TEST REPORT
IEC 62368-1
Audio/video, information and communication technology equipment
Part 1: Safety requirements

Report Number..... :	REP014349
Date of issue ..... :	2024-01-29
Total number of pages ..... :	115 pages and refer to page 4 for the attachments
Name of Testing Laboratory preparing the Report ..... :	Nemko Shanghai Ltd. Shenzhen Branch
Applicant's name ..... :	GlobTek, Inc.
Address ..... :	186 Veterans Drive Northvale NJ 07647 United States of America
Test specification:	
Standard ..... :	IEC 62368-1:2018
Test procedure..... :	CB Scheme
Non-standard test method..... :	N/A
TRF template used ..... :	IECEE OD-2020-F1:2021, Ed.1.4
Test Report Form No. ..... :	IEC62368_1E
Test Report Form(s) Originator.... :	UL(US)
Master TRF ..... :	Dated 2022-04-14

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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 .....:	ITE/ICT Power Supply
Trade Mark(s) .....:	GlobTek, Inc.
Manufacturer.....:	Same as applicant
Model/Type reference .....:	GT*96225*P*****-** (The 1st "*" part can be 'M' or '-' or 'H' for market identification and not related to safety. The 2nd "*" can be 0, 1, 2 or 3, denote the different mechanical construction, "0" means open frame, "1" means L frame, "2" means cage, "3" means potted. The 3rd "*" can be "001" to "225", denotes the rated output wattage designation from 1W to 225W, in step of 1 denote 1W. The 4th "*" can be "12" to "54" or "12.0" to "54.0", denote the standard rated output voltage designation from 12.0V to 54.0Vdc, in step of 0.1 denote 0.1V. The 5th "*" can be optional, blank or A to H, denote the AUX Output voltage code. The 6th "*" can be Blank, -C or -D, related to PCB size, Blank=2"x4", -C=3"x5", -D= 7"x4.22". The 7th "*" =-F or F means Open Frame class I or class II with functional earth = -FW or FW means Open Frame class II = -P2 or P2 means Encapsulated Type, class II = -P3 or P3 means Encapsulated Type, class I or class II with functional earth The 8th * is optional, when 7th* is P2, the 8th* can be - TPEU or –TPNA means class II with power supply cord with EU plug or USA plug; when 7th * is P3, the 8th * can be -TPNA means class I or class II with functional earth with power supply cord with USA plug. The last * denote any six character, which can be 0-9 or A-Z or ()[] or - or blank for marketing purposes, -** can be blank.)
Ratings .....:	For Open Frame, L Frame and Full Cage construction: Input: 100-240V~, 50-60Hz or 50/60Hz, 3A For Potted/Encapsulated construction: GT*96225*P*****-TPNA* Input: 100-120V~, 50-60Hz, 3A For Potted/Encapsulated construction: GT*96225*P*****-TPEU* Input: 100-240V~, 50-60Hz, 2.5A Output: 12.0-54.0VDC, Max. 18.75A, Max. 225W. See model list for detail See Model description of general product information for details

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ **CB Testing Laboratory:**	Nemko Shanghai Ltd. Shenzhen Branch	
Testing location/ address ..... :	2nd floor of Building 1, Yizhongli Science and Technology Park, No.36 Gaoxin North Third Road, Songpingshan Community, Xili Street, Nanshan District, Shenzhen, Guangdong, China	
Tested by (name, function, signature) ..... :	Sunny Yang (Project Handler)	Sunny Yang
Approved by (name, function, signature) .. :	Bill Yang (Verificator)	Bill
☐ **Testing procedure: CTF Stage 1:**		
Testing location/ address ..... :		
Tested by (name, function, signature) ..... :		
Approved by (name, function, signature) .. :		
☐ **Testing procedure: CTF Stage 2:**		
Testing location/ address ..... :		
Tested by (name, function, signature)		
Witnessed by (name, function, signature) . :		
Approved by (name, function, signature) .. :		
☐ **Testing procedure: CTF Stage 3:**		
☐ **Testing procedure: CTF Stage 4:**		
Testing location/ address ..... :		
Tested by (name, function, signature) ..... :		
Witnessed by (name, function, signature) . :		
Approved by (name, function, signature) .. :		
Supervised by (name, function, signature) :		

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

1. Photos (14 pages)
2. PCB layout (3 pages)
3. Transformer specification (9 pages)
4. European differences (21 pages)
5. US and Canada differences (8 pages)
6. Singapore differences (3 pages)
7. Australian / New Zealand differences (9 pages)
8. Japanese differences (6 pages)
9. SAUDI ARABIA differences (1 pages)
10. China differences (5 pages)

Summary of testing:

Tests performed (name of test and test clause):

Clause	Test(s)
4	General Requirements
5	Electrically-caused injury
6	Electrically-caused fire
8	Mechanically caused injury
9	Thermal burn injury
10	Radiation
B	Normal operating condition tests, abnormal operating condition tests and single fault condition tests
F	Equipment markings, instructions, and instructional safeguards
G	Components
L	Disconnect devices
O	Measurement of creepage distances and clearances
P	Safeguards against conductive objects
T	Mechanical strength tests

Testing location:

Refer to page 3

Summary of compliance with National Differences (List of countries addressed):

- Europe, US and Canada, Singapore, Australian / New Zealand, Japan, SAUDI ARABIA and China.

☒ **The product fulfils the requirements of IEC 62368-1: 2018 (Third Edition) and EN IEC 62368-1: 2020+A11:2020**

Use of uncertainty of measurement for decisions on conformity (decision rule) :

☒ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

☐ Other:… (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

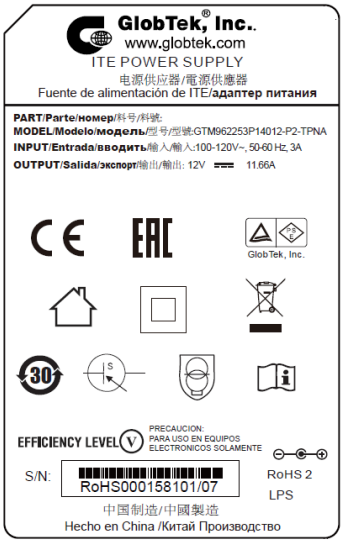
Information on uncertainty of measurement:
The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.
IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

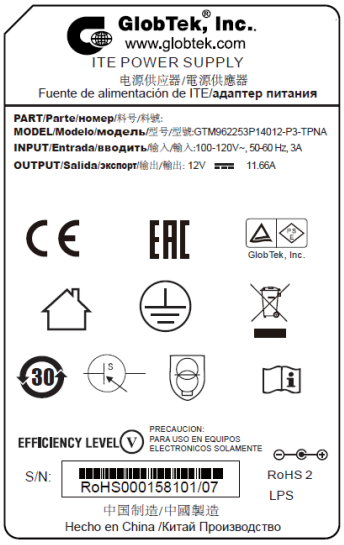
Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

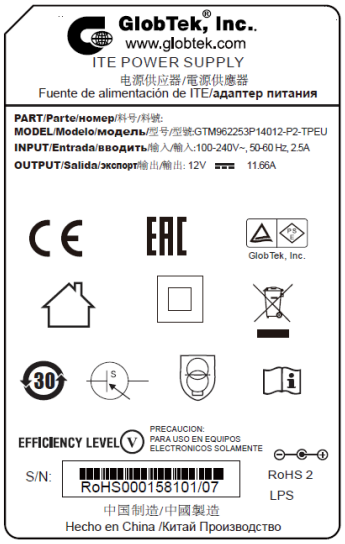
Copy of marking plate:

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.

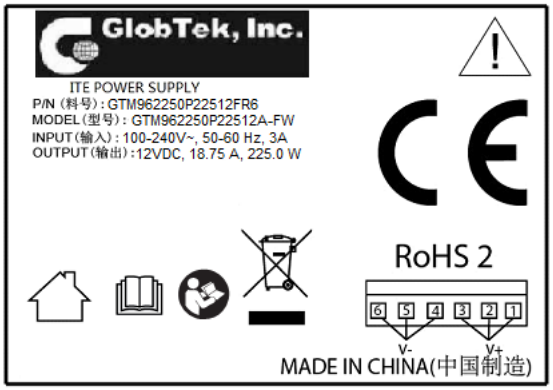
For Potted/Encapsulated Construction







For Open Frame, L Frame and Full Cage Construction:



Note:
The marking plates of the other models listed in this report are identical with below except model name and output parameter.

For class I models, ⏚ shall be added near earthing terminal.

If ⧈ logo is suitable or not, evaluated in end product.

For the final production samples, the additional markings which do not give rise to misunderstanding may be added.
This is representative label for other models.
Difference are only on model name and output rating.

Test item particulars:	
Product group .....:	☒ end product (For model: GT*962253P*****-**) ☒ built-in component (For Open Frame models)
Classification of use by .....:	☒ Ordinary person ☐ Children likely present ☒ Instructed person ☒ Skilled person
Supply connection.....:	☒ AC mains ☐ DC mains ☐ not mains connected: ☐ ES1 ☐ ES2 ☐ ES3
Supply tolerance .....:	☐ +10%/-10% ☐ +20%/-15% ☒ +10%/ -15% for manufacture requirement ☐ None
Supply connection – type .....:	☒ pluggable equipment type A - ☒ non-detachable supply cord (For model: GT*962253P*****-**) ☐ appliance coupler ☐ direct plug-in ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☒ mating connector ☐ other:
Considered current rating of protective device.....:	☒ 16 A (20A for Canada and US); Location: ☒ building ☐ equipment ☐ N/A
Equipment mobility .....:	☒ movable ☐ hand-held ☐ transportable ☐ direct plug-in ☐ stationary ☒ for building-in ☐ wall/ceiling-mounted ☐ SRME/rack-mounted ☐ other:
Overvoltage category (OVC) .....:	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Class of equipment .....:	☒ Class I ☒ Class II ☐ Class III ☐ Not classified ☐
Special installation location .....:	☒ N/A ☐ restricted access area ☐ outdoor location ☐
Pollution degree (PD) .....:	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified T_{ma}.....:	See General product information ☐ Outdoor: minimum °C
IP protection class .....:	☒ IPX0 ☐ IP___
Power systems .....:	☒ TN ☐ TT ☒ IT - 230 V $_{L-L}$ ☐ not AC mains
Altitude during operation (m) .....:	☐ 2000 m or less ☒ up to 5000m
Altitude of test laboratory (m) .....:	☒ 2000 m or less ☐ m

Mass of equipment (kg) ..... :	Weight Approx. 170g for Open Frame Construction 188.8g for Open Frame Construction (-C type) 219.6g for Open Frame Construction (-D type) 230g for L Frame Construction 250g for Full Cage Construction 800g for Potted/Encapsulated Construction Dimension Approx. (mm): 101.6 x 50.8 x 31.1 for Open Frame Construction 127 x 76.2x 31.1 for Open Frame Construction (-C type) 177.8 x 107.188x 31.1 for Open Frame Construction (-D type) 104 x 62.5 x 40.0 for L Frame Construction 104 x 62.6 x 40.4 for Full Cage Construction 137.5 x64.1 x 40.0 for Potted/Encapsulated Construction
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 .....:	2023-09-11
Date (s) of performance of tests .....:	2023-09-11 to 2024-01-10
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.**	
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) ..... :	1. GlobTek, Inc. 186 Veterans Drive Northvale NJ 07647 United States of America 2. GlobTek (Suzhou) Co., Ltd Building 4, No. 76, Jin Ling East Rd., Suzhou Industrial Park, Suzhou, JiangSu 215021, China

General product information and other remarks:

The equipment under test is a built-in open frame type ITE Power Supply module and Potted/ Encapsulated type ITE Power Supply.

For open frame construction:
The installation, use for the insulation construction, humidity conditioning and heating in end product shall be finally determined in the end product.
Disconnection from the mains supply, mechanical strength and fire enclosure are not considered in this report. The enclosure shall be at least V-0.

For Potted/Encapsulated construction:
External enclosure is plastic material of min. V-0 grade and totally enclosure with glue, without screws.

Load condition: load with rated output value.

Maximum recommended ambient: See Table II.

Models difference:

All models have same PCB, but some non-critical components may be adjusted according to different output voltage. The parameters of these components depend on output voltage.
The size of PCB type Blank=2”x4” is 101.6mm*50.8mm; the size of PCB type -C=3”x5” is 127mm*76.2mm, the size of PCB type -D=7”x4.22” is 177.8mm*107.188mm.

The differences between models followed by -F, F, -P3, P3 or -FW, FW, -P2, P2 are the earthing wire for functional earth. The models followed by -F, F or -P3, P3 have earthing wire maybe for functional earth or protective earth. The models followed by -FW, FW or -P2, P2 have not earthing wire for functional earth.

All models are same except model name, output rating, turns of primary and secondary winding of transformer (T1), mechanical construction and some component rating.
Detail see below table I, table II, Table III and Table 4.1.2.

Table I

Model without AUX output voltage	Output Voltage	Max. output current	Max. output power
GT*96225*P**-F/FW/P2/P3-** GT*96225*P**F/FW/P2/P3-**	12.0-54.0Vdc	18.75A	225W
GT*96225*P**-C-F/FW/P2/P3-** GT*96225*P**-CF/FW/P2/P3-**			
GT*96225*P**-D-F/FW/P2/P3-** GT*96225*P**-DF/FW/P2/P3-**			

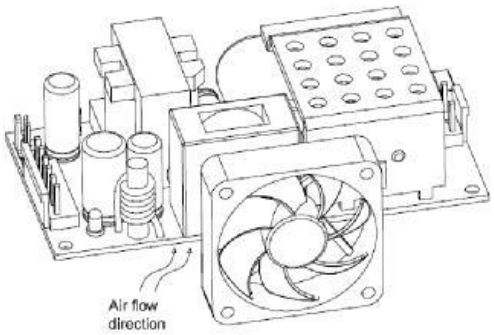
Table II

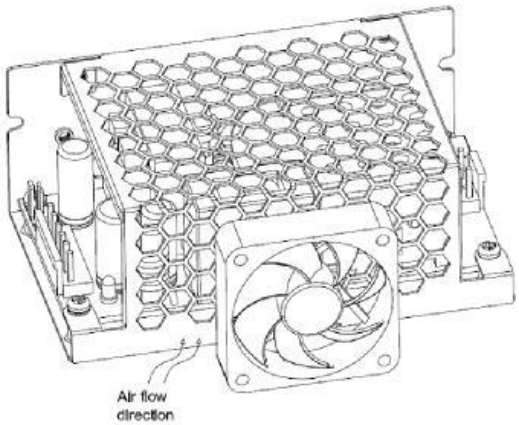
Model names	Max. Ambient	Forced Air (Max. Power)	Natural convection (Max. Power)
GT*962250P*****-** GT*962251P*****-** GT*962252P*****-**	50	225W	140W
	60	225W	100W
	70	205W	60W
	80	160W	20W
GT*962253P*****-**	40	--	140W

Table III

Model with AUX output voltage	Main Output Voltage	Max. output current	AUX output voltage	AUX output current	Max. output power
GT*96225*P**A*-F/FW/P2/P3-** GT*96225*P**A*F/FW/P2/P3-**	12.0-54.0Vdc	18.75A	12Vdc	Max 1.2A	225W
GT*96225*P**B*-F/FW/P2/P3-** GT*96225*P**B*F/FW/P2/P3-**	12.0-54.0Vdc	18.75A	5Vdc	Max 1.2A	225W
GT*96225*P**C*-F/FW/P2/P3-** GT*96225*P**C*F/FW/P2/P3-**			6Vdc		225W
GT*96225*P**D*-F/FW/P2/P3-** GT*96225*P**D*F/FW/P2/P3-**			7Vdc		225W
GT*96225*P**E*-F/FW/P2/P3-** GT*96225*P**E*F/FW/P2/P3-**			8Vdc		225W
GT*96225*P**F*-F/FW/P2/P3-** GT*96225*P**F*F/FW/P2/P3-**			9Vdc		225W
GT*96225*P**G*-F/FW/P2/P3-** GT*96225*P**G*F/FW/P2/P3-**			10Vdc		225W
GT*96225*P**H*-F/FW/P2/P3-** GT*96225*P**H*F/FW/P2/P3-**			11Vdc		225W
Note: AUX Output voltage: Supply for DC fan.					

For Models with output power more than 140W, fan (12Vdc, Max. 15W) should provide approximately 10CFM, in direction noted below:





The DC fan is 5cm away from the test sample.

This equipment is intended to operate in a "normal" environment (Offices and homes) and is intended to be operated under altitude up to 5000m, so the clearance is multiplied by the altitude correction factor (1.48 linear interpolation used), specified in table A.2 of IEC 60664-1.

After evaluated, the product also fulfilled of the requirements of BS EN IEC 62368-1:2020+A11: 2020.

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	**Possible Hazard**			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
For model: GT*962253P*****-**				
ES3: All circuits except DC output	Ordinary person	N/A	N/A	Enclosure: Annex T, no openings
For model: GT*962250P*****-**, GT*962251P*****-**, GT*962252P*****-**				
ES3: All circuits except DC output	Ordinary person	N/A	N/A	***2)***
For all models				
ES3: Mains Critical components	Ordinary person	N/A	N/A	Distance cl.5.4.2 and 5.4.3; Solid insulation 5.4.4 Component: Annex G; Output comply with 5.2.2.2
ES3: Primary Circuit (X-cap)	Ordinary person	N/A	N/A	Bleeder resistors and discharge IC voltage. Voltage: according to 5.5.2.2
ES1: DC output	Ordinary person	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1st S	2nd S
For model: GT*962253P*****-**				
PS3: All circuits	Entry of foreign objects	N/A	N/A	No openings
PS3: All circuits	Internal combustible material	***1)***	Min. V-1 PCB; Min. V-0 Enclosure Components comply with cl 6.4.6	N/A
PS3: All circuits	Output wire	***1)***	6.5.1 Complied with 60695-	N/A

			11-21 or equivalent	
For model: GT*962250P*****-**, GT*962251P*****-**, GT*962252P*****-**				
PS3: All circuits	Entry of foreign objects	N/A	N/A	***2)***
PS3: All circuits	Internal combustible material	***1)***	Min. V-1 PCB; ***2)***	N/A
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
N/A	N/A	N/A	N/A	N/A
8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
MS1: Sharp edges and corners (none)	Ordinary person	N/A	N/A	N/A
MS1: Equipment mass less than 7kg	Ordinary person	N/A	N/A	N/A
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS1: Enclosure	Ordinary person	N/A	N/A	N/A
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
RS1: LED indicated	Ordinary person	N/A	N/A	N/A

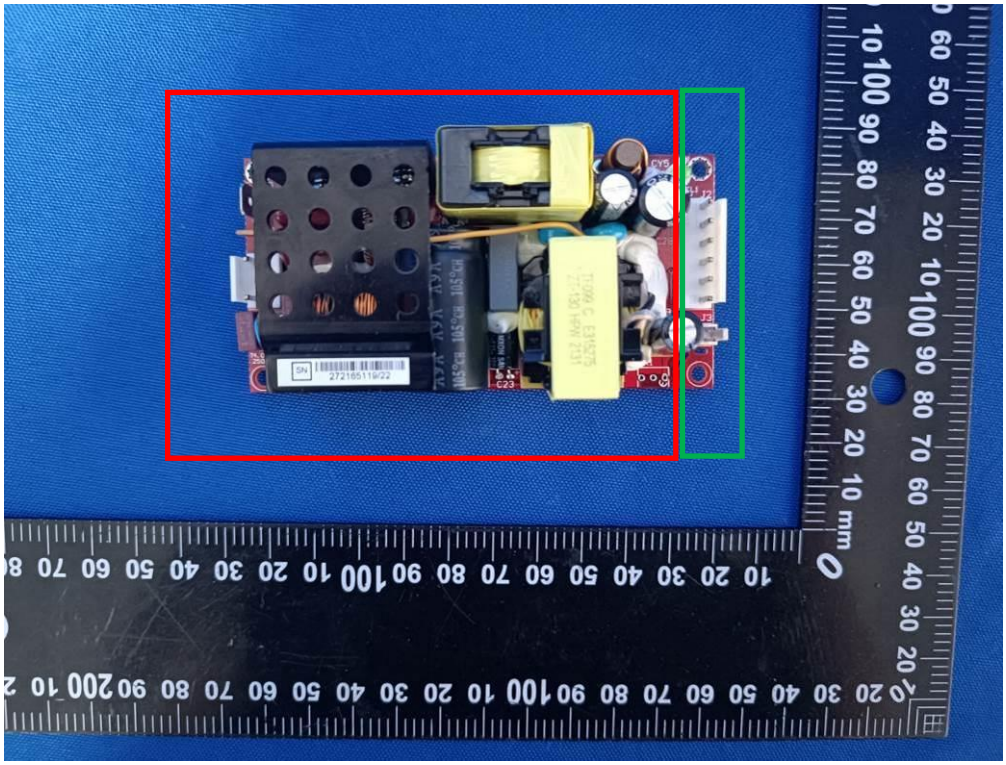
Supplementary Information:

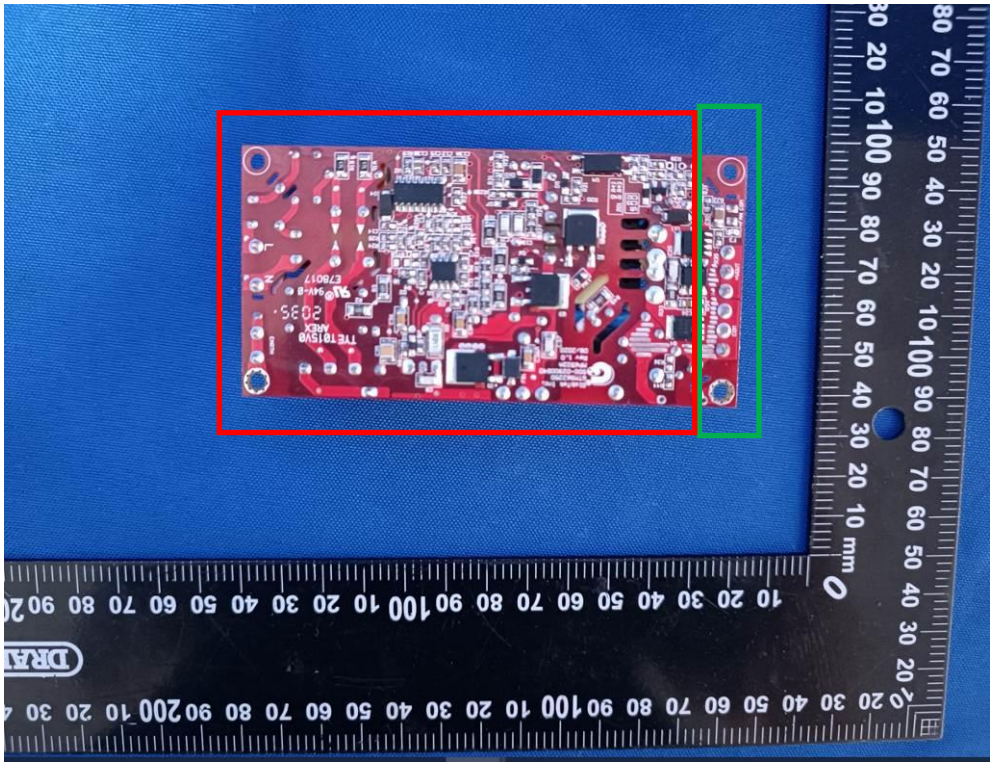
"B" – Basic Safeguard; "S" – Supplementary Safeguard; "R" – Reinforced Safeguard

1) No ignition, Components inside of fire enclosure which measured temperature <300°C during test under normal and abnormal operating conditions, refer to table 5.4.1.4, 9.3, B.1.5, B.2.6, and table B.3, B.4.
Note: Arcing and resistive PIS is within PS3 circuit, V-0 enclosure provided.

2) This is open frame Power Supply unit for building-in, must be considered in the end product.

ENERGY SOURCE DIAGRAM		
Indicate which energy sources are included in the energy source diagram. Insert diagram below		
Class 1	Class 2	Class 3





☒ ES ☐ PS ☐ MS ☐ TS ☐ RS

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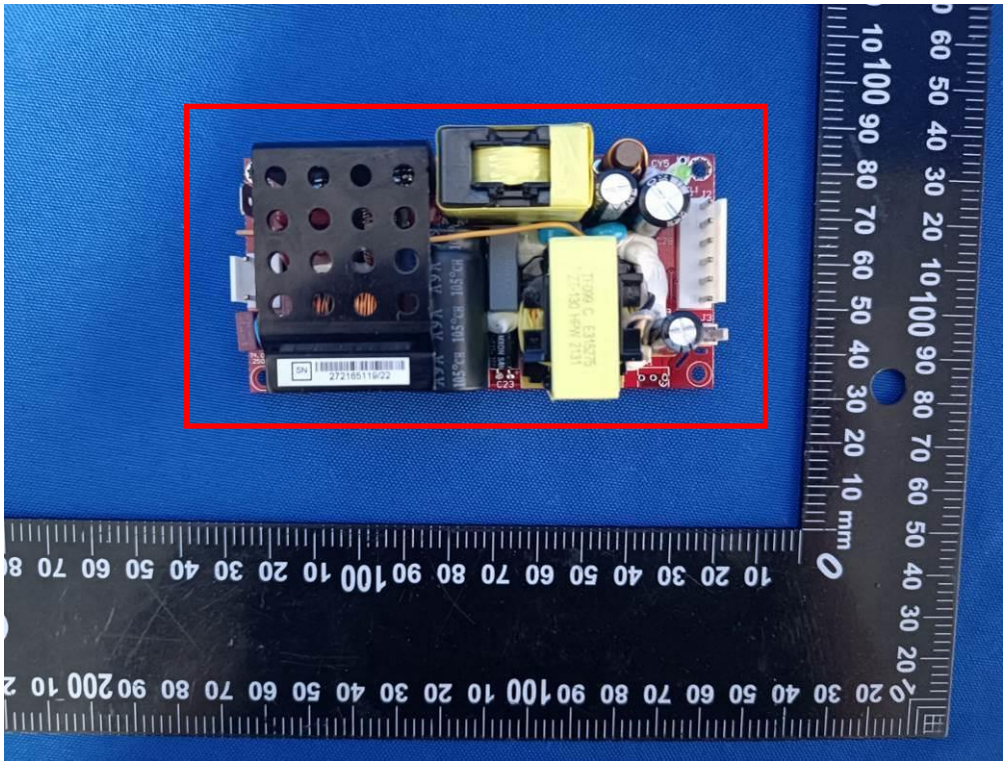

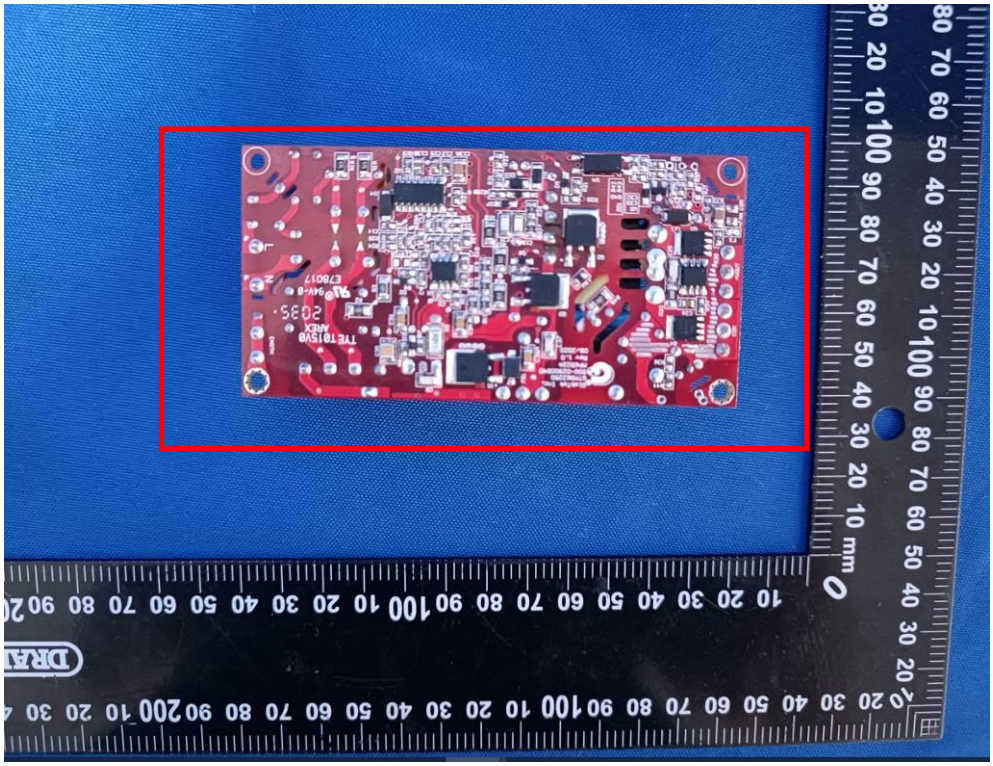

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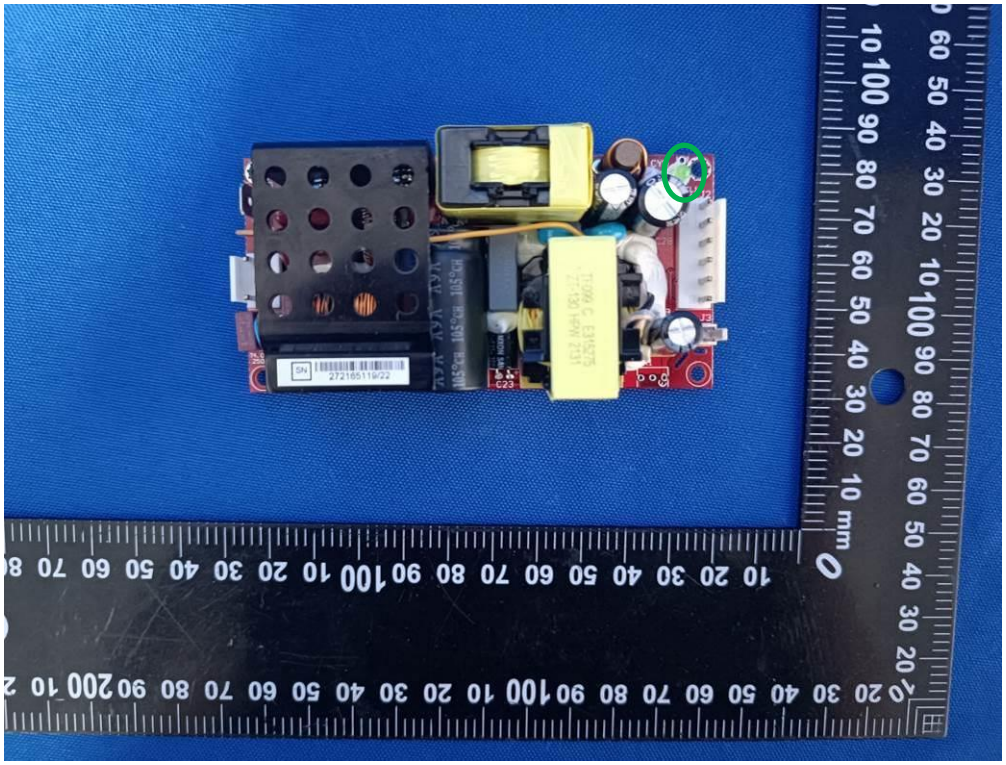

☐ ES ☐ PS ☐ MS ☐ TS ☒ RS

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

4	**GENERAL REQUIREMENTS**		P
4.1.1	Acceptance of materials, components and subassemblies	Refer to summary of testing and appended table 4.1.2.	P
4.1.2	Use of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 62368-1.	P
4.1.3	Equipment design and construction	Equipment is adequately designed and constructed.	P
4.1.4	Specified ambient temperature for outdoor use (°C) .....:	Not for outdoor use.	N/A
4.1.5	Constructions and components not specifically covered	No such part.	N/A
4.1.8	Liquids and liquid filled components (LFC)	No LFC.	N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness	See below:	P
4.4.3.1	General	(See below)	P
4.4.3.2	Steady force tests	(See Clause T.4)	P
4.4.3.3	Drop tests	(See Annex T.7)	P
4.4.3.4	Impact tests		N/A
4.4.3.5	Internal accessible safeguard tests	Internal part was not accessible.	N/A
4.4.3.6	Glass impact tests	No glass.	N/A
4.4.3.7	Glass fixation tests	No laminated glass.	N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests	(See Annex T.8)	P
4.4.3.9	Air comprising a safeguard	(See Annex T.2)	P
4.4.3.10	Accessibility, glass, safeguard effectiveness	All safeguards remain effective.	P
4.4.4	Displacement of a safeguard by an insulating liquid	No insulating liquid used.	N/A
4.4.5	Safety interlocks	No interlock.	N/A
4.5	**Explosion**		P
4.5.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	P
	No harm by explosion during single fault conditions		N/A
4.6	**Fixing of conductors**	See below:	P
	Fix conductors not to defeat a safeguard	After 10N test, no reducing clearances or creepage distances.	P
	Compliance is checked by test ..... :	(See appended table T.2)	P
4.7	**Equipment for direct insertion into mains socket–outlets**		N/A
4.7.2	Mains plug part complies with relevant standard .. :		—
4.7.3	Torque (Nm) ..... :		N/A
4.8	**Equipment containing coin/button cell batteries**		N/A
4.8.1	General	No such battery.	N/A
4.8.2	Instructional safeguard ..... :		N/A
4.8.3	Battery compartment door/cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance		N/A
	30N force test with test probe		N/A
	20N force test with test hook		N/A
4.9	**Likelihood of fire or shock due to entry of conductive object**		N/A
4.10	**Component requirements**		P
4.10.1	Disconnect Device	(See Annex L)	P
4.10.2	Switches and relays	No such component used.	N/A

5	**ELECTRICALLY-CAUSED INJURY**		P
5.2	**Classification and limits of electrical energy sources**		P
5.2.2	ES1, ES2 and ES3 limits	See below:	P
5.2.2.2	Steady-state voltage and current limits .....:	(See appended table 5.2)	P
5.2.2.3	Capacitance limits .....:	(See appended table 5.2)	P
5.2.2.4	Single pulse limits .....:	No single pulses generated.	N/A
5.2.2.5	Limits for repetitive pulses .....:	No repetitive pules generated.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.6	Ringing signals	Not used an analogue telephone network ringing signal in the equipment.	N/A
5.2.2.7	Audio signals	No audio signals.	N/A
5.3	**Protection against electrical energy sources**		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	Sufficient safeguard was provided between energy source and instructed and skilled persons.	P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits	Reinforced safeguard was provided between energy source and instructed and skilled persons.	P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards	ES3 parts are not accessible to instructed and skilled persons.	P
	Accessibility to outdoor equipment bare parts	Not intend for outdoor used.	N/A
5.3.2.2	Contact requirements	No openings in the enclosure.	P
	Test with test probe from Annex V		P
5.3.2.2 a)	Air gap – electric strength test potential (V) .....:		N/A
5.3.2.2 b)	Air gap – distance (mm) .....:		N/A
5.3.2.3	Compliance		P
5.3.2.4	Terminals for connecting stripped wire	No such terminal.	N/A
5.4	**Insulation materials and requirements**		P
5.4.1.2	Properties of insulating material	Insulating material complied with cl. 5 and Annex T. No hygroscopic material.	P
5.4.1.3	Material is non-hygroscopic	See clause 5.4.8 and 5.4.9	P
5.4.1.4	Maximum operating temperature for insulating materials.....:	(See appended table 5.4.1.4) Transformer insulation system is certified by UL.	P
5.4.1.5	Pollution degrees .....:	2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling test		N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such part.	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such part.	N/A
5.4.1.8	Determination of working voltage.....:	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	Ball pressure test has been considered.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10.2	Vicat test.....:		N/A
5.4.1.10.3	Ball pressure test .....:	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances		P
5.4.2.1	General requirements	See below	P
	Clearances in circuits connected to AC Mains, Alternative method		N/A
5.4.2.2	Procedure 1 for determining clearance	The highest voltage is temporary overvoltage.	P
	Temporary overvoltage .....:	2000V peak	—
5.4.2.3	Procedure 2 for determining clearance	See below:	P
5.4.2.3.2.2	a.c. mains transient voltage.....:	2500V peak	—
5.4.2.3.2.3	d.c. mains transient voltage .....:		—
5.4.2.3.2.4	External circuit transient voltage.....:		—
5.4.2.3.2.5	Transient voltage determined by measurement .....:		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test .....:	Not used.	N/A
5.4.2.5	Multiplication factors for clearances and test voltages .....:	Multiplication factor 1.48 for clearance is used. (<5000m)	P
5.4.2.6	Clearance measurement .....:	(See appended table 5.4.2)	P
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	—
5.4.3.4	Creepage distances measurement .....:	(See appended table 5.4.3)	P
5.4.4	Solid insulation		P
5.4.4.1	General requirements	See below:	P
5.4.4.2	Minimum distance through insulation .....:	(See appended table 5.4.4.2)	P
5.4.4.3	Insulating compound forming solid insulation	Evaluated with cl. 5.4.4.4	P
5.4.4.4	Solid insulation in semiconductor devices	Certificated optocoupler used and comply with G.12 (See appended table 4.1.2)	P
5.4.4.5	Insulating compound forming 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	(See appended table 5.4.4.2)	P
	Number of layers (pcs) .....:		P
5.4.4.6.3	Non-separable thin sheet material		N/A
	Number of layers (pcs) ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.6.4	Standard test procedure for non-separable thin sheet material ..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components	Insulation on winding wire complies with G.6.	P
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P, K_R, d, V_{PW} (V) ..... :	(See appended Table 5.4.4.9)	P
	Alternative by electric strength test, tested voltage (V), K_R ..... :	(See appended Tables 5.4.4.9 and 5.4.9)	P
5.4.5	Antenna terminal insulation	No Antenna terminal used.	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
5.4.5.3	Insulation resistance (MΩ)..... :		N/A
	Electric strength test .....:		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning	For equipment and all source transformers	P
	Relative humidity (%), temperature (°C), duration (h) ..... :	95% r.h., 40°C, 120hrs	—
5.4.9	Electric strength test	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for type test of solid insulation.....:	Test voltage based on transient voltages. (See appended table 5.4.9)	P
5.4.9.2	Test procedure for routine test		N/A
5.4.10	Safeguards against transient voltages from external circuits		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test ..... :		N/A
5.4.10.2.3	Steady-state test..... :		N/A
5.4.10.3	Verification for insulation breakdown for impulse test ..... :		N/A
5.4.11	Separation between external circuits and earth	The equipment not intended to connect to external circuits.	N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	SPDs bridge separation between external circuit and earth		N/A
	Rated operating voltage U_{op} (V) ..... :		—
	Nominal voltage U_{peak} (V) ..... :		—
	Max increase due to variation ΔU_{sp} ..... :		—
	Max increase due to ageing ΔU_{sa} ..... :		—
5.4.11.3	Test method and compliance ..... :		N/A
5.4.12	Insulating liquid		N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid ..... :		N/A
5.4.12.3	Compatibility of an insulating liquid ..... :		N/A
5.4.12.4	Container for insulating liquid ..... :		N/A
5.5	**Components as safeguards**		P
5.5.1	General		P
5.5.2	Capacitors and RC units	See below:	P
5.5.2.1	General requirement	X capacitors complied with IEC 60384-14. Y capacitors complied with IEC 60384-14.	P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector ..... :	(See appended table 5.5.2.2)	P
5.5.3	Transformers	T1 (See Annex G.5.3)	P
5.5.4	Optocouplers	Optocouplers (U4) comply with the requirements of 5.4 or with Clause G.12. (See Annex G.12)	P
5.5.5	Relays	No such component used.	N/A
5.5.6	Resistors		N/A
5.5.7	SPDs	(See Annex G.8)	P
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable ..... :		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment	Not for outdoor used.	N/A
	RCD rated residual operating current (mA) ..... :		—
5.6	**Protective conductor**		P
5.6.2	Requirement for protective conductors		P
5.6	**Protective conductor**		P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.2.2	Colour of insulation	Potted/Encapsulated Construction: Green-and-yellow colour for potted construction. Open frame construction must be checked in end-product.	P
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm^2) ..... :		—
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirements for protective bonding conductors		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm^2). ..... :	18AWG	—
5.6.4.2	Protective current rating (A)..... :		—
5.6.5	Terminals for protective conductors	16A (20A for CSA and USA)	P
5.6.5.1	Terminal size for connecting protective earthing conductors (mm)..... :	L Frame and Full Cage Construction: 3.0mm diameter. Open Frame Construction: This is component level power supply for building-in, must be checked in end-product.	—
	Terminal size for connecting protective bonding conductors (mm) .....:		P
5.6.5.2	Corrosion		P
5.6.6	Resistance of the protective bonding system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method..... :		P
5.6.6.3	Resistance (Ω) or voltage drop..... :	L Frame and Full Cage Construction: (See appended table 5.6.6) Open frame construction: This is component level power supply for building-in, must be checked in end-product. Potted/Encapsulated Construction: 18 AWG Green-and-yellow wire.	—

