ACCREDITED Certificate # 2951.01

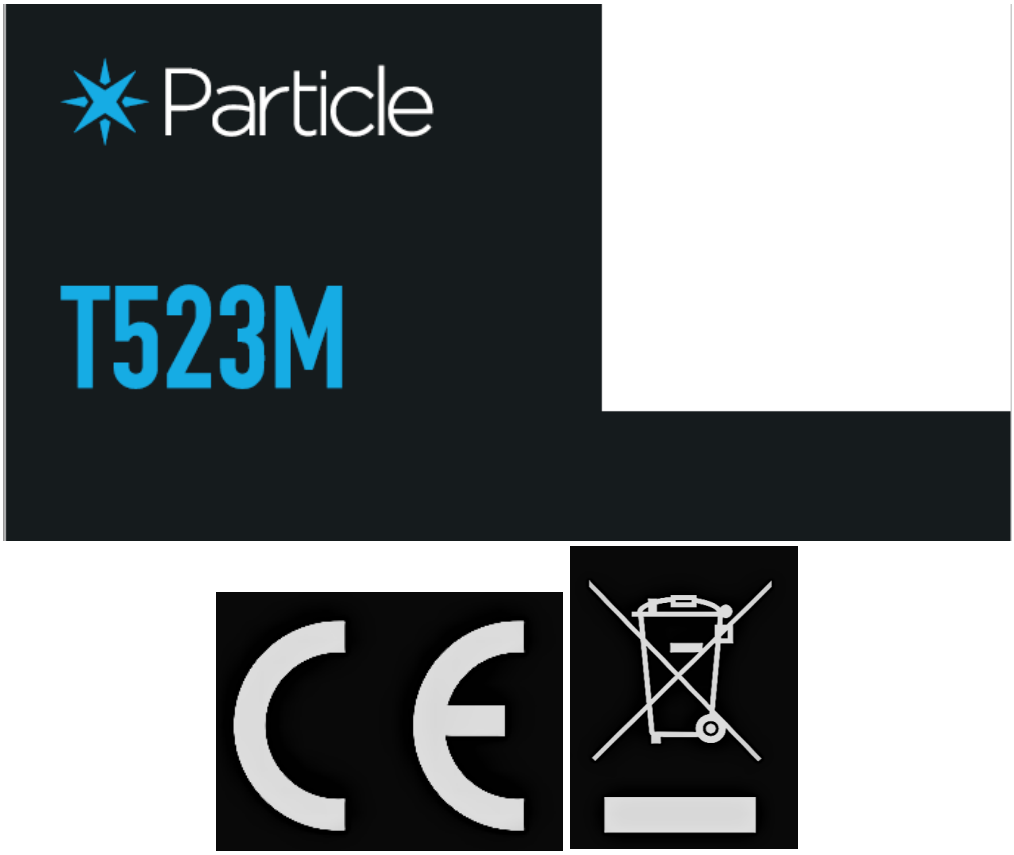
Test Report No.: LD200518N021

Applicant's name :	Particle Industries Inc
Address :	126 Post St, 4th floor, San Francisco, CA 94108 USA
Test Item description:	Tracker SoM LTE CAT1/3G/2G
Model/Type reference :	T523M, T524M
Testing laboratory	
Name :	Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch
Address :	No. 96, Guantai Road (Houjie Section), Houjie Town, Dongguan City, Guangdong Province, 523942, People's Republic of China
Test specification	
Standard :	☐ IEC 62368-1:2014 (Second Edition) ☒ EN 62368-1:2014 + A11: 2017
Test Result :	**The sample satisfies to the clauses examined.**
Prepared By :	Winter Liu Engineer / Safety Department 2020-08-26 Date
Approved By:	Jetter Yang Senior Engineer / Safety Department 2020-08-26 Date

TEST REPORT

Report Number. .....:	LD200518N021
Date of issue .....:	2020-08-26
Total number of pages .....:	62
Testing laboratory .....:	Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch
Test location/Address .....:	No. 96, Guantai Road (Houjie Section), Houjie Town, Dongguan City, Guangdong Province, 523942, People's Republic of China
Applicant's name.....:	Particle Industries Inc
Address .....:	126 Post St, 4th floor, San Francisco, CA 94108 USA
Test specification:	
Standard .....:	☐ IEC 62368-1: 2014 (Second Edition) ☒ EN 62368-1: 2014 + A11: 2017
Non-standard test method.....:	N/A
Test Report Form No.....:	IEC/EN 62368-1_DG_V201904
Test Report Form(s) Originator..:	BV_DG
Master TRF .....:	Dated 2019-04
Manufacturer.....:	Particle Industries Inc
Address .....:	126 Post St, 4th floor, San Francisco, CA 94108 USA
Factory.....:	ABO ELECTRONICS (SHEN ZHEN) CO., LTD.
Address .....:	Unit 201~202, Wang Rong Industry Park, 99 Industrial Zone, Minzhu Village, Shajing Town, Baoan District, Shenzhen City, Guangdong Province, China
Test item description .....:	Tracker SoM LTE CAT1/3G/2G
Trade Mark.....:	Particle
Model/Type reference.....:	T523M, T524M
Ratings.....:	3.3-4.3Vdc, 3A (via weld LI+ to GND); 4.35-5.5Vdc, 1.5A (via weld VBUS to GND); 3.9-17Vdc, 3A (via weld VIN to GND)

Copy of marking plate:



WEEE logo(crossed-out wheeled bin symbol with solid bar): at least 7 mm in height

Note: The instruction sheet and marking should be translated to the language where the product will be sold.

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 (Manufacturer declares)
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 by external DC source
Considered current rating of protective device as part of building or equipment installation ..... :	N/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: Supplied by external DC source
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 :	85°C
IP protection class ..... :	☒ IPX0 ☐ IP___
Power Systems ..... :	☐ TN ☐ TT ☐ IT - 230 V $_{L-L}$
Altitude during operation (m) ..... :	☒ 2000 m or less ☐ 5000 m or less
Altitude of test laboratory (m) ..... :	☒ 2000 m or less ☐ 5000 m or less
Mass of equipment (kg) ..... :	☒ Approximate: 0.04kg

POSSIBLE TEST CASE VERDICTS:	
- test case does not apply to the test object ..... :	N/A
- test object does meet the requirement ..... :	P (Pass)
- test object does not meet the requirement ..... :	F (Fail)
TESTING:	
Date of receipt of test item..... :	May 18, 2020
Date (s) of performance of tests..... :	May 18, 2020 to June 11, 2020

GENERAL REMARKS:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

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

GENERAL PRODUCT INFORMATION:

1. The equipment is “Tracker SoM LTE CAT1/3G/2G” which is supplied by DC source via weld LI+ to GND, weld VBUS to GND or weld VIN to GND.
2. This is a built-in circuit board, without any enclosure, all electronic components are mounted on the PCB.
3. The equipment with models T523M and T524M are identical to each other except model name for trading purpose.
4. Operated temperature max. +85°C.
5. Physical size: approximate 92mm x 28mm.
6. The equipment will consider more in the end system.

