TEST REPORT

IEC 62368-1

Audio/video, information and communication technology equipment

Part 1: Safety requirements

Report Number.....:	RHDTL260407039
Total number of pages.....	73 pages
Tested by (name + signature).....	Jojo Zhou
Tested by (name + signature).....	Brian Liu
Approved by (name + signature)...	Chris zhao
Testing Laboratory Name.....:	Dongguan HDTL Technology Co., Ltd.
Address.....:	Room 101, Building 1, No. 5 of Jinzhong Road, Dongcheng Street, Dongguan City, Guangdong Province, China.
Applicant's name.....:	DongGuan XinZhiXin Technology Co.,Ltd
Address.....:	Room 502, No. 6 Shizhai Road, Chang'an Town, Dongguan City, Guangdong Province
Manufacturer's name.....:	DongGuan XinZhiXin Technology Co.,Ltd
Address.....:	Room 502, No. 6 Shizhai Road, Chang'an Town, Dongguan City, Guangdong Province
Test specification:	
Standard.....:	IEC 62368-1:2023
Test procedure.....:	IEC report
Non-standard test method.....:	N/A

Test item description.....:	20000mAh Power Bank
Trade Mark.....:	N/A
Model/Type reference.....:	Q1075
Ratings.....:	Battery cell: 12000mAh 44.4Wh 3.7V Type-C Input: 5V⎓3A/ 9V⎓2A/ 12V⎓1.5A Micro Input: 5V⎓3A/ 9V⎓2A/ 12V⎓1.5A Type-C Output: 5V⎓3A/ 9V⎓2.22A/ 12V⎓1.67A USB A1 Output: 5V⎓2.4A/ 9V⎓2A/ 12V⎓1.5A/ 5V⎓4.5A USB A2 Output: 5V⎓2.4A/ 9V⎓2A/ 12V⎓1.5A/ 5V⎓4.5A Output Total: 22.5WMax

General disclaimer:

This report is only for applicant use. Any copying this report to/for any other person or entity, and use our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification

List of Attachments:

- Measurement Section
- Attachment No.1:Photo document (4 pages)

Total number of pages in each attachment is indicated in each individual attachment.

Summary of testing:

The tested samples fulfilled the requirements of specified standards.

Testing location:

Dongguan HDTL Technology Co., Ltd.

Room 101, Building 1, No. 5 of Jinzhong Road, Dongcheng Street, Dongguan City, Guangdong Province, China.

Summary of compliance with National Differences:

List of countries addressed:

☒ The product fulfils the requirements of **IEC 62368-1:2023**

Remark:

/

Copy of marking plate:

The artwork below may be only a draft.

20000mAh Power Bank
Model: Q1075
Battery cell: 12000mAh 44.4Wh 3.7V
Type-C Input: 5V⎓3A/ 9V⎓2A/ 12V⎓1.5A
Micro Input: 5V⎓3A/ 9V⎓2A/ 12V⎓1.5A
Type-C Output: 5V⎓3A/ 9V⎓2.22A/ 12V⎓1.67A
USB A1 Output: 5V⎓2.4A/ 9V⎓2A/ 12V⎓1.5A/ 5V⎓4.5A
USB A2 Output: 5V⎓2.4A/ 9V⎓2A/ 12V⎓1.5A/ 5V⎓4.5A
Output Total: 22.5WMax

DongGuan XinZhiXin Technology Co.,Ltd
Made in China
Importer: xxx

Note:
1. xxx means importer company name; yyy means importer company address information.
2.The marking for the other models are identical as above except the model no. only.
3.As declared by client that the name (or registered trade mark) and address of the certificate holder (manufacturer) or the importer or authorized representative based within the European Economic Area will be clearly affixed on the product or where that is not possible, on the packaging or in a document accompanying the product.
4.The height of letters and numerals was not less than 2mm.
5.The height of symbol “  ” was not less than 7mm.
6.The height of the other graphical symbols was not less than 5mm.

Test item particulars.....:	See test report
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: Not directly connected to mains
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: Not directly connected to mains
Class of equipment.....:	☐ Class I ☐ Class II ☐ Class II with functional earthing ☒ Class III ☐ Not classified ☐
Special installation location.....:	☒ N/A ☐ restricted access area ☐ outdoor location ☐
Special installation location.....:	☒ N/A ☐ restricted access area ☐ outdoor location ☐
Pollution degree (PD).....:	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified T_{ma}.....:	35 °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 ☒ 5000 m
Altitude of test laboratory (m).....:	☒ 2000 m or less ☐ m
Mass of equipment (kg).....:	0.411kg
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.....:	Apr. 04, 2026
Date (s) of performance of tests.....:	Apr. 04, 2026 to Apr. 14, 2026

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.**
Name and address of factory (ies).....: Same as manufacture
General product information: 1. The appliance/equipment is “20000mAh Power Bank” with model “Q1075”, as class III appliance, Powered by an approved battery and with an input circuit claiming PS3. 2. Electrical components are mounted on PCB and enclosed by plastic enclosure. 3. The bottom enclosure is secured to top enclosure by snap. 4. The equipment was submitted and tested for use at the maximum ambient temperature (Tma) permitted by the manufacturer’s specification is 35℃. 5. The following are available from the Applicant upon request : Installation (Safety) Instructions / Manual.

