

cPrüfbericht-Nr.: <i>Test Report No.:</i>	50271943 001	Auftrags-Nr.: <i>Order No.:</i>	174091930	Seite 1 von 59 Page 1 of 59																									
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	16 Aug, 2018																										
Auftraggeber: <i>Client:</i>	Seikaku Technical Group Limited Offshore Chambers, P. O. Box 217 Apia, Samoa																												
Prüfgegenstand: <i>Test item:</i>	AMPLIFIER																												
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	1) PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB; 2) PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB																												
Auftrags-Inhalt: <i>Order content:</i>	cTUVus Approval																												
Prüfgrundlage: <i>Test specification:</i>	UL 62368-1:2014 CAN/CSA-C22.2 No. 62368-1-14																												
Wareneingangsdatum: <i>Date of receipt:</i>	18 Apr, 2019	See photo document for detail.																											
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000913483-001 to A000913483-003																												
Prüfzeitraum: <i>Testing period:</i>	18 Apr, 2019 to 19 May, 2019																												
Ort der Prüfung: <i>Place of testing:</i>	TÜV Rheinland (Guangdong) Ltd.																												
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Ltd.																												
Prüfergebnis*: <i>Test result*:</i>	Pass																												
geprüft von / tested by: 		kontrolliert von / reviewed by: 																											
16 Jul, 2019 Storm Shu/Project Engineer		16 Jul, 2019 Sailing Li/Technical Reviewer																											
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>																								
Sonstiges / Other: supervise by Barry He 																													
1. TÜV Rheinland cTUVus approval procedure.																													
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>			Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>																										
<table style="width: 100%; border: none;"> <tr> <td style="width: 16.6%;">* Legende:</td> <td style="width: 16.6%;">1 = sehr gut</td> <td style="width: 16.6%;">2 = gut</td> <td style="width: 16.6%;">3 = befriedigend</td> <td style="width: 16.6%;">4 = ausreichend</td> <td style="width: 16.6%;">5 = mangelhaft</td> </tr> <tr> <td></td> <td>P(ass) = entspricht o.g. Prüfgrundlage(n)</td> <td>F(ail) = entspricht nicht o.g. Prüfgrundlage(n)</td> <td>N/A = nicht anwendbar</td> <td>N/T = nicht getestet</td> <td></td> </tr> <tr> <td>Legend:</td> <td>1 = very good</td> <td>2 = good</td> <td>3 = satisfactory</td> <td>4 = sufficient</td> <td>5 = poor</td> </tr> <tr> <td></td> <td>P(ass) = passed a.m. test specification(s)</td> <td>F(ail) = failed a.m. test specification(s)</td> <td>N/A = not applicable</td> <td>N/T = not tested</td> <td></td> </tr> </table>						* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhaft		P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet		Legend:	1 = very good	2 = good	3 = satisfactory	4 = sufficient	5 = poor		P(ass) = passed a.m. test specification(s)	F(ail) = failed a.m. test specification(s)	N/A = not applicable	N/T = not tested	
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Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated</i> V04 <i>extracts. This test report does not entitle to carry any test mark.</i>																													

Test Item description	AMPLIFIER
Trade Mark	
Manufacturer	Same as applicant
Model/Type reference	1) PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB; 2) PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB
Ratings	1) Input: 15Vdc, 2A, 30W 2) Input: 15Vdc, 4A, 60W

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

- Attachment 1 - National Differences (20 pages)
- Attachment 2 - Photo documentation (40 pages)

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

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

Maximal ambient temperature as specified by the manufacturer: +35°C.

5.4.1.4 B.2.6	Maximum operating temperatures for materials, components and systems
9.4.1	Equipment safeguards for thermal burn
B.2.5	Input tests
F.3.9	Durability, legibility and permanence of markings

Remark:

The models PA-20HB, PA-40HB were selected for all the testing.
All the test was performed with approval external power supply, details of the power supply see appendix table 4.1.2.

Testing location:

Unless otherwise indicated, all tests were performed at the location stated in "Testing procedure and testing location" on page 1.

Summary of compliance with National Differences:

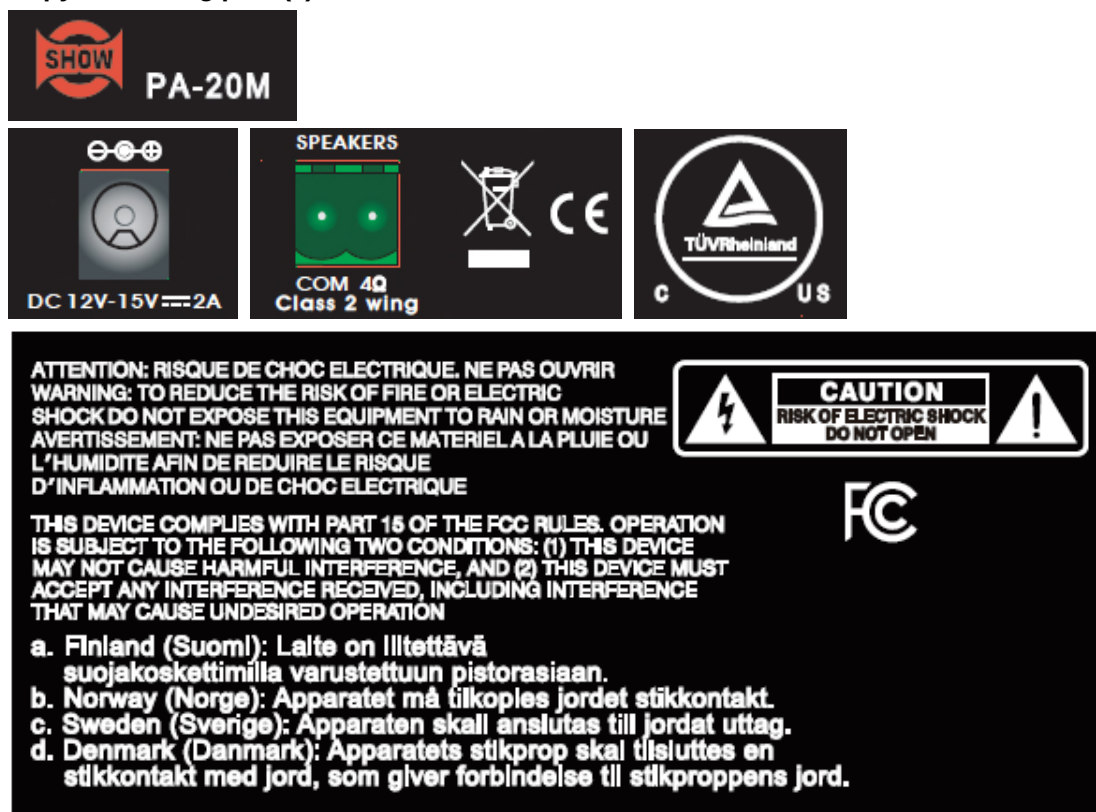
List of countries addressed: (According to IEC 62368-1:2014 (Second Edition))

CA, US

Explanation of used codes: CA=Canada, US=United States of America

For National Differences see end of this test report.

Copy of marking plate(s):



Date code:



Model code

Product month

Series no

00001

99999

Product year,
"08" representative "2008"

TEST ITEM PARTICULARS:	
Classification of use by	☒ Ordinary person ☐ Instructed person ☐ Skilled person ☐ Children likely to be present
Supply Connection.....	☐ AC Mains ☐ DC Mains ☒ External Circuit - not Mains connected - ☒ ES1 ☐ ES2 ☐ ES3
Supply % Tolerance	☐ +10%/-10% (for AC supply) ☐ +20%/-15% ☐ +__%/ __% for DC supply ☒ None (not directly connected to the mains)
Supply Connection – Type	☐ pluggable equipment type A - ☐ non-detachable supply cord ☐ appliance coupler ☐ direct plug-in ☐ mating connector ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☐ mating connector ☒ other: <u>DC supply source</u>
Considered current rating of protective device as part of building or equipment installation.....	N/A Installation location: ☐ building; ☐ equipment
Equipment mobility.....	☒ movable ☐ hand-held ☐ transportable ☐ stationary ☐ for building-in ☐ direct plug-in ☐ rack-mounting ☐ wall-mounted
Over voltage category (OVC)	☐ OVC I ☐ OVC II ☐ OVC III ☐ OVC IV ☒ other: <u>DC supply source</u>
Class of equipment	☐ Class I ☐ Class II ☒ Class III
Access location	☐ restricted access location ☐ N/A ☒ The case does not apply to the test object
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified maximum operating ambient.....	35°C
IP protection class	☒ IPX0 ☐ IP____
Power Systems	☐ TN ☐ TT ☐ IT - <u>230</u> V L-L
Altitude during operation (m)	☒ 2000 m or less ☐ <u>3000</u> m
Altitude of test laboratory (m)	☒ 2000 m or less ☐ _____ m
Mass of equipment (kg)	☒ See page 6 for detail.

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..... :	18 Apr, 2019					
Date (s) of performance of tests..... :	18 Apr, 2019 to 19 May, 2019					
GENERAL REMARKS:						
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.						
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950-1:						
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided :	☐ Yes ☒ Not applicable					
When differences exist; they shall be identified in the General product information section.						
Name and address of factory (ies)	Dongguan Jingheng Electron Co., Ltd. Shenshan Industrial City, Hengli Town, Dongguan, Guangdong 523465, P. R. China					
GENERAL PRODUCT INFORMATION:						
1. The products listed in this report are Amplifier, which constructed by an amplifier board, an audio output transformer at secondary side. All the electrical parts were housed in the metal enclosure; 2. The product can be powered by external approved adaptor; 3. Specified maximum ambient temperature is 35°C; 4. Pre-production samples without serial numbers.						
Model Differences						
Model name	Bluetooth function	MP3 Function	Audio output transformer	Rated power	Weight (kg)	Size (L x W x H) Unit (mm)
PA-20	No	No	No	30	0.85	168x105x44mm
PA-20M	No	Yes	No			
PA-20B	Yes	No	No			
PA-20H	No	No	Yes			
PA-20HM	No	Yes	Yes			
PA-20HB	Yes	No	Yes			
PA-40	No	No	No	60	0.49	
PA-40M	No	Yes	No			
PA-40B	Yes	No	No			
PA-40H	No	No	Yes			

PA-40HM	No	Yes	Yes			
PA-40HB	Yes	No	Yes			

Additional application considerations – (Considerations used to test a component or sub-assembly)-
Integrated sample provided.

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:

(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.)

(Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.

Electrically-caused injury (Clause 5):

(Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification)

Example: +5 V dc input

ES1

Source of electrical energy	Corresponding classification (ES)
All the circuit (except audio terminal output)	ES1
Audio output port	ES2

Electrically-caused fire (Clause 6):

(Note: List sub-assembly or circuit designation and corresponding energy source classification)

Example: Battery pack (maximum 85 watts):

PS2

Source of power or PIS	Corresponding classification (PS)
All the circuit (except audio terminal output)	PS2
Audio output port	PS2

Injury caused by hazardous substances (Clause 7)

(Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.)

Example: Liquid in filled component

Glycol

Source of hazardous substances	Corresponding chemical
N/A	N/A

Mechanically-caused injury (Clause 8)

(Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.)

Example: Wall mount unit

MS2

Source of kinetic/mechanical energy	Corresponding classification (MS)
Sharp edges and corners	MS1
Equipment mass <7 kg	MS1

Thermal burn injury (Clause 9)

(Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.)

Example: Hand-held scanner – thermoplastic enclosure

TS1

Source of thermal energy	Corresponding classification (TS)
External metal enclosure surface (the accessible surfaces near the power supply board)	TS1 for accessible part
External switch	TS1 for accessible part

Radiation (Clause 10)

(Note: List the types of radiation present in the product and the corresponding energy source classification.)

Example: DVD – Class 1 Laser Product

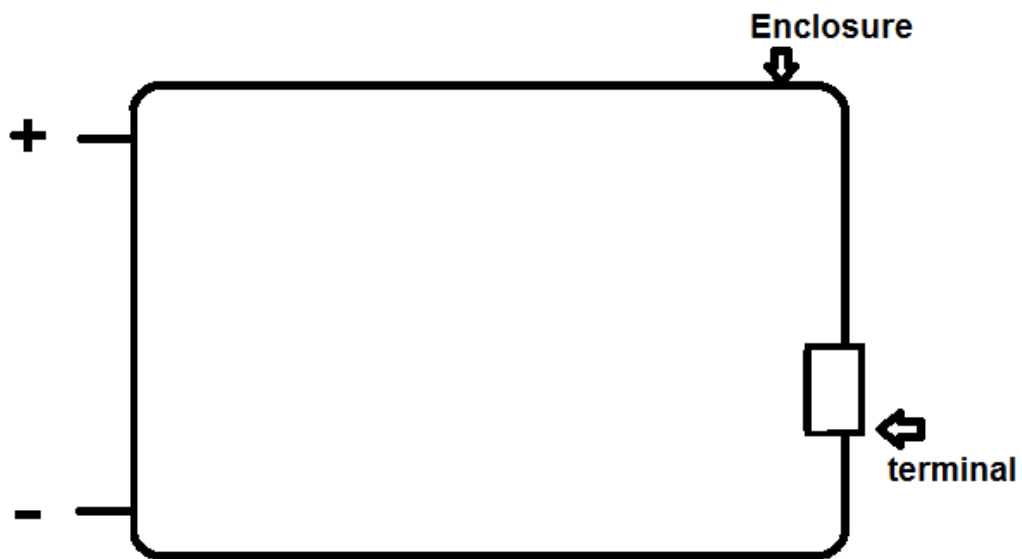
RS1

Type of radiation	Corresponding classification (RS)
N/A	N/A

ENERGY SOURCE DIAGRAM

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

ES1	All the circuit (except audio terminal output)
ES2	Audio output port
PS2	All the circuit
MS1	Mass
MS1	Sharp edges and corners
TS1	Enclosure external surface



☐ ES1 ☐ PS1 ☐ MS ☐ TS ☐ RS

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	ES1: All the circuit (except audio terminal output)	N/A	N/A	N/A
Ordinary	ES2: Audio output port	Instructional safeguard	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source	Safeguards		
		Basic	Supplementary	Reinforced
All the circuit	PS2 circuit	Equipment safeguards (no ignition occurs, no high temperature occurs)	Provided separation from arcing PIS and resistive PIS	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	MS1: No sharp edges and corners	N/A	N/A	N/A
Ordinary	MS1: Equipment mass <7 kg	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	TS1: Metal enclosure and Knob	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
Supplementary Information:				

- (1) See attached energy source diagram for additional details.
- (2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
4.1.3	Equipment design and construction	No accessible part which could cause injury.	P
4.1.15	Markings and instructions	(See Annex F)	P
4.4.4	Safeguard robustness	Class III equipment, no safeguard needed.	N/A
4.4.4.2	Steady force tests		N/A
4.4.4.3	Drop tests		N/A
4.4.4.4	Impact tests		N/A
4.4.4.5	Internal accessible safeguard enclosure and barrier tests.....		N/A
4.4.4.6	Glass Impact tests.....		N/A
4.4.4.7	Thermoplastic material tests.....		N/A
4.4.4.8	Air comprising a safeguard		N/A
4.4.4.9	Accessibility and safeguard effectiveness		N/A
4.5	Explosion		N/A
4.6	Fixing of conductors		N/A
4.6.1	Fix conductors not to defeat a safeguard		N/A
4.6.2	10 N force test applied to		N/A
4.7	Equipment for direct insertion into mains socket – outlets	Not direct plug-in equipment.	N/A
4.7.2	Mains plug part complies with the relevant standard :		N/A
4.7.3	Torque (Nm) :		N/A
4.8	Products containing coin/button cell batteries	No coin/button cell batteries used.	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery		—
4.8.4	Battery Compartment Mechanical Tests.....		N/A
4.8.5	Battery Accessibility		N/A

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

4.9	Likelihood of fire or shock due to entry of conductive object	No openings.	N/A
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5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications.....	1: The input voltage is 15Vdc, all the circuit (except audio transformer output) in the product is ES1 circuit. 2. Max. audio signal open circuit is 100Vdc is ES2.	P
5.2.2	ES1, ES2 and ES3 limits	See above.	P
5.2.2.2	Steady-state voltage and current.....		N/A
5.2.2.3	Capacitance limits		N/A
5.2.2.4	Single pulse limits	No such single pulse with the equipment.	N/A
5.2.2.5	Limits for repetitive pulses	No such repetitive pulses with the equipment.	N/A
5.2.2.6	Ringing signals	No such ringing signals with the equipment.	N/A
5.2.2.7	Audio signals	ES2 circuit Max. audio signal open circuit voltage: 100Vrms at audio output port.	P
5.3	Protection against electrical energy sources		N/A
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards		N/A
5.3.2.2	Contact requirements		N/A
	a) Test with test probe from Annex V		N/A
	b) Electric strength test potential (V)		N/A
	c) Air gap (mm)		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		N/A
5.4.1.2	Properties of insulating material		N/A
5.4.1.3	Humidity conditioning.....		N/A
5.4.1.4	Maximum operating temperature for insulating materials	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degree		—
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		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
5.4.1.9	Insulating surfaces		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat softening temperature..... :		N/A
5.4.1.10.3	Ball pressure :		N/A
5.4.2	Clearances		N/A
5.4.2.2	Determining clearance using peak working voltage		N/A
5.4.2.3	Determining clearance using required withstand voltage :		N/A
	a) a.c. mains transient voltage :		—
	b) d.c. mains transient voltage :		—
	c) external circuit transient voltage :		—
	d) transient voltage determined by measurement :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages :		N/A
5.4.3	Creepage distances :		N/A
5.4.3.1	General		N/A
5.4.3.3	Material Group :		—
5.4.4	Solid insulation		N/A
5.4.4.2	Minimum distance through insulation :		N/A
5.4.4.3	Insulation compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs) :		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.9	Solid insulation at frequencies >30 kHz		N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ)		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		N/A
	Relative humidity (%)		—
	Temperature (°C)		—
	Duration (h)		—
5.4.9	Electric strength test.....		N/A
5.4.9.1	Test procedure for a solid insulation type test		N/A
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test		N/A
5.4.10.2.3	Steady-state test		N/A
5.4.11	Insulation between external circuits and earthed circuitry		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U _{op} (V)		—
	Nominal voltage U _{peak} (V)		—
	Max increase due to variation U _{sp}		—
	Max increase due to ageing ΔU _{sa}		—
	U _{op} = U _{peak} + Δ U _{sp} + ΔU _{sa}		—
5.5	Components as safeguards		
5.5.1	General		N/A
5.5.2	Capacitors and RC units		N/A
5.5.2.1	General requirement		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector		N/A
5.5.3	Transformers		N/A
5.5.4	Optocouplers		N/A
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPD's		N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable		N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors	Class III equipment.	N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm ²)		—
5.6.4	Requirement for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²).		—
	Protective current rating (A)		—
5.6.4.3	Current limiting and overcurrent protective devices		P
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Requirement		N/A
	Conductor size (mm ²), nominal thread diameter (mm).		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method Resistance (Ω).....		N/A
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		N/A
5.7.2	Measuring devices and networks		N/A
5.7.2.1	Measurement of touch current.....		N/A
5.7.2.2	Measurement of prospective touch voltage		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.3	Equipment set-up, supply connections and earth connections		N/A
	System of interconnected equipment (separate connections/single connection)		—
	Multiple connections to mains (one connection at a time/simultaneous connections)		—
5.7.4	Earthed conductive accessible parts		N/A
5.7.5	Protective conductor current		N/A
	Supply Voltage (V)		—
	Measured current (mA)		—
	Instructional Safeguard		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits	No external circuits.	N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits	No external circuits.	N/A
	a) Equipment with earthed external circuits Measured current (mA)		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA)		N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	PS (power source) classification determined by measuring the maximum power in Figure 34 and Figure 35 for load and power source circuits.	P
6.2.2.1	General	See the following details	P
6.2.2.2	Power measurement for worst-case load fault....	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault		P
6.2.2.4	PS1		P
6.2.2.5	PS2	(See appended table 6.2.2)	P
6.2.2.6	PS3		N/A
6.2.3	Classification of potential ignition sources	See below.	P
6.2.3.1	Arcing PIS	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P

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Clause	Requirement + Test	Result - Remark	Verdict
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials	No ignition and no such temperature attained within the equipment. (See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure	No such component.	P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Method by control of fire spread applied, detail see sub-clauses 6.4.4, 6.4.5 and 6.4.6.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		P
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	See sub-clauses 6.4.4, 6.4.5 and 6.4.6.	P
6.4.3.1	General		P
6.4.3.2	Supplementary Safeguards	Provided separation from arcing PIS and resistive PIS, if the distance from PIS less than specified in the Figure 37, Figure 38, Figure 39, min. V-1 materials used.	P
	Special conditions if conductors on printed boards are opened or peeled	No conductors on printed boards opened. And V-0 printed boards used.	P
6.4.3.3	Single Fault Conditions	(see Annex B)	P
	Special conditions for temperature limited by fuse	No such consideration.	N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits	Metal enclosure used.	P
6.4.5.2	Supplementary safeguards		N/A
6.4.6	Control of fire spread in PS3 circuit		N/A
6.4.7	Separation of combustible materials from a PIS	- If the distance from PIS less than specified in the Figure 37, Figure 38, Figure 39, min. V-1 materials used. - Fire enclosure provided.	P
6.4.7.1	General		N/A
6.4.7.2	Separation by distance	.	N/A
6.4.7.3	Separation by a fire barrier	No specific barrier provided.	N/A
6.4.8	Fire enclosures and fire barriers	See below.	P
6.4.8.1	Fire enclosure and fire barrier material properties	Metal enclosure used.	P
6.4.8.2.1	Requirements for a fire barrier	No fire barrier used.	N/A
6.4.8.2.2	Requirements for a fire enclosure	Metal enclosure used.	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	Metal enclosure used.	P
6.4.8.3.1	Fire enclosure and fire barrier openings	See subclause 6.4.8.3.2	P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm)	No top opening	N/A
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm)	No openings.	N/A
	Flammability tests for the bottom of a fire enclosure		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating	Metal enclosure.	N/A
6.5	Internal and external wiring		N/A
6.5.1	Requirements		N/A
6.5.2	Cross-sectional area (mm ²)		—
6.5.3	Requirements for interconnection to building wiring		N/A
6.6	Safeguards against fire due to connection to additional equipment		N/A
	External port limited to PS2 or complies with Clause Q.1		N/A
7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		N/A
7.2	Reduction of exposure to hazardous substances	No hazardous chemicals within the equipment.	N/A
7.3	Ozone exposure	No ozone production within the equipment.	N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010)		—
7.6	Batteries	No batteries used.	N/A
8	MECHANICALLY-CAUSED INJURY		P
8.1	General	See the following details.	P

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Clause	Requirement + Test	Result - Remark	Verdict
8.2	Mechanical energy source classifications	1) Sharp edges and corners, classified as MS1. 2) Equipment mass: See page 6 for detail. Classified as MS1.	P
8.3	Safeguards against mechanical energy sources		N/A
8.4	Safeguards against parts with sharp edges and corners	Accessible edges and corners of the equipment are rounded and are classified as MS1.	P
8.4.1	Safeguards	See above.	P
8.5	Safeguards against moving parts	No moving parts used.	N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard		—
8.5.4	Special categories of equipment comprising moving parts	No such equipment.	N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N)		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test.....		N/A
8.6	Stability	MS1 equipment.	N/A
8.6.1	Product classification		N/A
	Instructional Safeguard		—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt.....		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force).....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Position of feet or movable parts.....:		—
8.7	Equipment mounted to wall or ceiling	No such functions.	N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)		N/A
8.7.2	Direction and applied force.....:		N/A
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force		N/A
8.9	Wheels or casters attachment requirements	No wheels or casters.	N/A
8.9.1	Classification		N/A
8.9.2	Applied force		—
8.10	Carts, stands and similar carriers	No carts, stands and similar carriers used.	N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard.....:		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)		—
8.10.6	Thermoplastic temperature stability (°C)		N/A
8.11	Mounting means for rack mounted equipment	Not rack mounted equipment.	N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i>		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas.....	No such devices provided within the equipment.	N/A
	Button/Ball diameter (mm).....:	See above.	—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications	No part considered to be accessible other than enclosure and plastic knob. The equipment evaluated by temperature test (See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P

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Clause	Requirement + Test	Result - Remark	Verdict
9.3	Safeguard against thermal energy sources	Temperature of enclosure and knob classed as TS1.	N/A
9.4	Requirements for safeguards		N/A
9.4.1	Equipment safeguard		N/A
9.4.2	Instructional safeguard		N/A

10	RADIATION		N/A
10.2	Radiation energy source classification	No radiation energy source used.	N/A
10.2.1	General classification		N/A
10.3	Protection against laser radiation		N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault.....:		N/A
	Instructional safeguard		—
	Tool.....:		—
10.4	Protection against visible, infrared, and UV radiation		N/A
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons.....:		N/A
10.4.1.b)	RS3 accessible to a skilled person.....:		N/A
	Personal safeguard (PPE) instructional safeguard		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1 ...:		N/A
10.4.1.d)	Normal, abnormal, single-fault conditions		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque.....:		N/A
10.4.1.f)	UV attenuation		N/A
10.4.1.g)	Materials resistant to degradation UV		N/A
10.4.1.h)	Enclosure containment of optical radiation		N/A
10.4.1.i)	Exempt Group under normal operating conditions:		N/A
10.4.2	Instructional safeguard		N/A
10.5	Protection against x-radiation	No such x-radiation generated from the equipment	N/A
10.5.1	X- radiation energy source that exists equipment:		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards.....:		N/A
	Instructional safeguard for skilled person.....:		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation.....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Abnormal and single-fault condition		N/A
	Maximum radiation (pA/kg).....		N/A
10.6	Protection against acoustic energy sources	Not such equipment.	N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)		N/A
	Output voltage, unweighted r.m.s.....		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards.....		N/A
	Equipment safeguard prevent ordinary person to RS2.....		—
	Means to actively inform user of increase sound pressure		—
	Equipment safeguard prevent ordinary person to RS2.....		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)		—

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements	(See summary of testing for tested models, each loaded according to its output ratings. See also appended table B.2.5.)	P
	Audio Amplifiers and equipment with audio amplifiers	(see Annex E)	P
B.2.3	Supply voltage and tolerances	+10 % and -10 % considered.	P
B.2.5	Input test.....	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements :	(See appended table B.3 & B.4)	P
B.3.2	Covering of ventilation openings	No openings.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.3	D.C. mains polarity test	The EUT is not connected to a D.C. mains	N/A
B.3.4	Setting of voltage selector :	No voltage selector was used.	N/A
B.3.5	Maximum load at output terminals:		N/A
B.3.6	Reverse battery polarity	No battery within the EUT	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	Max non-clipped output power, one speaker short circuit test considered. See appended table B.3 & B.4)	P
B.3.8	Safeguards functional during and after abnormal operating conditions		N/A
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited :	(See appended table B.3 & B.4)	P
B.4.3	Motor tests	No moter used.	N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature :		N/A
B.4.4	Short circuit of functional insulation	See the following details.	P
B.4.4.1	Short circuit of clearances for functional insulation		N/A
B.4.4.2	Short circuit of creepage distances for functional insulation		N/A
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards used.	N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	No such component used.	N/A
B.4.6	Short circuit or disconnect of passive components	(See appended table B.3 & B.4)	P
B.4.7	Continuous operation of components	The EUT is continuous operating type and no such components intended for short time operation or intermittent operation	N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		P
B.4.9	Battery charging under single fault conditions :	No battery used.	N/A

C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation	No UV generated from the equipment.	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

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Clause	Requirement + Test	Result - Remark	Verdict
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		P
E.1	Audio amplifier normal operating conditions		P
	Audio signal voltage (V)..... :	For model PA-20: CH1: max. 8.90V For model PA-20M: CH1: max. 9.10V For model PA-20B: CH1: max. 9.11V For model PA-20H: CH1: max. 8.99V For model PA-20HM: CH1: max. 9.14V For model PA-20HB: CH1: max. 9.20V For model PA-40: CH1: max. 11.65V For model PA-40M: CH1: max. 10.95V For model PA-40B: CH1: max. 10.91V For model PA-40H: CH1: max. 11.85V For model PA-40HM: CH1: max. 11.04V For model PA-40HB: CH1: max. 12.00V	—
	Rated load impedance (Ω) :	All models: CH1: max. 4 Ω	—
E.2	Audio amplifier abnormal operating conditions	Max non-clipped output power, one speaker short circuit test considered. See appended table B.3 & B.4)	P

