

<p align="center">TEST REPORT BS EN 62368-1 Audio/video, information and communication technology equipment Part 1-Safety requirements</p>	
Report reference No	SZ1210506-15265E-SF-02
Compiled by (+ signature)	Lin Xue
Approved by (+ signature)	Safety Engineer: Jerry Liu
Date of issue	2021-06-04
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 Huafului 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.....	BS EN 62368-1:2014+A11:2017
Test sample(s) received	2021-05-15
Test in period.....	2021-05-15 to 2021-05-31
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	KINGKONG 7
Multiple Model	N/A
Manufacturer	As above
Rating	5.0V $\overline{\text{---}}$ 2A(supplied by adapter or built-in a 3.85Vdc/5000mAhLi-ion battery)

Copy of marking plate:



Note:

- The above label is a representative label.
- The 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: 2021-05-15

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"/> 0.264kg
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.

This document cannot be reproduced except in full, without prior written approval of Bay Area Compliance Laboratories Corp. (Shenzhen).

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 Smartphone. It is supplied by 5.0V $\overline{\text{---}}$ 2A (supplied by adapter or built in a 3.85Vdc/5000mAh Li-ion battery) which complies with ES1 and PS2 according to EN62368-1.
2. The EUT consists of
-Adapter as below:
Manufacturer: Shenzhen Huajin Electronics Co., Ltd.
Model: HJ-0500000W-UK
Rated Input: 100-240V~ 50/60Hz, 0.3A.
Output: 5.0V $\overline{\text{---}}$ 2A 10W
- Rechargeable battery rated 3.85Vdc/5000mAh
3. The product was submitted and tested for use at the manufacturer's recommended ambient temperature (T_{ma}) of 40°C.
4. Test sample No.: SZ1210506-15265E-SF-S01.

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>	
<p>Electrically-caused injury (Clause 5):</p> <p>(Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification)</p> <p>Example: +5 V dc input ES1</p>	
Source of electrical energy	Corresponding classification (ES)
Rate input: +5.0Vdc	ES1
BatteryOutput: 4.4Vdc	ES1
<p>Electrically-caused fire (Clause 6):</p> <p>(Note: List sub-assembly or circuit designation and corresponding energy source classification)</p> <p>Example: Battery pack (maximum 85 watts):PS2</p>	
Source of power or PIS	Corresponding classification (PS)
Rate input: +5.0Vdc	PS1
Battery package: +3.85Vdc, 5000mAh rechargeable Li-ion battery(max 25.17W)	PS2
<p>Injury caused by hazardous substances (Clause 7)</p> <p>(Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.)</p> <p>Example: Liquid in filled component Glycol</p>	
Source of hazardous substances	Corresponding chemical
+3.85Vdc, 5000mAh rechargeable Li-ion battery	Lithium-ion
<p>Mechanically-caused injury (Clause 8)</p> <p>(Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.)</p> <p>Example: Wall mount unit MS2</p>	
Source of kinetic/mechanical energy	Corresponding classification (MS)
Sharp edges and Corners	MS1
Equipmentmass<7kg	MS1
<p>Thermal burn injury (Clause 9)</p> <p>(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.)</p> <p>Example: Hand-held scanner – thermoplastic enclosureTS1</p>	
Source of thermal energy	Corresponding classification (TS)
External enclosure	TS1
<p>Radiation (Clause 10)</p> <p>(Note: List the types of radiation present in the product and the corresponding energy source classification.)</p> <p>Example: DVD – Class 1 Laser Product RS1</p>	
Type of radiation	Corresponding classification (RS)
LED lighting -Exempt Group	RS1
Acoustic energy	RS2

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)
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	V-0 Plastic enclosure	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/5000mAh 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
N/A	N/A	N/A	See 10.6.	N/A
Supplementary Information:				
(1) See attached energy source diagram for additional details.				
(2) "N/A" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

BS 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, wherespecified in a requirements clause, with the safety aspects of the relevant IEC componentstandards. 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.4and 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		—

BS EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
	removing the battery		
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

BS EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
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		—
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 (MΩ)		—
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A

BS EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		N/A
	Relative humidity (%)		—
	Temperature (°C)		—
	Duration (h)		—
5.4.9	Electric strength test.....		N/A
5.4.9.1	Test procedure for 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		N/A
5.5.1	General		N/A
5.5.2	Capacitors and RC units		N/A
5.5.2.1	General requirement		N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector		N/A
5.5.3	Transformers		N/A
5.5.4	Optocouplers		N/A
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPD's		N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A

BS EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
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 :		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) :		—

BS EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
	Instructional Safeguard		N/A
5.7.6	Prospective touch voltage and touch current due to 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		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

BS EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
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	V-0 fire enclosure required.	P
6.4.5.2	Supplementary safeguards	All components in PS2 circuitry 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

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

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

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

BS EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
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
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 Low Risk for LED, see appended table 4.1.2 in detail. RS2: Acoustic	P
10.2.1	General classification	RS1 for LED, RS2 for acoustic	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		N/A

