TEST REPORT
IEC 60950-1
Information technology equipment – Safety
Part 1: General requirements

Report Number..... :	PTCHX04161101902S-LD01
Date(s) of performance of tests.....:	November 16, 2016 - November 28, 2016
Date of issue.....:	November 30, 2016
Tested by (name + signature)..... :	Silen Peng
Approved by (name + signature)..... :	Chris Du
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Applicant's name.....:	
Address.....:	
Manufacturer's name..... :	
Address.....:	
Test specification:	
Standard..... :	☐ IEC 60950-1:2005(Second Edition)+A1:2009+A2:2013 ☒ EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013
Test procedure .....:	CE-LVD
Test item description..... :	Wireless sport earbuds
Trade Mark..... :	N/A
Model/Type reference.....:	P326.23X
Ratings.....:	5V 100mAh 1A, Class III

Copy of marking plate

Wireless sport earbuds
Model: P326.23X

Importer: XXX
Address: XXXXXX

All models rating label are in the same design except for type designation. Above label was shown for representing the others models.

General product information:

1. Instructions and equipment marking related to safety is applied in the language that is acceptable in the country in which the equipment is to be sold.
2. The product was submitted and tested for use at the manufacturer's recommended ambient temperature (Tma) of 40°C.
3. The test report includes National Differences for EN 60950-1: 2006+A11: 2009+A1: 2010+A12: 2011+A2: 2013.
4. Both models are the same except the model names and appearance colors.

Test item particulars :	
Equipment mobility.....:	[] movable [] hand-held [X] transportable [] stationary [] for building-in [] direct plug-in
Connection to the mains.....:	[] pluggable equipment [] type A [] type B [] permanent connection [] detachable power supply cord [] non-detachable power supply cord [X] not directly connected to the mains
Operating condition.....:	[X] continuous [] rated operating / resting time:
Access location .....:	[X] operator accessible [] restricted access location
Over voltage category (OVC) .....:	[] OVC I [X] OVC II [] OVC III [] OVC IV [] other:
Mains supply tolerance (%) or absolute mains supply values .....:	N/A
Tested for IT power systems .....:	[] Yes [X] No
IT testing, phase-phase voltage (V) .....:	230V
Class of equipment .....:	[] Class I [] Class II [X] Class III [] Not classified
Considered current rating of protective device as part of the building installation (A) .....:	16A; 20A for US and Canada
Pollution degree (PD) .....:	[] PD 1 [X] PD 2 [] PD 3
IP protection class .....:	IPX0
Altitude during operation (m) .....:	Below 2000 m
Altitude of test laboratory (m) .....:	Below 2000 m
Mass of equipment (kg) .....:	0.02Kg
Possible test case verdicts:	
- test case does not apply to the test object :	N/A (Not Applicable)
- test object does meet the requirement :	P (Pass)
- test object does not meet the requirement :	F (Fail)
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. **Throughout this report a ☐ comma / ☐ point is used as the decimal separator.**	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General	Components which were found to affect safety aspects comply with the requirements of this standard or within the safety aspects of the relevant IEC component standards.	P
	Comply with IEC 60950-1 or relevant component standard	See appended tables 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 present in the equipment.	P
1.5.3	Thermal controls	No thermal controls.	N/A
1.5.4	Transformers		N/A
1.5.5	Interconnecting cables		N/A
1.5.6	Capacitors bridging insulation	No such capacitor.	N/A
1.5.7	Resistors bridging insulation		N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.5.9	Surge suppressors		N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs	No VDRs used.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

1.6	Power interface		P
1.6.1	AC power distribution systems		P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor		N/A

1.7	Marking and instructions		P
1.7.1	Power rating and identification markings	See below	P
1.7.1.1	Power rating marking		P
	Multiple mains supply connections	Single power source	P
	Rated voltage(s) or voltage range(s) (V)	5V	P
	Symbol for nature of supply, for d.c. only	⎓	P
	Rated frequency or rated frequency range (Hz)	Class III equipment	N/A
	Rated current (mA or A)		P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark	See Label	P
	Model identification or type reference	See Label	P
	Symbol for Class II equipment only	Class III equipment	N/A
	Other markings and symbols		N/A
1.7.1.3	Use of graphical symbols		N/A
1.7.2	Safety instructions and marking	English version provided. (Version in other language will be provided when submitted for national approval)	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	General	"User's Manual" provided that contains information regarding the maximum ambient temperature.	P
1.7.2.2	Disconnect devices		N/A
1.7.2.3	Overcurrent protective device		N/A
1.7.2.4	IT power distribution systems		N/A
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone	Not such equipment.	N/A
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment	No voltage selector.	N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment	No power outlet used.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)		N/A
1.7.7	Wiring terminals	See below.	N/A
1.7.7.1	Protective earthing and bonding terminals	Class III equipment.	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	No terminals used	N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators	No controls and indicators affect to safety used.	N/A
1.7.8.1	Identification, location and marking	No switches and controls.	N/A
1.7.8.2	Colours		N/A
1.7.8.3	Symbols according to IEC 60417		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.7.8.4	Markings using figures	No indicators for different positions.	N/A
1.7.9	Isolation of multiple power sources	Single power source	N/A
1.7.10	Thermostats and other regulating devices	Such devices not used.	N/A
1.7.11	Durability	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge.	P
1.7.12	Removable parts	No removable part.	N/A
1.7.13	Replaceable batteries	No such battery used	N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations	Not intended for use in restricted access locations.	N/A

2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	No access with test finger and test pin to any hazardous parts.	P
2.1.1.1	Access to energized parts		N/A
	Test by inspection		N/A
	Test with test finger (Figure 2A)		N/A
	Test with test pin (Figure 2B)		N/A
	Test with test probe (Figure 2C)		N/A
2.1.1.2	Battery compartments	No accessible TNV circuit	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible area.	N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage wiring in operator accessible area.	N/A
2.1.1.5	Energy hazards :	The energy does not exceed 240VA between any two points in accessible connector of secondary circuit.	P
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment		N/A
	Measured voltage (V); time-constant (s)		—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply		N/A
	b) Internal battery connected to the d.c. mains supply		N/A
2.1.1.9	Audio amplifiers		N/A
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A

