



Test Report issued under the responsibility of:



Electrical &
Electronics

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

Report Number..... : EFSH25110101-IE-02-L01

Date of issue : 2026-06-03

Total number of pages..... : 117

Name of Testing Laboratory preparing the Report..... : Eurofins Electrical Testing Service (Shanghai) Co., Ltd.

Applicant's name : GlobTek, Inc.

Address : 186 Veterans Dr. Northvale, NJ 07647 USA

Test specification:

Standard : IEC 62368-1:2023

Test procedure..... : CB Scheme

Non-standard test method..... : N/A

TRF template used..... : IECEE OD-2020-F1:2023, Ed.1.6

Test Report Form No. : IEC62368_1F

Test Report Form(s) Originator : UL Solutions (US)

Master TRF..... : Dated 2023-08-18

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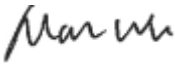
This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

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

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Test item description..... :	ICT/ITE POWER SUPPLY
Trade Mark(s) :	 (G GlobTek, Inc.)
Manufacturer..... :	GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 USA
Model/Type reference :	GT*86100-**-W2** (The 1st "*" part can be 'M' or '-' or 'H' for market identification and not related to safety. The 2nd "*" denotes the rated output wattage designation, which can be "01" to "10", "01" means 1W, "10" means 10W, with interval of 1W. The 3rd "*" denotes the rated output voltage designation, which can be "5.0" "5.1", "5.2" or "05" "05.1" "05.2", "5.0" and "05" means 5.0V, "5.1" and "05.1" means 5.1V, "5.2" and "05.2" means 5.2V. The 4th "*" designates type of plug and can be E for European plug, U for British plug, blank for North American plug /Japan plug/Taiwan plug, C for China plug, A for Australia plug, K for Korea plug. The 5th "*" can be "-USB" or "-USBC" or "-USB2C" or blank, -USB denote the power supplies use USB port, -USBC denote the power supplies use USB type C port, -USB2C denote the power supplies use two USB type C ports, when it is blank, denote the power supplies use DC output wires.)
Ratings..... :	Input: 100-240V~, 50-60Hz or 50/60Hz, 0.3A Output: 5-5.2V---, Max. 2A, Max. 10W

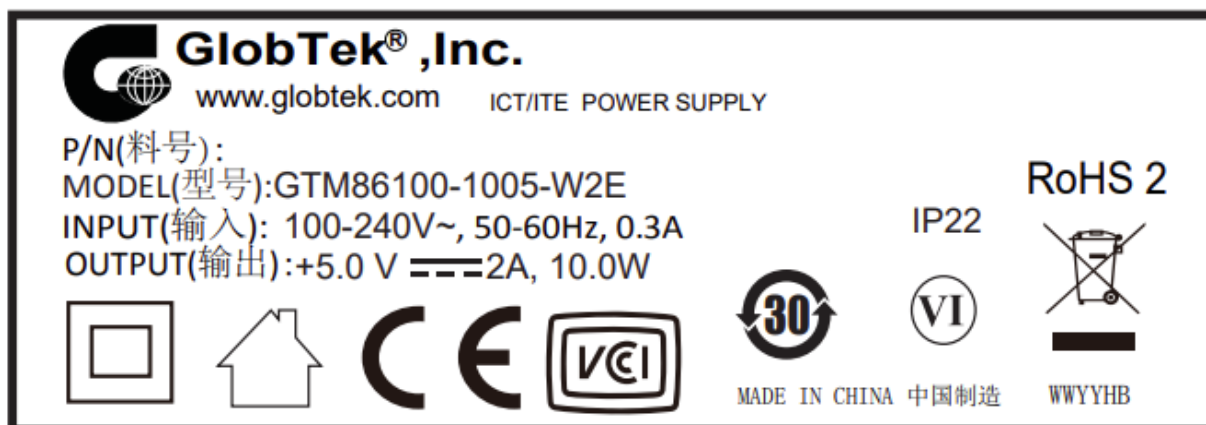
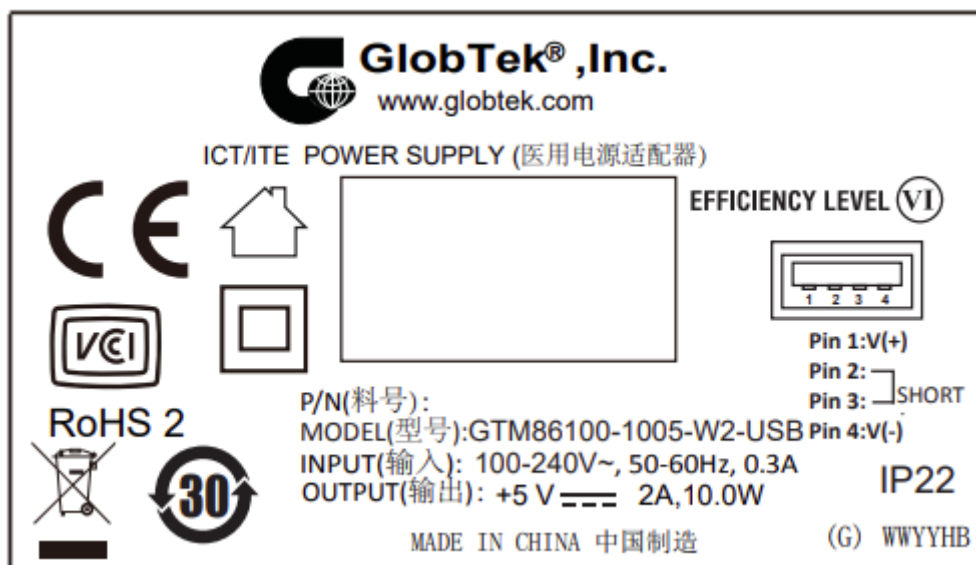
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒	CB Testing Laboratory:	Eurofins Electrical Testing Service (Shanghai) Co., Ltd.
Testing location/ address..... :		Room 102/501/502, Building 18, No.2168, Chenhang Highway, Minhang District, Shanghai, China
Tested by (name, function, signature)..... :		Mac Wu (Project Engineer) 
Approved by (name, function, signature).. :		Jackie Zhao (Project Engineer) 
☐	Testing procedure: CTF Stage 1:	N/A
Testing location/ address..... :		
Tested by (name, function, signature)..... :		
Approved by (name, function, signature).. :		
☐	Testing procedure: CTF Stage 2:	N/A
Testing location/ address..... :		
Tested by (name, function, signature)..... :		
Witnessed by (name, function, signature). :		
Approved by (name, function, signature).. :		
☐	Testing procedure: CTF Stage 3:	N/A
☐	Testing procedure: CTF Stage 4:	N/A
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): Attachment 1: European group differences and national differences (23 pages) Attachment 2: Photos (23 pages)	
Summary of testing: The sample(s) tested complies with the requirements of IEC 62368-1: 2023	
Tests performed (name of test and test clause): All applicable clauses were considered of GTM86100-1005-W2E-USB2C, GTM86100-1005.2-W2-USB2C, GTM86100-1005.2-W2A-USB and GTM86100-1005-W2E were tested.	Testing location: Eurofins Electrical Testing Service (Shanghai) Co., Ltd. Room 102/501/502, Building 18, No.2168, Chenhang Highway, Minhang District, Shanghai, China
Summary of compliance with National Differences • IECEE Member countries that are also CENELEC members Compliance with Group Differences evaluated ☒ yes ☐ No ☐ N/A • IECEE Member countries with published National Differences which were evaluated: N/A • IECEE Member countries that did not publish any National Differences: N/A	
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.

(representative)

**Note:**

The above marking is the minimum requirements required by the safety standard. For the final production sample, the marking which do not give rise to misunderstanding may be added.

Test item particulars:			
Product group	☒ end product	☐ built-in component	
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%		
	☐ + %/ - %		
	☐ None		
Supply connection – type	☒ pluggable equipment type A -		
	☐ non-detachable supply cord		
	☐ 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	☒ 16A		
	Location:	☐ building	☒ equipment
	☐ N/A		
Equipment mobility	☐ movable	☐ hand-held	☐ transportable
	☐ direct plug-in	☐ stationary	☒ for building-in
	☐ wall/ceiling-mounted for Satellite speakers ☐ 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}	40°C	☐ Outdoor: minimum	°C
IP protection class	☐ IPX0	☒ IP_22__	
Power systems	☒ TN	☐ TT	☐ IT - V _{L-L}
	☐ not AC mains		
Altitude during operation (m)	☐ 2000 m or less	☒ 5000 m	
Altitude of test laboratory (m)	☒ 2000 m or less	☐ m	
Mass of equipment (kg)	Approx. 0.046kg		

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.....: 2025-11-11 Date (s) of performance of tests: 2025-11-11 to 2026-03-06	
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. The related applicable CTL decisions have been considered and the requirements found fulfilled Determination of the test result includes consideration of measurement uncertainty from the test equipment and methods.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60335-1:	
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 USA 2. GlobTek (Suzhou) Co., Ltd Building 4, No. 76 JinLing East Road, Suzhou Industrial Park, Suzhou, JiangSu, 215021, China

General product information and other remarks:

The ICT/ITE POWER SUPPLY is class II construction equipment, which is designed to supply power for Audio/video, information and communication technology equipment, for indoor use only.

Direct plug-in power supplies are provided with suitable external enclosure. The external enclosure and plug holder parts of the enclosure are ultrasonic welded.

GT*86100--W2****

The 1st "*" part can be 'M' or '-' or 'H' for market identification and not related to safety.

The 2nd "*" denotes the rated output wattage designation, which can be "01" to "10", "01" means 1W, "10" means 10W, with interval of 1W.

The 3rd "*" denotes the rated output voltage designation, which can be "5.0" "5.1", "5.2" or "05" "05.1" "05.2", "5.0" and "05" means 5.0V, "5.1" and "05.1" means 5.1V, "5.2" and "05.2" means 5.2V.

The 4th "*" designates type of plug and can be E for European plug, U for British plug, blank for North American plug /Japan plug/Taiwan plug C for China plug, A for Australia plug, K for Korea plug.

The 5th "*" can be "-USB" or "-USBC" or "-USB2C" or blank, -USB denote the power supplies use USB port, -USBC denote the power supplies use USB type C port, -USB2C denote the power supplies use two USB type C ports, when it is blank, denote the power supplies use DC output wires.

Product details are shown in the table below:

Model	PCB layout	Transformer type	Output type	Output current	Output power
GT*86100-**-W2*-USB		90E10PFX0-xxxx	USB port	Max.2A	Max.10W
GT*86100-**-W2*		90E10PF02-xxxx	DC output wires		
GT*86100-**-W2*-USBC/USB2C		90E102PFA-xxxx	one USB type C port (USBC) or two USB type C ports (USB2C)		

Test model:

Model	Input	Output Voltage	Max. output current	Max. output power	Pin
GTM86100-1005-W2E-USB2C	100-240V~, 50/60Hz, 0.3A	5VDC	2A	10W	EU pin
GTM86100-1005.2-W2-USB2C	100-240V~, 50/60Hz, 0.3A	5.2VDC	1.92A	10W	US pin
GTM86100-1005-W2E	100-240V~, 50/60Hz, 0.3A	5VDC	2A	10W	EU pin
GTM86100-1005.2-W2A-USB	100-240V~, 50/60Hz, 0.3A	5.2VDC	1.92A	10W	AU pin

After review, GTM86100-1005-W2E-USB2C, GTM86100-1005.2-W2-USB2C, GTM86100-1005.2-W2A-USB and GTM86100-1005-W2E were tested, and the most unfavourable results were recorded.

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
ES3: All primary circuit	Ordinary	N/A	N/A	Transformer, Y-capacitor, Clearances and Creepage distances, Enclosure
ES1: All secondary circuit	Ordinary	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	1 st S	2 nd S
PS3: All circuits except output port circuit	Combustible material	See 6.3	See 6.4, 6.5	Fire enclosure V-0
PS1: Secondary output port	Combustible material	See 6.3	See 6.4, 6.5	Fire enclosure V-0
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	Ordinary	N/A	N/A	N/A
MS1: Equipment mass	Ordinary	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: Accessible part	Ordinary	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 Indicator	Ordinary	N/A	N/A	N/A
Supplementary Information: “B” – Basic Safeguard; “S” – Supplementary Safeguard; “R” – Reinforced Safeguard				

ENERGY SOURCE DIAGRAM
Optional. Manufacturers are to provide the energy sources diagram identify declared energy sources and identifying the demarcations are between power sources. Recommend diagram be provided included in power supply and multipart systems. Insert diagram below. Example diagram designs are; Block diagrams; image(s) with layered data; mechanical drawings
☒ 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	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 62368-1 and the relevant component 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
4.1.2	Use of components		P
4.1.3	Equipment design and construction		P
4.1.4	Specified ambient temperature for outdoor use (°C) :	Only indoor use.	N/A
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids, refrigerants and liquid filled components (LFCs)	(See G.15)	N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Clause T.2, T.5)	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	No such safeguard.	N/A
4.4.3.6	Glass impact tests	(See Clause T.9, Annex U)	N/A
4.4.3.7	Glass fixation tests		N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests	(See Clause T.8)	P
4.4.3.9	Air comprising a safeguard	(See Clause T)	P
4.4.3.10	Accessibility, glass, safeguard effectiveness	After tests of 4.4.3.2, 4.4.3.3, 4.4.3.8, no safeguard	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
		damaged.	
4.4.4	Displacement of a safeguard by an insulating liquid		N/A
4.4.5	Safety interlocks	(See Annex K)	N/A
4.5	Explosion		P
4.5.1	General	No explosion occurs during normal/abnormal operation and single fault conditions	P
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	(See Clause B.4)	P
4.6	Fixing of conductors		P
	Fix conductors and conductive parts not to defeat a safeguard		P
	Compliance is checked by test..... :	(See Clause T.2)	P
4.7	Equipment for direct insertion into mains socket-outlets		P
4.7.2	Mains plug part complies with relevant standard .. :	Meet the requirements of relevant mains plug standard.	P
4.7.3	Torque (Nm)..... :	US plug: Max. 0.03 EU plug: Max. 0.02 AU plug: Max. 0.04	P
4.8	Equipment containing coin/button cell batteries		N/A
4.8.1	General	No coin/button cell batteries used.	N/A
4.8.2	Instructional safeguard..... :		N/A
4.8.3	Coin or button cell battery compartment, door or 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

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Clause	Requirement + Test	Result - Remark	Verdict
4.10.2	Switches and relays	(See Annex G)	N/A
4.10.3	Mains power supply cords	(See Clause G.7)	N/A
4.10.4	Batteries and their protection circuits	(See Annex M)	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		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)	N/A
5.2.2.4	Single pulse limits.....	No such single pulses generated in the EUT or applied to it.	N/A
5.2.2.5	Limits for repetitive pulses.....	No such repetitive pulses within the EUT.	N/A
5.2.2.6	Ringling signals	No such ringing signals within the EUT	N/A
5.2.2.7	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		P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits		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	ES2 or ES3 source cannot access by ordinary persons.	P
	Accessibility to outdoor equipment bare parts	No outdoor equipment.	N/A
5.3.2.2	Contact requirements		P
	Test with test probe from Annex V	Test probe from Annex V cannot contact a bare internal conductive part	--
5.3.2.2 a)	Air gap – electric strength test potential (V).....	(See appended table 5.4.9)	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 stripped wire used.	N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Compliance		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Non-hygroscopic materials	No hygroscopic insulating material used	P
5.4.1.4	Maximum operating temperature for insulating materials..... :	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
5.4.1.5	Pollution degrees :	2	P
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2 is applied. No insulating compound applied (however see 5.5.4).	N/A
5.4.1.5.3	Thermal cycling test		N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such transformer within the EUT	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such starting pulses within the EUT	N/A
5.4.1.8	Determination of working voltage :	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces	Considered.	P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	See only 5.4.10.3 below.	P
5.4.1.10.2	Vicat 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		P
	Clearances in circuits connected to AC Mains, Alternative method		N/A
5.4.2.2	Procedure 1 for determining clearance		N/A
	Temporary overvoltage :		—
5.4.2.3	Procedure 2 for determining clearance		P
5.4.2.3.2.2	AC mains transient voltages :	2500 Vpk considered for Overvoltage Cat. II	—
5.4.2.3.2.3	DC mains transient voltages :	No such transient	—
5.4.2.3.2.4	External circuit transient voltage..... :	No such transient	—
5.4.2.3.2.5	Transient voltage determined by measurement :		—
5.4.2.3.3	Exceptions of determining required withstand voltage :		N/A
5.4.2.3.4	Determining clearances using required withstand voltage..... :	(See appended table 5.4.2, 5.4.3)	P
5.4.2.4	Determining the adequacy of a clearance using an electric strength test :	(See appended table 5.4.2)	N/A
5.4.2.5	Multiplication factors for clearances and test voltages :	1.48	—