BS EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
	opaque		
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		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: 95.09dB; Right: 95.63dB	P
	Output voltage, unweighted r.m.s.	Left:81.2mV, Right:79.9mV	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	<p>The output level can automatically return to no more than 27mV when the power was switched off. When warning appear:</p> <p>The output L Aeq T: Left channel: 81.51dB, Right channel: 80.55dB</p> <p>Electrical output: Left channel: 12.15mV Right channel: 12.23mV</p> <p>Once every 20h, the volume can automatically return to no more than 27mV. And when increased the volume warning would appear.</p>	—

BS EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
	Equipment safeguard prevent ordinary person to RS1	Restart: The output L Aeq T: Left channel: 81.48dB, Right channel: 80.77dB Electrical output: Left channel:12.83mV Right channel: 11.20mV Factory data reset: The output L Aeq T: Left channel: 80.88dB, Right channel: 79.74dB Electrical output: Left channel:12.80mV Right channel:11.16mV	—
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:225.4mV Right channel:230.5mV	—
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		P
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

BS EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
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
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		N/A
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

BS EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
E.1	Audio amplifier normal operating conditions	ES1	P
	Audio signal voltage (V)	0.9V	—
	Rated load impedance (Ω)	8.0 \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

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

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

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

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

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

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

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

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

BS EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
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
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/5000mAh 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)		P
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

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

BS EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
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		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).....		—

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

BS EN 62368-1+A11																																										
Clause	Requirement + Test			Result - Remark		Verdict																																				
CONTENT S	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><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																																					
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																																					
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (United Kingdom)					P																																				
4.7.3	United Kingdom To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex			Supplied by certified direct plug-in adapter, refer to table 4.1.2		N/A																																				
5.6.4.2.1	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.			Supplied by certified direct plug-in adapter, refer to table 4.1.2		N/A																																				
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.					N/A																																				

BS EN 62368-1+A11			
Clause	Requirement + Test	Result - Remark	Verdict
B.3.1 and B.4	<p>Ireland and United Kingdom</p> <p>The following is applicable:</p> <p>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</p>	Supplied by certified direct plug-in adapter, refer to table 4.1.2	N/A
G.4.2	<p>United Kingdom</p> <p>To the end of the subclause the following is added:</p> <p>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>	Supplied by certified direct plug-in adapter, refer to table 4.1.2	N/A
G.7.1	<p>United Kingdom</p> <p>To the first paragraph the following is added:</p> <p>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.</p> <p>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>	Supplied by certified direct plug-in adapter, refer to table 4.1.2	N/A
G.7.1	<p>Ireland</p> <p>To the first paragraph the following is added:</p> <p>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</p>		N/A
G.7.2	<p>Ireland and United Kingdom</p> <p>To the first paragraph the following is added:</p> <p>A power supply cord with a conductor of 1,25 mm² is allowed for equipment which is rated over 10 A and up to and including 13 A.</p>		N/A

4.1.2	TABLE: List of critical components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity
Plastic enclosure	LG Chem Huizhou Petrochemical Co Ltd	AF312C	V-0, 80°C, Min.: 2.5mm	UL 746 UL 94	UL E476284
PCB	Interchangeable	Interchangeable	Min. V-1,130°C	UL 94 UL796	UL
Internal wire	Interchangeable	Interchangeable	VW-1, 80°C	UL 758	UL
Adapter	Shenzhen Huajin Electrnocs Co.,Ltd.	HJ-0500000-EU	Input:100-240V~50/60Hz 0.3AMax; Output: 5V ---2 A,10W	IEC 62368-1:2014	Tested by: TÜV SÜD Certification and testing (China) Co.,Ltd Shenzhen Branch ReportNo.:211-21201194-000
Battery	Zhongshan Huafurui TechnologyCo., Ltd	C19	3.85Vdc, 5000mAh,19.25 Wh, Max. charging current:2500mA; Max. discharging current:2500mA;	IEC62133-2: 2017	Tested by: Attestation of Global Compliance (Shenzhen) Co.,Ltd ReportNo.:AGC0108 5210404TA01
Speaker	Interchangeable	Interchangeable	8.0± 15% ohm, Min.:1W	EN 62368-1:2014+A11:2017	Test with equipment
LCD	GUANGDONG NEWEAST OPTOELECTR ONICS CO.,LTD	WJWS069035A	VDD 3.3V	EN 62368-1:2014+A11:2017	Test with equipment
Motor	Shenzhen Xinxinglong Industrial Co., Ltd	0820	DC 3.0V, 80mA Max12000±3000r pm	EN 62368-1:2014+A11:2017	Test with equipment
LED	Shenzhen Suijing Optoelectronics Technology Co.,Ltd.	SJ-MD2016QNX	1000mA	EN 62471:2008	Tested by: SGS ReportNo.:GZES190 800632549
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		
		5		
		6		
		7		
		8		
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
	Supply voltage (V) :	A		B		—
	Ambient Tmin (°C) :	22.4	--	23.2	--	—
	Ambient Tmax (°C) :	26.4	Shift toTma	24.4	Shift toTma	—
	Tma (°C) :	--	40.0	--	40.0	—
Maximum measured temperature T of part/at:		T (°C)				Allowed Tmax (°C)
Ambient		26.4	40.0	24.4	40.0	--
PCB near U1		52.4	67.4	48.6	64.2	105
Motor surface		52.9	67.9	48.9	64.5	Ref
Battery surface		39.0	54.0	37.8	53.4	80
Inside near Mainboard		37.3	52.3	36.0	51.6	
PCB board surface(charge port)		38.3	53.3	36.6	52.2	
Measured Enclosure only						
Bottom surface (>10s and<1min)		32.5	--	31.7	32.3	48
Screen surface (>10s and<1min)		33.9	--	32.3	32.9	48
Len surface (>1s and<10s)		46.8	--	44.4	45.0	48
Outside near Mainboard (>10s and<1min)		37.2	--	36.2	36.8	48
Supplementary information: 1. A- Operating with empty battery charging by adaptor. 2. B- Operating with full battery only-discharging. -Tma is 40°C						
Temperature T of winding:		t1 (°C)	R1 (Ω)	t2 (°C)	R2 (Ω)	T (°C)
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/t rademark	T softening (°C)
supplementary information:			