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Clause	Requirement + Test	Result - Remark	Verdict
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements	See below.	P
	Instructions – Language	English version user manual was provided.(version in other language will be provided when submitted for national approval)	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific	See copy of marking plate.	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	The required marking is located on the enclosure of the equipment and is easily visible.	P
F.3.2	Equipment identification markings	The product is not directly connected the mains.	P
F.3.2.1	Manufacturer identification	See copy of marking plate.	—
F.3.2.2	Model identification	See copy of marking plate.	—
F.3.3	Equipment rating markings		N/A
F.3.3.1	Equipment with direct connection to mains		N/A
F.3.3.2	Equipment without direct connection to mains	15Vdc	P
F.3.3.3	Nature of supply voltage	Not directly connected the mains.	—
F.3.3.4	Rated voltage		—
F.3.3.4	Rated frequency.....		—
F.3.3.6	Rated current or rated power		—
F.3.3.7	Equipment with multiple supply connections	Not directly connected the mains.	N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings		N/A
F.3.5.2	Switch position identification marking		N/A
F.3.5.3	Replacement fuse identification and rating markings.....		N/A
F.3.5.4	Replacement battery identification marking.....		N/A
F.3.5.5	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification		N/A
F.3.6.1	Class I Equipment	Class III equipment.	N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A
F.3.6.1.2	Neutral conductor terminal		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)	Class III equipment.	N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking :	IPX0	—
F.3.8	External power supply output marking	No power supply output used.	N/A
F.3.9	Durability, legibility and permanence of marking	Marking is considered to be legible and easily discernible. See also the following details.	P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge. After each test, the marking remained legible.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking	No such equipment used.	N/A
	b) Instructions given for installation or initial use	See user manual.	P
	c) Equipment intended to be fastened in place	Not such equipment.	N/A
	d) Equipment intended for use only in restricted access area	Not such equipment.	N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard		N/A
	g) Protective earthing conductor current exceeding ES2 limits	Class III product.	N/A
	h) Symbols used on equipment	No such symbols used as a safeguard considered.	N/A
	i) Permanently connected equipment not provided with all-pole mains switch	Not permanently connected equipment.	N/A
	j) Replaceable components or modules providing safeguard function	No replaceable components or modules.	N/A
F.5	Instructional safeguards	No instructional safeguard is considered as necessary.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A

G	COMPONENTS		P
G.1	Switches		N/A
G.1.1	General requirements		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	Relays		N/A
G.2.1	General requirements	No relay used.	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	Protection Devices		N/A
G.3.1	Thermal cut-offs	No thermal cut-offs used.	N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691	No thermal link used.	N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H)		—
	Single Fault Condition		—
	Test Voltage (V) and Insulation Resistance (□) ...:		—
G.3.3	PTC Thermistors		N/A
G.3.4	Overcurrent protection devices		N/A
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions		N/A
G.4	Connectors		N/A
G.4.1	Spacings	No such components used.	N/A
G.4.2	Mains connector configuration		N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5	Wound Components		N/A
G.5.1	Wire insulation in wound components	No such components used.	N/A
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°		N/A
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s)		—
	Temperature (□C).....		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	Transformers		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1)	The transformer meets the requirements given in G.5.3.2 and G.5.3.3	N/A
	Position	See table	—
	Method of protection		—
G.5.3.2	Insulation		P
	Protection from displacement of windings	By insulating tape	—
G.5.3.3	Overload test.....		N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding Temperatures testing in the unit	(See appended table B.3 & B.4)	P
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	Motors		N/A
G.5.4.1	General requirements	No such components used.	N/A
	Position		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V)		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		—

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		N/A
G.6.1	General		N/A
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements		N/A
	Type.....		—
	Rated current (A)		—
	Cross-sectional area (mm ²), (AWG)		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g)		—
	Diameter (m)		—
	Temperature (°C).....		—
G.7.6	Supply wiring space		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		N/A
G.8.1	General requirements	No such components used.	N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test..... :		N/A
G.8.3.3	Temporary overvoltage..... :		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No such components used.	N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA :		—
G.9.1 d)	IC limiter output current (max. 5A) :		—
G.9.1 e)	Manufacturers' defined drift :		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	Resistors		N/A
G.10.1	General requirements	No such components used.	N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		N/A
G.11.1	General requirements	No such components used.	N/A
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	Optocouplers		N/A
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results)..... :	No such components used.	N/A
	Type test voltage Vini :		—
	Routine test voltage, Vini,b :		—
G.13	Printed boards		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.13.1	General requirements	No such components used.	N/A
G.13.2	Uncoated printed boards		N/A
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction)		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements		N/A
G.15	Liquid filled components		N/A
G.15.1	General requirements		N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours	Not such IC used.	N/A
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance		—
D3)	Resistance		—

H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General	No telephone ringing signal generated within the equipment.	N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringling signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V).....		—

J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
	General requirements		N/A

K	SAFETY INTERLOCKS		N/A
K.1	General requirements	No safety interlock provided.	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
	Compliance		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method		N/A
K.7	Interlock circuit isolation		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location)		N/A
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A

L	DISCONNECT DEVICES		N/A
L.1	General requirements	Not directly connected to the mains.	N/A
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		N/A
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

M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements	No battery used.	N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method) :		N/A
M.3	Protection circuits		N/A
M.3.1	Requirements		N/A
M.3.2	Tests		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
M.3.3	Compliance		N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.4.2.2 b)	Single faults in charging circuitry.....:		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method)		N/A
M.6.2	Leakage current (mA)		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume V_z (m³/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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing)		N/A
N	ELECTROCHEMICAL POTENTIALS		N/A
	Metal(s) used	.	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		N/A
	Figures O.1 to O.20 of this Annex applied.....		—
P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		N/A
P.1	General requirements		N/A
P.2.2	Safeguards against entry of foreign object		N/A
	Location and Dimensions (mm)		—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard)		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts	No such construction.	N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C).....		—
	Tr (°C)		—
	Ta (°C).....		—
P.4.2 b)	Abrasion testing		N/A
P.4.2 c)	Mechanical strength testing.....		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		N/A
Q.1	Limited power sources		N/A
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition		N/A
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A)		—
	Current limiting method		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements	No such consideration.	N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A).		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (□C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (□C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (test condition), (□C)		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A

T	MECHANICAL STRENGTH TESTS		N/A
T.1	General requirements	Class III equipment	N/A
T.2	Steady force test, 10 N		N/A
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		N/A
T.6	Enclosure impact test		N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test		N/A
T.8	Stress relief test		N/A
T.9	Impact Test (glass)	No such glass provided within the equipment.	N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J)		—
	Height (m)		—
T.10	Glass fragmentation test		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
T.11	Test for telescoping or rod antennas	No such antennas provided within the equipment.	N/A
	Torque value (Nm)		—
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General requirements	No CRT provided.	N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....		N/A
V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES. AND WEDGES)		P
V.1	Accessible parts of equipment	Following the test probes specified in this Annex except for Figures V.3, V.4 and V.5 are not suitable. The surfaces and all the openings is evaluated by the test probe of Figure V.1 and Figure V.2.	P
V.2	Accessible part criterion	No live parts can be accessible.	P

4.1.2	TABLE: List of critical components					P
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)	
External adaptor (PA20H, PA20HB, PA20HM)	SHENZHEN XINPOWER TECHNOLOGY CO LTD	A361-1502000E	100-240V~50/60Hz, 15V, 2A	UL/CUL62368	UL E479246	
(Alternative)	KUANTECH(BEI HAI)CO LTD	KSA-36W- 150200D5	100-240V~50/60Hz, 15V, 2A	UL/CUL60950	UL E215890	
External adaptor (PA40H, PA40HB, PA40HM)	SHENZHEN XINPOWER TECHNOLOGY CO LTD	A361-1502000U	100-240V~50/60Hz, 15V, 4A	UL/CUL62368	UL E479246	
Metal enclosure	Interchangeable	Interchangeable	Min. thickness 1.2mm	--	--	
Plastic panel	CHI MEI CORPORATION	PA-757(+)	Min. thickness: 1.5mm, Min 80°C HB	UL94	UL E56070	
Power switch	Light Country Co. Ltd.	R6	AC250V ,6A AC125V ,12A, 10E3, T85, V-0	UL 61058-1 CAN/CSA-C22.2 No. 61058-1 (2009)	UL E104190	
(Alternative)	Pronic	R13	AC250V, 6A AC125V, 10A, 10E3, T85, V-0	UL 61058-1 CAN/CSA-C22.2 No. 61058-1 (2009)	UL E105856	
(Alternative)	Light country	R19	AC250V, 6A , 10E3, T85, V-0	UL 61058-1 CAN/CSA-C22.2 No. 61058-1 (2009)	UL E104190	
(Alternative)	RONG FENG	RF-1003	AC250V,10A, 10E3, T85, V-0	UL 61058-1 CAN/CSA-C22.2 No. 61058-1 (2009)	UL E94138	
PCB	ZHUHAI YUNXIN ELECTRONIC TECHNOLOGY CO LTD	YX-D1	V-0, 130°C	UL-796	UL E353820	
(Alternative)	Long Chang	LC-02V0	V-0, 130°C	UL 796	UL E94733	
(Alternative)	BAOYUEJIA	BY-2	V-0, 130°C	UL 796	UL/cUL E230225	
(Alternative)	Interchangeable	Interchangeable	V-0, 130°C	UL 796	UL	

Internal wire	Recognized Styles for DONGGUAN XIEHE WIRE CO LTD	1007	Min.300VAC, 105°C, 18AWG	UL 758	UL E189533
(Alternative)	Recognized Styles for DONGGUAN XIEHE WIRE CO LTD	1007	Min.300VAC, 105°C, 18AWG	UL 758	UL E251491
(Alternative)	Fushen	1617 or 1015	Min. 300VAC, 105°C, 18AWG, VW-1	UL 758 CSA-C22.2 No.210	UL E218170
(Alternative)	WENCHANG	1617 or 1015	Min. 300VAC, 105°C, 18AWG, VW-1	UL 758	UL E214500
(Alternative)	DANYANG	1617 or 1015	Min. 300Vac, 105°C, Min.18AWG	UL 758	UL E332522
Audio output transformer (PA-20H, PA-20HM, PA-20HB)	YAN WO INDUSTRIES LIMITED	OT-PA-20HM	Com~4(BLK~RED) Com~70V(BLK~YEL) Com~100V(BLK~BLU) WHT-BLK 4ohm-Com	IEC 62368-1 EN 62368-1	Tested with appliance
Audio output transformer (PA-40H, PA-40HM, PA-40HB)	YAN WO INDUSTRIES LIMITED	OT-PA-40HM	Com~4(BLK~RED) Com~70V(BLK~YEL) Com~100V(BLK~BLU) WHT-BLK 4ohm-Com	IEC 62368-1 EN 62368-1	Tested with appliance
- Bobbin	E I DUPONT DE NEMOURS & CO INC	101F	PA66, V-2, 130°C, min. Thickness: 0.75 mm	UL 94	UL E41938
- Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	WF	130°C	UL 94	UL E165111
(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)	CHIN YIH TECHNOLOGY WIRE CO LTD	UEW	130°C	UL 1446	UL E196473
(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
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Supplementary information:

- 1) Provided Evidence Ensures The Agreed Level Of Compliance. See OD-CB2039.
- 2) In Optocoupler Technical Data Column, Where "Dti." Means Distance Through Insulation, "Int." Means Internal Creepage Distance, "Ext." Means External Creepage Distance.

4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests			N/A
(The following mechanical tests are conducted in the sequence noted.)				
4.8.4.2	TABLE: Stress Relief test			--
Part		Material	Oven Temperature (°C)	Comments
--		--	--	--
4.8.4.3	TABLE: Battery replacement test			--
Battery part no.:				—
Battery Installation/withdrawal			Battery Installation/Removal Cycle	Comments
			1	--
			2	--
			3	--
			4	--
			5	--
			6	--
			8	--
			9	--
4.8.4.4	TABLE: Drop test			--
Impact Area		Drop Distance	Drop No.	Observations
--		--	1	--
--		--	2	--
--		--	3	--
4.8.4.5	TABLE: Impact			--
Impacts per surface		Surface tested	Impact energy (Nm)	Comments
--		--	--	--
4.8.4.6	TABLE: Crush test			--
Test position		Surface tested	Crushing Force (N)	Duration force applied (s)
--		--	--	--
Supplementary information: Not Lithium coin/button cell batteries				

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

5.2	Table: Classification of electrical energy sources (model			P
------------	--	--	--	---

5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions ¹⁾	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
1	240Va.c, 60Hz	Transformer (T1) for PA-20HB					
		0~4(BLK~RED) After	Normal:	8.95Vdc	--	--	ES1
		0~4(BLK~RED) After	Single fault: SC	Unit shutdown immediately	--	--	
		0~70V(BLK~YE L)After	Normal:	70.0Vdc	--	--	
		0~70V(BLK~YE L)After	Single fault: SC	Unit shutdown immediately	--	--	
		0~100V(BLK~BL U)After	Normal:	100.0Vrms	--	--	ES2
		0~100V(BLK~BL U)After	Single fault: SC	Unit shutdown immediately	--	--	
1	240Va.c, 60Hz	Transformer (T1) for PA-40HB					
		0~4(BLK~RED) After	Normal:	12.65Vdc	--	--	ES1
		0~4(BLK~RED) After	Single fault: SC	Unit shutdown immediately	--	--	
		0~70V(BLK~YE L)After	Normal:	70.0Vdc	--	--	
		0~70V(BLK~YE L)After	Single fault: SC	Unit shutdown immediately	--	--	
		0~100V(BLK~BL U)After	Normal:	100.0Vrms	--	--	ES2
		0~100V(BLK~BL U)After	Single fault: SC	Unit shutdown immediately	--	--	

5.2.2.3 - Capacitance Limits						
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
1						
Note: no X capacitor used.						

5.2.2.4 - Single Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ipk (mA)	

5.2.2.5 - Repetitive Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
			Normal				
			Abnormal				
			Single fault – SC/OC				

Test Conditions:

Normal – Full load and no load.

Abnormal – Overload output

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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements			P
	Supply voltage (V) ...	1. AC 264V, 50Hz 2. AC 90V, 50Hz		--
	Supply frequency (Hz)	See above		--
	Test condition	Pink noise signal input, tone controls set to their mid position, volume control adjust to max position. 1/8 Max non-clipped output power to output. CH1: 4Ω		--
	Test position	See below		--
	Ambient T _{min} (°C)	--		--
	Ambient T _{max} (°C) ...	--		--
	T _{ma} (°C)	See below.		--
Maximum measured temperature T of part/at:		T (°C)		Allowed T _{max} (°C)
Test Voltage:		1	2	
For model PA-20HB				

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Power Switch			37.3		37.5		55
Input terminal			42.9		45.4		--
Internal wire for switch			46.9		49.6		105
Internal wire for transformer input			46.1		49.2		105
Winding of transformer T1			54.4		60.4		110
Core of transformer T1			51.4		56.2		--
PCB surface near IC14			46.2		48.9		130
Body of C82 (Electrolytic Capacitor)			46.6		50.0		85
Input wire for external power			36.7		38.0		--
Output wire for external power			42.4		35.1		--
Ambient			Shifed to 35°C				--
(At room temperature)							
Enclosure of external power			37.1		38.7		77*
Metal enclosure			36.2		36.2		60*
Knob			28.8		27.1		77*
Ambient			28.5		26.6		--
For model PA-40HB							
Power Switch			38.5		38.5		55
Input terminal			43.5		44.1		--
Internal wire for switch			44.6		45.4		105
Internal wire for transformer input			42.7		47.5		105
Winding of transformer T1			53.0		54.7		110
Core of transformer T1			50.6		51.9		--
PCB surface near IC14			49.0		50.6		130
Body of C82 (Electrolytic Capacitor)			49.1		49.3		85
Input wire for external power			35.9		36.0		--
Output wire for external power			44.3		42.2		--
Ambient			Shifed to 35°C				--
(At room temperature)							
Enclosure of external power			35.5		36.7		77*
Metal enclosure			36.6		36.3		60*
Knob			31.3		29.3		77*
Ambient			30.5		26.9		--
Temperature T of winding:	t1 (°C)	R1 (Ω)	t2 (°C)	R2 (Ω)	T (°C)	Allowed Tmax (°C)	Insulation class
--	--	--	--	--	--	--	--

Supplementary information:

Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (T_{ma}). Therefore the maximum temperatures measured are recalculated as follows: $T + (T_{ma} - T_{amb})$, where T is the maximum temperature measured during test and T_{amb} is the ambient temperature during the test.

Note 2: The temperatures were measured under the worse case normal mode defined in clause B.2.5.

Note 3: Temperature limits are calculated as follows:

Winding components providing safety isolation:

Class B $\rightarrow T_{max} = 120\text{ °C} - 10\text{ °C} = 110\text{ °C}$

* Temperature limit for TS1 of accessible enclosure according to Table 38. The external enclosure, Power cord, plastic switch was occasionally for short periods ($>1s$ and $<10s$).

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

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

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

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage			N/A
	Overvoltage Category (OV):			
	Pollution Degree:			
Clearance distanced between:	Required withstand voltage	Required cl (mm)	Measured cl (mm)	

5.4.2.3		TABLE: Minimum Clearances distances using required withstand voltage			N/A
		Overvoltage Category (OV):			
		Pollution Degree:			
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measured cl (mm)	
Supplementary information: --					

5.4.2.4	TABLE: Clearances based on electric strength test			N/A
Test voltage applied between:		Required cl (mm)	Test voltage (kV) peak/ r.m.s. / d.c.	Breakdown Yes / No
Supplementary information: --				

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements					N/A
Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)	
Supplementary information: --						

5.4.9	TABLE: Electric strength tests			N/A
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Functional:				
Basic/supplementary:				
Reinforced:				
Routine Tests:				

5.4.9	TABLE: Electric strength tests			N/A
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Supplementary information: --				

5.5.2.2	TABLE: Stored discharge on capacitors					N/A
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification	
Supplementary information: X-capacitors installed for testing are: bleeding resistor rating: ICX: Notes: A. Test Location: Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth B. Operating condition abbreviations: N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition						

5.5.2.2	TABLE: Stored discharge on capacitors					N/A
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification	
Supplementary information: X-capacitors installed for testing are: bleeding resistor rating: ICX: Notes: A. Test Location: Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth B. Operating condition abbreviations: N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition						

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

	6.2.2.8, except for 6.2.2.7	
	1	
	2*	
	3	
	4	
	5	
	6	
	8	

Supplementary Information:

Notes:

[1] Supply voltage is the anticipated maximum Touch Voltage

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

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

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

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

6.2.2	Table: Electrical power sources (PS) measurements for classification					P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification	
Model PA-20HB						
Audio output transformer COM to 4Ω	Normal operation	Power (W) :	29.49	29.49	PS2	
		V _A (V) :	11.97	11.97		
		I _A (A) :	2.47	2.47		
Audio output transformer COM to 70V	Normal operation	Power (W) :	16.20	16.20	PS2	
		V _A (V) :	95.30	95.30		
		I _A (A) :	0.17	0.17		
Audio output transformer COM to 100V	Normal operation	Power (W) :	12.49	12.49	PS2	
		V _A (V) :	134.80	134.80		
		I _A (A) :	0.09	0.09		
Model PA-40HB						
Audio output transformer COM to 4Ω	Normal operation	Power (W) :	41.62	41.62	PS2	
		V _A (V) :	14.06	14.06		
		I _A (A) :	2.96	2.96		
Audio output transformer COM to 70V	Normal operation	Power (W) :	44.12	44.12	PS2	
		V _A (V) :	95.93	95.93		
		I _A (A) :	0.46	0.46		
Audio output transformer COM to 100V	Normal operation	Power (W) :	25.89	25.89	PS2	
		V _A (V) :	117.70	117.70		
		I _A (A) :	0.22	0.22		

Supplementary Information:
All the circuit was considered as PS2 circuit

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)				P
Location	Open circuit voltage After 3 s (V _p)	Measured r.m.s current (I _{rms})	Calculated value (V _p x I _{rms})	Arcing PIS? Yes / No	
All circuit	--	--	--	Yes	

Supplementary information:
The contact terminals of switch or connector are considered as arcing PIS.
An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15.

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)				P
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
--	--	--	--	--	Yes

Supplementary Information:
All the circuit was considered as **Resistive PIS**.
A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter.
If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification.
A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.

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

B.2.5		TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (mA)	Condition/status	
Model PA-20								
264.0	0.076	--	1.65	--	--	--	Pink noise signal input, tone controls set to their mid position, volume control adjust to max position.1/8 Max non-clipped output power to output. CH1: 4Ω	
264.0	0.076	--	1.48	--	--	--		
240.0	0.080	2.0	2.28	--	--	--		
240.0	0.080	2.0	2.17	--	--	--		
100.0	0.138	2.0	4.63	--	--	--		
100.0	0.140	2.0	4.75	--	--	--		
90.0	0.150	--	4.59	--	--	--		
90.0	0.152	--	4.91	--	--	--		
Model PA-20M								
264.0	0.080	--	1.76	--	--	--	Pink noise signal input, tone controls set to their mid position, volume control adjust to max position.1/8 Max non-clipped output power to output. CH1: 4Ω	
264.0	0.080	--	1.59	--	--	--		
240.0	0.083	2.0	2.39	--	--	--		
240.0	0.083	2.0	2.28	--	--	--		
100.0	0.143	2.0	4.54	--	--	--		
100.0	0.145	2.0	4.66	--	--	--		
90.0	0.152	--	4.68	--	--	--		
90.0	0.156	--	4.98	--	--	--		
Model PA-20B								
264.0	0.098	--	4.26	--	--	--	Pink noise signal input, tone controls set to their mid position, volume control adjust to max position.1/8 Max non-clipped output power to output. CH1: 4Ω	
264.0	0.100	--	4.43	--	--	--		
240.0	0.103	2.0	4.81	--	--	--		
240.0	0.104	2.0	4.83	--	--	--		
100.0	0.198	2.0	7.36	--	--	--		
100.0	0.201	2.0	8.07	--	--	--		
90.0	0.209	--	7.65	--	--	--		
90.0	0.210	--	7.27	--	--	--		
Model PA-20H								
264.0	0.076	--	1.66	--	--	--	Pink noise signal input, tone controls set to their mid position, volume control adjust to max position.1/8 Max non-clipped output power to output. CH1: 4Ω	
264.0	0.076	--	1.49	--	--	--		
240.0	0.080	2.0	2.29	--	--	--		
240.0	0.080	2.0	2.18	--	--	--		
100.0	0.138	2.0	4.64	--	--	--		
100.0	0.140	2.0	4.76	--	--	--		

B.2.5		TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (mA)	Condition/status	
90.0	0.150	--	4.60	--	--	--		
90.0	0.152	--	4.92	--	--	--		
Model PA-20HM								
264.0	0.080	--	1.76	--	--	--	Pink noise signal input, tone controls set to their mid position, volume control adjust to max position.1/8 Max non-clipped output power to output. CH1: 4Ω	
264.0	0.080	--	1.59	--	--	--		
240.0	0.083	2.0	2.39	--	--	--		
240.0	0.083	2.0	2.28	--	--	--		
100.0	0.143	2.0	4.74	--	--	--		
100.0	0.145	2.0	4.86	--	--	--		
90.0	0.152	--	4.70	--	--	--		
90.0	0.156	--	5.02	--	--	--		
Model PA-20HB								
264.0	0.098	--	4.26	--	--	--	Pink noise signal input, tone controls set to their mid position, volume control adjust to max position.1/8 Max non-clipped output power to output. CH1: 4Ω	
264.0	0.100	--	4.43	--	--	--		
240.0	0.103	2.0	4.81	--	--	--		
240.0	0.104	2.0	4.83	--	--	--		
100.0	0.198	2.0	7.36	--	--	--		
100.0	0.201	2.0	8.07	--	--	--		
90.0	0.209	--	7.65	--	--	--		
90.0	0.210	--	7.27	--	--	--		
Model PA-40								
264.0	0.090	--	4.20	--	--	--	Pink noise signal input, tone controls set to their mid position, volume control adjust to max position.1/8 Max non-clipped output power to output. CH1: 4Ω	
264.0	0.089	--	3.80	--	--	--		
240.0	0.091	4.0	4.80	--	--	--		
240.0	0.090	4.0	4.60	--	--	--		
100.0	0.190	4.0	7.56	--	--	--		
100.0	0.189	4.0	7.39	--	--	--		
90.0	0.210	--	7.69	--	--	--		
90.0	0.210	--	7.49	--	--	--		
Model PA-40B								
264.0	0.100	--	4.39	--	--	--	Pink noise signal input, tone controls set to their mid position, volume control adjust to max position.1/8 Max non-clipped output power to output.	
264.0	0.099	--	3.99	--	--	--		
240.0	0.105	4.0	5.00	--	--	--		
240.0	0.104	4.0	4.82	--	--	--		

B.2.5		TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (mA)	Condition/status	
100.0	0.203	4.0	7.80	--	--	--	CH1: 4Ω	
100.0	0.201	4.0	7.60	--	--	--		
90.0	0.218	--	7.90	--	--	--		
90.0	0.217	--	7.70	--	--	--		
Model PA-40M								
264.0	0.119	--	6.80	--	--	--	Pink noise signal input, tone controls set to their mid position, volume control adjust to max position.1/8 Max non-clipped output power to output. CH1: 4Ω	
264.0	0.117	--	6.70	--	--	--		
240.0	0.133	4.0	7.93	--	--	--		
240.0	0.126	4.0	7.59	--	--	--		
100.0	0.246	4.0	9.80	--	--	--		
100.0	0.245	4.0	9.69	--	--	--		
90.0	0.257	--	9.20	--	--	--		
90.0	0.264	--	9.76	--	--	--		
Model PA-40H								
264.0	0.097	--	4.30	--	--	--	Pink noise signal input, tone controls set to their mid position, volume control adjust to max position.1/8 Max non-clipped output power to output. CH1: 4Ω	
264.0	0.096	--	3.90	--	--	--		
240.0	0.098	4.0	4.90	--	--	--		
240.0	0.097	4.0	4.70	--	--	--		
100.0	0.192	4.0	7.66	--	--	--		
100.0	0.191	4.0	7.49	--	--	--		
90.0	0.213	--	7.79	--	--	--		
90.0	0.21	--	7.59	--	--	--		
Model PA-40HB								
264.0	0.103	--	4.49	--	--	--	Pink noise signal input, tone controls set to their mid position, volume control adjust to max position.1/8 Max non-clipped output power to output. CH1: 4Ω	
264.0	0.102	--	4.09	--	--	--		
240.0	0.107	4.0	5.08	--	--	--		
240.0	0.106	4.0	4.90	--	--	--		
100.0	0.209	4.0	7.86	--	--	--		
100.0	0.207	4.0	7.69	--	--	--		
90.0	0.223	--	7.99	--	--	--		
90.0	0.222	--	7.79	--	--	--		
Model PA-40HM								
264.0	0.121	--	6.85	--	--	--	Pink noise signal input, tone controls set to their mid position,	
264.0	0.119	--	6.75	--	--	--		

B.2.5		TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (mA)	Condition/status volume control adjust to max position.1/8 Max non-clipped output power to output. CH1: 4Ω	
240.0	0.135	4.0	8.03	--	--	--		
240.0	0.128	4.0	7.69	--	--	--		
100.0	0.248	4.0	9.90	--	--	--		
100.0	0.247	4.0	9.79	--	--	--		
90.0	0.259	--	9.30	--	--	--		
90.0	0.266	--	9.86	--	--	--		
Supplementary information: The maximum measured current under rated voltage did not exceed 110% of the rated power.								

B.3		TABLE: Abnormal operating condition tests						P
Ambient temperature (°C)					25°C, if not specified			—
Power source for EUT: Manufacturer, model/type, output rating ...					--			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Model PA-40HB								
Unit	Max non-clipped output	264V	3.0h	Main fuse	0.44A	K	Power Switch T= 56.4°C; Input terminal T= 79.4°C; Internal wire for switch T= 77.4°C; Internal wire for transformer input T= 79.6°C; Winding of transformer (T1) T= 103.5°C; Core of transformer (T1) T= 96.7°C; PCB surface near IC14 T= 86.6°C; Metal enclosure T= 56.7°C; Knob T= 32.0°C; Input wire for external power T= 35.1°C; Output wire for external power T= 69.3°C Enclosure of external power T= 50.9°C	Unit normal operation until thermal equilibrium. No damaged, no hazards. Load condition: CH1: 4Ω

Unit	SC Load (CH1)	264V	2.5h	Main fuse	0.05A	K	Power Switch T= 36.5°C; Input terminal T= 38.1°C; Internal wire for switch T= 37.5°C; Internal wire for transformer input T= 37.9°C; Winding of transformer (T1) T= 38.5°C; Core of transformer (T1) T= 38.4°C; PCB surface near IC14 T= 38.9°C; Metal enclosure T= 29.8°C; Knob T= 27.1°C; Input wire for external power T= 35.4°C; Output wire for external power T= 39.2°C Enclosure of external power T= 35.9°C	Unit normal operation until thermal equilibrium. No damaged, no hazards. Load condition: CH1: 4Ω
Model PA-20HB								
Unit	Max non-clipped output	264V	2.0h	Main fuse	0.32A	K	Power Switch T= 41.4°C; Input terminal T= 54.1°C; Internal wire for switch T= 60.9°C; Internal wire for transformer input T= 61.7°C; Winding of transformer (T1) T= 89.0°C; Core of transformer (T1) T= 79.0°C; PCB surface near IC14 T= 60.3°C; Metal enclosure T= 44.5°C; Knob T= 29.9°C; Input wire for external power T= 41.2°C; Output wire for external power T= 53.3°C Enclosure of external power T= 42.7°C	Unit normal operation until thermal equilibrium. No damaged, no hazards. Load condition: CH1: 4Ω

Unit	SC Load (CH1)	264V	2.5h	Main fuse	0.05A	K	Power Switch T= 35.3°C; Input terminal T= 38.0°C; Internal wire for switch T= 41.4°C; Internal wire for transformer input T= 38.3°C; Winding of transformer (T1) T= 39.8°C; Core of transformer (T1) T= 39.6°C; PCB surface near IC14 T= 39.2°C; Metal enclosure T= 32.2°C; Knob T= 28.9°C; Input wire for external power T= 35.7°C; Output wire for external power T= 37.9°C Enclosure of external power T= 35.9°C	Unit normal operation until thermal equilibrium. No damaged, no hazards. Load condition: CH1: 4Ω
------	---------------	------	------	-----------	-------	---	--	--

B.4	TABLE: Fault condition tests							N/A
Ambient temperature (°C)								—
Power source for EUT: Manufacturer, model/type, output rating ... :					--			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation

Supplementary information:

Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.