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm^2)..... :	Open frame construction: It must be checked in end-product.	N/A
	Class II with functional earthing marking ..... :		N/A
	Appliance inlet cl & cr (mm)..... :		N/A
5.7	**Prospective touch voltage, touch current and protective conductor current**		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current	(See appended table 5.7.4)	P
5.7.2.2	Measurement of voltage	(See appended table 5.7.4)	P
5.7.3	Equipment set-up, supply connections and earth connections		P
5.7.4	Unearthed accessible parts..... :	(See appended table 5.7.4)	P
5.7.5	Earthed accessible conductive parts..... :	(See appended table 5.7.5)	P
5.7.6	Requirements when touch current exceeds ES2 limits	Touch current is within ES1.	N/A
	Protective conductor current (mA)..... :		N/A
	Instructional Safeguard..... :		N/A
5.7.7	Prospective touch voltage and touch current associated with external circuits	The equipment not intended connect to external circuits.	N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to earthed external circuits, current (mA) ..... :		N/A
	b) Equipment connected to unearthed external circuits, current (mA) ..... :		N/A
5.8	**Backfeed safeguard in battery backed up supplies**		N/A
	Mains terminal ES.....:		N/A
	Air gap (mm).....:		N/A

6	**ELECTRICALLY- CAUSED FIRE**		P
6.2	**Classification of PS and PIS**		P
6.2.2	Power source circuit classifications.....:	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources	See below	P
6.2.3.1	Arcing PIS .....:	(See appended table 6.2.3.1)	P

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Clause	Requirement + Test	Result - Remark	Verdict
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	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, 9.3, B.1.5, B.2.6, and table B.3, B.4)	P
	Combustible materials outside fire enclosure .....:	No combustible material outside fire enclosure. Open frame construction must be checked in end-product.	—
6.4	**Safeguards against fire under single fault conditions**		P
6.4.1	Safeguard method	Control fire spread was 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		N/A
6.4.3.1	Supplementary safeguards		N/A
6.4.3.2	Single Fault Conditions ..... :		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits		N/A
6.4.5.2	Supplementary safeguards		N/A
6.4.6	Control of fire spread in PS3 circuits	Wire insulation complying with clause 6.5.1, PCB is V-1 min. and The enclosure made of V-0 and components comply with 6.4.6. (Refer to table 4.1.2) Open frame construction must be checked in end-product.	P
6.4.7	Separation of combustible materials from a PIS	Varistor is arcing PIS, and all circuit are resistive PIS. Min. V-0 enclosure is used for fire enclosure. Components complied with requirement, detail refer to table 6.2.3.1 and 6.2.3.2. Open frame construction must be checked in end-product.	P
6.4.7.2	Separation by distance	All components are within PIS fire cone, refer to table 6.2.3.2.	P
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers	See below:	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.2	Fire enclosure and fire barrier material properties	Fire enclosure is made of V-0 material. Open frame construction must be checked in end-product.	P
6.4.8.2.1	Requirements for a fire barrier	No fire barrier.	N/A
6.4.8.2.2	Requirements for a fire enclosure	Available power <4000W. Fire enclosure is made of V-0 material. Open frame construction must be checked in end-product.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	No openings in the fire enclosure. Open frame construction must be checked in end-product.	P
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 and properties		N/A
	Openings dimensions (mm)..... :		N/A
6.4.8.3.4	Bottom openings and properties		N/A
	Openings dimensions (mm)..... :		N/A
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard.....:		N/A
6.4.8.3.5	Side openings and properties		N/A
	Openings dimensions (mm)..... :		N/A
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)..... :	No such part used	N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating ..... :	Fire enclosure is made of V-0 material.	P
6.4.9	Flammability of insulating liquid.....:	No such part.	N/A
6.5	**Internal and external wiring**		P
6.5.1	General requirements	Internal wires complied with IEC 60695-11-21. The test method described in IEC 60695-11-21 is considered equivalent to that test wiring materials which bearing VW-1 rating (according to UL 758).	P
6.5.2	Requirements for interconnection to building wiring ..... :	Not intended to provide power over the wiring system to remote equipment.	N/A
6.5.3	Internal wiring size (mm^2) for socket-outlets..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

6.6	**Safeguards against fire due to the connection to additional equipment**	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 or personal protective equipment (PPE)**		N/A
	Personal safeguards and instructions ..... :	No hazardous substances.	—
7.5	**Use of instructional safeguards and instructions**		N/A
	Instructional safeguard (ISO 7010)..... :	No hazardous substances.	—
7.6	**Batteries and their protection circuits**		N/A

8	**MECHANICALLY-CAUSED INJURY**		P
8.2	**Mechanical energy source classifications**		P
8.3	**Safeguards against mechanical energy sources**		P
8.4	**Safeguards against parts with sharp edges and corners**		P
8.4.1	Safeguards	MS1: No sharp edges or corners. Mass less than 7 kg Open frame construction must be checked in end-product.	P
	Instructional Safeguard.....:		N/A
8.4.2	Sharp edges or corners		N/A
8.5	**Safeguards against moving parts**		N/A
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts	No moving parts.	N/A
	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional safeguard.....:		N/A
8.5.4	Special categories of equipment containing moving parts		N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts		N/A
8.5.4.2.1	Protection of persons in the work cell		N/A
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m).....:		N/A
	Space between end point and nearest fixed mechanical part (mm) .....:		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A
	- Mechanical function check and visual inspection		N/A
	- Cable assembly .....:		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts .....:		N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N).....:		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps		N/A
	Explosion test.....:		N/A
8.5.5.3	Glass particles dimensions (mm) .....:		N/A
8.6	**Stability of equipment**		N/A
8.6.1	General	MS1.	N/A
	Instructional safeguard.....:		N/A
8.6.2	Static stability		N/A
8.6.2.2	Static stability test .....:		N/A
8.6.2.3	Downward force test		N/A
8.6.3	Relocation stability		N/A
	Wheels diameter (mm) .....:		—
	Tilt test		N/A
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test.....:		N/A
8.7	**Equipment mounted to wall, ceiling or other structure**		N/A
8.7.1	Mount means type .....:		N/A
8.7.2	Test methods		N/A
	Test 1, additional downwards force (N).....:		N/A
	Test 2, number of attachment points and test force (N).....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Test 3 Nominal diameter (mm) and applied torque (Nm).....:		N/A
8.8	**Handles strength**		N/A
8.8.1	General		N/A
8.8.2	Handle strength test		N/A
	Number of handles.....:		—
	Force applied (N) .....:		—
8.9	**Wheels or casters attachment requirements**		N/A
8.9.2	Pull test		N/A
8.10	**Carts, stands and similar carriers**		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions.....:		N/A
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N) .....:		N/A
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Force applied (N) .....:		—
8.10.6	Thermoplastic temperature stability		N/A
8.11	**Mounting means for slide-rail mounted equipment (SRME)**		N/A
8.11.1	General		N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard.....:		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force (N) applied.....:		N/A
8.11.3.2	Lateral push force test		N/A
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance		N/A
8.12	**Telescoping or rod antennas**		N/A
	Button/ball diameter (mm) .....:		—

9	**THERMAL BURN INJURY**		P
9.2	**Thermal energy source classifications**		P
9.3	**Touch temperature limits**		P
9.3.1	Touch temperatures of accessible parts .....:	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
9.3.2	Test method and compliance		P

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Clause	Requirement + Test	Result - Remark	Verdict

9.4	**Safeguards against thermal energy sources**		P
9.5	**Requirements for safeguards**		P
9.5.1	Equipment safeguard	Enclosure provided to limit the transfer of thermal energy of internal parts under normal operating conditions and abnormal operating conditions.	P
9.5.2	Instructional safeguard.....:	Instructional safeguard is not required.	N/A
9.6	**Requirements for wireless power transmitters**		N/A
9.6.1	General	Not applicable.	N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance .....:		N/A

10	**RADIATION**		P
10.2	**Radiation energy source classification**		P
10.2.1	General classification	Diffusive LED used.	P
	Lasers ..... :		—
	Lamps and lamp systems ..... :		—
	Image projectors ..... :		—
	X-Ray ..... :		—
	Personal music player ..... :		—
10.3	**Safeguards against laser radiation**		N/A
	The standard(s) equipment containing laser(s) comply .....:		N/A
10.4	**Safeguards against optical radiation from lamps and lamp systems (including LED types)**		N/A
10.4.1	General requirements		N/A
	Instructional safeguard provided for accessible radiation level needs to exceed		N/A
	Risk group marking and location .....:		N/A
	Information for safe operation and installation		N/A
10.4.2	Requirements for enclosures		N/A
	UV radiation exposure .....:	No UV radiation.	N/A
10.4.3	Instructional safeguard ..... :		N/A
10.5	**Safeguards against X-radiation**		N/A
10.5.1	Requirements	Not X-radiation.	N/A
	Instructional safeguard for skilled persons ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
10.5.3	Maximum radiation (pA/kg)..... :		—
10.6	**Safeguards against acoustic energy sources**		N/A
10.6.1	General	Not personal music player.	N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A).....:		N/A
	Unweighted RMS output voltage (mV).....:		N/A
	Digital output signal (dBFS).....:		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30) .....:		N/A
	Warning for MEL ≥ 100 dB(A) .....:		N/A
10.6.4	Measurement methods		N/A
10.6.5	Protection of persons		N/A
	Instructional safeguards ..... :		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV)..... :		N/A
10.6.6.2	Corded listening devices with digital input		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A) .....:		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A) .....:		N/A

B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		P
B.1	**General**		P
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	P
B.2	**Normal operating conditions**		P
B.2.1	General requirements ..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers ..... :		N/A
B.2.3	Supply voltage and tolerances	+10% / -15% (264Vac/ 85Vac)	P
B.2.5	Input test ..... :	(See appended table B.2.5)	P
B.3	**Simulated abnormal operating conditions**		P

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.1	General	See below:	P
B.3.2	Covering of ventilation openings	No openings in enclosure.	N/A
	Instructional safeguard ..... :		N/A
B.3.3	DC mains polarity test	AC mains supplied.	N/A
B.3.4	Setting of voltage selector	No voltage selector.	N/A
B.3.5	Maximum load at output terminals	(See appended table B.3)	P
B.3.6	Reverse battery polarity	No battery.	N/A
B.3.7	Audio amplifier abnormal operating conditions	No audio amplifier.	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions..... :	All safeguards remain effective. (See appended table B.3)	P
B.4	**Simulated single fault conditions**		P
B.4.1	General		P
B.4.2	Temperature controlling device	No such device.	N/A
B.4.3	Blocked motor test	No motor.	N/A
B.4.4	Functional insulation	See below	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated PCB used.	N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4)	P
B.4.6	Short circuit or disconnection of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components	No component intended for short-time operation or intermittent operation.	N/A
B.4.8	Compliance during and after single fault conditions ..... :	Enclosure limited to TS1 during and after single fault conditions. Accessible output terminal limited to ES1 and TS1 during and after single fault conditions. No flame during and after single fault condition. (See appended table B.4)	P
B.4.9	Battery charging and discharging under single fault conditions	No battery.	N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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 test		N/A
C.2.4	Xenon-arc light-exposure test		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	**Electrical energy source classification for audio signals**		N/A
	Maximum non-clipped output power (W) ..... :		—
	Rated load impedance (Ω) ..... :		—
	Open-circuit output voltage (V) ..... :		—
	Instructional safeguard ..... :		—
E.2	**Audio amplifier normal operating conditions**		N/A
	Audio signal source type ..... :		—
	Audio output power (W) ..... :		—
	Audio output voltage (V) ..... :		—
	Rated load impedance (Ω) ..... :		—
	Requirements for temperature measurement		N/A
E.3	Audio amplifier abnormal operating conditions		N/A
F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		P
F.1	**General**		P
	Language ..... :	English verified.	—
F.2	**Letter symbols and graphical symbols**		P
F.2.1	Letter symbols according to IEC60027-1	A, V, Hz, W	P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific	In accordance with IEC 60417, ISO 3864-2, ISO 7000 or ISO 7010.	P
F.3	**Equipment markings**		P
F.3.1	Equipment marking locations	The required marking is located on the external enclosure of the equipment.	P
F.3.2	Equipment identification markings	Refer below.	P
F.3.2.1	Manufacturer identification ..... :	See page 2.	—

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.2.2	Model identification ..... :	See page 2.	—
F.3.3	Equipment rating markings	Refer below.	P
F.3.3.1	Equipment with direct connection to mains	Refer F.3.3.3 – F.3.3.6	P
F.3.3.2	Equipment without direct connection to mains	Direct connection to mains.	N/A
F.3.3.3	Nature of the supply voltage ..... :	~ (IEC 60417-5032)	—
F.3.3.4	Rated voltage..... :	See page 2.	—
F.3.3.5	Rated frequency ..... :	See page 2.	—
F.3.3.6	Rated current or rated power..... :	See page 2.	—
F.3.3.7	Equipment with multiple supply connections	Single supply connection.	N/A
F.3.4	Voltage setting device	No voltage selector. Auto ranging used.	P
F.3.5	Terminals and operating devices	Refer below.	P
F.3.5.1	Mains appliance outlet and socket-outlet markings ..... :	No mains outlet.	N/A
F.3.5.2	Switch position identification marking..... :	No switch.	N/A
F.3.5.3	Replacement fuse identification and rating markings ..... :	The primary fuse is located in Live phase and it is marked: F1 T4.0A 250V Neutral phase and it is marked: F2 T4.0A 250V	P
	Instructional safeguards for neutral fuse ..... :		N/A
F.3.5.4	Replacement battery identification marking..... :	No battery.	N/A
F.3.5.5	Neutral conductor terminal	Not permanently connected equipment.	N/A
F.3.5.6	Terminal marking location	No such terminals.	N/A
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I equipment		P
F.3.6.1.1	Protective earthing conductor terminal..... :	Certified Non-Detachable power supply cord used. Open frame construction must be checked in end-product.	P
F.3.6.1.2	Protective bonding conductor terminals ..... :		N/A
F.3.6.2	Equipment class marking..... :	Open frame construction must be checked in end-product.	N/A
F.3.6.3	Functional earthing terminal marking ..... :		N/A
F.3.7	Equipment IP rating marking ..... :	No IP rating.	N/A
F.3.8	External power supply output marking ..... :	See copy of marking plate	P
F.3.9	Durability, legibility and permanence of marking	Marking comply with the requirements.	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.10	Test for permanence of markings	Markings withstand the required test.	P
F.4	**Instructions**		P
	a) Information prior to installation and initial use		P
	b) Equipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection		N/A
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place		N/A
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard		N/A
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment		P
	j) Permanently connected equipment not provided with all-pole mains switch		N/A
	k) Replaceable components or modules providing safeguard function		N/A
	l) Equipment containing insulating liquid		N/A
	m) Installation instructions for outdoor equipment		N/A
F.5	Instructional safeguards		N/A
G	**COMPONENTS**		P
G.1	**Switches**		N/A
G.1.1	General	No mains switch.	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.1.3	Test method and compliance		N/A
G.2	**Relays**		N/A
G.2.1	Requirements	No relay.	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		N/A
G.3	**Protective devices**		P
G.3.1	Thermal cut-offs		N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links		N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors		N/A
G.3.4	Overcurrent protection devices	F1, F2 complied with IEC 60127. See table 4.1.2.	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions ..... :		N/A
G.4	**Connectors**		P
G.4.1	Spacings	Refer to G.4.2.	P
G.4.2	Mains connector configuration..... :	AC connector used for open frame construction. Potted Construction: Certificate non-detachable supply cord used and complies with cl 5.3.2.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	Output connector can't insert into main socket-outlet.	P
G.5	**Wound components**		P
G.5.1	Wire insulation in wound components	(See Annex J)	P
G.5.1.2	Protection against mechanical stress	No cross	P
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Test time (days per cycle)..... :		—
	Test temperature (°C) ..... :		—
G.5.2.3	Wound components supplied from the mains		N/A
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers		P
G.5.3.1	Compliance method..... :	IEC 62368-1 cl.G.5.3.2 & G.5.3.3.	P
	Position ..... :	T1	P
	Method of protection ..... :	Inherent.	P

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.3.2	Insulation	Reinforced.	P
	Protection from displacement of windings ..... :	Refer to transformer specification.	—
G.5.3.3	Transformer overload tests	(See appended table B.3)	P
G.5.3.3.1	Test conditions	Switch mode transformers tested in the complete equipment. Load applied to the output of the power supply unit.	P
G.5.3.3.2	Winding temperatures	Current limiting transformer, Class 130. Temperature limit: 175°C	P
G.5.3.3.3	Winding temperatures - alternative test method		N/A
G.5.3.4	Transformers using FIW	FIW not used.	N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter ..... :		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation ..... :		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A
G.5.4	Motors	No motor.	N/A
G.5.4.1	General requirements		N/A
G.5.4.2	Motor overload test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4.2	Locked-rotor overload test		N/A
	Test duration (days) ..... :		—
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
G.5.4.5.3	Alternative method		N/A
G.5.4.6	Locked-rotor overload test for DC motors		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature ..... :		N/A
G.5.4.6.3	Alternative method		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

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Clause	Requirement + Test	Result - Remark	Verdict
	Operating voltage ..... :		—
G.6	**Wire Insulation**		P
G.6.1	General	Peak working voltage is ES3. Not under mechanical stress. Basic insulation is required. Triple insulated wire in transformer (also used as lead out wires from transformer to PCB secondary side). Peak working voltage is ES3. Reinforced insulation is required. IEC 62368-1 certified component.	P
G.6.2	Enamelled winding wire insulation		N/A
G.7	**Mains supply cords**		P
G.7.1	General requirements	Certificated power supply cord used. (See appended table 4.1.2)	P
	Type ..... :	(See appended table 4.1.2)	—
G.7.2	Cross sectional area (mm^2 or AWG) ..... :	AC Power supply cord: 0.75 mm^2 or 18AWG Output cable: 14AWG	P
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		P
G.7.3.2	Cord strain relief		P
G.7.3.2.1	Requirements	AC Power supply cord: Max. 1.4mm Output cable: Max. 1.5mm	P
	Strain relief test force (N)..... :	30N, 1s and repeated 25 times. 0.25Nm, 1min.	P
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm) ..... :	Complies.	P
G.7.3.2.4	Strain relief and cord anchorage material		P
G.7.4	Cord Entry		P
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, *D* (mm)..... :		—
	Radius of curvature after test (mm) ..... :		—
G.7.6	Supply wiring space		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	**Varistors**		P
G.8.1	General requirements	Complies, see appended table 4.1.2.	P
G.8.2	Safeguards against fire		P
G.8.2.1	General		P
G.8.2.2	Varistor overload test		P
G.8.2.3	Temporary overvoltage test		N/A
G.9	**Integrated circuit (IC) current limiters**		N/A
G.9.1	Requirements	No such component used.	N/A
	IC limiter output current (max. 5A)..... :		—
	Manufacturers' defined drift ..... :		—
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
G.10	**Resistors**		N/A
G.10.1	General		N/A
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A
G.11	**Capacitors and RC units**		P
G.11.1	General requirements	X1 or X2, Y1 capacitors are certified according to IEC60384-14.	P
G.11.2	Conditioning of capacitors and RC units	Capacitors complied with IEC 60384-14.	P
G.11.3	Rules for selecting capacitors	X1 or X2, Y1 capacitors are certified according to IEC60384-14.	P
G.12	**Optocouplers**		P
	Optocouplers comply with IEC 60747-5-5 with specifics	Certificated optocoupler used and comply with requirement. (See appended table 4.1.2)	P
	Type test voltage $V_{ini,a}$..... :		—
	Routine test voltage, $V_{ini,b}$..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
G.13	**Printed boards**	See below:	P
G.13.1	General requirements	Primary and secondary circuits are not insulated by PCB layers.	P
G.13.2	Uncoated printed boards	Safeguard complied cl.5.4.2 & 5.4.3.	P
G.13.3	Coated printed boards	Not used.	N/A
G.13.4	Insulation between conductors on the same inner surface	Inner surface not used with cemented joint requirements.	N/A
G.13.5	Insulation between conductors on different surfaces	Basic insulation. No thickness requirement.	N/A
	Distance through insulation ..... :		N/A
	Number of insulation layers (pcs) ..... :		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A
G.14	**Coating on components terminals**		N/A
G.14.1	Requirements ..... :		N/A
G.15	**Pressurized liquid filled components**		N/A
G.15.1	Requirements		N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	**IC including capacitor discharge function (ICX)**		P
G.16.1	Condition for fault tested is not required	Approved discharge IC used.	P
	ICX with associated circuitry tested in equipment		P
	ICX tested separately		P
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test..... :		—
	Mains voltage that impulses to be superimposed on ..... :		—
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
G.16.3	Capacitor discharge test ..... :		N/A
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		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)..... :		N/A
J	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		P
J.1	**General**		P
	Winding wire insulation ..... :	Triple insulated wire used in transformers are separately approved.	—
	Solid round winding wire, diameter (mm) ..... :		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm^2) ..... :		N/A
J.2/J.3	Tests and Manufacturing	(See separate test report)	—
K	**SAFETY INTERLOCKS**		N/A
K.1	**General requirements**		N/A
	Instructional safeguard ..... :		N/A
K.2	**Components of safety interlock safeguard mechanism**		N/A
K.3	**Inadvertent change of operating mode**		N/A
K.4	**Interlock safeguard override**		N/A
K.5	**Fail-safe**		N/A
K.5.1	Under single fault condition		N/A
K.6	**Mechanically operated safety interlocks**		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance ..... :		N/A
K.7	**Interlock circuit isolation**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm)..... :		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm)..... :		N/A
	Electric strength test before and after the test of K.7.2..... :		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**	Both phase conductors were interrupted by appliance plug. Open frame construction must be checked in end-product.	P
L.2	**Permanently connected equipment**		N/A
L.3	**Parts that remain energized**	No parts remain energized, refer to cl.5.5.2.2.	N/A
L.4	**Single-phase equipment**	Both poles were disconnected simultaneously.	P
L.5	**Three-phase equipment**		N/A
L.6	**Switches as disconnect devices**	Not used.	N/A
L.7	**Plugs as disconnect devices**	No power cord coved in report.	N/A
L.8	**Multiple power sources**	Single power source.	N/A
	Instructional safeguard ..... :		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	Batteries and their cells comply with relevant IEC standards ..... :	No battery.	N/A
M.3	**Protection circuits for batteries provided within the equipment**		N/A
M.3.1	Requirements		N/A
M.3.2	Test method		N/A
	Overcharging of a rechargeable battery		N/A
	Excessive discharging		N/A
	Unintentional charging of a non-rechargeable battery		N/A
	Reverse charging of a rechargeable 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 a portable secondary lithium battery**		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Requirements		N/A
M.4.2.2	Compliance ..... :		N/A
M.4.3	Fire enclosure ..... :		N/A
M.4.4	Drop test of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation and procedure for the drop test		N/A
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%): ..... :		N/A
M.4.4.4	Check of the charge/discharge function		N/A
M.4.4.5	Charge / discharge cycle test		N/A
M.4.4.6	Compliance		N/A
M.5	**Risk of burn due to short-circuit during carrying**		N/A
M.5.1	Requirement		N/A
M.5.2	Test method and compliance		N/A
M.6	**Safeguards against short-circuits**		N/A
M.6.1	External and internal faults		N/A
M.6.2	Compliance		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
	Calculated hydrogen generation rate ..... :		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, *Q* (m^3/h) ..... :		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%) ..... :		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate..... :		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%) ..... :		N/A
M.7.4	Marking ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.8	**Protection against internal ignition from external spark sources of batteries with aqueous electrolyte**		N/A
M.8.1	General		N/A
M.8.2	Test method		N/A
M.8.2.1	General		N/A
M.8.2.2	Estimation of hypothetical volume V_Z (m^3/s)..... :		—
M.8.2.3	Correction factors ..... :		—
M.8.2.4	Calculation of distance *d* (mm) ..... :		—
M.9	**Preventing electrolyte spillage**		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse		N/A
	Instructional safeguard ..... :		N/A
N	**ELECTROCHEMICAL POTENTIALS**		N/A
	Material(s) used ..... :		—
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		P
	Value of *X* (mm)..... :	Considered.	—
P	**SAFEGUARDS AGAINST CONDUCTIVE OBJECTS**		P
P.1	**General**		P
P.2	**Safeguards against entry or consequences of entry of a foreign object**		N/A
P.2.1	General	No openings. Open frame construction must be checked in end-product.	N/A
P.2.2	Safeguards against entry of a foreign object		N/A
	Location and Dimensions (mm) ..... :		—
P.2.3	Safeguards against the consequences of entry of a foreign object		N/A
P.2.3.1	Safeguard requirements		N/A
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A
	Transportable equipment with metalized plastic parts..... :		N/A
P.2.3.2	Consequence of entry test..... :		N/A
P.3	**Safeguards against spillage of internal liquids**		N/A
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	**Metallized coatings and adhesives securing parts**		P
P.4.1	General		P
P.4.2	Tests	See below:	P
	Conditioning, T_C (°C) ..... :	1) condition three complete/welded samples of each config in an oven at 121°C ± 2°C for one week 2) remove the samples from oven and leave them at any convenient temperature between 20°C and 30°C for 1 hr; 3) place the samples in a freezer at −40°C ± 2°C for 4 hrs; 4) remove and allow the samples to come to any convenient temperature between 20°C and 30°C for 8 hrs; 5) place the samples in a cabinet at 91 % to 95 % relative humidity for 72 hrs; 6) remove the samples and leave them at any convenient temperature between 20°C and 30°C for 1 hr; 7) place the samples in an oven at 121 ± 2°C for 4 hrs; 8) remove the samples and allow them to reach any convenient temperature between 20°C and 30°C for 8 hrs. 9) conduct test 4.4.3.2, 4.4.3.3 and 4.4.3.8; Result: The unit enclosure Safeguards remained effective. No damaged, no hazards.	—
	Duration (weeks)..... :		—
Q	**CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING**		N/A
Q.1	**Limited power sources**		N/A
Q.1.1	Requirements		N/A
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	c) Regulating network limited output		N/A
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance ..... :		N/A
	Current rating of overcurrent protective device (A) ..... :		N/A
Q.2	**Test for external circuits – paired conductor cable**		N/A
	Maximum output current (A) ..... :		N/A
	Current limiting method..... :		—
R	**LIMITED SHORT CIRCUIT TEST**		N/A
R.1	**General**		N/A
R.2	**Test setup**		N/A
	Overcurrent protective device for test..... :		—
R.3	**Test method**		N/A
	Cord/cable used for test..... :		—
R.4	**Compliance**		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 ..... :	Fire enclosure is made from V-0 material. No testing required.	—
	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) ..... :		—
S.3	**Flammability test for the bottom of a fire enclosure**		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance		N/A
	Mounting of samples ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Wall thickness (mm) ..... :		—
S.4	**Flammability classification of materials**		N/A
S.5	**Flammability test for fire enclosure materials of equipment with a steady state power exceeding 4 000 W**		N/A
	Samples, material ..... :		—
	Wall thickness (mm) ..... :		—
	Conditioning (°C) ..... :		—
T	**MECHANICAL STRENGTH TESTS**		P
T.1	**General**		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**		N/A
	Fall test		N/A
	Swing test		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	**Glass Impact Test .....:**		N/A
T.10	**Glass fragmentation test**		N/A
	Number of particles counted.....:		N/A
T.11	**Test for telescoping or rod antennas**		N/A
	Torque value (Nm) ..... :		N/A
U	**MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION**		N/A
U.1	**General**		N/A
	Instructional safeguard **:**		N/A
U.2	**Test method and compliance for non-intrinsically protected CRTs**		N/A
U.3	**Protective screen**		N/A
V	**DETERMINATION OF ACCESSIBLE PARTS**		P
V.1	**Accessible parts of equipment**		P
V.1.1	General	Open frame construction must be checked in end-product.	P
V.1.2	Surfaces and openings tested with jointed test probes		P

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Clause	Requirement + Test	Result - Remark	Verdict
V.1.3	Openings tested with straight unjointed test probes	Potted/Encapsulated Construction: No opening.	N/A
V.1.4	Plugs, jacks, connectors tested with blunt probe		N/A
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		P
V.2	**Accessible part criterion**		P
X	**ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)**		N/A
	Clearance .....:	(See appended table X)	N/A
Y	**CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES**		N/A
Y.1	**General**	Not intended for outdoor used.	N/A
Y.2	**Resistance to UV radiation**		N/A
Y.3	**Resistance to corrosion**		N/A
Y.3	**Resistance to corrosion**		N/A
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by..... :		N/A
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A
Y.3.4	Test procedure ..... :		N/A
Y.3.5	Compliance		N/A
Y.4	**Gaskets**		N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests		N/A
	Alternative test methods ..... :		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A
Y.4.6	Securing means		N/A
Y.5	**Protection of equipment within an outdoor enclosure**		N/A
Y.5.1	General		N/A
Y.5.2	Protection from moisture		N/A
	Relevant tests of IEC 60529 or Y.5.3 ..... :		N/A
Y.5.3	Water spray test		N/A
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		N/A
Y.5.5.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Y.5.5.2	IP5X equipment		N/A
Y.5.5.3	IP6X equipment		N/A
Y.6	**Mechanical strength of enclosures**		N/A
Y.6.1	General		N/A
Y.6.2	Impact test ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5.2	**TABLE: Classification of electrical energy sources**						P
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters				ES Class
			U (V)	I (mA)	Type[1)]	Additional Info [2)]	
Model: GTM962250P22554A-F							
264Vac	Primary Circuit	Normal	N/A	N/A	N/A	N/A	ES3
		Abnormal	N/A	N/A	N/A	N/A	
		Single fault – SC/OC	N/A	N/A	N/A	N/A	
264Vac	+54Vdc output	Normal	53.83Vdc	N/A	SS	DC	ES1
		Abnormal (output overload)	53.83Vdc	N/A	SS	DC	
		Fault (Refer to fault condition on table B.3 & B.4, output shutdown)	0	N/A	SS	DC	
		Fault (Refer to fault condition on table B.3 & B.4, fuse open)	0	N/A	SS	DC	
264Vac	X-Cap (CX1)	0.473µF ±20% Max	374Vpk	N/A	CP	N/A	ES3
Supplementary information:							
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc. 2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc. SC=Short Circuit, OC= Open Circuit.							

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

5.4.1.8	TABLE: Working voltage measurement			P
Location	Peak voltage (V)	RMS voltage (V)	Frequency (Hz)	Comments
Model: **GTM962250P22554A-F**				
T1 Pin 2 to Pin A1	456	**259**	117.6K	Max. Vrms
T1 Pin 2 to Pin A2	400	219	117.6K	--
T1 Pin 2 to Pin B2	416	182	117.6K	--
T1 Pin 2 to Pin C1	416	240	117.6K	--
T1 Pin 2 to Pin C2	408	232	117.6K	--
T1 Pin 3 to Pin A1	328	145	117.6K	--
T1 Pin 3 to Pin A2	292	143	117.6K	--
T1 Pin 3 to Pin B2	360	156	117.6K	--
T1 Pin 3 to Pin C1	288	159	117.6K	--
T1 Pin 3 to Pin C2	296	160	117.6K	--
T1 Pin 4 to Pin A1	472	219	117.6K	--
T1 Pin 4 to Pin A2	424	210	117.6K	--
T1 Pin 4 to Pin B2	448	213	117.6K	--
T1 Pin 4 to Pin C1	376	172	117.6K	--
T1 Pin 4 to Pin C2	368	170	117.6K	--
T1 Pin 5 to Pin A1	**464**	215	117.6K	Max. Vp
T1 Pin 5 to Pin A2	400	209	117.6K	
T1 Pin 5 to Pin B2	464	215	117.6K	
T1 Pin 5 to Pin C1	354	171	117.6K	
T1 Pin 5 to Pin C2	344	170	117.6K	
T1 Pin 6 to Pin A1	452	216	117.6K	
T1 Pin 6 to Pin A2	396	210	117.6K	
T1 Pin 6 to Pin B2	456	216	117.6K	
T1 Pin 6 to Pin C1	356	171	117.6K	
T1 Pin 6 to Pin C2	344	170	117.6K	
Q2 Pin S (FB2) to T1 Pin A2	408	224	117.6K	
Q2 Pin S (FB2) to T1 Pin B2	400	184	117.6K	
Q2 Pin D (near R20) to T1 Pin A1	472	267	117.6K	
Q2 Pin D (near R20) to T1 Pin C1	432	249	117.6K	
R20 to ZD1	408	233	60	
U4 Pin 1 to Pin 3	368	184	60	
U4 Pin 1 to Pin 4	364	184	60	

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Clause	Requirement + Test	Result - Remark	Verdict

U4 Pin 2 to Pin 3	368	185	60	
U4 Pin 2 to Pin 4	364	183	60	
L2 Pin 2 to L3	400	210	60	
C37 to C27 “+”	400	211	60	
C37 to C27 “-”	344	170	60	
FB2 to R45 (Class I construction)	400	232	60	
CY3 (Class I construction)	352	170	60	
FB2 to R45 (Class II construction)	376	196	60	
R45 to C27”-” (Class II construction)	128	61	60	
R45 to T1 Pin B2 (Class II construction)	176	77	60	
CY3 (Class II construction)	208	91	60	
CY4 (Class II construction)	120	80	60	
Supplementary information:				
The highest measured working voltages in transformer are indicated with bold characters. Vin=240Vac, 60Hz				

5.4.1.10.2	**TABLE: Vicat softening temperature of thermoplastics**		N/A
Method.....:		ISO 306 / B50	—
Object/ Part No./Material	Manufacturer/trademark	Thickness (mm)	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	Thickness (mm)	Test temperature (°C)	Impression diameter (mm)
AC connector/ VH series *)	Japan Solderless Terminal Mfg Co Ltd	2.5	125	1.5
Supplementary information:				
*) Only for open frame construction.				

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.2, 5.4.3	TABLE: Minimum Clearances/Creepage distance							P
Clearance (cl) and creepage distance (cr) at/of/between:	U_p (V)	U_{rms} (V)	Freq 1) (kHz)	Required cl (mm) **)	cl (mm)	E.S. 2) (V)	Required cr (mm) 3)	cr (mm)
Basic/supplementary:								
L trace to N trace Before fuse	340	240	0.06	2.3	3.7	N/A	2.5	3.7
Between fuse trace (F1, F2)	340	240	0.06	2.3	3.1	N/A	2.5	3.1
Primary trace (L &N) to PE trace	340	240	0.06	2.3	3.8	N/A	2.5	3.8
Under CY3 (on Trace) ***1) 2)***	340	240	0.06	2.3	4.8	N/A	2.5	5.3
Under CY4 (on Trace) ***1) 2)***	340	240	0.06	2.3	4.5	N/A	2.5	6.4
FB2 to R45 (on Trace) ***1) 2)***	340	240	0.06	2.3	3.7	N/A	2.5	6.5
R45 to C27 (on Trace) ***1) 2)***	340	240	0.06	2.3	4.5	N/A	2.5	6.3
R45 to T1 Pin B2 (on Trace) ***2)***	340	240	0.06	2.3	6.3	N/A	2.5	6.3
Reinforced:								
U4 Primary trace to Secondary trace	368	240	0.06	4.5	8.2	N/A	5.0	8.2
L2 to L3 (on trace)	400	240	0.06	4.5	11.8	N/A	5.0	11.8
L2 to C27 (on component)	400	240	0.06	4.5	5.1	N/A	5.0	5.1
Under CY3 (on Trace) ***1) 3)***	352	240	117.6K	4.5	4.8	N/A	5.0	6.5
Q2 to T1 (on trace)	472	267	117.6K	4.5	8.1	N/A	5.4 ***)***	8.1
R20 to ZD1 (on trace)	408	240	0.06	4.5	11.1	N/A	5.0	11.1
Below for transformer T1:								
Reinforced: Primary to Secondary	464	259	117.6K	4.5	9.0	N/A	5.2 ***)***	9.0
Reinforced: Secondary to Core	464	259	117.6K	4.5	9.0	N/A	5.2 ***)***	9.0

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

1) Only for frequency above 30 kHz
2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied)
3) Provide Material Group IIIb.

No components reduce distance after 10N steady force applied.
1) There is a slot with 2.1mm between measuring points.
2) Class II construction.
3) Class I construction. Function earthing connection R45 terminal.

****)*** Linear interpolation used.

*****)*** A multiplier factor (1.48) was used to consider the additional altitude requirement for clearance as described under General product information.

For L Frame Construction and Full cage Construction: A mylar sheet is between the bottom of the PCB and metal panel. Detail see photos.

5.4.4.2	**TABLE: Minimum distance through insulation**			P
Distance through insulation (DTI) at/of	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)
Enclosure	464	Reinforced	0.4mm	Min. 2.0mm
Insulation tape for T1	464	Reinforced	2 layers	2 layers
Bobbin of T1	464	Reinforced	0.4	Min. 0.71mm
Supplementary information:				

5.4.4.9	**TABLE: Solid insulation at frequencies >30 kHz**					P
Insulation material	E_P	Frequency (kHz)	K_R	Thickness *d* (mm)	Insulation	V_{PW} (Vpk)
Bobbin of T1: all sources ***1)***	17	117.6	0.53	Min. 0.71	Reinforced	464
Insulation tape of T1: all sources ***2)***	--	117.6	0.34	--	Reinforced	464

Supplementary information:

1) Calculated actual electric strength (Vw) for reinforced insulation = E_P x K_R x d = 17 x 0.71 x 0.53 = 6.397kV, 2.4 times of peak working voltage Vpw for reinforced insulation = 2.4 x 464 / 1.41 = 0.790 kV, 6.397 kV > 0.790 kV.
2) According to clause 5.4.4.9 alternative method:
Highest working frequency: 117.6 kHz on T1
For Insulation tape (RI):
Kr=0.34, Vpw=464Vp. Required electric strength test voltage: 1.2*2*464/0.34=3275.3Vpeak
The insulation tape can pass the 3275.3Vpeak Electric strength tests.

