



TEST REPORT EN 62368-1 Audio/video, information and communication technology equipment Part 1: Safety requirements	
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Address:	Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China.
Applicant's name:	Guangdong Green Power Technology Co.,Ltd.
Address:	Room 401,Building NO.2,Hongyuan Road 6,Huangpu District,Guangzhou City
Test specification:	
Standard:	EN 62368-1:2014+A11:2017
Test procedure	CE-LVD
Non-standard test method:	N/A
Test Report Form No:	IEC62368_1B
Test Report Form(s) Originator:	UL (US)
Master TRF:	2014-03
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Test item description.....:	AC Adapter
Trade Mark.....:	绿硕能/LSN
Manufacturer.....:	Same as Applicant
Address.....:	Same as Applicant
Model/Type reference.....:	LSN-18G-0500YYYY;LSN-18G-0840YYYY;LSN-18G-0900YYYY; LSN-18G-1050YYYY;LSN-18G-1200YYYY;LSN-18G-1350YYYY; LSN-18G-1450YYYY;LSN-18G-1485YYYY;LSN-18G-1500YYYY; LSN-18G-1850YYYY;LSN-18G-1900YYYY;LSN-18G-1950YYYY; LSN-18G-2000YYYY;LSN-18G-2400YYYY;LSN-18G-3000YYYY; LSN-18G-3600YYYY;LSN-18G-4200YYYY;LSN-18G-4800YYYY; LSN-18G-5500YYYY;LSN-18G-5600YYYY;LSN-18G-PD (XXX=050-560: represents the output voltage of 5V-56V;YYYY=0001-0600 represents 00.1A-6.0A with A maximum output power of 65W)PD=5-20.5V, maximum current 3.25A,MAX Pout=65W)
Power Rating:	Input: 100-240V, 50/60Hz, 1.5A,75W Output: 5-56Vdc, 6A

<p>List of Attachments (including a total number of pages in each attachment):</p> <p>Attachment No.1 - Group Differences and National Differences. Attachment No.2 - Photo documentation.</p>

<p>Summary of testing:</p> <p>The product fulfils the requirements of EN 62368-1:2014+A11:2017.</p>
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<p>Tests performed (name of test and test clause):</p> <p>Conduct thorough testing in the harshest of conditions. The models LSN-18G-05000600,LSN-18G-56000116 have been selected for the tests</p>	<p>Testing location:</p> <p>Precise Testing & Certification (Guangdong) Co., Ltd. Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China.</p>
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<p>Summary of compliance with National Differences:</p> <p>List of countries addressed</p> <p>For National Differences see end of this test report.</p> <p><input type="checkbox"/> The product fulfils the requirements of _____ (insert standard number and edition and delete the text in parenthesis or delete the whole sentence if not applicable)</p>
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Copy of marking plate



Note:

- As declared by the applicant, the importer (and manufacturer, if it is different)'s name, registered trade name or registered trade mark and the postal address will be marked on the products before being place on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities.
- The above markings are the minimum requirements required by the safety standard, For the final production, the additional markings which do not give rise to misunderstanding may be added.
- The high of "CE" and "WEEE" at least 5mm and 7mm.
- The Markings are attached on external enclosure and visible during normal use.
- Since similar label used, only label for models above listed to represent other similar ones.



TEST ITEM PARTICULARS:	
Classification of use by.....:	<input checked="" type="checkbox"/> Ordinary person <input type="checkbox"/> Instructed person <input type="checkbox"/> Skilled person <input type="checkbox"/> Children likely to be present
Supply Connection.....:	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input type="checkbox"/> External Circuit - not Mains connected - <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input checked="" type="checkbox"/> ES3
Supply % Tolerance	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> +15 %/ -15 % <input type="checkbox"/> None
Supply Connection – Type	<input checked="" type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input type="checkbox"/> other: _____
Considered current rating of protective device as part of building or equipment installation.....:	16 A Installation location: <input checked="" type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility.....:	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input checked="" type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other: _____
Class of equipment	<input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input type="checkbox"/> Class III
Access location	<input type="checkbox"/> restricted access location <input checked="" type="checkbox"/> N/A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified maximum operating ambient.....:	25 °C
IP protection class	<input type="checkbox"/> IPX0 <input type="checkbox"/> IP20 ____
Power Systems	<input checked="" type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT - 230 V L-L
Altitude during operation (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> 5000 m
Altitude of test laboratory (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> _____ m
Mass of equipment (kg)	<input checked="" type="checkbox"/> 0.19Kg Max.



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.....	2021-04-13
Date (s) of performance of tests.....	2021-04-14 to 2021-04-19
GENERAL REMARKS:	
<p>“(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 <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p>	
Manufacturer’s Declaration per sub-clause 4.2.5 of IECEE 02:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies).....	Same as Applicant
GENERAL PRODUCT INFORMATION:	
<p>1.The product is a class II AC Adapter, Input is 100-240~. 2.We tested the output as DC 56V1.16A and DC 5V6A.</p>	



ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
<p>(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.)</p>	
<p>Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input ES1</p>	
Source of electrical energy	Corresponding classification (ES)
Primary circuit	ES3
Output circuit	ES1
<p>Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): PS2</p>	
Source of power or PIS	Corresponding classification (PS)
Primary circuit	PS3
Output of power terminal	PS3
<p>Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component Glycol</p>	
Source of hazardous substances	Corresponding chemical
N/A	N/A
<p>Mechanically-caused injury (Clause 8) (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit MS2</p>	
Source of kinetic/mechanical energy	Corresponding classification (MS)
Sharp edges and corners	MS1
Equipment mass	MS1
<p>Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure TS1</p>	
Source of thermal energy	Corresponding classification (TS)
External enclosure surfaces	TS3



ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
Radiation (Clause 10) (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product RS1	
Type of radiation	Corresponding classification (RS)
N/A	N/A

ENERGY SOURCE DIAGRAM
Indicate which energy sources are included in the energy source diagram. Insert diagram below
<input checked="" type="checkbox"/> ES <input checked="" type="checkbox"/> PS <input checked="" type="checkbox"/> MS <input checked="" type="checkbox"/> TS <input checked="" type="checkbox"/> RS



OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	ES3: primary circuit	N/A	N/A	Transformer, Enclosure
Ordinary	ES1: Output connector	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source	Safeguards		
		Basic	Supplementary	Reinforced
Combustible materials within equipment	PS3: All circuit	Equipment safeguards (no ignition occurs)	Fire enclosure	N/A
Output connector	PS3: Secondary output connector	Equipment safeguards (no ignition occurs)	Equipment safeguard	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	MS1: Mass of the unit	N/A	N/A	N/A
Ordinary	MS1: Edges and corners	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	TS3: metal enclosure	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A



Supplementary Information:

- (1) See attached energy source diagram for additional details.
- (2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	(See appended Table 4.1.2.)	P
4.1.2	Use of components	Safeguard components are certified to IEC and/or national standards and are used correctly within their ratings.	P
4.1.3	Equipment design and construction		P
4.1.15	Markings and instructions..... :	(See Annex F)	P
4.4.4	Safeguard robustness	Building-in equipment	N/A
4.4.4.2	Steady force tests..... :		N/A
4.4.4.3	Drop tests..... :		N/A
4.4.4.4	Impact tests..... :		N/A
4.4.4.5	Internal accessible safeguard enclosure and barrier tests..... :		N/A
4.4.4.6	Glass Impact tests..... :		N/A
4.4.4.7	Thermoplastic material tests..... :		N/A
4.4.4.8	Air comprising a safeguard..... :		N/A
4.4.4.9	Accessibility and safeguard effectiveness		N/A
4.5	Explosion	No explosion observed during normal / abnormal / single fault conditions.	P
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard		P
4.6.2	10 N force test applied to :	10 N pull / push test performed for all relevant conductors.	P
4.7	Equipment for direct insertion into mains socket - outlets		N/A
4.7.2	Mains plug part complies with the relevant standard..... :		N/A
4.7.3	Torque (Nm)..... :		N/A
4.8	Products containing coin/button cell batteries		N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children		—



