

TEST REPORT IEC 62368-1 Audio/video, information and communication technology equipment Part 1: Safety requirements	
Report Number.....	LCS210113083AS
Date of issue	2021-02-01
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Applicant's name	Shenzhen GOLF & Feihuang Technology Co., Ltd.
Address	Building 1 (Shatou Section), Haosi West Industry Park, Shajing, Bao'an, Shenzhen, China.
Test specification:	
Standard.....	IEC 62368-1:2014 (Second Edition)
Test procedure	Type test
Non-standard test method	N/A
Test Report Form No.	IEC62368_1B
Test Report Form(s) Originator.....	UL(US)
Master TRF	2014-03
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TRF No. IEC62368_1B

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Test Item description	POWER BANK	
Trade Mark	GOLF 高尔夫, LONSMAX, GOLFSPACE	
Manufacturer	Same as applicant	
Model/Type reference	G81, GP10, GP20, GP30, GP40, GP50, GP10-Q, GP20-Q, GP30-Q, GP40-Q, GP50-Q, GP10-L, GP20-L, GP30-L, GP40-L, GP50-L, G50, G51, L100, L200, G72, G73, G74, W8, W21, WQ10, WQ8, W9, W22, G51PD, G41, G42, G44, G61, G62, G63, G62PD, G76, G77, G76-C, G77-C, G78, G79, G75, G80, G83, G84, G56, G57, G95, G96, G95-C, G96-C, G97, G98, W10, WQ7, WQ15, G53, G54, G55, G53PD, G54PD, G55PD, G302PD, G64, G65, G64PRO, G65PRO, G66, G67, G68, G92, G93, D100, LCD20, LCD21, LCD22, LCD21PD, LCD22PD, GF-233, GF-235, GF-238, G85LCD, WQ5, WQ5PRO, WQ5MAX	
Ratings	Micro USB Input: 5V $\overline{=}$ 2.1A USB1 Output: 5V $\overline{=}$ 1.0A (Max.) USB2 Output: 5V $\overline{=}$ 2.1A (Max.) Total Output: 5V $\overline{=}$ 2.1A (Max.) Battery Capacity: 20000mAh/ 74Wh (Max.)	
Testing procedure and testing location:		
<input checked="" type="checkbox"/>	Testing Laboratory:	Shenzhen LCS Compliance Testing Laboratory Ltd.
	Testing location/ address	Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China
<input type="checkbox"/>	Associated CB Testing Laboratory:	N/A
	Testing location/ address	N/A
Prepared by.....	Virgil Chen Project Handler	
Checked by.....	Olivia Yang Reviewer	
Approved by.....	Hart Qiu Technical Director	

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List of Attachments (including a total number of pages in each attachment): - Attachment 1: National difference - Attachment 2: Photo Documentation	
Summary of testing:	
Tests performed (name of test and test clause): The submitted samples were found to comply with the requirements of: Electrical safety: ➤ IEC 62368-1:2014 ED2 ➤ EN 62368-1:2014+A11:2017	Testing location: Shenzhen LCS Compliance Testing Laboratory Ltd. Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China
Summary of compliance with National Differences: List of countries addressed: National Differences and Group Differences, Refer Attachment 1 for details. <input checked="" type="checkbox"/> The product fulfils the requirements of <u>EN 62368-1:2014+A11:2017</u>	

Copy of marking plate(s): The artwork below may be only a draft.
GOLF 高尔夫
<p> POWER BANK Model: G81 Micro USB Input: 5V $\overline{=}$ 2.1A USB1 Output: 5V $\overline{=}$ 1.0A (Max.) USB2 Output: 5V $\overline{=}$ 2.1A (Max.) Total Output: 5V $\overline{=}$ 2.1A (Max.) Battery Capacity: 20000mAh/ 74Wh (Max.) Importer: XXXX Address: XXXX </p> <div style="display: flex; justify-content: center; align-items: center; gap: 20px;">    </div> <p> Shenzhen GOLF & Feihuang Technology Co., Ltd. Building 1 (Shatou Section), Haosi West Industry Park, Shajing, Bao'an, Shenzhen, China. </p> <p style="text-align: right;">Made in China</p>
Remark: 1. The height of CE symbol \geq 5.0mm; the height of WEEE symbol \geq 7.0mm. 2. The representative marking of model G81, markings of all other models are identical except for the model name and trade mark.



TEST ITEM PARTICULARS:	
Classification of use by	<input checked="" type="checkbox"/> Ordinary person <input type="checkbox"/> Instructed person <input type="checkbox"/> Skilled person <input checked="" type="checkbox"/> Children likely to be present
Supply Connection.....	<input type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input checked="" type="checkbox"/> External Circuit - not Mains connected - <input checked="" type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance	<input type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> + ___ %/ - ___ % <input checked="" 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"/> mating connector <input checked="" type="checkbox"/> other: Not directly connected to the mains <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: Not directly connected to the mains
Considered current rating of protective device as part of building or equipment installation	N/A Installation location: <input type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility	<input checked="" type="checkbox"/> movable <input type="checkbox"/> hand-held <input checked="" type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage 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: Not directly connected to mains
Class of equipment	<input type="checkbox"/> Class I <input type="checkbox"/> Class II <input checked="" type="checkbox"/> Class III
Access location	<input type="checkbox"/> restricted access location <input checked="" type="checkbox"/> N/A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified maximum operating ambient	25°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 - 230 V _{L-L}
Altitude during operation (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> m
Altitude of test laboratory (m)	<input type="checkbox"/> 2000 m or less <input checked="" type="checkbox"/> 500 m or less
Mass of equipment (kg)	<input checked="" type="checkbox"/> Approx. 0.40kg

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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..... :	2021-01-13
Date (s) of performance of tests..... :	2021-01-13 to 2021-02-01
GENERAL REMARKS:	
<p>"(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 <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC62368-1:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies)	Same as manufacturer
GENERAL PRODUCT INFORMATION:	
1. The EUT is a POWER BANK used with information technology equipment. 2. Fire enclosure provided. 3. The product was submitted and tested for use at the manufacturer's recommended ambient temperature (Tma) of 25°C. 4. All the models covered in this report have the same electrical principles, structure, and key components except for the model name and color appearance. All tests were conducted on model: G81.	
Additional application considerations – (Considerations used to test a component or sub-assembly) –	

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ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.)	
Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input ES1	
Source of electrical energy	Corresponding classification (ES)
All circuits (Max. voltage 5Vdc)	ES1
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): PS2	
Source of power or PIS	Corresponding classification (PS)
All circuits	PS2
Battery	PS2
Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component Glycol	
Source of hazardous substances	Corresponding chemical
N/A	N/A
Mechanically-caused injury (Clause 8) (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit MS2	
Source of kinetic/mechanical energy	Corresponding classification (MS)
Edges and corners	MS1
Equipment mass	MS1
Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure TS1	
Source of thermal energy	Corresponding classification (TS)
thermoplastic enclosure	TS1
Radiation (Clause 10) (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product RS1	
Type of radiation	Corresponding classification (RS)
Indicator LED	RS1

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ENERGY SOURCE DIAGRAM	
Indicate which energy sources are included in the energy source diagram. Insert diagram below	
<input checked="" type="checkbox"/> ES <input checked="" type="checkbox"/> PS <input checked="" type="checkbox"/> MS <input checked="" type="checkbox"/> TS <input checked="" type="checkbox"/> RS	

