Test Report issued under the responsibility of:

TÜVRheinland®

TEST REPORT

IEC 62368-1

Audio/video, information and communication technology equipment

Part 1: Safety requirements

Report Number..... :	CN20ITA1 001
Date of issue ..... :	2020-12-23
Total number of pages..... :	74
Applicant's name..... :	Shenzhen Cenwell Technology Co., Ltd.
Address..... :	Building C, Shengshun industrial park No. 142-4 Junxin Road, Longhua New district, Baoan Shenzhen, Guangdong, P. R. China
Test specification:	
Standard .....:	IEC 62368-1:2014 (Second Edition)
Test procedure .....:	CB Scheme
Non-standard test method .....:	N/A
Test Report Form No.....:	IEC62368_1B
Test Report Form(s) Originator.....:	UL(US)
Master TRF .....:	2014-03

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
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Test Item description ..... :		AC ADAPTER	
Trade Mark ..... :		N/A	
Manufacturer..... :		Same as applicant	
Model/Type reference ..... :		CWxxxyyyyvv, CW050yyyyvvU (x, y, v are variables, details see model list of GENERAL PRODUCT INFORMATION on page 6)	
Ratings ..... :		Input: 100-240V～, 50/60Hz, 0.4A MAX, Class II apparatus Output: Details see model list of GENERAL PRODUCT INFORMATION on page 6	
Testing procedure and testing location:			
☒	CB Testing Laboratory:	TÜV Rheinland Hong Kong Ltd.	
Testing location/ address .....:		3-4, 11/F., Fou Wah Industrial Building, 10-16 Pun Shan Street, Tsuen Wan, N.T., Hong Kong	
☐	Associated CB Testing Laboratory:		
Testing location/ address.....:			
Tested by (name + signature).....:		Joseph Cheang	
Approved by (name + signature) .....:		Aves Hui	
☐	Testing procedure: TMP/CTF Stage 1	N/A	
Testing location/ address..... :		N/A	
Tested by (name + signature).....:		N/A	
Approved by (name + signature) .....:		N/A	
☐	Testing procedure: WMT/CTF Stage 2	N/A	
Testing location/ address.....:		N/A	
Tested by (name + signature).....:		N/A	
Witnessed by (name + signature).....:		N/A	
Approved by (name + signature) .....:		N/A	
☐	Testing procedure: SMT/CTF Stage 3 or 4	N/A	
Testing location/ address.....:		N/A	
Tested by (name + signature).....:		N/A	
Approved by (name + signature) .....:		N/A	
Supervised by (name + signature).....:		N/A	

List of Attachments (including a total number of pages in each attachment):

Attachment 1: Europe plug test: EN 50075: 1990 (4 pages)
Attachment 2: British plug test: BS 1363-1: 2016+A1: 2018 (8 pages)
Attachment 3: Australia plug test: AS/NZS 3112: 2017 (19 pages)
Attachment 4: Japan plug test: JIS C 8303: 2007 (6 pages)
Attachment 5: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (32 pages)
Attachment 6: Photo documentation (29 pages)
Attachment 7: Test equipment lists (2 pages)

Summary of testing:

Tests performed (name of test and test clause):

All applicable tests as described in Test Case and Measurement Sections were performed.

- Maximal ambient temperature as specified by the manufacturer: +40°C.
- Load conditions used during testing see appended table B.2.5 for details.

Following tests performed during evaluation

5.2	Electrical energy source classifications
5.3.2	Accessibility to electrical energy sources and safeguards (Accessibility test)
5.4.1.4, 6.3.2, 9.0, B.2.6	Maximum operating temperatures for materials, components and systems
5.4.1.8	Determination of working voltage
5.4.1.10.3	Ball pressure test
5.4.2.2, 5.4.2.4 & 5.4.3	Minimum Clearances/Creepage distance
5.4.5	Antenna terminal insulation
5.4.8	Humidity conditioning
5.4.9	Electric strength test
6.2.2	Electrical power sources (PS) measurements for classification
6.2.3.1	Determination of Potential Ignition Sources (Arcing PIS)
6.2.3.2	Determination of Potential Ignition Sources (Resistive PIS)
9.2	Thermal energy source Classifications
B.2.5	Input tests
B.3	Simulated Abnormal operating condition tests
B.4	Simulated single fault conditions
F.3.9	Durability, legibility and permanence of markings
G.5.3.2	Transformer insulation
G.5.3.3	Transformer overload
Q.1.2	Limited power sources
T.2	Steady force test, 10 N

Testing location:

Unless otherwise indicated, all tests were performed at the location stated in “Testing procedure and testing location”.

T.4	Steady force test, 100 N	
T.7	Drop test	
T.8	Stress relief test	
Unless otherwise specified, all tests were performed on models CW2400650UK, CW1241250UK, CW0502500UK, CW2400650RE, CW1241250RE and CW0502500RE, which represent all models.		
The EUTs passed the test.		

Summary of compliance with National Differences:

EU Group Differences, EU Special National Conditions, AU, DK, IT, JP, NZ

AU=Australia, DK=Denmark, IT=Italy, JP=Japan, NZ=New Zealand

For EU Group Differences And National Differences see attachment 5 of this test report.

☒ **The product fulfils the requirements of IEC 62368-1: 2014**

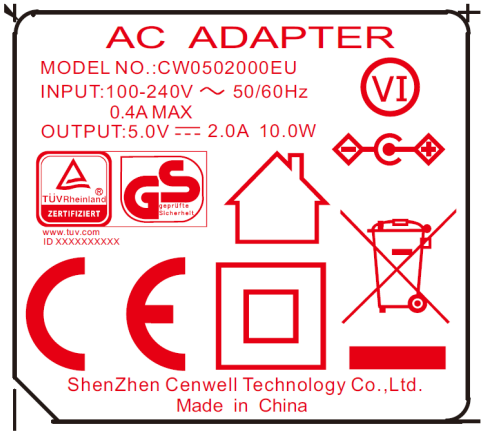
☒ **The product fulfils the requirements of EN 62368-1: 2014+A11: 2017**

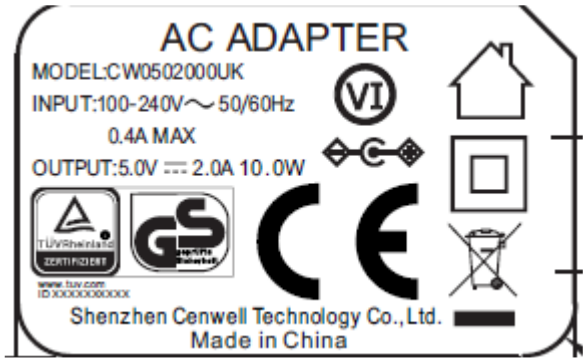
☒ **The product fulfils the requirements of AS/NZS 62368.1: 2018**

☒ **The product fulfils the requirements of J62368-1(2020)**

Copy of marking plate(s):

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.





Remark: Above representative model's label are listed; rests availiable model's rating label are same as above except with model number and output electrical ratings. Minimum height of CE mark is 5mm, minimum height of WEEE mark is 7mm.

TEST ITEM PARTICULARS:	
Classification of use by.....:	☒ Ordinary person (see General Product Information) ☐ Instructed person (As above) ☐ Skilled person ☒ Children likely to be present
Supply Connection.....:	☒ AC Mains ☐ DC Mains ☐ External Circuit - not Mains connected - ☐ ES1 ☐ ES2 ☐ ES3
Supply % Tolerance .....:	☒ +10%/-10% ☐ +20%/-15% ☐ +____%/ -_____% ☐ None
Supply Connection – Type .....:	☒ pluggable equipment type A - ☐ non-detachable supply cord ☐ appliance coupler ☒ direct plug-in ☐ mating connector ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☐ mating connector ☐ other: building-in equipment shall be evaluated in end system (see also general product information).
Considered current rating of protective device as part of building or equipment installation.....:	16 A Installation location: ☒ building; ☐ equipment
Equipment mobility.....:	☐ movable ☐ hand-held ☐ transportable ☐ stationary ☐ for building-in ☒ direct plug-in ☐ rack-mounting ☐ wall-mounted
Over voltage category (OVC) .....:	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other: _____
Class of equipment .....:	☐ Class I ☒ Class II ☐ Class III
Access location .....:	☐ restricted access location ☒ N/A
Pollution degree (PD) .....:	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified maximum operating ambient.....:	40°C
IP protection class .....:	☒ IPX0 ☐ IP___
Power Systems .....:	☒ TN ☐ TT ☒ IT - 230 V L-L
Altitude during operation (m) .....:	☐ 2000 m or less ☒ Up to 5000 m
Altitude of test laboratory (m) .....:	☒ 2000 m or less ☐ _____ m
Mass of equipment (kg) .....:	☒ Approx. 0.09kg 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 ..... :	2020-10-12
Date (s) of performance of tests ..... :	2020-10-12 to 2020-12-10

GENERAL REMARKS:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Other National Requriments: UK, UK=United Kingdoms

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 ..... :	☐ **Yes** ☒ **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:

1. This test report covers models CWxxxyyyyvv, CW050yyyyvvU (x, y, v are variables) are switching power supply intended to be used for Audio/video and information technology equipment, with DC cord output.
2. The bottom enclosure is secured to the top enclosure by ultrasonic welding.
3. The specified Max. Ambient temperature is +40°C, the appliance is intended to be used in tropical climate, this apparatus applied for 5000m altitude max.
4. The model is in compliance with the requirements of LPS (Annex Q).
5. Model list:

Model	Input	Ouput			Transformer type
		Voltage (V)	Current (A)	Max. Power (W)	
CWxxxyyyyvv	100-240V~, 50/60Hz, 0.4A MAX	3.0-7.5	0.01-2.5	12.5	CW1504W050250001 or CW1504W090150001
		7.6-11.9	0.01-1.5	13.5	
		12.0-24.0	0.01-1.25	15.6	CW1504W120125001 or CW1504W240065001

CW050yyyyvvU	100-240V～, 50/60Hz, 0.4A MAX	5.0	0.01-2.5	12.5	CW1504W050250001 or CW1504W090150001

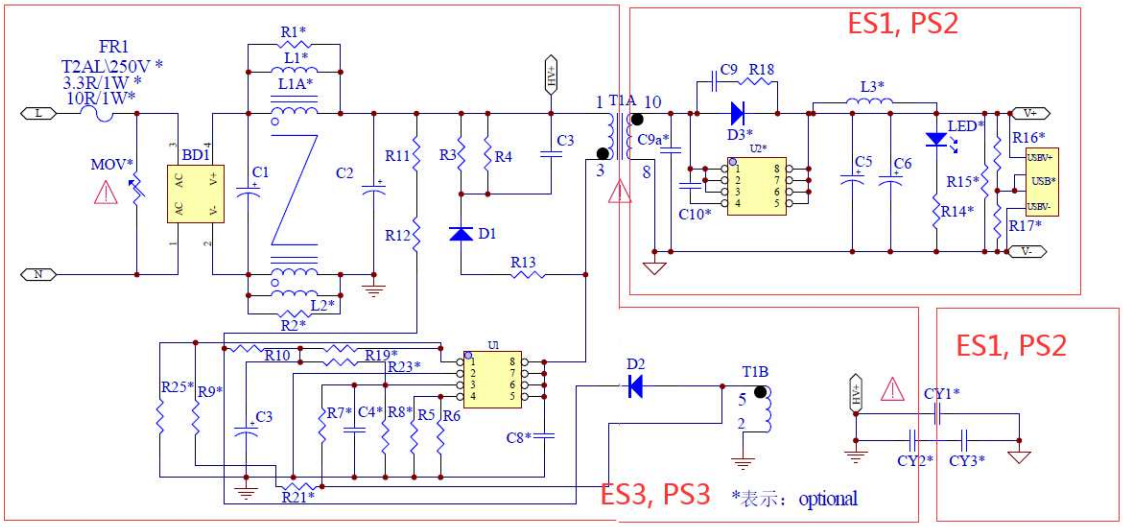
Variables definition:

