



Test Report issued under the responsibility of:



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

Report Number..... : CN24GFLC 001

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**Name of Testing Laboratory
preparing the Report :** TÜV Rheinland (Guangdong) Ltd.

Applicant's name : Dongguan Jingheng Electron Co., Ltd.

Address : Room 101, Building 1, No.15, Shenle 1st Road, Hengli Town,
Dongguan City, 523465 Guangdong, P.R. China

Test specification:

Standard : IEC 62368-1: 2018

Test procedure..... : CB Scheme

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

TRF template used : IECEE OD-2020-F1:2021, Ed.1.4

Test Report Form No. : IEC62368_1E

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

Master TRF : Dated 2022-04-14

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General disclaimer:

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

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Test item description		Active Loudspeaker System		
Trade Mark(s)				
Manufacturer				Same as applicant
Model/Type reference				MegaSys 1, AXV15.12
Ratings				110-240V~, 50/60Hz, Power Consumption: 1200W
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):				
☐	CB Testing Laboratory:	TÜV Rheinland (Guangdong) Ltd.		
Testing location/ address		No.199 Kezhu Road, Guangzhou Science City Guangzhou 510663 China		
Tested by (name, function, signature)				
Approved by (name, function, signature) ..				
☒	Testing procedure: CTF Stage 1:	Dongguan Jingheng Electron Co., Ltd.		
Testing location/ address		No.15, Shenle 1st Road, Hengli Town, Dongguan City, 523465 Guangdong, P.R. China		
Tested by (name, function, signature)		Allen Deng (Project Engineer)	<i>Allen Deng</i>	
Approved by (name, function, signature) ..		Kevin He (Reviewer)	<i>Kevin He</i>	
☐	Testing procedure: CTF Stage 2:			
Testing location/ address				
Tested by (name, signature)				
Witnessed by (name, function, signature) .				
Approved by (name, function, signature) ..				
☐	Testing procedure: CTF Stage 3:			
☐	Testing procedure: CTF Stage 4:			
Testing location/ address				
Tested by (name, function, signature)				
Witnessed by (name, function, signature) .				
Approved by (name, function, signature) ..				
Supervised by (name, function, signature) :				

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

- Attachment 1: National difference (32 pages)
- Attachment 2: Photo documentation (36 pages)

Summary of testing:
Tests performed (name of test and test clause):

5.2	Electrical energy source classifications
5.3.2	Accessibility to electrical energy sources and safeguards (Accessibility test)
5.4.1.4, 9.3, B.1.5, B.2.6	Temperature measurements
5.4.1.8	Determination of working voltage
5.4.1.10.3	Ball pressure test
5.4.8	Humidity conditioning
5.4.9	Electric strength test
5.5.2.2	Capacitance discharge test
5.7.4	Unearthed accessible conductive current test
5.7.5	Protective conductor current test
6.2.2	Electrical power sources (PS) measurements for classification
8.6	Stability test
8.8	Handle strength test
B.2.5	Input tests
B.3	Simulated Abnormal operating condition tests
B.4	Simulated single fault conditions
F.3.9	Durability, legibility and permanence of markings
G.5.3.3	Transformer overload
T.2	Steady force test, 10 N
T.5	Steady force test, 250N
T.6	Impact test

Note: Unless otherwise stated, model MegaSys 1 is selected as the representative model for all tests.

Testing location:

All tests as described in Test Case and Measurement Sections were performed at the laboratory described on page 2

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

EU Group Differences, CA, US, SA

Explanation of used codes: CA=Canada, US= United States of America, SA=Saudi Arabia
For National Differences see attachment 1 of this test report.

- ☒ The product fulfils the requirements of CAN/CSA C22.2 No. 62368-1:19.
- ☒ The product fulfils the requirements of UL 62368-1:2019.
- ☒ The product fulfils the requirements of EN IEC 62368-1:2020+A11:2020; BS EN IEC 62368-1:2020+A11:2020.
- ☒ The product fulfils the requirements of SASO-IEC 62368-1:2020.

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

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

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

Information on uncertainty of measurement:

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

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

Copy of marking plate:

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



Remark:

1. The CE marking and WEEE symbol (if any) should be at least 5.0mm and 7.0mm respectively in height.
2. The above markings are the minimum requirements required by the safety lab. For the final production samples, the additional markings 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: Not directly connected to the mains		
Considered current rating of protective device	☒ 16 A (20A for US / CA / JP, 13A for UK);		
	Location: ☒ building	☐ equipment	
	☐ N/A		
Equipment mobility	☐ movable	☐ hand-held	☐ transportable
	☐ direct plug-in	☒ stationary	☐ for building-in
	☐ wall/ceiling-mounted	☐ SRME/rack-mounted	
	☐ other:		
Overvoltage category (OVC)	☐ OVC I	☒ OVC II	☐ OVC III
	☐ OVC IV	☐ other:	
Class of equipment	☒ Class I	☐ Class II	☐ Class III
	☐ Not classified		
Special installation location	☒ N/A	☐ restricted access area	
	☐ outdoor location		
Pollution degree (PD)	☐ PD 1	☒ PD 2	☐ PD 3
Manufacturer's specified T_{ma}	40 °C	☐ Outdoor: minimum	°C
IP protection class	☒ IPX0	☐ IP__	
Power systems	☒ TN	☐ TT	☐ IT - V _{L-L}
	☐ not AC mains		
Altitude during operation (m)	☒ 2000 m or less	☐	m
Altitude of test laboratory (m)	☒ 2000 m or less	☐	m
Mass of equipment (kg)	Approx. 48.5 kg		

Possible test case verdicts: - test case does not apply to the test object.....: N/A - test object does meet the requirement.....: P (Pass) - test object does not meet the requirement.....: F (Fail)	
Testing: Date of receipt of test item: 2024-04-08 Date (s) of performance of tests: 2024-04-08 to 2024-04-28	
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. ☐ This Test Report Form contains requirements according to IEC/ISO Standard dated and includes Corrigendum dated (Note: The above text maybe removed if not applicable)	
Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided:	☐ Yes ☒ Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies): Dongguan Jingheng Electron Co., Ltd. No.15, Shenle 1st Road, Hengli Town, Dongguan City, 523465 Guangdong, P.R. China	
General product information and other remarks: - The product described in this report is a combined sound system, which is composed of an active speaker and a passive long bar speaker. It can be assembled and installed in the manner specified in the manual. - All electronic components are mounted on PWB and housed in wooden and metal rear enclosure which secured by screws. <u>Model Differences:</u> The products are exactly the same except for the different models.	

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: Primary circuit	Ordinary	Protective earthing	See table 5.4.2, 5.4.3	Enclosure, Insulated Transformer, Y capacitor
ES2: Transformer T1 secondary	Ordinary	N/A	N/A	Enclosure
ES1: Audio output port	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: > 100 Watt circuit (All internal circuit)	Combustible materials within equipment fire barrier	Equipment safeguards (no ignition occurs, no high temperature occurs)	See 6.4.6	N/A
PS3: Top side output terminal	Combustible materials within equipment fire barrier	Equipment safeguards (no ignition occurs, no high temperature occurs)	See 6.4.6	N/A
PS1: OUTPUT port	Combustible materials within equipment fire barrier	N/A	N/A	N/A
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
N/A	N/A	N/A	N/A	N/A
8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
MS1: Edges and corners	Ordinary	N/A	N/A	N/A
MS3: Mass of the unit	Ordinary	See clause 8.6	Instructional safeguard	N/A
MS3: DC fans	Ordinary	N/A	N/A	Enclosure
9	Thermal burn			
Class and Energy Source	Body Part	Safeguards		

(e.g. TS1: Keyboard caps)	(e.g., Ordinary)	B	S	R
TS3: Internal parts/circuits	Ordinary	N/A	N/A	Enclosure
TS1: External enclosure surface	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 for indicating	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
See “OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS” for details. ☒ 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		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) :		N/A
4.1.5	Constructions and components not specifically covered	No such construction.	N/A
4.1.8	Liquids and liquid filled components (LFC)		N/A
4.1.15	Markings and instructions		P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests		P
4.4.3.3	Drop tests		P
4.4.3.4	Impact tests		P
4.4.3.5	Internal accessible safeguard tests		N/A
4.4.3.6	Glass impact tests		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		P
4.4.3.9	Air comprising a safeguard		P
4.4.3.10	Accessibility, glass, safeguard effectiveness		P
4.4.4	Displacement of a safeguard by an insulating liquid		N/A
4.4.5	Safety interlocks	No such component used.	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		P
	No harm by explosion during single fault conditions		P
4.6	Fixing of conductors		P
	Fix conductors not to defeat a safeguard		P
	Compliance is checked by test..... :	test of Clause T.2 applied in the most unfavourable direction.	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.7	Equipment for direct insertion into mains socket-outlets		N/A
4.7.2	Mains plug part complies with relevant standard .. :	Not direct plug-in equipment.	N/A
4.7.3	Torque (Nm)		N/A
4.8	Equipment containing coin/button cell batteries		N/A
4.8.1	General	No such component provided.	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery compartment door/cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance		N/A
	30N force test with test probe		N/A
	20N force test with test hook		N/A
4.9	Likelihood of fire or shock due to entry of conductive object		P
4.10	Component requirements		P
4.10.1	Disconnect Device		P
4.10.2	Switches and relays		P

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 5.2.2.2)	P
5.2.2.3	Capacitance limits	(See appended table 5.2.2.3)	P
5.2.2.4	Single pulse limits		N/A
5.2.2.5	Limits for repetitive pulses		N/A
5.2.2.6	Ringling signals		N/A
5.2.2.7	Audio signals		P
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits		P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.3.2.1	Accessibility to electrical energy sources and safeguards		P
	Accessibility to outdoor equipment bare parts		P
5.3.2.2	Contact requirements		P
	Test with test probe from Annex V		—
5.3.2.2 a)	Air gap – electric strength test potential (V)		N/A
5.3.2.2 b)	Air gap – distance (mm)		P
5.3.2.3	Compliance		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Material is non-hygroscopic		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		N/A
5.4.1.5.3	Thermal cycling test		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		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		P
	Temporary overvoltage	2,000	—
5.4.2.3	Procedure 2 for determining clearance		P
5.4.2.3.2.2	a.c. mains transient voltage	2500 Vpk considered for Overvoltage Cat. II	—
5.4.2.3.2.3	d.c. mains transient voltage	Not d.c. mains.	—
5.4.2.3.2.4	External circuit transient voltage.....	No such transient	—

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.3.2.5	Transient voltage determined by measurement	N/A	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages	(See appended tables)	P
5.4.2.6	Clearance measurement	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
5.4.3	Creepage distances		P
5.4.3.1	General		P
5.4.3.3	Material group	IIIb	—
5.4.3.4	Creepage distances measurement	(See appended table 5.4.2.2, 5.4.2.4 and 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 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		N/A
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material		P
	Number of layers (pcs)	Two layers insulation tape used around the transformer T1 for base insulation. Each one layer meets electric strength.	P
5.4.4.6.3	Non-separable thin sheet material		P
	Number of layers (pcs)	min. 2 lays used for transformer	P
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)		N/A
	Alternative by electric strength test, tested voltage (V), K_R		N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
	Relative humidity (%), temperature (°C), duration (h) :	93%, 40°C, 120h	—
5.4.9	Electric strength test		P
5.4.9.1	Test procedure for type test of solid insulation..... :	(See appended table 5.4.9)	P
5.4.9.2	Test procedure for routine test		N/A
5.4.10	Safeguards against transient voltages from external circuits		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test :		N/A
5.4.10.2.3	Steady-state test..... :		N/A
5.4.10.3	Verification for insulation breakdown for impulse test :		N/A
5.4.11	Separation between external circuits and earth		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
5.4.12	Insulating liquid		N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid :		N/A
5.4.12.3	Compatibility of an insulating liquid :		N/A
5.4.12.4	Container for insulating liquid :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.5	Components as safeguards		P
5.5.1	General		P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector	(See appended table 5.5.2.2)	P
5.5.3	Transformers		P
5.5.4	Optocouplers		P
5.5.5	Relays		P
5.5.6	Resistors		N/A
5.5.7	SPDs		N/A
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A
	RCD rated residual operating current (mA)		—
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation		P
5.6.3	Requirement for protective earthing conductors		P
	Protective earthing conductor size (mm ²)	Approve inlet used.	—
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		P
5.6.4	Requirements for protective bonding conductors		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm ²).	18AWG (0.75mm ²)	—
5.6.4.2	Protective current rating (A).....	≤ 25 A.	P
5.6.5	Terminals for protective conductors		P
5.6.5.1	Terminal size for connecting protective earthing conductors (mm).....	Approve inlet used.	P
	Terminal size for connecting protective bonding conductors (mm)	Min. 3.5mm	P
5.6.5.2	Corrosion		P
5.6.6	Resistance of the protective bonding system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method	(See appended table 5.6.6)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.6.3	Resistance (Ω) or voltage drop..... :	(See appended table 5.6.6)	P
5.6.7	Reliable connection of a protective earthing conductor		P
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		P
5.7.2.2	Measurement of voltage		P
5.7.3	Equipment set-up, supply connections and earth connections		P
5.7.4	Unearthed accessible parts	(See appended table 5.2)	P
5.7.5	Earthed accessible conductive parts	(See appended table 5.2)	P
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		N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to earthed external circuits, current (mA)		N/A
	b) Equipment connected to unearthed external circuits, current (mA)		N/A
5.8	Backfeed safeguard in battery backed up supplies		N/A
	Mains terminal ES		N/A
	Air gap (mm)..... :		N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of PS and PIS		P
6.2.2	Power source circuit classifications..... :	see ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE	P
6.2.3	Classification of potential ignition sources		P

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Clause	Requirement + Test	Result - Remark	Verdict
6.2.3.1	Arcing PIS	See table 6.2.3.1	P
6.2.3.2	Resistive PIS	See 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	No ignition and no such temperature attained within the equipment. (See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
	Combustible materials outside fire enclosure		N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard method		P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		P
6.4.3.1	Supplementary safeguards		P
6.4.3.2	Single Fault Conditions	Speaker short. (See appended table B.3, B.4)	P
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits		P
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		P
6.4.8.2	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier	No such fire barrier as control of fire spread	N/A
6.4.8.2.2	Requirements for a fire enclosure		P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties	No openings	N/A
	Openings dimensions (mm).....		N/A
6.4.8.3.4	Bottom openings and properties		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Openings dimensions (mm)..... :		N/A
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard..... :		N/A
6.4.8.3.5	Side openings and properties		P
	Openings dimensions (mm)..... :	No side opening	P
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)..... :	No such construction.	N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating..... :	Metal enclosure.	P
6.4.9	Flammability of insulating liquid..... :	No such components used.	N/A
6.5	Internal and external wiring		P
6.5.1	General requirements	VW-1 wires used, which considered to equivalent to IEC/TS 60695-11-21.	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)..... :		—
7.6	Batteries and their protection circuits		N/A

8	MECHANICALLY-CAUSED INJURY		P
8.2	Mechanical energy source classifications		P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners		P
8.4.1	Safeguards	Edges and corners are MS1	P
	Instructional Safeguard..... :		N/A
8.4.2	Sharp edges or corners		N/A
8.5	Safeguards against moving parts		P

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts	DC fans used and cover by enclosure, can not be accessible.	P
	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional safeguard.....:		N/A
8.5.4	Special categories of equipment containing moving parts		N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts		N/A
8.5.4.2.1	Protection of persons in the work cell		N/A
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m).....:		N/A
	Space between end point and nearest fixed mechanical part (mm).....:		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A
	- Mechanical function check and visual inspection		N/A
	- Cable assembly.....:		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts.....:		N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N).....:		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps		N/A
	Explosion test.....:		N/A
8.5.5.3	Glass particles dimensions (mm).....:		N/A
8.6	Stability of equipment		P
8.6.1	General		P
	Instructional safeguard.....:	Require	P

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Clause	Requirement + Test	Result - Remark	Verdict
8.6.2	Static stability		P
8.6.2.2	Static stability test	The equipment is tilted in all directions such that the base of the equipment is at an angle up to and including 10°	P
8.6.2.3	Downward force test		P
8.6.3	Relocation stability		P
	Wheels diameter (mm)	N/A	—
	Tilt test	the equipment placed on a plane and is rotated through an angle of 360° about its normal vertical axis while tilted at 10°.	P
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test		N/A
8.7	Equipment mounted to wall, ceiling or other structure		N/A
8.7.1	Mount means type		N/A
8.7.2	Test methods		N/A
	Test 1, additional downwards force (N)		N/A
	Test 2, number of attachment points and test force (N)		N/A
	Test 3 Nominal diameter (mm) and applied torque (Nm)		N/A
8.8	Handles strength		P
8.8.1	General		P
8.8.2	Handle strength test		P
	Number of handles	two	—
	Force applied (N)	951N	—
8.9	Wheels or casters attachment requirements		N/A
8.9.2	Pull test		N/A
8.10	Carts, stands and similar carriers		N/A
8.10.1	General	No carts, stands or similar carriers	N/A
8.10.2	Marking and instructions		N/A
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N)		N/A
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Force applied (N)		—

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Clause	Requirement + Test	Result - Remark	Verdict
8.10.6	Thermoplastic temperature stability		N/A
8.11	Mounting means for slide-rail mounted equipment (SRME)		N/A
8.11.1	General	Not such equipment	N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force (N) applied		N/A
8.11.3.2	Lateral push force test		N/A
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance		N/A
8.12	Telescoping or rod antennas		N/A
	Button/ball diameter (mm)		—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications		P
9.3	Touch temperature limits		P
9.3.1	Touch temperatures of accessible parts	The accessible surfaces and internal are classified as TS1.	P
9.3.2	Test method and compliance		P
9.4	Safeguards against thermal energy sources		P
9.5	Requirements for safeguards		P
9.5.1	Equipment safeguard		P
9.5.2	Instructional safeguard.....		N/A
9.6	Requirements for wireless power transmitters		N/A
9.6.1	General		N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance		N/A

10	RADIATION		P
10.2	Radiation energy source classification		P
10.2.1	General classification	Indicating LED is low power application classified as RS1.	P
	Lasers		—
	Lamps and lamp systems		—
	Image projectors		—
	X-Ray		—

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Clause	Requirement + Test	Result - Remark	Verdict
	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	The Ambient LED lighting is considered as low power & inherently exempt group according to IEC 62471.	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		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)		—
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
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,		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	earphones, etc.)		
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV)..... :		N/A
10.6.6.2	Corded listening devices with digital input		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A) :		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A) :		N/A

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.1	General		P
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	P
B.2	Normal operating conditions		P
B.2.1	General requirements :	See summary of testing and appended tables.	P
	Audio Amplifiers and equipment with audio amplifiers :	(See Annex E)	P
B.2.3	Supply voltage and tolerances		P
B.2.5	Input test :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General		P
B.3.2	Covering of ventilation openings		P
	Instructional safeguard :		N/A
B.3.3	DC mains polarity test	The EUT is not connected to a D.C. mains	N/A
B.3.4	Setting of voltage selector	No setting of voltage selector within the EUT	N/A
B.3.5	Maximum load at output terminals		P
B.3.6	Reverse battery polarity	No user replaceable batteries.	N/A
B.3.7	Audio amplifier abnormal operating conditions	(See appended table B.3, B.4)	P
B.3.8	Safeguards functional during and after abnormal operating conditions :	All safeguards remained effective.	P
B.4	Simulated single fault conditions		P
B.4.1	General		P
B.4.2	Temperature controlling device		N/A
B.4.3	Blocked motor test		P
B.4.4	Functional insulation		P
B.4.4.1	Short circuit of clearances for functional insulation		P

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.4.2	Short circuit of creepage distances for functional insulation		P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors		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 :	No change to circuits classified.	P
B.4.9	Battery charging and discharging under single fault conditions		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
D.3	Electronic pulse generator		N/A

E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		P
E.1	Electrical energy source classification for audio signals		P
	Maximum non-clipped output power (W)..... :	Evaluated for speaker circuit, the Uoc of speaker is not except ES1	—
	Rated load impedance (Ω) :	(See appended table 4.1.2)	—
	Open-circuit output voltage (V)..... :	Less than 71V	—
	Instructional safeguard :	No safeguard necessary	—
E.2	Audio amplifier normal operating conditions		N/A
	Audio signal source type :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Audio output power (W)		—
	Audio output voltage (V)		—
	Rated load impedance (Ω)		—
	Requirements for temperature measurement		N/A
E.3	Audio amplifier abnormal operating conditions		P

F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General		P
	Language	English, French	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		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		P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification	See page 2 for details.	P
F.3.2.2	Model identification	See page 2 for details.	P
F.3.3	Equipment rating markings		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	See page 2 for details.	P
F.3.3.4	Rated voltage.....	See page 2 for details.	P
F.3.3.5	Rated frequency	See page 2 for details.	P
F.3.3.6	Rated current or rated power.....	See page 2 for details.	P
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings		N/A
F.3.5.2	Switch position identification marking.....		N/A
F.3.5.3	Replacement fuse identification and rating markings		N/A
	Instructional safeguards for neutral fuse		N/A
F.3.5.4	Replacement battery identification marking		N/A
F.3.5.5	Neutral conductor terminal		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.5.6	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I equipment		P
F.3.6.1.1	Protective earthing conductor terminal	Comply with IEC 60417-5019 (2006-08).	P
F.3.6.1.2	Protective bonding conductor terminals	need not be identified.	P
F.3.6.2	Equipment class marking	Class I	P
F.3.6.3	Functional earthing terminal marking		N/A
F.3.7	Equipment IP rating marking	This equipment is classified as IPX0.	P
F.3.8	External power supply output marking	See marking plate for details	P
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings		P
F.4	Instructions		P
	a) Information prior to installation and initial use	Provided in user's manual.	P
	b) Equipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection		P
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place		N/A
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard		P
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment		N/A
	j) Permanently connected equipment not provided with all-pole mains switch		N/A
	k) Replaceable components or modules providing safeguard function		N/A
	l) Equipment containing insulating liquid		N/A
	m) Installation instructions for outdoor equipment		N/A
F.5	Instructional safeguards		P
G	COMPONENTS		P
G.1	Switches		P
G.1.1	General	See table 4.1.2 for details	P
G.1.2	Ratings, endurance, spacing, maximum load		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.1.3	Test method and compliance		N/A
G.2	Relays		P
G.2.1	Requirements	See table 4.1.2 for details	P
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		P
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		P
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		P
G.3.2	Thermal links		N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors		N/A
G.3.4	Overcurrent protection devices		P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions :		N/A
G.4	Connectors		P
G.4.1	Spacings	No such connector with insulated surfaces accessible within the EUT	N/A
G.4.2	Mains connector configuration..... :		N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	No mismatch of mains socket-outlets or appliance coupler.	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
	Test time (days per cycle)		—
	Test temperature (°C)		—
G.5.2.3	Wound components supplied from the mains		N/A
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers		P
G.5.3.1	Compliance method.....	The transformer meets the requirements given in G.5.3.2 and G.5.3.3	P
	Position	T1	P
	Method of protection	Over current protection by circuit design	P
G.5.3.2	Insulation		P
	Protection from displacement of windings	Tape and bobbin	—
G.5.3.3	Transformer overload tests		P
G.5.3.3.1	Test conditions		P
G.5.3.3.2	Winding temperatures		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.5.4.4.2	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
G.5.4.5.3	Alternative method		N/A
G.5.4.6	Locked-rotor overload test for DC motors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature :		N/A
G.5.4.6.3	Alternative method		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	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		P
G.7.1	General requirements		P
	Type :	See table 4.1.2 for details	—
G.7.2	Cross sectional area (mm ² or AWG) :	See table 4.1.2 for details	P
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		N/A
G.8.1	General requirements	No such components.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.8.2	Safeguards against fire		N/A
G.8.2.1	General		N/A
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
G.9.1	Requirements	No such components.	N/A
	IC limiter output current (max. 5A)..... :		—
	Manufacturers' defined drift :		—
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
G.10	Resistors		N/A
G.10.1	General		N/A
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A
G.11	Capacitors and RC units		P
G.11.1	General requirements		P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		P
G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5 with specifics	Approved Optocoupler used	P
	Type test voltage $V_{ini,a}$:		—
	Routine test voltage, $V_{ini,b}$:		—
G.13	Printed boards		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements		N/A
G.15	Pressurized liquid filled components		N/A
G.15.1	Requirements		N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
G.16.1	Condition for fault tested is not required	No such components.	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	Ringing signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):		—
H.3.2	Tripping device and monitoring voltage		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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 :	No triple wire used	—
	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		—

K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
	Instructional safeguard :		N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
K.5.1	Under single fault condition		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance :		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm) :		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm) :		N/A
	Electric strength test before and after the test of K.7.2 :		N/A
K.7.2	Overload test, Current (A) :		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
L	DISCONNECT DEVICES		P
L.1	General requirements		P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		P
L.4	Single-phase equipment		P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
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
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		N/A
M.4	Additional safeguards for equipment containing a portable secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Requirements		N/A
M.4.2.2	Compliance :		N/A
M.4.3	Fire enclosure :		N/A
M.4.4	Drop test of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation and procedure for the drop test		N/A
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%): :		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.4.4.4	Check of the charge/discharge function		N/A
M.4.4.5	Charge / discharge cycle test		N/A
M.4.4.6	Compliance		N/A
M.5	Risk of burn due to short-circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Test method and compliance		N/A
M.6	Safeguards against short-circuits		N/A
M.6.1	External and internal faults		N/A
M.6.2	Compliance		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
	Calculated hydrogen generation rate :		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, Q (m ³ /h) :		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%) :		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate..... :		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%) :		N/A
M.7.4	Marking :		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
	Instructional safeguard		N/A
N	ELECTROCHEMICAL POTENTIALS		N/A
	Material(s) used		—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		N/A
	Value of X (mm)		—
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
P.2.2	Safeguards against entry of a foreign object		N/A
	Location and Dimensions (mm)		—
P.2.3	Safeguards against the consequences of entry of a foreign object	The entry of a foreign object can not defeat any safeguard.	P
P.2.3.1	Safeguard requirements		P
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		P
	Transportable equipment with metalized plastic parts	Not Transportable equipment.	N/A
P.2.3.2	Consequence of entry test.....		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A
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		N/A
Q.1	Limited power sources		N/A
Q.1.1	Requirements		N/A
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	c) Regulating network limited output		N/A
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance		N/A
	Current rating of overcurrent protective device (A)		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A)		N/A
	Current limiting method		—

R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General		N/A
R.2	Test setup		N/A
	Overcurrent protective device for test.....		—
R.3	Test method		N/A
	Cord/cable used for test		—
R.4	Compliance		N/A

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Mounting of samples		—
	Wall thickness (mm)		—
S.4	Flammability classification of materials	Min 6mm Wooden enclosure was considered to be V-1.	P
S.5	Flammability test for fire enclosure materials of equipment with a steady state power exceeding 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C)		—

T	MECHANICAL STRENGTH TESTS		P
T.1	General		P
T.2	Steady force test, 10 N	(See appended table T.2)	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N		N/A
T.5	Steady force test, 250 N	(See appended table T.5)	P
T.6	Enclosure impact test		P
	Fall test		P
	Swing test		N/A
T.7	Drop test		N/A
T.8	Stress relief test.....		N/A
T.9	Glass Impact Test		N/A
T.10	Glass fragmentation test		N/A
	Number of particles counted.....		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		N/A

U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General		N/A
	Instructional safeguard :		N/A
U.2	Test method and compliance for non-intrinsically protected CRTs		N/A
U.3	Protective screen		N/A

V	DETERMINATION OF ACCESSIBLE PARTS		P
V.1	Accessible parts of equipment		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
V.1.1	General	Only ES1 circuit inside.	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
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		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		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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
Y.5.5.2	IP5X equipment		N/A
Y.5.5.3	IP6X equipment		N/A
Y.6	Mechanical strength of enclosures		N/A
Y.6.1	General		N/A
Y.6.2	Impact test :		N/A

IEC 62368-1			
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⁾	
264V/50Hz	Transformer (T1) TC-1, TC-2 After BD2	Normal:	88.9	--	SS	DC	ES2
264V/50Hz	Transformer (T1) TC-1, TC-2 After BD2	BD2 short circuit	0	--	SS	DC	ES1
264V/50Hz	Transformer (T1) TC-3 After D1	Normal:	21.5	--	SS	DC	ES1
264V/50Hz	Transformer (T1) TC-3 After D1	D1 short circuit	0	--	SS	DC	ES1
264V/50Hz	Transformer (T1) TC-4 After D18	Normal:	21.4	--	SS	DC	ES1
264V/50Hz	Transformer (T1) TC-4 After D18	D18 short circuit	0	--	SS	DC	ES1
264V/50Hz	Transformer (T1) TC-5 After D39	Normal:	22.0	--	SS	DC	ES1
264V/50Hz	Transformer (T1) TC-5 After D39	D39 short circuit	0	--	SS	DC	ES1
264V/50Hz	Power switch to earth	Normal:	--	0	SS	--	ES1
264V/50Hz	Power switch to earth	Single fault: SC D1	--	0	SS	--	ES1
264V/50Hz	Wooden enclosure to earth	Normal:	--	0	SS	--	ES1
264V/50Hz	Wooden enclosure to earth	Single fault: SC D1	--	0	SS	--	ES1
264V/50Hz	OUTPUT port	Normal:	0.03	--	SS	DC	ES1
264V/50Hz	OUTPUT port	Abnormal (max. non-clipped)	0.17	--	SS	DC	ES1
264V/50Hz	OUTPUT port	Abnormal (output SC)	0	--	SS	DC	ES1
264V/50Hz	OUTPUT port	Single fault: SC D1	0	--	SS	DC	ES1
264V/50Hz	OUTPUT port	Single fault: SC BD2	0	--	SS	DC	ES1
264V/50Hz	OUTPUT port	Single fault: SC D18	0	--	SS	DC	ES1

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
264V/50Hz	Top output terminal	Normal:	0.02	--	SS	DC	ES1
264V/50Hz	Top output terminal	Abnormal (Speaker max. non-clipped)	0.05	--	SS	DC	ES1
264V/50Hz	Top output terminal	Abnormal (speaker SC)	0	--	SS	DC	ES1
264V/50Hz	Top output terminal	Single fault: SC D1	0	--	SS	DC	ES1
264V/50Hz	Top output terminal	Single fault: SC BD2	0	--	SS	DC	ES1
264V/50Hz	Top output terminal	Single fault: SC D18	0	--	SS	DC	ES1
Supplementary information:							
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.							
2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.							
SC= short circuit; OC= open circuit.							

5.4.1.8	TABLE: Working voltage measurement				P
Location	RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments	
Transformer (T1) pin1 to pin8	248	322	80.1k	--	
Transformer (T1) pin1 to pin9	212	298	81.8k	--	
Transformer (T1) pin1 to pin10	284	422	81.9k	Max. Vrms and Vpk	
Transformer (T1) pin1 to pin13	104	162	80.5k	--	
Transformer (T1) pin1 to pin14	230	334	80.1k	--	
Transformer (T1) pin1 to pin16	228	330	80.2k	--	
Transformer (T1) pin1 to pin18	184	240	80.1k	--	
Transformer (T1) pin1 to pin11	206	298	80.2k	--	
Transformer (T1) pin2 to pin8	144	198	60	--	
Transformer (T1) pin2 to pin9	138	184	60	--	
Transformer (T1) pin2 to pin10	112	206	60	--	
Transformer (T1) pin2 to pin13	108	168	60	--	
Transformer (T1) pin2 to pin14	144	198	60	--	
Transformer (T1) pin2 to pin16	140	196	60	--	
Transformer (T1) pin2 to pin18	142	198	60	--	
Transformer (T1) pin2 to pin11	140	198	60	--	
Transformer (T1) pin3 to pin8	64	102	60	--	

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
Transformer (T1) pin3 to pin9	142	198	60	--
Transformer (T1) pin3 to pin10	170	198	60	--
Transformer (T1) pin3 to pin13	80	128	60	--
Transformer (T1) pin3 to pin14	62	102	60	--
Transformer (T1) pin3 to pin16	64	108	60	--
Transformer (T1) pin3 to pin18	144	192	60	--
Transformer (T1) pin3 to pin11	142	198	60	--
Transformer (T1) pin5 to pin8	141	198	60	--
Transformer (T1) pin5 to pin9	139	182	60	--
Transformer (T1) pin5 to pin10	110	168	60	--
Transformer (T1) pin5 to pin13	112	168	60	--
Transformer (T1) pin5 to pin14	140	198	60	--
Transformer (T1) pin5 to pin16	139	196	60	--
Transformer (T1) pin5 to pin18	141	198	60	--
Transformer (T1) pin5 to pin11	140	182	60	--
Opto-coupler U9 pin1 to pin3	128	178	60	--
Opto-coupler U9 pin1 to pin4	130	180	60	--
Opto-coupler U9 pin2 to pin3	130	182	60	--
Opto-coupler U9 pin2 to pin4	128	178	60	--
Y cap C12 primary to secondary	140	182	60	--
Supplementary information:				
Input 240V/60Hz				

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics			N/A
Method.....:		ISO 306 / B50		—
Object/ Part No./Material	Manufacturer/trademark	Thickness (mm)	T softening (°C)	
--	--	--	--	
Supplementary information:				
N/A				

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)	
--	--	--	--	--	

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

Supplementary information:

* See table 4.1.2 for details.