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.6	Clearance measurement :	(See appended table 5.4.2)	P
5.4.3	Creepage distances		P
5.4.3.1	General		P
5.4.3.3	Material group and CTI..... :	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		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		P
5.4.4.4	Solid insulation in semiconductor devices		P
5.4.4.5	Insulating compound forming cemented joints		P
5.4.4.6	Thin sheet material	See below	P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material	(See appended Table 5.4.9)	P
	Number of layers (pcs) :	Min. 2 layers for reinforced insulation	P
5.4.4.6.3	Non-separable thin sheet material	No such thin sheet material within the EUT	N/A
	Number of layers (pcs) :		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P , K_R , d , V_{PW} (V) :	(See appended Table 5.4.9)	N/A
	Alternative by electric strength test, tested voltage (V), K_R :	(See appended Table 5.4.9)	N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
5.4.5.3	Insulation resistance (M Ω) :		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		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Relative humidity (%), temperature (°C), duration (h)	93%, 40°C, 120h	—
5.4.9	Electric strength test	(See appended table 5.4.9)	P
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.....	(See appended table 5.4.9)	N/A
5.4.10.3	Verification for insulation breakdown for impulse test.....		N/A
5.4.11	Separation between external circuits and earth		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	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
	Test voltage (V) of additional test.....		N/A
	Measured current (mA) of additional test.....		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
	Thermal classification of IEC 60085		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 appended table 4.1.2)	P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector	(See appended table 5.5.2.2)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.3	Transformers	(See Clause G.5.3)	P
5.5.4	Optocouplers		N/A
5.5.5	Relays	No such component	N/A
	Application type of resistors		N/A
5.5.6	Resistors		N/A
	Application type of resistors		N/A
5.5.7	Surge suppressors	(See Clause G.8)	N/A
	GDT.....		N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable	No such device	N/A
	Insulation resistance (MΩ).....		N/A
	Electric strength test.....	(See appended table 5.4.9)	N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A
	RCD rated residual operating current (mA)		—
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors		N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors	Class II equipment	N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm ²)		—
	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		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²).....		—
5.6.4.2	Protective current rating (A)		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Terminal size for connecting protective earthing conductors (mm).....		N/A
	Terminal size for connecting protective bonding conductors (mm)		N/A
	Relevant IEC standard		N/A
5.6.5.2	Corrosion		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.6	Resistance of the protective bonding system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method :		N/A
5.6.6.3	Resistance (Ω) or voltage drop :		N/A
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm^2)..... :		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	Figure 4 of IEC 60990:2016 was used in determining of the limit of ES1. (See appended table 5.2)	P
5.7.2.2	Measurement of voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections	Clause 4, 5.3 and 5.4 of IEC 60990:2016 applied.	N/A
5.7.4	Unearthed accessible parts..... :	Class II equipment. (See appended table 5.7.4)	P
5.7.5	Earthed accessible conductive parts :		N/A
5.7.6	Requirements when touch current exceeds ES2 limits		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	No such 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	No such 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

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Clause	Requirement + Test	Result - Remark	Verdict

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		P
6.2.3.1	Arcing PIS	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials.....	(See appended table B.1.5 and B.3)	P
	Combustible materials outside fire enclosure		N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard method	Method of control fire spread used.	—
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.....	(See appended table B.4)	N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		P
6.4.5	Control of fire spread in PS2 circuits		N/A
6.4.5.2	Supplementary safeguards		P
6.4.6	Control of fire spread in PS3 circuits		P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers	Fire enclosures used	P
6.4.8.2	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	Fire enclosures used	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3.1	Fire enclosure and fire barrier openings	No such 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
	Flammability tests for the top of a fire enclosure	(See Clause S.2)	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	(See Clause S.3)	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)..... :		N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating..... :	Plastic enclosure rated min, V-0	P
6.4.9	Flammability of insulating liquid..... :		N/A
	Auto ignition temperature (°C)..... :		N/A
	Flashpoint temperature (°C)..... :		N/A
6.5	Internal and external wiring		P
6.5.1	General requirements	Internal wire is VW-1	P
6.5.2	Requirements for interconnection to building wiring :		N/A
6.5.3	Internal wiring size (mm ²) for socket-outlets :		N/A
6.6	Safeguards against fire due to the connection to additional equipment		P

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..... :		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010)..... :		—

8	MECHANICALLY-CAUSED INJURY		P
8.2	Mechanical energy source classifications		P
8.3	Safeguards against mechanical energy sources		P

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Clause	Requirement + Test	Result - Remark	Verdict
8.4	Safeguards against parts with sharp edges and corners		P
8.4.1	Safeguards	MS1: Rounded edges and corners	P
	Instructional Safeguard..... :		N/A
8.4.2	Sharp edges or corners		P
8.5	Safeguards against moving parts		N/A
8.5.1	Requirements	No moving parts	N/A
	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts		N/A
	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	A manually activated stopping device for moving MS3		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
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

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Clause	Requirement + Test	Result - Remark	Verdict
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	Requirements	The weight of each unit of the equipment is MS1	N/A
	Instructional safeguard for MS2 and MS3 television sets	No safeguard requirement	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	Requirements		N/A
	Mount means type.....		N/A
8.7.2	Test methods		N/A
	Test 1, additional downwards force (N).....		N/A
	Horizontal force to a wall or another structure		N/A
	Test 2, number of attachment points and test force (N)		N/A
	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.....		—
	Weight applied (kg)		—
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

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Clause	Requirement + Test	Result - Remark	Verdict
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
	Loading force applied (N) on each supporting surface..... :		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 applied (N)..... :		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
	No sharp edges or points		—
	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
9.4	Safeguards against thermal energy sources		N/A
9.5	Requirements for safeguards		N/A
9.5.1	Equipment safeguard		N/A
9.5.2	Instructional safeguard :		N/A
9.6	Requirements for wireless power transmitters		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
9.6.1	General		N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance	(See appended table 9.6)	N/A

10	RADIATION		P
10.2	Radiation energy source classification		P
10.2.1	General classification	RS1: LED indicator	P
	Lasers		—
	Lamps and lamp systems		—
	Image projectors.....		—
	X-Ray	No 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)		P
10.4.1	General requirements	RS1: LED indicator	P
	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	(See Annex C)	N/A
10.4.3	Instructional safeguard.....		N/A
10.5	Safeguards against X-radiation		N/A
10.5.1	Requirements		N/A
	Instructional safeguard for skilled persons.....		—
10.5.3	Maximum radiation (pA/kg)	(See appended tables B.3 & B.4)	—
10.6	Safeguards against acoustic energy sources		N/A
10.6.1	General		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

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Clause	Requirement + Test	Result - Remark	Verdict
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.1.6	Specific output conditions		P
B.2	Normal operating conditions		P
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers..... :		N/A
B.2.3	Supply voltage and tolerances	+10 % and -10 % considered.	P
B.2.5	Input test :	(See appended table B.2.5)	P
B.2.6.4	Equipment intended for building-in or rack-mounting		N/A
B.3	Simulated abnormal operating conditions		P
B.3.1	General		P
B.3.2	Covering of ventilation openings		N/A
	Instructional safeguard :		N/A
B.3.3	DC mains polarity test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals		P
B.3.6	Reverse battery polarity		N/A
B.3.7	Audio amplifier abnormal operating conditions		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	(See appended table B.3, B.4)	P
B.4	Simulated single fault conditions		P
B.4.1	General		P
B.4.2	Temperature controlling device	No such device used.	N/A
B.4.3	Blocked motor test	No motors used.	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.3, B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.3, B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards used.	N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors		P
B.4.6	Short circuit or disconnection of passive components		P
B.4.7	Continuous operation of components		N/A
B.4.8	Compliance during and after single fault conditions	(See appended table B.3, B.4)	P
B.4.9	Battery charging and discharging under single fault conditions	(See Annex M)	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
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

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Clause	Requirement + Test	Result - Remark	Verdict
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
E.2.1	Pink noise test signal		—
E.2.2	Sine-wave signal		—
E.3	Operating conditions of equipment containing an audio amplifier		N/A
E.3.1	Normal operating conditions		N/A
E.3.2	Abnormal operating conditions		N/A
E.3.3	Audio equipment temperature measurement conditions.....		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General		P
	Language	English. The other languages will be provided during the national approval.	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1	Letter symbols for quantities and units are complied with IEC 60027-1	P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Equipment marking is located on the exterior surface and is easily visible	P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification	See copy of marking plate.	P
F.3.2.2	Model identification	See copy of marking plate.	P
F.3.3	Equipment rating markings	See copy of marking plate.	P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage	~	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.3.4	Rated voltage	See copy of marking plate.	P
F.3.3.5	Rated frequency	See copy of marking plate.	P
F.3.3.6	Rated current or rated power	See copy of marking plate.	P
F.3.3.7	Equipment with multiple supply connections	Only one connection.	N/A
F.3.4	Voltage setting device	No voltage setting device.	N/A
F.3.5	Markings on terminals and operating devices	See below.	P
F.3.5.1	Mains appliance outlet and socket-outlet markings		N/A
F.3.5.2	Switch position identification marking		N/A
F.3.5.3	Replacement fuse identification and rating markings	See fuse surface	P
	Instructional safeguards for neutral fuse.....	No such fuse used	N/A
F.3.5.4	Replacement battery identification marking		N/A
F.3.5.5	Neutral conductor terminal	Not permanently connected equipment	N/A
F.3.5.6	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification	See below.	P
F.3.6.1	Class I equipment	Class II equipment	N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A
F.3.6.1.2	Protective bonding conductor terminals		N/A
F.3.6.2	Equipment class marking		P
F.3.6.3	Functional earthing terminal marking		N/A
F.3.7	Equipment IP rating marking	IP22	P
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking	See the following details.	P
F.3.10	Test for permanence of markings	The marking plate was subjected to the permanence of marking test. The marking plate was rubbed with cloth soaked with water for 15 s and then again for 15 s with the cloth soaked with petroleum spirit. After each test, there was no damage to the marking plate. The marking on the label did not fade. There was no curling of the marking plate and removed by hand.	P
F.4	Instructions		P

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Clause	Requirement + Test	Result - Remark	Verdict
	– Information prior to installation and initial use		P
	– Equipment for use in locations where children not likely to be present		N/A
	– Instructions for installation and interconnection		N/A
	– Equipment intended for use only in restricted access area		N/A
	– Equipment intended to be fastened in place		N/A
	– Instructions for audio equipment terminals		N/A
	– Protective earthing used as a safeguard		N/A
	– Protective conductor current exceeding ES2 limits		N/A
	– Graphic symbols used on equipment		P
	– Permanently connected equipment not provided with all-pole mains switch		N/A
	– Replaceable components or modules providing safeguard function		N/A
	– Equipment containing insulating liquid		N/A
	– Installation instructions for outdoor equipment		N/A
F.5	Instructional safeguards		P
G	COMPONENTS		P
G.1	Switches		N/A
G.1.1	General		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		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
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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		P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		P
G.3.5.1	Non-resettable devices suitably rated and marking provided		P
G.3.5.2	Single faults conditions :	(See appended table B.4)	P
G.4	Connectors		P
G.4.1	Spacings		N/A
G.4.2	Mains connector configuration :		P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	Wound components		P
G.5.1	Wire insulation in wound components		P
G.5.1.2	Protection against mechanical stress		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	General	The transformer meets the requirements given in G.5.3.2 and G.5.3.3.	P
	Compliance method..... :		P
G.5.3.2	Insulation		P
	Protection from displacement of windings :	The windings of transformer are printed on PCB	—
G.5.3.3	Transformer overload tests	(See appended table B.3, B.4)	P
G.5.3.3.1	Test conditions	Tested in the complete equipment	P
	Position :	T1	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Method of protection	Electronic circuits protection	N/A
G.5.3.3.2	Winding temperatures	(See appended table B.3, B.4)	P
G.5.3.3.3	Winding temperatures - alternative test method		N/A
G.5.3.4	Transformers using FIW		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		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	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test	(See appended table 5.4.9)	—
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test	(See appended table 5.4.9)	N/A
G.5.4.5.3	Alternative method		N/A
	Electric strength test	(See appended table 5.4.9)	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
	Electric strength test	(See appended table 5.4.9)	N/A
G.5.4.6.3	Alternative method		N/A
	Electric strength test	(See appended table 5.4.9)	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		P
G.6.2	Enamelled winding wire insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements		N/A
	Type.....		—
G.7.2	Cross sectional area (mm ² or AWG)		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N).....		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm).....		N/A
G.7.3.2.4	Strain relief and cord anchorage material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, <i>D</i> (mm)		—
	Radius of curvature after test (mm).....		—
G.7.6	Supply wiring space		N/A
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	VDE approved VDR.	P
G.8.2	Safeguards against fire		P
G.8.2.1	General		P
G.8.2.2	Varistor overload test		N/A
G.8.2.3	Temporary overvoltage test		N/A
G.9	Integrated circuit (IC) current limiters		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.9.1	Requirements		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
	Changes of resistance (%).....		N/A
	Measured current with the lowest resistance value :		N/A
G.10.4	Voltage surge test		N/A
	Changes of resistance (%).....		N/A
G.10.5	Impulse test		N/A
	Changes of resistance (%).....		N/A
G.10.6	Overload test		N/A
	Changes of resistance (%).....		N/A
G.11	Capacitors and RC units		P
G.11.1	General requirements	(see appended table 4.1.2)	P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		P
G.12	Optocouplers		N/A
	Optocouplers comply with IEC 60747-5-5 with specifics	(see appended table 4.1.2)	N/A
	Type test voltage $V_{ini,a}$		—
	Routine test voltage, $V_{ini,b}$		—
G.13	Printed boards		P
G.13.1	General requirements	See the following details.	P
G.13.2	Uncoated printed boards	The insulation between conductors on the outer surfaces of an uncoated printed board or over the outer surface of coated printed boards complied with the minimum clearance and creepage requirements of 5.4.2 and 5.4.3.	P
G.13.3	Coated printed boards		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.13.4	Insulation between conductors on the same inner surface		N/A
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation..... :		N/A
	Number of insulation layers (pcs) :		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements :	(See Clause G.13)	N/A
G.15	Pressurized liquid filled components		N/A
G.15.1	Requirements		N/A
G.15.2	Test methods and compliance criteria for self-contained LFC		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.15.2.7	Compliance criteria		N/A
G.15.3	Compliance		N/A
G.15.3.2	Hydrostatic pressure test, applied test pressure :		N/A
G.15.3.3	Creep resistance test		N/A
G.15.3.4	Tubing and fittings compatibility test, the change of tensile strength (%)..... :		N/A
G.15.3.5	Thermal cycle test, test temperature (°C)..... :		N/A
G.15.3.6	Force test		N/A
G.15.3.7	Compliance criteria		N/A
G.15.3.2	Hydrostatic pressure test, applied test pressure :		N/A
G.15.3.3	Creep resistance test		N/A
G.15.3.4	Tubing and fittings compatibility test, the change of tensile strength (%)..... :		N/A
G.15.3.5	Thermal cycle test, test temperature (°C)..... :		N/A
G.15.3.6	Force test		N/A
G.15.3.7	Compliance criteria		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.16	IC including capacitor discharge function (ICX)		N/A
G.16.1	Condition for fault tested is not required		N/A
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately		N/A
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..... :		—
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	Ringling signal		N/A
H.3.1.1	Frequency (Hz) :		—
H.3.1.2	Voltage (V) :		—
H.3.1.3	Cadence; time (s) and voltage (V) :		—
H.3.1.4	Single fault current (mA): :		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage		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		N/A
J.1	General		N/A
	Winding wire insulation :		—
	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

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Clause	Requirement + Test	Result - Remark	Verdict
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.7	Interlock circuit isolation		N/A
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	(See appended table 5.4.9)	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	Mains plug is considered as the disconnect device	P
L.2	Permanently connected equipment		N/A
	Instructions for permanently connected equipment		N/A
L.3	Parts that remain energized	When mains plug is disconnected no hazardous voltage in the equipment.	N/A
L.4	Single-phase equipment		P
	Instructions for single pole disconnect device	The mains plug disconnects both poles simultaneously.	P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		P
	Instructions for pluggable equipment		P
L.8	Multiple power sources		N/A
	Instructional safeguard		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.2	Safety of batteries and their cells		N/A
M.2.1	Batteries and their cells comply with relevant IEC standards		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
M.3.3	Compliance	(See appended table M.3)	N/A
M.4	Additional safeguards for equipment containing a portable secondary lithium battery		N/A
M.4.1	General		N/A
	IEC 62133-2 batteries used for sub-system power powering application		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Requirements		N/A
M.4.2.2	Test		N/A
M.4.2.2.1	General		N/A
M.4.2.2.2	Abnormal operating conditions		N/A
M.4.2.2.3	Single fault conditions		N/A
M.4.2.3	Compliance criteria	(See appended table M.4.2)	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

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Clause	Requirement + Test	Result - Remark	Verdict
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
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) :	1.00 mm	—

