APPLICATION FOR R & TTE DIRECTIVE

On Behalf of

Zhengzhou Eshow Import and Export Trade Co., Ltd.

Two way radio

Model No.: RT5

Prepared for : Zhengzhou Eshow Import and Export Trade Co., Ltd.

Address: Room 722, Sanjiang Building, No. 170, Nanyang Road, Huiji District, Zhengzhou City, Henan, China.

Prepared By : Beide (UK) Product Service Limited

Address: 6F, Bldg E, Hourui 3rd Ind Zone, Xixiang, Bao'an Dist, Shenzhen, China

Date of Test: Apr. 13-25, 2016

Date of Report: Apr. 26, 2016

Report Number: B-S16049602

Version Number: REV0

TEST REPORT

IEC/EN 60950-1

Information technology equipment – Safety –

Part 1: General requirements

Report Reference No. ..... :	B-S16049602
Tested by (printed name and signature) ..... :	Rocky
Checked by (printed name and signature) ..... :	Apollo
Approved by (printed name and signature) ..... :	Bruce
Testing laboratory Name ..... :	Beide (UK) Product Service Limited
Address ..... :	6F, Bldg E, Hourui 3rd Ind Zone, Xixiang, Bao'an Dist, Shenzhen, China
Applicant's Name ..... :	Zhengzhou Eshow Import and Export Trade Co., Ltd.
Address ..... :	Room 722, Sanjiang Building, No. 170, Nanyang Road, Huiji District, Zhengzhou City, Henan, China.
Test specification	
Standard ..... :	EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013
Test procedure ..... :	CE-scheme
Non-standard test method..... :	N.A.
Test item Description ..... :	Two way radio
Trademark ..... :	N.A.
Model and/or type reference ..... :	RT5
Manufacturer..... :	Shenzhen Retevis Technology Co.,Ltd.
Address ..... :	Room 700, 7/F., 13-C, Zhonghaixin Science &Technology Park, No.12 Ganli 6th Road, Buji Street, Longgang District, Shenzhen, China

Ratings .....:	Lithium battery: 7.4V⎓, 1800mAh Battery charge base input: 10V⎓, 0.5A (supplied by an approved adapter i/p: AC 100-240V, 50/60Hz, 0.25A o/p: 10V⎓, 0.5A)

Test item particulars:	
Equipment mobility	☒ movable ☐ hand-held ☐ stationary ☐ fixed ☐ transportable
Connection to the mains	☐ pluggable equipment ☐ direct plug-in ☐ permanent connection ☐ for building-in ☒ not directly connected to the mains
Operating condition	☒ continuous ☐ short-time ☐ intermittent
Over voltage category	☐ OVC I ☐ OVC II ☐ OVC III ☐ OVC IV
Mains supply tolerance (%)	N/A
Tested for IT power systems	☐ Yes ☒ No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	☐ Class I ☐ Class II ☒ Class III ☐ Not classified
Mass of equipment (kg)	196g
Considered current rating of protective device as part of the building installation (A) (IEC/EN 60950-1/A1)	N/A
Pollution degree	☒ PD 2 ☐ PD 3
IP protection class	IP20

Measuring instrument	**Inv. no.**	**Date**
(See appendix 1)	(See appendix 1)	(See appendix 1)

Possible test case verdicts:

- test case does not apply to the test object : N (/A)
- test object does meet the requirement : P (Pass)
- test object does not meet the requirement : F (Fail)

Testing:

Date of receipt of test item : Apr.12, 2016

Date(s) of performance of tests : Apr. 13-25, 2016

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:

The appliance is supplied from an approved adapter and a build-in lithium battery. There is only SELV circuit existing in the appliance, so it belongs to class III equipment.

All series models are same as RT5, except for the model numbers.

All tests were tested on model: RT5

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.

Max temprature is considered as 25℃, for no declaration form the manufacturer.

Copy of marking plate:

For model no.: RT-5

Two way radio

Model No. : RT5

Shenzhen Retevis Technology Co., Ltd.

The product has been tested according to standard IEC 60950-1:2005 (2nd Edition) / EN 60950-1:2006 and those deviations taken into account of

☒ CENELEC common modifications		☐ United Kingdom	☐	☐
☐ Finland	☐ Denmark	☐ Ireland	☐	☐
☐ Sweden	☐ Germany	☐ Spain	☐	☐
☐ Norway	☐ Switzerland	☐	☐	☐

These tests fulfil the requirements of standard EN ISO/IEC 17025.

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General	(see appended table 1.5.1)	P
	Comply with IEC 60950 or relevant component standard	Components that 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
1.5.2	Evaluation and testing of components	Components that 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 control, annex K	N
1.5.4	Transformers	Supplied by an approved adapter.	N
1.5.5	Interconnecting cables		N
1.5.6	Capacitors bridging insulation	Supplied by an approved adapter. Y capacitor according to IEC/EN 60384-14.	N
1.5.7	Resistors bridging insulation	No such resistor	N
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N
1.5.8	Components in equipment for IT power systems		N
1.5.9	Surge suppressors		N
1.5.9.1	General		N
1.5.9.2	Protection of VDRs	No such parts	N
1.5.9.3	Bridging of functional insulation by a VDR		N
1.5.9.4	Bridging of basic insulation by a VDR		N
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N
1.6	Power interface		P