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V) ***)**	Breakdown Yes / No
Basic:				
Live – Neutral (disconnected fuse)		DC	2500 V	No
Live/ Neutral to PE		DC	2500 V	No
Mylar sheet ****)**		DC	2500 V	No
Reinforced:				
Unit: Primary / enclosure with foil		DC	4000 V	No
Unit: Primary to secondary		DC	4000 V	No
T1: Primary to Secondary		DC	4000 V	No
T1: Core to Secondary ***1)***		DC	4000 V	No
One layer of insulation tape (T1) (see appended tables 4.1.2)		DC	4000 V	No
Supplementary information:				
)** Method of transient voltage considered. *)** All sources were tested. ***1)*** T1 core considered as primary.				

5.5.2.2	TABLE: Stored discharge on capacitors				P
Location	Supply voltage (V)	Operating and fault condition [1)]	Switch position	Measured voltage (Vpk)	ES Class
L/N	264V/60Hz	Normal	N/A	8	ES1
Supplementary information:					
X-capacitors installed for testing: CX1=Max. 0.47µF (see table 4.1.2).					
☒ bleeding resistor rating: R1A=R1B=4.7Mohm, R2=R3=10Mohm (see table 4.1.2).					
☒ ICX: U1 TEA19162T (see table 4.1.2).					
[1)] Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit					

5.6.6	TABLE: Resistance of protective conductors and terminations			P
Location	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
PE Earthing to fastest point on Metal chassis	32	2	0.544	0.017
PE Earthing to fastest point on Metal chassis	40	2	0.680	0.017
Supplementary information:				
For L Frame Construction and Full cage Construction.				

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Clause	Requirement + Test	Result - Remark	Verdict

5.7.4	TABLE: Unearthed accessible parts					P
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V_{rms} or V_{pk})	Current (A_{rms} or A_{pk})	Freq. (Hz)	
Output (Class I Construction)	Normal	264	N/A	0.384 mApk	60	ES1 *)
	Fault (Refer to fault condition on table B.3 and B.4, output shutdown)	264	N/A	0.384 mApk	60	ES1 *)
	Fault (Refer to fault condition on table B.3 and B.4, fuse open)	264	N/A	0.400 mApk	60	ES1 *)
	Fault (Single fault condition of basic safeguard: loss of protective earth connection)	264Vac	N/A	0.432 mApk	60	ES1 **)
Output (Class II Construction)	Normal	264	N/A	0.264 mApk	60	ES1 *)
	Fault (Refer to fault condition on table B.3 and B.4, output shutdown)	264	N/A	0.264 mApk	60	ES1 *)
	Fault (Refer to fault condition on table B.3 and B.4, fuse open)	264	N/A	0.288 mApk	60	ES1 *)
Accessible Enclosure (with metal foil) to earth	Normal	264Vac	N/A	0.005 mApk	60	ES1 *)
	Fault (Refer to fault condition on table B.3 & B.4, output shutdown)	264Vac	N/A	0.005 mApk	60	ES1 *)
	Fault (Refer to fault condition on table B.3 & B.4, fuse open)	264Vac	N/A	0.005 mApk	60	ES1 *)
Supplementary information:						
Vin= 264Vac, 60Hz *) Test with IEC 60990 figure 4. **) Test with IEC 60990 figure 5.						

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Clause	Requirement + Test	Result - Remark	Verdict

5.7.5	TABLE: Earthed accessible conductive part			P
Supply voltage (V) ..... :	264Vac			—
Phase(s) ..... :	[x] Single Phase; [ ] Three Phase: [ ] Delta [ ] Wye			
Power Distribution System ..... :	[x] TN [ ]TT [x] IT (230V for Norway)			
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment	
Earth parts	1	0.432mApk	N/A	
	2(*)	N/A	N/A	
	3	***1)***	N/A	
	4	N/A	N/A	
	5	***2)***	N/A	
	6	N/A	N/A	
	8	N/A	N/A	
Supplementary Information:				
[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. ***1)*** Norway IT POWER SYSTEM LINE FAULT CONDITION WAS EVALUATED, WHICH IS AS SAME AS TN, TT system earthing conductor fault condition, other IT power system is not evaluated. ***2)*** Not applicable, Single-phase equipment.				

5.8	TABLE: Backfeed safeguard in battery backed up supplies					N/A
Location	Supply voltage (V)	Operating and fault condition	Time (s)	Open-circuit voltage (V)	Touch current (A)	ES Class
Supplementary information:						

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.2	TABLE: Power source circuit classifications					P
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power[1)] (W)	Time (S)	PS class
All circuits	N/A	N/A	N/A	N/A	N/A	PS3
Supplementary information:						
Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3.						

6.2.3.1	TABLE: Determination of Arcing PIS			P
Location	Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No
Varistor	N/A	N/A	N/A	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 (Vp) and normal operating condition rms current (Irms) is greater than 15W. Fire enclosure used. Open frame construction must be checked in end-product.				

6.2.3.2	TABLE: Determination of resistive PIS		P
Location	Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No
All Circuits	N/A	N/A	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 (V x I) is used to determine Resistive PIS classification. A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, <u>or</u> (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. *) All circuit declared as resistive PIS, fire enclosure used.			

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Clause	Requirement + Test	Result - Remark	Verdict

8.5.5	TABLE: High pressure lamp				N/A
Lamp manufacturer	Lamp type	Explosion method	Longest axis of glass particle (mm)	Particle found beyond 1 m Yes / No	
Supplementary information:					

9.6	TABLE: Temperature measurements for wireless power transmitters								N/A
Supply voltage (V)..... :									—
Max. transmit power of transmitter (W)..... :									—
Foreign objects	w/o receiver and direct contact		with receiver and direct contact		with receiver and at distance of 2 mm		with receiver and at distance of 5 mm		
	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	
Supplementary information:									

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—	
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—	
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)	
Model: GTM962250P22554A-F with DC Fan					
1.AC Quick Connector	63.01	60.43	55.15	125	
2.Line choke of LF1	99.63	90.07	59.42	120 ***)**	
3.Varistor MOV1	72.18	67.78	56.52	105	
4.E-capacitor (C3)	79.10	74.99	62.80	105	
5.X-capacitor (CX1)	72.39	68.33	57.11	100	
6.Line choke of L2	77.71	73.20	59.41	120 ***)**	
7.PCB under BD1	72.82	68.77	57.50	130	
8.PCB near T1	70.38	68.61	67.23	130	
9.Output Quick Connector	58.79	57.27	57.80	125	
10.Transformer (T1) Winding	88.84	86.90	85.17	110 ***)**	
11. Transformer (T1) Core	80.38	78.64	77.13	110 ***)**	
12. Optocoupler U4	75.57	73.45	69.16	110	
13. CY3 body	83.34	80.26	72.73	125	
14. Line choke of LF2	76.43	71.31	56.68	120 ***)**	
15. Line choke of L1	89.55	80.96	59.33	120 ***)**	
16. Line choke of L3	58.09	59.55	58.27	120 ***)**	
17. C28 body	62.04	60.50	60.54	105	
18. Ambient	52.77	51.40	51.97	--	
Supplementary information:					
Tmra=50°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—	
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—	
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)	
Model: GTM962250P22554A-F with DC Fan					
1.AC Quick Connector	69.80	68.04	62.02	125	
2.Line choke of LF1	107.86	97.85	67.86	120 ***)**	
3.Varistor MOV1	78.86	76.23	64.14	105	
4.E-capacitor (C3)	82.77	82.98	72.15	105	
5.X-capacitor (CX1)	76.62	78.21	65.82	100	
6.Line choke of L2	83.60	81.89	68.08	120 ***)**	
7.PCB under BD1	77.48	76.62	66.82	130	
8.PCB near T1	76.30	78.06	76.58	130	
9.Output Quick Connector	63.72	65.95	66.39	125	
10.Transformer (T1) Winding	93.38	95.51	92.55	110 ***)**	
11. Transformer (T1) Core	84.22	86.38	84.31	110 ***)**	
12. Optocoupler U4	81.29	83.09	79.16	110	
13. CY3 body	90.13	89.82	81.96	125	
14. Line choke of LF2	82.41	80.82	65.22	120 ***)**	
15. Line choke of L1	95.60	89.57	68.38	120 ***)**	
16. Line choke of L3	63.66	66.36	67.06	120 ***)**	
17. C28 body	67.16	69.63	68.99	105	
18. Ambient	57.75	59.41	60.73	--	
Supplementary information:					
Tmra=60°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P22554A-F with DC Fan				
1.AC Quick Connector	78.92	77.70	71.63	125
2.Line choke of LF1	105.53	100.34	76.29	120 ***)**
3.Varistor MOV1	83.01	81.57	72.79	105
4.E-capacitor (C3)	91.41	89.54	80.15	105
5.X-capacitor (CX1)	86.48	84.48	74.72	100
6.Line choke of L2	89.21	87.98	77.93	120 ***)**
7.PCB under BD1	88.23	85.54	75.44	130
8.PCB near T1	84.70	83.95	81.81	130
9.Output Quick Connector	74.80	73.71	73.13	125
10.Transformer (T1) Winding	96.40	95.63	92.28	110 ***)**
11. Transformer (T1) Core	85.93	85.10	83.07	110 ***)**
12. Optocoupler U4	90.13	89.56	84.90	110
13. CY3 body	95.55	93.82	85.95	125
14. Line choke of LF2	88.29	85.84	73.80	120 ***)**
15. Line choke of L1	99.82	95.63	77.76	120 ***)**
16. Line choke of L3	76.33	75.22	73.86	120 ***)**
17. C28 body	78.49	77.30	75.94	105
18. Ambient	70.01	70.06	69.88	--
Supplementary information:				
Tmra=70°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—	
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—	
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)	
Model: GTM962250P22554A-F with DC Fan					
1.AC Quick Connector	86.00	85.17	81.97	125	
2.Line choke of LF1	101.67	98.49	85.42	120 ***)**	
3.Varistor MOV1	88.54	87.31	82.85	105	
4.E-capacitor (C3)	95.32	94.13	88.57	105	
5.X-capacitor (CX1)	91.30	89.89	84.56	100	
6.Line choke of L2	94.19	92.89	85.97	120 ***)**	
7.PCB under BD1	92.66	91.40	84.69	130	
8.PCB near T1	92.03	91.51	89.91	130	
9.Output Quick Connector	83.68	83.45	83.11	125	
10.Transformer (T1) Winding	100.30	99.81	97.52	110 ***)**	
11. Transformer (T1) Core	92.55	92.24	90.63	110 ***)**	
12. Optocoupler U4	96.52	95.73	92.57	110	
13. CY3 body	99.81	98.79	93.49	125	
14. Line choke of LF2	91.90	90.15	83.67	120 ***)**	
15. Line choke of L1	99.22	96.84	86.27	120 ***)**	
16. Line choke of L3	85.02	84.83	83.77	120 ***)**	
17. C28 body	86.84	86.62	85.44	105	
18. Ambient	80.56	80.09	80.33	--	
Supplementary information:					
Tmra=80°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P14054A-F without DC Fan				
1.AC Quick Connector	62.67	62.36	56.08	125
2.Line choke of LF1	95.03	91.89	68.89	120 ***)**
3.Varistor MOV1	70.55	69.41	59.33	105
4.E-capacitor (C3)	98.44	96.46	79.00	105
5.X-capacitor (CX1)	80.81	79.17	65.92	100
6.Line choke of L2	103.95	101.58	79.16	120 ***)**
7.PCB under BD1	97.98	95.19	72.77	130
8.PCB near T1	78.55	78.37	74.44	130
9.Output Quick Connector	64.97	65.43	63.59	125
10.Transformer (T1) Winding	97.88	97.09	89.56	110 ***)**
11. Transformer (T1) Core	90.08	89.88	84.48	110 ***)**
12. Optocoupler U4	83.73	83.07	75.85	110
13. CY3 body	105.67	103.98	88.26	125
14. Line choke of LF2	77.35	75.81	62.40	120 ***)**
15. Line choke of L1	109.65	106.05	77.70	120 ***)**
16. Line choke of L3	79.14	78.93	73.01	120 ***)**
17. C28 body	80.57	80.44	75.60	105
18. Ambient	49.83	50.37	50.13	--
Supplementary information:				
Tmra=50°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—	
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—	
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)	
Model: GTM962250P14054A-F without DC Fan					
1.AC Quick Connector	69.01	68.51	64.93	125	
2.Line choke of LF1	89.18	87.35	75.44	120 ***)**	
3.Varistor MOV1	74.07	73.23	67.62	105	
4.E-capacitor (C3)	94.35	92.98	83.42	105	
5.X-capacitor (CX1)	81.47	80.39	73.16	100	
6.Line choke of L2	97.90	96.52	83.86	120 ***)**	
7.PCB under BD1	92.05	90.29	78.76	130	
8.PCB near T1	82.22	81.91	79.34	130	
9.Output Quick Connector	71.94	71.87	70.60	125	
10.Transformer (T1) Winding	95.67	95.09	91.03	110 ***)**	
11. Transformer (T1) Core	90.48	89.95	86.87	110 ***)**	
12. Optocoupler U4	85.67	85.05	80.94	110	
13. CY3 body	100.59	99.44	90.70	125	
14. Line choke of LF2	78.34	77.22	70.15	120 ***)**	
15. Line choke of L1	99.54	97.25	82.60	120 ***)**	
16. Line choke of L3	82.46	81.97	78.24	120 ***)**	
17. C28 body	83.59	83.19	80.13	105	
18. Ambient	59.87	59.89	59.79	--	
Supplementary information:					
Tmra=60°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					

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:							

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P14054A-F without DC Fan				
1.AC Quick Connector	75.41	75.66	74.79	125
2.Line choke of LF1	87.61	87.29	83.55	120 ***)**
3.Varistor MOV1	78.54	78.65	77.18	105
4.E-capacitor (C3)	93.34	93.50	90.03	105
5.X-capacitor (CX1)	83.80	83.77	81.85	100
6.Line choke of L2	96.31	96.68	90.22	120 ***)**
7.PCB under BD1	90.23	90.03	86.35	130
8.PCB near T1	87.06	87.20	86.56	130
9.Output Quick Connector	79.07	79.26	79.18	125
10.Transformer (T1) Winding	96.72	97.18	95.91	110 ***)**
11. Transformer (T1) Core	92.86	93.57	92.57	110 ***)**
12. Optocoupler U4	89.32	89.12	87.98	110
13. CY3 body	99.31	99.57	95.91	125
14. Line choke of LF2	81.27	81.27	79.34	120 ***)**
15. Line choke of L1	94.72	94.35	89.44	120 ***)**
16. Line choke of L3	86.90	87.10	85.66	120 ***)**
17. C28 body	87.99	88.21	87.20	105
18. Ambient	69.32	68.85	70.02	--
Supplementary information:				
Tmra=70°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P14054A-F without DC Fan				
1.AC Quick Connector	80.50	83.62	83.89	125
2.Line choke of LF1	80.72	89.86	91.08	120 ***)**
3.Varistor MOV1	80.53	85.37	85.89	105
4.E-capacitor (C3)	81.07	95.01	95.31	105
5.X-capacitor (CX1)	80.52	88.47	89.66	100
6.Line choke of L2	81.03	97.83	93.95	120 ***)**
7.PCB under BD1	81.23	91.35	93.97	130
8.PCB near T1	82.03	93.10	92.64	130
9.Output Quick Connector	81.22	87.49	87.11	125
10.Transformer (T1) Winding	80.71	98.42	97.84	110 ***)**
11. Transformer (T1) Core	80.83	96.29	95.70	110 ***)**
12. Optocoupler U4	82.39	94.11	93.66	110
13. CY3 body	81.26	99.99	98.42	125
14. Line choke of LF2	80.45	86.80	87.65	120 ***)**
15. Line choke of L1	81.06	93.99	96.11	120 ***)**
16. Line choke of L3	81.81	93.03	92.02	120 ***)**
17. C28 body	81.64	93.92	93.20	105
18. Ambient	79.78	79.77	79.39	--
Supplementary information:				
Tmra=80°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P22536A-F with DC Fan				
1.AC Quick Connector	59.39	58.27	53.51	125
2.Line choke of LF1	85.35	80.67	58.93	120 ***)**
3.Varistor MOV1	67.93	65.79	55.48	105
4.E-capacitor (C3)	77.77	75.51	64.73	105
5.X-capacitor (CX1)	73.08	70.28	57.86	100
6.Line choke of L2	80.37	77.38	61.04	120 ***)**
7.PCB under BD1	71.78	69.61	58.46	130
8.PCB near T1	67.92	67.50	67.51	130
9.Output Quick Connector	57.75	57.97	58.03	125
10.Transformer (T1) Winding	75.43	75.36	75.41	110 ***)**
11. Transformer (T1) Core	70.45	70.33	70.82	110 ***)**
12. Optocoupler U4	69.59	68.82	66.79	110
13. CY3 body	71.71	70.35	64.24	125
14. Line choke of LF2	70.58	67.79	55.92	120 ***)**
15. Line choke of L1	81.85	77.38	60.10	120 ***)**
16. Line choke of L3	59.25	59.38	59.16	120 ***)**
17. C28 body	60.21	59.98	59.65	105
18. Ambient	50.27	50.37	50.40	--
Supplementary information:				
Tmra=50°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P22536A-F with DC Fan				
1.AC Quick Connector	68.76	68.29	62.41	125
2.Line choke of LF1	97.45	94.70	68.61	120 ***)**
3.Varistor MOV1	75.18	74.74	64.23	105
4.E-capacitor (C3)	85.71	86.60	73.90	105
5.X-capacitor (CX1)	80.04	79.26	66.16	100
6.Line choke of L2	91.38	89.85	70.00	120 ***)**
7.PCB under BD1	81.52	80.40	67.50	130
8.PCB near T1	80.21	81.73	79.16	130
9.Output Quick Connector	68.86	68.48	67.17	125
10.Transformer (T1) Winding	89.39	91.23	87.58	110 ***)**
11. Transformer (T1) Core	86.92	88.43	84.83	110 ***)**
12. Optocoupler U4	80.11	82.35	77.60	110
13. CY3 body	83.79	84.18	74.03	125
14. Line choke of LF2	78.05	77.20	64.83	120 ***)**
15. Line choke of L1	92.56	90.72	69.32	120 ***)**
16. Line choke of L3	70.76	68.99	68.01	120 ***)**
17. C28 body	72.69	72.47	70.54	105
18. Ambient	60.73	60.43	59.62	--
Supplementary information:				
Tmra=60°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—	
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—	
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)	
Model: GTM962250P22536A-F with DC Fan					
1.AC Quick Connector	79.88	77.23	73.37	125	
2.Line choke of LF1	106.33	100.05	79.46	120 ***)**	
3.Varistor MOV1	86.86	83.03	75.27	105	
4.E-capacitor (C3)	97.31	93.78	84.19	105	
5.X-capacitor (CX1)	91.28	86.01	77.08	100	
6.Line choke of L2	100.58	95.97	80.82	120 ***)**	
7.PCB under BD1	93.50	89.11	78.28	130	
8.PCB near T1	91.78	89.97	88.57	130	
9.Output Quick Connector	80.04	78.64	78.57	125	
10.Transformer (T1) Winding	99.03	97.03	95.96	110 ***)**	
11. Transformer (T1) Core	95.46	93.42	93.21	110 ***)**	
12. Optocoupler U4	93.38	91.09	87.86	110	
13. CY3 body	94.57	91.52	84.76	125	
14. Line choke of LF2	89.52	84.85	75.86	120 ***)**	
15. Line choke of L1	102.96	97.19	80.37	120 ***)**	
16. Line choke of L3	80.77	80.26	79.91	120 ***)**	
17. C28 body	83.12	81.06	80.88	105	
18. Ambient	71.38	70.13	70.90	--	
Supplementary information:					
Tmra=70°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—	
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—	
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)	
Model: GTM962250P22536A-F with DC Fan					
1.AC Quick Connector	85.87	85.58	82.86	125	
2.Line choke of LF1	103.27	101.56	88.26	120 ***)**	
3.Varistor MOV1	90.68	89.93	84.79	105	
4.E-capacitor (C3)	98.86	98.18	91.83	105	
5.X-capacitor (CX1)	92.95	92.18	86.18	100	
6.Line choke of L2	100.27	99.16	89.46	120 ***)**	
7.PCB under BD1	96.69	95.79	87.91	130	
8.PCB near T1	96.06	95.84	95.02	130	
9.Output Quick Connector	87.32	87.39	87.58	125	
10.Transformer (T1) Winding	101.16	101.06	100.12	110 ***)**	
11. Transformer (T1) Core	98.52	98.39	97.83	110 ***)**	
12. Optocoupler U4	98.05	97.68	95.61	110	
13. CY3 body	98.29	97.64	92.83	125	
14. Line choke of LF2	91.89	91.20	85.14	120 ***)**	
15. Line choke of L1	101.75	100.39	89.26	120 ***)**	
16. Line choke of L3	87.81	87.36	87.66	120 ***)**	
17. C28 body	88.92	89.02	88.69	105	
18. Ambient	79.69	79.60	79.31	--	
Supplementary information:					
Tmra=80°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz		—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--		—
Maximum measured temperature *T* of part/at:	*T* (°C)				Allowed T_{max} (°C)
Model: GTM962250P14036A-F without DC Fan					
1.AC Quick Connector	64.5	64.70	54.15		125
2.Line choke of LF1	84.3	84.34	70.41		120 ***)**
3.Varistor MOV1	70.9	73.55	59.40		105
4.E-capacitor (C3)	99.4	99.02	84.11		105
5.X-capacitor (CX1)	82.9	80.04	67.47		100
6.Line choke of L2	102.2	100.54	84.69		120 ***)**
7.PCB under BD1	94.0	93.70	74.07		130
8.PCB near T1	81.6	84.04	80.96		130
9.Output Quick Connector	67.6	68.06	65.09		125
10.Transformer (T1) Winding	107.9	108.40	98.24		110 ***)**
11. Transformer (T1) Core	100.8	103.30	90.86		110 ***)**
12. Optocoupler U4	87.8	92.02	83.04		110
13. CY3 body	102.0	101.91	90.15		125
14. Line choke of LF2	75.2	74.17	63.41		120 ***)**
15. Line choke of L1	99.7	101.11	78.69		120 ***)**
16. Line choke of L3	78.1	77.48	75.35		120 ***)**
17. C28 body	84.1	84.89	79.80		105
18. Ambient	50.4	50.95	50.00		--
Supplementary information:					
Tmra=50°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					
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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/50Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P14036A-F without DC Fan				
1.AC Quick Connector	66.92	66.47	63.75	125
2.Line choke of LF1	91.26	89.26	77.34	120 ***)**
3.Varistor MOV1	74.68	73.73	68.03	105
4.E-capacitor (C3)	101.26	99.63	88.83	105
5.X-capacitor (CX1)	84.01	82.75	74.94	100
6.Line choke of L2	105.74	103.90	89.46	120 ***)**
7.PCB under BD1	94.70	92.84	81.01	130
8.PCB near T1	88.39	87.87	84.51	130
9.Output Quick Connector	73.51	73.30	71.86	125
10.Transformer (T1) Winding	105.61	104.72	98.95	110 ***)**
11. Transformer (T1) Core	99.84	99.03	93.71	110 ***)**
12. Optocoupler U4	94.22	93.34	87.85	110
13. CY3 body	104.82	103.44	93.77	125
14. Line choke of LF2	80.89	79.49	71.42	120
15. Line choke of L1	100.65	98.43	84.71	120 ***)**
16. Line choke of L3	83.33	82.77	79.85	120 ***)**
17. C28 body	87.08	86.63	83.22	105
18. Ambient	60.68	60.58	60.86	--
Supplementary information:				
Tmra=60°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P14036A-F without DC Fan				
1.AC Quick Connector	74.09	73.97	72.99	125
2.Line choke of LF1	89.54	88.92	84.61	120 ***)**
3.Varistor MOV1	78.84	78.50	76.46	105
4.E-capacitor (C3)	99.47	99.10	94.50	105
5.X-capacitor (CX1)	85.42	85.05	82.36	100
6.Line choke of L2	102.39	102.16	94.52	120 ***)**
7.PCB under BD1	92.69	92.09	87.88	130
8.PCB near T1	91.76	91.69	90.01	130
9.Output Quick Connector	79.84	79.86	79.18	125
10.Transformer (T1) Winding	106.40	106.32	103.37	110 ***)**
11. Transformer (T1) Core	102.07	101.96	99.32	110 ***)**
12. Optocoupler U4	96.90	96.76	94.04	110
13. CY3 body	104.37	104.19	99.37	125
14. Line choke of LF2	82.70	82.21	79.28	120 ***)**
15. Line choke of L1	97.00	96.38	91.15	120 ***)**
16. Line choke of L3	87.09	87.12	85.51	120 ***)**
17. C28 body	90.44	90.43	88.62	105
18. Ambient	70.78	70.80	70.69	--
Supplementary information:				
Tmra=70°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P14036A-F without DC Fan				
1.AC Quick Connector	81.17	81.31	81.56	125
2.Line choke of LF1	89.45	89.49	90.71	120 ***)**
3.Varistor MOV1	83.60	83.72	84.22	105
4.E-capacitor (C3)	96.76	96.87	97.07	105
5.X-capacitor (CX1)	87.47	87.56	88.67	100
6.Line choke of L2	99.35	99.59	95.48	120 ***)**
7.PCB under BD1	91.64	91.65	93.81	130
8.PCB near T1	93.00	93.12	92.77	130
9.Output Quick Connector	85.84	85.97	85.72	125
10.Transformer (T1) Winding	100.98	101.17	100.63	110 ***)**
11. Transformer (T1) Core	98.80	98.95	98.49	110 ***)**
12. Optocoupler U4	96.08	96.26	95.86	110
13. CY3 body	100.55	100.73	99.22	125
14. Line choke of LF2	85.58	85.67	86.37	120 ***)**
15. Line choke of L1	94.32	94.34	95.91	120 ***)**
16. Line choke of L3	90.84	90.90	90.38	120 ***)**
17. C28 body	92.28	92.44	92.02	105
18. Ambient	80.64	80.79	80.74	--
Supplementary information:				
Tmra=80°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/50Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P22524A-F with DC Fan				
1.AC Quick Connector	59.70	57.69	54.30	125
2.Line choke of LF1	102.37	93.30	61.34	120 ***)**
3.Varistor MOV1	72.23	67.85	56.51	105
4.E-capacitor (C3)	77.71	74.26	64.73	105
5.X-capacitor (CX1)	76.38	71.95	58.28	100
6.Line choke of L2	68.89	66.43	57.51	120 ***)**
7.PCB under BD1	78.58	74.31	60.50	130
8.PCB near T1	69.20	68.88	71.94	130
9.Output Quick Connector	58.25	59.07	61.88	125
10.Transformer (T1) Winding	68.90	67.98	68.97	110 ***)**
11. Transformer (T1) Core	66.12	65.51	67.19	110 ***)**
12. Optocoupler U4	71.07	69.76	69.09	110
13. CY3 body	66.82	65.52	62.15	125
14. Line choke of LF2	78.53	73.25	57.55	120 ***)**
15. Line choke of L1	92.52	84.79	63.77	120 ***)**
16. Line choke of L3	57.25	58.14	58.45	120 ***)**
17. C28 body	60.34	60.68	62.40	105
18. Ambient	51.94	51.67	52.16	--
Supplementary information:				
Tmra=50°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P22524A-F with DC Fan				
1.AC Quick Connector	68.07	66.63	62.30	125
2.Line choke of LF1	114.29	103.52	69.33	120 ***)**
3.Varistor MOV1	80.44	76.67	64.56	105
4.E-capacitor (C3)	87.42	83.75	72.14	105
5.X-capacitor (CX1)	83.22	79.33	66.71	100
6.Line choke of L2	79.23	75.45	65.58	120 ***)**
7.PCB under BD1	88.66	83.95	68.38	130
8.PCB near T1	81.00	78.63	77.94	130
9.Output Quick Connector	70.68	69.19	68.78	125
10.Transformer (T1) Winding	78.70	76.93	76.11	110 ***)**
11. Transformer (T1) Core	76.11	74.16	73.85	110 ***)**
12. Optocoupler U4	81.29	79.29	76.36	110
13. CY3 body	78.07	74.83	69.53	125
14. Line choke of LF2	86.48	81.52	65.72	120 ***)**
15. Line choke of L1	104.33	95.37	71.56	120 ***)**
16. Line choke of L3	69.05	67.90	66.52	120 ***)**
17. C28 body	71.80	69.91	69.63	105
18. Ambient	61.03	60.34	62.07	--
Supplementary information:				
Tmra=60°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P22524A-F with DC Fan				
1.AC Quick Connector	77.24	76.10	71.97	125
2.Line choke of LF1	111.00	105.75	79.01	120 ***)**
3.Varistor MOV1	86.29	84.09	74.20	105
4.E-capacitor (C3)	95.13	92.47	82.53	105
5.X-capacitor (CX1)	89.17	86.65	76.34	100
6.Line choke of L2	86.64	84.77	78.35	120 ***)**
7.PCB under BD1	94.87	92.14	78.62	130
8.PCB near T1	91.07	90.39	89.36	130
9.Output Quick Connector	80.35	80.09	80.10	125
10.Transformer (T1) Winding	88.47	87.56	86.46	110 ***)**
11. Transformer (T1) Core	86.47	85.69	85.03	110 ***)**
12. Optocoupler U4	91.74	90.61	87.57	110
13. CY3 body	88.03	86.28	80.99	125
14. Line choke of LF2	91.11	88.31	75.48	120 ***)**
15. Line choke of L1	105.41	100.96	81.46	120 ***)**
16. Line choke of L3	78.22	77.66	77.62	120 ***)**
17. C28 body	81.58	81.09	80.75	105
18. Ambient	71.74	71.81	71.84	--
Supplementary information:				
Tmra=70°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—	
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—	
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)	
Model: GTM962250P22524A-F with DC Fan					
1.AC Quick Connector	82.80	81.80	78.41	125	
2.Line choke of LF1	103.76	100.39	84.10	120 ***)**	
3.Varistor MOV1	88.38	86.75	80.22	105	
4.E-capacitor (C3)	94.90	93.46	86.73	105	
5.X-capacitor (CX1)	89.71	88.03	81.96	100	
6.Line choke of L2	89.74	88.47	82.41	120 ***)**	
7.PCB under BD1	95.52	93.68	84.30	130	
8.PCB near T1	93.49	92.69	90.27	130	
9.Output Quick Connector	85.66	85.18	83.36	125	
10.Transformer (T1) Winding	91.29	90.68	88.99	110 ***)**	
11. Transformer (T1) Core	89.59	88.96	87.50	110 ***)**	
12. Optocoupler U4	93.94	93.13	90.00	110	
13. CY3 body	90.78	89.88	85.46	125	
14. Line choke of LF2	91.06	89.13	81.24	120 ***)**	
15. Line choke of L1	101.54	98.98	86.27	120 ***)**	
16. Line choke of L3	84.00	83.46	82.55	120 ***)**	
17. C28 body	86.16	85.75	84.14	105	
18. Ambient	79.99	78.90	78.49	--	
Supplementary information:					
Tmra=80°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—	
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—	
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)	
Model: GTM962250P14024A-F without DC Fan					
1.AC Quick Connector	53.82	59.31	60.27	125	
2.Line choke of LF1	71.87	97.97	102.49	120 ***)**	
3.Varistor MOV1	58.69	69.81	71.61	105	
4.E-capacitor (C3)	80.07	97.31	100.12	105	
5.X-capacitor (CX1)	64.29	76.59	78.51	100	
6.Line choke of L2	79.49	101.51	104.82	120 ***)**	
7.PCB under BD1	74.78	95.98	99.36	130	
8.PCB near T1	81.71	86.49	87.09	130	
9.Output Quick Connector	68.49	70.02	69.68	125	
10.Transformer (T1) Winding	87.83	94.68	95.67	110 ***)**	
11. Transformer (T1) Core	88.54	94.56	95.41	110 ***)**	
12. Optocoupler U4	80.03	87.47	88.56	110	
13. CY3 body	84.61	100.59	103.02	125	
14. Line choke of LF2	61.03	74.18	76.22	120 ***)**	
15. Line choke of L1	79.22	105.02	109.36	120 ***)**	
16. Line choke of L3	75.90	79.81	80.53	120 ***)**	
17. C28 body	83.03	87.64	88.16	105	
18. Ambient	50.58	49.66	49.62	--	
Supplementary information:					
Tmra=50°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—	
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—	
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)	
Model: GTM962250P14024A-F without DC Fan					
1.AC Quick Connector	65.27	65.14	62.18	125	
2.Line choke of LF1	91.35	89.90	76.72	120 ***)**	
3.Varistor MOV1	72.17	71.75	65.69	105	
4.E-capacitor (C3)	93.08	92.29	83.55	105	
5.X-capacitor (CX1)	77.95	77.36	70.75	100	
6.Line choke of L2	97.07	96.19	83.38	120 ***)**	
7.PCB under BD1	91.93	90.82	79.92	130	
8.PCB near T1	87.17	87.07	83.74	130	
9.Output Quick Connector	74.08	74.14	72.69	125	
10.Transformer (T1) Winding	92.95	92.70	88.91	110 ***)**	
11. Transformer (T1) Core	91.83	91.63	88.86	110 ***)**	
12. Optocoupler U4	87.43	87.23	83.10	110	
13. CY3 body	96.37	95.78	87.22	125	
14. Line choke of LF2	75.24	74.63	67.80	120 ***)**	
15. Line choke of L1	97.61	96.22	83.35	120 ***)**	
16. Line choke of L3	81.14	81.02	78.83	120 ***)**	
17. C28 body	86.46	86.36	84.14	105	
18. Ambient	59.02	59.71	60.45	--	
Supplementary information:					
Tmra=60°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P14024A-F without DC Fan				
1.AC Quick Connector	71.69	72.29	71.46	125
2.Line choke of LF1	87.98	88.11	83.72	120 ***)**
3.Varistor MOV1	75.93	76.37	74.61	105
4.E-capacitor (C3)	92.23	92.69	89.23	105
5.X-capacitor (CX1)	80.58	81.01	79.16	100
6.Line choke of L2	95.01	95.50	89.35	120 ***)**
7.PCB under BD1	90.15	90.43	86.91	130
8.PCB near T1	89.64	90.37	89.33	130
9.Output Quick Connector	79.28	80.00	79.62	125
10.Transformer (T1) Winding	94.02	94.62	93.16	110 ***)**
11. Transformer (T1) Core	93.07	93.82	92.52	110 ***)**
12. Optocoupler U4	89.78	90.48	88.99	110
13. CY3 body	95.72	96.35	92.47	125
14. Line choke of LF2	78.05	78.49	76.39	120 ***)**
15. Line choke of L1	93.71	93.92	89.58	120 ***)**
16. Line choke of L3	84.62	85.45	84.39	120 ***)**
17. C28 body	88.70	89.43	88.37	105
18. Ambient	68.36	69.05	69.36	--
Supplementary information:				
Tmra=70°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—	
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—	
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)	
Model: GTM962250P14024A-F without DC Fan					
1.AC Quick Connector	80.18	79.55	80.24	125	
2.Line choke of LF1	88.90	88.03	89.55	120 ***)**	
3.Varistor MOV1	82.33	81.56	82.55	105	
4.E-capacitor (C3)	93.14	92.25	92.86	105	
5.X-capacitor (CX1)	85.37	84.58	86.08	100	
6.Line choke of L2	95.26	94.50	91.68	120 ***)**	
7.PCB under BD1	90.75	89.85	92.31	130	
8.PCB near T1	93.06	92.29	92.65	130	
9.Output Quick Connector	86.43	85.84	86.25	125	
10.Transformer (T1) Winding	95.19	94.46	94.58	110 ***)**	
11. Transformer (T1) Core	94.44	93.73	93.95	110 ***)**	
12. Optocoupler U4	92.83	91.89	92.26	110	
13. CY3 body	96.20	95.39	94.35	125	
14. Line choke of LF2	83.70	82.91	84.01	120 ***)**	
15. Line choke of L1	92.75	91.82	94.05	120 ***)**	
16. Line choke of L3	90.82	90.13	89.92	120 ***)**	
17. C28 body	92.80	92.09	92.20	105	
18. Ambient	79.45	78.58	78.67	--	
Supplementary information:					
Tmra=80°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P22512A-F with DC Fan				
1.AC Quick Connector	60.18	58.19	52.38	125
2.Line choke of LF1	96.14	88.98	57.98	120 ***)**
3.Varistor MOV1	72.63	68.81	54.51	105
4.E-capacitor (C3)	77.85	74.35	62.97	105
5.X-capacitor (CX1)	70.20	67.53	56.88	100
6.Line choke of L2	68.29	65.68	56.95	120 ***)**
7.PCB under BD1	66.93	64.64	56.30	130
8.PCB near T1	78.52	77.46	76.16	130
9.Output Quick Connector	66.27	65.63	65.97	125
10.Transformer (T1) Winding	73.64	72.47	70.55	110 ***)**
11. Transformer (T1) Core	63.28	62.15	61.64	110 ***)**
12. Optocoupler U4	78.48	76.75	72.72	110
13. CY3 body	65.08	63.70	60.66	125
14. Line choke of LF2	77.96	73.34	56.29	120 ***)**
15. Line choke of L1	87.04	80.77	61.30	120 ***)**
16. Line choke of L3	68.03	67.20	66.93	120 ***)**
17. C28 body	68.48	67.65	67.52	105
18. Ambient	51.21	50.75	50.30	--
Supplementary information:				
Tmra=50°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—	
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—	
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)	
Model: GTM962250P22512A-F with DC Fan					
1.AC Quick Connector	69.75	68.32	62.87	125	
2.Line choke of LF1	104.80	98.18	68.05	120 ***)**	
3.Varistor MOV1	81.17	77.61	64.78	105	
4.E-capacitor (C3)	89.24	86.26	73.92	105	
5.X-capacitor (CX1)	82.43	79.10	66.98	100	
6.Line choke of L2	80.13	77.84	68.19	120 ***)**	
7.PCB under BD1	78.80	76.69	67.24	130	
8.PCB near T1	92.71	92.02	88.88	130	
9.Output Quick Connector	80.08	80.02	78.75	125	
10.Transformer (T1) Winding	86.25	85.10	82.38	110 ***)**	
11. Transformer (T1) Core	75.14	74.66	73.19	110 ***)**	
12. Optocoupler U4	91.74	90.37	84.79	110	
13. CY3 body	77.33	76.65	72.75	125	
14. Line choke of LF2	87.29	83.17	66.33	120 ***)**	
15. Line choke of L1	99.45	93.85	72.28	120 ***)**	
16. Line choke of L3	80.02	79.93	79.33	120 ***)**	
17. C28 body	81.14	80.85	80.10	105	
18. Ambient	61.29	61.16	60.78	--	
Supplementary information:					
Tmra=60°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**			P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P22512A-F with DC Fan				
1.AC Quick Connector	77.52	76.85	72.38	125
2.Line choke of LF1	104.23	100.23	76.95	120 ***)**
3.Varistor MOV1	85.58	83.97	74.00	105
4.E-capacitor (C3)	94.89	93.13	82.65	105
5.X-capacitor (CX1)	88.03	86.32	76.20	100
6.Line choke of L2	87.98	87.06	78.13	120 ***)**
7.PCB under BD1	86.83	85.64	76.93	130
8.PCB near T1	99.64	99.32	96.82	130
9.Output Quick Connector	88.74	88.46	88.24	125
10.Transformer (T1) Winding	94.19	94.24	91.66	110 ***)**
11. Transformer (T1) Core	84.73	85.26	83.55	110 ***)**
12. Optocoupler U4	99.00	98.28	93.16	110
13. CY3 body	87.15	87.16	83.16	125
14. Line choke of LF2	91.16	88.69	75.26	120 ***)**
15. Line choke of L1	103.20	99.72	80.51	120 ***)**
16. Line choke of L3	88.35	88.44	87.41	120 ***)**
17. C28 body	89.53	89.65	88.62	105
18. Ambient	70.75	70.59	70.32	--
Supplementary information:				
Tmra=70°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz		—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--		—
Maximum measured temperature *T* of part/at:	*T* (°C)				Allowed T_{max} (°C)
Model: GTM962250P22512A-F with DC Fan					
1.AC Quick Connector	84.38	83.94	81.35		125
2.Line choke of LF1	100.91	98.94	85.69		120 ***)**
3.Varistor MOV1	89.08	88.26	82.67		105
4.E-capacitor (C3)	97.02	95.92	89.96		105
5.X-capacitor (CX1)	91.41	90.30	84.54		100
6.Line choke of L2	93.14	92.32	87.64		120 ***)**
7.PCB under BD1	91.48	90.65	85.15		130
8.PCB near T1	100.87	100.54	99.77		130
9.Output Quick Connector	93.50	93.54	94.15		125
10.Transformer (T1) Winding	98.92	98.41	98.73		110 ***)**
11. Transformer (T1) Core	92.04	91.97	92.70		110 ***)**
12. Optocoupler U4	101.15	100.45	98.01		110
13. CY3 body	93.94	93.66	93.16		125
14. Line choke of LF2	92.49	91.37	83.86		120 ***)**
15. Line choke of L1	101.17	99.38	88.25		120 ***)**
16. Line choke of L3	92.63	92.27	91.90		120 ***)**
17. C28 body	93.66	93.50	93.58		105
18. Ambient	80.01	79.90	79.70		--
Supplementary information:					
Tmra=80°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					
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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—	
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—	
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)	
Model: GTM962250P14012A-F without DC Fan					
1.AC Quick Connector	64.28	63.27	56.15	125	
2.Line choke of LF1	102.37	98.23	70.79	120 ***)**	
3.Varistor MOV1	74.09	72.29	59.92	105	
4.E-capacitor (C3)	104.44	101.35	84.49	105	
5.X-capacitor (CX1)	81.44	79.48	66.41	100	
6.Line choke of L2	110.21	107.04	84.19	120 ***)**	
7.PCB under BD1	96.64	93.38	71.86	130	
8.PCB near T1	94.69	94.11	88.40	130	
9.Output Quick Connector	76.40	76.34	74.28	125	
10.Transformer (T1) Winding	107.12	106.16	96.92	110 ***)**	
11. Transformer (T1) Core	105.06	104.23	95.70	110 ***)**	
12. Optocoupler U4	99.87	98.73	87.82	110	
13. CY3 body	114.92	112.78	95.77	125	
14. Line choke of LF2	79.37	77.05	62.49	120 ***)**	
15. Line choke of L1	115.59	111.09	81.61	120 ***)**	
16. Line choke of L3	106.47	105.62	97.52	120 ***)**	
17. C28 body	103.96	104.72	98.30	105	
18. Ambient	50.47	50.49	50.50	--	
Supplementary information:					
Tmra=50°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—	
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—	
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)	
Model: GTM962250P14012A-F without DC Fan					
1.AC Quick Connector	68.41	67.94	64.63	125	
2.Line choke of LF1	91.30	89.50	75.89	120 ***)**	
3.Varistor MOV1	74.22	73.31	67.34	105	
4.E-capacitor (C3)	98.29	96.90	86.08	105	
5.X-capacitor (CX1)	80.26	79.19	72.83	100	
6.Line choke of L2	98.64	97.20	85.40	120 ***)**	
7.PCB under BD1	89.51	87.96	77.24	130	
8.PCB near T1	89.80	89.34	86.32	130	
9.Output Quick Connector	78.13	77.72	77.06	125	
10.Transformer (T1) Winding	99.72	99.04	94.15	110 ***)**	
11. Transformer (T1) Core	98.42	97.72	93.29	110 ***)**	
12. Optocoupler U4	94.13	93.31	87.51	110	
13. CY3 body	104.01	102.85	93.90	125	
14. Line choke of LF2	77.69	76.59	69.41	120 ***)**	
15. Line choke of L1	101.48	99.38	84.40	120 ***)**	
16. Line choke of L3	95.97	95.40	90.98	120 ***)**	
17. C28 body	96.90	96.29	92.15	105	
18. Ambient	60.22	60.24	60.67	--	
Supplementary information:					
Tmra=60°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements			P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)
Model: GTM962250P14012A-F without DC Fan				
1.AC Quick Connector	74.67	74.65	73.23	125
2.Line choke of LF1	87.92	87.32	82.20	120 ***)**
3.Varistor MOV1	77.68	77.57	75.27	105
4.E-capacitor (C3)	94.83	94.50	90.12	105
5.X-capacitor (CX1)	82.60	82.51	79.96	100
6.Line choke of L2	94.82	94.57	88.99	120 ***)**
7.PCB under BD1	88.20	87.75	83.75	130
8.PCB near T1	89.42	89.50	88.11	130
9.Output Quick Connector	80.89	80.85	80.25	125
10.Transformer (T1) Winding	97.87	97.71	95.72	110 ***)**
11.Transformer (T1) Core	96.82	96.75	94.85	110 ***)**
12. Optocoupler U4	93.20	93.10	90.76	110
13.CY3 body	100.06	99.88	95.98	125
14. Line choke of LF2	79.86	79.65	76.99	120 ***)**
15. Line choke of L1	95.46	94.79	89.25	120 ***)**
16. Line choke of L3	92.13	92.08	89.89	120 ***)**
17. C28 body	93.12	93.13	91.24	105
18. Ambient	70.49	70.54	70.61	--
Supplementary information:				
Tmra=70°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.				