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Clause	Requirement + Test	Result - Remark	Verdict
P	SAFEGUARDS AGAINST CONDUCTIVE OBJECTS		P
P.1	General		P
P.2	Safeguards against entry or consequences of entry of a foreign object		P
P.2.1	General		P
	Location and Dimensions (mm) :		—
P.2.2	Safeguards against entry of a foreign object		P
	The ES3 and PS3 keep-out volume in Figure P.4 not applicable to transportable equipment	No openings	—
	Transportable equipment with metalized plastic parts..... :		N/A
P.2.3	Safeguards against the consequences of entry of a foreign object		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
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	Metallized coatings and adhesives securing parts		N/A
P.4.1	General		N/A
P.4.2	Tests		N/A
	Conditioning, T _c (°C) :		—
	Duration (weeks) :		—
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources		P
Q.1.1	Requirements		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output	(See appended table Q.1)	P
	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 :	(See appended table Q.1)	P
	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..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
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..... :	UL approved material used.	—
	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)		—
	- Material did not show any additional holes for combustible materials		—
	- Cheesecloth did not ignite for top openings		—
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		—
	Wall thickness (mm)		—
	Cheesecloth did not ignite		—
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)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Conditioning (°C)		—
S.6	Grille covering material, cloth, and reticulated foam		N/A
	Samples, material		—
	Measured distance from the centre of the fuel tablet (mm)		—
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		N/A
T.5	Steady force test, 250 N	(See appended table T.5)	P
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	No glass used.	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)	No such antennas provided within the equipment.	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	No access with test probes to any hazardous parts	P
V.1.2	Surfaces and openings tested with jointed test probes		P
V.1.3	Openings tested with straight unjointed test probes		N/A
V.1.4	Plugs, jacks, connectors tested with blunt probe		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		N/A
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		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	(See Annex P.4)	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
	Relevant tests of IEC 60529 or Y.5.5.2 or Y.5.5.3 . :		N/A
Y.5.5.2	IP5X equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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..... :	(See Table T.6)	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⁾	
264Vac, 60Hz	All internal primary components and circuits	Normal	264Vrms	--	SS	60 Hz	ES3 (Declared)
		Abnormal	--	--	--	--	
		Single fault - SC/OC	--	--	--	--	
264Vac, 60Hz	Output (GTM86100-1005-W2E)	Normal	5.1Vdc	--	SS	DC	ES1
		Single fault - R12 SC	0	--	SS	DC	
		Single fault - R9 SC	0	--	SS	DC	
264Vac, 60Hz	USB output (GTM86100-1005.2-W2A-USB)	Normal	5.1Vdc	--	SS	DC	ES1
		Single fault - R16 SC	0	--	SS	DC	
		Single fault - C8 SC	0	--	SS	DC	
264Vac, 60Hz	USB-C output (GTM86100-1005-W2E-USB2C)	Normal	5.1Vdc	--	SS	DC	ES1
		Single fault- R13 SC	0	--	SS	DC	
		Single fault- C9 SC	0	--	SS	DC	
264Vac, 60Hz	USB-C output (GTM86100-1005.2-W2-USB2C)	Normal	5.25Vdc	--	SS	DC	ES1
		Single fault- R13 SC	0	--	SS	DC	
		Single fault- C9 SC	0	--	SS	DC	
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.							

5.4.1.8	TABLE: Working voltage measurement				P
Location		RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments
Model: GTM86100-1005-W2E-USB2C					
T1 Pin 2-6		182.4	338.8	60	--
T1 Pin 2-5		182.0	346.1	60	--

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Clause	Requirement + Test		Result - Remark	Verdict
T1 Pin 3-6	208.3	574.2	24.54k	--
T1 Pin 3-5	212.2	574.3	24.65k	Max.
T1 Pin 1-6	181.5	388.2	12.21k	--
T1 Pin 1-5	182.0	405.8	13.90k	--
T1 Pin 4-6	196.5	360.0	60	--
T1 Pin 4-5	197.4	376.9	60	--
CY1	189.6	347.7	60	--
Model: GTM86100-1005.2-W2A-USB				
T1 Pin 1-6	201.3	377.6	79.27	--
T1 Pin 1-7	202.9	400.4	2.699K	--
T1 Pin 2-6	212.3	528.7	6.563K	--
T1 Pin 2-7	227.8	544.4	16.86K	Max.
T1 Pin 4-6	195.5	355.4	60	--
T1 Pin 4-7	196.0	341.0	60	--
T1 Pin 5-6	190.6	364.1	60	--
T1 Pin 5-7	190.5	334.6	60	--
CY1	57.36	94.13	60	--
CY2	64.13	108.4	60	--
Model: GTM86100-1005-W2E				
T1 Pin 1-6	179.1	335.4	60	--
T1 Pin 1-7	178.5	333.3	60	--
T1 Pin 2-6	210.2	553.8	1.685K	Max.
T1 Pin 2-7	204.6	544.4	2.238K	--
T1 Pin 5-6	195.4	435.3	8.220K	--
T1 Pin 5-7	193.5	407.4	7.376K	--
T1 Pin 4-6	192.5	367.2	60	--
T1 Pin 4-7	193.5	352.3	60	--
CY1	70.67	140.7	60	--
CY2	69.79	139.4	60	--
Supplementary information:				
Test voltage: 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)	

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Clause	Requirement + Test	Result - Remark	Verdict
--	--	--	--
--	--	--	--
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)	
Plug holder	See appended table 4.1.2	3.2	125	1.2	
Supplementary information:					
T1 bobbin is phenolic material, no test required.					

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⁾ (Hz)	Required cl (mm)	cl (mm)	E.S. ²⁾ (V)	Required cr (mm)	cr (mm)
Model: GTM86100-1005-W2E-USB2C								
L to N before F1 (BI)	<340	240	60	2.22	3.5	--	2.4	3.5
Two poles of fuse (BI)	<340	240	60	2.22	3.5	--	2.4	3.5
CY1 primary to secondary trace (RI)	<340	240	60	4.44	9.8	--	4.8	9.8
Live parts to Enclosure parts (RI)	574.3	240	24.65k	4.44	Min. 9.1	--	4.8	Min. 9.1
T1 primary to secondary on PCB (RI)	574.3	240	24.65k	4.44	10.28	--	4.8	10.28
T1 primary winding to secondary pins (RI)	574.3	240	24.65k	4.44	Min. 9.0	--	4.8	Min. 9.0
T1 core to secondary pins (RI)	574.3	240	24.65k	4.44	Min. 9.0	--	4.8	Min. 9.0
Model: GTM86100-1005-W2E								
L to N before F1 (BI)	<340	240	60	2.22	Min. 4.0	--	2.4	Min. 4.0
Two poles of fuse (BI)	<340	240	60	2.22	Min. 3.0	--	2.4	Min. 3.0
CY1 primary to secondary trace (BI)	<340	240	60	2.22	4.93	--	2.4	4.93
CY2 primary to secondary trace (SI)	<340	240	60	2.22	4.85	--	2.4	4.85
Live parts to Enclosure parts (RI)	553.8	240	8.220K	4.44	Min. 9.3	--	4.8	Min. 9.3

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Clause	Requirement + Test				Result - Remark			Verdict

T1 primary to secondary on PCB (RI)	553.8	240	8.220K	4.44	8.33	--	4.8	8.33
T1 primary winding to secondary pins (RI)	553.8	240	8.220K	4.44	Min. 9.1	--	4.8	Min. 9.1
T1 core to secondary pins (RI)	553.8	240	8.220K	4.44	Min. 9.0	--	4.8	Min. 9.0
Model: GTM86100-1005.2-W2A-USB								
L to N before F1 (BI)	<340	240	60	2.22	Min. 4.0	--	2.4	Min. 4.0
Two poles of fuse (BI)	<340	240	60	2.22	Min. 3.0	--	2.4	Min. 3.0
CY1 primary to secondary trace (BI)	<340	240	60	2.22	4.93	--	2.4	4.93
CY2 primary to secondary trace (SI)	<340	240	60	2.22	4.85	--	2.4	4.85
Live parts to Enclosure parts (RI)	544.4	240	16.86K	4.44	Min. 9.2	--	4.8	Min. 9.2
T1 primary to secondary on PCB (RI)	544.4	240	16.86K	4.44	10.81	--	4.8	10.81
T1 primary winding to secondary pins (RI)	544.4	240	16.86K	4.44	Min. 9.0	--	4.8	Min. 9.0
T1 core to secondary pins (RI)	544.4	240	16.86K	4.44	Min. 9.0	--	4.8	Min. 9.0
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. 4) Core of transformer T1 considered as primary part. 5) If no specified, the worst condition was considered. 6) Required value was multiplied by the factor 1.48 due to the maximum specified altitude of 5000m 7) BI: basic insulation; SI: supplementary insulation; RI: reinforced insulation.								

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)	
Model: GTM86100-1005-W2E-USB2C					
T1 transformer bobbin	574.3	RI	0.4	Min. 0.7	
Insulating tapes in transformer T1	574.3	RI	2 layers	Min. 2 layers	
Model: GTM86100-1005-W2E					
T1 transformer bobbin	553.8	RI	0.4	Min. 0.7	
Insulating tapes in transformer T1	553.8	RI	2 layers	Min. 2 layers	
Model: GTM86100-1005.2-W2A-USB					

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Clause	Requirement + Test		Result - Remark	Verdict
T1 transformer bobbin	544.4	RI	0.4	Min. 0.7
Insulating tapes in transformer T1	544.4	RI	2 layers	Min. 2 layers
Supplementary information:				
BI: basic insulation; SI: supplementary insulation; RI: reinforced insulation.				

5.4.4.9	TABLE: Solid insulation at frequencies >30 kHz						N/A
Insulation material	E_P	Frequency (kHz)	K_R	Thickness d (mm)	Insulation	V_{PW} (Vpk)	
Supplementary information:							
As an alternative method, the electric strength test according to 5.4.9.1 was applied, see appended table 5.4.9.							

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
GTM86100-1005-W2E-USB2C, GTM86100-1005-W2E, GTM86100-1005.2-W2A-USB, GTM86100-1005.2-W2-USB2C				
Basic / supplementary:				
L to N before F1 (with F1 opened)		DC	2500	No
Reinforced:				
Primary circuit to body		DC	4000	No
Primary circuit to secondary circuit		DC	4000	No
Primary winding to secondary winding of T1		DC	4000	No
Primary winding to core		DC	4000	No
Insulation tape around transformer per layer		DC	4000	No
Insulation sheet		DC	4000	No
Primary and secondary of CY1 capacitor		DC	4000	No
Supplementary information:				

5.5.2.2	TABLE: Stored discharge on capacitors					N/A
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class	

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:					
X-capacitors installed for testing:					
☐ bleeding resistor rating:					
☐ ICX:					
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				N/A
Location		Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
--		--	--	--	--
Supplementary information:					

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)	
Model: GTM86100-1005-W2E-USB2C						
L/N to plastic enclosure	Normal	264 Vac	--	0.002mA	60	ES1
	Single fault- R13 SC	264 Vac	--	0.002mA	60	
	Single fault- C9 SC	264 Vac	--	0.002mA	60	
L/N to Output port	Normal	264 Vac	--	0.002mA	60	ES1
	Single fault- R13 SC	264 Vac	--	0.002mA	60	
	Single fault- C9 SC	264 Vac	--	0.002mA	60	
Model: GTM86100-1005-W2E						
L/N to plastic enclosure	Normal	264 Vac	--	0.003mA	60	ES1
	Single fault – R12 SC	264 Vac	--	0.003mA	60	
	Single fault – R9 SC	264 Vac	--	0.003mA	60	
L/N to Output port	Normal	264 Vac	--	0.002mA	60	ES1
	Single fault – R12 SC	264 Vac	--	0.002mA	60	

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Clause	Requirement + Test			Result - Remark		Verdict
	Single fault - R9 SC	264 Vac	--	0.002mA	60	
Model: GTM86100-1005.2-W2A-USB						
L/N to plastic enclosure	Normal	264 Vac	--	0.003mA	60	ES1
	Single fault - R16 SC	264 Vac	--	0.003mA	60	
	Single fault - C8 SC	264 Vac	--	0.003mA	60	
L/N to Output port	Normal	264 Vac	--	0.002mA	60	ES1
	Single fault - R16 SC	264 Vac	--	0.002mA	60	
	Single fault - C8 SC	264 Vac	--	0.002mA	60	
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						

5.7.5	TABLE: Earthed accessible conductive part			N/A
Supply voltage (V)	--			—
Phase(s)	[] Single Phase; [] Three Phase: [] Delta [] Wye			
Power Distribution System	[] TN []TT [] IT			
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment	
--	--	--	--	
--	--	--	--	
Supplementary Information:				

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:						
Abbreviation: SC= short circuit, OC= open circuit						

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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 primary circuits and components	--	--	--	--	--	PS3 (Declared)
Output port (GTM86100-1005-W2E)	Overload	4.98	2.41	12.04	3	PS1
	Single fault - R12 SC	0	0	0	3	
	Single fault - R9 SC	0	0	0	3	
Output port (GTM86100-1005-W2E-USB2C)	Overload	4.76	2.67	12.72	3	PS1
	Single fault- R13 SC	0	0	0	3	
	Single fault- C9 SC	0	0	0	3	
Output port (GTM86100-1005.2-W2-USB2C)	Overload	5.11	2.63	13.45	3	PS1
	Single fault- R13 SC	0	0	0	3	
	Single fault- C9 SC	0	0	0	3	
Output port (GTM86100-1005.2-W2A-USB)	Overload	5.02	2.42	12.18	3	PS1
	Single fault - R16 SC	0	0	0	3	
	Single fault - C8 SC	0	0	0	3	
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						
1) 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
All internal circuits/ components		--	--	--	Yes (Declaration)
Supplementary information:					
An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15.					

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.3.2	TABLE: Determination of resistive PIS				P
Location		Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No	
All internal circuits/ components		--	--	Yes (Declaration)	
Output ports		--	--	No	
Supplementary information:					
Abbreviation: SC= short circuit; OC= open circuit					

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)..... :		90 Vac, 60 Hz	264 Vac, 50 Hz	—
Ambient temperature during test T_{amb} (°C) :		See below	See below	—
Maximum measured temperature T of part/at:		T (°C)		Allowed T_{max} (°C)
Model: GTM86100-1005-W2E (Load 5.0V dc, 2.0A)				
PCB near Rectifier Bridge (BD1)		87.8	64.6	130
Choke (LF1) Coil		99.1	68.4	110
Capacitor (C1) body near Transform		84.3	66.3	105
Capacitor (C2) body near Transform		91.5	79.8	105
Transformer (T1) Primary Winding		91.2	86.2	110
Transformer (T1) Secondary Winding		92.1	91.4	110
Transformer (T1) Core		92.0	86.5	--
CY1 body near Transformer		80.7	76.3	125
CY2 body near Transformer		69.0	67.3	125
Capacitor (C7) body		80.1	79.3	105
Capacitor (C8) body		67.2	66.4	105
Plastic enclosure inside near T1		61.9	59.5	--
Ambient		40.0	40.0	--
Touch temperature limits:				
Plastic enclosure outside near T1		46.1	44.2	77*
Plug holder		49.7	38.9	77*
Output cord		44.2	43.1	77*
Ambient		25.0	25.0	--
Model: GTM86100-1005-W2E-USB2C (Load 5.0V dc, 2.0A)				
PCB near Rectifier Bridge (BD1)		73.2	62.2	130
Fuse (F1) body		60.6	56.9	--
Capacitor (C1) body near Transform		38.6	38.2	105
Capacitor (C2) body near Transform		75.3	69.3	105
MOV1 body		67.7	60.7	--
Transformer (T1) Primary Winding		80.0	74.8	110
Transformer (T1) Secondary Winding		83.2	80.9	110
Transformer (T1) Core		82.9	84.4	--

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Clause	Requirement + Test	Result - Remark	Verdict
CY1 body near Transformer	60.6	56.9	--
Capacitor (C8) body	74.9	73.3	105
Capacitor (C9) body	73.2	79.0	105
Plastic enclosure inside near T1	76.1	66.7	--
Ambient	40.0	40.0	--
Touch temperature limits:			
Plastic enclosure outside near T1	49.7	47.9	77*
Plug holder	29.3	28.6	77*
Ambient	25.0	25.0	--
Model: GTM86100-1005.2-W2-USB2C (Load 5.2V dc, 1.92A)			
PCB near Rectifier Bridge (BD1)	73.8	62.5	130
Fuse (F1) body	61.2	57.3	--
Capacitor (C1) body near Transform	39.4	39.3	105
Capacitor (C2) body near Transform	76.2	69.5	105
MOV1 body	67.9	60.9	--
Transformer (T1) Primary Winding	80.5	74.4	110
Transformer (T1) Secondary Winding	83.4	80.3	110
Transformer (T1) Core	82.6	84.5	--
CY1 body near Transformer	60.3	56.7	--
Capacitor (C8) body	74.6	73.1	105
Capacitor (C9) body	73.0	78.8	105
Plastic enclosure inside near T1	76.3	66.8	--
Ambient	40.0	40.0	--
Touch temperature limits:			
Plastic enclosure outside near T1	49.5	47.7	77*
Plug holder	29.5	28.8	77*
Ambient	25.0	25.0	--
Model: GTM86100-1005.2-W2A-USB (Load 5.2V dc, 1.92A)			
PCB near Rectifier Bridge (BD1)	91.3	80.5	130
Choke (LF1) Coil	87.2	78.0	110
Capacitor (C2) body near Transform	89.3	81.4	105
PCB near Q1	103.0	94.6	130
Transformer (T1) Primary Winding	105.2	102.4	110
Transformer (T1) Secondary Winding	103.8	99.7	110
Transformer (T1) Core	98.9	94.3	--

IEC 62368-1								
Clause		Requirement + Test				Result - Remark		Verdict
CY1 body near Transformer		85.0				81.0		125
CY2 body near Transformer		81.0				78.5		125
Capacitor (C7) body		76.9				75.8		105
Capacitor (C8) body		97.9				92.8		105
Plastic enclosure inside near T1		70.9				68.8		--
Ambient		40.0				40.0		--
Touch temperature limits:								
Plastic enclosure outside near T1		52.7				50.4		77*
Plug holder		49.3				42.9		77*
Ambient		25.0				25.0		--
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:								
*: 1s<t<10s of plastic and rubber.								