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)
Two poles of main fuse in appliance inlet (B)	420	250	--	1.5	4.0	--	2.5	4.0
Primary circuit (inlet pins) to metal enclosure (B)	420	250	--	1.5	7.0	--	2.5	7.0
Primary circuit (solder side of power board) to earthed metal enclosure (B)	420	250	--	1.5	4.5	--	2.5	4.5
Primary circuit to earthed secondary circuit (B) (PCB trace under Y-capacitor C5, C6, C7, C8)	420	250	--	1.5	7.0	--	2.5	7.0
Primary circuit (connector J1) to metal screw (B)	420	250	--	1.5	5.2	--	2.5	5.2
Primary circuit (C18, C20) to earthed metal holder (B)	420	250	--	1.5	3.2	--	2.5	3.2
Primary circuit to earthed secondary circuit (B) (PCB trace under Y-capacitor C9, C10)	420	250	--	1.5	4.5	--	2.5	4.5
Primary circuit to earthed secondary circuit (B) (PCB trace under Y-capacitor C12)	420	250	--	1.5	7.5	--	2.5	7.5
Primary circuit to secondary circuit (R) (PCB trace under opto coupler U9)	420	250	--	3.0	6.7	--	5.0	6.7
Between primary winding and secondary winding (R) (PCB trace under T1)	422	284	--	3.0	6.0	--	5.0	6.0

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Transformer T1 primary winding to core (B)	422	284	81.9k	1.5	3.2	--	2.9	3.2
Transformer T1 secondary to core (S)	422	284	81.9k	1.5	3.2	--	2.9	3.2
Primary circuit (C18) to core in T1 transformer (B)	422	284	81.9k	1.5	5.0	--	2.9	5.0
Supplementary information:								
1) Only for frequency above 30 kHz								
2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied)								
F=Functional insulation; B=Basic insulation; R=Reinforced insulation; S=Supplementary 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)	
Enclosure Inside to outside	322	Reinforce	0.4	1)	
T1 bobbin	322	Reinforce	0.4	1)	
Supplementary information:					
1) See appended Table 4.1.2 for details.					

5.4.4.9	TABLE: Solid insulation at frequencies >30 kHz					P
Insulation material	E_P	Frequency (kHz)	K_R	Thickness d (mm)	Insulation	V_{PW} (Vpk)
--	--	--	--	--	--	--
Supplementary information:						
Alternate test used. See table 5.4.9 for details.						

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
L and N (Main Fuse open)		DC	2500	No
L, N and metal enclosure		DC	2500	No
Primary winding to core of the transformer		DC	2500	No
Secondary winding to core of the transformer		DC	2500	No
Insulation sheet under power board		DC	2500	No

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Clause	Requirement + Test	Result - Remark	Verdict
L, N and accessible terminals	DC	4000	No
L, N and wooden enclosure with metal foil	DC	4000	No
Primary winding to secondary winding of the transformer	DC	4000	No
one layers of insulation tape	DC	4000	No
Supplementary information:			
Alternating polarity for electric strength test of dc voltage. T1 core was considered as medium circuit.			

5.5.2.2	TABLE: Stored discharge on capacitors					P
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class	
Inlet pins (L-N)	264/50Hz	normal operation	On	26	ES1	
Inlet pins (L-N)	264/50Hz	normal operation	Off	22	ES1	
Inlet pins (L-N)	264/50Hz	R1 OC	On	30	ES1	
Inlet pins (L-N)	264/50Hz	R1 OC	Off	24	ES1	
Supplementary information:						
1) X-capacitors installed for testing: See table 4.1.2 for details						
Discharge resistor:						
[X] bleeding resistor rating: See table 4.1.2 for details						
[] ICX:						
Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit						

5.6.6	TABLE: Resistance of protective conductors and terminations				P
Location	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
Metal enclosure to inlet protective earthing conductor	25	2	--	0.002	
Metal enclosure to inlet protective earthing conductor	32	2	--	0.01	
Metal enclosure to inlet protective earthing conductor	40	2	--	0.02	
Supplementary information:					
N/A					

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)	

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Clause	Requirement + Test	Result - Remark	Verdict

#	#	#	#	#	#	#
Supplementary information:						
# see table 5.2 for details.						

5.7.5	TABLE: Earthed accessible conductive part			P
Supply voltage (V)	--			—
Phase(s)	[X] Single Phase; [] Three Phase: [] Delta [] Wye			
Power Distribution System	[X] TN ☐ TT ☐ IT			
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment	
Measured to earthed point	1	Reversed and Normal: Max.1.58Vpk	--	
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:						

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 internal circuits/components	Normal condition Abnormal & Fault condition	--	--	--	--	PS3 (declaration)
Top side output terminal	Abnormal (Speaker max. non-clipped)	35.0	4.4	153.1	5	PS3
Top side output terminal	Abnormal (speaker SC)	0	0	0	3	PS1
Top side output terminal	Single fault: SC D1	0	0	0	3	PS1
Top side output	Single fault: SC	0	0	0	3	PS1

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Clause	Requirement + Test	Result - Remark				Verdict
terminal	BD2					
Top side output terminal	Single fault: SC D18	0	0	0	3	PS1
OUTPUT port	Normal:	0.03	0	0	3	PS1
OUTPUT port	Abnormal (max. non-clipped)	0.17	0	0	3	PS1
OUTPUT port	Abnormal (output SC)	0	0	0	3	PS1
OUTPUT port	Single fault: SC D1	0	0	0	3	PS1
OUTPUT port	Single fault: SC BD2	0	0	0	3	PS1
OUTPUT port	Single fault: SC D18	0	0	0	3	PS1
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						
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:					
--					

6.2.3.2	TABLE: Determination of resistive PIS			P
Location		Operating and fault condition	Dissipate power (W)	Resistive PIS? Yes / No
All internal circuits/components		--	--	Yes (declaration)
Supplementary information:				
--				

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	

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Clause	Requirement + Test		Result - Remark	Verdict
--	--	--	--	--
Supplementary information:				
N/A				

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:								

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements					P
Supply voltage (V)..... :		264V/50H Z	99V/50H Z	--		
Ambient temperature during test T_{amb} (°C) :		See below	See below	--	--	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
Power cord		42.3	40.8	--	--	65
Power switch		50.2	46.6	--	--	85
AC inlet		50.8	46.2	--	--	70
AC input lead wire		53.4	48.6	--	--	80
Body of C3 (X-Capacitor) (EMI Board)		53.7	49.2	--	--	100
Body of L1 (EMI Board)		54.2	49.4	--	--	130
Body of C5 (Y-Capacitor) (EMI Board)		52.3	48.0	--	--	85
below close to AC input side power board		--	--	--	--	--
PCB surface near D7		77.8	61.5	--	--	130
Body of C20 (Electrolytic Capacitor)		61.9	55.9	--	--	85
PCB surface near Q2		66.3	57.7	--	--	130
PCB surface near D8		88.7	63.0	--	--	130
Winding of transformer (T1)		71.8	61.8	--	--	110

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Clause		Requirement + Test				Result - Remark		Verdict
Core of transformer (T1)		72.9	62.9	--	--			110
Body of C39 (Electrolytic capacitor)		54.4	50.6	--	--			105
Body of U9 (Opto coupler)		63.8	56.8	--	--			110
DC FAN Winding		68.4	55.8	--	--			130
Winding of L7		54.7	51.0	--	--			130
below close to EMI output side power board		--	--	--	--			--
PCB surface near D7		74.2	62.2	--	--			130
Body of C20 (Electrolytic Capacitor)		62.8	57.1	--	--			85
PCB surface near Q2		65.5	58.2	--	--			130
PCB surface near D8		92.1	63.5	--	--			130
Winding of transformer (T1)		69.5	63.2	--	--			110
Core of transformer (T1)		71.3	64.6	--	--			110
Body of C39 (Electrolytic capacitor)		54.1	50.4	--	--			105
Winding of L7		57.5	53.0	--	--			130
Ambient		40.0	40.0	--	--			--
Plastic housing for tweeter and midrange connectors		27.5	25.8	--	--			77
Metal enclosure surface		35.8	30.7	--	--			60
Wooden enclosure surface		28.9	26.6	--	--			107
Power switch surface		30.2	27.4	--	--			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:								
Pink noise signal input, volume control adjust to max position. 1/8 Max non-clipped output power to output. Low Speaker: 8Ω (max. Vout= 23.3 Vrms), midrange speaker: 8Ω (max. Vout= 0.02 Vrms), High Speaker: 8Ω (max. Vout= 0.02 Vrms), max. Pout= 68W.								

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
264	50	4.34	--	701	--	--	4.34	Condition A
264	60	4.26	--	697	--	--	4.26	Condition A
240	50	4.61	--	689	--	--	4.61	Condition A
240	60	4.53	--	687	--	--	4.53	Condition A
110	50	9.45	--	716	--	--	9.45	Condition A
110	60	9.36	--	716	--	--	9.36	Condition A

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Clause	Requirement + Test				Result - Remark			Verdict

99	50	1.83	--	112	--	--	1.83	Condition A
99	60	1.51	--	90	--	--	1.51	Condition A
264	50	0.92	--	117	--	--	0.92	Condition B
264	60	0.93	--	117	--	--	0.93	Condition B
240	50	0.93	--	112	1200	--	0.93	Condition B
240	60	0.94	--	111	1200	--	0.94	Condition B
110	50	1.75	--	114	1200	--	1.75	Condition B
110	60	1.72	--	115	1200	--	1.72	Condition B
99	50	0.70	--	37	--	--	0.70	Condition B
99	60	0.65	--	37	--	--	0.65	Condition B

Supplementary information:

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

Condition A: Pink noise signal input, volume control adjust to max position. Non-clipped output power to output. Low Speaker: 8Ω (max. Vout= 66.0 Vrms), midrange speaker: 8Ω (max. Vout= 0.24 Vrms), High Speaker: 8Ω (max. Vout= 0.24 Vrms), max. Pout= 545W.

Condition B: Pink noise signal input, volume control adjust to max position. 1/8 Max non-clipped output power to output. Low Speaker: 8Ω (max. Vout= 23.3 Vrms), midrange speaker: 8Ω (max. Vout= 0.02 Vrms), High Speaker: 8Ω (max. Vout= 0.02 Vrms), max. Pout= 68W.

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	
Unit	Max non-clipped output	264V/50Hz	1.5h	F1	5.12	Product thermal protection. Cycle three times. Record the maximum value. No damaged, no hazards.	
						Parts	T max (°C)
						Power cord	43.3
						Power switch	49.8
						AC inlet	48.1
						Internal wire	46.9
						Winding of L1 (Filter inductance)	67.5
						PCB surface near D7 (Rectifier diode)	84.0
						PCB surface near Q2	71.9
						PCB surface near D8	91.5
						Winding of transformer T1	91.5
						Core of transformer T1	94.2
						DC FAN Winding	66.4
						Winding of L7	55.6
						Ambient	40
						Plastic housing for tweeter and midrange connectors	32.4
						Metal enclosure surface	39.0

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Clause	Requirement + Test	Result - Remark	Verdict

						Wooden enclosure surface	31.6
						Power switch surface	32.5
						Ambient	25
						output load at Low speaker: 8Ω. midrange speaker: 8Ω High speaker: 8Ω.	
Unit	Block Ventilation Hole	264V/50Hz	1.0h	F1	1.18A	Product thermal protection. Cycle three times. Record the maximum value. No damaged, no hazards.	
						Parts	T max (°C)
						Power cord	43.0
						Power switch	53.5
						AC inlet	53.8
						Internal wire	56.4
						Winding of L1 (Filter inductance)	56.7
						PCB surface near D7 (Rectifier diode)	79.1
						PCB surface near Q2	67.9
						PCB surface near D8	91.5
						Winding of transformer T1	72.6
						Core of transformer T1	73.6
						DC FAN Winding	76.8
						Winding of L7	57.2
						Ambient	40
						Plastic housing for tweeter and midrange connectors	28.1
						Metal enclosure surface	37.2
						Wooden enclosure surface	29.8
						Power switch surface	30.8
						Ambient	25
						output load at Low speaker: 8Ω. midrange speaker: 8Ω High speaker: 8Ω.	
Unit	Lock DC fan	264V/50Hz	1.5h	F1	1.18A	Product thermal protection. Cycle three times. Record the maximum value. No damaged, no hazards.	
						Parts	T max (°C)
						Power cord	41.5
						Power switch	50.8
						AC inlet	48.3
						Internal wire	54.8
						Winding of L1 (Filter inductance)	56.1
						PCB surface near D7 (Rectifier diode)	76.6
						PCB surface near Q2	65.8
						PCB surface near D8	86.9
						Winding of transformer T1	70.8
						Core of transformer T1	72.0
						DC FAN Winding	71.5
						Winding of L7	54.6
						Ambient	40
						Plastic housing for tweeter and	26.6

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Clause	Requirement + Test	Result - Remark	Verdict

						midrange connectors	
						Metal enclosure surface	34.2
						Wooden enclosure surface	27.4
						Power switch surface	28.7
						Ambient	25
						output load at Low speaker: 8Ω. midrange speaker: 8Ω High speaker: 8Ω.	
Unit	Transformer Pin 10 to Pin 11 Over load	264V/50Hz	7.0h	F1	3.81A	Transformer overload to 5A, unit shut down, No damaged, no hazards.	
						Parts	T max (°C)
						Power cord	42.1
						Power switch	45.4
						AC inlet	44.8
						Internal wire	46.3
						Winding of L1 (Filter inductance)	74.5
						PCB surface near D7 (Rectifier diode)	111.0
						PCB surface near Q2	77.5
						PCB surface near D8	113.5
						Winding of transformer T1	111.5
						Core of transformer T1	100.5
						DC FAN Winding	90.5
						Winding of L7	58.8
						Ambient	40
						Plastic housing for tweeter and midrange connectors	44.1
						Metal enclosure surface	35.0
						Wooden enclosure surface	29.2
						Power switch surface	29.4
Ambient	25						
Unit	SC low Speaker	264V/50Hz	1.0h	F1	0.63	Low speaker can not working. Other parts work normally. No damaged, no hazards.	
Unit	SC high Speaker	264V/50Hz	1.0h	F1	1.22	High speaker can not working. Other parts work normally. No damaged, no hazards.	
Unit	SC midrange Speaker	264V/50Hz	1.0h	F1	0.71	Midrange speaker can not working. Other parts work normally. No damaged, no hazards.	
Unit	SC C1	264V/50Hz	1s	F1	0	Repeat the test 3 times, fuse (F1) opened immediately, no damaged, no hazards.	
Unit	D7 (Pin~ to Pin+)	264V/50Hz	10min	F1	0.1	Input AC 264.0V, current: 0.92A→0.1A, fuse (F2) Opened immediately, no hazards, pass.	
Unit	Q1 (PinS to PinG)	264V/50Hz	1s	F1	0.1	Input AC 264.0V, current: 0.92A→0.1A, fuse (F2) Opened immediately, no hazards, pass.	
Unit	Q1 (PinD to PinG)	264V/50Hz	1s	F1	0.1	Input AC 264.0V, current: 0.92A→0.1A, fuse (F2) Opened immediately, no hazards, pass.	
Unit	Q1 (PinD to PinS)	264V/50Hz	1s	F1	0.1	Input AC 264.0V, current: 0.92A→0.1A, fuse (F2) Opened immediately, no hazards, pass.	
Unit	U9 (Pin1 to	264V/50Hz	1s	F1	0.56	Unit shutdown immediately, no damaged, no	

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Clause	Requirement + Test	Result - Remark	Verdict

	Pin2)					hazards.
Unit	U9 (Pin3 to Pin4)	264V/50Hz	1s	F1	0.56	Unit shutdown immediately, no damaged, no hazards.
Unit	U9 (Pin1)	264V/50Hz	1s	F1	0.56	Unit shutdown immediately, no damaged, no hazards.
Unit	U9 (Pin3)	264V/50Hz	1s	F1	0.56	Unit shutdown immediately, no damaged, no hazards.
Unit	T1 secondary winding (Pin8 to Pin9)	264V/50Hz	1s	F1	0.56	Unit shutdown immediately, no damaged, no hazards.
Unit	T1 secondary winding (Pin11 to Pin10)	264V/50Hz	1s	F1	0.56	Unit shutdown immediately, no damaged, no hazards.
Unit	T1 secondary winding (Pin14 to Pin15)	264V/50Hz	1s	F1	0.56	Unit shutdown immediately, no damaged, no hazards.
Unit	T1 secondary winding (Pin16 to Pin17)	264V/50Hz	1s	F1	0.56	Unit shutdown immediately, no damaged, no hazards.
Supplementary information:						
N/A						

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?:				No		—	
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)				See below			
Component No.	Fault condition	Charge/ discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation
--	--	--	--	--	--	--	--
Supplementary information:							

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Clause	Requirement + Test	Result - Remark	Verdict

N/A

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:						
N/A						

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

T.2, T.3, T.4, T.5	TABLE: Steady force test						P
Location/Part	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation	
Internal components (according to T.2)	--	--	--	10	5	The electrical safety distance has not changed.	
External enclosure (according to T.5	See table 4.1.2	See table 4.1.2	--	250	5	*	
Supplementary information:							
*) Enclosure remained intact, no crack / opening developed. Internal TS3 were not accessible after test.							

T.6, T.9	TABLE: Impact test					P
Location/Part	Material	Thickness (mm)	Height (mm)	Observation		

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Clause	Requirement + Test	Result - Remark	Verdict

Three sides of enclosure	1)	1)	1300	1)
Supplementary information:				
1). See appended table 4.1.2. Each source of enclosure in table 4.1.2 was applied and passed the relevant tests. After the impact test, enclosure remained intact, no cracking/opening developed in the enclosure joint. Internal ES3, TS3 were not accessible after test. No insulation breakdown.				

T.7	TABLE: Drop test				N/A
Location/part		Material	Thickness (mm)	Height (mm)	Observation
--		--	--	--	--
Supplementary information:					
--					

T.8	TABLE: Stress relief test					N/A
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
--	--	--	--	--	--	
Supplementary information:						
--						

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:					
--					

4.1.2		TABLE: Critical components information				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
Metal enclosure (used for passive speaker)	--	--	Min. thickness: 1.0mm	--	--	
Plastic bottom enclosure (used for passive speaker)	FORMOSA CHEMICALS & FIBRE CORP PLASTICS DIV	AC310(+)	Min. thickness: 1.5mm, min.85°C, min. V-0	UL 94	UL E162823	
Metal rear panel	--	--	Min. thickness: 1.0mm	--	--	
Wooden enclosure	--	--	Min. thickness: 9.0mm	--	--	
Power plug (for EU)	Lian Dung	LT-312	250Vac, 16A	VDE 0620-2-1	VDE 40014931	
(Alternative)	Lian Dung	LT-322	250Vac, 16A	VDE 0620-2-1	VDE 40014921	
(Alternative)	I-Sheng	SP-022	250Vac, 16A	VDE 0620-2-1	VDE 40013526	
Power cord (for EU)	I-Sheng	05VA5V-F	Min. 0.75mm ² x3C	EN 50525-2-11:2011	VDE 098629	
(Alternative)	Tong Yuan	H05VV-F or H03VV-F	Min. 0.75mm ² x3C	EN 50525-2-11:2011	VDE 101980	
(Alternative)	Rhythm	H05VV-F or H03VV-F	Min. 0.75mm ² x3C	EN 50525-2-11:2011	VDE 094010	
(Alternative)	Lian Dung	H05VV-F or H03VV-F	Min. 0.75mm ² x3C	EN 50525-2-11:2011	VDE 098629	
(Alternative)	I-Sheng	H05VV-F or H03VV-F	Min. 0.75mm ² x3C	EN 50525-2-11:2011	VDE 40006070	
Cord set (for US)	Lian Dung	LT-202	AC125V, min. 15A with NEMA 5-15P plug	UL 817 C22.2 No. 21	UL/cUL E121791	
(Alternative)	I-Sheng	SP-305B, SP-305, SP-305S	AC125V, min. 10A with NEMA 5-15P plug	UL 817 C22.2 No. 21	UL/cUL E55943	
Power cord (for US)	I-Sheng	SVT, SJT	AC300V, min. 14AWG x 3C, VW-1, min. 65°C	UL 62 C22.2 No. 49	UL/cUL E88265	
(Alternative)	I SHENG MFG	SJT, SVT	AC300V, min. 14AWG x 3C, VW-1, min. 65°C	UL 62 C22.2 No. 49	UL/cUL E315167	
(Alternative)	I SHENG ELECTRONICS	SJT, SVT	AC300V, min. 14AWG x 3C, VW-1, min. 65°C	UL 62 C22.2 No. 49	UL/cUL E314513	

(Alternative)	Tong Yuan	SVT, SJT	AC300V, min. 14AWG x 3C, VW-1, min. 65°C	UL 62 C22.2 No. 49	UL/cUL E156136
(Alternative)	Ever United	SVT, SJT	AC300V, min. 14AWG x 3C, VW-1, min. 65°C	UL 62 C22.2 No. 49	UL/cUL E156549
(Alternative)	Rhythm	SJT, SVT	AC300V, min. 14AWG x 3C, VW-1, min. 65°C	UL 62 C22.2 No. 49	UL/cUL E88231
Power plug (for UK)	Lian Dung	LT-328	250Vac, 13A	BS 1363-1:2016+A1:2018	KM 68559
(Alternative)	Lian Dung	LT-318	250Vac, 13A	BS 1363-1:2016+A1:2018	KM 68559
(Alternative)	I-Sheng	SP-022	250Vac, 13A	VDE 0620-2-1	VDE 40013526
Power cord (for UK)	Tong Yuan	H05VV-F or H03VV-F	Min. 0.75mm ² x3C	EN 50525-2-11:2011	VDE 101980
(Alternative)	Rhythm	H05VV-F or H03VV-F	Min. 0.75mm ² x3C	EN 50525-2-11:2011	VDE 094010
(Alternative)	Lian Dung	H05VV-F or H03VV-F	Min. 0.75mm ² x3C	EN 50525-2-11:2011	VDE 098629
(Alternative)	I-Sheng	H05VV-F or H03VV-F	Min. 0.75mm ² x3C	EN 50525-2-11:2011	VDE 40006070
Appliance connector	Neutrik AG	NAC3FXXA-W-S	AC250V, 16A	IEC 60320-1:2015 IEC 60320-1:2015/AMD1:2018 DIN EN 60320-1 (VDE 0625-1):2021-08; EN 60320-1:2015+AC:2016+AC:2019+A1:2021 UL 60320-1 CSA C22.2 No.60320-1-19	VDE 40055870 UL/cUL E343813
Power switch	Light country	R5 series	AC250V, 10A, 10E3, T85, Level 3, V-0	IEC/EN 61058-1 UL 1054	VDE 40017298 UL/cUL E104190 CQC 05003013025
(Alternative)	NINGBO HAISHU LIHE ELECTRONIC CO., LTD	RL3-4	AC250V, 6A AC125V, 10A, 10E3, T125, V-0	IEC/EN 61058-1 UL 61058-1 CAN/CSA-C22.2 No. 61058-1 (2009)	ENEC:SE/09 127-14 UL/cUL E208316

Fan	KAIMEI ELECTRONIC CORP	JF0815S1UR-R	DC 12V, 0.34A, 41.75CFM	UL 507	UL E156480
Below for EMI Board	--	--	--	--	--
AC fuse on the EMI PCB board (F1)	CONQUER	ADA	AC250V, 15A, Ø6.3x32mm	UL 248-1, UL 248-14	UL/cUL E82636
AC fuse on the EMI PCB board (F2, F3)	Conquer Electronics Co., Ltd.	UDA, UDA-A	AC250V, T8AH, Ø5x20mm	IEC/EN 60127-1 IEC/EN 60127-2 UL 248-1 UL 248-14 CSA-C22.2 No. 248-1-00	VDE 40008022 UL/cUL E82636
X capacitor (C1, C3)	Farad Electronics	PXK	Min. 250Vac, max. 1.0µF, 110°C, X2 type	IEC/EN/UL 60384-14	VDE 40014111 UL E247953
(Alternative)	CARLI ELECTRONICS CO LTD	MPX	Min. 250Vac, max. 1.0µF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40008520 UL E120045
(Alternative)	Dain	MPX, MEX, NPX	Min. 250Vac, max. 1.0µF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40018798 UL E147776
(Alternative)	LIAONING DIYA CAPACITOR CO LTD	MKP-X2	Min. 250Vac, max. 1.0µF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40019857 UL E305002
(Alternative)	Guangzhou Yes Electronic	MPX/MKP	Min. 250Vac, max. 1.0µF, 110°C, X2 type	IEC/EN/UL 60384-14	VDE 40043020 UL E355933
(Alternative)	XIAMEN FARATRONIC CO LTD	MKP62	Min. 250Vac, max. 1.0µF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40000358 UL E186600
(Alternative)	XIAMEN FARATRONIC CO LTD	MKP65	Min. 250Vac, max. 1.0µF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40021925 UL E186600
(Alternative)	Tenta	MEX	Min. 250Vac, max. 1.0µF, 100°C, X2 type	IEC/EN/UL 60384-14	VDE 119119 UL E222911
(Alternative)	WINDAY	MPX	Min. 250Vac, max. 1.0µF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40018071 UL E302125
X capacitor (C4)	Farad Electronics	PXK	Min. 250Vac, max. 0.47µF, 110°C, X2 type	IEC/EN/UL 60384-14	VDE 40014111 UL E247953

(Alternative)	Carli	MPX	Min. 250Vac, max. 0.47µF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40008520 UL E120045
(Alternative)	Dain	MPX, MEX, NPX	Min. 250Vac, max. 0.47µF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40018798 UL E147776
(Alternative)	Diya	MKP-X2	Min. 250Vac, max. 0.47µF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40019857 UL E305002
(Alternative)	Guangzhou Yes Electronic	MPX/MKP	Min. 250Vac, max. 0.47µF, 110°C, X2 type	IEC/EN/UL 60384-14	VDE 40043020 UL E355933
(Alternative)	Faratronic	MKP62	Min. 250Vac, max. 0.47µF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40000358 UL E186600
(Alternative)	Faratronic	MKP65	Min. 250Vac, max. 0.47µF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40021925 UL E186600
(Alternative)	Tenta	MEX	Min. 250Vac, max. 0.47µF, 100°C, X2 type	IEC/EN/UL 60384-14	VDE 119119 UL E222911
(Alternative)	WINDAY	MPX	Min. 250Vac, max. 0.47µF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40018071 UL E302125
Y capacitor (C5, C6, C7, C8)	Murata	KX	Min. 250Vac, max. 2200pF, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE 40002831 UL E37921
(Alternative)	Zhi Wei	DJ	Min. 250Vac, max. 2200pF, min. 105°C, Y1 type	IEC/EN/UL 60384-14	VDE 40032789 UL E330260
(Alternative)	Jyh Chung	JD	Min. 250Vac, max. 2200pF, min. 85°C, Y1 type	IEC/EN/UL 60384-14	VDE 137027 UL E187963
(Alternative)	JYH HSU (JEC) ELECTRONICS LTD	JD	Min. 250Vac, max. 2200pF, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE 40038642 UL E356696
(Alternative)	Success	SE	Min. 250Vac, max. 2200pF, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE 40037211 UL E114280
Line filter (L1, L2)	--	--	N1 (Pin1 - Pin2): 0.4 x 1.5mm x 40Ts; N2 (Pin3 - Pin4): 0.4 x 1.5mm x 40Ts; 130°C	--	--

- Bobbin	Chang Chun Plastics Co Ltd	T375HF	Phenolic, V-0, 150°C, min. thickness: 0.43mm	UL 94	UL E59481
(Alternative)	Chang Chun Plastics Co Ltd	T375J(G5)(G6)	Phenolic, V-0, 150°C, min. thickness: 0.45mm	UL 94	UL E59481
Bleeder resistor (R1, R2)	--	--	470KΩ, 1/4W	--	--
Below for Power Board	--	--	--	--	--
X capacitor (C11)	Farad Electronics	PXK	Min. 250Vac, max. 0.1μF, 110°C, X2 type	IEC/EN/UL 60384-14	VDE 40014111 UL E247953
(Alternative)	Carli	MPX	Min. 250Vac, max. 0.1μF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40008520 UL E120045
(Alternative)	Dain	MPX, MEX, NPX	Min. 250Vac, max. 0.1μF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40018798 UL E147776
(Alternative)	Diya	MKP-X2	Min. 250Vac, max. 0.1μF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40019857 UL E305002
(Alternative)	Guangzhou Yes Electronic	MPX/MKP	Min. 250Vac, max. 0.1μF, 110°C, X2 type	IEC/EN/UL 60384-14	VDE 40043020 UL E355933
(Alternative)	Faratronic	MKP62	Min. 250Vac, max. 0.1μF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40000358 UL E186600
(Alternative)	Faratronic	MKP65	Min. 250Vac, max. 0.1μF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40021925 UL E186600
(Alternative)	Tenta	MEX	Min. 250Vac, max. 0.1μF, 100°C, X2 type	IEC/EN/UL 60384-14	VDE 119119 UL E222911
(Alternative)	WINDAY	MPX	Min. 250Vac, max. 0.1μF, min. 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40018071 UL E302125
Y capacitor (C9, C10, C12)	Murata	KX	Min. 250Vac, max. 2200pF, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE 40002831 UL E37921
(Alternative)	Zhi Wei	DJ	Min. 250Vac, max. 2200pF, min. 105°C, Y1 type	IEC/EN/UL 60384-14	VDE 40032789 UL E330260

(Alternative)	Jyh Chung	JD	Min. 250Vac, max. 2200pF, min. 85°C, Y1 type	IEC/EN/UL 60384-14	VDE 137027 UL E187963
(Alternative)	JYH HSU (JEC) ELECTRONICS LTD	JD	Min. 250Vac, max. 2200pF, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE 40038642 UL E356696
(Alternative)	Success	SE	Min. 250Vac, max. 2200pF, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE 40037211 UL E114280
Opto coupler (U9)	Lite-On	LTV-817	Int. Cr / Ext. Cr / Dti.: 5.3 / 6.3 / 0.5mm, 100°C	IEC/EN 60747-5-5 UL 1577 CSA Component Acceptance Service Notice No. 5A	VDE 40015248 UL/cUL E113898
(Alternative)	Fairchild	H11A817C, H11A817X	Int. Cr / Ext. Cr / Dti.: 5.3 / 6.3 / 0.5mm, 100°C	IEC/EN 60747-5-5 UL 1577 CSA Component Acceptance Service Notice No. 5A	VDE 40026857 UL/cUL E90700
(Alternative)	COSMO	817 Series, K1010 Series	Int. Cr / Ext. Cr / Dti.: 5.3 / 6.3 / 0.5mm, 100°C	IEC/EN 60747-5-5 UL 1577 CSA Component Acceptance Service Notice No. 5A	VDE 101347 UL/cUL E169586
(Alternative)	SHARP	PC817	Int. Cr / Ext. Cr / Dti.: 5.3 / 6.3 / 0.5mm, 100°C	IEC/EN 60747-5-5 UL 1577 CSA Component Acceptance Service Notice No. 5A	VDE 40008087 UL/cUL E64380
(Alternative)	Vishay	SFH6156-1	Int. Cr / Ext. Cr / Dti.: 7.0 / 7.0 / 0.5mm, 100°C	IEC/EN 60747-5-5 UL 1577 CSA Component Acceptance Service Notice No. 5A	VDE 091888 UL/cUL E52744
E-capacitor (C18, C20)	--	--	Min. 180V, min. 820uF, min. 85°C	--	--