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	85Vac/60Hz	90V/60Hz	264Vac/ 50Hz	—	
Ambient temperature during test T_{amb} (°C) .... :	--	--	--	—	
Maximum measured temperature *T* of part/at:	*T* (°C)			Allowed T_{max} (°C)	
Model: GTM962250P14012A-F without DC Fan					
1.AC Quick Connector	80.83	80.73	81.74	125	
2.Line choke of LF1	86.83	86.79	88.55	120 ***)**	
3.Varistor MOV1	82.08	81.96	83.01	105	
4.E-capacitor (C3)	92.56	92.55	93.58	105	
5.X-capacitor (CX1)	85.51	85.35	86.77	100	
6.Line choke of L2	92.72	92.79	91.79	120 ***)**	
7.PCB under BD1	87.94	87.83	90.92	130	
8.PCB near T1	89.65	89.65	89.76	130	
9.Output Quick Connector	84.38	84.37	84.58	125	
10.Transformer (T1) Winding	94.95	94.96	94.99	110 ***)**	
11.Transformer (T1) Core	94.14	94.13	94.18	110 ***)**	
12.Optocoupler U4	92.25	92.24	92.42	110	
13. CY3 body	96.44	96.47	96.05	125	
14. Line choke of LF2	83.14	83.01	84.35	120 ***)**	
15. Line choke of L1	91.69	91.58	94.41	120 ***)**	
16. Line choke of L3	91.01	91.09	90.51	120 ***)**	
17. C28 body	91.64	91.72	91.38	105	
18. Ambient	80.05	79.73	80.08	--	
Supplementary information:					
Tmra=80°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method.					

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:							

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	90V 60Hz Component up		90V 60Hz Component down		—
Ambient temperature during test T_{amb} (°C) .... :	--		--		—
Maximum measured temperature *T* of part/at:	*T* (°C)				Allowed T_{max} (°C)
Model: GTM962253P14012-P2-TPEU with plastic enclosure (140W)					
1. Transformer (T1) Winding	75.0	89.7	75.5	90.1	110 *)
2. Transformer (T1) Core	70.9	85.6	71.9	86.5	110 *)
3. AC Power supply cable (Outside)	43.9	58.6	43.9	58.5	77 *1)*
4. AC Input wire (Internal)	69.1	83.8	68.3	82.9	105
5. Line choke of LF1	72.8	87.5	72.5	87.1	120 *)
6. Varistor (MOV1)	65.1	79.8	64.9	79.5	105
7. E-capacitor (C3)	72.9	87.6	72.9	87.5	105
8. X-capacitor (CX1)	67.7	82.4	66.8	81.4	100
9. Line choke of L2	77.2	91.9	77.1	91.7	120 *)
10. PCB under BD1	73.1	87.8	72.4	87.0	130)
11. PCB near T1	71.3	86.0	70.3	84.9	130
12. Output wire (Internal)	71.8	86.5	71.4	86.0	80
13. Output wire (Outside)	51.0	65.7	50.8	65.4	77 *1)*
14. Optocoupler U4	72.5	87.2	70.7	85.3	100
15. CY3 body	77.5	92.2	77.1	91.7	125
16. Line choke of LF2	66.8	81.5	66.3	80.9	120
17. Line choke of L1	75.8	90.5	75.3	89.9	120
18. Line choke of L3	71.6	86.3	71.2	85.8	120
19. C28 body	69.5	84.2	69.7	84.3	105
20. Internal enclosure near T1 (Top)	72.0	86.7	74.2	88.8	--
21. Internal enclosure near T1 (Bottom)	75.5	90.2	72.1	86.7	--
22. Ambient	25.3	40.0	25.4	40.0	--
Accessible parts Touch temperatures					
1. AC Power supply cable (Outside)	43.9	--	43.9	--	77 *1)*
2. Output wire (Outside)	51.0	--	50.8	--	77 *1)*
3. Outsider enclosure near T1 (Top)	59.7	--	67.9	--	77 *1)*
4. Outsider enclosure near T1 (Bottom)	65.3	--	59.8	--	77 *1)*
5. Ambient	25.3	--	25.4	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:							
Tmra=40°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method. *1)* Considering exernal enclosure touched occasionally for 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:							

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V)..... :	132V 60Hz Component up		264V 50Hz Component up		—
Ambient temperature during test T_{amb} (°C) .... :	--		--		—
Maximum measured temperature *T* of part/at:	*T* (°C)				Allowed T_{max} (°C)
Model: GTM962253P14012-P2-TPEU with plastic enclosure (140W)					
1. Transformer (T1) Winding	71.1	85.6	62.1	77.4	110 *)
2. Transformer (T1) Core	69.0	83.5	61.2	76.5	110 *)
3. AC Power supply cable (Outside)	41.1	55.6	36.3	51.6	77 *1)*
4. AC Input wire (Internal)	61.7	76.2	51.0	66.3	105
5. Line choke of LF1	64.8	79.3	53.6	68.9	120 *)
6. Varistor (MOV1)	59.0	73.5	49.3	64.6	105
7. E-capacitor (C3)	66.2	80.7	55.6	70.9	105
8. X-capacitor (CX1)	61.6	76.1	51.8	67.1	100
9. Line choke of L2	70.4	84.9	58.2	73.5	120 *)
10. PCB under BD1	64.8	79.3	53.1	68.4	130)
11. PCB near T1	69.5	84.0	61.6	76.9	130
12. Output wire (Internal)	70.0	84.5	62.1	77.4	80
13. Output wire (Outside)	51.8	66.3	46.4	61.7	77 *1)*
14. Optocoupler U4	69.5	84.0	60.8	76.1	100
15. CY3 body	72.3	86.8	61.6	76.9	125
16. Line choke of LF2	60.1	74.6	50.2	65.5	120
17. Line choke of L1	67.0	81.5	55.1	70.4	120
18. Line choke of L3	69.4	83.9	60.5	75.8	120

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Clause	Requirement + Test	Result - Remark	Verdict

19. C28 body	67.7	82.2	59.3	74.6	105
20. Internal enclosure near T1 (Top)	69.2	83.7	61.1	76.4	--
21. Internal enclosure near T1 (Bottom)	71.8	86.3	62.2	77.5	--
22. Ambient	25.5	40.0	24.7	40.0	--
Accessible parts Touch temperatures					
1. AC Power supply cable (Outside)	41.1	--	36.3	36.6	77 *1)*
2. Output wire (Outside)	51.8	--	46.4	46.7	77 *1)*
3. Outsider enclosure near T1 (Top)	58.8	--	50.7	51.0	77 *1)*
4. Outsider enclosure near T1 (Bottom)	65.6	--	57.7	58.0	77 *1)*
5. Ambient	25.5	--	24.7	25.0	--
Supplementary information:					
Tmra=40°C. ***)** Temperature limits of winding include less 10°C for thermocouple measurement method. *1)* Considering exernal enclosure touched occasionally for 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:							

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5	**TABLE: Input test**							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
Model: G*96225*P22512***-* (Output power: 225W)								
85	50	2.998	--	255.6	--	F1, F2	2.998	12Vdc, 18.75A
90	50	2.835	--	254.2	--	F1, F2	2.835	12Vdc, 18.75A
90	60	2.835	--	254.4	--	F1, F2	2.835	12Vdc, 18.75A
100	50	2.514	3	251.8	--	F1, F2	2.514	12Vdc, 18.75A
100	60	2.514	3	251.9	--	F1, F2	2.514	12Vdc, 18.75A
240	50	1.070	3	244.1	--	F1, F2	1.070	12Vdc, 18.75A
240	60	1.070	3	244.3	--	F1, F2	1.070	12Vdc, 18.75A
264	50	0.976	--	243.7	--	F1, F2	0.976	12Vdc, 18.75A
264	60	0.977	--	243.8	--	F1, F2	0.977	12Vdc, 18.75A
Model: G*96225*P14012***-* (Output power: 140W)								
85	50	1.782	--	156.2	--	F1, F2	1.782	12Vdc, 11.67A
90	50	1.734	--	155.7	--	F1, F2	1.734	12Vdc, 11.67A
90	60	1.736	--	155.7	--	F1, F2	1.736	12Vdc, 11.67A
100	50	1.573	3	155.3	--	F1, F2	1.573	12Vdc, 11.67A
100	60	1.575	3	155.3	--	F1, F2	1.575	12Vdc, 11.67A
120	50	1.302	3	152.0	--	F1, F2	1.302	12Vdc, 11.67A
120	60	1.294	3	152.1	--	F1, F2	1.294	12Vdc, 11.67A
132	50	1.185	3	151.5	--	F1, F2	1.185	12Vdc, 11.67A
132	60	1.178	3	151.6	--	F1, F2	1.178	12Vdc, 11.67A
240	50	0.692	3	152.2	--	F1, F2	0.692	12Vdc, 11.67A
240	60	0.694	3	152.4	--	F1, F2	0.694	12Vdc, 11.67A
264	50	0.632	--	151.5	--	F1, F2	0.632	12Vdc, 11.67A
264	60	0.633	--	151.7	--	F1, F2	0.633	12Vdc, 11.67A
Model: GTM962253P14012-P2-TPEU (Output power: 140W)								
85	50	1.782	--	156.2	--	F1, F2	1.782	12Vdc, 11.67A
90	50	1.734	--	155.7	--	F1, F2	1.734	12Vdc, 11.67A
90	60	1.736	--	155.7	--	F1, F2	1.736	12Vdc, 11.67A
100	50	1.573	2.5	155.3	--	F1, F2	1.573	12Vdc, 11.67A
100	60	1.575	2.5	155.3	--	F1, F2	1.575	12Vdc, 11.67A
240	50	0.692	2.5	152.2	--	F1, F2	0.692	12Vdc, 11.67A
240	60	0.694	2.5	152.4	--	F1, F2	0.694	12Vdc, 11.67A
264	50	0.632	--	151.5	--	F1, F2	0.632	12Vdc, 11.67A

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Clause	Requirement + Test	Result - Remark	Verdict

264	60	0.633	--	151.7	--	F1, F2	0.633	12Vdc, 11.67A
Model: G*96225*P22524***-* (Output power: 225W)								
85	50	2.903	--	247.3	--	F1, F2	2.903	24Vdc, 9.375A
90	50	2.732	--	245.5	--	F1, F2	2.732	24Vdc, 9.375A
90	60	2.732	--	245.6	--	F1, F2	2.732	24Vdc, 9.375A
100	50	2.441	3	243.5	--	F1, F2	2.441	24Vdc, 9.375A
100	60	2.441	3	243.5	--	F1, F2	2.441	24Vdc, 9.375A
240	50	1.035	3	236.3	--	F1, F2	1.035	24Vdc, 9.375A
240	60	1.035	3	236.3	--	F1, F2	1.035	24Vdc, 9.375A
264	50	0.945	--	253.5	--	F1, F2	0.945	24Vdc, 9.375A
264	60	0.945	--	253.5	--	F1, F2	0.945	24Vdc, 9.375A
Model: G*96225*P14024***-* (Output power:140W)								
85	50	1.786	--	157.3	--	F1, F2	1.786	24Vdc, 5.834A
90	50	1.723	--	155.1	--	F1, F2	1.723	24Vdc, 5.834A
90	60	1.724	--	155.2	--	F1, F2	1.724	24Vdc, 5.834A
100	50	1.562	3	154.7	--	F1, F2	1.562	24Vdc, 5.834A
100	60	1.562	3	154.7	--	F1, F2	1.562	24Vdc, 5.834A
120	50	1.283	3	149.5	--	F1, F2	1.283	24Vdc, 5.834A
120	60	1.286	3	149.4	--	F1, F2	1.286	24Vdc, 5.834A
132	50	1.171	3	149.0	--	F1, F2	1.171	24Vdc, 5.834A
132	60	1.168	3	149.0	--	F1, F2	1.168	24Vdc, 5.834A
240	50	0.685	3	151.5	--	F1, F2	0.685	24Vdc, 5.834A
240	60	0.685	3	151.5	--	F1, F2	0.685	24Vdc, 5.834A
264	50	0.628	--	151.2	--	F1, F2	0.628	24Vdc, 5.834A
264	60	0.628	--	151.3	--	F1, F2	0.628	24Vdc, 5.834A
Model: GTM962253P14024-P2-TPEU (Output power: 140W)								
85	50	1.786	--	157.3	--	F1, F2	1.786	24Vdc, 5.834A
90	50	1.723	--	155.1	--	F1, F2	1.723	24Vdc, 5.834A
90	60	1.724	--	155.2	--	F1, F2	1.724	24Vdc, 5.834A
100	50	1.562	2.5	154.7	--	F1, F2	1.562	24Vdc, 5.834A
100	60	1.562	2.5	154.7	--	F1, F2	1.562	24Vdc, 5.834A
240	50	0.685	2.5	151.5	--	F1, F2	0.685	24Vdc, 5.834A
240	60	0.685	2.5	151.5	--	F1, F2	0.685	24Vdc, 5.834A
264	50	0.628	--	151.2	--	F1, F2	0.628	24Vdc, 5.834A
264	60	0.628	--	151.3	--	F1, F2	0.628	24Vdc, 5.834A
Model: G*96225*P22536***-* (Output power: 225W)								

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Clause	Requirement + Test	Result - Remark	Verdict

85	50	3.032	--	256.1	--	F1, F2	3.032	36Vdc, 6.25A
90	50	2.889	--	253.8	--	F1, F2	2.889	36Vdc, 6.25A
90	60	2.888	--	255.2	--	F1, F2	2.888	36Vdc, 6.25A
100	50	2.531	3	251.5	--	F1, F2	2.531	36Vdc, 6.25A
100	60	2.532	3	251.7	--	F1, F2	2.532	36Vdc, 6.25A
240	50	1.055	3	241.5	--	F1, F2	1.055	36Vdc, 6.25A
240	60	1.054	3	241.3	--	F1, F2	1.054	36Vdc, 6.25A
264	50	0.972	--	241.3	--	F1, F2	0.972	36Vdc, 6.25A
264	60	0.972	--	240.8	--	F1, F2	0.972	36Vdc, 6.25A
Model: G*96225*P14036***-* (Output power:140W)								
85	50	1.823	--	155.1	--	F1, F2	1.823	36Vdc, 3.89A
90	50	1.710	--	154.4	--	F1, F2	1.710	36Vdc, 3.89A
90	60	1.712	--	154.5	--	F1, F2	1.712	36Vdc, 3.89A
100	50	1.542	3	153.3	--	F1, F2	1.542	36Vdc, 3.89A
100	60	1.535	3	153.5	--	F1, F2	1.535	36Vdc, 3.89A
120	50	1.301	3	152.0	--	F1, F2	1.301	36Vdc, 3.89A
120	60	1.291	3	152.2	--	F1, F2	1.291	36Vdc, 3.89A
132	50	1.185	3	151.7	--	F1, F2	1.185	36Vdc, 3.89A
132	60	1.183	3	151.8	--	F1, F2	1.183	36Vdc, 3.89A
240	50	0.677	3	149.8	--	F1, F2	0.677	36Vdc, 3.89A
240	60	0.681	3	149.8	--	F1, F2	0.681	36Vdc, 3.89A
264	50	0.625	--	149.6	--	F1, F2	0.625	36Vdc, 3.89A
264	60	0.628	--	149.7	--	F1, F2	0.628	36Vdc, 3.89A
Model: GTM962253P14036-P2-TPEU (Output power: 140W)								
85	50	1.823	--	155.1	--	F1, F2	1.823	36Vdc, 3.89A
90	50	1.710	--	154.4	--	F1, F2	1.710	36Vdc, 3.89A
90	60	1.712	--	154.5	--	F1, F2	1.712	36Vdc, 3.89A
100	50	1.542	2.5	153.3	--	F1, F2	1.542	36Vdc, 3.89A
100	60	1.535	2.5	153.5	--	F1, F2	1.535	36Vdc, 3.89A
240	50	0.677	2.5	149.8	--	F1, F2	0.677	36Vdc, 3.89A
240	60	0.681	2.5	149.8	--	F1, F2	0.681	36Vdc, 3.89A
264	50	0.625	--	149.6	--	F1, F2	0.625	36Vdc, 3.89A
264	60	0.628	--	149.7	--	F1, F2	0.628	36Vdc, 3.89A
Model: G*96225*P22554***-* (Output power:225W)								
85	50	2.916	--	248.8	--	F1, F2	2.916	54Vdc, 4.167A
90	50	2.749	--	247.2	--	F1, F2	2.749	54Vdc, 4.167A

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Clause	Requirement + Test	Result - Remark	Verdict

90	60	2.750	--	247.3	--	F1, F2	2.750	54Vdc, 4.167A
100	50	2.457	3	244.9	--	F1, F2	2.457	54Vdc, 4.167A
100	60	2.457	3	245.1	--	F1, F2	2.457	54Vdc, 4.167A
240	50	1.036	3	236.7	--	F1, F2	1.036	54Vdc, 4.167A
240	60	1.036	3	236.8	--	F1, F2	1.036	54Vdc, 4.167A
264	50	0.948	--	236.3	--	F1, F2	0.948	54Vdc, 4.167A
264	60	0.948	--	236.4	--	F1, F2	0.948	54Vdc, 4.167A
Model: G*96225*P14054***-* (Output power:140W)								
85	50	1.703	--	153.1	--	F1, F2	1.703	54Vdc, 2.593A
90	50	1.692	--	151.8	--	F1, F2	1.692	54Vdc, 2.593A
90	60	1.692	--	152.0	--	F1, F2	1.692	54Vdc, 2.593A
100	50	1.520	3	150.8	--	F1, F2	1.520	54Vdc, 2.593A
100	60	1.521	3	151.1	--	F1, F2	1.521	54Vdc, 2.593A
120	50	1.295	3	150.17	--	F1, F2	1.295	54Vdc, 2.593A
120	60	1.281	3	150.27	--	F1, F2	1.281	54Vdc, 2.593A
132	50	1.174	3	149.47	--	F1, F2	1.174	54Vdc, 2.593A
132	60	1.163	3	149.66	--	F1, F2	1.163	54Vdc, 2.593A
240	50	0.674	3	148.3	--	F1, F2	0.674	54Vdc, 2.593A
240	60	0.674	3	148.9	--	F1, F2	0.674	54Vdc, 2.593A
264	50	0.619	--	148.8	--	F1, F2	0.619	54Vdc, 2.593A
264	60	0.620	--	148.1	--	F1, F2	0.620	54Vdc, 2.593A
Model: GTM962253P14054-P2-TPEU (Output power: 140W)								
85	50	1.703	--	153.1	--	F1, F2	1.703	54Vdc, 2.593A
90	50	1.692	--	151.8	--	F1, F2	1.692	54Vdc, 2.593A
90	60	1.692	--	152.0	--	F1, F2	1.692	54Vdc, 2.593A
100	50	1.520	2.5	150.8	--	F1, F2	1.520	54Vdc, 2.593A
100	60	1.521	2.5	151.1	--	F1, F2	1.521	54Vdc, 2.593A
240	50	0.674	2.5	148.3	--	F1, F2	0.674	54Vdc, 2.593A
240	60	0.674	2.5	148.9	--	F1, F2	0.674	54Vdc, 2.593A
264	50	0.619	--	148.8	--	F1, F2	0.619	54Vdc, 2.593A
264	60	0.620	--	148.1	--	F1, F2	0.620	54Vdc, 2.593A

Supplementary information:

Equipment may be have rated current or rated power or both. Both should be measured.

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Clause	Requirement + Test	Result - Remark	Verdict

B.3, B.4	TABLE: Abnormal operating and fault condition tests	P
Ambient temperature T_{amb} (°C)..... :	25°C, if not specify the ambient temperature.	—
Power source for EUT: Manufacturer, model/type, outputrating .. :	--	—

Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
Model: GTM962250P22512A-FW						
Output	O-l	90Vac	2hrs	F1, F2	2.88 to 0.08	Unit shutdown when output overloa to 18.92A, No damage, No hazards. Maximum temperature: T1 coil: 77.0°C; Output connector: 55.0°C; Ambient: 25.0°C
Output	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
Model: GTM962250P22524A-FW						
Output	O-l	90Vac	2hrs	F1, F2	2.94 to 0.08	Unit shutdown when output overloa to 10.02A, No damage, No hazards. Maximum temperature: T1 coil: 65.0°C; Output connector: 32.0°C; Ambient: 25.0°C
Output	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
Model: GTM962250P22554A-FW						
Output	O-l	90Vac	2hrs	F1, F2	2.83 to 0.08	Unit shutdown when output overloa to 4.3A, No damage, No hazards. Maximum temperature: T1 coil: 66.0°C; Output connector: 30.0°C; Ambient: 25.0°C
Output	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
BD1 AC to “+”	S-c	264Vac	1s	F1, F2	*)	Fuse open, No hazards.
BD1 AC to “+”	S-c	90Vac	1s	F1, F2	*)	Fuse open, No hazards.
C3	S-c	264Vac	1s	F1, F2	*)	Fuse open, No hazards.
C3	S-c	90Vac	1s	F1, F2	*)	Fuse open, No hazards.
C28	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.

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Clause	Requirement + Test	Result - Remark	Verdict

Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
Q1 Pin G to S	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
Q1 Pin G to D	S-c	264Vac	10 mins	F1, F2	0.01	R7, R9, U1 damaged, repeat test three times, the results are the same, No hazards.
Q1 Pin D to S	S-c	264Vac	10 mins	F1, F2	0.01	R7, R9, U1 damaged, repeat test three times, the results are the same, No hazards.
Q3 Pin G to S	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
Q3 Pin G to D	S-c	264Vac	10 mins	F1, F2	0.01	FB2 damaged, repeat test three times, the results are the same, No hazards.
Q3 Pin D to S	S-c	264Vac	10 mins	F1, F2	0.01	FB2 damaged, repeat test three times, the results are the same, No hazards.
R9	S-c	264Vac	10 mins	F1, F2	0.94	Unit normal operated, No damage, No hazards.
U4 pin 1 to 2	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
U4 pin 3 to 4	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
U4 pin 1	O-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
U4 pin 3	O-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
U2 Pin 8 to 2	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
T1 Pin 2 to 3	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
T1 Pin 4 to 5	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
T1 Pin 4 to 6	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
T1 Pin A1 to A2	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
T1 Pin B1 to B2	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.
T1 Pin C1 to C2	S-c	264Vac	10 mins	F1, F2	0.08	Unit shutdown, No damage, No hazards.

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Clause	Requirement + Test	Result - Remark	Verdict

Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
Model: GTM962253P14012-P2-TPEU with plastic enclosure (140W)						
Output	O-l	264Vac	7.5 hrs	F1, F2	1.10 to 0.03	Unit shutdown when output overloa to 19A, No damage, No hazards. Maximum temperature: T1 coil: 93.0°C; T1 core: 92.6°C ; AC Power supply cable (Outside): 42.9°C; Output wire (Outside): 67.6°C; Outside enclosure near T1 (Top): 71.6°C; Outside enclosure near T1 (Bottom): 83.5°C; Ambient:25.2°C.
Transformer pin A2, B1 (Before L3) to GND (J2 Pin4, 5, 6)	O-l	264Vac	8 hrs	F1, F2	1.06 to 0.03	Unit shutdown when transformer overloa to 8A, No damage, No hazards. Maximum temperature: T1 coil: 84.4°C; T1 core: 83.2°C ; AC Power supply cable (Outside): 41.2°C; Output wire (Outside): 57.8°C; Outside enclosure near T1 (Top): 66.0°C; Outside enclosure near T1 (Bottom): 75.9°C; Ambient:25.2°C.
Supplementary information:						
S-c=short circuit, O-c=open circuit, O-l=overload.. *) Fuse current is more than fuse rating times 2.1, repeated the test with each source of fuse and same result come out. After each of above test, EUT can pass the Electric strength tests.						

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Clause	Requirement + Test	Result - Remark	Verdict

M.3	**TABLE: Protection circuits for batteries provided within the equipment**						N/A
Is it possible to install the battery in a reverse polarity position? ..... :							—
Equipment Specification	Charging						
	Voltage (V)			Current (A)			
Manufacturer/type	Battery specification						
	Non-rechargeable batteries		Rechargeable batteries				
	Discharging current (A)	Unintentional charging current (A)	Charging		Discharging current (A)	Reverse charging current (A)	
			Voltage (V)	Current (A)			
Note: The tests of M.3.2 are applicable only when above appropriate data is not available.							
Specified battery temperature (°C) ..... :							
Component No.	Fault condition	Charge/ discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation
Supplementary information:							
Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.							

M.4.2	**TABLE: Charging safeguards for equipment containing a secondary lithium battery**				N/A
Maximum specified charging voltage (V) ..... :					—
Maximum specified charging current (A) ..... :					—
Highest specified charging temperature (°C) ..... :					
Lowest specified charging temperature (°C) ..... :					
Battery manufacturer/type	Operating and fault condition	Measurement			Observation
		Charging voltage (V)	Charging current (A)	Temp. (°C)	
Supplementary information:					
Abbreviation: SC= short circuit; OC= open circuit; MSCV= maximum specified charging voltage; MSCC= maximum specified charging current; HSCT= highest specified charging temperature; LSCT= lowest specified charging temperature					

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Clause	Requirement + Test	Result - Remark	Verdict

Q.1	**TABLE: Circuits intended for interconnection with building wiring (LPS)**						N/A
Output Circuit	Condition	U_{oc} (V)	Time (s)	I_{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
Supplementary Information:							

T.2, T.3, T.4, T.5	**TABLE: Steady force test**					P
Location/Part	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation
Enclosure	Refer to table 4.1.2	Refer to table 4.1.2	Circular Plane surface 30mm in diameter	100N	5	Safeguards remained effective
Internal components	--	--	Push-pull tester	10N	5	Safeguards remained effective
Supplementary information:						
All type source enclosure tested.						

T.6, T.9	**TABLE: Impact test**			N/A
Location/Part	Material	Thickness (mm)	Height (mm)	Observation
Supplementary information:				

T.7	**TABLE: Drop test**			P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation
Enclosure	Refer to table 4.1.2	Refer to table 4.1.2	1000	Safeguards remained effective
Supplementary information:				
All source enclosure tested.				

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

T.8	TABLE: Stress relief test					P
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Enclosure	Refer to table 4.1.2	Refer to table 4.1.2	101	7	No risk of shrinkage or distortion on material	
Supplementary information:						
All source enclosure tested.						

X	TABLE: Alternative method for determining minimum clearances distances		N/A
Clearance distanced between:	Peak of working voltage (V)	Required cl (mm)	Measured cl (mm)
Supplementary information:			

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

4.1.2	TABLE: Critical components information	P

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity [1])
Plastic Enclosure (For model: GT*962253P***** -**)	SABIC JAPAN L L C	945(GG)	Min. V-0, Min. 120°C, Min. 2.0mm thickness	UL 94	UL E207780
Alt.)	SABIC INNOVATIVE PLASTICS B V	945(GG)	Min. V-0, Min. 120°C, Min. 2.0mm thickness	UL 94	UL E45329
PCB	Interchangeable	Interchangeable	Min. V-0, Min. 130°C	UL 796	UL
Fuse (F1, F2) (F2 is Optional)	Conquer Electronics Co Ltd	UDA	T4A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-2, UL 248-1, UL 248-14	VDE 40008022 UL E82636
Alt.)	Suzhou Walter Electronic Co Ltd	TSC	T4A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-2, UL 248-1, UL 248-14	VDE 40016670 UL E56092
Alt.)	Conquer Electronics Co Ltd	MST	T4A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248-1, UL 248-14	VDE 40017118 UL E82636
Alt.)	Suzhou Walter Electronic Co. Ltd.	2010	T4A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3 UL 248-1, UL 248-14	VDE 40018781 UL E56092
Alt.)	Bel Fuse Ltd.	RST	T4A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248-1, UL 248-14	VDE 40011144 UL E20624
Alt.)	Dongguan Better Electronics Technology Co., Ltd.	932	T4A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248-1, UL 248-14	VDE 40033369 UL E300003
Alt.)	Zhong Shan Lanbao Electrical Appliances Co Ltd	RTI-10	T4A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248-1, UL 248-14	VDE 40017009 UL E213695
Alt.)	Suzhou Walter Electronic Co. Ltd.	ICP	T4A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3, UL 248-1, UL 248-14	VDE 40012824 UL E56092

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Clause	Requirement + Test	Result - Remark	Verdict

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity [1])
Heat shrinkable tubing used on F1 and F2 (Optional)	Shenzhen Woer Heat-Shrinkable Material Co Ltd	RSFR, RSFR-H, RSFR-HPF	600Vac, 125°C	IEC 62368-1: 2018 UL 224	Tested in equipment UL E203950
Alt.)	QIFURUI ELECTRONICS CO	QFR-h	600Vac, 125°C	IEC 62368-1: 2018 UL 224	Tested in equipment UL E225897
Alt.)	DONGGUAN SALIPT CO LTD	SALIPT S-901-300	300Vac, 125°C	IEC 62368-1: 2018 UL 224	Tested in equipment UL E209436
Alt.)	DONGGUAN SALIPT CO LTD	SALIPT S-901-600	600Vac, 125°C	IEC 62368-1: 2018 UL 224	Tested in equipment UL E209436
Alt.)	GUANGZHOU KAIHENG ENTERPRISE GROUP	K-2 (CB)	300Vac, 125°C	IEC 62368-1: 2018 UL 224	Tested in equipment UL E214175
Alt.)	GUANGZHOU KAIHENG ENTERPRISE GROUP	K-2	600Vac, 125°C	IEC 62368-1: 2018 UL 224	Tested in equipment UL E214175
Alt.)	CHANGYUAN ELECTRONICS GROUP CO LTD	CB-HFT	300Vac, 125°C	IEC 62368-1: 2018 UL 224	Tested in equipment UL E180908
Varistor (MOV1) (optional) (For open frame type) ***)**	Centra Science Corp.	CNR-10D471K, CNR-14D471K	Max. Continuous voltage: min 300Vac(rms), 105°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2 IEC 62368-1: 2018 G.8.1 UL 1449	VDE 40008220 UL E316325
Alt.)	Thinking Electronic Industrial Co., Ltd.	TVR10471, TVR14471	Max. Continuous voltage: min 300Vac(rms), 105°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2 UL 1449	VDE 005944 UL E314979
Alt.)	Success Electronics Co., Ltd.	SVR10D471K SVR14D471K	Max. Continuous voltage: min 300Vac(rms), 105°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40030401 UL E330256

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

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity [1])
Alt.)	Ceramate Techn. Co., Ltd.	For VDE: 10D471K, 14D471K For UL: GNR10D471K GNR14D471K	Max. Continuous voltage: min 300Vac(rms), 105°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2 UL 1449	VDE 40031745 UL E315429
Alt.)	BestBright Electronics Co. Ltd	14D471K 10D471K	Max. Continuous voltage: min 300Vac(rms), 105°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2 UL 1449	VDE 40027827 UL E315524
Varistor (MOV1) (optional) (For potted type and open frame type) ***)**	Xianmen Set Electronics Co., Ltd.	TFV8S471K	Max. Continuous voltage: min 300Vac(rms), 105°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2 IEC 62368-1: 2018 G.8.1 and G.8.2 UL 1449	TUV Rh J50554061 UL E322662
ICX (U1)	NXP Semiconductor Taiwan Ltd.	TEA19162T	100-240Vac, 47-63 Hz Total: Resistance: 10 to 24 MΩ X capacitance: 0.1-4.6uF	IEC 62368-1: 2018	CB issued by TUV Rh (Certificate No. JPTUV-114400) Report No. 60393749 001
X-capacitor (CX1)	Shantou High-New Technology Developmnt Zone Songtian Enterprise Co Ltd	MPX	Max. 0.47µF, Min. 250V, min. 110°C Min. X2 type	IEC/EN 60384-14, UL 60384-14	VDE 40034679 UL E208107
Alt.)	Tenta Electric Industrial Co Ltd	MEX	Max. 0.47µF, Min. 250V, min. 100°C Min. X2 type	IEC/EN 60384-14, UL 60384-14	VDE 119119 UL E222911
Alt.)	Joey Electronics (Dong Guan) Co Ltd	MPX	Max. 0.47µF, Min. 250V, min. 100°C Min. X2 type	IEC/EN 60384-14, UL 60384-14	VDE 40032481 UL E216807
Alt.)	Ultra Tech Xiphi Enterprise Co Ltd	HQX	Max. 0.47µF, Min. 250V, min. 110°C Min. X2 type	IEC/EN 60384-14, UL 60384-14	VDE 40015608 UL E183780

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

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity [1])
Alt.)	Cheng Tung Industrial Co., Ltd.	CTX	Max. 0.47µF, Min. 250V, min. 105°C Min. X2 type	IEC/EN 60384-14, UL 60384-14	ENEC 15 (ENEC-02671-M1) UL E193049
Alt.)	Dain Electronics Co., Ltd.	MEX, MPX, NPX	Max. 0.47µF, Min. 250V, min. 100°C Min. X2 type	IEC/EN 60384-14, UL 60384-14	VDE 40018798 UL E147776
Alt.)	Dain Electronics Co., Ltd.	MPX, NPX	Max. 0.47µF, Min. 250V, min. 110°C Min. X2 type	IEC/EN 60384-14, UL 60384-14	VDE 40018798 UL E147776
Bleeder Resistor (R1A, R1B)	Interchangeable	Interchangeable	4.7 MΩ, Min. 1/8W	IEC 62368-1: 2018	Tested in equipment
Bridging-Capacitor (CY3, CY4) (Optional)	TDK Corporation	CD	Max.4700pF, Min. 250V, Min. 125°C, Y1 type	IEC/EN 60384-14, UL 60384-14	VDE 40029780 UL E37861
Alt.)	Success Electronics Co., Ltd.	SE	Max.4700pF, Min. 250V, Min. 125°C, Y1 type	IEC/EN 60384-14, UL 60384-14	VDE 40037211 UL E114280
Alt.)	Success Electronics Co., Ltd.	SB	Max.4700pF, Min. 250V, Min. 125°C, Y1 type	IEC/EN 60384-14, UL 60384-14	VDE 40037221 UL E114280
Alt.)	Walsin Technology Corp.	AH	Max.4700pF, Min. 250V, Min. 125°C, Y1 type	IEC/EN 60384-14, UL 60384-14	VDE 40001804 UL E146544
Alt.)	Murata Mfg. Co., Ltd.	KX	Max.4700pF, Min. 250V, Min. 125°C, Y1 type	IEC/EN 60384-14, UL 60384-14	VDE 40002831 UL E37921
Alt.)	JYA-NAY CO LTD	JN	Max.4700pF, Min. 250V, Min. 125°C, Y1 type	IEC/EN 60384-14 UL 60384-14	TUV Rh HN 69242987 UL E201384
Alt.)	Shantou High-New Technology Dev.Zone Songtian Enterprise Co., Ltd.	CD	Max.4700pF, Min. 250V, Min. 125°C, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE 40029780 UL E37861

