value, E_0, typically the 1 kHz threshold of hearing in humans. Note 1 to entry: *SEL* is measured as A-weighted levels in dB. $$SEL = 10 \lg \left(\frac{E}{E_0} \right) \text{ dB}$$ Note 2 to entry: See B.4 of EN 50332-3:2017 for additional information.		N/A
3.3.19.5	**digital signal level relative to full scale, dBFS** levels reported in dBFS are always r.m.s. Full scale level, 0 dBFS, is the level of a dc-free 997-Hz sine wave whose undithered positive peak value is positive digital full scale, leaving the code corresponding to negative digital full scale unused Note 1 to entry: It is invalid to use dBFS for non-r.m.s. levels. Because the definition of full scale is based on a sine wave, the level of signals with a crest factor lower than that of a sine wave may exceed 0 dBFS. In particular, square wave signals may reach +3,01 dBFS.		N/A
2	**Modification to Clause 10**		N/A
10.6	**Safeguards against acoustic energy sources** Replace 10.6 of IEC 62368-1 with the following:		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict
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 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:		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict
	• long distance radio receiver (for example, a multiband radio receiver or world band radio receiver, an AM radio receiver), and • cassette player/recorder; NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. – a player while connected to an external amplifier that does not allow the user to walk around while in use. For equipment that is clearly designed or intended primarily for use by children, the limits of the relevant toy standards may apply. The relevant requirements are given in EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.		
10.6.1.2	**Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz** The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body mounted devices, attention is drawn to EN 50360 and EN 50566.		N/A
10.6.2	**Classification of devices without the capacity to estimate sound dose**		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict
10.6.2.1	**General** This standard is transitioning from short-term based (30 s) requirements to long-term based (40 hour) requirements. These clauses remain in effect only for devices that do not comply with sound dose estimation as stipulated in EN 50332-3. For classifying the acoustic output $L_{Aeq,T}$, measurements are based on the A-weighted equivalent sound pressure level over a 30 s period. For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, measurements may be done over the duration of the complete song. In this case, T becomes the duration of the song. NOTE Classical music, acoustic music and broadcast typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the content and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song does not exceed the required limit. For example, if the player is set with the programme simulation noise to 85 dB, but the average music level of the song is only 65 dB, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dB.		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict
10.6.2.2	**RS1 limits (to be superseded, see 10.6.3.2)** RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 85 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 27 mV (analogue interface) or -25 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1. – The RS1 limits will be updated for all devices as per 10.6.3.2.		N/A
10.6.2.3	**RS2 limits (to be superseded, see 10.6.3.3)** RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or when the combination of player and listening device is known by other means such as setting or automatic 130 detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 100 dB(A) when playing the fixed "programme simulation noise" as described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 150 mV (analogue interface) or -10 dBFS (digital interface) when playing the fixed "programme simulation noise" as described in EN 50332-1.		N/A
10.6.2.4	**RS3 limits** RS3 is a class 3 acoustic energy source that exceeds RS2 limits.		N/A
10.6.3	**Classification of devices (new)**		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict
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” described in EN 50332-1.		N/A
10.6.4	**Requirements for maximum sound exposure**		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict
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

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict
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 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.		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict

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 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.		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict
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
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 $L_{Aeq,\tau}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict

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**		N/A
	Delete all the “country” notes in the reference document according to the following list:		N/A
4	**Modification to Clause 1**		P

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				

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict

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.*		N/A
5	**Modification to 4.Z1**		N/A
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.		N/A
6	**Modification to 5.4.2.3.2.4**		N/A
5.4.2.3.2.4	***Add** the following to the end of this subclause:* The requirement for interconnection with **external circuit** is in addition given in EN 50491-3:2009.		N/A
7	**Modification to 10.2.1**		N/A
10.2.1	Add the following to [c] and [d] in table 39: For additional requirements, see 10.5.1.		N/A
8	**Modification to 10.5.1**		N/A

ATTACHMENT1			
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.		N/A
9	**Modification to G.7.1**		N/A
G.7.1	***Add** the following note:* NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		N/A
10	**Modification to Bibliography**		N/A