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	removing the battery.....:		
4.8.4	Battery Compartment Mechanical Tests.....:		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object.....:		N/A

5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications.....:	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits	(See appended table 5.2)	P
5.2.2.2	Steady-state voltage and current.....:	(See appended table 5.2)	P
5.2.2.3	Capacitance limits.....:	(See appended table 5.2)	P
5.2.2.4	Single pulse limits.....:		N/A
5.2.2.5	Limits for repetitive pulses.....:		N/A
5.2.2.6	Ringling signals		N/A
5.2.2.7	Audio signals		N/A
5.3	Protection against electrical energy sources	Building-in equipment	N/A
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards		N/A
5.3.2.2	Contact requirements		N/A
	a) Test with test probe from Annex V.....:		N/A
	b) Electric strength test potential (V).....:		N/A
	c) Air gap (mm)		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	The choice and application have taken into account as specified in this Clause 5 and Annex T except natural rubber, hygroscopic materials or asbestos are not used as insulation.	P
5.4.1.3	Humidity conditioning.....:	(See clause 5.4.8)	P
5.4.1.4	Maximum operating temperature for insulating materials	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.5	Pollution degree.....:	PD2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2 is applied.	N/A
5.4.1.5.3	Thermal cycling		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage		P
5.4.1.9	Insulating surfaces		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P
5.4.1.10.2	Vicat softening temperature..... :		N/A
5.4.1.10.3	Ball pressure :	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances	Procedure 2 is higher. Hence the determination of clearance is by procedure 2. (See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
5.4.2.2	Determining clearance using peak working voltage		P
5.4.2.3	Determining clearance using required withstand voltage :	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
	a) a.c. mains transient voltage.....:	2500 V _{peak}	—
	b) d.c. mains transient voltage:		—
	c) external circuit transient voltage.....:		—
	d) transient voltage determined by measurement:		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages..... :	Specified the equipment op be operated up to 5000m above sea level the required clearance is multiplied by the altitude correction factor 1.48 according to table 17. (See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
5.4.3	Creepage distances..... :	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
5.4.3.1	General	See below.	P



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.3.3	Material Group	IIIa or IIIb	—
5.4.4	Solid insulation		P
5.4.4.2	Minimum distance through insulation	(See appended table 5.4.4.2, 5.4.4.5 c), 5.4.4.9)	P
5.4.4.3	Insulation compound forming solid insulation	Certified source of photo couplers used. (See append table 4.1.2)	P
5.4.4.4	Solid insulation in semiconductor devices	(See clause 5.4.4.3)	P
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements	The thin sheet materials of polyester tape used in transformer.	P
5.4.4.6.2	Separable thin sheet material	Two layers of insulating tape provided as double/reinforced insulation and each layer passed the electric strength test for reinforced insulation. See appended Table 5.4.9.	P
	Number of layers (pcs)	2-layer min.	P
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material.....		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components	(See Annex G5 and G6)	P
5.4.4.9	Solid insulation at frequencies >30 kHz.....		N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ).....		—
5.4.6	Insulation of internal wire as part of supplementary safeguard.....		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning	Electric strength test conducted after humidity treatment.	P
	Relative humidity (%).....	95	—



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Temperature (°C)	40	—
	Duration (h)	120	—
5.4.9	Electric strength test.....	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for a solid insulation type test	Method 1 used.	P
5.4.9.2	Test procedure for routine tests		P
5.4.10	Protection against transient voltages between external circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test..... :		N/A
5.4.10.2.3	Steady-state test..... :		N/A
5.4.11	Insulation between external circuits and earthed circuitry..... :		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V)..... :		—
	Nominal voltage U_{peak} (V)..... :		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$:		—
5.5	Components as safeguards		P
5.5.1	General	See below	P
5.5.2	Capacitors and RC units	X and Y Capacitors comply with IEC 60384-14. (See appended table 4.1.2)	P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector..... :	(See appended table 5.5.2.2)	P
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	(See appended Table 4.1.2.)	P
5.5.5	Relays	(See appended Table 4.1.2.)	P



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.6	Resistors		N/A
5.5.7	SPD's		N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable..... :		N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors		N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors	Building-in equipment, shall be considered in the end-product.	N/A
	Protective earthing conductor size (mm ²) :		—
5.6.4	Requirement for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²)..... :		—
	Protective current rating (A) :		—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Requirement		N/A
	Conductor size (mm ²), nominal thread diameter (mm)..... :		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method Resistance (Ω)..... :		N/A
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		N/A
5.7.2.1	Measurement of touch current..... :	(See appended table 5.7.2.2, 5.7.4)	P
5.7.2.2	Measurement of prospective touch voltage	(See appended Table 5.2)	P



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.3	Equipment set-up, supply connections and earth connections	Single connection.	—
	System of interconnected equipment (separate connections/single connection)..... :		—
	Multiple connections to mains (one connection at a time/simultaneous connections)..... :		—
5.7.4	Earthed conductive accessible parts..... :	Touch current at earthed accessible conductive parts is not exceeding ES2 limits. (See appended table 5.7.2.2, 5.7.4)	P
5.7.5	Protective conductor current		N/A
	Supply Voltage (V)..... :		—
	Measured current (mA)..... :		—
	Instructional Safeguard..... :		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA)..... :		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA)..... :		N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	See Energy source identification and classification table.	P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault.... :	PS3	N/A
6.2.2.3	Power measurement for worst-case power source fault..... :		N/A
6.2.2.4	PS1		N/A
6.2.2.5	PS2		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.6	PS3	See 6.2.2	P
6.2.3	Classification of potential ignition sources	See below.	P
6.2.3.1	Arcing PIS	All conductors and devices are considered as Arcing PIS.	P
6.2.3.2	Resistive PIS	All conductors and devices are considered as Resistive PIS.	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials.....	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure		N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Method of Control fire spread used.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	PS3	P
6.4.3.1	General		P
6.4.3.2	Supplementary Safeguards		P
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions.....	(See appended table B.4)	P
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits		N/A
6.4.5.2	Supplementary safeguards		N/A
6.4.6	Control of fire spread in PS3 circuit	Compliance detailed as follows: - Printed board: rated V-1 or VTM-1 min. class material. - Wire insulation and tubing: complying with Clause 6.5. Other components other than PCB are: - mounted on PCB rated V-1 or VTM-1 min., or - made of V-2, VTM-2 or HF2 min.	P



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.1	General.....:		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		N/A
6.4.8.1	Fire enclosure and fire barrier material properties		N/A
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure		N/A
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		N/A
6.4.8.3.1	Fire enclosure and fire barrier openings		N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm):	Building-in equipment	N/A
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm):	Building-in equipment	N/A
	Flammability tests for the bottom of a fire enclosure :		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)..... :		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating.....:		N/A
6.5	Internal and external wiring		N/A
6.5.1	Requirements	Building-in equipment	N/A
6.5.2	Cross-sectional area (mm ²) :		—
6.5.3	Requirements for interconnection to building wiring.....:		N/A
6.6	Safeguards against fire due to connection to additional equipment	(See Annex Q)	P
	External port limited to PS2 or complies with Clause Q.1	(See Annex Q)	P
7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.2	Reduction of exposure to hazardous substances		N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions.....:		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010).....:		—
7.6	Batteries..... :		N/A