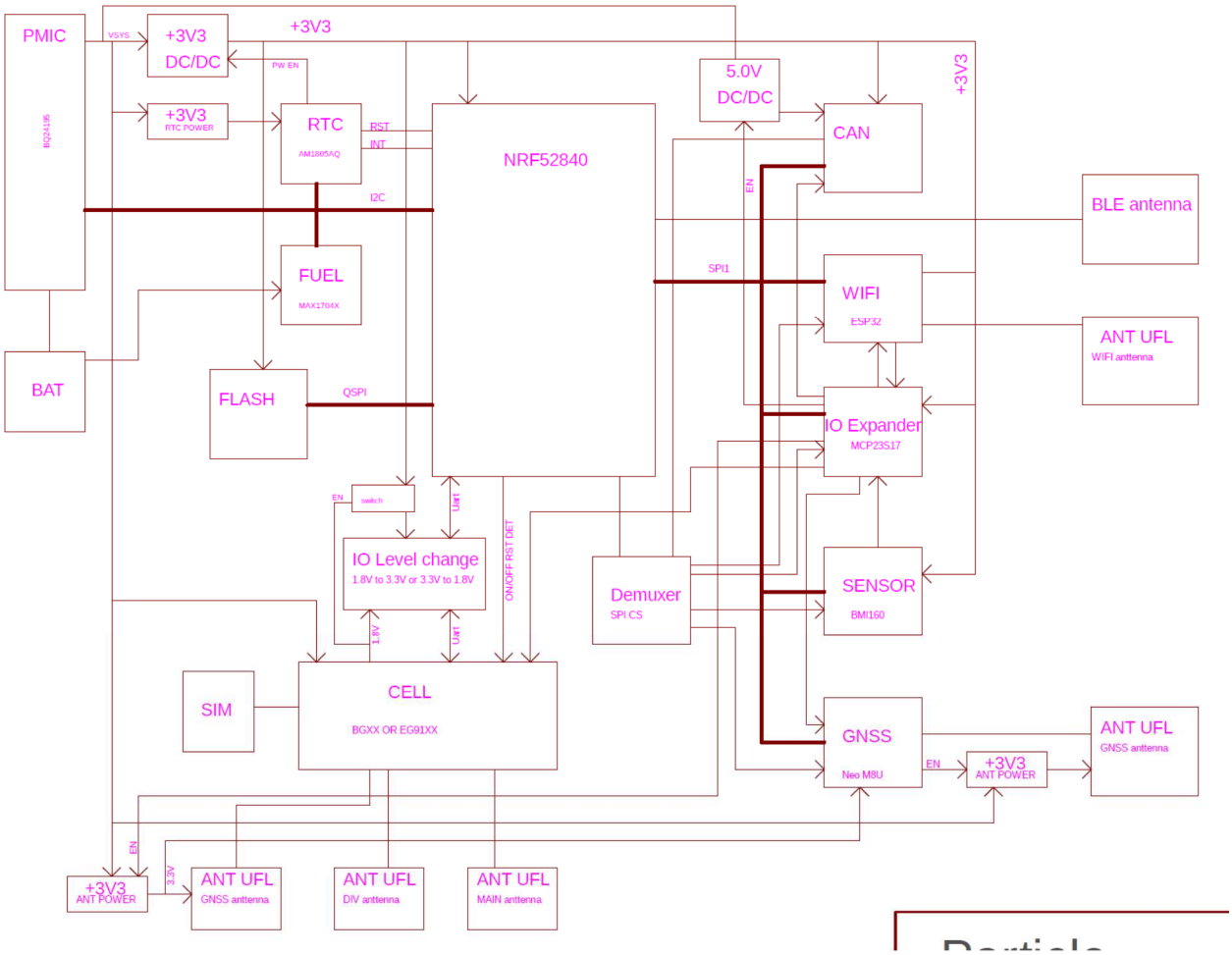
Additional application considerations – (Considerations used to test a component or sub-assembly)

1. All tests were measured under the worst case.

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.	
Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input ES1	
Source of electrical energy	**Corresponding classification (ES)**
All parts with equipment (max. 17Vdc input)	ES1
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): PS2	
Source of power or PIS	**Corresponding classification (PS)**
All parts	PS2 (manufacturer declares)
Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component Glycol	
Source of hazardous substances	**Corresponding chemical**
N/A	None
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)**
Shape edges and corner of product	MS1
Equipment mass- Approximate 0.04kg<7Kg.	MS1
Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure TS1	
Source of thermal energy	**Corresponding classification (TS)**
Components/circuit of unit	TS3
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)**
N/A	None

ENERGY SOURCE DIAGRAM
Indicate which energy sources are included in the energy source diagram. Insert diagram below

☒ ES ☒ PS ☒ MS ☒ TS ☐ RS



ES1: All parts within equipment;

PS2: All parts within equipment (manufacturer declares);

MS1: Edges, corners and mass of equipment;

TS3: Components/circuit of unit.

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
Ordinary	ES1: All parts within equipment	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
All combustible materials around all circuit within equipment	PS2: All parts within equipment (manufacturer declares)	No ignition and attainable high temperature value	Control fire spread, all components mounted on the V-1 or batter PCB	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	TS3: All parts/circuits	N/A	N/A	Building-in equipment, shall be evaluated in the end system.
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	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				

IEC/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	No accessible part which could cause injury	P
4.1.15	Markings and instructions.....:	(See Annex F)	P
4.4.4	Safeguard robustness	No such part	N/A
4.4.4.2	Steady force tests.....:		N/A
4.4.4.3	Drop tests .....:		N/A
4.4.4.4	Impact tests .....:		N/A
4.4.4.5	Internal accessible safeguard enclosure and barrier tests.....:	No such part	N/A
4.4.4.6	Glass Impact tests .....:	No such glass used	N/A
4.4.4.7	Thermoplastic material tests.....:	No such material	N/A
4.4.4.8	Air comprising a safeguard.....:	Only ES1 exist, no such safeguards required	N/A
4.4.4.9	Accessibility and safeguard effectiveness		N/A
4.5	Explosion	No explosion occurs during normal/abnormal operation and single fault conditions	P
4.6	Fixing of conductors	See below	N/A
4.6.1	Fix conductors not to defeat a safeguard	Only ES1 exist, no such safeguards required	N/A
4.6.2	10 N force test applied to .....:	Only ES1 exist, no such safeguards required	N/A
4.7	Equipment for direct insertion into mains socket - outlets	Not such equipment	N/A
4.7.2	Mains plug part complies with the relevant standard.....:	Not such equipment	N/A
4.7.3	Torque (Nm) .....:	Not such equipment	N/A
4.8	Products containing coin/button cell batteries	See below	N/A