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
1.6.1	AC power distribution systems	Not directly connected to the mains	N
1.6.2	Input current	(See appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	Not hand-held equipment.	N
1.6.4	Neutral conductor	Class III equipment, no neutral conductor.	N
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 (IEC/EN 60950-1 /A1) ..... :		N
	Rated voltage(s) or voltage range(s) (V) ..... :	10V(no show)	P
	Symbol for nature of supply, for d.c. only ..... :	⎓(no show)	P
	Rated frequency or rated frequency range (Hz) :		N
	Rated current (mA or A) ..... :	500mA(no show)	P
1.7.1.2	Identification markings(IEC/EN 60950-1 /A1).... :		P
	Manufacturer's name or trade-mark or identification mark ..... :	See page 1	P
	Model identification or type reference ..... :	See page 1	P
	Symbol for Class II equipment only ..... :	Class III appliance	N
	Other markings and symbols ..... :	Additional sysmbols or marking does not give rise to misunderstanding.	P
1.7.2	Safety instructions and marking	Safety instruction provided.	P
1.7.2.1	General		P
1.7.2.2	Disconnect devices	Not directly connected to the mains	N
1.7.2.3	Overcurrent protective device		N
1.7.2.4	IT power distribution systems		N
1.7.2.5	Operator access with a tool	No such operator access area	N
1.7.2.6	Ozone	No ozone produced.	N
1.7.3	Short duty cycles	Continuous operation.	N
1.7.4	Supply voltage adjustment ..... :	No adjustment used	N
	Methods and means of adjustment; reference to installation instructions ..... :		N
1.7.5	Power outlets on the equipment ..... :		N
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) ..... :		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.7	Wiring terminals	See below	N
1.7.7.1	Protective earthing and bonding terminals ..... :	Class III equipment, no protective earthing	N
1.7.7.2	Terminals for a.c. mains supply conductors		N
1.7.7.3	Terminals for d.c. mains supply conductors		N
1.7.8	Controls and indicators	See below	P
1.7.8.1	Identification, location and marking ..... :	It is obviously unnecessary.	N
1.7.8.2	Colours ..... :	The colors used for LED are indicating function. No safety consideration.	P
1.7.8.3	Symbols according to IEC 60417 ..... :		P
1.7.8.4	Markings using figures ..... :	No figures used.	N
1.7.9	Isolation of multiple power sources ..... :	Not directly connected to the mains	N
1.7.10	Thermostats and other regulating devices ..... :	No thermostats provided.	N
1.7.11	Durability	After rubbing test there was no damage to the label. The marking on the label did not fade. There was neither curling nor lifting of the label edge.	P
1.7.12	Removable parts	No such parts.	N
1.7.13	Replaceable batteries ..... :		N
	Language(s) ..... :	English	—
1.7.14	Equipment for restricted access locations ..... :	Not located in restricted access locations.	N
2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	No hazardous parts in operator access areas. supplied by an approved adapter	P
2.1.1.1	Access to energized parts	No energized parts.	P
	Test by inspection ..... :		N
	Test with test finger (Figure 2A) ..... :		N
	Test with test pin (Figure 2B) ..... :		N
	Test with test probe (Figure 2C) ..... :		N
2.1.1.2	Battery compartments	No such parts used	N
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible area.	N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
	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.	P
2.1.1.5	Energy hazards ..... :	No hazardous energy level in operator accessible area.	P
2.1.1.6	Manual controls	No conductive shafts of operating knobs and handles.	N
2.1.1.7	Discharge of capacitors in equipment		N
	Measured voltage (V); time-constant (s) ..... :		—
2.1.1.8	Energy hazards – d.c. mains supply		N
	a) Capacitor connected to the d.c. mains supply:		N
	b) Internal battery connected to the d.c. mains supply ..... :		N
2.1.1.9	Audio amplifiers ..... :		N
2.1.2	Protection in service access areas		N
2.1.3	Protection in restricted access locations		N
2.2	SELV circuits		P
2.2.1	General requirements	42.4V peak or 60VDC are not exceeded in SELV circuit under normal operation or single fault condition.	P
2.2.2	Voltages under normal conditions (V) ..... :	Within SELV limits.	P
2.2.3	Voltages under fault conditions (V) ..... :	Ditto.	P
2.2.4	Connection of SELV circuits to other circuits ... :		N
2.3	TNV circuits		N
2.3.1	Limits	No TNV circuits.	N
	Type of TNV circuits ..... :		—
2.3.2	Separation from other circuits and from accessible parts		N
2.3.2.1	General requirements		N
2.3.2.2	Protection by basic insulation		N
2.3.2.3	Protection by earthing		N
2.3.2.4	Protection by other constructions ..... :		N
2.3.3	Separation from hazardous voltages		N
	Insulation employed..... :		—
2.3.4	Connection of TNV circuits to other circuits		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
	Insulation employed ..... :		—
2.3.5	Test for operating voltages generated externally		N
2.4	Limited current circuits		N
2.4.1	General requirements	Supplied by an approved adapter	N
2.4.2	Limit values	Supplied by an approved adapter	N
	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
2.5	Limited power sources		N
	a) Inherently limited output	Supplied by an approved adapter	N
	b) Impedance limited output	Lithium battery is limited by impedence, refer to appended table 2.5	N
	c) Regulating network limited output under normal operating and single fault condition		N
	d) Overcurrent protective device limited output		N
	Max. output voltage (V), max. output current (A), max. apparent power (VA) ..... :		—
	Current rating of overcurrent protective device (A)		—
	Use of integrated circuit (IC) current limiters (IEC/EN 60950-1 /A1)		N
2.6	Provisions for earthing and bonding		N
2.6.1	Protective earthing	No protective earthing provided	N
2.6.2	Functional earthing		N
2.6.3	Protective earthing and protective bonding conductors		N
2.6.3.1	General		N
2.6.3.2	Size of protective earthing conductors		N
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
2.6.3.3	Size of protective bonding conductors		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)..... :		N
2.6.3.5	Colour of insulation ..... :		N
2.6.4	Terminals		N
2.6.4.1	General		N
2.6.4.2	Protective earthing and bonding terminals		N
	Rated current (A), type, nominal thread diameter (mm)..... :		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N
2.6.5	Integrity of protective earthing	No protective earthing	N
2.6.5.1	Interconnection of equipment		N
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N
2.6.5.3	Disconnection of protective earth		N
2.6.5.4	Parts that can be removed by an operator		N
2.6.5.5	Parts removed during servicing		N
2.6.5.6	Corrosion resistance		N
2.6.5.7	Screws for protective bonding		N
2.6.5.8	Reliance on telecommunication network or cable distribution system		N
2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Equipment relies on circuit breaker of the wall outlet installation protection of the building installation in regard to L to N short circuit. Over current protection is provided by one built-in fuse.	P
	Instructions when protection relies on building installation		N
2.7.2	Faults not simulated in 5.3.7		N
2.7.3	Short-circuit backup protection		P
2.7.4	Number and location of protective devices ..... :	Over current protection by one built-in fuse.	P
2.7.5	Protection by several devices	One fuse only.	P
2.7.6	Warning to service personnel ..... :		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
2.8	Safety interlocks		N
2.8.1	General principles	No safety interlocks	N
2.8.2	Protection requirements		N
2.8.3	Inadvertent reactivation		N
2.8.4	Fail-safe operation		N
	Protection against extreme hazard (IEC/EN 60950-1 /A1)		N
2.8.5	Moving parts		N
2.8.6	Overriding		N
2.8.7	Switches and relays and their related circuits (IEC/EN 60950-1 /A1)		N
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) (IEC/EN 60950-1 /A1)..... :		N
2.8.7.2	Overload test		N
2.8.7.3	Endurance test		N
2.8.7.4	Electric strength test		N
2.8.8	Mechanical actuators		N
2.9	Electrical insulation		N
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used.	N
2.9.2	Humidity conditioning		N
	Relative humidity (%), temperature (°C) ..... :		—
2.9.3	Grade of insulation		N
2.9.4	Separation from hazardous voltages		N
	Method(s) used ..... :		—
2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	See 2.10.3, 2.10.4, 2.10.5.	P
2.10.1.1	Frequency ..... :	Ditto	N
2.10.1.2	Pollution degrees ..... :		N
2.10.1.3	Reduced values for functional insualtion		N
2.10.1.4	Intervening unconnected conductive parts		N
2.10.1.5	Insulation with varying dimensions		N
2.10.1.6	Special separation requirements		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.1.7	Insulation in circuits generating starting pulses		N
2.10.2	Determination of working voltage		N
2.10.2.1	General	Requirements considered	N
2.10.2.2	RMS working voltage	Supplied by an approved adapter	N
2.10.2.3	Peak working voltage	Supplied by an approved adapter	N
2.10.3	Clearances	See below, Annex G was not considered.	N
2.10.3.1	General	Annex F and minimum clearances considered.	N
2.10.3.2	Mains transient voltages		N
	a) AC mains supply ..... :		N
	b) Earthed d.c. mains supplies ..... :		N
	c) Unearthed d.c. mains supplies ..... :		N
	d) Battery operation ..... :		N
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	N
2.10.3.4	Clearances in secondary circuits		N
2.10.3.5	Clearances in circuits having starting pulses		N
2.10.3.6	Transients from a.c. mains supply ..... :		N
2.10.3.7	Transients from d.c. mains supply ..... :		N
2.10.3.8	Transients from telecommunication networks and cable distribution systems ..... :		N
2.10.3.9	Measurement of transient voltage levels		N
	a) Transients from a mains suplply		N
	For an a.c. mains supply ..... :		N
	For a d.c. mains supply ..... :		N
	b) Transients from a telecommunication network :		N
2.10.4	Creepage distances	Supplied by an approved adapter	N
2.10.4.1	General		N
2.10.4.2	Material group and caomparative tracking index		N
	CTI tests ..... :		—
2.10.4.3	Minimum creepage distances		N
2.10.5	Solid insulation		N
2.10.5.1	General		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.2	Distances through insulation		N
2.10.5.3	Insulating compound as solid insulation		N
2.10.5.4	Semiconductor devices		N
2.10.5.5.	Cemented joints		N
2.10.5.6	Thin sheet material – General		N
2.10.5.7	Separable thin sheet material		N
	Number of layers (pcs) ..... :		—
2.10.5.8	Non-separable thin sheet material		N
2.10.5.9	Thin sheet material – standard test procedure		N
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N
	Electric strength test		—
2.10.5.11	Insulation in wound components		N
2.10.5.12	Wire in wound components		N
	Working voltage ..... :		N
	a) Basic insulation not under stress ..... :		N
	b) Basic, supplemetary, reinforced insulation .. :		N
	c) Compliance with Annex U ..... :		N
	Two wires in contact inside wound component; angle between 45° and 90° ..... :		N
2.10.5.13	Wire with solvent-based enamel in wound components		N
	Electric strength test		—
	Routine test		N
2.10.5.14	Additional insulation in wound components		N
	Working voltage ..... :		N
	- Basic insulation not under stress ..... :		N
	- Supplemetary, reinforced insulation ..... :		N
2.10.6	Construction of printed boards		N
2.10.6.1	Uncoated printed boards		N
2.10.6.2	Coated printed boards		N
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N
2.10.6.4	Insulation between conductors on different layers of a printed board		N
	Distance through insulation		N
	Number of insulation layers (pcs)..... :		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.7	Component external terminations		N
2.10.8	Tests on coated printed boards and coated components		N
2.10.8.1	Sample preparation and preliminary inspection		N
2.10.8.2	Thermal conditioning		N
2.10.8.3	Electric strength test		N
2.10.8.4	Abrasion resistance test		N
2.10.9	Thermal cycling		N
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N
2.10.11	Tests for semiconductor devices and cemented joints		N
2.10.12	Enclosed and sealed parts		N
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	Internal wiring gauge is suitable for current intended to be carried. SELV circuit only, overcurrent protective device was not required.	P
3.1.2	Protection against mechanical damage	Wires do not touch sharp edges and heatsinks which could damage the insulation and cause hazards.	P
3.1.3	Securing of internal wiring	Internal wires secured by connectors so that a loosening of terminations unlikely.	P
3.1.4	Insulation of conductors	No similar part	N
3.1.5	Beads and ceramic insulators	Not used	N
3.1.6	Screws for electrical contact pressure	No any screws used for electrical connection.	N
3.1.7	Insulating materials in electrical connections		N
3.1.8	Self-tapping and spaced thread screws	No self-tapping screws are used.	N
3.1.9	Termination of conductors		N
	10 N pull test		N
3.1.10	Sleeving on wiring		N
3.2	Connection to a mains supply		P
3.2.1	Means of connection		P

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	Connection to an a.c. mains supply	An approved adapter plug used.	P
3.2.1.2	Connection to a d.c. mains supply		N
3.2.2	Multiple supply connections		N
3.2.3	Permanently connected equipment		N
	Number of conductors, diameter of cable and conduits (mm) ..... :		—
3.2.4	Appliance inlets		N
3.2.5	Power supply cords	No power supply cords	N
3.2.5.1	AC power supply cords	Ditto	N
	Type ..... :		—
	Rated current (A), cross-sectional area (mm2), AWG ..... :		—
3.2.5.2	DC power supply cords		N
3.2.6	Cord anchorages and strain relief		N
	Mass of equipment (kg), pull (N) ..... :		—
	Longitudinal displacement (mm) ..... :		—
3.2.7	Protection against mechanical damage		N
3.2.8	Cord guards		N
	Diameter or minor dimension D (mm); test mass (g) ..... :		—
	Radius of curvature of cord (mm) ..... :		—
3.2.9	Supply wiring space		N
3.3	Wiring terminals for connection of external conductors		N
3.3.1	Wiring terminals	No such wiring terminals.	N
3.3.2	Connection of non-detachable power supply cords		N
3.3.3	Screw terminals		N
3.3.4	Conductor sizes to be connected		N
	Rated current (A), cord/cable type, cross-sectional area (mm^2)..... :		—
3.3.5	Wiring terminal sizes		N
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N
3.3.7	Grouping of wiring terminals		N
3.3.8	Stranded wire		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
3.4	Disconnection from the mains supply		P
3.4.1	General requirement		P
3.4.2	Disconnect devices	An approved adapter plug used.	P
3.4.3	Permanently connected equipment		N
3.4.4	Parts which remain energized		N
3.4.5	Switches in flexible cords		N
3.4.6	Number of poles - single-phase and d.c. equipment		N
3.4.7	Number of poles - three-phase equipment		N
3.4.8	Switches as disconnect devices		N
3.4.9	Plugs as disconnect devices		N
3.4.10	Interconnected equipment		N
3.4.11	Multiple power sources		N
3.5	Interconnection of equipment		N
3.5.1	General requirements	No interconnection of equipment	N
3.5.2	Types of interconnection circuits ..... :		N
3.5.3	ELV circuits as interconnection circuits		N
3.5.4	Data ports for additional equipment		N
4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N
	Angle of 10°	Mass less 7KG	N
	Test force (N) ..... :		N
4.2	Mechanical strength		P
4.2.1	General	See below	P
	Rack-mounted equipment (IEC/EN 60950-1 /A1)	(see Annex DD)	N
4.2.2	Steady force test, 10 N		P
4.2.3	Steady force test, 30 N	No similar part	N
4.2.4	Steady force test, 250 N	250 N applied to external enclosure. No energy or other hazards.	P

