

TEST REPORT EN 62368-1 Audio/video, information and communication technology equipment Part 1-Safety requirements	
Report reference No	SZ1210419-12396E-SF
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Approved by (+ signature)	Safety Engineer: Jerry Liu
Date of issue	2021-05-31
Testing laboratory	Bay Area Compliance Laboratories Corp. (Shenzhen)
Address	5F(B-West), 6F, 7F, the 3rd Phase of Wan Li Industrial Building D, Shihua Rd, FuTian Free Trade Zone, Shenzhen, China
Testing location	As above
Applicant's name	Shenzhen Huafurui Technology Co., Ltd.
Address	Unit 1401 & 1402, 14/F, Jinqi Zhigu Mansion (No.4 Building of Chongwen Garden), Crossing of the Liuxian Street and Tangling Road, Taoyuan Street, Nanshan District, Shenzhen, P.R. China
Manufacturer's name.....	The same as applicant
Address	The same as applicant
Factory's name.....	Not provided
Address	Not provided
Standard	EN 62368-1:2014+A11:2017
Test sample(s) received	2021-04-27
Test in period.....	2021-04-27 to 2021-05-16
Procedure deviation	N/A
Non-standard test method	N/A
This test report is for the customer shown above and their specific product only. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Shenzhen).	
Type of test object	Smartphone
Trademark	CUBOT
Test Model	NOTE 9
Multiple Model	N/A
Manufacturer	As above
Rating	INPUT:5.0V $\overline{\text{---}}$ (supplied by adapter or built in a 3.85Vdc/5900mAh Li-ion battery)

¹Copy of marking plate:



Note:

- The above label is a representative label.
- The CE marking may be lower than 5.0mm and WEEE symbol should be at least 7.0mm in height.
- Manufacturers shall indicate on the electrical equipment their name, registered trade name or registered trade mark and the postal address at which they can be contacted.
- Importers shall indicate on the electrical equipment their name, registered trade name or registered trade mark and the postal address at which they can be contacted.
- This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.
- Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
- BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk '*'. Customer model name, addresses, names, trademarks etc. are not considered data.
- The test samples were in good condition and received: 2021-04-27

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: not directly connect to mains.
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 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 connect to mains.
Considered current rating of protective device as part of building or equipment installation	____ A (20A for US and Canada) ; Installation location: <input type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility	<input type="checkbox"/> movable <input checked="" type="checkbox"/> hand-held <input 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 connect 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 :	40°C
IP protection class	<input checked="" type="checkbox"/> IP20 <input type="checkbox"/> IP ____
Power Systems	<input type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT - ____ 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 checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> ____ m
Mass of equipment (kg)	<input checked="" type="checkbox"/> 0.246kg
Possible test case verdicts	
- test case does not apply to the test object	N/A(Not Apply)
- test object does meet the requirement	P(ass)
- test object does not meet the requirement	F(ail)

General remarks:

"(See remark #)" refers to a remark appended to the report.

"(See appended table)" refers to a table appended to the report.

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Throughout this report a ☐ comma/ ☒ point is used as the decimal separator.

General product information:

1. The product is a Mobile Phone. which includes a 3.85Vdc/5900mAh rechargeable Li-ion battery pack. It is Adapter by 5Vdc/1.5A which complies with ES1 and PS1 according to EN62368-1.
2. The EUT consists of
 - Adapter as below:
Manufacturer: Shenzhen Huajin Electronics Co., Ltd.
Model: HJ-0501500W2-EU
Rated Input: 100-240V~ 50/60Hz, 0.3A.
Output: 5.0V $\overline{\overline{=}}$ 1.5A ,7.5W
 - Rechargeable battery rated 3.85Vdc/5900mAh
3. The product was submitted and tested for use at the manufacturer's recommended ambient temperature (Tma) of 40°C
4. Test sample No. SZ1210419-12396E-SF-S01
5. Adapter Report see Appendix E

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
<p>(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.)</p> <p>(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.</p>	
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)
Rate input: +5.0Vdc	ES1
Battery Output: 4.40Vdc	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)
Rate input: +5.0Vdc	PS1
Battery package: +3.85Vdc, 5900mAh rechargeable Li-ion battery (max 51.07W)	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
+3.85Vdc, 5900mAh rechargeable Li-ion battery	Lithium-ion
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)
Sharp edges and Corners	MS1
Equipment mass <7kg	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)
External 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)
LED lighting - Risk 1 Group	RS1
Acoustic energy	RS2

ENERGY SOURCE DIAGRAM				
Indicate which energy sources are included in the energy source diagram. Insert diagram below				
<input type="checkbox"/> ES <input type="checkbox"/> PS <input type="checkbox"/> MS <input type="checkbox"/> TS <input 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)
N/A	N/A	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
Enclosure	PS2 circuit	See 6.3	See 6.4.5	N/A
PCB	PS2 circuit	See 6.3	See 6.4.5	N/A
Internal wiring	PS2 circuit	N/A	N/A	See 6.5
The other components/ materials	PS2 circuit	See 6.3	See 6.4.5	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	Battery package: 3.85Vdc/5900mAh rechargeable Li- ion battery	See Annex M	Enclosure	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
N/A	N/A	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
Acoustic energy	Acoustic energy	N/A	See 10.6.4	N/A
Supplementary Information:				
(1) See attached energy source diagram for additional details.				
(2) "N/A" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

EN 62368-1+A11			
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 comply with the requirements of this standard or, where specified in a requirements clause, with the safety aspects of the relevant IEC component standards. See appended table 4.1.2	P
4.1.3	Equipment design and construction		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 appended table Annex T.4)	P
4.4.4.3	Drop tests	1000mm drop test is applied three times on different directions no hazards as a result of test. (See appended table Annex T.7)	P
4.4.4.4	Impact tests		N/A
4.4.4.5	Internal accessible safeguard enclosure and barrier tests		N/A
4.4.4.6	Glass Impact tests.....	Not made of glass	N/A
4.4.4.7	Thermoplastic material tests	(See appended table Annex T.8)	P
4.4.4.8	Air comprising a safeguard		N/A
4.4.4.9	Accessibility and safeguard effectiveness	All other safeguards shall remain effective.	P
4.5	Explosion	Compliance is checked by inspection and tests as specified in Clause B.2, Clause B.3, Clause B.4 and Annex M.	P
4.6	Fixing of conductors		N/A
4.6.1	Fix conductors not to defeat a safeguard		N/A
4.6.2	10 N force test applied to		N/A
4.7	Equipment for direct insertion into mains socket - outlets		N/A
4.7.2	Mains plug part complies with the relevant standard		N/A
4.7.3	Torque (Nm).....		N/A
4.8	Products containing coin/button cell batteries	No such 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		—

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.4	Battery Compartment Mechanical Tests	No battery compartment used.	N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object	No object can entry the appliance	N/A

5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits	(See appended table 5.2)	P
5.2.2.2	Steady-state voltage and current	(See appended table 5.2)	P
5.2.2.3	Capacitance limits		N/A
5.2.2.4	Single pulse limits		N/A
5.2.2.5	Limits for repetitive pulses		N/A
5.2.2.6	Ringing signals		N/A
5.2.2.7	Audio signals		N/A
5.3	Protection against electrical energy sources	All parts are ES1 only.	N/A
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	No protection requirements for ES1.	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		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	No such terminals	N/A
5.4.1.3	Humidity conditioning	No hygroscopic insulation	N/A
5.4.1.4	Maximum operating temperature for insulating materials	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degree	Pollution degree 2 considered	—
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		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage		N/A
5.4.1.9	Insulating surfaces		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat softening temperature		N/A

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
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		—
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
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		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (M Ω)		—
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

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
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		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		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		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}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		
5.5.1	General		N/A
5.5.2	Capacitors and RC units		N/A
5.5.2.1	General requirement		N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector		N/A
5.5.3	Transformers		N/A
5.5.4	Optocouplers		N/A
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPD's		N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable		N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors		N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm ²)		—
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
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		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		N/A