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 circuits	Ordinary	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1st S	2nd S
PS3: Declare(All input circuits)	Plastic enclosure, PCB, internal line	N/A	Plastic enclosure:V-0 PCB:V-0, internal line:see 6.5	N/A
PS2: <100W Watt circuit(Type-C Output)	Plastic enclosure, PCB	See 6.3.1	Plastic enclosure:V-0 PCB:V-0	N/A
PS2: <100W Watt circuit(USB A1/A2 Output)	Plastic enclosure, PCB	Equipment safeguards	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
Polymer lithium-ion battery	N/A	N/A	N/A	See Appendix M
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	N/A	N/A	N/A
MS1: Equipment mass <7kg	Ordinary	N/A	N/A	N/A
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS1: External surfaces	Ordinary	N/A	N/A	N/A
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
RS1: LED display	Ordinary	N/A	N/A	N/A
Supplementary Information: "B" – Basic Safeguard; "S" – Supplementary Safeguard; "R" – Reinforced Safeguard				

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	**General Requirements**		**P**
4.1.1	Acceptance of materials, components and subassemblies		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):	For indoor use only	N/A
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids and liquid filled components (LFC)	No such components	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 Annex T.4)	P
4.4.3.3	Drop tests	(See Annex T.7)	P
4.4.3.4	Impact tests		N/A
4.4.3.5	Internal accessible safeguard tests	No internal accessible safeguard	N/A
4.4.3.6	Glass impact tests	No glass used	N/A
4.4.3.7	Glass fixation tests	No such equipment	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)	P
4.4.3.9	Air comprising a safeguard		N/A
4.4.3.10	Accessibility, glass, safeguard effectiveness	All safeguards remain effective	N/A
4.4.4	Displacement of a safeguard by an insulating liquid	No insulating liquids	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.4.5	Safety interlocks	No safety interlocks	N/A
4.5	**Explosion**		**P**
4.5.1	General	No explosion occurs during normal/abnormal operation and single fault conditions	P
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	P
	No harm by explosion during single fault conditions	(See Clause B.4)	P
4.6	**Fixing of conductors and conductive parts**		N/A
	Fix conductors not to defeat a safeguard		N/A
	Compliance is checked by test :		N/A
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 such coin/button battery	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

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Clause	Requirement + Test	Result - Remark	Verdict
	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**		N/A
4.10	**Component requirements**		**P**
4.10.1	Disconnect Device		N/A
4.10.2	Switches and relays	No switches and relays used	N/A
4.10.3	Mains power supply cords		N/A
4.10.4	Batteries and their protection circuits	(See Annex M)	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 :		N/A
5.2.2.4	Single pulse limits :	No single pulse introduced	N/A
5.2.2.5	Limits for repetitive pulses :	No repetitive pulses introduced	N/A
5.2.2.6	Ringing signals	No means for connection to telephone network and no ringing signal generated	N/A
5.2.2.7	Audio signals	No audio signal terminals	N/A
5.3	**Protection against electrical energy sources**		N/A
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		N/A
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards		N/A
	Accessibility to outdoor equipment bare parts	Indoor used only	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	No such terminals	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	No hygroscopic insulating material used as insulation	N/A
5.4.1.4	Maximum operating temperature for insulating materials :	(See appended table 5.4.1.4)	P
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	No such transformer	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such circuit	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

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Clause	Requirement + Test	Result - Remark	Verdict
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 :		—
5.4.2.3	Procedure 2 for determining clearance		N/A
5.4.2.3.2.2	a.c. mains transient voltage :		—
5.4.2.3.2.3	d.c. mains transient voltage :		—
5.4.2.3.2.4	External circuit transient voltage :		—
5.4.2.3.2.5	Transient voltage determined by measurement :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test :		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 :		—
5.4.3.4	Creepage distances measurement :		N/A
5.4.4	Solid insulation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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	No such components	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	No antenna terminal used.	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	No such insulation	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		N/A
	Relative humidity (%), temperature (°C), duration (h) :		—
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	No 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	No external circuits	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} :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Max increase due to ageing ΔU_{sa} :		—
5.4.11.3	Test method and compliance :		N/A
5.4.12	Insulating liquid	No such 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	No relay used	N/A
5.5.6	Resistors		N/A
	Application type of resistors :		—
5.5.7	Surge suppressors		N/A
	GDT.....:		N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable :		N/A
	Insulation resistance (MΩ) :		N/A
	Electric strength test :		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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
	Relevant IEC standard :		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

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Clause	Requirement + Test	Result - Remark	Verdict
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
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	No 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	No external circuits	N/A
	a) Equipment connected to earthed external circuits, current (mA) :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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		P
6.2.3.1	Arcing PIS :		N/A
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 5.4.1.4, 6.3.2, 9.0, B.2.6)	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 fire spread 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 :	(See appended table B.3, B.4)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
6.4.7	Separation of combustible materials from a PIS	No separation of combustible materials by distance or by a fire barrier	N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.2	Fire enclosure and fire barrier material properties	Plastic Enclosure: 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	Plastic Enclosure: 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	No openings on the fire enclosure	N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties	No openings on the fire enclosure	N/A
	Openings dimensions (mm) :		N/A
6.4.8.3.4	Bottom openings and properties	No openings on the fire enclosure	N/A
	Openings dimensions (mm) :		N/A
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3.5	Side openings and properties	No openings on the fire enclosure	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: V-0	P
6.4.9	Flammability of insulating liquid :		N/A
	Auto ignition temperature (°C):		N/A
	Flashpoint temperature (°C) :		N/A
6.5	**Internal and external wiring**		**P**
6.5.1	General requirements	Approved internal wire used	P
6.5.2	Requirements for interconnection to building wiring :		N/A
6.5.3	Internal wiring size (mm^2) for socket-outlets :		N/A
6.6	**Safeguards against fire due to the connection to additional equipment**		P

7	**INJURY CAUSED BY HAZARDOUS SUBSTANCES**		**P**
7.2	**Reduction of exposure to hazardous substances**		**P**
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**		**P**
	Instructional safeguard (ISO 7010) :		—

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	Sharp edges and corners: MS1 classification; Equipment mass: MS1 classification	P
	Instructional Safeguard :		N/A
8.4.2	Sharp edges or corners	MS1 classification, no safeguard required	P
8.5	**Safeguards against moving parts**		**N/A**
8.5.1	Requirements	No moving parts	N/A
	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
	A manually activated stopping device for moving MS3		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