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
4.2.5	Impact test		N
	Fall test		N
	Swing test		N
4.2.6	Drop test; height (mm) ..... :	1m; No damage of the enclosure, no energy hazards or damage to enclosure integration after the test.	P
4.2.7	Stress relief test		N
4.2.8	Cathode ray tubes	No CRT provided.	N
	Picture tube separately certified ..... :		N
4.2.9	High pressure lamps	No high pressure lamps provided.	N
4.2.10	Wall or ceiling mounted equipment; force (N) . :	Not wall or ceiling mounted	N
4.2.11	Rotating solid media (IEC/EN 60950-1 /A1)		N
	Test to cover on the door.....		N
4.3	Design and construction		P
4.3.1	Edges and corners	Edges or corners are rounded.	P
4.3.2	Handles and manual controls; force (N)..... :	No hazardous live parts	N
4.3.3	Adjustable controls	No adjustable controls provided.	N
4.3.4	Securing of parts	No loosening of parts is likely to occur.	P
4.3.5	Connection by plugs and sockets		N
4.3.6	Direct plug-in equipment	Class III equipment	N
	Torque ..... :		N
	Compliance with the relevant mains plug standard ..... :		N
4.3.7	Heating elements in earthed equipment	No heating elements.	N
4.3.8	Batteries		P
	- Overcharging of a rechargeable battery		P
	- Unintentional charging of a non-rechargeable battery		N
	- Reverse charging of a rechargeable battery		N
	- Excessive discharging rate for any battery	(see appended table 4.3.8)	P
4.3.9	Oil and grease	No Oil and grease.	N
4.3.10	Dust, powders, liquids and gases	Equipment in intended use not considered to be exposed to these.	N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.11	Containers for liquids or gases	No container for liquids or gases provided.	N
4.3.12	Flammable liquids ..... :	The equipment does not contain flammable liquid.	N
	Quantity of liquid (l) ..... :		N
	Flash point (°C) ..... :		N
4.3.13	Radiation		P
4.3.13.1	General		P
4.3.13.2	Ionizing radiation	No ionizing radiation	N
	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	No ultraviolet radiation	N
	Part, property, retention after test, flammability classification ..... :		N
4.3.13.4	Human exposure to ultraviolet (UV) radiation .. :		N
4.3.13.5	Lasers (including laser diodes) and LEDs (IEC/EN 60950-1 /A1)	LED for indicator only comply with class 1 requirement.	P
4.3.13.5.1	Lasers (including laser laser diodes)		P
	Laser class ..... :	Class 1	—
4.3.13.5.2	Light emitting diodes (LEDs)		P
4.3.13.6	Other types ..... :		N
4.4	Protection against hazardous moving parts		N
4.4.1	General	No moving parts.	N
4.4.2	Protection in operator access areas ..... :		N
	Household and home/office document/media shredders (IEC/EN 60950-1 /A1)		N
4.4.3	Protection in restricted access locations ..... :		N
4.4.4	Protection in service access areas		N
4.4.5	Protection against moving fan blades (IEC/EN 60950-1 /A1)	No such parts	N
4.4.5.1	General		N
	Not considered to cause pain or injury. a)…….:		N
	Is considered to cause pain, not injury b) ……:		N
	Considered to cause injury c) ……..…:		N
4.4.5.2	Protection for users		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
	Use of symbol or warning ……:		N
4.4.5.3	Protection for service persons		N
	Use of symbol or warning ……:		N
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 ..... :	No thermoplastic parts on which parts at hazardous voltage are directly mounted.	N
4.6	Openings in enclosures		P
4.6.1	Top and side openings	No opening.	N
	Dimensions (mm) ..... :		—
4.6.2	Bottoms of fire enclosures		N
	Construction of the bottomm, dimensions (mm) :		—
4.6.3	Doors or covers in fire enclosures		N
4.6.4	Openings in transportable equipment		N
4.6.4.1	Constructional design measures		N
	Dimensions (mm) ..... :		—
4.6.4.2	Evaluation measures for larger openings		N
4.6.4.3	Use of metallized parts		N
4.6.5	Adhesives for constructional purposes		N
	Conditioning temperature (°C), time (weeks) .... :		—
4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	Use of plastic with the required flammability classes.	P
	Method 1, selection and application of components wiring and materials	Method 1 used	P
	Method 2, application of all of simulated fault condition tests		N
4.7.2	Conditions for a fire enclosure	See appended table 1.5.1	P
4.7.2.1	Parts requiring a fire enclosure		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.2.2	Parts not requiring a fire enclosure	SELV circuits only (supplied by LPS), mounted on PCB of V-1 or better grade.	P
4.7.3	Materials		P
4.7.3.1	General	PCB rated V-1	P
4.7.3.2	Materials for fire enclosures		N
4.7.3.3	Materials for components and other parts outside fire enclosures		N
4.7.3.4	Materials for components and other parts inside fire enclosures		N
4.7.3.5	Materials for air filter assemblies	No air filter assemblies	N
4.7.3.6	Materials used in high-voltage components	No high voltage components.	N
5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		N
5.1.1	General	Class III appliance	N
5.1.2	Configuration of equipment under test (EUT)		N
5.1.2.1	Single connection to an a.c. mains supply		N
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N
5.1.3	Test circuit		N
5.1.4	Application of measuring instrument		N
5.1.5	Test procedure		N
5.1.6	Test measurements		N
	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
5.1.7.1	General		N
5.1.7.2	Simultaneous multiple connections to the supply		N
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	No TNV.	N
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable	Ditto.	N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
	distribution system		
	Supply voltage (V) ..... :	Ditto.	—
	Measured touch current (mA) ..... :	Ditto.	—
	Max. allowed touch current (mA) ..... :	Ditto.	—
5.1.8.2	Summation of touch currents from telecommunication networks	No TNV.	N
	a) EUT with earthed telecommunication ports . :		N
	b) EUT whose telecommunication ports have no reference to protective earth		N
5.2	Electric strength		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	(see appended table 5.2)	P
5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	No motor used.	N
5.3.3	Transformers	Supplied by an approved adapter	P
5.3.4	Functional insulation ..... :	(see appended table 5.3)	P
5.3.5	Electromechanical components		N
5.3.6	Audio amplifiers in ITE ..... :		N
5.3.7	Simulation of faults	Result see appended table 5.3.	P
5.3.8	Unattended equipment		N
5.3.9	Compliance criteria for abnormal operating and fault conditions	No flame emitted, no molten material emitted, no deformation of enclosure	P
5.3.9.1	During the tests	No hazards.	P
5.3.9.2	After the tests	No fire, no danger.	P
6	CONNECTION TO TELECOMMUNICATION NETWORKS		N
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N
6.1.1	Protection from hazardous voltages		N
6.1.2	Separation of the telecommunication network from earth		N
6.1.2.1	Requirements		N
	Supply voltage (V) ..... :		—

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
	Current in the test circuit (mA) ..... :		—
6.1.2.2	Exclusions ..... :		N
6.2	Protection of equipment users from overvoltages on telecommunication networks		N
6.2.1	Separation requirements		N
6.2.2	Electric strength test procedure		N
6.2.2.1	Impulse test		N
6.2.2.2	Steady-state test		N
6.2.2.3	Compliance criteria		N
6.3	Protection of the telecommunication wiring system from overheating		N
	Max. output current (A) ..... :		—
	Current limiting method ..... :		—
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N
7.1	General		N
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
7.3	Protection of equipment users from overvoltages on the cable distribution system		N
7.4	Insulation between primary circuits and cable distribution systems		N
7.4.1	General		N
7.4.2	Voltage surge test		N
7.4.3	Impulse test		N
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N
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) *UL approved material used. No further tests were considered.*		N
A.1.1	Samples..... :		—
	Wall thickness (mm) ..... :		—
A.1.2	Conditioning of samples; temperature (°C) ..... :		N
A.1.3	Mounting of samples ..... :		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
A.1.4	Test flame (see IEC 60695-11-3)		N
	Flame A, B, C or D ..... :		—
A.1.5	Test procedure		N
A.1.6	Compliance criteria		N
	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.2.1	Samples, material ..... :		—
	Wall thickness (mm) ..... :		—
A.2.2	Conditioning of samples; temperature (°C) ..... :		N
A.2.3	Mounting of samples ..... :		N
A.2.4	Test flame (see IEC 60695-11-4)		N
	Flame A, B or C ..... :		—
A.2.5	Test procedure		N
A.2.6	Compliance criteria		N
	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
	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.3.1	Mounting of samples		N
A.3.2	Test procedure		N
A.3.3	Compliance criterion		N
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N
B.1	General requirements		N
	Position ..... :		—
	Manufacturer ..... :		—