1) S-C: Short-circuited; O-C: Open-circuited; O-L: Overloaded; BL: Blocked.

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

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

Annex M.4	Table: Additional safeguards for equipment containing secondary lithium batteries					N/A	
Battery/Cell No.	Test conditions	Measurements			Observation		
		U	I (A)	Temp (°C)			
	Normal						
	Abnormal						
	Single fault –SC/OC						
	Normal						
	Abnormal						
	Single fault – SC/OC						
Supplementary Information:							
Battery identification	Charging at T _{lowest} (°C)	Observation	Charging at T _{highest} (°C)	Observation			
Supplementary Information:							

Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)					N/A
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
Test model: --						
Normal	--	--	--	--	--	--
Abnormal	--	--	--	--	--	--
Supplementary Information:						

T.2, T.3, T.4, T.5	TABLE: Steady force test					N/A
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Supplementary information:--						

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

T.7	TABLE: Drop tests				N/A
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
Supplementary information:					

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

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Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 2th Ed CANADA NATIONAL DIFFERENCES Audio/video, information and communication technology equipment – Part 1: Safety requirements			
Differences according to: CAN/CSA C22.2 No. 62368-1-14			
Attachment Form No.: CA_ND_IEC623681B			
Attachment Originator: CSA International			
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IEC 62368-1 - US and Canadian National Differences Special National Conditions based on Regulations and Other National Differences			
1DV.1	Battery backup systems that are not an integral part of stationary equipment, such as provided in separate cabinets, are subject to the appropriate standard for battery backup systems, such as UL 1973, Batteries for Use in Light Electric Rail (LER) Applications and Stationary Applications.	No battery backup systems.	N/A
1DV.2	For equipment intended for outdoor installation, additional requirements for Information and communication technology equipment are covered by CSA/UL 60950-22 and for Audio/video equipment are covered by the relevant requirements in CSA C22.2 No. 60065 or UL 60065	Indoor used only.	N/A
1DV.3.1	Standard is applicable to equipment designed to be installed in accordance with the Canadian Electrical Code, Part I, C22.1-12; Canadian Electrical Code, Part II, General Requirements, CAN/CSA C22.2 No. 0-10; the National Electrical Code, NFPA 70-2014; and the National Electrical Safety Code, IEEE C2-2012.	Not such equipment.	N/A
1DV.3.2	For equipment designed to be installed in accordance with Article 645 of the National Electrical Code, NFPA 70-2014, and the Standard for the Protection of Information Technology Equipment, NFPA 75-2013, identification by marking or instruction [see Annex DVA (Annex DVA, Clause 1)] is required.	Not such equipment.	N/A
1DV.3.3	Additional regulatory requirements that apply to this equipment per Annex DVA, as applicable.	Considered.	P
1DV.4.1	Additional requirements for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities per Annex DVB.	Not such equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1DV.4.2	This standard includes additional requirements for equipment intended for mounting under kitchen cabinets. See Annex DVC.	Not such equipment.	N/A
1DV.4.3	This standard does not apply to equipment having Remote Feeding Telecommunication (RFT) circuits. Equipment having RFT circuits is covered by CSA/UL 60950-21.	No such parts.	N/A
1DV.4.4	Additional requirements may apply to large data storage equipment. Refer to CSA/UL 60950-23.	Not such equipment.	N/A
1DV.4.5	Does not cover Modular Data Centers (MDCs) but only the information and communication technology equipment contained within.	Not such equipment.	N/A
1DV.5.1	Power Distribution Equipment and Sub-Assemblies	Not such equipment.	N/A
1DV.5.1.1	Power distribution sub-assemblies connected to a mains used to distribute power entirely within a system of equipment, such as power distribution units (PDUs), cord-connected power strips, shelves with multiple power outlets (receptacles) etc., and intended to be installed in system racks, cabinets, home entertainment centers, etc. are covered by this standard	Not such equipment.	N/A
1DV.5.1.2	For equipment covered by this standard that incorporates components and sub-assemblies that perform a power distribution and control function covered by other standards, such as panelboards, load transfer equipment, or uninterruptible power systems utilized in power conditioners and computer power centers, this standard only may be used for investigation of safety for those aspects not covered by the other standards.	Not such equipment.	N/A
1DV.5.1.3	This standard also does not apply to stand-alone equipment used for distribution of mains power that is covered by individual power distribution equipment standards.	Not such equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1DV.5.1.4	Based on the specific function, the following requirements are applicable to the stand-alone distribution equipment, or apply additionally to power distribution sub-assemblies and components of equipment covered by this standard, as described in 1DV.5.1.2 and 1DV.5.1.3: – For Industrial Control Equipment, see CSA C22.2 No. 14 and UL 508. – For Panelboards, see CSA C22.2 No. 29 and UL 67. – For Switchboards, see CSA C22.2 No 244 and UL 891. – For Transfer Switch Equipment, see CSA C22.2 No 178.1 and UL 1008. – For Uninterruptible Power Systems, see CSA C22.2 No. 107.3 and UL 1778.	Not such equipment.	N/A
1DV.5.1.4	– For Power Distribution Centers for Communications Equipment, see UL Subject 1801. – Other forms of power distribution units for general applications, such as, • Relocatable Power Taps, CSA-C22.2 No. 21, Cord Sets and Power Supply Cords, and UL 1363, Relocatable Power Taps. • Cord connected Surge Protective Devices, CSA Technical Information Letter No. A-24, Interim Certification - Requirements for AC Line Connected Wiring Devices with Varistors, and UL 1449, Surge Protective Devices. • Furniture Power Distribution Units, CSA-C22.2 No. 21, Cord Sets and Power Supply Cords and UL 962A, Furniture Power Distribution Units.	Not such equipment.	N/A
3.3.1.2DV D2	For additional information regarding low voltage d.c. mains (centralized d.c. power systems) equipment, refer to Annex DVD. This standard covers high voltage d.c. mains up to 600 Vdc.	AC mains used.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.3.1.3DV.1	New definition: telecommunication network – metallically terminated transmission medium intended for communication between equipment that may be located in separate buildings, excluding: – the mains system for supply, transmission and distribution of electrical power, if used as a telecommunication transmission medium; – cable distribution systems; – ES1 circuits connecting units of audio/video, information and communication technology equipment.	No TNV circuit.	N/A
4.1.1DV.1 D2	The U.S. and Canada, components and subassemblies that comply with the standards referenced in Annex DVE are required in addition to or as a replacement for the requirements in this standard. Components complying with these standards are considered acceptable as part of equipment covered by this standard without further evaluation other than to give consideration to the appropriate use of the component or subassembly in the end product.	Considered.	P
4.1.1DV.2 DC	In the U.S. and Canada, components and subassemblies that comply with the standards referenced in Annex DVG are acceptable as an alternative to requirements as part of equipment covered by this standard without further evaluation other than to give consideration to the appropriate use of the component or subassembly in the end product.	Considered.	P
4.1.2DV DC	In the U.S. and Canada, some UL/CSA component standards may be used as alternatives to referenced IEC standards for the purposes of North America certifications or surveillance programs. Components and subassemblies that comply with the standards referenced in Annex DVF are acceptable as part of equipment covered by this standard without further evaluation other than to give consideration to the appropriate use of the component or subassembly in the end product.	Considered.	P
4.1.16DV.1	Mains connections	Considered.	P
4.1.16DV.1.1 DE, 4.1.16DV.1.2 DR	Requirements for Mains Supply Cords for Pluggable (Cord Connected) Equipment (Canadian and U.S. regulatorybased requirements) - Annex G.7 and G.7ADV	Considered.	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.1.16DV.1.3 D2, 4.1.16DV.1.4 DR	Requirements for Permanently Connected Equipment. (Canadian and U.S. regulatory-based requirements) – Annex DVH	Not permanently equipment.	N/A
4.1.17DV.1	External interconnecting cable and wiring	No such parts.	P
4.1.17DV.1.1	General External interconnecting cable and wiring are investigated to the requirements of 6.5 and either 4.1.17DV.1.2 or 4.1.17DV.1.3, as appropriate. – External interconnecting cable and wiring 3,05 m or less may be investigated as part of the equipment (system) to the requirements of this standard. See 4.1.17DV.1.2. – External interconnect cable and wiring longer than 3,05 m are regulated by the Canadian Electrical Code, C22.1, and the National Electrical Code, NFPA 70, and are subject to associated requirements. See 4.1.17DV.1.3. – External interconnect cable longer than 3,05 m designed to carry audio and/or video signals only, and that is not specified by the manufacturer to be routed inside the building structure (e.g., walls, ceilings, etc.), is subject to the applicable requirements of 4.1.17DV.1.2. For purposes of 4.1.17DV.1.2, it is assumed such cables are connected to PS1 circuits. Alternatively, detachable external interconnecting cable and wiring (with terminations) may be excluded from the equipment evaluation if specified by the manufacturer.	No interconnecting cable used.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.1.17DV.1.2	Equipment (system) interconnecting cable and wiring The following requirements apply to detachable and nondetachable external interconnecting cable and wiring investigated as part of the equipment (system). – The length of the external interconnecting cable or wiring shall not exceed 3,05 m; – For external interconnecting cable and wiring connected to PS2 and PS3 circuits, see 6.5 for fire (flammability) considerations; – There are no fire (flammability) considerations for external interconnecting cable and wiring specified by the manufacturer for connection to circuits that are PS1. – External interconnecting cable and wiring intended to be connected to an ES3 or PS3 circuit require a jacket for mechanical protection in accordance with Table G.7ADV.2, or equivalent; – Detachable external interconnecting cable and wiring (with terminations) intended to be connected to a PS2, PS3, ES2 or ES3 circuit and furnished as part of the equipment shall be either marked, or similarly identified in the installation instructions with (a) the name, trademark or trade name of the organization that is responsible for the equipment, and (b) the organization's identifying number or equivalent designation for the cable. See Annex DVK. – The marking may be applied on the cable and wiring at any location – This marking is not required to comply with the test for permanence of markings, F.3.9 Optical fiber interconnecting cables 3,05 m or less are not subject to the above requirements	No interconnecting cable used.	N/A
4.1.17DV.1.3	External interconnecting cable and wiring considered part of the building installation. External interconnecting cables and wiring longer than 3,05 m are regulated by the Canadian Electrical Code, C22.1, and the National Electrical Code, NFPA 70. See Annex DVA(Annex Q entry).	No interconnecting cable used.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.6.2DV D2	Additional examples of compliance: - wire-wrap terminals used for the connection of ES1 and ES2 that are: • provided on equipment that forms part of the telecommunication network, up to and including the demarcation point, and are located in service access areas only. (This equipment is generally considered Central Office Equipment, although it may be deployed elsewhere in similarly controlled environments.) and • provided with a guard or cover that prevents unintentional contact during normal operation. are tested with a steady force of 2,5 N $\pm$ 0,25 N.	No such parts.	N/A
4.8.3DV D2	If screws or similar fasteners are used to secure the door/cover providing access to the battery compartment, the fasteners shall be captive to ensure that they remain with the door/cover. This does not apply to side panel doors on larger devices which are necessary for the functioning of the equipment and which are not likely to be discarded or Secretariat, Geneva5/9 left off the equipment	No battery used.	N/A
4.8.4.5DV D2	0,5 J impact test deleted.		N/A
4.8.5DV.1 D2	Replace 30 N battery compartment door/cover test with 45 N		N/A
4.8.5DV.2 D2	Power distribution transformers distributing Additional compliance criteria replaced with: - the battery compartment door/cover shall not open; and - the battery shall not become accessible.		N/A
5.4.4.1DV D1	For printed boards, see Clause G.13 For antenna terminals, see Clause 5.4.5 For solid insulation on internal and external wiring, see Clause G.6. Additionally, for internal wiring accessible to an ordinary person, see Clause 5.4.6.	Considered.	P
5.6.3DV.1 DR to 5.6.3DV.3 DR	Protective earthing conductors shall comply with the minimum conductor sizes in Table G.5, except as required by • Table G.7ADV.1 for cord connected equipment; or • Annex DVH for permanently connected equipment.	Considered.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.4.1DV DR	Minimum conductor size alternative compliance to Table G.5 or Table G.7ADV.1 as applicable , or Table 31 Minimum protective bonding conductor size of copper conductors	Considered.	P
5.6.4.4DV DR	Protective bonding conductor sizes alternative compliance to Table G.7ADV.1 in addition to Table 31 or Table G.5	Considered.	P
Table 32 DV DR	Include alternative conductor size compliance with Table G.7ADV.1 in the first column heading for protective conductor terminals.	Considered.	P
5.6.6.1 DV DR	Protective bonding conductors that meet the minimum conductor sizes in Table G.5 or Table G.7ADV.1 as applicable, throughout their length and whose terminals all meet the minimum sizes in Table 32 are considered to comply without test.	Considered.	P
5.7.6.2DV DE	Clause title modified to read "Prospective touch voltage and touch current to external circuits"		P
5.7.7DV.1 D2	Clause 5.7.7 to apply to stationary pluggable equipment type A or pluggable equipment type B	No such equipment.	N/A
5.7.7DV.2 D2	Summation of touch currents not exceeding the limits of ES2 exception per Clause 5.7.7(a)(1)	Considered.	P
5.7.7DV.3 D2	Clause 5.7.7(a)(2) replaced with: Such equipment shall comply with Clause 5.7.5. The value of $S(I_1)$ shall be added to the measured protective conductor current to determine compliance with the 5 % input current limit per phase specified in Clause 5.7.5.	Replaced	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.7.1DV D2	Limitation of touch current due to ringing signals Equipment containing input telecommunication network leads over which ringing voltages are applied to the equipment shall be tested using the circuit of Figure 5.7.7.1DV.1 for mains-connected equipment or Figure 5.7.7.1DV.2 for other equipment. For any position of the selector switches, the total touch current including consideration of 5.7.7 shall not exceed the relevant limits for ES2 specified in Table 4, unless the equipment complies with 5.7.7(a) with the protective conductor current due to ringing signal taken into account. An EUT that receives ringing voltages on up to three telecommunication network connection ports shall have simulated ringing applied to each network connection. For four or more ports receiving ringing, simulated ringing shall be applied to three ports and an additional 3 % (rounding down) of the remaining ports.	No ringing signals used.	N/A
5.7.7.1DV D2	Compliance is checked by the following tests, which are conducted using the measuring network described in IEC 60990, Figure 4. Simulated ringing at 120 V, 50 to 60 Hz, shall be applied to ringing input telecommunication network leads, either one lead at a time or connected together. Other telecommunication network leads shall be left disconnected. Equipment shall be evaluated in each operating state, including ground start. The general test methods of 5.7 shall apply, checking touch current for all positions of switches S1, S2, and S3 in Figure 5.7.7.1DV.1. In case the total touch current exceeds the ES2 limits, the protective conductor current is measured using the test set up of Figure 5.7.7.1DV.1 or Figure 5.7.7.1DV.2 with the measuring instrument replaced with an ammeter having negligible impedance.	No ringing signals used.	N/A
6.5.1DV.1 DC	Add the following text to the end of the second, third and fourth paragraphs: or the insulation of the conductor or cable assembly shall be rated VW-1 or FT-1.	Added.	P

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.5.1DV.2 D2	Add the following after the third paragraph: PS3 wiring outside a fire enclosure shall comply with single fault testing in B.4. Alternatively, the following constructions are considered to comply: – conductors provided with overcurrent protection in accordance with Article 240 of the National Electrical Code, NFPA 70, and the Canadian Electrical Code, Part I, C22.1, Section 14; – internal conductors supplied by a power source that is limited to the output voltage and current values specified in Table Q.1 or is limited to the output voltage values and provided with an overcurrent protective device with a rated current value as specified in Table Q.2; – interconnecting cables supplied by a limited power source (see Q.1); – a 20-A protective device used with any size wire in the primary.	Considered.	P
6.7DV.1	Safeguards against electrically-caused fire due to overvoltage from power line crosses		N/A
6.7DV.1.1	Equipment with external circuits intended for connection to a telecommunication network that uses outside cable subject to overvoltage from power line failures shall comply with Annex DVI.	No TNV circuit used.	N/A
10.6.1DV D2	For telecommunication-network connected equipment, see Annex DVJ.	No TNV circuit used.	N/A
F.1DV DR	F.1DV.1 See Annex DVK for U.S. and Canadian markings and instructions.	Considered.	P
F.3.3.9DV.1	Equipment with output terminals Output terminals provided for supply of other equipment except mains supply shall be marked with the nominal output voltage and frequency, and, in addition, the maximum output current or power, unless the terminals are marked with the type references of the equipment which are permitted to be connected. When intended to be installed or interconnected in the field by a skilled person, the Class of wiring shall be marked adjacent to the terminals.	Considered.	P
G.4.3DV D2	Delete the 2nd sentence reference to “banana plug” of the EXAMPLE.	Deleted.	N/A
G.7.2DV DR	In the second paragraph, replace the reference to Table G.4 with a reference to Table G.7ADV.1.		P

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Clause	Requirement + Test	Result - Remark	Verdict
G.7ADV DR	Additional requirements: Power supply cords – detachable and non-detachable		N/A
G.7ADV.1	General Flexible cords and plugs are permitted for movable equipment, hand-held equipment, stationary equipment and transportable equipment, and for fixed equipment where the fastening means and mechanical connections of the equipment are designed to permit removal for maintenance and repair.		N/A
G.7ADV.2	Methods of connection Flexible cords shall be provided with an attachment plug for connection to the branch circuit.		N/A
G.7ADV.3	Sizing and ratings The attachment plug configuration shall be one that is rated not less than 125 percent of the current rating of the equipment. Power supply cords shall have conductors with cross-sectional areas sufficient for the rated current of the equipment. Conductors shall be sized based on the requirements in the National Electrical Code (NEC), NFPA 70, and the Canadian Electrical Code, Part I, C22.1. Table G.7ADV.1 provides allowable ampacity for flexible cords and cables based on Table 400.5(a)(1) of the NEC. See Table 400.5(a)(2) of the NEC for ampacity information on portable power cables. For equipment with a rated current up to and including 2 A, 20 AWG is acceptable provided that the mains plug is provided with a 2 A fuse maximum and the equipment is not provided with a socket outlet.	Considered.	P
G.7ADV.4	Serviceability Power supply cords and cord sets shall incorporate flexible cords suitable for the particular application or shall be of a type at least as serviceable for the particular application. Table G.7ADV.2 lists common applications and associated suitable cord types.	Considered.	P

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Clause	Requirement + Test	Result - Remark	Verdict
G.7ADV.5.1	Minimum length The minimum length of a power supply cord shall be 1,5 m unless it is intended for a special installation, such as dedicated equipment intended to be mounted near a mains socket-outlet. For equipment provided with an external power supply, the minimum length of the power supply cord shall be 0,5 m, provided that the total length of the conductive path from the receptacle to the equipment is 1,5 m or greater.	Considered.	P
G.7ADV.5.2	Maximum length For equipment intended for installation in ITE Rooms, the length of a power supply cord shall not exceed 4,5 m. For other intended installations, see Table G.7ADV.2.	Considered.	P
H.2DV D2	item a: Continuous ringing signals shall: • be located only in areas where a skilled person has access during servicing; • be so located and guarded that unintentional contact with such parts is unlikely during servicing by a skilled person, or be provided with a marking to warn a skilled person of the presence of continuous ringing signals; and • not become accessible to an ordinary person under single fault conditions.	No ringing signals used.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
H.4DV.1	Other telecommunication signals: Telecommunication signaling systems (e.g., some message waiting systems) using voltages or current, or both, greater than those specified in 5.2.1.1 and 5.2.1.2 shall be permitted if they comply with the following: – continuous signal: For a signal of duration greater than 5 s, the current through the relevant measuring instrument described in IEC 60990:1999, Figure 4, shall be not greater than 7.1 mA peak a.c., or 30 mA d.c., or the limit shown in Figure H.4DV.1 for combinations of a.c. and d.c., when measured in accordance with 5.7. – intermittent signal: For a signal of duration less than 5 s, the current through the relevant measuring instrument described in IEC 60990:1999, Figure 4, shall be not greater than the limit specified in Figure H.4DV.2. The signal shall be followed by a quiet interval of at least 1 s before the next intermittent signal. During the quiet interval, either the voltage is less than 56,6 V d.c., or the current measured is less than 0,5 mA.	No TNV circuit used.	N/A
M.2.1DV DC	Battery packs with sealed secondary cells and batteries (other than button) containing alkaline or other non-acid electrolyte and used in stationary equipment shall comply with either IEC 62133, UL 2054 or UL 1973. Additionally, such battery packs that rely on solid-state circuits and software controls as safeguards shall comply with either the requirements in UL 1973 for System Safety Analysis (5.7) and Protective Circuit and Controls (5.8), or similar requirements in an appropriate standard for electronic safety-related controls that are suitable for investigation of such protection of secondary cells and batteries.	No battery used.	N/A
P.4.1DV DE	Additional text added to correct for editing error: For metalized coatings, clearances and creepage distances for pollution degree 3 shall be maintained instead of the tests of P.4.2DV.1.	Added	P
P.4.2DV DE	Added test requirements text from Clause P.5 as new Clause P.4.2DV DE to correct for editing error.	Added	P
P.5DV DE	Clause P.5 relocated to P.4.1 and P.4.2		P

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Clause	Requirement + Test	Result - Remark	Verdict
U.1DV D1	Added the following text: The outer enclosure housing a CRT shall have no opening that exceeds 130 mm ² unless the minor dimension of the opening is 10 mm or less.	No CRT used.	N/A
Table W.3DV DE	Modify Table W.3 by replacing the entry for 1.2.8.14 in the first column with the following to correct a typographical error: TNV-3 CIRCUIT TNV CIRCUIT – whose normal operating voltages exceed the limits for an SELV circuit under normal operating conditions and – on which overvoltages from telecommunication networks and cable distribution systems are possible	Replaced	N/A
Annex DVA	(normative) Canadian and U.S. regulatory-based requirements		P
Annex DVB	(normative) Equipment used in health care facilities	No such equipment used.	N/A
Annex DVC	(normative) Under kitchen cabinet equipment	No such equipment used.	N/A
Annex DVD	(informative) D.C. powered equipment and centralized d.c. power systems (DC mains)	AC mains.	N/A
Annex DVE	(normative) UL and CSA component requirements (mandatory)		P
Annex DVF	(normative) UL and CSA component requirements (alternative to IEC standards)		P
Annex DVG	(normative) UL and CSA component requirements (alternative)		P
Annex DVH	(normative) Permanently connected equipment – mains connections	Not Permanently connected equipment.	N/A
Annex DVI	(normative) Safeguards against electrically-caused fire due to overvoltage from power line crosses		P
Annex DVJ	(normative) Acoustic tests for telecommunications equipment	No TNV used.	N/A
Annex DVK	(normative) Canadian and U.S. marking and instructions		P

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Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 2th Ed U.S.A. NATIONAL DIFFERENCES Audio/video, information and communication technology equipment – Part 1: Safety requirements	
Differences according to	UL 62368-1:2014
Attachment Form No.	US _ND_IEC623681B
Attachment Originator	UL(US)
Master Attachment	Date 2015-06
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IEC 62368-1 - US and Canadian National Differences Special National Conditions based on Regulations and Other National Differences			
1.1	All equipment is to be designed to allow installation according to the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, 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
1.4	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.	Considered.	P
4.1.17	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the NEC.	No interconnecting flexible cord used.	N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.	See above.	N/A
4.8	Lithium coin / button cell batteries have modified special construction and performance requirements.	No such batteries.	N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.5, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.7	Equipment intended to receive telecommunication ringing signals complies with a special touch current measurement tests.	No TNV circuits within the equipment.	N/A
6.5.1	PS3 wiring outside a fire enclosure complies with single fault testing in B.4, or be current limited per one of the permitted methods.	No such parts.	N/A
Annex F (F.3.3.8)	Output terminals provided for supply of other equipment, except mains, supply are marked with a maximum rating or references to which equipment it is permitted to be connected.	USB port only for transferring data.	P
Annex G (G.7.1)	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	The equipment is not permanent connection equipment.	N/A
Annex G (G.7.3)	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	Considered. (see appended table)	P
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.	See above.	N/A
Annex G (G.7.5)	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
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 TNV circuits within the equipment.	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 TNV circuits within the equipment.	N/A
Annex M	Battery packs for stationary applications comply with special component requirements.	No such parts.	N/A
Annex DVA (1)	Equipment intended for use in spaces used for environmental air are subjected to special flammability requirements for heat and visible smoke release.	The equipment not intended to be used within such environments.	N/A

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IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	Not such equipment.	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. & Canadian Regulations.	The equipment is not for children used.	N/A
	Baby monitors additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.	Not a baby monitors.	N/A
Annex DVA (5.6.3)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered.	P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.	No flammable liquids within the equipment.	N/A
Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) 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 min. flammability classification of V-1.	No such application.	N/A
Annex DVA (10.3.1)	Equipment with lasers meets the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No such parts.	N/A
Annex DVA (10.5.1)	Equipment that produces ionizing radiation complies with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No such parts.	N/A
Annex DVA (F.3.3.3)	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 are lower than the "Normal Operating Condition" in Table 2 of CAN/CSA C22.2 No. 235."	Single phase only.	N/A
Annex DVA (F.3.3.5)	Equipment identified for ITE (computer) room installation is marked with the rated current	Not such application.	N/A

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IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position	No such parts.	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 standard supply outlets, receptacles, medium-base or smaller lampholders provided.	N/A
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles complies with NEC 250.146(D) and CEC 10-112 and 10-906(8).	No such parts.	N/A
Annex DVA (G.4.3)	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non- interchangeable.	No such parts.	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 such parts.	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).	No such parts.	N/A
Annex DVA (Annex M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the ITE room remote power-off circuit.	Not such application.	N/A
Annex DVA (Q)	Wiring terminals intended to supply Class 2 outputs according to the NEC or CEC Part 1 are marked with the voltage rating and "Class 2" or equivalent; marking is located adjacent to the terminals and visible during wiring.		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.	Not such application.	N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.	Not such application.	N/A

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IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. Components required to comply include: appliance couplers, attachment plugs, battery back-up systems, battery packs, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultra-capacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, data storage equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.	UL approved components used. Refer to table 4.1.2 of IEC 62368-1 test report for details.	P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.	The equipment is not permanently connected equipment.	N/A
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are in accordance with the NEC/CEC.	Pluggable equipment type A.	N/A
Annex DVH (DVH.3.2)	Terminals for permanent wiring, including protective earthing terminals, are suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and are specially marked when specified.	No terminals for permanent wiring.	N/A
Annex DVH (DVH.3.2)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).	No wire binding screws.	N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	The equipment is not permanently connected equipment.	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, complies with special earthing, wiring, marking and installation instruction requirements.	The equipment not connected to a centralized d.c. power system.	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.	No TNV circuits within the equipment.	N/A

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IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.	No TNV circuits within the equipment.	N/A

