

TEST REPORT
EN 60950-1:2006+A11:2009+A1:2010+A12:2011
Information technology equipment – Safety –
Part 1: General requirements

Report Reference No.....: STR12048001S
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Date of issue.....: Apr. 25, 2012

Testing Laboratory: SEM.Test Compliance Service Co., Ltd.
Address: 3/F, Jinbao Commerce Building, Xin'an Fanshen Road, Bao'an District, Shenzhen, P.R.C. (518101)
Testing location / address: As above

Applicant's name.....: YAMAY ELECTRONICS CO., LTD.
Address: Bldg 1, Fu Yuan No. 2 Industrial Zone, Gongye Rd, Fuyong Town, Bao An, Shenzhen, China

Test specification:
Standard: EN 60950-1:2006+A11:2009+A1:2010+A12:2011
Test procedure: CE Attestation
Non-standard test method.....: N/A

Test Report Form No.....: EN60950_1C
Test Report Form(s) Originator.....: SEM. Test
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Master TRF.....: 2006-08

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Test item description: TABLET PCs
Trade Mark: N/A
Manufacturer: YAMAY ELECTRONICS CO., LTD.
 Bldg 1, Fu Yuan No. 2 Industrial Zone, Gongye Rd, Fuyong Town, Bao An, Shenzhen, China

Model/Type reference	Y-B07, Y-728, Y-738, Y-1020, Y-1330, Y-1401, Y-1402, Y-A07A, Y-A07B, Y-A07C, Y-A07D, Y-A08B, Y-A08C, Y-A10B, Y-A10C, Y-B07A, Y-B07B, Y-B07C, Y-B07D, Y-B07E, Y-B07F, Y-B07G, Y-B08A, Y-B08B, Y-B08C, Y-B08D, Y-971, Y-972, Y-973, Y-975, Y-B10A, Y-B10B, Y-B10C, Y-B10D, Y-M07X, Y-M08X, Y-M10, Y-N07D, Y-N07E, Y-Q07, Y-Q08, Y-R07, Y-R07A, Y-R07B, Y-R07C, Y-R07D, Y-R08, Y-R10, Y-S07, Y-S08, Y-S10, Y-T08, Y-V07A, Y-V07B, Y-V07C, Y-V08B, Y-V08C, Y-V08D, Y-V10B, Y-V10C, Y-V10D, Y-W07A, Y-W07B, Y-W07C, Y-W07D, Y-W08, Y-W10, Y-1028, Y-1038.
Ratings	9.0V $\overline{---}$, 1.5A Powered by 7.4V $\overline{---}$, 1450mAh \times 2 Lithium Battery
Copy of marking plate:	
Summary of testing:	
The test object has been assessed for safety with respect to the above test specifications and found to comply with the requirements of EN 60950-1:2006+A11:2009+A1:2010+A12:2011.	

Test item particulars	:
Equipment mobility	<input type="checkbox"/> movable <input checked="" type="checkbox"/> hand-held <input type="checkbox"/> stationary <input type="checkbox"/> fixed
Connection to the mains	<input type="checkbox"/> pluggable equipment <input type="checkbox"/> direct plug-in <input type="checkbox"/> permanent connection <input type="checkbox"/> for building-in <input checked="" type="checkbox"/> powered by batteries, not connection to mains supply
Operating condition	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> short-time <input type="checkbox"/> intermittent
Over voltage category	<input type="checkbox"/> OVC I <input type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV
Mains supply tolerance (%).....	N/A
Tested for IT power systems	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	<input type="checkbox"/> Class I <input type="checkbox"/> Class II <input checked="" type="checkbox"/> Class III <input type="checkbox"/> Not classified
Mass of equipment (kg).....	0.408Kg
Pollution degree	<input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IP20

Possible test case verdicts:	
- test case does not apply to the test object	N (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. 10, 2012
Date(s) of performance of tests	Apr. 10 - 25, 2012

General remarks:
<p>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.</p> <p>"(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p>
General product information:
All tests were carried out with the model Y-B07.