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: GTM86100-1005-W2E								
90	50	0.244	--	13.5	--	F1	0.244	Max normal load. Load 5.0V dc, 2.0A
90	60	0.244	--	13.5	--	F1	0.244	
100	50	0.220	0.3	13.5	--	F1	0.220	
100	60	0.222	0.3	13.4	--	F1	0.222	
240	50	0.122	0.3	13.8	--	F1	0.122	
240	60	0.120	0.3	13.5	--	F1	0.120	
264	50	0.116	--	13.6	--	F1	0.116	
264	60	0.114	--	14.0	--	F1	0.114	
Model: GTM86100-1005.2-W2E								
90	50	0.243	--	13.6	--	F1	0.243	Max normal load. Load 5.2V dc, 1.92A
90	60	0.246	--	13.6	--	F1	0.246	
100	50	0.219	0.3	13.4	--	F1	0.219	
100	60	0.225	0.3	13.4	--	F1	0.225	
240	50	0.123	0.3	13.6	--	F1	0.123	
240	60	0.122	0.3	13.5	--	F1	0.122	
264	50	0.114	--	14.0	--	F1	0.114	
264	60	0.116	--	13.7	--	F1	0.116	

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Clause	Requirement + Test	Result - Remark	Verdict

Model: GTM86100-1005-W2E-USB2C								
90	50	0.232	--	12.5	--	F1	0.232	Max normal load. Load 5.0V dc, 2.0A
90	60	0.237	--	12.5	--	F1	0.237	
100	50	0.212	0.3	12.4	--	F1	0.212	
100	60	0.218	0.3	12.4	--	F1	0.218	
240	50	0.117	0.3	12.4	--	F1	0.117	
240	60	0.116	0.3	12.5	--	F1	0.116	
264	50	0.110	--	12.5	--	F1	0.110	
264	60	0.111	--	12.5	--	F1	0.111	
Model: GTM86100-1005.2-W2-USB2C								
90	50	0.233	--	12.4	--	F1	0.233	Max normal load. Load 5.2V dc, 1.92A
90	60	0.236	--	12.4	--	F1	0.236	
100	50	0.213	0.3	12.4	--	F1	0.213	
100	60	0.217	0.3	12.4	--	F1	0.217	
240	50	0.121	0.3	12.4	--	F1	0.121	
240	60	0.118	0.3	12.4	--	F1	0.118	
264	50	0.112	--	12.5	--	F1	0.112	
264	60	0.110	--	12.5	--	F1	0.110	
Model: GTM86100-1005.2-W2A-USB								
90	50	0.243	--	13.6	--	F1	0.243	Max normal load. Load 5.2V dc, 1.92A
90	60	0.246	--	13.6	--	F1	0.246	
100	50	0.219	0.3	13.4	--	F1	0.219	
100	60	0.225	0.3	13.4	--	F1	0.225	
240	50	0.123	0.3	13.6	--	F1	0.123	
240	60	0.122	0.3	13.5	--	F1	0.122	
264	50	0.114	--	14.0	--	F1	0.114	
264	60	0.116	--	13.7	--	F1	0.116	
Supplementary information:								
Equipment may be have rated current or rated power or both. Both should be measured.								

B.2.5, E.3.1	TABLE: Input test for equipment containing audio amplifiers				N/A
Operation Condition:	Signal type	Frequency (Hz)	Output loads (Ω)	Load setup	
—	—	—	—	—	
—	—	—	—	—	

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

Input									Amplifier Output			
Cond.	U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Ch.	U (V)	P (W)	Load (Ω)
Supplementary information:												

B.3, B.4		TABLE: Abnormal operating and fault condition tests					P
Ambient temperature T _{amb} (°C)..... :					25 °C, if not specified		—
Power source for EUT: Manufacturer, model/type, outputrating .. :					--		—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
Model: GTM86100-1005-W2E							
Output port	Overload	264	2h	F1	--	Normal work, no damage, no hazard, Max. output current: 2.4A. Plastic enclosure outside near T1: 49.6°C Ambient: 25.0°C	
C1	SC	264	10min	F1	0	Not work, F1 open, no damage, no hazard.	
C2	SC	264	10min	F1	0	Not work, F1 open, no damage, no hazard.	
R6	SC	264	2h	F1	--	Unit work normally no hazard	
R3	SC	264	2h	F1	--	Unit shut down, recoverable, no damage, no hazards.	
D1	SC	264	2h	F1	--	Unit work normally no hazard	
R8	SC	264	10min	F1	0	Not work, F1 open, no damage, no hazard.	
R9	SC	264	2h	F1	--	Unit shut down, recoverable, no damage, no hazards.	
R12	SC	264	2h	F1	--	Unit shut down, recoverable, no damage, no hazards.	
T1 pin 6 – pin 7	SC	264	2h	F1	--	Unit shut down, recoverable, no damage, no hazards.	
Model: GTM86100-1005-W2E-USB2C							
Output port	Overload	264	2h	F1	--	Normal work, no damage, no hazard, Max. output current: 2.67A. T1 winding: 78.0°C	

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Clause	Requirement + Test				Result - Remark	
						Plastic enclosure outside near T1: 53.9°C Ambient: 24.0°C
C1	SC	264	10min	F1	0	Not work, F1 open, no damage, no hazard.
C2	SC	264	10min	F1	0	Not work, F1 open, no damage, no hazard.
R1	SC	264	2h	F1	--	Normal work, no damage, no hazard. Plastic enclosure outside near T1: 49.1°C Ambient: 25.8°C
R6	SC	264	2h	F1	0	Unit shut down, no damage, no hazards.
D1	SC	264	2h	F1	--	Unit shut down, recoverable, no damage, no hazards.
R12	SC	264	2h	F1	--	Normal work, no damage, no hazard. Plastic enclosure outside near T1: 48.8°C Ambient: 25.6°C
R9	SC	264	2h	F1	--	Normal work, no damage, no hazard. Plastic enclosure outside near T1: 48.2°C Ambient: 25.3°C
C9	SC	264	10min	F1	--	Unit shut down, recoverable, no damage, no hazards.
R13	SC	264	2h	F1	--	Unit shut down, recoverable, no damage, no hazards.
T1 pin 5 – pin 6	SC	264	2h	F1	--	Unit shut down, recoverable, no damage, no hazards.
Model: GTM86100-1005.2-W2A-USB						
C2	SC	264	10min	F1	0	Not work, F1 open, no damage, no hazard.
R6	SC	264	2h	F1	--	Unit work normally no hazard
R3	SC	264	2h	F1	--	Unit shut down, recoverable, no damage, no hazards.
D5	SC	264	2h	F1	--	Unit work normally no hazard
D6	SC	264	2h	F1	--	Unit shut down, recoverable, no damage, no hazards.
R4	SC	264	10min	F1	0	Not work, F1 open, no damage, no hazard.

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	
R11	SC	264	2h	F1	--	Unit shut down, recoverable, no damage, no hazards.
R13	SC	264	2h	F1	--	Unit work normally no hazard
T1 pin1-2	SC	264	10min	F1	0	Not work, F1 open, no damage, no hazard.
T1 pin6-7	SC	264	2h	F1	--	Unit shut down, recoverable, no damage, no hazards.
R16	SC	264	2h	F1	--	Unit shut down, recoverable, no damage, no hazards.
D8	SC	264	2h	F1	--	Unit shut down, recoverable, no damage, no hazards.
C9	SC	264	2h	F1	--	Unit work normally no hazard
Output	Overload	264	2h	F1	--	Normal work, no damage, no hazard, Max. output current: 2.4A. Plastic enclosure outside near T1: 50.9°C Ambient: 25.0°C
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit; OL= overload						
1. After the completion of fault condition test. Pass article 5.4.9 electrical strength test.						

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.							

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

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						

Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)						P
Output Circuit	Condition	U _{oc} (V)	Time (s)	I _{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
Model: GTM86100-1005-W2E-USB2C							
Output port	Overload	5.1	5	2.67	8	12.72	100
	Single fault- R13 SC	0	5	0	8	0	100
	Single fault- C9 SC	0	5	0	8	0	100
Model: GTM86100-1005.2-W2-USB2C							
Output port	Overload	5.25	5	2.63	8	13.45	100
	Single fault- R13 SC	0	5	0	8	0	100
	Single fault- C9 SC	0	5	0	8	0	100
Model: GTM86100-1005-W2E							
Output port	Overload	5.1	5	2.41	8	12.18	100
	Single fault - R12 SC	0	5	0	8	0	100
	Single fault - R9 SC	0	5	0	8	0	100
Model: GTM86100-1005.2-W2A-USB							
Output port	Overload	5.1	5	2.42	8	12.04	100
	Single fault - R16 SC	0	5	0	8	0	100
	Single fault - C8 SC	0	5	0	8	0	100
Supplementary Information:							

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

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	
Internal component (T.2)	--	--	--	10	5	The clearance and creepage distances do not be reduced below the required values.	
Enclosure	Plastic	Min. 1.5	A circular plane surface 30 mm in diameter	250	5	All other safeguards shall remain effective.	
Supplementary information:							

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	Plastic	Min. 1.5	1000	All other safeguards shall remain effective.			
Supplementary information:							

T.8		TABLE: Stress relief test					P
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation		
Enclosure	Plastic	Min. 1.5	86.3	7	No risk of shrinkage or distortion. All safeguards remained effective.		
Supplementary information:							

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

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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 (all parts)	SABIC JAPAN L L C	N1250 (f1)	PPE+PS, V-0, 105°C, Min. thickness 1.5mm	IEC 62368-1 UL 94 UL 746C	Tested with appliance UL E207780	
(Alternative)	Covestro Deutschland AG [PC Resins].	FR6005 + (z)	PC, V-0, 105°C, Min. thickness 1.5mm	UL 94 UL 746C	UL E41613	
(Alternative)	Dongguan Honour E P Ltd.	H2218	PC, V-0, 115°C. min. thickness: 1.5mm	UL 94 UL 746C	UL E341783	
(Alternative)	LG Chem (Guangzhou) Engineering Plastics Co Ltd	LUPOY EF-1006F(m)(f1), LUPOY EF-1006F(m)(f2)	PC, V-0, 115°C. min. thickness: 1.5mm	UL 94 UL 746C	UL E248280	
(Alternative)	SABIC JAPAN L L C	925(GG), 945(GG)	PC, V-0, 115°C. min. thickness 1.5mm	UL 94 UL 746C	UL E207780	
(Alternative)	SABIC INNOVATIVE PLASTICS B V	915R(GG), 945(GG)	PC, V-0, 115°C. min. thickness 1.5mm	UL 94 UL 746C	UL E45329	
PCB	Chian You Co., Ltd	02V0-1, 03V0, 12V0	V-0, 130°C	UL 94 UL 746C	UL E112804	
(Alternative)	WALEX ELECTRONIC (WU XI) CO LTD	T2, T2A, T2B, T4	V-0, 130°C	UL 94 UL 746C	UL E154355	
(Alternative)	DONGGUAN HE TONG ELECTRONICS CO LTD	CEM1, 2V0 FR4	V-0, 130°C	UL 94 UL 746C	UL E243157	
(Alternative)	Dafeng Arex Electronics Technology Co Ltd	02V0 ,04V0, 03V0	V-0, 130°C	UL 94 UL 746C	UL E186016	
(Alternative)	DONG GUAN CITY XINXIONG ELECTRONICS CO LTD	XX-2	V-0, 130°C	UL 94 UL 746C	UL E302227	
(Alternative)	Wing Shing Electronics Co.,Ltd.	YS-1B, YS-2A, YS-2C	V-0, 130°C	UL 94 UL 746C	UL E190407	
(Alternative)	Interchangeable	Interchangeable	V-1 or better, 130°C	UL 94 UL 746C	UL	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Resistor Fuse (RT1) (For model series. GT*86100-**-W2*-USB only)	Anhui Changsheng Electronics Co., Ltd	RXF21-2W	3.3ohm,2W	IEC/EN 62368-1	Tested with appliance VDE 40024768
(Alternative)	Shenzhen Great Electronics Co. Ltd.	RXF	3.3ohm,2W	IEC/EN 62368-1	Tested with appliance VDE 40026608
(Alternative)	Shenzhen Kayocota Electronics Co., Ltd	FRKNP	3.3ohm,2W	IEC/EN 62368-1	Tested with appliance VDE 40043957
Thermistor (RT1) (For model series. GT*86100-**-W2*-USBC/USB2C only)	Thinking Electronic Industrial Co,Ltd	SCK-2R55A, SCK-105, SCK-053, SCK-083	Min.1.0A,2.5ohm-10ohm, at 25°C,240Vac	EN 60730-1 EN 60539-1 UL 1434	TUV R50050155 UL E138827
(Alternative)	Nanjing Shiheng Electronics Co Ltd	MF72-5D9 MF2-8D9 MF2-10D9 MF2-3D9	Min.1.0A, 2.5-10Ω at 25°C, 240Vac	EN 60539-1 UL 1434	TUV R50245892 UL E241319
Fuse (F1)	XC ELECTRONICS (SHENZHEN) CORP LTD	4T	T1A or 2A or 3.15A, 250V	IEC/EN 62368-1 IEC/EN 60127-1 IEC/EN 60127-3 UL 248-1	Tested with appliance VDE 40029295 UL E249609
(Alternative)	DONGGUAN BETTER ELECTRONICS TECHNOLOGY CO LTD	334	T1A or 2A or 3.15A, 250V	IEC/EN 62368-1 IEC/EN 60127-1 IEC/EN 60127-3 UL 248-1	Tested with appliance VDE 40025428 UL E300003
(Alternative)	LITTELFUSE INC	392	T1A or 2A or 3.15A, 250V	IEC/EN 62368-1 IEC/EN 60127-1 IEC/EN 60127-3	Tested with appliance VDE 126983
(Alternative)	Cooper Bussmann LLC	SS-5	T1A or 2A or 3.15A, 250V	IEC/EN 60127-1 IEC/EN 60127-3 UL 248-1	VDE 40015513 UL E19180
(Alternative)	Suzhou Walter Electronic	2010 series	T1A or 2A or 3.15A, 250V	IEC/EN 62368-1 IEC 60127-1 IEC 60127-3 UL 248-1	Tested with appliance VDE 40018781 UL E220181

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Conquer Electronics Co., Ltd.	MST	T1A or 2A or 3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1	VDE 40017157 UL E82636
(Alternative)	Bel Fuse Ltd.	RST-Serie(s)	T1A or 2A or 3.15A, 250V	IEC/EN 62368-1 IEC 60127-1 IEC 60127-3 UL 248-1	Tested with appliance VDE 40011144 UL E20624
(Alternative)	Conquer Electronics co., Ltd	PTU	T1A or 2A or 3.15A, 250V	IEC/EN 62368-1 IEC 60127-1 IEC 60127-3 UL 248-1	Tested with appliance VDE 40001462 UL E82636
(Alternative)	Bel Fuse Ltd.	RSTA	T1A or 2A or 3.15A, 250V	IEC/EN 62368-1 IEC 60127-1 IEC 60127-3 UL 248-1	Tested with appliance VDE 40039089 UL E506667
(Alternative)	XC Electronics (Shen Zhen) Corp. Ltd.	5TE	T1A or 2A or 3.15A, 250V	IEC/EN 62368-1 IEC 60127-1 IEC 60127-3 UL 248-1	Tested with appliance VDE 40029550 UL E249609
(Alternative)	Xiamen SET Electronic Co., Ltd.	SPT478	T1A or 2A or 3.15A, 250V	IEC/EN 60127-1 IEC/EN 60127-3 UL 248-1 UL 248-14	VDE 40049409 UL E345932
Y capacitor (CY1, CY2) (Optional) for Model: GT*86100-**-W2*-USB & GT*86100-**-W2*	TDK-EPC Corporation, Capacitors Group Circuit Devices Business Group	CD	Max. 2200pF, min. 250Vac, Y1 type,	IEC/EN 60384-14 UL 60384-14	VDE 40029780 UL E37861
(Alternative)	Success Electronics Co., Ltd.	SE	Max. 2200pF, min. 250Vac, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE 40037211 UL E530176
(Alternative)	Success Electronics Co., Ltd.	SB	Max. 2200pF, min. 250Vac, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE 40037221 UL E530176
(Alternative)	Success Electronics Co., Ltd.	SF	Max. 2200pF, min. 250Vac, Y1 type,	IEC/EN 60384-14 UL 60384-14	VDE 40019457 UL E530176