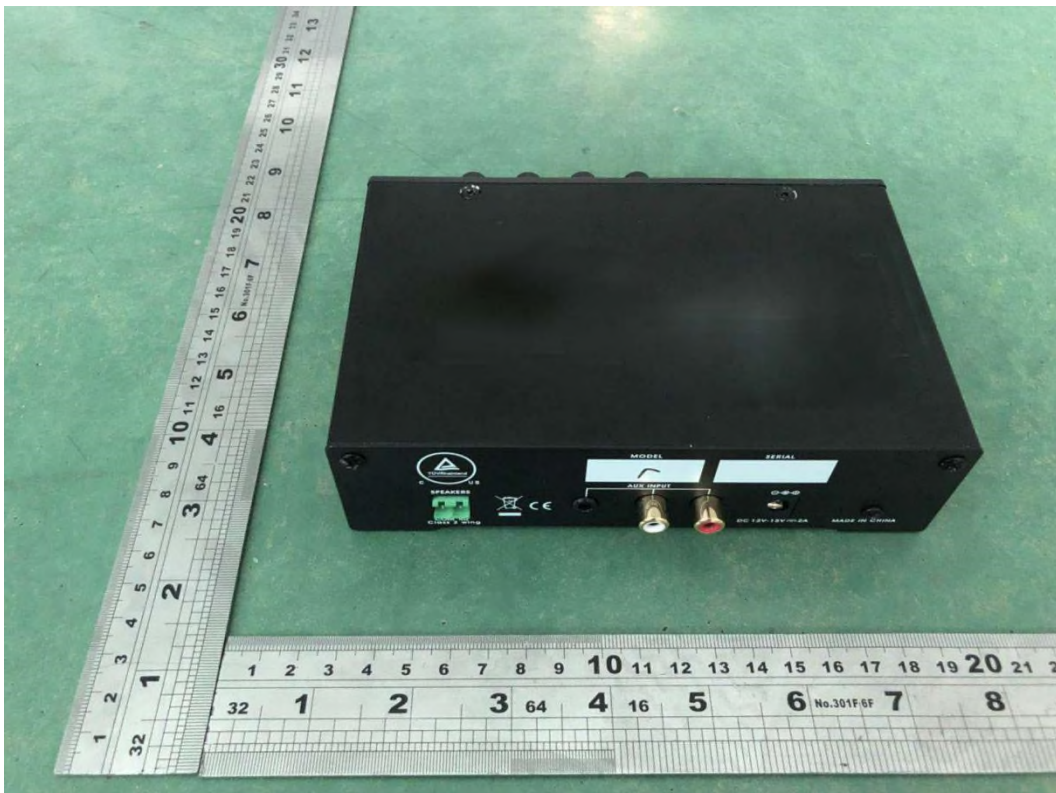
-END-

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB

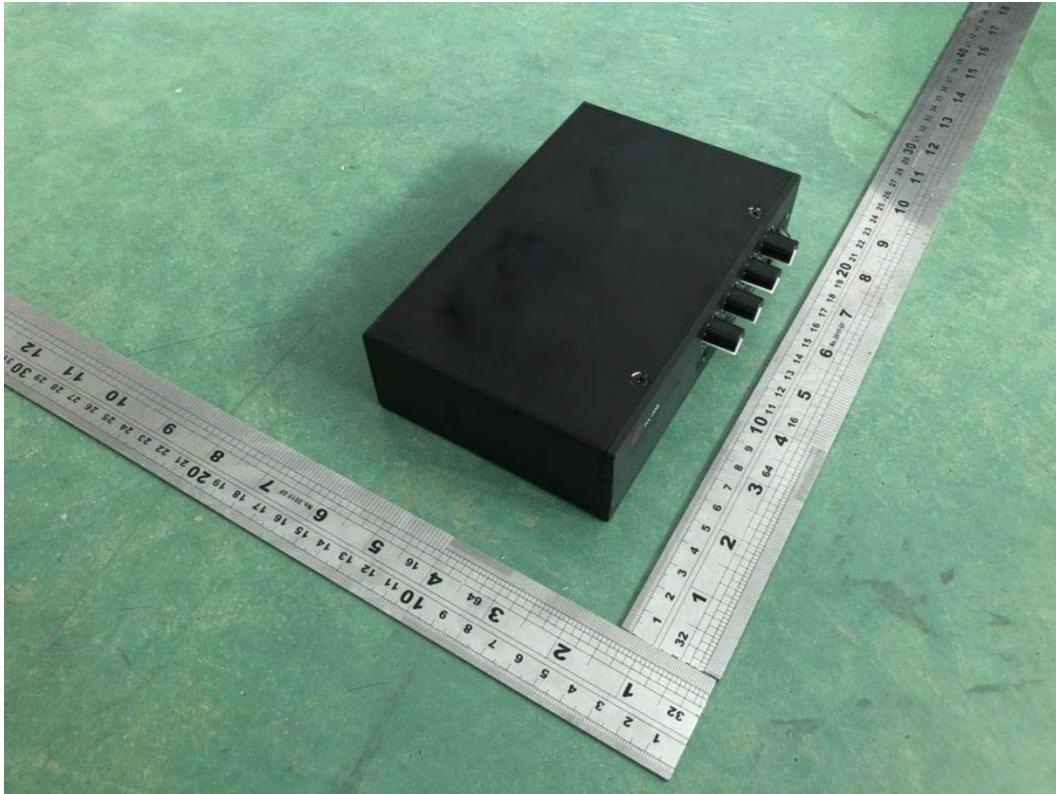


Picture 1. Model PA-20

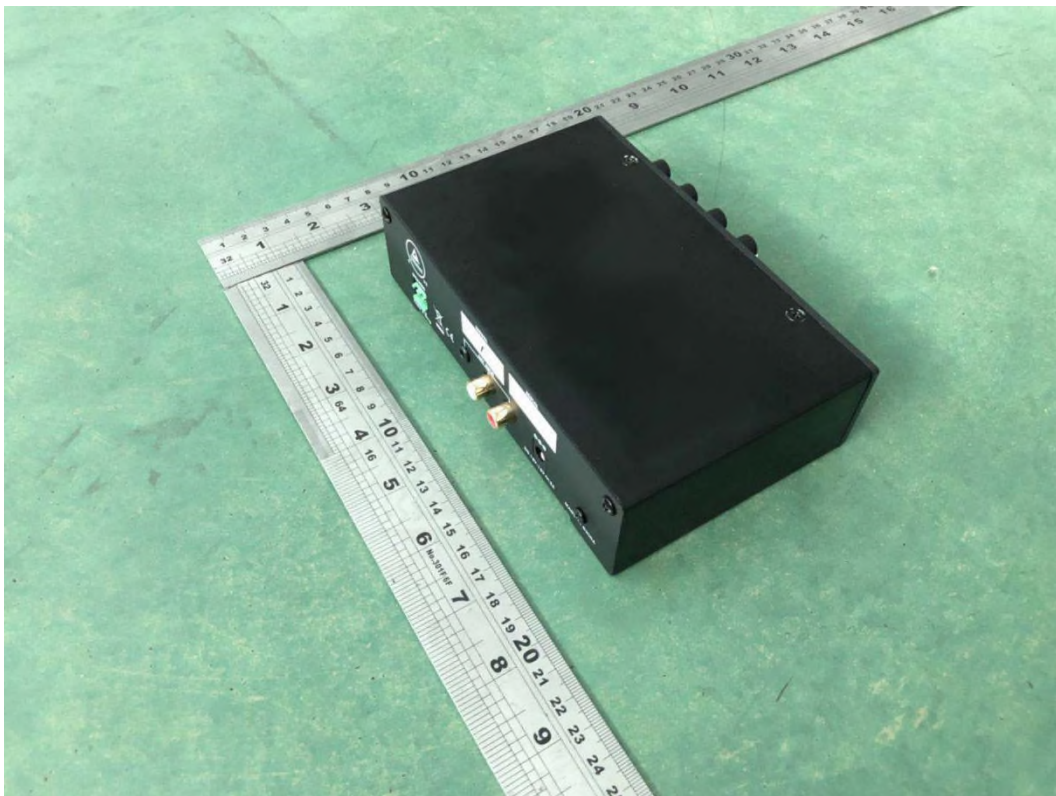


Picture 2. Model PA-20

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



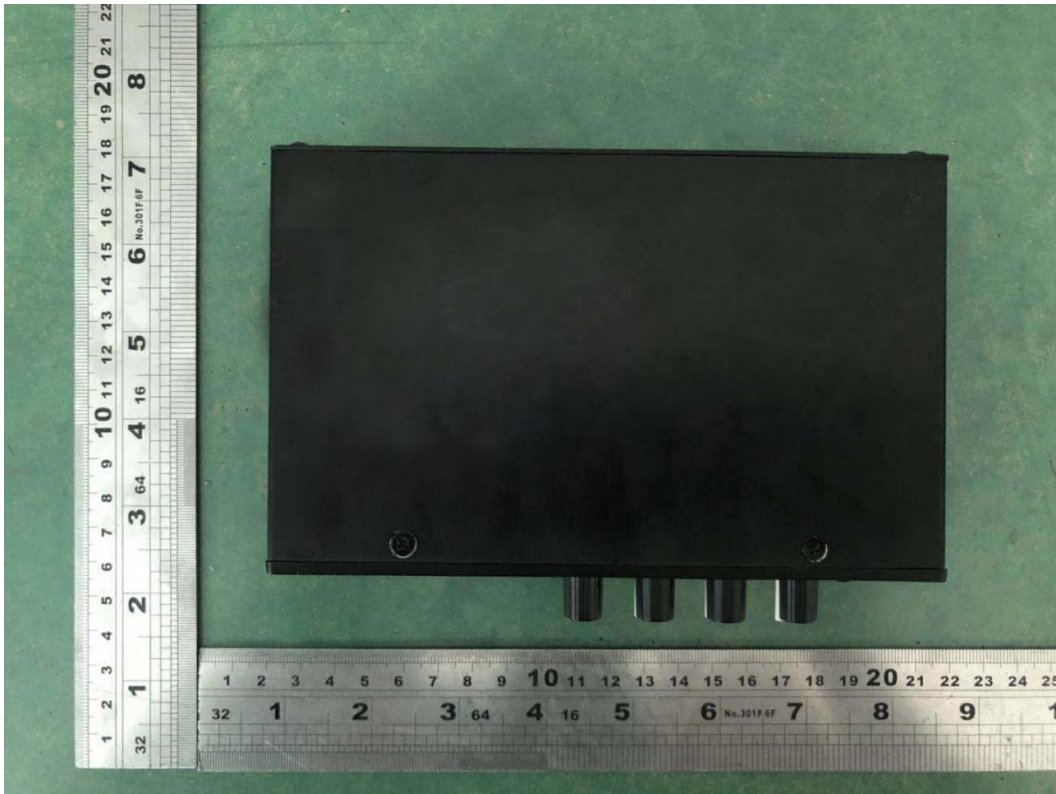
Picture 3. Model PA-20



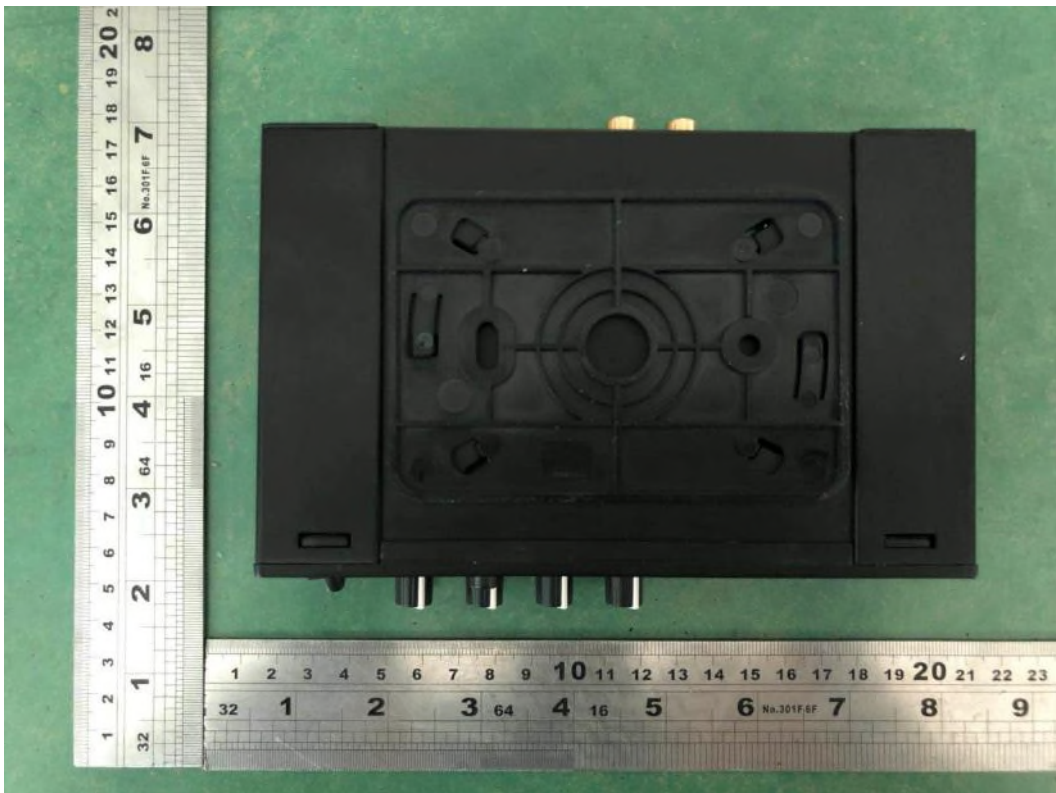
Picture 4. Model PA-20

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



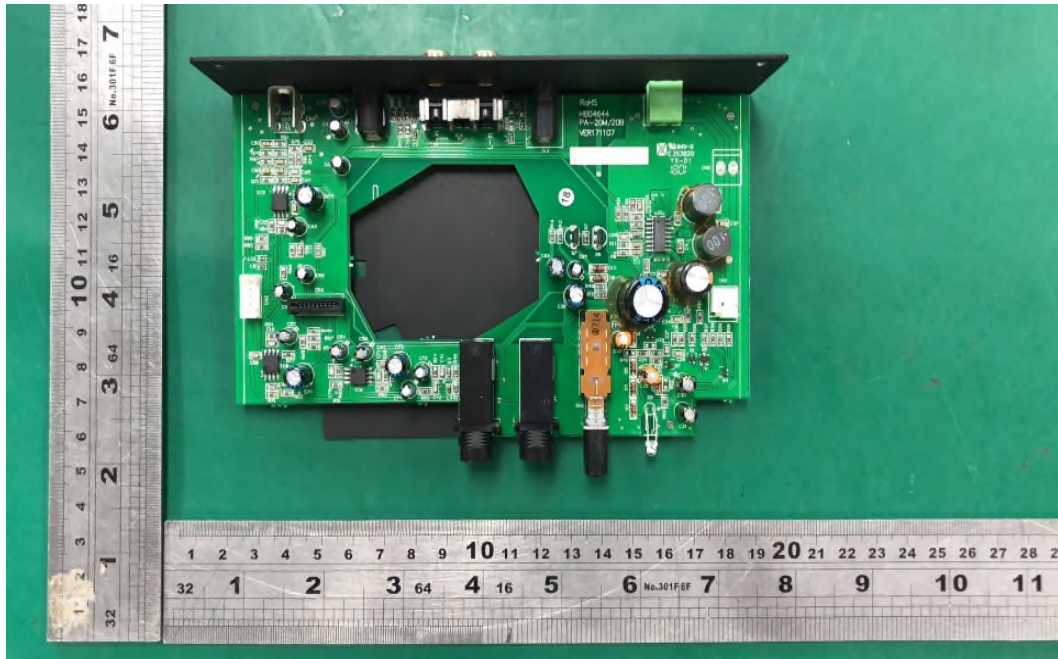
Picture 5. Model PA-20



Picture 6. Model PA-20

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



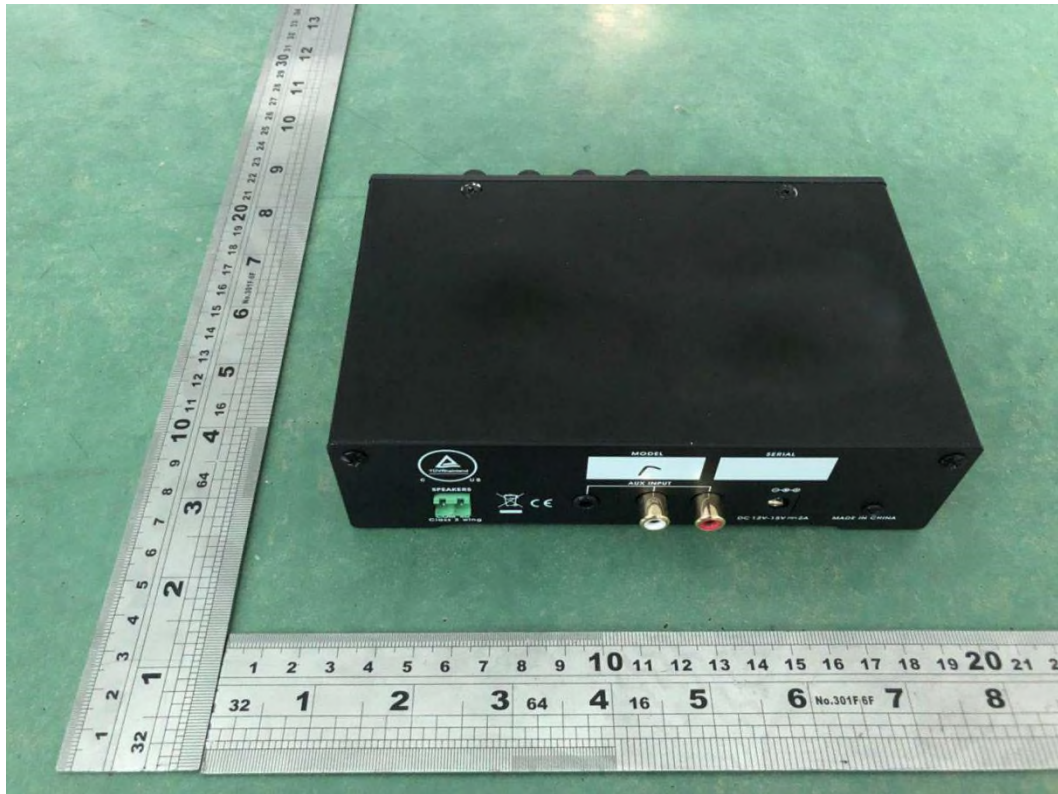
Picture 7. Model PA-20



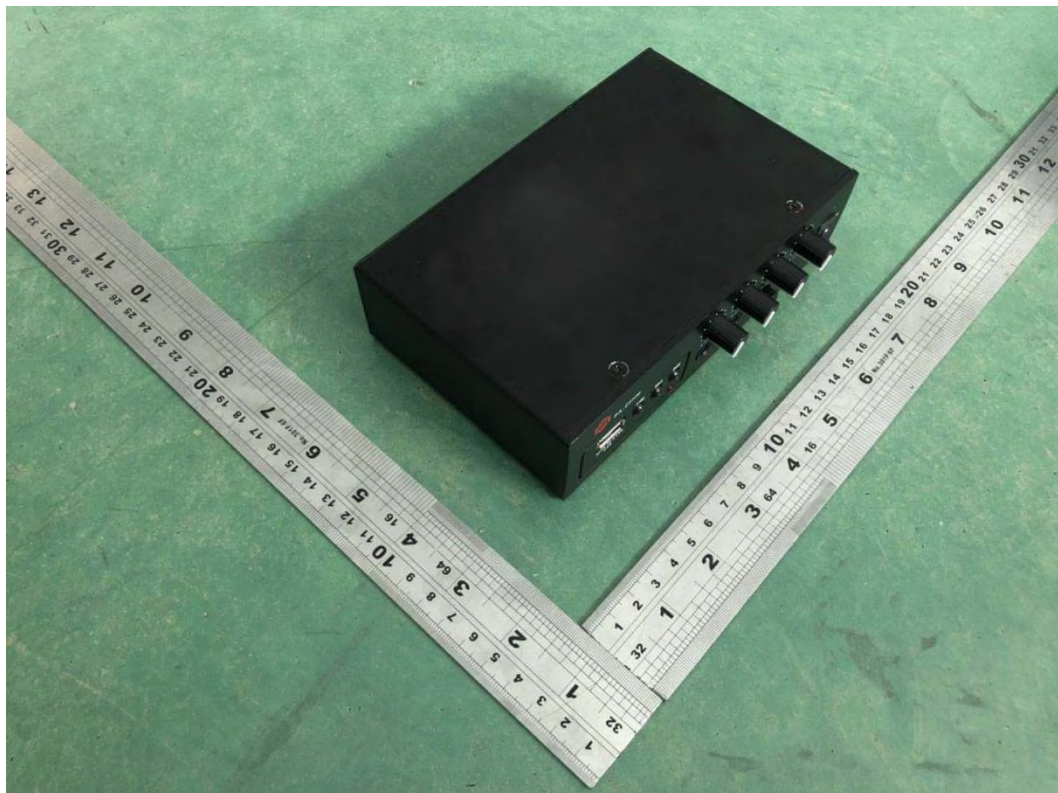
Picture 8. Model PA-20M

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



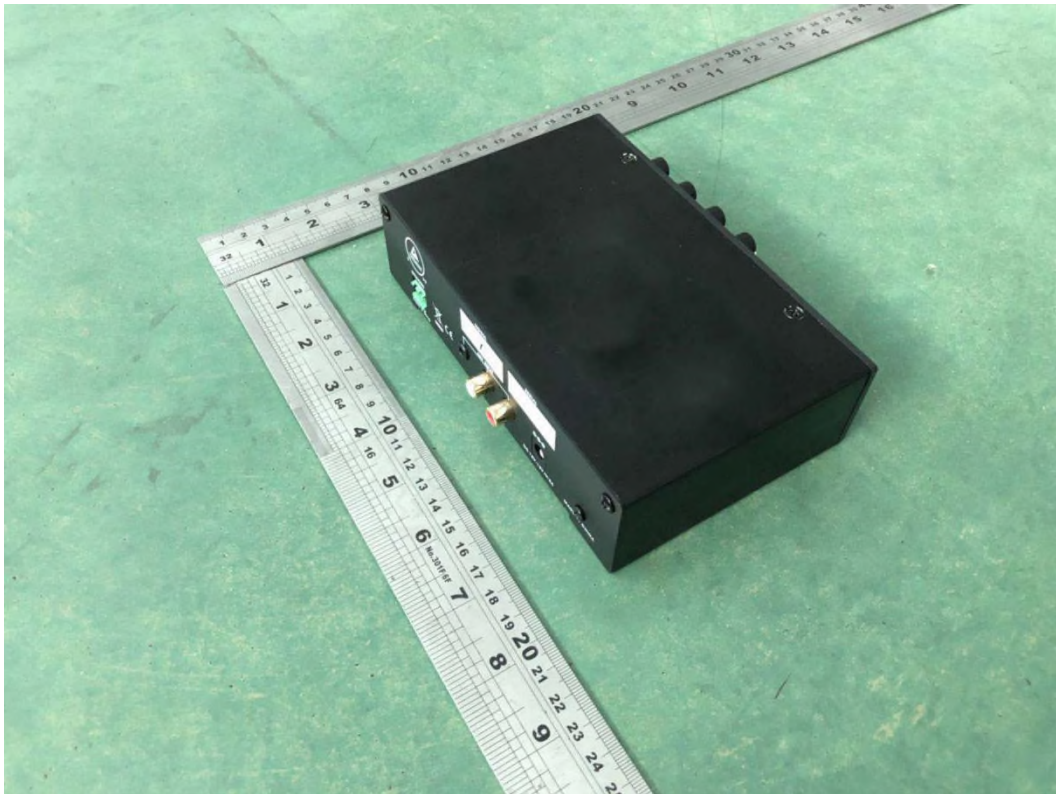
Picture 9. Model PA-20M



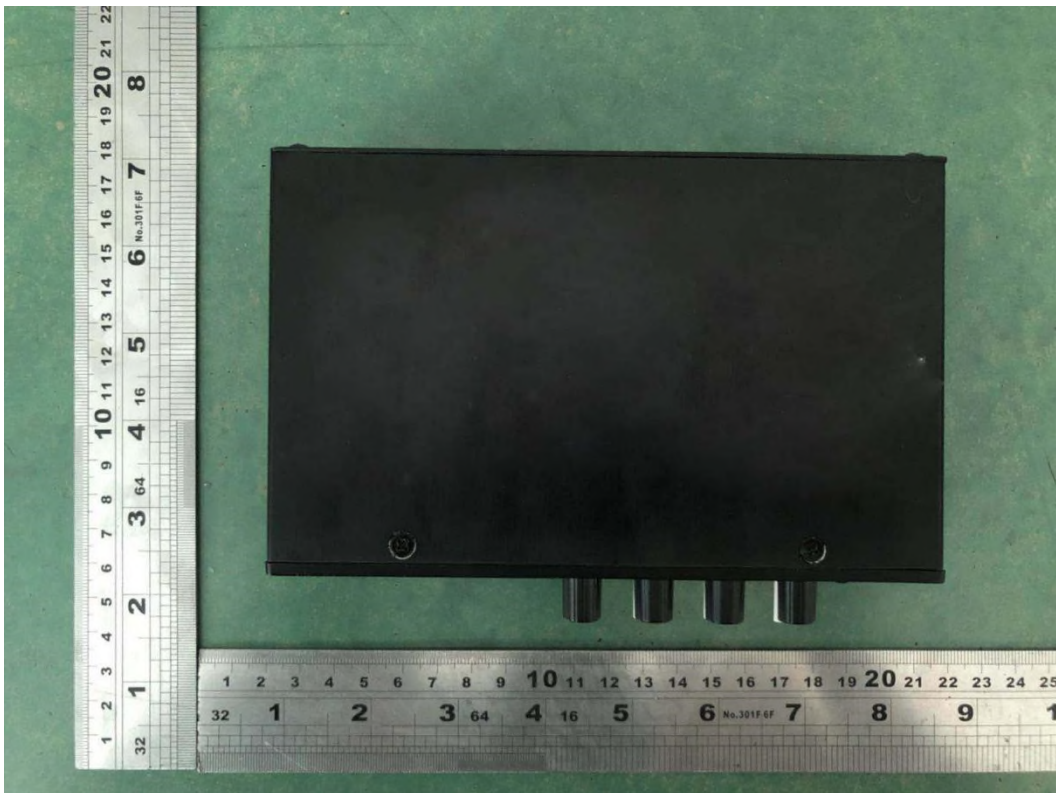
Picture 10. Model PA-20M

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



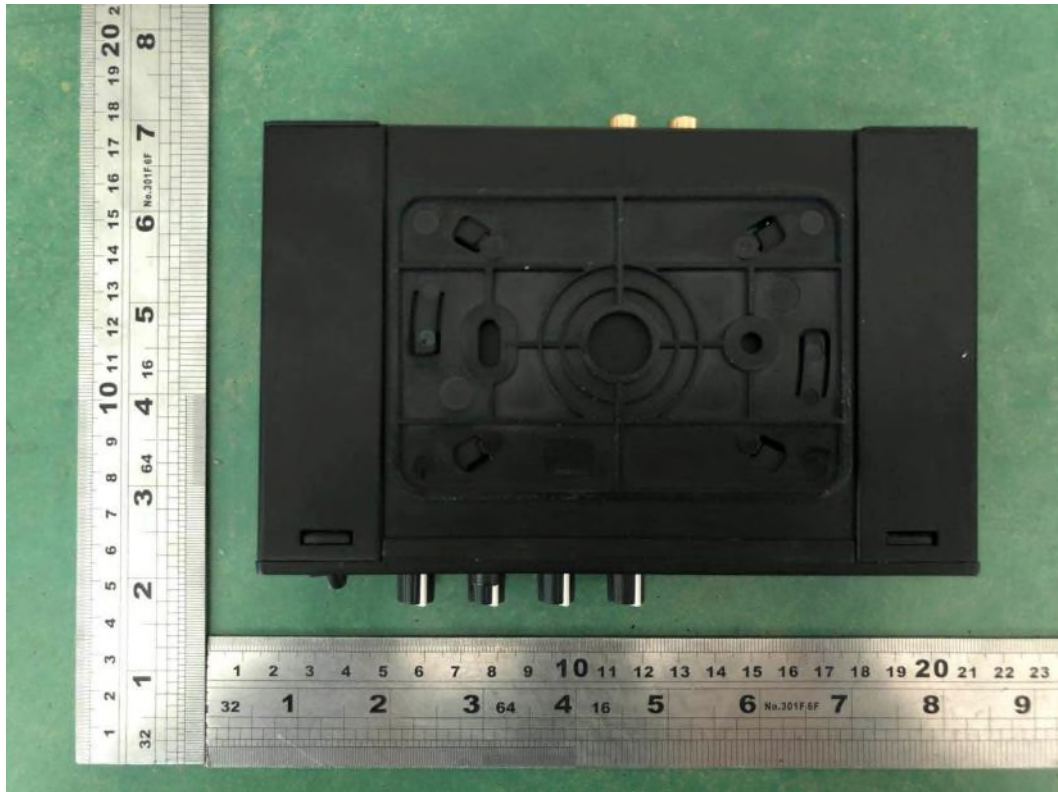
Picture 11. Model PA-20M



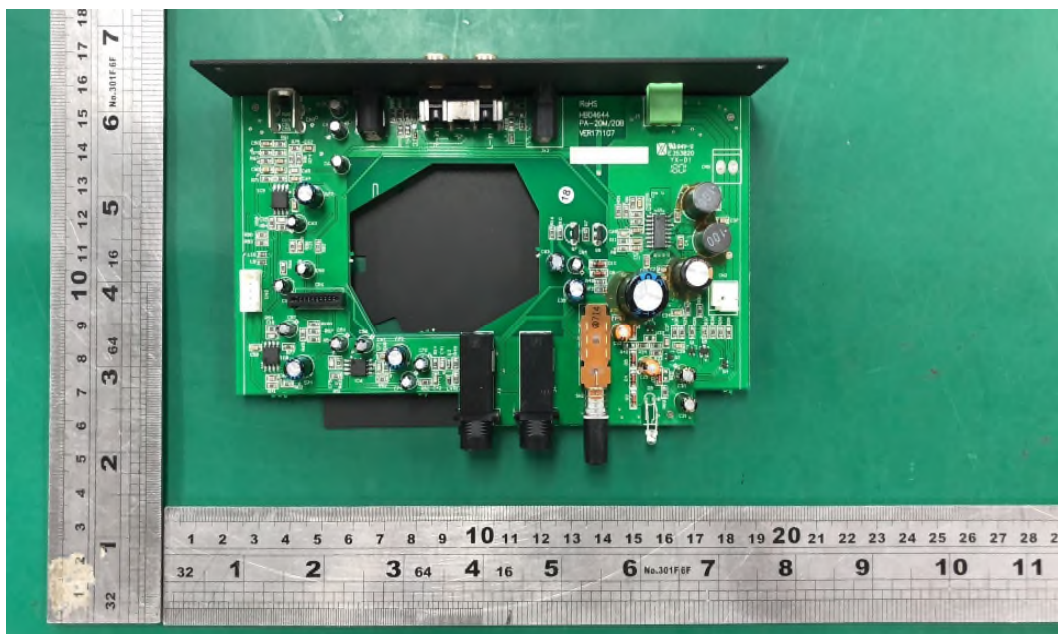
Picture 12. Model PA-20M

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



