TEST REPORT

Applicant	:	ACREL CO., LTD.
Address	:	NO.253, YULV ROAD, JIADING, SHANGHAI, CHINA

Below information submitted by the applicant:

Product Name	:	CONVERSION MODULE
Model	:	AWT100-Lora868,
Model may cover	:	AWT100, AWT100-lora, AWT100-LRHW, AWT100-lorawan, AWT100-LWHW, AWT100-LW868, AWT100-LW923, AWT100-WIFIHW, AWT100-WFHW, AWT100-WiFi, AWT100-4GHW, AWT100-4G, AWT100-FGHW
Reference info.	:	/
Manufacturer info.	:	JIANGSU ACREL ELECTRICAL MANUFACTURING. CO., LTD. NO.5, DONGMENG ROAD, NANZHA, JIANGYIN, JIANGSU, CHINA
Supplier info.	:	/
Buyer info.	:	/
Country of Destination	:	/
Country of Origin	:	China

Sample Received	:	12.17, 2021
Test Period	:	12.17, 2021 - 01.12, 2022
Test Requirement	:	Refer to next pages
Test Method	:	IEC 62368- 1:2014
Test Result	:	Refer to next pages
Test Conclusion	:	PASS

Signed for and on behalf of
Jordan Wang, General Manager
BU Chemical Compliance
TUV THURINGEN (SHANGHAI) CO., LTD.
Location: Shanghai

THÜRINGEN CHINA
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ROOM C6, FLOOR 16TH JIANGSU BUILDING, NO.526 LAOSHAN ROAD, SHANGHAI 200122, P.R.CHINA

TEST REPORT

IEC 62368-1

Audio/video, information and communication technology equipment

Part 1: Safety requirements

Report Number.....:	8621.SH.2112.0146
Date of issue.....:	Jan. 12, 2022
Total number of pages .....:	60 pages
Applicant's name .....:	Acrel Co., Ltd.
Address.....:	No.253, Yulv Road, Jiading, Shanghai, China
Test specification:	
Standard.....:	IEC 62368- 1:2014
Test procedure .....:	Type Tested
Non-standard test method .....:	N/A

General disclaimer:

The test results presented in this report relate only to the object tested.

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Testing procedure and testing location:

☒ **Testing Laboratory**:	TUV Thuringen (Shanghai) Co., Ltd.
Testing location/ address ..... :	Room C6, Floor 16th , Jiangju Building, No.526 Laoshan Road, Shanghai 200122, P.R.China
Tested by (name + signature)..... :	Vincent Cheng Vincent Cheng
	.....
Approved by (name + signature)..... :	Smile Tian Smile Tian
	.....

Test Item description ..... :	Conversion module
Trade Mark ..... :	Acrel
Manufacturer	Jiangsu Acrel Electrical Manufacturing. Co., Ltd. No.5, Dongmeng Road, Nanzha, Jiangyin, Jiangsu, China
Model/Type reference ..... :	AWT100-Lora868, AWT100, AWT100-lora, AWT100-LRHW , AWT100-lorawan, AWT100-LWHW , AWT100-LW868, AWT100-LW923, AWT100-WIFIHW , AWT100-WFHW , AWT100-WiFi, AWT100-4GHW , AWT100-4G, AWT100-FGHW
Ratings	Input: 220V~/220V ⎓

Tests performed (name of test and test clause):	**Testing location:**
The submitted samples were found to comply with the requirements of: Electrical safety — IEC 62368- 1:2014	TUV Thuringen (Shanghai) Co., Ltd. Room C6, Floor 16th , Jiangju Building, No.526 Laoshan Road, Shanghai 200122, P.R.China

List of countries addressed: N/A

Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

☐ Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:

Procedure number, issue date and title:

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

☒ Statement not required by the standard used for type testing

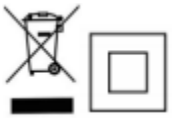
Copy of marking plate:

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.

Conversion module Acrel

Model: AWT100-Lora868

Input: 220V~/220V ⎓



Manufacturer: Jiangsu Acrel Electrical Manufacturing. Co., Ltd.

Address: No.5, Dongmeng Road, Nanzha, Jiangyin, Jiangsu, China

Made in China

Note:

The height dimension of WEEE symbol should not be less than 7mm .

According to the EU directives which have been aligned with EU NLF (new legislative framework), both of manufacturer and importer's name and address shall be affixed on the product or, where that is not possible, on its packaging or in a document accompany-ing the product before the product is placed on the EU market.

TEST ITEM PARTICULARS:	
Classification of use by ..... :	☒ Ordinary person ☒ Instructed person ☒ 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:_____
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 ☐ Class II with functional earthing ☐ Not classifed
Access location ..... :	☐ restricted access area ☒ N/A

Pollution degree (PD) ..... :	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified maxium operating ambient :	45°C
IP protection class ..... :	☒ IPX0 ☐ IP___
Power Systems ..... :	☒ TN ☒ TT ☐ IT-_V L-L ☐ N/A ☐ dc mains ☐ N/A
Altitude during operation (m) ..... :	☒ 2000 m or less ☐ _____ m
Altitude of test laboratory (m) ..... :	☐ 2000 m or less ☒ _<500_ m
Mass of equipment (kg) ..... :	☒ Approx. 0.161 kg
Possible test case verdicts:	
- test case does not apply to the test object..... :	N/A
- test object does meet the requirement ..... :	P (Pass)
- test object does not meet the requirement ..... :	F (Fail)
Testing:	
Date of receipt of test item ..... :	2021-12-27
Date (s) of performance of tests ..... :	2021-12-27 to 2022- 01-12

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.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

1. Operating Instructions, Ratings Labels and Warnings Labels written in an Accepted or Official Language of the county in question.
2. The equipment complies with the National Standards and/or Electrical Codes of the country in question.
3. According to the EU directives which have been aligned with EU NLF (new legislative framework), both of manufacturer and importer's name and address shall be affixed on the product or, where that is not possible, on its packaging or in a document accompanying the product before the product is placed on the EU market.

