





TEST REPORT IEC 62368-1 Audio/video, information and communication technology equipment Part 1: Safety requirements	
Report Number.....:	S03A23060175L01501
Date of issue.....:	2023-07-05
Total number of pages.....:	47
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Testing Laboratory Name	Guangdong ESTL Technology Co., Ltd.
Address	Room 101, 201-208, Unit 1, Building 1, No. 9 Headquarters 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China.
Applicant's name.....:	Global Tax Refund Holdings Company Limited
Address.....:	6/F MANULIFE PLACE 348 KWUN TONG ROAD KL
Test specification: Standard.....: <input type="checkbox"/> IEC 62368-1: 2018 <input checked="" type="checkbox"/> EN IEC 62368-1:2020+A11:2020	
Test item description.....:	Balcony Power Station
Trade Mark.....:	
Manufacturer.....:	Shenzhen Ampower New Energy Co., Ltd.
Address.....:	Bloce AB.5/F Jinmeiwei Industrial Park, Luhui Community, Guanhu Street, Longhua District, Shenzhen, China
Factory.....:	ICON ENERGY SYSTEM (SHENZHEN) CO.,LTD
Address.....:	201, 301, 401, 501 of Plant B and 201, 301, 401, 501, No.4 Guanqing Road, Luhui Community, Guanhu Street, Longhua District, Shenzhen City, Guangdong Province, P.R.China
Model/Type reference.....:	B215
Ratings.....:	Nominal voltage: 38.4V Rate Capacity: 56Ah Battery pack: 38.4V, 56Ah, 2150Wh

List of Attachments (including a total number of pages in each attachment):**Attachment 1: Photo Documentation (2 pages)****Summary of testing:****Tests performed (name of test and test clause):**

Electrical safety

-EN IEC 62368-1:2020+A11:2020

Testing location:

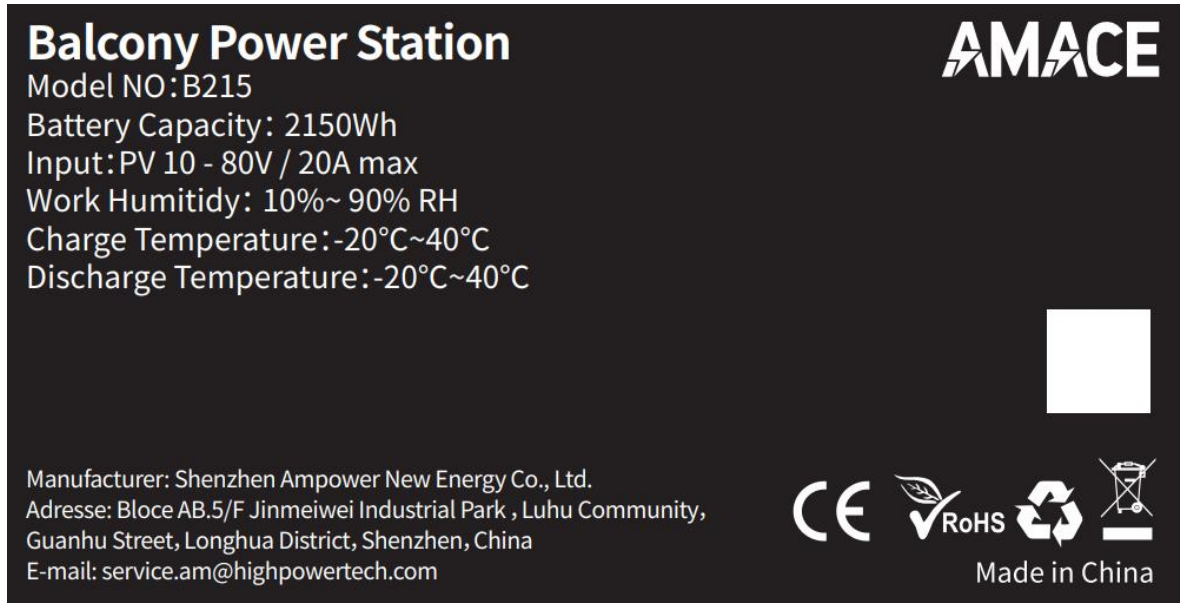
Guangdong ESTL Technology Co., Ltd.

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 Dongguan, Guangdong, China.

☒ Room 101, 201~208, Unit 1, Building 1, No. 9
 Headquarters 2nd Road, Songshan Lake Park,
 Dongguan, Guangdong, China.
Summary of compliance with National Differences (List of countries addressed): N/A
☒ The product fulfils the requirements of EN IEC 62368-1:2020+A11:2020

Copy of marking plate:

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

**Notes:**

- The above markings are the min. requirements required by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.

This report is based on the original report S03A23060175L00601, only the applicant's name, address and trademark are changed, and there is no need to re-test after technical appraisal.

Report changes in customer requirements Applicant's name, address, and trademark:

Before change:

Applicant's name: Shenzhen Ampower New Energy Co., Ltd.

Address: Bloce AB.5/F Jinmeiwei Industrial Park, Luhua Community, Guanhu Street, Longhua District, Shenzhen, China

Trade Mark: **AMACE**

After change:

Applicant's name: Global Tax Refund Holdings Company Limited

Address: 6/F MANULIFE PLACE 348 KWUN TONG ROAD KL

Trade Mark: **SunLit**

Based on the previously conducted testing and the review of product technical documentation including photos, schematics, wiring diagrams and similar, has been determined that the product continues to comply with the standard