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
	Type ..... :		—
	Rated values ..... :		—
B.2	Test conditions		N
B.3	Maximum temperatures		N
B.4	Running overload test		N
B.5	Locked-rotor overload test		N
	Test duration (days) ..... :		—
	Electric strength test: test voltage (V) ..... :		—
B.6	Running overload test for d.c. motors in secondary circuits		N
B.6.1	General		N
B.6.2	Test procedure		N
B.6.3	Alternative test procedure		N
B.6.4	Electric strength test; test voltage (V) ..... :		N
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N
B.7.1	General		N
B.7.2	Test procedure		N
B.7.3	Alternative test procedure		N
B.7.4	Electric strength test; test voltage (V) ..... :		N
B.8	Test for motors with capacitors		N
B.9	Test for three-phase motors		N
B.10	Test for series motors	No motor	N
	Operating voltage (V) ..... :		—
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N
	Position ..... :	No transformer	—
	Manufacturer ..... :		—
	Type ..... :		—
	Rated values ..... :		—
	Method of protection ..... :		—
C.1	Overload test		N
C.2	Insul ation		N
	Protection from displacement of windings ..... :		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		N
D.1	Measuring instrument		N
D.2	Alternative measuring instrument		N
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		N
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N
G.1	Clearances		N
G.1.1	General		N
G.1.2	Summary of the procedure for determining minimum clearances		N
G.2	Determination of mains transient voltage (V)		N
G.2.1	AC mains supply ..... :		N
G.2.2	Earthed d.c. mains supplies ..... :		N
G.2.3	Unearthed d.c. mains supplies ..... :		N
G.2.4	Battery operation ..... :		N
G.3	Determination of telecommunication network transient voltage (V) ..... :		N
G.4	Determination of required withstand voltage (V)		N
G.4.1	Mains transients and internal repetitive peaks :		N
G.4.2	Transients from telecommunication networks . :		N
G.4.3	Combination of transients		N
G.4.4	Transients from cable distribution systems		N
G.5	Measurement of transient voltages (V)		N
	a) Transients from a mains supply		N
	For an a.c. mains supply		N
	For a d.c. mains supply		N
	b) Transients from a telecommunication network		N
G.6	Determination of minimum clearances ..... :		N
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict

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

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

L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N
L.2	Adding machines and cash registers		N
L.3	Erasers		N
L.4	Pencil sharpeners		N
L.5	Duplicators and copy machines		N
L.6	Motor-operated files		N
L.7	Other business equipment	Continuous operation	P

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

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
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
N.1	ITU-T impulse test generators		N
N.2	IEC 60065 impulse test generator		N
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		N
	a) Preferred climatic categories ..... :		N
	b) Maximum continuous voltage ..... :		N
	c) Pulse current ..... :		N
R	Annex R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N
R.2	Reduced clearances (see 2.10.3)		N
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N
S.1	Test equipment		N
S.2	Test procedure		N
S.3	Examples of waveforms during impulse testing		N
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.12)		N
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		N
V.1	Introduction		N
V.2	TN power distribution systems	TN power considered	N
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N
W.1	Touch current from electronic circuits		N
W.1.1	Floating circuits		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
W.1.2	Earthed circuits		N
W.2	Interconnection of several equipments		N
W.2.1	Isolation		N
W.2.2	Common return, isolated from earth		N
W.2.3	Common return, connected to protective earth		N
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N
X.1	Determination of maximum input current		N
X.2	Overload test procedure		N
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N
Y.1	Test apparatus ..... :		N
Y.2	Mounting of test samples ..... :		N
Y.3	Carbon-arc light-exposure apparatus ..... :		N
Y.4	Xenon-arc light exposure apparatus ..... :		N
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters (IEC/EN 60950-1 /A1)		N
CC.1	General		N
CC.2	Test program 1 ..... :		N
CC.3	Test program 2 ..... :		N
DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment (IEC/EN 60950-1 /A1)		N
DD.1	General		N
DD.2	Mechanical strength test, variable N……..:		N
DD.3	Mechanical strength test, 250N, including end stops……:		N
DD.4	Compliance……:		N

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Clause	Requirement + Test	Result - Remark	Verdict

EE	ANNEX EE, Household and home/office document/media shredders (IEC/EN 60950-1 /A1)		N
EE.1	General		N
EE.2	Markings and instructions		N
	Use of markings or symbols……:		N
	Information of user instructions, maintenance and/or servicing instructions……:		N
EE.3	Inadvertent reactivation test……:		N
EE.4	Disconnection of power to hazardous moving parts:		N
	Use of markings or symbols……:		N
EE.5	Protection against hazardous moving parts		N
	Test with test finger (Figure 2A) ……..…:		N
	Test with wedge probe (Figure EE1 and EE2) …:		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict

EN 60950-1:2006 – COMMON MODIFICATIONS			
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 4.7.3.1Note 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
General (A2:2013)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A2:2013) 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.		P
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

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010		P
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		P
1.7.2.1 (A1:2010)	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.		N
1.7.2.1 (A12.2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.		N
	Zx Protection against excessive sound pressure from personal music players		P

IEC 60950-1:2005 / EN 60950-1:2006			
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.		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. 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

IEC 60950-1:2005 / EN 60950-1:2006			
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		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
	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. 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 60950-1:2005 / EN 60950-1:2006			
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.		P
	Zx.4 Requirements for listening devices (headphones and earphones)		P
	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.		P

IEC 60950-1:2005 / EN 60950-1:2006			
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.		P
	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 abovementioned 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.		P
	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.		P

IEC 60950-1:2005 / EN 60950-1:2006			
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;		N
	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
2.7.2	This subclause has been declared 'void'.		P
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N
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 | 0,75 [a)] | 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
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
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
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 (artifical optical radiation).		N
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N
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
Bibliography	Additional EN standards.		—

ZA	**NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS**		N
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
1.2.13.14	In **Norway** and **Sweden**, for requirements see 1.7.2.1 and 7.3 of this annex.		N
1.5.7.1 (A11:2009)	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
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
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

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	In **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 Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: “Apparatet må tilkoples jordet stikkontakt” In Sweden: “Apparaten skall anslutas till jordat uttag” In **Norway** and **Sweden**, 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. 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. 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: “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).”		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
	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. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet 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.”		
1.7.5	In **Denmark**, 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. For **CLASS II EQUIPMENT** the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.		N
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
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
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

IEC 60950-1:2005 / EN 60950-1:2006			
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
2.6.3.3	In the **United Kingdom**, the current rating of the circuit shall be taken as 13 A, not 16 A.		N
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
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
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, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V,		N N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding13 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.		N
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
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

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
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
3.2.4	In **Switzerland**, for requirements see 3.2.1.1 of this annex.		N
3.2.5.1	In the **United Kingdom**, a power supply cord with conductor of 1,25 mm2 is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N
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
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
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

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
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
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 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 - 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.		N

IEC 60950-1:2005 / EN 60950-1:2006			
Clause	Requirement + Test	Result - Remark	Verdict
	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
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
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
7.3	In **Norway** and **Sweden**, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N
7.3	In **Norway**, for installation conditions see EN 60728-11:2005.		N

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])
Plastic enclosure	(various)	(various)	V-1, 60 ºC or better	UL 94	UL QMFZ2
Internal wire	(Various)	(Various)	80℃, VW-1, 300V, 24AWG Min.	UL758	UL
PCB	(various)	(various)	V-1 or better, 130℃	UL94	UL ZPMV2
Lithium battery	Zhengzhou Eshow Import and Export Trade Co., Ltd	RT-5R	DC7.4V, 1800mAh	IEC/EN 62133	CE
Adapter	Zhengzhou Eshow Import and Export Trade Co., Ltd	480-10050-E.S	Input: 100-240V~, 50-60Hz, 0.25A Output: 10V⎓, 0.5A	EN 60950-1	CE
[1]) An asterisk indicates a mark which assures the agreed level of surveillance					

1.5.1	TABLE: Opto Electronic Devices (IEC/EN 60950-1 /A1)	N
Manufacturer……:	--	
Type……..……:	--	
Separately tested……:	--	
Bridqing insulation……..:	--	
External creepage distance……..:	--	
Internal creepage distance……..:	--	
Distance through insulation……:	--	
Tested under the following conditions……..:	--	
Input……..……:	--	
Output……:	--	
supplementary information:		

1.6.2	TABLE: Electrical data (in normal conditions)					P
U(V)/f(Hz)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
Adapter input:						
90/50	0.105	--	5.69	--	0.105	Battery charging, unit working.
90/60	0.106	--	5.69	--	0.106	Ditto.
100/50	0.099	0.25	5.68	--	0.099	Ditto.
100/60	0.099	0.25	5.68	--	0.099	Ditto.
240/50	0.053	0.25	5.61	--	0.053	Ditto.
240/60	0.054	0.25	5.62	--	0.054	Ditto.
264/50	0.051	--	5.63	--	0.051	Ditto.
264/60	0.052	--	5.63	--	0.052	Ditto.
Battery base input:						

10Vdc	0.005	0.5	--	--	--	Supplied by an adapter, the adapter output is 10VDC, 0.5A
Supplementary information: --						

2.1.1.5 c) 1)	TABLE: Electrical data (in normal conditions) (IEC/EN 60950-1 /A1)				N
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
--	--	--	--	--	
Supplementary information: No USB output port.					

2.1.1.7	TABLE: discharge test				N
Condition	τ calculated (s)	τ measured (ms)	t u→ 0V (s)	Comments	
--	--	--	--	--	
Note: --					

2.2.2	TABLE: Hazardous voltage measurement			N
Transformer	Location	Max. Voltage		Voltage Limitation Component
		V peak	V d.c.	
--	--	--	--	--
Note: supplied by an approved adapter				

2.2.3	TABLE: SEL voltage measurement		N
Location	Voltage measured (V)	Comments	
--	--	--	
Note: supplied by an approved adapter			

2.4.2	TABLE: limited current circuit measurement					N
Location	Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments	
--	--	--	--	--	--	
Notes: supplied by an approved adapter						

2.5	TABLE: limited power source measurement		N
	Limits	Measured	Verdict
According to Table 2B(normal condition)			
current (in A)	≤8	--	N
apparent power (in VA)	≤100	--	N
According to Table 2B(abnormal condition)			
current (in A)	≤8	--	N

apparent power (in VA)	≤100	--	N
Note(s): --			

2.10.2	Table: working voltage measurement			N
Location		Peak voltage (V)	RMS voltage (V)	Comments
--		--	--	--
Note: supplied by an approved adapter				

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						N
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)	
--	--	--	--	--	--	--	
Supplementary information: supplied by an approved adapter							

2.10.5	TABLE: Distance through insulation measurements				N
Distance through insulation (DTI) at/of:	U r.m.s. (V)	Test voltage (V)	Required di (mm)	di (mm)	
--	--	--	--	--	
Supplementary information: supplied by an approved adapter					

4.3.8	TABLE: Batteries									P
The tests of 4.3.8 are applicable only when appropriate battery data is not available										—
Is it possible to install the battery in a reverse polarity position						It's obverious impossible				—
	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	--	--	--	813mA	1800mA	827mA	1800mA	--	--	
Max. current during fault condition	--	--	--	832mA	1800mA	836mA	1800mA			
Test results:										Verdict
- Chemical leaks						No chemical leaks				P

