



BUREAU  
VERITAS

Test Report No.: RD2008WDG0083



Certificate # 2951.01

**Test Report No.: RD2008WDG0083**

**Applicant's name :** Particle Industries, Inc

**Address :** 126 Post St, 4th floor, San Francisco, CA 94108 USA

**Test Item description:** Tracker One LTE CAT1/3G/2G

**Model/Type reference :** ONE523M, ONE524M, ONE523M-NB, ONE524M-NB

**Testing laboratory**

**Name :** Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch

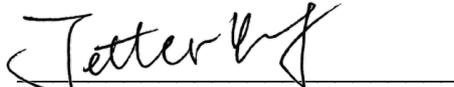
**Address :** No. 96, Guantai Road (Houjie Section), Houjie Town, Dongguan City, Guangdong Province, 523942, People's Republic of China

**Test specification**

**Standard :**  IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013  
 EN 60950-1:2006 + A11: 2009 + A1: 2010 + A12: 2011 + A2: 2013

**Test Result :** **The sample satisfies to the clauses examined.**

**Prepared By :**

  
Jetter Yang  
Engineer / Safety Department

2020-12-15  
Date

**Approved By:**

  
Storm Xiong  
Senior Engineer / Safety Department

2020-12-15  
Date

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**Bureau Veritas Shenzhen Co., Ltd.  
Dongguan Branch**

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# TEST REPORT

Report Number ..... : RD2008WDG0083

Date of issue ..... : 2020-12-15

Total number of pages ..... : 72

Testing laboratory ..... : Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch

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Applicant's name ..... : Particle Industries, Inc

Address ..... : 126 Post St, 4th floor, San Francisco, CA 94108 USA

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 EN 60950-1:2006 + A11: 2009 + A1: 2010 + A12: 2011 + A2: 2013

Non-standard test method ..... : N/A

Test Report Form No ..... : IEC/EN 60950-1\_VER.4

Test Report Form(s) ..... : BV\_DG

Originator ..... :

Master TRF ..... : Dated 2017-01

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 Ind Park, 99 Ind Zone, Minzhu, Xihuan road, Shajing, Baoan district, Shenzhen, China

Test item description ..... : Tracker One LTE CAT1/3G/2G

Trade Mark ..... : 

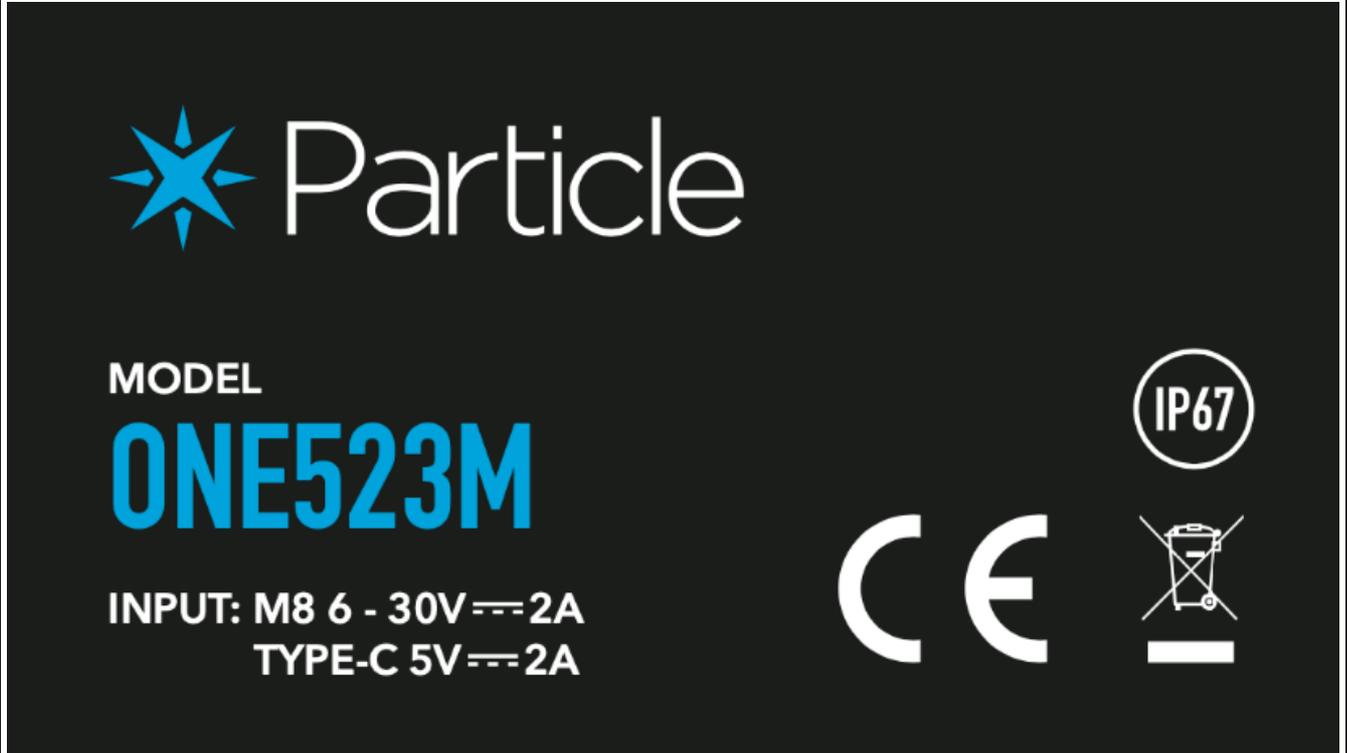
Model/Type reference ..... : ONE523M, ONE524M, ONE523M-NB, ONE524M-NB

Ratings ..... : M8 input: 6-30Vdc, 2A; Type C USB input: 5Vdc, 2A  
(3.7V, 2000mAh internal lithium battery for models ONE523M, ONE524M)



**Copy of marking plate (representative)**

The below marking is only for representative. The official marking plate of all models may be different from format of label, model number for trading purpose.



**Note:**



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

Note 1: The instruction sheet and marking should be translated to the language where the product will be sold.  
Note 2: To comply with RED Directive 2014/53/EU, the manufacturer has the responsibility to put manufacturer name / trade mark and their address, batch number on the equipment. And the importer also has the responsibility to put their name / trade mark and address on the equipment before place the equipment on the market.



<b>Test item particulars</b>	
Equipment mobility	<input checked="" type="checkbox"/> movable <input type="checkbox"/> hand-held <input checked="" type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains	<input type="checkbox"/> pluggable equipment <input type="checkbox"/> type A for adapter <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input checked="" type="checkbox"/> not directly connected to the mains
Operating condition	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location	<input type="checkbox"/> operator accessible <input checked="" type="checkbox"/> restricted access location
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input type="checkbox"/> OVC II for adapter <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input checked="" type="checkbox"/> other: the EUT is supplied by internal lithium battery or external DC source.
Mains supply tolerance (%) or absolute mains supply values	N/A
Tested for IT power systems	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	<input type="checkbox"/> Class I <input type="checkbox"/> Class II <input checked="" type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating (A)	N/A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IP67
Altitude during operation (m)	Below 2000 m
Altitude of test laboratory (m)	Below 2000 m
Mass of equipment (kg)	Approximate: 0.28kg excludes input cable
<b>Possible test case verdicts:</b>	
- 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)
<b>Testing</b>	
Date of receipt of test item	August 18, 2020
Date(s) of performance of tests	September 07, 2020 to September 25, 2020



**Summary of testing:**

The equipment under test (EUT) has been evaluated at maximum ambient (Tma) of +45°C according to the manufacturer's declaration.

All tests were measured under the worst case and the load conditions used during testing are:

- Supplied by external DC source, the EUT was working normally with max. power, internal fully discharged battery was charging;
- Supplied by internal fully charged battery, the EUT was working normally with max. power.

The equipment comply with requirement of IP67 which had been evaluated by Guangdong Sushi Guangbo Testing Technology Co., Ltd with test report GDGT-H/R-2020-0470-6 dated on September 16, 2020 according to standard of IEC 60529: 2013

**General remarks:**

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(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 a "Tracker One LTE CAT1/3G/2G" which is supplied by internal lithium battery or external DC source.
2. Physical Size: approximate 146mm x 88mm x 33mm.
3. The EUT's enclosures are secured together by screw.
4. The equipment with models ONE523M, ONE524M, ONE523M-NB, ONE524M-NB are identical to each other except model name and with or without internal battery, the differences between are listed in following table:

Model name	Whether has internal battery?
ONE523M, ONE524M	Yes
ONE523M-NB, ONE524M-NB	No

5. The EUT is considered as class III equipment, only SELV circuits within the equipment, no other circuits existed.



**BUREAU VERITAS** Test Report No.: RD2008WDG0083

IEC/EN 60950-1

Clause	Requirement – Test	Result - Remark	Verdict
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<b>1</b>	<b>GENERAL</b>		P
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<b>1.5</b>	<b>Components</b>		P
1.5.1	General	Components, which were found to affect safety aspects, are conformed to the relevant IEC component standards and/or comply with the requirements of this standard.	P
	Comply with IEC 60950-1 or relevant component standard	See appended table 1.5.1	P
1.5.2	Evaluation and testing 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 presented in the equipment.	P
1.5.3	Thermal controls	No thermal controls used.	N/A
1.5.4	Transformers	No such component within EUT	N/A
1.5.5	Interconnecting cables	EUT only can be connect to SELV circuits of other equipment by cord which carries out energy less than 240VA.	P
1.5.6	Capacitors bridging insulation	No such component within EUT	N/A
1.5.7	Resistors bridging insulation	No such component within EUT	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	No such component within EUT	N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits	No such component within EUT	N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable	No such component within EUT	N/A
1.5.8	Components in equipment for IT power systems	The EUT is not directly connected to the mains.	N/A
1.5.9	Surge suppressors	No such component within EUT	N/A
1.5.9.1	General	No such component within EUT	N/A
1.5.9.2	Protection of VDRs	No such component within EUT	N/A
1.5.9.3	Bridging of functional insulation by a VDR	No such component within EUT	N/A
1.5.9.4	Bridging of basic insulation by a VDR	No such component within EUT	N/A
1.5.9.5	Bridging of supplementary, double or reinforced	No such component within EUT	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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	insulation by a VDR		
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<b>1.6</b>	<b>Power interface</b>		P
1.6.1	AC power distribution systems	The EUT is not directly connected to the mains.	N/A
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	Not such equipment	N/A
1.6.4	Neutral conductor	The EUT is not directly connected to the mains.	N/A

