,

LVD TEST REPORT

For

Handheld Data Terminal

Model Number: SQ47, SQ47P, SQ47D, RT40,
MDT1-0400, SQ47C, SQ47CP, RT40P, RT40C

CE

Report Number ：WT213001642

Test Laboratory	:	Shenzhen Academy of Metrology and Quality Inspection
Site Location	:	NETC Building, No.4 Tongfa Rd., Xili, Nanshan, Shenzhen, China
Tel	:	0086-755- 86928949
Fax	:	0086-755- 86009836
E-mail	:	complaint@smq.com.cn
Website	:	www.smq.com.cn

重 要 声 明

Important statement

1. 本院是深圳市人民政府依法设置的产品质量监督检验机构，系社会公益型非营利性技术机构，为各级政府执法部门进行监督管理提供技术支持和接受社会各界的委托检验。

SMQ is a legal non-profit technical institute established by Shenzhen Municipal Government to undertake the quality supervision and inspection of products, and to provide technical support to relevant supervision and administration and also conduct commission test from the society.

2. 本院保证检验的科学性、公正性和准确性，对检验的数据负责，并对委托单位所提供的样品和技术资料保密。

SMQ is committed to assuring the scientificness, impartiality and accuracy of all tests carried out, responsibility for test data gained, and keeping confidential of all test samples and technical documents provided.

3. 抽样按照本院程序文件《抽样程序》和相应产品的检验细则的规定执行。

The sampling should be carried out according to the "sampling procedure" defined in the Procedure Document and relevant testing specifications.

4. 报告/证书无主检、审核、批准人签字，或涂改，或未盖本院报告/证书专用章及骑缝章无效。未经本院许可，不得部分复印、摘用或篡改本报告/证书内容。复印证书/报告未重新加盖本院证书/报告专用章无效。

Any report/certificate having not been signed by relevant responsible engineer, reviewer or authorized approver, or having been altered without authorization, or without both the Dedicated Report/Certificate Seal and its across-page seal is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report/certificate is not permitted without the written authorization of SMQ. Any copy of certificates/reports without the Dedicated Report/Certificate Seal is deemed to be invalid.

5. 送样委托检验结果仅对来样有效：委托检验的样品信息及委托方信息均由委托方提供，本院不对其真实性及准确性负责。

The test results presented in the report apply only to the tested sample. The product information and the applicant information are provided by the customer and SMQ assumes no responsibility for their validity and accuracy.

6. 未经检验机构同意，样品委托人不得擅自使用检验结果进行不当宣传。

Any use of SMQ test result for advertisement of the tested material or product must be approved in writing by SMQ.

7. 无 CMA 标志的报告/证书，仅作为科研、教学或内部质量控制之用。含粤字编号的 CAL 标志仅适用于产品标准和判定标准。

The non-CMA report/certificate issued by SMQ is only permitted to be used for research, teaching or internal quality control. CAL logo with symbol "Yue" is only relevant to product standards and reference of standards.

8. 委托方对报告/证书有异议的，应于报告发出之日起十五日内向本院提出。政府行政管理部门下达的监督检验任务，受检方对报告/证书有异议的，应按政府行政管理部门文件规定及国家相关法律、法规进行。

Any objection to report/certificate issued by SMQ should be submitted to SMQ within 15 days after the issuance of the test. The mandatory inspection assigned by government administrative departments shall be carried out in accordance with the documents and regulations of the government administrative department and relevant national laws and regulations if inspected parties raise any objection to the inspection.

9. 报告/证书更改后，发出的电子版报告/证书、报告/证书的扫描件及传真件将不被追回，委托方有义务将更改后的报告/证书提供给使用原报告/证书的相关方。

SMQ is not responsible for recalling the electronic version of the original report/certificate when any revision is made to them. The applicant assumes the responsibility of providing the revised version to any interested party who uses them.

10. 只申领电子报告时，相关内容和效力以电子报告为准；电子报告和纸质报告同时申领时，电子报告仅作为纸质报告的副本，相关内容和效力以同编号纸质报告为准。

The relevant content and effectiveness is subject to the electronic version of the original report which was only applied for. When an electronic report and a paper report are applied for at the same time, the electronic report is only a copy of the paper report, and the relevant content and effectiveness is subject to the paper report.

投诉及报告/证书真伪查询电话

Complaint hotline： 400-900-8999 按 5

Email：complaint@smq.com.cn

TEST REPORT

EN 62368-1

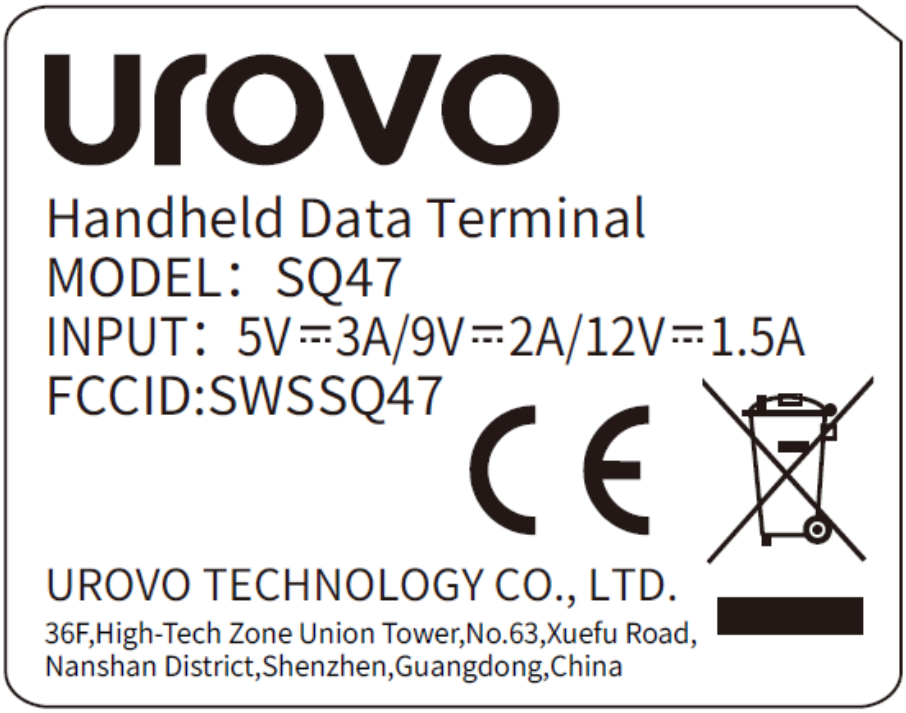
Audio/video, information and communication technology equipment

Part 1: Safety requirements

Report reference No ..... :	WT213001642
Tested by: ..... :	Zhang Ying(张英)
Checked by: ..... :	Fang Huan（方欢）
Approved by: ..... :	Li Juhuan（李菊欢）
Date of issue ..... :	2021-06-28
Testing Laboratory Name ..... :	Shenzhen Academy of Metrology and Quality Inspection National Digital Electronic Product Testing Center
Address ..... :	NETC Building, No.4 Tongfa Rd., Xili, Nanshan, Shenzhen, China
Testing location ..... :	Shenzhen Academy of Metrology and Quality Inspection National Digital Electronic Product Testing Center
Applicant's Name ..... :	UROVO TECHNOLOGY CO.,LTD.
Address ..... :	36F, High-Tech Zone Union Tower, No.63, Xuefu Road, Nanshan district, Shenzhen, Guangdong, China
Standard ..... :	EN 62368-1:2014+A11:2017
Test procedure ..... :	CE
Non-standard test method ..... :	N.A.
Test item description..... :	Handheld Data Terminal
Trademark ..... :	UROVO
Manufacturer..... :	UROVO TECHNOLOGY CO.,LTD.
Address..... :	36F, High-Tech Zone Union Tower, No.63, Xuefu Road, Nanshan district, Shenzhen, Guangdong, China
Model and/or type reference..... :	SQ47, SQ47P, SQ47D, RT40, MDT1-0400, SQ47C, SQ47CP, RT40P, RT40C
Serial number..... :	No serial numbers
Rating(s)..... :	5V⎓ 3A 9V⎓ 2A 12V⎓ 1.5A
Test case verdicts	
Test case does not apply to the test object :	N(N/A)
Test item does meet the requirement ..... :	P(ass)
Test item does not meet the requirement .. :	F(ail)
Testing	
Date of receipt of test item ..... :	2021.03.01
Date(s) of performance of test ..... :	2021.03.01 - 2021.06.25

Copy of marking plate:

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



TEST ITEM PARTICULARS:	
Classification of use by.....:	☒ Ordinary person ☐ Instructed person ☐ Skilled person ☒ Children likely to be present
Supply Connection .....:	☐ AC Mains ☐ DC Mains ☒ External Circuit - not Mains connected - ☒ ES1 ☐ ES2 ☐ ES3
Supply % Tolerance .....:	☐ +10%/-10% ☐ +20%/-15% ☐ +____%/ -_____% ☒ None
Supply Connection – Type .....:	☐ pluggable equipment type A - ☐ non-detachable supply cord ☐ appliance coupler ☐ direct plug-in ☐ mating connector ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☐ mating connector ☒ other: Supplied external adapter or internal lithium battery
Considered current rating of protective device as part of building or equipment installation.....:	____ A; Installation location: ☐ building; ☐ equipment
Equipment mobility.....:	☐movable ☒ hand-held ☐ transportable ☐ stationary ☐ for building-in ☐ direct plug-in ☐ rack-mounting ☐ wall-mounted
Over voltage category (OVC) .....:	☐ OVC I ☐ OVC II ☐ OVC III ☐ OVC IV ☒ other: Not directly connected to the mains
Class of equipment .....:	☐ Class I ☐ Class II ☒ Class III
Access location .....:	☐ restricted access location ☒ N/A
Pollution degree (PD) .....:	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified maxium operating ambient:	40 °C
IP protection class .....:	☒ IPX0 ☐ IP___
Power Systems .....:	☐ TN ☐ TT ☐ IT - ____ V_{L-L}
Altitude during operation (m) .....:	☒ 2000 m or less ☐ _____ m
Altitude of test laboratory (m) .....:	☒ 2000 m or less ☐ _____ m
Mass of equipment (kg) .....:	☒ ＜1 kg