Mylar sheet (under the power supply board)	DuPont Specialty Products USA LLC	300MT	V-0, min. 200°C, min. thickness: 0.076mm	UL 94	UL E39505
(Alternative)	E I Dupont De Nemours & Co Inc	FR70G25V0	V-0, min. 65°C, min. thickness: 0.5mm	UL 94	UL E41938
PCB	Long Chang	LC-02V0	V-0, 130°C	UL 796	UL E94733
(Alternative)	Interchangeable	Interchangeable	V-0, 130°C	UL 796	UL
Primary lead wire	Fushen	1617 or 1015	Min. 300Vac, 105°C, min. 18AWG	UL 758	UL E218170
(Alternative)	DANYANG	1617 or 1015	Min. 300Vac, 105°C, min. 18AWG	UL 758	UL E332522
(Alternative)	WENCHANG	1617 or 1015	Min. 300Vac, 105°C, min. 18AWG	UL 758	UL E214500
(Alternative)	Interchangeable	Interchangeable	Min. 300Vac, min. 80°C, min. 18AWG	UL 758	UL
Earthing wire	WENCHANG	1015 or 1617	Min. 300Vac, 105°C, min.18AWG	UL 758	UL E214500
(Alternative)	FU SHEN	1015 or 1617	Min. 300Vac, 105°C, min.18AWG	UL 758	UL E218170
(Alternative)	DANYANG	1617 or 1015	Min. 300Vac, 105°C, min.18AWG	UL 758	UL E332522
(Alternative)	Interchangeable	Interchangeable	Min. 300Vac, min. 80°C, min.18AWG	UL 758	UL

Transformer (T1)	POWERMIND	TC00648, PM-EPC46251203-01	N1 (Pin1-Pin2): Ø0.1mmx90Px25Ts; N2 (Pin11-Pin10): Ø0.1mmx120Px12Ts; N3 (Pin13-Pin12): Ø0.1mmx120Px12Ts; N4 (Pin9-Pin8): Ø0.5mmx1Px3Ts; N5 (Pin15-Pin14): Ø0.5mmx1Px3Ts; N6 (Pin17-Pin16): Ø0.5mmx1Px3Ts; N7 (Pin18-Pin17): Ø0.5mmx1Px3Ts; N8 (Pin3-Pin4): Ø0.5mmx1Px4Ts; CLASS B	Applicable part of IEC/EN/UL/CSA 62368-1	Tested with appliance
- Bobbin	Chang Chun Plastics Co Ltd	T375J(G5)(G6)	Phenolic, V-0, 150°C, min. thickness: 0.45mm	UL 94	UL E59481
(Alternative)	Chang Chun Plastics Co Ltd	T375HF	Phenolic, V-0, 150°C, min. thickness: 0.43mm	UL 94	UL E59481
- Winding	Dong Guan Yida Industrial Co Ltd	UEW	130°C	UL 1446	UL E344055
(Alternative)	Ningbo Xinjian New Material Technology Co Ltd	UEW	130°C	UL 1446	UL E197317
(Alternative)	DALIAN FUJI FINE CO LTD	xUEW-U	130°C	UL 1446	UL E193774
(Alternative)	FENG CHING METAL CORP	xUEW-2	130°C	UL 1446	UL E172395
(Alternative)	Pacific	UEW/U@	130°C	UL 1446	UL E201757
(Alternative)	JUNG SHING WIRE CO LTD	UEW-2	130°C	UL 1446	UL E174837
(Alternative)	SUNTEK HOLDINGS LIMITED	xUEW130	130°C	UL 1446	UL E234867
(Alternative)	Interchangeable	Interchangeable	130°C	UL 1446	UL
- Tube	Changyuan Electronics Group Co Ltd	CB-TT-T	200°C	UL 224	UL E180908

(Alternative)	Changyuan Electronics Group Co Ltd	CB-TT-L	200°C	UL 224	UL E180908
(Alternative)	Great Holding Industrial Co Ltd	TFT-201	200°C	UL 224	UL E156256
(Alternative)	Great Holding Industrial Co Ltd	TFL-201	200°C	UL 224	UL E156256
(Alternative)	Shenzhen Woer Heat-Shrinkable Material Co Ltd	WF	200°C	UL 224	UL E203950
(Alternative)	Interchangeable	Interchangeable	200°C	UL 224	UL
- Insulation tape	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	PZ* (b)	130°C	UL 510A	UL E165111
(Alternative)	Jingjiang Fuwei Adhesive Product Co Ltd	FW	130°C	UL 510A	UL E302608
(Alternative)	Jingjiang Jingyi Adhesive Product Co Ltd	JY25-A (b)	130°C	UL 510A	UL E246950
(Alternative)	Interchangeable	Interchangeable	130°C	UL 510A	UL
- Margin tape	Jingjiang Jingyi Adhesive Product Co Ltd	WF310 (a)	130°C, min. width 3.2 mm	UL 510A	UL E246950
(Alternative)	Jingjiang Fuwei Adhesive Product Co Ltd	WF101	130°C, min. width 3.2 mm	UL 510A	UL E302608
(Alternative)	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	WF* (c)(h)	130°C, min. width 3.2 mm	UL 510A	UL E165111
(Alternative)	Interchangeable	Interchangeable	130°C	UL 510A	UL
- Thermostat	SEKI CONTROLS CO LTD	ST-22	105°C	IEC/EN 60730 UL 873	VDE 40024004 UL E162183
(Alternative)	SEKI CONTROLS CO LTD	ST-22	105°C	IEC/EN 60730 UL 60730-1 CSA-E60730-1	VDE 40010191 UL/cUL E162232

Supplementary information:

¹⁾ Provided evidence ensures the agreed level of compliance. See OD-2039

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

Note: License available upon request.

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Customer's Testing Facility according to CTF stage 1 or CTF stage 2 procedure has been used.

Note: This page may be removed when CTF stage 1 or CTF stage 2 are not used. See also clause 4.8 in OD 2020 for more details.

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date	Calibration due date
5.2	Electrical energy source classifications	Power meter (D21110000007)	AC 0-150V/0-300V	2022.02.15	2025.02.14
		Digital Phosphor Oscilloscope (D20512001252)	Vertical deflection factor: 1kHz 1V/Div 1.1E-02 Horizontal Deflection Factor: 1kHz 1us/Div 4.0E-03	2023.07.30	2024.07.29
		Signal Generator (D20512000667)	Flatness :0.1dB Power Spectrum Density:0.3dB	2023.10.27	2024.10.26
		Oscilloscope Probe (100x) (D20512001252-1)	Attention:100X Input voltage:2000V System bandwidth:100MHz	2023.07.30	2024.07.29
5.4.1.4 B.2.6	Maximum operating temperatures for materials, components and systems	Power meter (D21110000007)	AC 0-150V/0-300V	2022.02.15	2025.02.14
		Digital Phosphor Oscilloscope (D20512001252)	Vertical deflection factor: 1kHz 1V/Div 1.1E-02 Horizontal Deflection Factor: 1kHz 1us/Div 4.0E-03	2023.07.30	2024.07.29
		Signal Generator (D20512000930)	Flatness :0.1dB Power Spectrum Density:0.3dB	2023.10.27	2024.10.26
		Oscilloscope Probe (100x) (D20512001252-1)	Attention:100X Input voltage:2000V System bandwidth:100MHz	2023.07.30	2024.07.29
		Hybrid Recorder (D20512000650)	0.1°C	2023.10.27	2024.10.26
		Stopwatch (H20512001184)	0.1s, 24h	2025.04.10	2025.04.09
5.4.1.8	Determination of working voltage	Power meter (D21110000007)	AC 0-150V/0-300V	2022.02.15	2025.02.14
		Digital Phosphor Oscilloscope (D20512001252)	Vertical deflection factor: 1kHz 1V/Div 1.1E-02 Horizontal Deflection Factor: 1kHz 1us/Div 4.0E-03	2023.07.30	2024.07.29
		Signal Generator (D20512000667)	Flatness :0.1dB Power Spectrum Density:0.3dB	2023.10.27	2024.10.26
		Oscilloscope Probe (100x) (D20512001252-1)	Attention:100X Input voltage:2000V System bandwidth:100MHz	2023.07.30	2024.07.29

5.4.8	Humidity conditioning	Humidity oven (D20512002047)	-40°C -100°C, 0.3°C 30%- 95% RH 5%	2025.04.10	2025.04.09
		Stopwatch (H20512001184)	0.1s, 24h	2025.04.10	2025.04.09
5.4.9	Electric strength test	High-pot tester (D20512000644)	DCV :0.5%, ACV:1%, DCA:0.5%, ACA:0.5%	2022.02.15	2025.02.14
5.5.2.2	Safeguards against capacitance discharge test	Digital Phosphor Oscilloscope (D20512001252)	Vertical deflection factor: 1kHz 1V/Div 1.1E-02 Horizontal Deflection Factor: 1kHz 1us/Div 4.0E-03	2023.07.30	2024.07.29
		Oscilloscope Probe (100x) (D20512001252-1)	Attention:100X Input voltage:2000V System bandwidth:100MHz	2023.07.30	2024.07.29
		Power meter (D21110000007)	AC 0-150V/0-300V	2022.02.15	2025.02.14
5.6.6	Ground continuity test	Ground continuity tester (D20512000645)	AC Resistance: 0.5%	2022.02.15	2025.02.14
		Stopwatch (H20512001184)	0.1s, 24h	2025.04.10	2025.04.09
5.7.2.2, 5.7.4	Earthed accessible conductive part test	Power meter (D21110000007)	AC 0-150V/0-300V	2022.02.15	2025.02.14
		Digital Phosphor Oscilloscope (D20512001252)	Vertical deflection factor: 1kHz 1V/Div 1.1E-02 Horizontal Deflection Factor: 1kHz 1us/Div 4.0E-03	2023.07.30	2024.07.29
		Signal Generator (D20512000667)	Flatness :0.1dB Power Spectrum Density:0.3dB	2023.10.27	2024.10.26
		Oscilloscope Probe (100x) (D20512001252-1)	Attention:100X Input voltage:2000V System bandwidth:100MHz	2023.07.30	2024.07.29
		Leakage current tester (D20512000612)	0-300V 3%	2022.02.15	2025.02.14
5.7.5	Protective conductor current	Leakage current tester (D20512000612)	0-300V 3%	2022.02.15	2025.02.14
6.2.2	Electrical power sources (PS) measurements for classification	Power meter (D21110000007)	AC 0-150V/0-300V	2022.02.15	2025.02.14
		Digital Phosphor Oscilloscope (D20512001252)	Vertical deflection factor: 1kHz 1V/Div 1.1E-02 Horizontal Deflection Factor: 1kHz 1us/Div 4.0E-03	2023.07.30	2024.07.29
		Signal Generator (D20512000667)	Flatness :0.1dB Power Spectrum Density:0.3dB	2023.10.27	2024.10.26

		Oscilloscope Probe (100x) (D20512001252-1)	Attention:100X Input voltage:2000V System bandwidth:100MHz	2023.07.30	2024.07.29
		Leakage current tester (D20512000612)	0-300V 3%	2022.02.15	2025.02.14
		Multimeter (D20512000649)	0-600V, 1.5A-30A +/-0.5%	2022.02.15	2025.02.14
		Stopwatch (H20512001184)	0.1s, 24h	2025.04.10	2025.04.09
8.6	Stability test	Electric Balance (D20512000646)	Max. 500N	2023.07.30	2024.07.29
		Stability test bench (D21611000014)	Tilt 10 ° , rotate 360 °	2023.10.27	2024.10.26
9.4	Equipment safeguards for thermal burn	Power meter (D21110000007)	AC 0-150V/0-300V	2022.02.15	2025.02.14
		Digital Phosphor Oscilloscope (D20512001252)	Vertical deflection factor: 1kHz 1V/Div 1.1E-02 Horizontal Deflection Factor: 1kHz 1us/Div 4.0E-03	2023.07.30	2024.07.29
		Signal Generator (D20512000667)	Flatness :0.1dB Power Spectrum Density:0.3dB	2023.10.27	2024.10.26
		Oscilloscope Probe (100x) (D20512001252-1)	Attention:100X Input voltage:2000V System bandwidth:100MHz	2023.07.30	2024.07.29
		Hybrid Recorder (D20512000650)	0.1°C	2023.10.27	2024.10.26
B.2.5	Input tests	Power meter (D21110000007)	AC 0-150V/0-300V	2022.02.15	2025.02.14
		Digital Phosphor Oscilloscope (D20512001252)	Vertical deflection factor: 1kHz 1V/Div 1.1E-02 Horizontal Deflection Factor: 1kHz 1us/Div 4.0E-03	2023.07.30	2024.07.29
		Signal Generator (D20512000667)	Flatness :0.1dB Power Spectrum Density:0.3dB	2023.10.27	2024.10.26
		Oscilloscope Probe (100x) (D20512001252-1)	Attention:100X Input voltage:2000V System bandwidth:100MHz	2023.07.30	2024.07.29
B.3	Simulated Abnormal operating condition tests	Power meter (D21110000007)	AC 0-150V/0-300V	2022.02.15	2025.02.14
		Digital Phosphor Oscilloscope (D20512001252)	Vertical deflection factor: 1kHz 1V/Div 1.1E-02 Horizontal Deflection Factor: 1kHz 1us/Div 4.0E-03	2023.07.30	2024.07.29
		Signal Generator	Flatness :0.1dB	2023.10.27	2024.10.26

		(D20512000667)	Power Spectrum Density:0.3dB		
		Oscilloscope Probe (100x) (D20512001252-1)	Attention:100X Input voltage:2000V System bandwidth:100MHz	2023.07.30	2024.07.29
		Hybrid Recorder (D20512000650)	0.1°C	2023.10.27	2024.10.26
B.4	Simulated single fault conditions	Power meter (D21110000007)	AC 0-150V/0-300V	2022.02.15	2025.02.14
		Digital Phosphor Oscilloscope (D20512001252)	Vertical deflection factor: 1kHz 1V/Div 1.1E-02 Horizontal Deflection Factor: 1kHz 1us/Div 4.0E-03	2023.07.30	2024.07.29
		Multimeter (D20512000649)	0-600V 1.5A-30A +/-0.5%	2022.02.15	2025.02.14
		Signal Generator (D20512000667)	Flatness :0.1dB Power Spectrum Density:0.3dB	2023.10.27	2024.10.26
		Oscilloscope Probe (100x) (D20512001252-1)	Attention:100X Input voltage:2000V System bandwidth:100MHz	2023.07.30	2024.07.29
F.3.9	Durability, legibility and permanence of markings	Stopwatch (H20512001184)	0.1s, 24h	2025.04.10	2025.04.09
G.5.3.3	Transformer overload	Power meter (D21110000007)	AC 0-150V/0-300V	2022.02.15	2025.02.14
		Digital Phosphor Oscilloscope (D20512001252)	Vertical deflection factor: 1kHz 1V/Div 1.1E-02 Horizontal Deflection Factor: 1kHz 1us/Div 4.0E-03	2023.07.30	2024.07.29
		Multimeter (D20512000649)	0-600V, 1.5A-30A +/-0.5%	2022.02.15	2025.02.14
		Signal Generator (D20512000667)	Flatness :0.1dB Power Spectrum Density:0.3dB	2023.10.27	2024.10.26
		Oscilloscope Probe (100x) (D20512001252-1)	Attention:100X Input voltage:2000V System bandwidth:100MHz	2023.07.30	2024.07.29
T.2	Steady force test, 10 N	Push Pull Scale (D20512000646)	Max. 500N	2023.07.30	2024.07.29
		Stopwatch (H20512001184)	0.1s, 24h	2025.04.10	2025.04.09
T.3, 4.4.3.2	Steady force test, 30N	Push Pull Scale (D20512000646)	Max. 500N	2023.07.30	2024.07.29
		Stopwatch (H20512001184)	0.1s, 24h	2025.04.10	2025.04.09

T.5	Steady force test, 250N	Push Pull Scale (D20512000646)	Max. 500N	2023.07.30	2024.07.29
		Stopwatch (H20512001184)	0.1s, 24h	2025.04.10	2025.04.09
T.6	Impact test	Steel Ball (D21611000024)	500g	2023.10.27	2024.10.26
		Tape (H20512001185)	5m	2023.07.30	2024.07.29
		Callipers (K20512000102)	0-200mm	2023.07.30	2024.07.29
		Stopwatch (H20512001184)	0.1s, 24h	2025.04.10	2025.04.09

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment - Part 1: Safety requirements)			
Differences according to : EN IEC 62368-1:2020+A11:2020			
Attachment Form No. : EU_GD_IEC62368_1E			
Attachment Originator : UL(Demko)			
Master Attachment : 2021-02-04			
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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 62368-1:2020+A11:2020. All other clause numbers in that column, except for those in the paragraph below, refers to IEC 62368-1:2018. Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2018 are prefixed "Z".		P
	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P
1	Modification to Clause 3 .		N/A
3.3.19	Sound exposure <i>Replace 3.3.19 of IEC 62368-1 with the following definitions:</i>		N/A

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

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

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

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Clause	Requirement + Test	Result - Remark	Verdict
	acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dB.		
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. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 27 mV (analogue interface) or -25 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1. – The RS1 limits will be updated for all devices as per 10.6.3.2.		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 130 detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 100 dB(A) when playing the fixed “programme simulation noise” as described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 150 mV (analogue interface) or -10 dBFS (digital interface) when playing the fixed “programme simulation noise” as described in EN 50332-1.		N/A
10.6.2.4	RS3 limits RS3 is a class 3 acoustic energy source that exceeds RS2 limits.		N/A
10.6.3	Classification of devices (new)		N/A
10.6.3.1	General Previous limits (10.6.2) created abundant false negative and false positive PMP sound level		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	warnings. New limits, compliant with The Commission Decision of 23 June 2009, are given below.		
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 $L_{Aeq,T}$ acoustic output shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1.		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, shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output level, integrated over one week, as described in EN50332-3, shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1.		N/A
10.6.4	Requirements for maximum sound exposure		N/A
10.6.4.1	Measurement methods All volume controls shall be turned to maximum during tests. Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
10.6.4.2	Protection of persons Except as given below, protection requirements for parts accessible to ordinary persons, instructed persons and skilled persons are given in 4.3. NOTE 1 Volume control is not considered a safeguard. Between RS2 and an ordinary person, the basic safeguard may be replaced by an instructional safeguard in accordance with Clause F.5, except that the instructional safeguard shall be placed on the equipment, or on the packaging, or in the instruction manual. Alternatively, the instructional safeguard may be given through the equipment display during use. The elements of the instructional safeguard shall be as follows: – element 1a: the symbol , IEC 60417-6044 (2011-01) – element 2: “High sound pressure” or equivalent wording – element 3: “Hearing damage risk” or equivalent wording – element 4: “Do not listen at high volume levels for long periods.” or equivalent wording An equipment safeguard shall prevent exposure of an ordinary person to an RS2 source without intentional physical action from the ordinary person and shall automatically return to an output level not exceeding what is specified for an RS1 source when the power is switched off. The equipment shall provide a means to actively inform the user of the increased sound level when the equipment is operated with an output exceeding RS1. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an output exceeding RS1. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time. NOTE 2 Examples of means include visual or audible signals. Action from the user is always needed. NOTE 3 The 20 h listening time is the accumulative listening time, independent of how often and how long the personal music player has been switched off. A skilled person shall not be unintentionally exposed to RS3.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.6.5	Requirements for dose-based systems		N/A
10.6.5.1	General requirements Personal music players shall give the warnings as provided below when tested according to EN 50332-3, using the limits from this clause. The manufacturer may offer optional settings to allow the users to modify when and how they wish to receive the notifications and warnings to promote a better user experience without defeating the safeguards. This allows the users to be informed in a method that best meets their physical capabilities and 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 % <i>CSD</i> is reached, and at least at every 100 % further increase of <i>CSD</i>, the device shall warn the user and require an acknowledgement. In case the user does not acknowledge, the output level shall automatically decrease to compliance with class RS1. The warning shall at least clearly indicate that listening above 100 % <i>CSD</i> leads to the risk of hearing damage or loss.		N/A
10.6.5.3	Exposure-based requirements With only dose-based requirements, cause and effect could be far separated in time, defying the purpose of educating users about safe listening practice. In addition to dose-based requirements, a PMP shall therefore also put a limit to the short-term sound level a user can listen at. The exposure-based limiter (EL) shall automatically reduce the sound level not to exceed 100 dB(A) or 150 mV integrated over the past 180 s, based on methodology defined in EN 50332-3. The EL settling time (time from starting level		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	reduction to reaching target output) shall be 10 s or faster. Test of EL functionality is conducted according to EN 50332-3, using the limits from this clause. For equipment provided as a package (player with its listening device), the level integrated over 180 s shall be 100 dB or lower. For equipment provided with a standardized connector, the unweighted level integrated over 180 s shall be no more than 150 mV for an analogue interface and no more than -10 dBFS for a digital interface. NOTE In case the source is known not to be music (or test signal), the EL may be disabled.		
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 maximize the measured acoustic output, the input voltage of the listening device when playing the fixed "programme simulation noise" as described in EN 50332-1 shall be ≥ 75 mV. NOTE The values of 94 dB and 75 mV correspond with 85 dB and 27 mV or 100 dB and 150 mV.		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, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the $L_{Aeq,T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.		N/A
10.6.6.3	Cordless listening devices In cordless mode, – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the cordless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the receiving device (for example, built-in volume level control,		N/A

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Clause	Requirement + Test				Result - Remark		Verdict
	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 $L_{Aeq,\tau}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.						
10.6.6.4	Measurement method <i>Measurements shall be made in accordance with EN 50332-2 as applicable.</i>						N/A
3	Modification to the whole document						
	Delete all the “country” notes in the reference document according to the following list:						P
	0.2.1	Note 1 and 2	1	Note 4 and 5	3.3.8.1	Note 2	
	3.3.8.3	Note 1	4.1.15	Note	4.7.3	Note 1 and 2	
	5.2.2.2	Note	5.4.2.3.2.2 Table 12	Note c	5.4.2.3.2.4	Note 1 and 3	
	5.4.2.3.2.4 Table 13	Note 2	5.4.2.5	Note 2	5.4.5.1	Note	
	5.4.10.2.1	Note	5.4.10.2.2	Note	5.4.10.2.3	Note	
	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3 and 4	
	5.6.8	Note 2	5.7.6	Note	5.7.7.1	Note 1 and Note 2	
	8.5.4.2.3	Note	10.2.1 Table 39	Note 3 and 4 and 5	10.5.3	Note 2	
	10.6.1	Note 3	F.3.3.6	Note 3	Y.4.1	Note	
	Y.4.5	Note					
4	Modification to Clause 1						
1	Add the following note: <i>NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.</i>						P
5	Modification to 4.Z1						

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.Z1	Add the following new subclause after 4.9: To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. mains, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		N/A
6	Modification to 5.4.2.3.2.4		
5.4.2.3.2.4	Add the following to the end of this subclause: The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.	No external circuit.	N/A
7	Modification to 10.2.1		
10.2.1	Add the following to ^{c)} and ^{d)} in table 39: For additional requirements, see 10.5.1.	No radiation.	N/A
8	Modification to 10.5.1		

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

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

10	Modification to Bibliography		
	Add the following notes for the standards indicated:		P
	IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		
11	ADDITION OF ANNEXES		
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		N/A
4.1.15	Denmark, Finland, Norway and Sweden	No such construction.	N/A
	To the end of the subclause the following is added: Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord." In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"		

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; - the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		
5.5.2.1	Norway After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		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.10.2.		N/A
5.6.1	Denmark Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		P
5.6.4.2.1	Ireland and United Kingdom After the indent for pluggable equipment type A, the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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.		N/A
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.		N/A
5.6.8	Norway To the end of the subclause the following is added: Equipment connected with an earthed mains plug is classified as class I equipment . See the Norway marking requirement in 4.1.15. The symbol IEC 60417-6092, as specified in F.3.6.2, is accepted.		N/A
5.7.6	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

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

5.7.6.2	Denmark To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A
5.7.7.1	Norway and Sweden To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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 2 nd dash bullet in 3 rd paragraph: An emergency stop system complying with the requirements of IEC 60204-1 and ISO 13850 is required where there is a risk of personal injury.		N/A
B.3.1 and B.4	Ireland and United Kingdom The following is applicable: 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	Not direct plug-in equipment	N/A

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

G.4.2	Denmark To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a polyphase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a <i>Justification:</i> Heavy Current Regulations, Section 6c		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	United Kingdom To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc. (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
G.7.1	Ireland To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	Ireland and United Kingdom To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm ² is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A

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

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		
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 (EN)			P	
	Type of flexible cord		Code designations		P
			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		

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1 U.S.A. AND CANADA NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment – Part 1: Safety requirements)			
Differences according to : CSA/UL 62368-1:2019			
TRF template used: : IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No. : US_CA_ND_IEC62368_1E			
Attachment Originator : UL(US)			
Master Attachment : Dated 2022-03-04			
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IEC 62368-1 - US and Canadian National Differences Special National Conditions based on Regulations and Other National Differences			
1 (1DV.1) (1.3)	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part 1, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, for such equipment marked or otherwise identified, installation is allowed per the Standard for the Protection of Information Technology Equipment, ANSI/NFPA 75.	In accordance with the National Electrical Code (NEC) and the Canadian Electrical Code (CEC) part 1 CAN/CSA C22.1, ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	P
1 (1DV.2.1)	This standard includes additional requirements for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities. See Annex DVB.	Not such application.	N/A
1 (1DV.2.2)	This standard includes additional requirements for equipment intended for mounting under cabinets. See Annex DVC.	Not such application.	N/A
1 (1DV.2.3)	IEC 62368-3 clause 5 for DC power transfer at ES1 or ES2 voltage levels is considered informative. IEC 62368-3 clause 6 for remote power feeding telecommunication (RFT) circuits is considered normative (see ITU K.50). Alternatively, equipment with RFT circuits are given in either UL 2391 or CSA/UL 60950-21. RFT-C circuits are not permitted unless the RFT-C circuit complies with RFT-V limits ($\leq 200V$ per conductor to earth).	Not such application.	N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1 (1DV.3)	For protection against direct lightning strikes, reference is made to NFPA 780 and CAN/CSA-B72 for additional requirements.	Not outdoor equipment.	N/A
1 (DV.5)	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.	Not power distribution subassemblies	N/A
4.1 (4.1.17)	For lengths exceeding 3.05 m, external interconnecting cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the NEC.		N/A
	For lengths 3.05 m or less, external interconnecting cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.		N/A
4.6 (4.6.2)	Wire-wrap terminals have special construction and performance requirements.	No wire-wrap terminals.	N/A
4.8 (4.8.3, 4.8.4.5, 4.8.5)	Coin / button cell batteries have modified special construction and performance requirements.	No Coin / button cell batteries.	N/A
5.4.2.3.2 (5.4.2.3.2.1)	Surge Arrestors and Transient Voltage Surge Suppressors installed external to the equipment are required to comply with the appropriate NEC and CEC requirements.		N/A
5.5.9	Receptacles, rated 125-V, single phase, 15- or 20-A accessible to either ordinary, instructed, or skilled persons are required to be provided with GFCI Protection for Personnel if the equipment containing the receptacles is installed outdoors. The protection devices are required to comply with UL 943, and CAN/CSA C22.2 No.144.	No receptacle used.	N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.7, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment.		N/A
5.7.8 (5.7.8.1)	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	No receive telecommunication ringing signals	N/A
6.5.1	PS3 wiring outside a fire enclosure is required to comply with single fault testing in B.4, or be current limited per one of the permitted methods.	No PS3 wiring outside a fire enclosure	N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex F (F.3.3.9)	Output terminals provided for supply of other equipment, except mains supply, are required to be marked with a maximum rating or reference to equipment permitted to be connected.		N/A
Annex F (F.3.7)	Outdoor Enclosures are required to be classified and marked in accordance with UL 50 or 50E, or CAN/CSA C22.2 No. 94.1 or 94.2.		N/A
Annex G (G.7)	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
	Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Power supply cords are required to be no longer than 4.5 m in length if used in ITE Rooms.		N/A
	Power supply cords for outdoor equipment are required to be suitable outdoor use type as required by Section 400.4 of the NEC and Rule 4-012 of the CEC, i.e., marked "W."	Not outdoor equipment.	N/A
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No ringing signal.	N/A
Annex H.4	For circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No such circuit.	N/A
Annex Q (Q.3)	Equipment with paired conductor and/or coax communications cables/wiring connected to building wiring are required to have special voltage, current, power and marking requirements.	No paired conductor.	N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (1)	Equipment that is designed such that it may be powered from a separate electrical service, is required to meet applicable requirements for service equipment for control and protection of services and their installation and complies with Article 230 of the National Electrical Code (NEC), NFPA 70 and Section 6 of the Canadian Electrical Code, Part I, CSA C22.1.		N/A
	Equipment intended for use in spaces used for environmental air (plenums) are subjected to special flammability requirements for heat and visible smoke release.		N/A
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
	Consumer products designed or intended primarily for children 12 years of age or younger are subject to additional requirements in accordance with U.S. and Canadian Regulations.		N/A
	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
	Storage batteries and battery management equipment, other than associated with lead-acid batteries, and including battery backup systems that are not an integral part of stationary AV and ICT equipment, such as provided in separate cabinets, are required to be certified (listed) to the appropriate standard(s) for such storage batteries and equipment.		N/A
Annex DVA (5.6)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For equipment with the same dimensions for other applications, an external surface that is not a fire enclosure requires a minimum flammability classification of V-1.		N/A
Annex DVA (10.3)	Equipment with lasers is required to meet the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (10.5)	Equipment that produces ionizing radiation is required to comply with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (F.3.3.4)	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. Additional considerations apply for voltage ratings that exceed the attachment cap rating or that are lower than the "Normal Operating Condition" in Table 2 of CAN/CSA C22.2 No. 235."		N/A
Annex DVA (F.3.3.6)	Equipment identified for ITE (computer) room installation is required to be marked with the rated current.		N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position, where mounted in an enclosure, vertically mounted disconnect switches and circuit breakers with vertical operating means extending outside the enclosure are required to indicate in a location visible when accessing the external operating means whether the switch or circuit breaker is in the open (off) or closed (on) position.		N/A
Annex DVA (G.3.4)	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.	No outlets and receptacles.	N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non- interchangeable.		N/A
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles is required to comply with NEC 250.146(D) and CEC 10-400 and 10-612.	No receptacles.	N/A
Annex DVA (G.4.3)	Interconnection of units by conductors supplied by a limited power source, or a Class 2 circuit defined in the NEC/CEC may have field wiring connections other than specified in DVH.3, such as wire-wrap and crimp-on types, if the limited power source and Class 2 circuits are separated from all other circuits by barriers, routing or fixing.		N/A
Annex DVA (G.5.3)	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.	No individual transformers that distribute power to other units over branch circuit wiring.	N/A
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
Annex DVA (G.7)	Flexible cords used outdoors are required to have the suffix "W" marked on the flexible cord.		N/A
Annex DVA (M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the ITE room remote power-off circuit.		N/A
Annex DVA (Q)	If applicable per NEC 725.121(C), some limited power sources supplied from AV/ICT equipment are required to have a label indicating the maximum voltage and maximum current, or maximum voltage and nominal current output for each connection point. Where multiple connection points have the same rating, a single label is permitted to be used.		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Wiring terminals intended to supply Class 2 outputs in accordance with the NEC or CEC Part 1 are required to be marked with the voltage rating and "Class 2" or equivalent. The marking is located adjacent to the terminals and visible during wiring.		N/A
	Applicable parts of Chapter 8 of the NEC, and Rules 54 and 60 of the CEC, may be applicable to ITE installed outdoors with connections to communication systems.		N/A
Annex DVB (1)	Additional requirements apply for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities.		N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.		N/A
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These equipment and components include: appliance couplers, attachment plugs, battery backup systems, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, modular data centers, power supply cords, some power distribution equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.		P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.	Not for permanent connection to the mains supply	N/A
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are required to be in accordance with the NEC/CEC.		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVH (DVH.2.1)	For safe and reliable connection to a mains, permanently connected equipment is to be provided.		N/A
Annex DVH (DVH.2.2)	Additional considerations for D.C. mains.		N/A
Annex DVH (DVH.3.2.1)	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified.	No terminals for permanent wiring.	N/A
Annex DVH (DVH.3.2.3)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
Annex DVH (DVH.3.2.4)	All associated mains supply terminals are located in proximity to each other and to the main protective earthing terminal, if any.	Not permanent connected equipment.	N/A
Annex DVH (DVH.3.2.5)	Terminals are located, guarded or insulated so that, should a strand of a conductor escape when the conductor is fitted, there is no likelihood of accidental contact between such a strand and accessible conductive parts or unearthed conductive parts separated from accessible conductive parts by supplementary insulation only.	Not connect to DC mains.	N/A
Annex DVH (DVH.3.3)	When field connection to an external circuit is via wires (example, free conductors), the wires are not smaller than 18 AWG (0.82 mm ²) and the free length of the wire inside an outlet box or wiring compartment is 150 mm or more.		N/A
Annex DVH (DVH.3.4)	Size of protective earthing conductors and terminals		N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
Annex DVH (DVH.4.1)	Wire bending space		N/A
Annex DVH (DVH.4.2)	Volume of wiring compartment		N/A
Annex DVH (DVH.4.3)	Separation of circuits		N/A
Annex DVH (DVH.5)	Equipment markings and instructional safeguards		N/A
Annex DVH (DVH.5.1)	Identification of protective earthing terminal		N/A
Annex DVH (DVH.5.2)	Identification of terminal for earthed conductor (neutral)		N/A