The product has been tested according to standard EN 60950-1:2006+A11:2009+A1:2010+A12:2011 and those deviations taken into account of				
<input checked="" type="checkbox"/> CENELEC common modifications	<input checked="" type="checkbox"/> United Kingdom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Finland	<input checked="" type="checkbox"/> Denmark	<input checked="" type="checkbox"/> Ireland	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Sweden	<input checked="" type="checkbox"/> Germany	<input checked="" type="checkbox"/> Spain	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Norway	<input checked="" type="checkbox"/> Switzerland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

These tests fulfil the requirements of standard EN ISO/IEC 17025.				
This test report includes the following documents:				
Test report, pages	44	Deviation list, pages	PCB Layout, pages	
Deviation list, pages		Annexes, pages	Circuit diagrams, pages ..	
Deviation list, pages		User manual, pages	Photos, pages	3

EN60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components	Components, which are certified to IEC and/or national standards, are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
1.5.3	Thermal controls	No thermal controls provided	N
1.5.4	Transformers	No transformers	N
1.5.5	Interconnecting cables		N
1.5.6	Capacitors bridging insulation	No such capacitors	N
1.5.7	Resistors bridging insulation	No such resistors	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	No such resistors	N
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N
1.5.7.4	Accessible parts		N
1.5.8	Components in equipment for IT power systems		N
1.5.9	Surge suppressors	No surge suppressors used	N
1.5.9.1	General		N
1.5.9.2	Protection of VDRs		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
1.6.1	AC power distribution systems	DC power distribution systems	N
1.6.2	Input current		P
1.6.3	Voltage limit of hand-held equipment	Powered by 7.4VDC Li-ion Battery Pack	P

EN60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6.4	Neutral conductor	Class III equipment	N
1.7	Marking and instructions		P
1.7.1	Power rating		P
	Rated voltage(s) or voltage range(s) (V)	7.4VDC	P
	Symbol for nature of supply, for d.c. only.....	==	P
	Rated frequency or rated frequency range (Hz) ...	DC Power	N
	Rated current (mA or A)		P
	Manufacturer's name or trade-mark or identification mark	YAMAY ELECTRONICS CO., LTD.	P
	Model identification or type reference	Y-B07	P
	Symbol for Class II equipment only	Class III equipment.	N
	Other markings and symbols		P
1.7.2	Safety instructions and marking	Safety instruction provided.	P
1.7.2.1	General		P
1.7.2.2	Disconnect devices	DC Jack.	P
1.7.2.3	Overcurrent protective device	No such device.	P
1.7.2.4	IT power distribution systems	DC Power	N
1.7.2.5	Operator access with a tool	No such device.	N
1.2.7.6	Ozone		N
1.7.3	Short duty cycles	Continuous operation.	N
1.7.4	Supply voltage adjustment	No voltage adjustment.	N
	Methods and means of adjustment; reference to installation instructions		N
1.7.5	Power outlets on the equipment	No standard power outlets.	N
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	No such fuse.	N
1.7.7	Wiring terminals	No such wiring terminal.	P
1.7.7.1	Protective earthing and bonding terminals	Class III equipment	N
1.7.7.2	Terminals for a.c. mains supply conductors		N
1.7.7.3	Terminals for d.c. mains supply conductors		P
1.7.8	Controls and indicators		P
1.7.8.1	Identification, location and marking		P
1.7.8.2	Colours		P
1.7.8.3	Symbols according to IEC 60417.....	No such symbol.	N
1.7.8.4	Markings using figures	Ditto	N

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Clause	Requirement + Test	Result - Remark	Verdict
1.7.9	Isolation of multiple power sources	No multiple power sources.	N
1.7.10	Thermostats and other regulating devices	No such regulating device.	N
1.7.11	Durability	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 s and then again for 15 s with the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling nor lifting of the label edge.	P
1.7.12	Removable parts		P
1.7.13	Replaceable batteries	lithium battery Irreplaceable.	P
	Language(s)		—
1.7.14	Equipment for 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.	—
2.1.1.1	Access to energized parts		P
	Test by inspection		P
	Test with test finger (Figure 2A)		P
	Test with test pin (Figure 2B)		P
	Test with test probe (Figure 2C)	No TNV circuit.	N
2.1.1.2	Battery compartments	No ELV circuit.	N
2.1.1.3	Access to ELV wiring	Ditto	N
	Working voltage (V _{peak} or V _{rms}); minimum distance through insulation (mm)		N
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage circuit wiring.	N
2.1.1.5	Energy hazards		P
2.1.1.6	Manual controls		N
2.1.1.7	Discharge of capacitors in equipment		N
	Measured voltage (V); time-constant (s).....		N
2.1.1.8	Energy hazards – d.c. mains supply		N
	a) Capacitor connected to the d.c. mains supply ...		N