IEC/EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.2	Instructional safeguard	No such battery	N/A
4.8.3	Battery Compartment Construction	No such battery	N/A
	Means to reduce the possibility of children removing the battery.....:		—
4.8.4	Battery Compartment Mechanical Tests .....:		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object.....:		N/A
5	ELECTRICALLY-CAUSED INJURY		**P**
5.2.1	Electrical energy source classifications.....:	All parts complied with ES1	P
5.2.2	ES1, ES2 and ES3 limits	All parts complied with ES1	P
5.2.2.2	Steady-state voltage and current.....:	(See appended table 5.2)	P
5.2.2.3	Capacitance limits .....:		N/A
5.2.2.4	Single pulse limits.....:	No such pulse	N/A
5.2.2.5	Limits for repetitive pulses.....:	No such pulse	N/A
5.2.2.6	Ringing signals .....:	No such ringing signal	N/A
5.2.2.7	Audio signals .....:	No such audio signal	N/A
5.3	Protection against electrical energy sources	See below	N/A
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	Class III equipment and all electrical circuits of EUT are ES1, only the functional insulation inside the EUT	N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards	Class III equipment and all electrical circuits of EUT are ES1, only the functional insulation inside the EUT	N/A
5.3.2.2	Contact requirements	Class III equipment and all electrical circuits of EUT are ES1, only the functional insulation inside the EUT	N/A
	a) Test with test probe from Annex V .....:		N/A
	b) Electric strength test potential (V) .....:		N/A
	c) Air gap (mm) .....:		N/A
5.3.2.4	Terminals for connecting stripped wire	No such part	N/A
5.4	Insulation materials and requirements		N/A
5.4.1.2	Properties of insulating material	No such part	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.3	Humidity conditioning.....:	No hygroscopic material used	N/A
5.4.1.4	Maximum operating temperature for insulating materials .....:	No such part	N/A
5.4.1.5	Pollution degree .....:	Pollution degree 2 is considered	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2 is considered	N/A
5.4.1.5.3	Thermal cycling	No such device	N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such pules occurred	N/A
5.4.1.8	Determination of working voltage	Class III equipment, only ES1 parts are existed inside the EUT	N/A
5.4.1.9	Insulating surfaces	Only ES1 parts are existed inside the EUT, no such part	N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	No such part	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	Class III equipment and all electrical circuits of EUT are ES1, only the functional insulation inside the EUT	N/A
5.4.2.2	Determining clearance using peak working voltage	Class III equipment and all electrical circuits of EUT are ES1, only the functional insulation inside the EUT	N/A
5.4.2.3	Determining clearance using required withstand voltage .....:	Class III equipment and all electrical circuits of EUT are ES1, and there is no critical insulation.	N/A
	a) a.c. mains transient voltage .....:	The equipment does not intend to connected to a.c. mains	—
	b) d.c. mains transient voltage .....:	The equipment does not intend to connected to d.c. mains	—
	c) external circuit transient voltage .....:	No such external circuit	—
	d) transient voltage determined by measurement..... :	Only ES1 parts are existed inside the EUT	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	Not used	N/A
5.4.2.5	Multiplication factors for clearances and test voltages .....:	Not used	N/A

IEC/EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.3	Creepage distances .....:	Class III equipment and all electrical circuits of EUT are ES1, only the functional insulation inside the EUT	N/A
5.4.3.1	General	Class III equipment and all electrical circuits of EUT are ES1, only the functional insulation inside the EUT	N/A
5.4.3.3	Material Group .....:	Group IIIb considered	—
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 .....:	No such part	N/A
5.4.4.3	Insulation compound forming solid insulation	No such part	N/A
5.4.4.4	Solid insulation in semiconductor devices	No such part	N/A
5.4.4.5	Cemented joints	No such part	N/A
5.4.4.6	Thin sheet material	No such part	N/A
5.4.4.6.1	General requirements	No such part	N/A
5.4.4.6.2	Separable thin sheet material	No such part	N/A
	Number of layers (pcs) .....:	No such part	N/A
5.4.4.6.3	Non-separable thin sheet material	No such part	N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material .....:	No such part	N/A
5.4.4.6.5	Mandrel test	No such part	N/A
5.4.4.7	Solid insulation in wound components	No such part	N/A
5.4.4.9	Solid insulation at frequencies >30 kHz.....:	No such part	N/A
5.4.5	Antenna terminal insulation	No such part	N/A
5.4.5.1	General	No such part	N/A
5.4.5.2	Voltage surge test	No such part	N/A
	Insulation resistance (MΩ) .....:	--	—
5.4.6	Insulation of internal wire as part of supplementary safeguard .....:	Class III equipment and all electrical circuits of EUT are ES1, 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

IEC/EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.8	Humidity conditioning	Class III equipment and all electrical circuits of EUT are ES1, only the functional insulation inside the EUT	N/A
	Relative humidity (%) .....:	--	—
	Temperature (°C) .....:	--	—
	Duration (h) .....:	--	—
5.4.9	Electric strength test .....:	Class III equipment and all electrical circuits of EUT are ES1, only the functional insulation inside the EUT	N/A
5.4.9.1	Test procedure for a solid insulation type test	Class III equipment and all electrical circuits of EUT are ES1, only the functional insulation inside the EUT	N/A
5.4.9.2	Test procedure for routine tests	Class III equipment and all electrical circuits of EUT are ES1, only the functional insulation inside the EUT	N/A
5.4.10	Protection against transient voltages between external circuit	The EUT does not intend to be connected directly such external circuits	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test.....:		N/A
5.4.10.2.3	Steady-state test.....:		N/A
5.4.11	Insulation between external circuits and earthed circuitry.....:	No such external circuit.	N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements	No SPD used	N/A
	Rated operating voltage U_{op} (V) .....:	--	—
	Nominal voltage U_{peak} (V) .....:	--	—
	Max increase due to variation U_{sp} .....:	--	—
	Max increase due to ageing ΔU_{sa} .....:	--	—
	$U_{op}= U_{peak} + \Delta U_{sp} + \Delta U_{sa}$.....:	--	—