ATTACHMENT1			
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**		N/A
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		N/A
4.1.15	**Denmark, Finland, Norway** and **Sweden** To the end of the subclause the following is added: **Class I pluggable equipment type A** intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and **accessible** parts, have a marking stating that the equipment shall be connected to an earthed **mains** socket-outlet. The marking text in the applicable countries shall be as follows: In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.” In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3	**United Kingdom** To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex		N/A
5.2.2.2	**Denmark** After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.5.2.1	**Norway** After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
5.5.6	**Finland, Norway** and **Sweden** To the end of the subclause the following is added: Resistors used as **basic safeguard** or bridging **basic insulation** in **class I pluggable equipment type A** shall comply with G.10.1 and the test of G.10.2.		N/A
5.6.1	**Denmark** **Add** to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. *Justification:* In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict
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 current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.7.1	**Norway and Sweden** To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.”		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict
	Translation to Swedish: ”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.		
8.5.4.2.3	**United Kingdom** Add the following after the 2nd dash bullet in 3rd paragraph: An emergency stop system complying with the requirements of IEC 60204-1 and ISO 13850 is required where there is a risk of personal injury.		N/A
B.3.1 and B.4	**Ireland and United Kingdom** The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of **direct plug-in equipment**, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the **direct plug-in equipment**, until the requirements of Annexes B.3.1 and B.4 are met		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict

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

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	**United Kingdom** To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
G.7.1	**United Kingdom** To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc. (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
G.7.1	**Ireland** To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	**Ireland and United Kingdom** To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm^2 is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A
ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		N/A

ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict
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
ZD	**IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS (EN)**		N/A

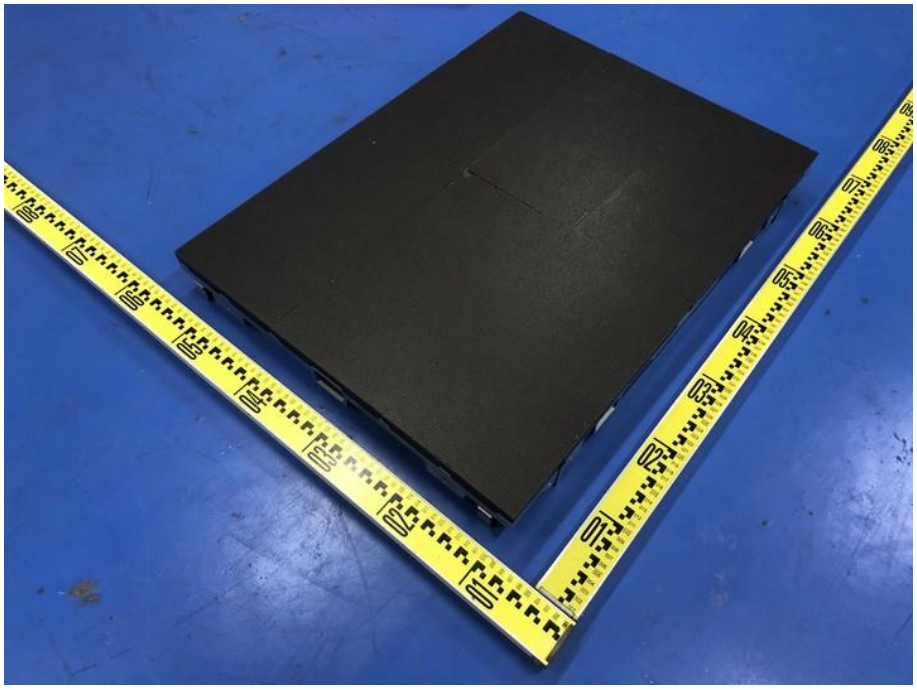
ATTACHMENT1			
Clause	Requirement + Test	Result - Remark	Verdict