“xxx”:	xxx are 3 digital numbers from 030 to 240, which represent output voltage in Volt after dividing by 100, in a step of 0.01V, for example, 240 represents for 24.0V.
“yyyy”:	yyyy are 4 digital numbers from 0010 to 2500, which represent output current in Ampere after dividing by 1000, in a step of 0.001A, for example, 2500 represents for 2.5A.
“vv”	vv can be EU, UK, AU, JA, BR, CH, RE, EUA, UKA, AUA, JAA, BRA, CHA, which represent different types of plastic enclosure or plug. EU represent the vertical type enclosure with the European undetachable direct plug-in plug, UK represent the vertical type enclosure with the British undetachable direct plug-in plug, AU represent the vertical type enclosure with the Australian undetachable direct plug-in plug, JA represent the vertical type enclosure with the Japanese undetachable direct plug-in plug, BR represent the vertical type enclosure with the Brazilian undetachable direct plug-in plug, CH represent the vertical type enclosure with the Chinese undetachable direct plug-in plug, RE represent the horizontal type enclosure with the detachable direct plug-in plug, EUA represent the horizontal type enclosure with the European undetachable direct plug-in plug, UKA represent the horizontal type enclosure with the British undetachable direct plug-in plug, AUA represent the horizontal type enclosure with the Australian undetachable direct plug-in plug, JAA represent the horizontal type enclosure with the Japanese undetachable direct plug-in plug, BRA represent the horizontal type enclosure with the Brazilian undetachable direct plug-in plug, CHA represent the horizontal type enclosure with the Chinese undetachable direct plug-in plug.
By multiplication of output voltage and output current, the type designations are limited through the max. output power.	

6. The switch power supply input with undetachable EU, UK, AU, JP and detachable EU, UK, JP direct plug-in plug and output with undetachable DC output cord. And the plug portion have evaluated by test, EU plug portion according to EN 50075, UK plug portion according to BS1363-1 cl.12, AU plug portion according to AS/NZS 3112, JP plug portion according to JIS C 8303.
7. All models are identical to each other except for the differences of model names, output ratings, plug types, enclosure types, transformers and some optional components.
8. The optional components in schematic circuit are MOV, L1, R1, L1A, L2, R2, R9, R19, R21, R23, R25, C4, C9a, C10, D3, U2, L3, LED, R14, R16, R17, CY1, CY2 and CY3.

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(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.	
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	
Source of electrical energy	**Corresponding classification (ES)**
Primary circuit supplied by AC mains	ES3
Secondary circuit and output terminal	ES1
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): PS2	
Source of power or PIS	**Corresponding classification (PS)**
Primary circuit	PS3
Secondary circuit and output terminal	PS2
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	
Source of hazardous substances	**Corresponding chemical**
N/A (None)	N/A
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	
Source of kinetic/mechanical energy	**Corresponding classification (MS)**
Edges and corners of enclosure	MS1
Mass of the unit	MS1
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	
Source of thermal energy	**Corresponding classification (TS)**
External surface (plastic)	TS1
Internal parts	TS3
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 (None)	N/A

ENERGY SOURCE DIAGRAM
Indicate which energy sources are included in the energy source diagram. Insert diagram below



☒ ES ☒ PS ☐ MS ☐ TS ☐ 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, Y-capacitors, opto-coupler
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: >100 Watt circuit (All primary circuits inside the equipment enclosure)	See 6.3	See 6.4.5, 6.4.6	N/A
Enclosure	PS3: >100 Watt circuit	See 6.3	V-0 or better	N/A
PCB	PS3: >100 Watt circuit	See 6.3	V-1 or better	N/A
Secondary circuit and output terminal	PS2: <100 Watt circuit	Equipment safeguard (e.g., no Ignition occurs)	N/A	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A (no such sources)	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: Edges and corners	N/A	N/A	N/A
Mass of the unit	MS1: Mass of the unit	N/A	N/A	N/A
9.1	Thermal Burn –			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	TS1: Plastic enclosure	N/A	N/A	N/A
Ordinary	TS3: internal parts	N/A	N/A	Enclosure
10.1	Radiation			
		Safeguards		

Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	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

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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	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment. See also Annex G	P
4.1.3	Equipment design and construction	Evaluation of safeguards regarding access to ES3 and to limiting the outputs to fulfill ES1, and protection in regard to risk of spread of fire, mechanical-caused injury and thermal burn considered.	P
4.1.15	Markings and instructions ..... :	(See Annex F)	P
4.4.4	Safeguard robustness	See below.	P
4.4.4.2	Steady force tests..... :	(See Annex T.2 and T.4)	P
4.4.4.3	Drop tests..... :	(See Annex T.7)	P
4.4.4.4	Impact tests..... :	Direct plug in equipment or transportable equipment	N/A
4.4.4.5	Internal accessible safeguard enclosure and barrier tests ..... :	The external enclosure cannot be opened without damaging the product.	N/A
4.4.4.6	Glass Impact tests ..... :	No such glass used.	N/A
4.4.4.7	Thermoplastic material tests ..... :	(See Annex T.8)	P
4.4.4.8	Air comprising a safeguard ..... :	(See Annex T)	P
4.4.4.9	Accessibility and safeguard effectiveness	After tests of 4.4.4.2, 4.4.4.3, 4.4.4.7, no safeguard damaged.	P
4.5	Explosion	No explosion occurs during normal/abnormal operation and 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 ..... :	See appended table 5.4.2.2, 5.4.2.4 and 5.4.3	P
4.7	Equipment for direct insertion into mains socket – outlets	See below	P
4.7.2	Mains plug part complies with the relevant standard ..... :	The dimensions of the injection part of EU, UK, AU, JP fixed plug were tested and comply with the relevant standard. See appended table 4.1.2 and attachments 1, 2, 3, 4 for detail.	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3	Torque (Nm)..... :	Max. 0.047Nm for models CWxxxyyyyEU, Max. 0.038Nm for models CWxxxyyyyUK, Max. 0.043Nm for models CWxxxyyyyAU, Max. 0.032Nm for models CWxxxyyyyJA, Max. 0.040Nm for models CWxxxyyyyEUA, Max. 0.035Nm for models CWxxxyyyyUKA, Max. 0.042Nm for models CWxxxyyyyAUA, Max. 0.027Nm for models CWxxxyyyyJAA, Max. 0.062Nm for models CWxxxyyyyRE with EU plug, Max. 0.042Nm for models CWxxxyyyyRE with UK plug, Max. 0.038Nm for models CWxxxyyyyRE with JP plug.	P
4.8	Products containing coin/button cell batteriesz	No coin/button cell batteries used.	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children 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..... :	No likelihood of conductive object entrying into enclosure.	P