Test item particulars:			
Product group	:	<input checked="" type="checkbox"/> end product	<input type="checkbox"/> built-in component
Classification of use by.....	:	<input checked="" type="checkbox"/> Ordinary person	<input checked="" type="checkbox"/> Children likely present
		<input type="checkbox"/> Instructed person	
		<input type="checkbox"/> Skilled person	
Supply connection.....	:	<input type="checkbox"/> AC mains	<input checked="" type="checkbox"/> DC mains
		<input type="checkbox"/> not mains connected:	
		<input checked="" type="checkbox"/> ES1	<input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply tolerance	:	<input checked="" type="checkbox"/> +10%/-10%	
		<input type="checkbox"/> +20%/-15%	
		<input type="checkbox"/> + %/ - %	
		<input type="checkbox"/> None	
Supply connection – type	:	<input type="checkbox"/> pluggable equipment type A -	
		<input type="checkbox"/> non-detachable supply cord	
		<input type="checkbox"/> appliance coupler	
		<input type="checkbox"/> direct plug-in	
		<input type="checkbox"/> pluggable equipment type B -	
		<input type="checkbox"/> non-detachable supply cord	
		<input type="checkbox"/> appliance coupler	
		<input type="checkbox"/> permanent connection	
		<input type="checkbox"/> mating connector	<input checked="" type="checkbox"/> other: built-in component
		<input type="checkbox"/> (20A for USA and Canada, 13A for UK);	
Considered current rating of protective device.....	:	Location:	<input type="checkbox"/> building <input type="checkbox"/> equipment
		<input checked="" type="checkbox"/> N/A	
Equipment mobility.....	:	<input type="checkbox"/> movable	<input type="checkbox"/> hand-held <input type="checkbox"/> transportable
		<input type="checkbox"/> direct plug-in	<input checked="" type="checkbox"/> stationary <input type="checkbox"/> for building-in
		<input type="checkbox"/> wall/ceiling-mounted	<input type="checkbox"/> SRME/rack-mounted
		<input type="checkbox"/> other:	
Overvoltage category (OVC)	:	<input type="checkbox"/> OVC I	<input type="checkbox"/> OVC II <input type="checkbox"/> OVC III
		<input type="checkbox"/> OVC IV	<input checked="" type="checkbox"/> other:
Class of equipment	:	<input type="checkbox"/> Class I	<input type="checkbox"/> Class II <input checked="" type="checkbox"/> Class III
		<input type="checkbox"/> Not classified	<input type="checkbox"/>
Special installation location	:	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> restricted access area
		<input type="checkbox"/> outdoor location	<input type="checkbox"/>
Pollution degree (PD)	:	<input type="checkbox"/> PD 1	<input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified T_{ma}.....	:	100% load at 45°C or 50°C, 60% load at 70°C	
		<input type="checkbox"/> Outdoor: minimum °C	
IP protection class	:	<input checked="" type="checkbox"/> IPX0	<input type="checkbox"/> IP__
Power systems	:	<input type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT -	V _{L-L}
		<input checked="" type="checkbox"/> not AC mains	
Altitude during operation (m)	:	<input checked="" type="checkbox"/> 2000 m or less	<input type="checkbox"/> 5000 m
Altitude of test laboratory (m)	:	<input checked="" type="checkbox"/> 2000 m or less	<input type="checkbox"/> m
Mass of equipment (kg)	:	Approx. 31kg	

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..... : 2023-04-26

Date (s) of performance of tests.....: 2023-06-01 to 2023-06-20

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.

General product information and other remarks:

- 1.The equipment involved in this report is an outdoor solar energy storage power station
- 2.The equipment was classified as Class III.
- 3.The max. ambient temperature specified by manufacturer is 60°C.
- 4.The product supply considered as ES1 and PS3.
- 5.This report only evaluation product"s PV1 and DC1, other parts didn"t evaluated.

Model Differences:

N/A

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	Possible Hazard			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
ES1: All circuit	Ordinary	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1 st S	2 nd S
PS3: All internal circuits	Ordinary	See 6.3	N/A	N/A
PS2: Internal Single cell output	Ordinary	See 6.3	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: Edges and corners	Ordinary	N/A	N/A	N/A
MS3: Equipment mass (> 25kg)	Ordinary person, Instructed person, skilled person	Instructional safeguard and see 8.6	N/A	N/A
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS1: External surface	Ordinary	N/A	N/A	N/A
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
N/A	N/A	N/A	N/A	N/A
Supplementary Information: “B” – Basic Safeguard; “S” – Supplementary Safeguard; “R” – Reinforced Safeguard				

ENERGY SOURCE DIAGRAM
<p>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.</p> <p>Insert diagram below. Example diagram designs are; Block diagrams; image(s) with layered data; mechanical drawings</p>
<div><div><input type="checkbox"/> ES</div><div><input type="checkbox"/> PS</div><div><input type="checkbox"/> MS</div><div><input type="checkbox"/> TS</div><div><input type="checkbox"/> RS</div></div> <p>(Refer to ENERGY SOURCES AND SAFEGUARDS TABLE for DETAIL)</p>

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) Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment. See also Annex G	P
4.1.3	Equipment design and construction	Evaluation of safeguards regarding limiting the outputs to fulfill ES1 and protection in regard to risk of spread of fire, mechanical and thermal burn injury considered.	P
4.1.4	Specified ambient temperature for outdoor use (°C) :		N/A
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids and liquid filled components (LFC)		N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests		N/A
4.4.3.3	Drop tests		N/A
4.4.3.4	Impact tests		N/A
4.4.3.5	Internal accessible safeguard tests		N/A
4.4.3.6	Glass impact tests		N/A
4.4.3.7	Glass fixation tests		N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests		N/A
4.4.3.9	Air comprising a safeguard	(See Annex T)	P
4.4.3.10	Accessibility, glass, safeguard effectiveness		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	(See Clause B.2, B.3)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	condition		
	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	Internal component	P
	Compliance is checked by test..... :	(See Clause T.2)	P
4.7	Equipment for direct insertion into mains socket-outlets		N/A
4.7.2	Mains plug part complies with relevant standard... :		N/A
4.7.3	Torque (Nm)..... :		N/A
4.8	Equipment containing coin/button cell batteries		N/A
4.8.1	General	No coin/button battery used	N/A
4.8.2	Instructional safeguard..... :		N/A
4.8.3	Battery compartment door/cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance		N/A
	30N force test with test probe		N/A
	20N force test with test hook		N/A
4.9	Likelihood of fire or shock due to entry of conductive object		P
4.10	Component requirements		P
4.10.1	Disconnect Device	consider in end system	N/A
4.10.2	Switches and relays	Relay RE1	P