<b>1.7</b>	<b>Marking and instructions</b>		P
1.7.1	Power rating and identification markings	See below	P
1.7.1.1	Power rating marking	See below	P
	Multiple mains supply connections.....:	The EUT is not directly connected to the mains.	N/A
	Rated voltage(s) or voltage range(s) (V) .....	5Vdc or 6-30Vdc	P
	Symbol for nature of supply, for d.c. only .....	Symbol with “  ” marked following input voltage	P
	Rated frequency or rated frequency range (Hz) .....	The EUT is not directly connected to the mains.	N/A
	Rated current (mA or A) .....	2A	P
1.7.1.2	Identification markings	See below	P
	Manufacturer’s name or trade-mark or identification mark .....	Trade-mark: 	P
	Model identification or type reference .....	Model No.: ONE523M, ONE524M, ONE523M-NB, ONE524M-NB	P
	Symbol for Class II equipment only .....	The EUT is class III equipment	N/A
	Other markings and symbols .....	Additional symbols or markings do not give risk to misunderstanding.	P
1.7.1.3	Use of graphical symbols	Correct symbol used and explained in the user manual	P
1.7.2	Safety instructions and marking	Safety related information in English has been evaluated. Manufacturer commits to provide them in the language of the countries where the product will be distributed.	P
1.7.2.1	General	See below.	N/A



Clause	Requirement – Test	Result - Remark	Verdict
1.7.2.2	Disconnect devices	The EUT is not directly connected to the mains.	N/A
1.7.2.3	Overcurrent protective device	Not such equipment.	N/A
1.7.2.4	IT power distribution systems	The EUT is not directly connected to the mains.	N/A
1.7.2.5	Operator access with a tool	No tool is necessary when operate this product.	N/A
1.7.2.6	Ozone	This EUT is not intended to produce the ozone.	N/A
1.7.3	Short duty cycles	The EUT is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment .....	No such device.	N/A
	Methods and means of adjustment; reference to installation instructions .....	No such device.	N/A
1.7.5	Power outlets on the equipment .....	No power outlet.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....	No such component within EUT.	N/A
1.7.7	Wiring terminals	See below	N/A
1.7.7.1	Protective earthing and bonding terminals .....	The EUT is class III equipment	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	The EUT is not directly connected to the a.c. mains.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	The EUT is not intended to be connected to the d.c. mains.	N/A
1.7.8	Controls and indicators	No such parts	N/A
1.7.8.1	Identification, location and marking .....	No such parts.	N/A
1.7.8.2	Colours .....	No such parts.	N/A
1.7.8.3	Symbols according to IEC 60417 .....	No such parts.	N/A
1.7.8.4	Markings using figures .....	No such parts.	N/A
1.7.9	Isolation of multiple power sources .....	No such construction.	N/A
1.7.10	Thermostats and other regulating devices .....	No thermostat or other regulating devices.	N/A
1.7.11	Durability	After this test there was no damage to the label. The marking on the label did not fade. There was no curling or lifting on the label edge.	P
1.7.12	Removable parts	Marking was not showed on removable part.	P
1.7.13	Replaceable batteries .....	Mentioned in user manual.	P
	Language(s) .....	In English	—



Clause	Requirement – Test	Result - Remark	Verdict
1.7.14	Equipment for restricted access locations.....:	This product is not intended to be used in the restricted access locations.	N/A

<b>2</b>	<b>PROTECTION FROM HAZARDS</b>		P
<b>2.1</b>	<b>Protection from electric shock and energy hazards</b>		N/A
2.1.1	Protection in operator access areas	See below.	N/A
2.1.1.1	Access to energized parts	The EUT is class III equipment, supplied by SELV and there is no hazardous voltage generated inside the EUT.	N/A
	Test by inspection .....	The EUT is class III equipment, supplied by SELV and there is no hazardous voltage generated inside the EUT.	N/A
	Test with test finger (Figure 2A) .....	The EUT is class III equipment, supplied by SELV and there is no hazardous voltage generated inside the EUT.	N/A
	Test with test pin (Figure 2B) .....	The EUT is class III equipment, supplied by SELV and there is no hazardous voltage generated inside the EUT.	N/A
	Test with test probe (Figure 2C) .....	No TNV circuit inside the EUT.	N/A
2.1.1.2	Battery compartments	No TNV circuit inside the EUT.	N/A
2.1.1.3	Access to ELV wiring	No ELV wiring inside the EUT.	N/A
	Working voltage ( $V_{peak}$ or $V_{rms}$ ); minimum distance through insulation (mm)	--	—
2.1.1.4	Access to hazardous voltage circuit wiring	The EUT is class III equipment, no circuit wiring with hazardous voltage inside the EUT.	N/A
2.1.1.5	Energy hazards .....	No energy hazards can be accessed. See appended table 2.1.1.5.	P
2.1.1.6	Manual controls	No such device.	N/A
2.1.1.7	Discharge of capacitors in equipment	No X capacitor within EUT	N/A
	Measured voltage (V); time-constant (s) .....		—
2.1.1.8	Energy hazards – d.c. mains supply	This EUT is not intended to be connected to d.c. mains supply.	N/A
	a) Capacitor connected to the d.c. mains supply ...:	This EUT is not intended to be connected to d.c. mains	N/A



Clause	Requirement – Test	Result - Remark	Verdict
		supply.	
	b) Internal battery connected to the d.c. mains supply .....	This EUT is not intended to be connected to d.c. mains supply.	N/A
2.1.1.9	Audio amplifiers .....	No such part	N/A
2.1.2	Protection in service access areas	The EUT is class III equipment, supplied by SELV and there is no hazardous voltage generated inside the EUT.	N/A
2.1.3	Protection in restricted access locations	The EUT is not intended to be used in restricted locations.	N/A

<b>2.2</b>	<b>SELV circuits</b>		P
2.2.1	General requirements	See below.	P
2.2.2	Voltages under normal conditions (V) .....	The EUT is class III equipment, supplied by SELV and there is no hazardous voltage generated inside the EUT.	P
2.2.3	Voltages under fault conditions (V) .....	The EUT is class III equipment, supplied by SELV and there is no hazardous voltage generated inside the EUT.	P
2.2.4	Connection of SELV circuits to other circuits .....	SELV circuit is only connected to SELV circuit	P

<b>2.3</b>	<b>TNV circuits</b>		N/A
2.3.1	Limits	No TNV circuit.	N/A
	Type of TNV circuits .....		—
2.3.2	Separation from other circuits and from accessible parts	No TNV circuit.	N/A
2.3.2.1	General requirements	No TNV circuit.	N/A
2.3.2.2	Protection by basic insulation	No TNV circuit.	N/A
2.3.2.3	Protection by earthing	No TNV circuit.	N/A
2.3.2.4	Protection by other constructions .....	No TNV circuit.	N/A
2.3.3	Separation from hazardous voltages	No TNV circuit.	N/A
	Insulation employed.....		—
2.3.4	Connection of TNV circuits to other circuits	No TNV circuit.	N/A
	Insulation employed.....		—
2.3.5	Test for operating voltages generated externally	No TNV circuit.	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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<b>2.4</b>	<b>Limited current circuits</b>		N/A
2.4.1	General requirements	No limited current circuit inside the EUT.	N/A
2.4.2	Limit values	No limited current circuit inside the EUT.	N/A
	Frequency (Hz) .....		—
	Measured current (mA).....		—
	Measured voltage (V) .....		—
	Measured circuit capacitance (nF or $\mu$ F).....		—
2.4.3	Connection of limited current circuits to other circuits	No limited current circuit inside the EUT.	N/A

<b>2.5</b>	<b>Limited power sources</b>		<b>P</b>
	a) Inherently limited output	No such circuit	N/A
	b) Impedance limited output	No such circuit	N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition	The port is limited by regulating network.	P
	Use of integrated circuit (IC) current limiters	No such component.	N/A
	d) Overcurrent protective device limited output		—
	Max. output voltage (V), max. output current (A), max. apparent power (VA) .....	See appended table 2.5	—
	Current rating of overcurrent protective device (A) .:		—

<b>2.6</b>	<b>Provisions for earthing and bonding</b>		N/A
2.6.1	Protective earthing	No such earthing	N/A
2.6.2	Functional earthing	No such earthing	N/A
	Use of symbol for functional earthing .....	No such earthing	N/A
2.6.3	Protective earthing and protective bonding conductors	No such earthing	N/A
2.6.3.1	General	No such earthing	N/A
2.6.3.2	Size of protective earthing conductors	No such earthing	N/A
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		—
2.6.3.3	Size of protective bonding conductors	No such earthing	N/A
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG		—



Clause	Requirement – Test	Result - Remark	Verdict
	.....:		
	Protective current rating (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min) .....	No such earthing	N/A
2.6.3.5	Colour of insulation.....:	No such earthing	N/A
2.6.4	Terminals	No such earthing	N/A
2.6.4.1	General	No such earthing	N/A
2.6.4.2	Protective earthing and bonding terminals	No such earthing	N/A
	Rated current (A), type, nominal thread diameter (mm) .....		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	No such earthing	N/A
2.6.5	Integrity of protective earthing	No such earthing	N/A
2.6.5.1	Interconnection of equipment	No such earthing	N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No such earthing	N/A
2.6.5.3	Disconnection of protective earth	No such earthing	N/A
2.6.5.4	Parts that can be removed by an operator	No such earthing	N/A
2.6.5.5	Parts removed during servicing	No such earthing	N/A
2.6.5.6	Corrosion resistance	No such earthing	N/A
2.6.5.7	Screws for protective bonding	No such earthing	N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system	No such earthing	N/A

<b>2.7</b>	<b>Overcurrent and earth fault protection in primary circuits</b>		N/A
2.7.1	Basic requirements	The EUT is class III equipment	N/A
	Instructions when protection relies on building installation	The EUT is class III equipment	N/A
2.7.2	Faults not simulated in 5.3.7	The EUT is class III equipment	N/A
2.7.3	Short-circuit backup protection	The EUT is class III equipment	N/A
2.7.4	Number and location of protective devices .....	The EUT is class III equipment	N/A
2.7.5	Protection by several devices	The EUT is class III equipment	N/A
2.7.6	Warning to service personnel..... :	The EUT is class III equipment	N/A