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		P
5.2.2.2	Steady-state voltage and current ..... :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits..... :	(See sub-clause 5.5.2.2)	P
5.2.2.4	Single pulse limits ..... :	No such single pulses generated in the EUT or applied to it.	N/A
5.2.2.5	Limits for repetitive pulses ..... :	No such repetitive pulses within the EUT	N/A
5.2.2.6	Ringing signals ..... :	No such ringing signals within the EUT	N/A
5.2.2.7	Audio signals ..... :	No such audio signals	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.3	Protection against electrical energy sources	See only 4.3 and 5.3 to 5.6 which applies to protection between the accessible parts and hazardous parts of other circuits.	P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See above.	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only ES1 circuit can be accessed for this product.	P
5.3.2.2	Contact requirements	Openings of detachable plug portion, complied the min. distance from the test probe to the internal bare conductive parts.	P
	a) Test with test probe from Annex V ..... :	Test with figure V.1 jointed test probe.	P
	b) Electric strength test potential (V)..... :		N/A
	c) Air gap (mm) ..... :	Have a min. distance 4.8mm from from the test probe to the internal bare conductive parts.	P
5.3.2.4	Terminals for connecting stripped wire	No such terminals.	N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	The choice and application have been taken into account as specified in this Clause 5 and Annex T. Natural rubber, hygroscopic materials or asbestos are not used as insulation.	P
5.4.1.3	Humidity conditioning ..... :	No hygroscopic material used.	N/A
5.4.1.4	Maximum operating temperature for insulating materials ..... :	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degree..... :	2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2 is applied. No insulating compound applied for except as in 5.4.4.	N/A
5.4.1.5.3	Thermal cycling	See above	N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such transformer within the EUT	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such starting pulses within the EUT	N/A
5.4.1.8	Determination of working voltage	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces	Considered for accessible surface of enclosure.	P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	See only 5.4.10.3 below.	P
5.4.1.10.2	Vicat softening temperature..... :	See below	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10.3	Ball pressure ..... :	The bobbin materials of transformer T1 is phenolic. For other parts see appended table 5.4.1.10.3	P
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage	(See only appended table as below)	N/A
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..... :	2500V for Overvoltage Cat. II	—
	b) d.c. mains transient voltage ..... :	No such transient	—
	c) external circuit transient voltage ..... :	No such transient	—
	d) transient voltage determined by measurement :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	Using procedure 2 to determine the clearance according to 5.4.2.3.	N/A
5.4.2.5	Multiplication factors for clearances and test voltages..... :	Up to 5000m, multiplication factor is 1.48	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		P
5.4.3.3	Material Group ..... :	IIIa&IIIb	—
5.4.4	Solid insulation	See below	P
5.4.4.2	Minimum distance through insulation ..... :	(See appended table 5.4.4.2)	P
5.4.4.3	Insulation compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices	No such component used.	N/A
5.4.4.5	Cemented joints	No such construction within the EUT	N/A
5.4.4.6	Thin sheet material	See below	P
5.4.4.6.1	General requirements	Two layers of insulation tape wrapped around external of transformer T1 are used for reinforced insulation and are not expected to be subject to handling or abrasion during ordinary or instructed person servicing.	P
5.4.4.6.2	Separable thin sheet material	Where two layers are provided as reinforced insulation any one layer passed the electric strength test for reinforced insulation	P
	Number of layers (pcs) ..... :	2	P
5.4.4.6.3	Non-separable thin sheet material	No such thin sheet material within the EUT	N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material..... :	(see appended table 5.4.9)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components	See G.5.3 and G.6.1	P
5.4.4.9	Solid insulation at frequencies >30 kHz..... :	For bobbin of T1: Vw=Ep*Kr*d =17*0.71*0.51=6156V exceeds 2*1.2*540V=1296V (Peak working voltage at high frequency Vpw=540V which is highest peak measured for T1) For two layers of insulation tape (Calculated based on frequency 53.2kHz interpolated in Table 23)	P
5.4.5	Antenna terminal insulation		P
5.4.5.1	General	The power supply will provide non-mains supply voltages to other equipment having antenna terminals.	P
5.4.5.2	Voltage surge test	See G.10.3.2	P
	Insulation resistance (MΩ)..... :	1000MΩ	P
5.4.6	Insulation of internal wire as part of supplementary safeguard ..... :	No such insulation of internal wire used alone as supplementary safeguard.	N/A
5.4.7	Tests for semiconductor components and for cemented joints	No tests necessary –see only 5.4.4.4.	N/A
5.4.8	Humidity conditioning	Humidity treatment performed for 120hrs for equipment with every transformer and insulation tape source, after humidity test, Hi-pot test has been performed.	P
	Relative humidity (%)..... :	95%	—
	Temperature (°C) ..... :	40°C	—
	Duration (h) ..... :	120h	—
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	Compliance was checked immediately following temperature test in 5.4.1.4 on the complete unit and on a sample of the transformer raised to the relevant temperature as measured during that test. (See appended table 5.4.9)	P
5.4.9.2	Test procedure for routine tests	No routine tests considered. To be considered during the relevant national approval.	N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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..... :	No such connections for external circuit applied within the EUT.	N/A
5.4.11.1	Exceptions to separation between external circuits and earth	No such connections to external circuit as above.	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		
5.5.1	General	See the following details.	P
5.5.2	Capacitors and RC units	No such component provided	N/A
5.5.2.1	General requirement		N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector ..... :	(See appended table 5.5.2.2)	N/A
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	(See Annex G.12)	P
5.5.5	Relays	No such component provided	N/A
5.5.6	Resistors	(See Annex G.10)	N/A
5.5.7	SPD's	Varistor RV1 is used between Line and Neutral and comply with clause G.8	P
5.5.7.1	Use of an SPD connected to reliable earthing	No such construction.	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 ..... :	No such external circuits.	N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors	Class II equipment with no means of earthing	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	No power cord provided	N/A
	Protective earthing conductor size (mm^2) .....:		—
5.6.4	Requirement for protective bonding conductors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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	Figure 4 of IEC 60990 was used in determining of the limit of ES1.	P
5.7.2.1	Measurement of touch current.....:	(See appended table 5.2)	P
5.7.2.2	Measurement of prospective touch voltage		P
5.7.3	Equipment set-up, supply connections and earth connections	Clause 4, 5.3 and 5.4 of IEC 60990:1999 applied.	P
	System of interconnected equipment (separate connections/single connection).....:	Single equipment.	—
	Multiple connections to mains (one connection at a time/simultaneous connections).....:	Single connection.	—
5.7.4	Earthed conductive accessible parts.....:	Class II equipment. (See appended table 5.2)	N/A
5.7.5	Protective conductor current		N/A
	Supply Voltage (V).....:		—
	Measured current (mA).....:		—
	Instructional Safeguard.....:	Not exceeding ES1 limit.	N/A
5.7.6	Prospective touch voltage and touch current due to external circuits	No such 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	No such external circuits.	N/A
	a) Equipment with earthed external circuits Measured current (mA).....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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	PS (power source) classification determined by measuring the maximum power in Figures 34 and 35 for load and power source circuits.	P
6.2.2.1	General	See the following details.	P
6.2.2.2	Power measurement for worst-case load fault... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault..... :	(See appended table 6.2.2)	P
6.2.2.4	PS1 ..... :		N/A
6.2.2.5	PS2 ..... :	(See appended table 6.2.2)	P
6.2.2.6	PS3 ..... :	Primary circuit was regards to PS3	P
6.2.3	Classification of potential ignition sources	See the following details.	P
6.2.3.1	Arcing PIS ..... :	All parts in circuits inside enclosure is considered as Arcing PIS (See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS ..... :	All parts in circuits and components inside enclosure considered as Resistive PIS (See appended table 6.2.3.2)	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 ..... :	No ignition and no such temperature attained within the equipment. (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	No such materials outside fire enclosure.	N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Method by control of fire spread applied. Fire enclosure provided.	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	See above.	N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.3.3	Single Fault Conditions ..... :		N/A
	Special conditions for temperature limited by fuse	No such consideration.	N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits	Compliance detailed as follows: − Printed board: rated min. V-1 − Wire insulation: complying with Clause 6 (See Table 4.1.2 for tubing used). The input wire and output cord are compiled to UL 758 standard, which test method and testing condition equal to IEC/EN 60695-11-21. − All other components: at least V-2 except for components mounted on min. V-1 material or small parts of combustible material. − Isolating transformer: complying with G.5.3. Fire enclosure rated V-0 used.	P
6.4.5.2	Supplementary safeguards ..... :	(See appended tables 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuit	All primary circuit inside enclosure is claimed as PS3	P
6.4.7	Separation of combustible materials from a PIS	Fire enclosure provided for all internal parts.	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	No specific barrier provided.	N/A
6.4.8	Fire enclosures and fire barriers	See below.	P
6.4.8.1	Fire enclosure and fire barrier material properties	The V-0 fire enclosure is used for the whole enclosure.	P
6.4.8.2.1	Requirements for a fire barrier	No fire barrier used.	N/A
6.4.8.2.2	Requirements for a fire enclosure	For available power <4000W, the V-0 fire enclosure is used for the overall enclosure as above.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings	No openings in fire enclosure.	N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) .....:	No openings	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) .....:	No openings	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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 .....:	Fire enclosure is made of V-0 material	P
6.5	Internal and external wiring		N/A
6.5.1	Requirements	No such component used.	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		P
	External port limited to PS2 or complies with Clause Q.1	Output terminal complies with Clause Q.1.	P
7	**INJURY CAUSED BY HAZARDOUS SUBSTANCES**		N/A
7.2	Reduction of exposure to hazardous substances	No hazardous chemicals within the equipment.	N/A
7.3	Ozone exposure	No ozone production within the equipment.	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..... :	No battery used.	N/A
8	**MECHANICALLY-CAUSED INJURY**		P
8.1	General	No moving parts in the equipment; see below regarding edges and corners.	P
8.2	Mechanical energy source classifications	MS1 applied for mass of equipment and edges and corners.	P
8.3	Safeguards against mechanical energy sources		N/A
8.4	Safeguards against parts with sharp edges and corners	Edges and corners of the enclosure are rounded.	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 ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test .....:		N/A
8.6	Stability	Classification MS1 according to table 35, line 5 and no stability requirements.	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	No such mounting applied for.	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		N/A
8.9.1	Classification		N/A
8.9.2	Applied force .....:		—
8.10	Carts, stands and similar carriers		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
	Applied horizontal force (N) .....:		—
8.10.6	Thermoplastic temperature stability (°C) .....:		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable *N* .....:		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas	No such parts.	N/A
	Button/Ball diameter (mm).....:		—
9	**THERMAL BURN INJURY**		P
9.2	Thermal energy source classifications	Plastic enclosure considered to be accessible part. The equipment evaluated by temperature test (see table 5.4.1.4).	P
9.3	Safeguard against thermal energy sources	Temperature of plastic enclosure classed as TS1.	P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard	Enclosure provided to limit the transfer of thermal energy of internal parts under normal operating conditions and abnormal operating conditions.	P
9.4.2	Instructional safeguard .....:		N/A
10	**RADIATION**		N/A
10.2	Radiation energy source classification	No such source.	N/A
10.2.1	General classification	No other radiation energy source.	N/A
10.3	Protection against laser radiation		N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault .....:		
	Instructional safeguard .....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Tool ..... :		—
10.4	Protection against visible, infrared, and UV radiation	No such source.	N/A
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 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	No such x-radiation generated from the equipment	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	Not such equipment.	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..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Means to actively inform user of increase sound pressure ..... :		—
	Equipment safeguard prevent ordinary person to RS2..... :		—
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	See the following details.	P
B.2.1	General requirements.....:	(See summary of testing and appended table)	P
	Audio Amplifiers and equipment with audio amplifiers .....:	Not such equipment.	N/A
B.2.3	Supply voltage and tolerances	Rated voltage tolerance ± 10 % applied.	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 appended table B.3 & B.4)	P
B.3.2	Covering of ventilation openings	No such openings.	N/A
B.3.3	D.C. mains polarity test	The EUT is not connected to a D.C. mains	N/A
B.3.4	Setting of voltage selector .....:	No voltage selector used within the EUT	N/A
B.3.5	Maximum load at output terminals .....:	(See appended tables B.3, B.4)	P
B.3.6	Reverse battery polarity	No battery within the EUT	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	Not such equipment.	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effective.	P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited .....:	No such device used.	N/A
B.4.3	Motor tests	No motors used.	N/A

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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	See the following details.	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended tables B.3, B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended tables B.3, B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards within the EUT	N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended tables B.3, B.4 for faults on electronic components)	P
B.4.6	Short circuit or disconnect of passive components	(See appended tables B.3, B.4)	P
B.4.7	Continuous operation of components	The EUT is continuous operating type and no such components intended for short time operation or intermittent operation	N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions	No change to circuits classified in 5.3.	P
B.4.9	Battery charging under single fault conditions....:	No battery involved in the EUT	N/A
C	**UV RADIATION**		N/A
C.1	Protection of materials in equipment from UV radiation	No such UV generated from the equipment.	N/A
C.1.2	Requirements	See above.	N/A
C.1.3	Test method	See above.	N/A
C.2	UV light conditioning test	See above.	N/A
C.2.1	Test apparatus	See above.	N/A
C.2.2	Mounting of test samples	See above.	N/A
C.2.3	Carbon-arc light-exposure apparatus	See above.	N/A
C.2.4	Xenon-arc light exposure apparatus	See above.	N/A
D	**TEST GENERATORS**		P
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		P
D.3	Electronic pulse generator		N/A
E	**TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS**		N/A
E.1	Audio amplifier normal operating conditions	Not such equipment.	N/A
	Audio signal voltage (V)..... :	See above.	—
	Rated load impedance (Ω) ..... :	See above.	—
E.2	Audio amplifier abnormal operating conditions	See above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		P
F.1	General requirements	See the following details.	P
	Instructions – Language .....:	English version provided. (Version in other language will be provided when submitted for national approval)	—
F.2	Letter symbols and graphical symbols	See the following details.	P
F.2.1	Letter symbols according to IEC60027-1	Letter symbols for quantities and units are complied with IEC 60027-1.	N/A
F.2.2	Graphic symbols IEC, ISO or manufacturer specific	Graphical symbols are complied with IEC 60417, ISO 3864-2, ISO 7000 or ISO 7010.	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Equipment marking is located on the enclosure surface and is easily visible.	P
F.3.2	Equipment identification markings	See the following details.	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 the following details.	P
F.3.3.1	Equipment with direct connection to mains	The equipment is connected to AC mains supply.	P
F.3.3.2	Equipment without direct connection to mains	See above.	N/A
F.3.3.3	Nature of supply voltage.....:	~	—
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 supply connection.	N/A
F.3.4	Voltage setting device	Auto range and no voltage selector provide within the equipment.	N/A
F.3.5	Terminals and operating devices	See below.	P
F.3.5.1	Mains appliance outlet and socket-outlet markings.....:	No such devices on the equipment.	N/A
F.3.5.2	Switch position identification marking .....:	No such switch on the equipment.	N/A
F.3.5.3	Replacement fuse identification and rating markings.....:	The fuse are located within the equipment and not replaceable by an ordinary person or an instructed person. The fuse rating marked on PCB with FR1 T2A, 250V; 3.3R, 1W; 10R, 1W.	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.5.4	Replacement battery identification marking.....:	No such battery on the equipment. See sub-clause F.5	N/A
F.3.5.5	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification	See below.	P
F.3.6.1	Class I Equipment	Class II equipment.	N/A
F.3.6.1.1	Protective earthing conductor terminal	See above.	N/A
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)		P
F.3.6.2.1	Class II equipment with or without functional earth	Symbol IEC60417-5172 used. 	P
F.3.6.2.2	Class II equipment with functional earth terminal marking	See above	P
F.3.7	Equipment IP rating marking ..... :	IPX0.	—
F.3.8	External power supply output marking	See copy of marking plate.	P
F.3.9	Durability, legibility and permanence of marking	Marking is considered to be legible and easily discernible. See also the following details.	P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge. After each test, the marking remained legible.	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	The equipment is intended to be used for information technology equipment	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	No such terminals provided.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	f) Protective earthing employed as safeguard	Protective earthing used as a safeguard.	N/A
	g) Protective earthing conductor current exceeding ES2 limits		N/A
	h) Symbols used on equipment		N/A
	i) Permanently connected equipment not provided with all-pole mains switch	Not permanently connected equipment.	N/A
	j) Replaceable components or modules providing safeguard function	No such markings.	P
F.5	Instructional safeguards		N/A
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A
G	**COMPONENTS**		P
G.1	**Switches**		N/A
G.1.1	General requirements	No switch used.	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	**Relays**		N/A
G.2.1	General requirements	No such relay provided within the equipment.	N/A
G.2.2	Overload test	See above.	N/A
G.2.3	Relay controlling connectors supply power	See above.	N/A
G.2.4	Mains relay, modified as stated in G.2	See above.	N/A
G.3	**Protection Devices**		P
G.3.1	Thermal cut-offs	No thermal cut-off provided within the equipment.	N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)	See above.	N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)	See above.	N/A
G.3.1.2	Thermal cut-off connections maintained and secure	See above.	N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691	No thermal link provided within the equipment.	N/A
G.3.2.1b)	Thermal links tested as part of the equipment	See above.	N/A
	Aging hours (H).....:	See above.	—
	Single Fault Condition .....:	See above.	—
	Test Voltage (V) and Insulation Resistance (Ω) .:	See above.	—
G.3.3	PTC Thermistors	No PTC thermistor provided within the equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.3.4	Overcurrent protection devices	(See appended table 4.1.2) Approved current fuse FR1 used as overcurrent protection devices complied with IEC/EN 60127.	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..... :	Fusible resistor (FR1) as overcurrent protection device, which repeat during fault condition test	P
G.4	**Connectors**		P
G.4.1	Spacings	No such connector with insulated surfaces accessible within the EUT	N/A
G.4.2	Mains connector configuration ..... :	Mains plug complied with related nation's standard see attachment 1, 2, 3, 4 for details.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	Output terminal so designed that insert into a mains socket is unlikely to occur.	P
G.5	**Wound Components**		P
G.5.1	Wire insulation in wound components.....	Approved TIW used for secondary winding of T1.	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Physical separation is provided by insulation tube	P
G.5.1.2 b)	Construction subject to routine testing	See 5.4.9.2.	N/A
G.5.2	Endurance test on wound components	Not applied for	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	See above.	N/A
G.5.3	**Transformers**		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1)..... :	The transformers meet the requirements given in G.5.3.2 and G.5.3.3.	P
	Position..... :	T1	—
	Method of protection ..... :	See G.5.3.3.	—
G.5.3.2	Insulation	Primary windings and secondary windings are separated by Reinforced insulation (The core is considered as primary part as it is not isolated from Primary)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Protection from displacement of windings.....:	The end-turn of each winding is fixed by insulation tape	—
G.5.3.3	Overload test.....:	(See appended tables B.3, B.4)	P
G.5.3.3.1	Test conditions	Tested in the complete equipment as an SMPS.	P
G.5.3.3.2	Winding Temperatures testing in the unit	(See appended tables B.3, B.4)	P
G.5.3.3.3	Winding Temperatures - Alternative test method	Alternative test method was not considered.	N/A
G.5.4	**Motors**		N/A
G.5.4.1	General requirements	No motors used.	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