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics					N/A
-------------------	--	--	--	--	--	------------

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

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/5000 mAh Li-ion battery	Full charged battery (Normal)	Power (W) :	---	19.85	PS2
		V _A (V) :	---	2.71	
		I _A (A) :	---	7.33	
Battery Package 3.85Vdc/5000 mAh	Full charged battery (Abnormal (SC B-, P-))	Power (W):	--	25.17	PS2
		V _A (V):	--	2.07	
		I _A (A):	--	12.32	

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 EN62368-1.

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 output	---	---	---	--	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						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
5.0Vdc	1.285	2	6.425	--	--	--	Power off, Only charge, battery current:1.278A
5.0Vdc	1.274	2	6.370	--	--	--	Operating with empty battery charging by adaptor, battery current:0.694A
4.4Vdc	1.571	2.510	6.912	--	--	--	Operating with full battery , discharging. battery current:1.571A
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)					25.0°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
Over-charging(B-to P-/SC)	S-C	5.0Vdc	7h	--	--	PCB near U1	52.6	Adaptor input 1.276A, Empty battery charging current :0.695A,NHT , NCD,NFG.
						Battery surface	39.1	
						Outside near mainboard	37.4	
						Ambient	25.0	
Over-discharging(B-to P-/SC)	S-C	4.4Vdc	7h	--	--	PCB near U1	49.3	Full battery discharging current :1.577A ,NH T,NCD,NFG.
						Battery surface	38.5	
						Outside near mainboard	36.8	
						Ambient	25.0	
						Key	24.3	
						LCD	28.9	

B.3 and B.4		TABLE: Abnormal operating and fault condition tests						P
Ambient temperature (°C)		25.0°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
						External plastic enclosure	29.7	
						Ambient	21.0	
Motor	Blocked	5.0Vdc	7h	--	--	PCB near U1	52.6	Adapter input, 1.276A, Empty battery charging current :0.A , NHT, NCD,NFG.
						Battery surface	39.1	
						Outside near mainboard	37.4	
						Ambient	25.0	
Speaker	S-C	4.4Vdc	--	--	--	--	--	Full battery discharging current : 1.257A ,NCD, NFG.
C2403	S-C	5.0Vdc	10mins	--	--	--	--	Unit shutdown, no hazard, no damage.
U3202 Pin1-6	S-C	4.4Vdc	10 mins	--	--	--	--	Normal operation, no hazard, no damage.
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. NHT: No High Temperature; NCD: No Component Damage;NFG no flammability gas; S-C: Short circuit								

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	--	--	--	694mA	2500mA	1571mA	2500mA	--	--
Max. current during fault condition (SC: B- to P-)	--	--	--	695mA	2500mA	1577mA	2500mA	--	--

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.
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)	
C19 (3.85Vdc/5000mAh)	Normal	4.4	0.694	52.4	No hight temperature, no hazards
C19 (3.85Vdc/5000mAh)	Single fault S-C battery B-,P-	4.4	0.694	52.6	No hight temperature, no hazards
C19 (3.85Vdc/5000mAh)	Abnormal - Over charging	4.4	0.695	52.6	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
C19 (3.85Vdc/5000mAh) Power off	0°C	No hight temperature, no hazards, maximum charging current is 1284mA, not exceed limited 1500mA	55°C	No hight temperature, no hazards. Stop charging at 55°C
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 2.5	100	5	No any damage and hazards during test	
External enclosure (side)	Plastic	Min 2.5	100	5	No any damage and hazards during test	
External enclosure (bottom)	Plastic	Min 2.5	100	5	No any damage and hazards during test	
Supplementary information:						

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 2.5	1000	<ul style="list-style-type: none"> - 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. 	
Top	Plastic	Min 2.5	1000	<ul style="list-style-type: none"> - 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. 	
Side	Plastic	Min 2.5	1000	<ul style="list-style-type: none"> - 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. 	