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
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		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	PS2	P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault.....:	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault	(See appended table 6.2.2)	P
6.2.2.4	PS1	(See appended table 6.2.2)	P
6.2.2.5	PS2	(See appended table 6.2.2)	P
6.2.2.6	PS3		N/A
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS		N/A
6.2.3.2	Resistive PIS	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials	See appended table 5.4.1.4, 6.3.2, 9.0 B.2.6) No ignition occurred, and no part of the equipment attained a temperature value greater than 300°C.	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	The method for control fire spread is used	N/A
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

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
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	V-0 fire enclosure required.	P
6.4.5.2	Supplementary safeguards	All components in PS2 circuit are made Min. V-2 or VTM-2 materials, and mounted on Min. V-1 class PCB.	P
6.4.6	Control of fire spread in PS3 circuit		N/A
6.4.7	Separation of combustible materials from a PIS		N/A
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		N/A
6.4.8	Fire enclosures and fire barriers	V-0 fire enclosure required.	P
6.4.8.1	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	V-0 fire enclosure required.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm)	No opening	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 opening	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 required.	P
6.5	Internal and external wiring		P
6.5.1	Requirements	Internal wires in PS2 circuits comply with Min. VW-1.	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		N/A
	External port limited to PS2 or complies with Clause Q.1		N/A

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		P
7.2	Reduction of exposure to hazardous substances		N/A
7.3	Ozone exposure		N/A
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	See Annex M	P

8	MECHANICALLY-CAUSED INJURY		P
8.1	General		P
8.2	Mechanical energy source classifications	MS1: Edges and corners of external enclosure MS1: Equipment mass	P
8.3	Safeguards against mechanical energy sources	No safeguard is required to be interposed between MS1 and ordinary persons.	N/A
8.4	Safeguards against parts with sharp edges and corners	Accessible edges and corners of the equipment are rounded and are classified as MS1.	N/A
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	MS1	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	MS1, Mass<7kg, no stability	N/A

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
		requirements	
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
	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 wall or ceiling mounted.	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		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 used	N/A
8.9.1	Classification		N/A
8.9.2	Applied force		—
8.10	Carts, stands and 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		N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i>		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
8.12	Telescoping or rod antennas		N/A
	Button/Ball diameter (mm)		—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications	The EUT considered be as TS1	P
9.3	Safeguard against thermal energy sources	Measured temperature for external enclosure does not exceed TS1 limit.	N/A
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard	Measured temperature for external enclosure does not exceed TS1 limit.	P
9.4.2	Instructional safeguard		N/A

10	RADIATION		P
10.2	Radiation energy source classification	RS1: Complied with IEC62471 Risk 1 for LED, see appended table 4.1.2 in detail. RS2: Complied with EN50332-1 for Speak, see appended 10.6.2 in detail.	P
10.2.1	General classification	RS1	P
10.3	Protection against laser radiation	No laser within the EUT	N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault		N/A
	Instructional safeguard		—
	Tool		—
10.4	Protection against visible, infrared, and UV radiation	No visible, infrared, and UV radiation within the EUT	N/A
10.4.1	General		N/A
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		N/A
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

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
10.4.1.i)	Exempt Group under normal operating conditions		N/A
10.4.2	Instructional safeguard		N/A
10.5	Protection against x-radiation	No x-radiation within the EUT	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
	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	Personal music player	P
10.6.1	General		P
10.6.2	Classification	RS2	P
	Acoustic output, dB(A)	Left: 95.4dB; Right: 99.8dB	P
	Output voltage, unweighted r.m.s.	Left: 56.8mV, Right: 58.6mV	P
10.6.4	Protection of persons		P
	Instructional safeguards	Turn up the volume and the EUT will give you a warning.	P
	Equipment safeguard prevent ordinary person to RS1		—
	Means to actively inform user of increase sound pressure	The output level can Automatically return to no more than 27mV when the power was switched off. When warning appear: The output L Aeq T: Left channel: 82.7dB, Right channel: 83.2dB Electrical output: Left channel: 7.1mV Right channel: 7.3mV Once every 20h, the volume can automayically return to no morn than 27mV. And when increased the volume warning would appear	—
	Equipment safeguard prevent ordinary person to RS1	Restart: The output L Aeq T: Left channel: 83.6dB, Right channel: 87.6dB Electrical output: Left channel:7.1mV	—

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
		Right channel: 5.58mV Factory data reset: The output L Aeq T: Left channel: 83.8dB, Right channel: 86.9dB Electrical output: Left channel: 6.7mV Right channel: 6.9mV	
10.6.5	Requirements for listening devices (headphones, earphones, etc.)	See below	P
10.6.5.1	Corded passive listening devices with analog input		P
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output	Electrical output: Left channel: 97.4mV Right channel: 98.1mV	—
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)		—
10.6.5.4	Measurement method		P
	Measurements shall be made in accordance with EN 50332-2 as applicable		P

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers	(See Annex E)	P
B.2.3	Supply voltage and tolerances	Rating voltage.	P
B.2.5	Input test		N/A
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements		P
B.3.2	Covering of ventilation openings		N/A
B.3.3	D.C. mains polarity test	No connection to the d.c. mains	N/A
B.3.4	Setting of voltage selector	No voltage selector	N/A
B.3.5	Maximum load at output terminals	See appended table B.3	N/A
B.3.6	Reverse battery polarity	Battery construction design can't reverse polarity.	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.		P

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
B.3.8	Safeguards functional during and after abnormal operating conditions	See appended table B.3 During an abnormal operating Condition that does not lead to a single fault condition, all safeguards are remained effective. After restoration of normal operating conditions, all safeguards are compliant with applicable requirement	P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited	No such parts used for the Equipment	N/A
B.4.3	Motor tests		P
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature	(See appended table)	P
B.4.4	Short circuit of functional insulation		P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4)	N/A
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components		P
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions	During and after single fault conditions, accessible parts do not exceed the relevant energy class and no flame and ignition inside the equipment.	P
B.4.9	Battery charging under single fault conditions	(See Annex M)	P
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

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		P
E.1	Audio amplifier normal operating conditions	ES1	P
	Audio signal voltage (V)	2.83V	—
	Rated load impedance (Ω)	8 \pm 15% ohm,	—
E.2	Audio amplifier abnormal operating conditions	(See appended table B.3)	P
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements	Equipment is provided with operator instructions.	P
	Instructions – Language	English version evaluated.	—
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	See copy of marking plate	P
F.3.2	Equipment identification markings	See copy of marking plate	P
F.3.2.1	Manufacturer identification	See copy of marking plate	—
F.3.2.2	Model identification	See copy of marking plate	—
F.3.3	Equipment rating markings	Refer below	P
F.3.3.1	Equipment with direct connection to mains	Not 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		—
F.3.3.4	Rated voltage		—
F.3.3.4	Rated frequency		—
F.3.3.6	Rated current or rated power		—
F.3.3.7	Equipment with multiple supply connections	Battery operated equipment.	N/A
F.3.4	Voltage setting device	No voltage setting device.	N/A
F.3.5	Terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings.....		N/A
F.3.5.2	Switch position identification marking		N/A
F.3.5.3	Replacement fuse identification and rating markings.....		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	Class III equipment	N/A

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.1	Class I Equipment	Class III 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)	Class III equipment	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 :	IP20	—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking	The markings on the equipment is durable and legible, and shall be easily discernable under normal lighting conditions	P
F.3.10	Test for permanence of markings	Rubbing the marking by hand for 15 s with piece of cloth soaked with water and, at a different place for on a second sample. For 15 s with a piece of cloth soaked with petroleum spirit .after this test, marking is legible and can not be easily possible to remove marking.	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		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		N/A
	f) Protective earthing employed as safeguard		N/A
	g) Protective earthing conductor current exceeding ES 2 limits		N/A
	h) Symbols used on equipment		N/A
	i) Permanently connected equipment not provided with all-pole mains switch		N/A
	j) Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards	Refer to M.1 and see appendix B-user manual	P