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

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity [1])
Line filter (LF1) (Optional)	GlobTek/ HAOPUWEI/ HEJIA/ BOAM	LF045	130°C	IEC 62368-1: 2018	Tested in equipment
Line filter (LF2) (Optional)	GlobTek/ HAOPUWEI/ HEJIA/ BOAM	LF046	130°C	IEC 62368-1: 2018	Tested in equipment
Line filter (L1) (Optional)	GlobTek/ HAOPUWEI/ HEJIA/ BOAM	LF047	130°C	IEC 62368-1: 2018	Tested in equipment
Line filter (L2) (Optional)	GlobTek/ HAOPUWEI/ HEJIA/ BOAM	LF048	130°C	IEC 62368-1: 2018	Tested in equipment
-Bobbin of L2	CHANG CHUN PLASTICS CO LTD	T375J, T375HF	Phenolic, Min. 0.45mm thickness, V-0, 150°C	UL94, UL 746	UL E59481
Alt.)	SUMITOMO BAKELITE CO LTD	PM-9820	Phenolic, Min. 0.45mm thickness, V-0, 150°C	UL94, UL 746	UL E41429
-Insulation tape of L2	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	PZ, CT, WF	Min.130°C	UL 510	UL E165111
Alt.)	3m Company	1350F-1, 1350T-1, 44	Min.130°C	UL 510	UL E17385
Alt.)	Jingjiang Jingyi Adhesive Product Co Ltd	JY25-A	Min.130°C	UL 510	UL E246950

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

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity [1])
Alt.)	Chang Shu Liang Yi Tape Industry Co Ltd	LY-XX	Min.130°C	UL 510	UL E246820
Photo coupler (U4)	VISHAY Semiconductor GmbH	TCLT1009, VOL618A	Ext. Cr&Cl: ≥8.0mm, DTI: ≥0.4mm, Min. 110°C	IEC/EN 60747-5-5, EN IEC 62368-1: 2020 + A11:2020, IEC 62368-1:2018, UL 1577	VDE 132473 E76222
Alt.)	Everlight Electronics Co., Ltd.	EL1019	Ext. Cr&Cl: ≥8.1mm, DTI: ≥0.4mm, Min. 125°C	IEC/EN 60747-5-5, EN IEC 62368-1: 2020 + A11:2020, IEC 62368-1:2018, UL 1577	VDE 40028391 UL E214129
Alt.)	Lite-On Technology Corporation	LTV-10xx	Ext. Cr&Cl: ≥8.0mm, DTI: ≥0.4mm, Min. 115°C	IEC/EN 60747-5-5, EN IEC 62368-1: 2020 + A11:2020, IEC 62368-1:2018, UL 1577	VDE 138213 UL E113898
Alt.)	COSMO Electronics Corporation	KT1019	Ext. Cr&Cl: ≥8.0mm, DTI: ≥0.4mm, Min. 115°C	IEC/EN 60747-5-5, UL 1577	VDE 40031267 UL E169586
Bridge Diode (BD1)	Interchangeable	Interchangeable	Min.2A, Min. 600V	IEC 62368-1: 2018	Tested in equipment
Storage Capacitor (C3)	Interchangeable	Interchangeable	60-150µF, Min. 400V, Min. 105°C	IEC 62368-1: 2018	Tested in equipment
MOSFET (Q1)	Interchangeable	Interchangeable	Min. 9A, Min. 600V	IEC 62368-1: 2018	Tested in equipment
MOSFET (Q2)	Interchangeable	Interchangeable	Min. 9.5A, Min. 600V	IEC 62368-1: 2018	Tested in equipment
MOSFET (Q3)	Interchangeable	Interchangeable	Min. 9.5A, Min. 600V	IEC 62368-1: 2018	Tested in equipment
Current sense resistor (R9)	Interchangeable	Interchangeable	Min. 47mΩ, Min.1/4W	IEC 62368-1: 2018	Tested in equipment
Connector (J1 and J2) (For open frame Construction)	Japan Solderless Terminal Mfg Co Ltd	VH series	240Vac, 7A	IEC 62368-1: 2018 UL 1977	Tested in equipment UL E60389

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

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity [1])
Transformer (T1)	GlobTek / HAOPUWEI	TF094 (For output 12V-14.9Vdc) TF095 (For output 15V-18.9Vdc) TF096 (For output 19V--23.9Vdc) TF097 (For output 24V-31.9Vdc) TF098 (For output 32V - 41.9Vdc) F099 (For output 42V-54Vdc)	Class B	IEC 62368-1: 2018	Tested in equipment
-Insulation System	GlobTek	GTX-130-TM	Class 130 (B)	UL 1446	UL E243347
Alt.)	WUXI HAOPUWEI ELECTRONICS CO LTD	ZT-130	Class 130 (B)	UL 1446	UL E315275
-Triple Insulation wire	Great Leoflon Industrial Co Ltd	TRW(B)*, TRW(B)-I*	130°C	IEC/EN 62368-1, UL 2353	VDE 136581 UL E211989
Alt.)	TOTOKU INC.	TIW-2X$+	130°C	IEC/EN 62368-1, UL 2353	VDE 40051990 UL E166483
Alt.)	HOI LUEN ELECTRICAL MFR CO LTD	THL-F-xx, THL-F-SB-xx	130°C	IEC/EN 62368-1, UL 2353	VDE 40020365 UL E257525
-Bobbin	Chang Chun Plastics Co Ltd	T375J T375HF	Phenolic, V-0, Min. 150°C, Min. 0.71mm thickness	UL94, UL 746	UL E59481
Alt.)	Sumitomo Bakelite Co Ltd	PM-9820	Phenolic, V-0, Min. 150°C, Min. 0.71mm thickness	UL94, UL 746	UL E41429
Alt.)	Resonac Techno Service Corporation	CP-J-8800	Phenolic, V-0, Min. 150°C, Min. 0.71mm thickness	UL94, UL 746	UL E514814

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

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity [1])
-Tape	3M COMPANY	1350F-1, 1350T-1, 44	130°C	UL 510	UL E17385
Alt.)	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	PZ, CT, WF	130°C	UL 510	UL E165111
Alt.)	Jingjiang Jingyi Adhesive Product Co Ltd	JY25-A(b)	130°C	UL 510	UL E246950
Alt.)	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX(a)(b)	130°C	UL 510	UL E246820
-Tubing	Great Holding Industrial Co Ltd	TFT, TFS	Min. 300V, 200°C	UL 224	UL E156256
Alt.)	Shenzhen Woer Heat-Shrinkable Material Co Ltd	WF	600V, 200°C	UL 224	UL E203950
Alt.)	Changyuan Electronics (Shenzhen) Co Ltd	CB-TT-T, CB-TT-S	Min. 300V, 200°C	UL 224	UL E180908
Function earthing wire for Class I construction (Multi-layer Insulated Winding Wire, Reinforced)	Great Leoflon Industrial Co Ltd	TRW(B)*	130°C	IEC/EN 62368-1, UL 2353	VDE 136581 UL E211989
Alt)	Hoi Luen Electrical Mfr Co Ltd	THL-F-xx, THL-F-SB-xx	130°C	IEC/EN 62368-1, UL 2353	VDE 40020365 UL E257525
Alt)	Furukawa Electric Co Ltd	TEX-E	130°C	IEC/EN 62368-1 UL 2353	VDE 006735 UL E206440
USA Power Plug of Power supply cord (For GT*96225*P****-P2-TPNA*)	Self-Man Industrial Co	SM-045	Min.125Vac, 10A	UL 817 UL 60320-1	UL E119543
Alt)	Yung Li Co Ltd	YC-12	Min.125Vac, 10A	UL 817 UL 60320-1	UL E152635

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

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity [1])
- Flexible cable of power cord	Yung Li Co. Ltd..	SJTW	2 x 18AWG, 105°C	UL 62	UL E241374
Alt)	I Sheng Electronics (Kunshan) Co Ltd	SJTW,	2 x 18AWG, 105°C	UL 62	UL E314513
USA Power Plug of Power supply cord (For GT*96225*P****-P3-TPNA*)	Self-Man Industrial Co	SM-001	Min.125V, Min.10A	UL 817 UL 60320-1	UL E119543
-Flexible cable of power cord	Yung Li Co. Ltd..	SJTW	3 x 18AWG, 105°C	UL 62	UL E241374
Alt)	I Sheng Electronics (Kunshan) Co Ltd	SJTW,	3 x 18AWG, 105°C	UL 62	UL E314513
European Power plug of power supply cord (For GT*96225*P****-P2-TPEU*)	Yung-Li Co. Ltd.	YP-21A	250Vac, 2.5A	EN 50075:1990 DIN VDE 0620 Teil 101:1992-05	VDE 40022312
- Flexible cable of power cord	Yung-Li Co. Ltd	H05VV-F	2X0.75mm²	DIN EN 50525-2-11 (VDE 0285-525-2-11): 2012-01; EN 50525-2-11: 2011	VDE 40010145
Alt.)	I-Sheng Electric Wire & Cable Co. Ltd.	H05VV-F	2X0.75mm²	DIN EN 50525-2-11 (VDE 0285-525-2-11): 2012-01; EN 50525-2-11: 2011	VDE 40015762
Strain relief (AC Power cord)	SABIC	945(GG)	Dimension See Figure A	IEC 62368-1: 2018	Tested in equipment
-Input support frame	KANG YANG HARDWARE ENTERPRISES CO LTD	SBCR-7	Dimension See Figure B	IEC 62368-1: 2018	Tested in equipment

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Clause	Requirement + Test	Result - Remark	Verdict

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity [1])
Strain relief (DC output cord)	SABIC	945(GG)	Dimension See Figure C	IEC 62368-1: 2018	Tested in equipment
-Output support frame	KANG YANG HARDWARE ENTERPRISES CO LTD	SBCR-7	Dimension See Figure D	IEC 62368-1: 2018	Tested in equipment
Output cable (For potted type)	Suzhou Jiahuishu Electronic Co Ltd	1185	Max. 3.05m, VW-1, 300V, 14AWG, 80°C	UL 758	UL E353532
Alt.)	Interchangeable	Interchangeable	Max. 3.05m. VW-1 or FT-1, Min 80°C, Min. 60V, Min. 14AWG	UL 758	UL
Glue (For potted type)	Linktech silicone material co ltd	EncapSil 1400	V-0, 150°C	UL 94	UL
Mylar sheet (For L Frame Construction and Full cage Construction)	Chengdu kanglongxin plastics co ltd	KLX PP WT-10 Series	VTM-0, Min. 0.2 mm thickness, 110 °C	UL 94	UL E315185
Alt.)	Toray industries inc film div	Lumirror H10	VTM-2, Min. 0.2 mm thickness, 105 °C	UL 94	UL E86511
Alt.)	Sk microworks co ltd	SH71S	VTM-2, Min. 0.2 mm thickness, 105 °C	UL 94	UL E74359
Alt.)	Formex, div of illinois tool works inc	FORMEX GK series	VTM-0, Min. 0.2 mm thickness, 115 °C	UL 94	UL E121855
Metal chassis (For L Frame Construction and Full cage Construction)	Interchangeable	Interchangeable	Mi. 0.6mm thickness	IEC 62368-1: 2018	Tested in equipment
Supplementary information:					

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

Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity [1])

[1]) Provided evidence ensures the agreed level of compliance.

Unit: mm

Figure A

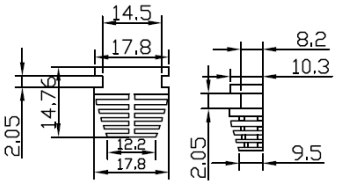
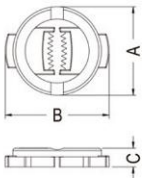


Figure B



Part No.	A	B	C	Suggested Cable Diameter Range
SBCR-7	17.7	20.8	3.75	Ø7.0

Figure C

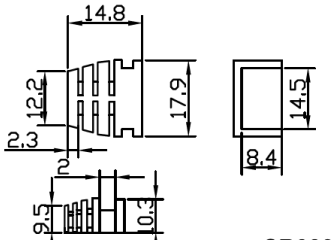
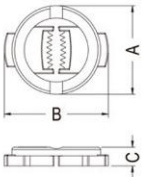


Figure D



Part No.	A	B	C	Suggested Cable Diameter Range
SBCR-7	17.7	20.8	3.75	Ø7.0

— End of the report —

Photos

Enclosure View

Enclosure View

Photos

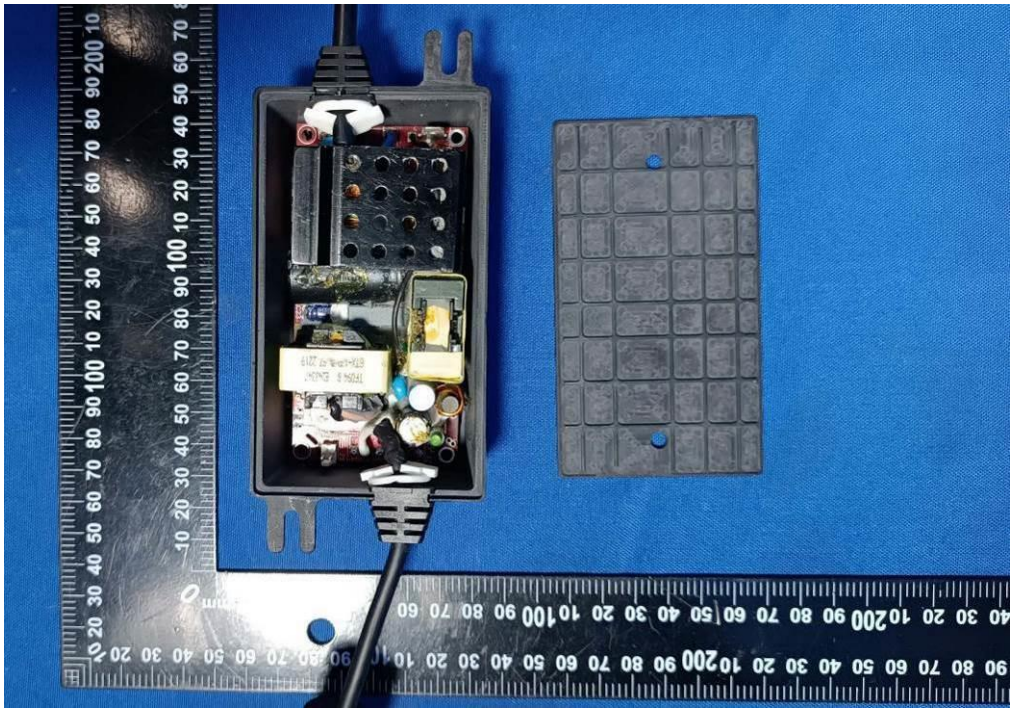
Enclosure View

Enclosure View

Photos

Enclosure View

Internal view



Photos

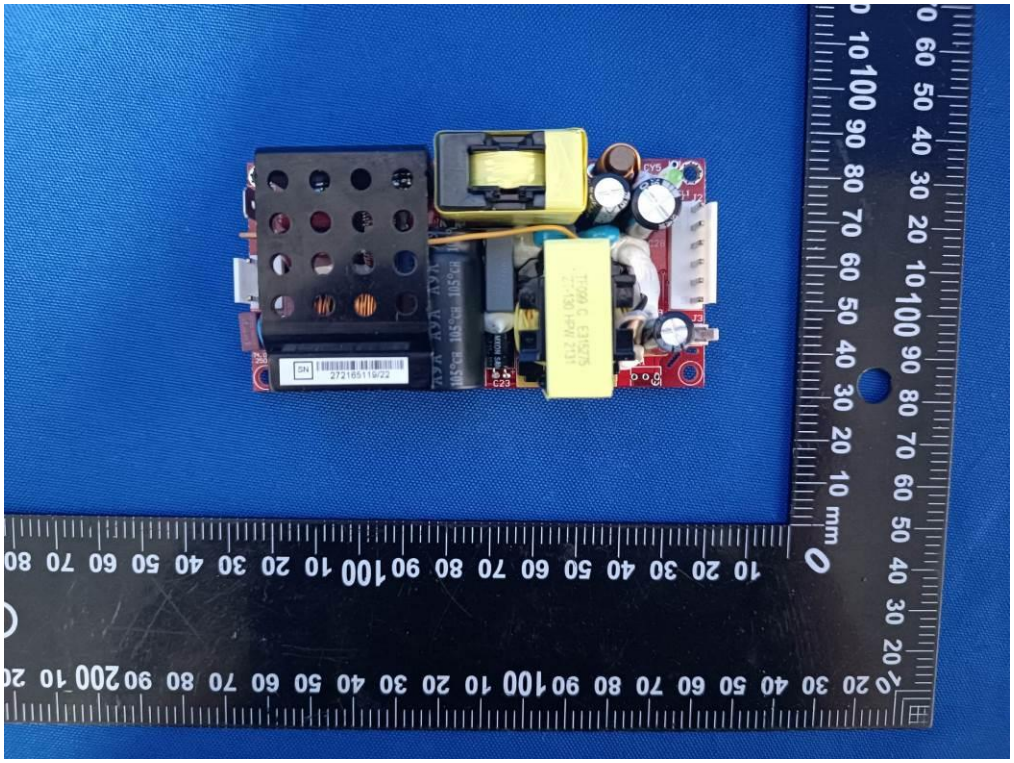
Internal view

Internal view

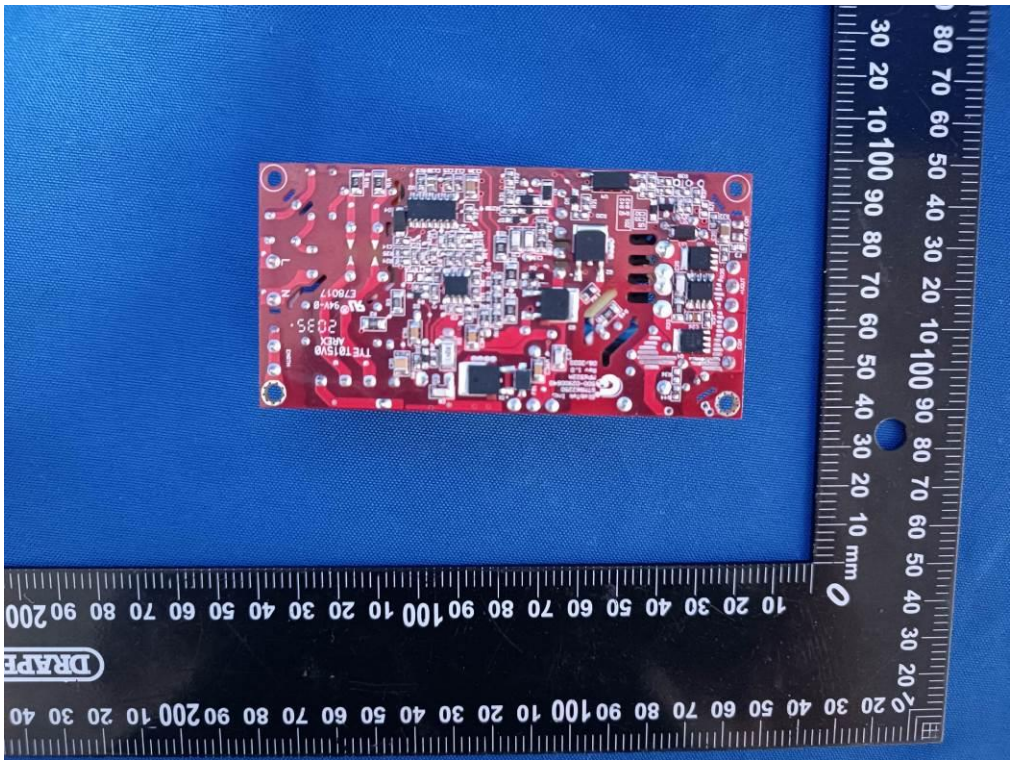
Photos

Open Frame Construction

PCB Component side (Function earth connect to R45 trace)

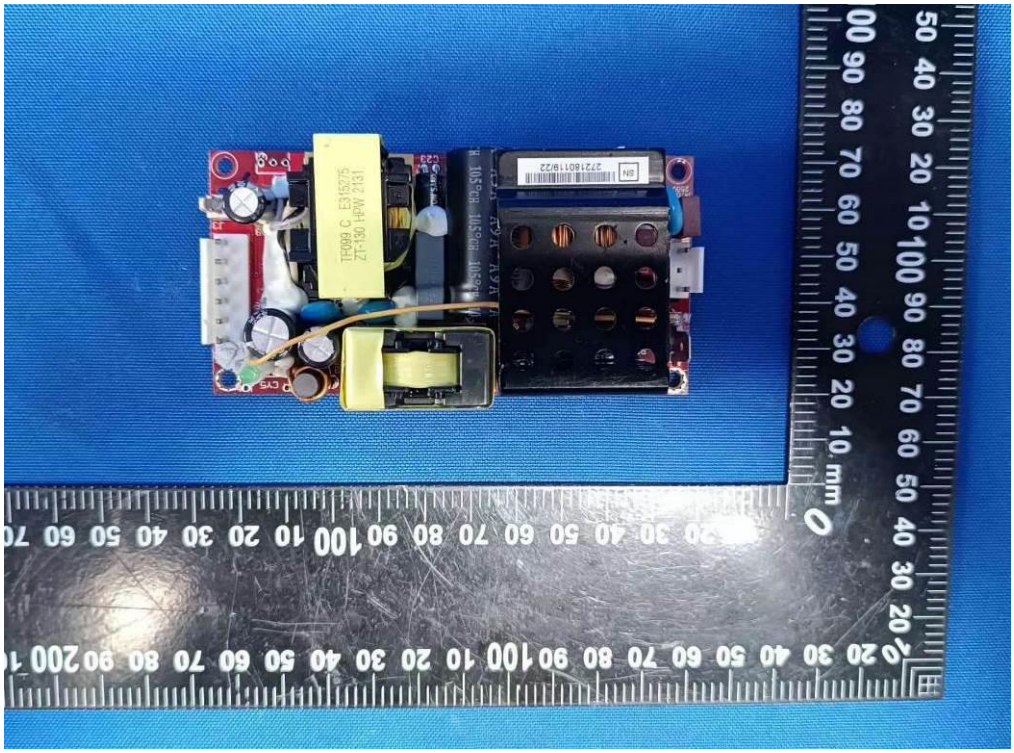


PCB Trace side

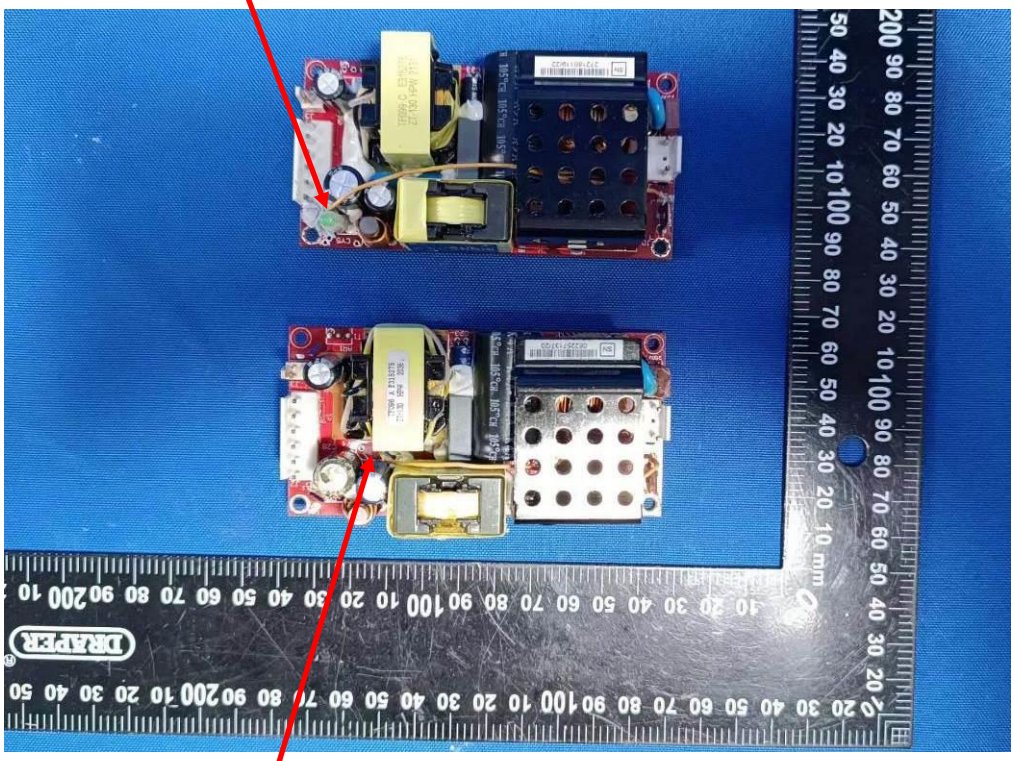


Photos

PCB Component side
(Function earth connect to CL1 trace)



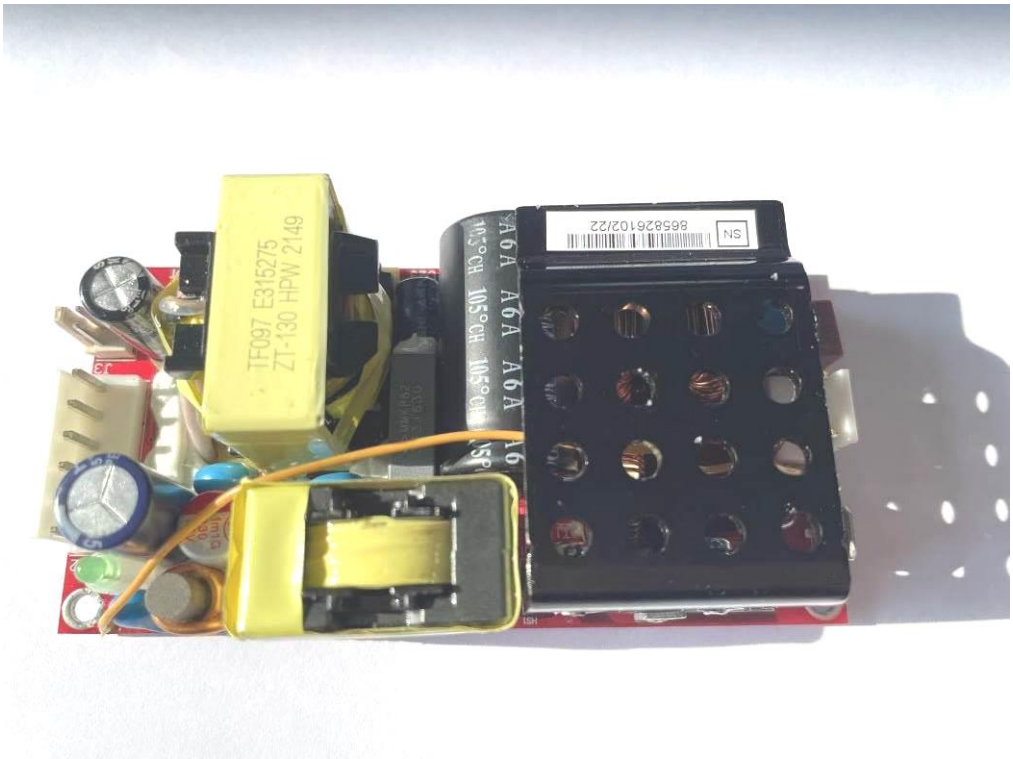
CL1 trace

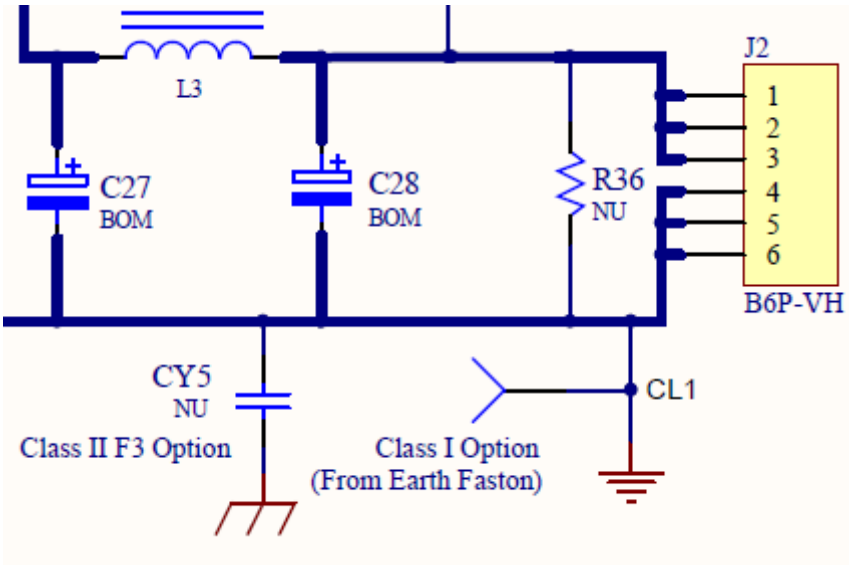


R45 trace

Photos

PCB Component side
(Function earth connect to CY5 (J2 Pin 4, 5, 6) trace)

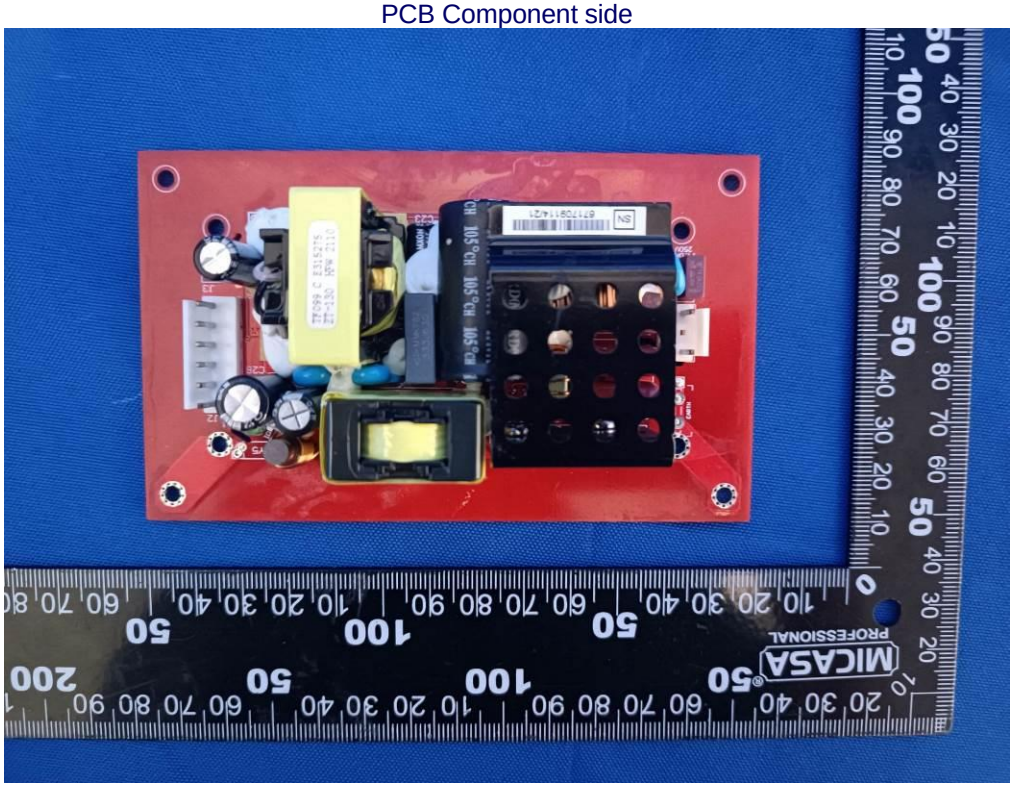




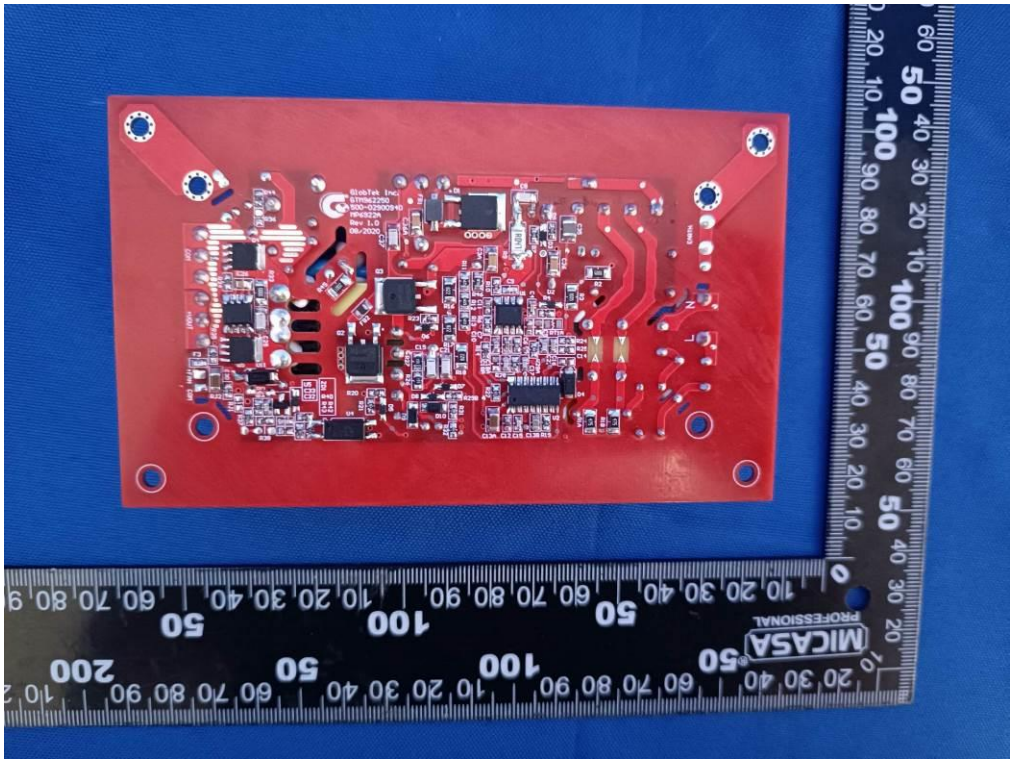
Photos

Open Frame Construction (C Type)

PCB Component side



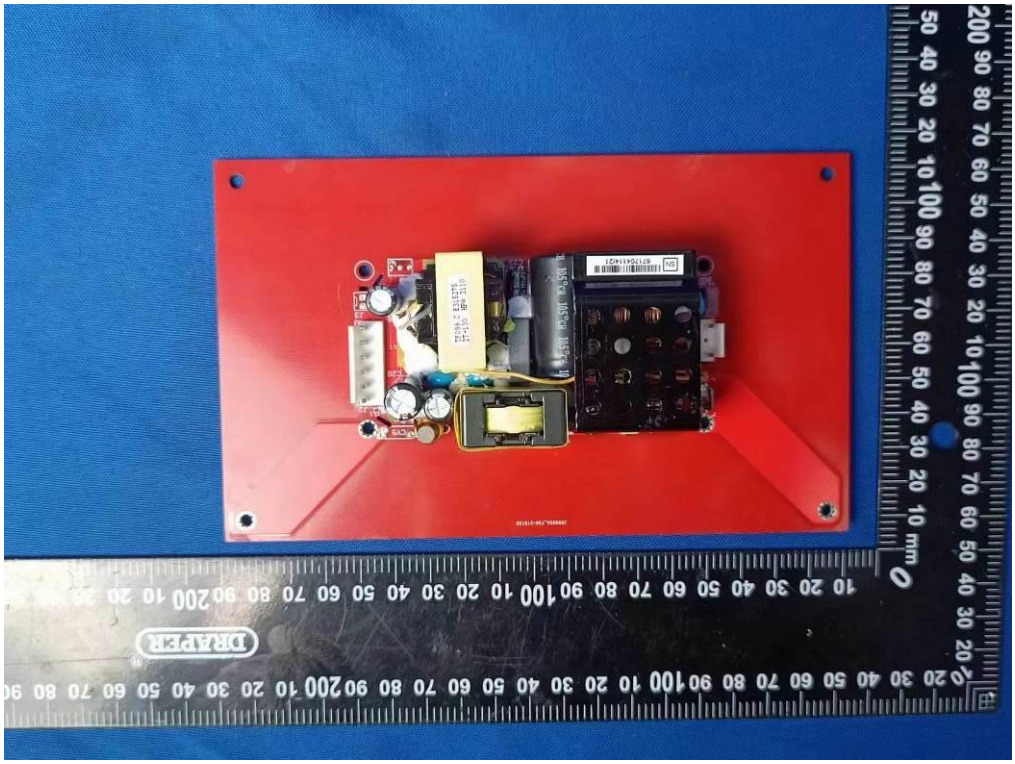
PCB Trace side



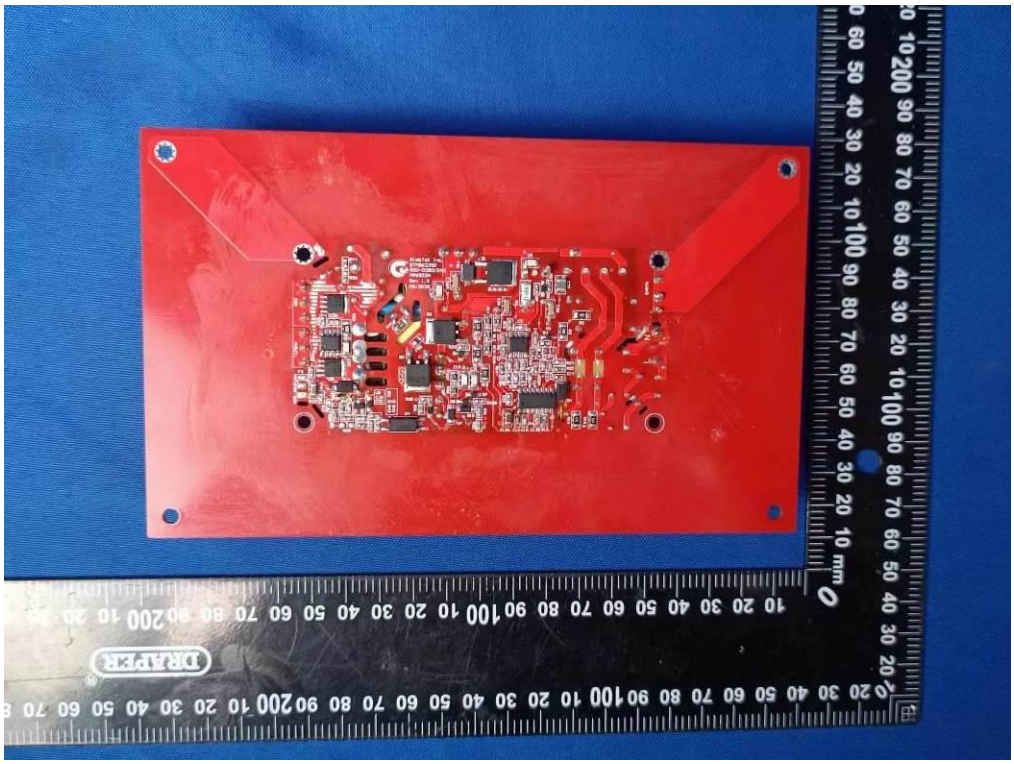
Photos

Open Frame Construction (D Type)