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Clause	Requirement + Test	Result - Remark	Verdict
	b) Internal battery connected to the d.c. mains supply		N
2.1.1.9	Audio amplifiers	No audio amplifier circuit.	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	See Clause 2.2.2	P
2.2.2	Voltages under normal conditions (V)	All accessible voltages < 60V d.c. or <42.4Vpk.	P
2.2.3	Voltages under fault conditions (V)	All accessible voltages < 60V d.c. or <42.4Vpk.	P
2.2.4	Connection of SELV circuits to other circuits		P
2.3	TNV circuits		N
2.3.1	Limits	No TNV circuits	N
	Type of TNV circuits		N
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		N
2.3.4	Connection of TNV circuits to other circuits		N
	Insulation employed		N
2.3.5	Test for operating voltages generated externally		N
2.4	Limited current circuits		N
2.4.1	General requirements	No such circuits.	N
2.4.2	Limit values		N
	Frequency (Hz)		N
	Measured current (mA)		N
	Measured voltage (V).....		N
	Measured circuit capacitance (nF or μ F)		N

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Clause	Requirement + Test	Result - Remark	Verdict
2.4.3	Connection of limited current circuits to other circuits		N
2.5	Limited power sources		N
	a) Inherently limited output	No evaluated	N
	b) Impedance limited output		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)		N
	Current rating of overcurrent protective device (A)		N
2.6	Provisions for earthing and bonding		N
2.6.1	Protective earthing	Class III equipment	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		N
2.6.3.3	Size of protective bonding conductors		N
	Rated current (A), cross-sectional area (mm ²), AWG		N
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	No such terminal	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)		N
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N
2.6.5	Integrity of protective earthing	See 2.6.1	N
2.6.5.1	Interconnection of equipment		N

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Clause	Requirement + Test	Result - Remark	Verdict
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		N
2.7.1	Basic requirements	No primary circuits.	N
	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		N
2.7.4	Number and location of protective devices		N
2.7.5	Protection by several devices		N
2.7.6	Warning to service personnel		N
2.8	Safety interlocks		N
2.8.1	General principles	No safety interlocks used	N
2.8.2	Protection requirements		N
2.8.3	Inadvertent reactivation		N
2.8.4	Fail-safe operation		N
2.8.5	Moving parts		N
2.8.6	Overriding		N
2.8.7	Switches and relays		N
2.8.7.1	Contact gaps (mm)		N
2.8.7.2	Overload test		N
2.8.7.3	Endurance test		N
2.8.7.4	Electric strength test	(see appended table 5.2)	N
2.8.8	Mechanical actuators		N
2.9	Electrical insulation		P

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Clause	Requirement + Test	Result - Remark	Verdict
2.9.1	Properties of insulating materials	Natural rubber, hygroscopic and materials containing asbestos not used as insulation.	P
2.9.2	Humidity conditioning	48h	P
	Relative humidity (%), temperature (°C)	93% R.H.	P
2.9.3	Grade of insulation	Functional insulation	P
2.9.4	Separation from hazardous voltages	No hazard voltage	N
	Method(s) used		N

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	Only SELV circuits inside the EUT. Functional insulation evaluated in accordance with clause 5.3.4. b).	P
2.10.1.1	Frequency		N
2.10.1.2	Pollution degrees		N
2.10.1.3	Reduced values for functional insulation		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
2.10.1.7	Insulation in circuits generating starting pulses		N
2.10.2	Determination of working voltage		N
2.10.2.1	General		N
2.10.2.2	RMS working voltage		N
2.10.2.3	Peak working voltage		N
2.10.3	Clearances		N
2.10.3.1	General		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	(see appended table 2.10.3 and 2.10.4)	N
2.10.3.5	Clearances in circuits having starting pulses		N

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Clause	Requirement + Test	Result - Remark	Verdict
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 supply		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		N
2.10.4.1	General		N
2.10.4.2	Material group and comparative tracking index		N
	CTI tests	Material group IIIb is assumed to be used	N
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	N
2.10.5	Solid insulation		N
2.10.5.1	General		N
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	(see appended table 2.10.3 and 2.10.4)	N
2.10.5.6	Thin sheet material – General		N
2.10.5.7	Separable thin sheet material		N
	Number of layers (pcs).....		N
2.10.5.8	Non-separable thin sheet material		N
2.10.5.9	Thin sheet material – standard test procedure		N
	Electric strength test		N
2.10.5.10	Thin sheet material – alternative test procedure		N
	Electric strength test		N
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, supplementary, reinforced insulation		N

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Clause	Requirement + Test	Result - Remark	Verdict
	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		N
	Routine test		N
2.10.5.14	Additional insulation in wound components		N
	Working voltage		N
	- Basic insulation not under stress		N
	- Supplementary, reinforced insulation		N
2.10.6	Construction of printed boards		N
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	N
2.10.6.2	Coated printed boards	(see appended table 2.10.3 and 2.10.4)	N
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	(see appended table 2.10.3 and 2.10.4)	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
2.10.7	Component external terminations	(see appended table 2.10.3 and 2.10.4)	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