<b>2.8</b>	<b>Safety interlocks</b>		N/A
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Clause	Requirement – Test	Result - Remark	Verdict
2.8.1	General principles	No hazards in the meaning of this standard at operator access involves areas.	N/A
2.8.2	Protection requirements	There is no safety interlock in the equipment.	N/A
2.8.3	Inadvertent reactivation	There is no safety interlock in the equipment.	N/A
2.8.4	Fail-safe operation	There is no safety interlock in the equipment.	N/A
	Protection against extreme hazard	There is no safety interlock in the equipment.	N/A
2.8.5	Moving parts	There is no safety interlock in the equipment.	N/A
2.8.6	Overriding	There is no safety interlock in the equipment.	N/A
2.8.7	Switches, relays and their related circuits	There is no safety interlock in the equipment.	N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) .....	There is no safety interlock in the equipment.	N/A
2.8.7.2	Overload test	There is no safety interlock in the equipment.	N/A
2.8.7.3	Endurance test	There is no safety interlock in the equipment.	N/A
2.8.7.4	Electric strength test	There is no safety interlock in the equipment.	N/A
2.8.8	Mechanical actuators	There is no safety interlock in the equipment.	N/A

<b>2.9</b>	<b>Electrical insulation</b>		<b>P</b>
2.9.1	Properties of insulating materials	The EUT is class III equipment, no critical insulation in the EUT.	N/A
2.9.2	Humidity conditioning	The EUT is class III equipment, no critical insulation in the EUT.	N/A
	Relative humidity (%), temperature (°C) .....		—
2.9.3	Grade of insulation	Only the functional insulation inside the EUT.	P
2.9.4	Separation from hazardous voltages	The EUT is class III equipment.	N/A
	Method(s) used .....		—



Clause	Requirement – Test	Result - Remark	Verdict
<b>2.10</b>	<b>Clearances, creepage distances and distances through insulation</b>		P
2.10.1	General	See below	P
2.10.1.1	Frequency .....	The EUT is class III equipment.	N/A
2.10.1.2	Pollution degrees .....	This report considered the pollution degree 2.	P
2.10.1.3	Reduced values for functional insulation	The functional insulation comply with 5.3.4 c)	P
2.10.1.4	Intervening unconnected conductive parts	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT.	N/A
2.10.1.5	Insulation with varying dimensions	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT.	N/A
2.10.1.6	Special separation requirements	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT.	N/A
2.10.1.7	Insulation in circuits generating starting pulses	No such circuit in the equipment.	N/A
2.10.2	Determination of working voltage	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.2.1	General	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.2.2	RMS working voltage	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.2.3	Peak working voltage	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.3	Clearances	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional	N/A



Clause	Requirement – Test	Result - Remark	Verdict
		insulation inside the EUT.	
2.10.3.1	General	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.3.2	Mains transient voltages	The EUT is not intended to be supplied by mains.	N/A
	a) AC mains supply .....	The EUT is not intended to be supplied by a.c. mains.	N/A
	b) Earthed d.c. mains supplies .....	The EUT is not intended to be supplied by d.c. mains.	N/A
	c) Unearthed d.c. mains supplies .....	The EUT is not intended to be supplied by d.c. mains.	N/A
	d) Battery operation .....	The EUT is not intended to be supplied by such battery.	N/A
2.10.3.3	Clearances in primary circuits	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT.	N/A
2.10.3.4	Clearances in secondary circuits	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT.	N/A
2.10.3.5	Clearances in circuits having starting pulses	No such circuit.	N/A
2.10.3.6	Transients from a.c. mains supply .....	The EUT is class III equipment. Not connected to a.c. mains directly.	N/A
2.10.3.7	Transients from d.c. mains supply .....	The EUT is not intended to be connected to the d.c. mains.	N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems .....	Not connected to the telecommunication network and cable distribution systems.	N/A
2.10.3.9	Measurement of transient voltage levels	See below.	N/A
	a) Transients from a mains supply	The EUT is class III equipment. Not connected to the mains directly.	N/A
	For an a.c. mains supply .....	The EUT is class III equipment. Not connected to a.c. mains directly.	N/A
	For a d.c. mains supply .....	The EUT is not intended to be connected to the d.c. mains.	N/A
	b) Transients from a telecommunication network :	Not connected to	N/A



Clause	Requirement – Test	Result - Remark	Verdict
		telecommunication network.	
2.10.4	Creepage distances	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.4.1	General	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.4.2	Material group and comparative tracking index	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
	CTI tests .....		—
2.10.4.3	Minimum creepage distances	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.5	Solid insulation	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.5.1	General	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.5.2	Distances through insulation	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.5.3	Insulating compound as solid insulation	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.5.4	Semiconductor devices	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A



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Clause	Requirement – Test	Result - Remark	Verdict
2.10.5.5.	Cemented joints	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.5.6	Thin sheet material – General	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.5.7	Separable thin sheet material	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
	Number of layers (pcs) .....		—
2.10.5.8	Non-separable thin sheet material	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.5.9	Thin sheet material – standard test procedure	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.5.12	Wire in wound components	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
	Working voltage .....	The EUT is class III equipment, supplied by SELV and no critical insulation inside the	N/A



Clause	Requirement – Test	Result - Remark	Verdict
		EUT. Only the functional insulation inside the EUT.	
	a) Basic insulation not under stress .....	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
	b) Basic, supplementary, reinforced insulation .....	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
	c) Compliance with Annex U .....	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
	Two wires in contact inside wound component; angle between 45° and 90° .....	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.5.13	Wire with solvent-based enamel in wound components	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
	Electric strength test		—
	Routine test	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.5.14	Additional insulation in wound components	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
	Working voltage .....	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
	- Basic insulation not under stress .....	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional	N/A



Clause	Requirement – Test	Result - Remark	Verdict
		insulation inside the EUT.	
	- Supplementary, reinforced insulation .....	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.6	Construction of printed boards	See below	N/A
2.10.6.1	Uncoated printed boards	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.6.2	Coated printed boards	No such part.	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.6.4	Insulation between conductors on different layers of a printed board	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
	Distance through insulation	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
	Number of insulation layers (pcs).....:	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.7	Component external terminations	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
2.10.8	Tests on coated printed boards and coated components	No such construction.	N/A
2.10.8.1	Sample preparation and preliminary inspection	No such construction.	N/A
2.10.8.2	Thermal conditioning	No such construction.	N/A
2.10.8.3	Electric strength test	No such construction.	N/A
2.10.8.4	Abrasion resistance test	No such construction.	N/A



Clause	Requirement – Test	Result - Remark	Verdict
2.10.9	Thermal cycling	No such construction.	N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound	Pollution degree 2 is considered.	N/A
2.10.11	Tests for semiconductor devices and cemented joints	No such construction.	N/A
2.10.12	Enclosed and sealed parts	No hermetically sealed component.	N/A

<b>3</b>	<b>WIRING, CONNECTIONS AND SUPPLY</b>		<b>P</b>
<b>3.1</b>	<b>General</b>		<b>P</b>
3.1.1	Current rating and overcurrent protection	The internal wiring can be shown that creation of hazards is unlikely	P
3.1.2	Protection against mechanical damage	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
3.1.3	Securing of internal wiring	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
3.1.4	Insulation of conductors	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
3.1.5	Beads and ceramic insulators	No such part	N/A
3.1.6	Screws for electrical contact pressure	No such screws used	N/A
3.1.7	Insulating materials in electrical connections	No non-metallic materials used in electrical connections.	P
3.1.8	Self-tapping and spaced thread screws	No self-tapping screws used in electrical connections.	P
3.1.9	Termination of conductors	No such terminal	N/A
	10 N pull test	The EUT is class III equipment, supplied by SELV and no critical insulation inside the EUT. Only the functional insulation inside the EUT.	N/A
3.1.10	Sleeving on wiring	No such part	N/A

<b>3.2</b>	<b>Connection to a mains supply</b>		<b>N/A</b>
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Clause	Requirement – Test	Result - Remark	Verdict
3.2.1	Means of connection	See below.	N/A
3.2.1.1	Connection to an a.c. mains supply	The EUT is class III equipment. Not connected to a.c. mains directly.	N/A
3.2.1.2	Connection to a d.c. mains supply	The equipment is not connection to a d.c. mains supply.	N/A
3.2.2	Multiple supply connections	The EUT is class III equipment. Not connected to the mains directly.	N/A
3.2.3	Permanently connected equipment	No permanently connected equipment.	N/A
	Number of conductors, diameter of cable and conduits (mm) .....		—
3.2.4	Appliance inlets	No such parts	N/A
3.2.5	Power supply cords	See below.	N/A
3.2.5.1	AC power supply cords	The EUT is class III equipment. Not connected to the mains directly.	N/A
	Type .....		—
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		—
3.2.5.2	DC power supply cords	The equipment is not connection to d.c. mains supply.	N/A
3.2.6	Cord anchorages and strain relief	The EUT is class III equipment. No such construction	N/A
	Mass of equipment (kg), pull (N) .....		—
	Longitudinal displacement (mm) .....		—
3.2.7	Protection against mechanical damage	The EUT is class III equipment. No such construction	N/A
3.2.8	Cord guards	The EUT is class III equipment. No such construction.	N/A
	Diameter or minor dimension D (mm); test mass (g) .....		—
	Radius of curvature of cord (mm) .....		—
3.2.9	Supply wiring space	The EUT is class III equipment. No such construction	N/A
<b>3.3</b>	<b>Wiring terminals for connection of external conductors</b>		<b>N/A</b>



Clause	Requirement – Test	Result - Remark	Verdict
3.3.1	Wiring terminals	The EUT is not permanently connected equipment, and without ordinary non-detachable power supply cords	N/A
3.3.2	Connection of non-detachable power supply cords	No wiring terminals	N/A
3.3.3	Screw terminals	No such terminals	N/A
3.3.4	Conductor sizes to be connected	No such terminals	N/A
	Rated current (A), cord/cable type, cross-sectional area (mm <sup>2</sup> )..... :		—
3.3.5	Wiring terminal sizes	No such terminals	N/A
	Rated current (A), type, nominal thread diameter (mm) ..... :		—
3.3.6	Wiring terminal design	No such terminals	N/A
3.3.7	Grouping of wiring terminals	No such terminals	N/A
3.3.8	Stranded wire	Not stranded wire used	N/A