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
	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	No such components	N/A
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		N/A
G.3.1	Thermal cut-offs	No such components	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		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	No such components	N/A
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		N/A
G.4.1	Spacings		N/A
G.4.2	Mains connector configuration		N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	Wound Components		P
G.5.1	Wire insulation in wound components		N/A

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
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
	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		P
G.5.4.1	General requirements	See appended table B.4	P
	Position	Inside of Mobile phone	—
G.5.4.2	Test conditions		P
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	(See appended Table B.4)	P
G.5.4.6.2	Tested in the unit		P

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
	Maximum Temperature	See appende table B.4 Class A, and not exceed 150°C in table G.5.3	P
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)	No ignition of wrapping tissue and cheesecloth.	N/A
	Electric strength test (V).....	Motor does not exceeds ES1	N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		N/A
G.6.1	General		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	Detachable cord used.	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

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
G.8.1	General requirements	No such components	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
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.		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		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		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 Vini		—
	Routine test voltage, Vini,b		—
G.13	Printed boards		N/A
G.13.1	General requirements		N/A
G.13.2	Uncoated printed boards		N/A
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A

EN 62368-1+A11			
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		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		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 :		—
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General	Not connected to telephone line	N/A
H.2	Method A		N/A

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage 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		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
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		N/A
L.1	General requirements		N/A
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		N/A
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
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	Refer below	P
M.2.1	Requirements	Rechargeable Li-ion battery packs are tested according to IEC 62133-2: 2017 (see appended table 4.1.2)	P
M.2.2	Compliance and test method (identify method) .. :	Inspection and evaluation based on data provided by the manufacturer.	P
M.3	Protection circuits		P
M.3.1	Requirements		P
M.3.2	Tests		P
	- Overcharging of a rechargeable battery	Considered, see appended table Annex M for rechargeable Li-ion battery	P
	- Unintentional charging of a non-rechargeable battery	Rechargeable battery used.	N/A
	- Reverse charging of a rechargeable battery	Can't be reversed according to the design of enclosure and connector.	N/A
	- Excessive discharging rate for any battery	Considered, see appended table Annex M for rechargeable Li-ion battery	P
M.3.3	Compliance	No flame, explosion, expulsion of molten metal, spillage of liquid, chemical leakage.	P
M.4	Additional safeguards for equipment containing secondary lithium battery		P
M.4.1	General	See below	P
M.4.2	Charging safeguards		P
M.4.2.1	Charging operating limits	Considered	P
M.4.2.2a)	Charging voltage, current and temperature	(see appended table B.3 & B.4)	—
M.4.2.2 b)	Single faults in charging circuitry	(see appended table B.3 & B.4)	—
M.4.3	Fire Enclosure	V-0 fire enclosure required.	P
M.4.4	Endurance of equipment containing a secondary lithium battery		P
M.4.4.2	Preparation	See below	P
M.4.4.3	Drop and charge/discharge function tests		P
	Drop	See appended table T.7	P
	Charge	See appended table Annex M	P
	Discharge	See appended table Annex M	P

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
M.4.4.4	Charge-discharge cycle test	Considered	P
M.4.4.5	Result of charge-discharge cycle test		P
M.5	Risk of burn due to short circuit during carrying	EUT is not a battery with exposed bare conductive terminals. Built in 3.85Vdc/5900mAh Li-ion rechargeable battery	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		P
M.6.1.1	General requirements	Refer to below	P
M.6.1.2	Test method to simulate an internal fault	No fire, emission of molten metal or deformation was noted during the tests.	P
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method)	See appended table Annex M	P
M.6.2	Leakage current (mA)		N/A
M.7	Risk of explosion from lead acid and NiCd batteries	Only lithium ion battery used. No lead acid or 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 batteries used.	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 V_z (m ³ /s)		—
M.8.2.3	Correction factors.....		—
M.8.2.4	Calculation of distance d (mm)		—
M.9	Preventing electrolyte spillage		P
M.9.1	Protection from electrolyte spillage		P
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)		P
N	ELECTROCHEMICAL POTENTIALS		N/A
	Metal(s) used	Pollution degree considered	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		N/A
	Figures O.1 to O.20 of this Annex applied.....		—

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		N/A
P.1	General requirements		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		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		N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C)..... :		—
	Tr (°C) :		—
	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		N/A
Q.1	Limited power sources		N/A
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition		N/A
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		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) :		—
	Current limiting method..... :		—

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A). :		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material :		—
	Wall thickness (mm):.....		—
	Conditioning (°C) :		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material :		—
	Wall thickness (mm):.....		—
	Conditioning (°C) :		—
	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

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
T.3	Steady force test, 30 N	(See appended table T.3)	N/A
T.4	Steady force test, 100 N	(See appended table T.4)	P
T.5	Steady force test, 250 N		N/A
T.6	Enclosure impact test		N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test	(See appended table T.7)	P
T.8	Stress relief test	(See appended table T.8)	P
T.9	Impact Test (glass)		N/A
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	No such components	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

EN 62368-1+A11			
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
Attachment Originator	Intertek Semko AB
Master Attachment	Date (2017-09-22)
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	CENELEC COMMON MODIFICATIONS (EN)	N/A
1	NOTE Z1	N/A
4.Z1	Protective devices included as integral parts of the equipment or as parts of the building installation:	N/A
	a) Included as parts of the equipment	N/A
	b) For components in series with the mains; by devices in the building installation	N/A
	c) For pluggable type B or permanently connected; by devices in the building installation	N/A
5.4.2.3.2.4	Interconnection with external circuit	N/A
10.2.1	Additional requirements in 10.5.1	N/A
10.5.1	RS1 compliance measurement conditions	N/A
10.6.2.1	EN 71-1:2011, 4.20 and methods and distances	N/A
10.Z1	Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz	N/A
G.7.1	NOTE Z1	N/A


ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)	N/A
4.1.15	Denmark, Finland, Norway and Sweden: Class I pluggable equipment type A marking	N/A
4.7.3	United Kingdom: Torque test socket-outlet BS 1363, and the plug part BS 1363.	N/A
5.2.2.2	Denmark: Warning for high touchcurrent	N/A
5.4.11.1 and Annex G	Finland and Sweden: Separation of the telecommunication network from earth	N/A
5.5.2.1	Norway: Capacitors rated for the applicable line-to-line voltage (230 V).	N/A

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.6	Finland, Norway and Sweden: Resistors used as basic safeguard or bridging basic insulation comply with G.10.1 and G.10.2.		N/A
5.6.1	Denmark: Protection for pluggable equipment type A; integral part of the equipment		N/A
5.6.4.2.1	Ireland and United Kingdom: The protective current rating is taken to be 13 A		N/A
5.6.5.1	Ireland and United Kingdom: Conductor sizes of flexible cords to be accepted by terminals for equipment rated 10 A to 13 A		N/A
5.7.5	Denmark: The installation instruction affixed to the equipment if high protective conductor current		N/A
5.7.6.1	Norway and Sweden: Television distribution system isolation text in user manual		N/A
5.7.6.2	Denmark: Warning for high touch current		N/A
B.3.1 and B.4	Ireland and United Kingdom: Tests conducted using an external miniature circuit breaker or protective devices included as an integral part of the direct plug-in equipment		N/A
G.4.2	Denmark: Appliances rated ≤13 A provided with a plug according to DS 60884-2-D1:2011.		N/A
	Class I equipment provided with socket-outlets provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.		N/A
	If a single-phase equipment having rated >13 A or poly-phase equipment provided with a supply cord with a plug, plug in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.		N/A
	Mains socket outlets intended for providing power to Class II apparatus rated 2,5 A in accordance with DS 60884-2-D1:2011 standard sheet DKA 1-4a.		N/A
	Other current rating socket outlets in compliance with Standard Sheet DKA 1-3a or DKA 1-1c.		N/A
	Mains socket-outlets with earth 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		N/A
G.4.2	United Kingdom: The plug part of direct plug-in equipment assessed to BS 1363	The adapter report contains pin tests that conform to BS 1363, see Appendix E	P

EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	United Kingdom: Equipment fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768		N/A
G.7.1	Ireland: Apparatus provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use		N/A
G.7.2	Ireland and United Kingdom: A power supply cord for equipment which is rated over 10 A and up to and including 13 A.		N/A