Supplementary information:

T.8	TABLE: Stress relief test					P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Enclosure	Plastic	Min 2.5	70	7	No shrinkage ordistortion on enclosure	
Supplementary information:						

FINAL

Appendix A EUT PHOTOS
A.1EUT- All view



A.2EUT- The view of unit



A.3EUT-The view of unit



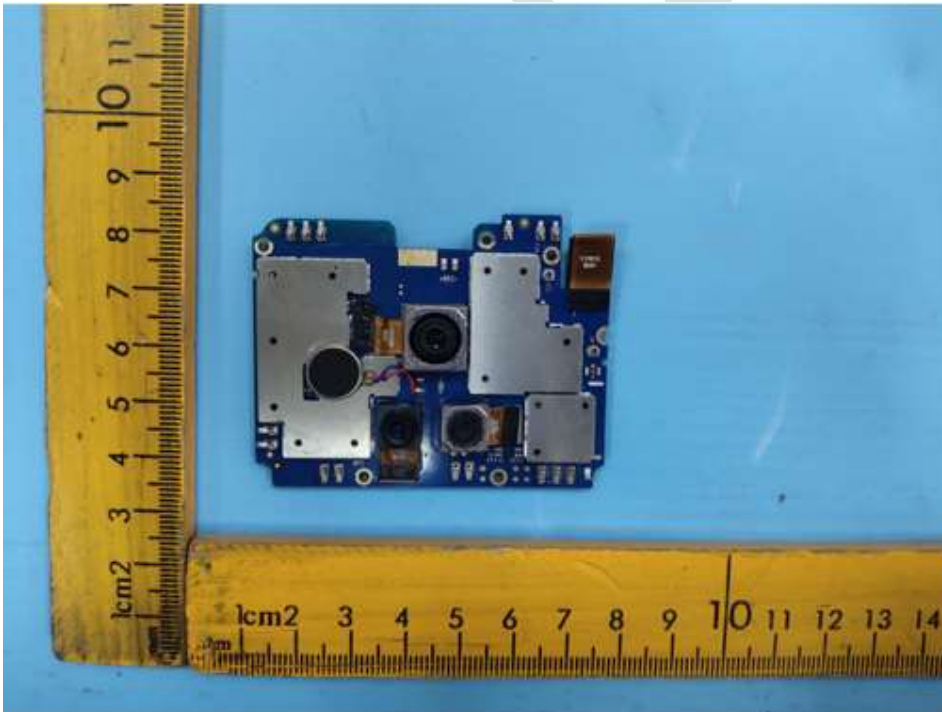