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m) :		N/A
	Space between end point and nearest fixed mechanical part (mm) :		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A
	- Mechanical function check and visual inspection		N/A
	- Cable assembly :		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts :		N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N) :		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps		N/A
	Explosion test :		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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
	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**
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

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Clause	Requirement + Test	Result - Remark	Verdict
	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**
	No sharp edges or points		N/A
	Button/ball diameter (mm) :		N/A
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 :	Accessible plastic enclosure: TS1 classification; (See appended table)	P
9.3.2	Test method and compliance		P

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Clause	Requirement + Test	Result - Remark	Verdict
9.4	**Safeguards against thermal energy sources**		**N/A**
9.5	**Requirements for safeguards**		N/A
9.5.1	Equipment safeguard	No safeguard is not required for TS1 classification	N/A
9.5.2	Instructional safeguard :	Instructional safeguard is not required	N/A
9.6	**Requirements for wireless power transmitters**		N/A
9.6.1	General		N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance :		N/A
10	**RADIATION**		P
10.2	**Radiation energy source classification**		P
10.2.1	General classification		P
	Lasers :	No laser radiation	—
	Lamps and lamp systems:	RS1: LED display	—
	Image projectors:	Not such equipment	—
	X-Ray :	No X-Ray	—
	Personal music player :	Not such equipment	—
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		P
	Instructional safeguard provided for accessible		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	radiation level needs to exceed		
	Risk group marking and location :	Exemption group	P
	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	No such 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

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Clause	Requirement + Test	Result - Remark	Verdict
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV) :		N/A
10.6.6.2	Corded listening devices with digital input		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A) :		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A) :		N/A
B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		**P**
B.1	**General**		**P**
B.1.5	Temperature measurement conditions	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
B.1.6	Specific output conditions		N/A
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		N/A
B.2.5	Input test :	(See appended table B.2.5)	P
B.2.6.4	Equipment intended for building-in or rack-mounting		N/A
B.3	**Simulated abnormal operating conditions**		**P**
B.3.1	General		P
B.3.2	Covering of ventilation openings	No ventilation openings	N/A
	Instructional safeguard :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector	No voltage selector	N/A
B.3.5	Maximum load at output terminals	(See appended table B.3)	P
B.3.6	Reverse battery polarity	No battery within the EUT	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错误！未定义书签。**		**P**
B.4.1	General		P
B.4.2	Temperature controlling device	No such device used	N/A
B.4.3	Blocked motor test	No motors used	N/A
B.4.4	Functional insulation		N/A
B.4.4.1	Short circuit of clearances for functional insulation		N/A
B.4.4.2	Short circuit of creepage distances for functional insulation		N/A
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors		N/A
B.4.6	Short circuit or disconnection of passive components		N/A
B.4.7	Continuous operation of components	Not intermittent or short-time operation equipment	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	(See Annex M)	P

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Clause	Requirement + Test	Result - Remark	Verdict
C	**UV RADIATION**		**N/A**
C.1	**Protection of materials in equipment from UV radiation**		**N/A**
C.1.2	Requirements	No UV radiation in the equipment	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**
E.2.1	Pink noise test signal		—
E.2.2	Sine-wave signal		—

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Clause	Requirement + Test	Result - Remark	Verdict
E.3	**Operating conditions of equipment containing an audio amplifier**		—
E.3.1	Normal operating conditions		—
E.3.2	Abnormal operating conditions		N/A
E.3.3	Audio equipment temperature measurement conditions……:…		N/A
F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		**P**
F.1	**General**		**P**
	Language :	English version checked	—
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**
F.3.1	Equipment marking locations	The marking is located on external enclosure of the equipment and easily 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	See copy of marking plate	P
F.3.3.1	Equipment with direct connection to mains		N/A
F.3.3.2	Equipment without direct connection to mains		P
F.3.3.3	Nature of the supply voltage :	⎓	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.3.4	Rated voltage :	See copy of marking plate	P
F.3.3.5	Rated frequency :		N/A
F.3.3.6	Rated current or rated power :	See copy of marking plate	P
F.3.3.7	Equipment with multiple supply connections	Single supply connection	N/A
F.3.4	Voltage setting device	No voltage setting device	N/A
F.3.5	Terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings :	No mains appliance outlet and socket-outlet	N/A
F.3.5.2	Switch position identification marking :	Not such switch	N/A
F.3.5.3	Replacement fuse identification and rating markings :		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		N/A
F.3.6.1	Class I equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal :		N/A
F.3.6.1.2	Protective bonding conductor terminals :		N/A
F.3.6.2	Equipment class marking :	Class III equipment	N/A
F.3.6.3	Functional earthing terminal marking :		N/A
F.3.7	Equipment IP rating marking :	IP20, no marking is needed	N/A
F.3.8	External power supply output marking :	See copy of marking plate	P
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings		P

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
	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 switchs used	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**

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Clause	Requirement + Test	Result - Remark	Verdict
G.2.1	Requirements	No relays used	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		N/A
G.3	**Protective devices**		P
G.3.1	Thermal cut-offs	No thermal cut-off used	N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links	No thermal links used	N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors		N/A
G.3.4	Overcurrent protection devices		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**		N/A
G.4.1	Spacings		N/A
G.4.2	Mains connector configuration:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	**Wound components**		N/A
G.5.1	Wire insulation in wound components		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) :		—
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		N/A
G.5.3.1	Compliance method :		N/A
	Compliance method :		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
	Position :		N/A
	Method of protection :		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

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Clause	Requirement + Test	Result - Remark	Verdict
	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	No motor used	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	Locked-rotor overload test		N/A
	Test duration (days) :		N/A
	Electric strength test :		N/A
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
	Electric strength test :		N/A
G.5.4.6	Locked-rotor overload test for DC motors		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature :		N/A
	Electric strength test :		N/A
G.5.4.6.3	Alternative method		N/A
	Electric strength test :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
G.6.2	Enamelled winding wire insulation		N/A
G.7	**Mains power supply cords and interconnection cables**		**N/A**
G.7.1	General requirements	No mains supply cords used	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):		—