2.2	SELV circuits		P
2.2.1	General requirements	The secondary circuits were tested as SELV. See 2.2.2 to 2.2.4.	P
2.2.2	Voltages under normal conditions (V)		P
2.2.3	Voltages under fault conditions (V)		P
2.2.4	Connection of SELV circuits to other circuits		P

2.3	TNV circuits		N/A
2.3.1	Limits	No TNV circuits.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Type of TNV circuits		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed		—
2.3.5	Test for operating voltages generated externally		N/A

2.4	Limited current circuits		N/A
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A
	Frequency (Hz) :		—
	Measured current (mA) :		—
	Measured voltage (V) :		—
	Measured circuit capacitance (nF or µF) :		—
2.4.3	Connection of limited current circuits to other circuits		N/A

2.5	Limited power sources		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition		P
	Use of integrated circuit (IC) current limiters		P
	d) Overcurrent protective device limited output		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Max. output voltage (V), max. output current (A), max. apparent power (VA) :	Battery output: 4.2V, 0.21A, 0.88VA	—
	Current rating of overcurrent protective device (A) .:		—

2.6	Provisions for earthing and bonding		N/A
2.6.1	Protective earthing	Class III equipment	N/A
2.6.2	Functional earthing		N/A
	Use of symbol for functional earthing .....:		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG :		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG :		—
	Protective current rating (A), cross-sectional area (mm^2), AWG :		N/A
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min) :		N/A
2.6.3.5	Colour of insulation :		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, nominal thread diameter (mm) :		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

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

2.8	Safety interlocks		N/A
2.8.1	General principles	No safety interlocks	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) :		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.8.8	Mechanical actuators		N/A

2.9	Electrical insulation		N/A
2.9.1	Properties of insulating materials	Class III equipment	N/A
2.9.2	Humidity conditioning		N/A
	Relative humidity (%), temperature (°C) :		—
2.9.3	Grade of insulation		N/A
2.9.4	Separation from hazardous voltages		N/A
	Method(s) used :		—

2.10	Clearances, creepage distances and distances through insulation		N/A
2.10.1	General	Class III equipment	N/A
2.10.1.1	Frequency :		N/A
2.10.1.2	Pollution degrees :		N/A
2.10.1.3	Reduced values for functional insulation		N/A
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage		N/A
2.10.2.1	General		N/A
2.10.2.2	RMS working voltage		N/A
2.10.2.3	Peak working voltage		N/A
2.10.3	Clearances		N/A
2.10.3.1	General		N/A
2.10.3.2	Mains transient voltages		N/A
	a) AC mains supply :		N/A
	b) Earthed d.c. mains supplies :		N/A
	c) Unearthed d.c. mains supplies :		N/A
	d) Battery operation :		N/A
2.10.3.3	Clearances in primary circuits		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.4	Clearances in secondary circuits		N/A
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply :		N/A
2.10.3.7	Transients from d.c. mains supply :		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems :		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply :		N/A
	For a d.c. mains supply :		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances		N/A
2.10.4.1	General		N/A
2.10.4.2	Material group and comparative tracking index		N/A
	CTI tests :		—
2.10.4.3	Minimum creepage distances		N/A
2.10.5	Solid insulation		N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5.	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs) :		—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.12	Wire in wound components		N/A
	Working voltage :		N/A
	a) Basic insulation not under stress :		N/A
	b) Basic, supplementary, reinforced insulation		N/A
	c) Compliance with Annex U :		N/A
	Two wires in contact inside wound component; angle between 45° and 90° :		N/A
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage :		N/A
	- Basic insulation not under stress :		N/A
	- Supplementary, reinforced insulation :		N/A
2.10.6	Construction of printed boards		N/A
2.10.6.1	Uncoated printed boards		N/A
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs) :		N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection		P
3.1.2	Protection against mechanical damage		P
3.1.3	Securing of internal wiring		P
3.1.4	Insulation of conductors		P
3.1.5	Beads and ceramic insulators	Not used.	N/A
3.1.6	Screws for electrical contact pressure	No such screws provided.	N/A
3.1.7	Insulating materials in electrical connections	All current carrying connections are metal to metal.	N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors		P
	10 N pull test	Force of 10 N applied to the termination points of the conductors.	P
3.1.10	Sleeving on wiring		N/A

3.2	Connection to a mains supply		N/A
3.2.1	Means of connection		N/A
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections	Only for one mains connection.	N/A
3.2.3	Permanently connected equipment	Unit is not permanently connected equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Number of conductors, diameter of cable and conduits (mm) :		—
3.2.4	Appliance inlets	No appliance inlets used.	N/A
3.2.5	Power supply cords	Not provided.	N/A
3.2.5.1	AC power supply cords		N/A
	Type		—
	Rated current (A), cross-sectional area (mm^2), AWG		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) :		—
	Longitudinal displacement (mm) :		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space		N/A

3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm^2) :		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) :		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.4	Disconnection from the mains supply		N/A
3.4.1	General requirement		N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords	No switch used.	N/A
3.4.6	Number of poles - single-phase and d.c. equipment		N/A
3.4.7	Number of poles - three-phase equipment	Single phase equipment.	N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A

3.5	Interconnection of equipment		P
3.5.1	General requirements	SELV voltage connections for the output.	P
3.5.2	Types of interconnection circuits :	Interconnection circuits of SELV through the connector. No ELV interconnection circuits.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection circuits	P
3.5.4	Data ports for additional equipment	No such ports	P

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A
	Angle of 10°	<7kg	N/A
	Test force (N) :		N/A

4.2	Mechanical strength		N/A
4.2.1	General		N/A
	Rack-mounted equipment.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.2	Steady force test, 10 N		N/A
4.2.3	Steady force test, 30 N	No internal enclosure.	N/A
4.2.4	Steady force test, 250 N		N/A
4.2.5	Impact test		N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm) :		N/A
4.2.7	Stress relief test		N/A
4.2.8	Cathode ray tubes	No CRT in the unit.	N/A
	Picture tube separately certified :		N/A
4.2.9	High pressure lamps	No high pressure lamp provided.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N)	Not wall or ceiling mounted equipment.	N/A
4.2.11	Rotating solid media		N/A
	Test to cover on the door……:		N/A