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Clause	Requirement + Test	Result - Remark	Verdict
G.6.1	General	Triple insulated winding in T1 primary windings used as reinforced safeguard in the isolating transformer that has separately complied with Annex J. See Appended table 4.1.2. No other wires other than Basic insulated wires not under stress used in the EUT.	P
G.6.2	Solvent-based enamel wiring insulation	Insulation does not rely on solvent-based enamel.	P
G.7	**Mains supply cords**		N/A
G.7.1	General requirements	No mains cord provided.	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	(See appended table 4.1.2) Approved varistor MOV used.	P
G.8.2	Safeguard against shock		P
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.8.3.3	Temporary overvoltage.....:		N/A
G.9	**Integrated Circuit (IC) Current Limiters**		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No IC current limiter provided within the equipment.	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**		N/A
G.10.1	General requirements	See below	N/A
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) Y1-capacitor used as Reinforced, Basic or Supplementary safeguard both complied with IEC/EN 60384-14.	P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors	The selection followed with tables G.9 and G.12. Y1 capacitor bridging Reinforced, Basic or Supplementary insulation with rated voltage at least 250V tested with impulse 8kV peak and 4kVrms.	P
G.12	**Optocouplers**		N/A
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results).....:	No such components used.	N/A
	Type test voltage Vini, a .....:		—
	Routine test voltage, Vini,b .....:		—
G.13	**Printed boards**		P
G.13.1	General requirements	See the following details.	P

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Clause	Requirement + Test	Result - Remark	Verdict
G.13.2	Uncoated printed boards	The insulation between conductors on the outer surfaces of an uncoated printed board or over the outer surface of coated printed boards complied with the minimum clearance and creepage requirements of 5.4.2 and 5.4.3.	P
G.13.3	Coated printed boards	No coated printed board or multilayer board applied for within the equipment.	N/A
G.13.4	Insulation between conductors on the same inner surface	See above.	N/A
	Compliance with cemented joint requirements (Specify construction)..... :		—
G.13.5	Insulation between conductors on different surfaces	See above.	N/A
	Distance through insulation .....:		N/A
	Number of insulation layers (pcs) ..... :		—
G.13.6	Tests on coated printed boards	See above.	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 .....:	No coating on component terminals considered to affect creepage or clearances.	N/A
G.15	**Liquid filled components**		N/A
G.15.1	General requirements	No such device provided within the equipment.	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	No such discharge IC used.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
b)	Impulse test using circuit 2 with Uc = to transient voltage ..... :	As above	N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes	As above.	N/A
C2)	Test voltage ..... :	As above.	—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer	As above.	N/A
D2)	Capacitance ..... :	see above	—
D3)	Resistance ..... :	see above	—
H	**CRITERIA FOR TELEPHONE RINGING SIGNALS**		N/A
H.1	General	No telephone ringing signal generated within the equipment.	N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing 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**		P
	General requirements	Triple insulated winding wiring used as reinforced safeguard in the isolating transformer that has been evaluated to Annex J as follows: Requirements of Annex U of IEC 60950-1/A2 are identical to Annex J of this standard (for wires providing Reinforced insulation). See Table 4.1.2.	P
K	**SAFETY INTERLOCKS**		N/A
K.1	General requirements	No safety interlock provided within the equipment.	N/A
K.2	Components of safety interlock safeguard mechanism		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
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**		P
L.1	General requirements	AC plug used to disconnect from AC mains	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized	No such parts when coupler used.	N/A
L.4	Single phase equipment		P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices	See above.	N/A
L.8	Multiple power sources	Only one a.c. mains connection.	N/A
M	**EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS**		N/A
M.1	General requirements	No battery used.	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		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.3.3	Compliance ..... :		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.4.2.2a)	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
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

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Clause	Requirement + Test	Result - Remark	Verdict
M.8.2.2	Estimation of hypothetical volume *Vz* (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**		P
	Figures O.1 to O.20 of this Annex applied ..... :	Considered.	—
P	**SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS**		N/A
P.1	General requirements	No openings of enclosure.	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	See above.	N/A
P.2.3.1	Safeguards against the entry of a foreign object	See above.	N/A
	Openings in transportable equipment		N/A
	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	No such liquids.	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	No such construction.	N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C)..... :		—
	Tr (°C)..... :		—
	Ta (°C)..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
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**		P
Q.1	Limited power sources	See appended table Annex Q.1	P
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		P
	- Regulating network limited output under normal operating and simulated single fault condition	A regulating network limits the output in compliance with table Q.1 both under normal operating conditions and after any single fault.	P
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	See appended table Annex Q.1	P
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) ..... :		—
	Current limiting method ..... :		—
R	**LIMITED SHORT CIRCUIT TEST**		N/A
R.1	General requirements	No such consideration.	N/A
R.2	Determination of the overcurrent protective device and circuit	See above.	N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)). ..... :	See above.	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	Approved fire enclosure with V-0 material used.	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 ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	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	See Table 4.1.2 only.	P
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 ....:	(See appended table T.4)	P
T.5	Steady force test, 250 N ....:		N/A
T.6	Enclosure impact test	Direct plug in equipment or transportable equipment	N/A
	Fall test	See above.	N/A
	Swing test	See above.	N/A
T.7	Drop test ....:	(See appended table T.7)	P
T.8	Stress relief test ....:	(See appended table T.8)	P
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)....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Height (m) .....:		—
T.10	Glass fragmentation test .....:		N/A
T.11	Test for telescoping or rod antennas	No such antennas provided within the equipment.	N/A
	Torque value (Nm) .....:	See above.	—
U	**MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFECTS 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	See above.	N/A
U.3	Protective Screen .....:	See above.	N/A
V	**DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)**		P
V.1	Accessible parts of equipment	No access with test probes to any hazardous parts	P
V.2	Accessible part criterion	See above.	P

IEC 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 (Edition / year)	Mark(s) of conformity[1])
Plastic enclosure, plug holder/sleeve and ISOD of UK plug	SABIC INNOVATIVE PLASTICS B V	940(f1)	PC, V-0, 120°C, min. 2.0mm thickness.	UL 94, UL746, IEC/EN 62368-1	UL E45329, Tested with appliance
European (EU) plug portion (for models CWxxxyyyyEU, CWxxxyyyyEUA and CWxxxyyyyRE)	Shenzhen Cenwell Technology Co., Ltd.	--	100-240V～, 50/60Hz, 0.4A MAX	EN 50075	Tested with appliance
British (UK) plug portion (for models CWxxxyyyyUK, CWxxxyyyyUKA and CWxxxyyyyRE)	Shenzhen Cenwell Technology Co., Ltd.	--	100-240V～, 50/60Hz, 0.4A MAX	cl. 12 of BS 1363-1	Tested with appliance
Australian (AU) plug portion (for models CWxxxyyyyAU and CWxxxyyyyAUA)	Shenzhen Cenwell Technology Co., Ltd.	--	100-240V～, 50/60Hz, 0.4A MAX	AS/NZS 3112	Tested with appliance
Japanese (JP) plug portion (for models CWxxxyyyyJA, CWxxxyyyyJAA and CWxxxyyyyRE)	Shenzhen Cenwell Technology Co., Ltd.	--	100-240V～, 50/60Hz, 0.4A MAX	JIS C 8303	Tested with appliance
PCB	KAIMAU ELECTRONICS CO LTD	4CEM	V-0, 130°C	UL 796	UL E237305
(Alternative)	SHANDONG JINBAO ELECTRONICS CO LTD	ZD-95(G)F	V-0, 130°C	UL 796	UL E141940
(Alternative)	DONGGUAN WANNIENFU	04V0	V-0, 130°C	UL 796	UL E88653

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Clause	Requirement + Test	Result - Remark	Verdict

	ELECTRONIC CO LTD				
(Alternative)	Interchangeable	Interchangeable	Min. V-0, min. 130°C	UL 796	UL
Internal lead wire (for models CWxxxyyyyAU, CWxxxyyyyUK, CWxxxyyyyRE, CWxxxyyyyEUA, CWxxxyyyyUKA, CWxxxyyyyAUA, CWxxxyyyyJAA)	SHENZHEN YUNSHENGDA ELECTRONICS TECHNOLOGY CO LTD	1007	VW-1, 80ºC, min. 300V, min. 24AWG	UL 758	UL E332481
(Alternative)	Interchangeable	Interchangeable	VW-1, min. 80ºC, min. 300V, min. 24AWG	UL 758	UL
Insulation sheet (Used between PCB and plug pin, for models CWxxxyyyyRE, CWxxxyyyyEUA, CWxxxyyyyUKA, CWxxxyyyyAUA, CWxxxyyyyJAA)	SABIC INNOVATIVE PLASTICS B V	FR8+	PC, min. VTM-0, min. 125°C, min. 0.13mm	UL 94, UL 746	UL E45329
Current fuse (FR1)	Dongguan Hongda Electronic Technology Co., Ltd.	2008	T2A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248	VDE 40028259, UL E318938
(Alternative)	Dongguan Hongda Electronic Technology Co., Ltd.	2009	T2A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248	VDE 40028260, UL E318938
(Alternative)	Shenzhen Lanson Electronics Co. Ltd.	SMT	T2A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248	VDE 40012592, UL E221465
(Alternative)	XC Electronics (Shen Zhen) Corp. Ltd.	3T	T2A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248	VDE 40019614, UL E249609
(Alternative)	Dongguan Reomax Electronics	TBP	T2A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248	VDE 40032053, UL E340427