GENERAL PRODUCT INFORMATION:
Product Description: 1. The equipment is a Handheld Data Terminal with an internal lithium battery, which supplied by external approved adapter. 2. The maximum ambient temperature: 40℃. 3. Tests in this report were performed on model SQ47.
Model Differences – All models are the same except for model name.
Additional application considerations – (Considerations used to test a component or sub-assembly) – N/A

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.	
Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input ES1	
Source of electrical energy	**Corresponding classification (ES)**
External power adapter	ES1
Rechargeable Li-ion Battery output	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)**
External power adapter	PS2
Internal circuits	PS2
Rechargeable Li-ion Battery output	PS1
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**
Rechargeable Li-ion Battery	Electrolyte
Mechanically-caused injury (Clause 8) (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit MS2	
Source of kinetic/mechanical energy	**Corresponding classification (MS)**
Edges and corners of enclosure	MS1
Equipment mass	MS1
Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure TS1	
Source of thermal energy	**Corresponding classification (TS)**
External enclosure surfaces	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 flash light	RS1

ENERGY SOURCE DIAGRAM
Indicate which energy sources are included in the energy source diagram. Insert diagram below
☑ ES ☑ PS ☑ MS ☑ TS ☑ RS

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	**Possible Hazard**			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	External power adapter: ES1	N/A	N/A	N/A
Ordinary	Rechargeable Li-ion Battery output: ES1	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 for main unit	Internal circuits : PS2	No ignition and attainable high temperature value	V-1 or better Printed boards used	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	MS1	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	TS1: Accessible enclosure	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	RS1	N/A	N/A	N/A
Supplementary Information: (1) See attached energy source diagram for additional details. (2) “N” – Normal Condition; “A” – Abnormal Condition; “S” Single Fault				

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

4	**GENERAL REQUIREMENTS**		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
4.1.3	Equipment design and construction	Evaluation of safeguards regarding limiting the outputs to fulfill ES1, and protection in regard to risk of ignition, considered.	P
4.1.15	Markings and instructions.....:	(See Annex F)	P
4.4.4	Safeguard robustness	See below	P
4.4.4.2	Steady force tests.....:	(See Annex T.3, T.4, T.5)	P
4.4.4.3	Drop tests .....:	(See Annex T.7)	P
4.4.4.4	Impact tests .....:		N/A
4.4.4.5	Internal accessible safeguard enclosure and barrier tests.....:		N/A
4.4.4.6	Glass Impact tests.....:	No such parts.	N/A
4.4.4.7	Thermoplastic material tests .....:		N/A
4.4.4.8	Air comprising a safeguard.....:	No such parts.	N/A
4.4.4.9	Accessibility and safeguard effectiveness	The safeguard is remained effective	P
4.5	Explosion	No explosion occurs during normal/abnormal operation and single fault conditions	N/A
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	No such parts.	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 battery 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			
Clause	Requirement - Test	Result - Remark	Verdict
4.8.4	Battery Compartment Mechanical Tests ..... :		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object..... :	(See Annex P)	N/A
5	**ELECTRICALLY-CAUSED INJURY**		P
5.2.1	Electrical energy source classifications ..... :	Class III equipment and all electrical circuits of EUT are ES1, (See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits	Comply with ES1	P
5.2.2.2	Steady-state voltage and current ..... :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits..... :	No capacitor provided before diode bridge, no test required.	N/A
5.2.2.4	Single pulse limits ..... :	No such single pulses generated in the EUT or applied to it.	N/A
5.2.2.5	Limits for repetitive pulses ..... :	No such repetitive pulses within the EUT	N/A
5.2.2.6	Ringing signals ..... :	No such ringing signal, (See Annex H)	N/A
5.2.2.7	Audio signals ..... :	(See Clause E)	N/A
5.3	Protection against electrical energy sources	Class III equipment and all electrical circuits of EUT are ES1.	N/A
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards		N/A
5.3.2.2	Contact requirements		N/A
	a) Test with test probe from Annex V..... :		N/A
	b) Electric strength test potential (V)..... :		N/A
	c) Air gap (mm) ..... :		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	Only ES1 inside the unit.	N/A
5.4.1.3	Humidity conditioning ..... :	Class III equipment, If any, only functional insulation is considered.	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	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2 is applied. No insulating compound applied	N/A
5.4.1.5.3	Thermal cycling	See above	N/A

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
5.4.1.6	Insulation in transformers with varying dimensions	No such transformer within the EUT	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such starting pulses within the EUT	N/A
5.4.1.8	Determination of working voltage	Class III equipment and all electrical circuits of EUT are ES1.	N/A
5.4.1.9	Insulating surfaces	No such construction	N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	No thermoplastic parts on which parts at Hazardous voltage.	N/A
5.4.1.10.2	Vicat softening temperature ..... :	No such part	N/A
5.4.1.10.3	Ball pressure ..... :	No such part	N/A
5.4.2	Clearances	ES1 electrical energy source used, only the functional insulation inside the EUT	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..... :	Class III equipment and all electrical circuits of EUT are ES1, and there is no critical insulation.	N/A
5.4.3.1	General		N/A
5.4.3.3	Material Group ..... :		—
5.4.4	Solid insulation	Class III equipment and all electrical circuits of EUT are ES1, and there is no critical 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

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
	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	No Antenna terminal used.	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..... :	ES1 electrical energy source used, only the functional insulation inside the EUT	N/A
5.4.7	Tests for semiconductor components and for cemented joints	No semiconductor components and for cemented joints	N/A
5.4.8	Humidity conditioning	ES1 electrical energy source used, only the functional insulation inside the EUT	N/A
	Relative humidity (%) ..... :		—
	Temperature (°C) ..... :		—
	Duration (h) ..... :		—
5.4.9	Electric strength test..... :	ES1 electrical energy source used, only the functional insulation inside the EUT	N/A
5.4.9.1	Test procedure for a solid insulation type test		N/A
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit	No such external circuits	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test ..... :		N/A
5.4.10.2.3	Steady-state test ..... :		N/A
5.4.11	Insulation between external circuits and earthed circuitry ..... :		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) ..... :		—

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
	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		P
5.5.1	General	See appended table 4.1.2	P
5.5.2	Capacitors and RC units	No such 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	No such transformers	N/A
5.5.4	Optocouplers	No such optocouplers	N/A
5.5.5	Relays	No such relays	N/A
5.5.6	Resistors	No such resistors	N/A
5.5.7	SPD's	No such SPD	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
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable..... :	No such coaxial cable	N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors	No such device	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

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method Resistance (Ω) .....:		N/A
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		N/A
5.7.2	Measuring devices and networks	Supplied by ES1 electrical energy source	N/A
5.7.2.1	Measurement of touch current .....:		N/A
5.7.2.2	Measurement of prospective touch voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections		N/A
	System of interconnected equipment (separate connections/single connection) .....:		—
	Multiple connections to mains (one connection at a time/simultaneous connections) .....:		—
5.7.4	Earthed conductive accessible parts.....:		N/A
5.7.5	Protective conductor current		N/A
	Supply Voltage (V) .....:		—
	Measured current (mA) .....:		—
	Instructional Safeguard .....:		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits	No external circuits	N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		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	See below	P
6.2.2.1	General	PS (power source) classification determined by measuring the maximum power in Figures 34 and 35 for load and power source circuits.	P
6.2.2.2	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

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
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 .....:	No PS3 circuit.	N/A
6.2.3	Classification of potential ignition sources	See below	P
6.2.3.1	Arcing PIS .....:	No arcing PIS due to no part with voltage 50V in the equipment.	N/A
6.2.3.2	Resistive PIS .....:	Resistive PIS is considered in the PS2 circuits.	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)	P
6.3.1 (b)	Combustible materials outside fire enclosure	No such materials used outside fire enclosure	N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Control fire spread considered	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits	Control fire spread considered	N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions ..... :		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		P
6.4.5	Control of fire spread in PS2 circuits		P
6.4.5.2	Supplementary safeguards ..... :	Rated V-1 or better PCB material used	P
6.4.6	Control of fire spread in PS3 circuit	No PS3 circuits	N/A
6.4.7	Separation of combustible materials from a PIS		N/A
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		P
6.4.8.1	Fire enclosure and fire barrier material properties	Enclosure is V-0	P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure		P