4.3	Design and construction		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 handles or controls provided.	N/A
4.3.3	Adjustable controls	No such controls provided.	N/A
4.3.4	Securing of parts	Mechanical fixings in such a way designed that they will withstand mechanical stress occurring in normal use.	P
4.3.5	Connection by plugs and sockets	No mismatching of connectors, plugs or sockets possible.	N/A
4.3.6	Direct plug-in equipment		N/A
	Torque :		—
	Compliance with the relevant mains plug standard		N/A
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- Overcharging of a rechargeable battery		P
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		P
	- Excessive discharging rate for any battery		P
4.3.9	Oil and grease	No oil or grease.	N/A
4.3.10	Dust, powders, liquids and gases	Equipment in intended use not considered to be exposed to these.	N/A
4.3.11	Containers for liquids or gases	No container for liquid or gas.	N/A
4.3.12	Flammable liquids :	No such flammable liquid.	N/A
	Quantity of liquid (l) :		N/A
	Flash point (°C) :		N/A
4.3.13	Radiation	No radiation	N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) :		—
	Measured high-voltage (kV) :		—
	Measured focus voltage (kV) :		—
	CRT markings :		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification :		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs		N/A
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class :		—
4.3.13.5.2	Light emitting diodes (LEDs)		N/A
4.3.13.6	Other types :		N/A

4.4	Protection against hazardous moving parts		N/A
4.4.1	General	No hazardous moving parts	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.4.2	Protection in operator access areas :		N/A
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations :		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		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		N/A
	Use of symbol or warning ……..:		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning ……..:		N/A

4.5	Thermal requirements		P
4.5.1	General		P
4.5.2	Temperature tests		P
	Normal load condition per Annex L :		—
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 :		N/A

4.6	Openings in enclosures		N/A
4.6.1	Top and side openings	No openings.	N/A
	Dimensions (mm) :		—
4.6.2	Bottoms of fire enclosures		N/A
	Construction of the bottomm, dimensions (mm)		—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Dimensions (mm) :		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks) :		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	No excessive temperatures. No easily burning materials employed. Fire enclosure provided.	P
	Method 1, selection and application of components wiring and materials		P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	Fire enclosure provided.	P
4.7.2.1	Parts requiring a fire enclosure		P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General		P
4.7.3.2	Materials for fire enclosures		P
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures		P
4.7.3.5	Materials for air filter assemblies	No air filters provided.	N/A
4.7.3.6	Materials used in high-voltage components	No high voltage components provided.	N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		N/A
5.1.1	General		N/A
5.1.2	Configuration of equipment under test (EUT)		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.2.1	Single connection to an a.c. mains supply		N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit		N/A
5.1.4	Application of measuring instrument		N/A
5.1.5	Test procedure		N/A
5.1.6	Test measurements		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		N/A
5.1.7.1	General :		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	No TNV.	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		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		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

5.2	Electric strength	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.1	General		N/A
5.2.2	Test procedure		N/A

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation		N/A
5.3.2	Motors		N/A
5.3.3	Transformers		N/A
5.3.4	Functional insulation :	By short-circuited, results see appended table 5.3.	P
5.3.5	Electromechanical components	No electromechanical component.	N/A
5.3.6	Audio amplifiers in ITE :		N/A
5.3.7	Simulation of faults		P
5.3.8	Unattended equipment	No such equipment.	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	No fire propagated beyond the equipment. No molten metal was emitted. Electric strength test primary to SELV was passed.	P
5.3.9.1	During the tests	No fire or molten metal occurred and no deformation of enclosure during the tests.	P
5.3.9.2	After the tests		P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		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		N/A
	Supply voltage (V) :		—
	Current in the test circuit (mA) :		—
6.1.2.2	Exclusions :		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test	(see appended table 5.2)	N/A
6.2.2.2	Steady-state test	(see appended table 5.2)	N/A
6.2.2.3	Compliance criteria		N/A
6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A) :		—
	Current limiting method :		—
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General		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		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples :		—
	Wall thickness (mm) :		—
A.1.2	Conditioning of samples; temperature (°C) :		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
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) :		—
A.2	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)		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) :		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		N/A
	Position :		—
	Manufacturer :		—
	Type :		—
	Rated values :		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days) :		—
	Electric strength test: test voltage (V) :		—
B.6	Running overload test for d.c. motors in secondary circuits		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.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) :		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V) :		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Position :		—
	Manufacturer :		—
	Type :		—
	Rated values :		—
	Method of protection :		—
C.1	Overload test		N/A
C.2	Insulation		N/A
	Protection from displacement of windings :		N/A

D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		N/A
D.1	Measuring instrument		N/A
D.2	Alternative measuring instrument		N/A

E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A

F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		N/A

G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply :		N/A
G.2.2	Earthed d.c. mains supplies :		N/A
G.2.3	Unearthed d.c. mains supplies :		N/A
G.2.4	Battery operation :		N/A
G.3	Determination of telecommunication network transient voltage (V) :		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances :		N/A

H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A

J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N/A
	Metal(s) used :		—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) :		N/A
K.3	Thermostat endurance test; operating voltage (V)		N/A
K.4	Temperature limiter endurance; operating voltage (V) :		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation	(see appended table 5.3)	N/A

L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		N/A
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		N/A

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		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 :		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) :		N/A

N	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)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

P	ANNEX P, NORMATIVE REFERENCES		—

Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		N/A
	- Preferred climatic categories :		N/A
	- Maximum continuous voltage :		N/A
	- Combination pulse current :		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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

R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A

S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A

T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
		See separate test report	—

U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N/A
		See separate test report	—

V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		N/A
V.1	Introduction		N/A
V.2	TN power distribution systems		N/A

W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A

X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A

Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus :		N/A
Y.2	Mounting of test samples :		N/A
Y.3	Carbon-arc light-exposure apparatus :		N/A
Y.4	Xenon-arc light exposure apparatus :		N/A

Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)	N/A

AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)	N/A

BB	ANNEX BB, CHANGES IN THE SECOND EDITION	—

CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		N/A
CC.1	General		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

DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N……..:		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
DD.3	Mechanical strength test, 250N, including end stops……:		N/A
DD.4	Compliance……:		N/A

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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: List of critical components				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity[1])
PCB	Various	Various	V-1, 105°C	UL 94, UL 746	UL
Enclosure material	Various	Various	V-1, Min.80°C	UL 94, UL 746	UL
Li-polymer battery	Various	Various	3.7Vdc, 80mAh	EN/IEC 62133	CE
Supplementary information: [1]) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

IEC 60950-1							
Clause	Requirement + Test				Result - Remark		Verdict
1.6.2	TABLE: Electrical data (in normal conditions)						P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
3.7VDC	0.06	--	0.22	--	--	EUT working normally(charge)	
3.7VDC	0.04	--	0.15	--	--	EUT working normally(discharge)	
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:							
--	--	--	--	--	--	--	
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:						

4.5.1	**TABLE: temperature rise measurements**			**P**
	Test condition ……..……..:	Test 1: EUT working normally(charge)		--
	Test condition ……..……..:	Test 2: EUT working normally(discharge)		--
	t1 (°C)……...:	--	--	--
	t2 (°C)……..…..:	--	--	--
Temperature rise dT of part/at:		T(°C)		Required

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

	Test 1	Test 2	Tmax (°C)
PCB near Q1	44.5	43.8	105
PCB near U1	47.6	48.5	105
Battery	44.5	45.9	70
Enclosure inside	45.3	45.0	--
Enclosure outside	43.7	43.1	80
Ambient	40.0	40.0	--

Remark:

1) T shall not exceed (Tmax + Tamb – Tma), see clause 1.4.12.

T: is the temperature of the given part measured under the prescribed test conditions;

Tmax: is the maxnmum temperature specified for compliance with the test;

Tamb: is the ambient temperature during test;

Tma: is the maximum ambient temperature during permitted by the manufacturer's specification, see below 2).

2) The maximum ambient temperature is +40℃

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:		

4.7	TABLE: Resistance to fire				N/A
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
--	--	--	--	--	--
Supplementary information:					

5.1	TABLE: touch current measurement	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Measured between:	Measured (mA)	Limit (mA)	Comments/conditions
--	--	--	--
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) :			40.0			—
	Power source for EUT: Manufacturer, model/type, output rating :			N/A			—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	

IEC 60950-1							
Clause	Requirement + Test				Result - Remark		Verdict
Overcharging	Short circuit (D1)	3.7	7 h.	--	--	Constant temperature, the temperature of battery body is 48.6°C, no hazard.	
Overcharging	--	3.8	7 h.	--	--	Constant temperature, the temperature of battery body is 50.2°C, no hazard.	
Excessive discharging	Short circuit (Q2)	4.2	7 h.	--	--	Constant temperature, the temperature of battery body is 53.5°C, no hazard.	
Supplementary information:							

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT 2 TO TEST REPORT IEC 60950-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to	EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013
Attachment Form No.	EU_GD_IEC60950_1B_II
Attachment Originator	SGS Fimko Ltd
Master Attachment	Date 2011-08

Group differences		
COMMON MODIFICATIONS		
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations	--
Contents (A2: 2013)	Add the following: Annex ZD (informative) IEC and CENELEC code designations for flexible cords	P
Whole document (A2: 2013)	Delete all the “country” notes in the reference document according to the following list: 2.7.1 | Note * | 2.10.3.1 | Note 2 | 6.2.2 | Note * Note of secretary: Text of Common Modification remains unchanged For special national conditions, see Annex ZB.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
General	Delete all the “country” notes in the reference document according to the following list: 1.4.8 Note 2 1.5.8 Note 2 2.2.3 Note 2.3.2.1 Note 2 2.7.1 Note 3.2.1.1 Note 4.3.6 Note 1 & 2 4.7.3.1 Note 2 6 Note 2 & 5 6.2.2 Note 7.1 Note 3 G.2.1 Note 2		P
General (A1:2010)	In IEC 60950-1:2005/A1 delete all the “country” notes 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		N/A
1.1.1 (A1:2010)	Replace the text of NOTE 3 by the following NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies.		N/A
1.2.3 (A1:2010)	Add the following definition: 1.2.3.Z1 PORTABLE SOUND SYSTEM small battery powered audio equipment: − whose prime purpose is to listen to recorded or broadcasted sound; and − that uses headphones or earphones that can be worn in or on or around the ears; and − that allows the user to walk around NOTE Examples are mini-disk or CD players; MP3 audio players or similar equipment.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for “one package equipment”, and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.		N/A
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC		N/A
1.7.2.1	Add the following NOTE: NOTE Z1 In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss		P
1.7.2.1 (A1:2010)	Delete NOTE Z1. Add the following paragraph at the end of the subclause: In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	Replace the subclause as follows: Basic requirements 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): 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; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		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.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5.1	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”. In Table 3B, replace the first four lines by the following: | Up to and including 6 | Over 6 up to and including 10 | (0,75) [b] 1,0 | | Over 10 up to and including 16 | (1,0) [c] 1,5 | In the conditions applicable to Table 3B delete the words “in some countries” in condition [a]. In NOTE 1, applicable to Table 3B, delete the second sentence.		N/A
3.2.5.1 (A2: 2013)	Add the following Note: NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD.		N/A
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: | Over 10 up to and including 16 | 1,5 to 2,5 | 1,5 to 4 | Delete the fifth line: conductor sizes for 13 to 16 A.		N/A
4.3.13.6	Add the following NOTE: NOTE Z1 Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to : 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 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). 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	Replace the last paragraph of this annex by: 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. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Biblio-graphy	Add the following standards: EN 50332-1:2000, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for “one package equipment” EN 50332-2:2003, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Matching of sets with headphones if either or both are offered separately Add the following notes for the standards indicated: IEC 60127 NOTE Harmonized in EN 60127 series (not modified). IEC 60369-2-1 NOTE Harmonized as HD 60369-2-1:2005 (modified). IEC 60364-4-41 NOTE Harmonized as HD 384.4.41 S2:1996 (modified). IEC 60529 NOTE Harmonized as EN 60529:1991 (not modified). IEC 60664-4 NOTE Harmonized as EN 60664-4:2006 (not modified). IEC 60728-11 NOTE Harmonized as EN 60728-11:2005 (modified). IEC 60896-21 NOTE Harmonized as EN 60896-21:2004 (not modified). IEC 60896-22 NOTE Harmonized as EN 60896-22:2004 (not modified). IEC 61032 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61140 NOTE Harmonized as EN 61140:2002 (not modified). IEC 61558-1 NOTE Harmonized as EN 61558-1:2005 (not modified). IEC 61643-21 NOTE Harmonized as EN 61643-21:2001 (not modified). IEC 61643-311 NOTE Harmonized as EN 61643-311:2001 (not modified). IEC 61643-321 NOTE Harmonized as EN 61643-321:2002 (not modified).		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	IEC 61643-331 NOTE Harmonized as EN 61643-331:2003 (not modified). IEC 61965 NOTE Harmonized as EN 61965:2003 (not modified). ISO 4892 NOTE Harmonized in EN ISO 4892 series (not modified).		P
Biblio-graphy (A1:2010)	Add the following note for the standard indicated: IEC 60908 NOTE Harmonized as EN 60908.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
ZA (A2: 2013)	Normative references to international publications with their corresponding European publications The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.		P