A.4EUT - Uncover View



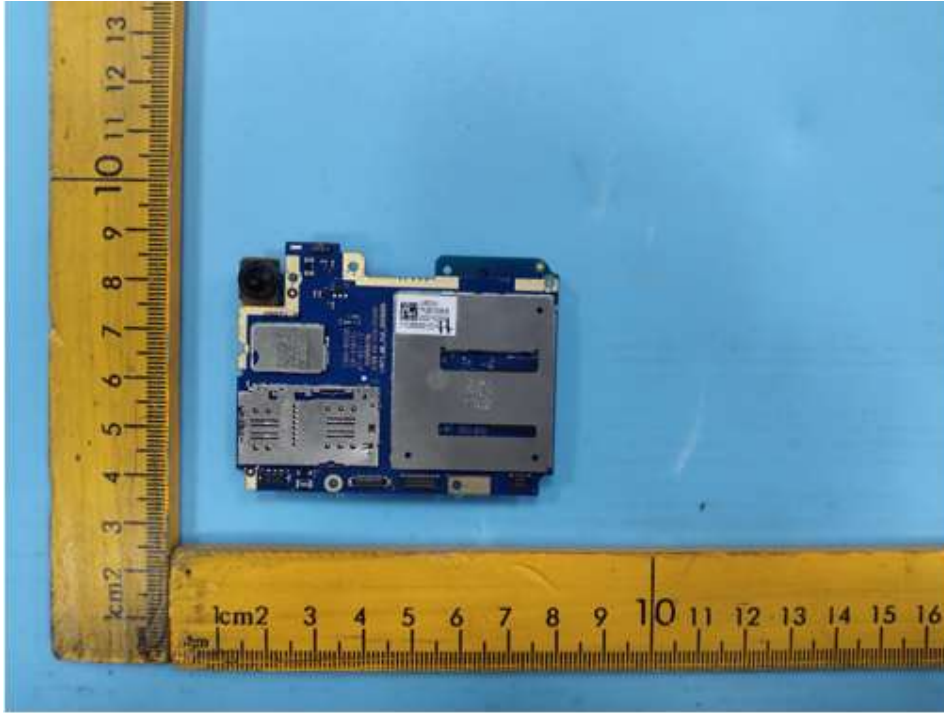
A.5EUT- Uncover View



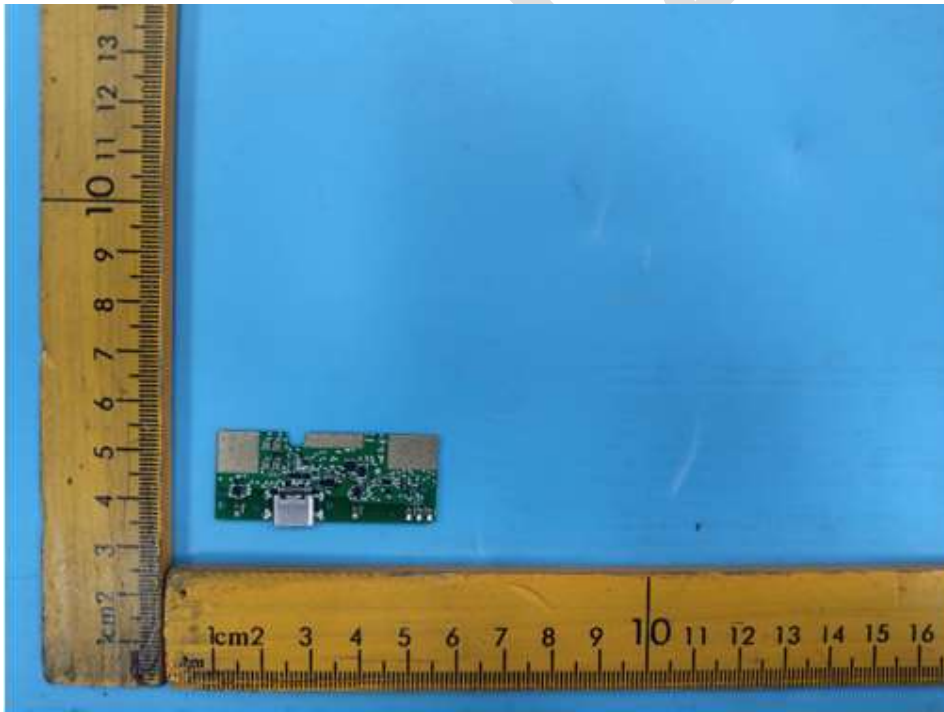
A.6 EUT-PCB View



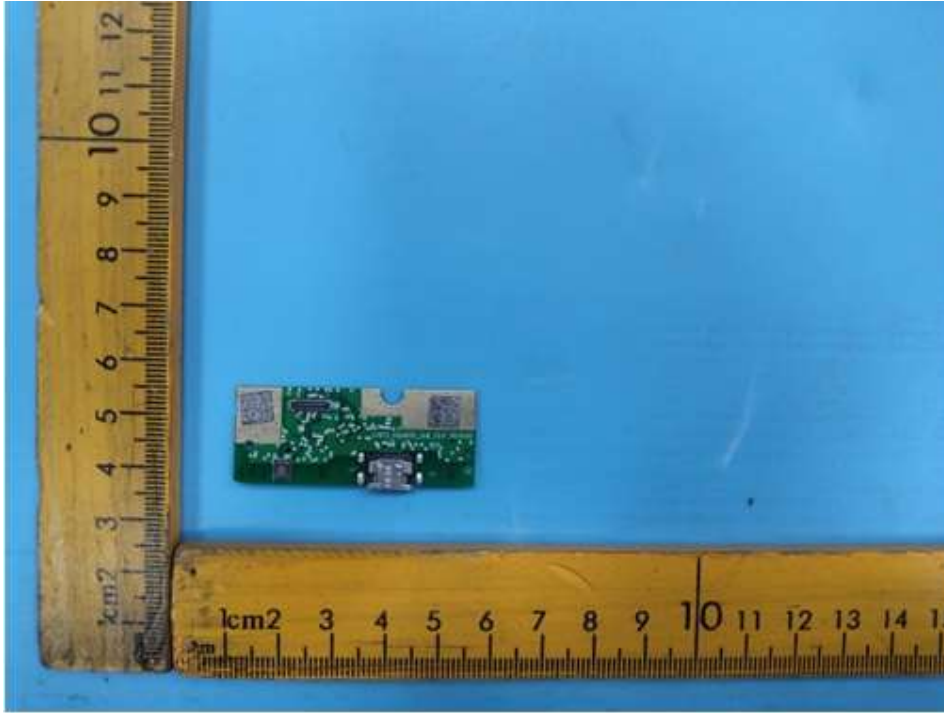
A.7EUT-PCB view



A.8 EUT - PCB view



A.9 EUT-PCB View



A.10 EUT-Battery View



A.11EUT - The view of adapter



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.