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		N/A
6.4.8.3.1	Fire enclosure and fire barrier openings		N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) ..... :		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) ..... :		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.....:	Enclosure is V-0	P
6.5	Internal and external wiring		N/A
6.5.1	Requirements		N/A
6.5.2	Cross-sectional area (mm2) ..... :		—
6.5.3	Requirements for interconnection to building wiring .....:	No such parts.	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
7	**INJURY CAUSED BY HAZARDOUS SUBSTANCES**		P
7.2	Reduction of exposure to hazardous substances	No hazardous chemicals within the equipment.	P
7.3	Ozone exposure	No ozone production within the equipment.	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	MS1 category of mechanical energy source	P
8.2	Mechanical energy source classifications	MS1 category of mechanical energy source	P

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
8.3	Safeguards against mechanical energy sources	No safeguard is required to be interposed between MS1 and ordinary persons	P
8.4	Safeguards against parts with sharp edges and corners	Edges and corners of the enclosure are rounded	P
8.4.1	Safeguards	See above	N/A
8.5	Safeguards against moving parts	No moving parts	N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment	No MS2 or MS3 part	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	No such equipment	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 category of mechanical energy source	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 such equipment	N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface) ..... :		N/A

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
8.7.2	Direction and applied force..... :		N/A
8.8	Handles strength	No handles provided	N/A
8.8.1	Classification		N/A
8.8.2	Applied Force ..... :		N/A
8.9	Wheels or casters attachment requirements	No wheels or casters	N/A
8.9.1	Classification		N/A
8.9.2	Applied force..... :		—
8.10	Carts, stands and similar carriers	No carts, stands or similar carriers	N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard ..... :		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force..... :		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)..... :		—
8.10.6	Thermoplastic temperature stability (°C) ..... :		N/A
8.11	Mounting means for rack mounted equipment	Not such equipment	N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable *N* .....:		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas.....	No such parts	N/A
	Button/Ball diameter (mm).....:		—

9	**THERMAL BURN INJURY**		P
9.2	Thermal energy source classifications	All accessible surfaces are classified as TS1, see appended table 5.4.1.4, 6.3.2, 9.0, B.2.6.	P
9.3	Safeguard against thermal energy sources	Temperature of enclosure classed as TS1.	P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard		P
9.4.2	Instructional safeguard .....:		N/A
10	**RADIATION**		P
10.2	Radiation energy source classification	See below	P
10.2.1	General classification	RS1: LED flash light is approved.	P
10.3	Protection against laser radiation	No such radiation generated from	N/A

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
		the equipment	
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault ..... :		N/A
	Instructional safeguard ..... :		—
	Tool..... :		—
10.4	Protection against visible, infrared, and UV radiation		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
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 such x-radiation generated from the equipment	N/A
10.5.1	X- radiation energy source that exists equipment:		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards .....:		N/A
	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		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)..... :		N/A
	Output voltage, unweighted r.m.s..... :		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards ..... :		N/A

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
	Equipment safeguard prevent ordinary person to RS2..... :		—
	Means to actively inform user of increase sound pressure..... :		—
	Equipment safeguard prevent ordinary person to RS2 .....:		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output..... :		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)..... :		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)..... :		—
B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		P
B.2	Normal Operating Conditions	See the following details	P
B.2.1	General requirements .....:	According to the manufacturer definition	P
	Audio Amplifiers and equipment with audio amplifiers .....:		N/A
B.2.3	Supply voltage and tolerances	Supplied by external DC source and no tolerance	P
B.2.5	Input test.....:	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements .....:	(See appended table B.3)	P
B.3.2	Covering of ventilation openings	No ventilation openings.	N/A
B.3.3	D.C. mains polarity test	The EUT is not connected to a D.C. mains	N/A
B.3.4	Setting of voltage selector.....:	No setting of voltage selector within the EUT	N/A
B.3.5	Maximum load at output terminals .....:	(See appended table B.3)	N/A
B.3.6	Reverse battery polarity	No impossible to insert battery with reversed polarity for ordinary person.	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	(See appended table B.3)	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effectively.	P
B.4	Simulated single fault conditions		P

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
B.4.2	Temperature controlling device open or short-circuited .....:	No such device used.	N/A
B.4.3	Motor tests		N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature .....:		N/A
B.4.4	Short circuit of functional insulation	See below	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards within the EUT	N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4 for faults on electronic components)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components	The EUT is continuous operating type and no such components intended for short time operation or intermittent operation	N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions	No change to circuits classified in 5.3	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	No such UV generated from the equipment	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	No such consideration.	N/A
D.2	Antenna interface test generator	See above	N/A
D.3	Electronic pulse generator	See above	N/A
E	**TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS**		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V) ..... :		—
	Rated load impedance (Ω) ..... :		—
E.2	Audio amplifier abnormal operating conditions		N/A

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

F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		P
F.1	General requirements		P
	Instructions – Language .....:	English version provided. (Version in other language will be provided when submitted for national approval)	—
F.2	Letter symbols and graphical symbols	See the following details	P
F.2.1	Letter symbols according to IEC60027-1	Complied	P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific	Complied	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Marked on the exterior of the bottom	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	See the following details	P
F.3.3.1	Equipment with direct connection to mains	Not such equipment	P
F.3.3.2	Equipment without direct connection to mains	Not directly connected to the mains	P
F.3.3.3	Nature of supply voltage .....:	⎓	—
F.3.3.4	Rated voltage .....:	5V	—
F.3.3.4	Rated frequency .....:	DC only	—
F.3.3.6	Rated current or rated power .....:	See copy of marking plate	—
F.3.3.7	Equipment with multiple supply connections	Only one supply connection	N/A
F.3.4	Voltage setting device	No voltage selector provide within the equipment	N/A
F.3.5	Terminals and operating devices	No such 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
F.3.6.1	Class I Equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)		N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking ..... :	This equipment is classified as IPX0	—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking	Marking is considered to be legible and easily discernible. See also the following details	P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test, 15 sec. for water and 15 sec. for petroleum spirit. After each test, the marking remained legible	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking	Not such equipment	N/A
	b) Instructions given for installation or initial use	Relevant safety caution texts and installation instruction are available.	P
	c) Equipment intended to be fastened in place	Not such equipment	N/A
	d) Equipment intended for use only in restricted access area	Not such equipment	N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1	Not such equipment	N/A
	f) Protective earthing employed as safeguard	Not such equipment	N/A
	g) Protective earthing conductor current exceeding ES 2 limits	Not such equipment	N/A
	h) Symbols used on equipment	Graphical symbols placed on the equipment and used as an instructional safeguard shall be explained.	P
	i) Permanently connected equipment not provided with all-pole mains switch	Not such equipment	N/A
j)	j) Replaceable components or modules providing safeguard function	No such part	N/A
F.5	Instructional safeguards		N/A
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A

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

G	**COMPONENTS**		N/A
G.1	**Switches**		N/A
G.1.1	General requirements	No such component	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	**Relays**		N/A
G.2.1	General requirements	No such component	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 component	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		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 .....:	(See appended Table B.4)	N/A
G.4	**Connectors**		N/A
G.4.1	Spacings	No such component	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**		N/A
G.5.1	Wire insulation in wound components	No such component	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

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
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) ..... :	No such component	N/A
	Position..... :		—
	Method of protection ..... :		—
G.5.3.2	Insulation		N/A
	Protection from displacement of windings ..... :		—
G.5.3.3	Overload test..... :		N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding Temperatures testing in the unit		N/A
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	**Motors**		N/A
G.5.4.1	General requirements		N/A
	Position ..... :		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days) ..... :		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V)..... :		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h) ..... :		N/A
	Electric strength test (V)..... :		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature ..... :		N/A
	Electric strength test (V) ..... :		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h) ..... :		

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
	Electric strength test (V) ..... :		
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	ES1	N/A
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	**Mains supply cords**		N/A
G.7.1	General requirements	No such component	N/A
	Type ..... :		—
	Rated current (A)..... :		—
	Cross-sectional area (mm^2), (AWG) ..... :		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N) ..... :		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm).... :		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry ..... :		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g) ..... :		—
	Diameter (m) ..... :		—
	Temperature (°C) ..... :		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	**Varistors**		N/A
G.8.1	General requirements	No such component	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

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

G.9	**Integrated Circuit (IC) Current Limiters**		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No such component	N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA .....:		—
G.9.1 d)	IC limiter output current (max. 5A).....:		—
G.9.1 e)	Manufacturers' defined drift .....:		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	**Resistors**		N/A
G.10.1	General requirements	No such component	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	No such component	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).....:	No such component	N/A
	Type test voltage Vini .....:		—
	Routine test voltage, Vini,b .....:		—
G.13	**Printed boards**		N/A
G.13.1	General requirements	Only the functional insulation requirement on the PCB	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
	Compliance with cemented joint requirements (Specify construction).....:		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation.....:		N/A

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
	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**		
G.14.1	Requirements .....:	No such component	N/A
G.15	**Liquid filled components**		
G.15.1	General requirements	No such component	N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	**IC including capacitor discharge function (ICX)**		N/A
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours	No such component	N/A
b)	Impulse test using circuit 2 with Uc = 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	No telephone ringing signal generated within the equipment	N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz) .....:		—

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
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	No insulated winding wire provided within the equipment	N/A
K	**SAFETY INTERLOCKS**		N/A
K.1	General requirements	No safety interlock provided within the equipment	N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance .....:		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method.....:		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location) .....:		N/A
K.7.2	Overload test, Current (A).....:		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test .....:		N/A
L	**DISCONNECT DEVICES**		N/A
L.1	General requirements	Class III equipment.	N/A
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		N/A
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources		N/A