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Clause	Requirement + Test	Result - Remark	Verdict
	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**		**N/A**
G.8.1	General requirements		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	No such IC used	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
	Changes of resistance (%) :		N/A
	Measured current with the lowest resistance value :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.10.4	Voltage surge test		N/A
	Changes of resistance (%) :		N/A
G.10.5	Impulse test		N/A
	Changes of resistance (%) :		N/A
G.10.6	Overload test		N/A
	Changes of resistance (%) :		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		N/A
	Type test voltage $V_{ini,a}$:		—
	Routine test voltage, $V_{ini,b}$:		—
G.13	**Printed boards**		**P**
G.13.1	General requirements	(See appended table 4.1.2)	P
G.13.2	Uncoated printed boards		N/A
G.13.3	Coated printed boards		P
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

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Clause	Requirement + Test	Result - Remark	Verdict
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 or LFC assemblies**		**N/A**
G.15.1	Requirements		N/A
G.15.2	Test methods and compliance criteria for self-contained LFC		N/A
G.15.2.1	Hydrostatic pressure test, applied test pressure:		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test, the change of tensile strength (%) :		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test, test temperature (°C) :		N/A
G.15.2.6	Force test		N/A
G.15.2.7	Compliance criteria		N/A
G.15.3	Test methods and compliance for a modular LFC		N/A
G.15.3.2	Hydrostatic pressure test, applied test pressure:		N/A
G.15.3.3	Creep resistance test		N/A
G.15.3.4	Tubing and fittings compatibility test, the change of tensile strength (%) :		N/A
G.15.3.5	Thermal cycle test, test temperature (°C) :		N/A
G.15.3.6	Force test		N/A
G.15.3.7	Compliance criteria		N/A
G.16	**IC including capacitor discharge function (ICX)**		**N/A**
G.16.1	Condition for fault tested is not required		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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	No telephone ringing signals	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

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Clause	Requirement + Test	Result - Remark	Verdict
J	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		N/A
J.1	**General**		N/A
	Winding wire insulation :		—
	Solid round winding wire, diameter (mm) :		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm^2) :		N/A
J.2/J.3	Tests and Manufacturing		—

K	**SAFETY INTERLOCKS**		**N/A**
K.1	**General requirements**		**N/A**
	Instructional safeguard :	No safety interlocks	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

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Clause	Requirement + Test	Result - Remark	Verdict
	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**		N/A
L.1	**General requirements**		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**		**P**
M.1	**General requirements**		**P**
M.2	**Safety of batteries and their cells**		**P**
M.2.1	Batteries and their cells comply with relevant IEC standards :		P
M.3	**Protection circuits for batteries provided within the equipment**		**P**
M.3.1	Requirements		P
M.3.2	Test method		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Overcharging of a rechargeable battery		P
	Excessive discharging		P
	Unintentional charging of a non-rechargeable battery		N/A
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance		**P**
M.4	**Additional safeguards for equipment containing a secondary lithium battery**		**P**
M.4.1	General		P
	IEC 62133-2 batteries used for sub-system power powering application :		P
M.4.2	Charging safeguards		P
M.4.2.1	Requirements		P
M.4.2.2	Test		P
M.4.2.2.1	General		P
M.4.2.2.2	Abnormal operating conditions		P
M.4.2.2.3	Single fault conditions		P
M.4.2.3	Compliance criteria :	(See appended table M.4.2)	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**		**P**
M.6.1	External and internal faults		P
M.6.2	Compliance		P
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

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Clause	Requirement + Test	Result - Remark	Verdict
M.8.2.2	Estimation of hypothetical volume V_Z (m^3/s) :		—
M.8.2.3	Correction factors :		—
M.8.2.4	Calculation of distance *d* (mm) :		—
M.9	**Preventing electrolyte spillage**		**N/A**
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	**Instructions to prevent reasonably foreseeable misuse**		**P**
	Instructional safeguard :		**P**
N	**ELECTROCHEMICAL POTENTIALS**		**N/A**
	Material(s) used :	Pollution degree considered	—
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		**N/A**
	Value of *X* (mm) :	Considered	—
P	**SAFEGUARDS AGAINST CONDUCTIVE OBJECTS**		N/A
P.1	**General**		N/A
P.2	**Safeguards against entry or consequences of entry of a foreign object**		N/A
P.2.1	General		N/A
P.2.2	Safeguard requirements	No openings	N/A
	The ES3 and PS3 keep-out volume in Figure P.4 not applicable to transportable equipment	No openings	—
	Transportable equipment with metalized plastic parts :		
P.2.3	Consequence of entry test :		N/A
P.3	**Safeguards against spillage of internal liquids**		**N/A**

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output	(See appended table Annex Q.1)	**P**
	d) Overcurrent protective device limited output		**N/A**
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance :	(See appended table Annex Q.1)	**P**
	Current rating of overcurrent protective device (A) :		**N/A**
Q.2	**Test for external circuits – paired conductor cable**	No such external circuits	**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 :	Approved fire enclosure with V-0 material used.	—
	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):		—
	- Material did not show any additional holes for combustible materials		**N/A**

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Clause	Requirement + Test	Result - Remark	Verdict
	- Cheesecloth did not ignite for top openings		**N/A**
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) :		—
	Cheesecloth did not ignite		—
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):		—
S.6	**Grille covering material, cloth, and reticulated foam**		—
	Samples, material :		N/A
	Measured distance from the centre of the fuel tablet (mm)……..:		N/A

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**
T.4	**Steady force test, 100 N :**	(See appended table T.4)	**P**
T.5	**Steady force test, 250 N :**		**N/A**