IEC62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVH (DVH.5.3)	Identification of terminals for aluminium conductors		N/A
Annex DVH (DVH.5.4)	Wire temperature ratings		N/A
Annex DVH (DVH 5.5)	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.		N/A
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

Report No.: CN24GFLC 001

IEC 62368-1 ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1:2018 SAUDI ARABIA NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment Part 1: Safety requirements)			
Differences according to : National standard SASO-IEC 62368-1:2020			
TRF template used: : IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No. : SA_ND_IEC62368_1E			
Attachment Originator : SASO			
Master Attachment..... : 2022-12-22			
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	National Differences		--
			--
	Plugs used for pluggable equipment comply with standard SASO-2203.		N/A
--	Frequency (Hz)		P
	60 Hz		P
--	Rated voltage (V)		P
	Single phase 230 V Three phase 400 V		P

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



Picture 1. Overall view



Picture 2. Overall view

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



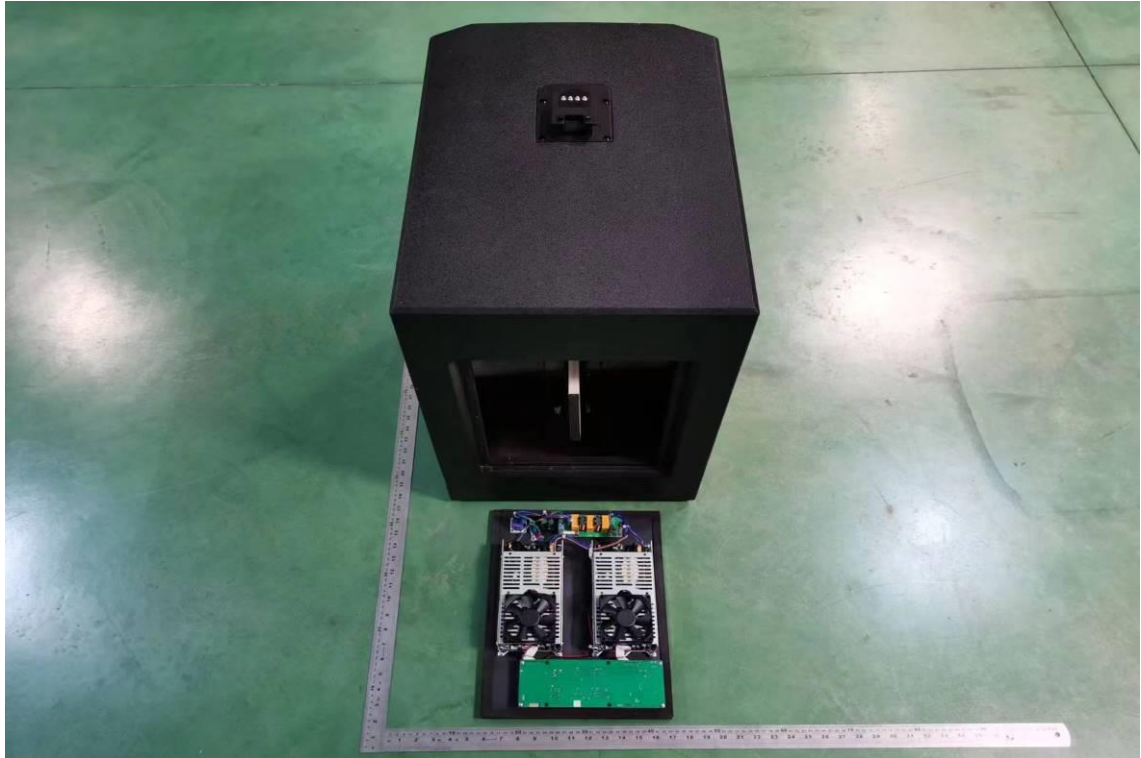
Picture 3. Overall view



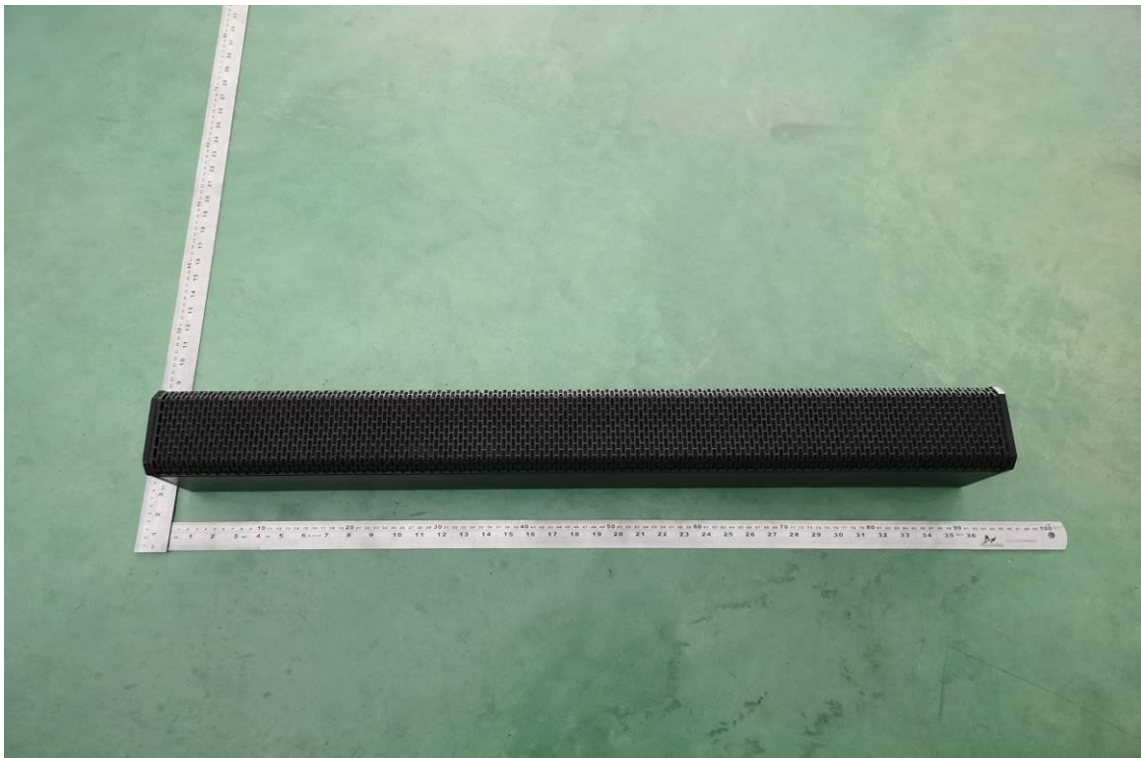
Picture 4. Internal view

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



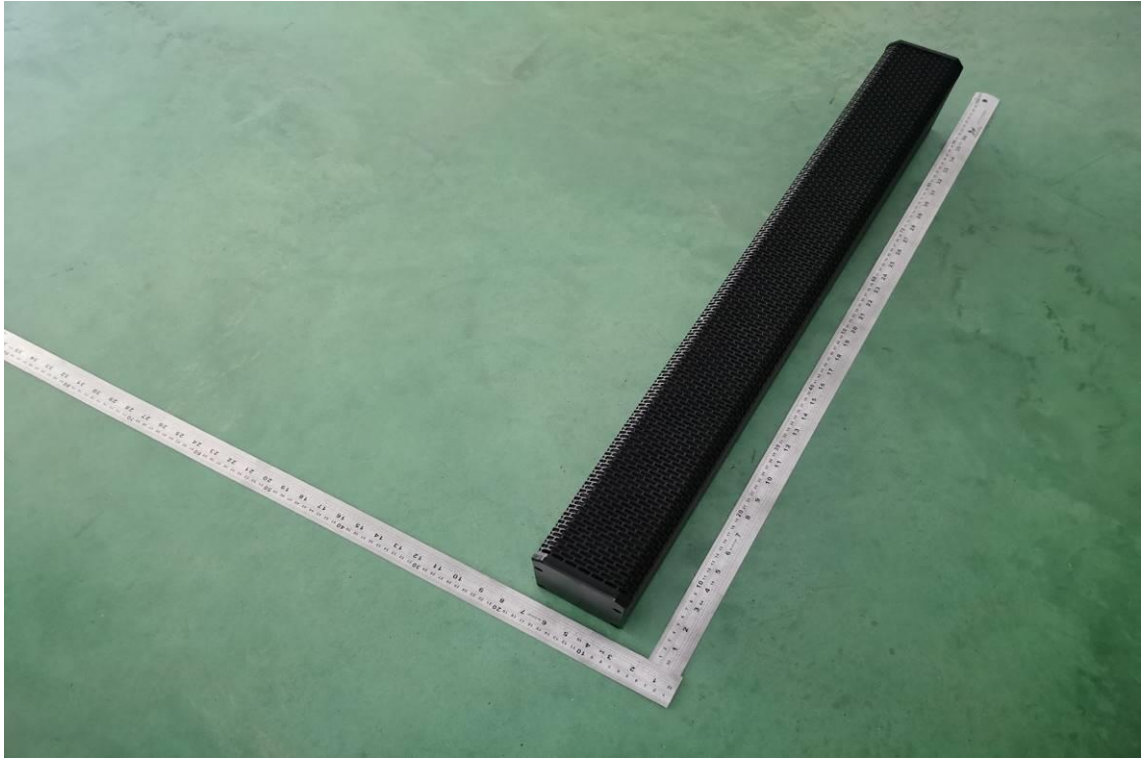
Picture 5. Rear panel view



Picture 6. Rear panel view

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



Picture 7. Rear panel view



Picture 8. Overall view

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



Picture 9. Overall view



Picture 10. Overall view

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



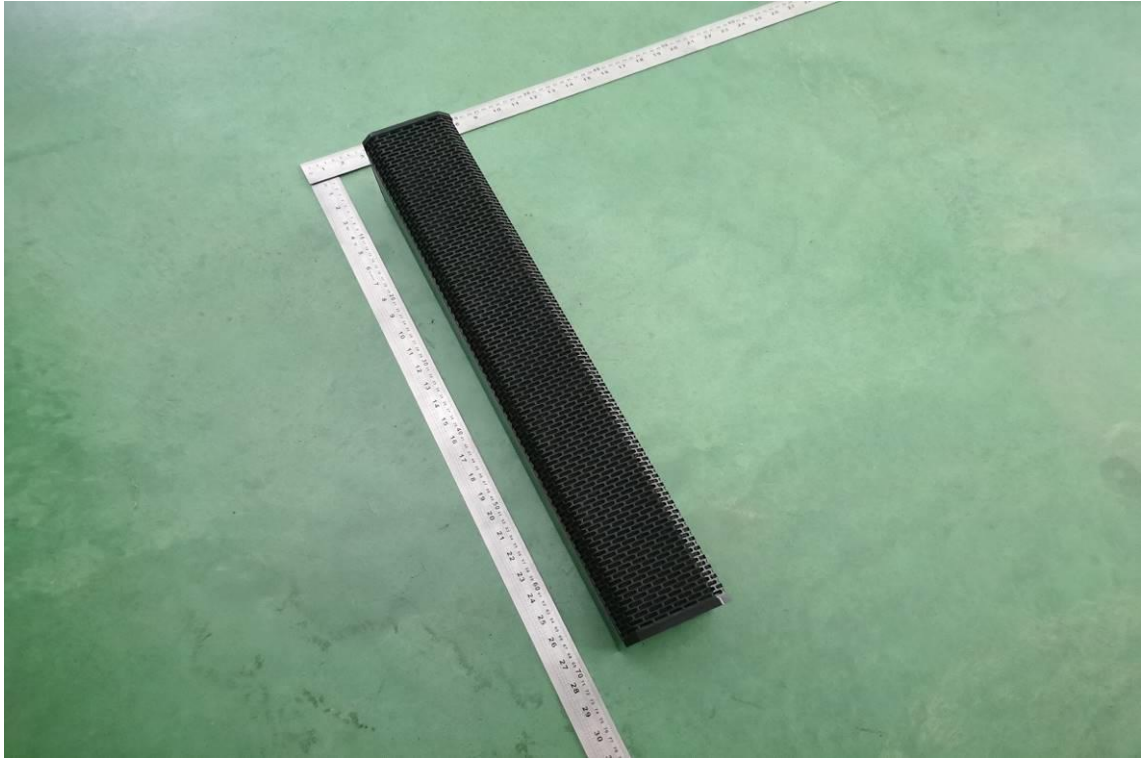
Picture 11. Overall view



Picture 12. Overall view

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



Picture 13. Overall view



Picture 14. Overall view