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

M	**EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS**		P
M.1	General requirements		P
M.2	Safety of batteries and their cells	The lithium battery complied with IEC 62133.	P
M.2.1	Requirements		P
M.2.2	Compliance and test method (identify method) .. :		P
M.3	Protection circuits		P
M.3.1	Requirements	See below	P
M.3.2	Tests	(See appended table Annex M)	P
	- Overcharging of a rechargeable battery	(See appended table Annex M)	P
	- Unintentional charging of a non-rechargeable battery	No such battery used	N/A
	- Reverse charging of a rechargeable battery	No reverse polarity installation could be happened due to design of pack.	N/A
	- Excessive discharging rate for any battery	(See appended table Annex M)	P
M.3.3	Compliance .....:	(See appended table Annex M and M.4)	P
M.4	Additional safeguards for equipment containing secondary lithium battery	See below	P
M.4.1	General	Complied	P
M.4.2	Charging safeguards	See below	P
M.4.2.1	Charging operating limits	Not exceed the limit	P
M.4.2.2 a)	Charging voltage, current and temperature .....:	(See appended table Annex M.4)	—
M.4.2.2 b)	Single faults in charging circuitry .....:	(See appended table Annex M.4)	—
M.4.3	Fire Enclosure		P
M.4.4	Endurance of equipment containing a secondary lithium battery	See below	P
M.4.4.2	Preparation		P
M.4.4.3	Drop and charge/discharge function tests	See below	P
	Drop	Three drops at the height of 1000mm. The voltage difference does not exceed 5% after test.	P
	Charge	After drop, the charge circuit function (charge-control voltage, charging control current and temperature control) are effective	P
	Discharge	After drop, the discharge circuit function (charge-control voltage, charging control current and temperature control) are effective	P
M.4.4.4	Charge-discharge cycle test	Complied	P

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
M.4.4.5	Result of charge-discharge cycle test	Complied	P
M.5	Risk of burn due to short circuit during carrying	No possibility to short-circuit during carrying.	N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current	See below	P
M.6.1	Short circuits		P
M.6.1.1	General requirements		P
M.6.1.2	Test method to simulate an internal fault	Not explode or emit molten material	P
M.6.2	Leakage current (mA) ..... :	Class III equipment and all electrical circuits of EUT are ES1.	P
M.7	Risk of explosion from lead acid and NiCd batteries	Not such 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	Not such battery	N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume *Vz* (m^3/s) ..... :		—
M.8.2.3	Correction factors..... :		—
M.8.2.4	Calculation of distance *d* (mm) ..... :		—
M.9	Preventing electrolyte spillage	See below	P
M.9.1	Protection from electrolyte spillage	Sealed Non-combustible material enclosure preventing electrolyte spillage.	P
M.9.2	Tray for preventing electrolyte spillage	Sealed Non-combustible material enclosure preventing electrolyte spillage.	P
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing) ..... :	Mentioned in the user manual	P
N	**ELECTROCHEMICAL POTENTIALS**		N/A
	Metal(s) used ..... :	No risk of corrosion.	—
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		N/A
	Figures O.1 to O.20 of this Annex applied..... :	Class III equipment	—

EN 62368-1			
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		
	Location and Dimensions (mm) ..... :		—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts ..... :		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard) ..... :		N/A
P.3	Safeguards against spillage of internal liquids	No such liquids	N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts	See below	N/A
P.4.2 a)	Conditioning testing	See below	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			
Clause	Requirement - Test	Result - Remark	Verdict

R	**LIMITED SHORT CIRCUIT TEST**		**N/A**
R.1	General requirements	No such consideration	N/A
R.2	Determination of the overcurrent protective device and circuit		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			
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 .....:	Class III equipment	N/A
T.3	Steady force test, 30 N .....:	(See appended table T.3)	P
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.7)	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..... :	(See sub-clause 4.4.4.9)	N/A
T.11	Test for telescoping or rod antennas	No such antennas provided within the equipment	N/A
	Torque value (Nm) .....:		—
U	**MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFECTS OF IMPLOSION**		N/A
U.1	General requirements	No CRT provided within the equipment	N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen .....:	(See Annex T)	N/A
V	**DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)**		N/A
V.1	Accessible parts of equipment	Class III equipment and all electrical circuits of EUT are ES1.	N/A
V.2	Accessible part criterion		N/A

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

ATTACHMENT TO TEST REPORT

IEC 62368-1

EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

(Audio/video, information and communication technology equipment - Part 1: Safety requirements)

Differences according to ..... : EN 62368-1:2014+A11:2017

Attachment Form No. ..... : EU_GD_IEC62368_1B_II

Attachment Originator..... : Nemko AS

Master Attachment ..... : Date 2017-09-22

	CENELEC COMMON MODIFICATIONS (EN)		P
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed "Z".		P
CONTENTS	**Add** the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P
	Delete all the "country" notes in the reference document (IEC 62368-1:2014) according to the following list:		P
	For special national conditions, see Annex ZB.		P
1	**Add** the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.	Added	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

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
4.Z1	**Add** the following new subclause after 4.9: To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. **mains**, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for **pluggable equipment type B** or **permanently connected equipment**, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for **pluggable equipment type A** the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.	No protective device used	N/A
5.4.2.3.2.4	**Add** the following to the end of this subclause: The requirement for interconnection with **external circuit** is in addition given in EN 50491-3:2009.	No such interconnection	N/A
10.2.1	Add the following to [c] and [d] in table 39: For additional requirements, see 10.5.1.	Added	N/A

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
10.5.1	**Add** the following after the first paragraph: *For RS 1 compliance is checked by measurement under the following conditions:* *In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.* NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. *The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.* *Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.* *For RS1, the dose-rate shall not exceed 1 μSv/h taking account of the background level.* NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.	Added	N/A
10.6.1	**Add** the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.	Added	N/A
10.Z1	**Add** the following new subclause after 10.6.5. **10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz** The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566	No such radiation	N/A
G.7.1	**Add** the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		N/A

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

Bibliography	**Add** the following standards: **Add** the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		N/A
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		P
4.1.15	**Denmark, Finland, Norway** and **Sweden** To the end of the subclause the following is added: **Class I pluggable equipment type A** intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and **accessible** parts, have a marking stating that the equipment shall be connected to an earthed **mains** socket-outlet. The marking text in the applicable countries shall be as follows: In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.” In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”	No such equipment	N/A

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
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	No such part	N/A
5.2.2.2	**Denmark** After the 2nd paragraph add the following: A warning (marking **safeguard**) for high **touch current** is required if the **touch current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
5.4.11.1 and Annex G	**Finland and Sweden** To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.	The EUT does not intend to be connected with such telecommunication network	N/A
5.5.2.1	**Norway** After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).	No such devices	N/A

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
5.5.6	**Finland, Norway** and **Sweden** To the end of the subclause the following is added: Resistors used as **basic safeguard** or bridging **basic insulation** in **class I pluggable equipment type A** shall comply with G.10.1 and the test of G.10.2.	Class III appliance.	N/A
5.6.1	**Denmark** **Add** to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. *Justification:* In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.	Class III appliance.	N/A
5.6.4.2.1	**Ireland and United Kingdom** After the indent for **pluggable equipment type A**, the following is added: – the **protective current rating** is taken to be 13 A, this being the largest rating of fuse used in the **mains** plug.	Class III appliance.	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.	Class III appliance.	N/A
5.7.5	**Denmark** To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the **protective conductor current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.	Class III appliance.	N/A

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
5.7.6.1	**Norway and Sweden** To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.” Translation to Swedish: ”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.	Not such equipment	N/A

EN 62368-1			
Clause	Requirement - Test	Result - Remark	Verdict
5.7.6.2	**Denmark** To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .	No protective conductor	N/A
B.3.1 and B.4	**Ireland and United Kingdom** The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of **direct plug-in equipment**, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the **direct plug-in equipment**, until the requirements of Annexes B.3.1 and B.4 are met	No such part	N/A
G.4.2	**Denmark** To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a *Justification:* Heavy Current Regulations, Section 6c	No such part	N/A

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

G.4.2	**United Kingdom** To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.	No such part	N/A
G.7.1	**United Kingdom** To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	No such part	N/A
G.7.1	**Ireland** To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard	No mains plug used	N/A
G.7.2	**Ireland and United Kingdom** To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm^2 is allowed for equipment which is rated over 10 A and up to and including 13 A.	No mains supply cord used	N/A

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

ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		N/A
10.5.2	**Germany** The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. *Justification:* German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. **NOTE** Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de	No cathode ray tube used	N/A

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

4.1.2	TABLE: List of critical components				
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1]
Power Adapter	Strong Power Electronics Technology Co., Ltd.	KP24D-18W-QC3.0EU	Input:100-240VAC, 50/60Hz, 0.6A Max; Output: 5.0VDC, 3.0A / 9.0VDC, 2.0A / 12.0VDC, 1.5A Max ambient temperature: 40℃	EN 62368-1:2014 +A11:2017	Tested by Guangdong Keyway Testing Technology Co., Ltd. Report No.: TR20030386-S-000
Enclosure	LG CHEMICAL LTD	LUPOY GN-5001RF(T)	V-0, 80°C, min. thickness 1.5mm	UL94 UL746	UL E67171
PCB	SHENZHEN WUZHU TECH CO LTD	Interchangeable	V-0, Min.105℃	UL94	UL E170968
PCB	Interchangeable	Interchangeable	Min. V-1, Min.105℃	UL94	UL
Motor	XinNing JX Electronics CO., LTD.	JX-B48A-H4648DTB	3VDC 85mA	--	Tested with appliance
LCD Module	TRULY SEMICONDUCTORS LTD.	TDA-0400D40075-V2	4.0 inch	--	Tested with appliance
Speaker	Shenzhen Sunrise Glory Electronic Technology Co., Ltd	SRG2535-8-V33	8Ω/2W	--	Tested with appliance
Rechargeable Li-ion Battery	TIANMAO	HBLDT47	3.85V,5200mAh	IEC 62133-2:2017	Tested by SMQ Report No.:WT213200289
LED flash light	Everlight Electronics co.,Ltd.	ELCH Series	DC 350mA	IEC/EN 62471	Tested by TUV Report No.:10038654 002
Scan Laser	HONEYWELL INTERNATIONAL INC	N6703	3.3VDC 180mA	IEC 60825-1:2014 IEC62471:2006	UL Ref. Certif. No. US-32417-UL US-32340-M1-UL

Supplementary information:

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

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

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.)		