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.1	Current rating and overcurrent protection		P
3.1.2	Protection against mechanical damage	Ditto	P
3.1.3	Securing of internal wiring	Ditto	P
3.1.4	Insulation of conductors	Ditto	P
3.1.5	Beads and ceramic insulators	No beads or similar ceramic insulators on conductors.	N
3.1.6	Screws for electrical contact pressure	No electric screw connection.	N
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material.	N
3.1.8	Self-tapping and spaced thread screws	Thread-cutting or space thread screws are not used for electrical connections.	N
3.1.9	Termination of conductors		P
	10 N pull test		—
3.1.10	Sleeving on wiring		N
3.2	Connection to a mains supply		N
3.2.1	Means of connection	Powered by Li-ion Battery Pack	N
3.2.1.1	Connection to an a.c. mains supply		N
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	No such inlet	N
3.2.5	Power supply cords	See 3.2.1	N
3.2.5.1	AC power supply cords		N
	Type		N
	Rated current (A), cross-sectional area (mm ²), AWG		N
3.2.5.2	DC power supply cords	See 3.2.1	N
3.2.6	Cord anchorages and strain relief	No such device	N
	Mass of equipment (kg), pull (N)		N
	Longitudinal displacement (mm)		N
3.2.7	Protection against mechanical damage		P
3.2.8	Cord guards	Fixed appliance	N

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Clause	Requirement + Test	Result - Remark	Verdict
	Diameter or minor dimension D (mm); test mass (g):		N
	Radius of curvature of cord (mm)		N
3.2.9	Supply wiring space		N
3.3	Wiring terminals for connection of external conductors		N
3.3.1	Wiring terminals	No wiring terminal	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)		N
3.3.5	Wiring terminal sizes		N
	Rated current (A), type, nominal thread diameter (mm)		N
3.3.6	Wiring terminal design		N
3.3.7	Grouping of wiring terminals		N
3.3.8	Stranded wire		N
3.4	Disconnection from the mains supply		P
3.4.1	General requirement	DC Jack.	P
3.4.2	Disconnect devices	Ditto	P
3.4.3	Permanently connected equipment	Ditto	N
3.4.4	Parts which remain energized	No such device	N
3.4.5	Switches in flexible cords	No such device	N
3.4.6	Number of poles - single-phase and d.c. equipment	See 3.4.1	N
3.4.7	Number of poles - three-phase equipment	No such device	N
3.4.8	Switches as disconnect devices	Ditto	N
3.4.9	Plugs as disconnect devices	Ditto	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 equipment	N
3.5.2	Types of interconnection circuits		N
3.5.3	ELV circuits as interconnection circuits	No ELV circuit	N

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Clause	Requirement + Test	Result - Remark	Verdict
3.5.4	Data ports for additional equipment		N
4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N
	Angle of 10°		N
	Test force (N)		N
4.2	Mechanical strength		P
4.2.1	General		P
4.2.2	Steady force test, 10 N	10 N±1N	P
4.2.3	Steady force test, 30 N		N
4.2.4	Steady force test, 250 N	250N±10N	P
4.2.5	Impact test		N
	Fall test		N
	Swing test		N
4.2.6	Drop test; height (mm)		P
4.2.7	Stress relief test	No hazardous voltages	N
4.2.8	Cathode ray tubes	No CRT	N
	Picture tube separately certified		N
4.2.9	High pressure lamps	No such lamps	N
4.2.10	Wall or ceiling mounted equipment; force (N)		N
4.3	Design and construction		P
4.3.1	Edges and corners	No sharp edges or corners	P
4.3.2	Handles and manual controls; force (N)		P
4.3.3	Adjustable controls	No such controls	N
4.3.4	Securing of parts		P
4.3.5	Connection by plugs and sockets		N
4.3.6	Direct plug-in equipment	No direct plug-in 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