IEC/EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.5	Components as safeguards		N/A
5.5.1	General	See below	N/A
5.5.2	Capacitors and RC units	No such component	N/A
5.5.2.1	General requirement	No such component	N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector .....:	No such component	N/A
5.5.3	Transformers	No such component	N/A
5.5.4	Optocouplers	No such component	N/A
5.5.5	Relays	No such component	N/A
5.5.6	Resistors	No such component	N/A
5.5.7	SPD's	No such component	N/A
5.5.7.1	Use of an SPD connected to reliable earthing	No such component	N/A
5.5.7.2	Use of an SPD between mains and protective earth	No such component	N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable .....:	No such construction	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	No such device	N/A
5.6.2.2	Colour of insulation	No such device	N/A
5.6.3	Requirement for protective earthing conductors	No such device	N/A
	Protective earthing conductor size (mm^2) ..... :	No such device	—
5.6.4	Requirement for protective bonding conductors	No such device	N/A
5.6.4.1	Protective bonding conductors	No such device	N/A
	Protective bonding conductor size (mm^2). ..... :	No such part	—
	Protective current rating (A) ..... :	No such part	—
5.6.4.3	Current limiting and overcurrent protective devices	No such device	N/A
5.6.5	Terminals for protective conductors	No such device	N/A
5.6.5.1	Requirement	No such device	N/A
	Conductor size (mm^2), nominal thread diameter (mm)..... :	No such device	N/A
5.6.5.2	Corrosion	No such device	N/A
5.6.6	Resistance of the protective system	No such device	N/A

IEC/EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.6.1	Requirements	No such device	N/A
5.6.6.2	Test Method Resistance (Ω) ..... :	No such device	N/A
5.6.7	Reliable earthing	No such device	N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current ..... :		N/A
5.7.2.2	Measurement of prospective touch voltage	(See appended table 5.2)	P
5.7.3	Equipment set-up, supply connections and earth connections		N/A
	System of interconnected equipment (separate connections/single connection) ..... :	Not connect to the mains	—
	Multiple connections to mains (one connection at a time/simultaneous connections) ..... :	Not connect to the mains	—
5.7.4	Earthed conductive accessible parts ..... :	No earthed conductive part	N/A
5.7.5	Protective conductor current	No protective conductor	N/A
	Supply Voltage (V) ..... :		—
	Measured current (mA) ..... :		—
	Instructional Safeguard ..... :	No protective conductor	N/A
5.7.6	Prospective touch voltage and touch current due to external circuits	See below	N/A
5.7.6.1	Touch current from coaxial cables	The equipment does not intend to be connected to coaxial cable	N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits	The equipment does not intend to be connected to such external circuit	N/A
5.7.7	Summation of touch currents from external circuits	The equipment does not intend to be connected to such external circuit	N/A
	a) Equipment with earthed external circuits Measured current (mA) ..... :	The equipment does not intend to be connected to such external circuit	N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA) ..... :	The equipment does not intend to be connected to such external circuit	N/A

6	**ELECTRICALLY- CAUSED FIRE**	**P**
6.2	Classification of power sources (PS) and potential ignition sources (PIS)	P

IEC/EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2	Power source circuit classifications	PS2 for all parts within equipment	P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault....:	See appended table 6.2.2	P
6.2.2.3	Power measurement for worst-case power source fault .....:	See appended table 6.2.2	P
6.2.2.4	PS1 .....:		N/A
6.2.2.5	PS2 .....:	See appended table 6.2.2	P
6.2.2.6	PS3 .....:		N/A
6.2.3	Classification of potential ignition sources	See below	P
6.2.3.1	Arcing PIS .....:	Not exceed 50Vdc inside apparatus	N/A
6.2.3.2	Resistive PIS .....:	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials.....:	No ignition and attainable such temperature value	P
6.3.1 (b)	Combustible materials outside fire enclosure	No such materials used	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		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	Control fire spread considered.	P
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions ..... :		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits	Control fire spread considered.	P
6.4.5.2	Supplementary safeguards .....:	All components are mounted on the V-1 or batter PCB materials	P
6.4.6	Control of fire spread in PS3 circuit	No such part	N/A
6.4.7	Separation of combustible materials from a PIS		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.7.1	General .....:		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		N/A
6.4.8.1	Fire enclosure and fire barrier material properties		N/A
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure		N/A
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	See below	N/A
6.4.8.3.1	Fire enclosure and fire barrier openings	See below	N/A
6.4.8.3.2	Fire barrier dimensions	No fire barrier	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).....:	No such part	N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating .....:	No such part	N/A
6.5	Internal and external wiring		N/A
6.5.1	Requirements	No such part	N/A
6.5.2	Cross-sectional area (mm^2) ..... :		—
6.5.3	Requirements for interconnection to building wiring..... :	No such connection	N/A
6.6	Safeguards against fire due to connection to additional equipment	See below	N/A
	External port limited to PS2 or complies with Clause Q.1	No such part	N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
7.4	Use of personal safeguards (PPE)	No such consideration.	N/A
	Personal safeguards and instructions ..... :	See above.	—
7.5	Use of instructional safeguards and instructions	No chemical-caused injuries, the instruction safeguard was not required.	N/A
	Instructional safeguard (ISO 7010)..... :	(See Annex F)	—
7.6	Batteries.....:	(See Annex M)	N/A
8	**MECHANICALLY-CAUSED INJURY**		P
8.1	General		P
8.2	Mechanical energy source classifications	MS1 category of mechanical energy source	P
8.3	Safeguards against mechanical energy sources	MS1 category of mechanical energy source	P
8.4	Safeguards against parts with sharp edges and corners	MS1 category of mechanical energy source	P
8.4.1	Safeguards	MS1 category of mechanical energy source	N/A
8.5	Safeguards against moving parts	No such moving part	N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment	No such moving part	N/A
8.5.2	Instructional Safeguard ..... :	No such moving part	—
8.5.4	Special categories of equipment comprising moving parts	No such moving part	N/A
8.5.4.1	Large data storage equipment	Not such equipment	N/A
8.5.4.2	Equipment having electromechanical device for destruction of media	Not such equipment	N/A
8.5.4.2.1	Safeguards and Safety Interlocks..... :	Not such equipment	N/A
8.5.4.2.2	Instructional safeguards against moving parts	No such moving part	N/A
	Instructional Safeguard ..... :	No such moving part	—
8.5.4.2.3	Disconnection from the supply	No such device	N/A
8.5.4.2.4	Probe type and force (N)..... :	No such device	N/A
8.5.5	High Pressure Lamps	No such device	N/A
8.5.5.1	Energy Source Classification	No such device	N/A
8.5.5.2	High Pressure Lamp Explosion Test ..... :	No such device	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.6	Stability	See the following details.	N/A
8.6.1	Product classification	MS1 category of mechanical energy source	N/A
	Instructional Safeguard ..... :	No safeguard requirement	—
8.6.2	Static stability	MS1 product classification, no stability requirement	N/A
8.6.2.2	Static stability test	MS1 product classification, no stability requirement	N/A
	Applied Force .....:	MS1 product classification, no stability requirement	—
8.6.2.3	Downward Force Test	MS1 product classification, no stability requirement	N/A
8.6.3	Relocation stability test	MS1 product classification, no stability requirement	N/A
	Unit configuration during 10° tilt.....:	MS1 product classification, no such requirement	—
8.6.4	Glass slide test	MS1 product classification, no such requirement	N/A
8.6.5	Horizontal force test (Applied Force) .....:	MS1 product classification, no such requirement	N/A
	Position of feet or movable parts .....:	MS1 product classification, no such requirement	—
8.7	Equipment mounted to wall or ceiling	No such mounting means	N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface) .....:	No such mounting means	N/A
8.7.2	Direction and applied force .....:	No such requirement	N/A
8.8	Handles strength	No such part	N/A
8.8.1	Classification		N/A
8.8.2	Applied Force .....:		N/A
8.9	Wheels or casters attachment requirements	No such part	N/A
8.9.1	Classification		N/A
8.9.2	Applied force.....:		—
8.10	Carts, stands and similar carriers	No such part	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