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) ..... :	Jiangsu Acrel Electrical Manufacturing. Co., Ltd. No.5, Dongmeng Road, Nanzha, Jiangyin, Jiangsu, China

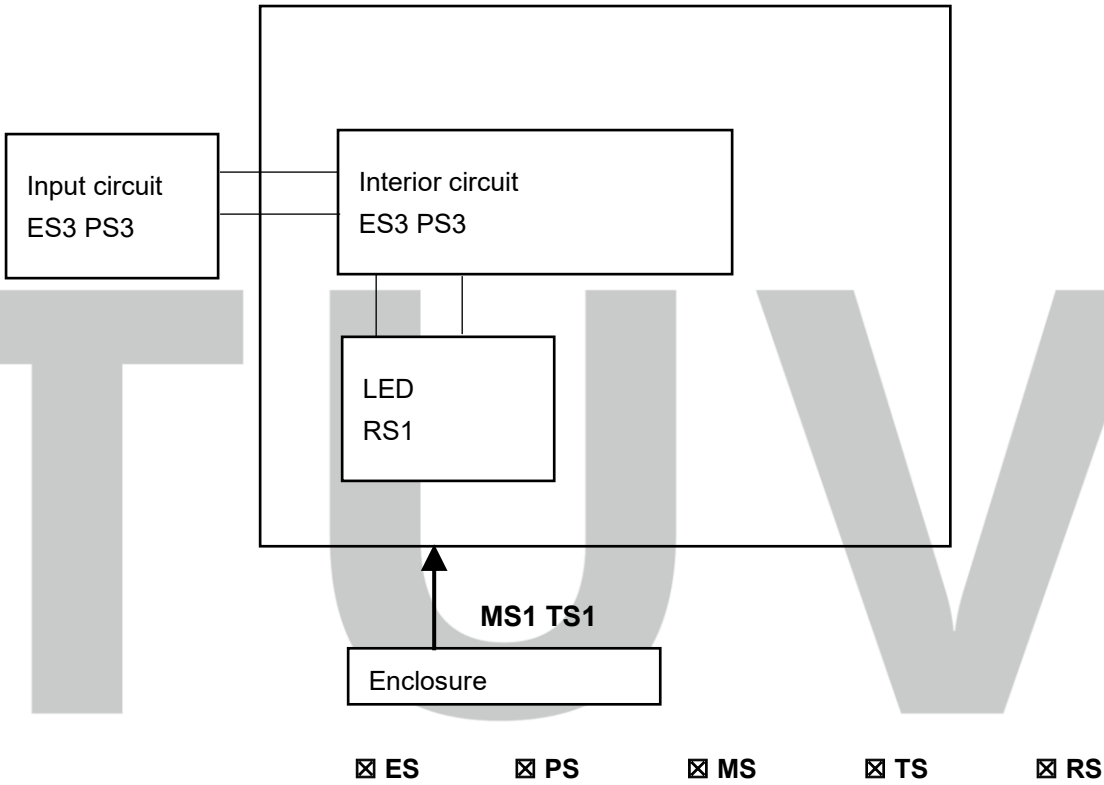
General product information and other remarks:
Product Description: The max. operating temperature was 45°C and the max. altitude was 2000m.
Model Differences: All models are identical except for appearance and size. Unless otherwise stated, the " AWT100-Lora868 " model was selected as the representative model for all tests.
Additional application considerations – (Considerations used to test a component or sub-assembly) – N/A

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)**
Input circuit	ES3
Interior circuit	ES3
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)**
Input circuit	PS3
Interior circuit	PS3
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	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)**
Accessible part	MS1
Equipment mass	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)**
Accessible part	TS1

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)**
LED	RS1

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, Instructed person, Skilled person	ES3: Input circuit	N/A	N/A	N/A
Ordinary, Instructed person, Skilled person	ES3: primary circuit	N/A	N/A	Enclosure, Transformer, T capacitor used for bridging reinforced safeguard
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary, Instructed person, Skilled person		Evaluated in the end use	N/A	N/A
Ordinary, Instructed person, Skilled person		N/A	N/A	Enclosure used as reinforced safeguard
Combustible materials with in equipment fire enclosure	PS3: >100 Watt circuit (Primary circuit) PS2: <100 Watt circuit (secondary circuit)	Equipment safeguard (no ignition occurs)	N/A	N/A
Plastic enclosure	PS3: >100 Watt circuit (Primary circuit) PS2: <100 Watt circuit (secondary circuit)	N/A	Equipment safeguard (Control of fire spread)	N/A
External wiring material	PS2: <100 Watt circuit (secondary circuit)	N/A	Equipment safeguard	N/A

7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary, Instructed person, Skilled person	ES1: Enclosure outside	N/A	N/A	N/A
8.1 Body Part (e.g. Ordinary)	Mechanically-caused injury Energy Source (MS3: High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary, Instructed person, Skilled person	MS1: enclosure MS1: Equipment mass (< 7kg)	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary, Instructed person, Skilled person	TS1: Enclosure outside	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary, Instructed person, Skilled person	RS1: LED screen	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

IEC 62368- 1			
Clause	Requirement + Test	Result - Remark	Verdict
4	**GENERAL REQUIREMENTS**		**P**
4.1.1	Acceptance of materials, components and subassemblies		P
4.1.2	Use of components	See table 4.1.2	P
4.1.3	Equipment design and construction	No accessible part which could cause injury	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, T.5)	P
4.4.4.3	Drop tests ..... :		N/A
4.4.4.4	Impact tests ..... :	(See Annex T.6)	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests ..... :	No internal enclosure.	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 ..... :		P
4.4.4.9	Accessibility and safeguard effectiveness	After test, all safeguards remain effective and no damaged	P
4.5	Explosion	No explosion	P
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard		P
4.6.2	10 N force test applied to ..... :	10 N force test applied to internal wires	P
4.7	Equipment for direct insertion into mains socket - outlets		N/A
4.7.2	Mains plug part complies with the relevant standard ..... :		N/A
4.7.3	Torque (Nm) ..... :		N/A
4.8	Products containing coin/button cell batteries		N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery ..... :		—
4.8.4	Battery Compartment Mechanical Tests ..... :	(See Table 4.8.4)	N/A