N/A

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

Attachment 2 – Photo

Photo



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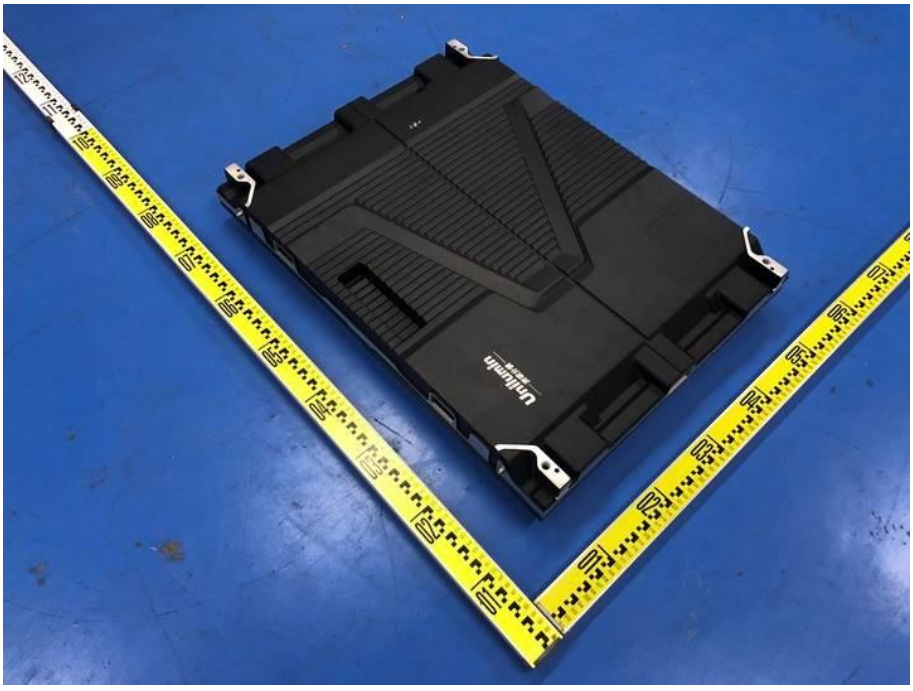

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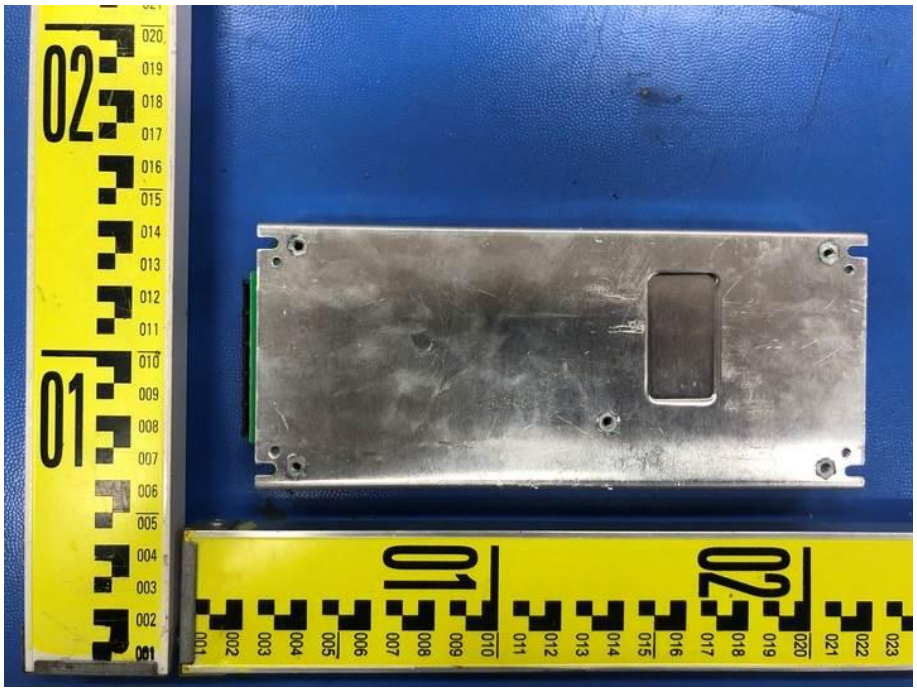