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..... :	(See appended table 5.2)	P
5.2.2.4	Single pulse limits..... :		N/A
5.2.2.5	Limits for repetitive pulses..... :		N/A
5.2.2.6	Ringling signals		N/A
5.2.2.7	Audio signals		N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements		N/A
	Test with test probe from Annex V		—
5.3.2.2 a)	Air gap – electric strength test potential (V)..... :		N/A
5.3.2.2 b)	Air gap – distance (mm) :		N/A
5.3.2.3	Compliance		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		N/A
5.4.1.2	Properties of insulating material		N/A
5.4.1.3	Material is non-hygroscopic		N/A
5.4.1.4	Maximum operating temperature for insulating materials..... :		N/A
5.4.1.5	Pollution degrees..... :		N/A
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling test		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage..... :		N/A
5.4.1.9	Insulating surfaces		N/A
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..... :		N/A
5.4.2	Clearances		N/A
5.4.2.1	General requirements		N/A
	Clearances in circuits connected to AC Mains, Alternative method		N/A
5.4.2.2	Procedure 1 for determining clearance		N/A
	Temporary overvoltage :		N/A
5.4.2.3	Procedure 2 for determining clearance		N/A
5.4.2.3.2.2	a.c. mains transient voltage..... :		N/A
5.4.2.3.2.3	d.c. mains transient voltage :		N/A
5.4.2.3.2.4	External circuit transient voltage..... :		N/A
5.4.2.3.2.5	Transient voltage determined by measurement..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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.....		N/A
5.4.3	Creepage distances		N/A
5.4.3.1	General		N/A
5.4.3.3	Material group.....		N/A
5.4.3.4	Creepage distances measurement.....		N/A
5.4.4	Solid insulation		N/A
5.4.4.1	General requirements		N/A
5.4.4.2	Minimum distance through insulation		N/A
5.4.4.3	Insulating compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Insulating compound forming cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs)		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
	Number of layers (pcs)		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material.....		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P , K_R , d , V_{PW} (V).....		N/A
	Alternative by electric strength test, tested voltage (V), K_R		N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
5.4.5.3	Insulation resistance ($M\Omega$).....		N/A
	Electric strength test.....		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Relative humidity (%), temperature (°C), duration (h)..... :		N/A
5.4.9	Electric strength test		N/A
5.4.9.1	Test procedure for type test of solid insulation..... :		N/A
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
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)..... :		N/A
	Nominal voltage U_{peak} (V)..... :		N/A
	Max increase due to variation ΔU_{sp} :		N/A
	Max increase due to ageing ΔU_{sa} :		N/A
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		N/A
5.5.1	General		N/A
5.5.2	Capacitors and RC units		N/A
5.5.2.1	General requirement		N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector..... :		N/A
5.5.3	Transformers		N/A
5.5.4	Optocouplers		N/A
5.5.5	Relays		N/A
5.5.6	Resistors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.7	SPDs		N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable.....:		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A
	RCD rated residual operating current (mA).....:		—
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors		N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm ²):		—
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirements for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²).....:		—
5.6.4.2	Protective current rating (A).....:		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Terminal size for connecting protective earthing conductors (mm).....:		N/A
	Terminal size for connecting protective bonding conductors (mm).....:		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective bonding system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method.....:		N/A
5.6.6.3	Resistance (Ω) or voltage drop.....:		N/A
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm ²).....:		N/A
	Class II with functional earthing marking:		N/A
	Appliance inlet cl & cr (mm).....:		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		N/A
5.7.2	Measuring devices and networks		N/A
5.7.2.1	Measurement of touch current		N/A
5.7.2.2	Measurement of voltage		N/A

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

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of PS and PIS		P
6.2.2	Power source circuit classifications..... :	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources		N/A
6.2.3.1	Arcing PIS :	(See appended table 6.2.3.1), All primary circuit inside enclosure.	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		N/A
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)	N/A
	Combustible materials outside fire enclosure..... :	evaluated in final system	N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard method	Method of control fire spread used. Fire enclosure provided.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.3.1	Supplementary safeguards		N/A
6.4.3.2	Single Fault Conditions.....:		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		P
6.4.5	Control of fire spread in PS2 circuits		P
6.4.5.2	Supplementary safeguards		P
6.4.6	Control of fire spread in PS3 circuits	evaluated in final 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		N/A
6.4.8.2	Fire enclosure and fire barrier material properties		N/A
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	Enclosure material: V-0	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		N/A
6.4.8.3.1	Fire enclosure and fire barrier openings		N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties		N/A
	Openings dimensions (mm).....:		N/A
6.4.8.3.4	Bottom openings and properties		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		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.....:	Plastic enclosure is made of V-0 class material	P
6.4.9	Flammability of insulating liquid.....:		N/A
6.5	Internal and external wiring		N/A
6.5.1	General requirements		N/A
6.5.2	Requirements for interconnection to building wiring.....:		N/A
6.5.3	Internal wiring size (mm ²) for socket-outlets.....:		N/A
6.6	Safeguards against fire due to the connection to additional equipment		P

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES	N/A
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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.2	Reduction of exposure to hazardous substances		N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards or personal protective equipment (PPE)		N/A
	Personal safeguards and instructions..... :		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010)..... :		—
7.6	Batteries and their protection circuits		N/A