4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object ..... :	(See Annex P)	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	(The accessible terminal and enclosure is considered as ES1 circuit. See appended table 5.2)	P
5.2.2.2	Steady-state voltage and current..... :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits ..... :		N/A
5.2.2.4	Single pulse limits ..... :		N/A
5.2.2.5	Limits for repetitive pulses ..... :		N/A
5.2.2.6	Ringing signals ..... :	(See Annex H)	N/A
5.2.2.7	Audio signals ..... :	(See Clause E.1)	P
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only ES1 could be accessible to ordinary person	P
5.3.2.2	Contact requirements		P
	a) Test with test probe from Annex V ..... :	The probe could not inset into the equipment as there in no ventilation on the product.	P
	b) Electric strength test potential (V) ..... :		N/A
	c) Air gap (mm) ..... :		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	The choice and application have taken into account as specified in this Clause 5 and Annex T except natural rubber, hygroscopic materials or asbestos are not used as insulation,	P
5.4.1.3	Humidity conditioning ..... :	(See sub-clause 5.4.8)	P
5.4.1.4	Maximum operating temperature for insulating materials ..... :	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degree ..... :	Pollution degree 2	—

5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2	N/A
5.4.1.5.3	Thermal cycling	Pollution degree 2	N/A
5.4.1.6	Insulation in transformers with varying dimensions		P
5.4.1.7	Insulation in circuits generating starting pulses	Evaluation is reached according to clause 5.4.9.1	N/A
5.4.1.8	Determination of working voltage		P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P
5.4.1.10.2	Vicat softening temperature ..... :	(See appended table 5.4.1.10.2)	N/A
5.4.1.10.3	Ball pressure ..... :	(See appended table 5.4.1.10.3)	N/A
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage	(See appended table 5.4.2.2)	P
5.4.2.3	Determining clearance using required withstand voltage ..... :	(See appended table 5.4.2.3)	P
	a) a.c. mains transient voltage ..... :	2500Vac	—
	b) d.c. mains transient voltage ..... :		—
	c) external circuit transient voltage ..... :		—
	d) transient voltage determined by measurement ..... :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	(See appended table 5.4.2.4)	N/A
5.4.2.5	Multiplication factors for clearances and test voltages ..... :		N/A
5.4.3	Creepage distances ..... :	(See appended table 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group ..... :	IIIb	—
5.4.4	Solid insulation		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	Approved optocoupler used	P
5.4.4.4	Solid insulation in semiconductor devices	Approved optocoupler used	P
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material		P

	Number of layers (pcs) ..... :	Two layers of insulation tape used as reinforced insulation, any combination of two layers pass the electric strength test.	P
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material ..... :	(See appended Table 5.4.9)	N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		P
5.4.4.9	Solid insulation at frequencies >30 kHz ..... :	(See appended Table 5.4.4.9)	P
5.4.5	Antenna terminal insulation	See below	P
5.4.5.1	General	Test was conducted between mains and output terminal of the EUT.	P
5.4.5.2	Voltage surge test	See G.10.3.2	P
	Insulation resistance (MΩ)..... :	>>1 MΩ	—
5.4.6	Insulation of internal wire as part of supplementary safeguard ..... :	(See appended table 5.4.4.2)	N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%) ..... :	94%	—
	Temperature (°C) ..... :	30°C	—
	Duration (h) ..... :	48h	—
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		P
5.4.9.2	Test procedure for routine tests		P
5.4.10	Protection against transient voltages between external circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits	(See appended table 5.4.9)	N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test ..... :	(See appended table 5.4.9)	N/A
5.4.10.2.3	Steady-state test ..... :	(See appended table 5.4.9)	N/A
5.4.11	Insulation between external circuits and earthed circuitry ..... :	(See appended table 5.4.9)	N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A

5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V)..... :		—
	Nominal voltage U_{peak} (V)..... :		—
	Max increase due to variation U_{sp} ..... :		—
	Max increase due to ageing ΔU_{sa} ..... :		—
	$U_{op}= U_{peak} + \Delta U_{sp} + \Delta U_{sa}$ ..... :		—
5.5	Components as safeguards		
5.5.1	General		P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector..... :		N/A
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	(See sub-clause 5.4 or Annex G.12)	P
5.5.5	Relays	(See Annex G.2)	N/A
5.5.6	Resistors	(See Annex G.10)	P
5.5.7	SPD's	(See Annex G.8)	P
5.5.7.1	Use of an SPD connected to reliable earthing		P
5.5.7.2	Use of an SPD between mains and protective earth		P
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable ..... :	(See Annex G.10.3)	N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors		N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm^2) .....:		—
5.6.4	Requirement for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm^2). .....:		—
	Protective current rating (A) ..... :		—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		N/A

5.6.5.1	Requirement		N/A
	Conductor size (mm²), 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).....:	(See appended table 5.6.6.2)	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 5.7.4)	P
5.7.2.2	Measurement of prospective touch voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections		N/A
	System of interconnected equipment (separate connections/single connection) .....:		—
	Multiple connections to mains (one connection at a time/simultaneous connections) .....:		—
5.7.4	Earthed conductive accessible parts .....:	(See appended Table 5.7.4)	N/A
5.7.5	Protective conductor current		P
	Supply Voltage (V).....:		—
	Measured current (mA).....:		—
	Instructional Safeguard.....:	(See F.4 and F.5)	N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA).....:		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA) .....:		N/A

6	**ELECTRICALLY- CAUSED FIRE**	**P**
6.2	Classification of power sources (PS) and potential ignition sources (PIS)	P

6.2.2	Power source circuit classifications	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		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 part is considered as PS3	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS ..... :	(See appended table 6.2.3.1)	P
6.2.3.2	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 ..... :	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure		N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Approved fire enclosure used	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	See below	P
6.4.3.1	General	See below	P
6.4.3.2	Supplementary Safeguards		P
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions ..... :	(See appended table B.3 & B.4)	P
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A