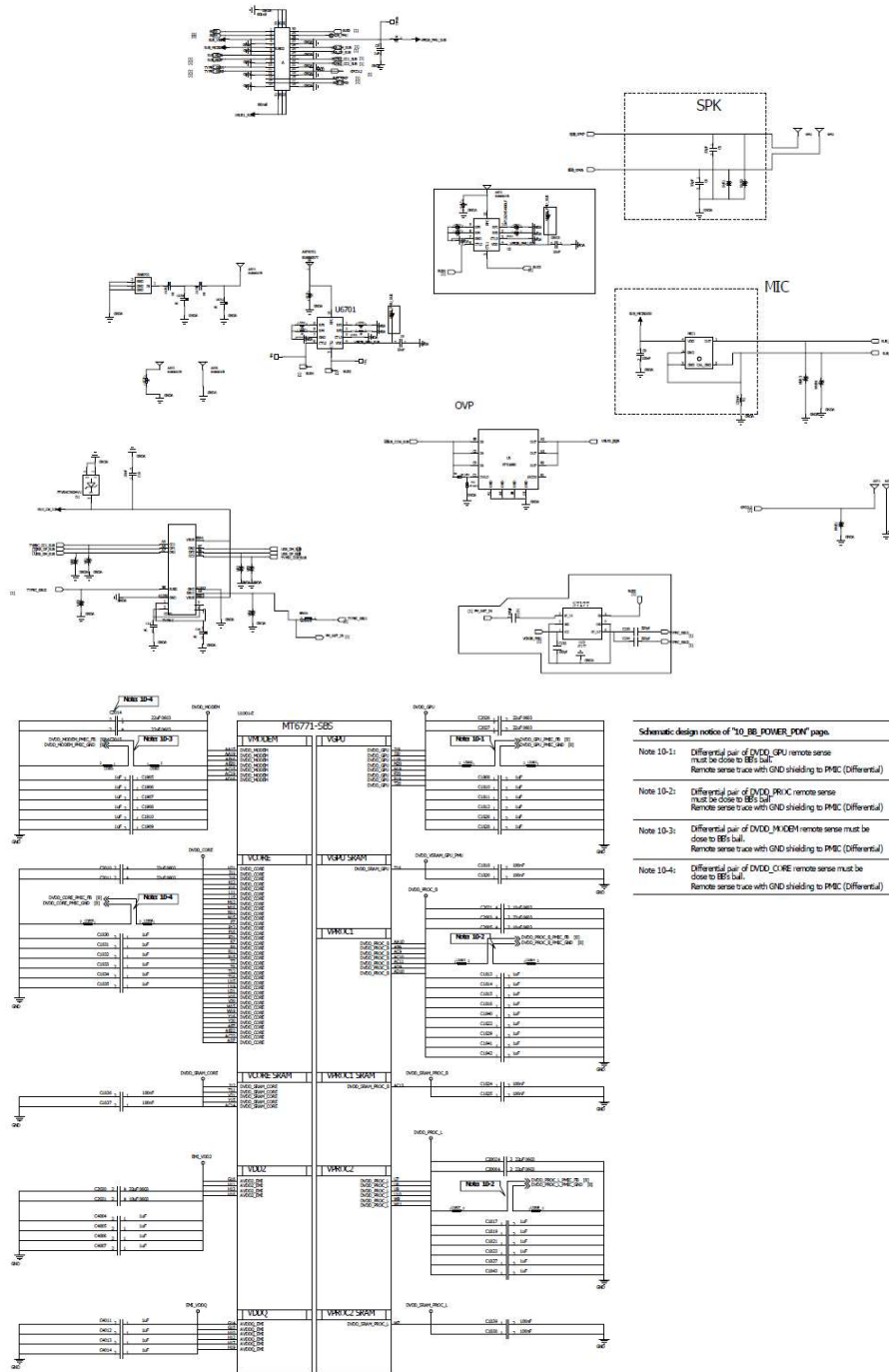


The WEEE logo (shown at the left) appears on the product to indicate that this product must not be disposed off or dumped with your other household wastes. You are liable to dispose of all your electronic or electrical waste equipment by relocating over to the specified collection point for recycling.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



SAVE THESE INSTRUCTIONS

Appendix C—circuit



Schematic design notice of "10_BB_POWER_PDN" page.