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Clause	Requirement + Test	Result - Remark	Verdict

	Technology Co., Ltd.				
(Alternative)	Dongguan Reomax Electronics Technology Co., Ltd.	MTS	T2A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248	VDE 40039420, UL E340427
(Alternative)	Suzhou Walter Electronic Co. Ltd.	2010 Serie(s)	T2A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248	VDE 40018781, UL E220181
(Alternative)	Dongguan LUOYI Electronics Technology Co., Ltd.	SAT	T2A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248	VDE 40050512, UL E505058
(Alternative)	Dongguan Chevron Electronic Technology Co., Ltd.	SET	T2A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248	VDE 40038565, UL E358589
(Alternative)	Dongguan Better Electronics Technology Co., Ltd.	932	T2A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248	VDE 40033369, UL E300003
(Alternative)	Littelfuse Inc.	392	T2A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248	VDE 126983, UL E67006
Fusible resistor (FR1)	Shenzhen Great Electronics Co. Ltd.	RXF	3.3Ω or 10Ω,1W	IEC/EN 62368-1, UL 1412	VDE 40026608, UL E301541
Heat shrinkable tube (Used for FR1)	GUANGZHOU KAIHENG ENTERPRISE GROUP	K-2	VW-1, 125°C, 600V	UL 224	UL E214175
(Alternative)	CHANGYUAN ELECTRONICS GROUP CO LTD	CYG-ZHP, CB-HFT, CB-1000, CB-TT-S, CB-600	VW-1, min. 105°C, min. 600V	UL 224	UL E180908
(Alternative)	Interchangeable	Interchangeable	Min. VW-1, min.105°C, min. 300V.	UL 224	UL
Varistor (RV1) (Optional)	Thinking Electronic Industrial Co., Ltd.	TVR14471, TVR14561, TVR10471, TVR10561,	Min. 300Vac, min. 85°C, min. V-0 coating	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, UL 1449	VDE 005944, UL E314979

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

		TVR07471, TVR07561			
(Alternative)	Success Electronics Co., Ltd.	SVR14D561K, SVR14D471K, SVR10D471K, SVR10D561K, SVR07D561K, SVR07D471K	Min. 300Vac, min. 85°C, min. V-0 coating	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, UL 1449	VDE 123677, UL E330256
(Alternative)	Shantou High-New Technology Dev. Zone Song tian Enterprise Co., Ltd.	10D471K, 14D471K, 07D471K, 14D561K, 10D561K, 07D561K	Min. 300Vac, min. 85°C, min. V-0 coating	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, UL 1449	VDE 40023049, UL E330837
(Alternative)	Shenzhen Chuang Na Electronics Co., Ltd.	CVR-07D471K, CVR-07D561K, CVR-10D471K, CVR-10D561K, CVR-14D471K, CVR-14D561K	Min. 300Vac, min. 85°C, min. V-0 coating	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, UL 1449	VDE 40043102, UL E477910
(Alternative)	Dongguan City Dafu Electronics Co. Ltd.	10D471K, 10D561K	Min. 300Vac, min. 85°C, min. V-0 coating	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, UL 1449	VDE 40050909, UL E502211
(Alternative)	Hongzhi Enterprises Ltd.	HEL7D471K, HEL7D561K, HEL10D471K, HEL10D561K, HEL14D471K, HEL14D561K	Min. 300Vac, min. 85°C, min. V-0 coating	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, UL 1449	VDE 40037512, UL E324904
(Alternative)	Interchangeable	Interchangeable	Min. 300Vac, min. 85°C, min. V-0 coating	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, UL 1449	VDE, UL
Bridge diode (BD1)	Interchangeable	Interchangeable	Min. 1A, min. 1000V	IEC/EN 62368-1	Tested with appliance
Electrolytic capacitor (C1, C2)	Interchangeable	Interchangeable	Min. 250Vac, 6.8-22uF, 105°C	IEC/EN 62368-1	Tested with appliance
IC (U1)	Interchangeable	Interchangeable	Min. 4A, 650V	IEC/EN 62368-1	Tested with appliance
Current limiting resistor (R5, R6)	Interchangeable	Interchangeable	Each min. 1Ω, min. 1/4W	IEC/EN 62368-1	Tested with appliance

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

Line filter (L1, L2, L1A)(Optional) (L1, L2, L1A or L1+L2 were installed)	Interchangeable	Interchangeable	Min. 130°C	IEC/EN 62368-1	Tested with appliance
Y capacitor (CY1, CY2, CY3) (Optional)(Either CY1 or CY2+CY3 were installed)	Jyh Chung Electronic Co., Ltd.	JD	Max. 2200pF, min. 250Vac, 125°C, Y1 type.	IEC/EN/UL 60384-14	VDE 137027, UL E187963
(Alternative)	Dongguan Easy-gather Electronic Co., Ltd.	DCF	Max. 2200pF, min. 250Vac, 125°C, Y1 type.	IEC/EN/UL 60384-14	VDE 40022942, UL E252221
(Alternative)	Shaanxi Huaxing Electronic Development Co. Ltd.	CT7Y1	Max. 2200pF, min. 250Vac, 125°C, Y1 type.	IEC/EN/UL 60384-14	VDE 40015542, UL E217400
(Alternative)	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd.	CD-Series	Max. 2200pF, min. 250Vac, 125°C, Y1 type.	IEC/EN/UL 60384-14	VDE 40025754, UL E208107
(Alternative)	JYH HSU (JEC) ELECTRONICS LTD	JD	Max. 2200pF, min. 250Vac, 125°C, Y1 type.	IEC/EN/UL 60384-14	VDE 40038642, UL E356696
(Alternative)	DONGGUAN JYHWEI ELECTRONICS CO., LTD	JN	Max. 2200pF, min. 250Vac, 125°C, Y1 type.	IEC/EN/UL 60384-14	VDE 40047520, UL E498213
(Alternative)	Dongguan City Dafu Electronics Co. Ltd.	CT7 Y1 Series	Max. 2200pF, min. 250Vac, 125°C, Y1 type.	IEC/EN/UL 60384-14	VDE 40041523, UL E465278
(Alternative)	MACROFAR ELECTRONICS TECHNOLOGY (HK) LTD	HY series	Max. 2200pF, min. 250Vac, 125°C, Y1 type.	EN 60384-14	TÜV Rheinland GS Mark R 50326364
(Alternative)	Interchangeable	Interchangeable	Max. 2200pF, min. 250Vac, 125°C, Y1 type.	IEC/EN/UL 60384-14	VDE, UL
Transformer (T1)	SHENZHEN GAO CHANG SHENG	CW1504W05025 0001 or CW1504W09015	Class B, PRI pin 4-3(N1): Φ=0.23mmx1P,	IEC/EN 62368-1, IEC 60085	Tested with appliance

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

	ELECTRONIC TECHNOLOGY CO LTD	0001 (for 3.0-11.9V)	62Ts, PRI pin 5-2 (N4): Φ=0.15mmx2P, 13Ts, PRI pin 2-NC (N2): Φ=0.2mmx1P, 1Ts, PRI pin 4-1 (N5): Φ=0.23mmx1P, 30Ts SEC pin 8-10 (N3): Φ=0.55mmx2P, 5Ts		
		CW1504W120125001 or CW1504W240065001 (for 12.0-24.0V)	Class B, PRI pin 4-3(N1): Φ=0.23mmx1P, 62Ts, PRI pin 5-2 (N4): Φ=0.15mmx2P, 13Ts, PRI pin 2-NC (N2): Φ=0.2mmx1P, 1Ts, PRI pin 4-1 (N5): Φ=0.23mmx1P, 30Ts SEC pin 8-10 (N3): Φ=0.55mmx1P, 11Ts		
- Bobbin	SUMITOMO BAKELITE CO LTD	PM-9820	PF, V-0, 150°C, min. 0.51mm thickness	UL 94, UL 746	UL E41429
- Magnet wire	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEW/U@	130°C	UL 1446	UL E201757
(Alternative)	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL
- Triple insulation wire	Furukawa Electric Co., Ltd.	TEX-E	Reinforced insulation, 130°C	IEC/EN 62368-1, UL 2353	VDE 006735, UL E206440
- Insulation tape	3M COMPANY ELECTRICAL	1350F-1 (b)	Rated 130°C	UL 510	UL E17385

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

	MARKETS DIV (EMD)				
(Alternative)	Interchangeable	Interchangeable	Min. 130°C	UL 510	UL
- Teflon tubing	GREAT HOLDING INDUSTRIAL CO LTD	TFT	Min. 300V, min. 200°C, min. VW-1	UL 224	UL E156256
(Alternative)	Interchangeable	Interchangeable	Min. 300V, min. 200°C, min. VW-1	UL 224	UL
- Varnish	ELANTAS PDG, INC.	468-2 (d)	Min. 130°C	UL 1446	UL E75225
Output wire	DONGGUAN DONGLONG COMMUNICATION MATERIALS CO LTD	2464, 2468	VW-1, 80ºC, 300V, min. 24AWG	UL 758	UL E189858
(Alternative)	Interchangeable	Interchangeable	VW-1, min. 80ºC, min. 30V, min. 24AWG	UL 758	UL
Supplementary information: [1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

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)	Comments	
--	--	--	--	
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		

IEC 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.)			
		10	
4.8.4.4	Table: Drop test		—
Impact Area	Drop Distance	Drop No.	Observations
		1	
		2	
		3	
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)
--	--	--	--
Supplementary information:			

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

5.2	**Table: Classification of electrical energy sources**						P
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 (Apk or Arms)	Hz	
1	264Va.c. 60Hz	Primary circuits supplied by a.c. mains supply	Normal:	264Vrms	--	--	ES3
			Abnormal:	--	--	--	
			Single fault:	--	--	--	
2	264Va.c. 60Hz	Output “+” to “-”	Normal:	24.26Vdc.	--	--	ES1
			Abnormal: Output overload	24.26Vdc.	--	--	
			# Single fault: BD1 SC	0	--	--	

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
			@ Single fault: T1 pin 8-10 SC	0	--	--	
			@ Single fault: D3 SC	0	--	--	
3	264Va.c. 60Hz	Output “+”/ “-” to earth (CY1 installed)	Normal:	--	0.356mApk	60	ES1
			Abnormal: Output overload	--	0.356mApk	60	
			# Single fault: BD1 SC	--	0.395mApk	60	
			@ Single fault: T1 pin 8-10 SC	--	0.356mApk	60	
			@ Single fault: D3 SC	--	0.356mApk	60	
			Single fault: Neutral OC	--	0.410mApk	60	
4	264Va.c. 60Hz	Output “+”/ “-” to earth (CY2+CY3 installed)	Normal:	--	0.178mApk	60	ES1
			Abnormal: Output overload	--	0.178mApk	60	
			# Single fault: BD1 SC	--	0.230mApk	60	
			@ Single fault: T1 pin 8-10 SC	--	0.178mApk	60	
			@ Single fault: D3 SC	--	0.178mApk	60	
			Single fault: Neutral OC	--	0.210mApk	60	
			Single fault: CY2 SC	--	0.356mApk	60	
5	264Va.c. 60Hz	Plastic enclosure to earth	Normal:	--	0.010mApk	60	ES1
			Abnormal: Output overload	--	0.010mApk	60	
			# Single fault: BD1 SC	--	0.010mApk	60	
			@ Single fault: T1 pin 8-10 SC	--	0.010mApk	60	
			@ Single fault: D3 SC	--	0.010mApk	60	

5.2.2.3 - Capacitance Limits					
No.			Test conditions	Parameters	ES Class

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

	Supply Voltage	Location (e.g. circuit designation)		Capacitance, nF	Upk (V)	
1	264Va.c. 60Hz	Between L & N pole (X capacitor CX1)	Normal	--	--	--
			Abnormal	--	--	--
			Single fault – SC or OC	--	--	--

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	--	--	--	

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 – Full load and no load.