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Clause	Requirement + Test	Result - Remark	Verdict
	- Unintentional charging of a non-rechargeable battery		N
	- Reverse charging of a rechargeable battery		P
	- Excessive discharging rate for any battery		P
4.3.9	Oil and grease	No oil and grease.	N
4.3.10	Dust, powders, liquids and gases	No dust, powders, liquids and gases.	N
4.3.11	Containers for liquids or gases	No containers for liquid and gases.	N
4.3.12	Flammable liquids	No flammable liquid.	N
	Quantity of liquid (l)		N
	Flash point (°C)		N
4.3.13	Radiation		P
4.3.13.1	General		N
4.3.13.2	Ionizing radiation		N
	Measured radiation (pA/kg)		N
	Measured high-voltage (kV)		N
	Measured focus voltage (kV)		N
	CRT markings		N
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	The equipment does not produce UV radiation.	N
	Part, property, retention after test, flammability classification		N
4.3.13.4	Human exposure to ultraviolet (UV) radiation	The equipment does not produce UV radiation.	N
4.3.13.5	Laser (including LEDs)	General LED	P
	Laser class	Class 1	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
4.4.3	Protection in restricted access locations		N
4.4.4	Protection in service access areas		N
4.5	Thermal requirements		P
4.5.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.5.2	Temperature tests		P
	Normal load condition per Annex L		N
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	(see appended table 4.5.5)	P
4.6	Openings in enclosures		N
4.6.1	Top and side openings	No Opening	N
	Dimensions (mm)		N
4.6.2	Bottoms of fire enclosures	No Opening	N
	Construction of the bottom, dimensions (mm) ...		N
4.6.3	Doors or covers in fire enclosures	No such device	N
4.6.4	Openings in transportable equipment		N
4.6.4.1	Constructional design measures		N
	Dimensions (mm)		N
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).....		N
4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	Method 1	P
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests	(see appended table 5.3)	N
4.7.2	Conditions for a fire enclosure		P
4.7.2.1	Parts requiring a fire enclosure		N
4.7.2.2	Parts not requiring a fire enclosure	Components in secondary circuits supplied by limited power sources complying with 2.5 and mounted on PCB rated V-1 min.	P
4.7.3	Materials		P
4.7.3.1	General	PCB: V-1 min.	P
4.7.3.2	Materials for fire enclosures		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.3	Materials for components and other parts outside fire enclosures		P
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 used.	N

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		N
5.1.1	General	The only circuit SELV circuit	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)		N
	Measured touch current (mA)		N
	Max. allowed touch current (mA)		N
	Measured protective conductor current (mA)		N
	Max. allowed protective conductor current (mA) ..		N
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		N
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N
	Supply voltage (V)		N
	Measured touch current (mA)		N
	Max. allowed touch current (mA)		N

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.8.2	Summation of touch currents from telecommunication networks		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		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 motors	N
5.3.3	Transformers	(see appended Annex C)	N
5.3.4	Functional insulation		P
5.3.5	Electromechanical components		N
5.3.6	Audio amplifiers in ITE	No such device	N
5.3.7	Simulation of faults		P
5.3.8	Unattended equipment	No such device	N
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests		P
5.3.9.2	After the tests		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	(see appended table 5.2)	N
	Supply voltage (V)		N
	Current in the test circuit (Ma)		N
6.1.2.2	Exclusions		N
6.2	Protection of equipment users from overvoltages on telecommunication networks		N
6.2.1	Separation requirements		N

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Clause	Requirement + Test	Result - Remark	Verdict
6.2.2	Electric strength test procedure		N
6.2.2.1	Impulse test	(see appended table 5.2)	N
6.2.2.2	Steady-state test	(see appended table 5.2)	N
6.2.2.3	Compliance criteria		N
6.3	Protection of the telecommunication wiring system from overheating		N
	Max. output current (A)		N
	Current limiting method		N
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		
7.1	General	Not connected to a cable distribution system	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	(see appended table 5.2)	N
7.4.3	Impulse test	(see appended table 5.2)	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)		N
A.1.1	Samples		—
	Wall thickness (mm).....		—
A.1.2	Conditioning of samples; temperature (°C)		N
A.1.3	Mounting of samples		N
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)		
	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		—
	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		N
	Operating voltage (V)		—
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
	Method of protection		—
C.1	Overload test		N
C.2	Insulation		N
	Protection from displacement of windings :		N
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
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N
	Metal(s) used :		N
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)		N
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		N
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	Ringling 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
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, NORAMATIVE REFERENCES		N
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 2.10.5.4)	N
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)	N
V.1	Introduction	N
V.2	TN power distribution systems	N
W	ANNEX W, SUMMATION OF TOUCH CURRENTS	N
W.1	Touch current from electronic circuits	N
W.1.1	Floating circuits	N
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)	N
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)	N
BB	ANNEX BB, CHANGES IN THE SECOND EDITION	N
CC	ANNEX CC, Evaluation of integrated circuit(IC) current limited	N
CC.1	General	N
CC.2	Test program 1.....	N
CC.3	Test program 2.....	N
DD	ANNEX DD, Requirement for the mounting means of rack-mounted equipment	N
DD.1	General	N
DD.2	Mechanical strength test, variable N.....	N

DD.3	Mechanical strenght test, 250N, Including end stops:		N
DD.4	Compliance.....:		N

EE	ANNEX EE, Household and home/office documment/media shredders		N
EE.1	General		N
EE.2	Marking and instructions		N
	Use of marking 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 movig parts:		N
	Use of marking 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