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
10.5.2	Germany: Cathode ray tube intended for the display of visual images, authorization or application of type approval and marking.		N/A

FINAL

4.1.2	TABLE: List of critical components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity
Plastic enclosure	SHENZHEN GLARY ASIA PLASTIC ELECTRONICS CO.,LTD	A760(AF290)	V-0, 60°C, Min.: 1.5mm	UL 94 UL746	UL E363605
PCB	Interchangeable	Interchangeable	V-1, 105°C	UL 94 UL 796	UL
Adapter	Shenzhen Huajin Electronics Co., Ltd.	HJ-0501500W2-EU	Input: 100-240Vac, 50/60Hz, 0.3A Output: 5V  1.5A,7.5W	EN 62368-1: 2014 +A11: 2017	Tested by:TUV SUD Certification and Testing(China)Co.,Ltd Report No.: 211-21201194-000
Battery	ZHONGSHAN TI ANMAO BATTERY CO.,LTD	C11	3.85Vdc, 5900mAh, 22.715Wh, Max. charging current:2950mA; Max. discharging current: 2950mA;	IEC62133-2: 2017	Tested by: Attestation of Global Compliance(Shenzhen) Co.,Ltd Report No.:AGC01085210402 TA01
Motor	Guangxi WeiYiTong Electronic Technology Co.,Ltd	VICR1027	VDD 3.0V	EN 62368-1:2014+A11: 2017	Test with appliance
Speaker-1	XIAMEN OUYING ELECTRONIC CO.,LTD	101-1511-002030	$8 \pm 15\%$ ohm, 1.2W	EN 62368-1:2014+A11: 2017	Test with appliance
Speaker-2	XIAMEN OUYING ELECTRONIC CO.,LTD	103-1206-050059	$32 \pm 15\%$ ohm, 0.07W	EN 62368-1:2014+A11: 2017	Test with appliance
LCD	HAIFEI Photoelectric development CO.,LTD	HF-66058-3614-A0	VDD 2.8V	EN 62368-1:2014+A11: 2017	Test with appliance
LED	Jiangsu Amicc Opto-Electronics Technology Co.,Ltd	A-SP194B1C-C01-4T	Forward voltage: 3.0-3.6V Forward current: 25mA Risk 1 Group	IEC62471: 2006	Tested by:Waltek Services(Foshan) Co.,Ltd Report No:WTF17F0271960N
Description ¹⁾					
Supplementary information:					
¹⁾ Description line content is optional. Main line description needs to clearly detail the component used for testing					

4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests			N/A
(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		
4.8.4.4	TABLE: Drop test			—
Impact Area	Drop Distance	Drop No.	Observations	
		1		
		2		
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
Test position	Surface tested	Force (N)	Duration force applied (s)	
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	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
1	5.0Vdc	Input power by adapter	Normal	5.0Vdc	--	--	ES1
			Abnormal	5.0Vdc	--	--	
			Single fault – SC/OC	5.0Vdc	--	--	
2	3.85Vdc	Battery	Normal	4.4Vdc	--	--	ES1
			Abnormal	4.4Vdc	--	--	
			Single fault – SC/OC	4.4Vdc	--	--	
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 – SC/OC	--	--		
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	--	--	--	
			Single fault – SC/OC	--	--	--	
Test Conditions: Normal – Abnormal - Supplementary information: SC=Short Circuit, OC=Short Circuit							

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements	P
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	Supply voltage (V):	A		B		—		
	Ambient Tmin (°C):	--	--	--	--	—		
	Ambient Tmax (°C):	23.4	Shift to Tma	23.1	Shift to Tma	—		
	Tma (°C):	25	40	25	40	—		
Maximum measured temperature T of part/at:		T (°C)				Allowed Tmax (°C)		
Ambient		23.4	40	23.1	40	--		
PCB near Metal Shielding Case (U2100)		81.5	98.1	44.0	63.1	105		
Motor surface		57.7	74.3	47.9	67.0	Ref.		
Battery surface		44.8	58.5	39.6	58.7	Ref.		
Internal plastic enclosure near battery		42.6	59.2	38.6	57.7	60		
Measured Enclosure only								
Screen surface (>1min)		40.1	41.7	36.6	38.5	48		
Button surface(>1min)		37.2	38.8	34.3	36.2	48		
Lens surface(>10s and >1s)		66.9	68.5	49.9	51.8	71		
External plastic enclosure near battery (>1min)		40.3	41.9	37.0	38.9	48		
Supplementary information: 1. A- Operating with empty battery charging by adaptor. 2. B- Operating with full battery only-discharging. 3.Tma is 40°C								
Temperature T of winding:		t1 (°C)	R1 (Ω)	t2 (°C)	R2 (Ω)	T (°C)	Allowed Tmax (°C)	Insulation class
--		--	--	--	--	--	--	--
--		--	--	--	--	--	--	--
Supplementary information: Note 1: Tma should be considered as directed by applicable requirement Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)								

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
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Allowed impression diameter (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) ¹	Required cl (mm)	cl (mm) ²	Required ³ cr (mm)	cr (mm)
Function							
Basic							
Reinforced:							
Supplementary information:							
Note 1: Only for frequency above 30 kHz							
Note 2: See table 5.4.2.4 if this is based on electric strength test							
Note 3: Provide Material Group IIIb							

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:				

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements			N/A
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Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	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 (V)	Breakdown Yes / No
Functional:				
Basic/supplementary:				
Reinforced:				
Routine Tests:				
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:						
X-capacitors installed for testing are:						
<input type="checkbox"/> bleeding resistor rating:						
<input type="checkbox"/> ICX:						
Notes:						
A. Test Location:						
Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth						
B. Operating condition abbreviations:						
N/A – 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)	

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:					

5.7.	TABLE: Touch current measurement				N/A
Measured between:	Measured (mV)	Measured (mA)	Limit (mA)	Comments/conditions	
Supplementary information:					

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part			N/A
Supply voltage			—	
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)	
Earthed accessible conductive part and earth		1		
		2*		
		3		
		4		
		5		
Supplementary Information: Notes: [1] Supply voltage is the anticipated maximum Touch Voltage [2] Earthed neutral conductor [Voltage differences less than 1% or more] [3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3 [4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable. [5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.				

6.2.2	Table: Electrical power sources (PS) measurements for classification				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s ^{*)}	PS Classification
Battery Package 3.85Vdc/5900 mAh Li-ion battery	Full charged battery (Normal)	Power (W) :	---	31.62	PS2
		V _A (V) :	---	3.22	
		I _A (A) :	---	9.81	
Battery Package 3.85Vdc/5900 mAh Li-ion	Full charged battery (Abnormal (SC)	Power (W):	--	51.07	PS2
		V _A (V):	--	2.67	

battery	B-, P-)	I _A (A):	--	19.13	
Rate input	Supply by adapter	Normal	--	--	PS1(**)
		Abnormal	--	--	
		Single fault – SC/OC	--	--	

Supplementary Information:

(*) Measurement taken only when limits at 3 seconds exceed PS1 limits

(**)The circuits of EUT are supplied by 5Vdc external power supply which complies with ES1 and PS1 according to IEC 62368-1.

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
--		--	--	--	--

Supplementary information:

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

6.2.3.2	Table: Determination of 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
Battery P+, P-	S-C(B-, P-)	---	---	--	Yes
All internal circuit	---	---	---	--	Yes

Supplementary Information:

Battery power >15W, PIS is present.