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



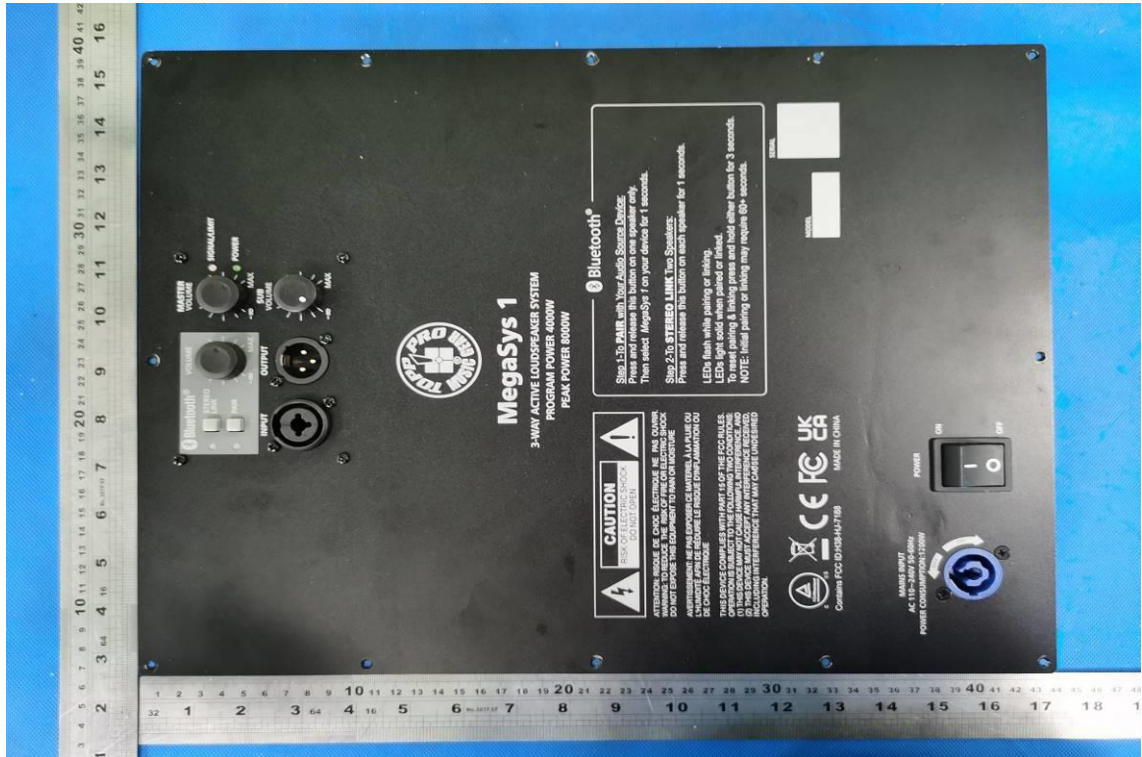
Picture 15. Overall view



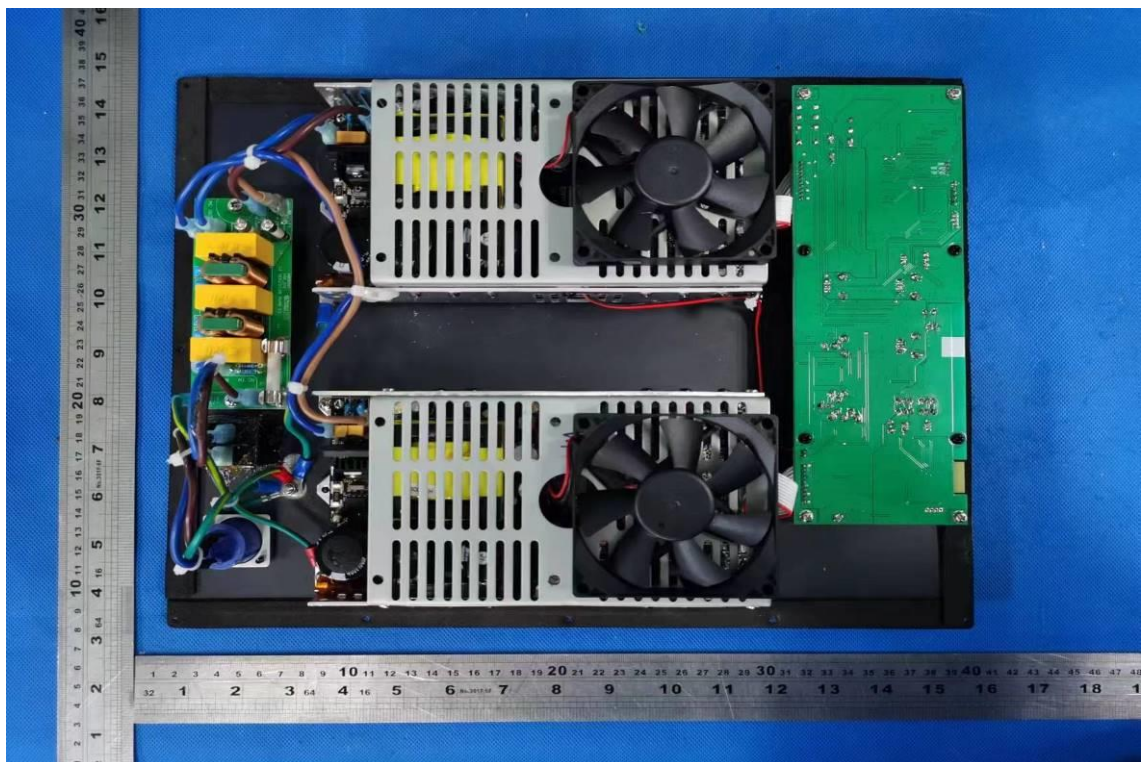
Picture 16. Overall view

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



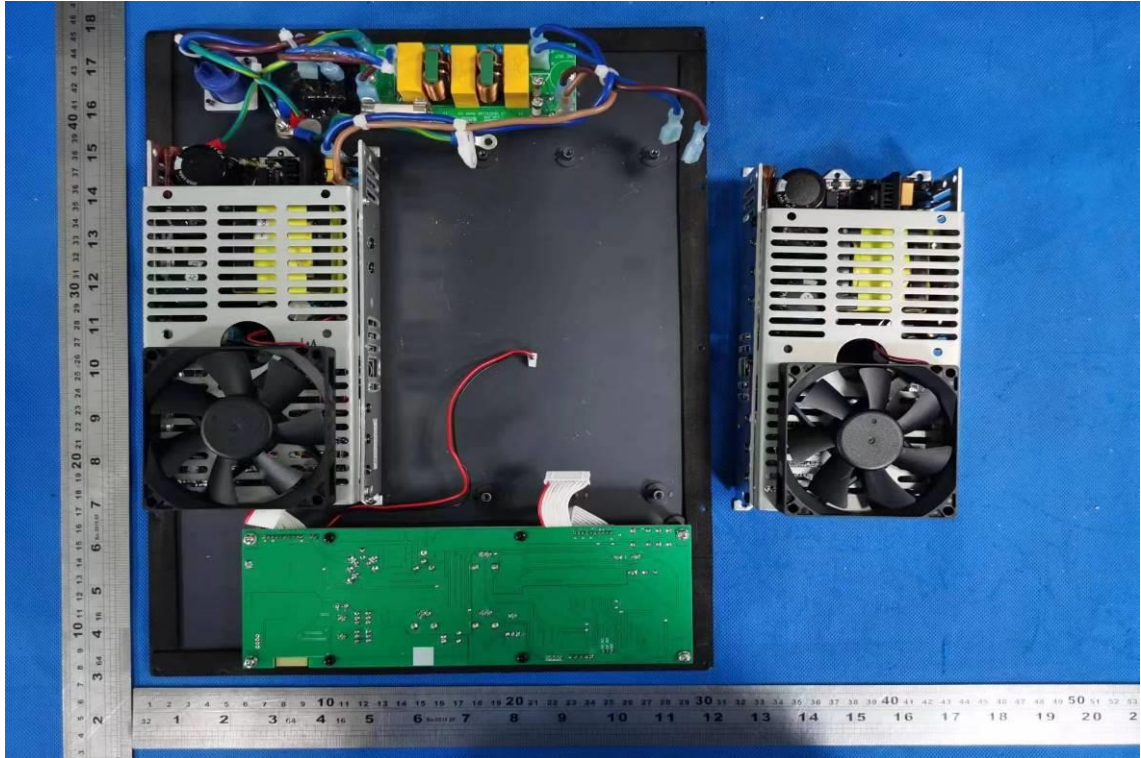
Picture 17. Overall view



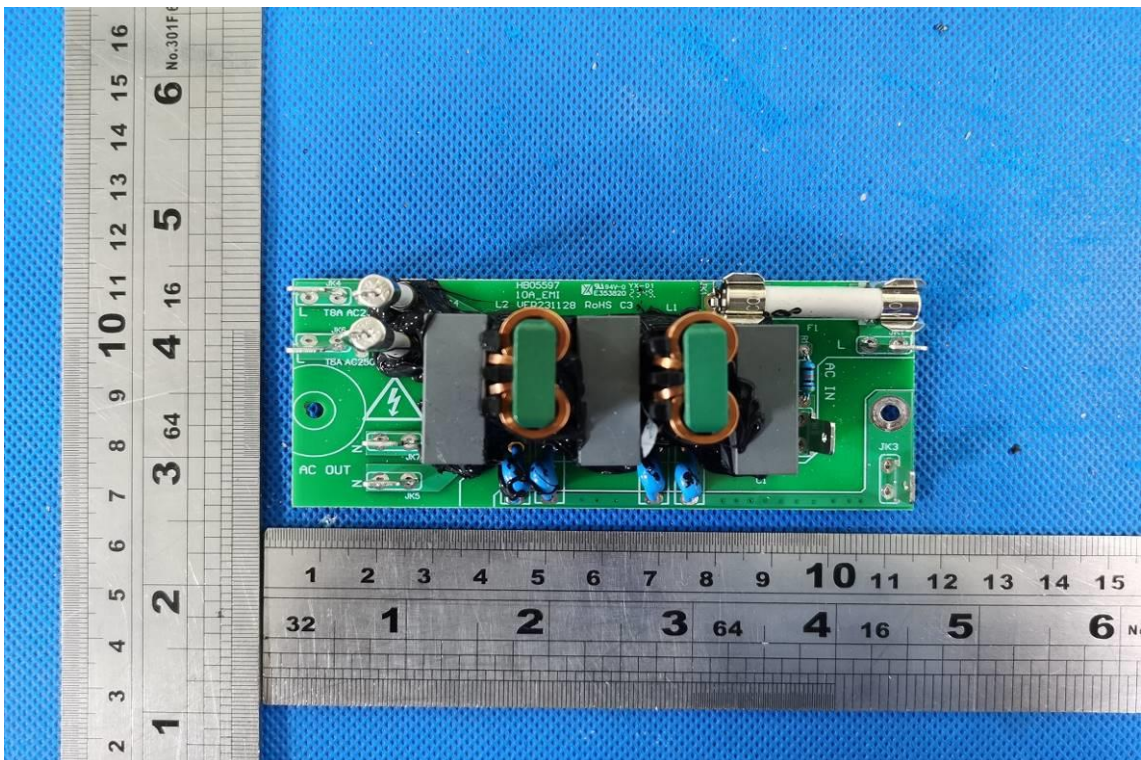
Picture 18. Overall view

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



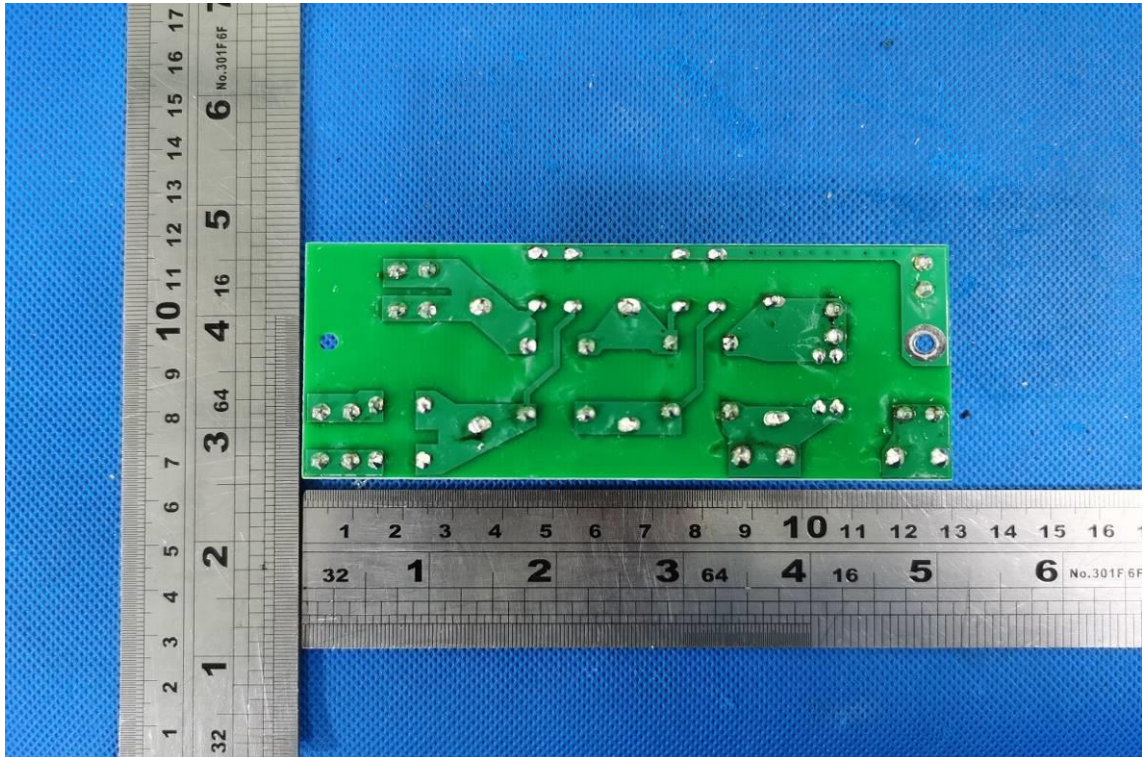
Picture 19. Overall view



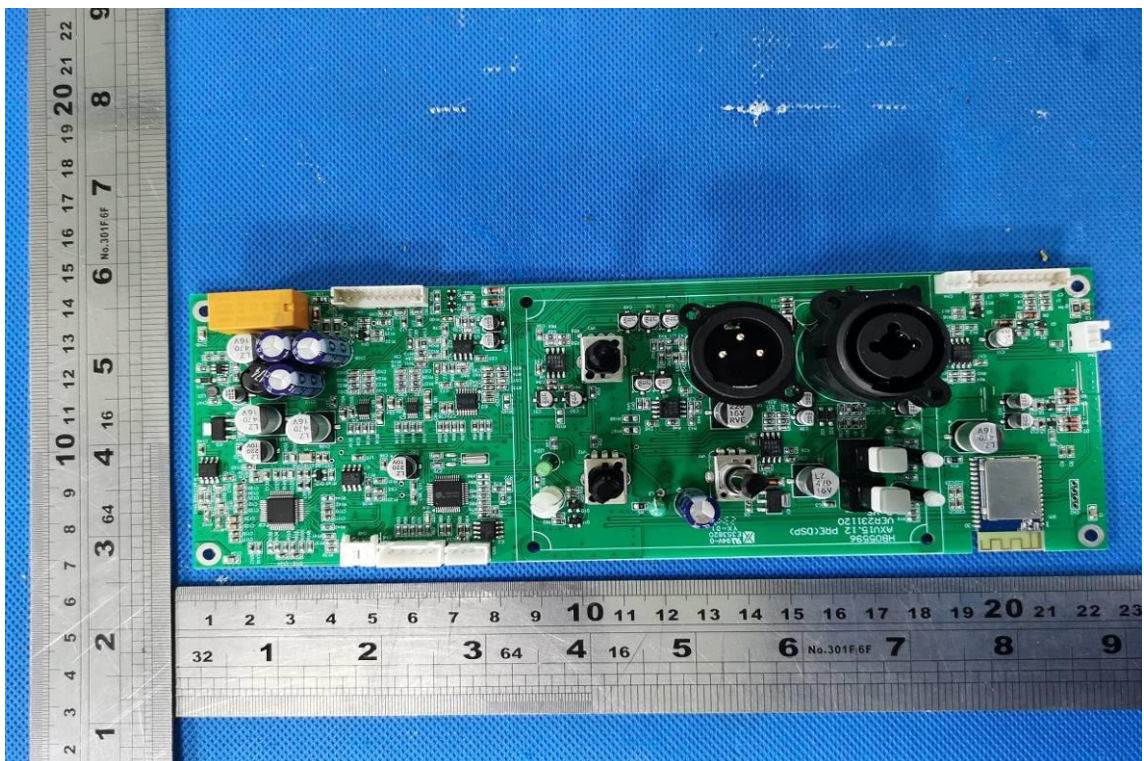
Picture 20. EMI board top view

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



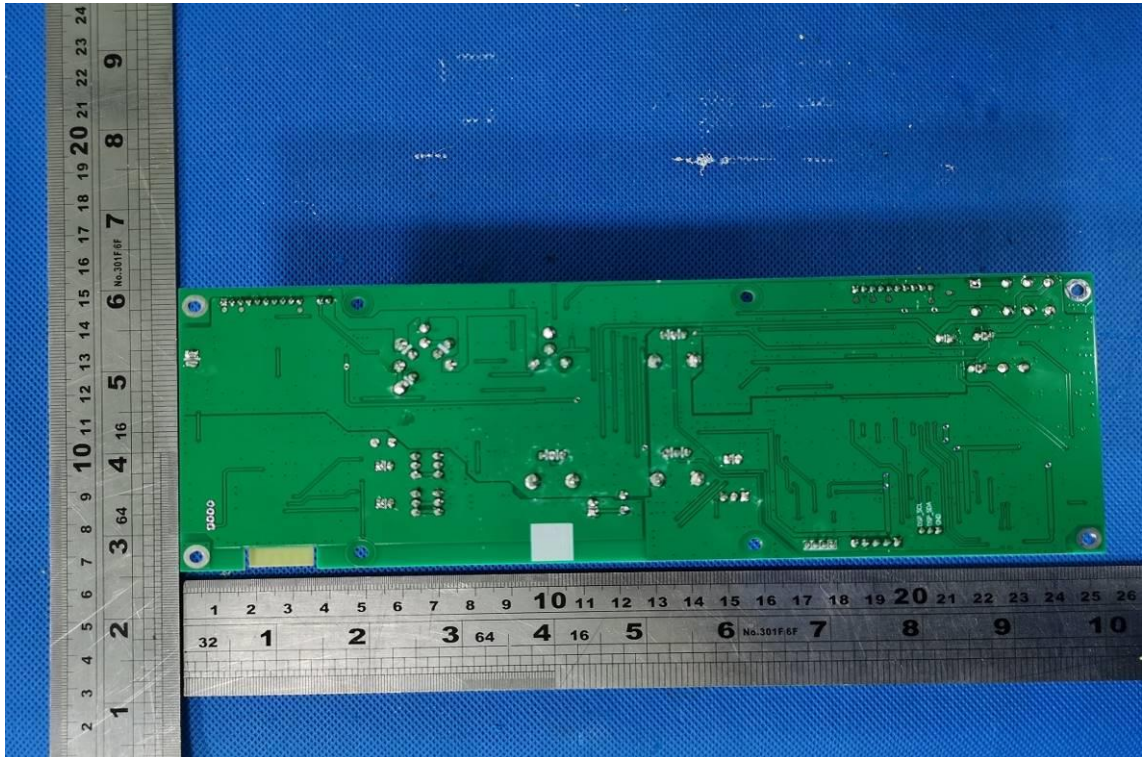
Picture 21. EMI board bottom view



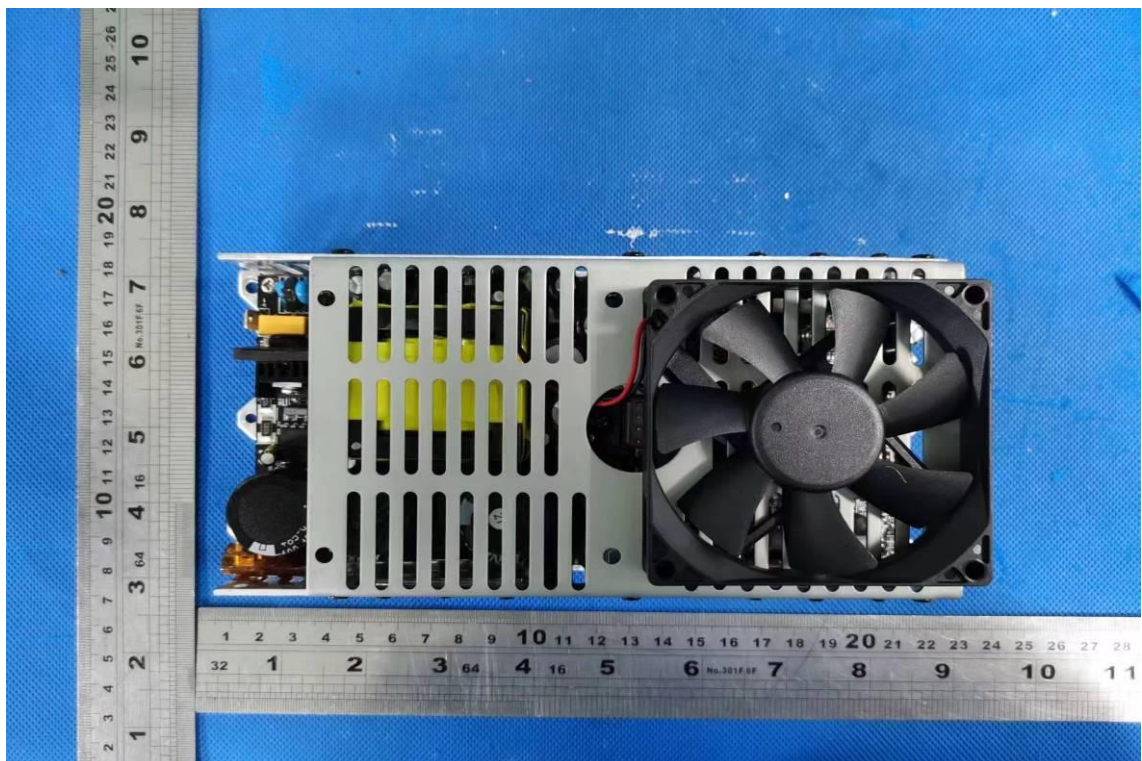
Picture 22. Audio output board top view

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



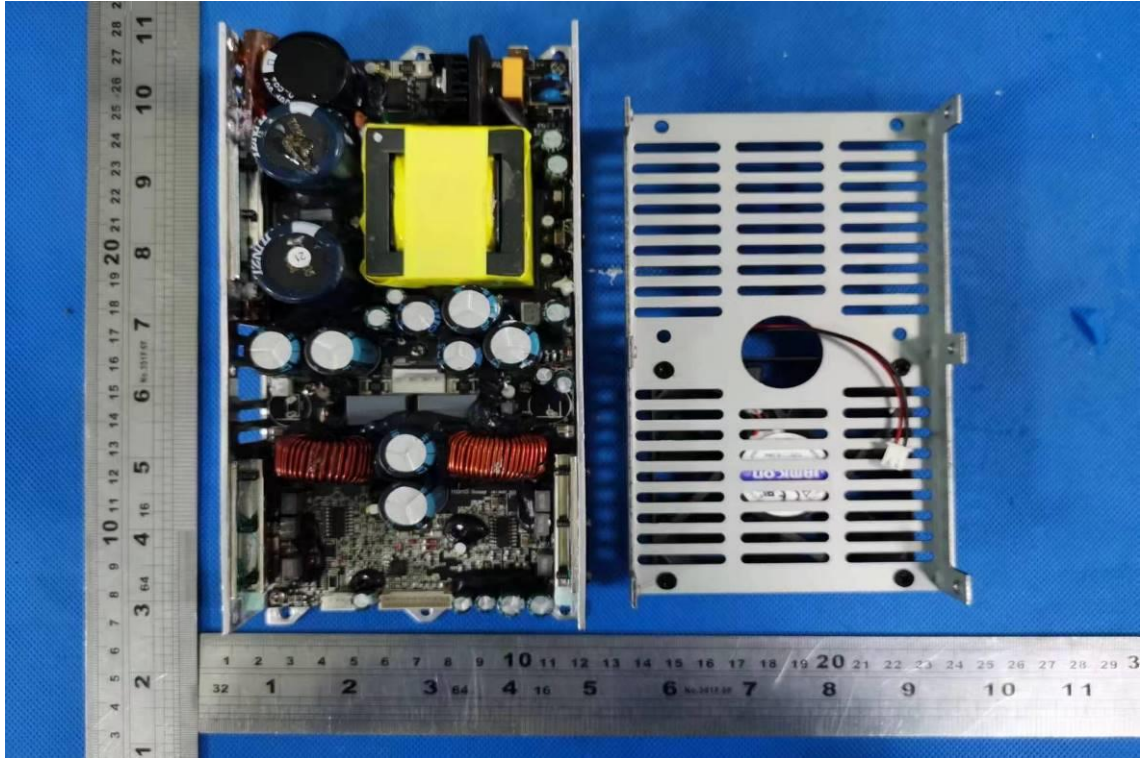
Picture 23. Audio output board bottom view



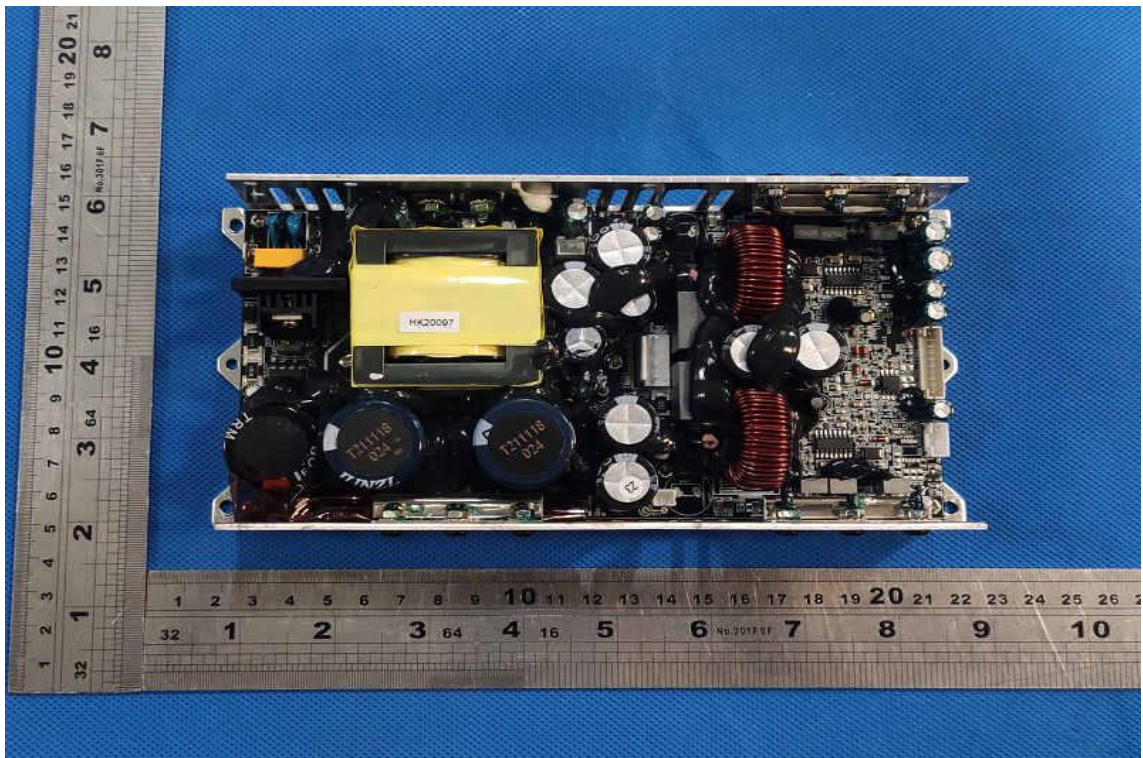
Picture 24. Power supply view

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



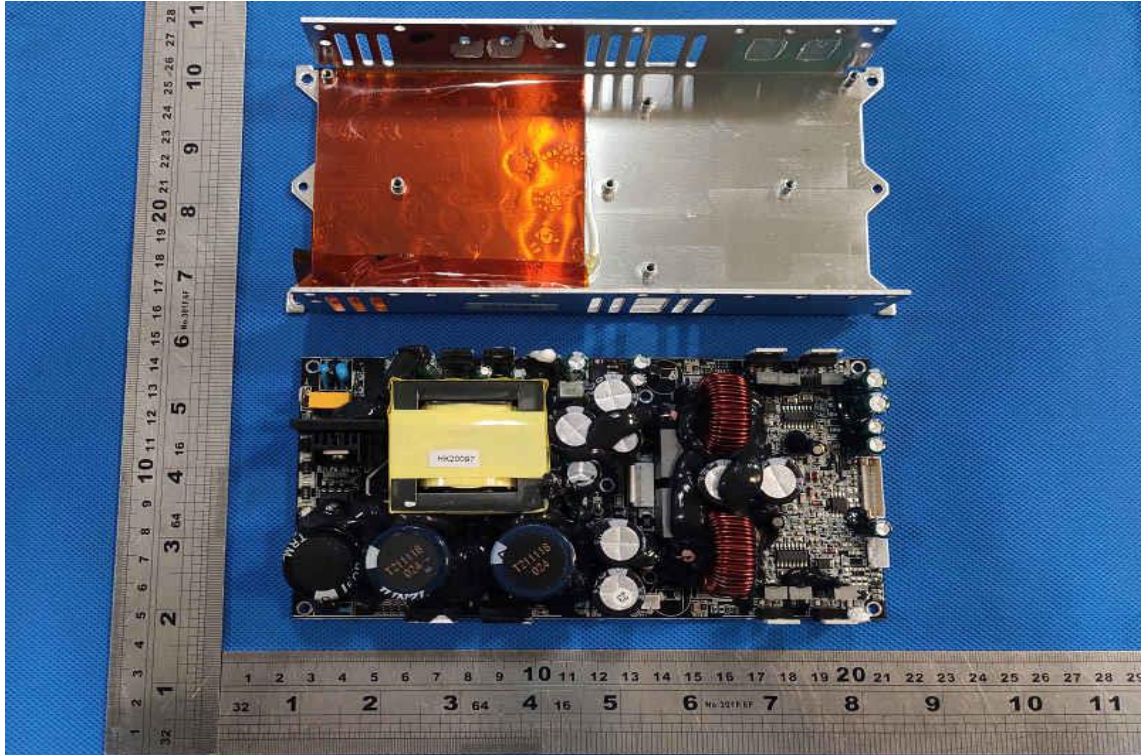
Picture 25. Power supply view



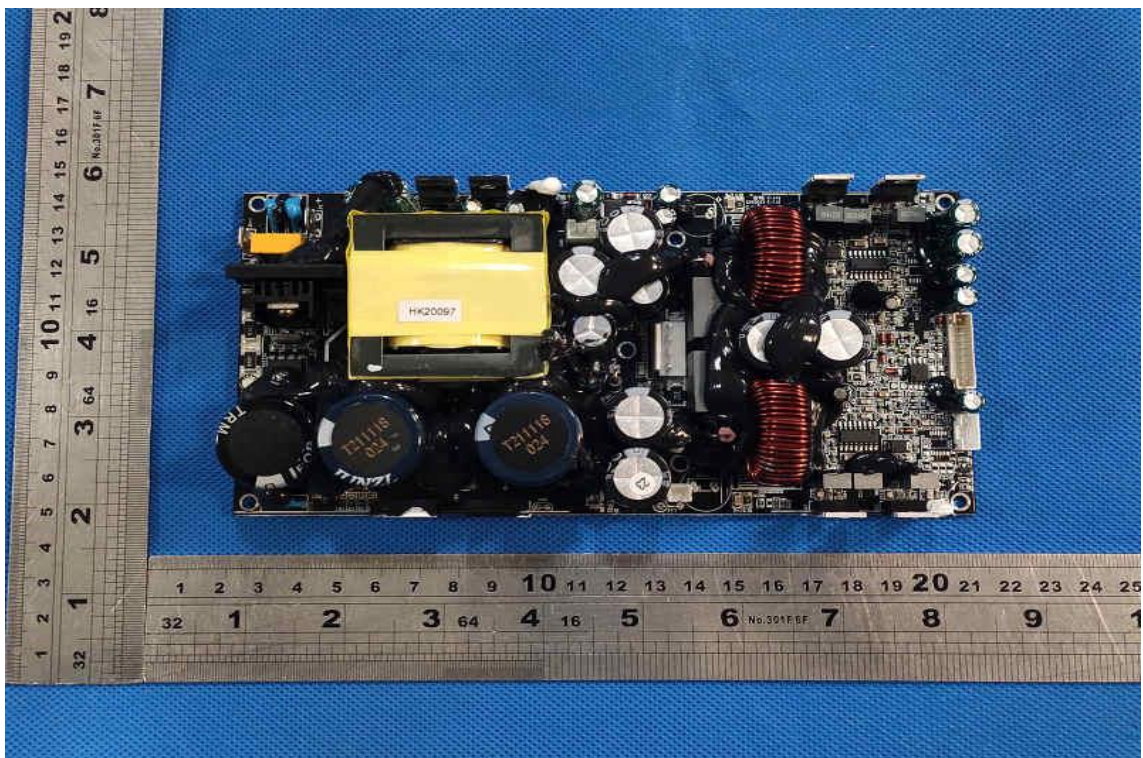
Picture 26. Power supply internal view

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



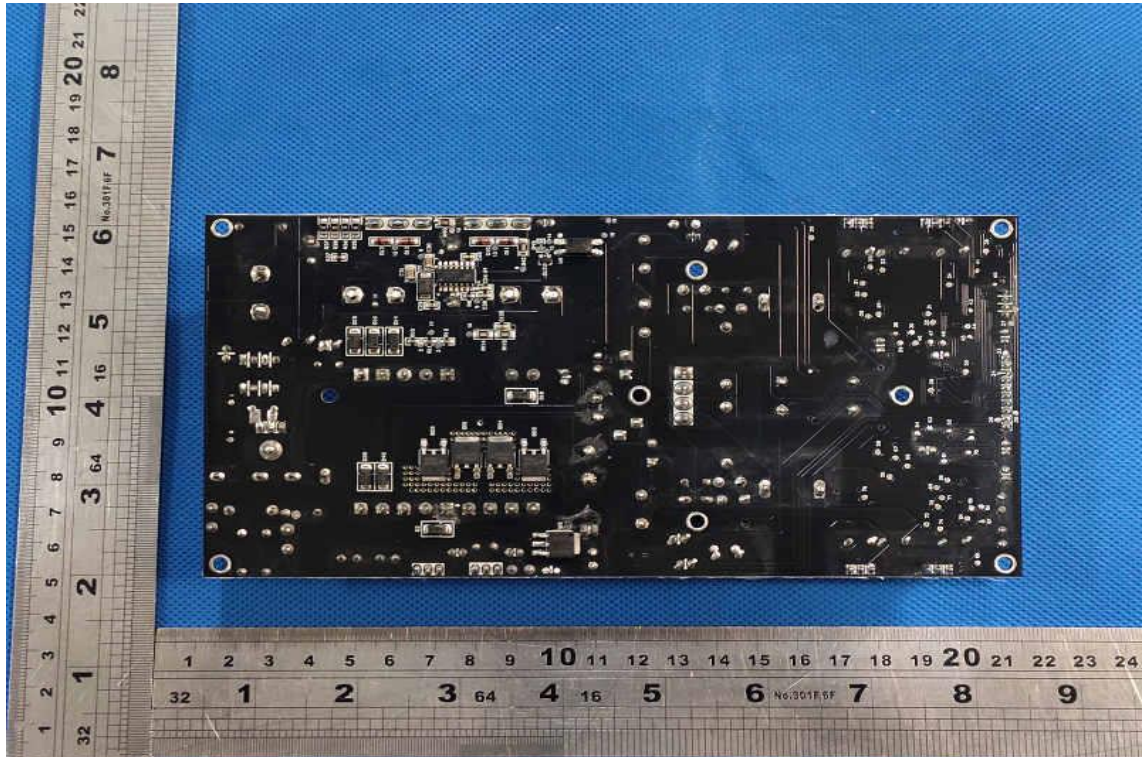
Picture 27. Power supply internal view



Picture 28. Power supply top view

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



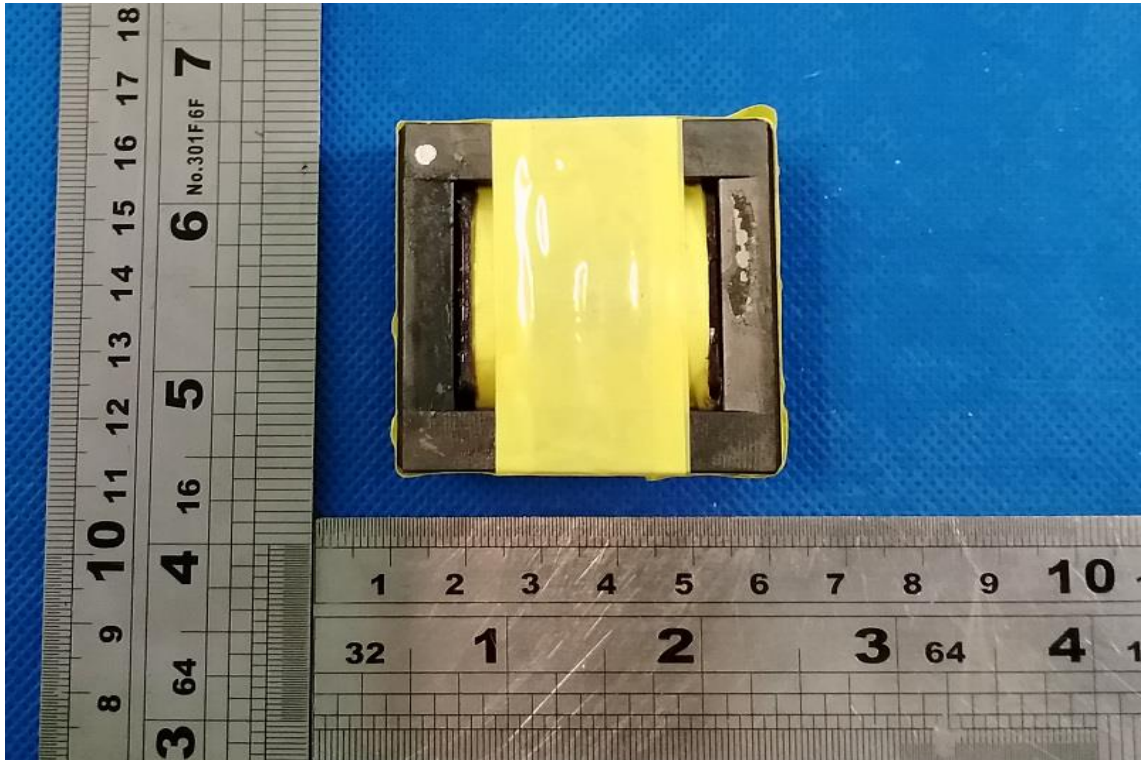
Picture 29. Power supply bottom view



Picture 30. Transformer View (Type: TC00648)

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



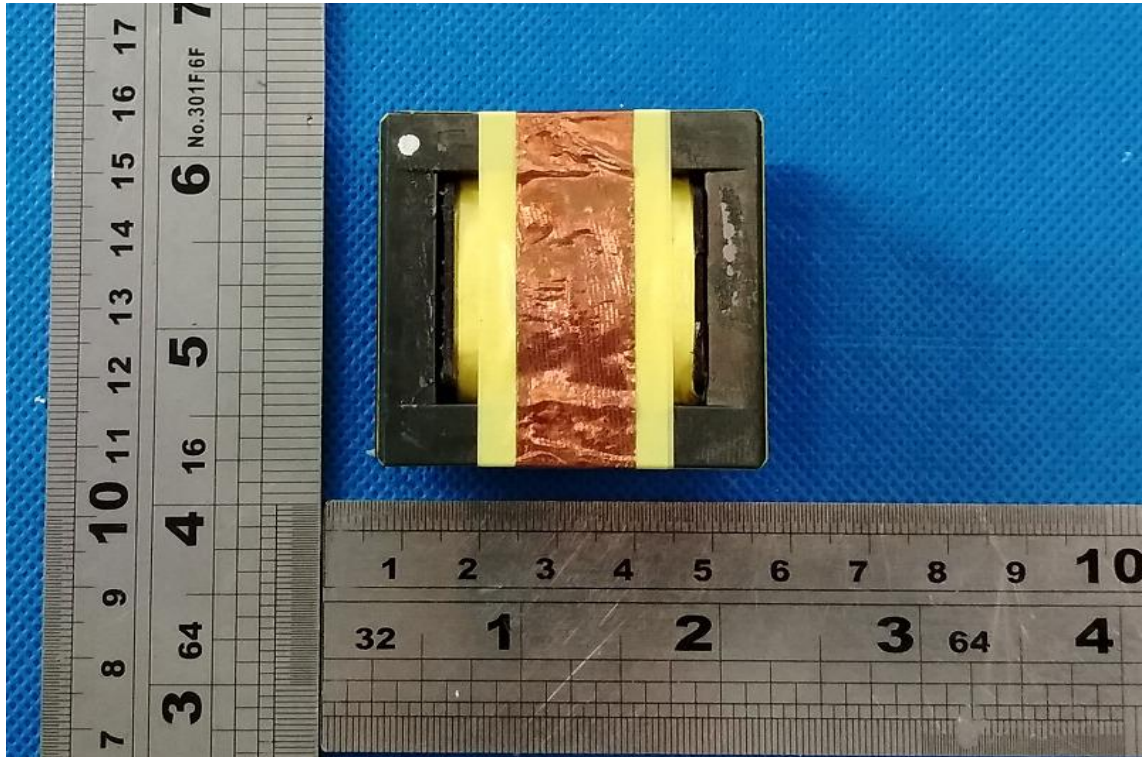
Picture 31. Transformer View



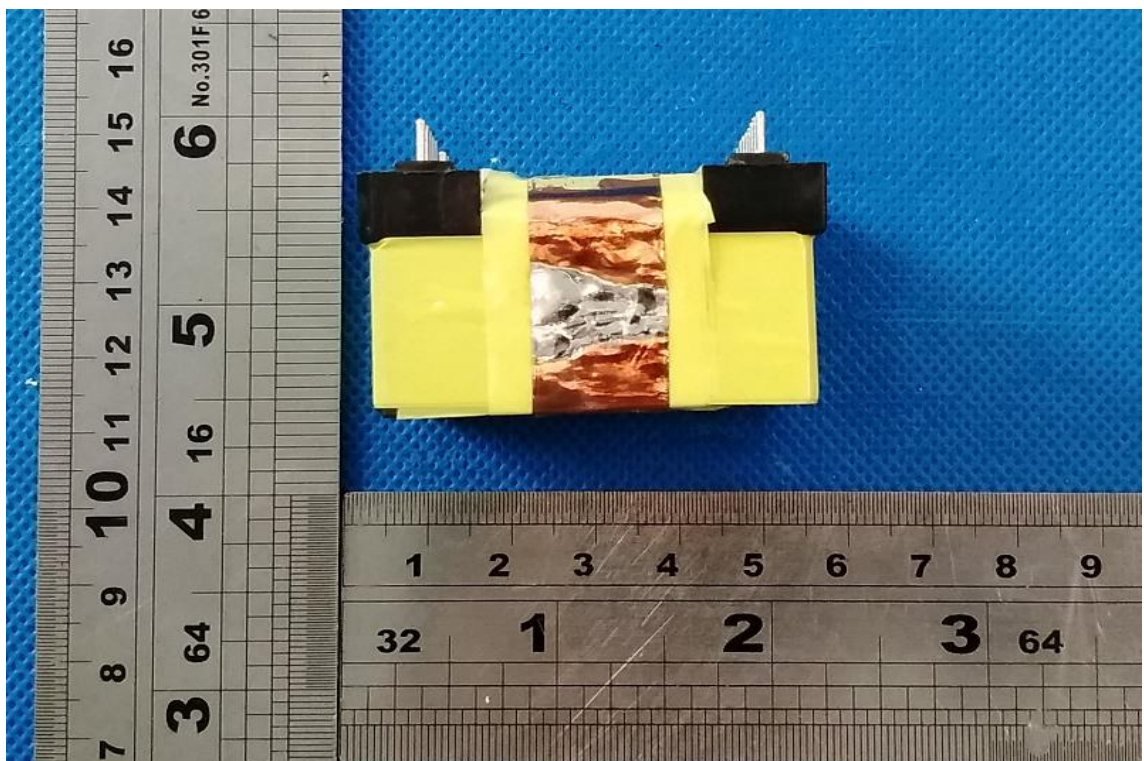
Picture 32. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



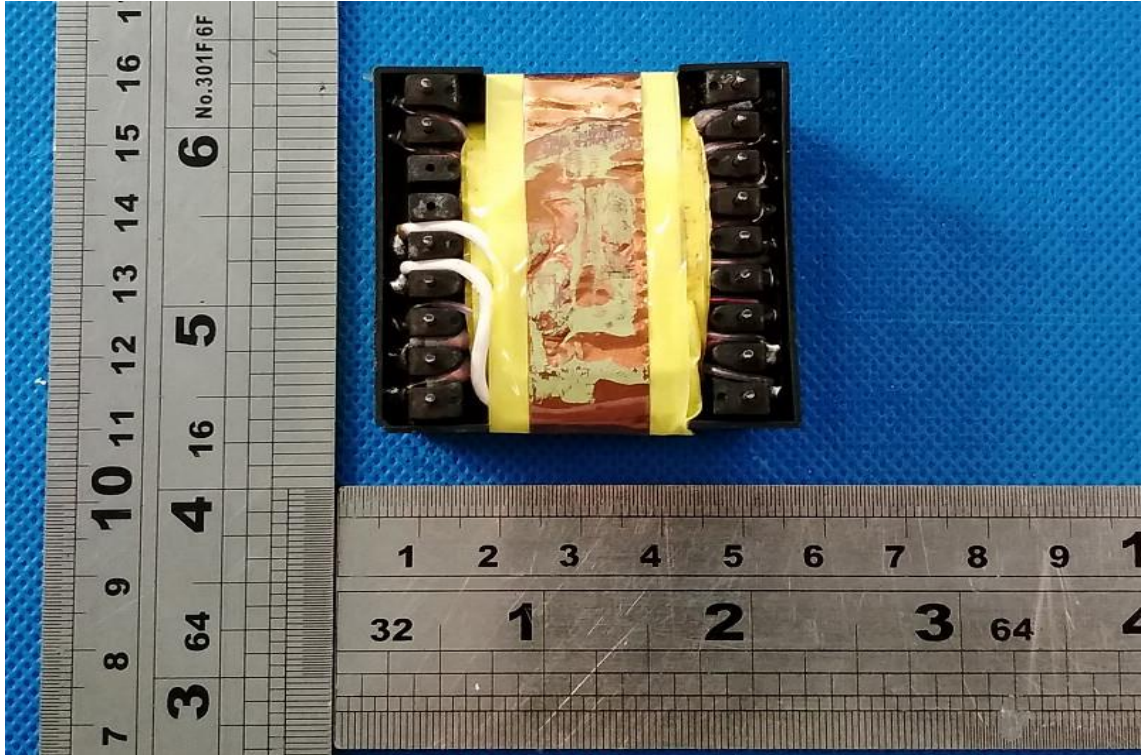
Picture 33. Transformer View



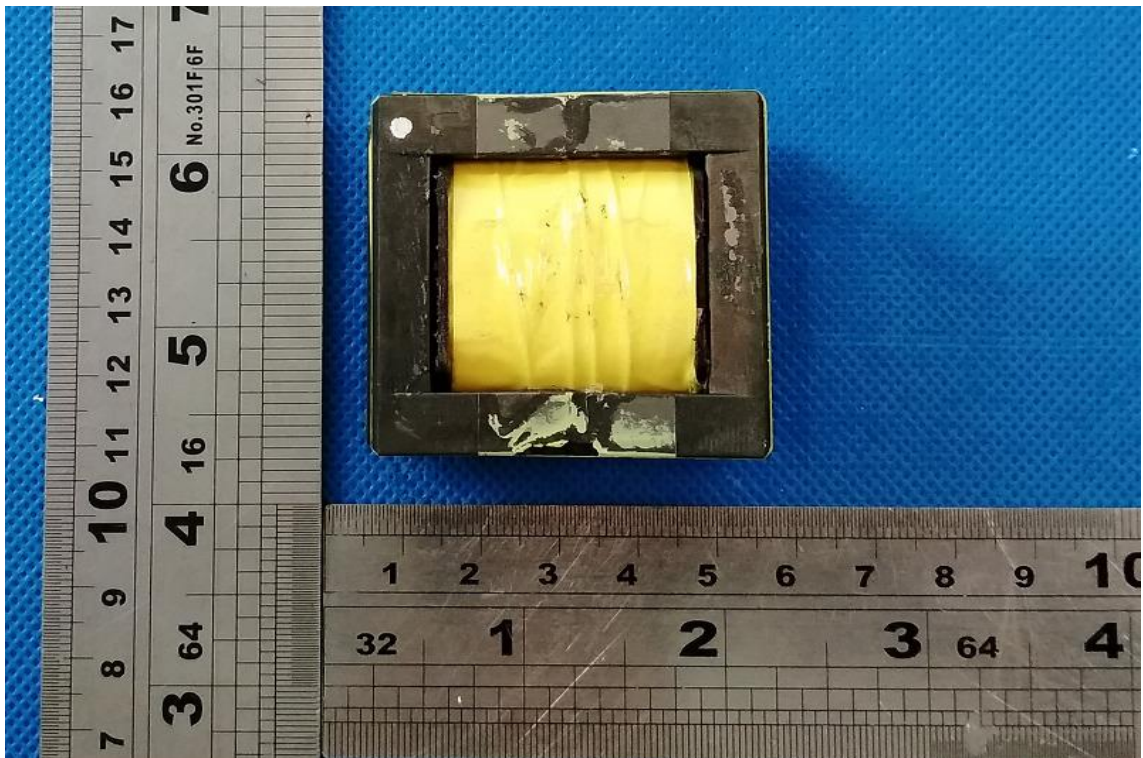
Picture 34. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