8	MECHANICALLY-CAUSED INJURY		P
8.1	General		P
8.2	Mechanical energy source classifications	See Energy source identification and classification table.	P
8.3	Safeguards against mechanical energy sources		N/A
8.4	Safeguards against parts with sharp edges and corners	Accessible edges and corners of the equipment are rounded and are classified as MS1.	P
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts	No moving parts.	N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard..... :		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks.....:		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard..... :		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N).....:		N/A
8.5.5	High Pressure Lamps	No such Lamps provided.	N/A
8.5.5.1	Energy Source Classification		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.5.2	High Pressure Lamp Explosion Test..... :		N/A
8.6	Stability	Build in equipment	N/A
8.6.1	Product classification		N/A
	Instructional Safeguard..... :		—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force..... :		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt..... :		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force)..... :		N/A
	Position of feet or movable parts..... :		—
8.7	Equipment mounted to wall or ceiling	Building-in equipment	N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface) :		N/A
8.7.2	Direction and applied force..... :		N/A
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force :		N/A
8.9	Wheels or casters attachment requirements	Building-in equipment	N/A
8.9.1	Classification		N/A
8.9.2	Applied force..... :		—
8.10	Carts, stands and similar carriers	Building-in equipment	N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard..... :		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force..... :		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Applied horizontal force (N).....:		—
8.10.6	Thermoplastic temperature stability (°C).....:		N/A
8.11	Mounting means for rack mounted equipment	Building-in equipment	N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i>		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas.....		N/A
	Button/Ball diameter (mm).....:		—

9	THERMAL BURN INJURY		N/A
9.2	Thermal energy source classifications	Building-in equipment	N/A
9.3	Safeguard against thermal energy sources		N/A
9.4	Requirements for safeguards		N/A
9.4.1	Equipment safeguard		N/A
9.4.2	Instructional safeguard		N/A

10	RADIATION		P
10.2	Radiation energy source classification	See Energy source identification and classification table.	P
10.2.1	General classification		P
10.3	Protection against laser radiation	No laser	N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault.....:		N/A
	Instructional safeguard.....:		—
	Tool.....:		—
10.4	Protection against visible, infrared, and UV radiation	LED backlight and LED indicator are considered as RS1.	P
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons.....:		N/A
10.4.1.b)	RS3 accessible to a skilled person.....:		N/A
	Personal safeguard (PPE) instructional		—



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	safeguard..... :		
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1... :		N/A
10.4.1.d)	Normal, abnormal, single-fault conditions :		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque..... :		N/A
10.4.1.f)	UV attenuation..... :		N/A
10.4.1.g)	Materials resistant to degradation UV..... :		N/A
10.4.1.h)	Enclosure containment of optical radiation..... :		N/A
10.4.1.i)	Exempt Group under normal operating conditions :		N/A
10.4.2	Instructional safeguard..... :		N/A
10.5	Protection against x-radiation		N/A
10.5.1	X- radiation energy source that exists equipment :		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards..... :		N/A
	Instructional safeguard for skilled person..... :		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation..... :		—
	Abnormal and single-fault condition..... :		N/A
	Maximum radiation (pA/kg)..... :		N/A
10.6	Protection against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)..... :		N/A
	Output voltage, unweighted r.m.s..... :		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards..... :		N/A
	Equipment safeguard prevent ordinary person to RS2..... :		—
	Means to actively inform user of increase sound pressure..... :		—
	Equipment safeguard prevent ordinary person to RS2..... :		—



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output..... :		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)..... :		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)..... :		—

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers..... :		N/A
B.2.3	Supply voltage and tolerances	+10% and -10% for a.c. mains.	P
B.2.5	Input test..... :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements..... :	See below	P
B.3.2	Covering of ventilation openings		N/A
B.3.3	D.C. mains polarity test	AC mains	N/A
B.3.4	Setting of voltage selector..... :	No voltage selector	N/A
B.3.5	Maximum load at output terminals..... :	(See appended table B.2.5)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions		P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited..... :		N/A
B.4.3	Motor tests		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature		N/A
B.4.4	Short circuit of functional insulation		P
B.4.4.1	Short circuit of clearances for functional insulation		P
B.4.4.2	Short circuit of creepage distances for functional insulation		P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended Table B.4)	P
B.4.6	Short circuit or disconnect of passive components	(See appended Table B.4)	P
B.4.7	Continuous operation of components		N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions	(See appended Table B.4)	P
B.4.9	Battery charging under single fault conditions.....:		N/A

C			UV RADIATION	N/A
C.1	Protection of materials in equipment from UV radiation	No UV radiation		N/A
C.1.2	Requirements			N/A
C.1.3	Test method			N/A
C.2	UV light conditioning test			N/A
C.2.1	Test apparatus			N/A
C.2.2	Mounting of test samples			N/A
C.2.3	Carbon-arc light-exposure apparatus			N/A
C.2.4	Xenon-arc light exposure apparatus			N/A

D			TEST GENERATORS	N/A
D.1	Impulse test generators			N/A
D.2	Antenna interface test generator			N/A
D.3	Electronic pulse generator			N/A



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

E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V).....:		—
	Rated load impedance (Ω)		—
E.2	Audio amplifier abnormal operating conditions		N/A

F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements		P
	Instructions – Language	English	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		N/A
F.2.2	Graphic symbols IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	The equipment marking is located on the surface and is easily visible.	P
F.3.2	Equipment identification markings	See below.	P
F.3.2.1	Manufacturer identification	See copy of marking plate	—
F.3.2.2	Model identification	See copy of marking plate	—
F.3.3	Equipment rating markings	See below.	P
F.3.3.1	Equipment with direct connection to mains	See copy of marking plate	P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage.....:	See copy of marking plate	—
F.3.3.4	Rated voltage.....:	See copy of marking plate	—
F.3.3.4	Rated frequency.....:	See copy of marking plate	—
F.3.3.6	Rated current or rated power.....:	See copy of marking plate	—
F.3.3.7	Equipment with multiple supply connections	Only one connection.	N/A
F.3.4	Voltage setting device	No voltage setting device.	N/A
F.3.5	Terminals and operating devices	See below.	P
F.3.5.1	Mains appliance outlet and socket-outlet markings.....:		N/A
F.3.5.2	Switch position identification marking.....:		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.5.3	Replacement fuse identification and rating markings..... :	Fuse F1, T6.3AL 250V	P
F.3.5.4	Replacement battery identification marking..... :		N/A
F.3.5.5	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification		N/A
F.3.6.1	Class I Equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A
F.3.6.1.2	Neutral conductor terminal	Not permanently connected equipment.	N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)		N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking :	IPX0	—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking	All markings required are easily discernible under normal lighting conditions.	P
F.3.10	Test for permanence of markings	After rubbing test by water and petroleum spirit, the marking still legible; it is not easily possible to remove the marking plate and show no curling.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present – marking		N/A
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place		N/A
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	g) Protective earthing conductor current exceeding ES 2 limits		N/A
	h) Symbols used on equipment		N/A
	i) Permanently connected equipment not provided with all-pole mains switch		N/A
	j) Replaceable components or modules providing safeguard function		P
F.5	Instructional safeguards		P
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction		P

G	COMPONENTS		P
G.1	Switches		N/A
G.1.1	General requirements		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	Relays		P
G.2.1	General requirements	(See appended Table 4.1.2.)	P
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	Protection Devices		P
G.3.1	Thermal cut-offs		N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691		N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H)..... :		—
	Single Fault Condition..... :		—