Picture 13. Model PA-20M



Picture 14. Model PA-20M

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



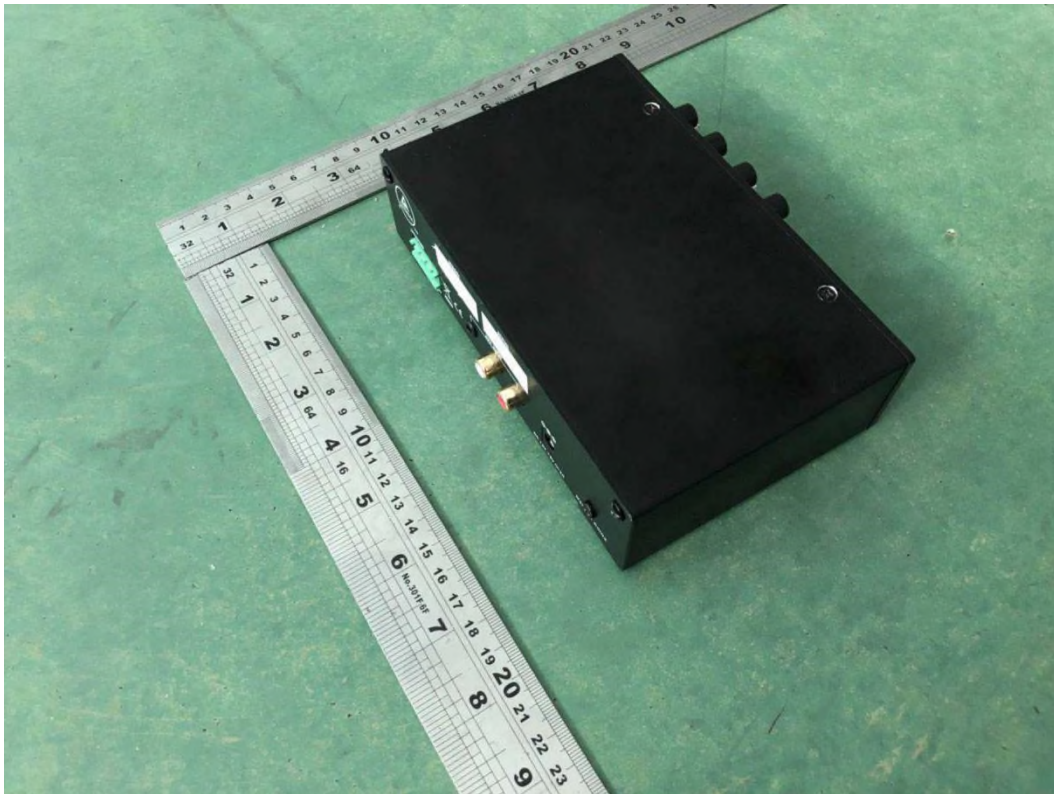
Picture 15. Model PA-20H



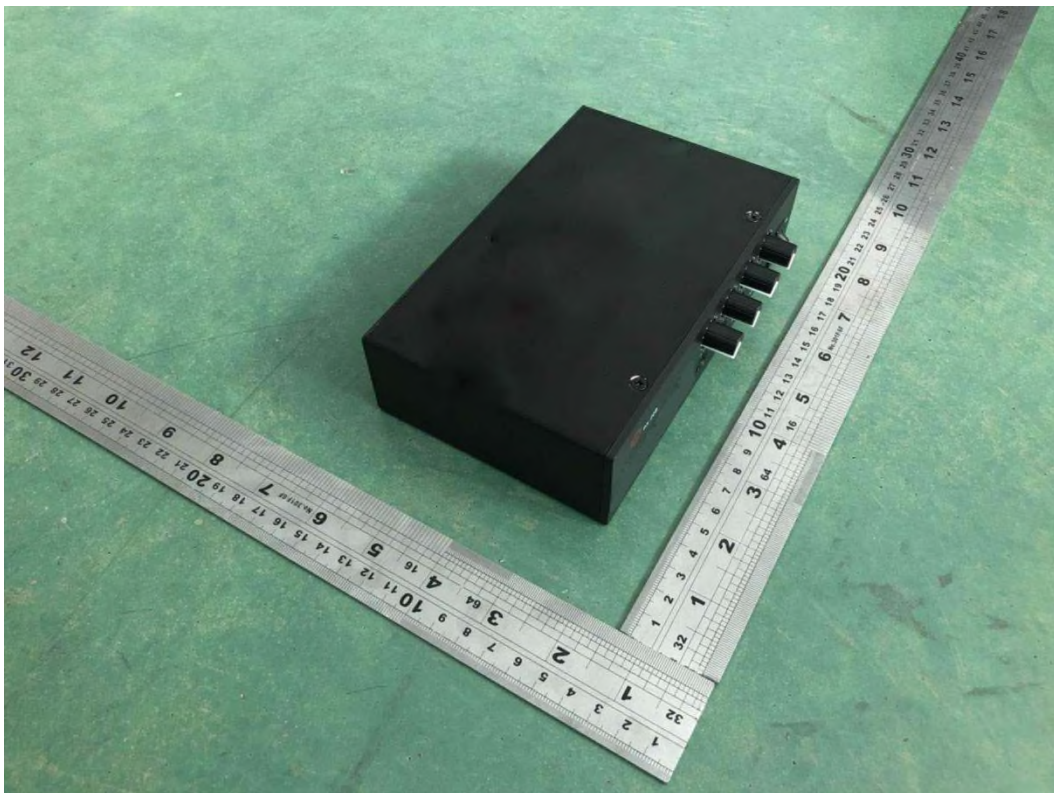
Picture 16. Model PA-20H

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



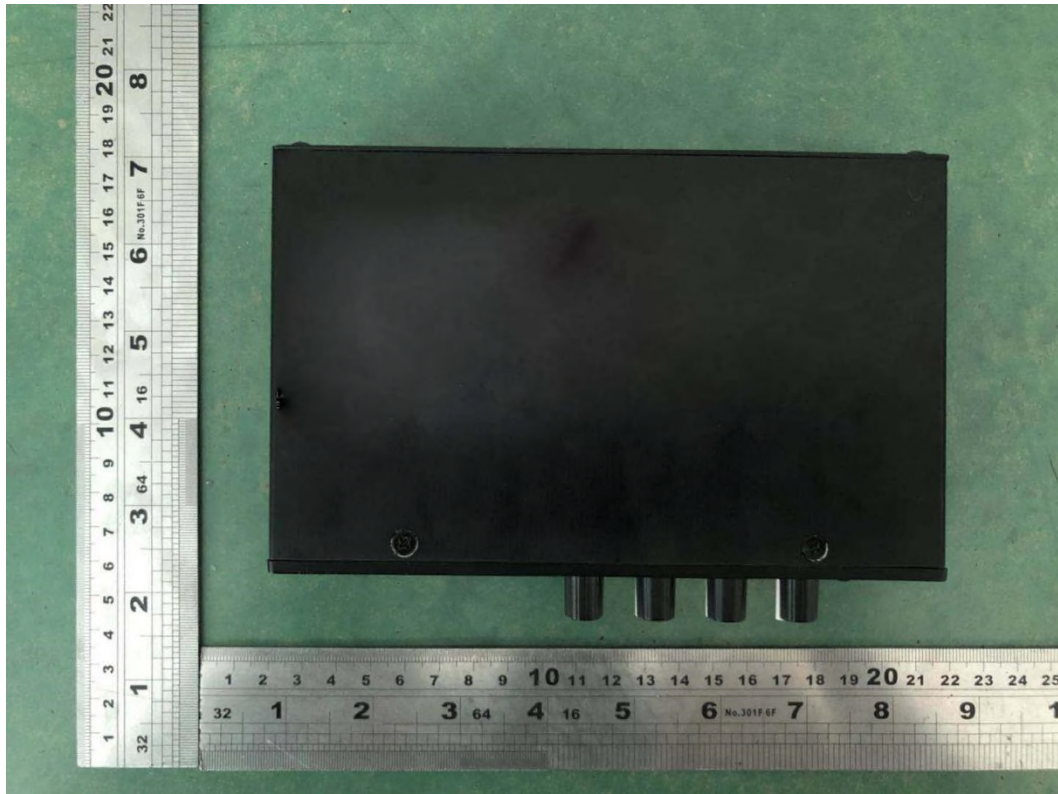
Picture 17. Model PA-20H



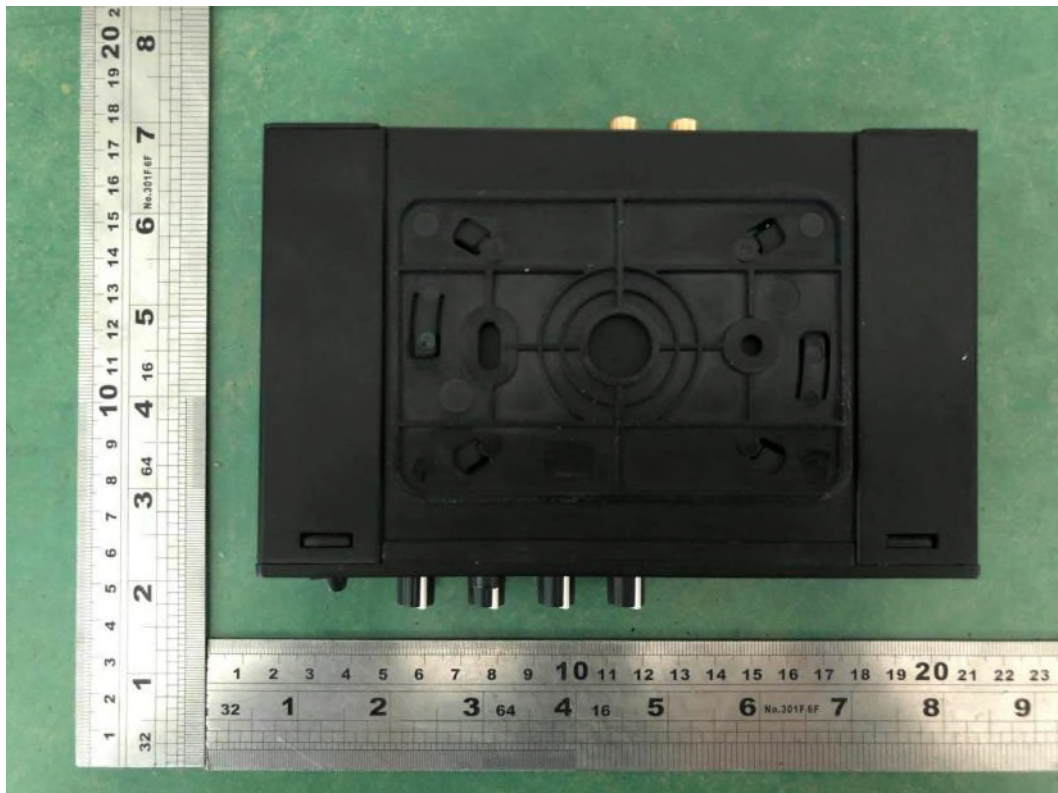
Picture 18. Model PA-20H

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



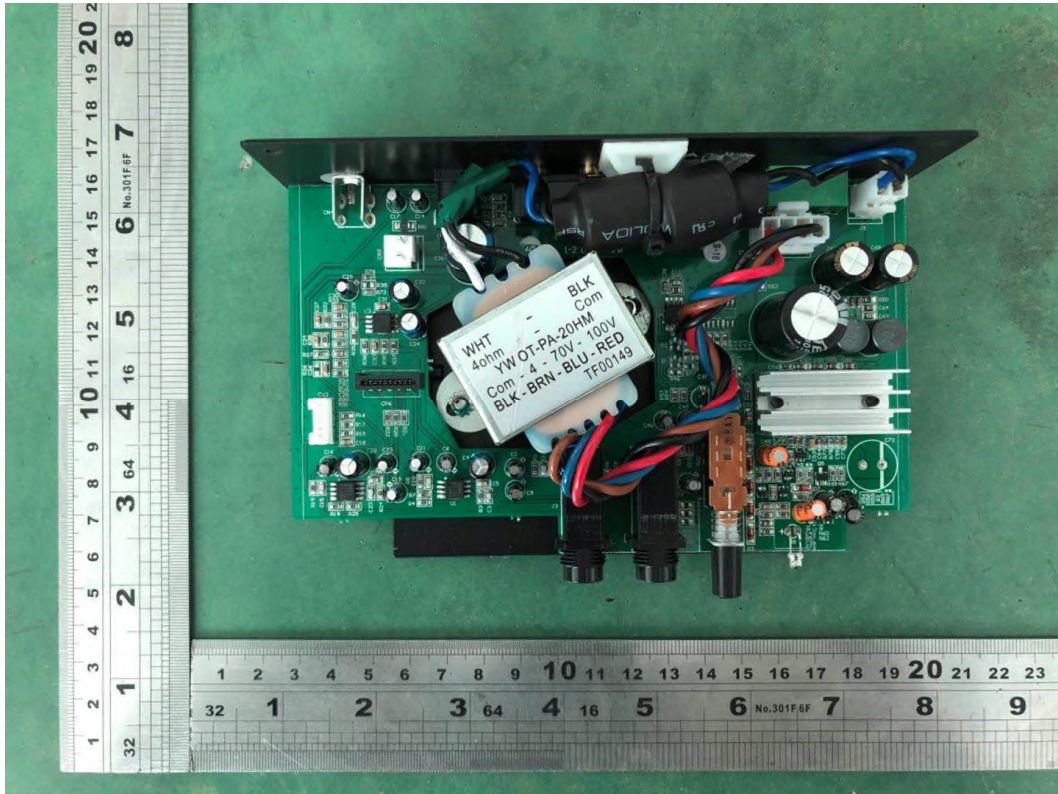
Picture 19. Model PA-20H



Picture 20. Model PA-20H

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



Picture 21. Model PA-20H



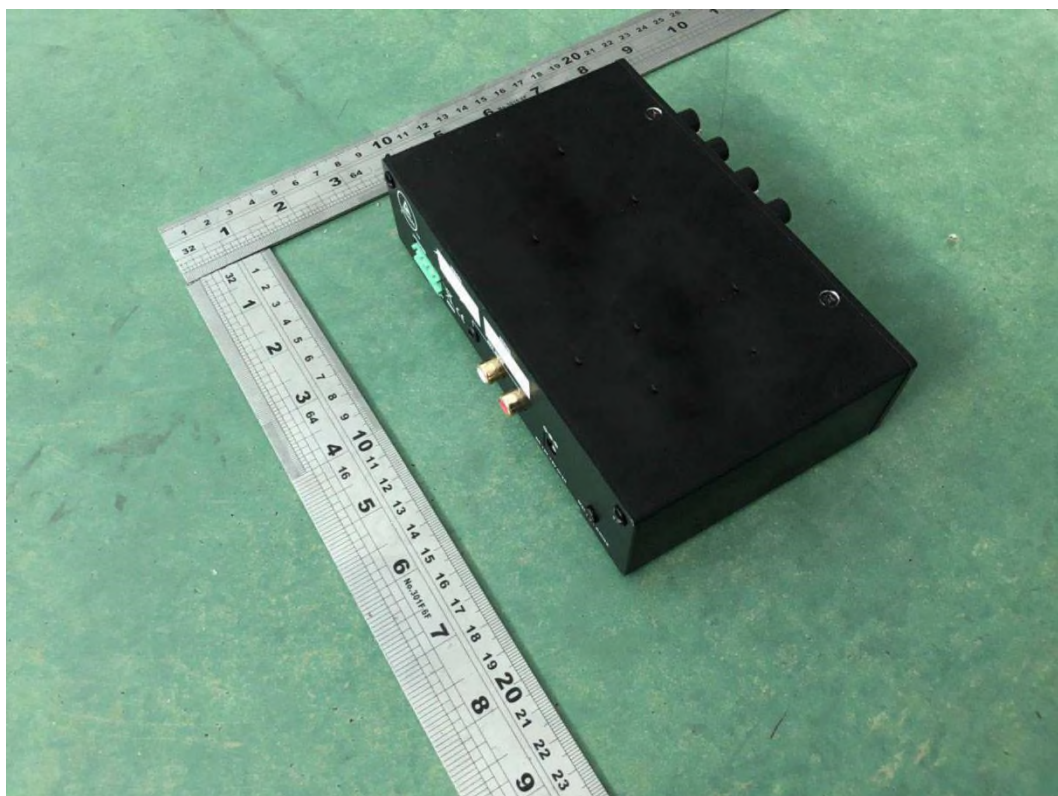
Picture 22. Model PA-20HM

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



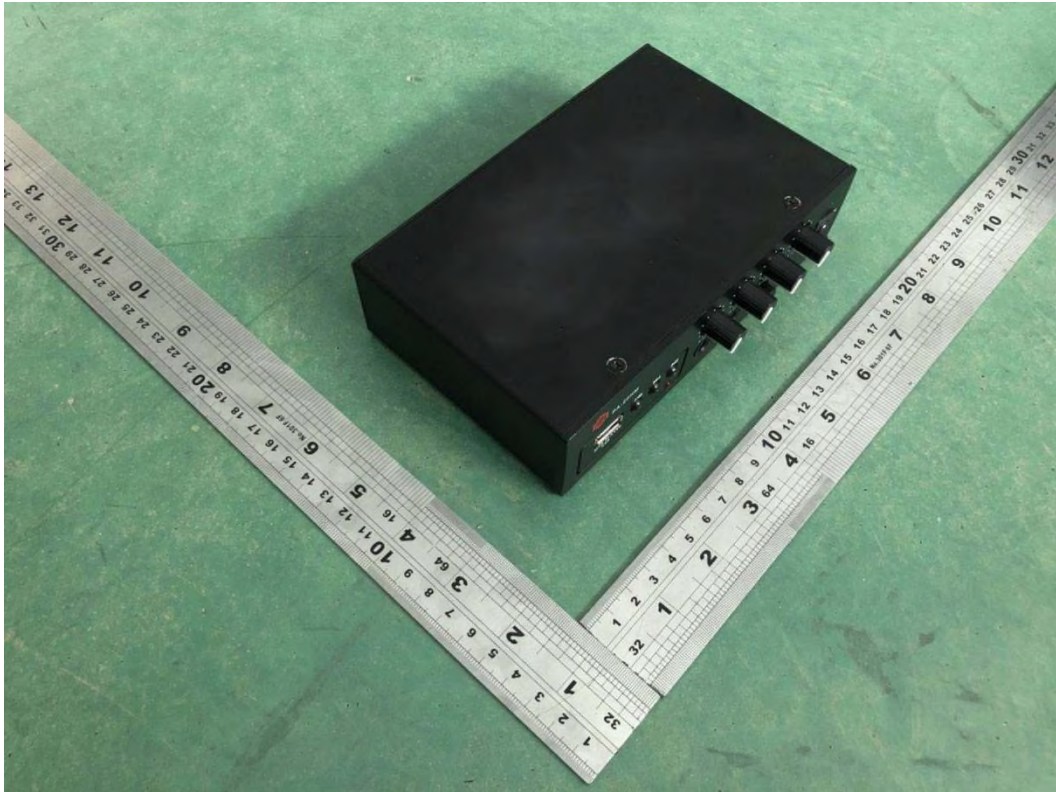
Picture 23. Model PA-20HM



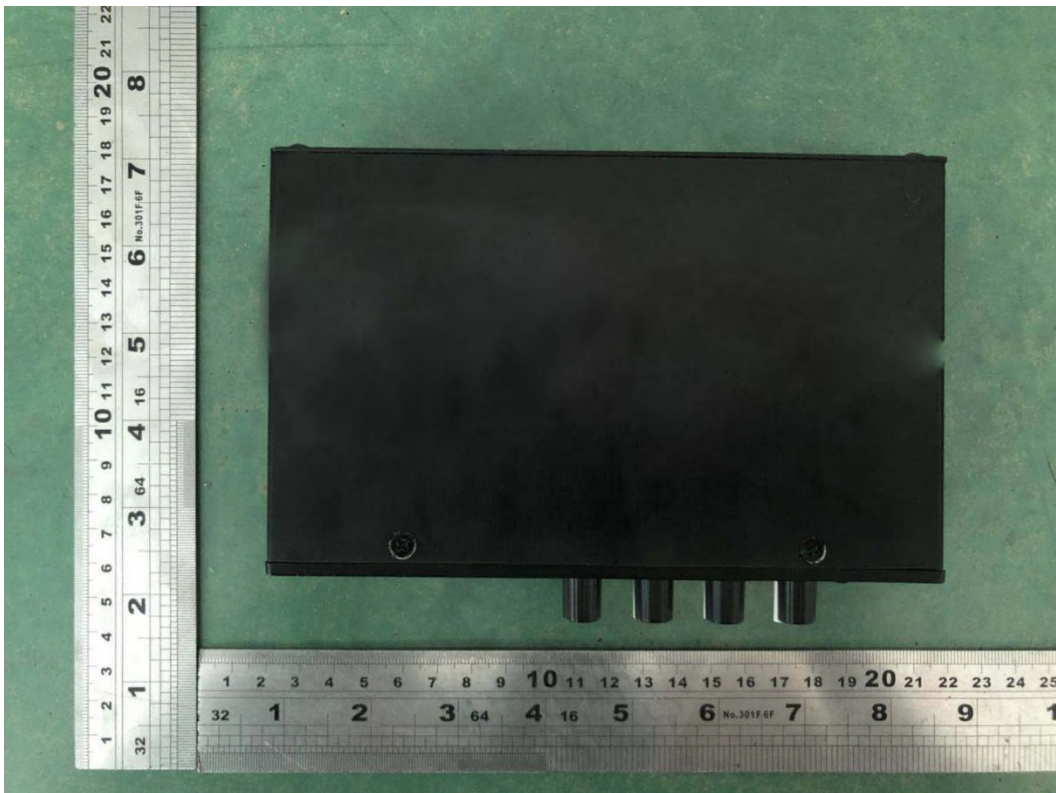
Picture 24. Model PA-20HM

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



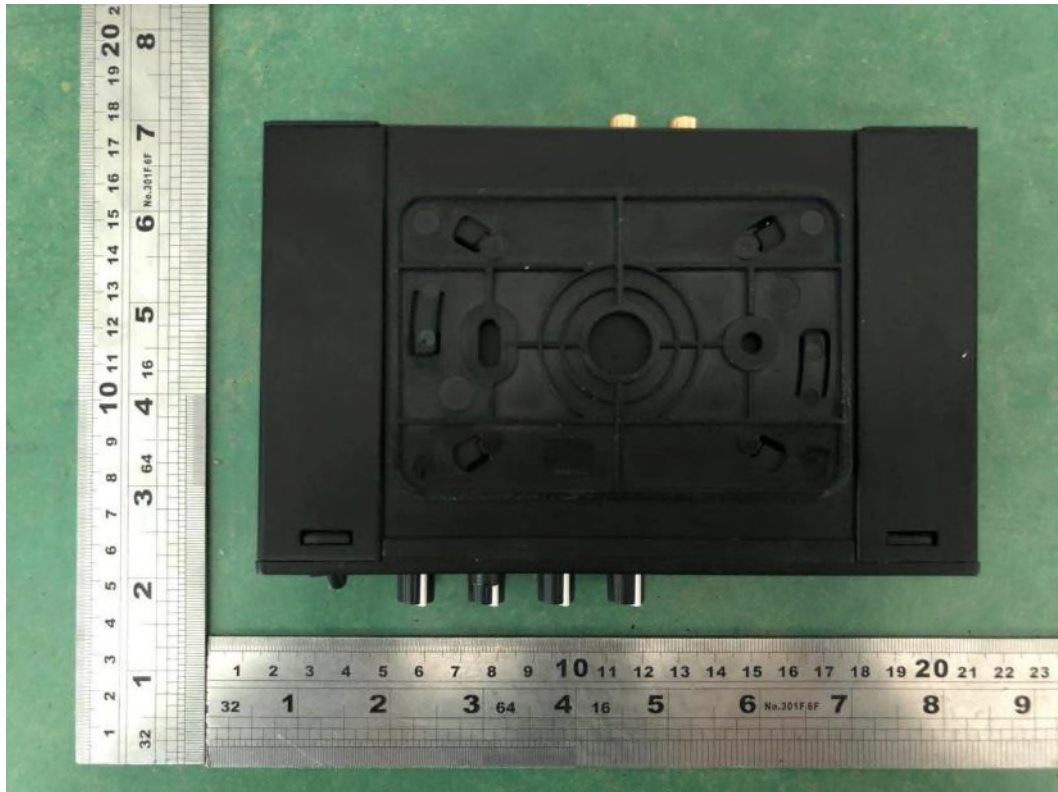
Picture 25. Model PA-20HM



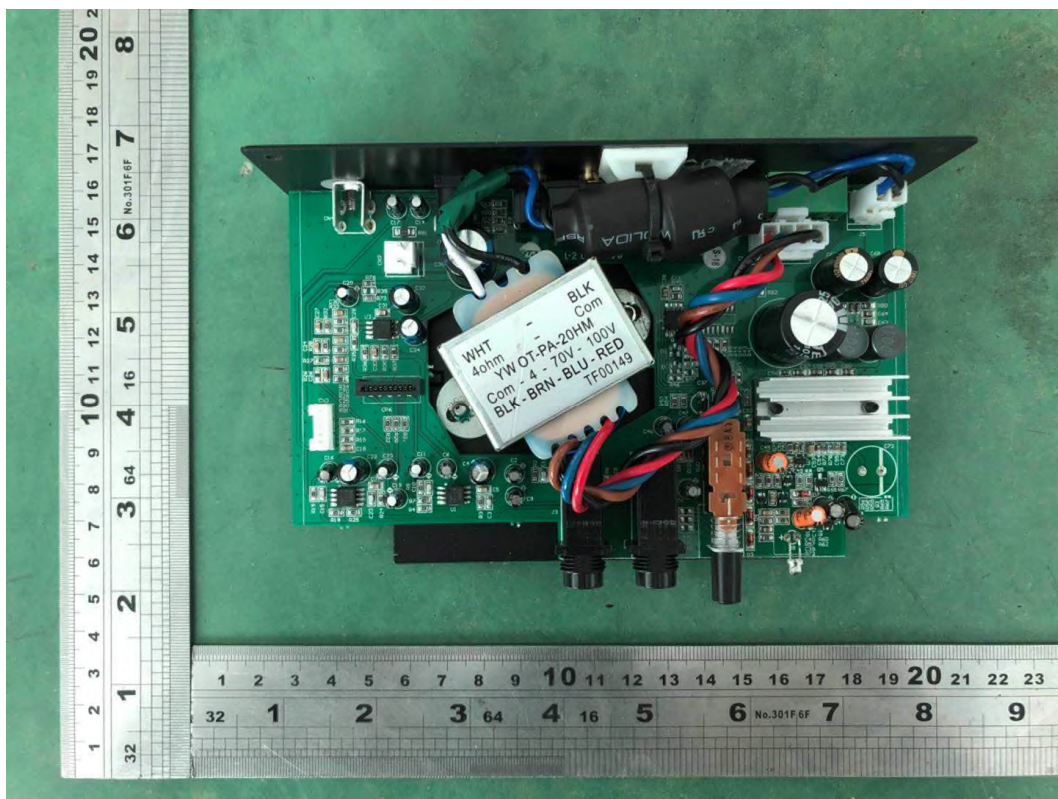
Picture 26. Model PA-20HM

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



Picture 27. Model PA-20HM