Publication	Year	Title	EN/HD	Year
-	-	Sound system equipment: Headphones and earphones associated with portable audio equipment — Maximum sound pressure level measurement methodology and limit considerations — Part 1: General method for "one package equipment"	EN 50332-1	-
-	-	Sound system equipment: Headphones and earphones associated with portable audio equipment — Maximum sound pressure level measurement methodology and limit considerations — Part 2: Matching of sets with headphones if either or both are offered separately	EN 50332-2	-
-	-	Insulating, sheathing and covering materials for low-voltage energy cables	EN 50363	all parts
-	-	Electrical test methods for low voltage energy cables	EN 50395	-
-	-	Non electrical test methods for low voltage energy cables	EN 50396	-
IEC 60065 (mod) A1 (mod) A2 (mod)	2001 2005 2010	Audio, video and similar electronic apparatus – Safety requirements	EN 60065 A1 A11 A2 A12	2002 2006 2008 2010 2011
IEC 60068-2-78	-	Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state	EN 60068-2-78	-

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
	Publication	Year	Title	EN/HD	Year	P
	IEC 60073	-	Basic and safety principles for man-machine interface, marking and identification – Coding principles for indication devices and actuators	EN 60073	-	
	IEC/TR 60083	-	Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC	-	-	
	IEC 60085	2004	Electrical insulation – Thermal evaluation and designation	EN 60085	2004 [1)]	
	IEC 60112	-	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	-	
	IEC 60127-1	-	Miniature fuses – Part 1: Definitions for miniature fuses and general requirements for miniature fuse-links	EN 60127-1	-	
	IEC 60227-1	2007	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 1: General requirements	- [2)]	-	
	IEC 60227-2 A1	1997 2003	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 2: Test methods	- [2)]	-	
	IEC 60245	all parts	Rubber insulated cables – Rated voltages up to and including 450/750V	- [3)]	-	
	IEC 60309	all parts	Plugs, socket-outlets and couplers for industrial purposes – Part 1: General requirements	EN 60309	all parts	
	IEC 60317	all parts	Specifications for particular types of winding wires	EN 60317	all parts	
	IEC 60317-43	-	Specifications for particular types of winding wires – Part 43: Aromatic polyimide tape wrapped round copper wire, class 240	EN 60317-43	-	
	1) IEC 60085:2004 is superseded by IEC 60085:2007 which is harmonised as EN 60085:2008. 2) The HD 21 series is related to, but not directly equivalent with the IEC 60227 series. Also EN 50363, EN 50395 and EN 50396 are to be taken into account. 3) The HD 22 series is related to, but not directly equivalent with the IEC 60245 series. Also EN 50363, EN 50395 and EN 50396 are to be taken into account.					

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
	Publication	Year	Title	EN/HD	Year	N/A
	IEC 60320	all parts	Appliance couplers for household and similar general purposes	EN 60320	all parts	
	IEC 60364-1 (mod)	2001	Electrical installations of buildings – Part 1: Fundamental principles, assessment of general characteristics, definitions	HD 384.1 S2	2001	
	IEC 60384-14	2005	Fixed capacitors for use in electronic equipment – Part 14: Sectional specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains	EN 60384-14	2005	
	IEC 60417	Data-base	Graphical symbols for use on equipment	-	-	
	IEC 60664-1 A1 A2	1992 2000 2002	Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests	EN 60664-1	2003 4)	
	IEC 60695-2-11	-	Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products	EN 60695-2-11	-	
	IEC 60695-2-20	-	Fire hazard testing – Part 2-20: Glowing/hot-wire based test methods – Hot-wire coil ignitability – Apparatus, test method and guidance	-	-	
	IEC 60695-10-2	-	Fire hazard testing – Part 10-2: Abnormal heat – Ball pressure test	EN 60695-10-2	-	
	IEC 60695-10-3	-	Fire hazard testing – Part 10-3: Abnormal heat – Mould stress relief distortion test	EN 60695-10-3	-	
	IEC 60695-11-3	-	Fire hazard testing – Part 11-3: Test flames –500 W flames – Apparatus and confirmational test methods	EN 60695-11-3	-	
	IEC 60695-11-4	-	Fire hazard testing – Part 11-4: Test flames –50 W flame – Apparatus and confirmational test method	EN 60695-11-4	-	
	4) IEC 60664-1:1992 is superseded by IEC 60664-1:2007 which is harmonised as EN 60664-1:2007.					