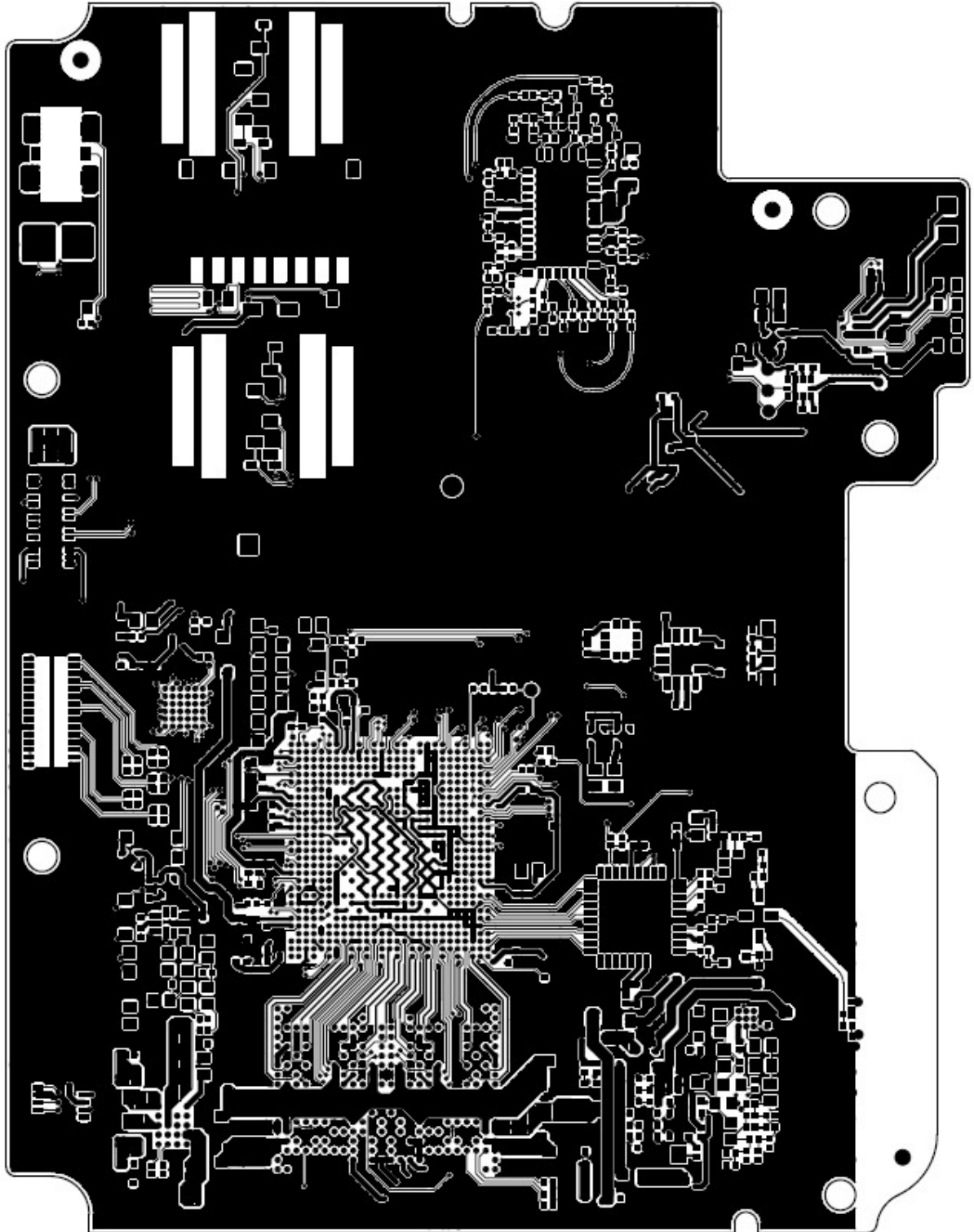
Note 10-1: Differential pair of DVDD, GPU remote sense must be close to BB's ball.
Remote sense trace with GND shielding to PMSC (Differential)

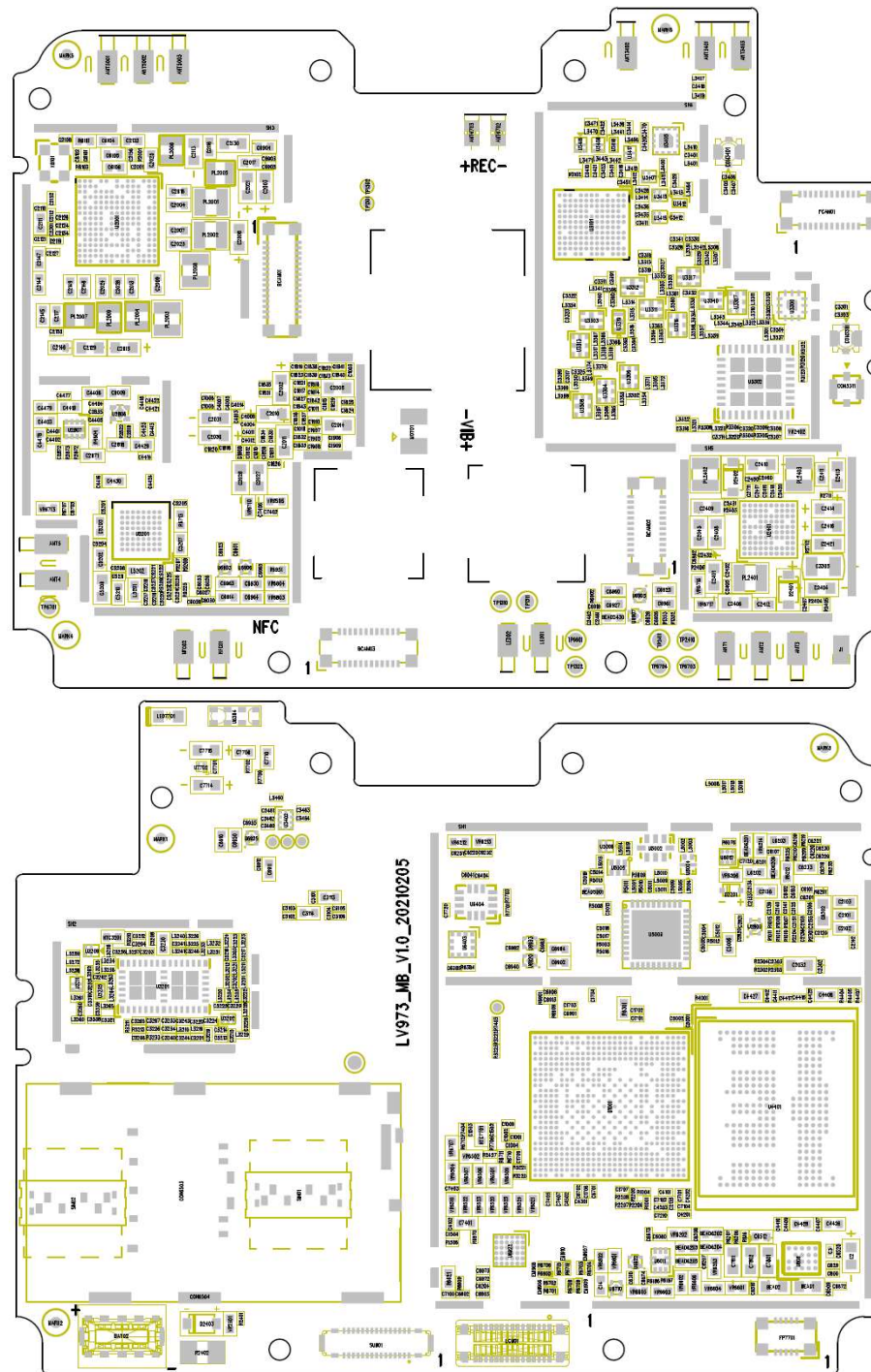
Note 10-2: Differential pair of DVID, PRUX remote sense must be close to BB's ball
Remote sense trace with GND shielding to PMIC (Differential)