8	MECHANICALLY-CAUSED INJURY		P
8.2	Mechanical energy source classifications		P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners		P
8.4.1	Safeguards	Weight of EUT is classed as MS1	P
	Instructional Safeguard..... :		N/A
8.4.2	Sharp edges or corners		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

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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..... :		
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		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..... :		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)..... :		—
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

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Clause	Requirement + Test	Result - Remark	Verdict
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..... :	Evaluated in final system	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	TS1	P
9.5.2	Instructional safeguard..... :		P
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		N/A
10.2	Radiation energy source classification		N/A
10.2.1	General classification		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Lasers.....:		—
	Lamps and lamp systems.....:		—
	Image projectors.....:		—
	X-Ray.....:		—
	Personal music player.....:		—
10.3	Safeguards against laser radiation		N/A
	The standard(s) equipment containing laser(s) comply.....:		N/A
10.4	Safeguards against optical radiation from lamps and lamp systems (including LED types)		N/A
10.4.1	General requirements		N/A
	Instructional safeguard provided for accessible radiation level needs to exceed		N/A
	Risk group marking and location.....:		N/A
	Information for safe operation and installation		N/A
10.4.2	Requirements for enclosures		N/A
	UV radiation exposure.....:		N/A
10.4.3	Instructional safeguard.....:		N/A
10.5	Safeguards against X-radiation		N/A
10.5.1	Requirements		N/A
	Instructional safeguard for skilled persons.....:		—
10.5.3	Maximum radiation (pA/kg).....:		—
10.6	Safeguards against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A).....:		N/A
	Unweighted RMS output voltage (mV).....:		N/A
	Digital output signal (dBFS).....:		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
B.2	Normal operating conditions		P
B.2.1	General requirements.....:	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers.....:		N/A
B.2.3	Supply voltage and tolerances	Certificated power supply used	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	Evaluated in final system	N/A
	Instructional safeguard.....:		N/A
B.3.3	DC mains polarity test	The EUT is not connected to a D.C. mains	N/A
B.3.4	Setting of voltage selector	No voltage selector was used.	N/A
B.3.5	Maximum load at output terminals		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.....:	All safeguards remained effective. (See appended table B.3, B.4)	P
B.4	Simulated single fault conditions 错误!未指定书签。		P
B.4.1	General		P
B.4.2	Temperature controlling device		N/A
B.4.3	Blocked motor test	(See Clause G.5)	P
B.4.4	Functional insulation	(See appended table B.3, B.4)	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.3, B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.3, B.4)	P

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.3, B.4)	P
B.4.6	Short circuit or disconnection of passive components	(See appended table B.3, B.4)	P
B.4.7	Continuous operation of components		N/A
B.4.8	Compliance during and after single fault conditions :	(See appended table B.3, B.4)	P
B.4.9	Battery charging and discharging under single fault conditions		N/A
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus..... :		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure test		N/A
C.2.4	Xenon-arc light-exposure test		N/A
D	TEST GENERATORS		P
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		P
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

IEC 62368-1			
Clause	Requirement + Test		Verdict
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General		P
	Language	English.	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1	Letter symbols for quantities and units are complied with IEC 60027-1.	P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific	Graphical symbols are complied with IEC 60417, ISO 3864-2, ISO 7000 or ISO 7010.	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations		P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification	See copy of marking plate for details	P
F.3.2.2	Model identification	See copy of marking plate for details	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.....	DC	P
F.3.3.4	Rated voltage.....	See copy of marking plate	P
F.3.3.5	Rated frequency.....	DC input	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	No appliance-outlet or socket-outlet used	N/A
F.3.5.2	Switch position identification marking.....		N/A
F.3.5.3	Replacement fuse identification and rating markings	No fuse used	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		N/A
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.....	Evaluated in final system	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.1.2	Protective bonding conductor terminals		N/A
F.3.6.2	Equipment class marking.....		N/A
F.3.6.3	Functional earthing terminal marking.....		N/A
F.3.7	Equipment IP rating marking.....	IPX0	P
F.3.8	External power supply output marking.....	See copy of marking plate	P
F.3.9	Durability, legibility and permanence of marking	Marking is considered to be legible and easily discernible. See also the following details.	P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. After each test, the marking remained legible.	P
F.4	Instructions		P
	a) Information prior to installation and initial use		P
	b) Equipment for use in locations where children not likely to be present		N/A
	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		N/A
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard		N/A
	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	No switches used	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.1.3	Test method and compliance		N/A
G.2	Relays		P
G.2.1	Requirements	Relay are comply with the requirements of IEC 61810-1:2015	P
G.2.2	Overload test		P
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		P
G.3	Protective devices		P
G.3.1	Thermal cut-offs		N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links		N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors		N/A
G.3.4	Overcurrent protection devices	(See appended table 4.1.2 and B.4) Current fuse is complying IEC/EN 60127.	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		P
G.3.5.1	Non-resettable devices suitably rated and marking provided		P
G.3.5.2	Single faults conditions.....:	See table B.4 for details.	P
G.4	Connectors		N/A
G.4.1	Spacings		N/A
G.4.2	Mains connector configuration.....:		N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	Wound components		P
G.5.1	Wire insulation in wound components	Approved source of triple insulated wire used as secondary winding for reinforced insulation	P
G.5.1.2	Protection against mechanical stress	Separated by insulation tube between winding	P
G.5.2	Endurance test		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Test time (days per cycle)..... :		—
	Test temperature (°C)..... :		—
G.5.2.3	Wound components supplied from the mains		N/A
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers		P
G.5.3.1	Compliance method..... :	Comply with the requirements as below	P
	Position..... :	T1,T3	P
	Method of protection..... :	Electronic protection	P
G.5.3.2	Insulation		P
	Protection from displacement of windings..... :	Fixed by bobbin and insulation tape and triple insulated wire	—
G.5.3.3	Transformer overload tests	(See appended table B.3, B.4)	P
G.5.3.3.1	Test conditions		P
G.5.3.3.2	Winding temperatures		P
G.5.3.3.3	Winding temperatures - alternative test method		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter..... :		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation..... :		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		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		P