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	DONGGUAN EASY-GATHER ELECTRONIC CO LTD	DCF	Max. 2200pF, min. 250Vac, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE 40022942 UL E252221
(Alternative)	Yinan Don's Electronic Component Co	CT81	Max. 2200pF, min. 250Vac, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE 135256 UL E145038
(Alternative)	South China Electronic Co., Ltd.	CY	Max. 2200pF, min. 250Vac, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE 40045823 UL E492769
(Alternative)	Dongguna city Jiankun Electronics Technology Co., Ltd.	JT series	Max.2200pF, Min. AC 250V, Y1 type.	IEC/EN 60384-14 UL 60384-14	VDE 40041534 UL E340699
(Alternative)	Guandong City Dafu Electronics Co., Ltd.	CT7 series	Max.2200pF, Min. AC 250V, Y1 type.	IEC/EN 60384-14 UL 60384-14	VDE 40041523 UL E465278
(Alternative)	Murata Mfg. Co., Ltd.	KX	Max. 2200pF, min. 250Vac, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE 40002831 UL E37921
(Alternative)	Success Electronics Co., Ltd.	SE	Max. 2200pF, min. 250Vac, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE 40037211 UL E114280
(Alternative)	Success Electronics Co., Ltd.	SB	Max. 2200pF, min. 250Vac, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE 40037221 UL E114280
(Alternative)	Success Electronics Co., Ltd.	SF	Max. 2200pF, min. 250Vac, Y1 type,	IEC/EN 60384-14 UL 60384-14	VDE40019457 UL E114280
(Alternative)	WELSON INDUSTRIAL CO LT D	WD	Max. 2200pF, min. 250Vac, Y1 type	IEC/EN 60384-14 UL 60384-14	VDE 40016157 UL E104572
(Alternative)	Jya-Nay Co Ltd	JN	Max. 2200pF, min. 250Vac, 25/125/21/C, Y1 type	IEC/EN 60384-14 UL 60384-14	TUV R 50232059 UL E201384
(Alternative)	WINDAY ELECTRONIC (DONG GUAN) CO., LTD	CD series	Max. 2200pF, min. 250Vac, 25/125/21/C, Y1 type	IEC/EN 60384-14 UL 60384-14	ENEC 40050259 UL E302125
Y capacitor (CY1) (Optional) for Model : GT*86100-**-W2*-USBC/USB2C	Guangdong Fenghua Advanced Technology Holding CO., LTD.	CT7	Max.680pF, Min.AC 250V, Y1 type.	IEC/EN 60384-14 UL 60384-14	CB Ref. Certif. No.: DE1-68244 UL E539139

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Xiamen Sino Faith Electronic Technology Co., Ltd.	HBV	Max.680pF, Min.AC 250V, Y1 type.	IEC/EN 60384-14 UL 60384-14	VDE 40046202 UL E328673
Varistor MOV1 (Optional) (For Model: GT*86100-**-W2*-USB C/USB2C & GT*86100-**-W2*)	Thinking Electronic Industrial Co Ltd	TVR14681 TVR10681 TVR14621 TVR10621	Min. 300Vac, min. 105°C, (tested by UL for min. 2.5KV /1.25KA combination pulse) Coating rated min. V-1.	IEC 61051-1 IEC 61051-2 UL1449	VDE 40021243 UL E314979
(Alternative)	GUANGDONG JORDUN ELECTRONIC CO., LTD.	VCRR10D621 K#	Max. Continuous voltage: 385Vac(rms), Min. 125°C, The coating is Min. V-0	IEC 61051-1 IEC 61051-2 UL1449	TUV-SUD B 119967 0002 UL E531647
(Alternative)	DONGGAUN JIAYI ELECTRONIC TECHNOLOGY CO., LTD.	JNR14D681K	Min. 300Vac, min. 105°C, (tested by UL for min. 2.5KV /1.25KA combination pulse) Coating rated min. V-1.	IEC 61051-1 IEC 61051-2 UL1449	TUV B 049342 0018 UL E517636
(Alternative)	Hongzhi Enterprises Ltd.	HEL14D681 HEL10D681	Min. 300Vac, min. 105°C, (tested by UL for min. 2.5KV /1.25KA combination pulse) Coating rated min. V-1.	IEC 61051-1 IEC 61051-2	VDE 40037512
(Alternative)	Dong Guan City Jiankun Electronics Technology Co. Ltd	14D681K, 14D621K 10D621K	Min. 300Vac, min. 105°C, (tested by UL for min. 2.5KV /1.25KA combination pulse) Coating rated min. V-1.	IEC/EN 62368-1 IEC 61051-1 IEC 61051-2 UL1449	Tested with appliance VDE 40046024 UL E489693
(Alternative)	Fujian Ruisheng Electronic Technology Co., Ltd."	RUSN10D681 K RUSN14D681 K RUSN10D621 K	Min.300Vac, min. 125°C, (tested by UL for min. 2.5KV /1.25KA combination pulse) Coating rated min. V-1.	IEC 61051-1 IEC 61051-2 UL1449	TUV SUD No. B 126905 0001 UL E510022

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Dongguan City Dafu Electronics Co. Ltd.	10D621K 10D681K 14D621K 14D681K	Min.300Vac, min. 125°C, (tested by UL for min. 2.5KV /1.25KA combination pulse) Coating rated min. V-1	IEC/EN 62368-1 IEC 61051-1 IEC 61051-2	Tested with appliance VDE 40050909
(Alternative)	Success Electronics Co., Ltd.	SVR10D681K SVR10D621K	Min.300Vac, min. 125°C, (tested by UL for min. 2.5KV /1.25KA combination pulse) Coating rated min. V-1.	IEC 61051-1 IEC 61051-2 UL1449	VDE 40030401 UL E502378
-(Alternative)	Dongguan Jingtian Electronics Co Ltd.	JTEN10D621K	Min.300Vac, min. 85°C, (tested by UL for min. 2.5KV /1.25KA combination pulse) Coating rated min. V-1.	IEC 61051-1 IEC 61051-2 UL1449	TUV No. B 122604 0001 UL E536795
-(Alternative)	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd.	STE10D621K	Min.300Vac, min. 85°C, (tested by UL for min. 2.5KV /1.25KA combination pulse) Coating rated min. V-1.	IEC/EN 62368-1 IEC 61051-1 IEC 61051-2 UL1449	Tested with appliance VDE 40023049 UL E330837
Transformer (T1) for Model: GT*86100-**-W2*-USB only	GlobTek /OAM / HAOPUWEI	90E10PFX0-xxxx ("xxxx" to denote the part number, can be any alphanumeric character for marketing purposes only)	Class B	IEC 62368-1	Tested with appliance
Transformer (T1) for Model: GT*86100-**-W2* only	GlobTek / BOAM / HAOPUWEI	90E10PF02-xxxx ("xxxx" to denote the part number, can be any alphanumeric character for marketing purposes only)	Class B	IEC 62368-1	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Transformer (T1) for Model: GT*86100-**-W2*-USBC/USB2C only	GlobTek / BOAM / HAOPUWEI	90E102PFA-xxxx ("xxxx" to denote the part number, can be any alphanumeric character for marketing purposes only.)	Class B	IEC 62368-1	Tested with appliance
- Insulation system	DEE VAN ENTERPRISE CO LTD	YCI-130 CCP-130	Class B	UL 1446	UL E159480
(Alternative)	GlobTek	GTX-130-TM	Class B	UL1446	UL E243347
(Alternative)	Wuxi Haopuwei Electronics Co Ltd	ZT-130	Class B	UL1446	UL E315275
(Alternative)	Shan Dong Boam Electric Co Ltd	BOAM-01orB1	Class B	UL1446	UL E252329
-Bobbin	Resonac Techno Service Corporation	CP-J-8800 CP-J-NAF	V-0, 150°C, thickness 0.45 mm min.	UL 94	UL E514814
(Alternative)	SUMITOMO BAKELITE CO LTD	PM-9820 PM-9630 PM-9825 PM-9823	Phenolic, V-0, 150 °C, min. 0.45 mm thickness	UL 94	UL E41429
(Alternative)	CHANG CHUN PLASTICS CO LTD	T375HF, T373J, T200HF T200NA, T220NA	Phenolic, V-0, 150°C, min. 0.45 mm thickness	UL 94	UL E59481
- Magnet wire	Golden Ocean	UEW-X	130°C	UL 1446	UL E225143
(Alternative)	Da Yang	UEW	130°C	UL 1446	UL E176101
(Alternative)	Feng Ching	UEW	130°C	UL 1446	UL E172395
(Alternative)	TAI-I	UEW	130°C	UL 1446	UL E234896
(Alternative)	NINGBO JINTIAN NEW MATERIAL CO LTD	2UEW	155°C	UL 1446	UL E227047
(Alternative)	Interchangeable	Interchangeable	Min. 130°C, MW 28, MW 75, MW 79, MW 80, MW 82, MW 83	UL 1446	UL
-Triple-insulated wire (Secondary)	Furukawa Electric Co., Ltd.	TEX-E	Class B, reinforced insulation	UL 2353	VDE 006735 UL E206440

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Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	SUZHOU YUSHENG ELECTRONIC CO LTD	TIW-B, TWE-3	Class B, reinforced insulation	UL 2353	VDE 40033527 UL E332529
(Alternative)	Heyuan Koshen Insulator Co., Ltd.	TIW-*-**-*	Class B	IEC/EN 62368-1	VDE 40039102
(Alternative)	Huizhou Golden Ocean	XYW(B)	Class B	IEC/EN 62368-1	VDE 40017563
(Alternative)	Huizhou Huaying Electronic	MIW-B-*	Class B	IEC/EN 62368-1 UL 2353	VDE 40047994 UL E470559
-(Alternative)	Dah Jin Technology Co Ltd	TLW-B	Class B	IEC/EN 62368-1 UL 2353	VDE 40008834 UL E236542
-(Alternative)	COSMOLINK CO. Ltd.	TIW-M	Class B,	IEC/EN 62368-1 UL 2353	VDE 138053 UL E213764
-(Alternative)	YOUNG CHANG SILICONE CO LTD	STW-B	Class B,	IEC/EN 62368-1 UL 2353	VDE 40013359 UL E303298
-(Alternative)	Great Leoflon Industrial Co., Ltd.	TRW (B) Serie(s)	Class B,	IEC/EN 62368-1 UL 2353	VDE 136581 UL E211989
-(Alternative)	YOUNG CHANG SILICONE CO., LIMITED	STW-B	Class B,	IEC/EN 62368-1 UL 2353	VDE 40013359 UL E242198
-(Alternative)	KBI COSMOLINK CO., LTD.	TIW-M	Class B,	UL 1446	UL E258545
-(Alternative)	Heyuan Koshen Insulator Co Ltd	TIW-B	Class B,	UL 2353	UL E365580
-(Alternative)	HUIZHOU GOLDEN OCEAN MAGNET WIRE FACTORY	XYW-B	Class B,	UL 2353	UL E251775
-Insulating tape	SYMBIO INC	35660,35661, 35660Y(e)	Min. 130°C	UL 510	UL E50292
-(Alternative)	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F-1, 1350F-2	Min. 130°C	UL 510	UL E17385
-(Alternative)	BONDTEC PACIFIC CO LTD	370S	130°C	UL 510	UL E175868

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Clause	Requirement + Test		Result - Remark		Verdict
-(Alternative)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ, CT, WF	130°C	UL 510	UL E165111
-(Alternative)	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A	130°C	UL 510	UL E246950
-(Alternative)	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	130°C	UL 510	UL E246820
-PTFE tubing	GREAT HOLDING INDUSTRIAL CO LTD	TFT, TFS	300V, 200°C	UL 224	UL E156256
-(Alternative)	SHENZHEN WOER HEATSHRINKABLE MATERIAL CO LTD	WF	600V, 200°C	UL 224	UL E203950
-(Alternative)	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TT-T, CB-TT-S	300V, 200°C	UL 224	UL E180908
-(Alternative)	ZEUS	TFE-TW-300, TFE-SW-600	Min.300V, 200°C	UL 224	UL E64007
AU Plug	GlobTek, Inc.	--	--	AS/NZS 3112	Waltek test report: WTX23D102 15702Z
EU Plug	GlobTek, Inc.	--	Input: 100-240V~, 50/60Hz, 0.3A; Output: 5-5.2VDC, Max.2A Max 10W	EN 50075	Intertek test report: 180501603S HA-001
US Plug	GlobTek, Inc.	--	125V, 1-15P	NEMA 1-15	Intertek (171201810S HA-001)
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) License is available when requested.					

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Clause	Requirement + Test	Result - Remark	Verdict

Attachment 1: European group differences and national differences

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 62368-1-2024 + A11:2024		
TRF template used: IECEE OD-2020-F2:2022, Ed. 1.2		
Attachment Form No.: EU_GD_IEC62368_1F		
Attachment Originator: UL Solutions (Demko)		
Master Attachment: 2024-05-16		
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	CENELEC COMMON MODIFICATIONS (EN)	P
	Clause numbers in the cells that are shaded light grey are clause references in EN IEC 62368-1:2024+A11:2024. All other clause numbers in that column, except for those in the paragraph below, refers to IEC 62368-1:2023. Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2023 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

IEC 62368-1			
Clause	Requirement + Test		Verdict
1	MODIFICATION to the whole document		P
	Delete all the “country” notes in the reference document according to the following list:		P
	0.2.1	Note 1 and Note 2	1
	3.3.8.3	Note 1	4.1.15
	5.4.2.3.2.2	Note c	5.4.2.3.2.4
	5.4.2.5	Note 2	5.4.5.1
	5.4.10.2.2	Note	5.4.10.2.3
	5.5.2.1	Note	5.5.6
	5.6.8	Note 2	5.7.7.1
	10.2.1	Note 3 and Note 4 and Note 5	10.5.3
	F.3.3.4	Note 2	F.3.3.6
	Y.4.5	Note	
2	Modification to Clause 1		--
1	Add the following note at the end of Clause 1: “NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.” Add the following paragraph and note after Note 5: “This document is a type test standard. NOTE Z2 Routine tests of complete equipment, sub-assemblies or components are covered by EN 62911.”		P
3	Modification to Clause 2		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
2	Add the following references: <i>EN 71-1:2014+A1:2018, Safety of toys - Part 1: Mechanical and physical properties</i> <i>EN 50332-1:2013, Sound system equipment: Headphones and earphones associated with personal music players - Maximum sound pressure level measurement methodology - Part 1: General method for "one package equipment"</i> <i>EN 50332-2:2013, Sound system equipment: Headphones and earphones associated with personal music players - Maximum sound pressure level measurement methodology - Part 2: Matching of sets with headphones if either or both are offered separately, or are offered as one package equipment but with standardised connectors between the two allowing to combine components of different manufacturers or different design</i> <i>EN 50332-3:2017, Sound system equipment: headphones and earphones associated with personal music players - Maximum sound pressure level measurement methodology - Part 3: Measurement method for sound dose management</i> <i>IEC/TR 62471-2, Photobiological safety of lamps and lamp systems - Part 2: Guidance on manufacturing requirements relating to non-laser optical radiation safety</i>		N/A
4	Modification to Clause 4		P
4	Add the following new subclause 4.Z1 after subclause 4.9: "For compliance with B.3 and B.4 in circuits connected to an AC mains, protective devices shall be provided, subject to the following: - for pluggable equipment type A, the protective devices shall be included as parts of the equipment, with the exception of components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, for which the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet;		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- for pluggable equipment type B or permanently connected equipment, the protection may be the dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, for example a fuse or circuit breaker, is fully specified in the installation instructions. Where protective devices are required within the equipment, the protective devices within the equipment shall operate before or at the same time the expected building installation protection will operate. For earth faults in single-phase equipment, it is not necessary to provide 2 protective devices. It is expected that the building installation will protect against earth faults. This applies also in countries where an IT power distribution system is used."		
5	Modification to subclause 4.1.9		P
4.1.9	Add the following paragraph at the end of this subclause: "Products need to comply with the requirements of this document with appropriate measurement uncertainty. NOTE Z1 See also the RED ADCO position on 'Measurement uncertainty in published harmonized standards'."		P
6	Modification to subclause 5.4.9.1		P
5.4.9.1	Add the following note after the 5th paragraph: "NOTE Z1 For guidance on the use of high voltage source, see IEC 60060-1, Clause 8 of IEC 60243-1 and IEC 61180."		P
7	Modification to subclause 5.4.2.3.2.4		N/A
5.4.2.3.2.4	Add the following at the end of this subclause: "The requirement for interconnection with external circuit in a HBES/BACS network is in addition given in EN IEC 63044-3:2018."		N/A
8	Modification to subclause 5.6.6.2		N/A
5.6.6.2	Replace item d) with the following: "d) For equipment powered from a DC mains, if the protective current rating of the circuit under test exceeds 25 A, the test current shall be minimum as required in item a), unless the manufacturer specifies a higher value."		N/A
9	Modification to subclause 9.3.1		P