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Clause	Requirement + Test	Result - Remark	Verdict
	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	No such mounting means	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 part	N/A
	Button/Ball diameter (mm) ..... :		—
9	**THERMAL BURN INJURY**		P
9.2	Thermal energy source classifications	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6.	P
9.3	Safeguard against thermal energy sources	Shall be evaluated in end system	N/A
9.4	Requirements for safeguards		N/A
9.4.1	Equipment safeguard	Shall be evaluated in end system	N/A
9.4.2	Instructional safeguard .....:	Shall be evaluated in end system	N/A
10	**RADIATION**		N/A
10.2	Radiation energy source classification		N/A
10.2.1	General classification		N/A
10.3	Protection against laser radiation	No laser radiation	N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault.....:		N/A
	Instructional safeguard .....:		—
	Tool.....:		—
10.4	Protection against visible, infrared, and UV radiation		N/A
10.4.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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 part	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	Not such equipment	N/A
10.6.2	Classification	Not such equipment	N/A
	Acoustic output, dB(A) .....:	Not such equipment	N/A
	Output voltage, unweighted r.m.s. .....:	Not such equipment	N/A
10.6.4	Protection of persons	Not such equipment	N/A
	Instructional safeguards.....:	Not such equipment	N/A
	Equipment safeguard prevent ordinary person to RS2 .....:	Not such equipment	—
	Means to actively inform user of increase sound pressure .....:	Not such equipment	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Equipment safeguard prevent ordinary person to RS2 ..... :	Not such equipment	—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)	See below	N/A
10.6.5.1	Corded passive listening devices with analog input	See below	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 below	P
B.2.1	General requirements ..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers ..... :	No such part	N/A
B.2.3	Supply voltage and tolerances	3.3-4.3Vdc, 4.35-5.5Vdc or 3.9-17Vdc, and no tolerances	P
B.2.5	Input test ..... :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		N/A
B.3.1	General requirements ..... :	See below	N/A
B.3.2	Covering of ventilation openings	No such ventilation opening	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 ..... :	No such output terminal	N/A
B.3.6	Reverse battery polarity	No such battery used	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	No such operating conditions	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions		N/A
B.4	Simulated single fault conditions		P

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.2	Temperature controlling device open or short-circuited.....:	No such device	N/A
B.4.3	Motor tests	No such device	N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature .....:	No such device	N/A
B.4.4	Short circuit of functional insulation	(See appended table B.4)	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)	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 flame produce during and after test	P
B.4.9	Battery charging under single fault conditions....:	See Annex M	N/A
C	**UV RADIATION**		N/A
C.1	Protection of materials in equipment from UV radiation	No UV radiation	N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
D	**TEST GENERATORS**		**N/A**
D.1	Impulse test generators	No such consideration.	N/A
D.2	Antenna interface test generator	No such consideration.	N/A
D.3	Electronic pulse generator	No such consideration.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
E	**TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS**		**N/A**
E.1	Audio amplifier normal operating conditions	No such part	N/A
	Audio signal voltage (V) ..... :		—
	Rated load impedance (Ω) ..... :		—
E.2	Audio amplifier abnormal operating conditions	No such operating condition	N/A
F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		**P**
F.1	General requirements		P
	Instructions – Language ..... :	English version provided	—
F.2	Letter symbols and graphical symbols	See below for the 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 outside of equipment	P
F.3.2	Equipment identification markings	See below	P
F.3.2.1	Manufacturer identification ..... :	Trademark: Particle	—
F.3.2.2	Model identification ..... :	Model: T523M, T524M	—
F.3.3	Equipment rating markings	See below	P
F.3.3.1	Equipment with direct connection to mains	The EUT is not direct connected to mains	N/A
F.3.3.2	Equipment without direct connection to mains	Considered	P
F.3.3.3	Nature of supply voltage ..... :	Not marking on the label	—
F.3.3.4	Rated voltage ..... :	Not marking on the label	—
F.3.3.4	Rated frequency ..... :	--	—
F.3.3.6	Rated current or rated power ..... :	Not marking on the label	—
F.3.3.7	Equipment with multiple supply connections	Complied	P
F.3.4	Voltage setting device	No such device on the equipment.	N/A
F.3.5	Terminals and operating devices	See below	N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings ..... :	No such device	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.5.2	Switch position identification marking.....:	No such part	N/A
F.3.5.3	Replacement fuse identification and rating markings .....:	No such part	N/A
F.3.5.4	Replacement battery identification marking.....:	No replacement battery	N/A
F.3.5.5	Terminal marking location	No such terminals	N/A
F.3.6	Equipment markings related to equipment classification	See below	N/A
F.3.6.1	Class I Equipment	Class III equipment.	N/A
F.3.6.1.1	Protective earthing conductor terminal	Class III equipment.	N/A
F.3.6.1.2	Neutral conductor terminal	Class III equipment.	N/A
F.3.6.1.3	Protective bonding conductor terminals	Class III equipment.	N/A
F.3.6.2	Class II equipment (IEC60417-5172)	Class III equipment.	N/A
F.3.6.2.1	Class II equipment with or without functional earth	Class III equipment.	N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking	Not such equipment	N/A
F.3.7	Equipment IP rating marking .....:	This equipment is classified as IPX0.	—
F.3.8	External power supply output marking	No such part	N/A
F.3.9	Durability, legibility and permanence of marking	The marking is durable and legible, and can be easily discernible under normal lighting conditions.	P
F.3.10	Test for permanence of markings	After rubbing test by water and petroleum spirit, the label still easily discernible, indelible and legible.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking	The accessibility of equipment was evaluated by using test probe of Figure V.2., the hazardous part cannot be contacted by test probe.	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