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

4.8.4.2	TABLE: Stress Relief test		—
Part	**Material**	**Oven Temperature (°C)**	**Comments**

4.8.4.3	TABLE: Battery replacement test		—
Battery part no. .....:			—
Battery Installation/withdrawal		Battery Installation/Removal Cycle	Comments
		1	
		2	
		3	
		4	
		5	
		6	
		8	
		9	
		10	

4.8.4.4	TABLE: Drop test		—
Impact Area	Drop Distance	Drop No.	Observations
		1	
		2	
		3	

4.8.4.5	TABLE: Impact		—
Impacts per surface	**Surface tested**	**Impact energy (Nm)**	**Comments**

4.8.4.6	TABLE: Crush test		—
Test position	**Surface tested**	**Crushing Force (N)**	**Duration force applied (s)**

Supplementary information:

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

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

Supplementary information:

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

5.2.2.2 – Steady State Voltage and Current conditions

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
1	--	Battery pack output	Normal	4.38V	--	--	ES1
			Abnormal:	--	--	--	
			Single fault – SC/OC	--	--	--	
2	DC5V	Input of main unit	Normal	5.53V	--	--	ES1
			Abnormal:	--	--	--	
			Single fault – SC/OC	--	--	--	

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)	Ipk (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)	Ipk (mA)	
			Normal				
			Abnormal				
			Single fault – SC/OC				

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

5.2	**Table: Classification of electrical energy sources**	P
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) ..... :	DC5V Charging	DC5V Charging	Discharging	Discharging	—
	Ambient T_{min} (°C) ..... :	24.0	--	24.2	--	—
	Ambient T_{max} (°C) ..... :	24.9	--	26.0	--	—
	Tma (°C) ..... :	--	40	--	40	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
PCB 1		37.7	53.7	43.8	59.7	105
PCB 2		29.8	45.8	31.8	47.7	105
Battery pack		27.4	43.4	29.8	45.7	--
Enclosure (inside)		29.9	45.9	39.3	55.2	80
Enclosure (near LED flash light)		24.5	--	25.2	--	77
Enclosure (left side)		27.2	--	28.9	--	48
Enclosure (right side)		33.2	--	34.8	--	48
Enclosure (top)		25.5	--	26.4	--	77
LCD panel		34.9	--	38.1	--	77
Button		28.0	--	28.7	--	60
Adapter		34.3	--	--	--	77
Ambient		24.0	40	24.1	40	--
Supplementary information: Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (Tma) of 40°C. Note 2: The temperatures were measured under the worse case normal mode defined in clause B.2.1.						

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class

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

Supplementary information:

Note 1: Tma should be considered as directed by appliable 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: all plastic material approved by UL			

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

5.4.2.2, 5.4.2.4 and 5.4.3	**TABLE: Minimum Clearances/Creepage distance**						N/A
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz)[1]	Required cl (mm)	cl (mm)[2]	Required[3] cr (mm)	cr (mm)

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

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)	

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

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:				

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

5.4.9	TABLE: Electric strength tests			N/A
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
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:

☐ bleeding resistor rating:

☐ ICX:

Notes:

A. Test Location:

Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth

B. Operating condition abbreviations:

N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition

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

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

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:					

5.7.2.2, 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)
		1	
		2*	
		3	
		4	
		5	
		6	
		8	

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 pack output	Normal condition	Power (W) :	13.97	--	PS1
		V_A (V) :	3.79	--	
		I_A (A) :	3.7	--	
Main unit input (output for adapter)	Normal condition	Power (W) :	--	20.04	PS2
		V_A (V) :	--	5.54	
		I_A (A) :	--	3.62	

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

Supplementary Information:

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

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)			N/A
Location	Open circuit voltage After 3 s (Vp)	Measured r.m.s current (Irms)	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
All internal circuits	--	--	--	--	Yes (Declared by manufacturer)

Supplementary Information:

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_

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

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
DC5	0.71	3	3.55	--	--	--	Condition A
DC9	0.48	2	4.32	--	--	--	Condition A
DC12	0.43	1.5	5.16	--	--	--	Condition A

Supplementary information:

Test condition:
Condition A: Supplied by external DC source, the internal battery with lowest power, the EUT was operated.

B.3	TABLE: Abnormal operating condition tests								N/A
Ambient temperature (°C) .....:									—
Power source for EUT: Manufacturer, model/type, output rating .:									—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation	
—									

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.

B.4	TABLE: Fault condition tests							P
Ambient temperature (°C) .....:					24-26			—
Power source for EUT: Manufacturer, model/type, output rating .:					--			—
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Battery	Overcharge	5.0Vdc	7h	—	—	—	—	The unit was charging normally. No damaged, no hazards.
Battery (Overcharge)	P- to B - Short	5.0Vdc	7h	—	—	—	—	The unit was charging normally. No damaged, no hazards.

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

U1 pin5-6 (battery protect board)	Short	5.0Vdc	7h	—	—	—	—	The unit shut down immediately. No damaged, no hazards.
Battery	Over discharge	3.85Vdc	7h	—	—	—	—	The unit was working normally. No damaged, no hazards.
Battery (Overdischarge)	P- to B - Short	3.85Vdc	7h	—	—	—	—	The unit was working normally. No damaged, no hazards.
Supplementary information:								

Annex M	**TABLE: Batteries**	P
The tests of Annex M are applicable only when appropriate battery data is not available		N/A
Is it possible to install the battery in a reverse polarity position?..... :	No	—

	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	—	—	—	4.05	5.2	2.70	5.2	—	—
Max. current during fault condition	—	—	—	4.11	5.2	2.83	5.2	—	—

Test results:		Verdict
- Chemical leaks	No chemical leaks.	P
- Explosion of the battery	No explosion.	P
- Emission of flame or expulsion of molten metal	No emission of flame or expulsion of molten metal	P
- Electric strength tests of equipment after completion of tests	No isolation requirement	N/A
Supplementary information:		

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

Annex M.4	**Table: Additional safeguards for equipment containing secondary lithium batteries**	P

Battery/Cell No.	Test conditions	Measurements			Observation
		U	I (A)	Temp (C)	
Battery pack	Normal charging	Max. 4.4V	Max. 4.05	35.1	No damaged. Not defeat a safeguard.
Battery pack	Normal charging (Ambient temperature 0-10°C)	Max. 4.4V	Max. 1.6	20.3	No damaged. Not defeat a safeguard.
Battery pack	Abnormal (Battery B- to P- short)	Max. 4.4V	Max. 4.11	38.6	No damaged. Not defeat a safeguard.
Supplementary Information:					

Battery identification	Charging at T_{lowest} (°C)	Observation	Charging at $T_{highest}$ (°C)	Observation
Internal lithium battery	<0	Charging current not more than max. charging current	>60	The battery stop be charged
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	Plastic	--	100	5	No damaged, No hazards

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

External enclosure	Plastic	--	30	5	No damaged, No hazards
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
External enclosure	Plastic	--	1000	No damaged, No hazards
Supplementary information:				

T.8	**TABLE: Stress relief test**				**P**
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
External enclosure	Plastic	--	70	7	No damaged, No hazards
Supplementary information:					