<b>3.4</b>	<b>Disconnection from the mains supply</b>		N/A
3.4.1	General requirement	The EUT is class III equipment. Not connected to the mains directly.	N/A
3.4.2	Disconnect devices	The EUT is class III equipment. Not connected to the mains directly.	N/A
3.4.3	Permanently connected equipment	The EUT is not permanently connected equipment.	N/A
3.4.4	Parts which remain energized	The EUT is class III equipment. Not connected to the mains directly.	N/A
3.4.5	Switches in flexible cords	No such flexible cords provided.	N/A
3.4.6	Number of poles - single-phase and d.c. equipment	The EUT is class III equipment. Not connected to the mains directly.	N/A
3.4.7	Number of poles - three-phase equipment	The EUT is class III equipment. Not connected to the mains directly.	N/A
3.4.8	Switches as disconnect devices	No such switch used	N/A
3.4.9	Plugs as disconnect devices	The EUT is class III equipment. Not connected to the mains directly.	N/A



Clause	Requirement – Test	Result - Remark	Verdict
3.4.10	Interconnected equipment	Interconnection to other devices by secondary SELV output only.	N/A
3.4.11	Multiple power sources	The EUT is class III equipment. Not connected to the mains directly.	N/A

<b>3.5</b>	<b>Interconnection of equipment</b>		P
3.5.1	General requirements	See below.	P
3.5.2	Types of interconnection circuits .....	SELV circuit only connected to SELV circuit.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection circuits.	N/A
3.5.4	Data ports for additional equipment	The data ports comply with LPS, see appended table 2.5.	P

<b>4</b>	<b>PHYSICAL REQUIREMENTS</b>		P
<b>4.1</b>	<b>Stability</b>		N/A
	Angle of 10°	Mass of the EUT is less than 7kg.	N/A
	Test force (N) .....	Not floor-standing equipment.	N/A

<b>4.2</b>	<b>Mechanical strength</b>		P
4.2.1	General	See below.	P
	Rack-mounted equipment.	Not rack-mounted equipment.	N/A
4.2.2	Steady force test, 10 N	No safety relevant damaged	P
4.2.3	Steady force test, 30 N	No door or cover in an operator access area.	N/A
4.2.4	Steady force test, 250 N	250N applied to outer enclosure. No energy or other hazards.	P
4.2.5	Impact test		N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm) .....	No safety relevant damages after test	P
4.2.7	Stress relief test	Test was conducted at 72°C with acceptable result.	P
4.2.8	Cathode ray tubes	No CRT inside the EUT.	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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	Picture tube separately certified .....	No CRT inside the EUT.	N/A
4.2.9	High pressure lamps	No high pressure lamps.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....	No such mounting means	N/A

<b>4.3</b>	<b>Design and construction</b>		P
4.3.1	Edges and corners	Edges and corners of the enclosure are rounded.	P
4.3.2	Handles and manual controls; force (N)..... :	No handle provide.	N/A
4.3.3	Adjustable controls	No similar controls.	N/A
4.3.4	Securing of parts	No such part	N/A
4.3.5	Connection by plugs and sockets	No mismatch of connectors	N/A
4.3.6	Direct plug-in equipment	No such part	N/A
	Torque .....		—
	Compliance with the relevant mains plug standard .....	No such part	N/A
4.3.7	Heating elements in earthed equipment	No heating element.	N/A
4.3.8	Batteries	See below.	P
	- Overcharging of a rechargeable battery	See appended table 4.3.8.	P
	- Unintentional charging of a non-rechargeable battery	Rechargeable battery used only.	N/A
	- Reverse charging of a rechargeable battery	Battery can't be reverse charging due to connector and circuits design.	N/A
	- Excessive discharging rate for any battery	See appended table 4.3.8.	P
4.3.9	Oil and grease	No oil and grease inside the equipment.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment is not intended to be exposed to dust, powers, liquids and gases.	N/A
4.3.11	Containers for liquids or gases	No container for liquids or gases provided.	N/A
4.3.12	Flammable liquids .....	No flammable liquids in the equipment.	N/A
	Quantity of liquid (l) .....	No flammable liquids in the equipment.	N/A
	Flash point (°C) .....	No flammable liquids in the equipment.	N/A
4.3.13	Radiation	See below.	P
4.3.13.1	General	See below	P



Clause	Requirement – Test	Result - Remark	Verdict
4.3.13.2	Ionizing radiation	No ionizing radiation.	N/A
	Measured radiation (pA/kg) .....	No ionizing radiation.	—
	Measured high-voltage (kV) .....	No ionizing radiation.	—
	Measured focus voltage (kV) .....	No ionizing radiation.	—
	CRT markings .....	No ionizing radiation.	—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	No UV radiation.	N/A
	Part, property, retention after test, flammability classification .....	No UV radiation.	N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....	No UV radiation.	N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	See below	P
4.3.13.5.1	Lasers (including laser diodes)	No such devices.	N/A
	Laser class .....		—
4.3.13.5.2	Light emitting diodes (LEDs)	The LEDs used for indicating light which considered as low power LEDs, no need comply with standard of IEC/EN 62471	—
4.3.13.6	Other types .....	No other type of source inside the EUT.	N/A

<b>4.4</b>	<b>Protection against hazardous moving parts</b>		N/A
4.4.1	General	No moving part	N/A
4.4.2	Protection in operator access areas .....	No moving part	N/A
	Household and home/office document/media shredders	No moving part	N/A
4.4.3	Protection in restricted access locations .....	No moving part	N/A
4.4.4	Protection in service access areas	No moving part	N/A
4.4.5	Protection against moving fan blades	No moving fan blades used.	N/A
4.4.5.1	General	No moving fan blades used.	N/A
	Not considered to cause pain or injury. a).....		N/A
	Is considered to cause pain, not injury. b) .....		N/A
	Considered to cause injury. c) .....		N/A
4.4.5.2	Protection for users	No moving fan blades used.	N/A
	Use of symbol or warning .....		
4.4.5.3	Protection for service persons	No moving fan blades used.	N/A
	Use of symbol or warning .....		N/A



Clause	Requirement – Test	Result - Remark	Verdict
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<b>4.5</b>	<b>Thermal requirements</b>		P
4.5.1	General	See below.	P
4.5.2	Temperature tests	(see appended table 4.5)	P
	Normal load condition per Annex L .....	See operation condition under “Summary of testing”.	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat .....	No such construction inside EUT.	N/A

<b>4.6</b>	<b>Openings in enclosures</b>		P
4.6.1	Top and side openings	See clause 4.6.4	N/A
	Dimensions (mm) .....	--	—
4.6.2	Bottoms of fire enclosures	See clause 4.6.4	N/A
	Construction of the bottom, dimensions (mm) ..:	--	—
4.6.3	Doors or covers in fire enclosures	No such parts.	N/A
4.6.4	Openings in transportable equipment	No opening	P
4.6.4.1	Constructional design measures	No opening	P
	Dimensions (mm) .....		—
4.6.4.2	Evaluation measures for larger openings	No such opening	N/A
4.6.4.3	Use of metallized parts	No such part	P
4.6.5	Adhesives for constructional purposes	No adhesives for construction purposes.	N/A
	Conditioning temperature (°C), time (weeks) .....		—

<b>4.7</b>	<b>Resistance to fire</b>		P
4.7.1	Reducing the risk of ignition and spread of flame	See below.	P
	Method 1, selection and application of components wiring and materials	Selection of components for the simulation of faults with acceptable results, and use of materials with the required flammability class.	P
	Method 2, application of all of simulated fault condition tests	Method 1 used.	N/A
4.7.2	Conditions for a fire enclosure	See below.	P
4.7.2.1	Parts requiring a fire enclosure	The fire enclosure is required to cover all parts	P



Clause	Requirement – Test	Result - Remark	Verdict
4.7.2.2	Parts not requiring a fire enclosure	Fire enclosure is necessary	N/A
4.7.3	Materials		P
4.7.3.1	General	Component and material had adequate flammability classification, see table 1.5.1 for details.	P
4.7.3.2	Materials for fire enclosures	Rated V-0 plastic enclosure used	P
4.7.3.3	Materials for components and other parts outside fire enclosures	No such parts	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	Rated V-1 or better PCB material used	P
4.7.3.5	Materials for air filter assemblies	No air filter provided.	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage component inside the equipment.	N/A

<b>5</b>	<b>ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS</b>		<b>P</b>
<b>5.1</b>	<b>Touch current and protective conductor current</b>		<b>N/A</b>
5.1.1	General	The EUT is class III equipment. Supplied by SELV and not connected to the mains directly.	N/A
5.1.2	Configuration of equipment under test (EUT)	The EUT is class III equipment. Supplied by SELV and not connected to the mains directly.	N/A
5.1.2.1	Single connection to an a.c. mains supply	The EUT is class III equipment. Supplied by SELV and not connected to the mains directly.	N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply	The EUT is class III equipment. Supplied by SELV and not connected to the mains directly.	N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply	The EUT is class III equipment. Supplied by SELV and not connected to the mains directly.	N/A
5.1.3	Test circuit	The EUT is class III equipment. Supplied by SELV and not connected to the mains directly.	N/A



Clause	Requirement – Test	Result - Remark	Verdict
5.1.4	Application of measuring instrument	The EUT is class III equipment. Supplied by SELV and not connected to the mains directly.	N/A
5.1.5	Test procedure	The EUT is class III equipment. Supplied by SELV and not connected to the mains directly.	N/A
5.1.6	Test measurements	The EUT is class III equipment. Supplied by SELV and not connected to the mains directly.	N/A
	Supply voltage (V) .....	--	—
	Measured touch current (mA) .....	--	—
	Max. allowed touch current (mA) .....	--	—
	Measured protective conductor current (mA) .....	--	—
	Max. allowed protective conductor current (mA)....	--	—
5.1.7	Equipment with touch current exceeding 3,5 mA	The EUT is class III equipment. Supplied by SELV and not connected to the mains directly.	N/A
5.1.7.1	General .....	The EUT is class III equipment. Supplied by SELV and not connected to the mains directly.	N/A
5.1.7.2	Simultaneous multiple connections to the supply	No such construction.	N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	Not connected to the telecommunication network and cable distribution systems.	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system	Not connected to the telecommunication network and cable distribution systems.	N/A
	Supply voltage (V) .....	--	—
	Measured touch current (mA) .....	--	—
	Max. allowed touch current (mA) .....	--	—
5.1.8.2	Summation of touch currents from telecommunication networks	Not connected to the telecommunication network.	N/A
	a) EUT with earthed telecommunication ports .....	Not connected to telecommunication networks.	N/A
	b) EUT whose telecommunication ports have no reference to protective earth	Not connected to telecommunication networks.	N/A



Clause	Requirement – Test	Result - Remark	Verdict
<b>5.2</b>	<b>Electric strength</b>		N/A
5.2.1	General	The EUT is class III equipment. Supplied by SELV and not connected to the mains directly.	N/A
5.2.2	Test procedure	The EUT is class III equipment. Supplied by SELV and not connected to the mains directly.	N/A