PCB Component side

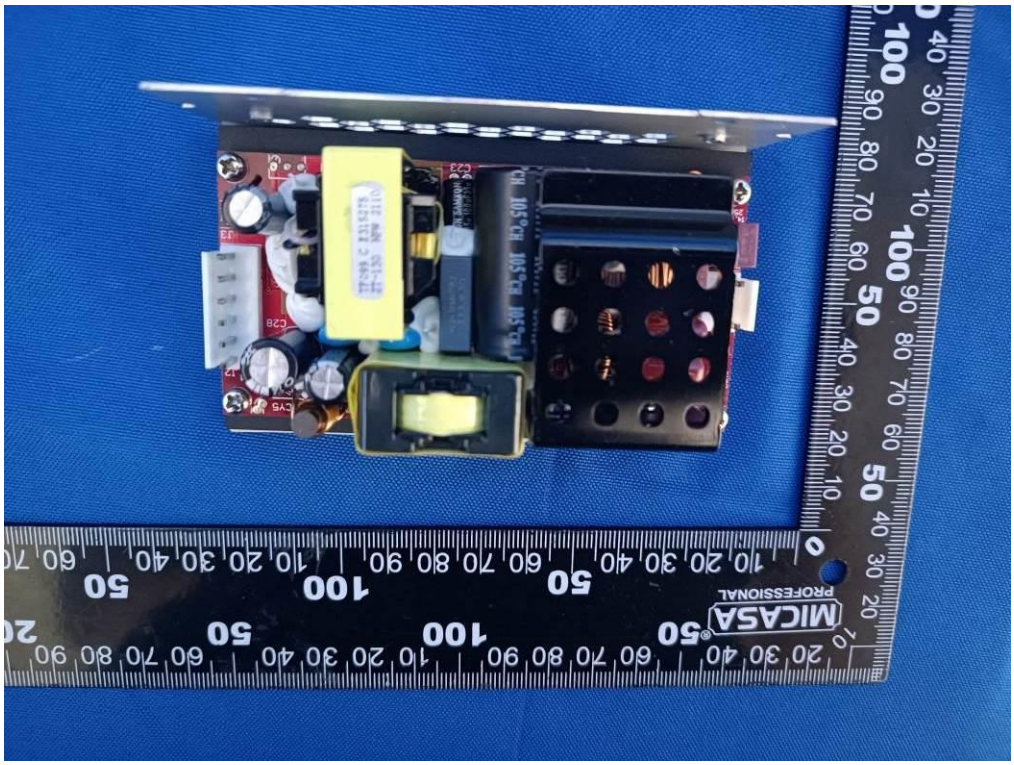


PCB Trace side



Photos

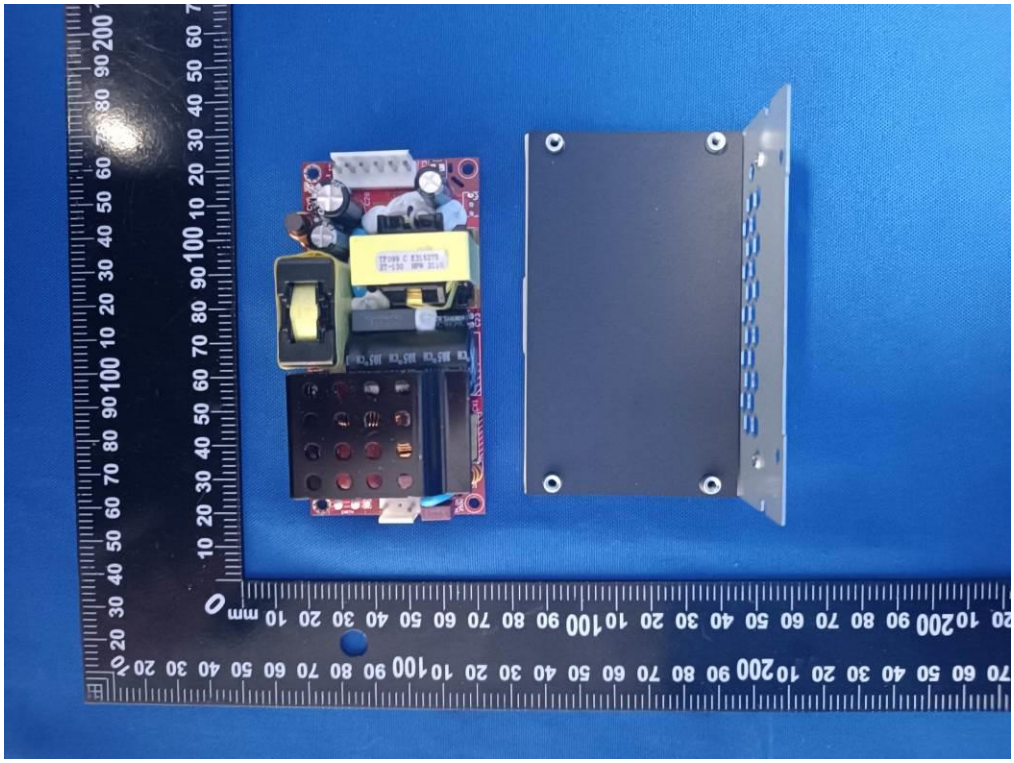
L Frame Construction
Enclosure view



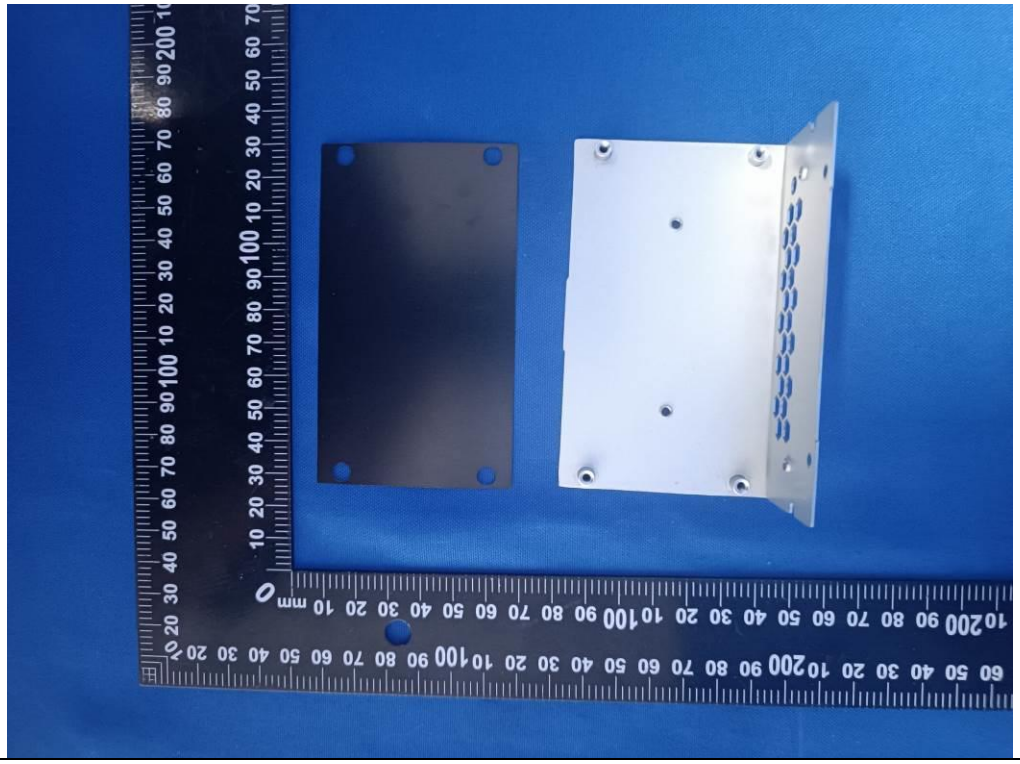
Enclosure view

Photos

Internal view

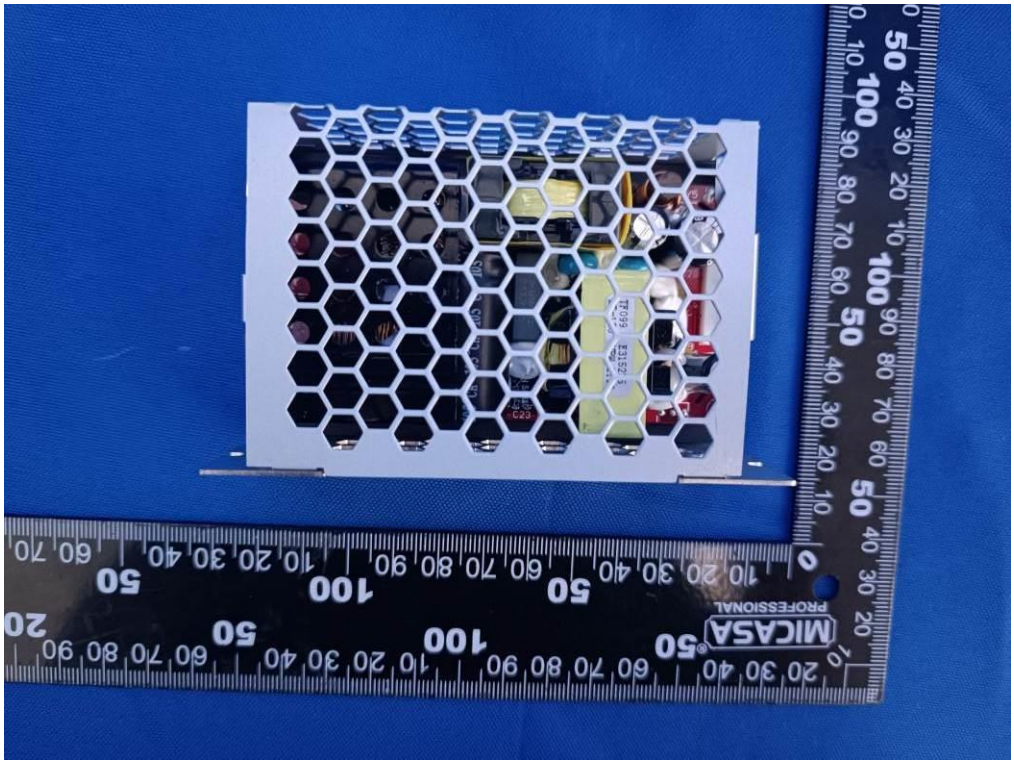


Mylar sheet and Metal chassis view

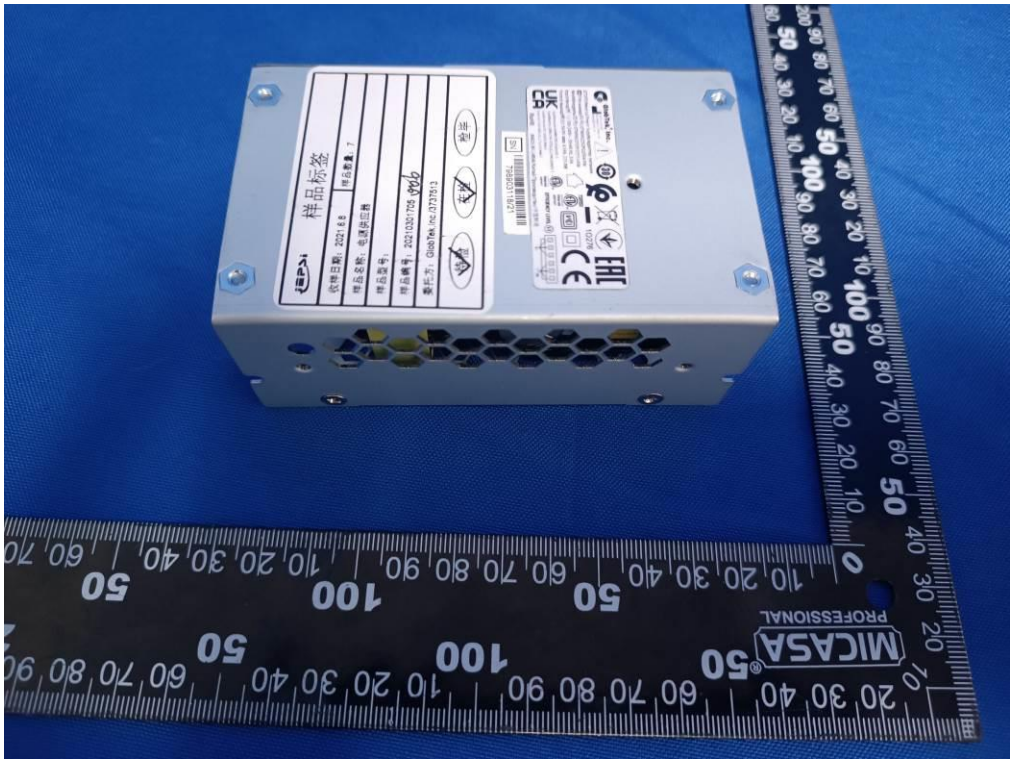


Photos

Full Cage Construction
Enclosure view

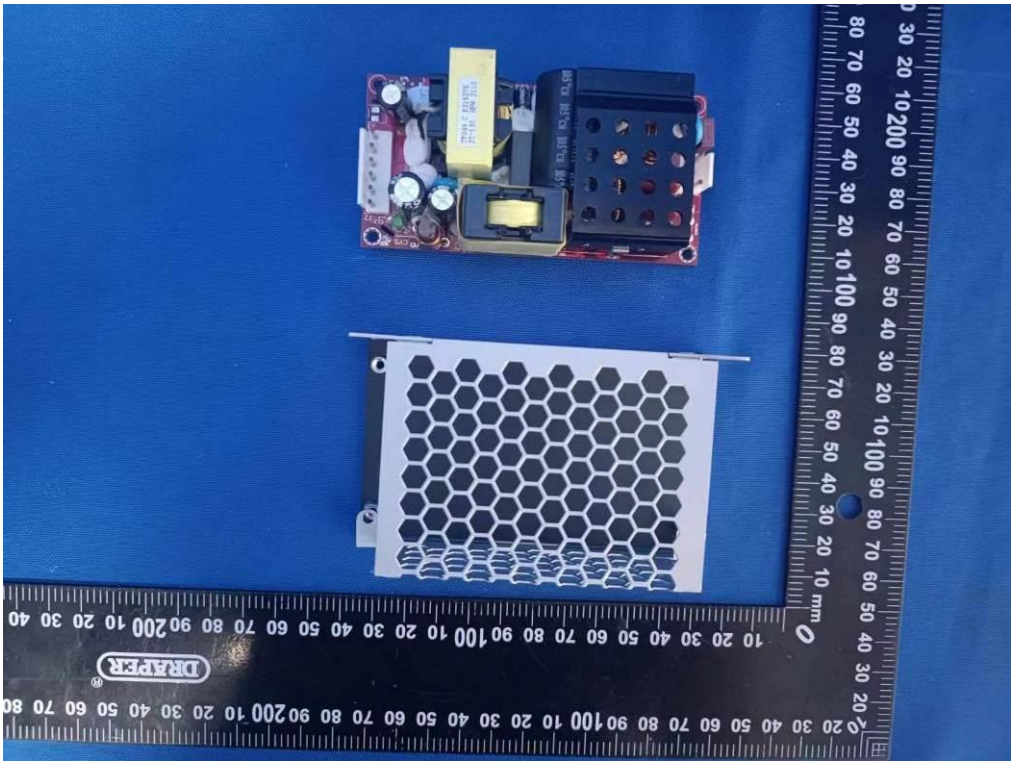


Enclosure view

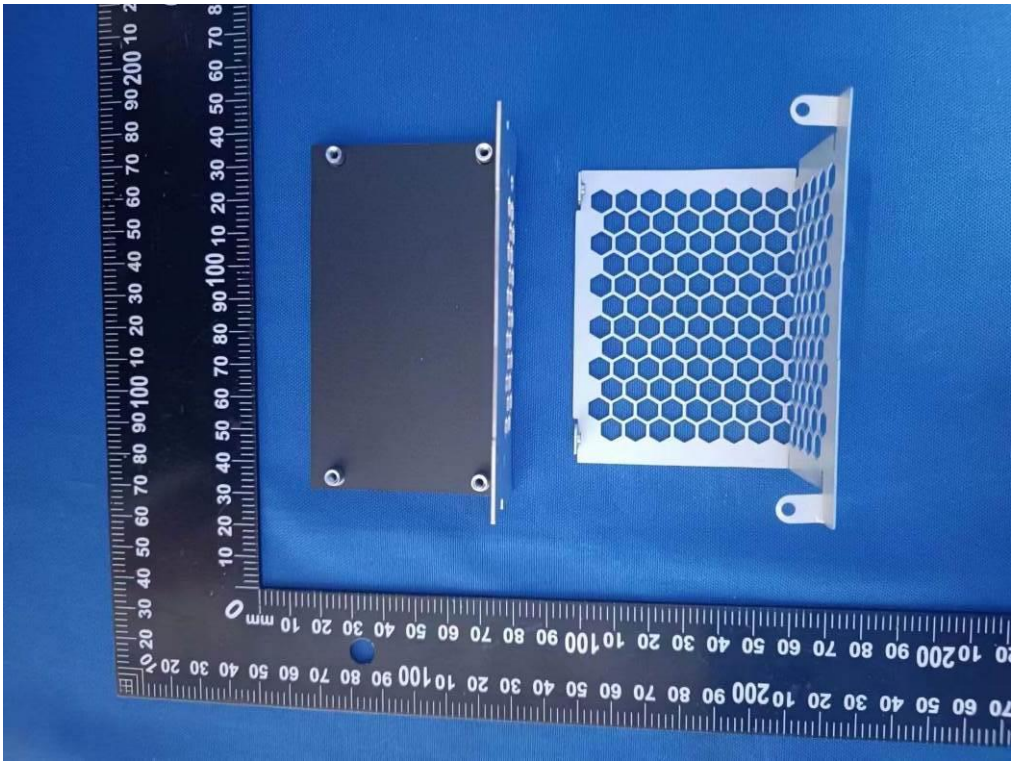


Photos

Internal view



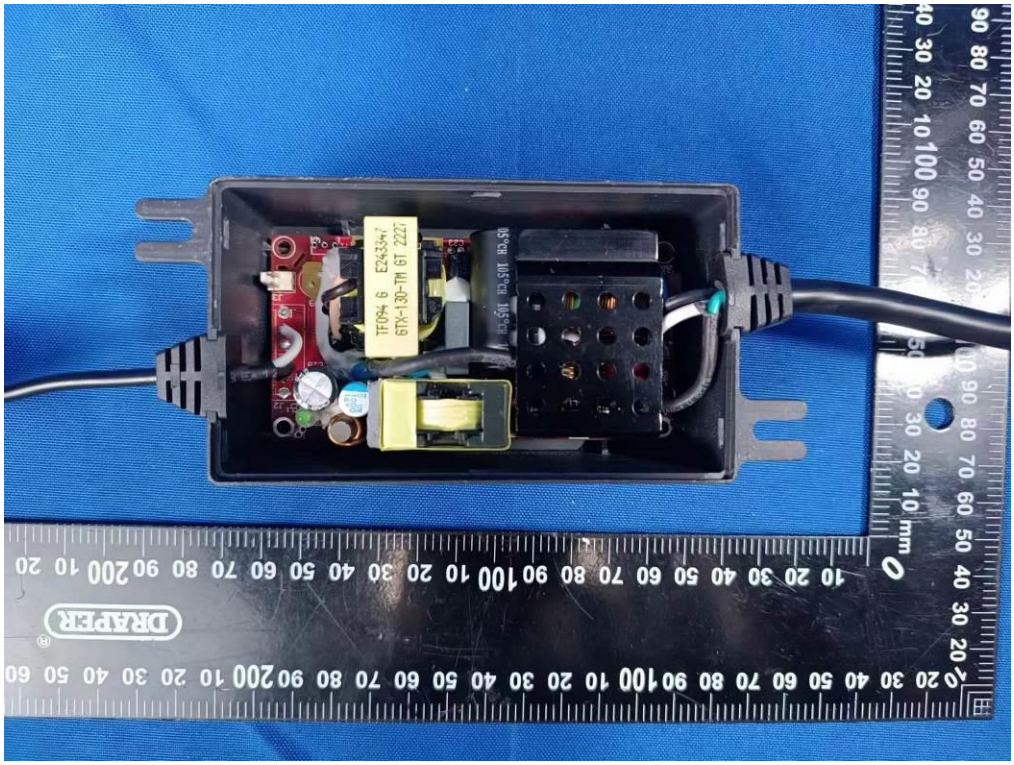
Mylar sheet and Metal chassis view



Photos

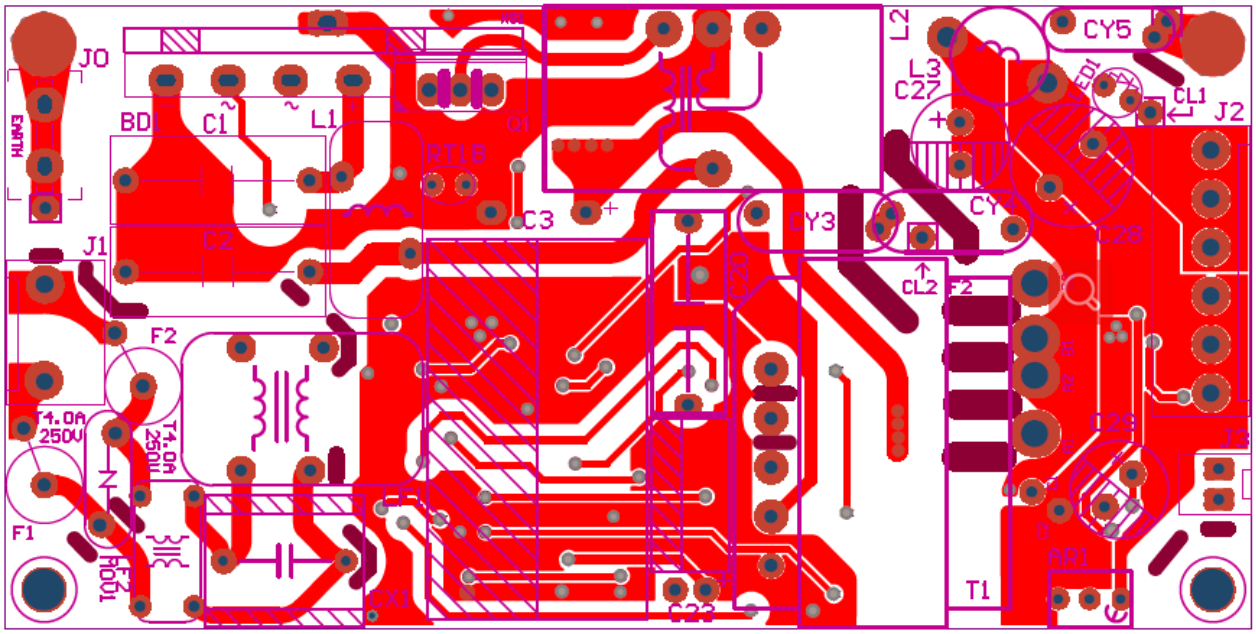
Class I non-detachable supply cord external

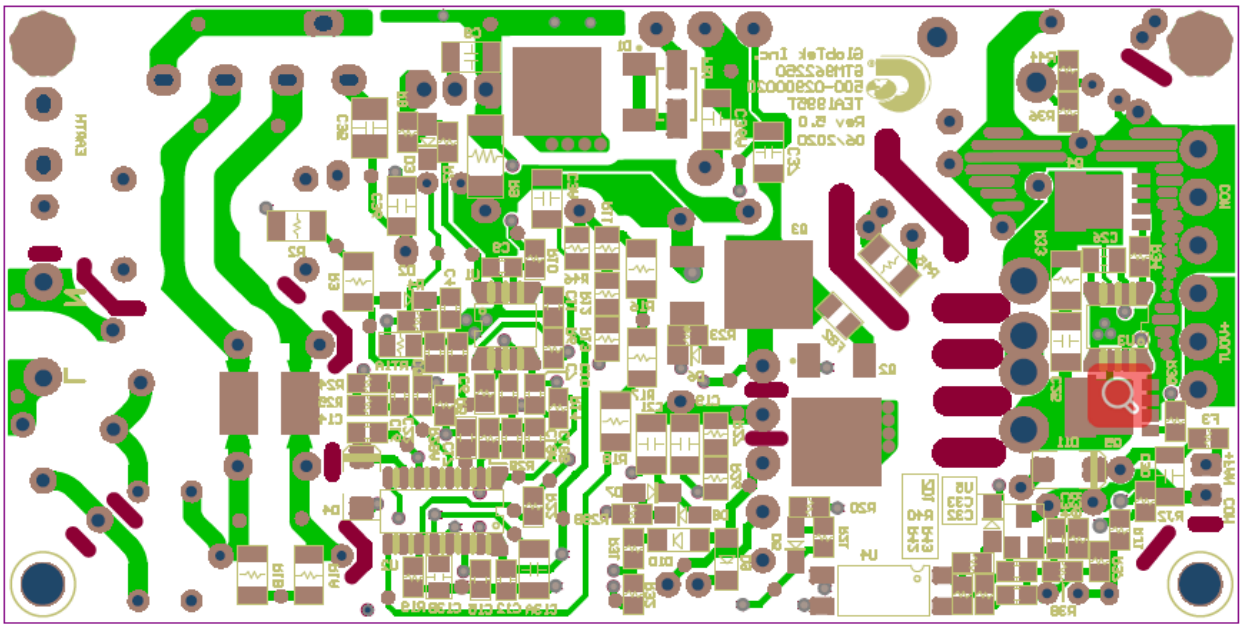
Internal



PCB Layout

Copy of PCB, layout of tracing (not in 1:1 scale):

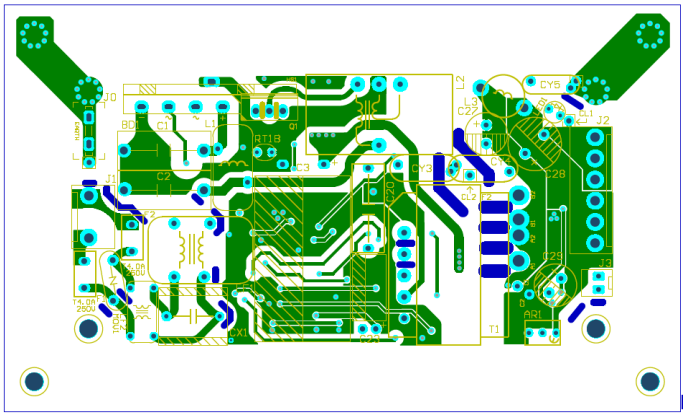


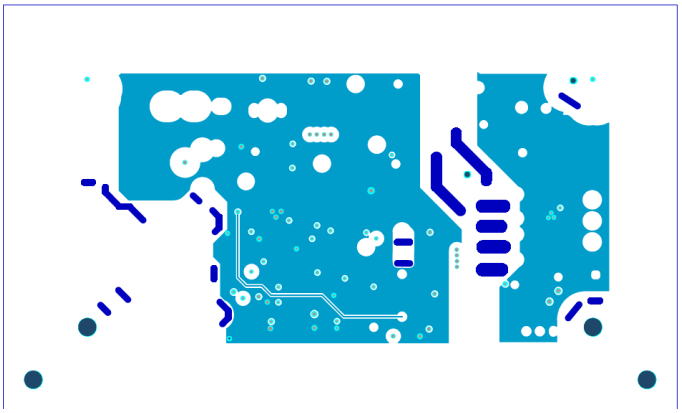


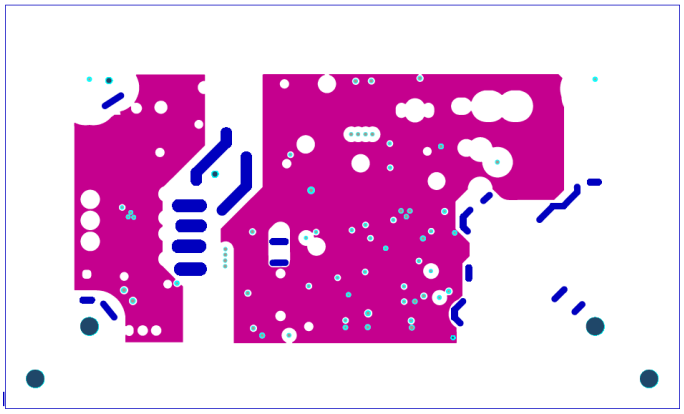
PCB Layout

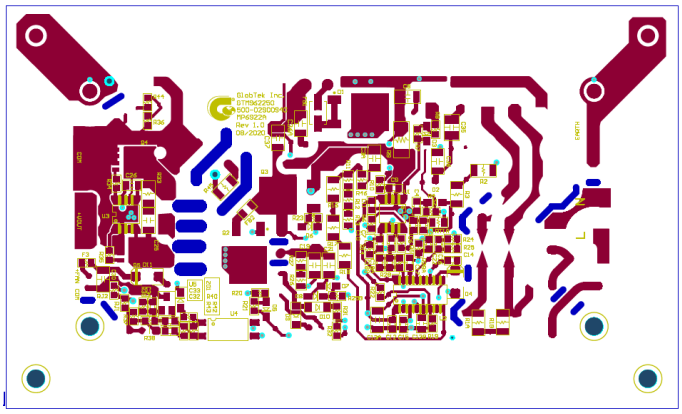
Copy of PCB, layout of tracing (not in 1:1 scale):

Type C





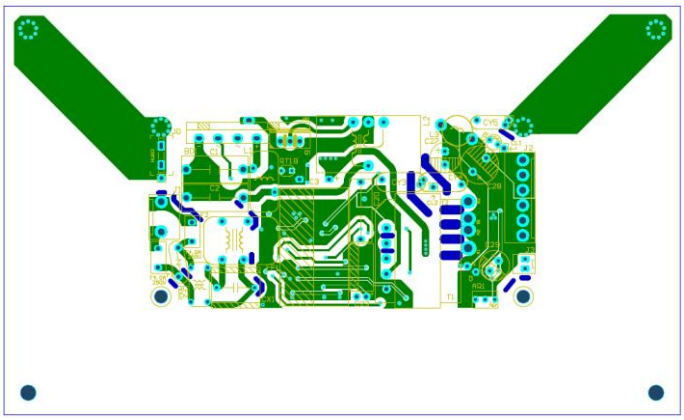


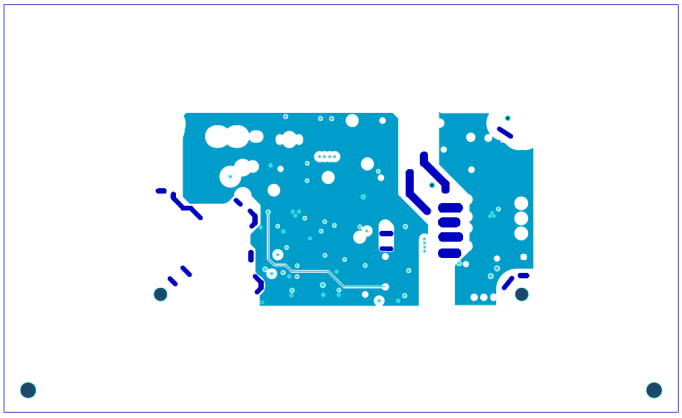


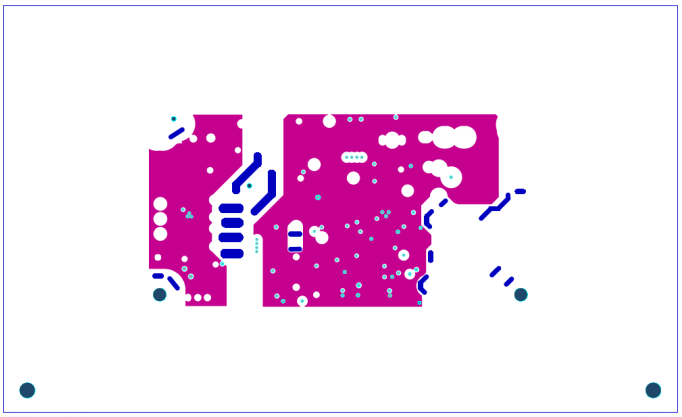
PCB Layout

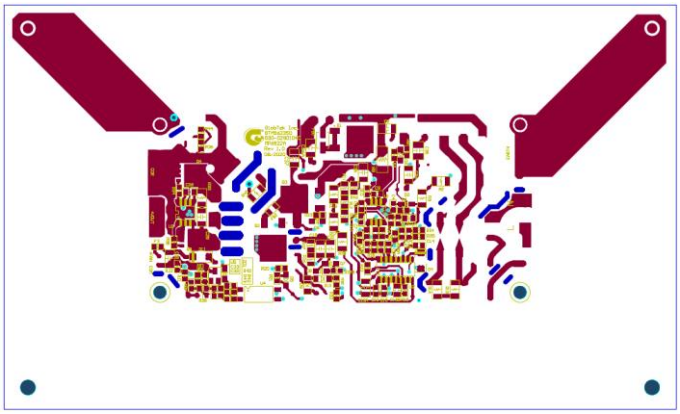
Copy of PCB, layout of tracing (not in 1:1 scale):

Type D





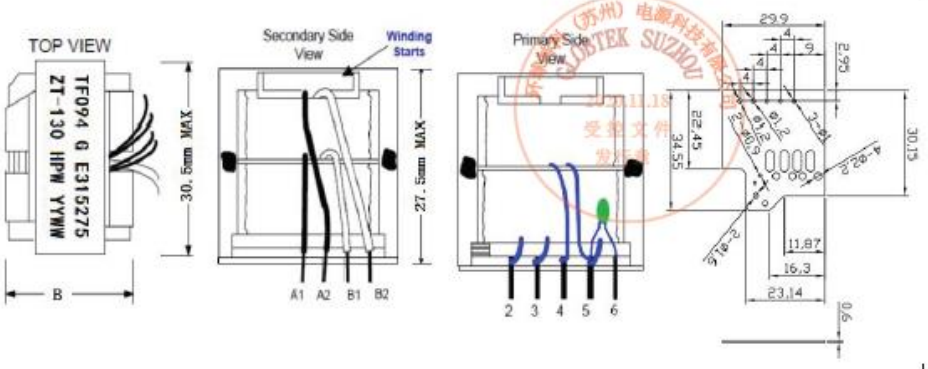




Transformer specification

Construction / winding diagram / component part no.: T1 Type TF094

1. DIMENSION (UNIT : mm)



Remarks:

① PIN1,7,8,9,10,11,12 空脚，产品针脚长度从底板量起 3.5±0.5mm，飞线焊锡长度从底板量起 4.5±0.5mm。

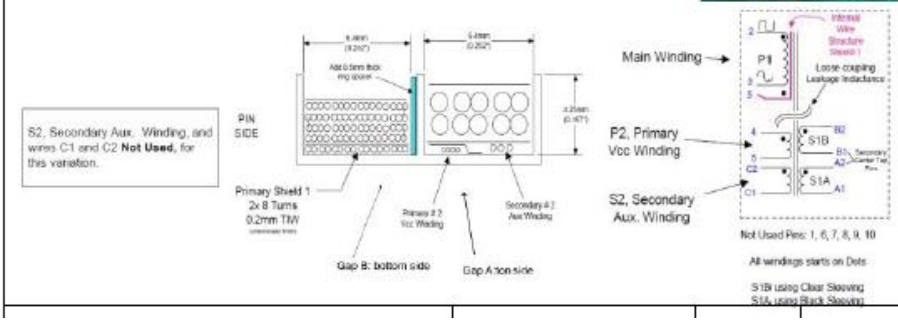
② 如图安装一颗 NTC（纳法微 TTC3A104J4193EY），不穿套管接到 PIN 6 和 PIN 5，本体点黑胶固定，然后沿线圈方向外包 7.5mm 宽胶带一圈。

③ 初级针脚侧磁芯贴一片胶带，磁芯中柱和接缝处点黑胶。

④ B：24mm MAX（不含飞线）。

⑤ 底板飞线点胶固定（右图）。

2. SHCEMATIC：



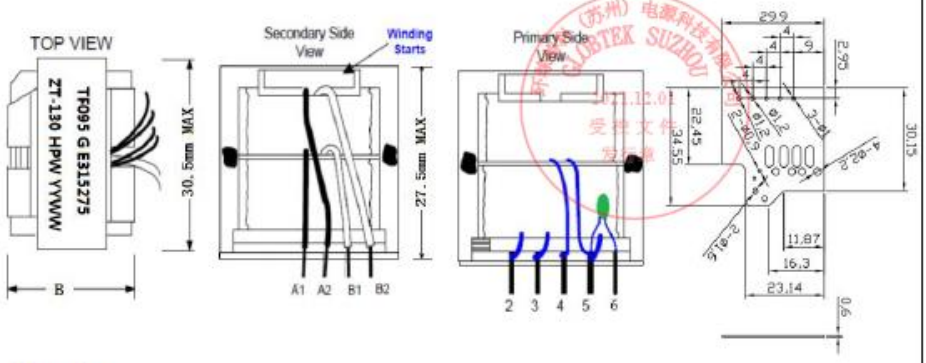
4. WINDING SPEC

顺序 Order	PIN 脚 PIN No.	铜线 Copper wire	圈数 Turns	线槽 Slot	方向 Direction	备注 Remarks
E1	5--	TIW wire 0.2mm*2	7 Ts	Gap B	Finish unterminated	
1 Ts W=6mm, T=0.025mm insulation tape @Gap B						
P1	2-3	Litz wire 0.06mm*72	35Ts	Gap B		4 layers
P2	4-5	TIW wire 0.25mm	3Ts	Gap A	P2 and S2 are in the same layer	
S2	C2-C1	TIW wire *0.3mm	0Ts	Gap A		
1 Ts W=6mm, T=0.025mm insulation tape @Gap A						
S1A	A2-A1	TIW Litz wire 0.1mm*150	2Ts	GAP A	1 Layer	
S1B	B2-B1	TIW Litz wire 0.1mm*150	2Ts	GAP A	1 Layer	
2 Ts W=7.5mm, T=0.025mm insulation tape @Gap B						
2Ts W=7mm, T=0.025mm insulation tape @Gap A						
2Turns W=11.5mm T=0.025mm core fixing tape						

Transformer specification

Construction / winding diagram / component part no.: T1 Type TF095

1. DIMENSION (UNIT : mm)



Remarks:

① PIN1,7,8,9,10,11,12 空脚，产品针脚长度从底板量起 3.5±0.5mm，飞线焊锡长度从底板量起 4.5±0.5mm。

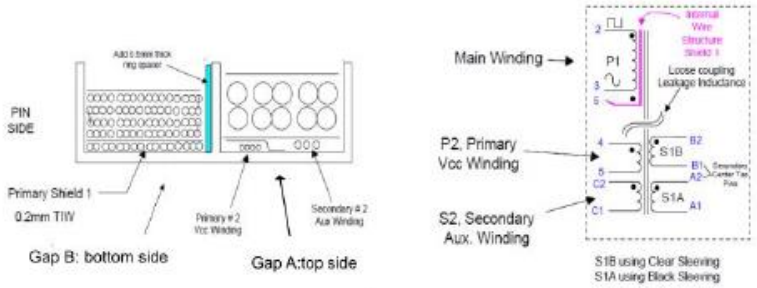
② 如图安装一颗 NTC（纳法微 TTC3A104J4193EY），不穿套管接到 PIN 6 和 PIN 5，本体点黑胶固定，然后沿线圈方向外包 7.5mm 宽胶带一圈。

③ 针脚侧磁芯用 20mm 宽胶带裹覆，磁芯中柱和接缝处点黑胶。

④ B：24mm MAX（不含飞线）。

⑤ 底板包 12mm 宽胶带 1 圈固定，然后沿线圈方向包 10mm 宽胶带 2T 固定飞线。

2. SHCEMATIC：



4. WINDING SPEC

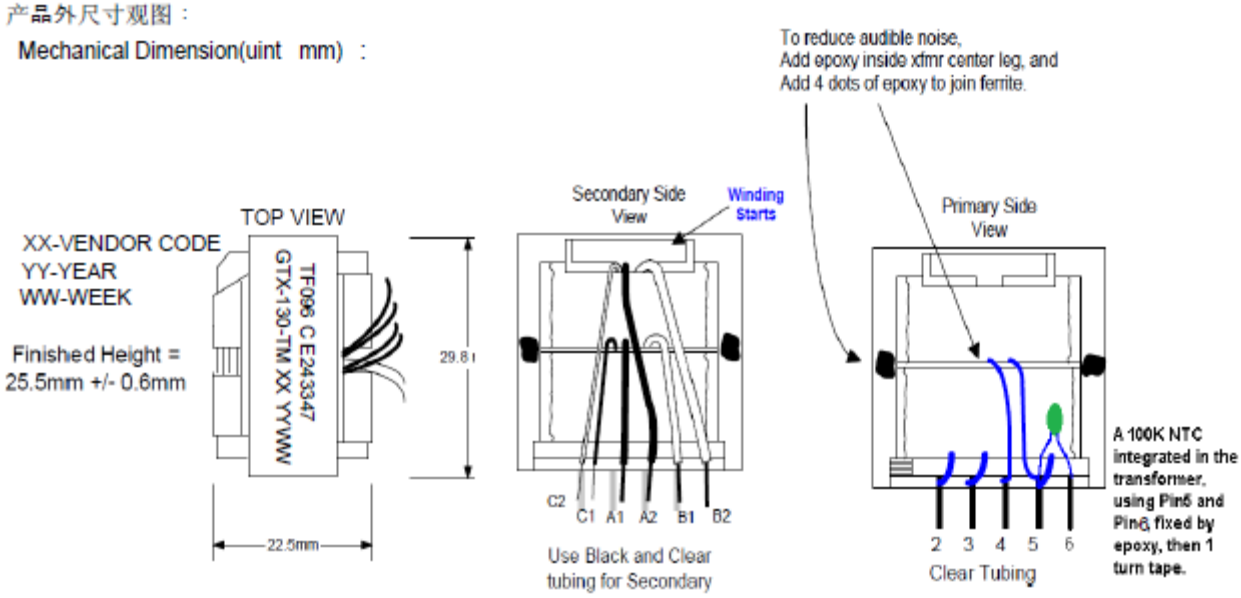
顺序 Order	PIN 脚 PIN No.	铜线 Copper wire	圈数 Turns	线槽 Slot	方向 Direction	备注 Remarks
E1	5--	TIW wire 0.2mm*2	7 Ts	Gap B	Finish unterminated	
1 Ts W=7.5mm, T=0.025mm insulation tape @Gap B						
P1	2-3	Litz wire 0.06mm*60	42Ts	Gap B		4 layers
P2	4-5	TIW wire 0.25mm	4Ts	Gap A	P2 and S2 are in the same layer	
S2	C2-C1	TIW wire *0.3mm	0Ts	Gap A		
1 Ts W=7mm, T=0.025mm insulation tape @Gap A						
S1A	A2-A1	TIW Litz wire 0.1mm*105	3Ts	GAP A	1 Layer	
S1B	B2-B1	TIW Litz wire 0.1mm*105	3Ts	GAP A	1 Layer	
2 Ts W=7.5mm, T=0.025mm insulation tape @Gap B						
2Ts W=7mm, T=0.025mm insulation tape @Gap A						
2Turns W=11.5mm T=0.025mm core fixing tape						

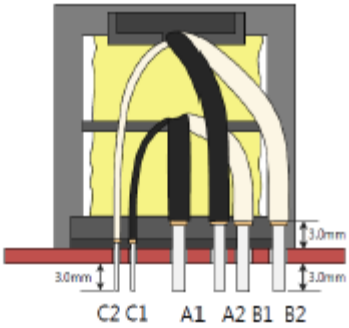
Transformer specification

Construction / winding diagram / component part no.: T1 Type TF096

产品外尺寸观图：

Mechanical Dimension(uint mm) ：





Please check lead lengths using provided PCB.
Assembly must resemble above drawing.