Photo Document

Photo 1 Appearance of EUT

Photo 2 Appearance of EUT

Photo Document

Photo 3 Appearance of EUT

Photo 4 Appearance of EUT

Photo Document

Photo 5 Appearance of EUT

Photo 6 Appearance of EUT

Photo Document

Photo 7 Inside of EUT

Photo 8 Inside of EUT

Photo Document

Photo 9 Inside of EUT

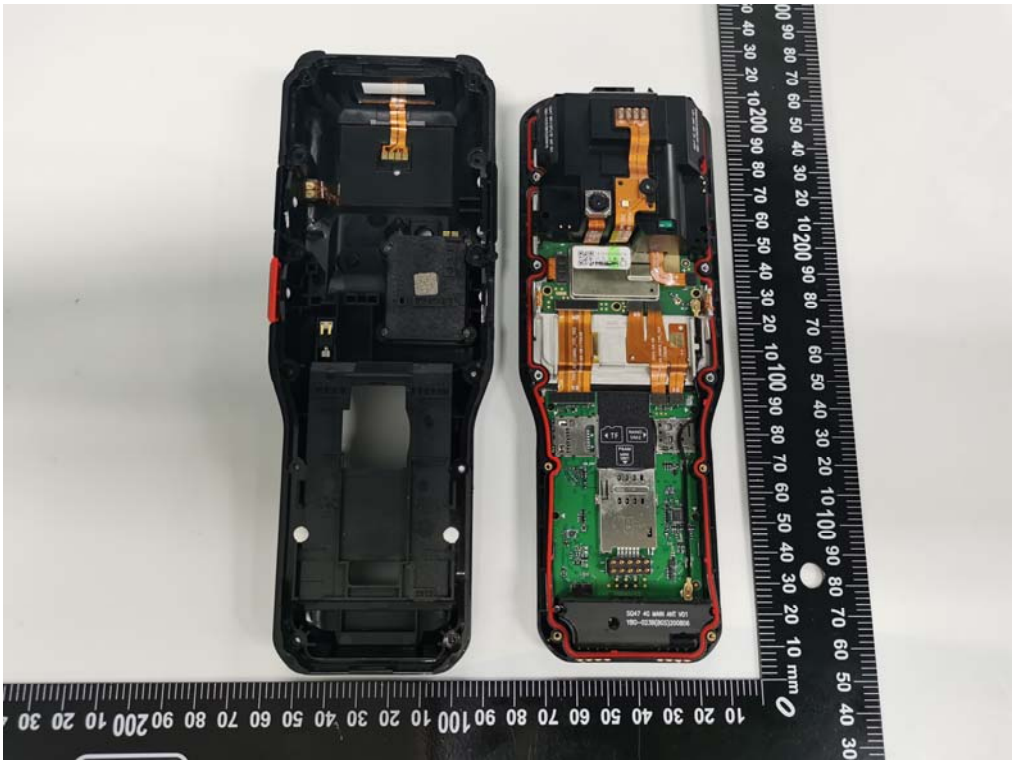


Photo 10 Inside of EUT

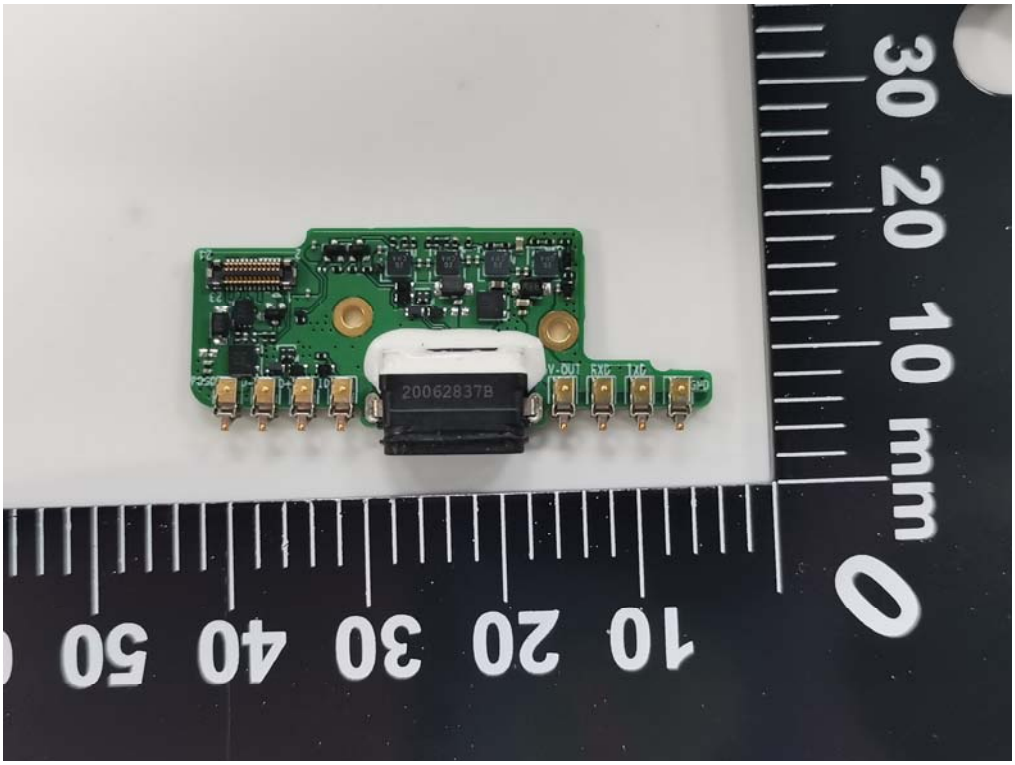


Photo Document