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	ES1: All circuits	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source	Safeguards		
		Basic	Supplementary	Reinforced
Plastic enclosure	PS2: <100 Watt circuit (Internal circuit)	Equipment safeguards (no ignition)	V-0	N/A
PCB	PS2: <100 Watt circuit (Internal circuit)	Equipment safeguards (no ignition)	V-1 or better	N/A
Combustible materials within equipment	PS2: <100 Watt circuit (Internal circuit)	Equipment safeguards (no ignition)	V-2 or better	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	MS1: Edges and corners	N/A	N/A	N/A
Ordinary	MS1: Mass of the unit	N/A	N/A	N/A
9.1	Thermal Burn –			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	TS1: Plastic enclosure	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced

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Indicator LED	RS1	N/A	N/A	N/A
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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment. See also Annex G	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
4.1.15	Markings and instructions	(See Annex F)	P
4.4.4	Safeguard robustness		P
4.4.4.2	Steady force tests	(See Annex T3, T4, T.5)	P
4.4.4.3	Drop tests	(See Annex T.7)	P
4.4.4.4	Impact tests		N/A
4.4.4.5	Internal accessible safeguard enclosure and barrier tests	No such enclosure and barrier	N/A
4.4.4.6	Glass Impact tests	No such glass used.	N/A
4.4.4.7	Thermoplastic material tests.....	(See Annex T.8)	P
4.4.4.8	Air comprising a safeguard.....	Considered, but no such barrier or enclosure provided	N/A
4.4.4.9	Accessibility and safeguard effectiveness	During and after the tests, all safeguards remain effective.	P
4.5	Explosion	No explosion occurs during normal/abnormal operation and single fault conditions (see Annex M)	P
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard	Only ES1 for internal circuits, no safeguard affected by conductor displacement.	P
4.6.2	10 N force test applied to	Applying a force of 10N in the most unfavourable direction.	P
4.7	Equipment for direct insertion into mains socket - outlets	No such apparatus	N/A
4.7.2	Mains plug part complies with the relevant standard.....		N/A

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3	Torque (Nm)		N/A
4.8	Products containing coin/button cell batteries	No coin/button cell batteries used.	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery		—
4.8.4	Battery Compartment Mechanical Tests		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object.....	No likelihood of conductive object entering into enclosure	P

5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications.....	Supplied by ES1 circuit	P
5.2.2	ES1, ES2 and ES3 limits	ES1	P
5.2.2.2	Steady-state voltage and current.....	ES1	P
5.2.2.3	Capacitance limits		N/A
5.2.2.4	Single pulse limits	No such single pulses generated in the EUT or applied to it.	N/A
5.2.2.5	Limits for repetitive pulses	No such repetitive pulses within the EUT	N/A
5.2.2.6	Ringing signals	No such ringing signals within the EUT	N/A
5.2.2.7	Audio signals	No such audio signals	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
5.3.2.1	Accessibility to electrical energy sources and safeguards		N/A
5.3.2.2	Contact requirements		N/A
	a) Test with test probe from Annex V		N/A
	b) Electric strength test potential (V)		N/A
	c) Air gap (mm)		N/A
5.3.2.4	Terminals for connecting stripped wire	No such terminals.	N/A
5.4	Insulation materials and requirements		N/A
5.4.1.2	Properties of insulating material	No insulation as a safeguard.	N/A
5.4.1.3	Humidity conditioning	No hygroscopic material used.	N/A
5.4.1.4	Maximum operating temperature for insulating materials		N/A

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.5	Pollution degree		—
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		N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such transformer within the EUT	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such starting pulses within the EUT	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 softening temperature.....		N/A
5.4.1.10.3	Ball pressure		N/A
5.4.2	Clearances		N/A
5.4.2.2	Determining clearance using peak working voltage		N/A
5.4.2.3	Determining clearance using required withstand voltage		N/A
	a) a.c. mains transient voltage		—
	b) d.c. mains transient voltage		—
	c) external circuit transient voltage		—
	d) 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
5.4.3	Creepage distances		N/A
5.4.3.1	General		N/A
5.4.3.3	Material Group	IIIa&IIIb	—
5.4.4	Solid insulation		N/A
5.4.4.2	Minimum distance through insulation		N/A
5.4.4.3	Insulation compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	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

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.6.3	Non-separable thin sheet material		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		N/A
5.4.5	Antenna terminal insulation	No such terminal	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ).....		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
	Relative humidity (%).....		—
	Temperature (°C)		—
	Duration (h)		—
5.4.9	Electric strength test		N/A
5.4.9.1	Test procedure for a solid insulation type test		N/A
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit	No such 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
5.4.11	Insulation between external circuits and earthed circuitry	No such connections for external circuit applied within the EUT	N/A
5.4.11.1	Exceptions to separation between external circuits and earth	No such connections to external circuit as above.	N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V).....		—
	Nominal voltage U_{peak} (V).....		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—

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Clause	Requirement + Test	Result - Remark	Verdict
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		
5.5.1	General	No such components as safeguards.	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	No such component used as safeguard provided	N/A
5.5.7	SPD's		N/A
5.5.7.1	Use of an SPD connected to reliable earthing	No such construction.	N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable	No such external circuits.	N/A
5.6	Protective conductor	<i>Class III equipment with no means of earthing</i>	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		NA
	Protective earthing conductor size (mm ²)		—
5.6.4	Requirement for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²)		—
	Protective current rating (A)		—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Requirement		N/A
	Conductor size (mm ²), nominal thread diameter (mm)		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective system		N/A

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method Resistance (Ω).....:		N/A
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		N/A
5.7.2	Measuring devices and networks	Only ES1	N/A
5.7.2.1	Measurement of touch current		N/A
5.7.2.2	Measurement of prospective touch voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections		N/A
	System of interconnected equipment (separate connections/single connection)		—
	Multiple connections to mains (one connection at a time/simultaneous connections)		—
5.7.4	Earthed conductive accessible parts		N/A
5.7.5	Protective conductor current		N/A
	Supply Voltage (V).....:		—
	Measured current (mA).....:		—
	Instructional Safeguard.....:		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits	No external circuits.	N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits	No external circuits.	N/A
	a) Equipment with earthed external circuits Measured current (mA).....:		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA)		N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	PS (power source) classification determined by measuring the maximum power in Figures 34 and 35 for load and power source circuits.	P
6.2.2.1	General	See the following details.	P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.3	Power measurement for worst-case power source fault	(See appended table 6.2.2)	P
6.2.2.4	PS1		P
6.2.2.5	PS2		P
6.2.2.6	PS3		N/A
6.2.3	Classification of potential ignition sources	See the following details.	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 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials	No ignition and no such temperature attained within the equipment. (See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure		N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Method of "control of fire spread" is used.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions..... :		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits	See below	P
6.4.5.2	Supplementary safeguards	Compliance detailed as follows: - <u>Printed board</u> : rated min. V-0 - <u>Battery cell</u> : complying with IEC/EN 62133. - <u>All other components</u> : at least V-2 except for parts mounted on min. V-1 material or small parts of combustible material (with mass less than 4g).	P
6.4.6	Control of fire spread in PS3 circuit	No PS3 circuits.	N/A
6.4.7	Separation of combustible materials from a PIS		N/A