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Test Voltage (V) and Insulation Resistance (Ω)..:		—
G.3.3	PTC Thermistors		N/A
G.3.4	Overcurrent protection devices	(See appended Table 4.1.2.)	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....:		N/A
G.4	Connectors		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration	Certified source used. (See appended table 4.1.2)	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		P
G.5	Wound Components		N/A
G.5.1	Wire insulation in wound components.....		N/A
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°		N/A
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s)..... :		—
	Temperature (°C)..... :		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	Transformers		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1).....:	Tested with appliance	P
	Position.....:	(see appended table 4.1.2)	—
	Method of protection	Meet the requirements given in G.5.3.2 and G.5.3.3	—
G.5.3.2	Insulation		P
	Protection from displacement of windings.....:	The end turns are reliably fixed by tape, the whole transformer varnished	—



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.3.3	Overload test.....:	(see appended table B.3)	P
G.5.3.3.1	Test conditions		P
G.5.3.3.2	Winding Temperatures testing in the unit		P
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	Motors		N/A
G.5.4.1	General requirements	No such part	N/A
	Position		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V)..... :		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)..... :		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)..... :		N/A
	Electric strength test (V)..... :		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		P
G.6.1	General		P



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.6.2	Solvent-based enamel wiring insulation	Solvent-based enamel winding is not considered basic insulation.	N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements		N/A
	Type..... :		—
	Rated current (A)..... :		—
	Cross-sectional area (mm ²), (AWG)..... :		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)..... :		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)..... :		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry..... :		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g)		—
	Diameter (m)..... :		—
	Temperature (°C)..... :		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		P
G.8.1	General requirements		P
G.8.2	Safeguard against shock		P
G.8.3	Safeguard against fire		P
G.8.3.2	Varistor overload test..... :		N/A
G.8.3.3	Temporary overvoltage..... :		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.9.1 a)	Manufacturer defines limit at max. 5A.		N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA		—
G.9.1 d)	IC limiter output current (max. 5A).....		—
G.9.1 e)	Manufacturers' defined drift		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	Resistors		P
G.10.1	General requirements	Functional insulation only.	P
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		P
G.11.1	General requirements	(See appended Table 4.1.2.)	P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		P
G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results).....	(See appended Table 4.1.2.)	P
	Type test voltage Vini		—
	Routine test voltage, Vini, b		—
G.13	Printed boards		P
G.13.1	General requirements	(See appended Table 4.1.2.)	P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Compliance with cemented joint requirements (Specify construction).....:		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation.....:		N/A
	Number of insulation layers (pcs) :		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements		N/A
G.15	Liquid filled components		N/A
G.15.1	General requirements		N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours		N/A
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage		—



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance		—
D3)	Resistance		—

H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General	No telephone ringing signal.	N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringling signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):.....		—
H.3.2	Tripping device and monitoring voltage.....		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V).....		—

J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
	General requirements		N/A

K	SAFETY INTERLOCKS		N/A
K.1	General requirements	No such components used.	N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance.....		N/A



EN 62368-1

Clause	Requirement + Test	Result - Remark	Verdict
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method..... :		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location) :		N/A
K.7.2	Overload test, Current (A)..... :		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test :		N/A

L	DISCONNECT DEVICES		N/A
L.1	General requirements		N/A
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment	Shall be evaluated in the end-product.	N/A
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources		N/A

M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements		N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method)... :		N/A
M.3	Protection circuits		N/A
M.3.1	Requirements		N/A
M.3.2	Tests		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery	(See appended Tables Annex M)	N/A
	- Reverse charging of a rechargeable battery		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- Excessive discharging rate for any battery	(See appended Tables Annex M)	N/A
M.3.3	Compliance	(See appended Tables Annex M)	N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2 a)	Charging voltage, current and temperature..... :		—
M.4.2.2 b)	Single faults in charging circuitry..... :		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method)		N/A
M.6.2	Leakage current (mA)		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume V_z (m ³ /s)..... :		—
M.8.2.3	Correction factors..... :		—
M.8.2.4	Calculation of distance d (mm) :		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing) :		N/A

N	ELECTROCHEMICAL POTENTIALS		N/A
	Metal(s) used..... :		—

O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		N/A
	Figures O.1 to O.20 of this Annex applied..... :		—

P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		N/A
P.1	General requirements	Building-in equipment	N/A
P.2.2	Safeguards against entry of foreign object		N/A
	Location and Dimensions (mm) :		—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Transportable equipment with metalized plastic parts..... :		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard) :		N/A
P.3	Safeguards against spillage of internal liquids	The equipment does not contain liquid.	N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C)..... :		—
	Tr (°C)..... :		—
	Ta (°C)..... :		—
P.4.2 b)	Abrasion testing :		N/A
P.4.2 c)	Mechanical strength testing..... :		N/A

Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		N/A
Q.1	Limited power sources		N/A
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition		N/A
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) :		—
	Current limiting method..... :		—



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

R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A). :		N/A

S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material.....:		—
	Wall thickness (mm).....:		—
	Conditioning (°C)..... :		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material.....:		—
	Wall thickness (mm).....:		—
	Conditioning (°C)..... :		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material.....:		—
	Wall thickness (mm).....:		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material.....:		—
	Wall thickness (mm).....:		—
	Conditioning (test condition), (°C).....:		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A

T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements		P
T.2	Steady force test, 10 N	(See appended table T.2)	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N		N/A
T.5	Steady force test, 250 N		N/A
T.6	Enclosure impact test		N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test		N/A
T.8	Stress relief test.....:		N/A
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J).....:		—
	Height (m).....:		—
T.10	Glass fragmentation test.....:	No such glass provided.	N/A
T.11	Test for telescoping or rod antennas	No such antennas provided.	N/A
	Torque value (Nm)		—



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

U MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION			N/A
U.1	General requirements	No CRT provided within the equipment.	N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....:		N/A

V DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)			N/A
V.1	Accessible parts of equipment		N/A
V.2	Accessible part criterion		N/A



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

4.1.2	TABLE: List of critical components					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹	
FUSE(F1)	Doonguan Better Electronics Technology Co., Ltd.	932	T3.15AL, 250V	EN 60127-3: 2015-12	VDE 40033369	
(alternative)	Dongguan hongda electronic technology co., LTD.	31TD	T3.15AL, 250V	IEC 60127-3: 2015	VDE 40028260	
(alternative)	Dongguan LUOYI Electronics Technology Co.,Ltd.	ICP	T3.15AL,	EN 60127-1: 2015-12	VDE 4005051	
Thermistor(RT1)	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd.	3D-9	3 Ω	EN 60539-1:2017	VDE 40050168	
(alternative)	Thinking Electronic Industrial Co.,Ltd	3D-9	3 Ω	EN 60539-1:2002	TUV 50050155	
(alternative)	Gnangdong Hongzhi Electronic Tenhnology Co.,Ltd	3D-9	3 Ω	EN 60534-1: 2016	TUV 64100170407 702	
X-cap(CX1)	Guangdong JURCC electronics Co., LTD.	MPX, MKP	0.33μF, 275VAC/305VAC/310VAC, 40/110/56, X2	EN 60384-14: 2017-04	VDE 40034920	
(alternative)	Tenta Electric Industrial Co.,Ltd.	MEX, MKP	0.33μF, 275VAC/310VAC, 40/110/56, X2	EN 60384-14: 2014-04	VDE 119119	
(alternative)	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd.	MEX	0.33μF, 275VAC, X2	EN 60384-14:	VDE 40034679	