**ATTACHMENT TO TEST REPORT IEC 60950-1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES**

Information technology equipment – Safety –

PART 1: GENERAL REQUIREMENTS

Differences according to:	EN 60950-1:2006+A11:2009+A1:2010+A12:2011
Attachment Form No:	EU_GD_IEC60950_1B_II
Attachment Originator	SGS Fimko Ltd
Master Attachment:	Date (2011-08)
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EN 60950-1:2006/A11:2009/A1:2010/A12:2011 – CENELEC COMMON MODIFICATIONS


IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications (EN))			
Clause	Requirement + Test	Result – Remark	Verdict
Contents	Add the following annexes: Annex ZA (normative) Annex ZB (normative)	Normative references to international publications with their corresponding European publications Special national conditions	N

General	Delete all the "country" notes in the reference document according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1 Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6. 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	N
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	N
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
(A12: 2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1/ EN60950-1:2006 Delete the definition 1.2.3.Z1/ EN60950-1:2006/A1:2010	N
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC	N
1.7.2.1	Add the following NOTE: NOTE Z1 In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss	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 player		N
	<p>Zx.1 General</p> <p>This sub-clause specifies equipments for protection against excessive sound pressure from personal music player that are closely coupled to the ear, It also specifies equipments for earphones and headphones intended for use with personal music player.</p> <p>A personal music player is portable equipment for personal use, that,</p> <ul style="list-style-type: none"> -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. <p>NOTE 1 examples are hand-held or body-worn portable CD players, MP3 audio player, mobile phone with MP3 type features, PDA's or similar equipment.</p> <p>A personal music player and earphones or headphones intended to be used with personal music player shall comply with the requirements of this sub-clause.</p> <p>The requirements in this sub-clause are valid for music or video mode only.</p> <p>The requirements do not apply:</p> <ul style="list-style-type: none"> -while the personal music player is connected to an external amplifier; or -while the headphones or earphones are not used. <p>NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to music as a standalone music player.</p>		N
	The requirements do not apply to :		

	<p>equipment;</p> <p>NOTE 3 Professional equipment is equipment sold through special sales channels, all products sold through normal electronics stores are considered not to be professional equipment.</p> <p>-analogue personal music player(personal music player without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015.</p> <p>NOTE 4 this exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer</p> <p>Exist, This exemption will not be extended to other technologies.</p> <p>For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.</p>		
	<p>Zx.2 Equipment requirements</p> <p>No safety provision is required for equipment that complies with the following:</p> <ul style="list-style-type: none"> - equipment provision as a package(personal music player with its listening device), where the acoustic output $L_{Abq,T}$ 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 <p>All other equipment shall:</p> <ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> c) provide a means to actively inform the user of the increased sound pressure when the 		

	<p>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 operating which allows for an acoustic output exceeding those mentioned above, the acknowledgement does not need to be repeated more than once every 20h of cumulative listening time; and</p> <p>NOTE 2 examples of means include visual or audible signals. Action from the user is always required</p> <p>NOTE 3 the 20h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off.</p> <p>d) have a warning as specified in Zx.3; and</p> <p>e) not exceeding the following:</p> <p>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" as described in EN 50332-1; and</p> <p>2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed " programme simulation noise" as described in EN 50332-1,</p> <p>For music where the average sound pressure(long term $L_{Aq,T}$) 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.</p> <p>NOTE 4 Classical music typically has average sound pressure(long term $L_{Aq,T}$)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.</p> <p>For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.</p>		
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	<p>Zx.3 Warning</p> <p>The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:</p> <ul style="list-style-type: none"> -the symbol of figure 1 with a minimum height of 5mm; and -the following wordingm, or similar: <p>“ To prevent possible hearing damage, do not listen at high volume levels for long periods.”</p> <div style="text-align: center;">  </div> <p>Figure 1-Warning label(IEC 60417-6044)</p> <p>Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.</p>		<p>N</p>
	<p>Zx.4 Requirements for listening devices(headphones and earphones)</p>		<p>N</p>
	<p>Zx.4.1 Wired listening devices with analogue input</p> <p>With 94 dBA sound pressure output $L_{Aq,T}$, the input voltage of the fixed " programme simulation noise" as described in EN 50332-2 shall be ≥ 75 mV.</p> <p>This requirement is applicable in any mode where the headphones can operate(active or passive), including any available setting(for example built-in volume level control).</p> <p>NOTE The values of 94 dBA -75mV correspond with 85 dBA -27mV and 100 dBA -150mV.</p>		<p>N</p>
	<p>Zx 4.2 Wire listening devices with digital input</p> <p>With any playing devices playing the fixed" programme simulation noise" as 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 $L_{Aq,T}$ of the listening device shall be ≤ 100 dBA.</p>		<p>N</p>
	<p>The requirement is applicable in any mode where the headphones can operate, including any available setting(for example built-in volume level control,additional sound feature like equalization, etc.).</p> <p>NOTE an example of a wired listening device with digital input is a USB headphone.</p>		