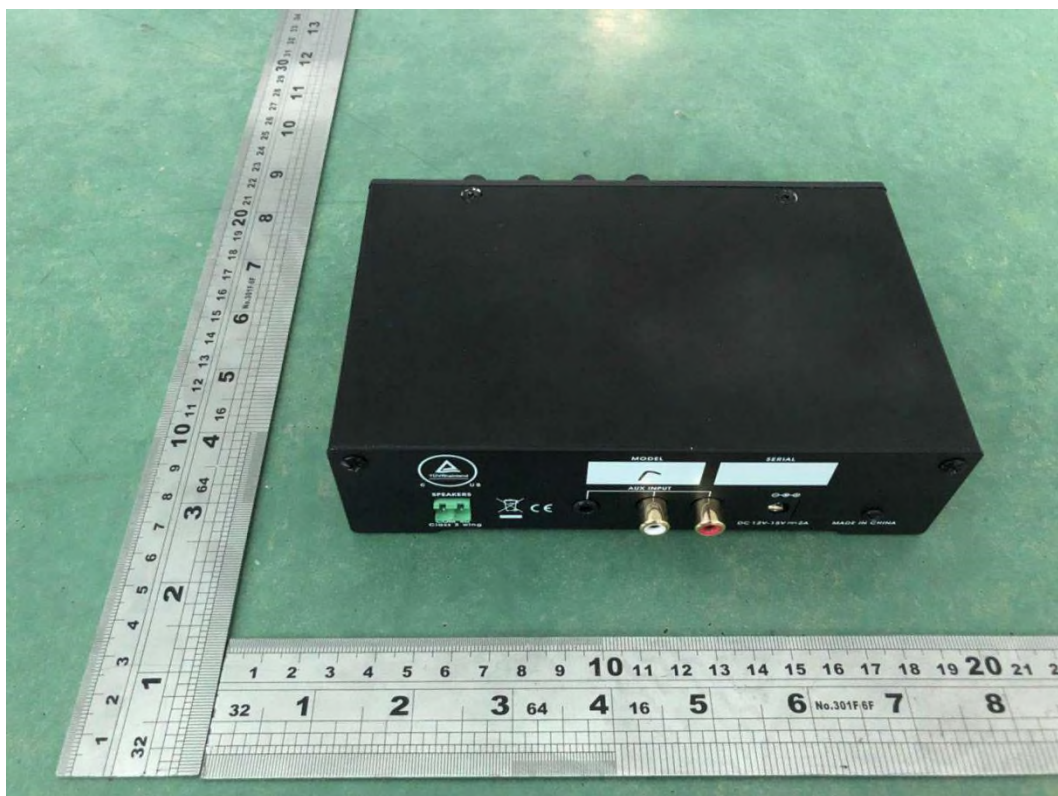
Picture 28. Model PA-20HM

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB

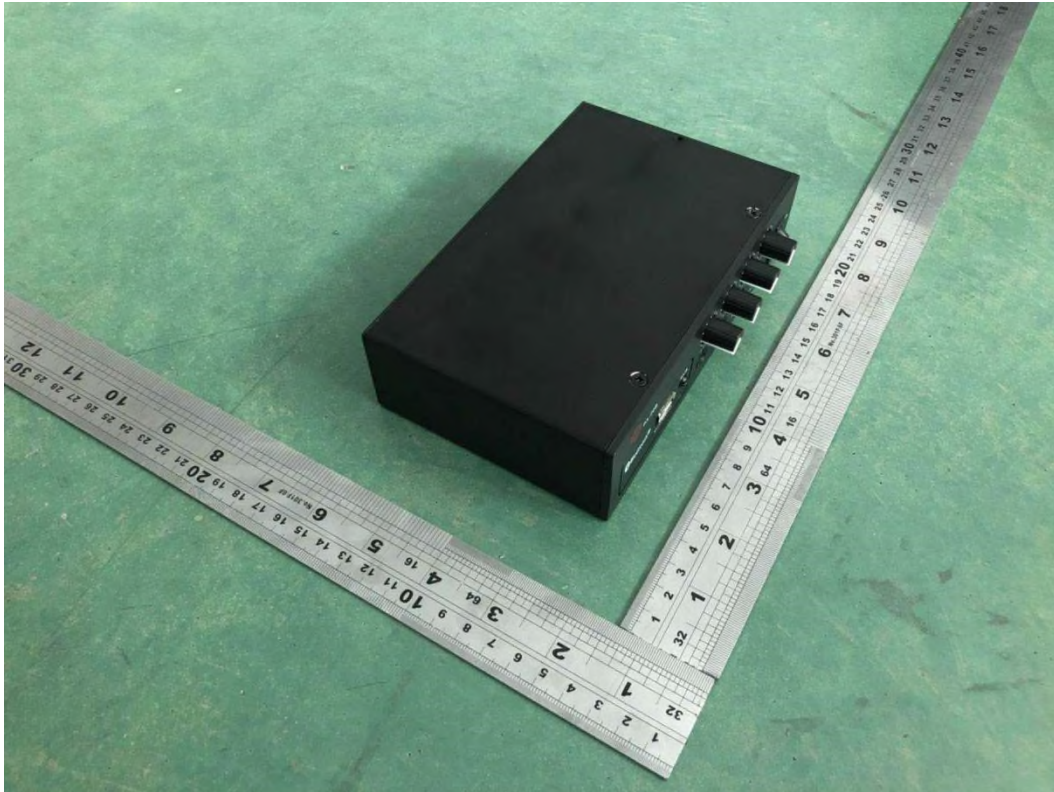


Picture 29. Model PA-20B

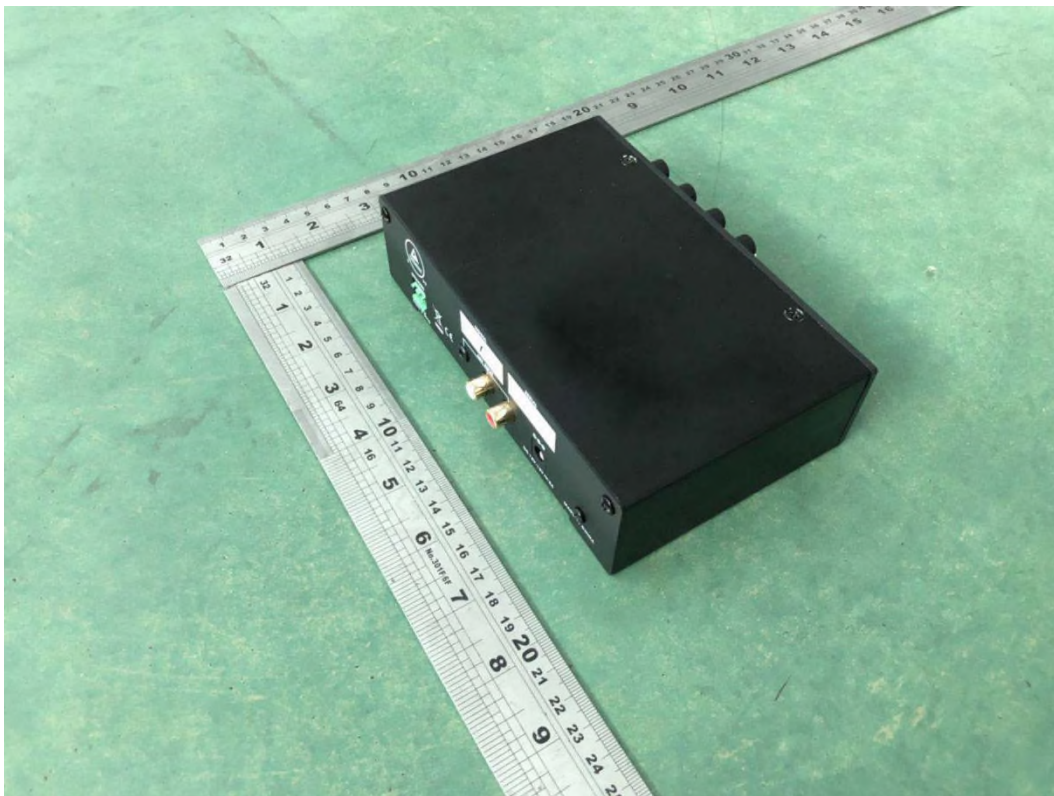


Picture 30. Model PA-20B

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



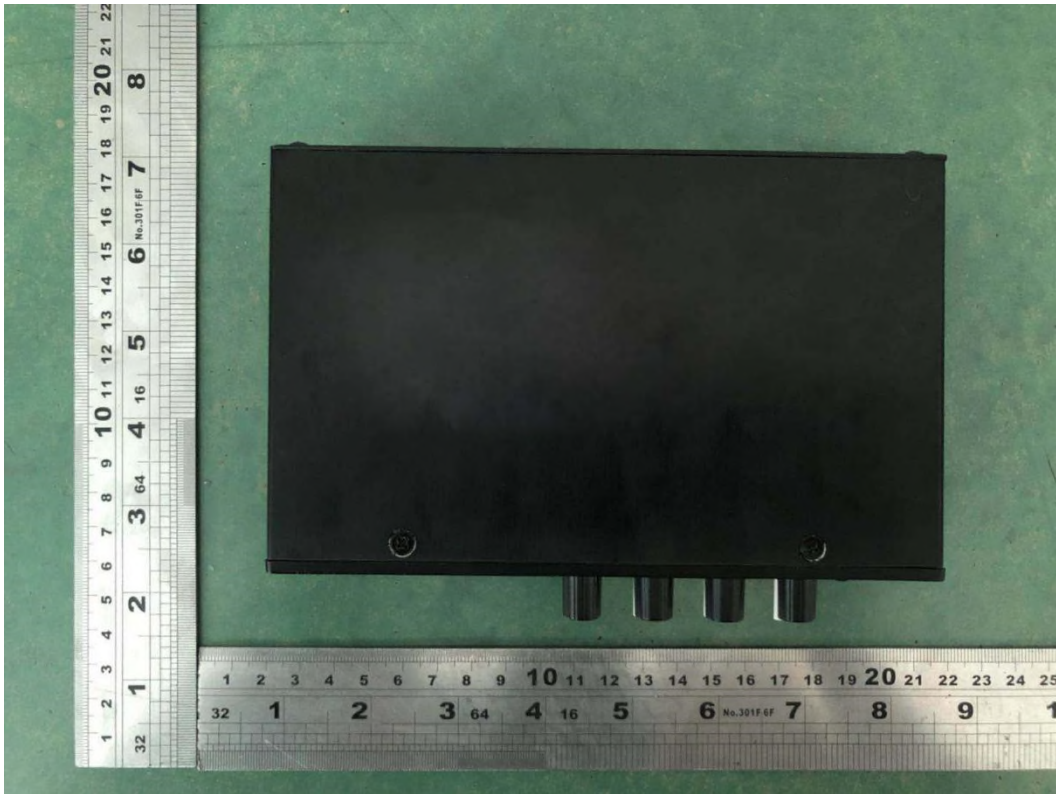
Picture 31. Model PA-20B



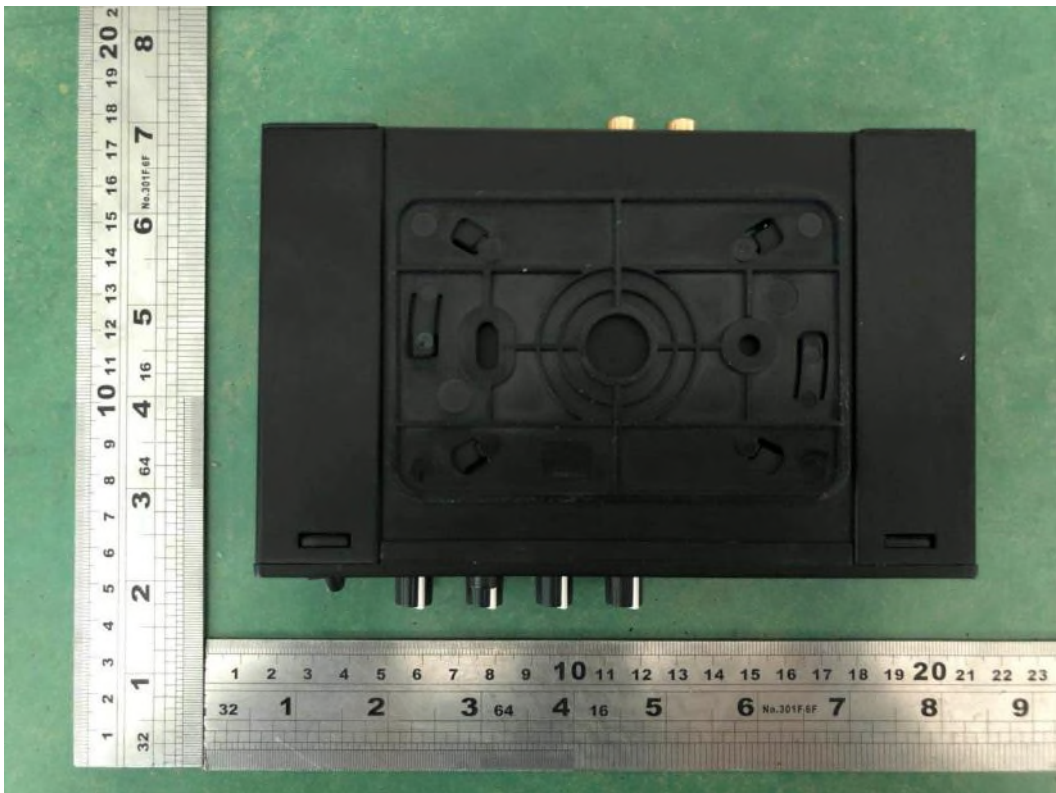
Picture 32. Model PA-20B

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



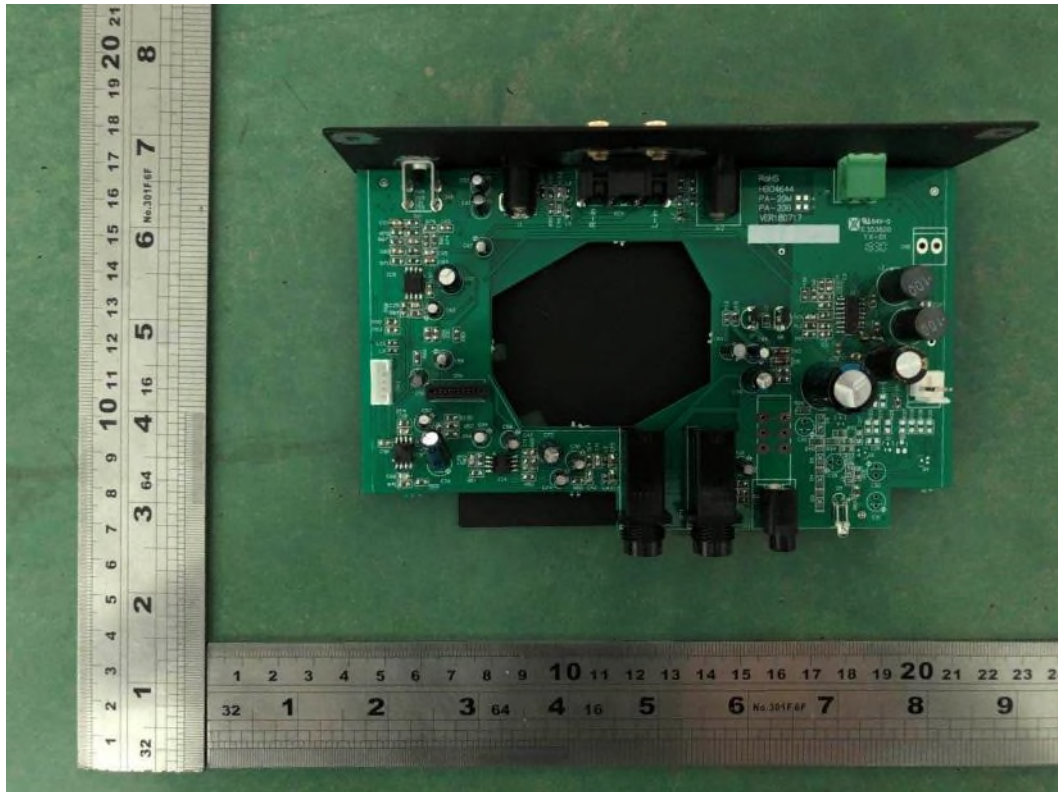
Picture 33. Model PA-20B



Picture 34. Model PA-20B

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



Picture 35. Model PA-20B



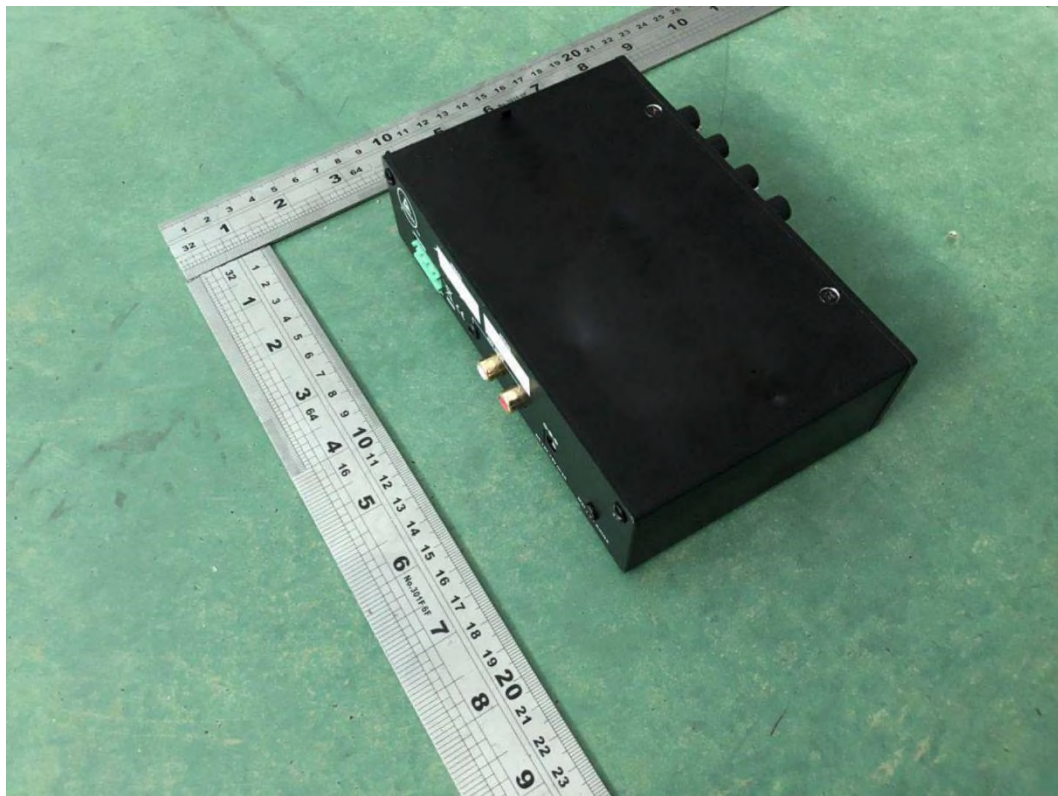
Picture 36. Model PA-20HB

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



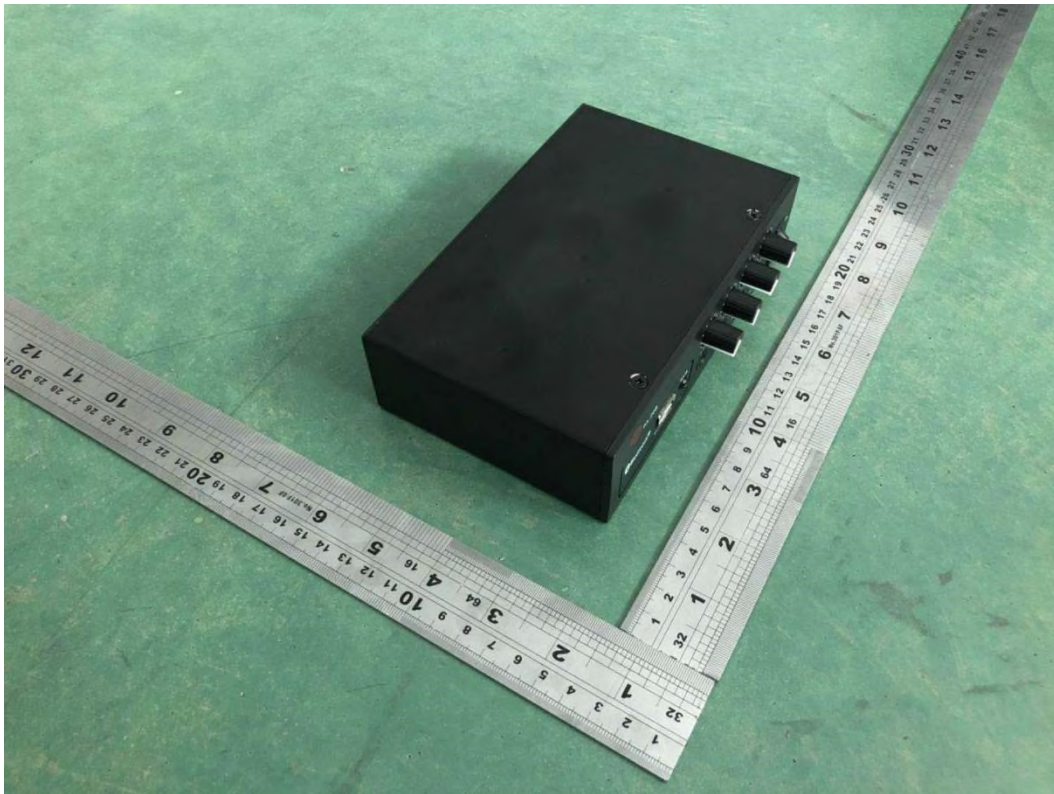
Picture 37. Model PA-20HB



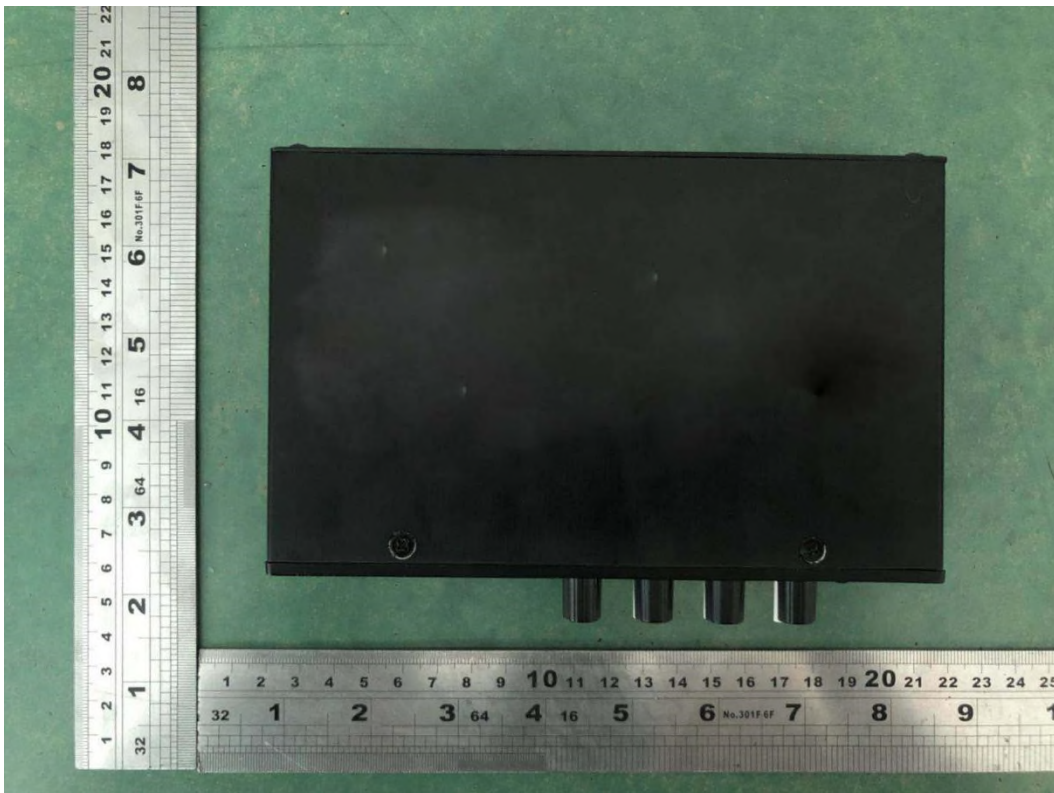
Picture 38. Model PA-20HB

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



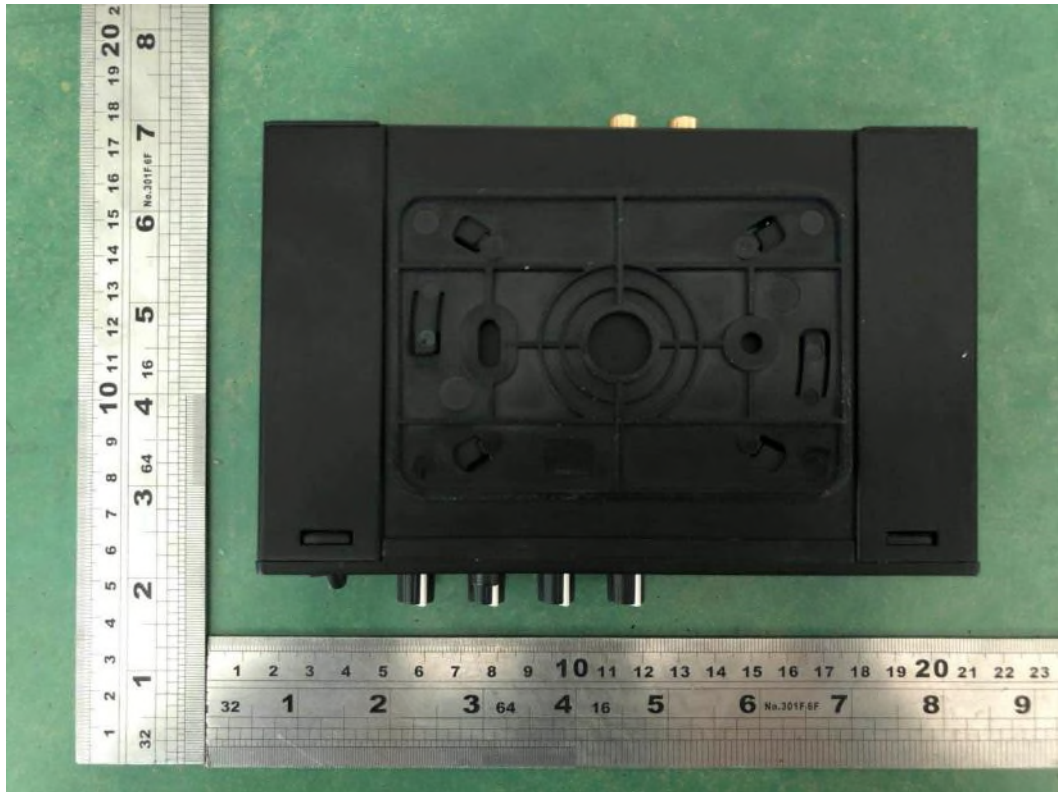
Picture 39. Model PA-20HB



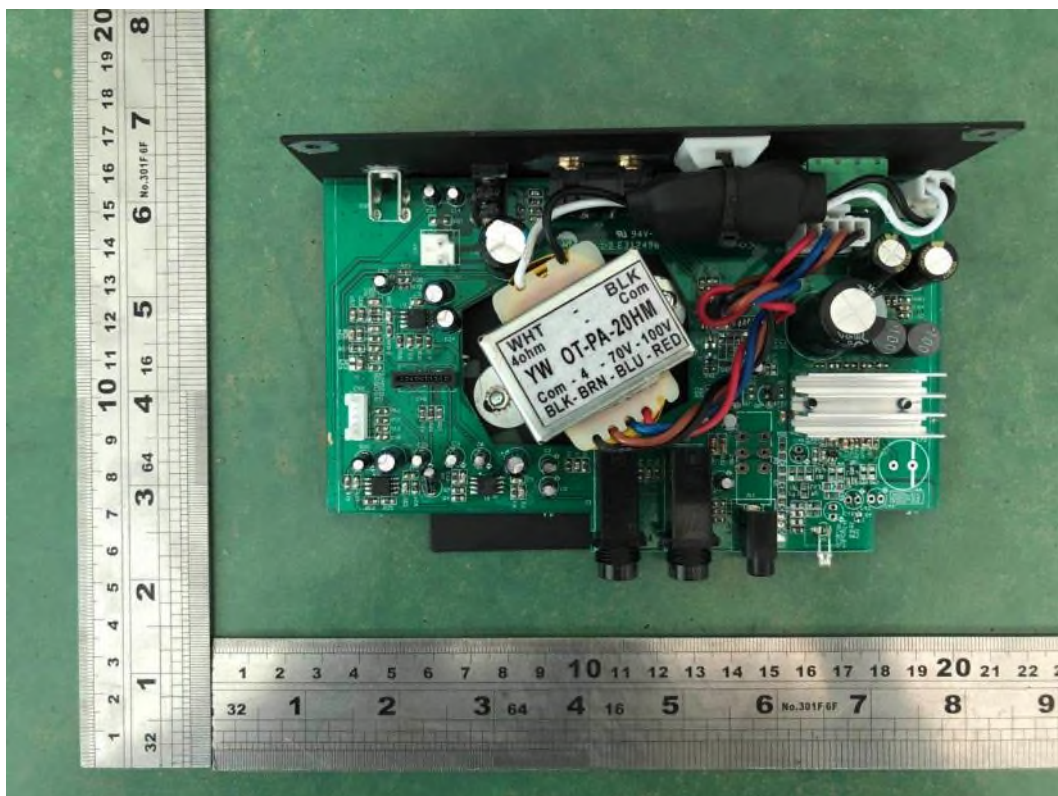
Picture 40. Model PA-20HB

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