EN 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
Opto-coupler (U5)	EVERLIGHT ELECTRONICS CO., LTD.	EL1018	EL1018	EN 62368-1: 2016-05	VDE 40028391
(alternative)	Lite-On Technology Corporation	LTV1008TP-G	LTV1008TP-G	EN 60747-5-2: 2003-01	VDE 40015248
Y-Cap (CY1)	Jyh Chung Electronic co.,Ltd.	JD	2200pF, 400VAC, 40/125/21, CY1	EN 60384-14: 2006-04	VDE 123326
(alternative)	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd.	CT7	2200pF, 400VAC/250VAC, 25/125/21, CY1	EN 60384-14: 2017-04	VDE 40025754
(alternative)	Guangdong JURCC electronics Co., LTD.	JB	2200pF, 250/400VAC, 25/125/21, CY1	EN 60384-14: 2017-04	VDE 40050359
PCB	Kingboard laminates Holdings Limitedco.,LTD	KB5152	FR4	EN60695-11-10:2014-10	VDE 40020729
(alternative)	NAN YA ELECTRONIC MATERIALS (HUIZHOU) CORP., LTD.	KB5152	FR4	IEC 60695-2-13	UL E98983
Bleeder Resistors (R1,R2,R36, R37)	Housheng international trading (kunshan) co. LTD	1206	3M Ω 1/4W	--	Tested with appliance
(alternative)	GUANGDONG FENGHUA ADVANCED TECHNOLOGY HOLDING CO.,LTD	1206	3M Ω 1/4W	--	Tested with appliance
(alternative)	China giant co. LTD	1206	3M Ω 1/4W	--	Tested with appliance
BOBBIN	Chang Chun Plastics Co., Ltd.	ATQ25	94V-0 150℃	UL 94	UL E59481



EN 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(alternative)	Dongguan yangtong electronics co. LTD	ATQ25	94V-0 150°C	UL 94	Tested with appliance
INSULATION TAPE	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD	PZ*(b)	130°C	UL 510	UL E165111
(alternative)	Guangzhou ruisheng electronics co. LTD	PZ*(b)	130°C	UL 510	UL E165111
TIW WIRE	ShenZhen Jiuding New Material Co.,Ltd.	DTIW-B	130°C	UL 1446	UL E357999
(alternative)	PACIFIC ELECTRIC WIRE CO., LTD.	DTIW-B	130°C	UL 1446	UL E201757
(alternative)	Furukawa Electric Co., Ltd	DTIW-B	130°C	UL 1446	VDE 6735
Varnish	JOHN C DOLPH CO. , LTD	BC-346A	200°C	UL 1446	UL E317427
(alternative)	ELANTAS ZHUHAI CO., LTD.	V1630FS	150°C	UL 1446	UL E314793
TUBE	Great Holding Industrial Co.,Ltd.	TFT	200°C	UL 224	UL E156256
Transformer	Guangdong Green Power Technology Co.,Ltd.	ATQ25	Class B	--	Tested with appliance
(alternative)	shuoyou electronics co., LTD	ATQ25	Class B	--	Tested with appliance
(alternative)	Foshan ouqi electronics co. LTD	ATQ25	Class B	--	Tested with appliance
Enclosure	SABIC INNOVATIVE	SE1X	PC	--	Tested with appliance
Plug	SABIC INNOVATIVE	SE1X	V-1 or Better, 105°C min. 2.0mm thickness	--	Tested with appliance



Report No. PTC21022304813S-LD01

EN 62368-1

Clause	Requirement + Test	Result - Remark	Verdict
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Cable	Dongguan Ubill Electrical co.,Ltd	H03VV-F 2...3×0,5...0.75m m ² / H03VVH2-F 2...3×0,5...0.75m m ²	PVC	EN50525-2- 11:2011	VDE 40042748
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Supplementary information:

1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.



EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests		N/A
(The following mechanical tests are conducted in the sequence noted.)			
4.8.4.2	TABLE: Stress Relief test		—
	Part	Material	Oven Temperature (°C)
4.8.4.3	TABLE: Battery replacement test		—
	Battery part no.....:	--	—
	Battery Installation/withdrawal	Battery Installation/Removal Cycle	Comments
		1	
		2	
		3	
		4	
		5	
		6	
		8	
		9	
		10	
4.8.4.4	TABLE: Drop test		—
	Impact Area	Drop Distance	Drop No.
			Observations
4.8.4.5	TABLE: Impact		—
	Impacts per surface	Surface tested	Impact energy (Nm)
			Comments
4.8.4.6	TABLE: Crush test		—
	Test position	Surface tested	Crushing Force (N)
			Duration force applied (s)



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

4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests		N/A
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(The following mechanical tests are conducted in the sequence noted.)

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Supplementary information:

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

Supplementary information:

5.2	Table: Classification of electrical energy sources		P
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5.2.2.2 – Steady State Voltage and Current conditions

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions ¹⁾	Parameters			ES Class
				U (Vrms or Vpk)	I (A _{pk} or A _{rms})	Hz	

For model : LSN-87G -05000600

1	264Va.c, 60Hz	Output + to –	Normal	5.06Vrms	--	60	ES1
			Abnormal: Output overload	4.40Vrms	--		
			Single fault: R5SC	0Vdc	--		
2	264Va.c, 60Hz	Output +/- to earth	Normal	--	0.352mA _{pk}	60	ES1
			Abnormal: Output overload	--	0.352mA _{pk}		
			Single fault: R5 SC	--	0.360mA _{pk}		
3	264Va.c, 60Hz	Plastic enclosure to earth	Normal	--	0.024mA	60 Hz	ES1
			Abnormal: Output overload	--	0.024mA		



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

			Single fault: R5 SC	--	0.026mA		
4	264Va.c, 60Hz	T1 pin 6-8	Normal	89.7Vrms	--	49.17 KHz	ES2
			Abnormal: Output overload	--	--	--	
			Single fault:	--	--	--	

For model : LSN-87G-56000116

5	264Va.c, 60Hz	Output + to –	Normal	56.3Vrms	--	--	ES1
			Abnormal: Output overload	56.0Vrms	--	--	
			Single fault: R5 SC	0Vdc	--	--	

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
			Normal			
			Abnormal			
			Single fault – SC/OC			

Overall capacity: C1=0.1uF

5.2.2.4 - Single Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ipk (mA)	
			Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	



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

5.2.2.5 - Repetitive Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

Test Conditions:
 Normal – Abnormal -
 Supplementary information: SC=Short Circuit, OC=Short Circuit

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P
Supply voltage (V)	See below					—
Ambient T _{min} (°C)	--	--	--	--	--	—
Ambient T _{max} (°C)	--	--	--	--	--	—
T _{ma} (°C)	--	--	--	--	--	—
Maximum measured temperature T of part/at:	T (°C)				Allowed T _{max} (°C)	
--	90Vac/60 Hz	264Vac,5 0Hz	--	--	--	
For model : LSN-87G-56000116						
Plug holder	35.4	34.2	--	--	Ref.	
Input wire	66.4	63.2	--	--	80	
Line chock LF1 winding	84.1	81.0	--	--	130	
X-Capacitor CX1 body	76.0	72.5	--	--	100	
Line chock LF2 winding	111.1	106.9	--	--	130	
Line chock LF2 core	108.2	104.1	--	--	130	
E-Capacitor EC1 body	81.3	77.2	--	--	105	
PCB near Q1	103.3	99.4	--	--	130	
Transformer T1 winding	93.0	90.6	--	--	110	
Transformer T1 core	90.8	88.6	--	--	110	
Y-Capacitor CY1 body	94.2	89.9	--	--	125	



EN 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
E-Capacitor EC4 body	82.2	78.5	--	--	105
PCB near Q4	87.9	84.6	--	--	130
Output wire	68.5	65.2	--	--	80
Opto-coupler U2 body	82.2	78.4	--	--	100
Enclosure inside near T1	69.2	66.7	--	--	Ref.
Enclosure outside near T1	59.3	57.2	--	--	77
Ambient	25.0	25.0	--	--	--
For model : LSN-87G -05000600					
Plug holder	40.0	38.4	--	--	Ref.
Input wire	74.9	71.0	--	--	80
Line chock LF1 winding	94.9	91.0	--	--	130
X-Capacitor CX1 body	85.7	81.4	--	--	100
Line chock LF2 winding	125.3	120.2	--	--	130
Line chock LF2 core	122.0	117.1	--	--	130
E-Capacitor EC1 body	91.7	86.8	--	--	105
PCB near Q1	116.5	111.8	--	--	130
Transformer T1 winding	104.8	101.8	--	--	110
Transformer T1 core	102.5	99.6	--	--	110
Y-Capacitor CY1 body	106.2	101.1	--	--	125
E-Capacitor EC4 body	92.7	88.2	--	--	105
PCB near Q4	99.1	95.1	--	--	130
Output wire	77.2	73.3	--	--	80
Opto-coupler U2 body	92.7	88.1	--	--	100
Enclosure inside near T1	78.1	75.0	--	--	Ref.
Enclosure outside near T1	66.9	64.2	--	--	77
Ambient	25.0	25.0	--	--	--



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

Supplementary information:

Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (T_{ma}) of 25°C.