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Clause	Requirement + Test	Result - Remark	Verdict
	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	Explained in the user manual	P
	i) Permanently connected equipment not provided with all-pole mains switch	Not such equipment	N/A
	j) Replaceable components or modules providing safeguard function	No such part	N/A
F.5	Instructional safeguards	See below	N/A
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction	No such part	N/A
G	**COMPONENTS**		**N/A**
G.1	**Switches**		N/A
G.1.1	General requirements	No switch used	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	**Relays**		N/A
G.2.1	General requirements	No relay used	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 device used	N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691	No such device	N/A
G.3.2.1b)	Thermal links tested as part of the equipment	No such device	N/A
	Aging hours (H) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Single Fault Condition..... :		—
	Test Voltage (V) and Insulation Resistance (Ω) . :		—
G.3.3	PTC Thermistors	No such device	N/A
G.3.4	Overcurrent protection devices	No such device	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 connector used	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 part used, (See Annex J)	N/A
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°		N/A
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s)..... :		—
	Temperature (°C)..... :		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	**Transformers**		N/A
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1) ..... :	No such device	N/A
	Position ..... :	No such device	—
	Method of protection ..... :	No such device	—
G.5.3.2	Insulation	No such device	N/A
	Protection from displacement of windings ..... :	No such device	—
G.5.3.3	Overload test..... :	No such device	N/A
G.5.3.3.1	Test conditions	No such device	N/A
G.5.3.3.2	Winding Temperatures testing in the unit	No such device	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.3.3.3	Winding Temperatures - Alternative test method	No such device	N/A
G.5.4	**Motors**		N/A
G.5.4.1	General requirements	No motor used	N/A
	Position ..... :		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days) ..... :		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V) ..... :		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h) ..... :		N/A
	Electric strength test (V) ..... :		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature ..... :		N/A
	Electric strength test (V) ..... :		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h) ..... :		N/A
	Electric strength test (V) ..... :		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage ..... :		—
G.6	**Wire Insulation**		N/A
G.6.1	General		N/A
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	**Mains supply cords**		N/A
G.7.1	General requirements	No such part	N/A
	Type ..... :	No such part	—
	Rated current (A) ..... :	No such part	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Cross-sectional area (mm^2), (AWG) ..... :	No such part	—
G.7.2	Compliance and test method	No such part	N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords	No such part	N/A
G.7.3.2	Cord strain relief	No such part	N/A
G.7.3.2.1	Requirements	No such part	N/A
	Strain relief test force (N) ..... :	No such part	—
G.7.3.2.2	Strain relief mechanism failure	No such part	N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm) ... :	No such part	—
G.7.3.2.4	Strain relief comprised of polymeric material	No such part	N/A
G.7.4	Cord Entry ..... :	No such part	N/A
G.7.5	Non-detachable cord bend protection	No such part	N/A
G.7.5.1	Requirements	No such part	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 varistor used	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 ..... :	(See appended table B.3)	N/A
G.8.3.3	Temporary overvoltage ..... :	(See appended table B.3)	N/A
G.9	**Integrated Circuit (IC) Current Limiters**		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No such device used	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

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Clause	Requirement + Test	Result - Remark	Verdict
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	Class III equipment	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 ..... :	(See appended table 5.4.4.5)	N/A
	Number of insulation layers (pcs) ..... :		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	**Coating on components terminals**		N/A
G.14.1	Requirements ..... :	No such coating used	N/A
G.15	**Liquid filled components**		N/A
G.15.1	General requirements	No such component used	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 used	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 such ringing signal	N/A
H.2	Method A	No such ringing signal	N/A
H.3	Method B	No such ringing signal	N/A
H.3.1	Ringing signal	No such ringing signal	N/A
H.3.1.1	Frequency (Hz) ..... :	No such ringing signal	—

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Clause	Requirement + Test	Result - Remark	Verdict
H.3.1.2	Voltage (V) ..... :	No such ringing signal	—
H.3.1.3	Cadence; time (s) and voltage (V) ..... :	No such ringing signal	—
H.3.1.4	Single fault current (mA): ..... :	No such ringing signal	—
H.3.2	Tripping device and monitoring voltage..... :	No such ringing signal	N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with	No such ringing signal	N/A
H.3.2.2	Tripping device	No such ringing signal	N/A
H.3.2.3	Monitoring voltage (V)..... :	No such ringing signal	—
J	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		N/A
	General requirements	No such part used	N/A
K	**SAFETY INTERLOCKS**		N/A
K.1	General requirements	No such device	N/A
K.2	Components of safety interlock safeguard mechanism	(See Annex G)	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..... :	(See appended table B.4)	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 ..... :	(See appended table 5.4.11)	N/A
L	**DISCONNECT DEVICES**		N/A
L.1	General requirements	Building-in equipment, shall be evaluated in the end system	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

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Clause	Requirement + Test	Result - Remark	Verdict
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources		N/A
M	**EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS**		**N/A**
M.1	General requirements	No battery used	N/A
M.2	Safety of batteries and their cells	No battery used	N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method) ...:		N/A
M.3	Protection circuits	No battery used	N/A
M.3.1	Requirements		N/A
M.3.2	Tests		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
M.3.3	Compliance ..... :		N/A
M.4	Additional safeguards for equipment containing secondary lithium battery	No battery used	N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature..... :		—
M.4.2.2 b)	Single faults in charging circuitry ..... :		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.4.4.6	Compliance criteria		N/A
M.5	Risk of burn due to short circuit during carrying	No battery used	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	No battery used	N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.2	Leakage current (mA) .....:		N/A
M.7	Risk of explosion from lead acid and NiCd batteries	No battery used	N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries	No battery used	N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume *Vz* (m^3/s) .....:		—
M.8.2.3	Correction factors .....:		—
M.8.2.4	Calculation of distance *d* (mm) .....:		—
M.9	Preventing electrolyte spillage	No battery used	N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing) .....:	No battery used	N/A
N	**ELECTROCHEMICAL POTENTIALS**		N/A
	Metal(s) used .....:		—
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		N/A
	Figures O.1 to O.20 of this Annex applied .....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
P	**SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS**		**N/A**
P.1	General requirements	Building-in equipment, shall be evaluated in the end system	N/A
P.2.2	Safeguards against entry of foreign object		N/A
	Location and Dimensions (mm) ..... :		—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts.....:		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard) .....:		N/A
P.3	Safeguards against spillage of internal liquids	No liquid used in the equipment	N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts	No such part	N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C) .....:		—
	Tr (°C).....:		—
	Ta (°C) .....:		—
P.4.2 b)	Abrasion testing .....:	(See G.13.6.2)	N/A
P.4.2 c)	Mechanical strength testing..... :	(See Annex T)	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	No such part	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

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

IEC/EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material ..... :		—
	Wall thickness (mm) ..... :		—
	Conditioning (test condition), (°C)..... :		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A
T	**MECHANICAL STRENGTH TESTS**		**N/A**
T.1	General requirements	Building-in equipment, shall be evaluated in the end system	N/A
T.2	Steady force test, 10 N ..... :		N/A
T.3	Steady force test, 30 N ..... :		N/A
T.4	Steady force test, 100 N ..... :		N/A
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 ..... :		N/A
T.8	Stress relief test..... :		N/A
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J) ..... :		—
	Height (m)..... :		—
T.10	Glass fragmentation test..... :		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm) ..... :		—