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.7.1	General..... :		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier	No specific barrier provided.	N/A
6.4.8	Fire enclosures and fire barriers	See below	P
6.4.8.1	Fire enclosure and fire barrier material properties	The V-0 material is used for the fire enclosure	P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	The V-0 material is used for the fire enclosure	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 in Fire Enclosure: dimensions (mm)	No openings.	N/A
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm)	No openings.	N/A
	Flammability tests for the bottom of a fire enclosure		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating..... :	V-0 fire enclosure material.	P
6.5	Internal and external wiring		P
6.5.1	Requirements	Certified lead wires used. (see appended table 4.1.2)	P
6.5.2	Cross-sectional area (mm ²)		—
6.5.3	Requirements for interconnection to building wiring		N/A
6.6	Safeguards against fire due to connection to additional equipment		P
	External port limited to PS2 or complies with Clause Q.1	Output complies with Clause Q.1	P

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		P
7.2	Reduction of exposure to hazardous substances	No hazardous chemicals within the equipment. See also cl.4.4.4	P
7.3	Ozone exposure	No ozone production within the equipment.	N/A

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010)		—
7.6	Batteries.....	Approved battery used, also see annex M	P

8	MECHANICALLY-CAUSED INJURY		P
8.1	General		P
8.2	Mechanical energy source classifications	MS1: does not cause pain or injury	P
8.3	Safeguards against mechanical energy sources		N/A
8.4	Safeguards against parts with sharp edges and corners		P
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts		N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N)		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test		N/A
8.6	Stability		N/A
8.6.1	Product classification		N/A
	Instructional Safeguard		—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Applied Force		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt.....		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force).....		N/A
	Position of feet or movable parts.....		—
8.7	Equipment mounted to wall or ceiling	Not such equipment.	N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)		N/A
8.7.2	Direction and applied force.....		N/A
8.8	Handles strength	No handles provided.	N/A
8.8.1	Classification		N/A
8.8.2	Applied Force		N/A
8.9	Wheels or casters attachment requirements	No wheels or casters.	N/A
8.9.1	Classification		N/A
8.9.2	Applied force		—
8.10	Carts, stands and similar carriers	No carts, stands or similar carriers.	N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard.....		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N).....		—
8.10.6	Thermoplastic temperature stability (°C).....		N/A
8.11	Mounting means for rack mounted equipment	Not such equipment.	N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable N		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas.....	No such parts.	N/A
	Button/Ball diameter (mm).....		—

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

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications	TS1: accessible parts	P
9.3	Safeguard against thermal energy sources		P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard		P
9.4.2	Instructional safeguard		N/A

10	RADIATION		P
10.2	Radiation energy source classification		P
10.2.1	General classification	RS1	P
10.3	Protection against laser radiation	No laser radiation	N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault..... :		
	Instructional safeguard		—
	Tool..... :		—
10.4	Protection against visible, infrared, and UV radiation		P
10.4.1	General		P
10.4.1.a)	RS3 for Ordinary and instructed persons		N/A
10.4.1.b)	RS3 accessible to a skilled person..... :		N/A
	Personal safeguard (PPE) instructional safeguard..... :		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1 . :		P
10.4.1.d)	Normal, abnormal, single-fault conditions		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque..... :		N/A
10.4.1.f)	UV attenuation..... :		N/A
10.4.1.g)	Materials resistant to degradation UV		N/A
10.4.1.h)	Enclosure containment of optical radiation..... :		N/A
10.4.1.i)	Exempt Group under normal operating conditions..... :	LED is indicator only.	P
10.4.2	Instructional safeguard		N/A
10.5	Protection against x-radiation	No such x-radiation generated from the equipment	N/A
10.5.1	X- radiation energy source that exists equipment :		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards..... :		N/A

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

	Instructional safeguard for skilled person..... :		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation		—
	Abnormal and single-fault condition		N/A
	Maximum radiation (pA/kg)..... :		N/A
10.6	Protection against acoustic energy sources	Not such an equipment.	N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)..... :		N/A
	Output voltage, unweighted r.m.s..... :		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards		N/A
	Equipment safeguard prevent ordinary person to RS2..... :		—
	Means to actively inform user of increase sound pressure..... :		—
	Equipment safeguard prevent ordinary person to RS2..... :		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output..... :		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)..... :		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)..... :		—

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions	See the following details.	P
B.2.1	General requirements..... :	Max. normal load condition: - Charge with max. charge voltage and current as specified by manufacturer - Discharge with max. discharge current specified by manufacturer	P

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Audio Amplifiers and equipment with audio amplifiers	No audio amplifier circuits	N/A
B.2.3	Supply voltage and tolerances	Rated voltage	P
B.2.5	Input test.....	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements.....	(See appended table B.3)	P
B.3.2	Covering of ventilation openings	No ventilation openings.	N/A
B.3.3	D.C. mains polarity test		N/A
B.3.4	Setting of voltage selector	No setting of voltage selector within the EUT	N/A
B.3.5	Maximum load at output terminals	(See appended table B.3)	P
B.3.6	Reverse battery polarity	The construction of the connector makes it not likely happen to charge the battery reversely.	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	Not such equipment.	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remain effective.	P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited		N/A
B.4.3	Motor tests	No motors used.	N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature		N/A
B.4.4	Short circuit of functional insulation	See the following details.	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards within the EUT	N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4 for faults on electronic components)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components	The EUT is continuous operating type and no such components intended for short time operation or intermittent operation	N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions	No change to circuits classified in 5.3., no any flame occurred.	P
B.4.9	Battery charging under single fault conditions ...	(See appended table B.4)	P

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IEC 62368-1			
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		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A

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

E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V)		—
	Rated load impedance (Ω)		—
E.2	Audio amplifier abnormal operating conditions		N/A

F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements		P
	Instructions – Language	English	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Located on the external enclosure surface	P
F.3.2	Equipment identification markings	See the following details.	P
F.3.2.1	Manufacturer identification	(See copy of marking plate)	—
F.3.2.2	Model identification	See page 2 for detail	—
F.3.3	Equipment rating markings	(See copy of marking plate)	P

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 supply voltage..... :	(See copy of marking plate)	—
F.3.3.4	Rated voltage	(See copy of marking plate)	—
F.3.3.4	Rated frequency		—
F.3.3.6	Rated current or rated power	(See copy of marking plate)	—
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings..... :		N/A
F.3.5.2	Switch position identification marking	No such switch on the equipment.	N/A
F.3.5.3	Replacement fuse identification and rating markings..... :	No such component used.	N/A
F.3.5.4	Replacement battery identification marking		N/A
F.3.5.5	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	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)		N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking	IPX0	—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking	Marking is considered to be legible and easily discernible. See also the following details.	P



IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge. After each test, the marking remained legible.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking		N/A
	b) Instructions given for installation or initial use	Refer to M.10	P
	c) Equipment intended to be fastened in place		N/A
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1	No such terminals provided.	N/A
	f) Protective earthing employed as safeguard		N/A
	g) Protective earthing conductor current exceeding ES2 limits		N/A
	h) Symbols used on equipment	No such symbols used as a safeguard considered.	N/A
	i) Permanently connected equipment not provided with all-pole mains switch	Not permanently connected equipment.	N/A
	j) Replaceable components or modules providing safeguard function	No such markings.	N/A
F.5	Instructional safeguards		P
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction		P

G	COMPONENTS		P
G.1	Switches		N/A
G.1.1	General requirements		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	Relays		N/A
G.2.1	General requirements		N/A