<b>5.3</b>	<b>Abnormal operating and fault conditions</b>		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	No motor used	N/A
5.3.3	Transformers	No such device inside EUT	N/A
5.3.4	Functional insulation.....:	Method c) used. Result see appended table 5.3	P
5.3.5	Electromechanical components	No electromechanical component.	N/A
5.3.6	Audio amplifiers in ITE .....	No such part	N/A
5.3.7	Simulation of faults	(See appended table 5.3)	P
5.3.8	Unattended equipment	Not such equipment.	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	No flame in the equipment. No molten metal was emitted.	P
5.3.9.1	During the tests	No flame in the equipment. No molten metal was emitted.	P
5.3.9.2	After the tests	The EUT is class III equipment. Supplied by SELV and there are no hazardous voltage	N/A

<b>6</b>	<b>CONNECTION TO TELECOMMUNICATION NETWORKS</b>		N/A
<b>6.1</b>	<b>Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment</b>		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements	Not connected to the telecommunication network.	N/A
	Supply voltage (V) .....		—
	Current in the test circuit (mA) .....		—



Clause	Requirement – Test	Result - Remark	Verdict
6.1.2.2	Exclusions .....	Not connected to the telecommunication network.	N/A

<b>6.2</b>	<b>Protection of equipment users from overvoltages on telecommunication networks</b>		N/A
6.2.1	Separation requirements	Not connected to the telecommunication network.	N/A
6.2.2	Electric strength test procedure	Not connected to the telecommunication network.	N/A
6.2.2.1	Impulse test	Not connected to the telecommunication network.	N/A
6.2.2.2	Steady-state test	Not connected to the telecommunication network.	N/A
6.2.2.3	Compliance criteria	Not connected to the telecommunication network.	N/A

<b>6.3</b>	<b>Protection of the telecommunication wiring system from overheating</b>		N/A
	Max. output current (A) .....	The EUT is not intended to supply other units via telecommunication line.	—
	Current limiting method .....		—

<b>7</b>	<b>CONNECTION TO CABLE DISTRIBUTION SYSTEMS</b>		N/A
<b>7.1</b>	<b>General</b>	No connected to the cable distribution system.	N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment	No connected to the cable distribution system.	N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system	No connected to the cable distribution system.	N/A
7.4	Insulation between primary circuits and cable distribution systems	No connected to the cable distribution system.	N/A
7.4.1	General	No connected to the cable distribution system.	N/A
7.4.2	Voltage surge test	No connected to the cable distribution system.	N/A
7.4.3	Impulse test	No connected to the cable distribution system.	N/A

<b>A</b>	<b>ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE</b>		N/A
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Clause	Requirement – Test	Result - Remark	Verdict
<b>A.1</b>	<b>Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)</b>	The mass of the EUT is less than 18 kg.	N/A
A.1.1	Samples.....:		—
	Wall thickness (mm).....:		—
A.1.2	Conditioning of samples; temperature (°C).....:		N/A
A.1.3	Mounting of samples.....:		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D.....:		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
<b>A.2</b>	<b>Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)</b>		N/A
A.2.1	Samples, material.....:		—
	Wall thickness (mm).....:		—
A.2.2	Conditioning of samples; temperature (°C).....:		N/A
A.2.3	Mounting of samples.....:		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C.....:		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
<b>A.3</b>	<b>Hot flaming oil test (see 4.6.2)</b>		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A



Clause	Requirement – Test	Result - Remark	Verdict
A.3.3	Compliance criterion		N/A
<b>B</b>	<b>ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)</b>		N/A
<b>B.1</b>	<b>General requirements</b>	No motor used	N/A
	Position .....	No motor used	—
	Manufacturer .....	No motor used	—
	Type .....	No motor used	—
	Rated values .....	No motor used	—
<b>B.2</b>	<b>Test conditions</b>	No motor used	N/A
<b>B.3</b>	<b>Maximum temperatures</b>	No motor used	N/A
<b>B.4</b>	<b>Running overload test</b>	No motor used	N/A
<b>B.5</b>	<b>Locked-rotor overload test</b>	No motor used	N/A
	Test duration (days) .....		—
	Electric strength test: test voltage (V) .....		—
<b>B.6</b>	<b>Running overload test for d.c. motors in secondary circuits</b>	No motor used	N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V) .....		N/A
<b>B.7</b>	<b>Locked-rotor overload test for d.c. motors in secondary circuits</b>	No motor used	N/A
B.7.1	General		N/A
B.7.2	Test procedure	See appended table 5.3	N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) .....		N/A
<b>B.8</b>	<b>Test for motors with capacitors</b>		N/A
<b>B.9</b>	<b>Test for three-phase motors</b>		N/A
<b>B.10</b>	<b>Test for series motors</b>		N/A
	Operating voltage (V) .....		—
<b>C</b>	<b>ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)</b>		N/A
	Position .....	No such device inside EUT	—
	Manufacturer .....		—



Clause	Requirement – Test	Result - Remark	Verdict
	Type .....		—
	Rated values .....		—
	Method of protection..... :		—
<b>C.1</b>	<b>Overload test</b>		N/A
<b>C.2</b>	<b>Insulation</b>		N/A
	Protection from displacement of windings..... :		N/A
<b>D</b>	<b>ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)</b>		N/A
<b>D.1</b>	<b>Measuring instrument</b>	The EUT is class III equipment	N/A
<b>D.2</b>	<b>Alternative measuring instrument</b>		N/A
<b>E</b>	<b>ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)</b>		N/A
<b>F</b>	<b>ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)</b>		N/A
<b>G</b>	<b>ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES</b>		N/A
<b>G.1</b>	<b>Clearances</b>	Not used.	N/A
G.1.1	General	Not used.	N/A
G.1.2	Summary of the procedure for determining minimum clearances	Not used.	N/A
<b>G.2</b>	<b>Determination of mains transient voltage (V)</b>	Not used.	N/A
G.2.1	AC mains supply .....	Not used.	N/A
G.2.2	Earthed d.c. mains supplies .....	Not used.	N/A
G.2.3	Unearthed d.c. mains supplies .....	Not used.	N/A
G.2.4	Battery operation .....	Not used.	N/A
<b>G.3</b>	<b>Determination of telecommunication network transient voltage (V) .....</b>	Not used.	N/A
<b>G.4</b>	<b>Determination of required withstand voltage (V)</b>	Not used.	N/A
G.4.1	Mains transients and internal repetitive peaks .....	Not used.	N/A
G.4.2	Transients from telecommunication networks .....	Not used.	N/A
G.4.3	Combination of transients	Not used.	N/A
G.4.4	Transients from cable distribution systems	Not used.	N/A
<b>G.5</b>	<b>Measurement of transient voltages (V)</b>	Not used.	N/A



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Clause	Requirement – Test	Result - Remark	Verdict
	a) Transients from a mains supply	Not used.	N/A
	For an a.c. mains supply	Not used.	N/A
	For a d.c. mains supply	Not used.	N/A
	b) Transients from a telecommunication network	Not used.	N/A
<b>G.6</b>	<b>Determination of minimum clearances .....</b> :	Not used.	N/A
<b>H</b>	<b>ANNEX H, IONIZING RADIATION (see 4.3.13)</b>		N/A
<b>J</b>	<b>ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)</b>		N/A
	Metal(s) used .....		—
<b>K</b>	<b>ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)</b>		N/A
K.1	Making and breaking capacity	No thermal control in the EUT.	N/A
K.2	Thermostat reliability; operating voltage (V) .....	No thermal control in the EUT.	N/A
K.3	Thermostat endurance test; operating voltage (V) .....	No thermal control in the EUT.	N/A
K.4	Temperature limiter endurance; operating voltage (V) .....	No thermal control in the EUT.	N/A
K.5	Thermal cut-out reliability	No thermal control in the EUT.	N/A
K.6	Stability of operation	No thermal control in the EUT.	N/A
<b>L</b>	<b>ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)</b>		P
L.1	Typewriters	No such device in the EUT	N/A
L.2	Adding machines and cash registers	No such device in the EUT	N/A
L.3	Erasers	No such device in the EUT	N/A
L.4	Pencil sharpeners	No such device in the EUT	N/A
L.5	Duplicators and copy machines	No such device in the EUT	N/A
L.6	Motor-operated files	No such device in the EUT	N/A
L.7	Other business equipment	Considered, see operation condition under “Summary of testing”.	P
<b>M</b>	<b>ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)</b>		N/A
M.1	Introduction	No phone ringing was generated in the EUT.	N/A



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Clause	Requirement – Test	Result - Remark	Verdict
M.2	Method A	No phone ringing was generated in the EUT.	N/A
M.3	Method B	No phone ringing was generated in the EUT.	N/A
M.3.1	Ringing signal	No phone ringing was generated in the EUT.	N/A
M.3.1.1	Frequency (Hz) .....		—
M.3.1.2	Voltage (V) .....		—
M.3.1.3	Cadence; time (s), voltage (V) .....		—
M.3.1.4	Single fault current (mA) .....		—
M.3.2	Tripping device and monitoring voltage .....	No phone ringing was generated in the EUT.	N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage	No phone ringing was generated in the EUT.	N/A
M.3.2.2	Tripping device	No phone ringing was generated in the EUT.	N/A
M.3.2.3	Monitoring voltage (V) .....	No phone ringing was generated in the EUT.	N/A
<b>N</b>	<b>ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)</b>		N/A
N.1	ITU-T impulse test generators	Not used.	N/A
N.2	IEC 60065 impulse test generator	Not used.	N/A
<b>P</b>	<b>ANNEX P, NORMATIVE REFERENCES</b>		—
<b>Q</b>	<b>ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)</b>		N/A
	- Preferred climatic categories .....	No such device inside EUT	N/A
	- Maximum continuous voltage .....		N/A
	- Combination pulse current .....		N/A
	Body of the VDR Test according to IEC60695-11-5.....		N/A
	Body of the VDR. Flammability class of material ( min V-1).....		N/A
<b>R</b>	<b>ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES</b>		N/A