	<p>Zx.4.3 Wireless listening devices</p> <p>In wirelss mode:</p> <ul style="list-style-type: none"> -with any playing anf 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 setting 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 $L_{Aq,T}$ of the listening device shall be ≤ 100 dBA. <p>NOTE An example of a wireless listening devices is a bluetooth headphone.</p>		N
	<p>Zx.5 Measurement methods</p> <p>Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.</p> <p>Unless stated otherwise,the time interval T shall be 30 s.</p> <p>NOTE Test method for wireless equipment provided without listening device should be defined.</p>		N
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;</p>		N
2.7.1	<p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p>		N

	<p>c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		N
2.7.2	This subclause has been declared 'void'.		N
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	<p>Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".</p> <p>In Table 3B, replace the first four lines by the following:</p> <p>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 </p> <p>In the conditions applicable to Table 3B delete the words "in some countries" in condition^{a)}.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>		N
3.3.4	<p>In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following:</p> <p>Over 10 up to and including 16 1,5 to 2,5 1,5 to 4 </p> <p>Delete the fifth line: conductor sizes for 13 to 16 A</p>		N
4.3.13.6	<p>Replace the existing NOTE by the following:</p> <p>NOTE Z1 Attention is drawn to</p> <p>1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. And</p> <p>2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation)</p>		N
	Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		

Annex H	<p>Replace the last paragraph of this annex by:</p> <p>At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 μSv/h (0,1 Mr/h) (see NOTE). Account is taken of the background level.</p> <p>Replace the notes as follows:</p> <p>NOTE These values appear in Directive 96/29/Euratom.</p> <p>Delete NOTE 2.</p>		N
Bibliography	Additional EN standards.		—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS		—
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ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		—
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	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
1.7.2.1	<p>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.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p>		N

	<p>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.</p> <p>It is however accepted to provide the insulation external to the equipment by an Projector or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>"Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)."</p> <p>NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p>		N
	<p>Translation to Norwegian (the Swedish text will also be accepted in Norway): "Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet 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."</p> <p>Translation to Swedish: "Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet."</p>		N

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
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
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		N
	SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A		N

3.2.1.1	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If 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.</p>		N
3.2.1.1	<p>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.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p>		N
	<p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>		N
3.2.1.1	<p>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.</p> <p>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		N

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 mm ² 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: <ul style="list-style-type: none"> • 1,25 mm² to 1,5 mm² 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

5.1.7.1	<p>In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:</p> <ul style="list-style-type: none"> • STATIONARY PLUGGABLE EQUIPMENT TYPE A that <ul style="list-style-type: none"> ○ 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	<p>In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - two layers of thin sheet material, each of which shall pass the electric strength test below, or 		N
6.1.2.1	<ul style="list-style-type: none"> - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> - 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

6.1.2.1	<p>It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, 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 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400. 		N
6.1.2.2	<p>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.</p>		N
7.2	<p>In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>		N
7.3	<p>In Norway and Sweden, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.</p>		N
7.3	<p>In Norway, for installation conditions see EN 60728-11:2005.</p>		N

Note: Before placing the products in the different countries, the manufacturer must ensure that:

1. Operating Instructions, Ratings Labels and Warnings Labels written in an Accepted or Official Language of the county in question.
2. The equipment complies with the National Standards and/or Electrical Codes of the country in question.

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
PCB	Various	Various	V-0, 130°C	---	UL	
Plastic Enclosure	Various	Various	HB, 60°Cmin	---	UL	
Lithium-ion Battery	Yamay Electronics Co., Ltd.	PL415068P	7.4VDC, 1450mAh × 2	EN 60950-1	Test with appliance	
Adapter	Shenzhen Sdl Electronic & Technology Co., Ltd.	B02-090150	I/P: AC100- 240V, 50/60Hz, 0.35A O/P: 9.0VDC, 1.5A	EN 60950-1	CE	
¹⁾ An asterisk indicates a mark which assures the agreed level of surveillance						
Supplementary information:						

1.6.2	TABLE: Electrical data (in normal conditions)						N
U (V)	I (Ma)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
--	---	--	--	---	---	Normal operation	
Supplementary information:							

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)	
Between L to N before fuse							
Fuse pin to pin							
PCB of Primary winding to Secondary winding							
Primary winding to Secondary winding of transformer							
Primary part to enclosure outside							
Supplementary information: N/A							

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

4.5	TABLE: Thermal requirements						P	
Supply voltage (V)		7.4Vdc				---		
Ambient T _{min} (°C)		25.3°C				---		
Ambient T _{max} (°C)		25.4°C				---		
1. PCB near IC		61.2				130		
2. Lithium-ion Battery		37.5				65		
3. Plastic enclosure		32.4				60		
4. Adapter		46.8				95		
Supplementary information: N/A								
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: N/A								

SEM. Test Compliance Service Co., Ltd.