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	Protection Devices		P
G.3.1	Thermal cut-offs	No thermal cut-off provided within the equipment.	N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691	No thermal link provided within the equipment.	N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H)		—
	Single Fault Condition		—
	Test Voltage (V) and Insulation Resistance (Ω) . :		—
G.3.3	PTC Thermistors	Approved PTC used.	P
G.3.4	Overcurrent protection devices		N/A
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....:		N/A
G.4	Connectors		P
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	USB connector used.	P
G.5	Wound Components		N/A
G.5.1	Wire insulation in wound components.....		N/A
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°		N/A
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Time (s)		—
	Temperature (°C)		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	Transformers		N/A
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1).....		N/A
	Position.....		—
	Method of protection		—
G.5.3.2	Insulation		N/A
	Protection from displacement of windings.....		—
G.5.3.3	Overload test		N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding Temperatures testing in the unit		N/A
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	Motors		N/A
G.5.4.1	General requirements	No motors used.	N/A
	Position		—
G.5.4.2	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)		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V)		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		N/A
G.5.4.7	Motors with capacitors		N/A

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements		N/A
	Type.....		—
	Rated current (A).....		—
	Cross-sectional area (mm ²), (AWG).....		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)....		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g)		—
	Diameter (m)		—
	Temperature (°C)		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		N/A
G.8.1	General requirements		N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test		N/A
G.8.3.3	Temporary overvoltage		N/A

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No IC current limiter provided within the equipment.	N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA		—
G.9.1 d)	IC limiter output current (max. 5A)		—
G.9.1 e)	Manufacturers' defined drift		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	Resistors		N/A
G.10.1	General requirements	No such resistor as safeguard used	N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable	No such resistors	N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		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 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results)		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 the following details.	P
G.13.2	Uncoated printed boards		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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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Compliance with cemented joint requirements (Specify construction)		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements		N/A
G.15	Liquid filled components		N/A
G.15.1	General requirements	No such device provided within the equipment.	N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours	No such ICX provided within the equipment.	N/A
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance		—
D3)	Resistance		—

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

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

J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
	General requirements		N/A

K	SAFETY INTERLOCKS		N/A
K.1	General requirements	No safety interlock provided within the equipment.	N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location)		N/A
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A

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

K.7.4	Electric strength test		N/A
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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

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	Requirements		P
M.2.2	Compliance and test method (identify method) .. :		P
M.3	Protection circuits		P
M.3.1	Requirements		P
M.3.2	Tests	According to Manufacturer's requirements	P
	- Overcharging of a rechargeable battery	(See table B.4 and table Annex M)	P
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery	(See table B.4 and table Annex M)	P
M.3.3	Compliance	No chemical leakage, no liquid spillage, no explosion, no emission of flame or expulsion of molten metal	P
M.4	Additional safeguards for equipment containing secondary lithium battery		P
M.4.1	General		P
M.4.2	Charging safeguards		P
M.4.2.1	Charging operating limits		P
M.4.2.2a)	Charging voltage, current and temperature		—
M.4.2.2 b)	Single faults in charging circuitry		—

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.4.3	Fire Enclosure	Fire enclosure used.	P
M.4.4	Endurance of equipment containing a secondary lithium battery		P
M.4.4.2	Preparation		P
M.4.4.3	Drop and charge/discharge function tests		P
	Drop		P
	Charge		P
	Discharge		P
M.4.4.4	Charge-discharge cycle test		P
M.4.4.5	Result of charge-discharge cycle test		P
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		P
M.6.1	Short circuits	External fault testing considered (see table B.4)	P
M.6.1.1	General requirements		P
M.6.1.2	Test method to simulate an internal fault	Internal fault testing had been conducted on the cell as part of compliance with IEC 62133.	P
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method)	No explode or emit molten material at any time during any of the tests.	P
M.6.2	Leakage current (mA)		N/A
M.7	Risk of explosion from lead acid and NiCd batteries	No NiCd battery	N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries	No lead acid battery	N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume Vz (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

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing)	Mentioned in battery specification	P

N	ELECTROCHEMICAL POTENTIALS		N/A
	Metal(s) used		—

O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		N/A
	Figures O.1 to O.20 of this Annex applied		—

P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		N/A
P.1	General requirements	No opening	N/A
P.2.2	Safeguards against entry of foreign object		N/A
	Location and Dimensions (mm)		—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard)		N/A
P.3	Safeguards against spillage of internal liquids	No such liquids.	N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts	No such construction.	N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C)		—
	Tr (°C)		—

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Ta (°C)..... :		—
P.4.2 b)	Abrasion testing :		N/A
P.4.2 c)	Mechanical strength testing :		N/A

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

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

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire 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 (test condition), (°C)		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A

T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements		P
T.2	Steady force test, 10 N	No damage, no hazardous.	P
T.3	Steady force test, 30 N	No damage, no hazardous.	P
T.4	Steady force test, 100 N	No damage, no hazardous.	P
T.5	Steady force test, 250 N	No damage, no hazardous.	P
T.6	Enclosure impact test		N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test	No damage, no hazardous.	P
T.8	Stress relief test	(See appended table T.8)	—
T.9	Impact Test (glass)		N/A

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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J).....:		—
	Height (m)		—
T.10	Glass fragmentation test		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		—
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General requirements		N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....:		N/A
V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		P
V.1	Accessible parts of equipment		P
V.2	Accessible part criterion		P



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Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	TABLE: List of critical components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹
Plastic enclosure	CHI MEI CORPORATION	PC-6410	80°C, V-0, min. thickness: 1.5mm	UL 94, UL 746	UL E56070
PCB	Interchangeable	Interchangeable	V-0, 130°C	UL 796	UL
Battery Cell	GUANGDONG CVATOP NEW ENERGY TECHNOLOGY CO., LTD	1260110P- 10000mAh	3.7V, 10000mAh	IEC/EN 62133-2:2017	CE

Supplementary information:

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



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Clause	Requirement + Test	Result - Remark	Verdict

4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests	N/A
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(The following mechanical tests are conducted in the sequence noted.)

4.8.4.2	TABLE: Stress Relief test	—
---------	---------------------------	---

Part	Material	Oven Temperature (°C)	Comments

4.8.4.3	TABLE: Battery replacement test	—
---------	---------------------------------	---

Battery part no.:		—
------------------------	--	---

Battery Installation/withdrawal	Battery Installation/Removal Cycle	Comments
	1	
	2	
	3	
	4	
	5	
	6	
	8	
	9	
	10	

4.8.4.4	TABLE: Drop test	—
---------	------------------	---

Impact Area	Drop Distance	Drop No.	Observations
		1	
		2	
		3	

4.8.4.5	TABLE: Impact	—
---------	---------------	---

Impacts per surface	Surface tested	Impact energy (Nm)	Comments

4.8.4.6	TABLE: Crush test	—
---------	-------------------	---

Test position	Surface tested	Crushing Force (N)	Duration force applied (s)

Supplementary information:

4.8.5	TABLE: Lithium coin/button cell batteries mechanical test result	N/A
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Test position	Surface tested	Force (N)	Duration force applied (s)

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Clause	Requirement + Test	Result - Remark	Verdict
Supplementary information:			

5.2	Table: Classification of electrical energy sources	P
------------	---	----------

5.2.2.2 – Steady State Voltage and Current conditions

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions ¹⁾	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
1	Max. 5Vdc	The EUT is designed to be powered by a maximum 5.0 Vdc external power supply	Normal	5Vdc	--	--	ES1
			Abnormal	--	--	--	--
			Single fault	--	--	--	--
2	4.2Vdc	Li-ion battery	Normal	4.2Vdc	--	--	ES1
			Abnormal	--	--	--	--
			Single fault	--	--	--	--

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
--	--	--	Normal	--	--	--
			Abnormal	--	--	--
			Single fault	--	--	--

5.2.2.4 - Single Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	lpk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

5.2.2.5 - Repetitive Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	lpk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	

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Clause	Requirement + Test	Result - Remark	Verdict

		Single fault – SC/OC	--	--	--
--	--	----------------------	----	----	----

Test Conditions:

Normal – Full load and no load.