Clause	Requirement – Test	Result - Remark	Verdict
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)	Not used.	N/A
R.2	Reduced clearances (see 2.10.3)	Not used.	N/A
<b>S</b>	<b>ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)</b>		N/A
S.1	Test equipment	Not used.	N/A
S.2	Test procedure	Not used.	N/A
S.3	Examples of waveforms during impulse testing	Not used.	N/A
<b>T</b>	<b>ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)</b>		P
		IP67, see summary of testing for the evaluation	—
<b>U</b>	<b>ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)</b>		N/A
			—
<b>V</b>	<b>ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)</b>		N/A
V.1	Introduction	The EUT class III equipment. Supplied by SELV and not connected to the mains directly.	N/A
V.2	TN power distribution systems	The EUT class III equipment. Supplied by SELV and not connected to the mains directly.	N/A
<b>W</b>	<b>ANNEX W, SUMMATION OF TOUCH CURRENTS</b>		N/A
W.1	Touch current from electronic circuits	The EUT class III equipment	N/A
W.1.1	Floating circuits	The EUT class III equipment	N/A
W.1.2	Earthed circuits	The EUT class III equipment	N/A
W.2	Interconnection of several equipments	The EUT class III equipment	N/A
W.2.1	Isolation	The EUT class III equipment	N/A
W.2.2	Common return, isolated from earth	The EUT class III equipment	N/A
W.2.3	Common return, connected to protective earth	The EUT class III equipment	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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<b>X</b>	<b>ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)</b>		N/A
X.1	Determination of maximum input current	No such part	N/A
X.2	Overload test procedure	No such part	N/A

<b>Y</b>	<b>ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)</b>		N/A
Y.1	Test apparatus .....	Not used.	N/A
Y.2	Mounting of test samples .....	Not used.	N/A
Y.3	Carbon-arc light-exposure apparatus .....	Not used.	N/A
Y.4	Xenon-arc light exposure apparatus .....	Not used.	N/A

<b>Z</b>	<b>ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)</b>		N/A
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<b>AA</b>	<b>ANNEX AA, MANDREL TEST (see 2.10.5.8)</b>		N/A
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<b>BB</b>	<b>ANNEX BB, CHANGES IN THE SECOND EDITION</b>		—
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<b>CC</b>	<b>ANNEX CC, Evaluation of integrated circuit (IC) current limiters</b>		N/A
CC.1	General	No such part	N/A
CC.2	Test program 1.....		N/A
CC.3	Test program 2.....		N/A
CC.4	Test program 3.....		N/A
CC.5	Compliance.....		N/A

<b>DD</b>	<b>ANNEX DD, Requirements for the mounting means of rack-mounted equipment</b>		N/A
DD.1	General	No such part	N/A
DD.2	Mechanical strength test, variable N.....		N/A
DD.3	Mechanical strength test, 250N, including end stops.....		N/A
DD.4	Compliance.....		N/A

<b>EE</b>	<b>ANNEX EE, Household and home/office document/media shredders</b>		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols.....		N/A



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Clause	Requirement – Test	Result - Remark	Verdict
	Information of user instructions, maintenance and/or servicing instructions.....:		N/A
EE.3	Inadvertent reactivation test.....:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols.....:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A) .....:		N/A
	Test with wedge probe (Figure EE1 and EE2) .....:		N/A



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Clause	Requirement – Test	Result - Remark	Verdict

<b>ATTACHMENT TO TEST REPORT IEC 60950-1</b> <b>EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES</b> Information technology equipment – Safety – Part 1: General requirements	
<b>Differences according to.....:</b>	EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013
<b>Attachment Form No. ....:</b>	EU_GD_IEC60950_1G
<b>Attachment Originator .....</b>	SGS Fimko Ltd
<b>Master Attachment .....</b>	Date 2014-02
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**EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 – CENELEC COMMON MODIFICATIONS**

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it's amendmets are prefixed "Z"		P
Contents  (A2:2013)	Add the following annexes:  Annex ZA (normative)                      Normative references to international publications with their corresponding European publications  Annex ZB (normative)                      Special national conditions Annex ZD (informative)                      IEC and CENELEC code designations for flexible cords		P
General	Delete all the "country" notes in the reference document (IEC 60950-1:2005) according to the following list: 1.4.8 Note 2                      1.5.1 Note 2 & 3                      1.5.7.1 Note 1.5.8 Note 2                      1.5.9.4 Note                      1.7.2.1 Note 4, 5 & 6 2.2.3 Note                      2.2.4 Note                      2.3.2 Note 2.3.2.1 Note 2                      2.3.4 Note 2                      2.6.3.3 Note 2 & 3 2.7.1 Note                      2.10.3.2 Note 2                      2.10.5.13 Note 3 3.2.1.1 Note                      3.2.4 Note 3.                      2.5.1 Note 2 4.3.6 Note 1 & 2                      4.7 Note 4                      4.7.2.2 Note 4.7.3.1 Note 2                      5.1.7.1 Note 3 & 4                      5.3.7 Note 1 6 Note 2 & 5                      6.1.2.1 Note 2                      6.1.2.2 Note 6.2.2 Note                      6.2.2.1 Note 2                      6.2.2.2 Note 7.1 Note 3                      7.2 Note                      7.3 Note 1 & 2 G.2.1 Note 2                      Annex H                      Note 2		P
General (A1:2010)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list:  1.5.7.1 Note                      6.1.2.1 Note 2  6.2.2.1 Note 2                      EE.3 Note		P





Clause	Requirement – Test	Result - Remark	Verdict
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**IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)**

Clause	Requirement + Test	Result - Remark	Verdict
	<b>Zx Protection against excessive sound pressure from personal music players</b>		N/A
	<p><b>Zx.1 General</b>            This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players.</p> <p>A personal music player is a portable equipment for personal use, that:</p> <ul style="list-style-type: none"> <li>– is designed to allow the user to listen to recorded or broadcast sound or video; and</li> <li>– primarily uses headphones or earphones that can be worn in or on or around the ears; and</li> <li>– allows the user to walk around while in use.</li> </ul> <p>NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment.</p> <p>A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause.</p> <p>The requirements in this sub-clause are valid for music or video mode only.</p> <p>The requirements do not apply:</p> <ul style="list-style-type: none"> <li>– while the personal music player is connected to an external amplifier; or</li> <li>– while the headphones or earphones are not used.</li> </ul> <p>NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> <li>– hearing aid equipment and professional</li> </ul>	Not such equipment	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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**IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)**

Clause	Requirement + Test	Result - Remark	Verdict
	<p>equipment;</p> <p>NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.</p> <p>– analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015.</p> <p>NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies.</p> <p>For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.</p>	Not such equipment	N/A
	<p><b>Zx.2 Equipment requirements</b></p> <p>No safety provision is required for equipment that complies with the following:</p> <p>– equipment provided as a package (personal music player with its listening device), where the acoustic output <math>L_{Aeq,T}</math> is <math>\leq 85</math> dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and</p> <p>– a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is <math>\leq 27</math> mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1.</p> <p>NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level <math>L_{Aeq,T}</math> is meant. See also Zx.5 and Annex Zx.</p> <p>All other equipment shall:</p> <p>a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and</p> <p>b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and</p>	Not such equipment	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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**IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)**

Clause	Requirement + Test	Result - Remark	Verdict
	<p>c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and</p> <p>NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.</p> <p>NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off.</p> <p>d) have a warning as specified in Zx.3; and</p> <p>e) not exceed the following:</p> <p>1) equipment provided as a package (player with its listening device), the acoustic output shall be <math>\leq 100</math> dBA measured while playing the fixed “programme simulation noise” described in EN 50332-1; and</p> <p>2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be <math>\leq 150</math> mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” described in EN 50332-1.</p> <p>For music where the average sound pressure (long term <math>L_{Aeq,T}</math>) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song.</p> <p>NOTE 4 Classical music typically has an average sound pressure (long term <math>L_{Aeq,T}</math>) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA.</p> <p>For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.</p>	Not such equipment	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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**IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)**

Clause	Requirement + Test	Result - Remark	Verdict
	<p><b>Zx.3 Warning</b> The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:</p> <ul style="list-style-type: none"> <li>– the symbol of Figure 1 with a minimum height of 5 mm; and</li> <li>– the following wording, or similar: “To prevent possible hearing damage, do not listen at high volume levels for long periods.”</li> </ul> <div style="text-align: center;">  </div> <p><b>Figure 1 – Warning label (IEC 60417-6044)</b></p> <p>Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.</p>	Not such equipment	N/A
	<p><b>Zx.4 Requirements for listening devices (headphones and earphones)</b></p>		N/A
	<p><b>Zx.4.1 Wired listening devices with analogue input</b> With 94 dBA sound pressure output <math>L_{Aeq,T}</math>, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be <math>\geq 75</math> mV.</p> <p>This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control).</p> <p>NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.</p>	Not such equipment	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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**IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)**

Clause	Requirement + Test	Result - Remark	Verdict
	<p><b>Zx.4.2 Wired listening devices with digital input</b>            With any playing device playing the fixed “programme simulation noise” described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output <math>L_{Aeq,T}</math> of the listening device shall be <math>\leq 100</math> dBA.</p> <p>This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.).</p> <p>NOTE An example of a wired listening device with digital input is a USB headphone.</p>	Not such equipment	N/A
	<p><b>Zx.4.3 Wireless listening devices</b>            In wireless mode:            – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and            – respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and            – with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output <math>L_{Aeq,T}</math> of the listening device shall be <math>\leq 100</math> dBA.</p> <p>NOTE An example of a wireless listening device is a Bluetooth headphone.</p>	Not such equipment	N/A
	<p><b>Zx.5 Measurement methods</b>            Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s.</p> <p>NOTE Test method for wireless equipment provided without listening device should be defined.</p>	Not such equipment	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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**IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)**

Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p>	The EUT is class III equipment, No such device.	N/A
	<p>c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>	Not such equipment	N/A
2.7.2	This subclause has been declared 'void'.		N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	Deleted	N/A