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						N/A
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Supplementary information:							
Equipment may be have rated current or rated power or both. Both should be measured							

B.3 and B.4	TABLE: Abnormal operating and fault condition tests							P
Ambient temperature (°C)					25°C		—	
Power source for EUT: Manufacturer, model/type, output rating ..					--		—	
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current (mA)	T-couple	Temp. (°C)	Observation
(B-, P-) in battery protection circuit	S-C	4.4Vdc	10mins	--	--	--	--	Full battery discharging current 1.435A,NHT,NCD, NFG.
Over-charging(B-to P-/SC)	S-C	5.0Vdc	7h	--	--	PCB near Metal Shielding Case (U2100)	82.6	Adaptor input, 1.494A, Empty battery charging current 0.436A,NHT, NCD,NFG.
						Battery surface	48.5	
						External plastic enclosure near battery	43.9	
						Ambient	25	
Over-discharging(B-to P-/SC)	S-C	4.4Vdc	7h	--	--	PCB near Metal Shielding Case (U2100)	44.9	Full battery discharging current 1.434A ,NHT,NCD, NFG.
						Battery surface	40.2	
						External plastic enclosure near battery	37.7	

B.3 and B.4		TABLE: Abnormal operating and fault condition tests						P
Ambient temperature (°C)						25°C		—
Power source for EUT: Manufacturer, model/type, output rating ..						--		—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current (mA)	T-couple	Temp. (°C)	Observation
						Ambient	25	
Motor	Blocked	5.0Vdc	7h	--	--	PCB near Metal Shielding Case (U2100)	83.1	Adapter input, 1.498A, Empty battery charging current 0.437A , NHT, NCD, NFG.
						Battery surface	46.4	
						External plastic enclosure near battery	41.9	
						Ambient	25	
Speaker-1	S-C	4.4 Vdc	10mins	--	--	PCB near Metal Shielding Case (U2100)	63.3	Full battery discharging current 1.682A ,NHT,NCD, NFG.
						Battery surface	42.7	
						Len surface	93.6	
						Ambient	25	
Speaker-2	S-C	4.4Vdc	10mins	--	--	--	--	Full battery discharging current 1.411A ,NCD, NFG.
U6204 pin4-5	SC	5.0Vdc	10 mins	--	--	--	--	Unit shutdown,no hazard,no damage.
U4105 Pin3-6	SC	4.4Vdc	10 mins	--	--	--	--	Normal operation, no hazard,no damage.
<p>Supplementary information:</p> <p>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.</p> <p>NHT: No High Temperature; NCD: No Component Damage; NFG no flammability gas; S-C: Short circuit</p>								

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?									P
	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	--	--	--	1481mA	2950mA	1433mA	2950mA	--	--
Max. current during fault condition (B- to P-)	--	--	--	1483mA	2950mA	1435mA	2950mA	--	--
Test results:									Verdict
- Chemical leaks							No		P
- Explosion of the battery							No		P
- Emission of flame or expulsion of molten metal							No		P
- Electric strength tests of equipment after completion of tests							N/A		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 (V)	I (A)	Temp (C)		
(3.85Vdc/5900mAh)	Normal	4.40	0.436A	44.8	No hight temperature, no hazards	
(3.85Vdc/5900mAh)	Abnormal – (Motor locked)	4.40	0.436A	44.8	No hight temperature, no hazards	
(3.85Vdc/5900mAh)	Single fault – (B- to P-)	4.40	0.438A	44.9	No hight temperature, no hazards	
Supplementary Information:						
*Reference to table Annex M						
Battery identification	Charging at T _{lowest} (°C)	Observation	Charging at T _{highest} (°C)	Observation		
(3.85Vdc/5900mAh) Power off	0°C	No hight temperature, no hazards, maximum charging current is 851mA, not exceed limited 2950mA	55°C	No hight temperature, no hazards, stop charging		
Supplementary Information:						

Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)	N/A
------------------	--------------------------------------------------------------------------------	------------

Note: Measured UOC (V) with all load circuits disconnected:

Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit

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	
External enclosure (top)	Plastic	Min 1.0	100	5	(*)	
External enclosure (side)	Plastic	Min 1.0	100	5	(*)	
External enclosure (bottom)	Plastic	Min 1.0	100	5	(*)	
Supplementary information: (*)No any damage and hazards during test						

T.6, T.9 TABLE: Impact tests					N/A
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	
Bottom	Plastic	Min 1.0	1000	(**)	
Top	Plastic	Min 1.0	1000	(**)	
Side	Plastic	Min 1.0	1000	(**)	
Supplementary information: (**) The open circuit voltage difference did not exceed 5% during 24-hour period. - All charge/discharge functions were functional and continued to operate. - No fire or explosion of the battery. All safeguard remains effective.					

T.8	TABLE: Stress relief test					P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Enclosure	Plastic	Min 1.0	70	7	No shrinkage or distortion on enclosure	
Supplementary information:						