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.6.2	Tested in the unit		P
	Maximum Temperature :	See table B.3	P
G.5.4.6.3	Alternative method		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage :		—
G.6	Wire Insulation		P
G.6.1	General		P
G.6.2	Enamelled winding wire insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements	No mains supply cords provided	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, <i>D</i> (mm)..... :		—
	Radius of curvature after test (mm)..... :		—
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	Varistors		P
G.8.1	General requirements		P
G.8.2	Safeguards against fire	V-0 for coating	P
G.8.2.1	General	evaluated in final system	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
G.11.1	General requirements	(See appended table 4.1.2) Y capacitors and X capacitors are used according to IEC 60384-14.	P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		P
G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5 with specifics	Approved optocoupler used.	P
	Type test voltage $V_{ini,a}$:	Min. 4000Vdc	—
	Routine test voltage, $V_{ini,b}$:	Min. 4000Vdc	—
G.13	Printed boards		P
G.13.1	General requirements	See the following details.	P
G.13.2	Uncoated printed boards	The insulation between conductors on the outer surfaces of an uncoated printed board or over the outer surface of coated printed boards complied with the minimum clearance and creepage requirements of 5.4.2 and 5.4.3.	P
G.13.3	Coated printed boards	No coated printed board or multilayer board applied for within the equipment.	N/A
G.13.4	Insulation between conductors on the same inner surface		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
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)		—

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Clause	Requirement + Test	Result - Remark	Verdict
H.3.1.4	Single fault current (mA):.....:		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V):.....:		N/A
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		P
J.1	General		P
	Winding wire insulation.....:	Approved triple insulated wires complied with Annex J of IEC 62368-1	—
	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	(See separate test report)	—
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
	Instructional safeguard.....:	No safety interlocks inside the EUT	N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
K.5.1	Under single fault condition		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance.....:		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm):.....:		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm):.....:		N/A
	Electric strength test before and after the test of K.7.2.....:		N/A
K.7.2	Overload test, Current (A):.....:		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
L	DISCONNECT DEVICES		N/A
L.1	General requirements	evaluated in final system	N/A
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single-phase equipment		N/A
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
	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		P
M.4.1	General		P
M.4.2	Charging safeguards		P
M.4.2.1	Requirements		P
M.4.2.2	Compliance..... :		P
M.4.3	Fire enclosure..... :		P
M.4.4	Drop test of equipment containing a secondary lithium battery		P
M.4.4.2	Preparation and procedure for the drop test		P
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%): :		P
M.4.4.4	Check of the charge/discharge function		P
M.4.4.5	Charge / discharge cycle test		P
M.4.4.6	Compliance		P

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Clause	Requirement + Test	Result - Remark	Verdict
M.5	Risk of burn due to short-circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Test method and compliance		N/A
M.6	Safeguards against short-circuits		N/A
M.6.1	External and internal faults		N/A
M.6.2	Compliance		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
	Calculated hydrogen generation rate..... :		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, Q (m ³ /h)..... :		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%)..... :		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate..... :		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%)..... :		N/A
M.7.4	Marking..... :		N/A
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		N/A
	Material(s) used..... :		—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Value of X (mm)..... :	Considered	—

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Clause	Requirement + Test	Result - Remark	Verdict
P	SAFEGUARDS AGAINST CONDUCTIVE OBJECTS		N/A
P.1	General	No opening	N/A
P.2	Safeguards against entry or consequences of entry of a foreign object		N/A
P.2.1	General	No opening	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
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		N/A
Q.1	Limited power sources		N/A
Q.1.1	Requirements		N/A
	a) Inherently limited output		N/A
	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..... :		N/A
	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..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General		N/A
R.2	Test setup		N/A
	Overcurrent protective device for test..... :		—
R.3	Test method		N/A
	Cord/cable used for test..... :		—
R.4	Compliance		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material..... :		—
	Wall thickness (mm)..... :		—
	Conditioning (°C)..... :		—
	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		N/A
T.3	Steady force test, 30 N		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
T.4	Steady force test, 100 N		N/A
T.5	Steady force test, 250 N		P
T.6	Enclosure impact test		P
	Fall test		P
	Swing test		N/A
T.7	Drop test		P
T.8	Stress relief test.....		P
T.9	Glass Impact Test.....		N/A
T.10	Glass fragmentation test		N/A
	Number of particles counted.....		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		N/A
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General		N/A
	Instructional safeguard :		N/A
U.2	Test method and compliance for non-intrinsically protected CRTs		N/A
U.3	Protective screen		N/A
V	DETERMINATION OF ACCESSIBLE PARTS		N/A
V.1	Accessible parts of equipment		N/A
V.1.1	General	evaluated in final system	N/A
V.1.2	Surfaces and openings tested with jointed test probes		N/A
V.1.3	Openings tested with straight unjointed test probes		N/A
V.1.4	Plugs, jacks, connectors tested with blunt probe		N/A
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		N/A
V.2	Accessible part criterion		N/A
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	Not such equipment	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

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

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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⁾	
38.4Vdc	All Internal circuits (Primary circuits)	Normal	--	--	--	--	ES1 (declared)
		Abnormal	--	--	--	--	
		Single fault – SC/OC	--	--	--	--	
Supplementary information:							
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.							
2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.							

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

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

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

5.4.2, 5.4.3	TABLE: Minimum Clearances/Creepage distance							N/A
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)

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Clause	Requirement + Test	Result - Remark	Verdict

--	--	--	--	--	--	--	--	--
Supplementary information:								
--								

5.4.4.2	TABLE: Minimum distance through insulation				N/A
Distance through insulation (DTI) at/of		Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)
--		--	--	--	--
Supplementary information:					
*: All alternate materials listed in table 4.1.2 were considered.					