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?									
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	---	---	---	0.98A	7.4VDC, 1450mA h×2	1.45A	7.4VDC, 1450mA h×2	Battery charge protection	7.4VDC, 1450mA h×2
Max. current during fault condition	---	---	---	1.1A	7.4VDC, 1450mA h×2	Short-circuit current	7.4VDC, 1450mA h×2	Battery charge protection	7.4VDC, 1450mA h×2
Test results:								Verdict	
- Chemical leaks								P	
- Explosion of the battery								P	
- Emission of flame or expulsion of molten metal								P	
- Electric strength tests of equipment after completion of tests								P	
Supplementary information:									

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

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

5.1.6	TABLE: Touch current				N
Conditions:	L to terminal	L to Enclosure	N to output	N to Enclosure	Limit(Ma)
Supplementary information:N/A					

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
SELV circuit → Plastic Enclosure (20*10cm silver paper overlay)		AC	500	No
Input (L/N) → Output (Adapter)		AC	3000	No
Supplementary information:N/A				

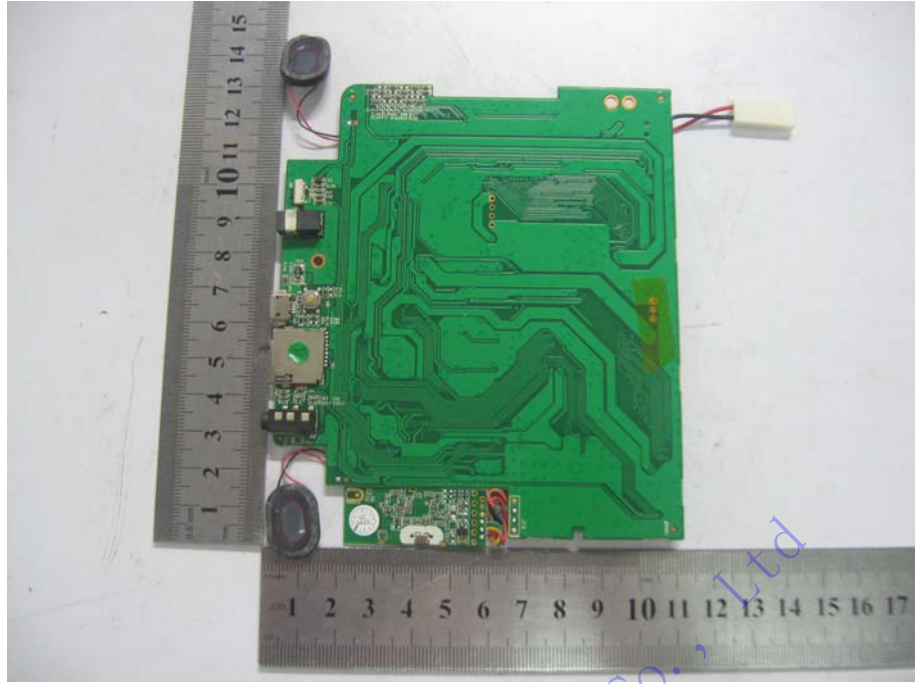
5.3	TABLE: Fault condition tests					P
Ambient temperature (°C)					---	
Power source for EUT: Manufacturer, model/type, output rating					---	
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Lithium-ion Battery	S-C	7.4Vdc	10min	---	---	Lithium-ion Battery immediately protection, no hazard, No high temperature.
Lithium-ion Battery	Overload	7.4Vdc	7h	---	2.0A	Battery Complete discharge, no hazard, Maximum temperature of cell was <u>47.1</u> °C.
Lithium-ion Battery	Over Charging	9.5Vdc	7h	---	---	A fully charged battery was charged by a constant voltage 106%. Maximum temperature of cell was <u>39.5</u> °C.
Lithium-ion Battery	Reversed charging	9.0Vdc	7h	---	---	No chemical leaks and explosion, no hazard. No abnormal temperature. Lithium-ion Battery immediately protection.
Speaker	S-C	7.4Vdc	10min	---	---	No hazard, no high temperature. Equipment normal operation.
Supplementary information: O-C: open-circuit S-C: short-circuit						

PHOTO:

Model: Y-B07







******End of Test Report******