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Clause	Requirement + Test	Result - Remark	Verdict
T.6	**Enclosure impact test**		**N/A**
	Fall test		**N/A**
	Swing test		**N/A**
T.7	**Drop test :**	(See appended table T.7)	P
T.8	**Stress relief test :**	(See appended table T.8)	P
T.9	**Glass Impact Test :**	No glass used	**N/A**
T.10	**Glass fragmentation test**		**N/A**
	Number of particles counted :	No glass used	N/A
T.11	**Test for telescoping or rod antennas**		**N/A**
	Torque value (Nm) :	No telescoping or rod antennas used	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 :	No CRTs	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		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	No openings	N/A
V.1.4	Plugs, jacks, connectors tested with blunt probe		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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**	For indoor use only	**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

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Clause	Requirement + Test	Result - Remark	Verdict
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

4.1.2	TABLE: List of critical components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
Li-ion Polymer Cell	Jiangxi Huahao Lithium Energy Co., Ltd.	1260110	12000mAh 44.4Wh 3.7V	IEC 62133-2:2017 IEC 62133-2:2017/AMD1:2021	CB JPTUV-180781
PCB	Shenzhen You zhuo Electronics Co., Ltd.	YZ-M(ASP 1)	V-0, 130°C	UL 796	UL E535548+ Tested with appliance
Enclosure	FORMOSA CHEMICALS & FIBRE CORP PLASTICS DIV	AC3600-H	PC, V-0, 130°C, Min.thickness 1.5mm, GWFI: 960°C	UL 94	UL E162823+ Tested with appliance
internal wire	GUANGZHOU ZHONGKE AEROSPACE NEW MATERIAL TECHNOLOGY CO LTD	K-102	125℃,300V	UL 224	UL E321827+ Tested with appliance
Electrolytic capacitor	Shenzhen Zank Microelectronics Technology Co., Ltd.	Chip-type aluminium electrolytic capacitors	560μF,16V	EN IEC 62368-1	Tested with appliance

Supplementary information:

[1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.

[2)] Description line content is optional. Main line description needs to clearly detail the component used for testing

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)]	
12Vdc	Input (Type-C)	Normal	-	--	SS	--	ES1
		Abnormal:	--	--	--	--	
		Single fault -SC/OC	--	--	--	--	
12Vdc	Type-C Output	Normal	12.03	--	SS	--	ES1
		Abnormal: OL	11.98	--	SS	--	
		Single fault – U1-SC	--	--	--	--	
12Vdc	USB A1/A2 Output	Normal	11.99	--	SS	--	ES1
		Abnormal: OL	12.01	--	SS	--	
		Single fault – U1-SC	--	--	--	--	
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. 3) SC - Short-circuited; OC - Open-circuited.							

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

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:				
T1 bobbin is phenolic, no test require.				

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)
--	--	--	--	--	--	--	--	--
Supplementary information:								
1) Only for frequency above 30 kHz. 2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied).								

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: /				
--				

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:						
As an alternative to the above, the electric strength test according to clause 5.4.9 and see table 5.4.9 for details.						

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
--	--	--	--
--	--	--	--
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: see table 4.1.2 [ ] bleeding resistor rating: see table 4.1.2 [ ] 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)	
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
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:				

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

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 input circuit	normal	-	--	--	5	PS3（declare）
	Single fault – SC/OC	0	0	0	3	PS1
Type-C Output 5VDC 3A	normal	4.691	2.996	14.05	3	PS1
	Single fault – U1-SC	0	0	0	3	PS1
Type-C Output 9VDC 2.22A	normal	8.79	2.22	19.48	5	PS2
	Single fault – U1-SC	0	0	0	3	PS1
Type-C Output 12VDC 1.67A	normal	11.98	1.667	19.97	5	PS2
	Single fault – U1-SC	0	0	0	3	PS1
USB A1/A2 Output 5VDC 2.4A	normal	4.68	2.33	10.90	3	PS1
	Single fault – U1-SC	0	0	0	3	PS1
USB A Output 9VDC 2A	normal	8.812	1.997	17.59	5	PS2
	Single fault – U1-SC	0	0	0	3	PS1
USB A Output 12VDC 1.5A	normal	12.01	1.497	17.97	5	PS2
	Single fault – D9-SC	0	0	0	3	PS1
USB A Output 5VDC 4.5A	normal	4.01	4.496	18.03	5	PS2
	Single fault – D9-SC	0	0	0	3	PS1
Supplementary information:						
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			P
Location	Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No
All input circuits	--	--	<4000	Yes （declare）
Supplementary information:				
1) An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15. 2) All primary circuit/components were considered as arcing PIS, the max. open circuit voltage of output for all models were not exceeded 50V.				

6.2.3.2	TABLE: Determination of resistive PIS		P
Location	Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No
All input circuits	Normal	>15	Yes （declare）
Output circuit	Normal	>15	Yes （declare）
Supplementary information:			
1. A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter. If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification. 2. A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.			

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. transmitting power (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)
Steel disc	—	—	—	—	—	—	—	—
Aluminium ring	—	—	—	—	—	—	—	—
Aluminium foil	—	—	—	—	—	—	—	—

Supplementary information:

1) : [1)]Unit cannot load, no output, no hazard.

2) : Foreign objects temperature limited: 70°C

with receiver and at distance of 5 mm: unit shutdown after 6 seconds of normal operation no hazard.