Note 10-3: Differential pair of DVDD_MODEM remote sense must be close to BB's ball.
Remote sense trace with GND shielding to PMIC (Differential)

Note 10-4: Differential pair of DVDD_CORE remote sense must be close to BB's ball.
Remote sense trace with GND shielding to PMIC (Differential)

Appendix D-PCB layout





Appendix E– Adapter Report

	<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>		
<p>Copyright © 2014 Worldwide System for Conformity Testing and Certification of Electrotechnical Equipment and Components (IECEE), Geneva, Switzerland. All rights reserved. This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context. If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed. This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.</p>		
<p>General disclaimer: The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.</p>		

Appendix F -Test Equipments

NO.	The Name of Equipment	Model	S/N	Calibration Date	Due Date	Capability Range	Manufacturer	Equipment Status
T-03-SF208	Data acquisition instrument	34970A	MY11060049	2020-12-24	2021-12-23	0-200°C	Agilent	☑ OK
T-03-SF371	Temperature & Humidity Meter	N/A	S0099	2020-09-30	2021-09-29	N/A	KJT	☑ OK
T-03-SF427	multimeter	17B+	45200440WS	2020-12-24	2021-12-23	0-1000V ac/dc, 0-10Aac/dc, 0-40Mohm	Fluke	☑ OK
T-03-SF021	Push & Pull Tester	SN-500	2601050032	2020-08-21	2021-08-20	500N	SUNDOO	☑ OK
T-03-SF183	Stopwatch	PC396	S238	2020-12-31	2021-12-30	0-3600s/3.0s/d	TianFu	☑ OK
T-03-CH136	Electronic analytical balance	JM-B30002	272	2020-11-09	2021-11-08	N/A	Zhuji Chaoze Weighing Equipment Co., Ltd	☑ OK
T-03-SF207	Steel tape	5m	S0089	2020-11-06	2023-11-05	5m	HANYANG	☑ OK
T-03-SF221	Full Draught Oven	DP1000	201105083-2	2020-12-24	2021-12-23	50-200°C	Guangzhou Dongzhixu	☑ OK
F-03-SF028	EU Drop Test Board	EU TYPE	L:40XW:40XH:(13+19+19)	N/A	N/A	N/A	SHENZHEN HUAWEI	☑ OK
T-03-SF416	Thermocouples	TT-T-30-SLE	IHCH13515P/16P	2019-02-28	2024-02-27	N/A	HANYANG	☑ OK
T-03-SF443	Digital calipers	111N-101-40	K20D070633	2021-2-23	2022-2-22	0-150mm	GUANGLU	☑ OK
T-03-SF169	Humidity Chamber	EL-10KA	9107726	2020-11-09	2021-11-08	-45°C - 160°C 20%RH-98%RH	AISIPEIKE	☑ OK
T-03-SF132	Electronic Load	3711A	A06BG04009	2020-11-09	2021-11-08	0-360V, 0-30A, 0-300W	Array Electronic	☑ OK
T-03-SF411	Battery charging and discharging system	CT-ZWJ-4S-T-1U	T1809-173556	2021-2-22	2022-2-21	N/A	N/A	☑ OK

END OF REPORT