Abnormal – Overload output

Supplementary information: SC=Short Circuit, OC=Open Circuit

Note:

#: Fuse RF1 opened immediately, BD1 damaged, no hazard.

@: Unit shut down immediately, recoverable, no damaged, no hazard.

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**			P
	Supply voltage (V) :	Test A: 90V, 60Hz vertical Test B: 90V, 60Hz horizontal Test C: 264V, 50Hz vertical Test D: 264V, 50Hz horizontal		—
	Ambient T_{min} (°C) :	--	--	—
	Ambient T_{max} (°C) :	--	--	—
	Tma (°C) :	40	40	—
Maximum measured temperature T of part/at:		T (°C)		Allowed T_{max} (°C)

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

Test condition	A	B	C	D	--
Model: CW2400650RE (Installed with differential mode choke L2)					
Plug holder	48.3	50.3	47.1	49.0	120
Input wire	61.7	63.4	59.9	62.1	80
Insulation sheet	67.0	67.9	65.5	66.3	125
MOV body	76.2	76.9	64.9	66.4	85
PCB near BD1	82.9	84.9	70.2	72.5	130
C1 body	77.1	77.5	64.4	65.7	105
L2 winding	87.2	87.5	66.6	67.3	130
C2 body	82.9	83.6	74.3	75.6	105
PCB near U1	96.1	98.3	90.8	93.9	130
T1 winding	90.8	92.4	89.6	92.1	110
T1 core	87.3	88.7	86.6	88.4	110
CY1 body	66.8	74.8	69.7	72.6	125
C5 body	72.8	74.0	74.1	75.3	105
C6 body	66.1	68.7	66.3	68.9	105
PCB near D3	90.1	92.4	92.3	94.5	130
Output wire	52.5	55.0	54.2	55.7	80
Enclosure inside near T1	78.1	78.8	75.5	77.3	120
Enclosure outside near T1 (Shift to 25°C ambient)	41.3	42.5	39.5	42.8	77*
Ambient	40.0	40.5	40.0	40.0	--
Model: CW1241250RE (Installed with differential mode choke L2)					
Plug holder	44.3	45.5	50.2	49.0	120
Input wire	66.6	67.1	64.7	62.1	80
Insulation sheet	78.9	79.2	68.6	66.4	125
MOV body	81.7	81.3	75.0	72.5	85
PCB near BD1	88.7	88.1	67.2	65.7	130
C1 body	88.0	84.8	69.6	67.3	105
L2 winding	102.4	100.2	71.9	70.3	130
C2 body	95.2	94.5	79.2	75.6	105
PCB near U1	117.1	116.5	96.3	93.9	130
T1 winding	106.3	106.3	94.9	92.1	110
T1 core	99.0	100.1	90.0	88.4	110

IEC 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
CY1 body	92.9	94.6	73.9	72.6	125
C5 body	93.4	96.5	78.9	75.3	105
C6 body	80.9	83.5	71.3	68.9	105
PCB near D3	103.3	104.3	97.3	94.5	130
Output wire	70.2	70.6	57.0	55.7	80
Enclosure inside near T1	84.0	84.0	80.9	77.3	120
Enclosure outside near T1 (Shift to 25°C ambient)	58.0	57.2	35.2	42.8	77*
Ambient	40.3	40.5	40.0	40.0	--
Model: CW0502500RE (Installed with differential mode choke L2)					
Plug holder	49.0	50.6	49.6	50.2	120
Input wire	64.0	65.1	63.0	63.5	80
Insulation sheet	70.4	71.7	64.2	64.8	125
MOV body	78.2	78.4	69.5	69.5	85
PCB near BD1	79.9	80.6	70.7	70.8	130
C1 body	78.5	78.8	70.2	70.0	105
L2 winding	82.8	83.9	69.1	69.0	130
C2 body	82.9	83.5	77.7	77.3	105
PCB near U1	88.6	89.5	87.9	87.8	130
T1 winding	93.1	94.1	94.6	94.4	110
T1 core	87.1	88.1	88.7	88.6	110
CY1 body	81.5	82.8	82.3	82.5	125
C5 body	84.9	87.7	87.6	89.4	105
C6 body	74.0	76.1	75.8	76.6	105
PCB near D3	89.4	92.1	92.3	93.8	130
Output wire	67.6	71.1	69.1	71.9	80
Enclosure inside near T1	75.6	74.5	75.7	73.9	120
Enclosure outside near T1 (Shift to 25°C ambient)	53.4	51.3	53.7	51.2	77*
Ambient	40.0	40.5	40.2	40.2	--
Model: CW1241250UK (Installed with differential mode choke L2)					
Plug holder	43.8	44.8	47.0	47.8	120
Input wire	65.5	66.2	63.5	60.8	80
MOV body	79.9	80.1	72.4	71.9	85

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

PCB near BD1	86.8	85.6	64.0	64.1	130
C1 body	87.0	82.2	67.4	66.5	105
L2 body	101.1	97.4	70.3	68.0	130
C2 body	93.3	91.2	78.7	74.3	105
PCB near U1	113.7	111.9	93.0	91.4	130
T1 winding	103.7	102.1	92.4	90.4	110
T1 core	98.5	96.5	88.2	85.6	110
CY1 body	91.0	90.7	70.8	69.7	125
C5 body	91.2	93.5	77.6	73.7	105
C6 body	80.0	79.1	70.4	68.6	105
PCB near D3	101.0	99.5	96.2	91.9	130
Output wire	68.1	66.9	56.8	54.9	80
Enclosure inside near T1	81.5	78.3	75.7	76.1	120
Enclosure outside near T1 (Shift to 25°C ambient)	56.0	52.9	43.3	40.7	77*
Ambient	40.3	40.5	40.0	40.2	--
Model: CW1241250RE (Installed with common mode choke L1A)					
Plug holder	45.5	--	--	--	120
Input wire	66.0	--	--	--	80
Insulation sheet	80.2	--	--	--	125
MOV body	80.2	--	--	--	85
PCB near BD1	89.6	--	--	--	130
C1 body	88.6	--	--	--	105
L1A winding	104.5	--	--	--	130
C2 body	95.8	--	--	--	105
PCB near U1	115.9	--	--	--	130
T1 winding	106.6	--	--	--	110
T1 core	99.5	--	--	--	110
CY1 body	91.5	--	--	--	125
C5 body	92.6	--	--	--	105
C6 body	81.8	--	--	--	105
PCB near D3	102.1	--	--	--	130
Output wire	70.0	--	--	--	80
Enclosure inside near T1	83.5	--	--	--	120

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Clause	Requirement + Test	Result - Remark	Verdict

Enclosure outside near T1 (Shift to 25°C ambient)	57.1	--	--	--	77*
Ambient	40.3	--	--	--	--

Supplementary information:
*Temperature limit for TS1 of accessible enclosure outside according to Table 38. (External surfaces of enclosure will be touched occasionally for very short periods (>1 s and <10 s), so temperature limit 77°C considered.

Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (Tma) of 40°C.

Note 2: The temperatures were measured under the worse case normal mode defined in clause B.2.1.

Note 3. Temperature limits are calculated as follows:

Winding components providing safety isolation:

Class B → Tmax = 120-10=110°C

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

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics		N/A
Penetration (mm) ..... :			—
Object/ Part No./Material	Manufacturer/trademark	T softening (°C)	
--	--	--	
supplementary information:			

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics		P
Allowed impression diameter (mm) ..... :		≤ 2 mm	—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)
Plug holder/ 940(f1)	SABIC INNOVATIVE PLASTICS B V	125	1.08
Supplementary information: The bobbin material of transformer T1 is phenolic. No other parts need to be tested.			

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:	Up (V)	U r.m.s. (V)	Frequency (kHz)	Required cl (mm)*	cl (mm)	Required cr (mm)	cr (mm)
Basic:							
Line and Neutral before FR1	420	240	0.06	2.3	2.6	2.4	2.6
Two terminals of FR1	420	240	0.06	2.3	2.8	2.4	2.8
Y-Cap. CY2 primary to secondary pin	420	240	53.2	2.3	3.0	2.4	3.0

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Clause	Requirement + Test			Result - Remark			Verdict
Supplementary:							
Y-Cap. CY3 primary to secondary pin	420	240	53.2	2.3	2.9	2.4	2.9
Reinforced:							
Primary live part to outside enclosure (for models CWxxxyyyyRE)	420	240	0.06	4.5	5.1	4.8	5.1
Primary live part to outside enclosure (for models CWxxxyyyyEU, CWxxxyyyyJA)	420	240	0.06	4.5	6.3	4.8	6.3
Primary live part to outside enclosure (for models CWxxxyyyyUK)	420	240	0.06	4.5	5.7	4.8	5.7
Primary live part to outside enclosure (for models CWxxxyyyyAU)	420	240	0.06	4.5	6.5	4.8	6.5
Primary live part to outside enclosure (for models CWxxxyyyyAUA, CWxxxyyyyUKA, CWxxxyyyyEUA)	420	240	0.06	4.5	5.6	4.8	5.6
Primary live part to outside enclosure (for models CWxxxyyyyJAA)	420	240	0.06	4.5	5.3	4.8	5.3
Y-Cap. CY1 primary to secondary pin	420	240	53.2	4.5	5.9	4.8	5.9
Primary circiut to secondary circiut under T1 on PCB	540	254	53.2	4.5	6.5	5.2	6.5
Transformer T1 core to secondary component C6	540	254	53.2	4.5	>10.0	5.2	>10.0
Transformer T1 core to secondary component C5	540	254	53.2	4.5	8.0	5.2	8.0
Transformer T1 primary winding to secondary winding/ pin	540	254	53.2	4.5	6.5	5.2	6.5
Transformer T1 core to secondary winding/ pin	540	254	53.2	4.5	7.1	5.2	7.1
From live parts in detableable EU plug to external accesible part	420	240	0.06	4.5	5.2	4.8	5.2
From live parts in detableable UK plug to external accesible part	420	240	0.06	4.5	5.0	4.8	5.0
From live parts in detableable JP plug to external accesible part	420	240	0.06	4.5	5.1	4.8	5.1

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information: BI: Basic insulation; SI: Supplementary insulation; RI: Reinforced insulation.

*Required clearance multiplied by altitude correction factor 1.48 according to the Table A.2 of IEC 60664:1992 +A1:2000+A2:2002 standard.
The component output wire was fixed by glue. The triple insulation wire of transformer T1 was secured by twisted and soldering. Triple insulation wire used as secondary windings of T1, Core is considered as primary part.

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.		2500	--	--
Supplementary information: Limits according to 5.4.2.3 applied for the referred table above.				

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: Using procedure 2 to determine the clearance.				

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 (Hz)	Material	Required DTI (mm)	DTI (mm)
Insulation tape used for transformer	540	53.2K	Polyethylene	See only 5.4.4.9	See only 5.4.4.9
Bobbin in transformer (T1)	540	53.2K	Phenolic	0.4	1)
Insulation sheet	420	53.2K	Plastic	--	1)
Enclosure	540	53.2K	Plastic	0.4	1)
Supplementary information: See also sub-clause 5.4.4.9. 1). See appended table 4.1.2.					