Photo 11 Inside of EUT

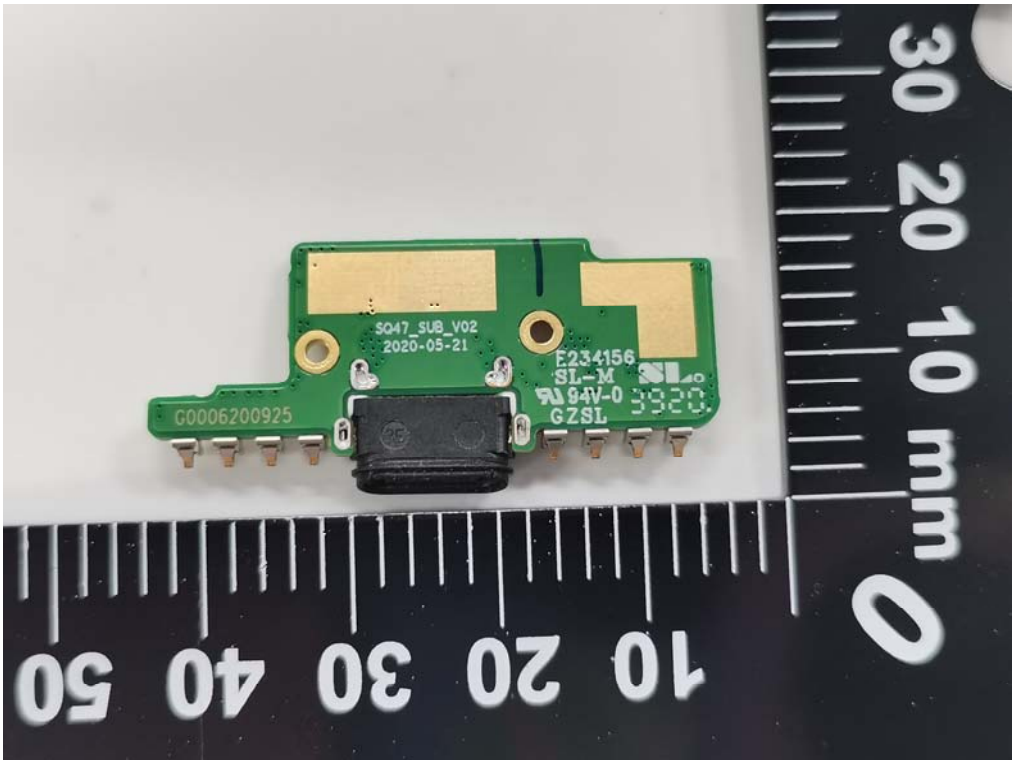


Photo 12 Inside of EUT

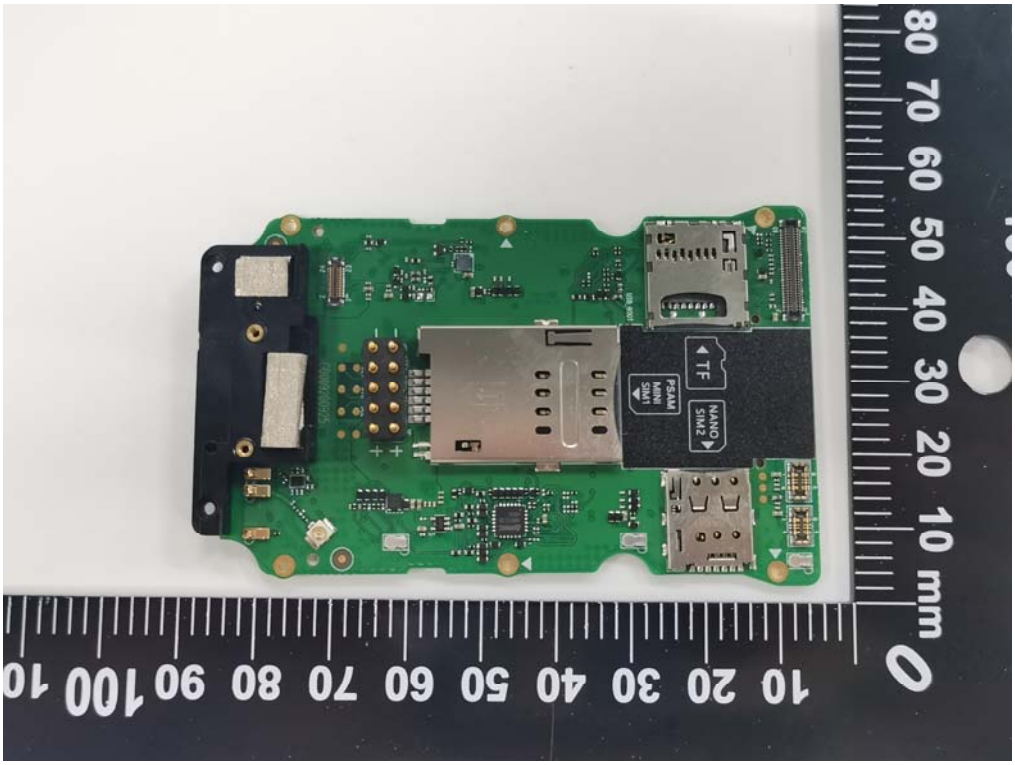


Photo Document

Photo 13 Inside of EUT

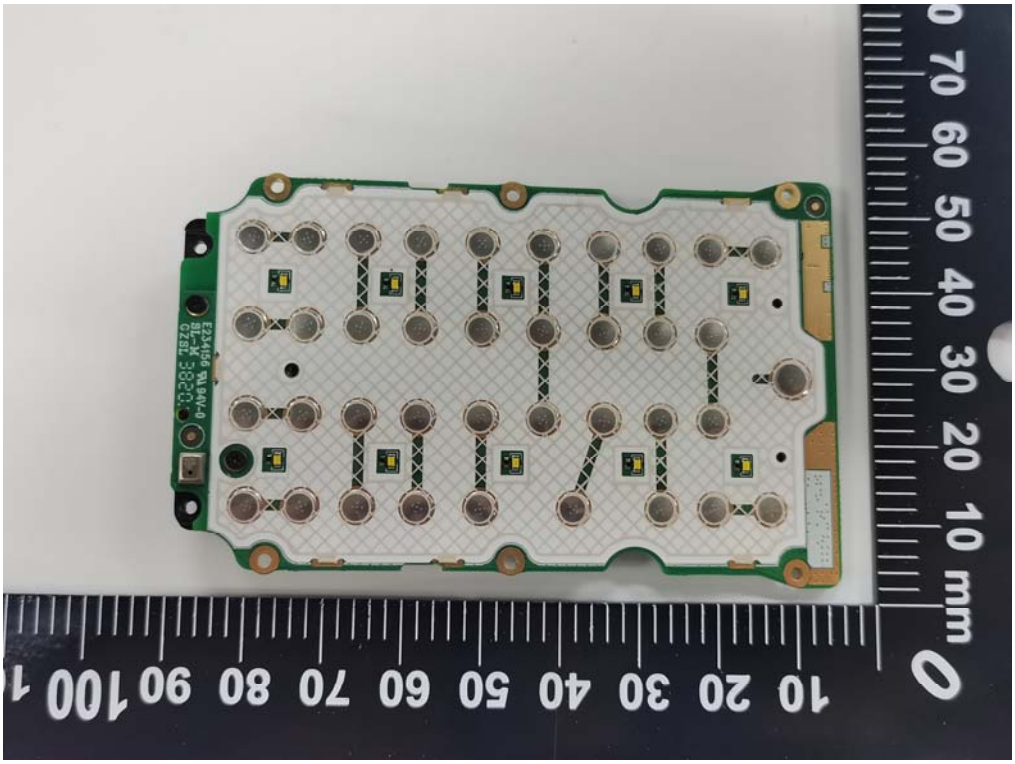


Photo 14 Inside of EUT

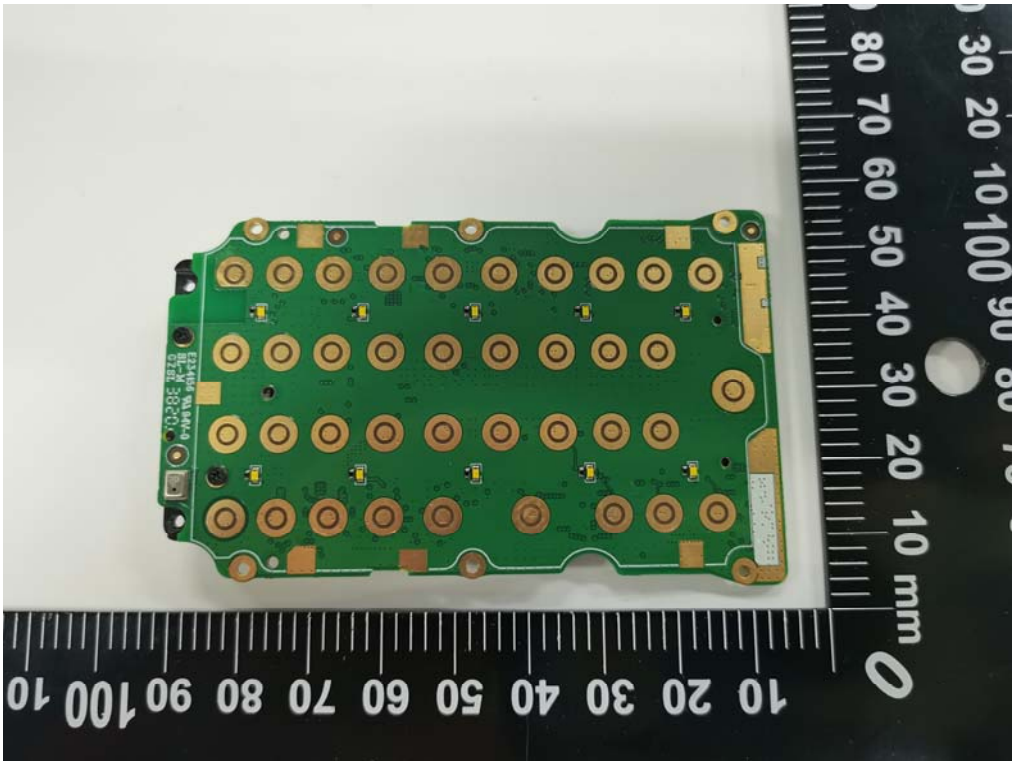


Photo Document

Photo 15 Inside of EUT

Photo 16 Inside of EUT

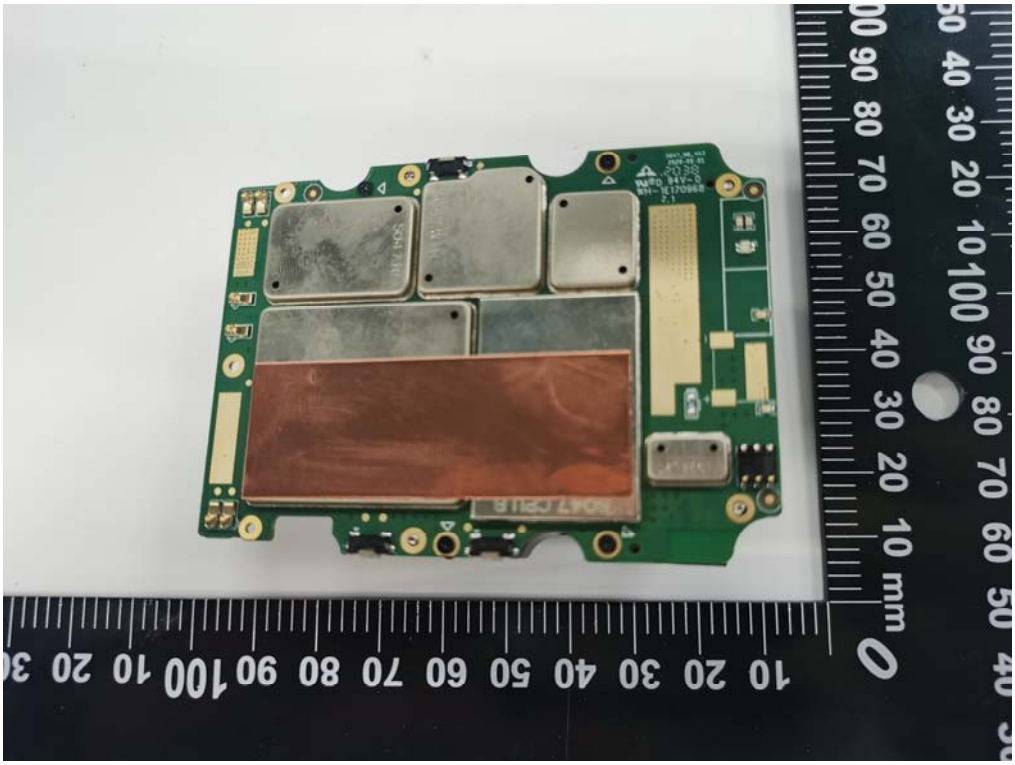


Photo Document

Photo 17 Inside of EUT