- Explosion of the battery	No explosion	P
- Emission of flame or expulsion of molten metal	No emission of flame or expulsion of molten metal	P
- Electric strength tests of equipment after completion of tests	No test require	N
Supplementary information:		

4.5	TABLE: Thermal requirements			P
	Supply voltage (V).....:	10V battery charge	Battery discharge	—
Maximum measured temperature T of part/at:		T(°C)		Allowed Tmax (°C)
PCB		47.3	48.7	130
Battery surface		29.2	31.4	60
Internal plastic		28.5	29.0	For reference
External enclosure		27.4	27.6	60
Adapter enclosure		35.8	--	For reference
Ambient		23.6	23.4	--
Supplementary information:				

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

Supplementary information:

4.5.5	TABLE: Ball pressure test of thermoplastic parts		P
	Allowed impression diameter (mm) .....:	≤ 2 mm	—

Part	Test temperature (°C)	Impression diameter (mm)
--	--	--

Supplementary information: supplied by an approved adapter(No test)

5.1.6	TABLE: touch current measurement			N
Condition	L→ terminal A (mA)	N → terminal A (mA)	Limit (mA)	Comments
--	--	--	--	--
Notes: Input voltage: --				

5.2.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			N
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V ac)	Breakdown Yes / No
--		--	--	--

5.3	TABLE: Fault condition tests		P
	Ambient temperature (°C)..... :	23-25	—
	Power source for EUT: Manufacturer, model/type, output rating ..... :	(see appended table 1.5.1)	—

Component No.	Fault *	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Lithion battery	s-c	--	7h	--	--	Unit shutdown, no damage, no hazard.
Lithion battery	Over-charge	7.4Vdc	7h	--	--	Unit normally operating, no hazard.
Lithion battery	Over-discharge	7.4Vdc	7h	--	--	Unit normally operating, no hazard.
U2(1-6)	s-c	--	10min	--	--	Unit shutdown, no damage, no hazard.
E-cap(E1)	s-c	--	10min	--	--	Normally work.
D2	s-c	--	10min	--	--	Normally work.
Q4(b-e)	s-c	--	10min	--	--	Unit shutdown, no damage, no hazard.
Q4(b-c)	s-c	--	10min	--	--	Normally work.
Q4(c-e)	s-c	--	10min	--	--	Unit shutdown, no damage, no hazard.
Supplementary information: in fault condition, s-c = short-circuited, o-c = open-circuited, o-l = over-loaded.						

Appendix 1
Max. sound pressure level test

1.1 General Information

1.1 Description of DUT

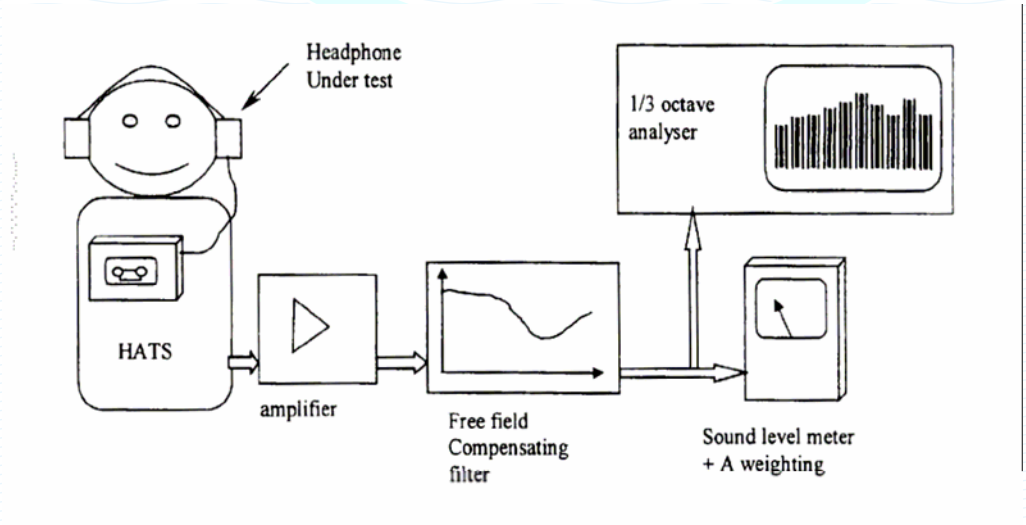
Product	: Two way radio
Model No.	: RT5
Brand Name or Trademark	: N/A
Rating	: DC 10V, 0.5A
Series No.	: None
I/O Signal Ports	:Two headset
Accessories	: N/A

1.2 List of test equipment

No.	Equipment name	Manufacturer	Model No./type	Cal. date	Cal. date due
ACSE-085	IEA Electro-Acoustic Integrated System	IEA	EA-1	2015.10.24	2016.10.23
ACSE-086	HATS (Left Artificial Ear)	G.R.A.S	RA0045	2015.10.24	2016.10.23
ACSE-087	HATS (Right Artificial Ear)	G.R.A.S	RA0045	2015.10.24	2016.10.23
ACSE-088	Sound Level Calibrator	G.R.A.S	42AB	2015.10.24	2016.10.23

2 Maximum Sound Pressure (SPL) Measurement Procedure

2.1 Testing principle diagram



2.2 Testing conditions

Device under test (DUT) is powered by a stabilized power supply at their nominal supply voltage with a tolerance of ±3%.

When testing DUT, all measurements are taken at the following settings:

- noise reduction system : OFF

- volume control : Maximum

- tone control : adjusted in order to maximize the sound pressure level

2.3 Testing signal

Test signal used is a programme simulation noise, as defined in IEC 60268-1, recording level of test signal is –10dB (ref 0 dB full scale)

2.4 Testing method

1) The device under test (DUT) plays the recorded test signal. Earphones or headphones shall be correctly positioned on the HATS. The sound pressure level emitted by the earphones or headphones of the portable audio equipment is measured, for both right and left ear, by a third octave analyzer connected to the microphone of the HATS ear simulator.

   The A-weighting curve is applied

2) Tests are repeated five times for each ear, and the headphone shall be removed and repositioned before each measurement

3) The A-weighted equivalent continuous sound pressure level L_{Aeq} shall be determined for each measurement, using an averaging time of 30s or more

4) The maximum sound pressure level considered as the test result is the mean value of all L_{Aeq} measurements.

2.5 Limitation value

DUT measured by the method described in standard EN 50332-1:2000 shall not deliver more than 100 dB for maximum sound pressure (SPL).

2.6 Testing result(s)

Playing mode: the EQ mode is under “ON” condition.

No. of measurement	Measured L_{Aeq} (dB (A-weighted))		Test duration
	Left channel	Right channel	
Normal function			
1	94.6	95.0	30s
2	95.0	95.3	30s
3	94.8	95.2	30s
4	94.7	95.1	30s
5	95.0	95.0	30s
Mean value of all L_{Aeq}	94.8	95.1	--
Limitation value of LAeq	≤100	≤100	--

Ambient temperature: 24.0~25.0 ºC

Ambient humidity: 47~58 . %R.H

3 Document Requirement

According to Decision 2009/490/EC of European Union, personal music players shall provide adequate warnings on the risks involved in using the device and to the ways of avoiding them and information to users in cases where exposure poses a risk of hearing damage.