IEC/EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
U	**MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFECTS OF IMPLOSION**		N/A
U.1	General requirements	No cathode ray tube used	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	Building-in equipment, shall be evaluated in the end system	N/A
V.2	Accessible part criterion		N/A

IEC/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

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

	For special national conditions, see Annex ZB.		N/A
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.		N/A

IEC/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.	Class III equipment, no such part	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.	Not connected to such external circuit	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

IEC/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.	No such radiation generated from the equipment.	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.	No acoustic energy sources	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 generated from the equipment.	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.	Added	N/A

IEC/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)**		N/A
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”	Class III equipment	N/A

IEC/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.	Class III equipment	N/A

IEC/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.	Class III equipment	N/A

IEC/EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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).	Class III equipment	N/A
5.5.6	**Finland, Norway** and **Sweden** To the end of the subclause the following is added: Resistors used as **basic safeguard** or bridging **basic insulation** in **class I pluggable equipment type A** shall comply with G.10.1 and the test of G.10.2.	No such devices	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 equipment, no such part	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 equipment, no such part	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 equipment, no such part	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 equipment, no such part	N/A

IEC/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	Not such equipment	N/A

IEC/EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.		
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 .	Class III equipment, no such part	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	Not such equipment	N/A

IEC/EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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	Class III equipment, no such part	N/A
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.	Not such equipment	N/A

IEC/EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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.	Class III equipment, 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	Class III equipment, no such part	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.	Class III equipment, no such part	N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	TABLE: List of critical components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1]
PCB material	Aoshikang Precision Circuit (huizhou) Co Ltd	A-2	V-0, 130°C	UL 94	UL
Or	Interchangeable	--	V-1 or better, min. 130°C	UL 796 or UL 94	UL
- Description:	Interchangeability based on specified rating				
Supplementary information: 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests			N/A
(The following mechanical tests are conducted in the sequence noted.)				
4.8.4.2	TABLE: Stress Relief test			—
Part	Material	Oven Temperature (°C)	Comments	
--	--	--	--	
4.8.4.3	TABLE: Battery replacement test			—
Battery part no. ..... :		--		—
Battery Installation/withdrawal		Battery Installation/Removal Cycle	Comments	
		1	--	
		2	--	
		3	--	
		4	--	
		5	--	
		6	--	
		8	--	
		9	--	
		10	--	
4.8.4.4	TABLE: Drop test			—
Impact Area	Drop Distance	Drop No.	Observations	
--	--	1	--	
--	--	2	--	

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

--	--	3	--

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

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

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

5.2	Table: Classification of electrical energy sources						P
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
1	17Vdc	All circuits	Normal	Max. 17Vdc	--	--	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.			Test conditions	Parameters	ES Class

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Clause	Requirement + Test	Result - Remark	Verdict

	Supply Voltage	Location (e.g. circuit designation)		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	--	--	--	

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) .....:	17Vdc		--		--		—
	Ambient T_{min} (°C) .....:	--	--	--	--	--	--	—
	Ambient T_{max} (°C).....:	--	--	--	--	--	--	—
	Tma (°C) .....:	--	--	--	--	--	--	—
Maximum measured temperature T of part/at:		T (°C)						Allowed T_{max} (°C)
Calculated value for Tma:		--	85.0	--	--	--	--	--
Ambient temperature during test (Tamb):		25.8	--	--	--	--	--	--
1. PCB near U11		47.5	106.7	--	--	--	--	130
2. PCB near L1		48.8	108.0	--	--	--	--	130
3. PCB near U3		43.6	102.8	--	--	--	--	130
4. PCB near U1		44.1	103.3	--	--	--	--	130
5. Metal heat-sink near U11		41.8	101.0	--	--	--	--	Ref.

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

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

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

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

IEC/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):			II
	Pollution Degree:			2
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measured cl (mm)
--		--	--	--
Supplementary information: --				

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

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

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

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Clause	Requirement + Test	Result - Remark	Verdict

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)
--	--	--	--	--

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:

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

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
All parts within equipment	Normal	Power (W) :	--	--	PS2 (manufacturer declares)
		V_A (V) :	--	--	
		I_A (A) :	--	--	
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 parts within equipment	--	--	--	--	Yes (manufacturer declares)
Supplementary Information: A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter.					

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Clause	Requirement + Test	Result - Remark	Verdict

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

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

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

B.2.5	TABLE: Input test						P
U (V)	I (mA)	I rated (mA)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
3.30Vdc	230	3000	0.759W	--	--	--	Supplied via weld LI+ to GND
4.30Vdc	200	3000	0.860W	--	--	--	Supplied via weld LI+ to GND
5.5Vdc	210	1500	1.155W	--	--	--	Supplied via weld VBUS to GND
4.35Vdc	80	1500	0.348W	--	--	--	Supplied via weld VBUS to GND
17Vdc	80	3000	1.360W	--	--	--	Supplied via weld VIN to GND
3.9Vdc	36	3000	0.612W				Supplied via weld VIN to GND
Supplementary information:							

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Clause	Requirement + Test	Result - Remark	Verdict

B.3	TABLE: Abnormal operating condition tests								N/A
Ambient temperature (°C) ..... :							25.0°C, if no otherwise specified		—
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)..... :						25.0°C, if no otherwise specified		—
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
Only supplied via weld LI+ to GND								
C35	short	4.3Vdc	30min	--	--	--	--	The EUT shut down, no damaged, no hazard.
U11 pin 13-17	short	4.3Vdc	30min	--	--	--	--	The EUT shut down, no damaged, no hazard
C2	short	4.3Vdc	30min	--	--	--	--	The EUT working normally, no damaged, no hazard
U11 pin 1-17	short	4.3Vdc	30min	--	--	--	--	The EUT working normally, no damaged, no hazard
Only supplied via weld VBUS to GND								
C35	short	5.5Vdc	30min	--	--	--	--	The EUT working normally, no damaged, no hazard
U11 pin 13-17	short	5.5Vdc	30min	--	--	--	--	The EUT working normally, no damaged, no hazard

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Clause	Requirement + Test	Result - Remark	Verdict

C2	short	5.5Vdc	30min	--	--	--	--	The EUT shut down, no damaged, no hazard.
U11 pin 1-17	short	5.5Vdc	30min	--	--	--	--	The EUT shut down, no damaged, no hazard
Only supplied via weld VIN to GND								
C35	short	17Vdc	30min	--	--	--	--	The EUT working normally, no damaged, no hazard
U11 pin 13-17	short	17Vdc	30min	--	--	--	--	The EUT working normally, no damaged, no hazard
C2	short	17Vdc	30min	--	--	--	--	The EUT shut down, no damaged, no hazard.
U11 pin 1-17	short	17Vdc	30min	--	--	--	--	The EUT shut down, no damaged, no hazard
Supplementary information:								