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements				P
Supply voltage (V) :	Power by DC input (Type-C) (12VDC)	USB A1 output load:5VDC 4.5A	Power by Battery (3.7V)	Type-C output load: 12VDC 1.67A	—
Ambient temperature during test T_{amb} (°C):	35.0（25.0）				—
Maximum measured temperature T of part/at:	T (°C)				Allowed T_{max} (°C)
PCB near Main chip	52.1	57.2	58.6	53.5	130

PCB near USB A1 port			54.5	58.6	60.7	56.8	130
PCB near LED display			41.3	46.3	49.1	44.1	130
Internal wire			45.4	47.9	48.7	46.2	200
Battery surface			42.6	46.1	47.3	43.7	Ref
Plastic enclosure near Battery			44.7	48.9	48.0	46.2	Ref
Ambient			35.0(24.5)	35.0(24.5)	35.0(24.4)	35.0(24.3)	--
Accessible parts							
Plastic enclosure outside near Battery			31.9	33.6	35.6	32.2	77
LED display of surface			31.0	32.5	33.4	31.6	77
Ambient			25.0(24.5)	25.0(24.5)	25.0(24.4)	35.0(24.3)	--
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:							
1. Thermocouple method used. 2. The maximum operation ambient temperature is 35°C. The test data for external enclosure are adjusted at 25°C.							

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
5.22	--	1.83	3	9.55	--	--	--	Normal charging:Type-C input (Battery emptying and normal charging)

9.30	--	2.06	2	19.15	--	--	--	Normal charging:Type-C input (Battery emptying and normal charging)
12.07	--	1.56	1.5	18.82	--	--	--	Normal charging:Type-C input (Battery emptying and normal charging)
5.25	--	1.68	3	8.82	--	--	--	Normal charging:Micro input (Battery emptying and normal charging)
9.22	--	2.09	2	19.27	--	--	--	Normal charging:Micro input (Battery emptying and normal charging)
12.16	--	1.52	1.5	18.48	--	--	--	Normal charging:Micro input (Battery emptying and normal charging)
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 :					See page 2	—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
USB A1 Output(5V 4.5A)	OL	Power by battery	3h11min	--	--	When USB A1C output loaded to more than 4.62A then USB A1 output shutdown immediately, recoverable, no damage, no hazard. Plastic enclosure outside:38.6℃ Battery surface:45.2℃ PCB near USB A1 port: 63.2℃ Internal wire: 44.1℃ Ambient:25.0℃(24.2℃)
Type-C Output(12V 1.67A)	OL	Power by battery	2h25min	--	--	When Type-C output loaded to more than 1.997A then Type-C output shutdown immediately, recoverable, no damage, no hazard. Plastic enclosure outside:36.3℃ Battery surface:40.2℃ PCB near Type-C port: 59.3℃ Internal wire: 41.5℃ Ambient:25.0℃(24.3℃)
Type-C Output	SC	Power by battery	10s	--	--	Unit shut down immediately, no damage, no hazard.
Supplementary information:						

Test table is provided to record abnormal and fault conditions for all applicable energy sources including
Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the
condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.
1) SC: Short-circuited; OC: Open-circuited; OL: Overloaded; BL: Blocked.
2) The test result shown all safeguards remained effective and didn’t lead to a single fault condition during
abnormal operating condition; In addition all safeguards complied with applicable requirements in this standard
after restoration of normal operating conditions.

M.3	**TABLE: Protection circuits for batteries provided within the equipment**	P
Is it possible to install the battery in a reverse polarity position?:	No	—

Equipment Specification	Charging	
	Voltage (V)	Current (A)
	12	1.5

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)		
See 4.1.2	--	--	3.7	1.98	4.61	-

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
U2 pin 1-3 SC	SC	Charge	7h	37.2	1.98	4.25	NL,NS,NE,NF

U3 pin 1-2 SC	SC	Discharge	7h	39.3	1.33	4.16	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) :				4.25	—
Maximum specified charging current (A) :				2	—
Highest specified charging temperature (°C) :				45	—
Lowest specified charging temperature (°C) :				0	—
Battery manufacturer/type	Operating and fault condition	Measurement			Observation
		Charging voltage (V)	Charging current (A)	Temp. (°C)	--
See 4.1.2	Normal operation	4.25	2.06	37.9	No abnormal, no hazard.
See 4.1.2	Single Fault: U1 pin 1-2	4.25	2.13	39.2	No abnormal, no hazard.
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} (VDC)	Time (s)	I_{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
Type-C Input 12VDC 1.5A	normal	12.07	5s	1.56	8.0	18.82	100
	Single fault – SC/OC	0	0	0	0	0	100
Type-C	normal	4.691	5s	2.996	8.0	14.05	100

Output 5VDC 3A	Single fault – U1-SC	0	0	0	0	0	100
Type-C Output 9VDC 2.22A	normal	8.79	5s	2.22	8.0	19.48	100
	Single fault – U1-SC	0	0	0	0	0	100
Type-C Output 12VDC 1.67A	normal	11.98	5s	1.667	8.0	19.97	100
	Single fault – U1-SC	0	0	0	0	0	100
USB A1/A2 Output 5VDC 2.4A	normal	4.68	5s	2.33	8.0	10.90	100
	Single fault – U1-SC	0	0	0	0	0	100
USB A Output 9VDC 2A	normal	8.812	5s	1.997	8.0	17.59	100
	Single fault – U1-SC	0	0	0	0	0	100
USB A Output 12VDC 1.5A	normal	12.01	5s	1.497	8.0	17.97	100
	Single fault – U1-SC	0	0	0	0	0	100
USB A Output 5VDC 4.5A	normal	4.01	5s	4.496	8.0	18.03	100
	Single fault – U1-SC	0	0	0	0	0	100
Supplementary Information:							
SC=Short circuit, OC=Open circuit.							