Appendix 2
Equipment List

No.	Equipment	Manufacturer	Model No.	Serial No.	Calibration date	Calibration due date
SE001	Data Acquisition / Switch Unit	Agilent	34970A	MY44011615	2015.10.22	2016.10.21
SE002	Thermocouple wire	OMEGA	TT-K-30-1000	kxff	2015.10.22	2016.10.21
SE003	Temp. & Humid. Chamber	Gongwen	GDS-250	080943	2015.10.22	2016.10.21
SE004	Oven Chamber	Rongfeng	101A-3	31446	2015.10.22	2016.10.21
SE005	DC Electronic Load	Arry	3711A	A06BI03017	2015.10.22	2016.10.21
SE006	DC Electronic Load	Arry	3711A	A06BI02095	2015.10.22	2016.10.21
SE007	DC Electronic Load	Arry	3711A	A06BI03015	2015.10.22	2016.10.21
SE008	DC Electronic Load	Arry	3711A	A06BH02122	2015.10.22	2016.10.21
SE009	Oscilloscope	Tektronix	TDS3012B	YT204842	2015.10.22	2016.10.21
SE010	Digital Power Meter	Qingzhi	8716C	870806042	2015.10.22	2016.10.21
SE011	Digital Power Meter	Qingzhi	8716C	870806037	2015.10.22	2016.10.21
SE012	Ohm Meter	Yang Zi	YD2511	11-2250	2015.10.22	2016.10.21
SE013	Multi Meter	Fluke	115C	96721596	2015.10.22	2016.10.21
SE014	Desktop Multi Meter	Fluke	45	7662018	2015.10.22	2016.10.21
SE015	Desktop Multi Meter	Fluke	45	8095018	2015.10.22	2016.10.21
SE016	Desktop Multi Meter	Fluke	45	6792039	2015.10.22	2016.10.21
SE017	Grounding Bond Meter	Yang Zhi	YD2654B	548-053	2015.10.22	2016.10.21
SE018	Leakage Current Meter	EXTECH	7611	1330848	2015.10.22	2016.10.21
SE019	Insulation Resistance Tester	Yang Zhi	YD9820A	20A-1734	2015.10.22	2016.10.21
SE020	Hi-Pot Tester	Yang Zhi	YD2650A	088	2015.10.22	2016.10.21
SE021	Electronic Scale	Balance	BCSS-F-6	081050	2015.10.22	2016.10.21
SE022	Push-Pull Scale	Algol	NK-300	67420	2015.10.22	2016.10.21
SE023	Digital Caliper	Yitu	YT211	P840156	2015.10.22	2016.10.21
SE024	Electronic Thermo-Hygrometer	S.H.Qixiang	CTH-608	GC-WS608	2015.10.22	2016.10.21
SE025	Goniometer	Wenzhou	JZC-B2	15032	2015.10.22	2016.10.21
SE026	Tumbling Barrel	Zhilitong	GT-1	G010308	2015.10.22	2016.10.21
SE027	Audio Generator	LWDQGS	TAG-101	308909	2015.10.22	2016.10.21
SE028	Noise Generator	DF	DF1681	071001107	2015.10.22	2016.10.21
SE029	Plug Torque Tester	Zhilitong	LJ-1	LJ010908	2015.10.22	2016.10.21
SE030	Test Probe 13	Zhilitong	TP13	D3L15	2015.10.22	2016.10.21
SE031	Test Probe 41	Zhilitiong	TP41	D30L80	2015.10.22	2016.10.21
SE032	Finger Nail Probe	Zhilitong	FN-1	D12N30	2015.10.22	2016.10.21
SE033	Test Finger Probe B	Zhilitong	TF-B	D12J3	2015.10.22	2016.10.21
SE034	Rigid Finger Probe	Zhilitong	RFP	D12N50	2015.10.22	2016.10.21
SE035	Test Probe	Zhilitong	D4L100	60065-913	2015.10.22	2016.10.21
SE036	Test Probe C	Zhilitong	TP-C	60065-915	2015.10.22	2016.10.21
SE037	Test Probe D	Zhilitong	TP-D	60065-914	2015.10.22	2016.10.21
SE038	Test Probe	Zhilitong	FG2C	D12L80	2015.10.22	2016.10.21
SE039	Test hook	Zhilitong	TH-1	W8L180T1	2015.10.22	2016.10.21
SE040	Accessibility Probe	Zhilitong	ZA-1	A1310	2015.10.22	2016.10.21
SE041	UL Finger Probe	Zhilitong	ULP-01	D5L97	2015.10.22	2016.10.21
SE042	Steel Ball	Zhilitong	GQ-1	G121008	2015.10.22	2016.10.21
SE043	Ball Pressure Tester	Sinna	SN3407	08051808	2015.10.22	2016.10.21
SE044	Ball Pressure Tester	Sinna	SN3407	08082302	2015.10.22	2016.10.21
SE045	Hammer	Sinna	SN3406	08083102	2015.10.22	2016.10.21
SE046	Torque Driver	kanon	12LTDK	08G338	2015.10.22	2016.10.21
SE047	Glow Wire Test Set	Sinna	ZRS-2	08091118	2015.10.22	2016.10.21
SE048	Needle Flame Test Set	Sinna	ZY-2	08091125	2015.10.22	2016.10.21
SE049	Switching Mode DC Power Supply	Manson	SIM-9106	G360800228	2015.10.22	2016.10.21
SE050	Hardened steel pin	Zhilitong	SC30	R25N30	2015.10.22	2016.10.21
SE051	Platform scale	shanghai	TGT-100	526	2015.10.22	2016.10.21
SE052	Salt spary tester	Jiahui	JH-60	176358	2015.10.22	2016.10.21
SE053	Test rod	Zhilitong	TZ-14	D40N5	2015.10.22	2016.10.21
SE054	Vibration tester	shengshiwei	SW-TF	20100228	2015.10.22	2016.10.21
SE055	Surge tester	Ceprei	1065A	0503Y01	2015.10.22	2016.10.21
SE056	Digital Power Meter	Qingzhi	8713B1	870909080	2015.10.22	2016.10.21
SE057	Dust chamber	Gongwen	SC-500	100311	2015.10.22	2016.10.21
SE058	Draught-proof enclosure	Tengbo	TB180	Q100226	2015.10.22	2016.10.21
SE059	Hammer	Zhilitong	CJ-3	C031026	2015.10.22	2016.10.21
SE060	Hammer	Zhilitong	CJ-3	C031027	2015.10.22	2016.10.21
SE061	Hammer	Zhilitong	CJ-3	C031028	2015.10.22	2016.10.21
SE062	Data Acquisition / Switch Unit	Agilent	34970A	US37013205	2015.10.22	2016.10.21
SE063	Leakage Current Tester	Simpson	228	7173286	2015.10.22	2016.10.21
SE064	Temp. & Humid. Chamber	Weihuang	WHTH-1000-40-880	100631	2015.10.22	2016.10.21

Equipment List

No.	Equipment	Manufacturer	Model No.	Serial No.	Calibration date	Calibration due date
SE065	Salt spary tester	Henqiang	KH-160	/	2015.10.22	2016.10.21
SE066	Oscillating tube	damsion	DMS-E01	2011DNS-E010401	2015.10.22	2016.10.21
SE067	Spray nozzle	Lihui	LH56	63125	2015.10.22	2016.10.21
SE068	Immersion tester	kunshang	IPX7-1	SK2018M5	2015.10.22	2016.10.21
SE069	Test Probe 18	Aodesaichuang	AUTO-18	auto110721-18-01	2015.10.22	2016.10.21
SE070	Test Probe 19	Aodesaichuang	AUTO-19	auto110721-19-02	2015.10.22	2016.10.21
SE071	Data Acquisition / Switch Unit	Agilent	34970A	MY44052414	2015.10.22	2016.10.21
SE072	Data Acquisition / Switch Unit	Agilent	34970A	MY44052411	2015.10.22	2016.10.21
SE073	Digital Power Meter	Yokogawa	WT210	91K223105	2015.10.22	2016.10.21
SE074	Desktop Multi Meter	Agilent	34401A	MY44008459	2015.10.22	2016.10.21
SE075	Desktop Multi Meter	Agilent	34401A	MY44008472	2015.10.22	2016.10.21
SE076	Hi-Pot Tester	ME I RUIKE	RK2672D	RK72D111130-010	2015.10.22	2016.10.21
SE077	Switching Mode Power Supply	ZHAOXIN	KXN-6030D	KXN.PS.JPS	2015.10.22	2016.10.21
SE078	Torque Driver	Aigu	10DPSK	356019	2015.10.22	2016.10.21
SE079	Magnifying glass	German	10x	12234	2015.10.22	2016.10.21
SE080	Regulated Power Supply	APC	AFC-11010G	F310120052	2015.10.22	2016.10.21
SE081	Air Pressure Gauge	Tianya	N509	/	2015.10.22	2016.10.21
SE082	Step Temperature Room	Long An	LA-ORT28	LA-201206001	2015.10.22	2016.10.21
SE083	"GO“ Gauge for E27 Caps	KINGPO	7006-27B-1	8688	2015.10.22	2016.10.21
SE084	"NOT GO“ Gauge for E27 Caps	KINGPO	7006-28A-1	8689	2015.10.22	2016.10.21
SE085	"GO“ Gauge for dimension "S1" of E27 Caps	KINGPO	7006-27C-1	8691	2015.10.22	2016.10.21
SE086	Gauge for E27 Caps for testing contact making	KINGPO	7006-50-1	8693	2015.10.22	2016.10.21
SE087	Gauge for E27 Caps for testing protection against accidental contact during insertion	KINGPO	7006-51A-2	8690	2015.10.22	2016.10.21
SE088	Oscilloscope	Tektronix	TDS3012B	C010353	2015.10.22	2016.10.21
SE089	Single wing drop tester	FEILING	FL8618	/	2015.10.22	2016.10.21
SE090	Data Acquisition / Switch Unit	Agilent	34970A	MY44006829	2015.10.22	2016.10.21
SE091	Thermocouple wire	OMEGA	TT-J-30-1000	/	2015.10.22	2016.10.21
SE092	Touch current tester	Ceprei	410B	1207AG10	2015.10.22	2016.10.21
SE093	Cord oscillating tester	Dongguan lixiong	LX-1211	/	2015.10.22	2016.10.21
SE094	Lampholder digital torsion meter	Inventfine Instrument Co., Ltd.	CH338	1301004	2015.10.22	2016.10.21
SE095	Straight steel pin	KINGPO	SE095	/	2015.10.22	2016.10.21
SE096	Digital Caliper	Guanglu	SF2000	C1211225254	2015.10.22	2016.10.21
SE097	Digital Caliper	Guanglu	SF2000	C1211225024	2015.10.22	2016.10.21
SE098	Timer	PURSUN	PS-528	/	2015.10.22	2016.10.21
SE099	Timer	PURSUN	PS-528	/	2015.10.22	2016.10.21
SE100	Switching Mode DC Power Supply	GW INSTEK	GPS-1850D	EN820728	2015.10.22	2016.10.21
SE101	Digital Power Meter	EVERFINE	PF9901	1005046	2015.10.22	2016.10.21
SE102	Digital Power Meter	EVERFINE	PF9901	G100731CJ6331237	2015.10.22	2016.10.21
SE103	Tape line	YANGGUANG	YG-206	/	2015.10.22	2016.10.21
SE104	Electronic Thermo-Hygrometer	UYIGAO	CTH-608	UA13706944	2015.10.22	2016.10.21
SE105	Pressure Gauge	ZHHY	SE105	/	2016.1.18	2017.1.17
SE106	"GO“ Gauge for E14 Caps	GRT/china	7006-27F-1	2013053131	2016.1.18	2017.1.17
SE107	"NOT GO“ Gauge for E14 Caps	GRT/china	7006-28B-1	2013053126	2016.1.18	2017.1.17
SE108	"GO“ Gauge for dimension "S1" of E14 Caps	GRT/china	7006-27G-1	2013053132	2016.1.18	2017.1.17
SE109	Gauge for E14 Caps for testing contact making	GRT/china	7006-54-2	2013053128	2016.1.18	2017.1.17
SE110	Gauge for E14 Caps for testing protection against accidental contact during insertion	GRT/china	7006-55-2	2013053129	2016.1.18	2017.1.17
SE111	"GO“ and "NOT GO“ Gauge for base GU10	KINGPO	7006-121-1	KingPo12485237	2016.1.18	2017.1.17
SE112	"GO“ plug gauge for E12 lampholder	GRT/china	7006-25C-1	20130512135005	2016.1.18	2017.1.17