5.4.9	**TABLE: Electric strength tests**			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (Vpeak)	Breakdown Yes / No
Basic/supplementary:				
L to N (fuse FR1 opened)		DC	2500	No
Two poles of fuse FR1 (On PCB)		DC	2500	No
Two poles of Y capacitor CY2		DC	2500	No

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (Vpeak)	Breakdown Yes / No
Two poles of Y capacitor CY3		DC	2500	No
Insulation sheet		DC	2500	No
Reinforced:				
Unit primary to secondary (output)		DC	4000	No
Unit primary to plastic enclosure (with metal foil)		DC	4000	No
Primary to secondary of transformer T1		DC	4000	No
Secondary to core of transformer T1		DC	4000	No
Insulation tape used in and around transformer T1 (single layer)		DC	4000	No
Supplementary information: * Tested according to clause 5.4.4.6.4 & 5.4.4.6.5 1) By applying a d.c. voltage in one polarity and then repeat it in reverse polarity. 2) All source of insulation tape (see appended table 4.1.2) were tested separately.				

5.5.2.2	TABLE: Stored discharge on capacitors					N/A
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification	
Supplementary information: The end system will be pluggable equipment type A. Limit of ES1 applied for mains terminal as accessible part for ordinary persons. X-capacitors installed for testing are: ☐ bleeding resistor rating: ☐ ICX: see table 4.1.2 Notes: A. Test Location: Phase to Neutral; 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						

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)	
--	--	--	--	--	

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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: See clause 5.6.6.2.					

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		N/A
Supply voltage ..... :		264Vac	—
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 (e open, normal and reverse polarity p)	
		2* (netural open (switch n), earth intact and normal polarity, again in reverse polarity (switch p)	--
		3 (for IT system, each phase conductor faulted to earth, one at a time (switch g)	--
		4 (for three-phase, each phase conductor open, one at a time switches l)	--
		5 (IT power system or three phase delta system)	--
		6 (three-phase for use on centre-earthed dalta supply system)	--
		8 (incidental electrically connected to other parts)	--

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.

a) Not considered IT power system.

b) Not three phase equipment.

c) Not IT power system or three phase delta system.

d) Not three-phase for use on centre-earthed dalta supply system.

e) Not such parts.

6.2.2	Table: Electrical power sources (PS) measurements for classification	P

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Clause	Requirement + Test	Result - Remark	Verdict

Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification
Output terminal (for model CW2400650RE)	Normal condition	Power (W) :	20.99	20.99	PS2
		V_A (V) :	23.58	23.58	
		I_A (A) :	0.89	0.89	
Output terminal (for model CW1241250RE)	Normal condition	Power (W) :	21.32	21.32	PS2
		V_A (V) :	12.32	12.32	
		I_A (A) :	1.73	1.73	
Output terminal (for model CW0502500RE)	Normal condition	Power (W) :	17.15	17.15	PS2
		V_A (V) :	4.90	4.90	
		I_A (A) :	3.50	3.50	
Output terminal &	Single fault (D3 SC) @	Power (W) :	0	--	PS1
		V_A (V) :	0	--	
		I_A (A) :	0	--	
Output terminal &	Single fault (R5/R6 SC) #	Power (W) :	0	--	PS1
		V_A (V) :	0	--	
		I_A (A) :	0	--	

Supplementary Information: All above test data are measured from the output terminal of the switching power supply. See also Table B.4 for fault condition results description.

&: Test results for models CW2400650RE, CW1241250RE and CW0502500RE.

@: Unit shut down immediately, recoverable, no damaged, no hazards.

#: Fuse FR1 opened immediately, no hazards.

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)	P

Location	Open circuit voltage After 3 s (Vp)	Measured r.m.s current (Irms)	Calculated value (V_p x I_{rms})	Arcing PIS? Yes / No
All primary circuits/components	--	--	--	Yes

Supplementary information:

All primary circuits such as components BD1, L1 or L1A and T1 having soldered pins in mains circuit (>50V peak) and secondary parts connected directly to secondary winding where Vp × Irms greater than 15 are considered as arcing PIS.

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.

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)	P

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Clause	Requirement + Test	Result - Remark	Verdict

Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
All internal circuits/components and output terminal	--	--	--	--	Yes (declaration)

Supplementary Information:

All power dissipating components in primary and secondary circuit are considered as resistive PIS due to the available power as declared by manufacturer.

A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter.

If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification.

A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.

8.5.5	TABLE: High Pressure Lamp		N/A
Description		Values	Energy Source Classification
Lamp type.....:			—
Manufacturer.....:			—
Cat no.....:			—
Pressure (cold) (MPa) .....:			MS_
Pressure (operating) (MPa) .....:			MS_
Operating time (minutes) .....:			—
Explosion method.....:			—
Max particle length escaping enclosure (mm).:			MS_
Max particle length beyond 1 m (mm) .....:			MS_
Overall result .....:			
Supplementary information:			

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
90V/50Hz	0.339	--	18.16	--	FR1	0.339	Max. normal load 24.0V, 0.65A (for model CW2400650RE)
90V/60 Hz	0.342	--	18.14	--	FR1	0.342	
100V/50Hz	0.311	0.4	17.99	--	FR1	0.311	
100V/60Hz	0.315	0.4	17.99	--	FR1	0.315	
240V/50Hz	0.200	0.4	17.85	--	FR1	0.200	

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Clause	Requirement + Test				Result - Remark		Verdict
240V/60Hz	0.201	0.4	17.84	--	FR1	0.201	
264V/50Hz	0.188	--	17.90	--	FR1	0.188	
264V/60Hz	0.188	--	17.92	--	FR1	0.188	
90V/50Hz	0.354	--	19.15	--	FR1	0.354	Max. normal load 12.4V, 1.25A (for model CW1241250RE)
90V/60 Hz	0.358	--	19.09	--	FR1	0.358	
100V/50Hz	0.324	0.4	18.91	--	FR1	0.324	
100V/60Hz	0.330	0.4	18.92	--	FR1	0.330	
240V/50Hz	0.206	0.4	18.56	--	FR1	0.206	
240V/60Hz	0.210	0.4	18.54	--	FR1	0.210	
264V/50Hz	0.193	--	18.52	--	FR1	0.193	
264V/60Hz	0.195	--	18.53	--	FR1	0.195	
90V/50Hz	0.248	--	12.86	--	FR1	0.248	Max. normal load 5.0V, 2.5A (for model CW0502500RE)
90V/60 Hz	0.256	--	12.83	--	FR1	0.256	
100V/50Hz	0.232	0.4	12.68	--	FR1	0.232	
100V/60Hz	0.238	0.4	12.68	--	FR1	0.238	
240V/50Hz	0.148	0.4	12.57	--	FR1	0.148	
240V/60Hz	0.147	0.4	12.57	--	FR1	0.147	
264V/50Hz	0.138	--	12.62	--	FR1	0.138	
264V/60Hz	0.137	--	12.61	--	FR1	0.137	
Supplementary information: The maximum measured current under rated voltage did not exceed 110% of the rated current.							

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	
Output (for model CW2400650RE)	OL	264	6hrs 17mins	FR1	0.188→ 0.212→ 0.235→ 0.003	Type J	Transformer T1 winding: 115.0°C, Transformer T1 core: 109.2°C, Amient: 40.3°C, Enclosure outside near T1: 47.3°C, Ambient: 25.0°C	Unit shut down when output overloaded to 0.89A. Recoverable. No damaged, no hazard.	

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Clause	Requirement + Test	Result - Remark	Verdict

Transformer T1 (for model CW2400650RE)	OL	264	6hrs 12mins	FR1	0.188→ 0.231→ 0.245→ 0.003	Type J	Transformer T1 winding: 118.1°C, Transformer T1 core: 111.6°C, Amient: 40.3°C, Enclosure outside near T1: 47.3°C, Ambient: 25.0°C	Unit shut down when output overloaded to 1.07A. Recoverable. No damaged, no hazard.
Output (for model CW1241250RE)	OL	264	7hrs 40mins	FR1	0.193→ 0.208→ 0.230→ 0.003	Type J	Transformer T1 winding: 124.9°C, Transformer T1 core: 118.0°C, Amient: 40.3°C, Enclosure outside near T1: 65.4°C, Ambient: 25.0°C	Unit shut down when output overloaded to 1.68A. Recoverable. No damaged, no hazard.
Transformer T1 (for model CW1241250RE)	OL	264	6hrs 30mins	FR1	0.193→ 0.215→ 0.241→ 0.003	Type J	Transformer T1 winding: 128.1°C, Transformer T1 core: 120.8°C, Amient: 40.3°C, Enclosure outside near T1: 66.9°C, Ambient: 25.0°C	Unit shut down when output overloaded to 1.85A. Recoverable. No damaged, no hazard.
Output (for model CW0502500RE)	OL	264	7hrs 19mins	FR1	0.138→ 0.178→ 0.206→ 0.003	Type J	Transformer T1 winding: 120.7°C, Transformer T1 core: 114.4°C, Amient: 40.3°C, Enclosure outside near T1: 60.3°C, Ambient: 25.0°C	Unit shut down when output overloaded to 3.40A. Recoverable. No damaged, no hazard.
Transformer T1 (for model CW0502500RE)	OL	264	7hrs 30mins	FR1	0.138→ 0.189→ 0.221→ 0.003	Type J	Transformer T1 winding: 124.3°C, Transformer T1 core: 116.9°C, Amient: 40.3°C, Enclosure outside near T1: 63.0°C, Ambient: 25.0°C	Unit shut down when output overloaded to 3.40A. Recoverable. No damaged, no hazard.
Output (for model CW1241250EU)	OL	264	5hrs 12mins	FR1	0.193→ 0.201→ 0.222→ 0.003	Type J	Transformer T1 winding: 119.2°C, Transformer T1 core: 115.6°C, Amient: 40.6°C, Enclosure outside near T1: 63.8°C, Ambient: 25.0°C	Unit shut down when output overloaded to 1.64A. Recoverable. No damaged, no hazard.

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Clause	Requirement + Test	Result - Remark	Verdict

Transformer T1 (for model CW1241250EU)	OL	264	5hrs 7mins	FR1	0.193→ 0.203→ 0.234→ 0.003	Type J	Transformer T1 winding: 121.5°C, Transformer T1 core: 117.2°C, Amient: 40.6°C, Enclosure outside near T1: 65.4°C, Ambient: 25.0°C	Unit shut down when output overloaded to 1.75A. Recoverable. No damaged, no hazard.

Supplementary information:

1) OL: Overloaded.

2) The test result shown all safeguards remained effective and didn't lead to a single fault condition during abnormal operating condition; In addition all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions.

3) The overloaded condition is applied according to annex G.5.3.3.

4) Winding temperature Limit for T1: 175°C

Enclosure outside temperature Limit: 87°C

5) The test result showed no Class 1 or 2 energy source become Class 3 level during and after single fault condition.

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Clause	Requirement + Test	Result - Remark	Verdict

B.4	TABLE: Fault condition tests							P
Ambient temperature (°C) .....:							25°C	—
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
Model: CW2400650RE								
BD1 #	SC	264	1s	FR1	--	--	--	Fuse FR1 opened immediately, BD1 damged, no hazard.
C1 #	SC	264	1s	FR1	--	--	--	Fuse FR1 opened immediately, BD1 damged, no hazard.
C2 #	SC	264	1s	FR1	--	--	--	Fuse FR1 opened immediately, BD1 damged, no hazard.
U1 pin 2-5, 6, 7, 8 #	SC	264	1s	FR1	--	--	--	Fuse FR1 opened immediately, BD1, R5, R6 damged, no hazard.
U1 pin 4-5, 6, 7, 8 #	SC	264	1s	FR1	--	--	--	Fuse FR1 opened immediately, BD1, R5, R6 damged, no hazard.
R5/ R6 #	SC	264	1s	FR1	--	--	--	Fuse FR1 opened, immediately, no hazards.
T1 pin 1-3	SC	264	10mins	FR1	0.003	--	--	Unit shut down immediately, recoverable, no damaged, no hazards.