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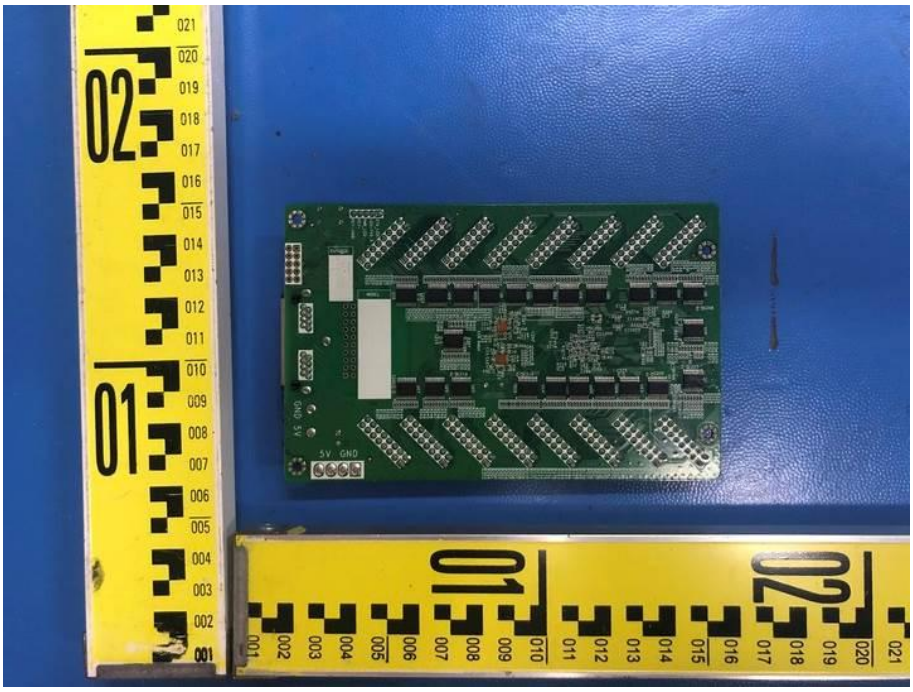

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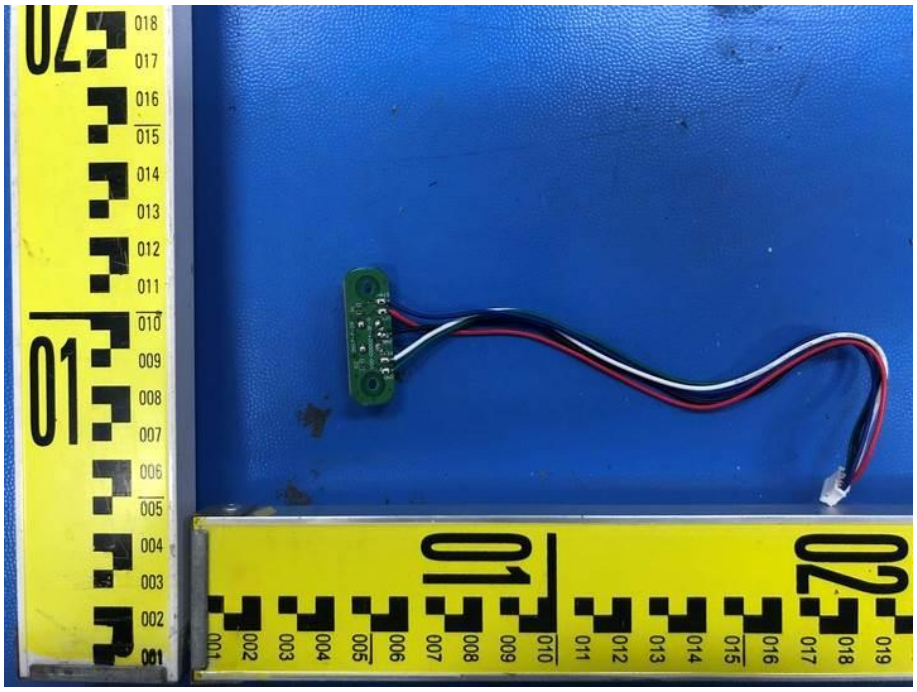