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SE113	"NOT GO" plug gauge for E12 lampholder	GRT/china	7006-26B-1	20130512135006	2016.1.18	2017.1.17
SE114	"GO" Gauge for E26 Caps	GRT/china	7006-27D-3	2013053135	2016.1.18	2017.1.17
SE115	"NOT GO" Gauge for E26 Caps	GRT/china	7006-29L-4	2013053125	2016.1.18	2017.1.17
SE116	"GO" Gauge for E40 Caps	ANGUI TESTING	7006-27-7	20140405	2016.1.18	2017.1.17
SE117	"NOT GO" Gauge for E40 Caps	ANGUI TESTING	7006-28D-1	20140406	2016.1.18	2017.1.17
SE118	Gauge for E40 Caps for testing contact making	ANGUI TESTING	7006-52-1	20140407	2016.1.18	2017.1.17
SE119	Gauge for E40 Caps for testing protection against accidental contact during insertion	ANGUI TESTING	7006-53-1	20140408	2016.1.18	2017.1.17
SE120	"Go" gauge for bi-pin cap on finished lamps G13	KINGPO	7006-45-4	KingPo12485238	2016.1.18	2017.1.17
SE121	"Go" gauge for bi-pin cap on finished lamps G5	KINGPO	7006-46A-3	KingPo12485230	2016.1.18	2017.1.17
SE122	Gauge for three-pin flat-pin plugs（10A）	KINGPO	AS/NZS 3112 Fig A 10A	KingPo12485231	2016.1.18	2017.1.17
SE123	Gauge for three-pin flat-pin plugs (15A)	KINGPO	AS/NZS 3112 Fig A 15A	KingPo12485232	2016.1.18	2017.1.17
SE124	Gauge for three-pin flat-pin plugs (20A)	KINGPO	AS/NZS 3112 Fig A 20A	KingPo12485233	2016.1.18	2017.1.17
SE125	Gauge for two-pin flat-pin plugs with parallel pins	KINGPO	AS/NZS 3112 Fig B	KingPo12485236	2016.1.18	2017.1.17
SE126	Gauge for flat and round pin plugs (two flat live pins and a round earth pin)	KINGPO	AS/NZS 3112 Fig F-A	KingPo12485234	2016.1.18	2017.1.17
SE127	Gauge for flat and round pin plugs (two round live pins and a flat earth pin)	KINGPO	AS/NZS 3112 Fig F-B	KingPo12485235	2016.1.18	2017.1.17
SE128	Transport type simulation vibration tester	KING DESIGN	KD-9363-550-PC	LT0PCLA13003	2016.1.18	2017.1.17
SE129	Oven Chamber	Rongfeng	101A-3	33897	2016.1.18	2017.1.17
SE130	"Go" gauges for caps on finished lamps B22	ANGUI TESTING	7006-11-8	20140404	2016.1.18	2017.1.17
SE131	"Not Go" gauges for caps on finished lamps B22	ANGUI TESTING	7006-10-8	20140403	2016.1.18	2017.1.17
SE132	Gauges for testing the insertion of caps in lampholders B22d	ANGUI TESTING	7006-4A-2	20140401	2016.1.18	2017.1.17
SE133	Gauges for testing the retention of B22d caps in the holder	ANGUI TESTING	7006-4B-1	20140402	2016.1.18	2017.1.17
SE134	1000:1 Oscillograph Probe	Pintek	HVP-18HF	13010082	2016.1.18	2017.1.17
SE135	100:1 Oscillograph Probe	Pintek	CP-3308R	/	2016.1.18	2017.1.17
SE136	AC power source	All power	APW-150N	930607	2016.1.18	2017.1.17
SE137	Horizonal&vertical tester	AUTOSTRONG	AUTO-SPA	AUTO1033	2016.1.18	2017.1.17
SE138	Tracking index tester	AUTOSTRONG	AUTO-LDA	AUTO1040	2016.1.18	2017.1.17
SE139	Vicat softening tester	AUTOSTRONG	AUTO-WK	/	2016.1.18	2017.1.17
SE140	Electroplated coating thickness tester	Guangzhou Dongru electronic	DR280	9324	2016.1.18	2017.1.17
SE141	Battery Tester	DG	W602	DG2014W6021772	2016.1.18	2017.1.17
SE142	Test plug for antenna coaxial sockets	ANGUI TESTING	AG-IEC60065F9	/	2016.1.18	2017.1.17
SE143	SHORE D Durometer	Handpi	LX-D	8134006969	2016.1.18	2017.1.17
SE144	Steel Ball	ANGUI TESTING	GQ-2	/	2015.9.22	2016.9.21
SE145	"Go" gauges for caps on finished lamps B15	ANGUI TESTING	7006-11-8	140728017	2015.10.22	2016.10.21
SE146	"Not Go" gauges for caps on finished lamps B15	ANGUI TESTING	7006-10-8	140728010	2015.10.22	2016.10.21
SE147	Gauges for testing the insertion of caps in lampholders B15d	ANGUI TESTING	7006-4A-2	140728004	2015.10.22	2016.10.21
SE148	Gauges for testing the retention of B15d caps in the holder	ANGUI TESTING	7006-4B-1	140728009	2015.10.22	2016.10.21
SE149	"GO" Gauge for E39 Caps	ANGUI TESTING	7006-24B-1	144509	2015.10.22	2016.10.21
SE150	Gauge for E39 Caps for testing contact making	ANGUI TESTING	7006-24A-1	144511	2015.10.22	2016.10.21
SE151	"NOT GO" Gauge for E39 Caps	ANGUI TESTING	7006-24C-1	144510	2015.10.22	2016.10.21
SE152	Noise Generator/filter	ZCTEK	ZC6221	ZC14020178	2015.10.22	2016.10.21

Equipment List

SE153	Hi-Pot Tester	ME I RUIKE	RK2671C	RK71C-BEAI005	2015.12.10	2016.12.09
SE154	Data Acquisition / Switch Unit	Agilent	34970A	MY44064740	2015.12.10	2016.12.09
SE155	PVC componds pressure tester at high temperature	ANGUI TESTING	AG8113F1	/	2015.6.12	2016.6.11
SE156	Low Pressure Tester	BELL	BE-ZK-125	201505250002	2015.6.12	2016.6.11
SE157	Thermal abuse chamber	BELL	BE-101-480B	201505250003	2015.6.12	2016.6.11
SE158	Temperature control short-circuit tester	BELL	BE-1000W	201505250004	2015.6.12	2016.6.11
SE159	Projectile Tester	BELL	BE-6046	201505250005	2015.6.12	2016.6.11
SE160	Test machine for forced internal short circuit of cells	BELL	BE-6045W	201505250006	2015.6.12	2016.6.11
SE161	Crush tester	BELL	BE-6045-2T	201505250007	2015.6.12	2016.6.11
SE162	Rapid temperature test chamber	BELL	BTKS-408C-5	201505250008	2015.6.12	2016.6.11
SE163	Mechanical shock(crash hazard)	BELL	BE-5066	201505250009	2015.6.12	2016.6.11
SE164	Battery Testing System	NEWARE	CT-3008-5V10A-204	T1505-080859	2015.6.12	2016.6.11
SE165	Battery Testing System	NEWARE	CT-3008-5V10A-204	T1505-080860	2015.6.12	2016.6.11
SE166	Battery Testing System	NEWARE	CT-3008-20V6A-A	T1505-080861	2015.6.12	2016.6.11
SE167	Shock tester	LABTONE	HSKT10	L150529	2015.7.8	2016.7.7
SE168	Electromagnetic vibration tester	LABTONE	CV-700	L150530	2015.6.12	2016.6.11
SE169	Electronic scales	JM	JM-A	/	2015.6.12	2016.6.11
SE170	Digital Power Meter	EVERFINE	PF9901	G100731CO1351143	2015.10.22	2016.10.21
SE171	"GO“ and "NOT GO“ Gauge for starters	KINGPO	IEC 60155 Fig 6	/	2015.10.22	2016.10.21
SE172	"NOT GO“ Gauge for starters	KINGPO	IEC 60155 Fig 7	/	2015.10.22	2016.10.21
SE173	"GO“ Gauge for starters	KINGPO	IEC 60155 Fig 8	/	2015.10.22	2016.10.21
SE174	Internal resistance tester	TestPad	BTS-100	IR09100699	2015.6.12	2016.6.11

Appendix 3

Photo documentation

Photo 1 [√] front [ ] rear [ ]right side [ ] left side [ ] top [ ] bottom [ ] internal	

Photo 2 [√] front [ ] rear [ ]right side [ ] left side [ ] top [ ] bottom [ ] internal	

Photo documentation

Photo 3 [√] front [ ] rear [ ]right side [ ] left side [ ] top [ ] bottom [ ] internal	
Photo 4 [ ] front [√] rear [ ]right side [ ] left side [ ] top [ ] bottom [ ] internal	

Photo documentation

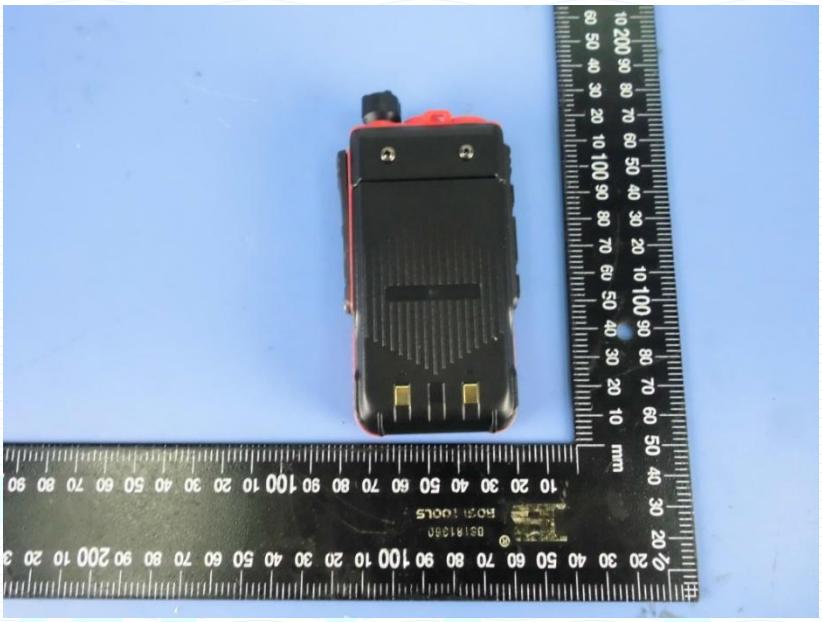
Photo 5 [ ] front [ ] rear [ ]right side [ ] left side [ ] top [√] bottom [ ] internal	