Abnormal – Overload output

Supplementary information: SC=Short Circuit, OC=Open Circuit

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P
	Supply voltage (V) :	See below				—
	Ambient T _{min} (°C) :	--	--	--	--	—
	Ambient T _{max} (°C) :	--	--	--	--	—
	T _{ma} (°C) :	--	--	--	--	—
Maximum measured temperature T of part/at:		Measured T (°C)				Allowed T _{max} (°C)
Charge(Micro USB Input: 5V \Rightarrow 2.1A, with empty battery)						
	PCB near U1	52.5	--	--	--	130
	PCB near U2	51.2	--	--	--	130
	L1 winding	53.2	--	--	--	130
	Battery surface	35.1	--	--	--	Ref.
	Plastic enclosure inside near battery	34.5	--	--	--	80
	Plastic enclosure outside near battery	32.6	--	--	--	77
	Power button	32.4	--	--	--	77
	Ambient	25.0	--	--	--	--
Discharge(USB2 Output: 5V \Rightarrow 2.1A, with fully battery)						
	PCB near U1	58.4	--	--	--	130
	PCB near U2	54.5	--	--	--	130
	L1 winding	59.2	--	--	--	130
	Battery surface	36.7	--	--	--	Ref.
	Plastic enclosure inside near battery	35.6	--	--	--	80
	Plastic enclosure outside near battery	33.5	--	--	--	77
	Power button	33.1	--	--	--	77
	Ambient	25.0	--	--	--	--
Supplementary information:						
Note 1: The apparatus was submitted and evaluated for maximum manufacturer’s ambient (T _{ma}) of 25°C.						
Note 2: The temperatures were measured under the worse case normal mode defined in clause B.2.1.						

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Clause	Requirement + Test	Result - Remark	Verdict

Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics		N/A
Penetration (mm)			—
Object/ Part No./Material	Manufacturer/trademark	T softening (°C)	
--	--	--	
supplementary information:			

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

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance					N/A	
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz)	Required cl (mm)#	cl (mm)	Required cr (mm)	cr (mm)
--	--	--	--	--	--	--	--
Supplementary information:							

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage		N/A
Overvoltage Category (OV):			--
Pollution Degree:			--
Clearance distanced between:	Required withstand voltage	Required cl (mm)	Measured cl (mm)
--	--	--	--
Supplementary information:			

5.4.2.4	TABLE: Clearances based on electric strength test		N/A
Test voltage applied between:	Required cl (mm)	Test voltage (kV) peak/ r.m.s. / d.c.	Breakdown Yes / No
Supplementary information: Using procedure 2 to determine the clearance.			

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements					N/A
Distance through insulation di at/of:	Peak voltage (V)	Frequency (Hz)	Material	Required DTI (mm)	DTI (mm)	
--	--	--	--	--	--	
Supplementary information:						

5.4.9	TABLE: Electric strength tests			N/A
Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (Vpeak)	Breakdown Yes / No	
Basic/supplementary:				
--	--	--	--	
Reinforced:				
--	--	--	--	
Supplementary information:				

5.5.2.2	TABLE: Stored discharge on capacitors					N/A
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification	
--	--	--	--	--	--	
Supplementary information: The end system will be pluggable equipment type A. Limit of ES1 applied for mains terminal as accessible part for ordinary persons.						
X-capacitors installed for testing are:						
<input type="checkbox"/> bleeding resistor rating:						
<input type="checkbox"/> ICX:						
Notes:						
A. Test Location:						
Phase to Neutral;						
B. Operating condition abbreviations:						
N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition						

5.6.6.2	TABLE: Resistance of protective conductors and terminations				N/A
Accessible part	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
--	--	--	--	--	
Supplementary Information:					

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Clause	Requirement + Test	Result - Remark	Verdict

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part	N/A
Supply voltage	264Vac	—
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)
	1 (e closed, normal and reverse polarity p)	
	2* (neutral open (switch n), earth intact and normal polarity, again in reverse polarity (switch p))	
	3 (for IT system, each phase conductor faulted to earth, one at a time (switch g))	
	4 (for three-phase, each phase conductor open, one at a time (switches l))	
	5 (IT power system or three phase delta system)	
	6 (three-phase for use on centre-earthed delta supply system)	
	8 (incidental electrically connected to other parts)	
	1 (e open, normal and reverse polarity p)	
	2* (neutral open (switch n), earth intact and normal polarity, again in reverse polarity (switch p))	

Notes: See only Table 5.2 for touch currents measured.
 [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.
 [5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.
 a) Not considered IT power system.
 b) Not three phase equipment.
 c) Not IT power system or three phase delta system.
 d) Not three-phase for use on centre-earthed delta supply system.
 e) Not such parts.

6.2.2	Table: Electrical power sources (PS) measurements for classification	P
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IEC 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*	PS Classification
USB1 output	Normal condition	Power (W) :	11.12	--	PS1
		V _A (V) :	5.04	--	
		I _A (A) :	2.34	--	
USB1 output	C7 SC	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	
USB2 output	Normal condition	Power (W) :	15.24	15.24	PS2
		V _A (V) :	5.05	5.05	
		I _A (A) :	3.14	3.14	
USB2 output	C1 SC	Power (W) :	0	--	PS1
		V _A (V) :	0	--	
		I _A (A) :	0	--	
Battery pack	Normal condition	Power (W) :	37.25	37.25	PS2
		V _A (V) :	4.20	4.20	
		I _A (A) :	9.45	9.45	
Supplementary Information: sc=short circuit, oc=open circuit. (*) Measurement taken only when limits at 3 seconds exceed PS1 limits.					

6.2.3.1	Table: Determination of Potential Ignition Sources (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	
See below	--	--	--	--	
Supplementary information: The components having soldered pins and PCB traces in mains circuit (>50V peak) are considered as arcing PIS. 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 Potential Ignition Sources (Resistive PIS)				P
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No

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Clause	Requirement + Test	Result - Remark	Verdict

All circuits/components	--	--	--	--	Yes (declaration)
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Supplementary Information:

All power dissipating components in primary and connected to secondary pins of transformer which are supplied by a source exceeding 15W are considered as resistive PIS.

A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter.

If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification.

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

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

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
5Vdc	1.98	2.1	9.90	--	--	--	Empty battery charged by Micro USB port(5V)
4.2Vdc	2.65	--	11.13	--	--	--	Battery discharge by USB2 Output port (5V --- 2.1A)
Supplementary information:							

B.3	TABLE: Abnormal operating condition tests					P
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Clause	Requirement + Test	Result - Remark	Verdict

Ambient temperature (°C)	See below	—
Power source for EUT: Manufacturer, model/type, output rating ..	--	—

Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
See Table B.4	--	--	--	--	--	--	--	--

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.
 S-C: short circuit, O-L: overload, O-C: open circuit; CD: Components damaged;
 The Hi-pot test conducted successfully after the completion of fault condition test.