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Clause	Requirement + Test	Result - Remark	Verdict
9.3.1	Replace the second paragraph with the following: “An accessible part that, while in contact with the body, is likely to drop in temperature upon touch can be evaluated under the limits of Annex A of IEC Guide 117:2010 using the test method of 4.5 of IEC Guide 117.”		P
10	Modification to subclause 10.2.1		N/A
10.2.1	Add the following to ^{c)} and ^{d)} in Table 38: “For additional requirements, see 10.5.1.”		N/A
11	Modification to subclause 10.4.1		N/A
10.4.1	Replace the second paragraph of 10.4.1 with: “Electronic light effect equipment does not have to comply with the requirements of 10.4. However, 114 IEC/TR 62471-2 shall be considered and proper installation instructions shall be provided. Replace the ninth paragraph of 10.4.1 with: The following information shall be provided in the user manual for safe operation and installation. This information shall also be provided for safe operation by a skilled person who may be exposed to Risk Group 3 energy levels. Adequate instructions for proper assembly, installation, maintenance and safe use, including clear warnings concerning precautions to avoid possible exposure to hazardous optical radiation; and Advice on safe operating procedures and warnings concerning reasonably foreseeable misuse , malfunctions and hazardous failure modes. Where servicing and maintenance procedures are detailed, they shall include explicit instructions on safe procedures to be followed; and The marking on the equipment shall be reproduced in the user manual. A yellow background is not required in the user manual.		N/A
12	Modification to subclause 10.4.4		N/A
10.4.4	Replace the last paragraph of 10.4.4 with: “Compliance against material degradation from UV radiation is checked by the applicable tests of Annex C.”		N/A
13	Modification to subclause 10.5.1		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	Add the following after the first paragraph: “For RS1 compliance is checked by measurement under the following conditions: In addition to the normal operating conditions, all controls adjustable from the outside of the equipment 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 at a distance of 10 cm from the outer surface of the equipment. 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 2013/59/Euratom of 5 December 2013.”		N/A
14	Modification to subclause 10.5.3		N/A
10.5.3	Replace the second paragraph of 10.5.3 with: “The amount of radiation is determined by means of a radiation monitor of the ionizing chamber type with an effective area of 1 000 mm² ± 10 mm² or by measuring equipment of other types giving equivalent results.”		N/A
15	Modification to Clause 10		N/A
	Replace 10.6 with the following:		N/A
10.6	Safeguards against acoustic energy sources		N/A
10.6.1	General		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
10.6.1.1	Introduction Safeguard requirements for protection against long-term exposure to excessive sound pressure 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.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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 or general public sales channels 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 while in use; - hearing protection devices (HPD) that comply with EN 352-8 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 71-1:2014+A1:2018, 4.20 and the related tests methods and measurement distances apply.		

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 h) requirements. These clauses remain in effect only for devices that do not comply with sound dose estimation as stipulated in EN 50332-3:2017. 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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
10.6.2.2	RS1 limits (to be superseded, see 10.6.3.2) 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 50332-1:2013. for equipment provided with a standardized connector (for example, a 3,5 mm headphone/earphone 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 214 "programme simulation noise" described in EN 50332-1:2013. The RS1 limits will be updated for all devices as per 10.6.3.2.		N/A
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 detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 100 dB(A) when playing the fixed "programme simulation noise" as described in EN 50332-1:2013. 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 226 EN 50332-1:2013.		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 2009/490/EC 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 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 LAeq,T acoustic output shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1:2013. 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 50332-1:2013.		N/A
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 50332-3:2017, shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in 249 EN 50332-1:2013. 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 EN 50332-3:2017, shall be ≤ 15 mV (analogue interface) or -30 dBFS		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 50332-1:2013 or EN 50332-2:2013 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 to be 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 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 text - element 3: "Hearing damage risk" or equivalent text - element 4: "Do not listen at high volume levels for long periods." or equivalent text 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 level exceeding RS1 limits. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an output level exceeding RS1 limits. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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 281 EN 50332-3:2017, 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 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.		N/A
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 a level in compliance with class RS1 limits. The warning shall at least clearly indicate that listening above 100 % CSD leads to the risk of hearing damage or loss.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 50332-3:2017. The EL settling time (time from starting level reduction to reaching target output level) shall be 10 s or less. Test of EL functionality is conducted according to EN 50332-3:2017, 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 un-weighted 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. 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 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 maximizes the measured acoustic output level, the input voltage of the listening device when playing the fixed "programme simulation noise" as described in EN 50332-1:2013 shall be ≥ 75 mV. NOTE The values of 94 dB and 75 mV correspond with 85 dB and 27 mV in 10.6.2.2. or 100 dB and 150 mV in 10.6.2.3.		N/A
10.6.6.2	Corded listening devices with digital input With any playing device playing the fixed "programme simulation noise" described in EN 50332-1:2013, 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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 50332-1:2013; 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 50332-2:2013 as applicable."		N/A
16	Modification to subclause G.3.1.2		N/A
	Add the following note after the first paragraph: "NOTE Z1 An IEC 60730 series standard is considered relevant if the component in question falls within its scope."		N/A
17	Modification to subclause G.7.1		P
	Add the following note at the end of the subclause: "NOTE Z1 The harmonized code designations corresponding to the IEC cable types are given in Annex ZD."		P
18	Modification to subclause M.2		N/A
	Add the following paragraph after the first paragraph: "The size of the battery compartment shall be designed taking into account the battery compartment recommendations of the relevant battery standard. NOTE For general guidance on the design of the battery compartment, see Clause 8 of IEC 62485-4."		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
19	Modification to Bibliography		P
	Add the following notes for the standards indicated: IEC 60060-1 NOTE Harmonized as EN 60060-1. IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60204-1 NOTE Harmonized as EN IEC 60204-1. IEC 60204-11 NOTE Harmonized as EN IEC 60204-11. IEC 60243-1 NOTE Harmonized as EN 60243-1. 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 60664-5:2005 NOTE Harmonized as EN 60664-5:2007. IEC 60721-3-4 NOTE Harmonized as EN IEC 60721-3-4. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61180 NOTE Harmonized as EN 61180. 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 61643-21 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 IEC 61643-331. IEC 61140:2016 NOTE Harmonized as EN 61140:2016. IEC 61439-5:2014 NOTE Harmonized as EN 61439-5:2015. IEC 61969-3 NOTE Harmonized as EN 61969-3. IEC 62040:2017 NOTE Harmonized as EN IEC 62040:2019. IEC 62305-1 NOTE Harmonized as EN 62305-1. IEC 62368-3 NOTE Harmonized as EN 62368-3. IEC 62485-4 NOTE Harmonized as EN IEC 62485-4. ISO 10218-1 NOTE Harmonized as EN ISO 10218-1. ISO 10218-2 NOTE Harmonized as EN ISO 10218-2. ISO 13482 NOTE Harmonized as EN ISO 13482. ISO 13850 NOTE Harmonized as EN ISO 13850.		P
20	Addition of annexes		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		N/A
4.1.15	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 Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"		N/A
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.		P
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.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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 5.4.7 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, subclass Y2. A capacitor classified Y3 according to EN 60384-14, 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 5.4.10; -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 distribution system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
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.10.3.		N/A

IEC 62368-1			
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.		P
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. <i>Justification:</i> In France, according to NF C15-100 standard, in certain cases, the maximum rated current of the protective device circuit-breaker is 20 A.		N/A
5.6.5.1	Ireland and United Kingdom 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
5.7.7.1	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.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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. 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 RMS, 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 EN IEC 60204-1 and EN ISO 13850 is required where there is a risk of personal injury.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
B.3.1 and B.4	Ireland and United Kingdom The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met		N/A
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.		P
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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 mm ² 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
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. <i>Justification:</i> 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		N/A

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

ZD	IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS		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	

Attachment 2: Photos

Photo 1

Description: Overview (GTM86100-1005-W2E-USB2C)



Photo 2

Description: Overview (GTM86100-1005-W2E-USB2C)



Photo 3

Description: Overview (GTM86100-1005-W2E-USB2C)



Photo 4

Description: Internal view (GTM86100-1005-W2E-USB2C)

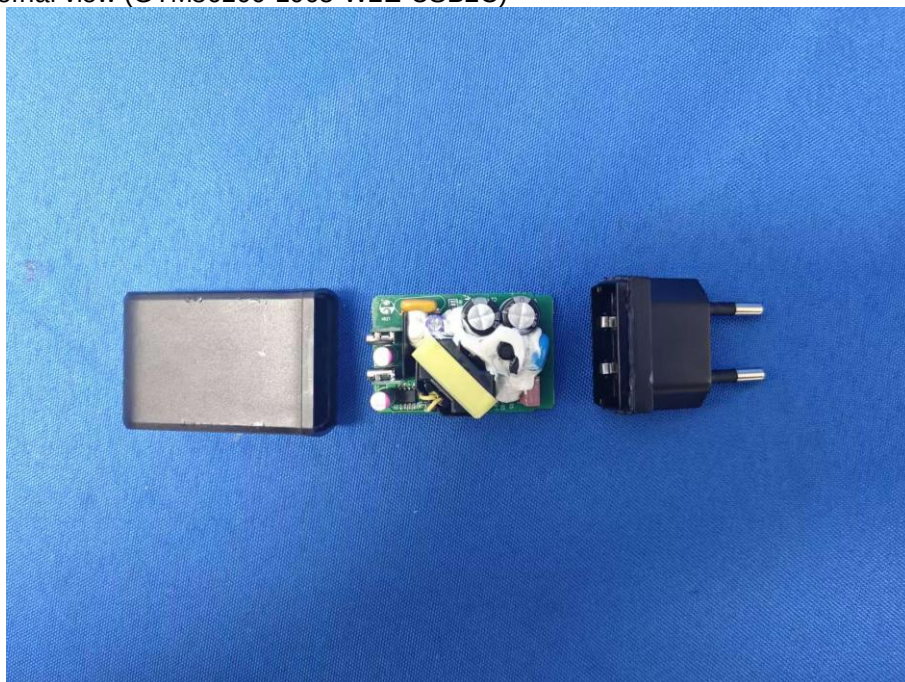


Photo 5

Description: PCB view (GTM86100-1005-W2E-USB2C)

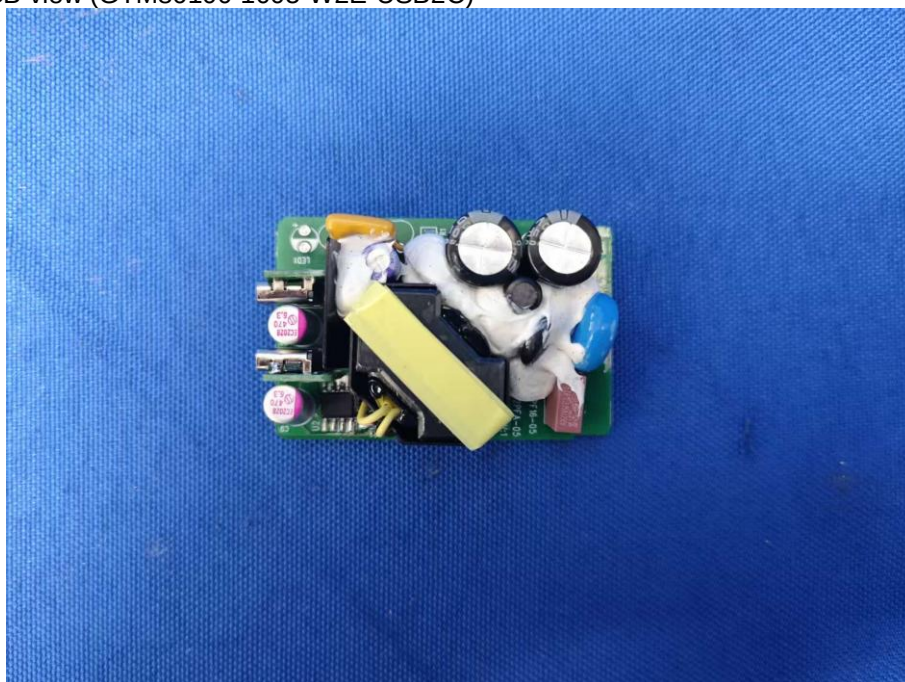


Photo 6

Description: PCB view (GTM86100-1005-W2E-USB2C)



Photo 7

Description: Transformer view (GTM86100-1005-W2E-USB2C)



Photo 8

Description: Transformer view (GTM86100-1005-W2E-USB2C)

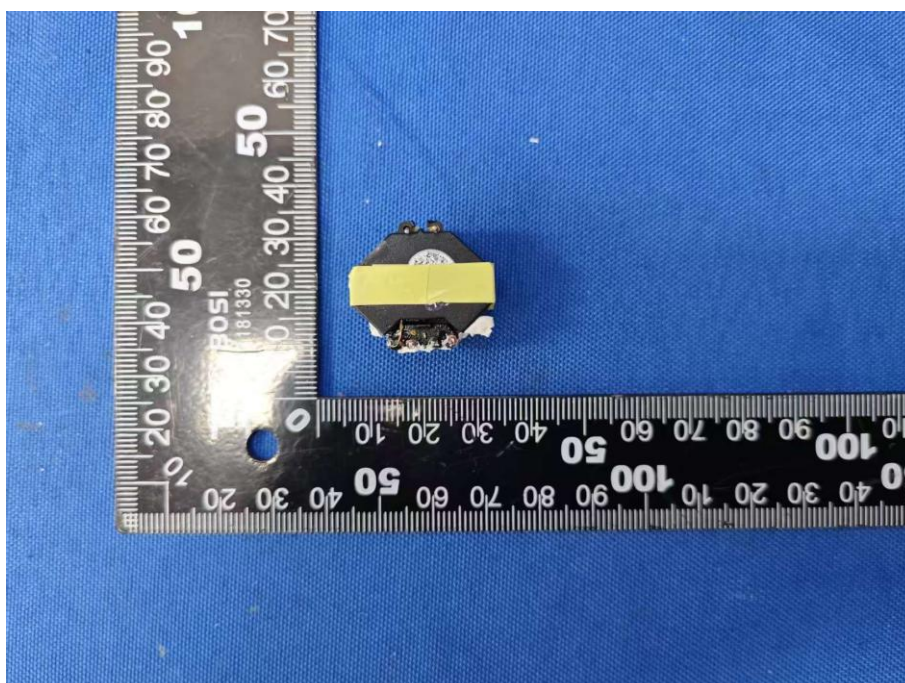


Photo 9

Description: Transformer view (GTM86100-1005-W2E-USB2C)



Photo 10

Description: Transformer view (GTM86100-1005-W2E-USB2C)



Photo 11

Description: Transformer view (GTM86100-1005-W2E-USB2C)



Photo 12

Description: Transformer view (GTM86100-1005-W2E-USB2C)



Photo 13

Description: Transformer view (GTM86100-1005-W2E-USB2C)



Photo 14

Description: Transformer view (GTM86100-1005-W2E-USB2C)



Photo 15

Description: Transformer view (GTM86100-1005-W2E-USB2C)



Photo 16

Description: Overview (GTM86100-1005-W2E)



Photo 17

Description: Overview (GTM86100-1005-W2E)



Photo 18

Description: Internal view (GTM86100-1005-W2E)