Photo 6 [ ] front [ ] rear [ ]right side [ ] left side [ ] top [ ] bottom [√] internal	

Photo documentation

Photo 7 [ ] front [ ] rear [ ]right side [ ] left side [ ] top [ ] bottom [√] internal	

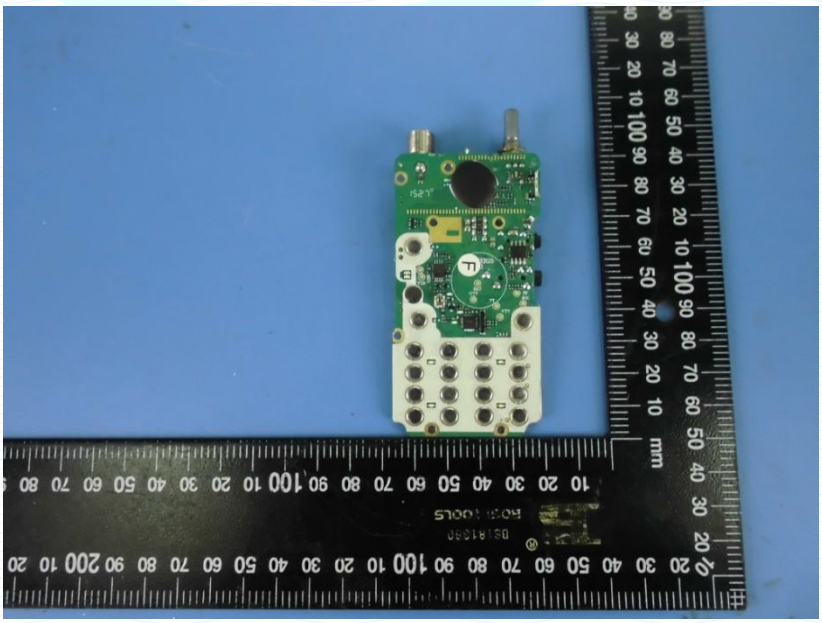
Photo 8 [ ] front [ ] rear [ ]right side [ ] left side [ ] top [ ] bottom [√] internal	

Photo documentation

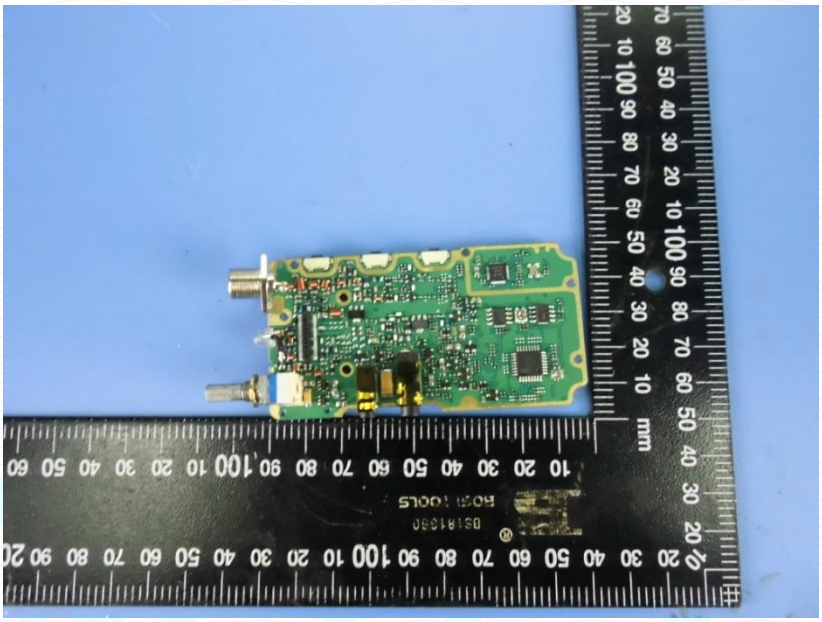
Photo 9 [ ] front [ ] rear [ ]right side [ ] left side [ ] top [ ] bottom [√] internal	

Photo 10 [√] front [ ] rear [ ]right side [ ] left side [ ] top [ ] bottom [ ] internal	

Photo documentation

Photo 11 [√] front [ ] rear [ ]right side [ ] left side [ ] top [ ] bottom [ ] internal	

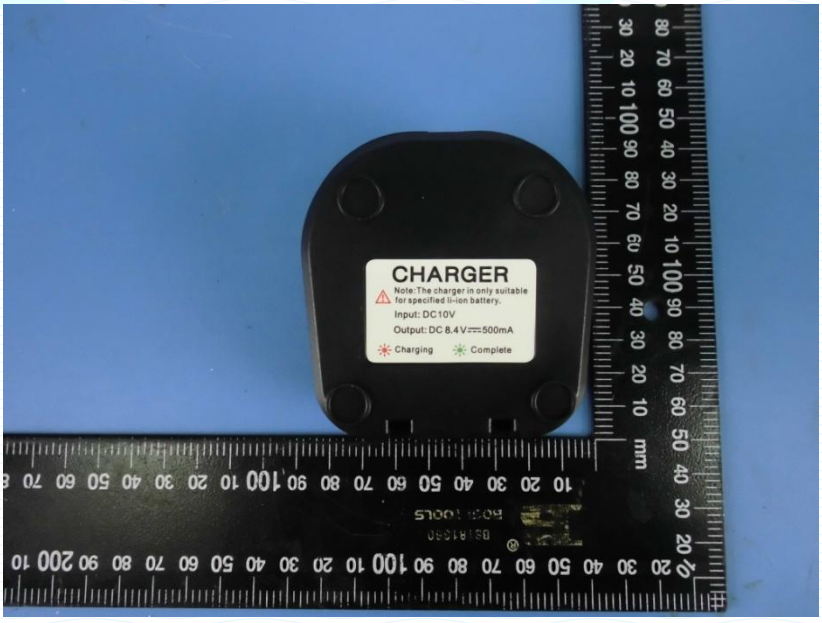
Photo 12 [ ] front [√] rear [ ]right side [ ] left side [ ] top [ ] bottom [ ] internal	

Photo documentation

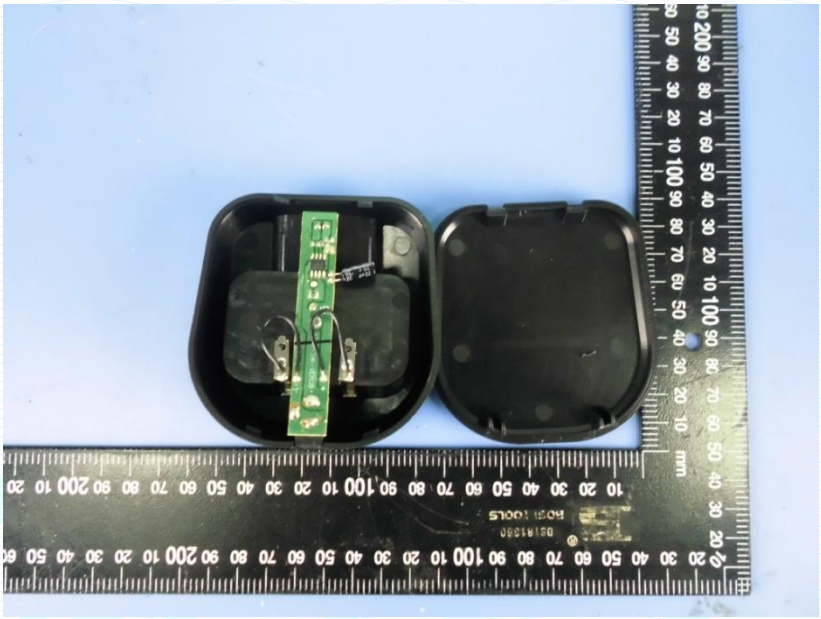
Photo 13 [ ] front [ ] rear [ ]right side [ ] left side [ ] top [ ] bottom [√] internal	

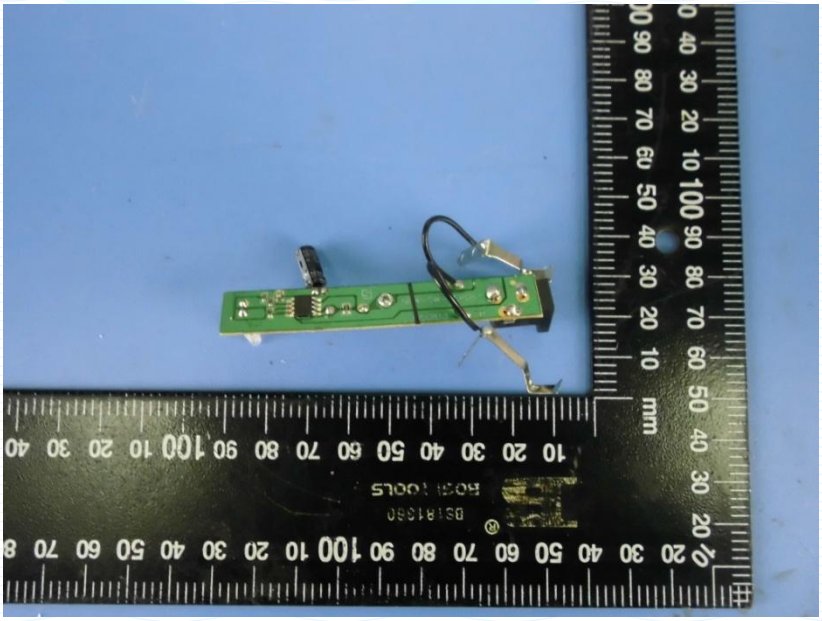
Photo 14 [ ] front [ ] rear [ ]right side [ ] left side [ ] top [ ] bottom [√] internal	

Photo documentation

Photo 15 [ ] front [ ] rear [ ]right side [ ] left side [ ] top [ ] bottom [√] internal