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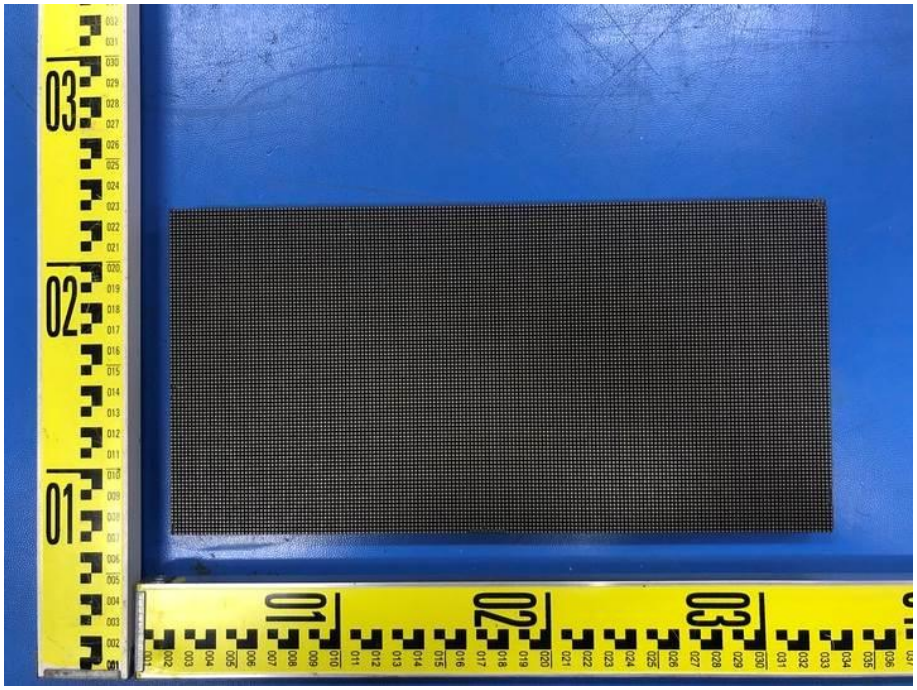

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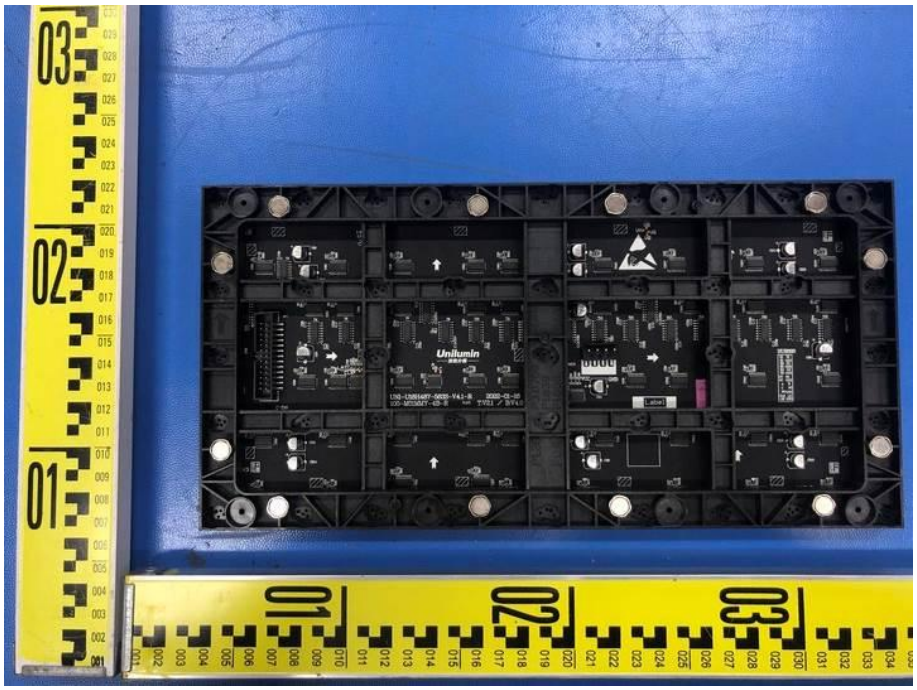

--- End of Report ---