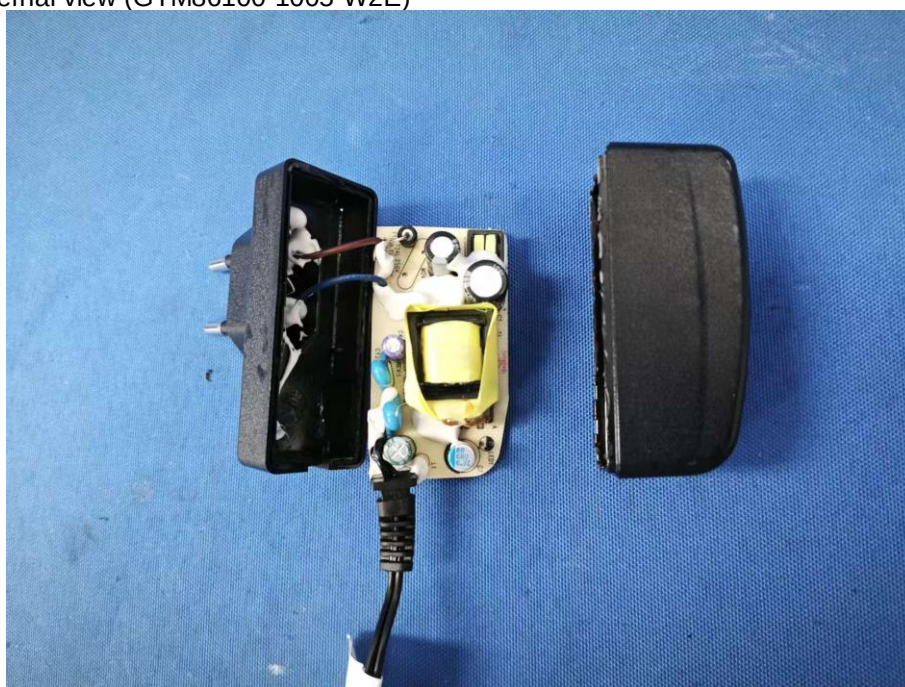


Photo 19

Description: PCB view (GTM86100-1005-W2E)

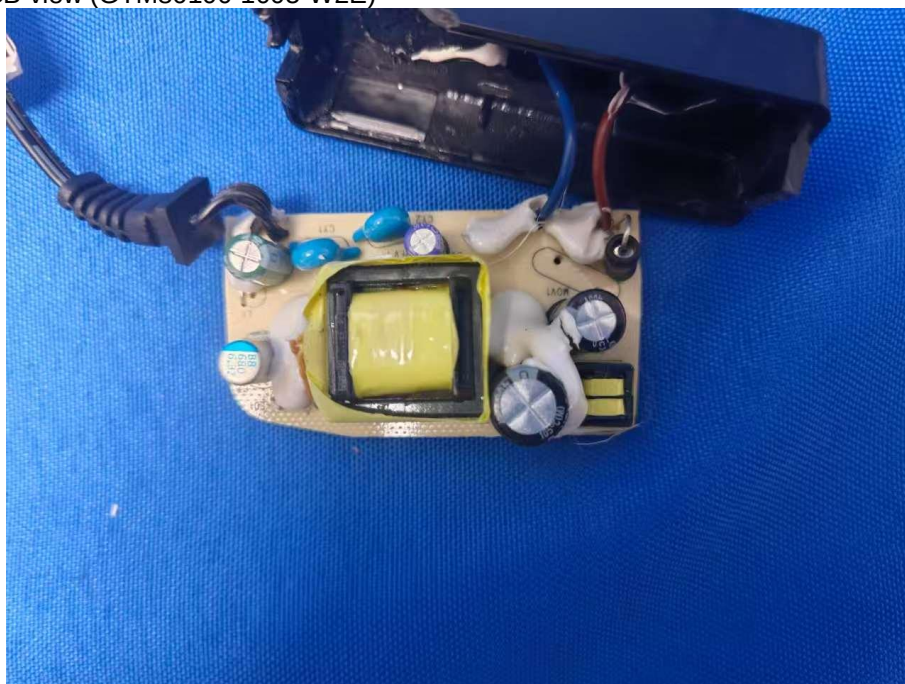


Photo 20

Description: PCB view (GTM86100-1005-W2E)



Photo 21

Description: Transformer view (GTM86100-1005-W2E)



Photo 22

Description: Transformer view (GTM86100-1005-W2E)

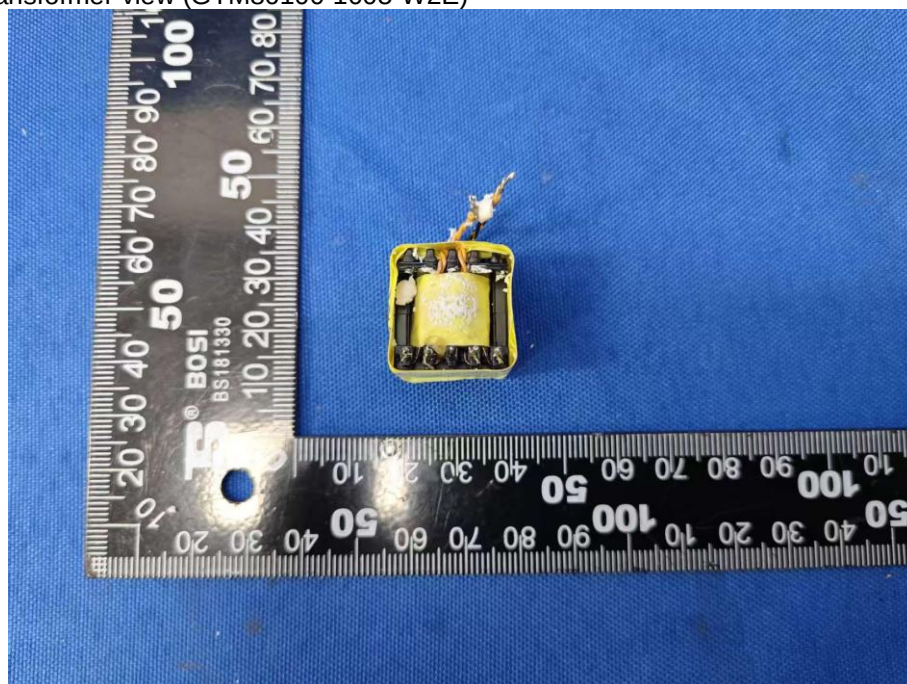


Photo 23

Description: Transformer view (GTM86100-1005-W2E)

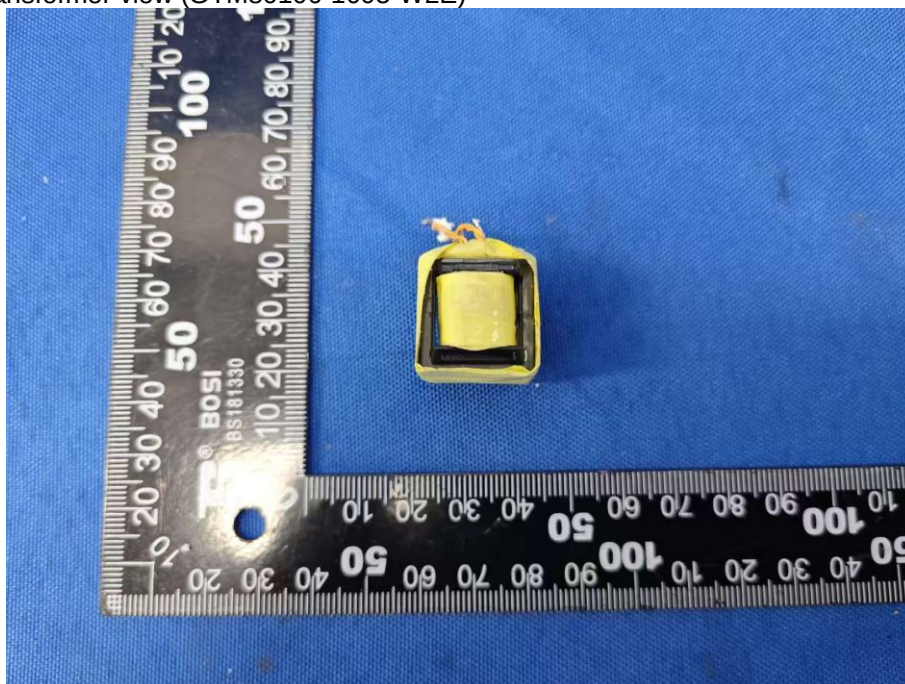


Photo 24

Description: Transformer view (GTM86100-1005-W2E)

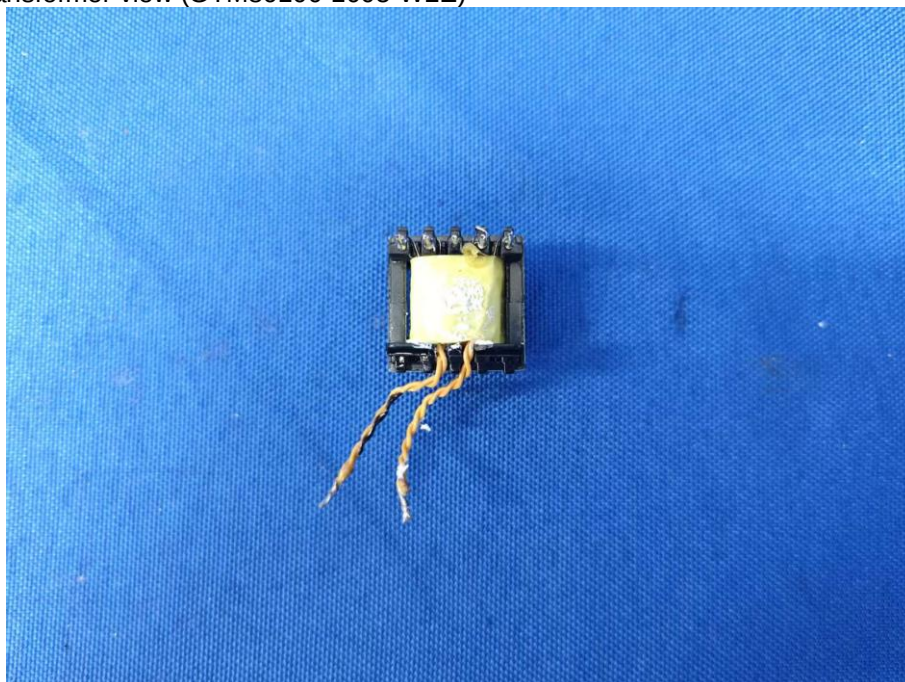


Photo 25

Description: Transformer view (GTM86100-1005-W2E)

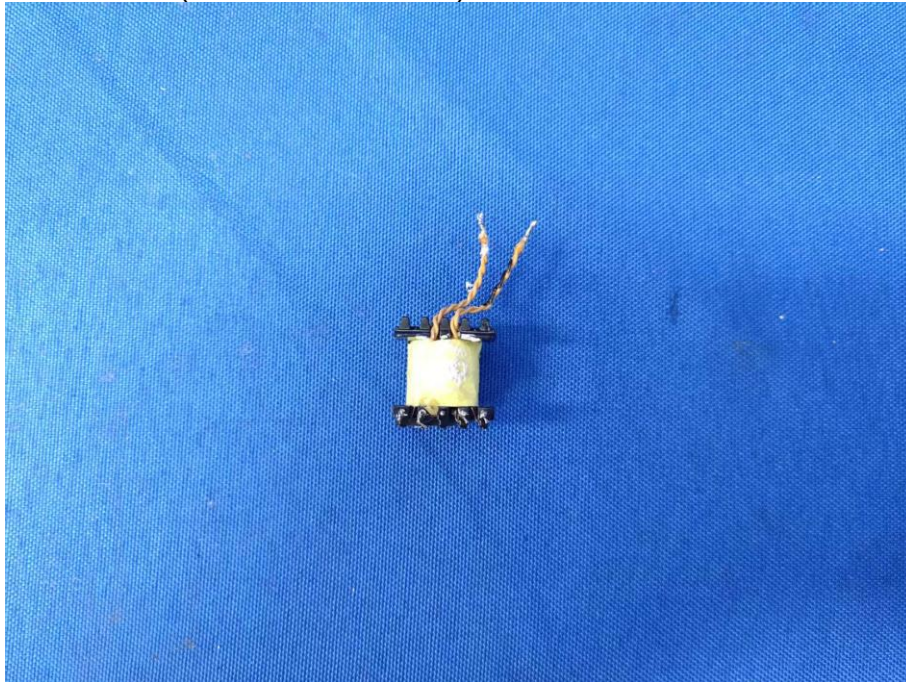


Photo 26

Description: Transformer view (GTM86100-1005-W2E)

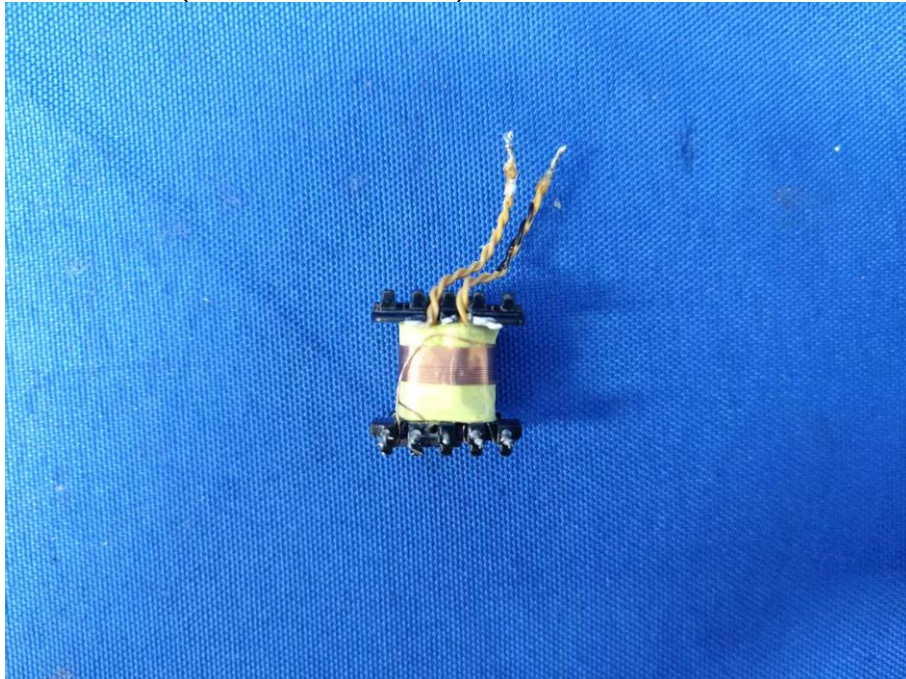


Photo 27

Description: Transformer view (GTM86100-1005-W2E)



Photo 28

Description: Transformer view (GTM86100-1005-W2E)

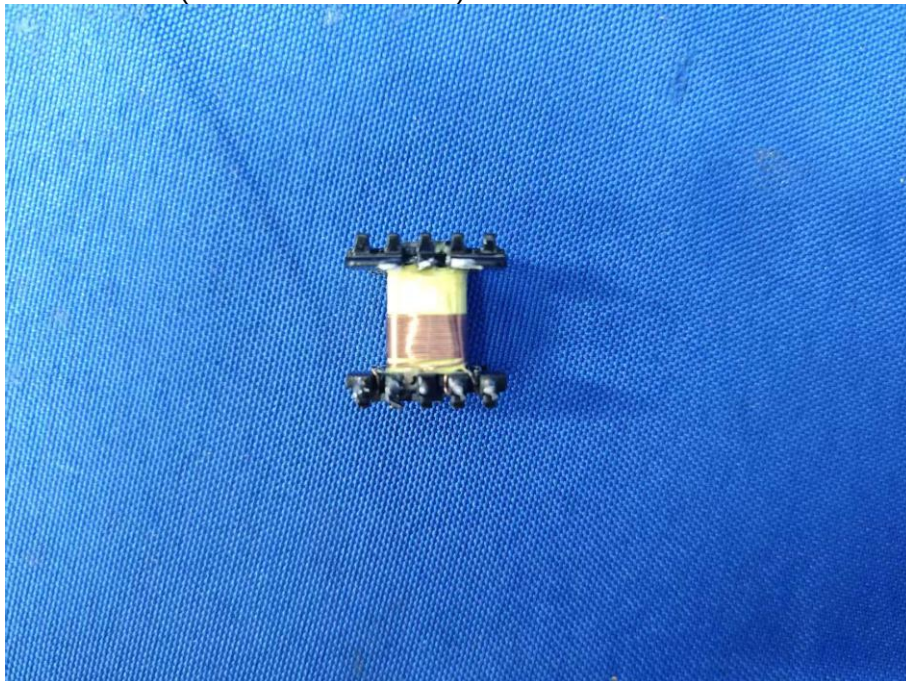


Photo 29

Description: Transformer view (GTM86100-1005-W2E)



Photo 30

Description: Transformer view (GTM86100-1005-W2E)



Photo 31

Description: Overview (GTM86100-1005.2-W2A-USB)



Photo 32

Description: Overview (GTM86100-1005.2-W2A-USB)



Photo 33

Description: Overview (GTM86100-1005.2-W2A-USB)



Photo 34

Description: Internal view (GTM86100-1005.2-W2A-USB)