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
	Publication	Year	Title	EN/HD	Year	N/A
	IEC 60695-11-5	2004	Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance	EN 60695-11-5	2004	
	IEC 60695-11-10	-	Fire hazard testing – Part 11-10: Test flames – 50 W horizontal and vertical flame test methods	EN 60695-11-10	-	
	IEC 60695-11-20	-	Fire hazard testing – Part 11-20: Test flames – 500 W flame test methods	EN 60695-11-20	-	
	IEC 60730-1 (mod) A1	1999 2003	Automatic electrical controls for household and similar use – Part 1: General requirements	EN 60730-1 A1	2000 [5)] 2004	
	IEC 60747-5-5	2007	Semiconductor devices – Discrete devices – Part 5-5: Optoelectronic devices – Photocouplers	EN 60747-5-5	2011	
	IEC 60825-1	-	Safety of laser products – Part 1: Equipment classification and requirements	EN 60825-1	-	
	IEC 60825-2	-	Safety of laser products – Part 2: Safety of optical fibre communication systems (OFCS)	EN 60825-2	-	
	IEC/TR 60825-9	-	Safety of laser products – Part 9: Compilation of maximum permissible exposure to incoherent optical radiation	-	-	
	IEC 60825-12	-	Safety of laser products – Part 12: Safety of free space optical communication systems used for transmission of information	EN 60825-12	-	
	IEC 60851-3	2009	Winding wires – Test methods – Part 3: Mechanical properties	EN 60851-3	2009	
	IEC 60851-5	2008	Winding wires – Test methods – Part 5: Electrical properties	EN 60851-5	2008	
	IEC 60851-6 A1 A2	1996 1997 2003	Winding wires – Test methods – Part 6: Thermal properties	EN 60851-6 A1 A2	1996 1997 2004	
	5) IEC 60730-1:1999 is superseded by IEC 60730-1:2000 which is harmonised as EN 60730-1:2011, modified.					

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
	Publication	Year	Title	EN/HD	Year	N/A
	IEC 60885-1	1987	Electrical test methods for electric cables – Part 1: Electrical tests for cables, cords and wires for voltages up to and including 450/750 V	-	-	
	IEC 60906-1	-	IEC system of plugs and socket-outlets for household and similar purposes – Part 1: Plugs and socket-outlets 16 A 250 V a.c.	-	-	
	IEC 60906-2	-	IEC system of plugs and socket-outlets for household and similar purposes – Part 2: Plugs and socket-outlets 15 A 125 V a.c. and 20 A 125 V a.c.	-	-	
	IEC 60947-1	-	Low-voltage switchgear and controlgear – Part 1: General rules	EN 60947-1	-	
	IEC 60990	1999	Methods of measurement of touch current and protective conductor current	EN 60990	1999	
	IEC 60998-1	-	Connecting devices for low-voltage circuits for household and similar purposes – Part 1: General requirements	EN 60998-1	-	
	IEC 60999-1	-	Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included)	EN 60999-1	-	
	IEC 60999-2	-	Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 2: Particular requirements for clamping units for conductors above 35 mm² up to 300 mm² (included)	EN 60999-2	-	
	IEC 61051-2	1991	Varistors for use in electronic equipment – Part 2: Sectional specification for surge suppression varistors	-	-	
	IEC 61058-1 (mod) A1 A2	2000 2001 2007	Switches for appliances – Part 1: General requirements	EN 61058-1 A2	2002 2008	

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Clause	Requirement + Test	Result - Remark	Verdict

Publication	Year	Title	EN/HD	Year
IEC 62133	2012	Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications	EN 62133	2013
IEC 62368-1	-	Audio/video, information and communication technology equipment – Part 1: Safety requirements	FprEN 62368	-
IEC 62471 (mod)	2006	Photobiological safety of lamps and lamp systems	EN 62471	2008
ISO 178	-	Plastics - Determination of flexural properties	EN ISO 178	-
ISO 179	all parts	Plastics - Determination of Charpy impact properties	EN ISO 179	all parts
ISO 180	-	Plastics - Determination of Izod impact strength	EN ISO 180	-
ISO 261	-	ISO general purpose metric screw threads - General plan	-	-
ISO 262	-	ISO general purpose metric screw threads - Selected sizes for screws, bolts and nuts	-	-
ISO 527	all parts	Plastics – Determination of tensile properties	EN ISO 527	all parts
ISO 3864	all parts	Graphical symbols – Safety colours and safety signs	-	-
ISO 4892-1	-	Plastics – Methods of exposure to laboratory light sources – Part 1: General guidance	EN ISO 4892-1	-
ISO 4892-2	-	Plastics – Methods of exposure to laboratory light sources – Part 2: Xenon-arc lamps	EN ISO 4892-2	-
ISO 4892-4	-	Plastics – Methods of exposure to laboratory light sources – Part 4: Open-flame carbon-arc lamps	-	-
ISO 7000	-	Graphical symbols for use on equipment – Registered symbols	-	-
ISO 8256	-	Plastics – Determination of tensile-impact strength	EN ISO 8256	-