注意事项 / Notes:

1. PIN 脚长度 3.5±0.2 mm
   PIN length:3.5 ±0.2 mm
2. 变压器表面没有锡珠或其他异物附着。
   The transformer does not have solder balls or other dirt.
3. 尺寸如图
   All the dimension must be following the drawing.
4. 均匀绕线
   The winding must be distribuited in the whole surface of the bobbin.
5. 拔除脚1,6,7,8,9,10,11,12
   Remove pins:1,6,7,8,9,10,11,12
6. 所有引脚出线要套特氟龙套管。
   All wire to pin terminal need add teflon tube
7. 集成一颗100 NTC（规格书如附件），接到PIN6和PIN5，用环氧树脂固定，并包一层胶带.
   A 100K NTC been integrated in transformer, using Pin6 and Pin5, fixed by epoxy, then a layer tape.
8. Add a 0.6mm PCB base for this transformer, the max height for this transformer is 27.5mm max, the fly wire must be fixed on PCB base by EPOXY

Lead	Total Length	Insulation Length	Solder Length
C2	28mm	23mm	5mm
C1	22mm	17mm	5mm
A1	20mm	12mm	8mm
A2	27mm	19mm	8mm
B1	20mm	12mm	8mm
B2	32mm	24mm	8mm

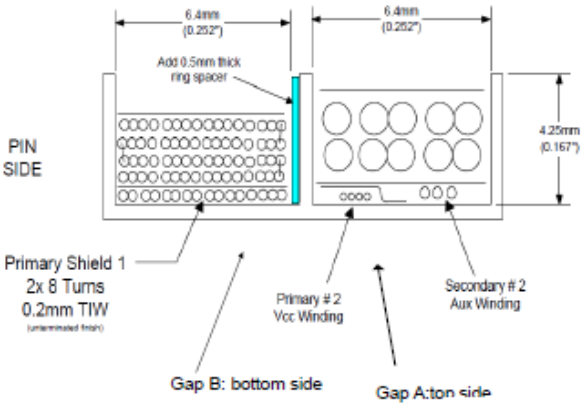
Transformer specification

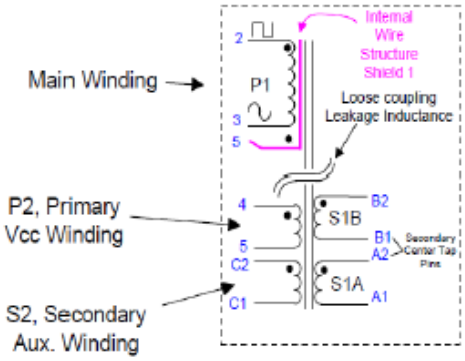
Construction / winding diagram / component part no.: T1 Type TF096

绕线规格:

顺序 Order	PIN 脚 PIN No.	铜线 Copper wire	圈数 Turns	线槽 Slot	方向 Direction	备注 Remarks
E1	5--	TIW wire 0.2mm*2	8Ts	Gap B	Finish unterminated	
1 Ts W=6mm, T=0.025mm insulation tape @Gap B						
P1	2-3	Litz wire 0.06mm*60	44Ts	Gap B		4 layers
P2	4-5	TIW wire 0.25mm	4Ts	Gap A	P2 and S2 are in the same layer	
S2	C2-C1	TIW wire *0.3mm	3Ts	Gap A		
1 Ts W=6mm, T=0.025mm insulation tape @Gap A						
S1A	A2-A1	TIW Litz wire 0.1mm*84	4Ts	GAP A	1 Layer	
S1B	B2-B1	TIW Litz wire 0.1mm*84	4Ts	GAP A	1 Layer	
2 Ts W=6mm, T=0.025mm insulation tape @Gap B						
2Ts W=6mm, T=0.025mm insulation tape @Gap A						
2Turns W=11.5mm T=0.025mm core fixing tape						

Main Primary Litz Wire: Either 60/0.06 or 72/0.06 stranding, depending on number of primary turns. Must be covered with either Nylon Serving, or Silk Serving.





Not Used Pins: 1, 6, 7, 8, 9, 10

All windings starts on Dots

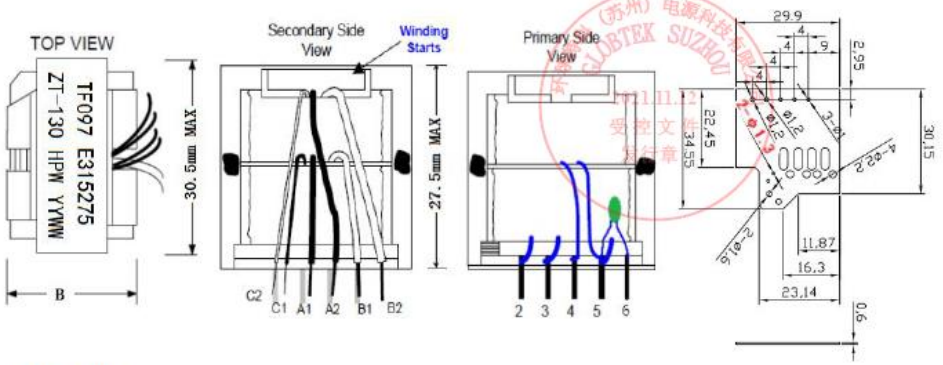
S1B using Clear Sleeving
S1A using Black Sleeving

S2, Secondary Aux. Winding, and wires C1 and C2 **Not Used**, for this variation.

Transformer specification

Construction / winding diagram / component part no.: T1 Type TF097

1. DIMENSION (UNIT : mm)



Remarks:

① PIN1,7,8,9,10,11,12 空脚，产品针脚长度从底板量起 3.5±0.5mm，飞线焊锡长度从底板量起 4.5±0.5mm。

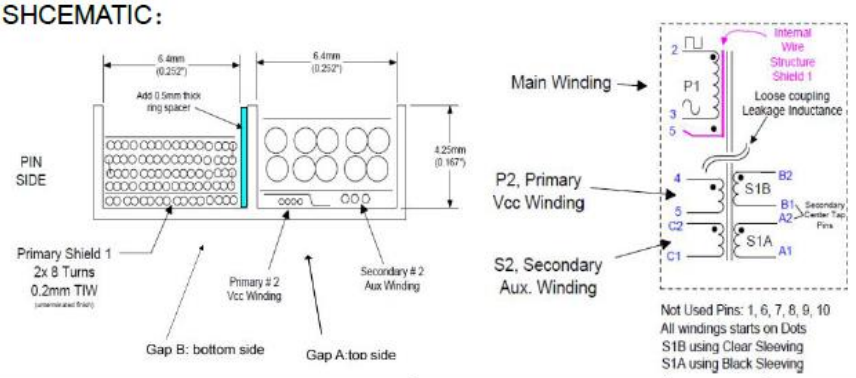
② 如图安装一颗 NTC（纳法微 TTC3A104J4193EY），不穿套管接到 PIN 6 和 PIN 5，本体点黑胶固定，然后沿线圈方向外包 7.5mm 宽胶带一圈。

③ 针脚侧磁芯用 20mm 宽胶带裹覆，磁芯中柱和接缝处点黑胶。

④ B：24mm MAX（不含飞线）。

⑤ 成品沿线圈方向包 10mm 宽胶带 2T 固定飞线。

2. SHCEMATIC：



4. WINDING SPEC

顺序 Order	PIN 脚 PIN No.	铜线 Copper wire	圈数 Turns	线槽 Slot	方向 Direction	备注 Remarks
E1	5--	TIW wire 0.2mm*2	7Ts	Gap B	Finish unterminated	
1 Ts W=6mm, T=0.025mm insulation tape @Gap B						
P1	2-3	Litz wire 0.06mm*72	35Ts	Gap B		4 layers
P2	4-5	TIW wire 0.25mm	3Ts	Gap A	P2 and S2 are in the same layer	
S2	C2-C1	TIW wire *0.3mm	2Ts	Gap A		
1 Ts W=6mm, T=0.025mm insulation tape @Gap A						
S1A	A2-A1	TIW Litz wire 0.1mm*70	4Ts	GAP A	1 Layer	
S1B	B2-B1	TIW Litz wire 0.1mm*70	4Ts	GAP A	1 Layer	
2 Ts W=7mm, T=0.025mm insulation tape @Gap B						
2Ts W=7mm, T=0.025mm insulation tape @Gap A						
2Turns W=11.5mm T=0.025mm core fixing tape						

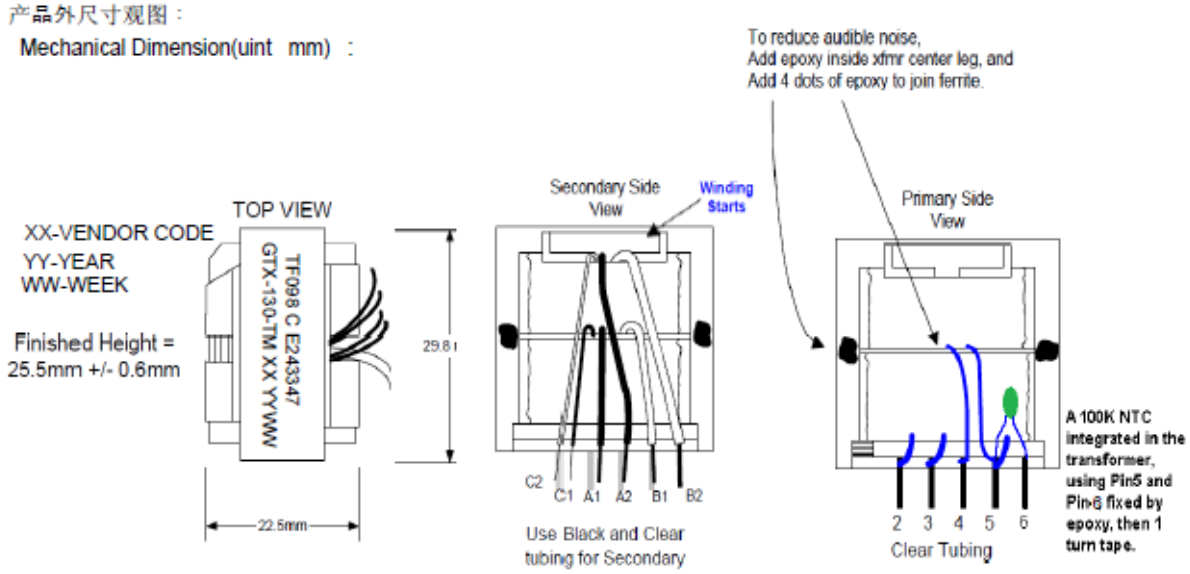
S2 绕组飞线引出端两折理线。

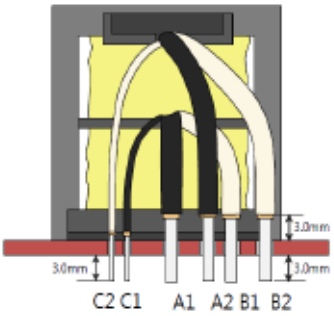
Transformer specification

Construction / winding diagram / component part no.: T1 Type TF098

产品外尺寸观图：

Mechanical Dimension(uint mm) ：





Please check lead lengths using provided PCB.
Assembly must resemble above drawing.

注意事项 / Notes:

1. PIN 脚长度 3.5±0.2 mm
   PIN length:3.5 ±0.2 mm
2. 变压器表面没有锡珠或其他异物附着。
   The transformer does not have solder balls or other dirt.
3. 尺寸如图
   All the dimension must be following the drawing.
4. 均匀绕线
   The winding must be distribuited in the whole surface of the bobbin.
5. 拔除脚1,6,7,8,9,10,11,12
   Remove pins:1,6,7,8,9,10,11,12
6. 所有引脚出线要套特氟龙套管。
   All wire to pin terminal need add teflon tube
7. 集成一颗100 NTC（规格书如附件），接到PIN6和PIN5，用环氧树脂固定，并包一层胶带.
   A 100K NTC been integrated in transformer, using Pin6 and Pin5, fixed by epoxy, then a layer tape.
8. Add a 0.6mm PCB base for this transformer, the max height for this transformer is 27.5mm max, the fly wire must be fixed on PCB base by EPOXY

Lead	Total Length	Insulation Length	Solder Length
C2	28mm	23mm	5mm
C1	22mm	17mm	5mm
A1	20mm	12mm	8mm
A2	27mm	19mm	8mm
B1	20mm	12mm	8mm
B2	32mm	24mm	8mm

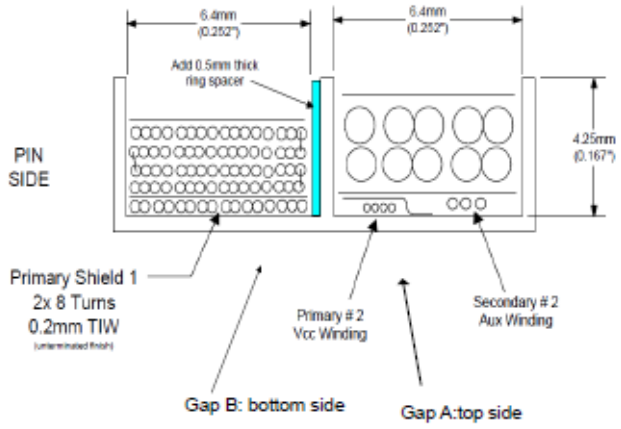
Transformer specification

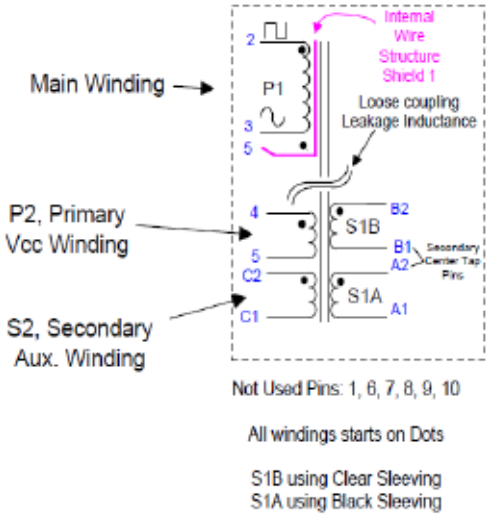
Construction / winding diagram / component part no.: T1 Type TF098

绕线规格:

顺序 Order	PIN 脚 PIN No.	铜线 Copper wire	圈数 Turns	线槽 Slot	方向 Direction	备注 Remarks
E1	5--	TIW wire 0.2mm*2	8Ts	Gap B	Finish unterminated	
1 Ts W=6mm, T=0.025mm insulation tape @Gap B						
P1	2-3	Litz wire 0.06mm*60	38Ts	Gap B		4 layers
P2	4-5	TIW wire 0.25mm	4Ts	Gap A	P2 and S2 are in the same layer	
S2	C2-C1	TIW wire *0.3mm	2.0Ts	Gap A		
1 Ts W=6mm, T=0.025mm insulation tape @Gap A						
S1A	A2-A1	TIW Litz wire 0.1mm*33	6Ts	GAP A	1 Layer	
S1B	B2-B1	TIW Litz wire 0.1mm*33	6Ts	GAP A	1 Layer	
2 Ts W=6mm, T=0.025mm insulation tape @Gap B						
2Ts W=6mm, T=0.025mm insulation tape @Gap A						
2Turns W=11.5mm T=0.025mm core fixing tape						

Main Primary Litz Wire: Either 60/0.06 or 72/0.06 strending, depending on number of primary turns. Must be covered with either Nylon Serving, or Silk Serving.



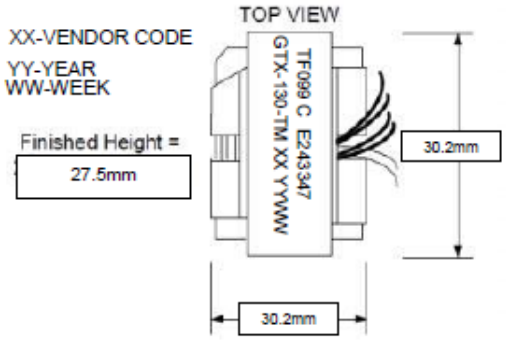


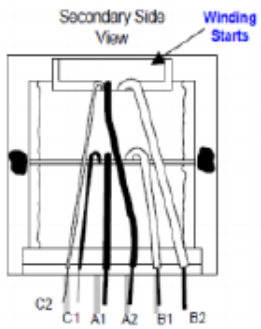
Transformer specification

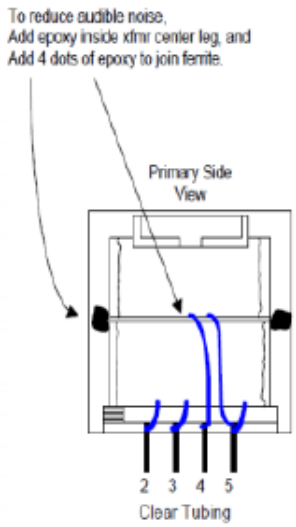
Construction / winding diagram / component part no.: T1 Type TF099

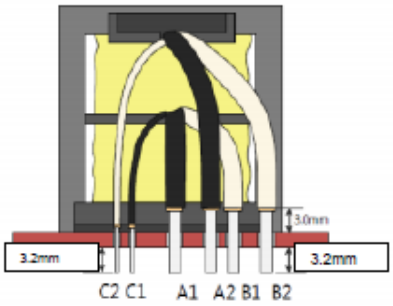
产品外尺寸观图：

Mechanical Dimension(uint mm) ：









Please check lead lengths using provided PCB.
Assembly must resemble above drawing.

注意事项 / Notes:

1. PIN 脚长度 2.7–3.20 mm
   PIN length: 2.7–3.20 mm
2. 变压器表面没有锡珠或其他异物附着。
   The transformer does not have solder balls or other dirt.
3. 尺寸如图
   All the dimension must be following the drawing.
4. 均匀绕线
   The winding must be distribuited in the whole surface of the bobbin.
5. 拔除脚1,6,7,8,9,10,11,12
   Remove pins:1,6,7,8,9,10,11,12
6. 所有引脚出线要套特氟龙套管。底部Core需贴1层3M 1350T-1 1或者两层0.025的黄色胶
   All wire to pin terminal need add teflon tube
7. 集成一颗100 NTC(规格书如附件)，接到PIN6和PIN5，用环氧树脂固定，并包一层胶带.
   A 100K NTC been integrated in transformer, using Pin6 and Pin5, fixed by epoxy, then a layer tape.
8. Add a 0.6mm PCB base for this transformer, the max height fo this transformer is 27.5mm max, the fly wire must be fixed on PCB base by EPOXY

Lead	Total Length	Insulation Length	Solder Length
C2	28mm	23mm	5mm
C1	22mm	17mm	5mm
A1	20mm	12mm	8mm
A2	27mm	19mm	8mm
B1	20mm	12mm	8mm
B2	32mm	24mm	8mm

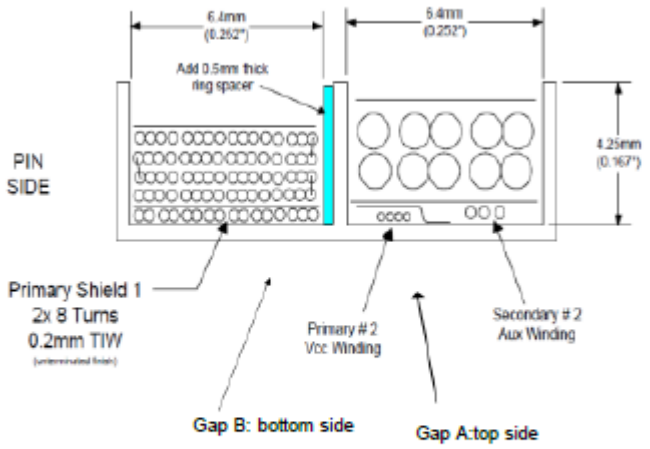
Transformer specification

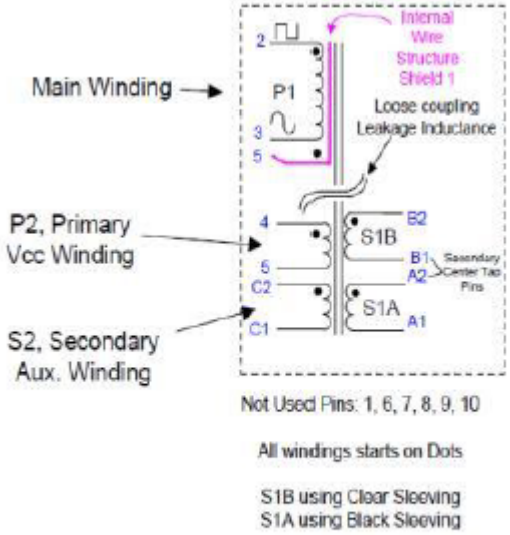
Construction / winding diagram / component part no.: T1 Type TF099

绕线规格:

顺序 Order	PIN 脚 PIN No.	铜线 Copper wire	圈数 Turns	线槽 Slot	方向 Direction	备注 Remarks
E1	5--	TIW wire 0.2mm*2	8Ts	Gap B	Finish unterminated	
1 Ts W=6mm, T=0.025mm insulation tape @Gap B						
P1	2-3	Litz wire 0.06mm*72	35Ts	Gap B		4 layers
P2	4-5	TIW wire 0.25mm	3Ts	Gap A	P2 and S2 are in the same layer	
S2	C2-C1	TIW wire *0.3mm	2Ts	Gap A		
1 Ts W=6mm, T=0.025mm insulation tape @Gap A						
S1A	A2-A1	TIW Litz wire 0.1mm*27	9Ts	GAP A	1 Layer	
S1B	B2-B1	TIW Litz wire 0.1mm*27	9Ts	GAP A	1 Layer	
2 Ts W=6mm, T=0.025mm insulation tape @Gap B						
2Ts W=6mm, T=0.025mm insulation tape @Gap A						
2Turns W=11.5mm T=0.025mm core fixing tape						

Main Primary Litz Wire: Either 60/0.06 or 72/0.06 stranding, depending on number of primary turns. Must be covered with either Nylon Serving, or Silk Serving.





Not Used Pins: 1, 6, 7, 8, 9, 10

All windings starts on Dots

S1B using Clear Sleeving
S1A using Black Sleeving

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

ATTACHMENT TO TEST REPORT **IEC 62368-1** **EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES** (AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT - PART 1: SAFETY REQUIREMENTS)		
Differences according to ..... :	EN IEC 62368-1:2020+A11:2020	
Attachment Form No. ..... : **Attachment Originator**..... : **Master Attachment**..... :	EU_GD_IEC62368_1E UL(Demko) 2021-02-04	
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.		
	CENELEC COMMON MODIFICATIONS (EN)	P
	Clause numbers in the cells that are shaded light grey are clause references in EN IEC 62368-1:2020+A11:2020. All other clause numbers in that column, except for those in the paragraph below, refers to IEC 62368-1:2018. Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2018 are prefixed “Z”.	P
	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords	P
1	**Modification to Clause 3 .**	N/A
3.3.19	**Sound exposure** *Replace 3.3.19 of IEC 62368-1 with the following definitions:*	N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.19.1	**momentary exposure level, MEL** metric for estimating 1 s sound exposure level from the HD 483-1 S2 test signal applied to both channels, based on EN 50332-1:2013, 4.2. Note 1 to entry: MEL is measured as A-weighted levels in dB. Note 2 to entry: See B.3 of EN 50332-3:2017 for additional information.	Not personal music player.	N/A
3.3.19.3	**sound exposure, *E*** A-weighted sound pressure (*p*) squared and integrated over a stated period of time, *T* Note 1 to entry: The SI unit is Pa^2 s. $E = \int_0^T p(t)^2 \, dt$		N/A
3.3.19.4	**sound exposure level, *SEL*** logarithmic measure of sound exposure relative to a reference value, E_0, typically the 1 kHz threshold of hearing in humans. Note 1 to entry: *SEL* is measured as A-weighted levels in dB. $SEL = 10 \lg\left(\frac{E}{E_0}\right)$ dB Note 2 to entry: See B.4 of EN 50332-3:2017 for additional information.		N/A
3.3.19.5	**digital signal level relative to full scale, dBFS** levels reported in dBFS are always r.m.s. Full scale level, 0 dBFS, is the level of a dc-free 997-Hz sine wave whose undithered positive peak value is positive digital full scale, leaving the code corresponding to negative digital full scale unused Note 1 to entry: It is invalid to use dBFS for non-r.m.s. levels. Because the definition of full scale is based on a sine wave, the level of signals with a crest factor lower than that of a sine wave may exceed 0 dBFS. In particular, square wave signals may reach +3,01 dBFS.		N/A
2	**Modification to Clause 10**		N/A
10.6	**Safeguards against acoustic energy sources** Replace 10.6 of IEC 62368-1 with the following:		N/A
10.6.1.1	**Introduction** **Safeguard** requirements for protection against long-term exposure to excessive sound pressure		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	levels from personal music players closely coupled to the ear are specified below. Requirements for earphones and headphones intended for use with personal music players are also covered. A personal music player is a portable equipment intended for use by an **ordinary person**, that: – is designed to allow the user to listen to audio or audiovisual content / material; and – uses a listening device, such as headphones or earphones that can be worn in or on or around the ears; and – has a player that can be body worn (of a size suitable to be carried in a clothing pocket) and is intended for the user to walk around with while in continuous use (for example, on a street, in a subway, at an airport, etc.). EXAMPLES Portable CD players, MP3 audio players, mobile phones with MP3 type features, PDAs or similar equipment. Personal music players shall comply with the requirements of either 10.6.2 or 10.6.3. NOTE 1 Protection against acoustic energy sources from telecom applications is referenced to ITU-T P.360. NOTE 2 It is the intention of the Committee to allow the alternative methods for now, but to only use the dose measurement method as given in 10.6.5 in future. Therefore, manufacturers are encouraged to implement 10.6.5 as soon as possible. Listening devices sold separately shall comply with the requirements of 10.6.6. These requirements are valid for music or video mode only. The requirements do not apply to: – professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment. – hearing aid equipment and other devices for assistive listening; – the following type of analogue personal music players: • long distance radio receiver (for example, a multiband radio receiver or world band radio receiver, an AM radio receiver), and • cassette player/recorder; NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. – a player while connected to an external amplifier that does not allow the user to walk around		

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	while in use. For equipment that is clearly designed or intended primarily for use by children, the limits of the relevant toy standards may apply. The relevant requirements are given in EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.		
10.6.1.2	**Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz** The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body mounted devices, attention is drawn to EN 50360 and EN 50566.		N/A
10.6.2	**Classification of devices without the capacity to estimate sound dose**		N/A
10.6.2.1	**General** This standard is transitioning from short-term based (30 s) requirements to long-term based (40 hour) requirements. These clauses remain in effect only for devices that do not comply with sound dose estimation as stipulated in EN 50332-3. For classifying the acoustic output $L_{Aeq,T}$, measurements are based on the A-weighted equivalent sound pressure level over a 30 s period. For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, measurements may be done over the duration of the complete song. In this case, T becomes the duration of the song. NOTE Classical music, acoustic music and broadcast typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the content and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song does not exceed the required limit. For example, if the player is set with the programme simulation noise to 85 dB, but the average music level of the song is only 65 dB, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dB.		N/A
10.6.2.2	**RS1 limits (to be superseded, see 10.6.3.2)**		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 85 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 27 mV (analogue interface) or -25 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1. – The RS1 limits will be updated for all devices as per 10.6.3.2.		
10.6.2.3	**RS2 limits (to be superseded, see 10.6.3.3)** RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or when the combination of player and listening device is known by other means such as setting or automatic 130 detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 100 dB(A) when playing the fixed “programme simulation noise” as described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 150 mV (analogue interface) or -10 dBFS (digital interface) when playing the fixed “programme simulation noise” as described in EN 50332-1.		N/A
10.6.2.4	**RS3 limits** RS3 is a class 3 acoustic energy source that exceeds RS2 limits.		N/A
10.6.3	**Classification of devices (new)**		N/A
10.6.3.1	**General** Previous limits (10.6.2) created abundant false negative and false positive PMP sound level warnings. New limits, compliant with The Commission Decision of 23 June 2009, are given below.		N/A
10.6.3.2	**RS1 limits (new)** RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 80 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1.		
10.6.3.3	**RS2 limits (new)** RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the weekly sound exposure level, as described in EN 50332-3, shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output level, integrated over one week, as described in EN50332-3, shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1.		N/A
10.6.4	**Requirements for maximum sound exposure**		N/A
10.6.4.1	**Measurement methods** All volume controls shall be turned to maximum during tests. Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.		N/A
10.6.4.2	**Protection of persons** Except as given below, protection requirements for parts accessible to ordinary persons, instructed persons and skilled persons are given in 4.3. NOTE 1 Volume control is not considered a safeguard. Between RS2 and an ordinary person, the basic safeguard may be replaced by an instructional safeguard in accordance with Clause F.5, except that the instructional safeguard shall be placed on the		N/A

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	equipment, or on the packaging, or in the instruction manual. Alternatively, the instructional safeguard may be given through the equipment display during use. The elements of the instructional safeguard shall be as follows: – element 1a: the symbol , IEC 60417-6044 (2011-01) – element 2: “High sound pressure” or equivalent wording – element 3: “Hearing damage risk” or equivalent wording – element 4: “Do not listen at high volume levels for long periods.” or equivalent wording An equipment safeguard shall prevent exposure of an ordinary person to an RS2 source without intentional physical action from the ordinary person and shall automatically return to an output level not exceeding what is specified for an RS1 source when the power is switched off. The equipment shall provide a means to actively inform the user of the increased sound level when the equipment is operated with an output exceeding RS1. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an output exceeding RS1. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time. NOTE 2 Examples of means include visual or audible signals. Action from the user is always needed. NOTE 3 The 20 h listening time is the accumulative listening time, independent of how often and how long the personal music player has been switched off. A skilled person shall not be unintentionally exposed to RS3.		
10.6.5	**Requirements for dose-based systems**		N/A
10.6.5.1	**General requirements** Personal music players shall give the warnings as provided below when tested according to EN 50332-3, using the limits from this clause. The manufacturer may offer optional settings to allow the users to modify when and how they wish to receive the notifications and warnings to promote a better user experience without defeating the safeguards. This allows the users to be informed in a method that best meets their physical capabilities and		N/A

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	device usage needs. If such optional settings are offered, an administrator (for example, parental restrictions, business/educational administrators, etc.) shall be able to lock any optional settings into a specific configuration. The personal music player shall be supplied with easy to understand explanation to the user of the dose management system, the risks involved, and how to use the system safely. The user shall be made aware that other sources may significantly contribute to their sound exposure, for example work, transportation, concerts, clubs, cinema, car races, etc.		
10.6.5.2	**Dose-based warning and requirements** When a dose of 100 % *CSD* is reached, and at least at every 100 % further increase of *CSD*, the device shall warn the user and require an acknowledgement. In case the user does not acknowledge, the output level shall automatically decrease to compliance with class RS1. The warning shall at least clearly indicate that listening above 100 % *CSD* leads to the risk of hearing damage or loss.		N/A
10.6.5.3	**Exposure-based requirements** With only dose-based requirements, cause and effect could be far separated in time, defying the purpose of educating users about safe listening practice. In addition to dose-based requirements, a PMP shall therefore also put a limit to the short-term sound level a user can listen at. The exposure-based limiter (EL) shall automatically reduce the sound level not to exceed 100 dB(A) or 150 mV integrated over the past 180 s, based on methodology defined in EN 50332-3. The EL settling time (time from starting level reduction to reaching target output) shall be 10 s or faster. Test of EL functionality is conducted according to EN 50332-3, using the limits from this clause. For equipment provided as a package (player with its listening device), the level integrated over 180 s shall be 100 dB or lower. For equipment provided with a standardized connector, the unweighted level integrated over 180 s shall be no more than 150 mV for an analogue interface and no more than -10 dBFS for a digital interface. NOTE In case the source is known not to be music (or test signal), the EL may be disabled.		N/A
10.6.6	**Requirements for listening devices (headphones, earphones, etc.)**		N/A
10.6.6.1	**Corded listening devices with analogue input**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	With 94 dB L_{Aeq} acoustic pressure output of the listening device, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the input voltage of the listening device when playing the fixed "programme simulation noise" as described in EN 50332-1 shall be ≥ 75 mV. NOTE The values of 94 dB and 75 mV correspond with 85 dB and 27 mV or 100 dB and 150 mV.		
10.6.6.2	**Corded listening devices with digital input** With any playing device playing the fixed "programme simulation noise" described in EN 50332-1, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the $L_{Aeq,T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.		N/A
10.6.6.3	**Cordless listening devices** In cordless mode, – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the cordless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the receiving device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the above mentioned programme simulation noise, the $L_{Aeq,T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.		N/A
10.6.6.4	**Measurement method** *Measurements shall be made in accordance with EN 50332-2 as applicable.*		N/A
3	**Modification to the whole document**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

Delete all the "country" notes in the reference document according to the following list: P

0.2.1	Note 1 and 2	1	Note 4 and 5	3.3.8.1	Note 2
3.3.8.3	Note 1	4.1.15	Note	4.7.3	Note 1 and 2
5.2.2.2	Note	5.4.2.3.2.2 Table 12	Note c	5.4.2.3.2.4	Note 1 and 3
5.4.2.3.2.4 Table 13	Note 2	5.4.2.5	Note 2	5.4.5.1	Note
5.4.10.2.1	Note	5.4.10.2.2	Note	5.4.10.2.3	Note
5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3 and 4
5.6.8	Note 2	5.7.6	Note	5.7.7.1	Note 1 and Note 2
8.5.4.2.3	Note	10.2.1 Table 39	Note 3 and 4 and 5	10.5.3	Note 2
~~10.6.1~~	Note 3	F.3.3.6	Note 3	Y.4.1	Note
Y.4.5	Note				

4	**Modification to Clause 1**		P
1	***Add** the following note:* *NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.*	Considered.	P

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Clause	Requirement + Test	Result - Remark	Verdict

5	**Modification to 4.Z1**		P
4.Z1	***Add*** *the following new subclause after 4.9:* To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. **mains**, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for **pluggable equipment type B** or **permanently connected equipment**, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for **pluggable equipment type A** the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.	The equipment is provided with fuse inside equipment.	P
6	**Modification to 5.4.2.3.2.4**		N/A
5.4.2.3.2.4	***Add*** *the following to the end of this subclause:* The requirement for interconnection with **external circuit** is in addition given in EN 50491-3:2009.		N/A
7	**Modification to 10.2.1**		N/A
10.2.1	Add the following to c) and d) in table 39: For additional requirements, see 10.5.1.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