6.4.5	Control of fire spread in PS2 circuits	Compliance detailed as follows: - Printed board: rated min. V-1 - Wire insulation and tubing: complying with Clause 6. - All other components: at least V-2 except for mounted on min. V-1 material or small parts of combustible material. Isolating transformer: complying with G.5.3	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	In additional of the compliance of clause 6.4.5, a fire enclosure of clause 6.4.8 provided with the equipment.	P
6.4.7	Separation of combustible materials from a PIS	See following details.	P
6.4.7.1	General ..... :	(See tables 6.2.3.1 and 6.2.3.2)	N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers	V-0 plastic enclosure used	P
6.4.8.1	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	V-0 plastic enclosure used	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		N/A
6.4.8.3.1	Fire enclosure and fire barrier openings		N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) ..... :		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) ..... :		N/A
	Flammability tests for the bottom of a fire enclosure ..... :		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c) ..... :		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating .....:	V-0	P

6.5	Internal and external wiring		P
6.5.1	Requirements		P
6.5.2	Cross-sectional area (mm^2) ..... :	(See table 4.1.2)	—
6.5.3	Requirements for interconnection to building wiring ..... :		N/A
6.6	Safeguards against fire due to connection to additional equipment		N/A
	External port limited to PS2 or complies with Clause Q.1	(See Annex Q.1)	N/A

7	**INJURY CAUSED BY HAZARDOUS SUBSTANCES**		**N/A**
7.2	Reduction of exposure to hazardous substances		N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions ..... :		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010) .....:		—
7.6	Batteries..... :	(See Annex M)	N/A

8	**MECHANICALLY-CAUSED INJURY**		**P**
8.1	General	Enclosure is smooth and no mechanical energy sources	P
8.2	Mechanical energy source classifications	Sharp edges and corners: MS1 classification; Equipment mass: MS1classification	P
8.3	Safeguards against mechanical energy sources		N/A
8.4	Safeguards against parts with sharp edges and corners	Accessible edges and corners of the equipment are rounded and are classified as MS1.	P
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts		N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard ..... :		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A

8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks .....:		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard .....:		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N) .....:		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test.....:	(See appended table 8.5.5.2)	N/A
8.6	Stability		P
8.6.1	Product classification		P
	Instructional Safeguard .....:		—
8.6.2	Static stability		P
8.6.2.2	Static stability test		P
	Applied Force ..... :		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		P
	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		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		P
8.9.1	Classification		P
8.9.2	Applied force ..... :		—

8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard ..... :		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force ..... :		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	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	(See Annex T)	N/A
	Button/Ball diameter (mm) .....:		—

9	**THERMAL BURN INJURY**		**P**
9.2	Thermal energy source classifications	All accessible surfaces are classified as TS1, see appended table 5.4.1.4, 6.3.2, 9.0, B.2.6.	P
9.3	Safeguard against thermal energy sources		N/A
9.4	Requirements for safeguards		N/A
9.4.1	Equipment safeguard		N/A
9.4.2	Instructional safeguard ..... :		N/A

10	**RADIATION**		**P**
10.2	Radiation energy source classification	LED as indicating light, exempt	P
10.2.1	General classification		N/A
10.3	Protection against laser radiation		N/A
	Laser radiation that exists in the equipment:		—
	Normal, abnormal, single-fault..... :	(See attached laser test report)	N/A

	Instructional safeguard ..... :		—
	Tool ..... :		—
10.4	Protection against visible, infrared, and UV radiation		P
10.4.1	General		P
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 ..... :	(See appended table B.3 & B.4)	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..... :		P
10.4.2	Instructional safeguard ..... :		N/A
10.5	Protection against x-radiation		N/A
10.5.1	X- radiation energy source that exists equipment :	(See appended table B.3 & B.4)	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 ..... :	(See appended table B.3 & B.4)	N/A
	Maximum radiation (pA/kg)..... :		N/A
10.6	Protection against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A) ..... :		N/A
	Output voltage, unweighted r.m.s..... :		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards ..... :		N/A

	Equipment safeguard prevent ordinary person to RS2 ..... :		—
	Means to actively inform user of increase sound pressure ..... :		—
	Equipment safeguard prevent ordinary person to RS2 ..... :		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output ..... :		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A) ..... :		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A) ..... :		—

B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		**P**
B.2	Normal Operating Conditions		P
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers ..... :	(See Annex E)	N/A
B.2.3	Supply voltage and tolerances	±10%	P
B.2.5	Input test ..... :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		N/A
B.3.1	General requirements..... :	(See appended table B.3)	N/A
B.3.2	Covering of ventilation openings		N/A
B.3.3	D.C. mains polarity test		N/A
B.3.4	Setting of voltage selector ..... :		N/A
B.3.5	Maximum load at output terminals ..... :	(See appended table B.3&B.4)	N/A
B.3.6	Reverse battery polarity		N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effectively.	N/A
B.4	Simulated single fault conditions		P

B.4.2	Temperature controlling device open or short-circuited ..... :	(See appended table B.4)	N/A
B.4.3	Motor tests		N/A
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 table B.3&B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.3&B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards		P
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.3&B.4)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.3&B.4)	P
B.4.7	Continuous operation of components		N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions	(See appended table B.3&B.4)	P
B.4.9	Battery charging under single fault conditions ... :	(See Annex M)	P

C	**UV RADIATION**		**N/A**
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A

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

E	**TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS**		**N/A**
E.1	Audio amplifier normal operating conditions		N/A

	Audio signal voltage (V) ..... :		—
	Rated load impedance (Ω) ..... :		
E.2	Audio amplifier abnormal operating conditions		N/A

F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		**P**
F.1	General requirements		P
	Instructions – Language ..... :	English checked	—
F.2	Letter symbols and graphical symbols	Complied	P
F.2.1	Letter symbols according to IEC60027- 1	Complied	P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific	Complied	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	On the product	P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification ..... :	See page 3	—
F.3.2.2	Model identification ..... :	See page 3	—
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains	Considered	P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage..... :	~ used for input voltage, ⎓ used for output voltage	—
F.3.3.4	Rated voltage ..... :	See label	—
F.3.3.5	Rated frequency ..... :	See label	—
F.3.3.6	Rated current or rated power .....:	See label	—
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings ..... :		N/A
F.3.5.2	Switch position identification marking ..... :		N/A
F.3.5.3	Replacement fuse identification and rating markings ..... :		N/A
F.3.5.4	Replacement battery identification marking ..... :		N/A
F.3.5.5	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification		N/A