Picture 41. Model PA-20HB



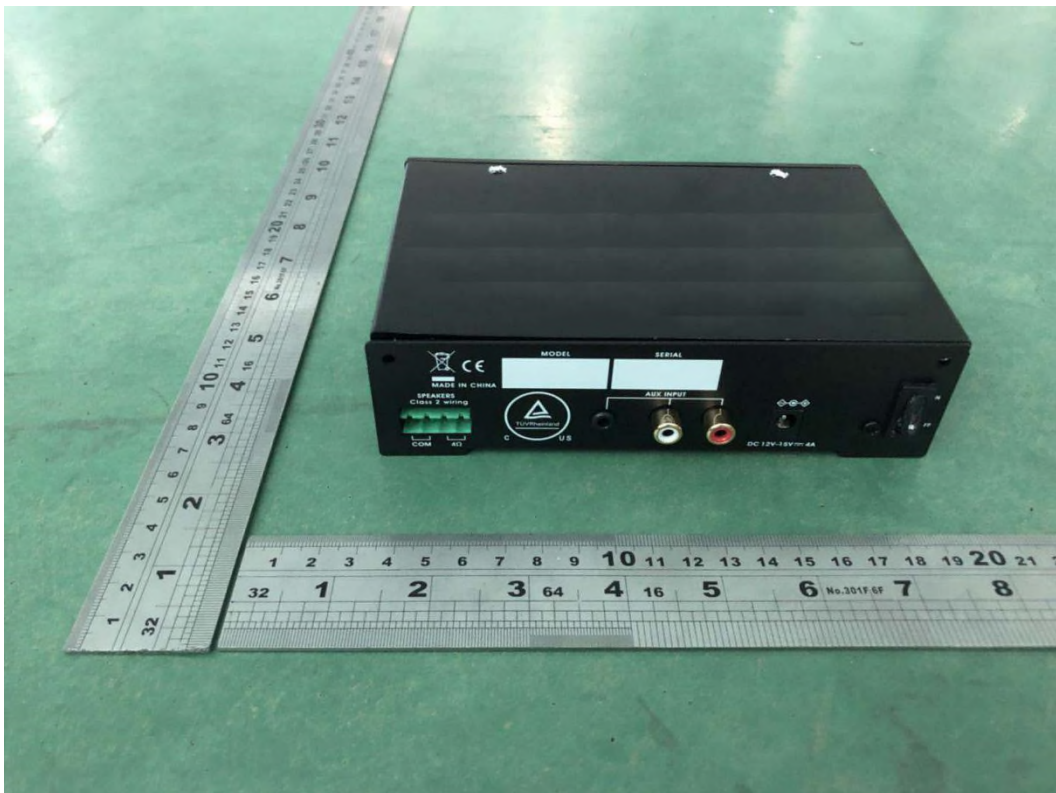
Picture 42. Model PA-20HB

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB

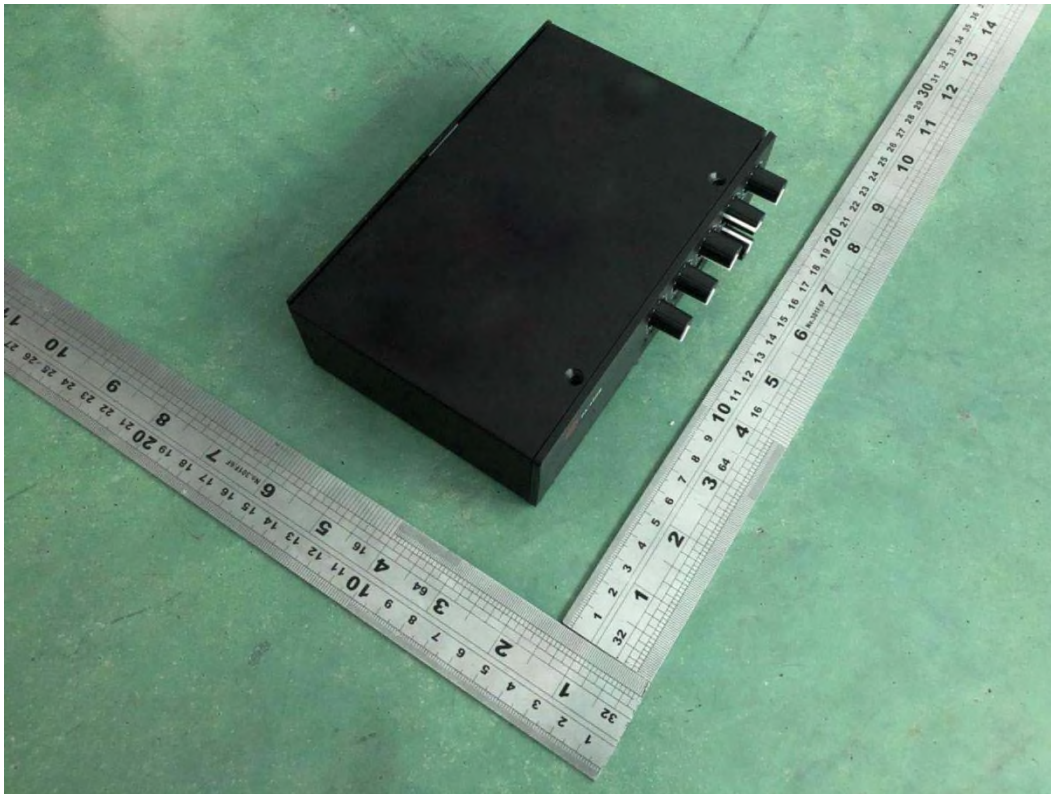


Picture 43. Model PA-40

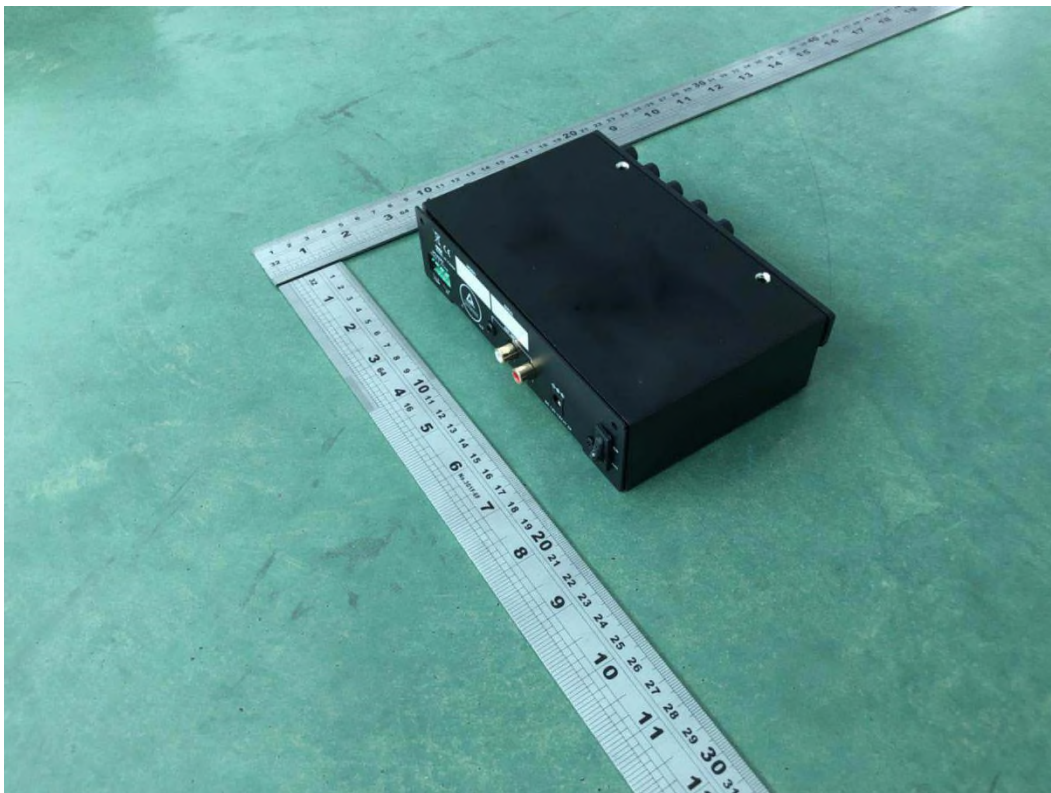


Picture 44. Model PA-40

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



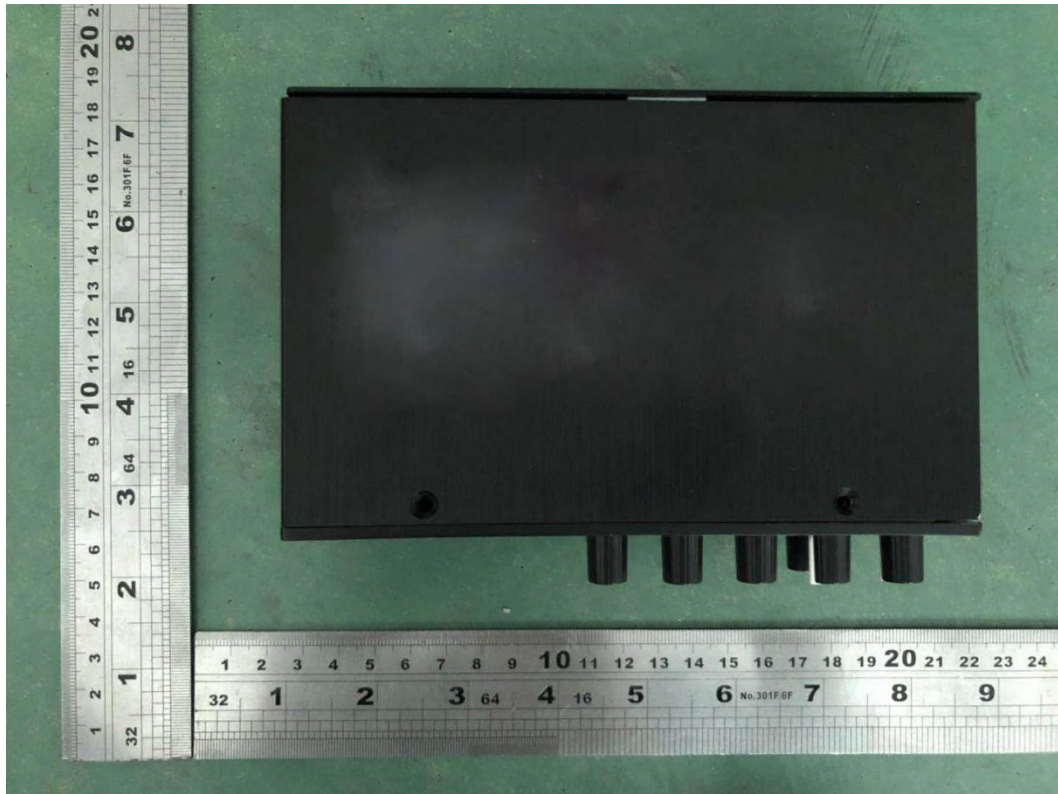
Picture 45. Model PA-40



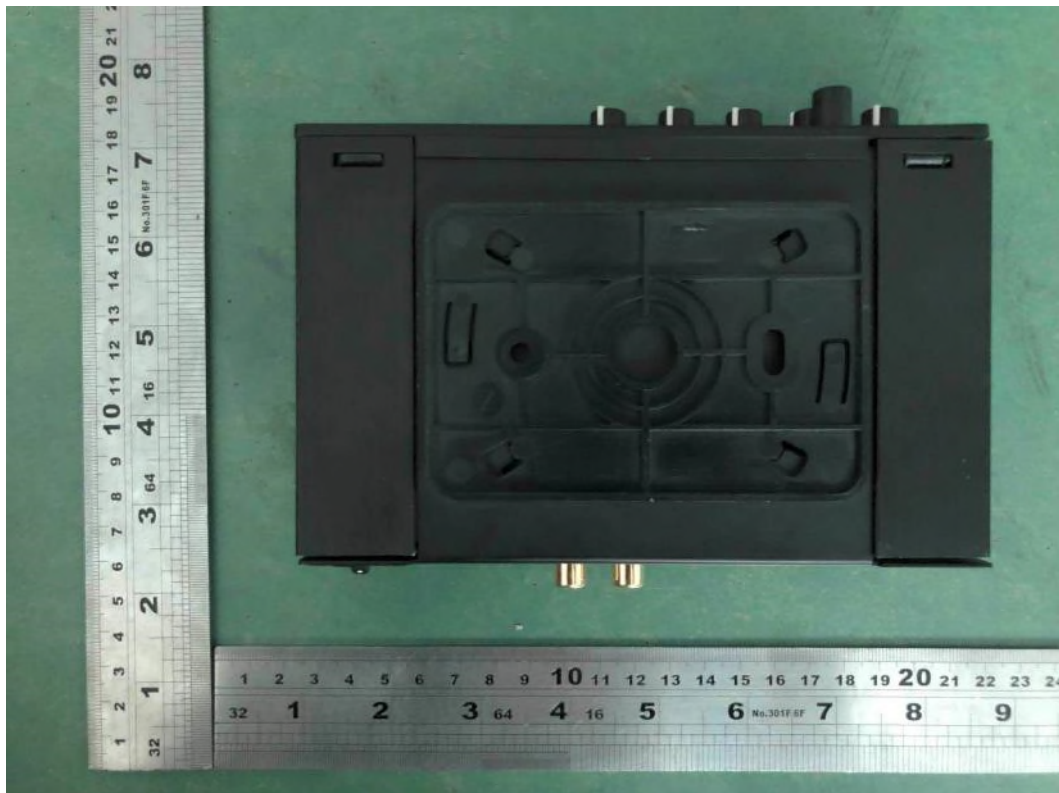
Picture 46. Model PA-40

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



Picture 47. Model PA-40



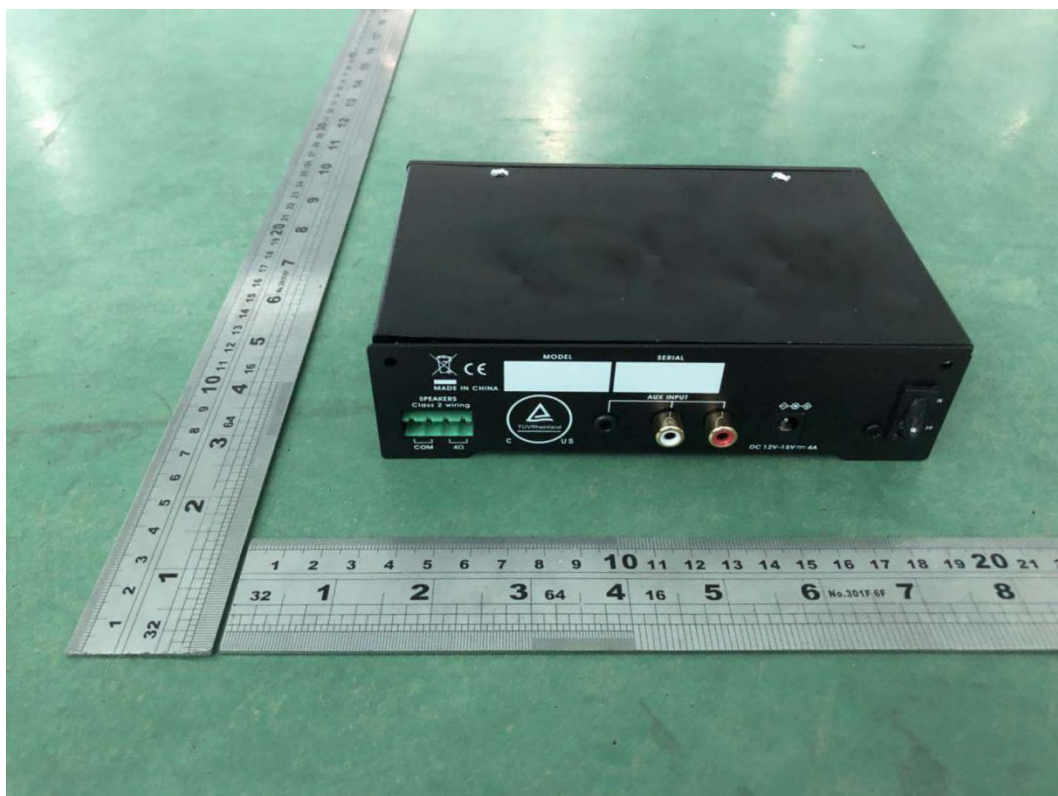
Picture 48. Model PA-40

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB

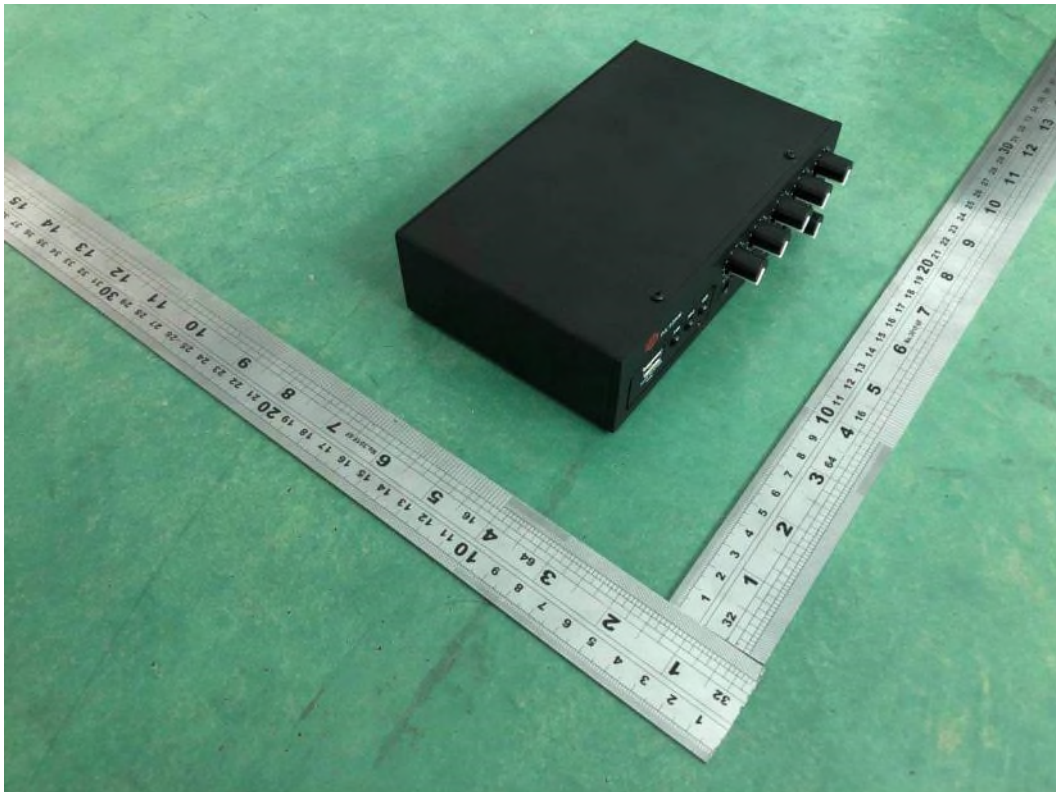


Picture 49. Model PA-40M

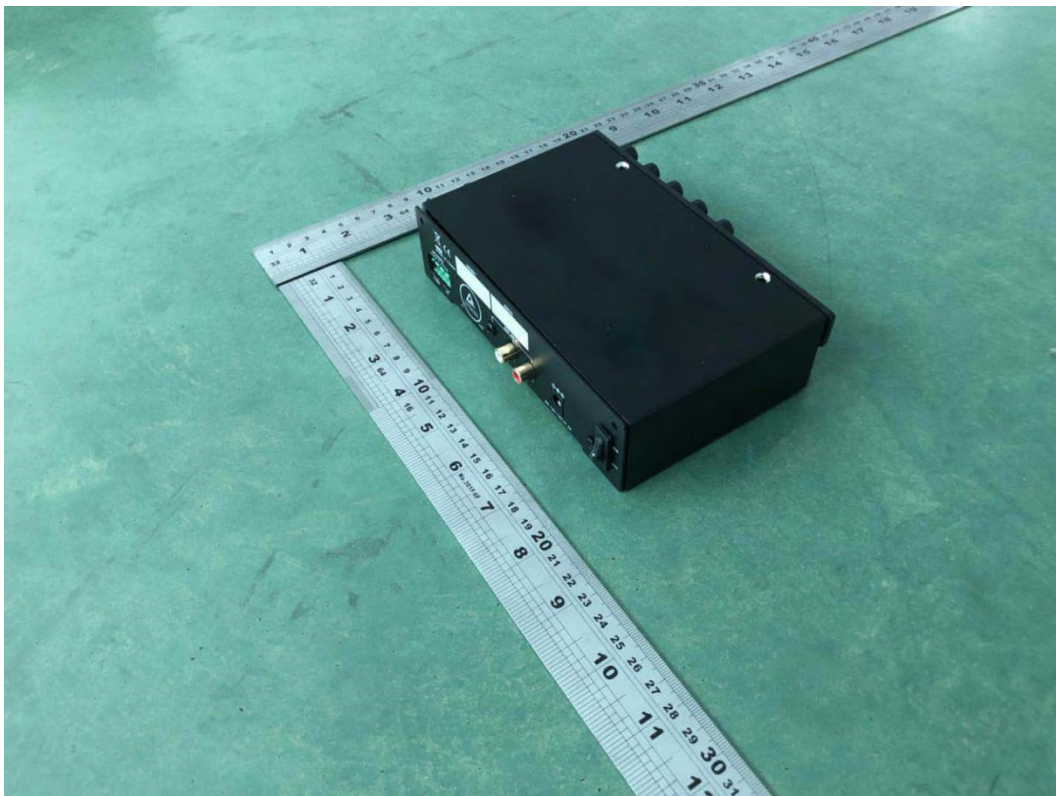


Picture 50. Model PA-40M

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



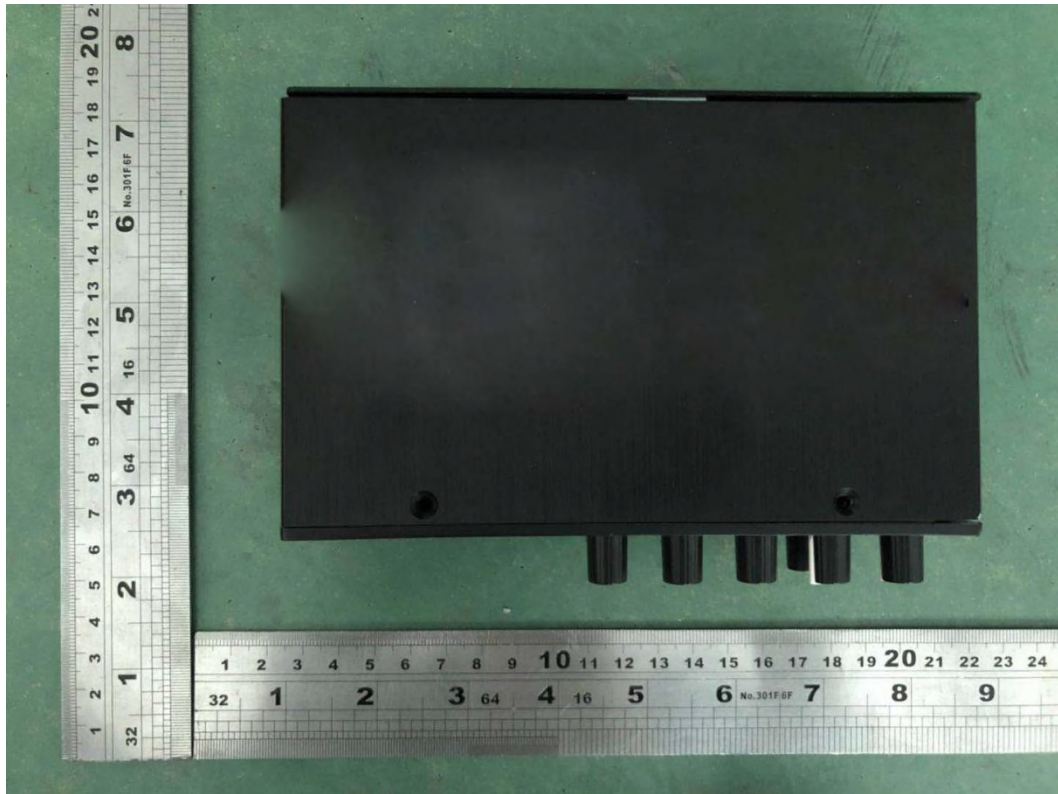
Picture 51. Model PA-40M



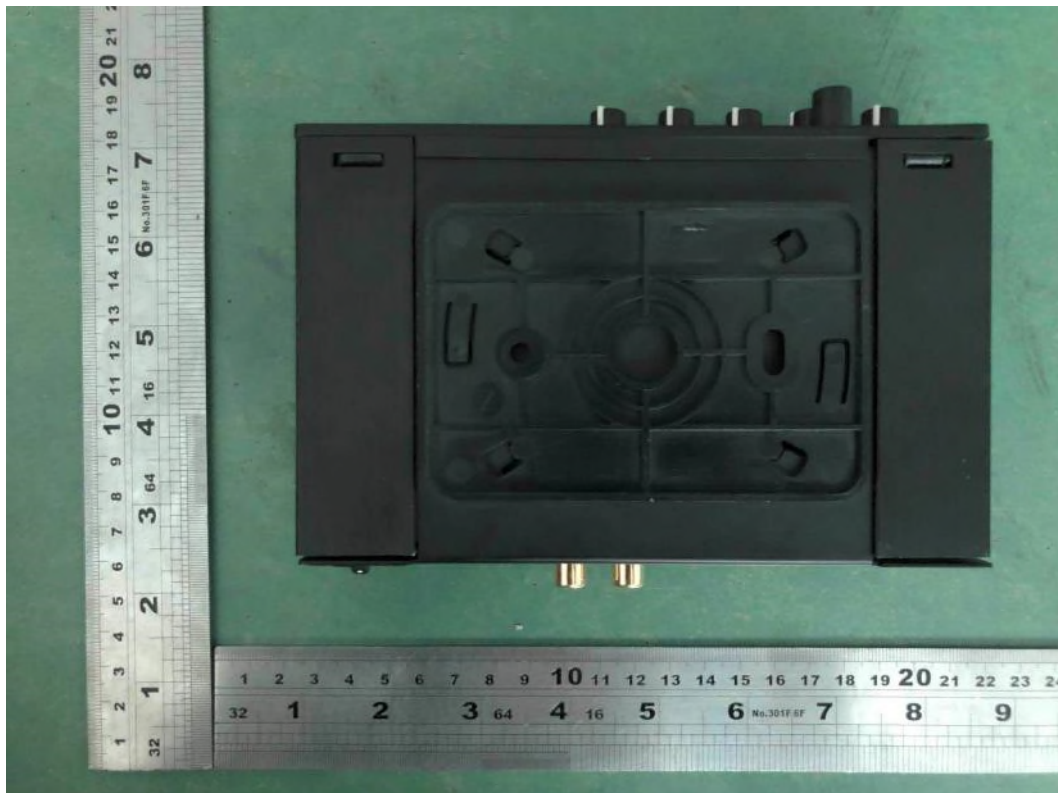
Picture 52. Model PA-40M

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



Picture 53. Model PA-40M



Picture 54. Model PA-40M

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB

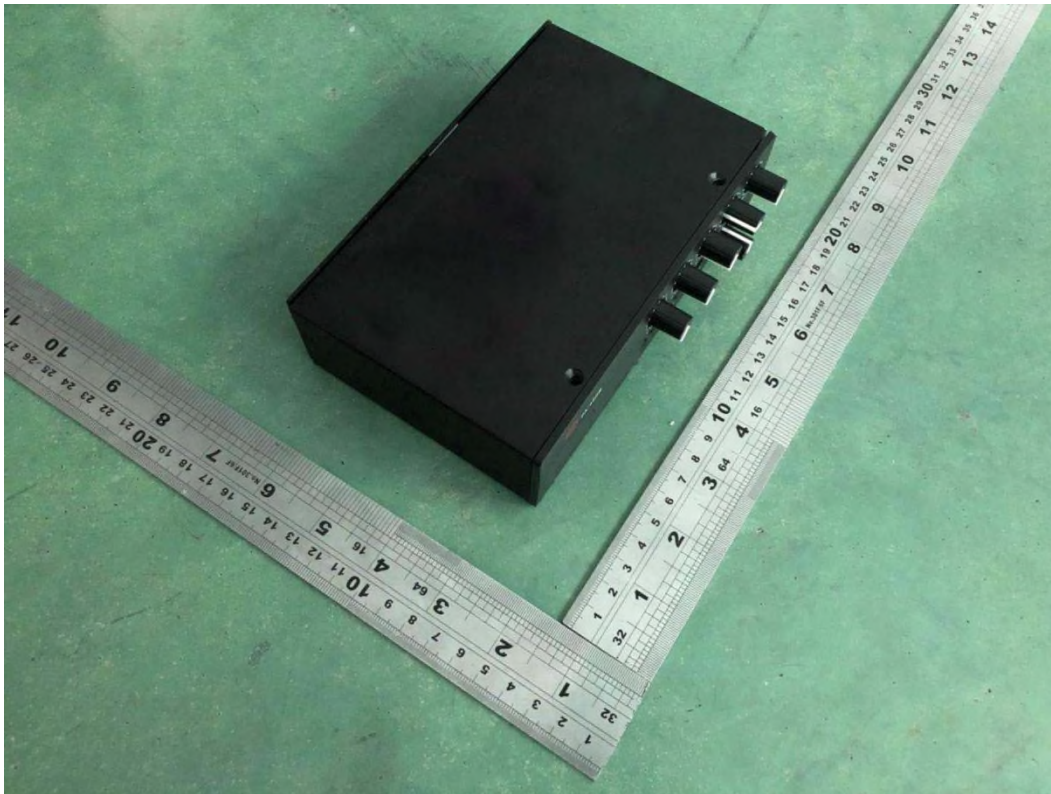