8	**Modification to 10.5.1**		N/A
10.5.1	***Add** the following after the first paragraph:* For RS 1 compliance is checked by measurement under the following conditions: In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or pre-sets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made. NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus. Moreover, the measurement shall be made under fault conditions causing an increase of the high voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made. For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level. NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		N/A
9	**Modification to G.7.1**		N/A
G.7.1	***Add** the following note:* NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10	**Modification to Bibliography**		P
	Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		P
11	**ADDITION OF ANNEXES**		N/A
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		P
4.1.15	**Denmark, Finland, Norway** and **Sweden** To the end of the subclause the following is added: **Class I pluggable equipment type A** intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and **accessible** parts, have a marking stating that the equipment shall be connected to an earthed **mains** socket-outlet. The marking text in the applicable countries shall be as follows: In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.” In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”	Open frame construction: Must be checked in end product.	--

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3	**United Kingdom** To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex		N/A
5.2.2.2	**Denmark** After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.4.11.1 and Annex G	**Finland and Sweden** To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		
5.5.2.1	**Norway** After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		P
5.5.6	**Finland, Norway and Sweden** To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.		N/A
5.6.1	**Denmark** Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. Justification: In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.4.2.1	**Ireland and United Kingdom** After the indent for **pluggable equipment type A**, the following is added: – the **protective current rating** is taken to be 13 A, this being the largest rating of fuse used in the **mains** plug.		N/A
5.6.4.2.1	**France** After the indent for **pluggable equipment type A**, the following is added: – in certain cases, the **protective current rating** of the circuit supplied from the mains is taken as 20 A instead of 16 A.		P
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm^2 to 1,5 mm^2 in cross-sectional area.		N/A
5.6.8	**Norway** To the end of the subclause the following is added: Equipment connected with an earthed mains plug is classified as **class I equipment**. See the Norway marking requirement in 4.1.15. The symbol IEC 60417-6092, as specified in F.3.6.2, is accepted.		N/A
5.7.6	**Denmark** To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the **protective conductor current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.7.6.2	**Denmark** To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A
5.7.7.1	**Norway and Sweden** To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example.	Not TV.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.” Translation to Swedish: ”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.		
8.5.4.2.3	**United Kingdom** Add the following after the 2nd dash bullet in 3rd paragraph: An emergency stop system complying with the requirements of IEC 60204-1 and ISO 13850 is required where there is a risk of personal injury.		N/A
B.3.1 and B.4	**Ireland and United Kingdom** The following is applicable:		N/A

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

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

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Clause	Requirement + Test	Result - Remark	Verdict
10.5.2	**Germany** The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. *Justification*: German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. **NOTE** Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int+49-531-592-6320, Internet: http://www.ptb.de	Not CRT.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

ZD	**IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS (EN)**	P
		P

Type of flexible cord	Code designations	
	IEC	CENELEC
PVC insulated cords		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60227 IEC 53	H05VV-F H05VVH2-F
Rubber insulated cords		
Braided cord	60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
Cords having high flexibility		
Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H
Cords insulated and sheathed with halogen-free thermoplastic compounds		
Light halogen-free thermoplastic insulated and sheathed flexible cords		H03Z1Z1-F H03Z1Z1H2-F
Ordinary halogen-free thermoplastic insulated and sheathed flexible cords		H05Z1Z1-F H05Z1Z1H2-F

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ATTACHMENT TO TEST REPORT

IEC 62368-1
U.S.A. AND CANADA NATIONAL DIFFERENCES
(Audio/video, information and communication technology equipment – Part 1: Safety requirements)

Differences according to ..... : CSA/UL 62368-1:2019

TRF template used:.....: IECEE OD-2020-F3, Ed. 1.1

Attachment Form No. ..... : US_CA_ND_IEC62368_1E

Attachment Originator..... : UL(US)

Master Attachment..... : Dated 2022-03-04

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IEC 62368-1 - US and Canadian National Differences
Special National Conditions based on Regulations and Other National Differences

1 (1DV.1) (1.3)	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part 1, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, for such equipment marked or otherwise identified, installation is allowed per the Standard for the Protection of Information Technology Equipment, ANSI/NFPA 75.	Must be checked when market to the country	--
1 (1DV.2.1)	This standard includes additional requirements for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities. See Annex DVB.		N/A
1 (1DV.2.2)	This standard includes additional requirements for equipment intended for mounting under cabinets. See Annex DVC.		N/A
1 (1DV.2.3)	IEC 62368-3 clause 5 for DC power transfer at ES1 or ES2 voltage levels is considered informative. IEC 62368-3 clause 6 for remote power feeding telecommunication (RFT) circuits is considered normative (see ITU K.50). Alternatively, equipment with RFT circuits are given in either UL 2391 or CSA/UL 60950-21. RFT-C circuits are not permitted unless the RFT-C circuit complies with RFT-V limits (≤ 200V per conductor to earth).	Must be checked when market to the country	--
1 (1DV.3)	For protection against direct lightning strikes, reference is made to NFPA 780 and CAN/CSA-B72 for additional requirements.		N/A
1 (DV.5)	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.1 (4.1.17)	*For lengths exceeding 3.05 m, external interconnecting cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the NEC.*	Must be checked when market to the country	--
	For lengths 3.05 m or less, external interconnecting cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.	Must be checked when market to the country	--
4.6 (4.6.2)	Wire-wrap terminals have special construction and performance requirements.		N/A
4.8 (4.8.3, 4.8.4.5, 4.8.5)	Coin / button cell batteries have modified special construction and performance requirements.	No battery.	N/A
5.4.2.3.2 (5.4.2.3.2.1)	*Surge Arrestors and Transient Voltage Surge Suppressors installed external to the equipment are required to comply with the appropriate NEC and CEC requirements.*		N/A
5.5.9	Receptacles, rated 125-V, single phase, 15- or 20-A accessible to either ordinary, instructed, or skilled persons are required to be provided with GFCI Protection for Personnel if the equipment containing the receptacles is installed outdoors. The protection devices are required to comply with UL 943, and CAN/CSA C22.2 No.144.		N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.7, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment.		P
5.7.8 (5.7.8.1)	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.		N/A
6.5.1	PS3 wiring outside a fire enclosure is required to comply with single fault testing in B.4, or be current limited per one of the permitted methods.		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex F (F.3.3.9)	Output terminals provided for supply of other equipment, except mains supply, are required to be marked with a maximum rating or reference to equipment permitted to be connected.		N/A
Annex F (F.3.7)	Outdoor Enclosures are required to be classified and marked in accordance with UL 50 or 50E, or CAN/CSA C22.2 No. 94.1 or 94.2.		N/A
Annex G (G.7)	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	Not permanent connection.	N/A
	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
	Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Power supply cords are required to be no longer than 4.5 m in length if used in ITE Rooms.		N/A
	Power supply cords for outdoor equipment are required to be suitable outdoor use type as required by Section 400.4 of the NEC and Rule 4-012 of the CEC, i.e., marked “W.”		N/A
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex H.4	For circuits with other than ringing signals and with voltages exceeding 42.4 Vpeak or 60 Vd.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
Annex Q (Q.3)	Equipment with paired conductor and/or coax communications cables/wiring connected to building wiring are required to have special voltage, current, power and marking requirements.		N/A
Annex DVA (1)	Equipment that is designed such that it may be powered from a separate electrical service, is required to meet applicable requirements for service equipment for control and protection of services and their installation and complies with Article 230 of the National Electrical Code (NEC), NFPA 70 and Section 6 of the Canadian Electrical Code, Part I, CSA C22.1.		N/A
	Equipment intended for use in spaces used for environmental air (plenums) are subjected to special flammability requirements for heat and visible smoke release.		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m^3 (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
	Consumer products designed or intended primarily for children 12 years of age or younger are subject to additional requirements in accordance with U.S. and Canadian Regulations.		N/A
	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
	Storage batteries and battery management equipment, other than associated with lead-acid batteries, and including battery backup systems that are not an integral part of stationary AV and ICT equipment, such as provided in separate cabinets, are required to be certified (listed) to the appropriate standard(s) for such storage batteries and equipment.		N/A
Annex DVA (5.6)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	See main report.	P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A
Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m^2 (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For equipment with the same dimensions for other applications, an external surface that is not a fire enclosure requires a minimum flammability classification of V-1.		P
Annex DVA (10.3)	Equipment with lasers is required to meet the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (10.5)	Equipment that produces ionizing radiation is required to comply with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (F.3.3.4)	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. Additional considerations apply for voltage ratings that exceed the attachment cap rating or that are lower than the “Normal Operating Condition” in Table 2 of CAN/CSA C22.2 No. 235.”		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (F.3.3.6)	Equipment identified for ITE (computer) room installation is required to be marked with the rated current.		N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position, where mounted in an enclosure, vertically mounted **disconnect switches** and **circuit breakers** with vertical operating means extending outside the enclosure are required to indicate in a location visible when accessing the external operating means whether the switch or circuit breaker is in the open (off) or closed (on) position.		N/A
Annex DVA (G.3.4)	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non- interchangeable.		N/A
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles is required to comply with NEC 250.146(D) and CEC 10-400 and 10-612.		N/A
Annex DVA (G.4.3)	Interconnection of units by conductors supplied by a limited power source, or a Class 2 circuit defined in the NEC/CEC may have field wiring connections other than specified in DVH.3, such as wire-wrap and crimp-on types, if the limited power source and Class 2 circuits are separated from all other circuits by barriers, routing or fixing.		N/A
Annex DVA (G.5.3)	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
Annex DVA (G.7)	Flexible cords used outdoors are required to have the suffix “W” marked on the flexible cord.		N/A
Annex DVA (M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the ITE room remote power-off circuit.		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (Q)	If applicable per NEC 725.121(C), some limited power sources supplied from AV/ICT equipment are required to have a label indicating the maximum voltage and rated current output for per conductor for each connection point. Where multiple connection points have the same rating, a single label is permitted to be used.		N/A
	Wiring terminals intended to supply Class 2 outputs in accordance with the NEC or CEC Part 1are required to be marked with the voltage rating and “Class 2” or equivalent. The marking is located adjacent to the terminals and visible during wiring.		N/A
	Applicable parts of Chapter 8 of the NEC, and Rules 54 and 60 of the CEC, may be applicable to ITE installed outdoors with connections to communication systems.		N/A
Annex DVB (1)	Additional requirements apply for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities.		N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.		N/A
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These equipment and components include: appliance couplers, attachment plugs, battery backup systems, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, modular data centres, power supply cords, some power distribution equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.	See Table 4.1.2 in main report.	P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.		N/A
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are required to be in accordance with the NEC/CEC.		N/A
Annex DVH (DVH.2.1)	For safe and reliable connection to a mains, permanently connected equipment is to be provided.		N/A
Annex DVH (DVH.2.2)	Additional considerations for D.C. mains.		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVH (DVH.3.2.1)	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified.		N/A
Annex DVH (DVH.3.2.3)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm^2).		N/A
Annex DVH (DVH.3.2.4)	All associated mains supply terminals are located in proximity to each other and to the main protective earthing terminal, if any.		N/A
Annex DVH (DVH.3.2.5)	Terminals are located, guarded or insulated so that, should a strand of a conductor escape when the conductor is fitted, there is no likelihood of accidental contact between such a strand and accessible conductive parts or unearthed conductive parts separated from accessible conductive parts by supplementary insulation only.		N/A
Annex DVH (DVH.3.3)	When field connection to an external circuit is via wires (example, free conductors), the wires are not smaller than 18 AWG (0.82 mm^2) and the free length of the wire inside an outlet box or wiring compartment is 150 mm or more.		N/A
Annex DVH (DVH.3.4)	Size of protective earthing conductors and terminals		N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
Annex DVH (DVH.4.1)	Wire bending space		N/A
Annex DVH (DVH.4.2)	Volume of wiring compartment		N/A
Annex DVH (DVH.4.3)	Separation of circuits		N/A
Annex DVH (DVH.5)	Equipment markings and instructional safeguards		P
Annex DVH (DVH.5.1)	Identification of protective earthing terminal		N/A
Annex DVH (DVH.5.2)	Identification of terminal for earthed conductor (neutral)		N/A
Annex DVH (DVH.5.3)	Identification of terminals for aluminium conductors		N/A
Annex DVH (DVH.5.4)	Wire temperature ratings		N/A
Annex DVH (DVH 5.5)	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

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

ATTACHMENT TO TEST REPORT

IEC 62368-1
SINGAPORE NATIONAL DIFFERENCES
AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT - PART 1: SAFETY REQUIREMENTS

Differences according to ..... : Special National Conditions

TRF template used:.....: IECEE OD-2020-F3, Ed. 1.1

Attachment Form No. ..... : SG_ND_IEC62368_1E

Attachment Originator..... : Intertek Testing Services (Singapore) Pte Ltd

Master Attachment..... : 2022-07-08

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	National Differences		P
	Not Applicable		
Chapter 4.2	**Special national conditions (if any)** Controlled goods under the Consumer Protection (Safety Requirements) Registration Scheme (CPS) are required to be tested to additional requirements stipulated by the Consumer Product Safety Office (CPSO) of Enterprise Singapore in Chapter 7 of the CPS information booklet. The CPS information booklet is updated on an ongoing basis. At the point of testing, refer to the latest copy of the CPS information booklet for the minimum edition of standard to apply for testing of products under the CPS scheme and any new requirements. Link to CPS information booklet: https://www.consumerproductsafety.gov.sg/files/cps-info-booklet.pdf		P
Clause 1	All appliances must be tested to 230 VAC, 50 Hz.	Tested within the range.	P
4	Appliance fitted with voltage selector shall be tested as follows: Connect appliance to 230 VAC mains with voltage selector switch to settings not suitable for operation at 230 VAC.	No voltage selector.	N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5	All appliances (with tropical test requirements in applicable Standards) shall comply with the tropical condition test as stated in the relevant IEC Standards.	Must be checked when market into the country.	—
7	All Class I appliances must be fitted with 3-pin mains plugs that are registered with the CPSO.	Must be checked when market into the country.	—
8	a) All Class II appliances must be fitted with 2-pin mains plug complying with EN 50075. b) Class II appliances that are fitted with 3-pin mains plugs must use plugs that are registered with the CPSO.	Must be checked when market into the country.	—
9	Detachable power cord set must be listed in the test report critical component list.		N/A
14	AC Adaptor incorporated with 13A socket-outlet to be tested to additional tests clauses 13, 17 and 18 of SS 145 Part 3: 2020.		N/A
15	Supplier who is supplying AC adaptors with detachable interchangeable plug pins must include with its products, written instructions to inform customer on the type of detachable interchangeable plug pins that are approved and suitable to use in Singapore. These instructions are to be submitted to the Conformity Assessment Body for verification when applying for Certificate of Conformity.		N/A
16	For AC Adaptors supplied together with Personal Mobility Devices: 1. Registered Supplier to declare the model of the AC adaptor that is to be used with/ bundled together with the PMDs; 2. Registered Supplier to provide valid IEC 60950-1 or IEC 62368-1 test reports for certification and registration of the declared AC adaptor under the CPS scheme; and 3. Registered Supplier to provide the UL 2272 test report as supporting document, showing that the listed AC adaptor in the UL 2272 test report is the model declared to be used with/ bundled together with the PMDs.		N/A
18	CD/ DVD ROMs (used in personal computers) to have test certificate showing that CD/DVD ROM drive has complied with IEC 60825- 1.		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
19	Modem card incorporated in the personal computer must be tested at set level (sub-clauses 5.1 & 6 of IEC 60950) or at component level.		N/A
20	Powerline Ethernet Adaptor incorporated with 13A socket-outlet, to be tested to additional test clauses 13, 17 & 18 of SS 145 Part 3: 2020.	Not used.	N/A
	Other additional requirements which may be included in Chapter 7 of the information booklet in ongoing basis at the time of testing.	No powerline Ethernet Adaptor.	N/A

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

ATTACHMENT TO TEST REPORT IEC 62368-1 (AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES (**Audio/video, information and communication technology equipment**)		
Differences according to ..... :	AS/NZS 62368.1:2022	
TRF template used:.....:	IECEE OD-2020-F3, Ed. 1.1	
Attachment Form No. ..... : **Attachment Originator.....** : **Master Attachment** ..... :	AU_NZ_ND_IEC62368_1E JAS-ANZ 2022-07-01	
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	National Differences	
Appendix ZZ	Variations to IEC 62368-1:2018 (ED. 3.0) for Australia and New Zealand	P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2018 (ED. 3.0)	P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:	
2	After the first paragraph, *add* the following: The Australian or Australian/New Zealand Standards listed below are modified adoptions of, or not equivalent to, the IEC normative references and are required for the application of this Standard. All references in the source text to those IEC normative references shall be replaced by references to the corresponding Australian or Australian/New Zealand Standards. Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably -AS/NZS 3112, *Approval and test specification—Plugs and socket-outlets* -AS/NZS 3123, *Approval and test specification—Plugs, socket-outlets and couplers for general industrial application* -AS/NZS 3191, *Electric flexible cords* *-AS/NZS 60884.1.Plugs and socket-outlets for household and similar purposes, Part 1: General requirements* *-IEC 60086-2 Primary batteries — Part 2: Physical and electrical specifications*	Open construction: Must be evaluated with end product.	P

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	-AS/NZS 60065, *Audio, video and similar electronic apparatus—Safety requirements* *(IEC 60065:2015 (ED.8.0) MOD)* -AS/NZS 60320.1, *Appliance couplers for household and similar general purposes,* *Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)* -AS/NZS 60320.2.2, *Appliance couplers for household and similar general purposes* *Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-* *2, Ed.2.0 (1998) MOD)* -AS/NZS 60695.2.11, *Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products* -AS/NZS 60695.11.5, *Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance* -AS/NZS 60695.11.10, *Fire hazard testing, Part 11.10: Test flames—50 W* *horizontal and vertical flame test methods* -AS/NZS 60884.1, *Plugs and socket-outlets for household and similar purposes,* *Part 1: General requirements* -AS/NZS 60950.1, *Information technology equipment—Safety*, Part 1: *General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)* IEC 61032:1997, *Protection of persons and equipment by enclosures—Probes for* *verification* -AS/NZS 61558.1, *Safety of Power Transformers,* *Power Supplies, Reactors and Similar Products, Part 1: General requirements and* *tests (IEC 61558-1 Ed 3, MOD)* -AS/NZS 61558.2.16, *Safety of transformers, reactors, power supply units and similar* *products for voltages up to 1 100 V, Part 2.16:* *Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.*		

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.2	**Requirements** *Delete* the text of the second paragraph and *replace* with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet conforming to AS/NZS 3112, shall conform to the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets. Conformity is checked by inspection and, if necessary, by the tests in AS/NZS 3112. NOTE: Equipment with plug portions for use in countries other than Australia and New Zealand will need to conform to other countries' requirements Note Additional AS/NZS 3112 Appendix J,TRF is appended to end of this TRF.		N/A
4.7.3	**Compliance Criteria** *Delete* this clause		N/A
4.8.1	**General** After second list, *add* the following: NOTE: Refer to the Consumer Goods (Products Containing Button/Coin Batteries) Safety Standard 2020 and Consumer Goods (Products Containing Button/Coin Batteries) Information Standard 2020 for more information on button cell batteries in Australia..		N/A
5.4.10.2.1	**General** *Delete* the first paragraph and *replace* with the following: In Australia, the separation is checked by the test given in both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test given in either 5.4.10.2.2 or 5.4.10.2.3..		N/A
Table 28	*Delete* Table 28 and *replace* with the following:		N/A

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

Parts	Impulse test		Steady state test	
	New Zealand	Australia	New Zealand	Australia
Parts indicated in Clause 5.4.10.1 a) [a]	2.5 kV	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment.	1.5 kV	3 kV
Parts indicated in Clause 5.4.10.1 b) and c) [b]	1.5 kV [c]		1.0 kV	1.5 kV

[a] Surge suppressors shall not be removed.

[b] Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment.

[c] During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.

5.4.10.2.2	*Delete* “NOTE” and *replace* with “NOTE 1”. After NOTE 1, *add* the following: NOTE 2: For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 3: For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		N/A
5.4.10.2.3	*Delete* “NOTE” and *replace* with “NOTE 1”. After NOTE 1, *add* the following: NOTE 2: For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 3: The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A
6	**Electrically-caused fire**		P
6.6	After Clause 6.6, *add* the new Clauses 6.201 as follows: **6.201 External power supplies, docking stations and other similar devices** (see special national conditions)		P
8.6	**Stability of equipment**		N/A
Table 36	Footnote [a], after first sentence, *add* the following: Equipment having displays with moving images shall include “television sets and display devices”.		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.1	After Clause 8.6.1 *add* the following new clauses: **8.6.201 Restraining Device fixing point** (see special national conditions) **8.6.202 Restraining device** (see special national conditions)		N/A
Annex F **Paragraph F.3.3.4**	**Rated Voltage** *Delete* "NOTE" and *replace* with NOTE1" After NOTE 1, *add* the following Equipment that is intended for connection to the supply mains in Australia and New Zealand shall be marked with: (a) A rated voltage of: • 230 V for single phase equipment • 400 V for poly phase equipment Or (b) A rated voltage range that includes: • 230 V for single phase equipment • 400 V for poly phase equipment NOTE 2: equipment that is not rated as above is not suitable for direct connection to the supply mains in Australia or new Zealand.	See label.	P
Annex F.3.3.5	After the list, *add* the following Equipment that is intended for connection to supply mains in Australia or New Zealand shall be marked with a rated frequency of 50 Hz or a rated frequency range or nominal value which includes 50Hz		P
Annex F.3.8	After "The DC output of an external power supply", insert "or docking stations and other similar external devices"		P

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex G **Paragraph G.4.2**	**Mains connectors** 1 After “IEC 60320”, insert “or AS/NZS 60320 series”. 2 After “IEC 60906-1”, insert”or AS/NZS 3123” 3 *After* first paragraph *add* the following: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.		N/A
Paragraph G.5.3.1	**Transformers, General** 1 Third dashed point *replace* ‘IEC 61558-1 and the relevant parts of IEC 61558-2’ with ‘AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2’ 2 Fourth dashed point *replace* ‘IEC 61558-2-16’ with ‘AS/NZS 61558.2.16’.		P
Annex **G.7.1**	**Mains supply cords, General** Fourth dashed paragraph, *replace* ‘IEC 60320-1’ with ‘AS/NZS 60320.1’		N/A
Table G.7	**Sizes of conductors** 1 First column, second row, *delete* “6” and *replace* with “7.5” 2 Second column, second row, *delete* ‘0,75’ and *replace* with ‘0.75[b] 3 *Delete* NOTE 1. 4 *Replace* ‘NOTE 2’ with ‘NOTE:’. 5 *Delete* ‘Footnote b’ and *replace* with the following: [b] This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm^2 three-core supply flexible cords are not permitted; see AS/NZS 3191). 6 Footnote c *replace* ‘IEC 60320-1’ with ‘AS/NZS 60320.1’ 7 Footnote d *replace* ‘IEC 60320-1’ with ‘AS/NZS 60320.1’		N/A
Annex M **M 2.1**	*Add* “IEC 60086-2” to the list		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex M **Paragraph M.3.2**	**Test method** Delete"NOTE" and replace with "NOTE 1" After NOTE 1 *add* the following: NOTE 2: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of ES1 may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A
	Special national conditions (if any)		

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.201	**External power supplies, docking stations and other similar devices** For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage— (a) at all ES1 outlets or connectors shall not increase by more than 10 % of the output rated voltage under normal operating conditions, measured after 3 s of introducing a singlefault condition and after 3 s of introducing abnormal operating conditions; and (b) of a USB outlet or connector shall not increase by more than 3 V or 10 % of the output rated voltage under normal operating conditions, whichever is higher, measured after3 seconds of introducing a single fault condition and after 3 s of introducing abnormal operating conditions For equipment with multiple rated voltages at the output, the requirements apply with the equipment configured for each output rated voltage in turn NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries. The 3 s measurement delay is based on IEC document 108/742/INF, *TC 108, Standards Interpretation Panel Question 15 — Output voltage*, in relation to similar requirements in IEC 62368-3:2017. Conformity shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single fault conditions of Annex B.4.	See main report.	P

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.201	**Restraining device fixing point** Freestanding-capable MS2 and MS3 television sets and display devices shall be provided with a fixing point to facilitate the anchoring of the equipment from toppling The fixing point shall conform to Clause 8.7 where the fixing point uses a wall, ceiling or other structure mount. Alternatively, the fixing point shall be capable of withstanding a pull equal to the mass of the equipment in all directions without damage Instructions for installation or instructions for use shall be provided to specify correct use of the fixing point		N/A
8.6.202	**Restraining device** MS2 and MS3 television sets and display devices shall be provided with a restraining device and associated hardware to attach to the television set or display device. The restraining device shall be capable of withstanding a pull equal to the mass of the equipment in all directions. Instructions for installation or instructions for use shall be provided to specify correct use of the fixing point .		N/A

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

ATTACHMENT TO TEST REPORT

IEC 62368-1:2018

JAPAN NATIONAL DIFFERENCES
Audio/video, information and communication technology equipment – Part 1: Safety requirements

Differences according to ..... :	J62368-1(2023)
TRF template used:.....:	IECEE OD-2020-F3:2022, Ed. 1.2
Attachment Form No. ..... :	JP_ND_IEC62368_1E
Attachment Originator..... :	UL Solutions (JP)
Master Attachment..... :	Dated 2023-05-12

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	National Differences		—
4.1.2	Where the component, or a characteristic of a component, is a safeguard or a part of a safeguard, components shall comply with the requirements of this document or, where specified in a requirements clause, with the safety aspects of the relevant JIS component standards or IEC component standards, or components shall have properties equivalent to or better than these.	The component fulfils the relevant IEC standard.	P
5.6.1	Mains socket-outlet and interconnection coupler shall comply with Clause G.4.2A if they are incorporated as part of the equipment.	No socket-outlets provided.	N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.2.1	Connection for protective conductor of class 0I equipment provided with instructional safeguard in accordance with Clause F.3.6.1A is considered to make earlier and break later than supply connection. Mains plug having a lead wire for protective earthing connection of class 0I equipment shall comply with all of the following: – Not to be used for equipment having a rated voltage of 150 V or more – Clip is not used for the earthing connection of the lead wire. – The lead wire for earthing is at least 10 cm long If class 0I equipment provides an independent main protective earthing terminal and is intended to be installed by ordinary person, earthing wire shall be provided in the package of the equipment.		N/A
5.6.2.2	Internal earthing conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector need not be green-and-yellow.	No applicable.	N/A
5.6.3	In case of class 0I equipment using power supply cord having two conductors (no earthing conductor), the conductor of protective earthing lead wire shall comply with either of the following: – use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having size and strength that are equivalent to or more than the above copper wire – single core cord or single core cab tire cable with 1.25 mm^2 or more cross-sectional area		N/A
5.7.3	For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS C 8282 series, JIS C 8300 or JIS C 8303, or that is provided with mains appliance outlet as specified in JIS C 8283 series for the purpose of interconnection, the measurement is conducted on the system of the interconnected equipment having a single connection to the mains.		N/A
5.7.5	In case of class 0I equipment, touch current shall not exceed 1.41 mA peak or for sinusoidal wave, 1.0 mA r.m.s. when measured using the network specified in Figure 4 of IEC 60990:2016.		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.3.2	A fuse complying with JIC C 6575 series or a fuse having equivalent characteristics shall open within 1 s. A fuse having time/current characteristics other than those specified in IEC 60127 shall be tested with the characteristics taken into account. In case of Class A fuse of JIS C 6575, replace “2.1 times” by “1.35 times” and in case of Class B fuse of JIS C 6575, replace “2.1 times” by “1.6 times”.		N/A
8.5.4.3.1	Only three-phase stationary equipment rated more than AC 200 V can be considered as being for use in locations where children are not likely to be present, when complying with Clause F.4.		N/A
8.5.4.3.2	For equipment installed where children may be present, an instructional safeguard shall be provided by easily understandable wording in accordance with Clause F.5, except that element 3 is optional.		N/A
8.5.4.3.4	The media destruction device is tested according to Clause V.1.2 with applicable jointed test probes to the opening. And then the wedge probe per Figure V.4 shall not contact any moving part.		N/A
8.5.4.3.5	The wedge probe of Figure V.4 and applicable jointed test probes specified in Clause V.1.2 shall not contact any moving part. Instructional safeguard shall not be used instead of equipment safeguard for preventing access to hazardous moving parts.		N/A
F.3.5.1	When the mains socket-outlet is configured in accordance with JIS C 8282 series, JIS C 8300 or JIS C 8303, the assigned current or power shall be marked. If the voltage of the socket-outlet is the same as the mains voltage, the voltage need not be marked. Instructional safeguard of Class 0I equipment shall be provided with an instructional safeguard in accordance with Clause F.5 when a mains socket-outlet as specified in JIS C 8282 series, JIS C 8300 or JIS C 8303 to which class I equipment can be connected is provided in accordance with Clause G.4.2A except for the cases where the socket-outlet is accessible only to skilled persons.		N/A
F.3.5.3	If the fuse is necessary for the safeguard function, the symbols indicating pre-arcing time-current characteristic shall be included.	See main report	P

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.1A	Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.2 shall be applied to class 0I equipment. For class 0I equipment, a marking of instructions shall be provided regarding the earthing connection. In addition to the above, for class 0I equipment, an instruction to connect earthing before and disconnect earthing after the connection of supply conductors shall be marked on the visible place of the main body or shall be in the text of an accompanying document.		N/A
F.3.6.2	Symbols, IEC 60417-5172 (2003-02) or IEC 60417-6092 (2011-10), shall not be used for class I equipment or class 0I equipment.		N/A
F.3.8A	Attention marking for aging deterioration of CRT television Year of manufacture, standard usage period by design according to JIS C 9921-5 and cautionary statement for possible risks of aging deterioration when used beyond the specified period shall be marked on CRT television except for industrial use CRT television.		N/A
F.4	For audio equipment with terminals classified as ES3 in accordance with Table E.1, and for other equipment with terminals marked in accordance with F.3.6.1 and F.3.6.1A, the instructions shall require that the external wiring connected to these terminals shall be installed by a skilled person, or shall be connected by means of ready-made leads or cords that are constructed in a way that would prevent contact with any ES3 circuit. For class 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided in the package of the equipment, if the protective earthing connection is made by instructed person or skilled person, the suitable installation instruction for the protective earthing connection shall be provided.		N/A
G.3.2.1	The thermal link when tested as a separate component, shall comply with the requirements of JIS C 6691 or have properties equivalent to or better than that.		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.3.4	Except for devices covered by Clause G.3.5, overcurrent protective devices used as a safeguard shall comply with the applicable JIS or IEC standard in accordance with 4.1.2 or shall have equivalent or better properties. Such a protective device shall have adequate breaking (rupturing) capacity to interrupt the maximum fault current (including short-circuit current) that can flow.		N/A
G.4.1	This requirement does not apply to connectors covered in Clauses G.4.2 and G.4.2A.		N/A
G.4.2	Mains connectors, mains plugs and socket-outlets shall comply with JIS C 8283 series, JIS C 8285, IEC 60309 series, JIS C 8282 series, JIS C 8300, JIS C 8303, or have equivalent or better properties. A power supply cord set provided with appliance connector that can fit appliance inlet complying with JIS C 8283-1 shall comply with JIS C 8286. Construction shall prevent mechanical stress not to transmit to the soldering part of appliance inlet terminal. When an equipment is rated not more than 125 V and all of the following are met, Type C14 and C18 appliance inlet complying with JIS C 8283-3 can be considered as rated 15 A. – The temperature of appliance inlet does not exceed the value specified in JIS C 8283-1 under the most unfavourable normal operating condition as specified in Clause B.2.1. – "Use only designated cord set attached in this equipment" or equivalent text is described in the operating instruction. If the cord set is not provided in the package of the equipment, suitable information regarding to the cord set is described in the operating instruction.		N/A
G.4.2A	Mains socket-outlet and interconnection coupler provided with the class II, class I and class 0I equipment respectively		N/A
G.7.1	A mains supply cord need not include the protective earthing conductor for class 0I equipment provided with independent protective earthing conductor.		N/A
G.7.2 Table G.7	Cross-sectional area of equipment rated up to and including 3 A shall be 0.75 mm^2.		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.6.1 Table G.9	The cross-sectional area of mains cords according to JIS C 3010 may comply with relevant Japanese wiring regulation. For cables other than those complying with JIS C 3662 series or JIS C 3663 series, the terminals shall be suitable for the size of the intended cables.		N/A

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

ATTACHMENT TO TEST REPORT

IEC 62368-1:2018

SAUDI ARABIA NATIONAL DIFFERENCES
(AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT PART 1: SAFETY REQUIREMENTS)

Differences according to ..... :	National standard SASO-IEC 62368-1:2020
TRF template used:..... :	IECEE OD-2020-F3, Ed. 1.1
Attachment Form No. ..... :	SA_ND_IEC62368_1E
Attachment Originator ..... :	SASO
Master Attachment..... :	2022-12-22

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	National Differences		___
	Plugs used for pluggable equipment comply with standard SASO-2203.	Must be checked when market into the country.	___
--	**Frequency (Hz)**		P
	60 Hz	Tested within the range.	P
--	**Rated voltage (V)**		P
	Single phase 230 V Three phase 400 V	Tested within the range. (100-240V)	P

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

ATTACHMENT TO TEST REPORT

IEC 62368-1
CHINA NATIONAL DIFFERENCES
(**AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT -PART 1: SAFETY REQUIREMENTS**)

Differences according to ..... : GB 4943.1-2022

TRF template used:.....: IECEE OD-2020-F3, Ed. 1.1

Attachment Form No. ..... : CN_ND_IEC62368_1E

Attachment Originator..... : CQC

Master Attachment..... : Dated 2022-12-01

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	National Differences		
4.1.2	**Use of components** Add a paragraph: A component used shall comply with related requirements corresponding altitude of the equipment.		P
4.11	Add clause 4.11,as follows: Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except the device shall meet the all requirement of Fault conditions. If pluggable equipment type B or permanently connected equipment depends on protective devices outside the equipment for protection, this shall be stated in the installation instructions of the equipment, with requirements for short-circuit protection, over-current protection ,or both if necessary.	Fuse is integrated in the equipment.	P
5.3.2.2	**Contact requirements** Amend the 2nd paragraph of table 8 to be: For equipment intended to be used at altitude of 2000m to 5000m, the values in this table are multiplied by the multiplication factor corresponding altitude of 5000m.	Considered.	P

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.5	**Multiplication factors for altitudes higher than 2 000 m above sea level** Amend the 1st paragraph to be: For equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE in tables 10,11 and 14,and resistance test voltages required in table 15, shall meet the requirements of 5000 m above sea level, This is multiplied by the multiplication factor corresponding altitude of 5000m in table 16. For equipment to be used at equal or less than 2000 m above sea level, the minimum CLEARANCE in tables 10, 11 and 14, and resistance test voltages required in table 15, shall meet the requirements of 2000 m above sea level. This is multiplied by the multiplication factor corresponding altitude of 2000m in table 16. Delete note 2 of Clause 5.4.2.5.	Must consider when sold to this country.	--
5.4.5.1	**General** Delete the 2nd paragraph of Clause 5.4.5.1: This test does not apply to equipment where one antenna terminal on the equipment is connected to earth in accordance with 5.6.7. Add the following: The Insulation resistance between CATV antenna coaxial sockets and protective earth of apparatus shall comply with BASIC INSULATION. If it's possible that CLASS II apparatus with CATV antenna coaxial sockets connect with protective earth of another CLASS I apparatus by other terminals, the insulation resistance between them shall comply with BASIC INSULATION as well. If antenna cable separated from the protective earth before connection to the apparatus, there is no requirements of Insulation resistance between them but F.4 requirements shall be meet. *Del*ete "NOTE" of Clause 5.4.5.1		N/A

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.8	**Humidity conditioning** Amend clause 5.4.8 as follows : The humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature (40±2) °C and a relative humidity of (93±3)%. During this conditioning, the component or subassembly is not energized. For equipment not to be operated at tropical climatic conditions, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of (93±3) %. The temperature of the air, at all places where samples can be located, is maintained within 2 °C of any convenient value between 20 °C and 30 °C such that condensation does not occur. Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered. Pre-processing conditions and requirements below 2000m can be used until additional data is available.	Considered.	P
6.4.9 Y.4.3	Delete references to ASTM and NEMA.		N/A
6.5.1	**General requirements** Delete the text of the Note “Wire complying with UL 2556 VW-1 is considered to comply with these requirements”.	Considered.	P
F.1	Amend the second paragraph of annex F.1 to be: Unless symbols are used or otherwise specified, safety related equipment markings, instructions, and instructional safeguards shall be in normative Chinese.	Must consider when sold to the country.	--

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
F.2.2	After the first paragraph of annex F.2.2 ,add the following: For apparatus intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording or a symbol shown below shall fixed to the equipment at readily visible place. "Only used at altitude not exceeding 2000m." For apparatus intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording or a symbol shown below shall fixed to the equipment at readily visible place. "Only used in not-tropical climate regions." If only symbol used, the explanation of the symbol shall be contained in the instruction manual. The statements above shall be given in a language acceptable to the regions where the apparatus is intended to be used.	It must be checked when market into the country.	--
F.3.3.4	After the last paragraph, Added: …for single rated voltage, “220 V” or three-phase “380V” shall be marked only. For a rating voltage range, 220 V or three-phase 380V shall be covered. For multiple rated voltages, one of them shall be 220 V or three-phase 380V and which default setting from manufacture shall be 220 V or three-phase 380V as well.	Considered.	P
F.3.3.5	After the last paragraph, Added: Rated frequency shall be 50Hz or frequency range shall cover 50Hz.	Considered.	P
F.4	**Instructions** Added: – For apparatus incorporating antenna coaxial sockets which is non-separated with CATV network, a warning wording or a similar shall be given in the instruction manual: “A CATV cable intended to be connected to apparatus shall be separated with the protective earth of the apparatus, otherwise fire hazard might be caused.”		N/A
F.5	**Instructional safeguards** In table F.2, change 230V to 220V， change 400Y/230V 3Ø to 380 Y/220 V 3Ø	Considered.	P

IEC 62368-1 - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	Amend clause G.4.2 as follows : Plugs connected to the MAINS in apparatus shall comply with GB/T 1002,GB/T 1003,GB/T 2099.1 or GB/T11918（All parts） series. Appliance coupler shall comply with GB/T 17465（All parts） series or GB/T 11918（All parts） series.	Must consider when sold to this country.	--
	Special national conditions (if any)		
0.12	Add clause 0.12 Description of relevant information.	Considered.	P
1	GB 4943.1-2022 applies to equipment used at altitudes not exceeding 5000m above sea level, For apparatus intended to be used at altitude not exceeding 2000m, The requirements can be appropriately reduced, but warning instructions shall be provided.. Revise the sixth paragraph of 1 as: In addition to specified by the manufacturer, this document assumes a maximum altitude of 5000m		N/A
B.2.6.1	Amend T_{ma} as follows: T_{ma} is the maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater. Add note 1: For equipment not to be operated at tropical climatic conditions, T_{ma} is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater. Add note 2: For equipment to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration. temperature test conditions and temperature limits below 2000m can be used until additional data is available.	Considered.	P
Annex Z **(normative)**	Added annex Z: Instructions of the new safety warning labels.		N/A
Annex AA (informative)	Added annex AA: Illustration relative to safety explanation in normative Chinese, Tibetan, Mongolian, Zhuang Language and Uighur.	Must consider when sold to this country.	--