F.3.6.1	Class I Equipment	Class II equipment	N/A
F.3.6.1.1	Protective earthing conductor terminal	Class II equipment	N/A
F.3.6.1.2	Neutral conductor terminal	Class II equipment	N/A
F.3.6.1.3	Protective bonding conductor terminals	Class II equipment	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		P
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking ..... :		—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings		P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking		N/A
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place		P
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard		N/A
	g) Protective earthing conductor current exceeding ES 2 limits		N/A
	h) Symbols used on equipment	Complied	P
	i) Permanently connected equipment not provided with all-pole mains switch		N/A
j)	j) Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards		P
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		P

G	**COMPONENTS**		**P**
G.1	**Switches**		**P**
G.1.1	General requirements		P

G.1.2	Ratings, endurance, spacing, maximum load		**P**
G.2	**Relays**		N/A
G.2.1	General requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	**Protection Devices**		**P**
G.3.1	Thermal cut-offs		N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691		N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H) ..... :		—
	Single Fault Condition ..... :		—
	Test Voltage (V) and Insulation Resistance (Ω) . :		—
G.3.3	PTC Thermistors		N/A
G.3.4	Overcurrent protection devices	All sources of fuse (F1) complied with IEC 60127-3.	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..... :	(See appended Table B.4)	N/A
G.4	**Connectors**		**N/A**
G.4.1	Spacings		N/A
G.4.2	Mains connector configuration ..... :		N/A
G.4.3	Plug is shaped that insertion into mains socket- outlets or appliance coupler is unlikely		N/A
G.5	**Wound Components**		P
G.5.1	Wire insulation in wound components.....	(See Annex J)	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45°and 90°	Insulation tube used as physical separation	P

G.5.1.2 b)	Construction subject to routine testing	See G.5.1.2 a)	N/A
G.5.2	Endurance test on wound components	See G.5.1.2 a)	N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s) ..... :		—
	Temperature (°C) ..... :		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	**Transformers**		**P**
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368- 1)..... :	The transformer meets the requirements given in G.5.3.2 and G.5.3.3	P
	Position ..... :	T1	—
	Method of protection ..... :	Reinforced insulation	—
G.5.3.2	Insulation	See above and appended table B.3 & B.4	P
	Protection from displacement of windings.....:	Insulation tape used	—
G.5.3.3	Overload test ..... :	(See appended table B.3)	P
G.5.3.3.1	Test conditions	The test loads are applied to the output of the power supply unit	P
G.5.3.3.2	Winding Temperatures testing in the unit	(See appended table B.3&B.4)	P
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	**Motors**		**N/A**
G.5.4.1	General requirements		N/A
	Position ..... :		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days) ..... :		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V) ..... :		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h) ..... :		N/A
	Electric strength test (V) ..... :		—

G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature ..... :		N/A
	Electric strength test (V) ..... :		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h) ..... :		N/A
	Electric strength test (V) ..... :		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage ..... :		—
G.6	**Wire Insulation**		**P**
G.6.1	General	Triple-insulation winding wiring used as reinforces safeguard in the isolating transformer that complied with Annex J.	P
G.6.2	Solvent-based enamel wiring insulation	Insulation is not relied on solvent- based enamel.	P
G.7	**Mains supply cords**		**N/A**
G.7.1	General requirements		N/A
	Type.....:		—
	Rated current (A) .....:		—
	Cross-sectional area (mm^2), (AWG)..... :		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non- detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N) ..... :		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm).... :		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry ..... :	(See appended table 5.4.11.1)	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**		**N/A**
G.8.1	General requirements		N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test ..... :	(See appended table B.3)	N/A
G.8.3.3	Temporary overvoltage ..... :	(See appended table B.3)	N/A
G.9	**Integrated Circuit (IC) Current Limiters**		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.		N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA ..... :		—
G.9.1 d)	IC limiter output current (max. 5A) ..... :		—
G.9.1 e)	Manufacturers' defined drift ..... :		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	**Resistors**		**N/A**
G.10.1	General requirements		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		P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		N/A
G.12	**Optocouplers**		**P**

	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results) .....:		P
	Type test voltage Vini ..... :		—
	Routine test voltage, Vini,b ..... :		—
G.13	**Printed boards**		**P**
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction) ..... :		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation .....:	(See appended table 5.4.4.5)	N/A
	Number of insulation layers (pcs) ..... :		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	**Coating on components terminals**		**N/A**
G.14.1	Requirements ..... :	(See G.13)	N/A
G.15	**Liquid filled components**		**N/A**
G.15.1	General requirements		N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	**IC including capacitor discharge function (ICX)**		**N/A**

a)	Humidity treatment in accordance with sc 5.4.8 – 120 hours		N/A
b)	Impulse test using circuit 2 with Uc = to transient voltage ..... :		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage ..... :		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance ..... :		—
D3)	Resistance ..... :		—

H	**CRITERIA FOR TELEPHONE RINGING SIGNALS**		**N/A**
H.1	General		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	(See separate test report)	P

K	**SAFETY INTERLOCKS**		**N/A**
K.1	General requirements		N/A
K.2	Components of safety interlock safeguard mechanism	(See Annex G)	N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A

K.5	Fail-safe		N/A
	Compliance .....:	(See appended table B.4)	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 .....:	(See appended table 5.4.11)	N/A

L	**DISCONNECT DEVICES**		**P**
L.1	General requirements		P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		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		P
L.8	Multiple power sources		N/A

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

M.3.3	Compliance ..... :	(See appended Tables and Annex M and M.4)	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 .....:	(See Table M.4)	—
M.4.2.2 b)	Single faults in charging circuitry .....:	(See Annex B.4)	—
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
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 ..... :	Pollution degree considered	—

O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		**P**
	Figures O.1 to O.20 of this Annex applied ..... :		—