B.4	TABLE: Fault condition tests	P
------------	-------------------------------------	----------

Ambient temperature (°C)	See below	—
Power source for EUT: Manufacturer, model/type, output rating ..	--	—

Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
---------------	--------------------	---------------------	----------------	----------	-------------------	----------	------------	-------------

Charge(Micro USB Input: 5V \approx 2.1A, with empty battery)

U1 Pin(4-8)	SC	5Vdc	10mins	--	--	--	--	Input current: 0.01A. Unit shut down immediately, recoverable. After test, no damage, no hazard.
U2 Pin(2-3)	SC	5Vdc	10mins	--	--	--	--	Input current: 0.01A. Unit shut down immediately, recoverable. After test, no damage, no hazard.



IEC 62368-1								
Clause		Requirement + Test				Result - Remark		Verdict
Battery (R4 SC)	OC	5Vdc	7hrs10 mins	--	--	--	--	Max continuous charging current was 2.06A. The product worked as normal. No chemicals leak, explosion, molten metal emission or expulsion observed. The temperature rise has no obvious change.
Discharge(USB2 Output: 5V ---2.1A, with fully battery)								
U1 Pin(1-4)	SC	4.2Vdc	10mins	--	--	--	--	BAT discharging current: 0.01A. Unit shut down, recoverable. After test, no damage, no hazard.
C2	SC	4.2Vdc	10mins	--	--	--	--	BAT discharging current: 0.01A. Unit shut down, recoverable. After test, no damage, no hazard.
Battery	SC	4.2Vdc	10mins	--	--	--	--	Unit cannot be worked as normally, recoverable. After test, no damage, no hazard.

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IEC 62368-1								
Clause		Requirement + Test				Result - Remark		Verdict
Battery (R4 SC)	ED	4.2Vdc	3hrs20 mins	--	--	--	--	Max continuous discharging current was 2.70A. The product worked as normal. No chemicals leak, explosion, molten metal emission or expulsion observed. The temperature rise has no obvious change.
USB1 Output	SC	4.2Vdc	10mins	--	--	--	--	Unit shut down immediately. No damage, no hazards. Battery discharging current: 0A
USB2 Output	SC	4.2Vdc	10mins	--	--	--	--	Unit shut down immediately. No damage, no hazards. Battery discharging current: 0A
USB1 Output	Overload	4.2Vdc	4hrs20 mins	--	--	Type-J	PCB near U1:60.2°C Battery surface: 38.2°C Plastic enclosure outside near battery: 35.0°C Power button: 33.6°C Ambient: 25.0°C	USB2 output with 1.1A. The USB1 max output overload current is 2.34A and the Steady temperature rise was obtain. When exceed it, unit shut down and can recoverable. No damage, no hazards.
USB2 Output	Overload	4.2Vdc	4hrs30 mins	--	--	Type-J	PCB near U1:62.4°C Battery surface: 39.0°C Plastic enclosure outside near battery: 35.7°C Power button: 34.1°C Ambient: 25.0°C	The max output overload current is 3.14A and the Steady temperature rise was obtain. When exceed it, unit shut down and can recoverable. No damage, no hazards.

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:
 1) SC: Short-circuited; OC: Over-charged; ED: Excessive-discharged.
 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.

Annex M	TABLE: Batteries								P
The tests of Annex M are applicable only when appropriate battery data is not available									P
Is it possible to install the battery in a reverse polarity position?..... :									N/A
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	--	--	--	1.98A	10A	2.65A	10A	--	--
Max. current during fault condition	--	--	--	2.06A (R4 SC)	10A	2.70A (R4 SC)	10A	--	--
Test results:									Verdict
- Chemical leaks							No leaks		P
- Explosion of the battery							No explosion		P
- Emission of flame or expulsion of molten metal							No emission		P
- Electric strength tests of equipment after completion of tests							--		N/A
Supplementary information:									

Annex M.4	Table: Additional safeguards for equipment containing secondary lithium batteries					P
Battery/Cell No.	Test conditions	Measurements			Observation	
		U	I (A)	Temp (C)		
--	Normal	4.20	1.98	35.1	No damage, no hazards.	
--	Battery R4 short #	4.20	2.06	35.3	No damage, no hazards.	
Supplementary Information:						
Battery identification	Charging at T _{lowest} (°C)	Observation	Charging at T _{highest} (°C)	Observation		

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Clause	Requirement + Test	Result - Remark	Verdict

Battery identification	Charging at T_{lowest} (°C)	Observation	Charging at $T_{highest}$ (°C)	Observation
Battery's highest specified charging temperature: 45°C, Battery's lowest specified charging temperature: 0°C	Pack was charged with 5Vdc. Ambient Temp: from initially 25°C to finally 0°C.	Battery charging current decrease to 0.30A when ambient temp decrease to 0°C	Pack was charged with 5Vdc. Ambient Temp: from initially 25°C to finally 45°C	Battery charging current decrease to 0A when ambient temp increase to 44.7°C

Supplementary Information:

Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)					P
Output Circuit	Components	U_{oc} (V)	I_{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
USB1 output	Normal condition	5.04	2.34	8.0	11.12	100
USB1 output	C7 SC	0	0	8.0	0	100
USB2 output	Normal condition	5.05	3.14	8.0	15.24	100
USB2 output	C1 SC	0	0	8.0	0	100

Supplementary Information: sc=short circuit, oc=open circuit.

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Top	--	1.5	10/30/100/250	5	No damaged, no hazard	
Side		1.5	10/30/100/250	5	No damaged, no hazard	
Back		1.5	10/30/100/250	5	No damaged, no hazard	

Supplementary information:

T.6, T.9	TABLE: Impact tests	N/A
----------	---------------------	-----

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IEC 62368-1				
Clause	Requirement + Test	Result - Remark	Verdict	
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation
--	--	--	--	--
Supplementary information:				

T.7	TABLE: Drop tests				P
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
Top	--	1.5	1000	No damaged, no hazard	
Side		1.5	1000	No damaged, no hazard	
Back		1.5	1000	No damaged, no hazard	
Supplementary information:					

T.8	TABLE: Stress relief test				P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Whole unit	See table 4.1.2	1.5	70	7	No damaged, no hazard
Supplementary information:					

TRF No. IEC62368_1B

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

Supplementary test results for subclause G.5.3:

G.5.3	TABLE: transformers							N/A
Loc.	Tested insulation	Working voltage peak / V (5.4.1.8)	Working voltage rms / V (5.4.1.8)	Required electric strength (5.4.9)	Required clearance / mm (5.4.2.2)	Required creepage distance / mm (5.4.3)	Required distance thr. insul. (5.4.4.6)	
--	--	--	--	--	--	--	--	
Loc.	Tested insulation			Test voltage / V	Measured clearance / mm	Measured creepage dist. / mm	Measured distance thr. insul. / mm; number of layers	
--	--			--	--	--	--	
Supplementary information:								
Construction:								