N/A

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
	Publication	Year	Title	EN/HD	Year	N/A
	ISO 9772	-	Cellular plastics – Determination of horizontal burning characteristics of small specimens subjected to a small flame	-	-	
	ISO 9773	-	Plastics – Determination of burning behaviour of thin flexible vertical specimens in contact with a small-flame ignition source	EN ISO 9773	-	
	ITU-T Recommendation K44	-	Resistibility tests for telecommunication equipment exposed to overvoltages and overcurrents – Basic Recommendation	-	-	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
ZB	Special national conditions Special national condition: National characteristic or practice that cannot be changed even over a long period, e.g. climatic conditions, electrical earthing conditions. NOTE If it affects harmonization, it forms part of the European Standard. For the countries in which the relevant special national conditions apply these provisions are normative, for other countries they are informative.		N/A
1.2.4.1	In **Denmark**, 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.		N/A
1.2.13.14 (A11:2009)	Add as new SNC: In **Norway** and **Sweden**, for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1 (A11:2009)	Replace the existing SNC by the following: In **Finland, Norway** and **Sweden**, 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.		N/A
1.5.8	In **Norway**, 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).		N/A
1.5.9.4	In **Finland, Norway** and **Sweden**, the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1 (A2: 2013)	In **Denmark**, **Finland**, **Norway** and **Sweden**, 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. The marking text in the applicable countries shall be as follows: In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.” In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”		N/A
1.7.5 (A2: 2013)	In **Denmark**, 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		N/A
2.2.4	In **Norway**, 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 **Finland, Norway** and **Sweden** there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.3.4	In **Norway**, 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 **United Kingdom**, the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A
2.7.1	In the **United Kingdom**, 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.		N/A
2.10.5.13	In **Finland, Norway** and **Sweden**, 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 **Switzerland**, 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 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, 16 A SEV 5934-2.1998 Plug Type 23 L+N+PE 250 V, 16 A		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1 (A2: 2013)	In **Denmark**, 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. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Justification the Heavy Current Regulations, 6c		N/A
3.2.1.1	In **Spain**, 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. 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. 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. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In the **United Kingdom**, 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. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.1.1	In **Ireland**, 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.		N/A
3.2.4	In **Switzerland**, for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the **United Kingdom**, a power supply cord with conductor of 1,25 mm^2 is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the **United Kingdom**, 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^2 to 1,5 mm^2 nominal cross-sectional area.		N/A
4.3.6	In the **United Kingdom**, 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.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.6	In **Ireland**, 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.		N/A
5.1.7.1	In **Finland, Norway** and **Sweden** TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • 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; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1 (A1:2010)	In **Finland, Norway** and **Sweden**, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. Alternatively for components, there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 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 - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.2	In **Finland, Norway** and **Sweden**, 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.		N/A
7.2	In **Finland, Norway** and **Sweden**, 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.		N/A
7.3 (A11:2009)	Delete the existing SNC for Norway and Sweden (based on NOTE 1 of IEC 60950-1:2005 + corr. 1). Add as new SNC (based on future NOTE 3 of IEC 60950-1:200X): In **Norway** and **Sweden**, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A
7.3	In **Norway**, for installation conditions see EN 60728-11:2005.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
ZC	A-deviations A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CENELEC national member. This European Standard falls under Directives RTTED (1999/5/EC) and LVD (2006/95/EC). NOTE (from CEN/CENELEC IR Part 2:2002 , 2.17) Where standards fall under EC Directives, it is the view of the Commission of the European Communities (OJ No C 59, 1982-03-09) that the effect of the decision of the Court of Justice in case 815/79 Cremonini/Vrankovich (European Court Reports 1980, p. 3583) is that compliance with A-deviations is no longer mandatory and that the free movement of products complying with such a standard should not be restricted except under the safeguard procedure provided for in the relevant Directive. A-deviations in an EFTA-country are valid instead of the relevant provisions of the European Standard in that country until they have been removed.		N/A
1.5.1	**Switzerland** (Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury.) Add the following: NOTE In **Switzerland**, switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.7.2.1	**Germany** (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2). If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market. Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.		N/A
1.7.13	**Switzerland** (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries) Annex 2.15 of SR 814.81 applies for batteries.		N/A
(A12:2011)	Zx. Protection against excessive sound pressure from personal music players		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.1 General 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. A personal music player is a portable equipment for personal use, that: - is designed to allow the user to listen to recorded or broadcast sound or video; and - primarily uses headphones or earphones that can be worn in or on or around the ears; and - allows the user to walk around while in use. 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. 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. The requirements in this sub-clause are valid for music or video mode only. The requirements do not apply: - while the personal music player is connected to an external amplifier; or - while the headphones or earphones are not used. 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. The requirements do not apply to: - hearing aid equipment and professional equipment; 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. - 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

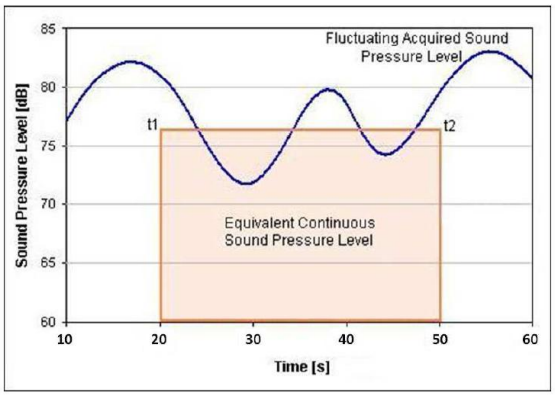
IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following: - equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed “programme simulation noise" as described in EN 50332-1; and - a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise" as described in EN 50332-1. NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx. All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and 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 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 NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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. d) have a warning as specified in Zx.3; and e) not exceed the following: 1) equipment provided as a package (player with its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed “programme simulation noise" described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise" described in EN 50332-1. For music where the average sound pressure (long term $L_{Aeq,T}$) 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. NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) 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. 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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: - the symbol of Figure 1 with a minimum height of 5 mm; and - the following wording, or similar: “To prevent possible hearing damage, do not listen at high volume levels for long periods.”  **Figure 1 – Warning label (IEC 60417-6044)** 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.		N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise" described in EN 50332-2 shall be ≥ 75 mV. 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). NOTE The values of 94 dBA - 75 mV correspond with 85dBA - 27 mV and 100 dBA - 150 mV.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.4.2 Wired listening devices with digital input 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 $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. 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.). NOTE An example of a wired listening device with digital input is a USB headphone.		N/A
	Zx.4.3 Wireless listening devices 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 above-mentioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.		N/A
	Zx.5 Measurement methods 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. NOTE Test method for wireless equipment provided without listening device should be defined.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Annex Zx (A12:2011)	Significance of $L_{Aeq,T}$ in EN 50332-1 and additional information $L_{Aeq,T}$ is derived from the general formula for equivalent sound pressure: $$L_{eq} = 10\log\left[\frac{1}{t_2 - t_1}\int_{t_1}^{t_2}\frac{p_A^2}{p_0^2}dt\right]$$ This can be represented graphically as follows:  In EN 50332-1 the measurement time interval (t2 -t1) is 30 s. In practice, and for the purposes of listening to personal music player content, $L_{Aeq,T}$ has a time interval T (t2 - t1) in the order of minutes / hours and not seconds. 6.5 (Limitation value) of EN 50332-1:2000 acknowledges this fact and states that the 100 dB limit equates to a long time average of 90 dB $L_{Aeq,T}$. By using the IEC 60268-1 “programme simulation noise" test signal, this also takes the spectral content into account. The SCENHIR[1] report states that 80 dBA is considered safe for an exposure time of 40 h/week. Most persons do not listen to 40 h/week to their personal music player. In addition, not all music tracks are at the same level of the simulated noise signal. Whilst modern music tends to be at around the same level, most of the available music is at a lower average level. Therefore, the working group[2] considers a value of 85 dBA to be safe for an overwhelming majority of the users of personal music players.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	[1] SCENIHR opinion of 23 Sept 2008: Potential health risks of exposure to noise from personal music players and mobile phones including a music playing function [2] CENELEC TC108X/WG03		N/A