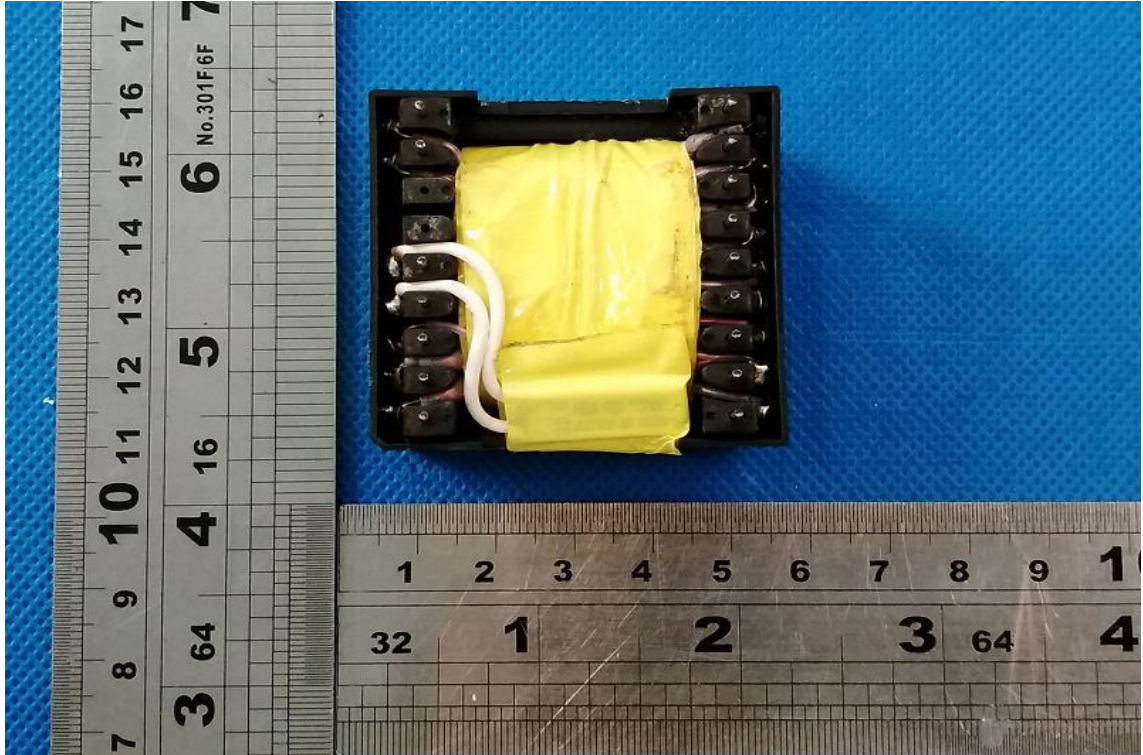
Picture 35. Transformer View



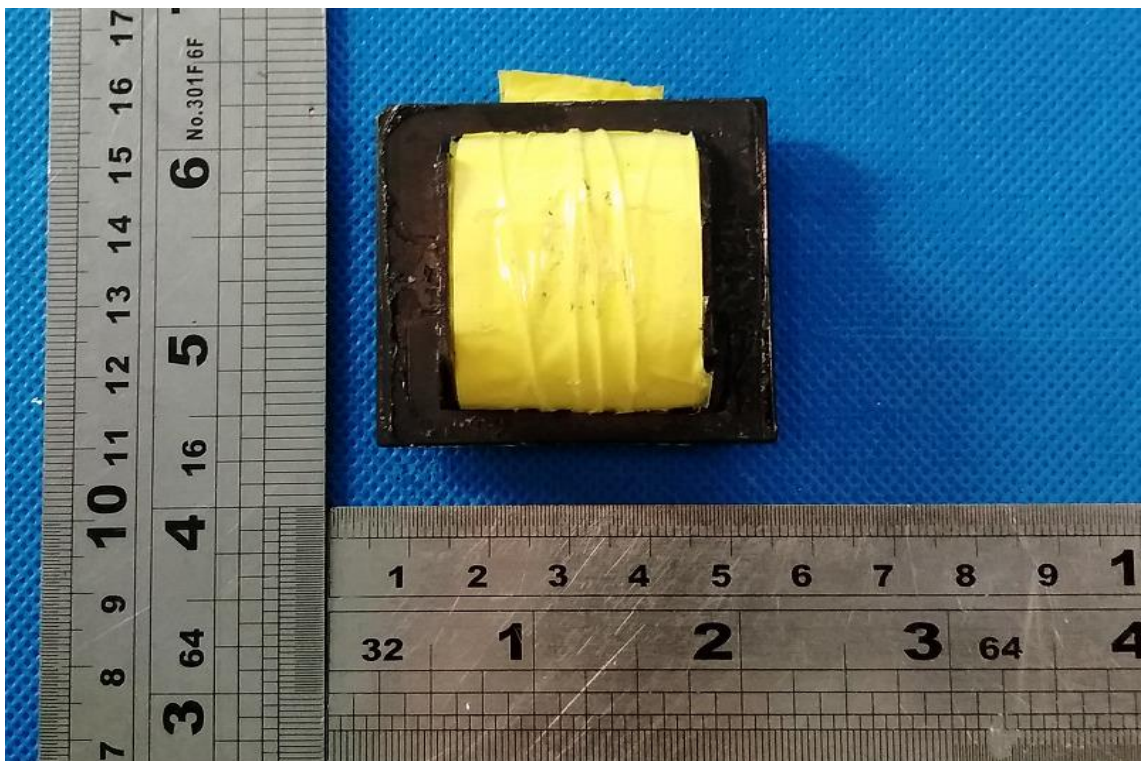
Picture 36. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



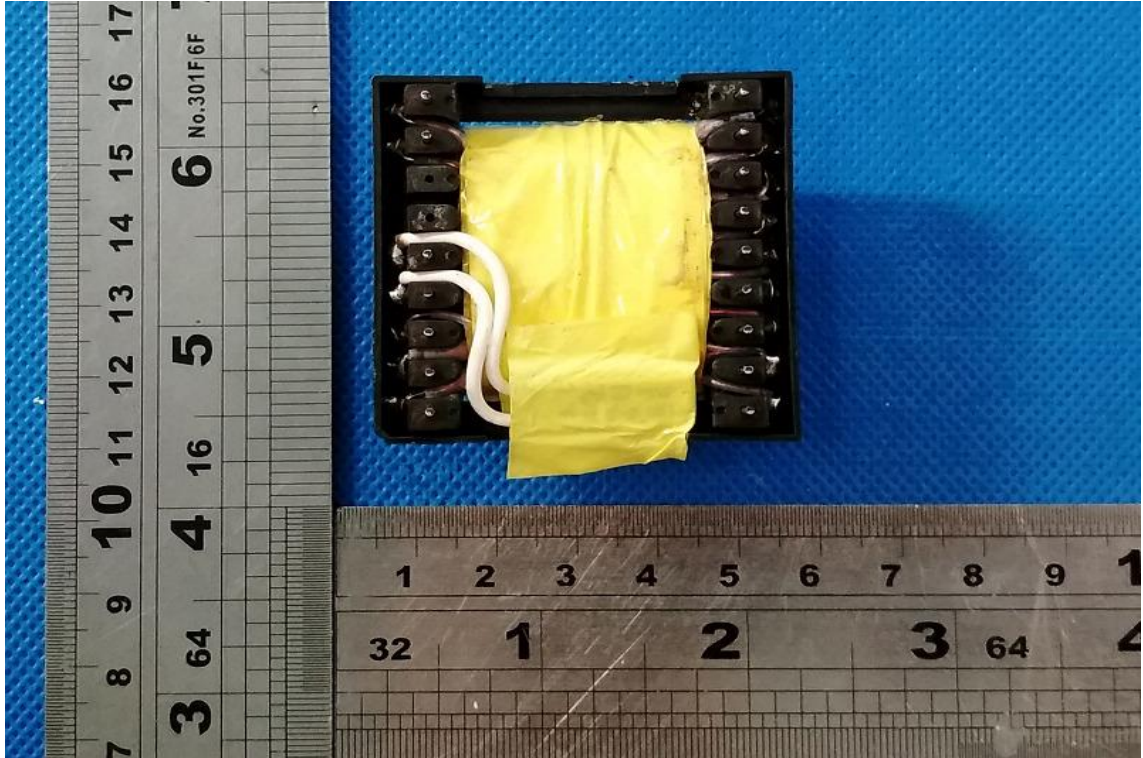
Picture 37. Transformer View



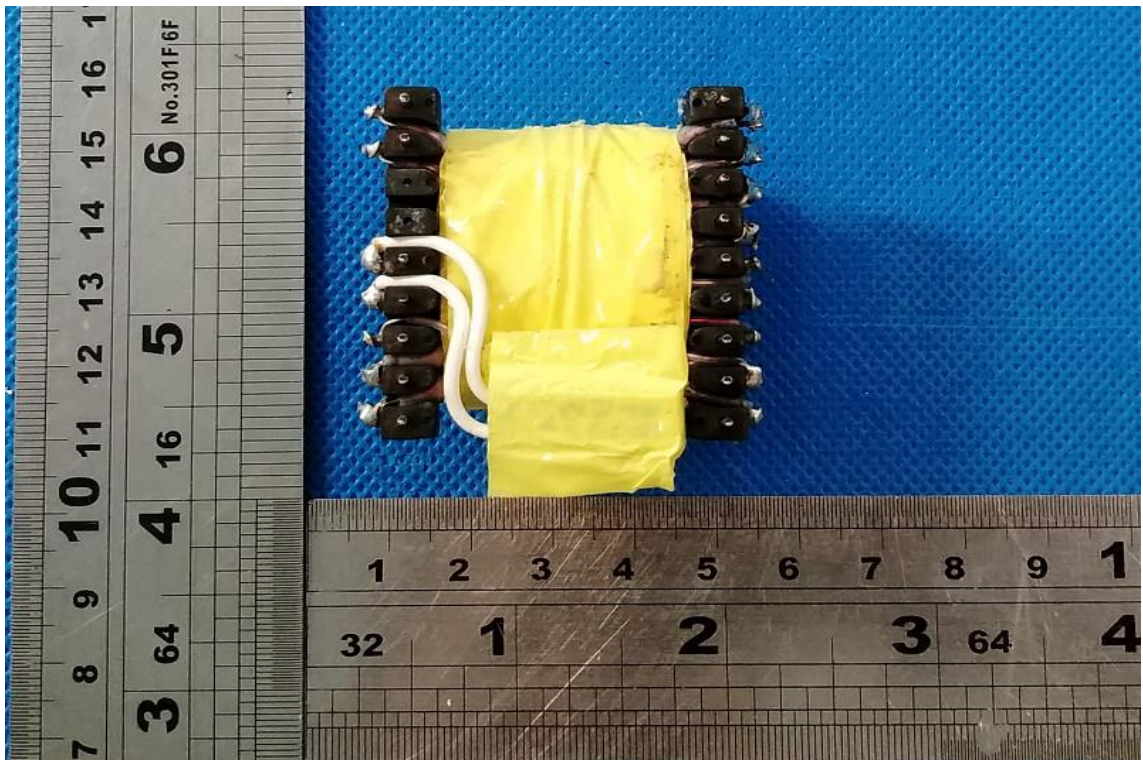
Picture 38. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



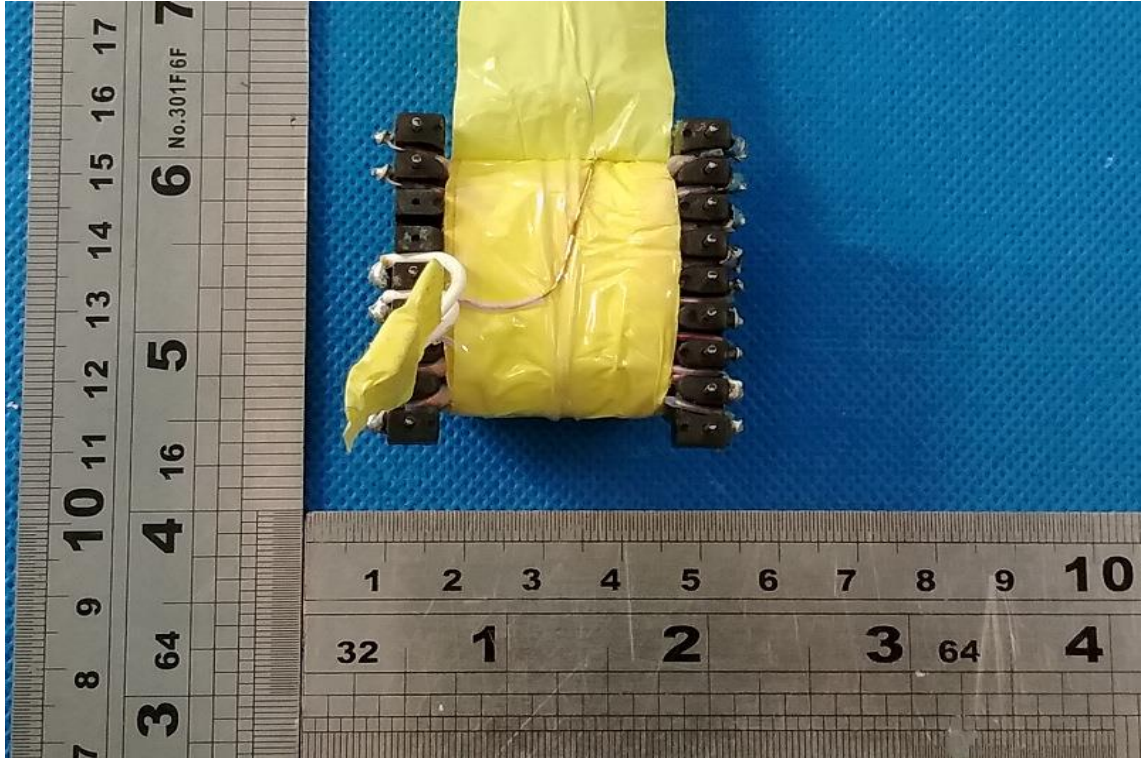
Picture 39. Transformer View



Picture 40. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



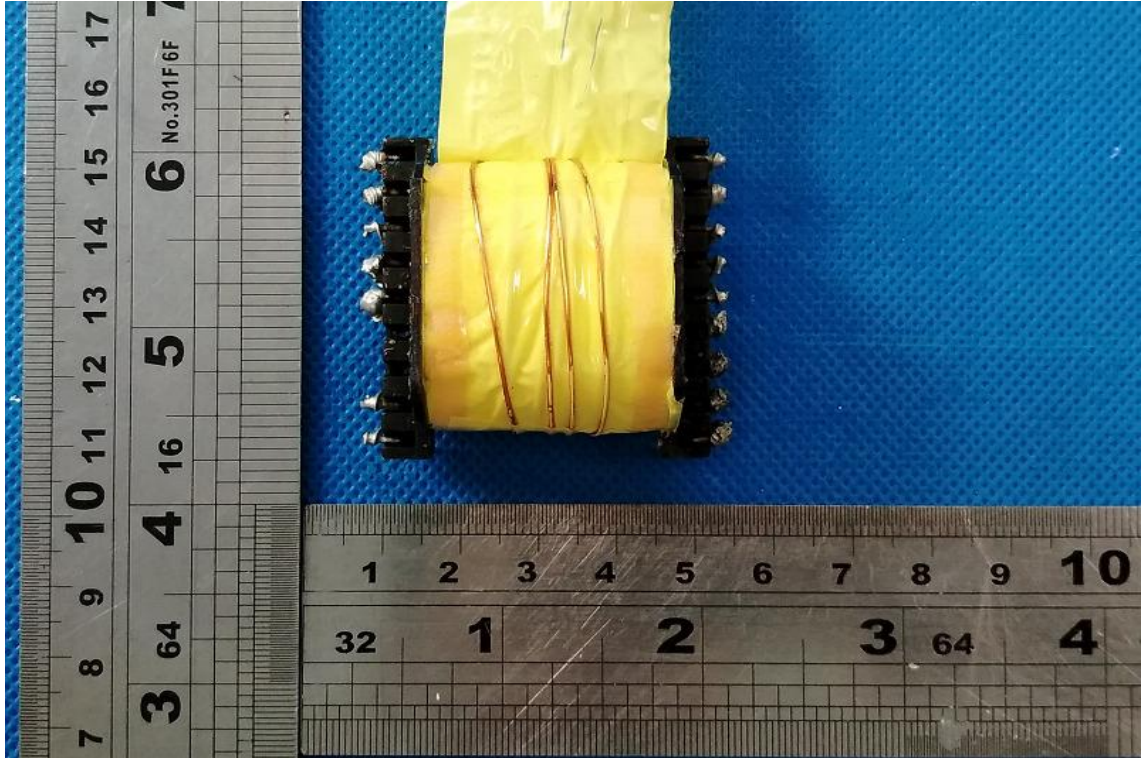
Picture 41. Transformer View



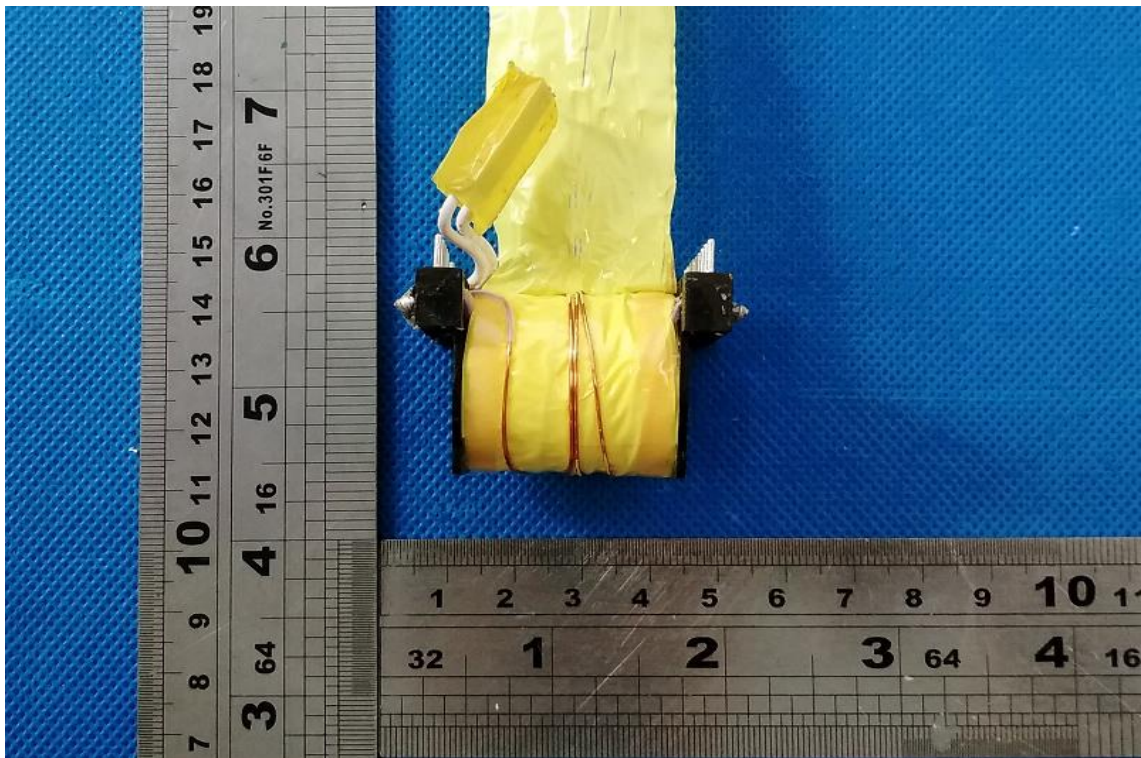
Picture 42. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



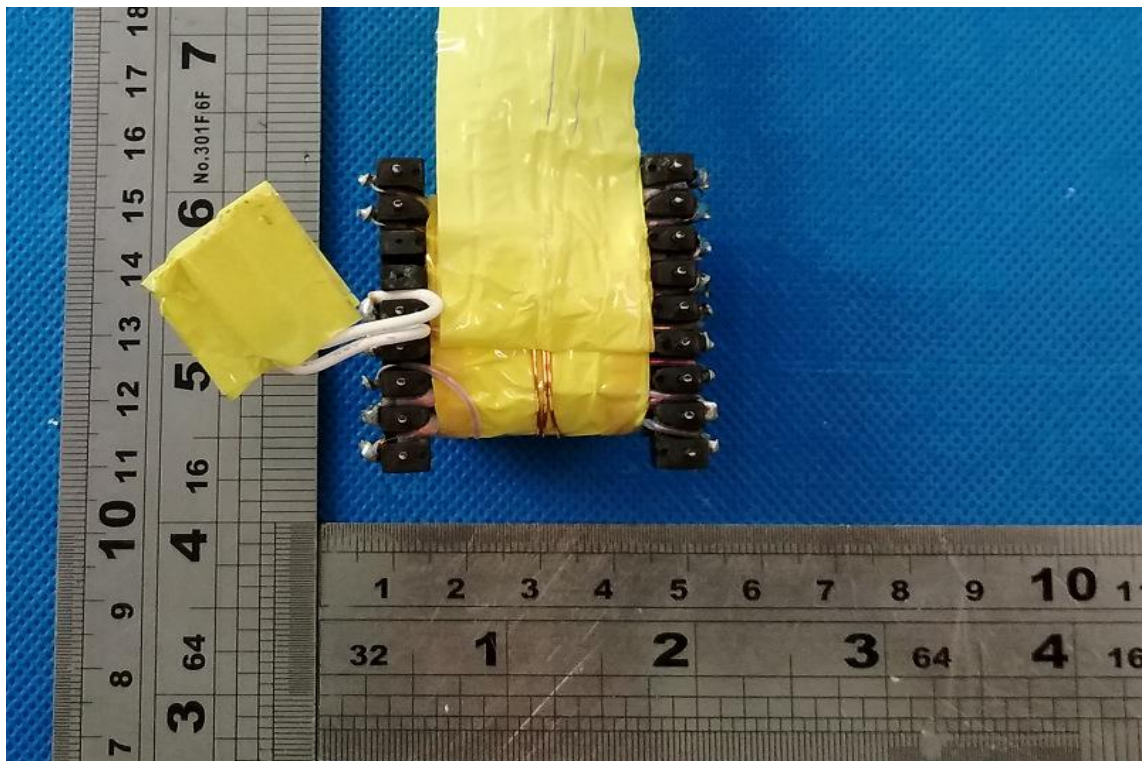
Picture 43. Transformer View



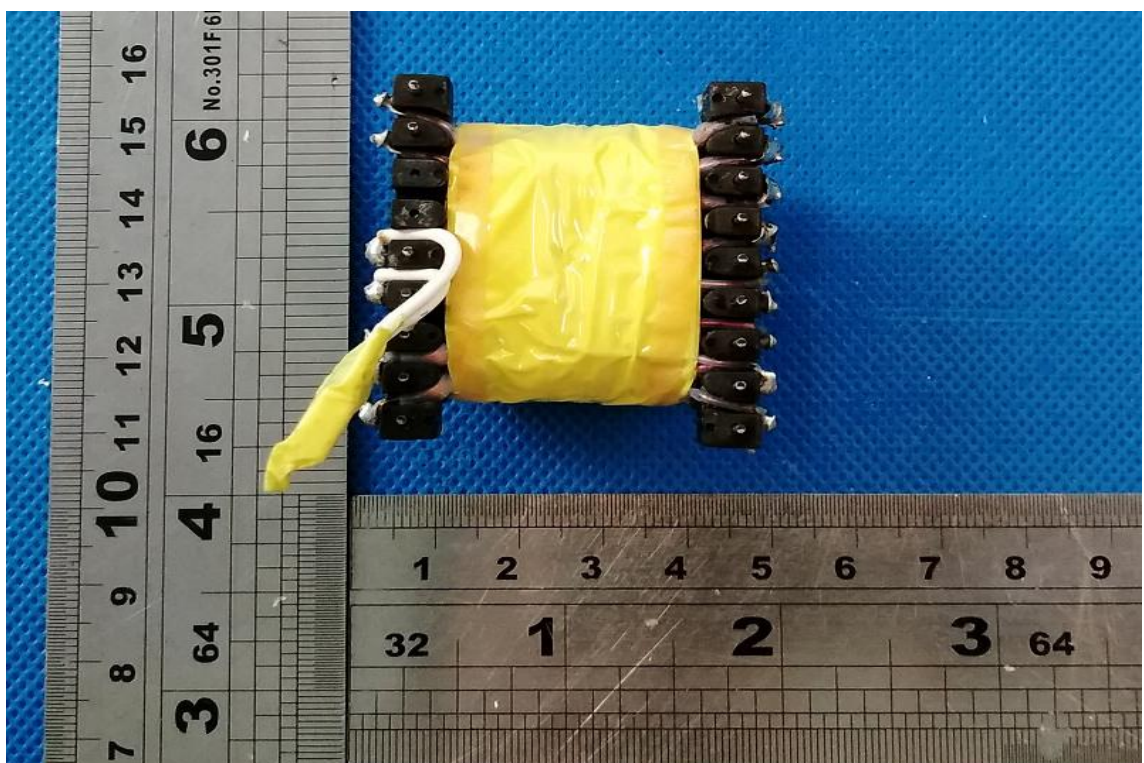
Picture 44. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



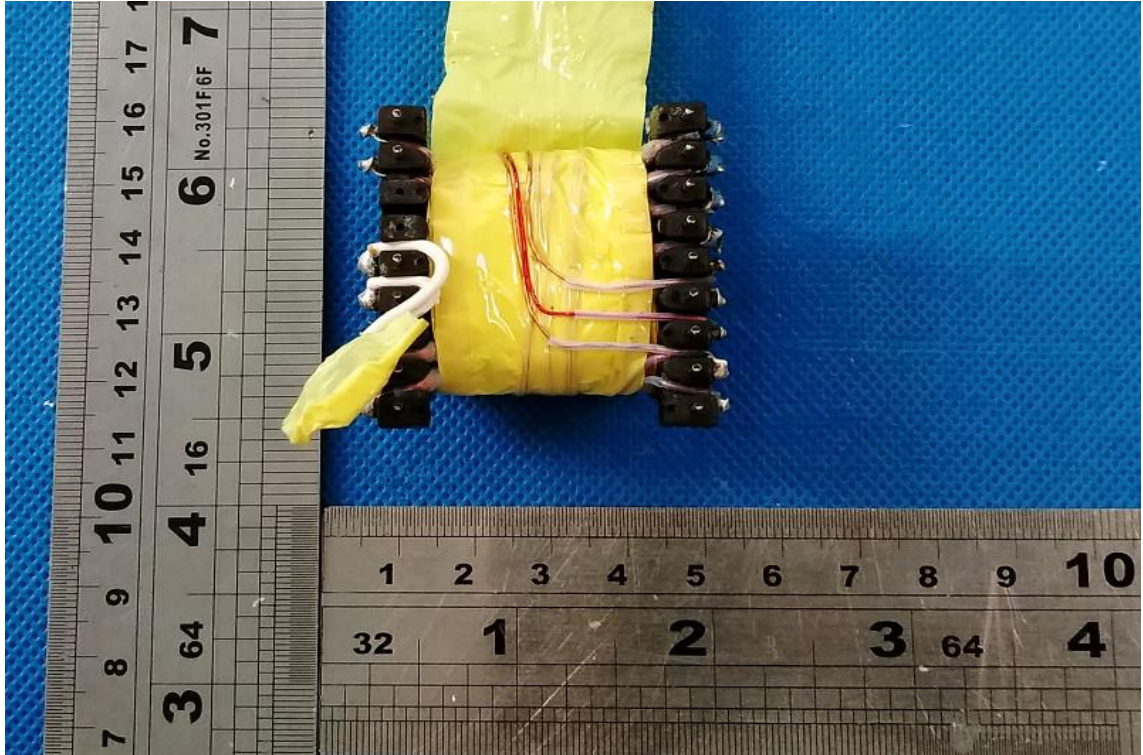
Picture 45. Transformer View



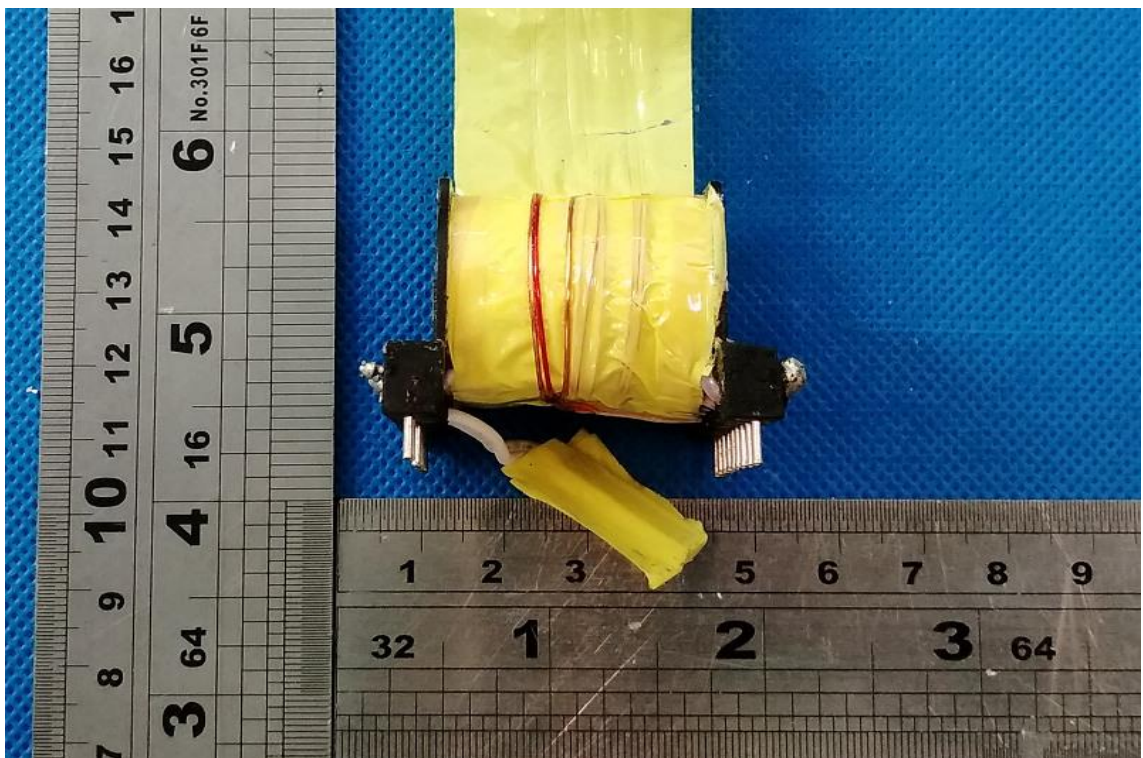
Picture 46. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