P	**SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS**		**P**
P.1	General requirements		P
P.2.2	Safeguards against entry of foreign object		P
	Location and Dimensions (mm) ..... :		—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	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		N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A

P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C) ..... :		—
	Tr (°C) ..... :		—
	Ta (°C) ..... :		—
P.4.2 b)	Abrasion testing ..... :	(See G.13.6.2)	N/A
P.4.2 c)	Mechanical strength testing ..... :	(See Annex T)	N/A

Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		N/A
Q.1	Limited power sources	(See table Q.1)	N/A
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition	(See appended table Q.1)	N/A
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method	(See appended table Q.1)	N/A
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		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)). ..... :		N/A

S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material ..... :		—
	Wall thickness (mm) ..... :		—

	Conditioning (°C) ..... :		—
	Test flame according to IEC 60695- 11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material ..... :		—
	Wall thickness (mm) ..... :		—
	Conditioning (°C) ..... :		—
	Test flame according to IEC 60695- 11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material ..... :		—
	Wall thickness (mm) ..... :		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosure materials of equipment with a steady-state power exceeding 4000 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 .....:		P

T.5	Steady force test, 250 N .....:	(See appended table T5)	N/A
T.6	Enclosure impact test	(See appended table T6)	N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test .....:	(See appended table T7)	P
T.8	Stress relief test .....:	(See appended table T8)	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) .....:		—
	Height (m) .....:		—
T.10	Glass fragmentation test .....:	(See sub-clause 4.4.4.9)	N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm) .....:		—

U	**MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFECTS OF IMPLOSION**		**N/A**
U.1	General requirements		N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....:	(See Annex T)	N/A

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

4.1.2	**TABLE: List of critical components**				**P**
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity [1]
PCB	KINGBOARD LAMINATES HOLDINGS LTD	WZ- 1	130°C, V-0	UL 796	UL
Enclosure	Sabic Innovative Plastics BV	945 (GG)	V-0, 120°C, min. 1.5 mm thickness	UL94	UL
Transformer(T1)	SUMITOMO BAKELITE CO LTD	BCK- 16- 109T	Class B	IEC/EN 62368- 1	Test with appliance
-Bobbin	SUMITOMO BAKELITE CO LTD	PM-9820	Phenolic,V-0, 150°C	UL 94	UL E209189
-Magnet wire	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEW/U@	130°C	UL 1446	UL E201757
(Alternative)	Interchangeable	Interchangeable	155°C	UL 1446	UL
Triple insulation wire	FURUKAWA ELECTRIC CO LTD	TEX-E	130°C	IEC/EN 60950-1 UL 2353	VDE 006735 UL E206440
-Tape	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F- 1(b)	130°C	UL 510	UL E17385
-Varnish	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC	468-2(d)	130°C	UL 1446	UL E75225
-Tube	GREAT HOLDING INDUSTRIAL CO LTD	TFT	300V, 200°C	UL 224	UL E156256
X-capacitor	DONG GUAN HONGFARAD ELECTRONICS CO LTD	HMKP	Min. 250Vac, max.	IEC/EN/UL 60384- 14	UL VDE

			1.0μF±20%, 110ºC, type X2		

Supplementary information:

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

2) Description line content is optional. Main line description needs to clearly detail the component used for testing

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
--		--		--
4.8.4.4	**TABLE: Drop test**			—
Impact Area	**Drop Distance**	**Drop No.**		**Observations**
--	--	--		--
4.8.4.5	**TABLE: Impact**			—
Impacts per surface	**Surface tested**	**Impact energy (Nm)**		**Comments**
--	--	--		--
4.8.4.6	**TABLE: Crush test**			—
Test position	**Surface tested**	**Crushing Force (N)**		**Duration force applied (s)**
--	--	--		--

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	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
1	264Vac, 60Hz	All primary circuits	Normal	--	--	--	ES3 (declared)
			Abnormal:	--	--	--	
			single fault – SC/OC	--	--	--	

5.2.2.3 Capacitance Limits

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

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 –

Abnormal -

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

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					**P**
	Supply voltage (V) ..... :	198V/60H	242V/50Hz	--	--	—
	Ambient T_{min} (°C) ..... :	--	--	--	--	—
	Ambient T_{max} (°C) ..... :	-	-	--	--	—
	Tma (°C) ..... :	45.0				—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
AC Inlet		54.9	53.2	--	--	Ref.
E-cap C20		63.5	62.1	--	--	105
T1 winding		85.2	83.7	--	--	110
T1 core		81.0	80.9	--	--	110
PCB near IC2		78.3	76.8	--	--	130
PCB near IC1		74.9	72.5	--	--	130
PCB near D1		79.8	77.4	--	--	130
PCB near BD1		84.1	80.8	--	--	130
Inside enclosure near T1 above		67.4	66.3	--	--	Ref.
Ambient		45.0	45.0	--	--	--
Accessible parts:						
Outside enclosure near T1 above		38.7	37.2	--	--	77*
Ambient		25.0	25.0	--		

Supplementary information:

* means that surfaces touched occasionally for very short periods (> 1 s and < 10 s).

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

Supplementary information:

Note 1: Tma should be considered as directed by appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

5.4.1.10.2	**TABLE: Vicat softening temperature of thermoplastics**	**N/A**

Penetration (mm) ..... :		—
Object/ Part No./Material	Manufacturer/ t rademark	T softening (°C)
--	--	--
supplementary information:		

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

5.4.2.2, 5.4.2.4 and 5.4.3	**TABLE: Minimum Clearances/Creepage distance**						**P**
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequen c y (kHz)[1]	Require d cl (mm)	cl (mm) [2]	Required [3] cr (mm)	cr (mm)
Pri. to Sec. pin of Optocoupler IC2 on PWB (RI)	340	240	<30	2.6	5.8	4.8	5.8
T1: Pri./core to sec.	431	252	*	2.6	5.9	5.2	5.9
Pri. trace to sec. trace under T1	431	252	*	2.6	6.1	5.2	6.1
Primary components T1 to secondary components body	340	240	<30	2.6	9.5	4.8	9.5
Primary parts and accessible enclosure	340	240	<30	2.6	>7.0	4.8	>7.0
Supplementary information: *represents frequency >30Hz							