IEC/EN 60950-1															
Clause	Requirement – Test	Result - Remark	Verdict												
<b>IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)</b>															
Clause	Requirement + Test	Result - Remark	Verdict												
3.2.5.1	<p>Replace “60245 IEC 53” by “H05 RR-F”;  “60227 IEC 52” by “H03 VV-F or H03 VVH2-F”;  “60227 IEC 53” by “H05 VV-F or H05 VVH2-F2”.</p> <p>In Table 3B, replace the first four lines by the following:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Up to and including 6  </td> <td style="width: 10%; text-align: right;">0,75<sup>a)</sup>  </td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td>Over 6 up to and including 10  </td> <td>(0,75)<sup>b)</sup>  </td> <td>1,0  </td> <td></td> </tr> <tr> <td>Over 10 up to and including 16  </td> <td>(1,0)<sup>c)</sup>  </td> <td>1,5  </td> <td></td> </tr> </table> <p>In the conditions applicable to Table 3B delete the words “in some countries” in condition<sup>a)</sup>.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Up to and including 6	0,75 <sup>a)</sup>			Over 6 up to and including 10	(0,75) <sup>b)</sup>	1,0		Over 10 up to and including 16	(1,0) <sup>c)</sup>	1,5		The EUT is class III equipment, No such device.	N/A
Up to and including 6	0,75 <sup>a)</sup>														
Over 6 up to and including 10	(0,75) <sup>b)</sup>	1,0													
Over 10 up to and including 16	(1,0) <sup>c)</sup>	1,5													
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N/A												
3.3.4	<p>In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following:</p> <p>Over 10 up to and including 16   1,5 to 2,5   1,5 to 4  </p> <p>Delete the fifth line: conductor sizes for 13 to 16 A</p>	Deleted	N/A												
4.3.13.6 (A1:2010)	<p>Replace the existing NOTE by the following:</p> <p>NOTE Z1 Attention is drawn to:</p> <p>1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and</p> <p>2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation).</p>	Replaced	N/A												
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A												
Annex H	<p>Replace the last paragraph of this annex by:</p> <p>At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level.</p> <p>Replace the notes as follows:</p> <p>NOTE These values appear in Directive 96/29/Euratom.</p> <p>Delete NOTE 2.</p>	Replaced	N/A												
Bibliography	Additional EN standards.	Added	P												



IEC/EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict

<b>IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ZA</b>	<b>NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS</b>	—	
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<b>ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In <b>Denmark</b> , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	The EUT is class III equipment	N/A
1.2.13.14 (A11:2009)	In <b>Norway</b> and <b>Sweden</b> , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1 (A11:2009)	In <b>Finland, Norway</b> and <b>Sweden</b> , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	The EUT is class III equipment.	N/A
1.5.8	In <b>Norway</b> , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	The EUT is class III equipment.	N/A
1.5.9.4	In <b>Finland, Norway</b> and <b>Sweden</b> , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A



Clause	Requirement – Test	Result - Remark	Verdict
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**ZB ANNEX (normative)  
SPECIAL NATIONAL CONDITIONS (EN)**

Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	<p>In <b>Finland, Norway and Sweden</b>, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In <b>Finland</b>: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In <b>Norway</b>: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In <b>Sweden</b>: "Apparaten skall anslutas till jordat uttag"</p>	The EUT is class III equipment.	N/A
1.7.2.1 (A11:2009)	<p>In <b>Norway and Sweden</b>, the screen of the cable 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 need to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>"Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)."</p>		



Clause	Requirement – Test	Result - Remark	Verdict
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**ZB ANNEX (normative)  
SPECIAL NATIONAL CONDITIONS (EN)**

Clause	Requirement + Test	Result - Remark	Verdict
	<p>NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):            "Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplest utstyr – og er tilkoplest et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel-TV nettet."            Translation to Swedish:            "Utrustning 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 utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet."</p>	Not such equipment	N/A
1.7.2.1 (A2:2013)	<p>In <b>Denmark</b>, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in <b>Denmark</b> shall be as follows:            In <b>Denmark</b>: "Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord."</p>	The EUT is class III equipment.	N/A
1.7.5  1.7.5 (A11:2009)	<p>In <b>Denmark</b>, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.</p> <p>For <b>CLASS II EQUIPMENT</b> the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>	No such device	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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**ZB ANNEX (normative)  
SPECIAL NATIONAL CONDITIONS (EN)**

Clause	Requirement + Test	Result - Remark	Verdict
1.7.5 (A2:2013)	In <b>Denmark</b> , socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011. For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a. Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b. Justification the Heavy Current Regulations, 6c	No such device	N/A
2.2.4	In <b>Norway</b> , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In <b>Finland, Norway and Sweden</b> there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	Added	N/A
2.3.4	In <b>Norway</b> , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.6.3.3	In the <b>United Kingdom</b> , the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A
2.7.1	In the <b>United Kingdom</b> , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	The EUT is class III equipment.	N/A
2.10.5.13	In <b>Finland, Norway and Sweden</b> , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A
3.2.1.1	In <b>Switzerland</b> , supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:  SEV 6532-2.1991      Plug Type 15    3P+N+PE 250/400 V, 10 A	The EUT is class III equipment, no such part.	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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**ZB ANNEX (normative)  
SPECIAL NATIONAL CONDITIONS (EN)**

Clause	Requirement + Test	Result - Remark	Verdict
	SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A  In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A  SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A  SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A	The EUT is class III equipment, no such part.	N/A
3.2.1.1	In <b>Denmark</b> , supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.  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 poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.	The EUT is class III equipment, no such part.	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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**ZB ANNEX (normative)  
SPECIAL NATIONAL CONDITIONS (EN)**

Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1 (A2:2013)	<p>In <b>Denmark</b>, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1.</p> <p>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.</p> <p>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.</p> <p>Justification the Heavy Current Regulations, 6c</p>	The EUT is class III equipment, no such part.	N/A
3.2.1.1	<p>In <b>Spain</b>, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>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 UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>	The EUT is class III equipment, no such part.	N/A
3.2.1.1	<p>In the <b>United Kingdom</b>, apparatus 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 and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations.</p> <p>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>	The EUT is class III equipment, no such part.	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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**ZB ANNEX (normative)  
SPECIAL NATIONAL CONDITIONS (EN)**

Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In <b>Ireland</b> , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.	The EUT is class III equipment, no such part.	N/A
3.2.4	In <b>Switzerland</b> , for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the <b>United Kingdom</b> , a power supply cord with conductor of 1,25 mm <sup>2</sup> is allowed for equipment with a rated current over 10 A and up to and including 13 A.	The EUT is class III equipment, no such part.	N/A
3.3.4	In the <b>United Kingdom</b> , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is:  • 1,25 mm <sup>2</sup> to 1,5 mm <sup>2</sup> nominal cross-sectional area.	The EUT is class III equipment, no such part.	N/A
4.3.6	In the <b>United Kingdom</b> , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and 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.	The EUT is class III equipment, no such part.	N/A
4.3.6	In <b>Ireland</b> , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.	The EUT is class III equipment, no such part.	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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**ZB ANNEX (normative)  
SPECIAL NATIONAL CONDITIONS (EN)**

Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	<p>In <b>Finland, Norway and Sweden</b> TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:</p> <ul style="list-style-type: none"> <li>• STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON;</li> <li>• STATIONARY PLUGGABLE EQUIPMENT TYPE B;</li> <li>• STATIONARY PERMANENTLY CONNECTED EQUIPMENT.</li> </ul>	The EUT is class III equipment, no such part.	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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**ZB ANNEX (normative)  
SPECIAL NATIONAL CONDITIONS (EN)**

Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1 (A1:2010)	<p>In <b>Finland, Norway and Sweden</b>, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> <li>- two layers of thin sheet material, each of which shall pass the electric strength test below, or</li> <li>- one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.</li> </ul> <p>Alternatively for components, there is no distance through insulation requirements 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</p> <ul style="list-style-type: none"> <li>- passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and</li> <li>- is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.</li> </ul>	The EUT is class III equipment, no such part.	N/A



Clause	Requirement – Test	Result - Remark	Verdict
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**ZB ANNEX (normative)  
SPECIAL NATIONAL CONDITIONS (EN)**

Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> <li>- 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 EN 60950-1:2006, 6.2.2.1;</li> <li>- the additional testing shall be performed on all the test specimens as described in EN 60384-14:</li> <li>- 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.</li> </ul>	The EUT is class III equipment, no such part.	N/A
6.1.2.2	In <b>Finland, Norway and Sweden</b> , the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.	Not such equipment	N/A
7.2	In <b>Finland, Norway and Sweden</b> , for requirements see 6.1.2.1 and 6.1.2.2 of this annex.  The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.	Not such equipment	N/A
7.3 (A11:2009)	In <b>Norway and Sweden</b> , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A

**Annex ZD  
(informative)**



Clause	Requirement – Test	Result - Remark	Verdict
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**IEC and CENELEC code designations for flexible cords**

Type of flexible cord	Code designations	
	IEC	CENELEC
<b>PVC insulated cords</b>		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60277 IEC 53	H05VV-F H05VVH2-F
<b>Rubber insulated cords</b>		
Braided cord	60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
<b>Cords having high flexibility</b>		
Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H



Clause	Requirement – Test	Result - Remark	Verdict
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Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
1.5.1	TABLE: List of critical components				P
Plastic enclosure material	Lotte Chemical Corporation	VH-0815(+)	V-0, 85°C, required thickness is min. 2.0mm, measured thickness is min. 2.0mm	UL 94	UL
PCB material	Aoshikang Precision Circuit (Huizhou) Co Ltd	A-3	V-0, 130°C	UL 796	UL
Or	Interchangeable	--	V-1 or better, min. 105°C	UL 796	UL
-Description:	Interchangeability based on standardized dimensions and specified rating				
Battery pack	Guangdong Zhaoneng Technology Co., Ltd	113450	3.7V, 2000mAh, max. charging current is 2500mA, max. discharging current is 2500mA	IEC 62133-2: 2017	Test report No. NTC2009278SV 00 issued by Dongguan Nore Testing Center Co., Ltd
Lead wire of battery	Dongguan Zhongzheng Wire & Cable Tech Co Ltd	1007	24AWG, 300Vac, 80°C, VW-1	UL 758	UL
Or	Interchangeable	--	Min. 24AWG, min. 300Vac, min. 80°C, VW-1	UL 758	UL
-Description:	Interchangeability based on standardized dimensions and specified rating				
Supplementary information:					
1) An asterisk indicates a mark which assures the agreed level of surveillance					

U (V)	I (mA)	Irated (mA)	P (W)	Fuse #	Ifuse (A)	Condition/status
1.6.2	TABLE: Electrical data (in normal conditions)					P
5.0 Vdc	1010	2000	5.05	--	--	Supplied by external DC source via type C USB port, the EUT was working normally with max. power, internal fully discharged battery was charging <sup>1)</sup>
6.0 Vdc	960	2000	5.76	--	--	Supplied by external DC source via M8 port, the EUT was working normally with max. power, internal fully discharged battery was charging <sup>2)</sup>
30.0 Vdc	160	2000	4.80	--	--	
3.7 Vdc	175	--	0.648	--	--	Supplied by internal fully charged battery, the EUT was working normally with max. power



Clause	Requirement – Test	Result - Remark	Verdict
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Supplementary information:

- 1) The battery charging current is max. 0.906A;
- 2) The battery charging current is max. 0.907A.