Note 2: The temperatures were measured under the worse case normal mode defined in table B.2.5.

Note 3: Temperature limits are calculated as follows:

Winding components providing safety isolation:

Class B → T_{max} = 120 - 10 = 110 °C

Note 4: Test conditions E; values for T (°C) are re-calculated from ambient during test respectively.

Note 5: The heating test was conducted with the unit put in an aluminum chassis with spec. 300mm x 200mm x 25mm(L x W x H).

Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--

Supplementary information:

Note 1: T_{ma} should be considered as directed by applicable requirement

Note 2: T_{ma} is not included in assessment of Touch Temperatures (Clause 9)

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics	N/A	
Allowed impression diameter (mm)	≤ 2 mm	—	
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)

Supplementary information:

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						P
Clearance (cl) and creepage distance (cr) at/of/between:	U _p (V)	U r.m.s. (V)	Frequenc y (kHz) ¹	Required cl (mm)	cl (mm) ²	Required ³ cr (mm)	cr (mm)
L to N before F1	420	250	0.06	2.5	3.2	2.5	3.2
Across F1	420	250	0.06	2.5	3.0	2.5	3.0
Primary traces to secondary trace under CY1	596	301	0.06	6.4	8.0	3.0	8.0



EN 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
T1 core to secondary CY1	596	301	>30	6.4	10.6	3.0	10.6
T1: secondary pin to primary winding	596	301	>30	6.4	11.5	3.0	11.5
Supplementary information: Note 1: Only for frequency above 30 kHz Note 2: See table 5.4.2.4 if this is based on electric strength test; Note 3: Provide Material group: IIIa/IIIb; Note 4: The core of T1 considered as primary part, the insulation between secondary to core is reinforced insulation. Note 5: This product is expected to be only suitable for safe use in areas below 5000m altitude.(cl*1.48)							

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage			P
	Overvoltage Category (OV):			II
	Pollution Degree:			2
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measured cl (mm)
See table 5.4.2.2, 5.4.2.4 and 5.4.3 above.		--	--	--
Supplementary information:				

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

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements					P
Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)	
Plastic enclosure	500	--	See appended table 4.1.2	0.4	¹⁾	



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

Supplementary information:
1) See table 4.1.2

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No	
Unit L to N (Fuse out)	DC	2500	No	
Unit primary to secondary	DC	4000	No	
Unit primary to plastic enclosure	DC	4000	No	
T1:primary winding to secondary winding	DC	4000	No	
T1:core to secondary winding	DC	4000	No	
One layer insulation tape	DC	4000	No	
Insulation sheet	DC	4000	No	

Supplementary information:

5.5.2.2	TABLE: Stored discharge on capacitors					P
Supply Voltage (V/Hz)	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (V) (after 2 seconds)	ES Classification	
264Vac/60Hz	L and N pin	N	--	20	ES1	
		S (R1 open)	--	72	ES1	

Supplementary information:
X-capacitors installed for testing are:
- bleeding resistor rating:
-

Notes:
A. Test Location: Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth
B. Operating condition abbreviations:
N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition
C. The resistor passed G.10.1 and G.10.2 of IEC62368-1 test, so no need to perform discharge test under single fault condition



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

5.6.6.2	TABLE: Resistance of protective conductors and terminations				N/A
Accessible part	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
--	--	--	--	--	
Supplementary information:					

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		N/A
Supply voltage..... :	--		—
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7		Touch current (mA)
	1		--
	2*		--
	3		--
	4		--
	5		--
	6		--
	8		--
Supplementary Information:			
Notes:			
[1] Supply voltage is the anticipated maximum Touch Voltage			
[2] Earthed neutral conductor [Voltage differences less than 1% or more]			
[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3			
[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.			
[5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.			

6.2.2	Table: Electrical power sources (PS) measurements for classification				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s [*])	PS Classification
For model : LSN-87G-56000116					



EN 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
All circuit	Normal operation	Power (W) :	--	135.52	PS3
		V _A (V) :	--	56.00	
		I _A (A) :	--	2.42	
For model : LSN-87G -05000600					
All circuit	Normal operation	Power (W) :	--	52.8	PS3
		V _A (V) :	--	4.40	
		I _A (A) :	--	12.00	
Supplementary Information: # Fuse F1 opened immediately, no hazard. * Unit shut down, No hazard. Each case where unit shutdown occurred within the 3s.					

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)				P
Location	Open circuit voltage After 3 s (V _p)	Measured r.m.s current (I _{rms})	Calculated value (V _p x I _{rms})	Arcing PIS? Yes / No	
All circuits (exclude the output terminal)	--	--	--	Yes	
Supplementary information: 1) An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V _p) and normal operating condition rms current (I _{rms}) is greater than 15. 2) Assumption: All circuits inside the equipment enclosure are declared as arcing PIS.					

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
For model : LSN-87F-1200600							
90V50Hz	1.384	--	83.0	--	F1	1.384	Max. normal load
90V60Hz	1.441	--	83.1	--	F1	1.441	
100V50Hz	1.282	2.0	82.2	--	F1	1.282	



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

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
100V60Hz	1.229	2.0	82.1	--	F1	1.229	
240V50Hz	0.700	2.0	80.4	--	F1	0.700	
240V60Hz	0.650	2.0	80.3	--	F1	0.650	
264V50Hz	0.661	--	80.5	--	F1	0.661	
264V60Hz	0.603	--	80.4	--	F1	0.603	
For model : LSN-87F -5600162							
90V50Hz	1.668	--	102.3	--	F1	1.668	Max. normal load
90V60Hz	1.778	--	102.7	--	F1	1.778	
100V50Hz	1.569	2.0	101.7	--	F1	1.569	
100V60Hz	1.495	2.0	101.4	--	F1	1.495	
240V50Hz	0.839	2.0	99.7	--	F1	0.839	
240V60Hz	0.812	2.0	99.6	--	F1	0.812	
264V50Hz	0.779	--	99.5	--	F1	0.779	
264V60Hz	0.735	--	99.3	--	F1	0.735	
Supplementary information:							