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:							
For TIW: $V_w=1.2 \cdot 2 \cdot V_{PW} / K_R=2 \cdot 1.2 \cdot 630 / 0.39=3877V$, and see table 5.4.9.							
For tape: $V_w=1.2 \cdot 2 \cdot V_{PW} / K_R=2 \cdot 1.2 \cdot 630 / 0.57=2653V$, and see table 5.4.9.							
For Transformer bobbin: $V_w=E_P \cdot K_R \cdot d=17 \cdot 0.71 \cdot 0.15=1810.5V$, $> 1.2 \times 2 \times 630 / 1.41V=1072V$							

5.4.9	TABLE: Electric strength tests			N/A
Test voltage applied between:		Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
Functional:				
--		--	--	--
Basic/supplementary:				
--		--	--	--
Reinforced:				
--		--	--	--
Routine Tests:		--	--	--
--		--	--	--
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:						

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Clause	Requirement + Test	Result - Remark	Verdict

X-capacitors installed for testing: CX1=CX2=CX4=1.0uF±20%

[] bleeding resistor rating: R1=R2=R3=R4=1.0Mohm.

[] ICX:

1) Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit

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

5.7.4	TABLE: Unearthed accessible parts						N/A
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class	
			Voltage (V _{rms} or V _{pk})	Current (A _{rms} or A _{pk})	Freq. (Hz)		
Model: LMF1000-20B288							
--	--	--	--	--	--	--	
Supplementary information:							
Abbreviation: SC= short circuit; OC= open circuit							

5.7.5	TABLE: Earthed accessible conductive part			N/A
Supply voltage (V).....:				—
Phase(s)	[] Single Phase; [] Three Phase: [] Delta [] Wye			
Power Distribution System	[] TN []TT [] IT			
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment	
--	--	--	--	
Supplementary Information:				
Notes:				
[1] Supply voltage is the anticipated maximum Touch Voltage				
[2] Earthed neutral conductor [Voltage differences less than 1% or more]				
[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3				
[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.				
(*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.				

5.8	TABLE: Backfeed safeguard in battery backed up supplies					N/A
Location	Supply voltage (V)	Operating and fault condition	Time (s)	Open-circuit voltage (V)	Touch current (A)	ES Class
--	--	--	--	--	--	--

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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
Model: B215						
DC1 Output	worst case load fault	--	--	800	--	PS3 (declared)
Model: B215						
V01 Output	worst case load fault	--	--	800	--	PS3 (declared)
Model: B215						
V02 Output	worst case load fault	--	--	29	5)	PS2
Supplementary information:						
Abbreviation:						
1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3.						

6.2.3.1	TABLE: Determination of Arcing PIS				N/A
Location	Open circuit voltage After 3 s (V _p)	Measured r.m.s current (I _{rms})	Calculated value (V _p x I _{rms})	Arcing PIS? Yes / No	
--	--	--	--	--	
Supplementary information:					
An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V _p) and normal operating condition rms current (I _{rms}) is greater than 15.					

6.2.3.2	TABLE: Determination of resistive PIS				N/A
Location		Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No	
--		--	--	--	
Supplementary information:					
Abbreviation: SC= short circuit; OC= open circuit					

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

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Clause	Requirement + Test	Result - Remark	Verdict

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 (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)
--	--	--	--	--	--	--	--	--
Supplementary information:								
--								

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements					P
Supply voltage (V).....:	43.2Vdc	--	--	--	—	
Ambient temperature during test T_{amb} (°C).....:	25	--	--	--	—	
Maximum measured temperature T of part/at:	T (°C)				Allowed T_{max} (°C)	
Model: B215	(PV1 80V20A)		(DC1 24V50A)		--	
PCB near U10	59.3		66.3		130	
PCB near U12	57.4		62.5		130	
PCB near L10	58.4		67.8		130	
PCB near U18	56.8		64.3		130	
PCB near U17	36.8		39.2		130	
PCB near CN7	34.9		37.2		130	
PCB near C45	49.3		53.8		130	
PCB near F2	42.1		45.4		130	
CN12	32.6		34.2		85	
CN13	33.8		35.1		85	
PCB near R159	34.1		36.8		130	
Red Wire(B+)	30.2		33.6		85	
CELL1	26.8		28.4		100	
CELL2	28.1		30.2		100	
CELL3	27.3		29.5		100	
Housing surface near the outlet	26.1		28.5		80	
Housing surface near the input port	32.6		34.5		80	

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Clause		Requirement + Test				Result - Remark		Verdict
The inner surface of the housing near the screen		30.5				32.7		80
The inner surface of the housing near the outlet		35.1				36.8		80
Inner surface of housing near input port		30.9				32.5		80
Ambient		23.5				22.9		--
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:								
- Thermal coupler method used for above temperature tests.								

B.2.5		TABLE: Input test							N/A
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
--	--	--	--	--	--	--	--	--	
Supplementary information:									
--									

B.3, B.4		TABLE: Abnormal operating and fault condition tests					P
Ambient temperature T _{amb} (°C)..... :							—
Power source for EUT: Manufacturer, model/type, outputrating... :							—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
Model: B215							
Charging (with battery already discharged to 24V, charge condition: 43.2V, 20A)							
	Normal condition	43.2	3h	--	--	Unit operated normally. Unit Shut down. No chemicals leak, explosion, molten metal emission or expulsion observed. Uoc= 24 V.	
	Single fault:	43.2	3h	--	--	Unit operated normally.	