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Clause	Requirement + Test	Result - Remark	Verdict

T1 pin 2-5	SC	264	10mins	FR1	0.003	--	--	Unit shut down immediately, recoverable, no damaged, no hazards.
T1 pin 8-10	SC	264	10mins	FR1	0.003	--	--	Unit shut down immediately, recoverable, no damaged, no hazards.
D3	SC	264	10mins	FR1	0.003	--	--	Unit shut down immediately, recoverable, no damaged, no hazards.
C5	SC	264	10mins	FR1	0.003	--	--	Unit shut down immediately, recoverable, no damaged, no hazards.
Output terminal	SC	264	10mins	FR1	0.003	--	--	Unit shut down immediately, recoverable, no damaged, no hazards.
Model: CW1241250RE								
T1 pin 8-10	SC	264	10mins	FR1	0.003	--	--	Unit shut down immediately, recoverable, no damaged, no hazards.
D3	SC	264	10mins	FR1	0.003	--	--	Unit shut down immediately, recoverable, no damaged, no hazards.
C5	SC	264	10mins	FR1	0.003	--	--	Unit shut down immediately, recoverable, no damaged, no hazards.

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Clause	Requirement + Test	Result - Remark	Verdict

Output terminal	SC	264	10mins	FR1	0.003	--	--	Unit shut down immediately, recoverable, no damaged, no hazards.
Model: CW0502500RE								
T1 pin 8-10	SC	264	10mins	FR1	0.003	--	--	Unit shut down immediately, recoverable, no damaged, no hazards.
D3	SC	264	10mins	FR1	0.003	--	--	Unit shut down immediately, recoverable, no damaged, no hazards.
C5	SC	264	10mins	FR1	0.003	--	--	Unit shut down immediately, recoverable, no damaged, no hazards.
Output terminal	SC	264	10mins	FR1	0.003	--	--	Unit shut down immediately, recoverable, no damaged, no hazards.

Supplementary information:

1) SC: Short-circuited; OC: Open circuited
2) The test result shown all safeguards remained effective and didn't lead to a single fault condition during abnormal operating condition; In addition all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions.
3) The test result showed no Class 1 or 2 energy source become Class 3 level during and after single fault condition.
4) #: All tests where fuse opened were repeated with each source of fuse FR1 and same result observed and for resistor fuse test were total tested ten times.

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Clause	Requirement + Test	Result - Remark	Verdict

Annex M	**TABLE: Batteries**									N/A
The tests of Annex M are applicable only when appropriate battery data is not available										
Is it possible to install the battery in a reverse polarity position?..... :										
	Non-rechargeable batteries			Rechargeable batteries						
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging		
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	
Max. current during normal condition										
Max. current during fault condition										
Test results:										Verdict
- Chemical leaks										
- Explosion of the battery										
- Emission of flame or expulsion of molten metal										
- Electric strength tests of equipment after completion of tests										
Supplementary information:										

Annex M.4	**Table: Additional safeguards for equipment containing secondary lithium batteries**				N/A
Battery/Cell No.	Test conditions	Measurements			Observation
		U	I (A)	Temp (C)	
	Normal				
	Abnormal				
	Single fault –SC/OC				
	Normal				
	Abnormal				
	Single fault – SC/OC				
Supplementary Information:					

Battery identification	Charging at T_{lowest} (°C)	Observation	Charging at $T_{highest}$ (°C)	Observation
--	--	--	--	--
Supplementary Information:				

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Clause	Requirement + Test	Result - Remark	Verdict

Annex Q.1	**TABLE: Circuits intended for interconnection with building wiring (LPS)**						P
Note: Measured UOC (V) with all load circuits disconnected:							
Output Circuit	Components	U_{oc} (V)	I_{sc} (A)		S (VA)		
			Meas.	Limit	Meas.	Limit	
Model: CW2400650RE							
Output	Normal condition	24.26	0.89	8	20.99	100	
Output	D3 SC @	0	0	8	0	100	
Output	R5/ R6 SC #	0	0	8	0	100	
Model: CW1241250RE							
Output	Normal condition	12.45	1.73	8	21.32	100	
Output	D3 SC @	0	0	8	0	100	
Output	R5/ R6 SC #	0	0	8	0	100	
Model: CW0502500RE							
Output	Normal condition	5.19	3.50	8	17.15	100	
Output	D3 SC @	0	0	8	0	100	
Output	R5/ R6 SC #	0	0	8	0	100	
Supplementary Information: SC: Short-circuited; OC: Open-circuited All above test data are measured from the output terminal of the switching power supply. @: Unit shut down immediately, recoverable, no damaged, no hazards. #: Fuse FR1 opened, immediately, no hazards.							

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 Components	--	--	10	5	Internal ES3, TS3 were not accessible after test. No insulation breakdown.
External enclosure	See below	2.0	100	5	Enclosure remained intact, no crack/ opening developed.
Supplementary information: Tested enclosure Material: See table 4.1.2.					

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

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information: Tested enclosure Material: See table 4.1.2.				

T.7	TABLE: Drop tests				P
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
Enclosure top	See below	2.0	1000	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Enclosure side	See below	2.0	1000	Enclosure remained intact. Internal ES3 voltage was not accessible after test. No insulation breakdown.	
Enclosure bottom	See below	2.0	1000	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Supplementary information: Tested enclosure Material: See table 4.1.2.					

T.8	TABLE: Stress relief test					P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Enclosure	See below	2.0	94	7	Enclosure remained intact, no cracking/opening developed in the enclosure joint. Internal ES3, TS3 were not accessible after test. No insulation breakdown	
Supplementary information: Tested enclosure Material: See table 4.1.2.						

Supplementary test results for subclause 5.4.1.8:

5.4.1.8	Table: working voltage measurement			P
Location	RMS voltage (V)	Peak voltage (V)	Comments	
Model: CW2400650RE				

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Clause	Requirement + Test	Result - Remark	Verdict

T1 pin 1-8	226	408	--
T1 pin 2-8	**250**	**480**	**Max. Vpeak & Vrms**
T1 pin 4-8	226	364	--
T1 pin 5-8	218	428	--
T1 pin 1-10	226	376	--
T1 pin 2-10	233	460	--
T1 pin 4-10	228	388	--
T1 pin 5-10	215	348	--
CY1 Pri.-Sec.	215	348	--
CY2 Pri.-Sec.	113	214	--
CY3 Pri.-Sec.	76	98	--
Model: CW1241250RE			
T1 pin 1-8	226	408	--
T1 pin 2-8	**254**	**536**	**Max. Vpeak & Vrms**
T1 pin 4-8	227	364	--
T1 pin 5-8	216	348	--
T1 pin 1-10	225	368	--
T1 pin 2-10	245	512	--
T1 pin 4-10	226	372	--
T1 pin 5-10	215	384	--
CY1 Pri.-Sec.	216	348	--
CY2 Pri.-Sec.	112	211	--
CY3 Pri.-Sec.	76	97	--
Model: CW0502500RE			
T1 pin 1-8	229	408	--
T1 pin 2-8	**247**	**540**	**Max. Vpeak & Vrms**
T1 pin 4-8	227	364	--
T1 pin 5-8	216	352	--
T1 pin 1-10	229	392	--
T1 pin 2-10	244	536	--
T1 pin 4-10	228	372	--
T1 pin 5-10	215	360	--
CY1 Pri.-Sec.	216	348	--

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Clause	Requirement + Test	Result - Remark	Verdict

CY2 Pri.-Sec.	111	212	--
CY3 Pri.-Sec.	73	98	--
supplementary information:			
Test voltage: 240V/60Hz			

Supplementary test results for subclause G.5.3:

G.5.3	**TABLE: transformers**						P
Loc.	Tested insulation	Working voltage peak / V (5.4.1.8)	Working voltage rms / V (5.4.1.8)	Required electric strength (5.4.9)	Required clearance / mm (5.4.2.2)	Required creepage distance / mm (5.4.3)	Required distance thr. insul. (5.4.4.6)
Primary to secondary	Reinforced insulation	540	254	4000 Vpeak	4.5	5.2	Insulated winding wire used
Core to Primary	Reinforced insulation	540	254	4000 Vpeak	4.5	5.2	Insulated winding wire used
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
Primary winding to secondary winding (between internal pri. winding and sec. winding terminals)	Reinforced insulation			4000 Vpeak	6.5	6.5	2 layers insulation tape. Insulated winding wire used
Core to secondary winding (Core to secondary winding terminals)	Reinforced insulation			4000 Vpeak	7.1	7.1	2 layers insulation tape. Insulated winding wire used
Supplementary information: Concentric windings on phenolic type bobbin. Only the secondary windings are triple insulated wire, the rest are ordinary enamelled wire. Min. two layers insulation tape with length 17mm wrapped around external of transformer as reinforced insulation. Primary and secondary pins are mounted on bobbin. The tube insulation tape used on the primary and secondary pins lead out to separate primary windings and secondary triple insulated wires where crossing at 45-90 angle.							

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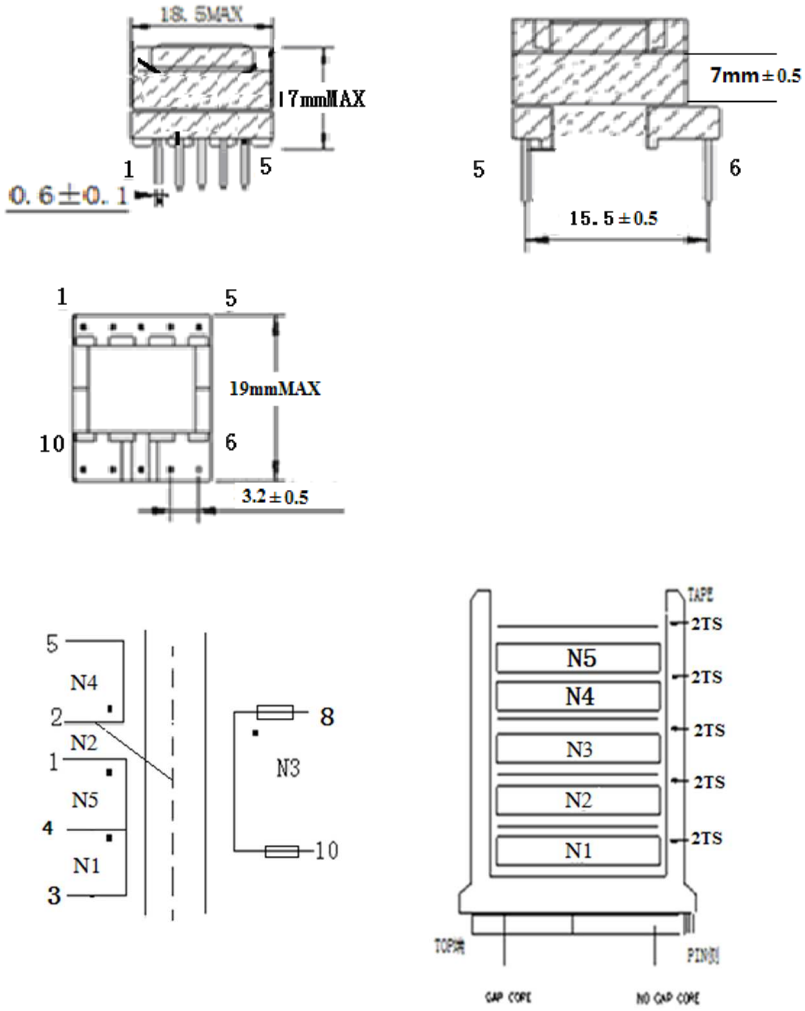
Clause	Requirement + Test	Result - Remark	Verdict

Construction:

For transformer CW1504W050250001 or CW1504W090150001



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Clause	Requirement + Test	Result - Remark	Verdict

Construction:

For transformer CW1504W120125001 or CW1504W240065001