FINAL

Appendix A EUT PHOTOS
A.1 EUT - All view



A.2 EUT - The view of unit



A.3 EUT - The view of unit



A.4 EUT - The view of unit



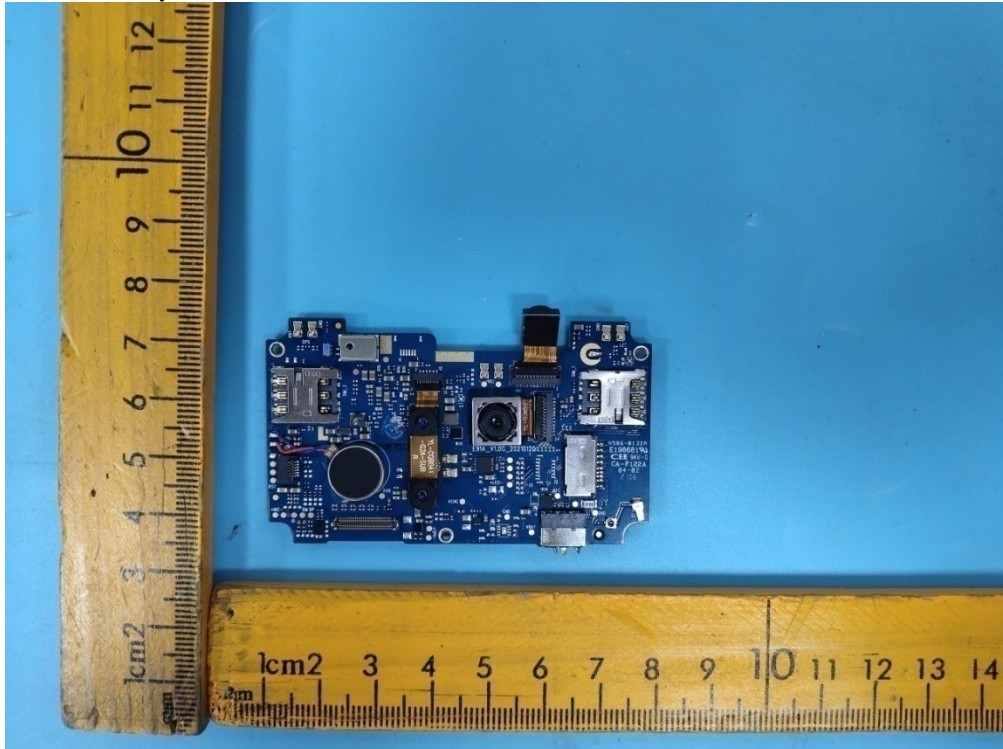
A.5 EUT - Uncover View



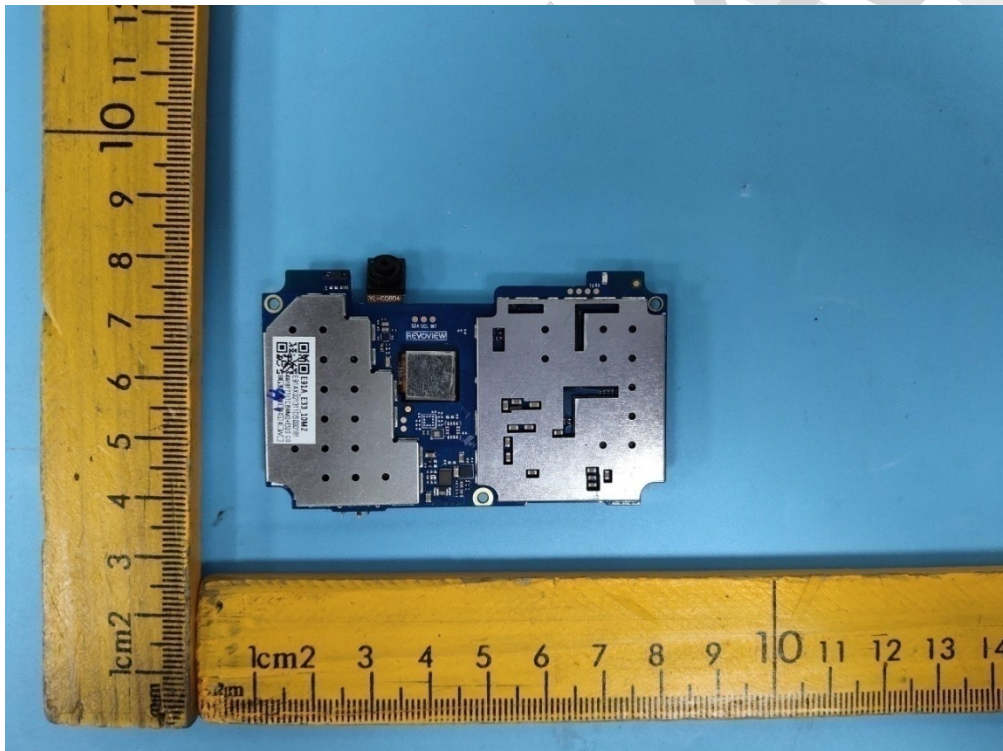
A.6 EUT - Uncover View



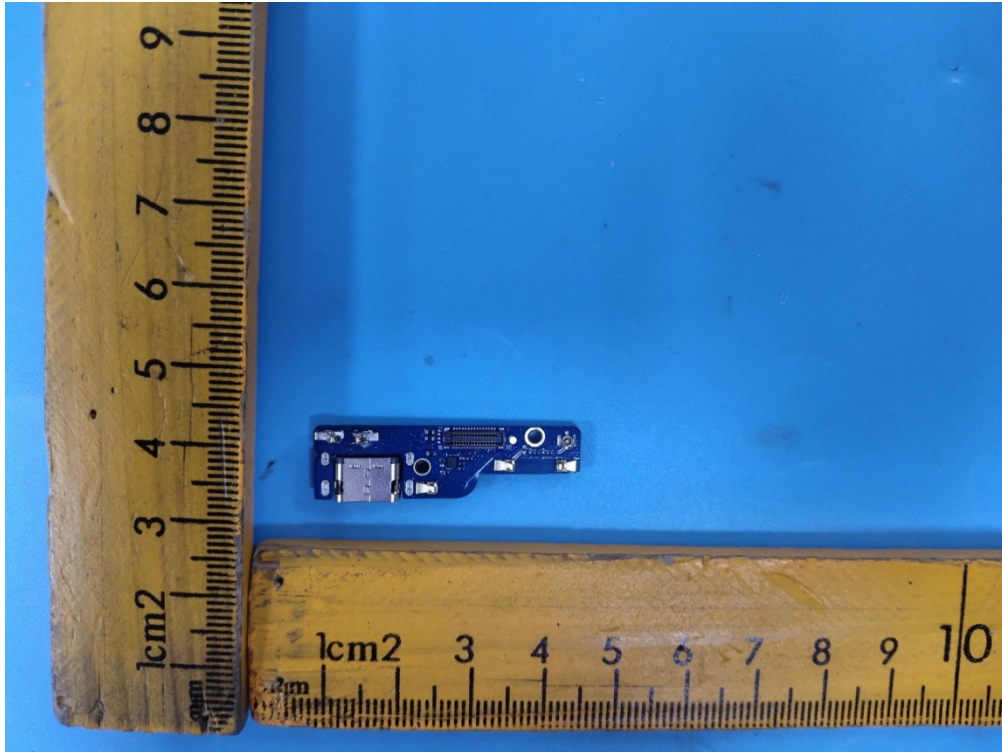
A.7 EUT –Top side of PCB View



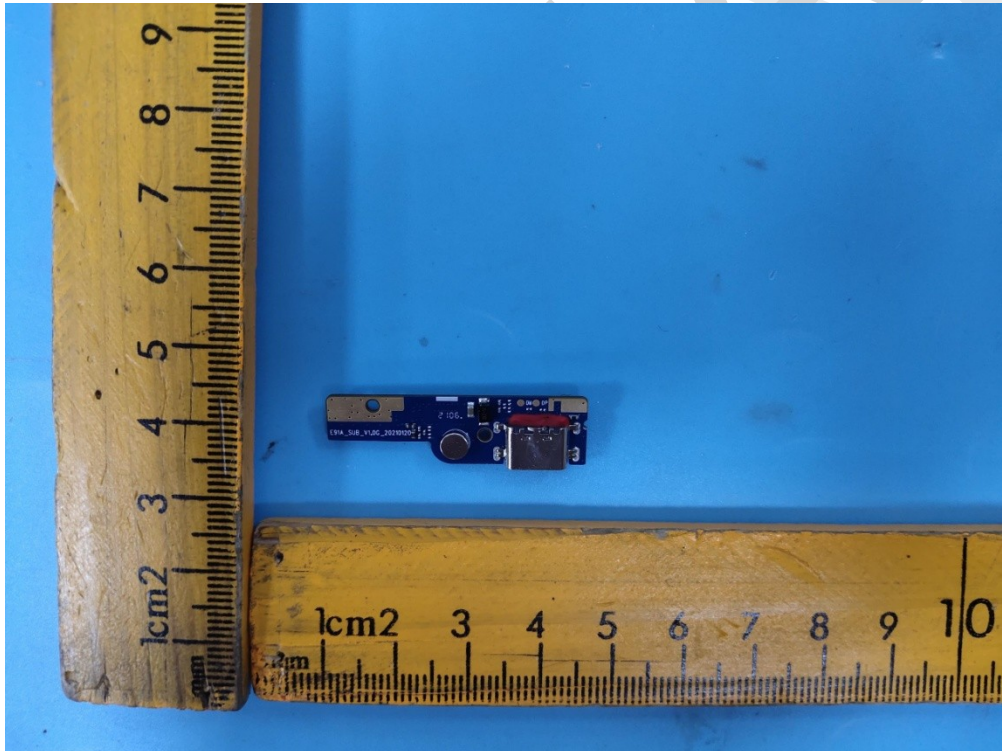
A.8 EUT - Side side of PCB View



A.9 EUT - Side side of PCB View



A.10 EUT - Side side of PCB View



A.11 EUT –Adapter view



A.12 EUT –Battery view



Appendix B – Instruction Manual(representative)

Important Safety Instructions

1. -Tma is 40°C
2. Please use appointed battery in case of explosion risk, please dispose of lifeless battery under guidance.
3. To prevent possible hearing damage, do not listen at high volume levels for long periods.