2.1.1.5 c) 1)	TABLE: max. V, A, VA test				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
For M8 port:					
--	--	0	0	0	
For type C USB port:					
--	--	0	0	0	
supplementary information:					
--					

2.1.1.5 c) 2)	TABLE: stored energy		N/A
Capacitance C (μF)	Voltage U (V)	Energy E (J)	
--	--	--	
supplementary information:			
--			

2.1.1.7	TABLE: discharge test			N/A
Condition	τ calculated (s)	τ measured (s)	t u→0V	Comments
--	--	--	--	--
supplementary information:--				

2.2	TABLE: evaluation of voltage limiting components in SELV circuits			N/A
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components	
	V peak	V d.c.		
--	--	--	--	
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)			
--	--			
Supplementary information: --				



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2.4	TABLE: limited current circuit measurement		N/A
Location	Voltage (V)	Current (mA)	Comments
--	--	--	--
Supplementary information: --			

2.5	TABLE: limited power sources		P
Circuit output tested:			
Measured Uoc (V) with all load circuits disconnected: See below			
	Isc (A)		VA
	Meas.	Limit	Meas. Limit
For M8 port:			
Normal (Uoc: 0V)	0	≤ 8	0 ≤ 100
PMIC U11 pin 1-13 shorted (Uoc: 0)	0	≤ 8	0 ≤ 100
For type C USB port:			
Normal (Uoc: 0V)	0	≤ 8	0 ≤ 100
PMIC U11 pin 1-13 shorted (Uoc: 0)	0	≤ 8	0 ≤ 100
supplementary information: Sc=Short circuit, Oc=Open circuit			

2.6.3.4 and 2.6.1	TABLE: ground continue test		N/A
Location	resistant measures (Ω)	comments	
--	--	--	
Supplementary information: --			

2.10.2	Table: working voltage measurement		N/A
Location	RMS voltage (V)	Peak voltage (V)	Comments
--	--	--	--
Supplementary information: --			

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements					N/A
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
Functional:						



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Clause	Requirement – Test			Result - Remark		Verdict
--	--	--	--	--	--	--
Basic/supplementary:						
--	--	--	--	--	--	--
Reinforced:						
--	--	--	--	--	--	--
Supplementary information: --						

2.10.5	TABLE: Distance through insulation measurements					N/A
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)	
--	--	--	--	--	--	
Supplementary information:						

4.3.8	TABLE: Batteries								P
The tests of 4.3.8 are applicable only when appropriate battery data is not available								--	P
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	--	--	0.907A	2.5A	0.175A	2.5A	--	--	
Max. current during fault condition (PMIC U11 pin 1-13 shorted)	--	--	2.35A	--	--	--	--	--	
Max. current during fault condition (Battery P- to B-shortened)	--	--	--	--	0.177A	--	--	--	
Test results:									
- Chemical leaks								No chemical leaks.	P
- Explosion of the battery								No explosion.	P
- Emission of flame or expulsion of molten metal								No emission of flame or expulsion of molten metal	P



Clause	Requirement – Test	Result - Remark	Verdict
-	Electric strength tests of equipment after completion of tests	No isolation requirement.	N/A
Supplementary information:			

4.3.8	TABLE: Batteries	P
Battery category.....	Lithium-ion	
Manufacturer.....	Guangdong Zhaoneng Technology Co., Ltd	
Type / model.....	113450	
Voltage.....	3.7V	
Capacity.....	2000mAh	
Tested and Certified by (incl. Ref. No.).....	Certified by Dongguan Nore Testing Center Co., Ltd with test report NTC2009278SV00	
Circuit protection diagram:		

MARKINGS AND INSTRUCTIONS (1.7.13)	
Location of replaceable battery	Inside the EUT
Language(s) .....	English
Close to the battery .....	No
In the servicing instructions .....	Yes
In the operating instructions .....	Yes

4.5	TABLE: Thermal requirements	P		
Supply voltage (V) .....	5.0Vdc <sup>1)</sup>	6.0Vdc <sup>2)</sup>	30.0Vdc <sup>2)</sup>	—
Ambient T <sub>min</sub> (°C) .....	--	--	--	—
Ambient T <sub>max</sub> (°C) .....	--	--	--	—



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Maximum measured temperature T of part/at.....:	T (°C)						Allowed T <sub>max</sub> (°C)
Calculated value for Tma:	--	45.0	--	45.0	--	45.0	--
Ambient temperature during test (Tamb):	26.4	--	26.5	--	27.8	--	--
1. E-cap. C43 body	40.9	59.5	43.9	62.4	37.8	55.0	105
2. PCB surface near U10	41.9	60.5	45.4	63.9	38.4	55.6	105
3. PCB surface near U3	38.1	56.7	39.5	58.0	35.5	52.7	105
4. PCB surface near PMIC U11	45.0	63.6	47.6	66.1	39.8	57.0	105
5. PCB surface near U1	42.9	61.5	45.8	64.3	38.7	55.9	105
6. PCB surface near U20	39.8	58.4	41.9	60.4	36.6	53.8	105
7. PCB surface near TP14	38.8	57.4	39.7	58.2	35.9	53.1	105
8. Plastic enclosure inside near PMIC U11	41.7	60.3	42.9	61.4	37.1	54.3	85
9. Battery body	37.0	55.6	39.8	58.3	33.6	50.8	--
10. Plastic enclosure inside near battery	34.8	53.4	36.1	54.6	32.3	49.5	85
11. Plastic enclosure outside near battery	33.5	52.1	33.3	51.8	31.2	48.4	95
12. Plastic enclosure outside near PMIC U11	40.5	59.1	40.5	59.0	35.8	53.0	95

Supply voltage (V) .....	3.7Vdc <sup>3</sup>	--	--	--	--	--	--
Ambient T <sub>min</sub> (°C) .....	--	--	--	--	--	--	--
Ambient T <sub>max</sub> (°C) .....	--	--	--	--	--	--	--

Maximum measured temperature T of part/at.....:	T (°C)						Allowed T <sub>max</sub> (°C)
Calculated value for Tma:	--	45.0	--	--	--	--	--
Ambient temperature during test (Tamb):	26.8	--	--	--	--	--	--
1. E-cap. C43 body	44.3	62.5	--	--	--	--	105
2. PCB surface near U10	44.8	63.0	--	--	--	--	105
3. PCB surface near U3	39.9	58.1	--	--	--	--	105
4. PCB surface near PMIC U11	45.6	63.8	--	--	--	--	105
5. PCB surface near U1	45.2	63.4	--	--	--	--	105
6. PCB surface near U20	42.0	60.2	--	--	--	--	105
7. PCB surface near TP14	40.2	58.4	--	--	--	--	105
8. Plastic enclosure inside near PMIC U11	43.0	61.2	--	--	--	--	85
9. Battery body	40.5	58.7	--	--	--	--	--
10. Plastic enclosure inside near battery	36.8	55.0	--	--	--	--	85

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11. Plastic enclosure outside near battery	33.8	52.0	--	--	--	--	95
12. Plastic enclosure outside near PMIC U11	40.5	58.7	--	--	--	--	95

Supplementary information:

- 1) Supplied by external DC source via type C USB port, the EUT was working normally with max. power, internal fully discharged battery was charging;
- 2) Supplied by external DC source via M8 port, the EUT was working normally with max. power, internal fully discharged battery was charging;
- 3) Supplied by internal fully charged battery, the EUT was working normally with max. power.

Temperature T of winding:	t <sub>1</sub> (°C)	R <sub>1</sub> (Ω)	t <sub>2</sub> (°C)	R <sub>2</sub> (Ω)	T (°C)	Allowed T <sub>max</sub> (°C)	Insulation class
--	--	--	--	--	--	--	--

Supplementary information:  
The temperatures were measured under worst case normal mode defined in **summary of testing** and as described in 1.6.2 at voltages as above.

4.5.5	TABLE: Ball pressure test of thermoplastic parts						N/A
	Allowed impression diameter (mm) .....: ≤ 2 mm					--	
Part	Test temperature (°C)			Impression diameter (mm)			
--	--			--			

Supplementary information:--

4.6	TABLE: Openings in enclosures						P
Location	dimensions		Comments				
--	--		--				

Supplementary information: See clause 4.6 for the detail

4.7	TABLE: Resistance to fire					P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
Plastic enclosure material	Lotte Chemical Corporation	VH-0815(+)	Min. 2.0	V-0	UL	

Supplementary information:

5.1	TABLE: touch current measurement				N/A
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions		



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--	--	--	--
supplementary information:			

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

5.3	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	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Supplied by external DC source via type C USB port:						
Battery P- to B-	Shorted	5.0Vdc	30 minutes	--	--	The EUT was working normally, battery charging current was max. 0.909A, no damaged, no hazards.
PMIC U11 pin 1-13 shorted	Shorted	5.0Vdc	7 hours	--	--	The EUT was working normally, battery charging current was max. 1.24A, the max. temp: Battery body: 38.7°C, Ambient: 25.5°C, no damaged, no hazards.
C2	Shorted	5.0Vdc	30 minutes	--	--	The unit was shut down immediately, battery charging current was max. 0.152A, no damaged, no hazards.
Supplied by external DC source via M8 port:						



Clause	Requirement – Test				Result - Remark	Verdict
Battery P- to B-	Shorted	30.0Vdc	30 minutes	--	--	The EUT was working normally, battery charging current was max. 0.909A, no damaged, no hazards.
PMIC U11 pin 1-13 shorted	Shorted	30.0Vdc	7 hours	--	--	The EUT was working normally, battery charging current was max. 2.35A, the max. temp: Battery body: 61.1°C, Ambient: 26.2°C, no damaged, no hazards.
C2	Shorted	30.0Vdc	30 minutes	--	--	The unit was shut down immediately, battery charging current was max. 0.152A, no damaged, no hazards.
Supplied by internal fully charged battery:						
Battery P- to B-	Shorted	3.7Vdc	2 hours 33 minutes	--	--	The unit was working normally, battery discharging current was max. 0.177A, the max. temp: Battery body: 41.0°C Ambient: 26.7°C No damaged, no hazards.
C6	Shorted	3.7Vdc	30 minutes	--	--	The unit was shut down immediately, battery charging current was 0A, no damaged, no hazards.
Supplementary information: --						

C.2	TABLE: transformers						N/A
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
--	--	--	--	--	--	--	--
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
--	--			--	--	--	--
supplementary information:							
--							



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Clause	Requirement – Test	Result - Remark	Verdict
C.2	TABLE: transformers		N/A
--			