ZD	IEC and CENELEC code designations for flexible cords			N/A
				N/A
	Type of flexible cord	Code designations		
		IEC	CENELEC	
	PVC insulated cords			
	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	60227 IEC 53	H05VV-F H05VVH2-F	
	Rubber insulated cords			
	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	
	Cords having high flexibility			
	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	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Photo

1

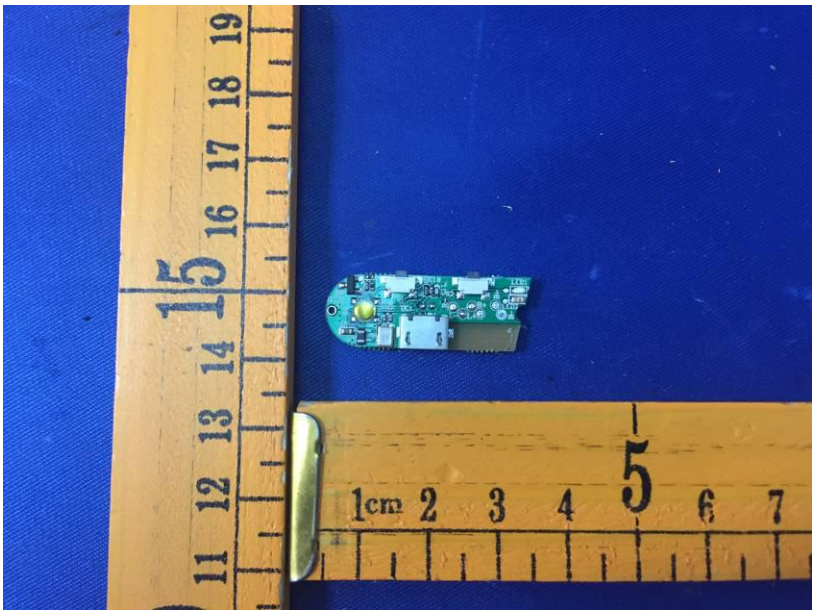
2

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

3

4

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict



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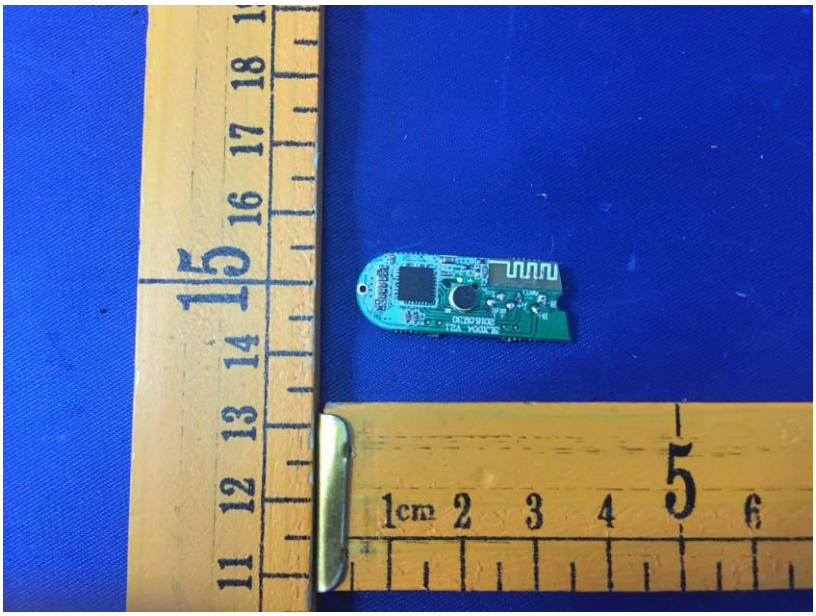

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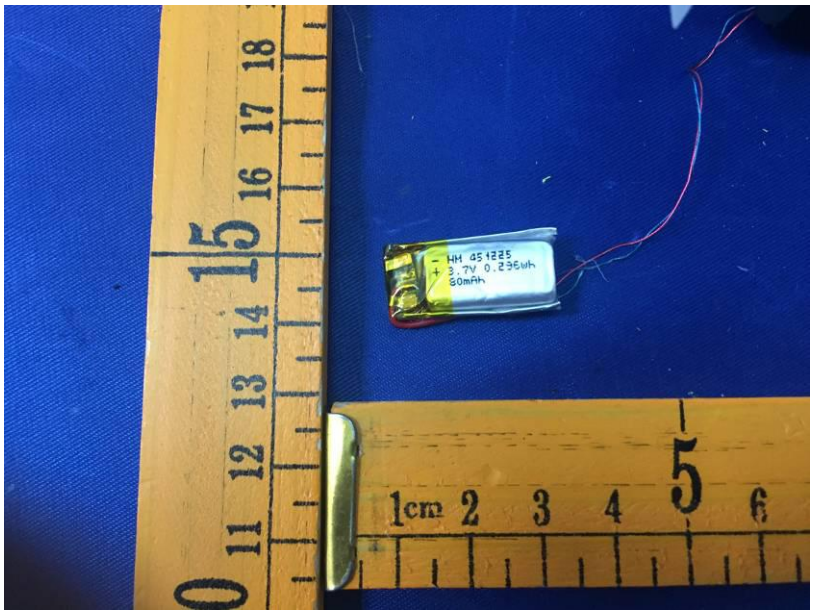
IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
			
	7		
			
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— End of report —