5.4.2.3	**TABLE: Minimum Clearances distances using required withstand voltage**			**P**
	Overvoltage Category (OV):			II
	Pollution Degree:			IIb
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measured cl (mm)
Pri. to Sec. pin of Optocoupler IC2 on PWB (RI)		2500Vpeak	4.8	5.8

T1: Pri./core to sec.	2500Vpeak	5.2	5.9

5.4.2.3	**TABLE: Minimum Clearances distances using required withstand voltage**	**P**
	Overvoltage Category (OV):	II
	Pollution Degree:	IIb

Clearance distanced between:	Required withstand voltage	Required cl (mm)	Measured cl (mm)
Pri. trace to sec. trace under T1	2500Vpeak	5.2	6.1
Primary components T1 to secondary components E1 body	2500Vpeak	4.8	9.5
Primary parts and accessible enclosure	2500Vpeak	4.8	>7.0
Supplementary information:			

5.4.2.4	**TABLE: Clearances based on electric strength test**	**N/A**

Test voltage applied between:	Required cl (mm)	Test voltage (kV) peak/ r.m.s. / d.c.	Breakdown Yes / No
--	--	--	--
Supplementary information:			

5.4.4.2, 5.4.4.5 c) 5.4.4.9	**TABLE: Distance through insulation measurements**	**P**

Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)
Plastic enclosure	340	--	See table 4.1.2	0.4	1.5
Bobbin of transformer	431	<30	See table 4.1.2	0.4	0.8
Supplementary information:					

5.4.9	**TABLE: Electric strength tests**	**P**

Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
T1 primary to secondary winding	DC	4000V	No
T1 secondary winding to core	DC	4000V	No

Supplementary information:

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:

X-capacitors installed for testing are:

☐ bleeding resistor rating:

☐ ICX:

Notes:

A. Test Location:

Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth

B. Operating condition abbreviations:

N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition

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

Supplementary information:

5.7.2.2, 5.7.4	**TABLE: Earthed accessible conductive part**	**N/A**
Supply voltage ..... :		—
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)
--	--	--

Supplementary Information:

Notes:

[1] Supply voltage is the anticipated maximum Touch Voltage

[2] Earthed neutral conductor [Voltage differences less than 1% or more]

[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3

[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.

[5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.

6.2.2	Table: Electrical power sources (PS) measurements for classification				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification
1	Interior circuit	Power (W) :	--	--	PS3(declared)
		V_A (V) :	--	--	
		I_A (A) :	--	--	
Supplementary Information: (*) Measurement taken only when limits at 3 seconds exceed PS1 limits					

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: 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
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 primary circuits/components	--	--	--	No	Yes
Supplementary Information:					

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
198V/50Hz	0.278	--	0.51	--	--	0.278	EUT Normal working
198V/60Hz	0.274	--	0.52	--	--	0.274	
220V/50Hz	0.230	--	0.76	--	--	0.230	
220V/60Hz	0.227	--	0.75	--	--	0.227	
242V/50Hz	0.105	--	0.68	--	--	0.105	
242V/60Hz	0.102	--	0.67	--	--	0.102	
Supplementary information:							

B.3	**TABLE: Abnormal operating condition tests**							**N/A**
Ambient temperature (°C) ..... :			25.0-25.6					—
Power source for EUT: Manufacturer, model/type, output rating ..:			See page 2 for details					—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Supplementary information: Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.								

B.4	**TABLE: Fault condition tests**							**P**
Ambient temperature (°C) ..... :			25.0					—
Power source for EUT: Manufacturer, model/type, output rating . :			--					—
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
BD1 pin 2-3	SC	242VAC	10mins	--	--	--	--	EUT shut down immediately, protection, no explosion, no hazard.

R6	SC	242VAC	10mins	--	--	--	--	EUT normal working immediately, protection, no explosion, no hazard.
C4	SC	264VAC	10mins	--	--	--	--	EUT shut down immediately, protection, no explosion, no hazard.

Supplementary information:
1) SC: short-circuit.

2) #: Denoted that the test was also performed on all alternate material of transformers, and all results were same.

3) The Hi-pot test conducted successfully after the completion of the fault condition.

Annex M	**TABLE: Batteries**								**N/A**
The tests of Annex M are applicable only when appropriate battery data is not available									N/A
Is it possible to install the battery in a reverse polarity position? ..... :							No		--
	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	No leakage	--
- Explosion of the battery	No explosion	--
- Emission of flame or expulsion of molten metal	No flame	--
- 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)	
--	--	--	--	--	--

Supplementary Information:

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

Supplementary Information:

Annex Q.1	**TABLE: Circuits intended for interconnection with building wiring (LPS)**	**N/A**

Note: Measured UOC (V) with all load circuits disconnected:

Output Circuit	Components	U_{oc} (V)	I_{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
--	--	--	--	--	--	--

Supplementary Information:
SC=Short circuit, OC=Open circuit

T.2, T.3, T.4, T.5	**TABLE: Steady force test**	**P**

Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation
Top enclosure	See table 4.1.2	1.5	100	5	No damaged
Side enclosure	See table 4.1.2	1.5	100	5	No damaged
Bottom enclosure	See table 4.1.2	1.5	100	5	No damaged

Supplementary information:

T.6, T.9	**TABLE: Impact tests**	**N/A**

Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation
--	--	--	--	--

Supplementary information:

T.7	**TABLE: Drop tests**			**P**
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation
Top enclosure	See table 4.1.2	1.5	1000	No damaged
Side enclosure	See table 4.1.2	1.5	1000	No damaged
Bottom enclosure	See table 4.1.2	1.5	1000	No damaged
Supplementary information:				

T.8	**TABLE: Stress relief test**				**P**
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Overall Enclosure	See table 4.1.2	1.5	78	7	No energy source exceed class 1 can be accessed
Supplementary information:					