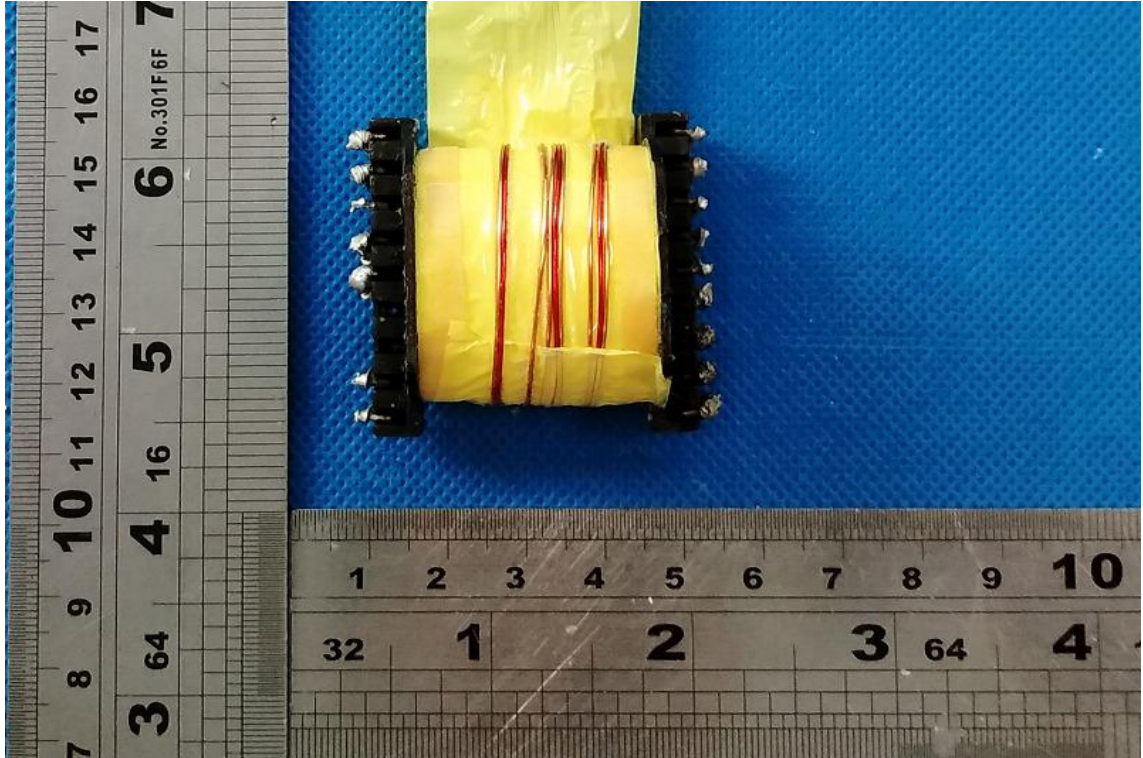
Picture 47. Transformer View



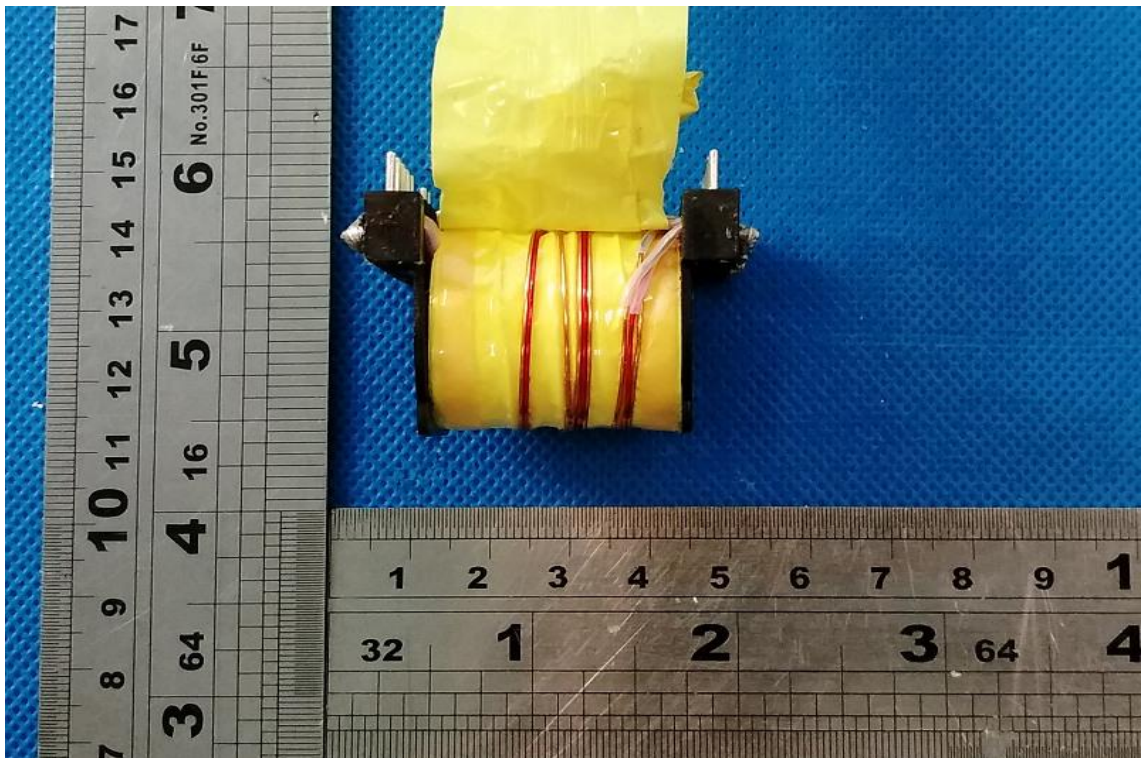
Picture 48. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



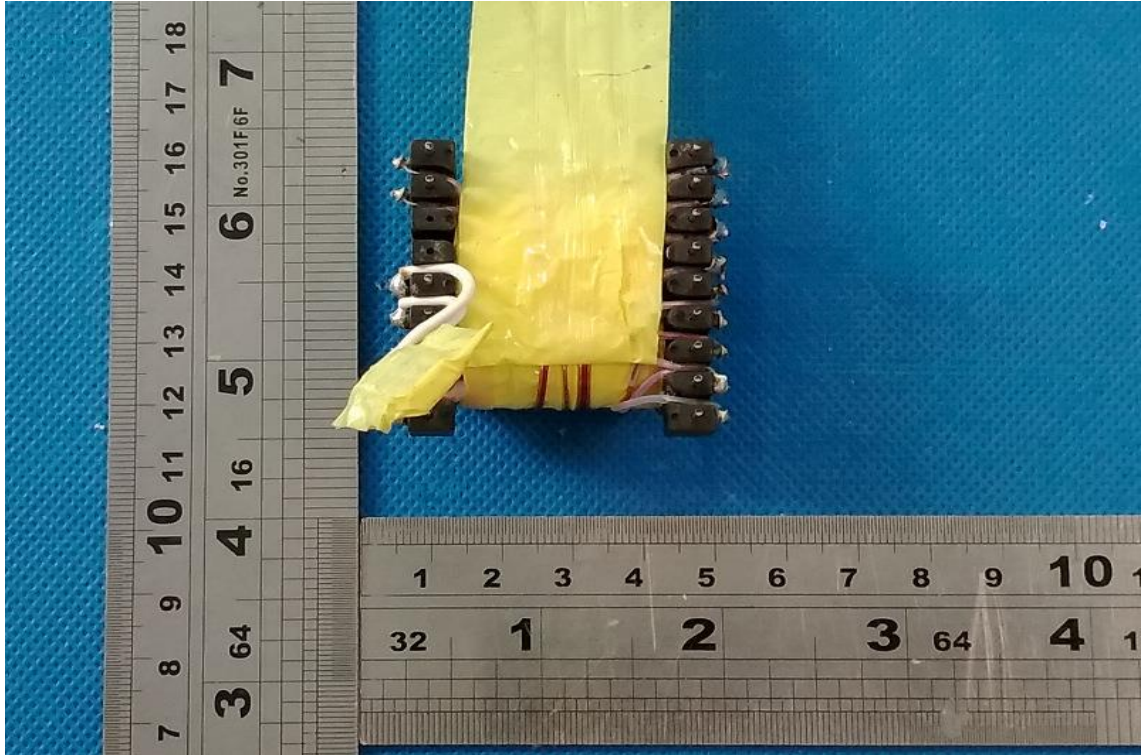
Picture 49. Transformer View



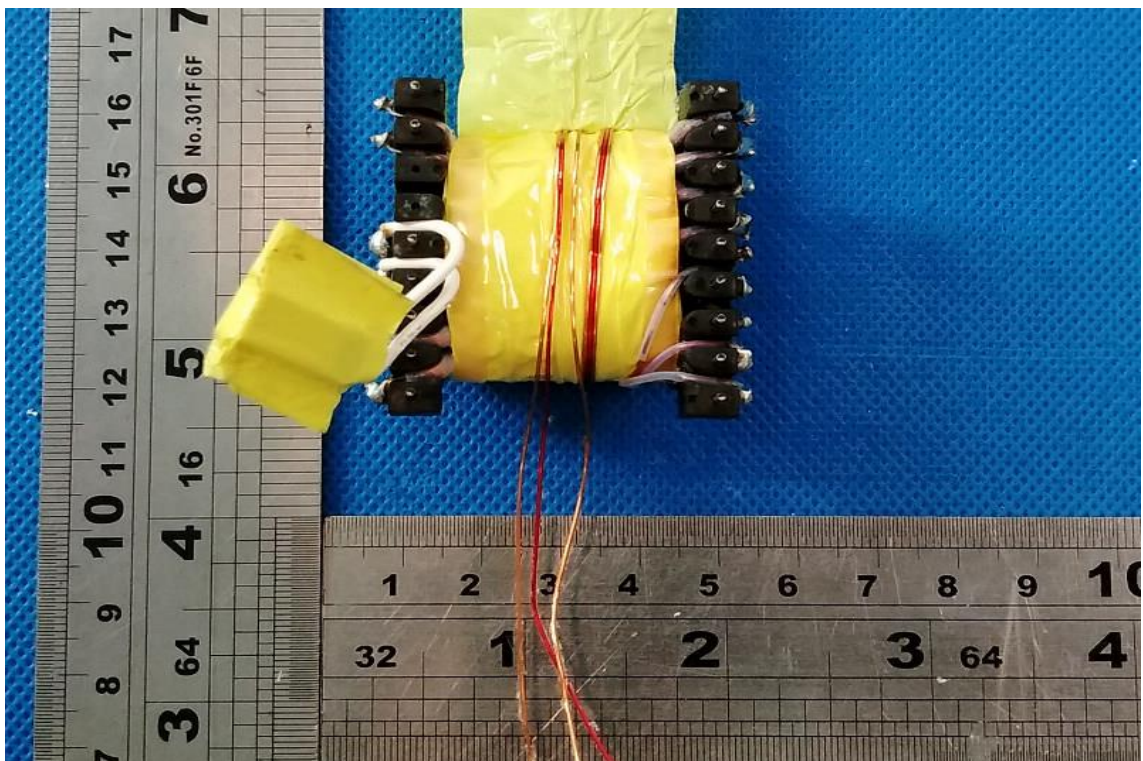
Picture 50. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



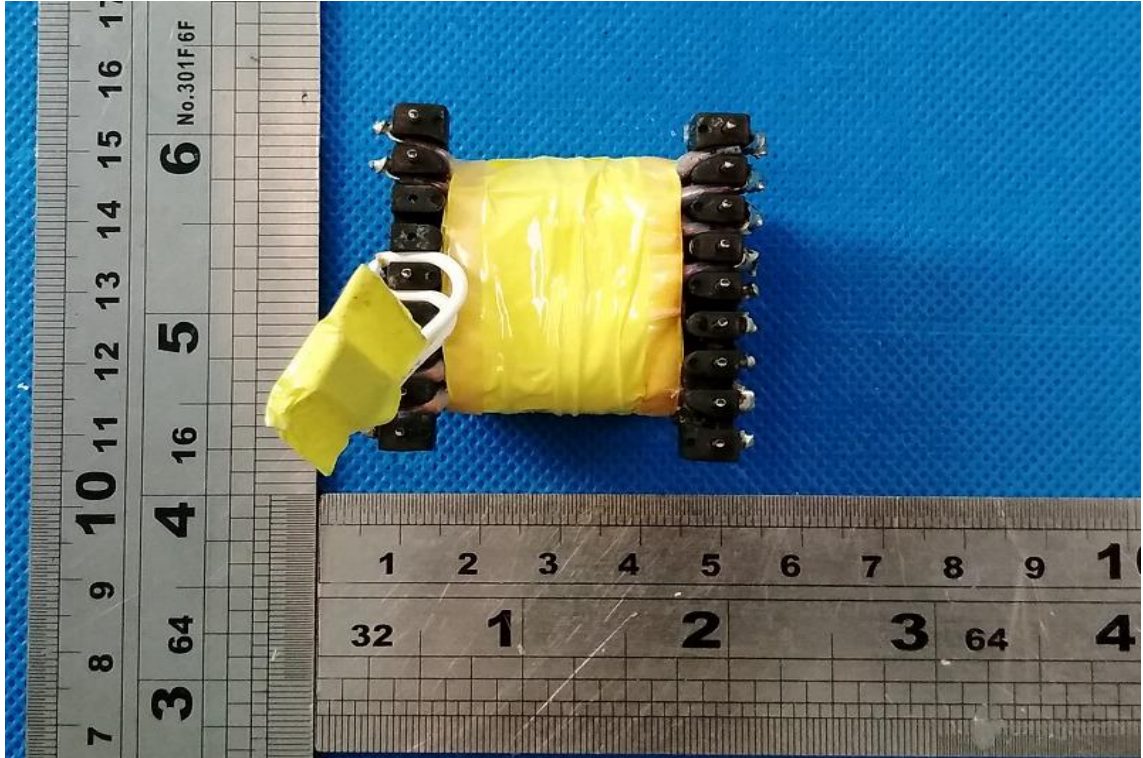
Picture 51. Transformer View



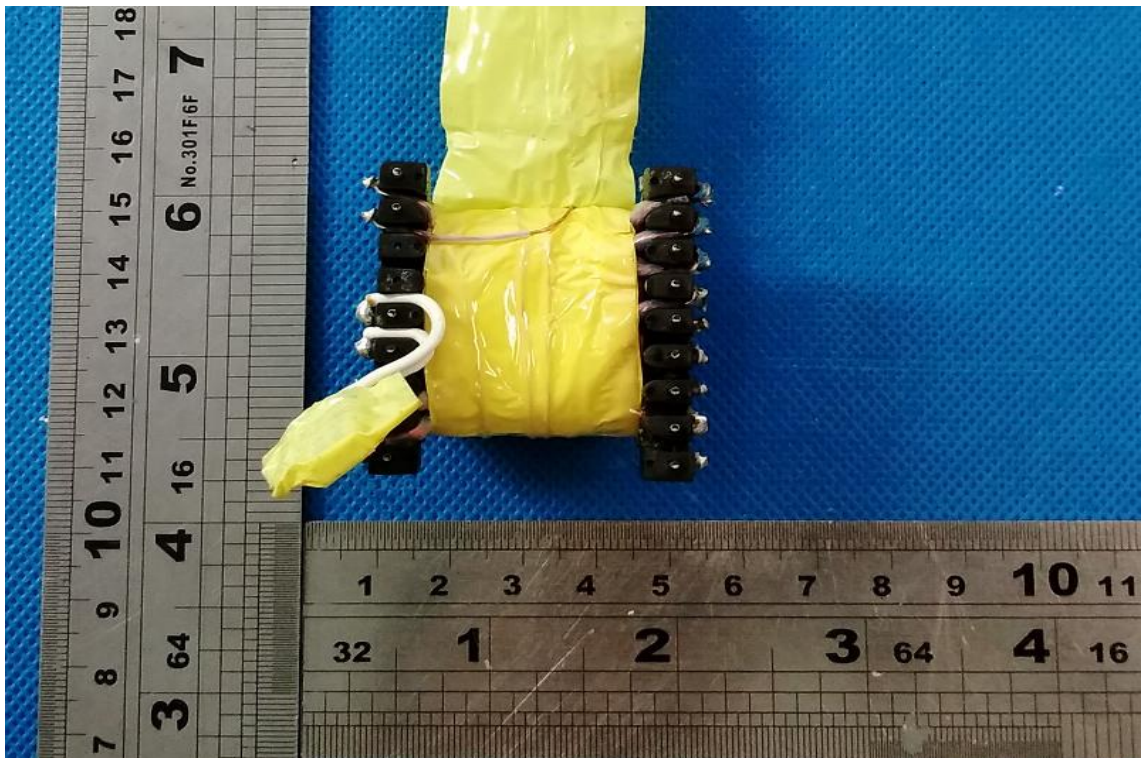
Picture 52. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



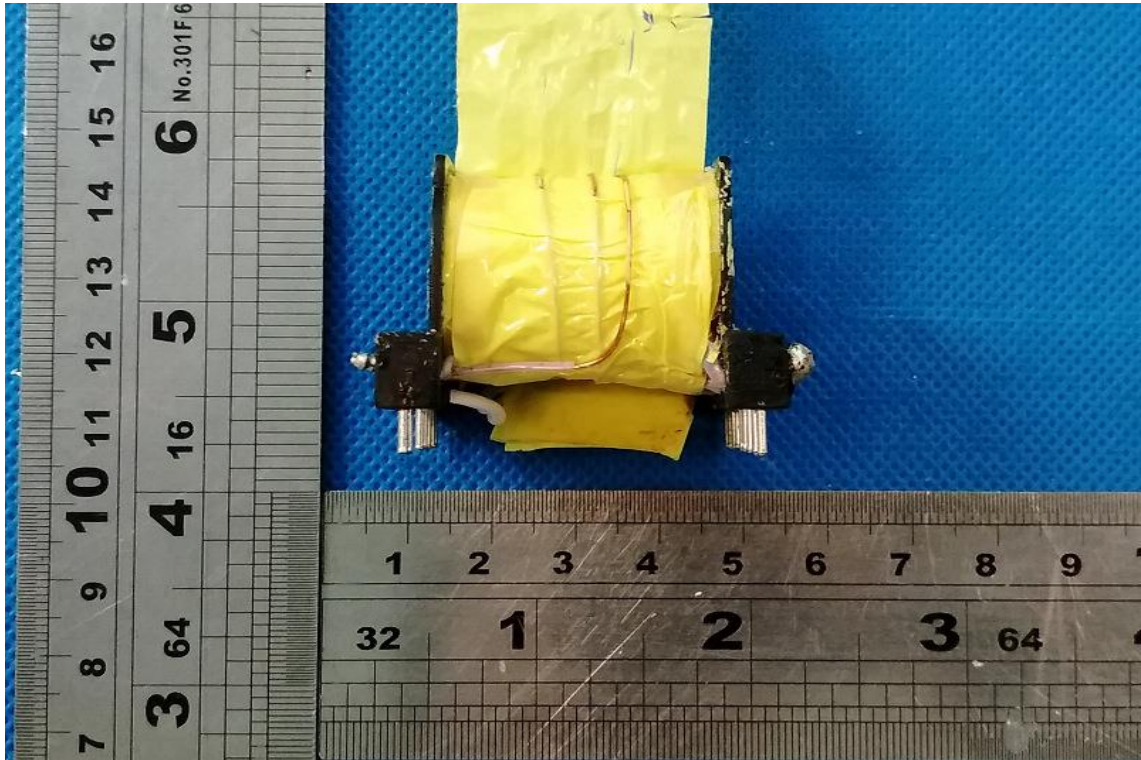
Picture 53. Transformer View



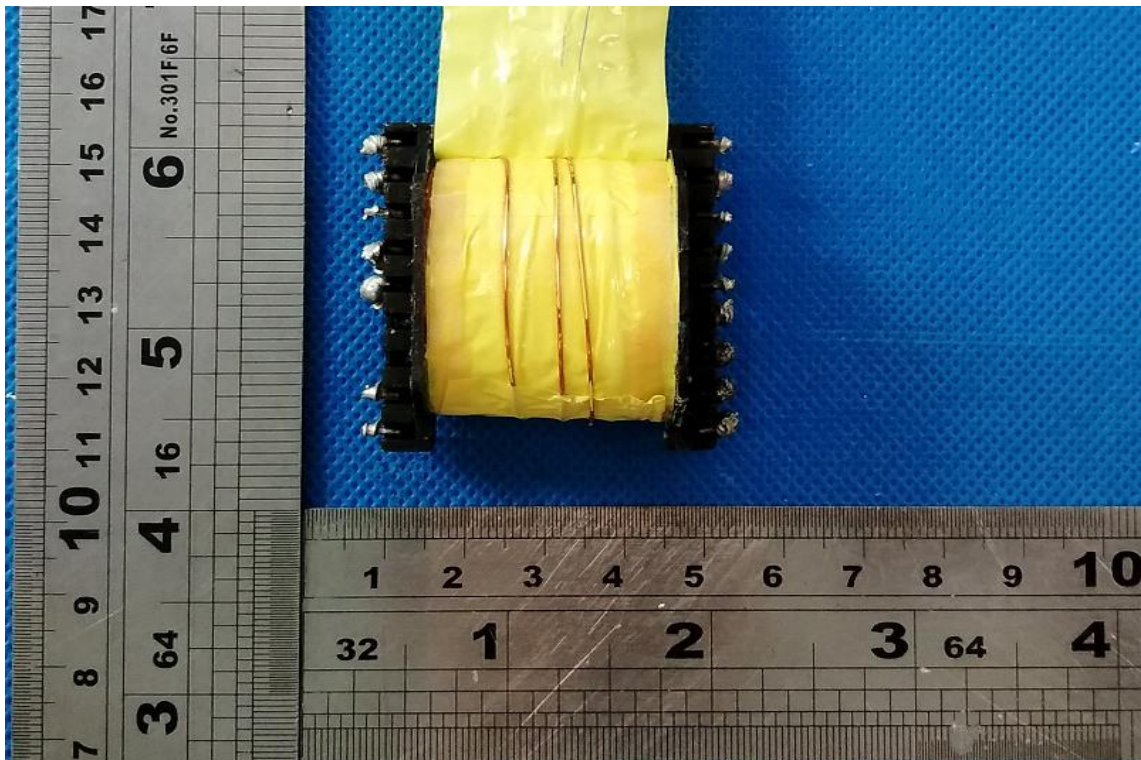
Picture 54. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



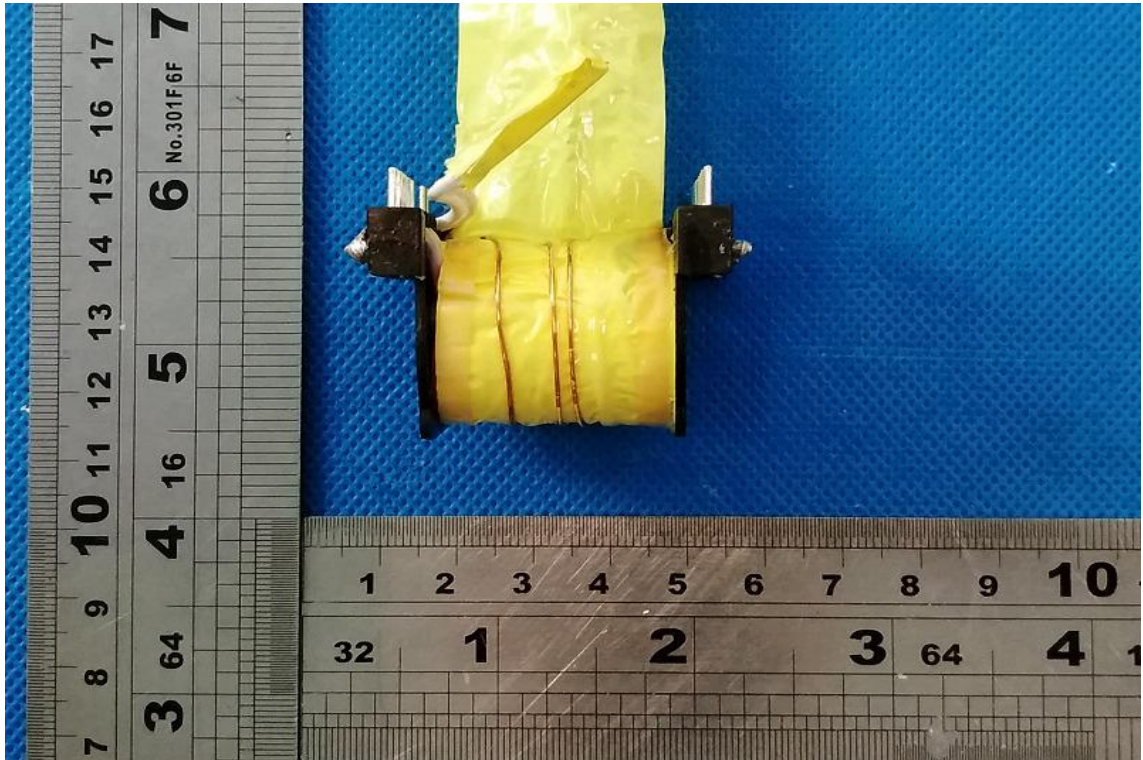
Picture 55. Transformer View



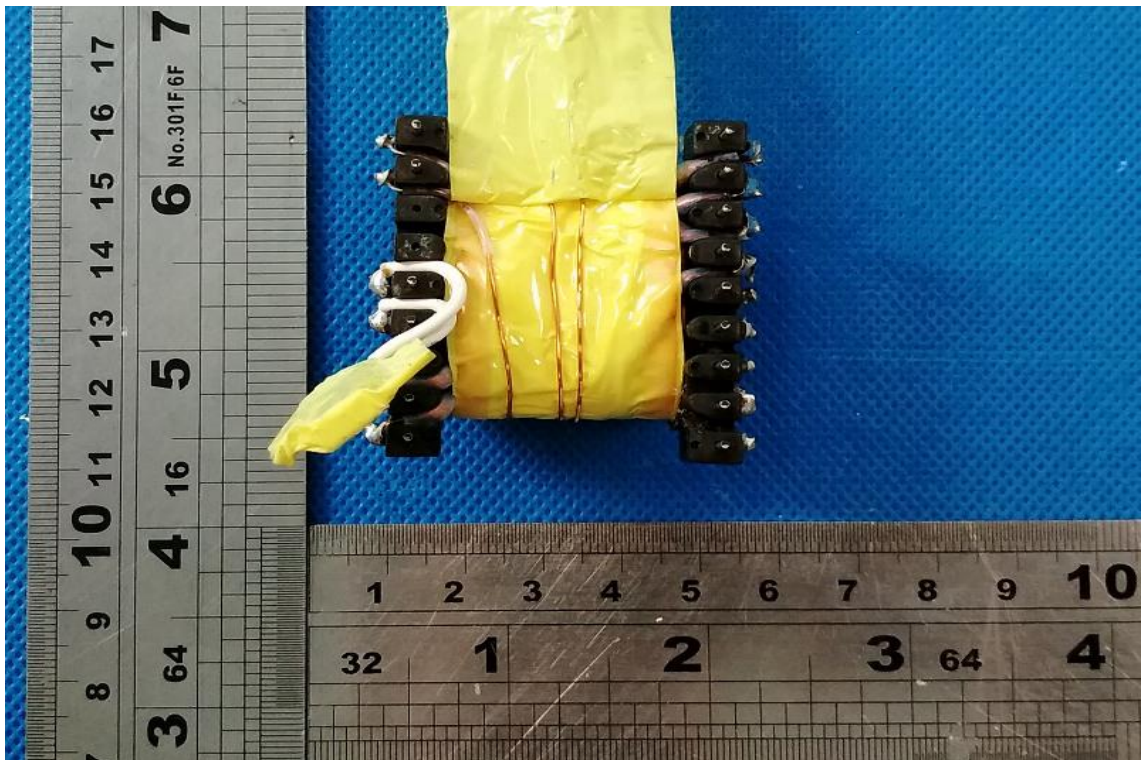
Picture 56. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



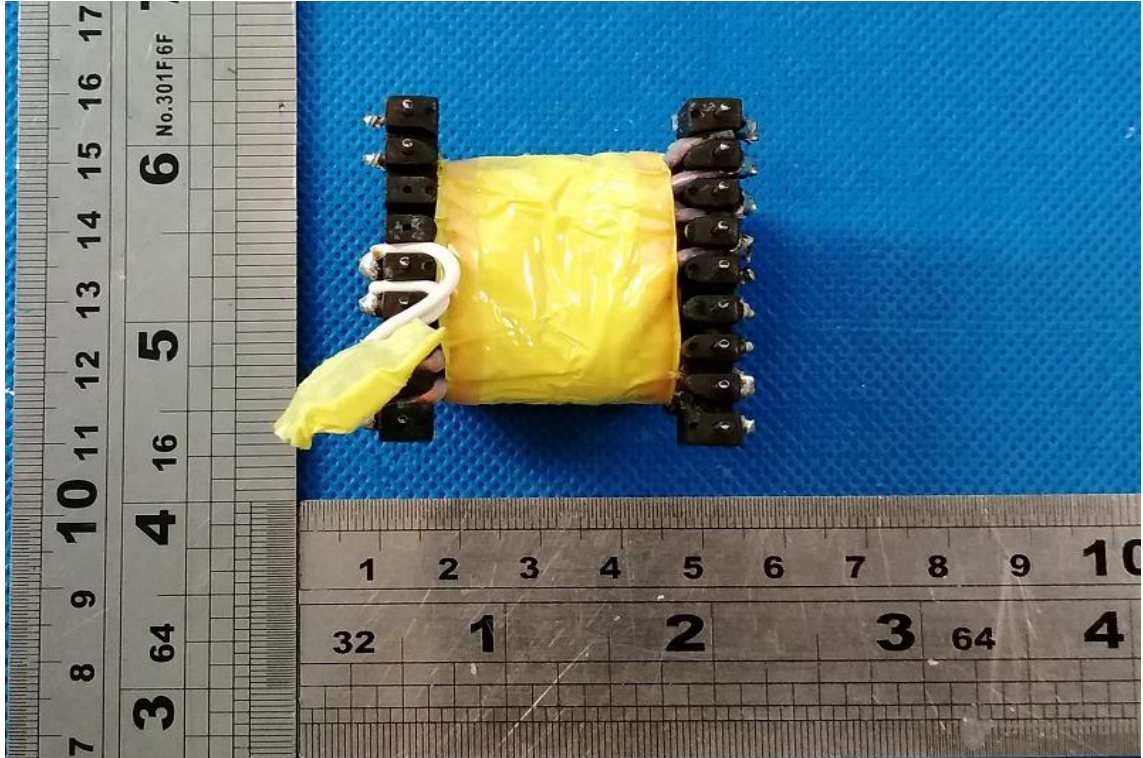
Picture 57. Transformer View



Picture 58. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



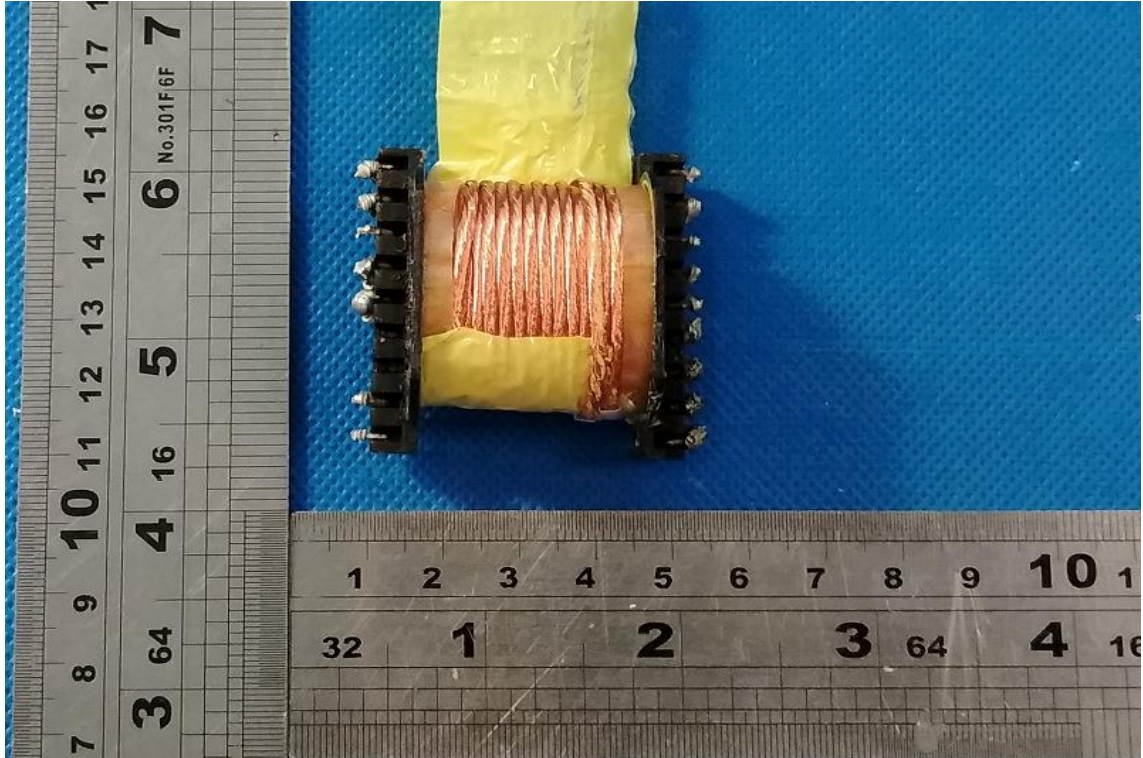
Picture 59. Transformer View



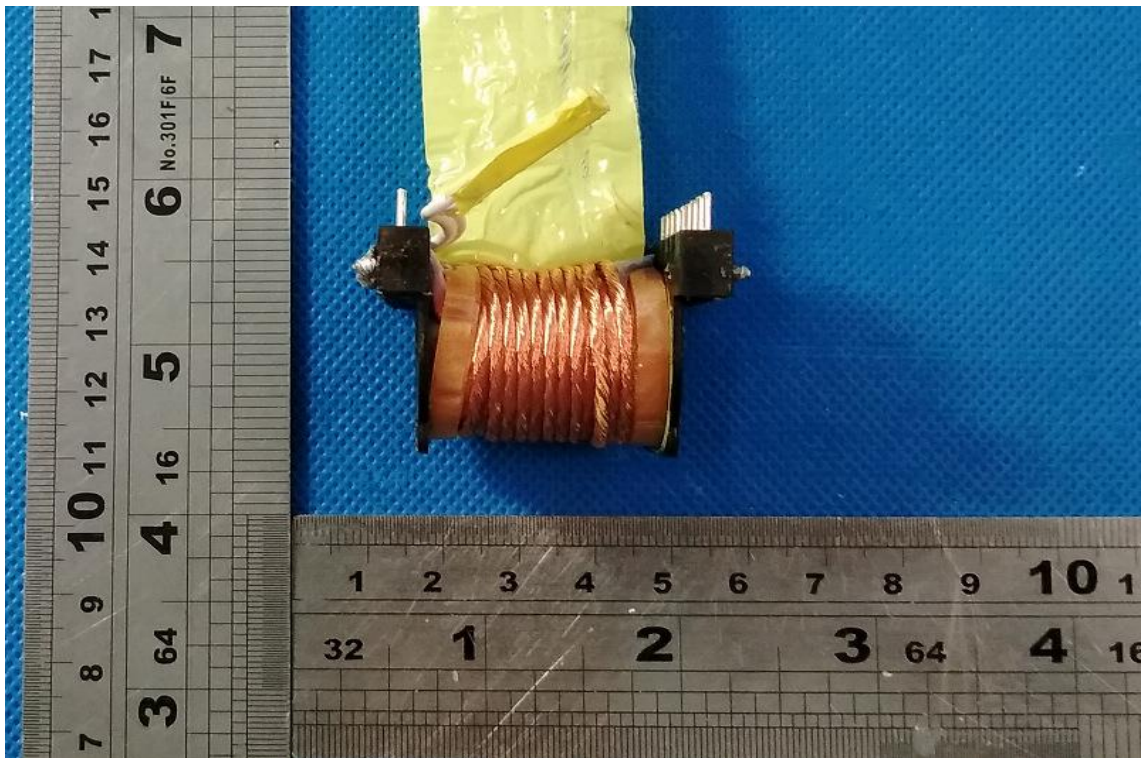
Picture 60. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