4. Recycle your device.

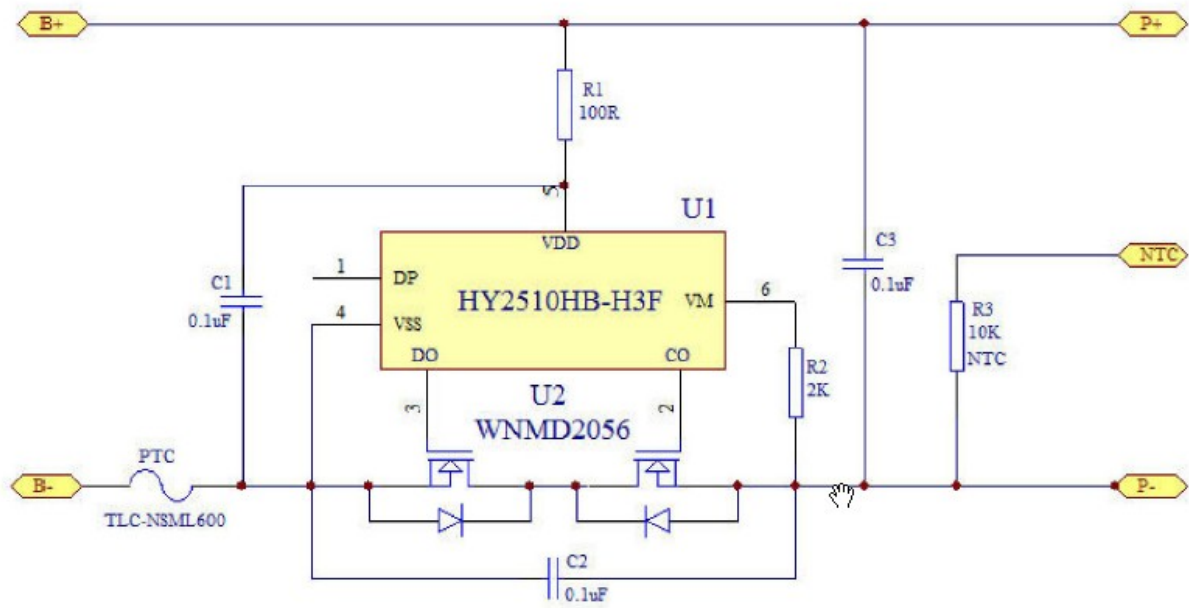


The WEEE logo (shown at the left) appears on the product to indicate that this product must not be disposed off or dumped with your other household wastes. You are liable to dispose of all your electronic or electrical waste equipment by relocating over to the specified collection point for recycling. of such hazardous waste.

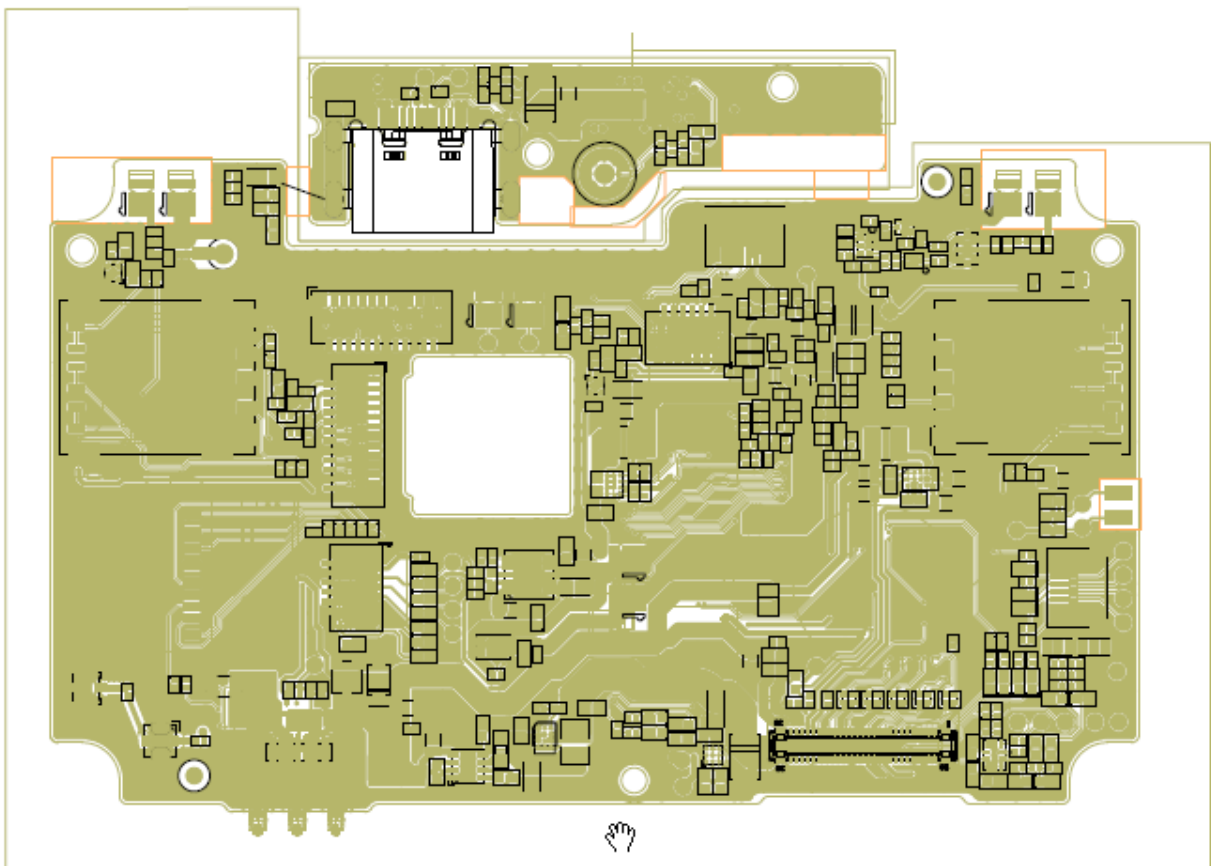
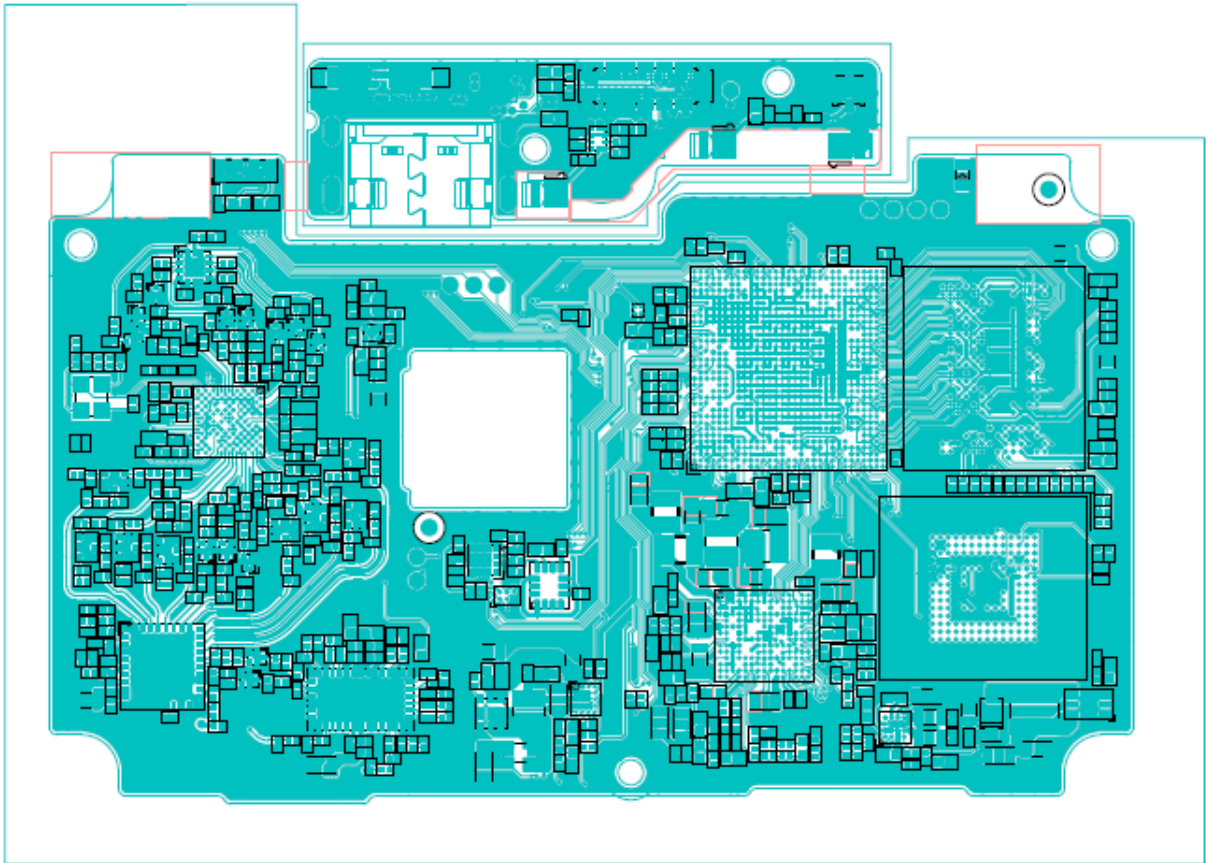