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

B.3		TABLE: Abnormal operating condition tests						P
Ambient temperature (°C)		See below						—
Power source for EUT: Manufacturer, model/type, output rating ..		--						—
Component No.	Abnormal Condition	Supply voltage , (V)	Test time (ms)	Fuse no.	Fuse current , (A)	T-couple	Temp. (°C)	Observation
For model : LSN-87G-56000116								
Transformer	OL	264	9h18m in	F1	0.586 →0.71 2→0.7 55→0.018	Type J	1.Transformor T1 Winding 106.8°C 2.Transformor T1 core 103.5°C 3. Enclosure outside near T1 bottom 63.9°C 4.Ambient 25.0°C	Output overload to 2.20A, and unit shutdown at 2.22A, recoverable, no hazard..
Output	OL	264	9h26m in	F1	0.586 →0.70 9→0.7 51→0.018	Type J	1.Transformor T1 Winding 105.6°C 2.Transformor T1 core 102.3°C 3.Enclosure outside near T1 bottom 63.5°C 4.Ambient 25.0°C	Output overload to 2.16A, and unit shutdown at 2.20A, recoverable, no hazard.
For model : LSN-87G -05000600								
Transformer	OL	264	9h18m in	F1	0.308 →0.36 3→0.4 16→0.018	Type J	1.Transformor T1 Winding 108.5 °C 2.Transformor T1 core 105.7°C 3. Enclosure outside near T1 bottom 70.9°C 4. Ambient 25.0°C	Output overload to 9.75A, and unit shutdown at 9.80A, recoverable, no hazard.
Output	OL	264	9h52m in	F1	0.308 →0.36 3→0.4 16→0.018	Type J	1.Transformor T1 Winding 107.6 °C 2.Transformor T1 core 105.1°C 3.Enclosure outside near T1 bottom 70.3°C 4.Ambient 25.0°C	Output overload to 9.6A, and unit shutdown at 9.7A, recoverable, no hazard.



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

Supplementary information:
 OL: Overload, SC: short circuit
 1) The overloaded condition is according to annex G.5.3.3.
 Winding Limit for T1 winding: 175-10=165K

B.4 TABLE: Fault condition tests								P
Ambient temperature (°C)					25°C, if not specified			—
Power source for EUT: Manufacturer, model/type, output rating ... :					--			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
BD1	SC	264	1s	F1	--	--	--	F1 opened immediately, repeat ten times, same result was obtained, no hazards
EC1	SC	264	1s	F1	--	--	--	F1 opened immediately, repeat ten times, same result was obtained, no hazards
Q1 (D-G)	SC	264	1s	F1	--	--	--	F1 opened immediately, repeat ten times, same result was obtained, no hazards
Q1 (D-S)	SC	264	1s	F1	--	--	--	F1 opened immediately, repeat ten times, same result was obtained, no hazards.
Q1(G-S)	SC	264	10mins	F1	0.055	--	--	Unit shutdown immediately, no hazards, no damage



EN 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
R5	SC	264	1s	F1	--	--	--	F1 opened immediately, repeat ten times, same result was obtained, no hazards
U2 pin(1-2)	SC	264	10mins	F1	0.045	--	--	Unit shutdown immediately, no hazards, no damage.
U2 pin(3-4)	SC	264	10mins	F1	0.045	--	--	Unit shutdown immediately, no hazards, no damage.
U2 pin(1)	OC	264	10mins	F1	0.045	--	--	Unit shutdown immediately, no hazards, no damage.
U2 pin(3)	OC	264	10mins	F1	0.046	--	--	Unit shutdown immediately, no hazards, no damage.
T1 pin 1-4	SC	264	10mins	F1	0.046	--	--	Unit shutdown immediately, no hazards, no damage.
T1 pin 2-3	SC	264	10mins	F1	0.046	--	--	Unit shutdown immediately, no hazards, no damage.
T1 pin 6-8	SC	264	10mins	F1	0.046	--	--	Unit shutdown immediately, no hazards, no damage.
Q4	SC	264	10mins	F1	0.045	--	--	Unit shutdown immediately, no hazards, no damage.
Output	SC	264	10mins	F1	0.018	--	--	Unit shutdown immediately, no hazards, no damage.



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

Supplementary information:
 Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column "Abnormal/Fault." Specify if test condition by indicating "Abnormal" then the condition for a Clause B.3 test or "Single Fault" then the condition for Clause B.4.

- 2) SC: Short-circuited; OC: Open-circuited; OL: Overloaded.
- 3) The test result shown all safeguards remained effective and didn't lead to a single fault condition during abnormal operating condition; besides, all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions.
- 4) The test result shown no Class 1 or 2 energy source become Class 3 level during and after single fault condition.

Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)					N/A
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
Supplementary Information: SC=Short circuit, OC=Open circuit I/P=264V, 60Hz.						

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Internal component	--	--	10	5	No damaged	
Top enclosure	1)	1)	30	5	No damaged	
Side enclosure	1)	1)	30	5	No damaged	
Bottom enclosure	1)	1)	30	5	No damaged	
Supplementary information: 1) See table 4.2.1						

T.6, T.9	TABLE: Impact tests				N/A
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
Supplementary information:					



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

T.7	TABLE: Drop tests				N/A
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
Supplementary information:					

T.8	TABLE: Stress relief test					N/A
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Supplementary information: For details refer to appended table 4.1.2.						



Attachment No.1 Group Differences and National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment - Part 1: Safety requirements)	
Differences according to.....:	EN 62368-1:2014+A11:2017
Attachment Form No.....:	EU_GD_IEC62368_1B_II
Attachment Originator.....:	Nemko AS
Master Attachment.....:	Date 2017-09-22
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CENELEC COMMON MODIFICATIONS (EN)																																						
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed "Z".	P																																				
CONTENTS	<p>Add the following annexes:</p> <p>Annex ZA (normative) Normative references to international publications with their corresponding European publications</p> <p>Annex ZB (normative) Special national conditions</p> <p>Annex ZC (informative) A-deviations</p> <p>Annex ZD (informative) IEC and CENELEC code designations for flexible cords</p>	N/A																																				
	<p>Delete all the "country" notes in the reference document (IEC 62368-1:2014) according to the following list:</p> <table border="1"> <tr> <td>0.2.1</td> <td>Note</td> <td>1</td> <td>Note 3</td> <td>4.1.15</td> <td>Note</td> </tr> <tr> <td>4.7.3</td> <td>Note 1 and 2</td> <td>5.2.2.2</td> <td>Note</td> <td>5.4.2.3.2.2 Table 13</td> <td>Note c</td> </tr> <tr> <td>5.4.2.3.2.4</td> <td>Note 1 and 3</td> <td>5.4.2.5</td> <td>Note 2</td> <td>5.4.5.1</td> <td>Note</td> </tr> <tr> <td>5.5.2.1</td> <td>Note</td> <td>5.5.6</td> <td>Note</td> <td>5.6.4.2.1</td> <td>Note 2 and 3</td> </tr> <tr> <td>5.7.5</td> <td>Note</td> <td>5.7.6.1</td> <td>Note 1 and 2</td> <td>10.2.1 Table 39</td> <td>Note 2, 3 and 4</td> </tr> <tr> <td>10.5.3</td> <td>Note 2</td> <td>10.6.2.1</td> <td>Note 3</td> <td>F.3.3.6</td> <td>Note 3</td> </tr> </table>	0.2.1	Note	1	Note 3	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	N/A
0.2.1	Note	1	Note 3	4.1.15	Note																																	
4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c																																	
5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note																																	
5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3																																	
5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4																																	
10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3																																	
	For special national conditions, see Annex ZB.	N/A																																				
1	<p>Add the following note:</p> <p>NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.</p>	N/A																																				



Attachment No.1 Group Differences and National Differences

Clause	Requirement + Test	Result - Remark	Verdict
4.Z1	<p>Add the following new subclause after 4.9:</p> <p>To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. mains, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <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/A
5.4.2.3.2.4	<p>Add the following to the end of this subclause:</p> <p>The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.</p>		N/A
10.2.1	<p>Add the following to ^{c)} and ^{d)} in table 39:</p> <p>For additional requirements, see 10.5.1.</p>		N/A