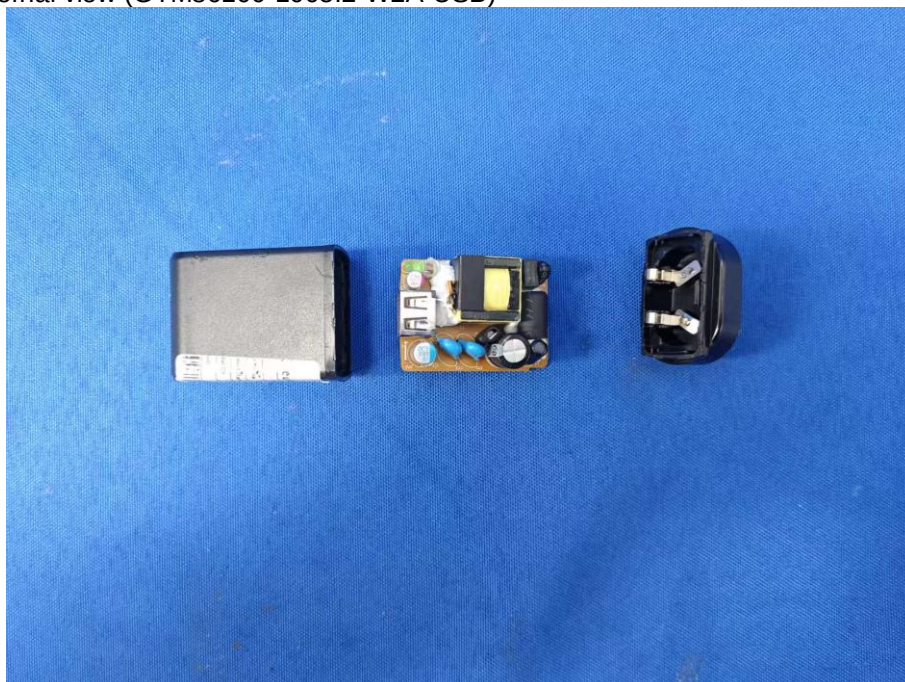


Photo 35

Description: PCB view (GTM86100-1005.2-W2A-USB)

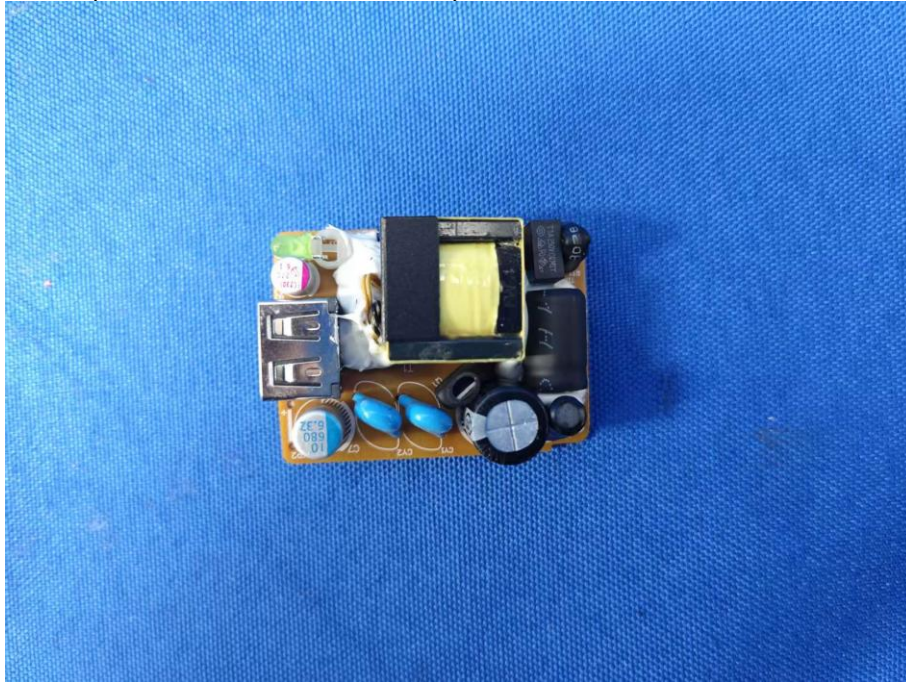


Photo 36

Description: PCB view (GTM86100-1005.2-W2A-USB)

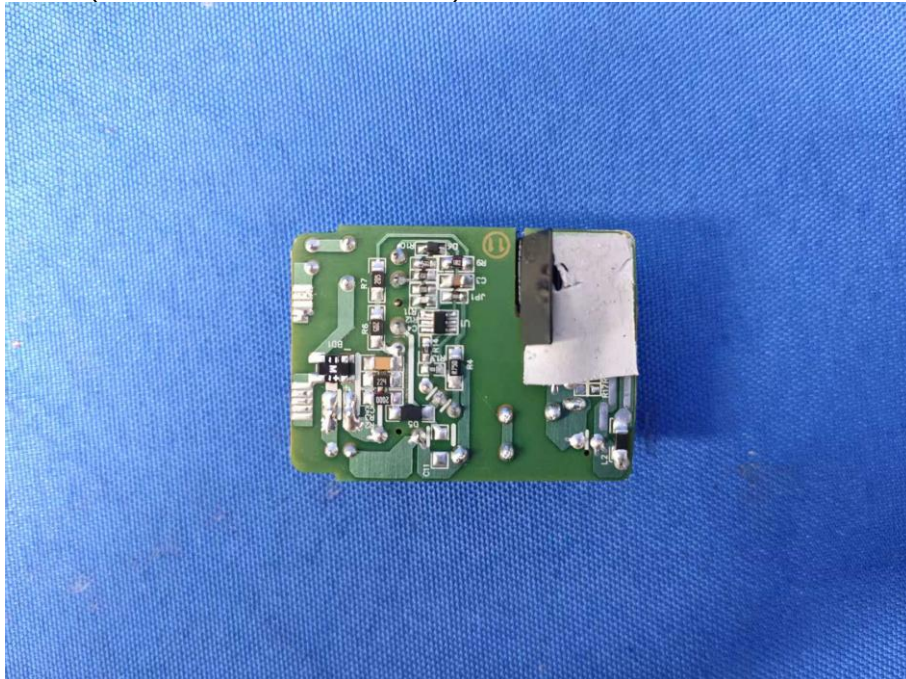


Photo 37

Description: Transformer view (GTM86100-1005.2-W2A-USB)



Photo 38

Description: Transformer view (GTM86100-1005.2-W2A-USB)

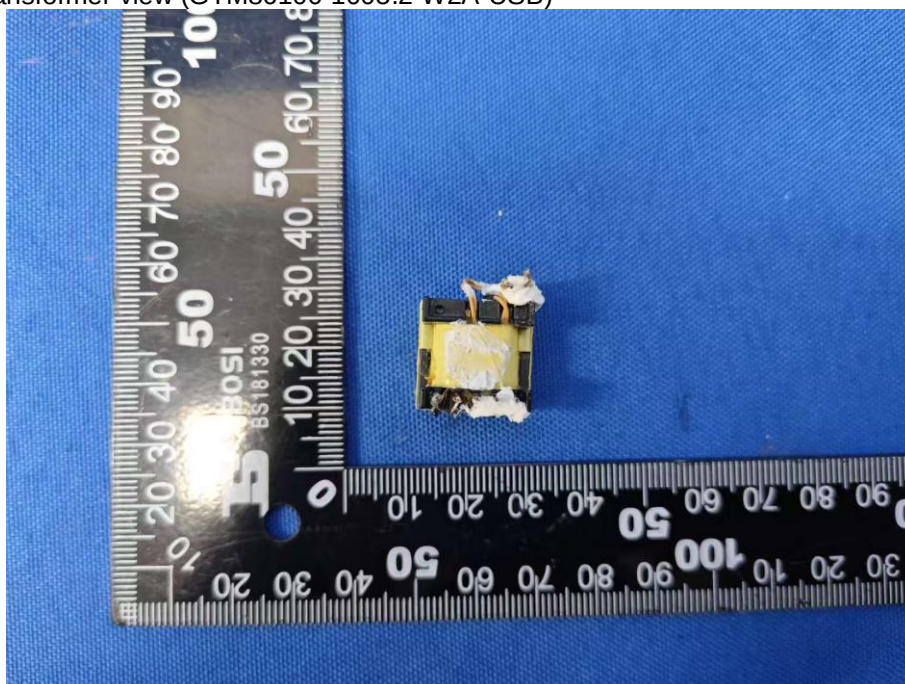


Photo 39

Description: Transformer view (GTM86100-1005.2-W2A-USB)

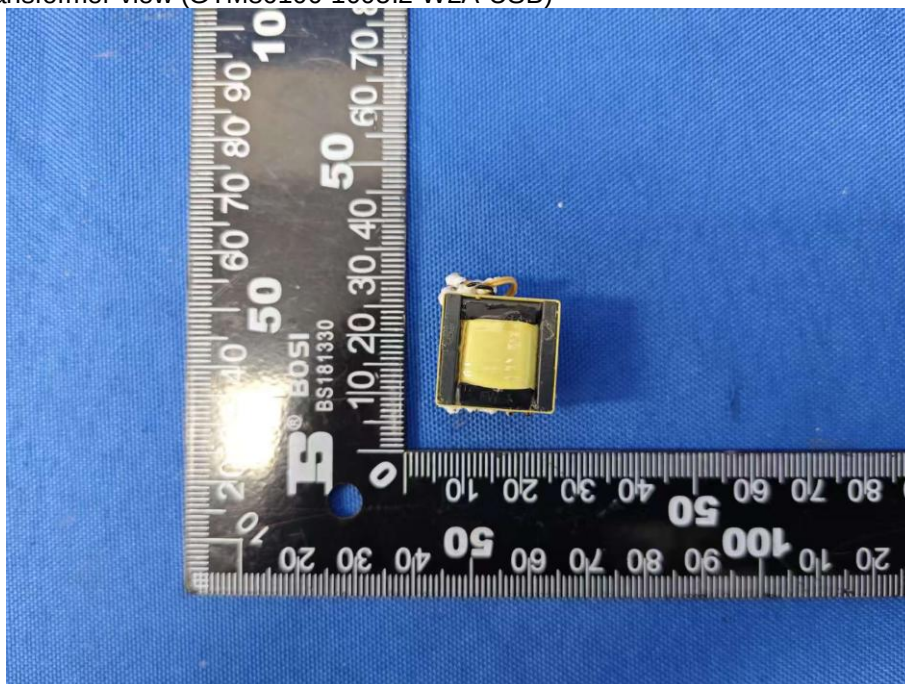


Photo 40

Description: Transformer view (GTM86100-1005.2-W2A-USB)



Photo 41

Description: Transformer view (GTM86100-1005.2-W2A-USB)



Photo 42

Description: Transformer view (GTM86100-1005.2-W2A-USB)

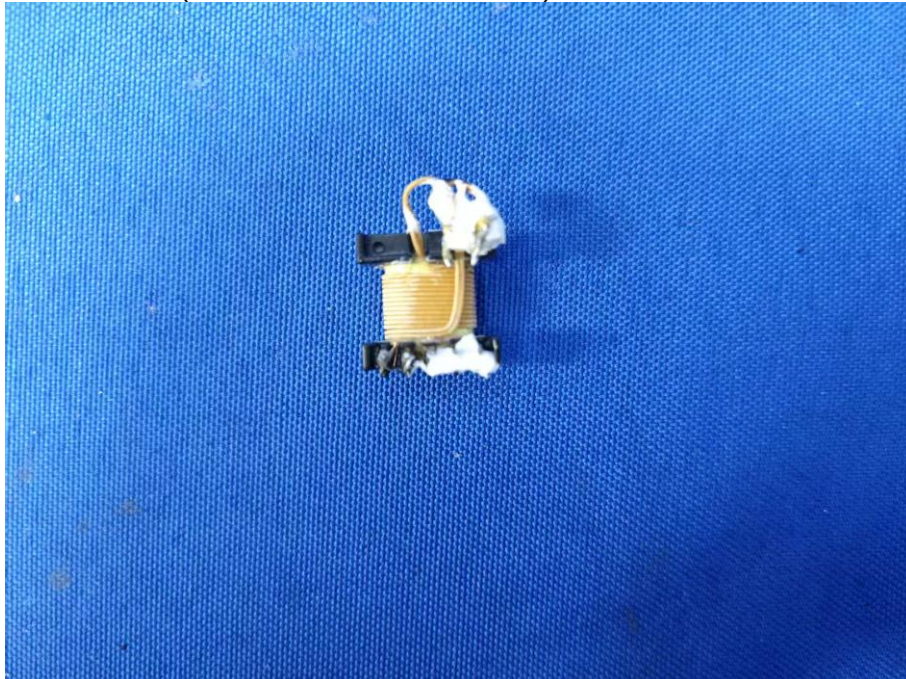


Photo 43

Description: Transformer view (GTM86100-1005.2-W2A-USB)



Photo 44

Description: Transformer view (GTM86100-1005.2-W2A-USB)

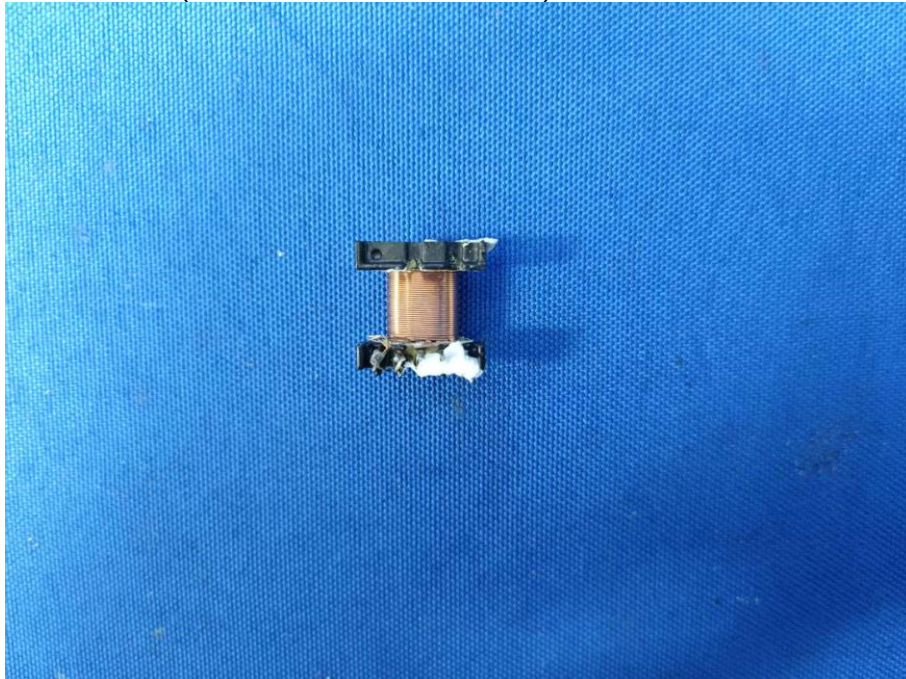
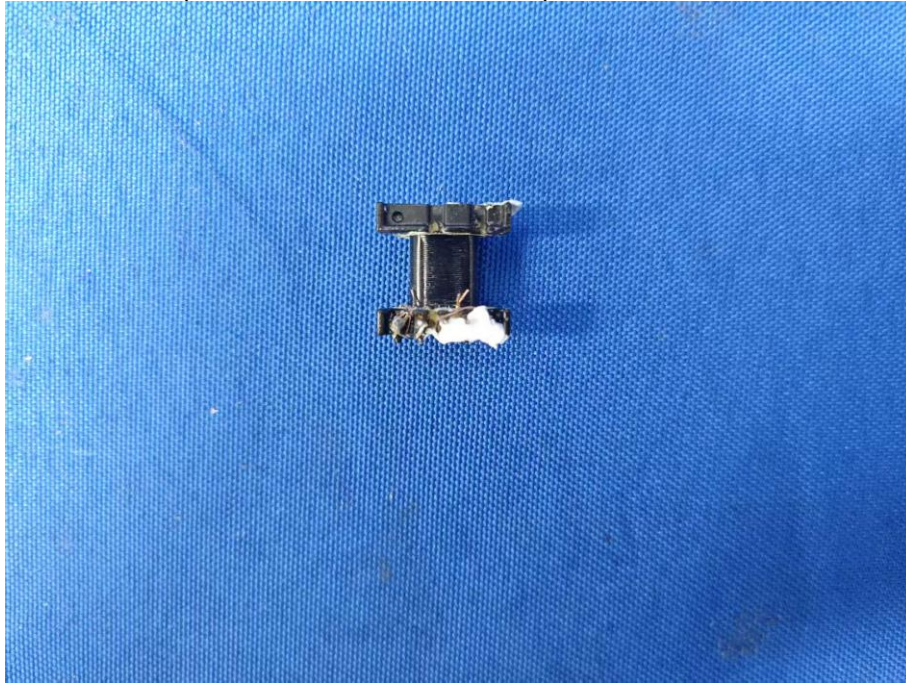


Photo 45

Description: Transformer view (GTM86100-1005.2-W2A-USB)



--- End of Report---