SAVE THESE INSTRUCTIONS

Appendix C –Schematics diagram of battery protection circuit



Appendix D –PCB layout of mainboard(Representative)



Appendix E – Adapter Report

Page 1 of 57

	<p>Test Report issued under the responsibility of:</p> <p>NCB TÜV SÜD PSB Pte Ltd 1 Science Park Drive, 118221 Singapore Singapore</p>	
<p align="center">TEST REPORT IEC 62368-1 Audio/video, information and communication technology equipment Part 1: Safety requirements</p>		
<p>Report Number..... : 211-21201194-000 Date of issue..... : 2020-12-30 Total number of pages..... : 57</p>		
<p>Applicant's name..... : Shenzhen Huajin Electronics Co., Ltd. Address..... : Block E, Xinzhongqiao Industrial Park, Baocheng Six Road, Baolong Industrial City, Longgang District, 518000 Shenzhen, PEOPLE'S REPUBLIC OF CHINA</p>		
<p>Test specification: Standard..... : IEC 62368-1:2014 (Second Edition) Test procedure..... : CB Scheme Non-standard test method..... : N/A</p>		
<p>Test Report Form No. : IEC62368_1B Test Report Form(s) Originator..... : UL(US) Master TRF..... : 2014-03</p>		
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
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch

TRF No. IEC62368_1B

Appendix E – Adapter Report

Page 2 of 57
Report No.: 211-21201194-000



Test Item description	AC Power Adapter	
Trade Mark	N/A	
Manufacturer	Same as applicant	
Model/Type reference	HJ-050yyyy-zz, HJ-050yyyyW2-zz, HJ-050yyyyC2-zz, HJ-050yyyyN1-zz, HJ-050yyyyN2-zz, HJ-050yyyyK7-zz, HJ-050yyyyP1-zz (See GENERAL PRODUCT INFORMATION for details)	
Ratings	Input: 100-240VAC, 50/60Hz, 0.3A Output: See GENERAL PRODUCT INFORMATION for details	
Testing procedure and testing location:		
<input checked="" type="checkbox"/> CB Testing Laboratory:	TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch	
Testing location/ address	Building 12&13, Zhiheng Wisdomland Business Park, Nantou Checkpoint Road 2, Nanshan District, 518052 Shenzhen, CHINA	
<input type="checkbox"/> Associated CB Testing Laboratory:		
Testing location/ address		
Tested by (name + signature)	Ryan Li	
Approved by (name + signature)	Darren Ding	
<input type="checkbox"/> Testing procedure: TMP/CTF Stage 1		
Testing location/ address		
Tested by (name + signature)		
Approved by (name + signature)		
<input type="checkbox"/> Testing procedure: WMT/CTF Stage 2		
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name + signature)		
Approved by (name + signature)		
<input type="checkbox"/> Testing procedure: SMT/CTF Stage 3 or 4		
Testing location/ address		
Tested by (name + signature)		
Approved by (name + signature)		
Supervised by (name + signature)		

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch

TRF No. IEC82368_1B

Appendix E – Adapter Report

Page 3 of 57
Report No.: 211-21201194-000



List of Attachments (including a total number of pages in each attachment): - Attachment No. 1: 10 pages of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES for EN 62368-1:2014+A11:2017. - Attachment No. 2: 26 pages of National and Group Differences for IEC 62368-1:2014 (Second Edition) as per CB Bulletin. - Attachment No. 3: 24 pages of EU, UK, AU, JP plug portion test report. - Attachment No. 4: 9 pages of Photo documentation.	
Summary of testing:	
Tests performed (name of test and test clause): The submitted samples were found to comply with the requirements of: - IEC 62368-1:2014	Testing location: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch Building 12&13, Zhiheng Wisdomland Business Park, Nantou Checkpoint Road 2, Nanshan District, 518052 Shenzhen, CHINA
Summary of compliance with National Differences: List of countries addressed: See the attachment No. 1 and No. 2 of National and Group Differences for details.	
<input checked="" type="checkbox"/> The product fulfils the requirements of <u>EN 62368-1:2014+A11:2017</u> .	

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch

TRF No. IEC62368_1B

Appendix F -Test Equipments

NO.	The Name of Equipment	Model	S/N	Calibration Date	Due Date	Capability Range	Manufacturer	Equipment Status
T-03-SF439	Digital Multimeter	287	39940041	2020-07-23	2021-07-22	N/A	Fluke	<input checked="" type="checkbox"/> OK
T-03-SF378	hygrothermograph	TA218A	S0021	2020-12-28	2021-12-27	0~50℃	KTJ	<input checked="" type="checkbox"/> OK
T-03-SF183	Stop Watch	PC396	S238	2020-12-31	2021-12-30	0-3600s/ 3.0s/d	tianfu	<input checked="" type="checkbox"/> OK
T-03-SF443	Digital calipers	111N-101-40	K20D070633	2020-05-26	2021-05-25	0-150mm	Guilin Guanglu Digital Measurement and Control Co. LTD	<input checked="" type="checkbox"/> OK
T-03-SF416	T thermocouples	TT-T-30-SLE	IHCH13515 P/16P	2019-02-28	2024-02-27	N/A	HANYANG	<input checked="" type="checkbox"/> OK
T-03-SF208	Data Acquisition Switch Unit	34970A	MY11060049	2020-12-24	2021-12-23	0-200℃	Agilent	<input checked="" type="checkbox"/> OK
T-03-SF423	Push & Pull Tester	800N	S0068	2020-7-1	2021-6-30	N/A	Wenzhou mountain measurement	<input checked="" type="checkbox"/> OK
T-03-SF207	Steel Tape	5m	S0089	2020-11-6	2023-11-5	5m	HANYANG	<input checked="" type="checkbox"/> OK
T-03-SF375	DC Source	ATP-12015	S0067	2020-07-01	2021-06-30	N/A	HANYANG	<input checked="" type="checkbox"/> OK
T-03-SF283	Draught Free Oven	DHG-9203A	S0066	2020-07-01	2021-06-30	N/A	Shenzhen Aitel Electronic Technology Co. LTD	<input checked="" type="checkbox"/> OK
F-03-SF028	EU Drop Test Board	EU TYPE	L:40XW:40XH:(13+19+19)	N/A	N/A	N/A	SHENZHEN HUAWEI MUYE CO.,LTD.	<input checked="" type="checkbox"/> OK
T-03-SF132	Electronic Load	3711A	A06BG04009	2020-11-9	2021-11-8	0-360V, 0-30A, 0-300W	Array Electronic	<input checked="" type="checkbox"/> OK
T-03-SF499	Programmable temperature controller	TEMI 300	NA	2020-12-25	2021-12-24	N/A	Shenzhen Bike Instrument Equipment Co., Ltd	<input checked="" type="checkbox"/> OK
T-03-EM319	Measuring Amplifier	Type 2636	1118355	2020-02-10	2021-02-09	N/A	B&K	<input checked="" type="checkbox"/> OK
F-03-EM039	Power Supply	N/A	1199-PS165	N/A	N/A	115/230V~20-60Hz 5W	Listen, Inc.	<input checked="" type="checkbox"/> OK

T-03-EM328	Audio Analyzer	UPV	101782	2020-08-04	2021-08-03	250KHz	R&S	<input checked="" type="checkbox"/> OK
T-03-EM336	Head and Torso Simulator	4128C	2562220	2018-07-02	2021-07-01	N/A	B&K	<input checked="" type="checkbox"/> OK
T-03-SF378	hygrothermograph	TA218A	S0021	2020-12-28	2021-12-27	0~50℃	KTJ	<input checked="" type="checkbox"/> OK
T-03-CH199	TEMP & HUMI TEST CHAMBER	BTH-150-40	30098	2021-2-22	2022-2-21	N/A	BACL	<input checked="" type="checkbox"/> OK
T-03-PH096	Electronic weigher	JSA30-1	S233	2021-2-22	2022-2-21	30kg	Shanghai puchun metering instrument co., LTD	<input checked="" type="checkbox"/> OK

END OF REPORT