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Location/Part	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation

Top enclosure	See table 4.1.2	Min. 1.5	Circular plane surface 30 mm in diameter	30	5	No damage, no hazard.
Bottom enclosure	See table 4.1.2	Min. 1.5	Circular plane surface 30 mm in diameter	30	5	No damage, no hazard.
Side enclosure	See table 4.1.2	Min. 1.5	Circular plane surface 30 mm in diameter	30	5	No damage, no hazard.
Supplementary information:						

T.6, T.9	**TABLE: Impact test**			N/A
Location/Part	Material	Thickness (mm)	Height (mm)	Observation
--	--	--	--	--
Supplementary information:				

T.7	**TABLE: Drop test**			P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation
Top enclosure	See table 4.1.2	Min. 1.5	1000	Enclosure remained intact, no crack/opening developed. The battery pack no fire, no explosion, no leakage

Bottom enclosure	See table 4.1.2	Min. 1.5	1000	Enclosure remained intact, no crack/opening developed. The battery pack no fire, no explosion, no leakage
Side enclosure	See table 4.1.2	Min. 1.5	1000	Enclosure remained intact, no crack/opening developed. The battery pack no fire, no explosion, no leakage
Supplementary information:				

T.8	**TABLE: Stress relief test**				P
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Enclosure	See table 4.1.2	Min. 1.5	70	7	The enclosure no shrunk, no twisted, no deformed, and no danger
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:			

Photo documentation

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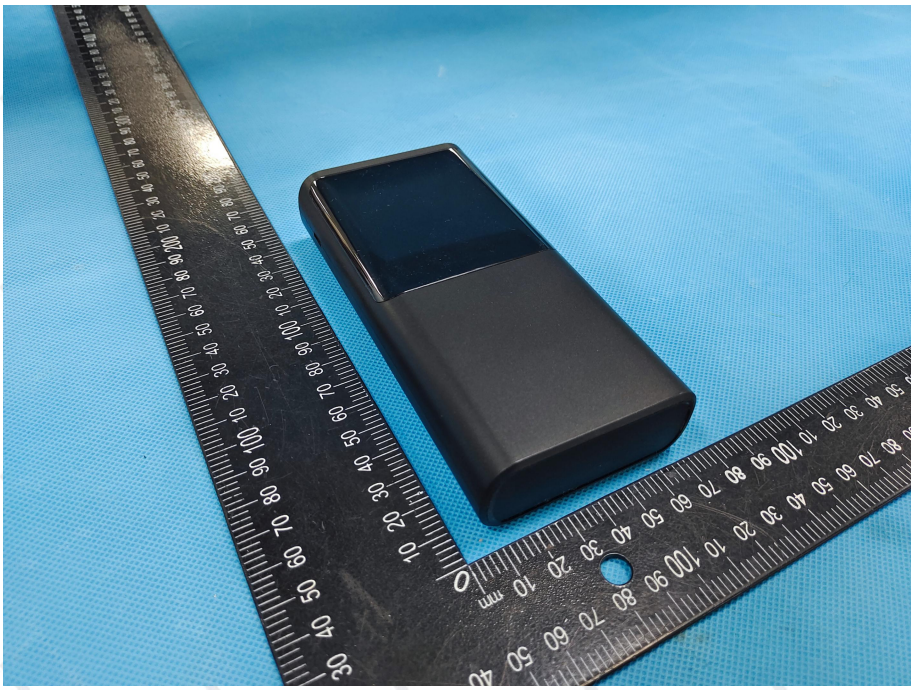

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Dongguan HDTL Technology Co., Ltd.
Address: Room 101, Building 1, No. 5 of Jinzhong Road, Dongcheng Street, Dongguan City, Guangdong Province, China.
Tel: 15015165612 E-mail: official@hdtl-lab.com

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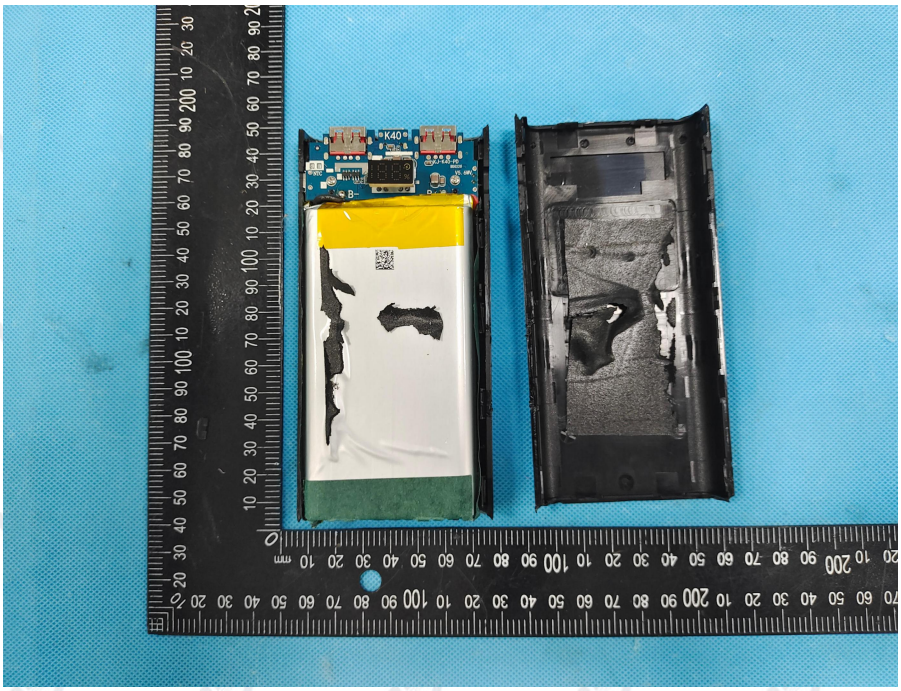