Attachment 1

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment - Part 1: Safety requirements)	
Differences according to	EN 62368-1:2014+A11:2017
Attachment Form No.	EU_GD_IEC62368_1B_II
Attachment Originator.....	Nemko AS
Master Attachment	Date 2017-09-22
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	CENELEC common modifications EN	--																																				
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed "Z".	--																																				
CONTENTS	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords	P																																				
	Delete all the "country" notes in the reference document (IEC 62368-1:2014) according to the following list: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>0.2.1</td> <td>Note</td> <td>1</td> <td>Note 3</td> <td>4.1.15</td> <td>Note</td> </tr> <tr> <td>4.7.3</td> <td>Note 1 and 2</td> <td>5.2.2.2</td> <td>Note</td> <td>5.4.2.3.2.2 Table 13</td> <td>Note c</td> </tr> <tr> <td>5.4.2.3.2.4</td> <td>Note 1 and 3</td> <td>5.4.2.5</td> <td>Note 2</td> <td>5.4.5.1</td> <td>Note</td> </tr> <tr> <td>5.5.2.1</td> <td>Note</td> <td>5.5.6</td> <td>Note</td> <td>5.6.4.2.1</td> <td>Note 2 and 3</td> </tr> <tr> <td>5.7.5</td> <td>Note</td> <td>5.7.6.1</td> <td>Note 1 and 2</td> <td>10.2.1 Table 39</td> <td>Note 2, 3 and 4</td> </tr> <tr> <td>10.5.3</td> <td>Note 2</td> <td>10.6.2.1</td> <td>Note 3</td> <td>F.3.3.6</td> <td>Note 3</td> </tr> </table>	0.2.1	Note	1	Note 3	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	P
0.2.1	Note	1	Note 3	4.1.15	Note																																	
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5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4																																	
10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3																																	
	For special national conditions, see Annex ZB.	P																																				
1	Add the following note:	P																																				

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Attachment 1

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.		
4.Z1	<p>Add the following new subclause after 4.9: To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. mains, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <p>c) it is permitted for pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		N/A
5.4.2.3.2.4	Add the following to the end of this subclause: The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.	No external circuit.	N/A
10.2.1	Add the following to ^{c)} and ^{d)} in table 39: For additional requirements, see 10.5.1.	No radiation.	N/A
10.5.1	Add the following after the first paragraph: <i>For RS 1 compliance is checked by measurement under the following conditions: In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to</i>	Added.	N/A

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	<p><i>give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</i></p> <p>NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. <i>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.</i></p> <p><i>Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.</i></p> <p><i>For RS1, the dose-rate shall not exceed 1 μSv/h taking account of the background level.</i></p> <p>NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.</p>		
10.6.1	<p>Add the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.</p>	Added.	N/A
10.Z1	<p>Add the following new subclause after 10.6.5. 10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566</p>		N/A
G.7.1	<p>Add the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.</p>	Added.	N/A
Bibliography	<p>Add the following standards: Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9.</p>		P

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Attachment 1

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	IEC 60269-2 IEC 60309-1 IEC 60364 IEC 60601-2-4 IEC 60664-5 IEC 61032:1997 IEC 61508-1 IEC 61558-2-1 IEC 61558-2-4 IEC 61558-2-6 IEC 61643-1 IEC 61643-21 IEC 61643-311 IEC 61643-321 IEC 61643-331	NOTE Harmonized as HD 60269-2. NOTE Harmonized as EN 60309-1. NOTE some parts harmonized in HD 384/HD 60364 series. NOTE Harmonized as EN 60601-2-4. NOTE Harmonized as EN 60664-5. NOTE Harmonized as EN 61032:1998 (not modified). NOTE Harmonized as EN 61508-1. NOTE Harmonized as EN 61558-2-1. NOTE Harmonized as EN 61558-2-4. NOTE Harmonized as EN 61558-2-6. NOTE Harmonized as EN 61643-1. NOTE Harmonized as EN 61643-21. NOTE Harmonized as EN 61643-311. NOTE Harmonized as EN 61643-321. NOTE Harmonized as EN 61643-331.	
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
4.1.15	<p>Denmark, Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added: Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord." In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"</p>		N/A
4.7.3	<p>United Kingdom</p> <p>To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex</p>		N/A

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5.2.2.2	Denmark After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.4.11.1 and Annex G	Finland and Sweden To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either <ul style="list-style-type: none">• two layers of thin sheet material, each of which shall pass the electric strength test below, or• one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition <ul style="list-style-type: none">• passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and• is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: <ul style="list-style-type: none">• the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		
5.5.2.1	Norway After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
5.5.6	Finland, Norway and Sweden To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.	No such resistor used.	N/A
5.6.1	Denmark Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.	Added.	N/A
5.6.4.2.1	Ireland and United Kingdom After the indent for pluggable equipment type A , the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.	Added.	N/A
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.	Added.	N/A
5.7.5	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

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

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	Translation to Swedish: "Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet."		
B.3.1 and B.4	Ireland and United Kingdom The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment , tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment , until the requirements of Annexes B.3.1 and B.4 are met		N/A
G.4.2	Denmark To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA		N/A

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	<p>1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a <i>Justification:</i> Heavy Current Regulations, Section 6c</p>		
G.4.2	<p>United Kingdom To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.</p>		N/A
G.7.1	<p>United Kingdom To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		N/A
G.7.1	<p>Ireland</p>		N/A

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	To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		
G.7.2	Ireland and United Kingdom To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm ² is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		P
10.5.2	<p>Germany</p> <p>The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking.</p> <p><i>Justification:</i> German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM.</p> <p>NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de</p>	Not such equipment.	N/A

Note: Before placing the products in the different countries, the manufacturer must ensure that:

1. Operating Instructions, Ratings Labels and Warnings Labels written in an Accepted or Official Language of the county in question.
2. The equipment complies with the National Standards and/or Electrical Codes of the country in question.
3. Mains plugs and power cordset should be assessed to the national standard.

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Details of: External View



Details of: External View



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Details of: External View



Details of: Internal View



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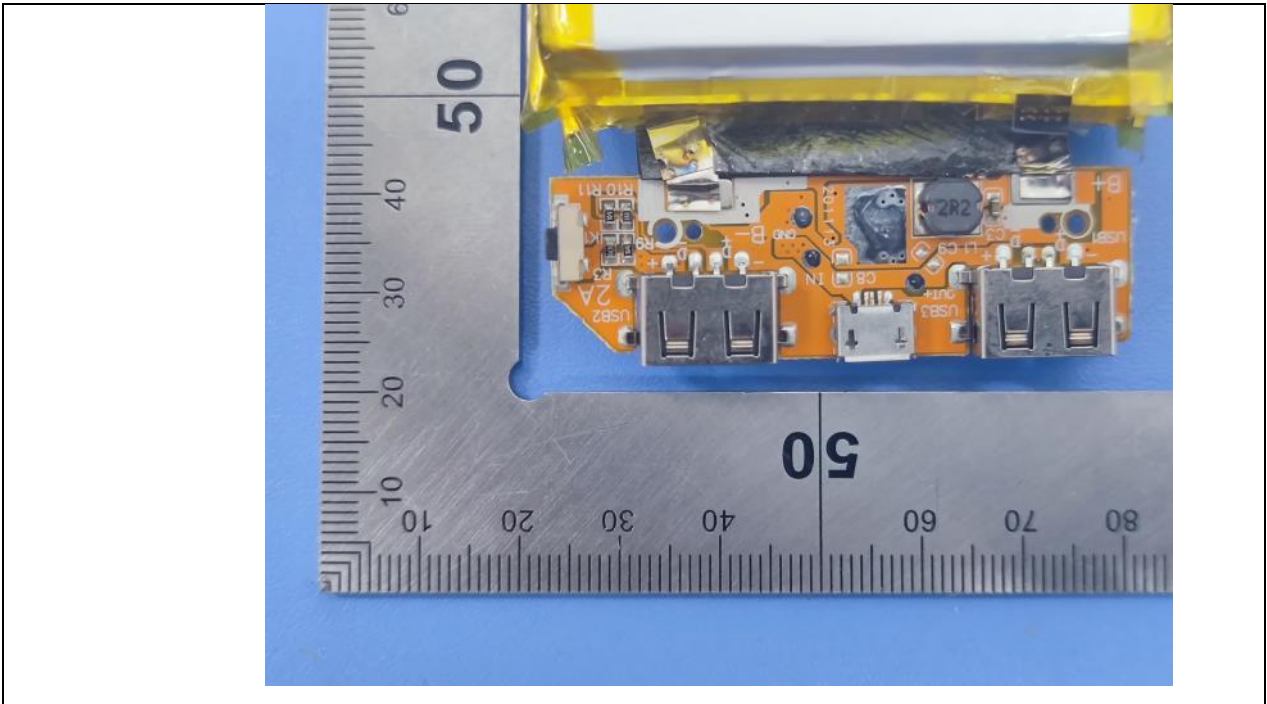
Shenzhen LCS Compliance Testing Laboratory Ltd.