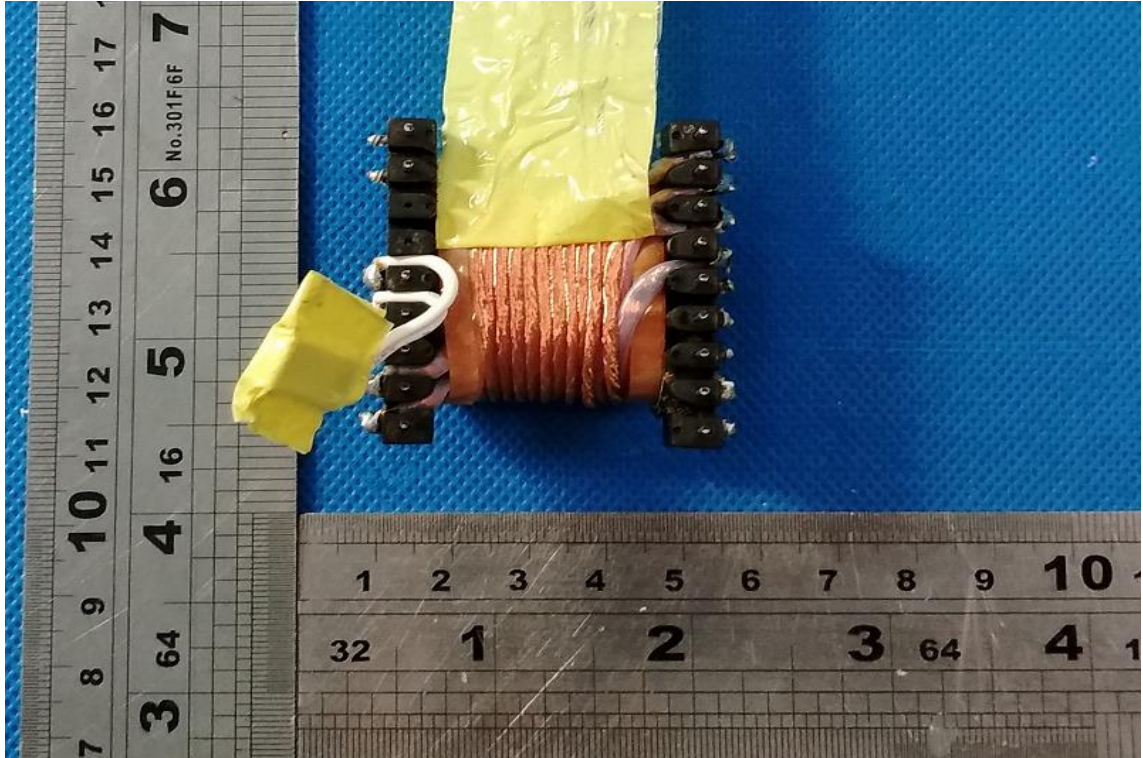
Picture 61. Transformer View



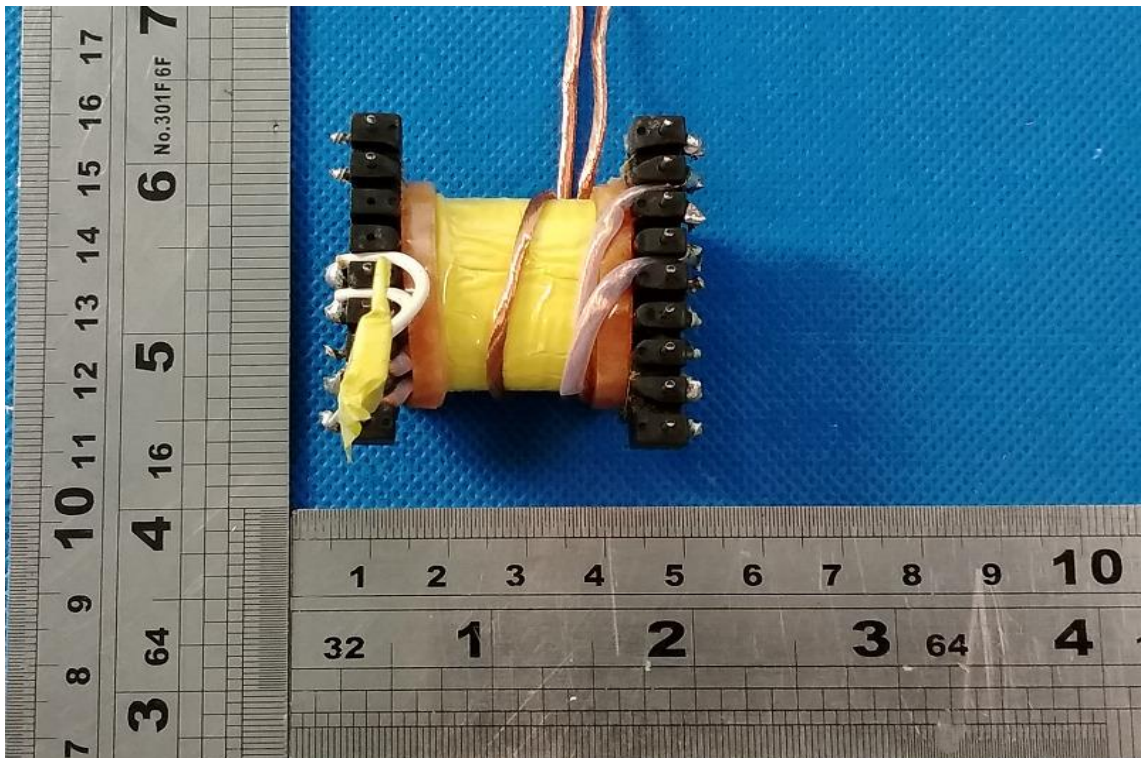
Picture 62. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



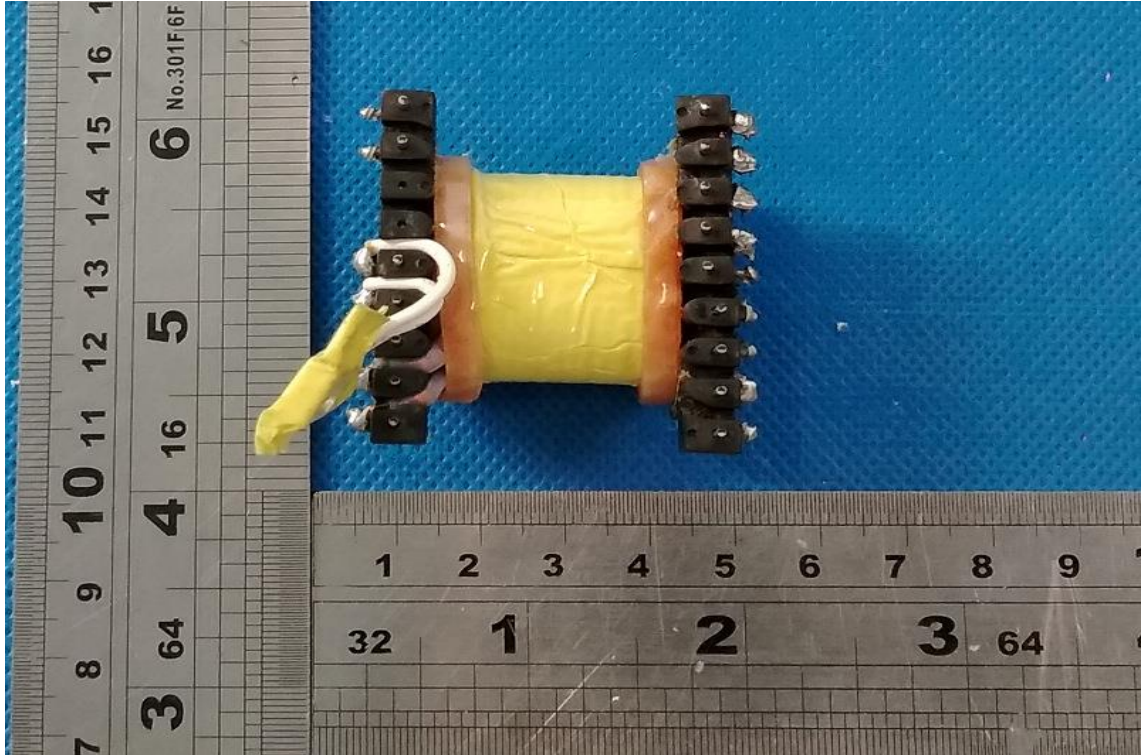
Picture 63. Transformer View



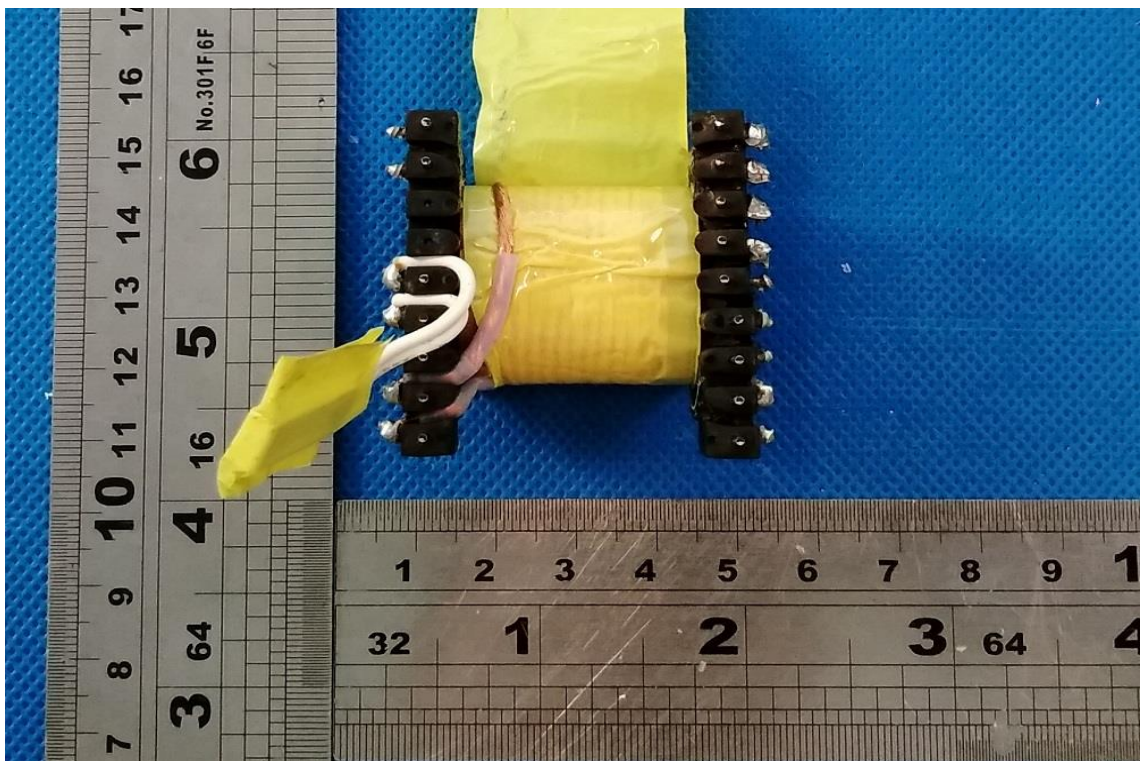
Picture 64. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



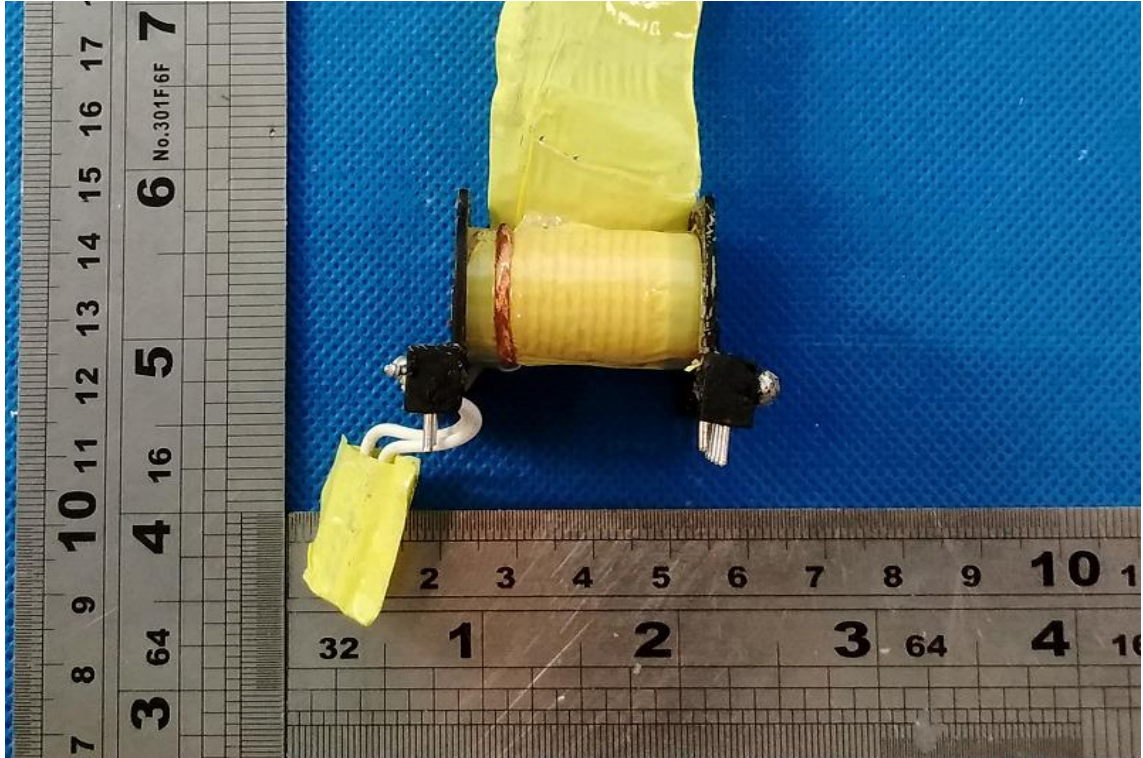
Picture 65. Transformer View



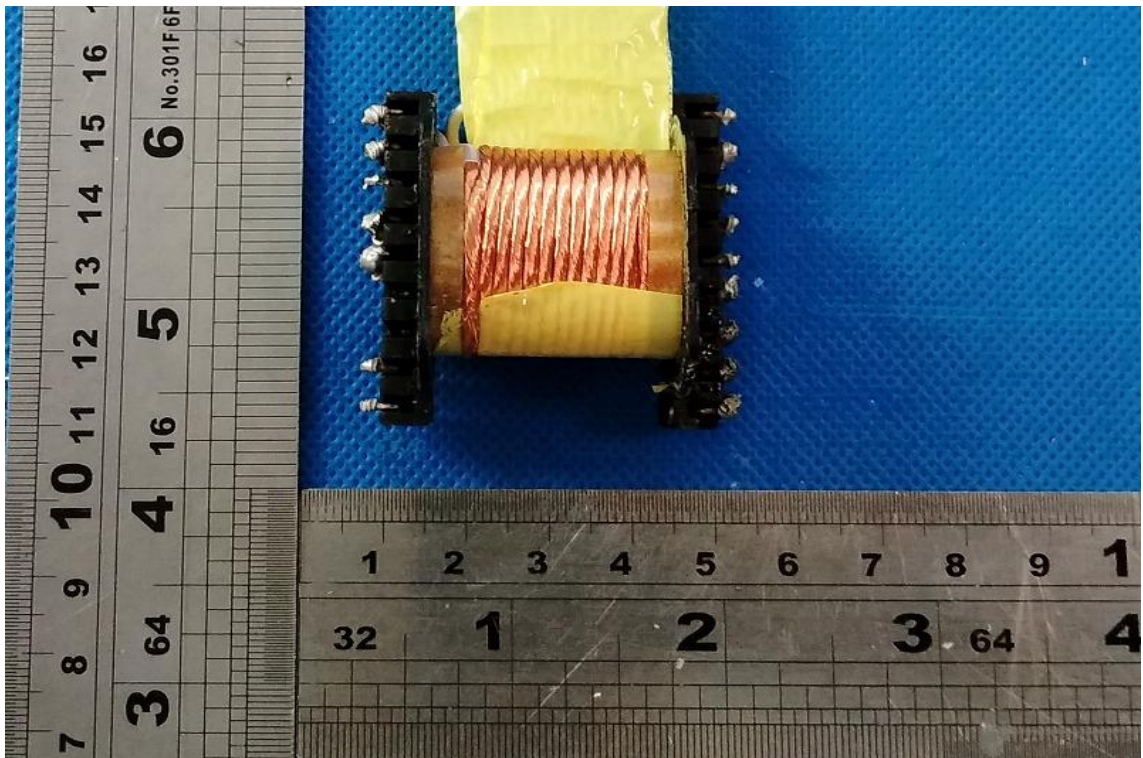
Picture 66. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



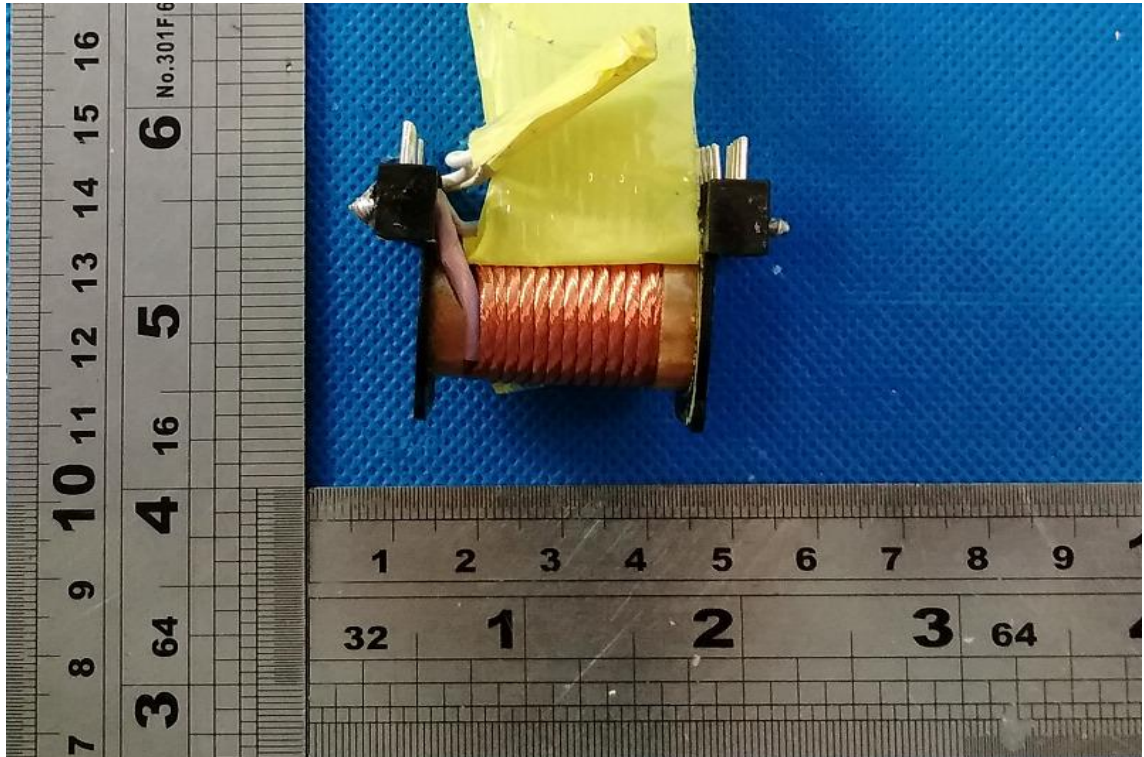
Picture 67. Transformer View



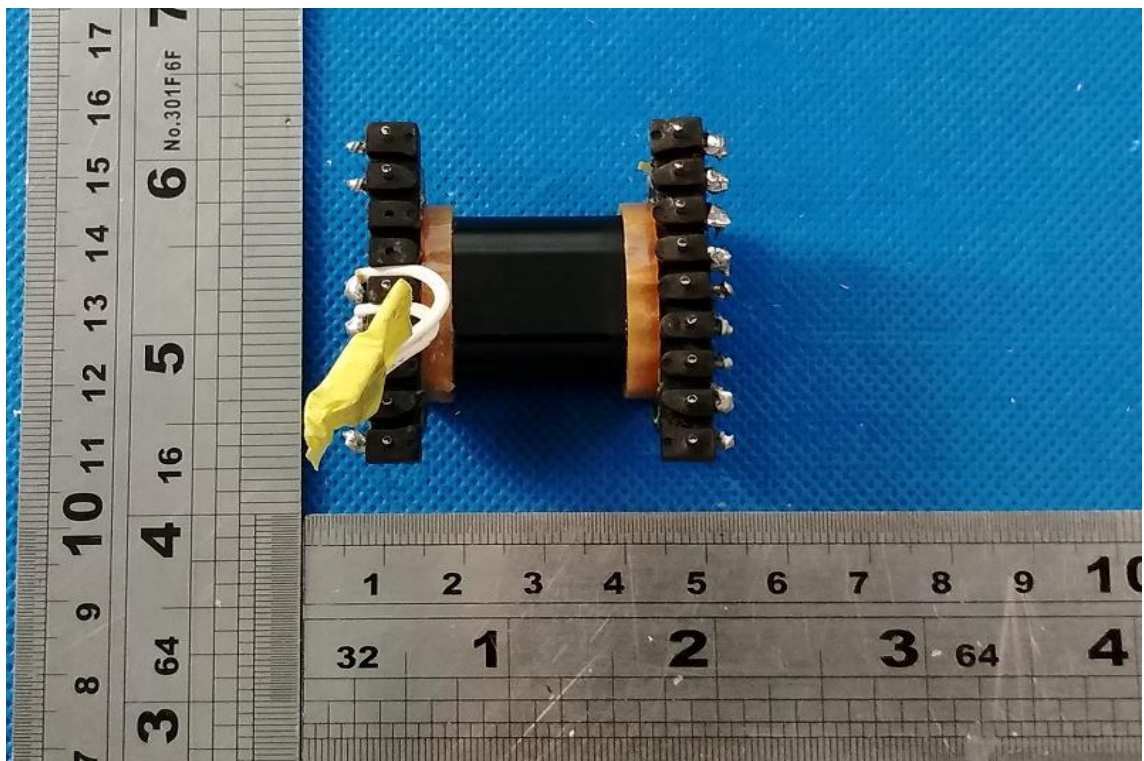
Picture 68. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



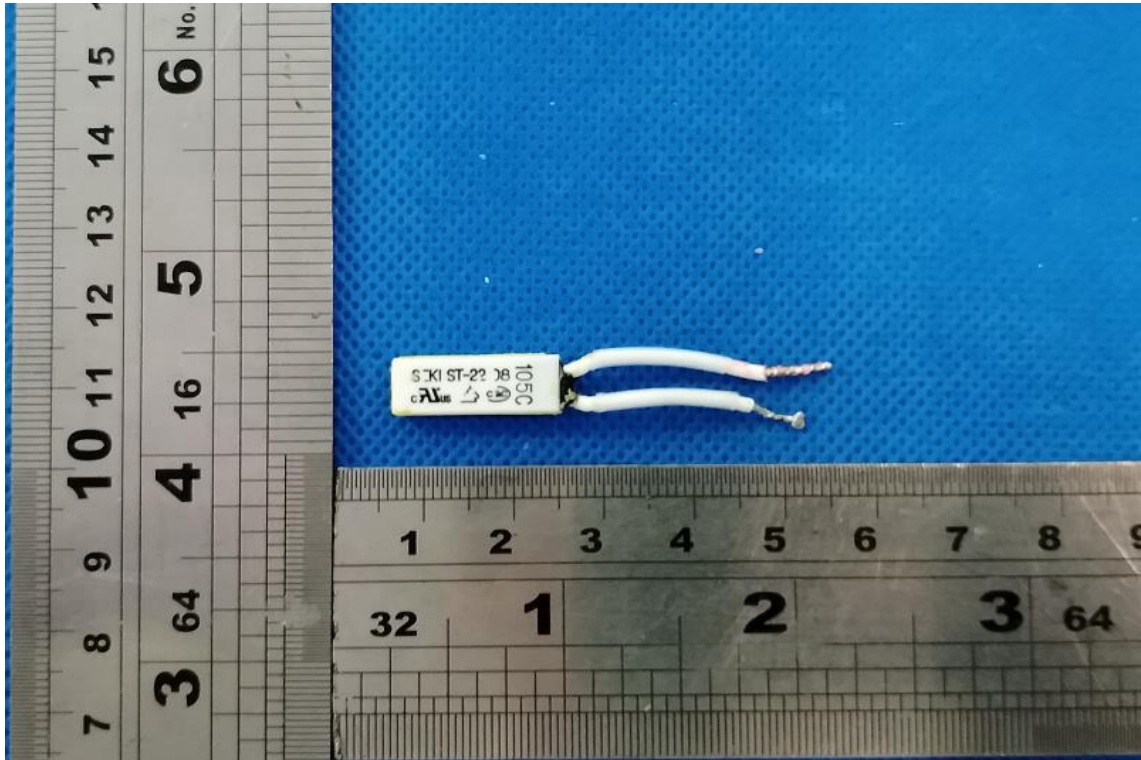
Picture 69. Transformer View



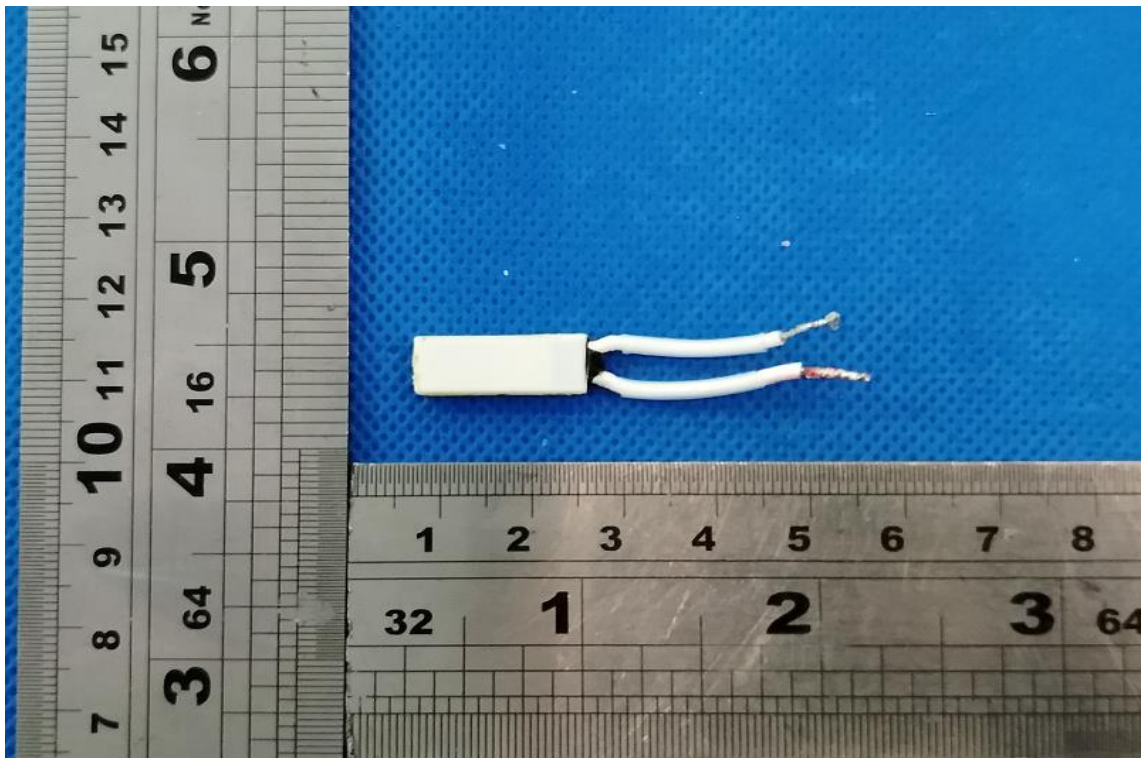
Picture 70. Transformer View

Product: Active Loudspeaker System

Type Designation: MegaSys 1, AXV15.12



Picture 71. Thermal cut-off overall view



Picture 72. Thermal cut-off overall view