Annex M	**TABLE: Batteries**		**N/A**
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	N/A

	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	--	--	--	--	--	--	--	--	--
Max. current during fault condition (U1 pin 2-3 shorted)	--	--	--	--	--	--	--	--	--
Max. current during fault condition (Speaker shorted)	--	--	--	--	--	--	--	--	--

Test results:	--	Verdict
- Chemical leaks		N/A

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

Annex M	**TABLE: Batteries**									**N/A**
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			N/A
	Non-rechargeable batteries			Rechargeable batteries						
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging		
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	
- Explosion of the battery										N/A
- Emission of flame or expulsion of molten metal										N/A
- Electric strength tests of equipment after completion of tests										N/A
Supplementary information: --										

Annex M.4	**Table: Additional safeguards for equipment containing secondary lithium batteries**				**N/A**
Battery/Cell No.	Test conditions	Measurements			Observation
		U	I (mA)	Temp (°C)	
--	--	--	--	--	--
--	--	--	--	--	--
Supplementary Information:					

Battery identification	Charging at T_{lowest} (°C)	Observation	Charging at $T_{highest}$ (°C)	Observation
--	--	--	--	--
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	
--	--	--	--	≤ 8	--	≤ 100	
Supplementary Information: SC=Short circuit, OC=Open circuit							

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

T.2, T.3, T.4, T.5	TABLE: Steady force test				N/A
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation
--	--	--	--	--	--
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			N/A
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation
--	--	--	--	--
Supplementary information: --				

T.8	TABLE: Stress relief test				N/A
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
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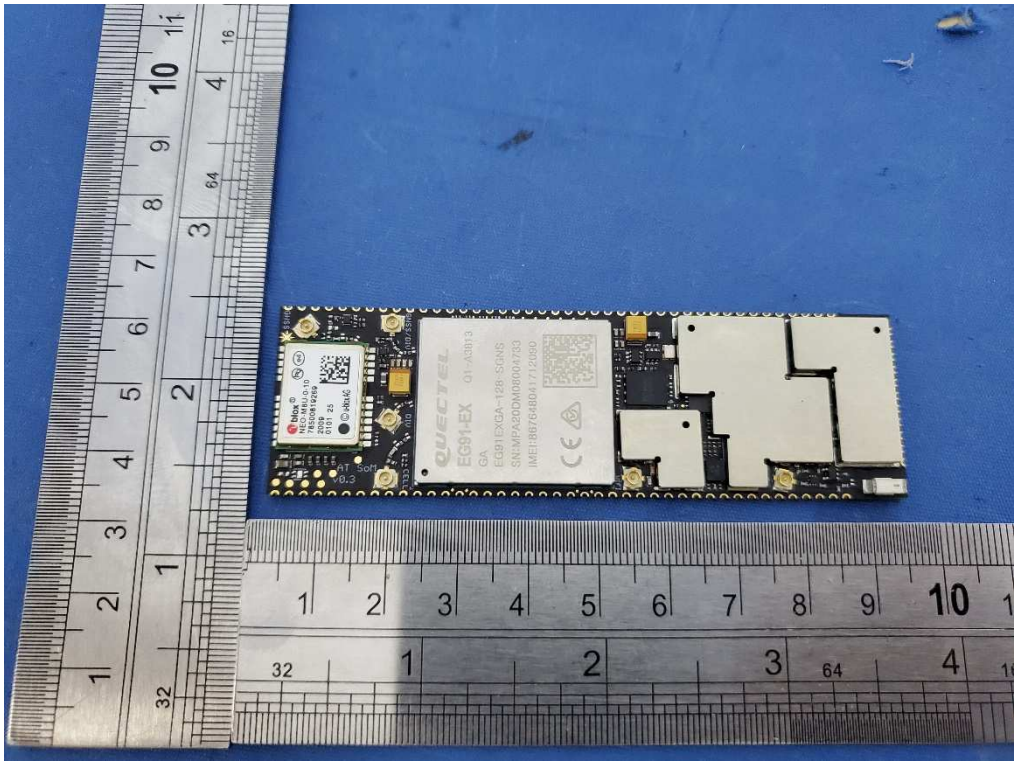
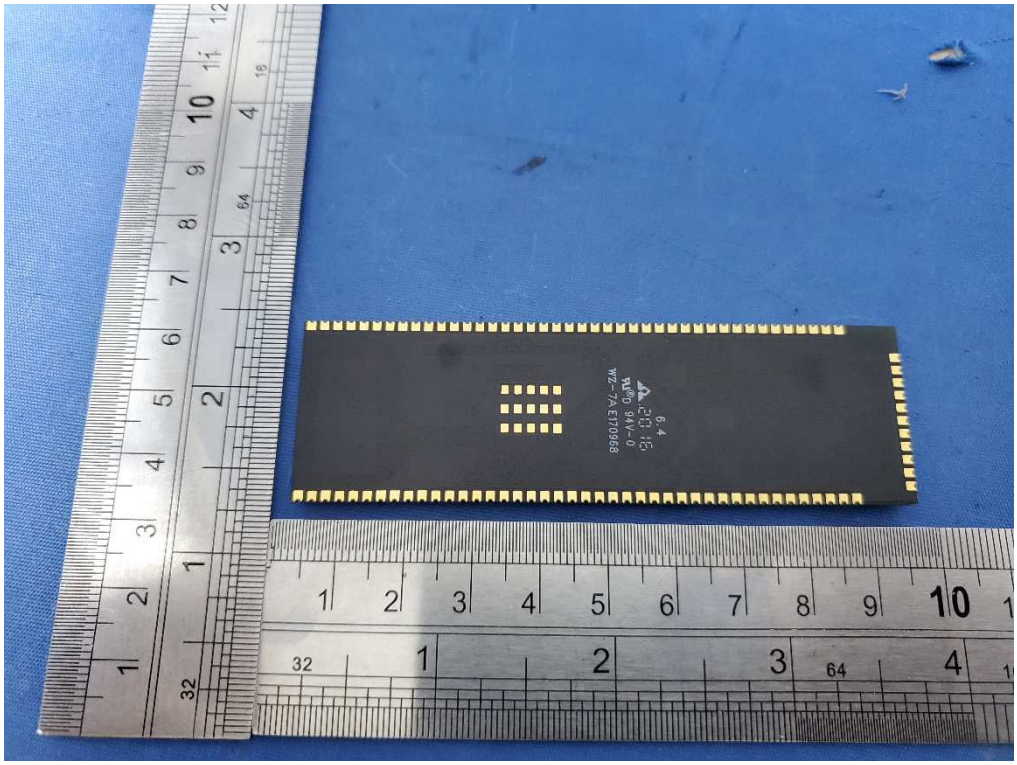
Supplementary information: --					



General view - 1



General view - 2