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Clause	Requirement + Test	Result - Remark	Verdict

						Unit Shut down. No chemicals leak, explosion, molten metal emission or expulsion observed. Uoc= 24 V.
Discharge (CURRENT: with battery already fully charged to 43.2V, DC output current: 50A)						
	Normal	--	1h	--	--	Unit operated normally. Unit Shut down. No chemicals leak, explosion, molten metal emission or expulsion observed. Uoc= 43.2 V.
	Single fault:	--	1h	--	--	Unit operated normally. Unit Shut down. No chemicals leak, explosion, molten metal emission or expulsion observed. Uoc= 43.2 V.
Supplementary information:						
1) SC: short circuit, OL: overload, OC: open circuit; CD: components damaged; 2) The Hi-pot test conducted successfully after the completion of fault condition test; 3) #: All tests which fuse opened were repeated 2 times with each source of fuse F1 and F2 and same result observed. 3) All tests were considered in AC 90V also, same result generated. 4) During and after abnormal operating conditions, the output voltage did not increase by more than 10% of its rated output voltage under normal operating condition. 5) During and after single fault conditions, the output voltage did not increase by more than 10% of its rated output voltage under normal operating condition. 6) Transformer winding and core temperature limit is 165°C=(175-10)°C.						

M.3	TABLE: Protection circuits for batteries provided within the equipment					P
Is it possible to install the battery in a reverse polarity position?.....:						—
Equipment Specification	Charging					
	Voltage (V)			Current (A)		
	43.2			20		
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)		
Normal Condition	/	/	43.2	20	50	/
Max. current during fault condition	/	/	60	23	52	/

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Clause	Requirement + Test	Result - Remark	Verdict

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
--	All Fault	Overcharging	10h	49.2	20	43.2	NL NS NE NF
--	System Fault	Overcharging	10h	52.6	23	60	NL NS NE NF
--	All Fault	Excessive Discharging	2h	65.8	50	--	NL NS NE NF
--	System Fault	Excessive Discharging	2h	64.9	52	--	NL NS NE NF
Supplementary information:							
Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.							

M.4.2	TABLE: Charging safeguards for equipment containing a secondary lithium battery					P
Maximum specified charging voltage (V)..... :					43.2	—
Maximum specified charging current (A)					20	—
Highest specified charging temperature (°C)					55	
Lowest specified charging temperature (°C)					0	
Battery manufacturer/type	Operating and fault condition	Measurement			Observation	
		Charging voltage (V)	Charging current (A)	Temp. (°C)		
OVP	System Fault,simulated over voltage condition(set 48V/20A)	48	--	--	The charging voltage and current didn't exceed the maximum specified charging voltage and current. No damage, no hazards.	
OCP	System Fault simulated over current condition(set 43.2V,20A rise to 24 A)	43.2	Max current:23A	--	The charging voltage and current didn't exceed the maximum specified charging voltage and current. No damage, no hazards.	
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)						N/A
Output Circuit	Condition	U _{oc} (V)	Time (s)	I _{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit

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Clause	Requirement + Test			Result - Remark			Verdict
--	--	--	--	--	--	--	--
Supplementary Information:							

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	
Metal Enclosure (Top cover)	Metal	30	250	5	Metal Enclosure (Top cover)	No damaged, no hazard	
Metal Enclosure (bottom)	Metal	30	250	5	Metal Enclosure (bottom)	No fire, no explosion, no leakage.	
Metal Enclosure (side)	Metal	30	250	5	Metal Enclosure (side)	No fire, no explosion, no leakage.	
Supplementary information:							
No damaged, no hazards							

T.6, T.9	TABLE: Impact test				P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation	
Metal Enclosure	Metal	52	750	No fire, no explosion, no leakage.	
Supplementary information:					
No damaged, no hazards					

T.7	TABLE: Drop test				P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation	
Metal Enclosure	Metal	52	750	No fire, no explosion, no leakage.	
Supplementary information:					
No damaged, no hazards					

T.8	TABLE: Stress relief test				P
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Clause	Requirement + Test	Result - Remark	Verdict

Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Metal Enclosure	Metal	--	70	7	No fire, no explosion, no leakage.
Supplementary information:					
No damaged, no hazards					

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

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Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	TABLE: Critical components information				
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾
Cell	EVPS Anhui Power Battery Co., Ltd.	ITR26/70- 40E(R1)	3.2V, 4000mAh	IEC 62133-2: 2017+A1	JPTUV- 136785 Report number: CN22L694 001
IC (U18)	Texas Instruments	BQ76952	V _{BAT} :4.7~80V	--	Tested with appliance
PCB	SUNKING CIRCUITS ELECTRONICS CO., LTD	SK-05	V-0, 130 °C	UL796	E 326765
PCB	Interchangeable	Interchangeable	Min. V-0, 130 °C	UL796	UL approved
Charging wires	Interchangeable	Interchangeable	Min. 80 °C, min. 105V, min. 18AWG	UL 758	UL approved
Discharging wires	Interchangeable	Interchangeable	Min. 80 °C, min. 105V, min. 18AWG	UL 758	UL approved
Internal wires	Interchangeable	Interchangeable	Min. 80 °C, min. 105V, min. 18AWG	UL 758	UL approved
Connector	Interchangeable	Interchangeable	Rated min. 500 V, min. 20 A, 120 °C	UL1977	UL approved
Fuse (F1, F2, F4)	SCHOTT	D6SA14-30	Rated: 30A Breaking: 80A	--	--
MOSFET (Q9, Q10, Q11, Q12, Q14, Q15, Q17, Q18, Q20, Q21, Q22, Q23)	China Resources Microelectronics (Chongqing) Limited	CRSS028N10N	V _{DS} =100V, V _{GS} = ±20V, I _D = 180 A	--	Tested with appliance
Plastic holder	Interchangeable	Interchangeable	PC V-0	UL94	UL approved
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) License available upon request.					