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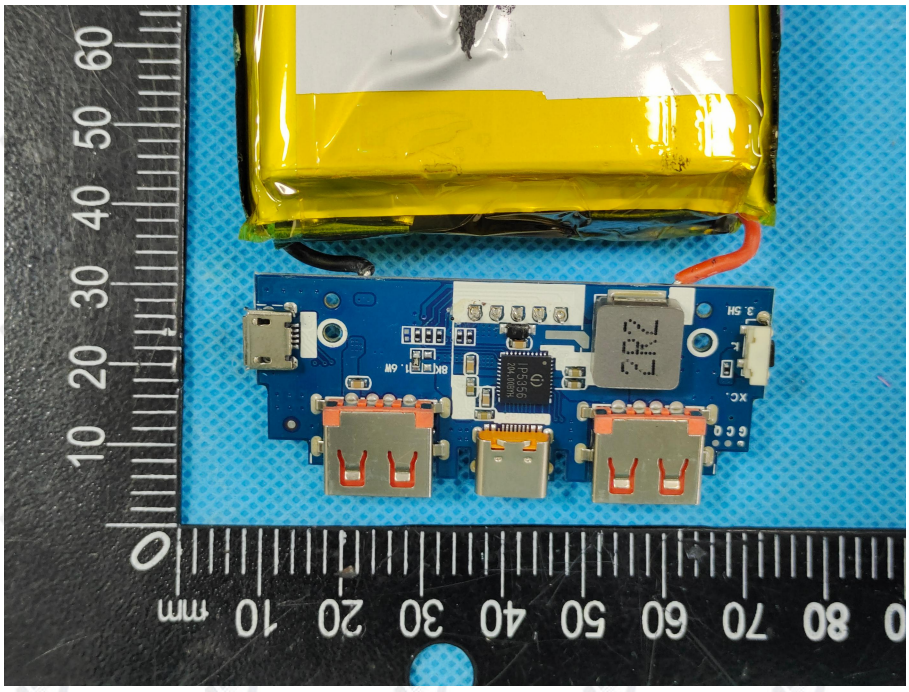

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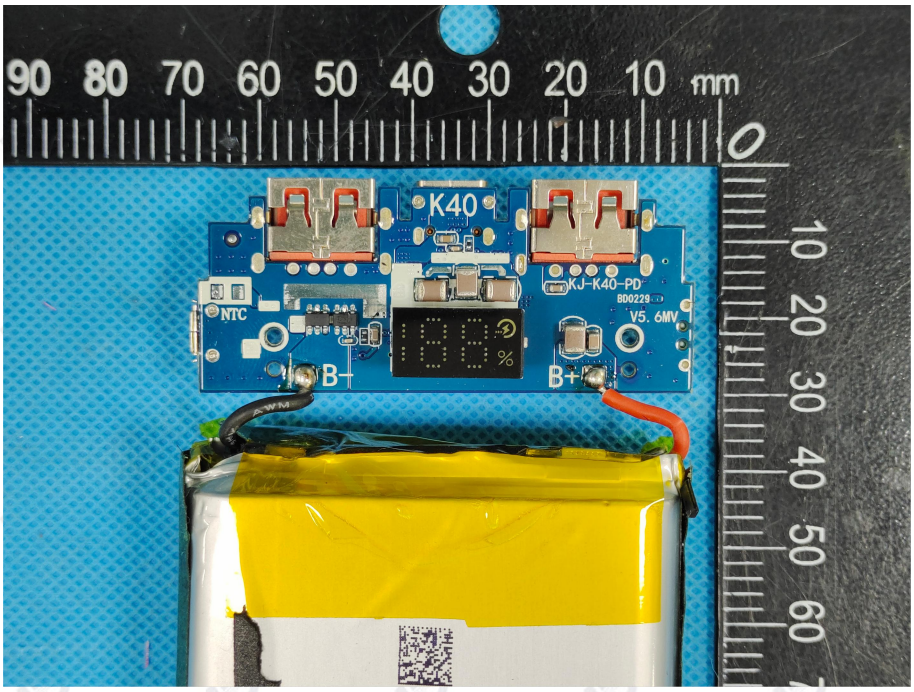

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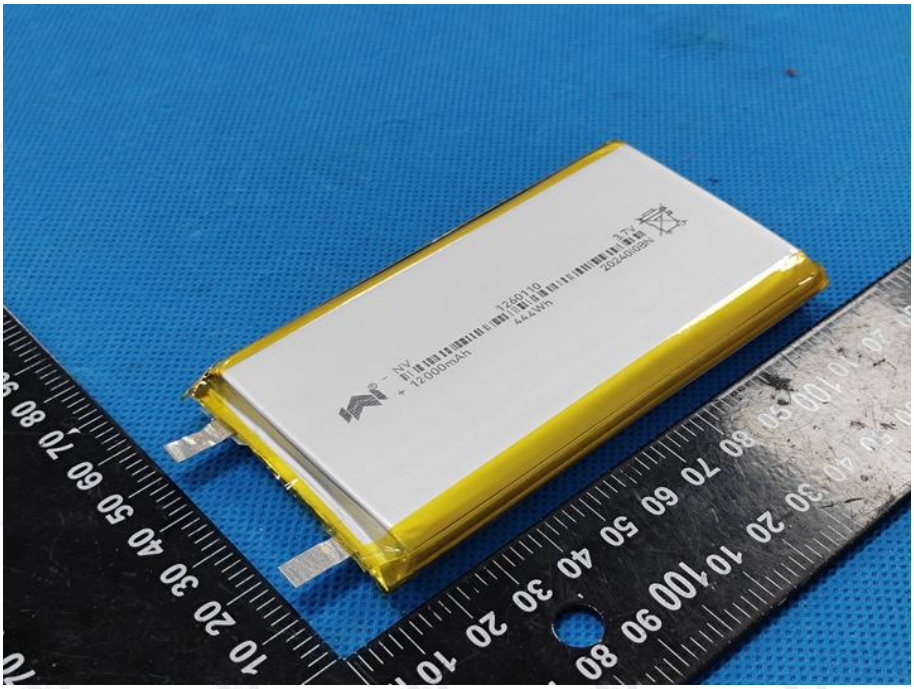

*** End of Report ***

Dongguan HDTL Technology Co., Ltd.
Address: Room 101, Building 1, No. 5 of Jinzhong Road, Dongcheng Street, Dongguan City, Guangdong Province, China.
Tel: 15015165612 E-mail: official@hdtl-lab.com