Attachment No.1 Group Differences and National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	<p>Add the following after the first paragraph: <i>For RS 1 compliance is checked by measurement under the following conditions:</i> <i>In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</i> NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. <i>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.</i> <i>Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.</i> <i>For RS1, the dose-rate shall not exceed 1 μSv/h taking account of the background level.</i> NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.</p>		N/A
10.6.1	<p>Add the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.</p>		N/A
10.Z1	<p>Add the following new subclause after 10.6.5. 10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566</p>		N/A



Attachment No.1 Group Differences and National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	Add the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		N/A
Bibliography	Add the following standards: Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		N/A
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		N/A



Attachment No.1 Group Differences and National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
4.1.15	<p>Denmark, Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added: Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord." In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"</p>		N/A
4.7.3	<p>United Kingdom</p> <p>To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex</p>		N/A
5.2.2.2	<p>Denmark</p> <p>After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>		N/A



Attachment No.1 Group Differences and National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.11.1 and Annex G	<p>Finland and Sweden</p> <p>To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> • 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. <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 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. <p>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:</p> <ul style="list-style-type: none"> • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; <p>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.</p>		N/A
5.5.2.1	<p>Norway</p> <p>After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).</p>		N/A



Attachment No.1 Group Differences and National Differences

Clause	Requirement + Test	Result - Remark	Verdict
5.5.6	<p>Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.</p>		N/A
5.6.1	<p>Denmark</p> <p>Add to the end of the subclause</p> <p>Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment.</p> <p><i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.</p>		N/A
5.6.4.2.1	<p>Ireland and United Kingdom</p> <p>After the indent for pluggable equipment type A, the following is added:</p> <p>– the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.</p>		N/A
5.6.5.1	<p>To the second paragraph the following is added:</p> <p>The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm² to 1,5 mm² in cross-sectional area.</p>		N/A
5.7.5	<p>Denmark</p> <p>To the end of the subclause the following is added:</p> <p>The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>		N/A



Attachment No.1 Group Differences and National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.1	<p>Norway and Sweden</p> <p>To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example.</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: "Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)"</p> <p>NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway): "Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkøpelt utstyr – og er tilkøpelt et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkøpling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet."</p> <p>Translation to Swedish: "Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet."</p>		N/A



Attachment No.1 Group Differences and National Differences

Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.2	<p>Denmark</p> <p>To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .</p>		N/A
B.3.1 and B.4	<p>Ireland and United Kingdom</p> <p>The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met</p>		N/A
G.4.2	<p>Denmark</p> <p>To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a <i>Justification:</i> Heavy Current Regulations, Section 6c</p>		N/A



Attachment No.1 Group Differences and National Differences

Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	<p>United Kingdom</p> <p>To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.</p>		N/A
G.7.1	<p>United Kingdom</p> <p>To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		N/A
G.7.1	<p>Ireland</p> <p>To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard</p>		N/A
G.7.2	<p>Ireland and United Kingdom</p> <p>To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm² is allowed for equipment which is rated over 10 A and up to and including 13 A.</p>		N/A



Attachment No.1 Group Differences and National Differences

Clause	Requirement + Test	Result - Remark	Verdict
ZC	<i>ANNEX ZC, NATIONAL DEVIATIONS (EN)</i>		N/A
10.5.2	<p>Germany</p> <p>The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking.</p> <p><i>Justification:</i> German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM.</p> <p>NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de</p>		N/A



Attachment 2: Photo



Photo 1



Photo 2



Attachment 2: Photo



Photo 3



Photo 4

Attachment 2: Photo



Photo 5



Photo 6



Attachment 2: Photo

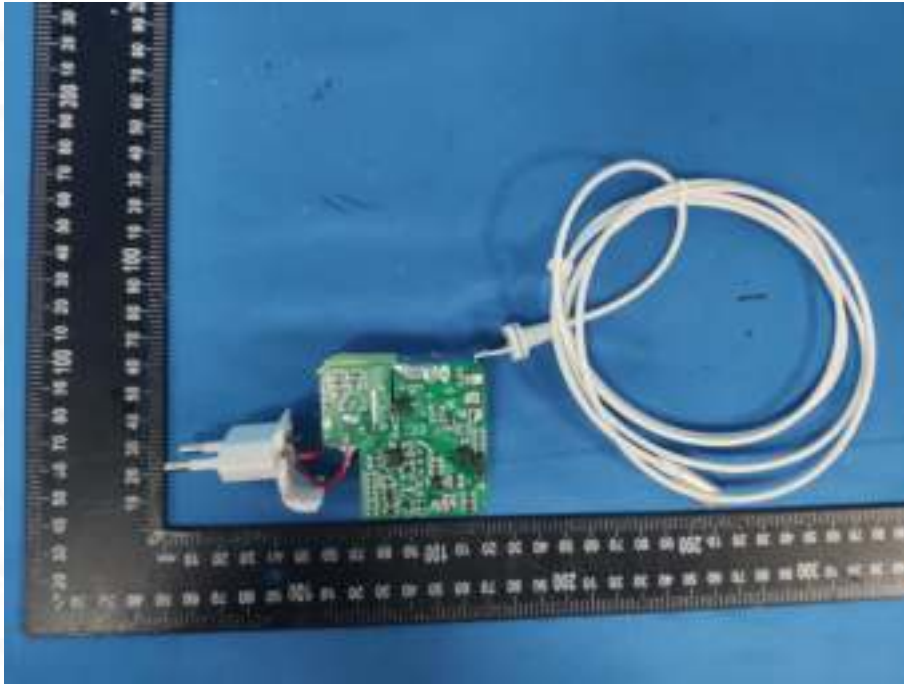


Photo 7



Photo 8



Attachment 2: Photo



Photo 9



Photo 10



Attachment 2: Photo

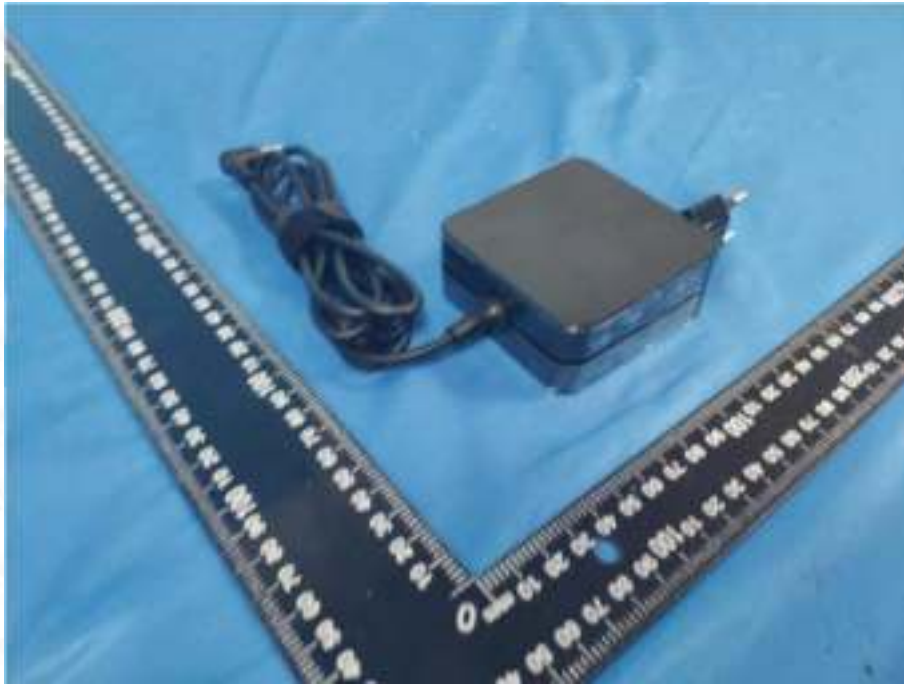


Photo 11



Photo 12



Attachment 2: Photo



Photo 13

===End of the report===