PHOTO

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

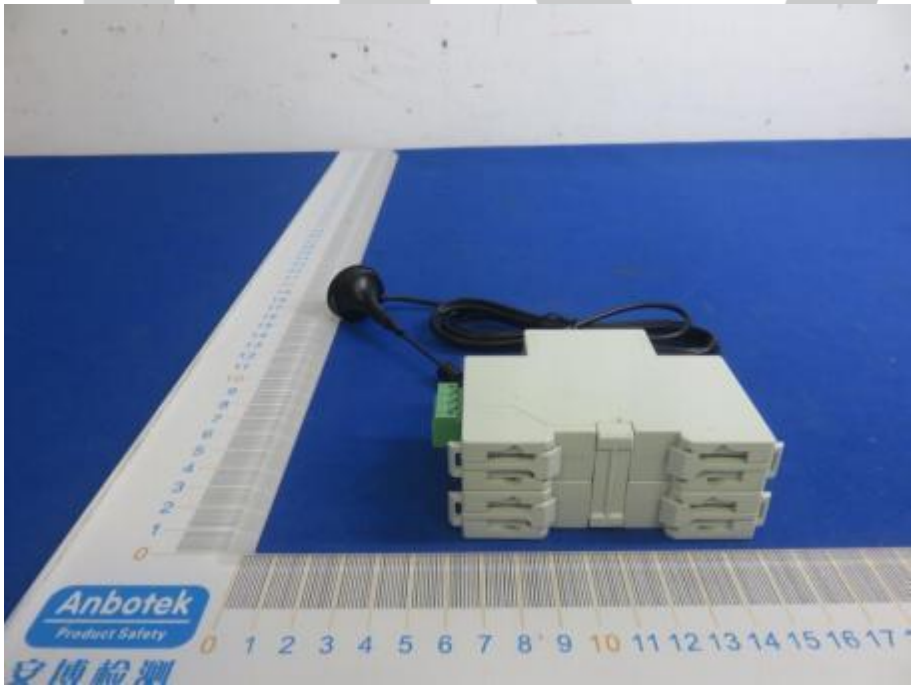


Photo 7

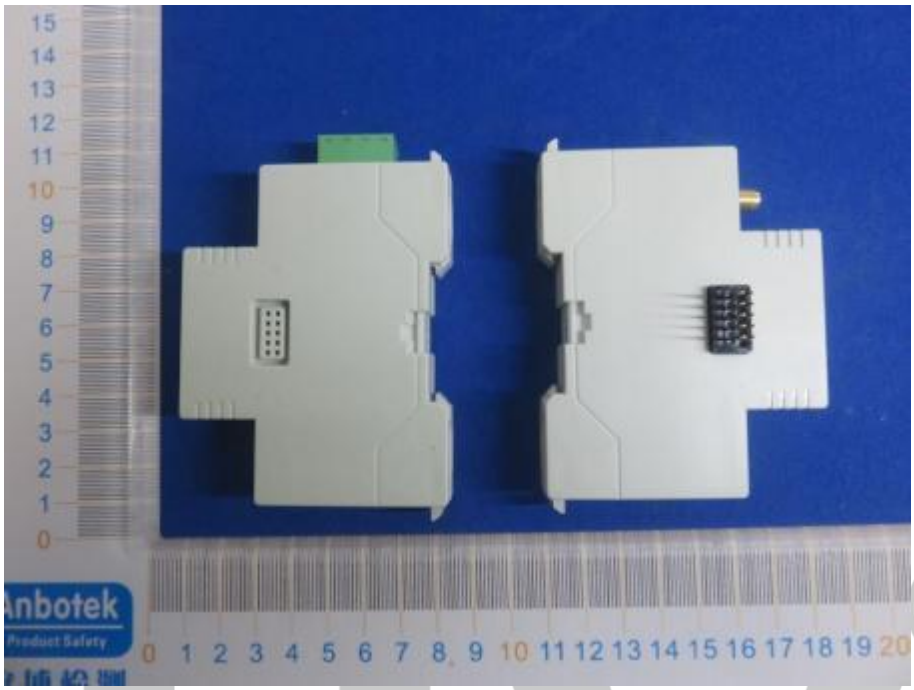


Photo 8

Photo 9

Photo 10

Photo 11

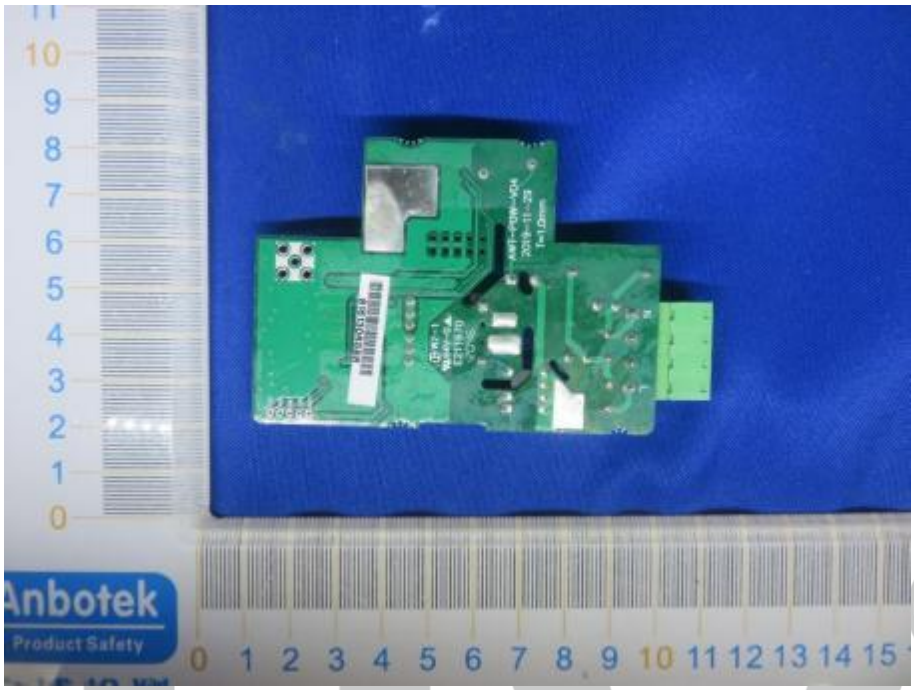


Photo 12

Photo 13

Photo 14

Photo 15

********* END OF REPORT **********