Photo



Figure 1. Overall view of unit



Figure 2. Overall view of unit

Photo

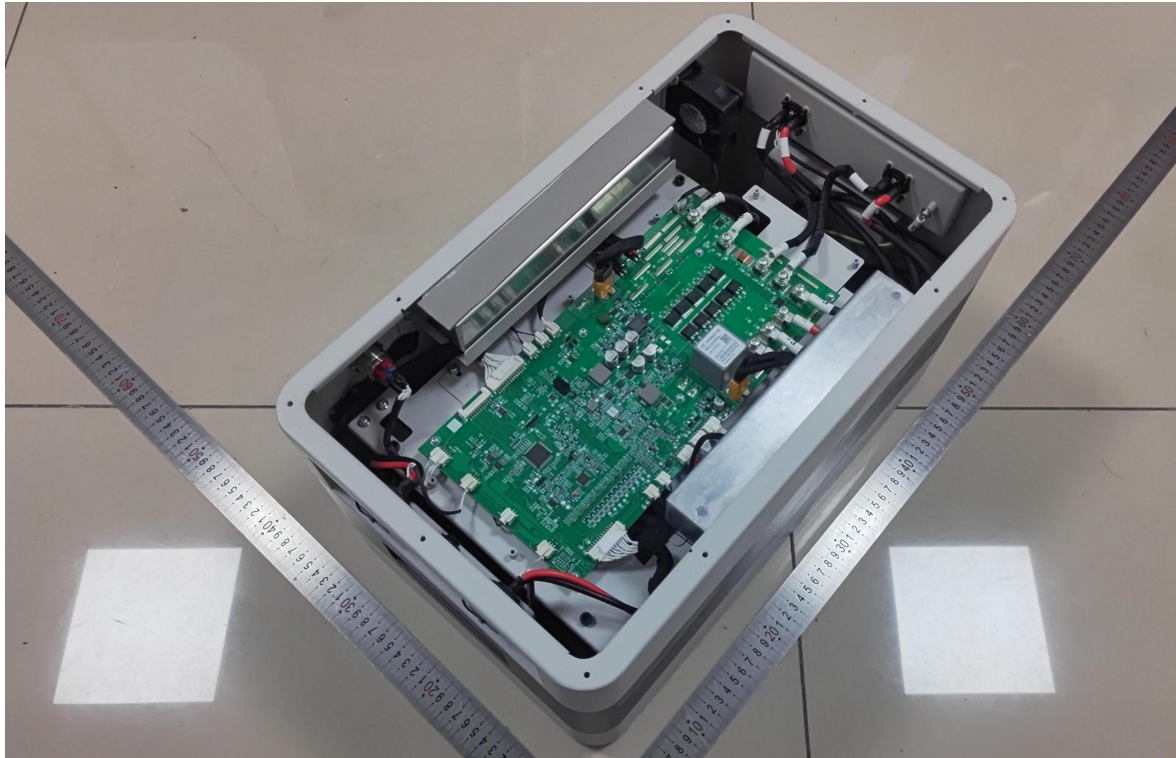


Figure 3.Internal view of unit

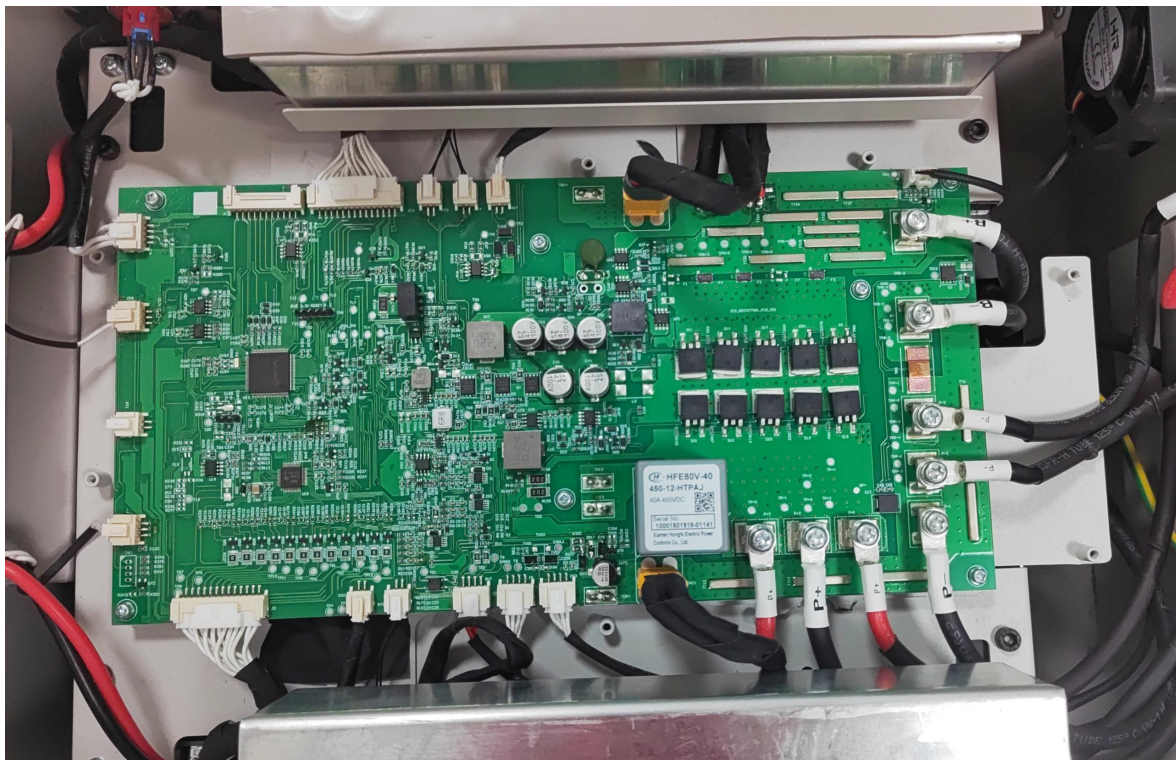


Figure 4.Internal view of unit

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