Photo 18 Inside of EUT

Photo Document

Photo 19 Inside of EUT

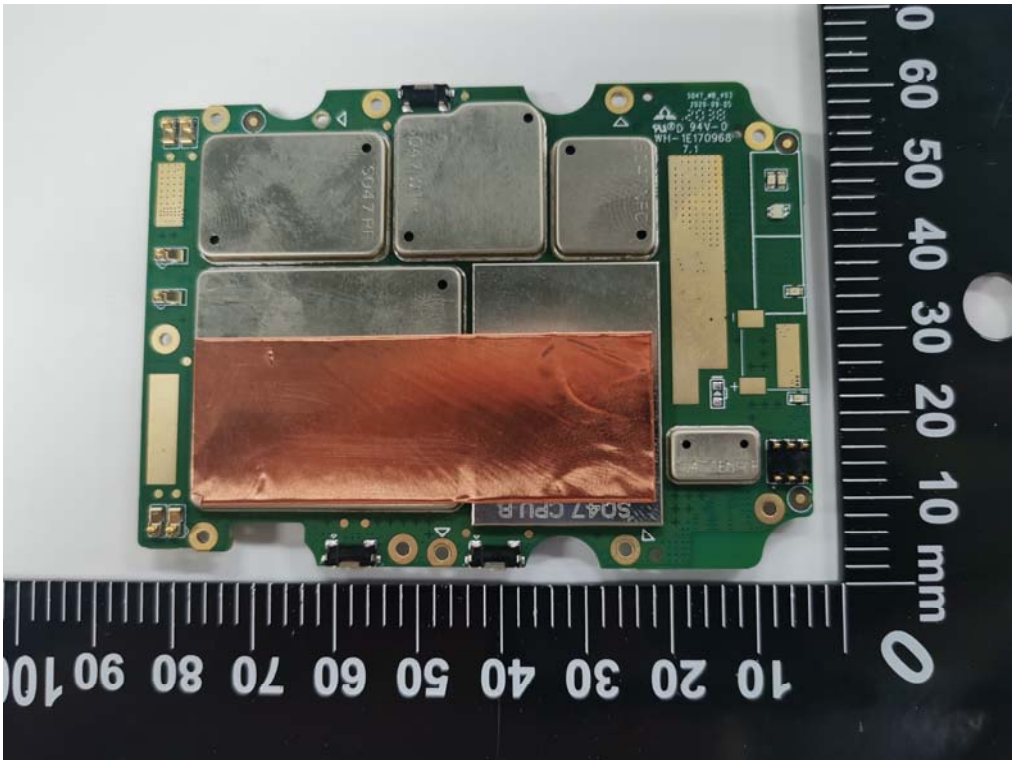


Photo 20 Inside of EUT

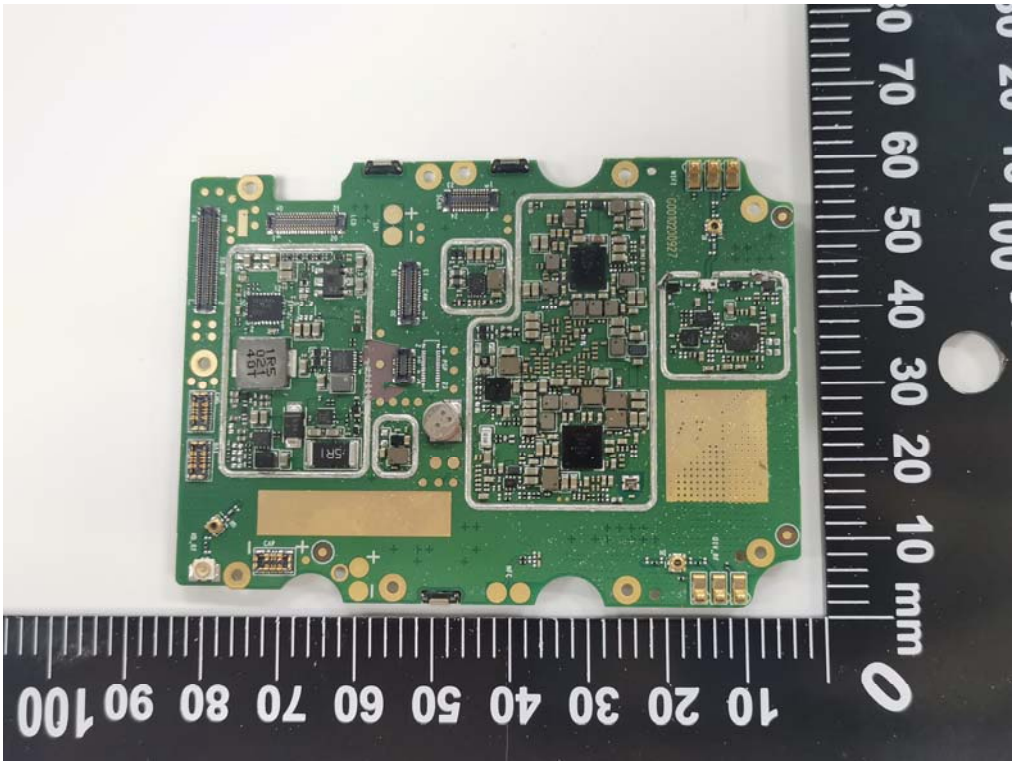


Photo Document

Photo 21 Inside of EUT

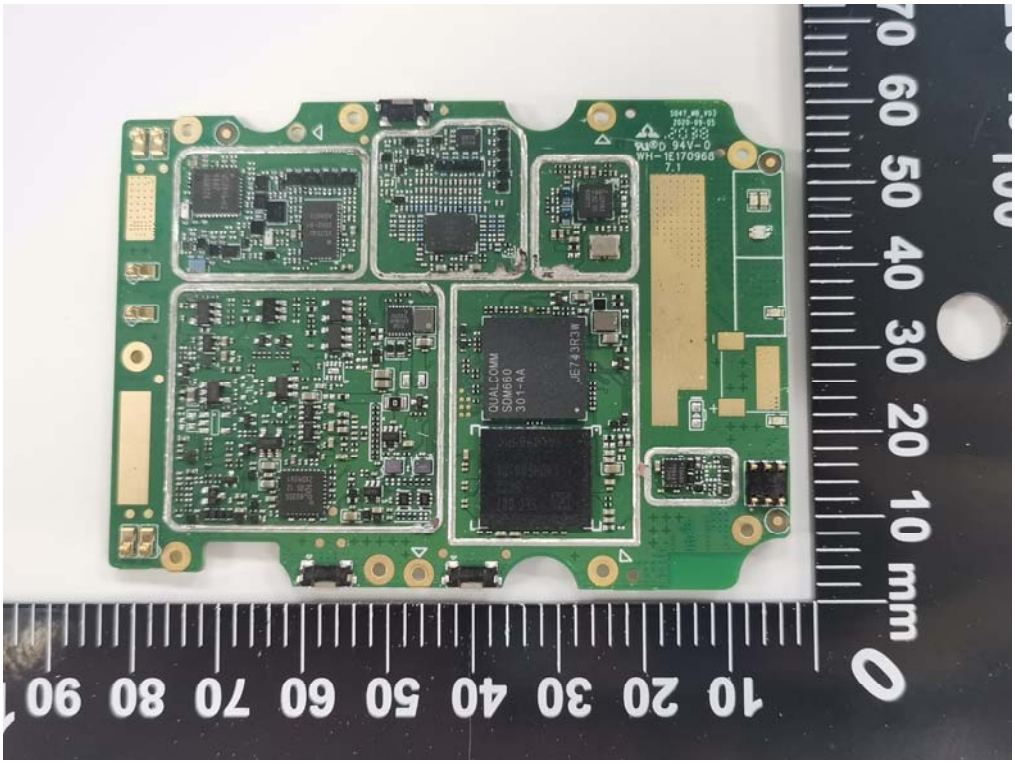


Photo 22 Appearance of Adapter

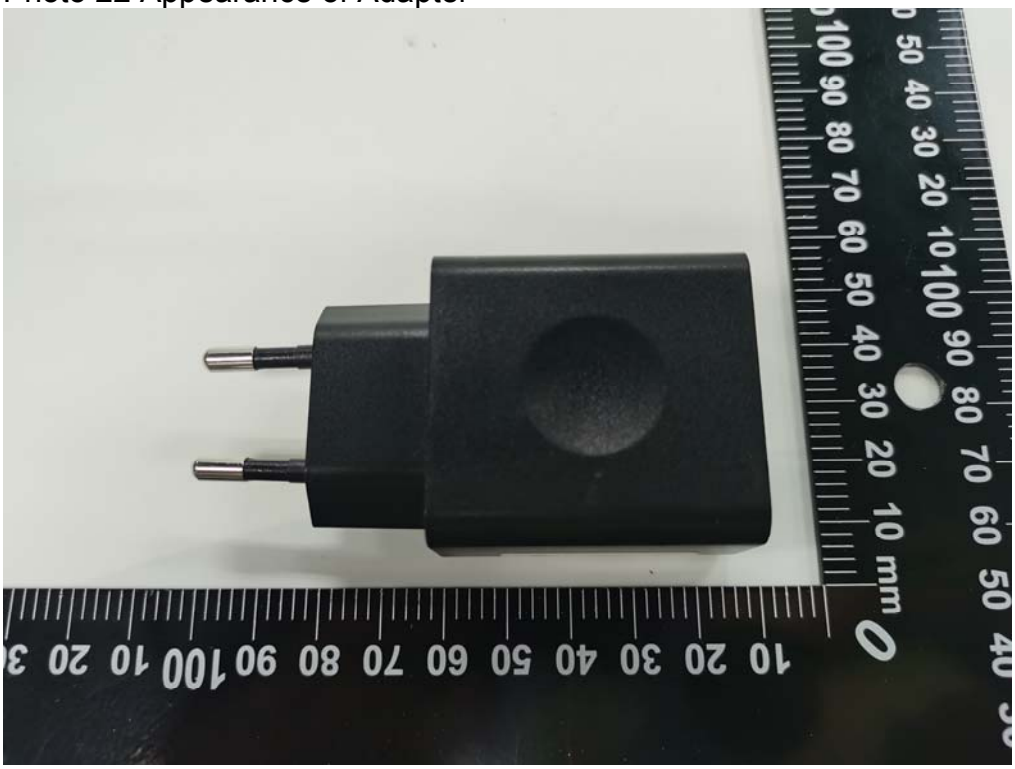


Photo Document

Photo 23 Appearance of Adapter

Photo 24 Appearance of USB Cable

----------End of Report----------