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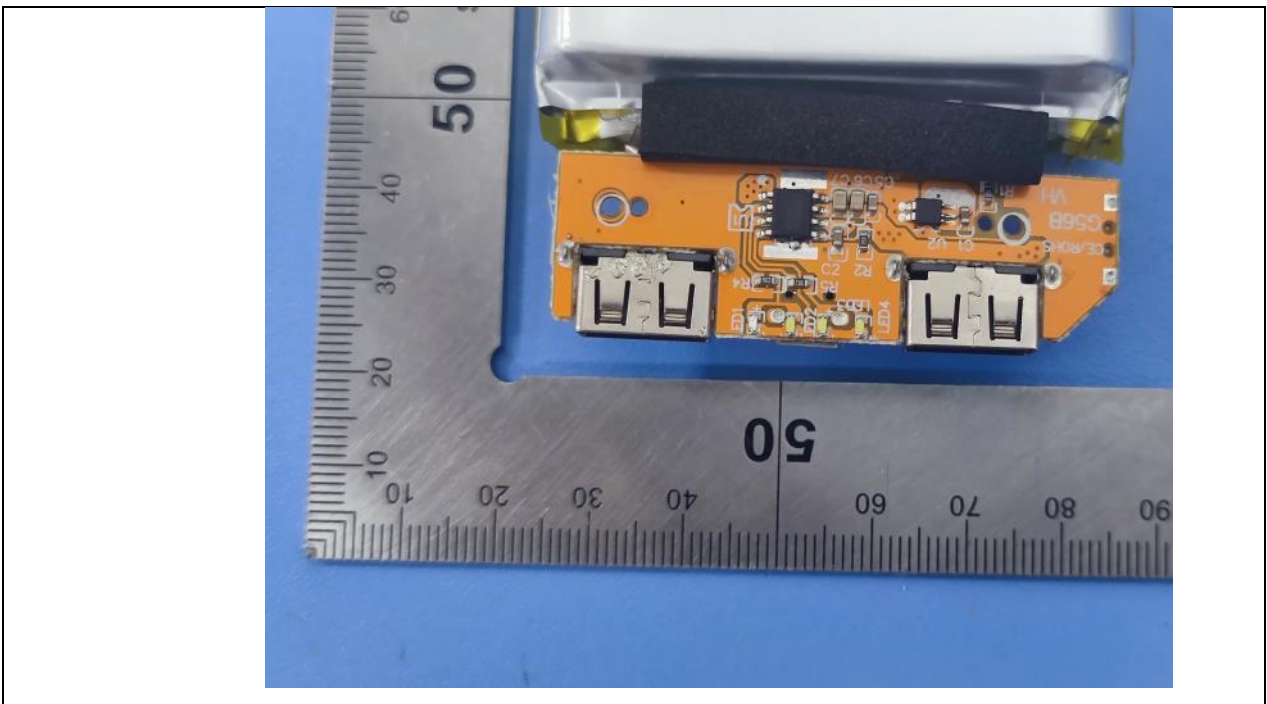
Tel: +(86) 0755-8259 1330 | Fax : +(86) 0755-8259 1332 | E-mail : webmaster@lcs-cert.com | [http:// www.lcs-cert.com](http://www.lcs-cert.com)



Details of: PCB View



Details of: PCB View



TRF No. IEC62368_1B

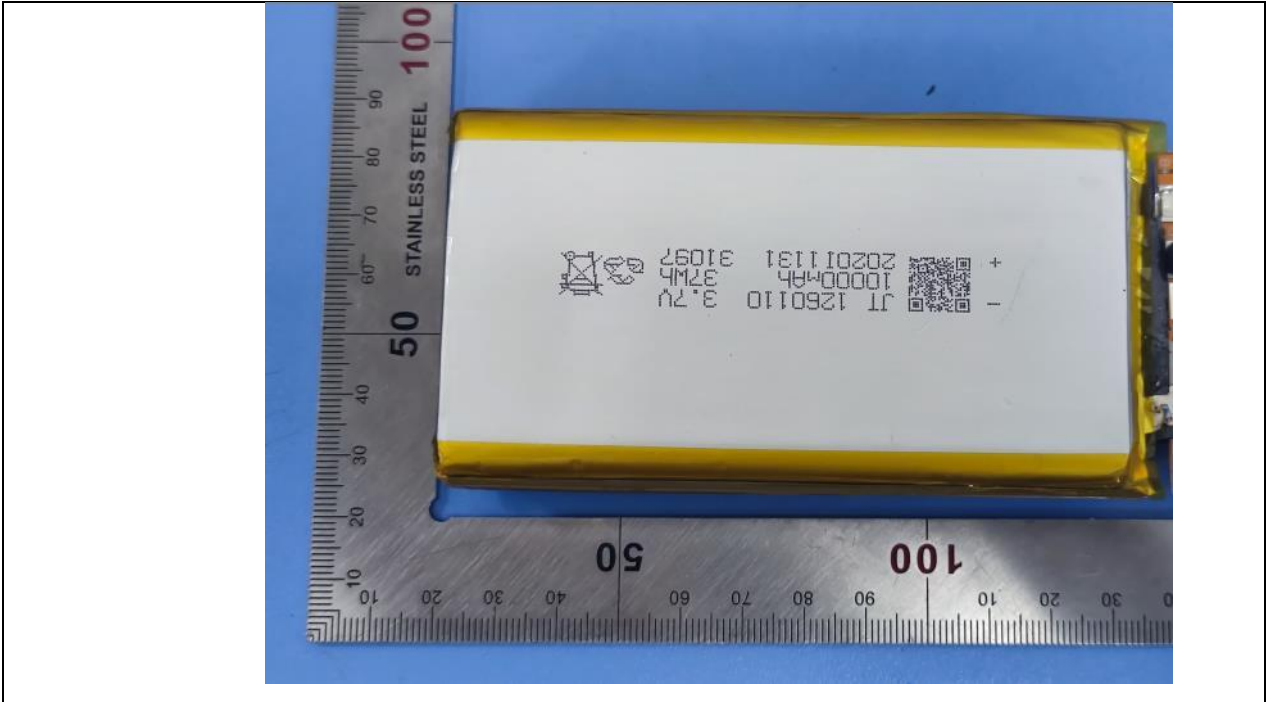
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Details of: Battery cell View



-----END OF TEST REPORT-----

TRF No. IEC62368_1B

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