Picture 55. Model PA-40H

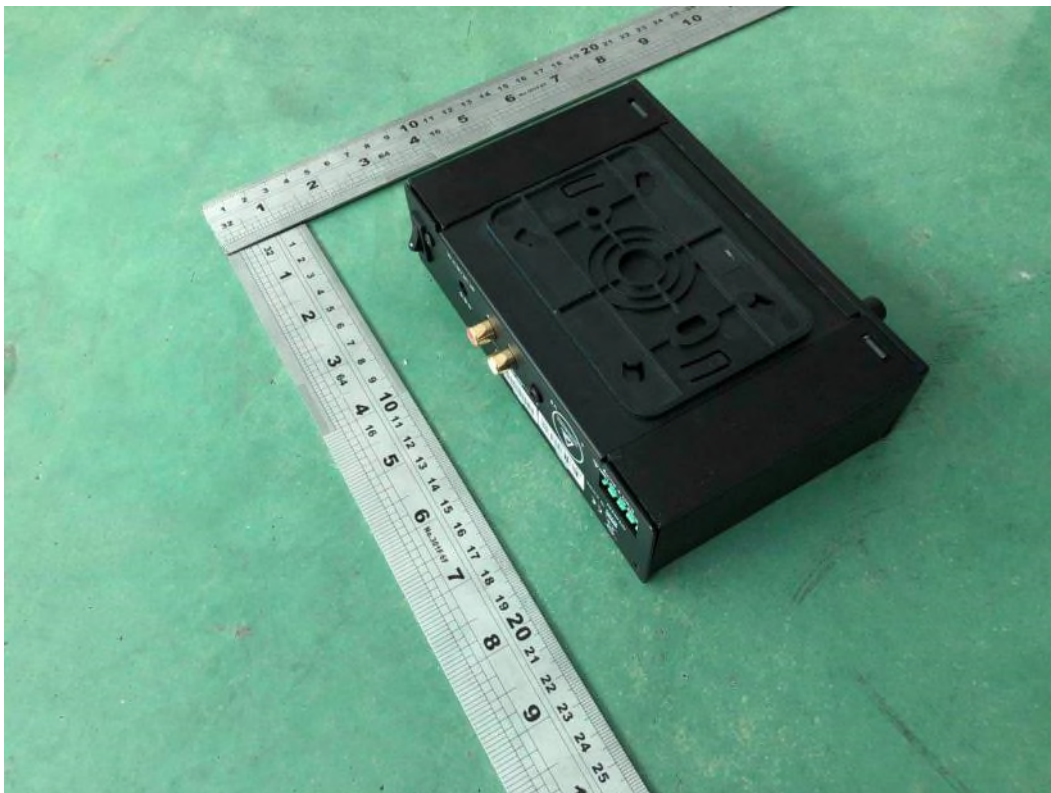


Picture 56. Model PA-40H

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



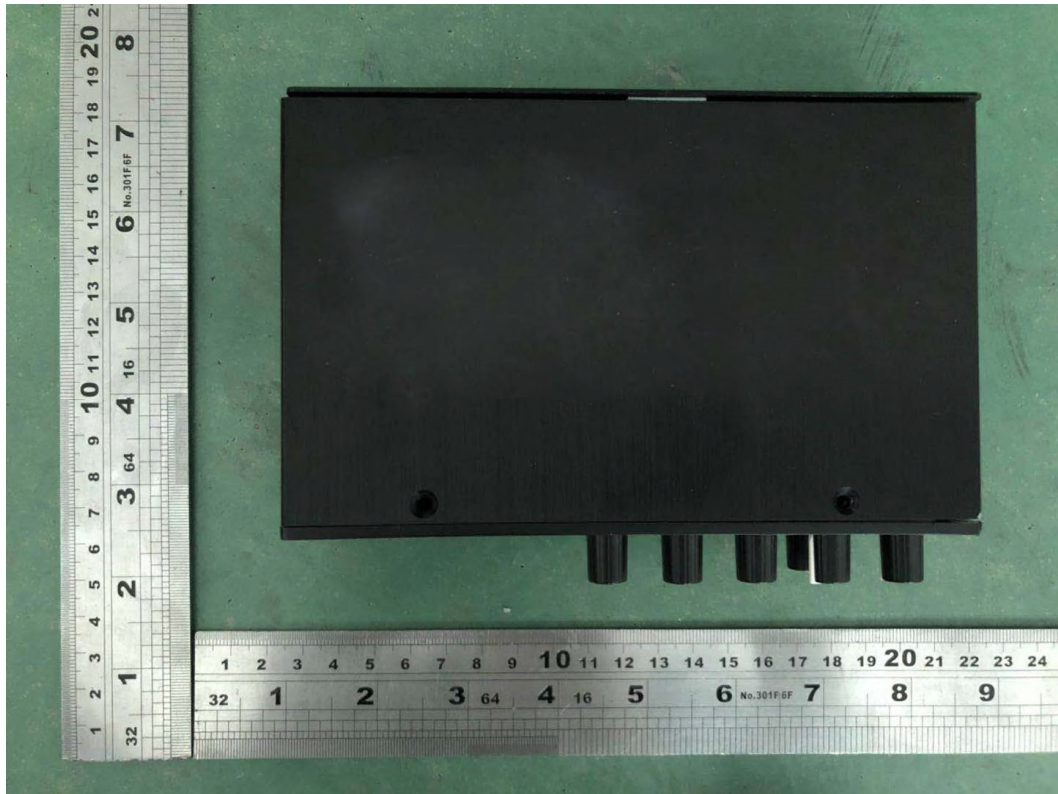
Picture 57. Model PA-40H



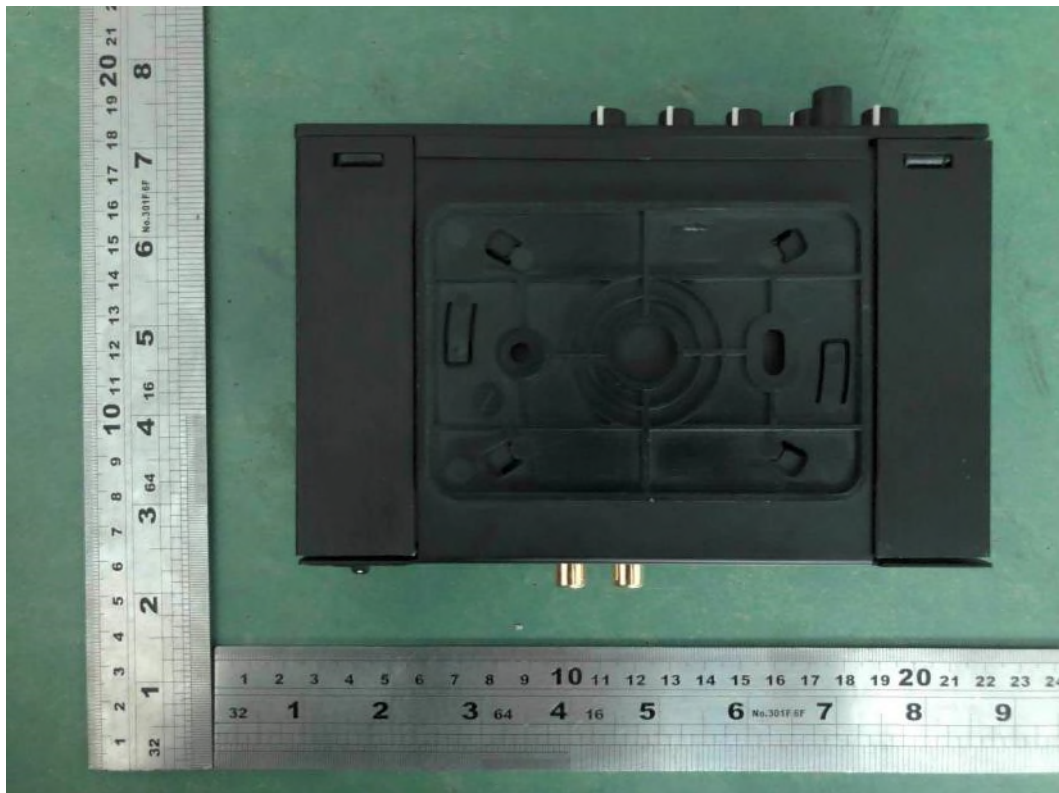
Picture 58. Model PA-40H

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



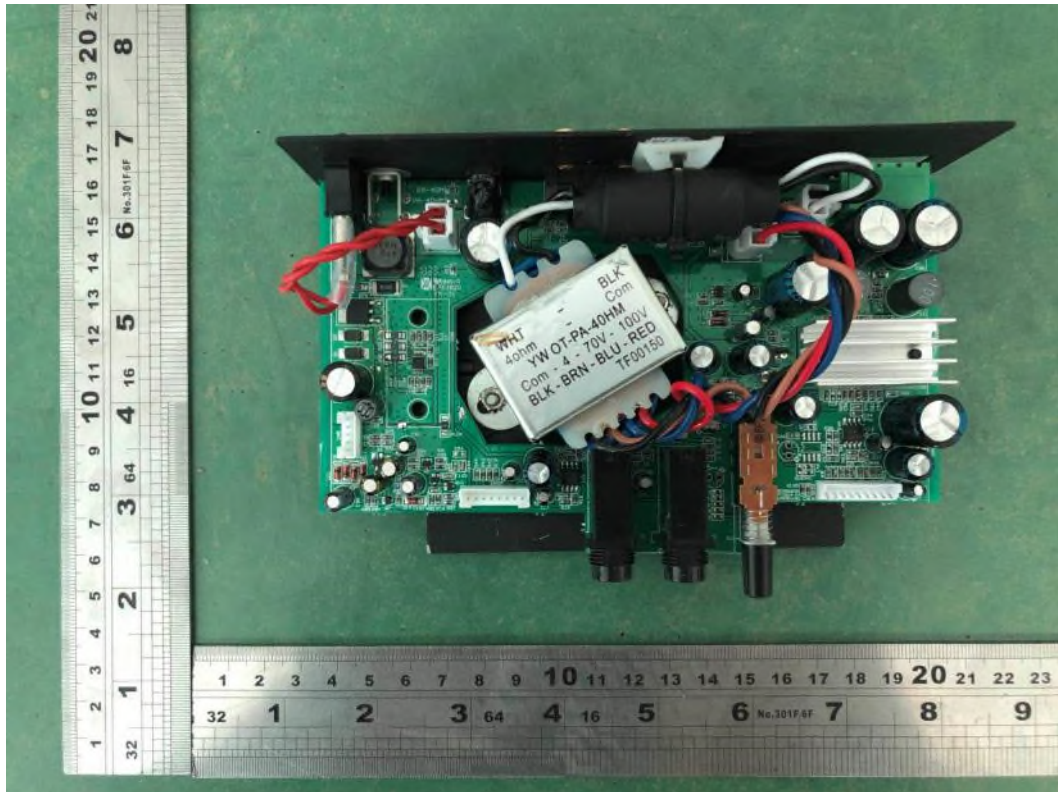
Picture 59. Model PA-40H



Picture 60. Model PA-40H

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



Picture 61. Model PA-40H



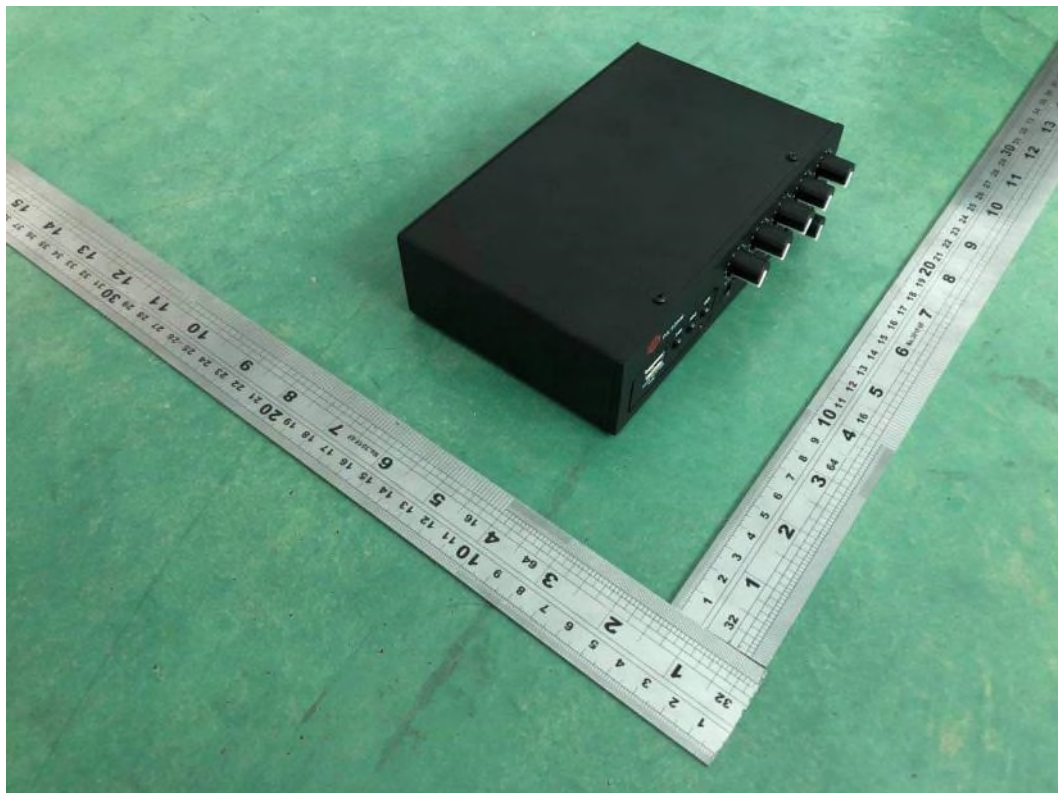
Picture 62. Model PA-40HM

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



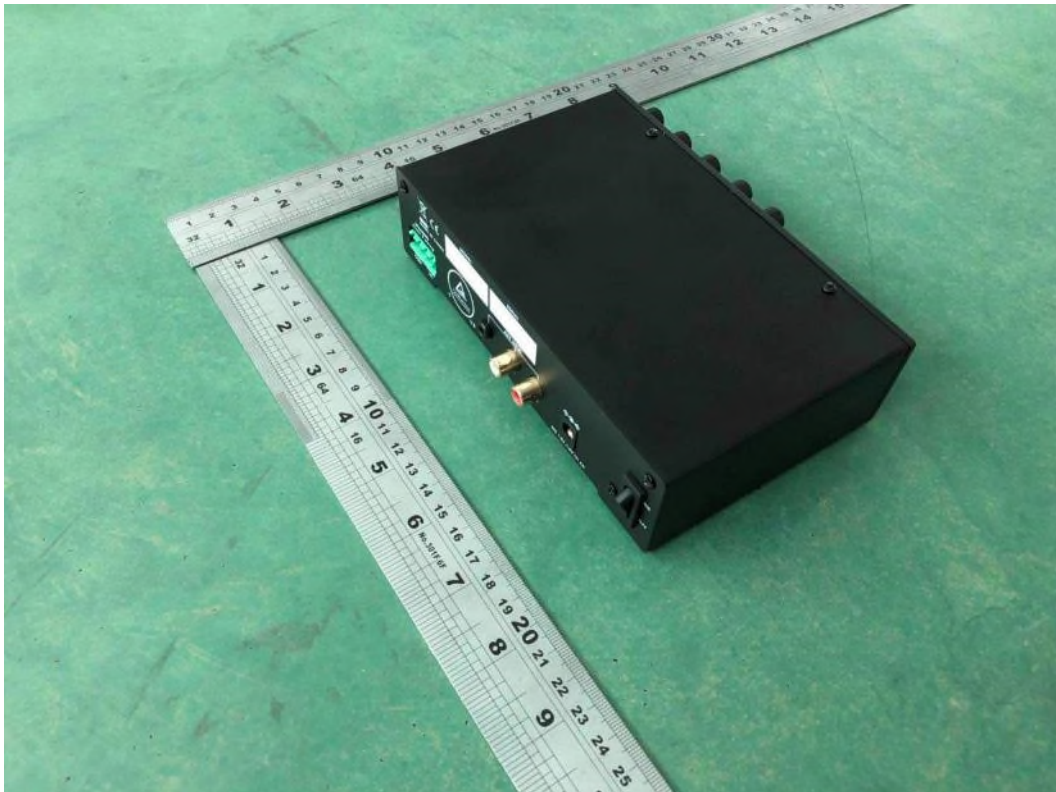
Picture 63. Model PA-40HM



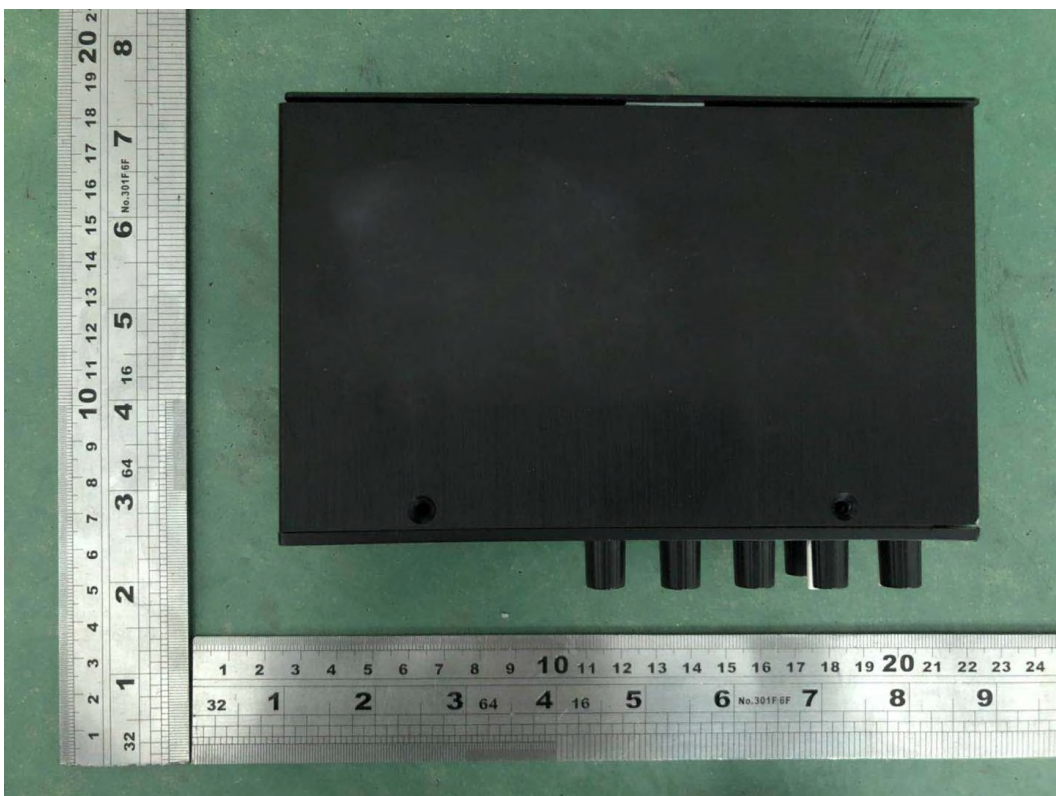
Picture 64. Model PA-40HM

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



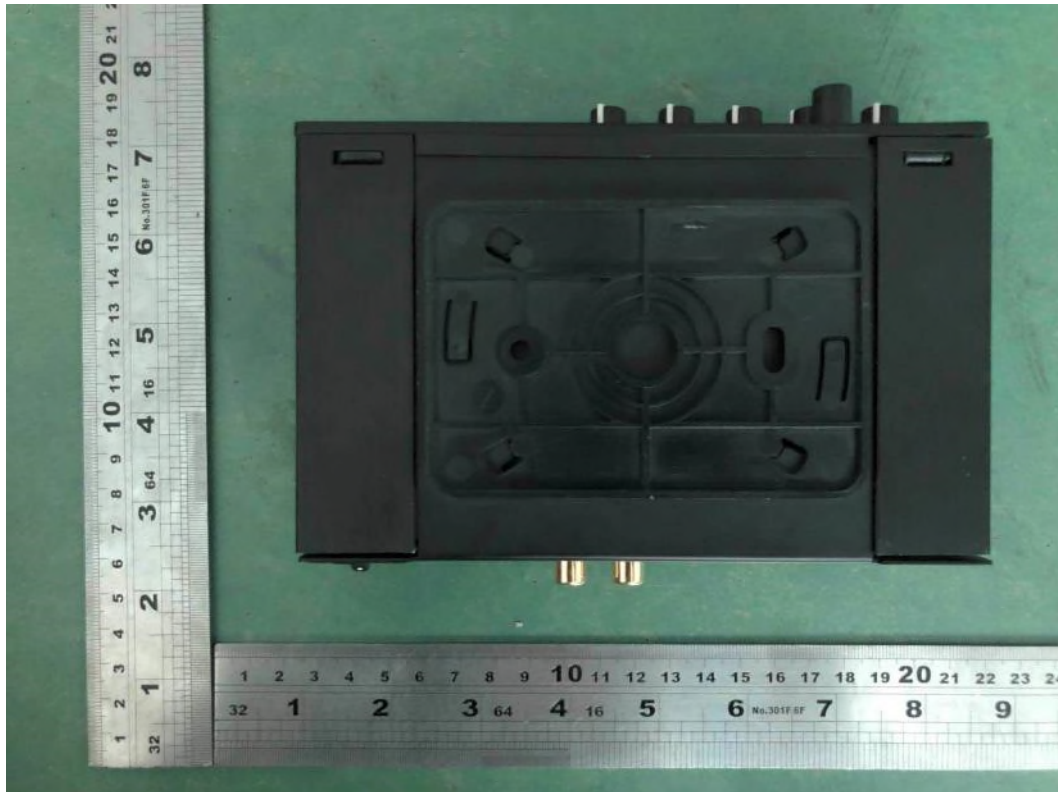
Picture 65. Model PA-40HM



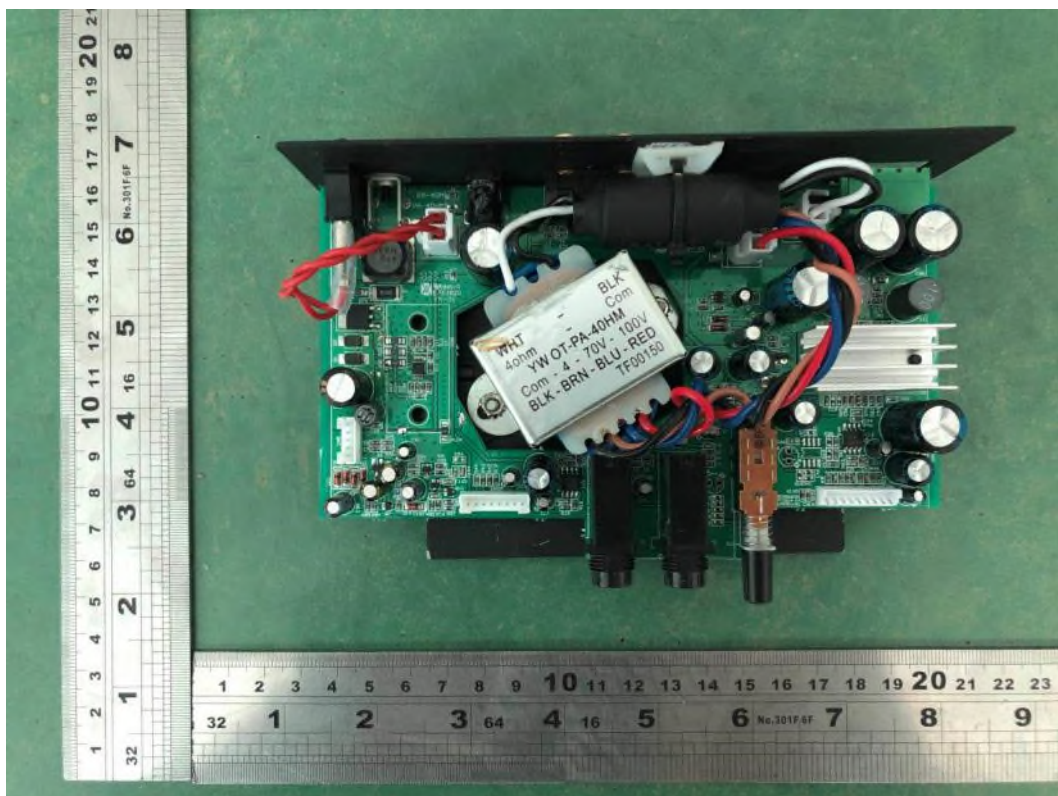
Picture 66. Model PA-40HM

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



Picture 67. Model PA-40HM



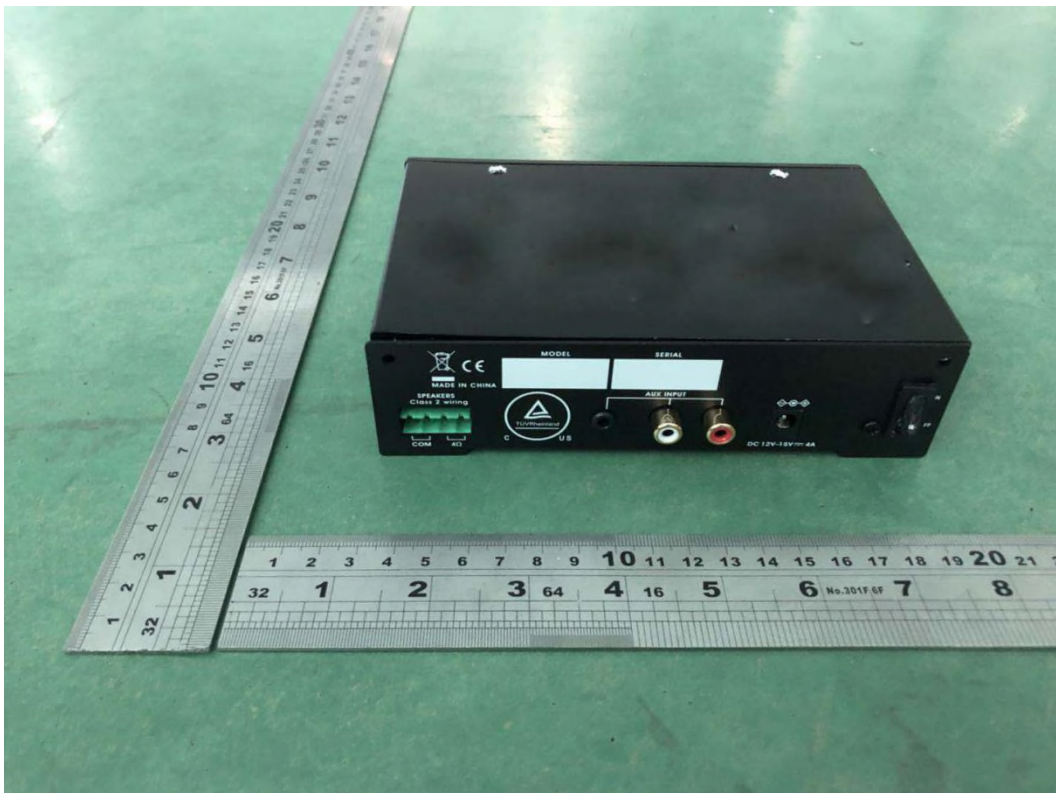
Picture 68. Model PA-40HM

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB

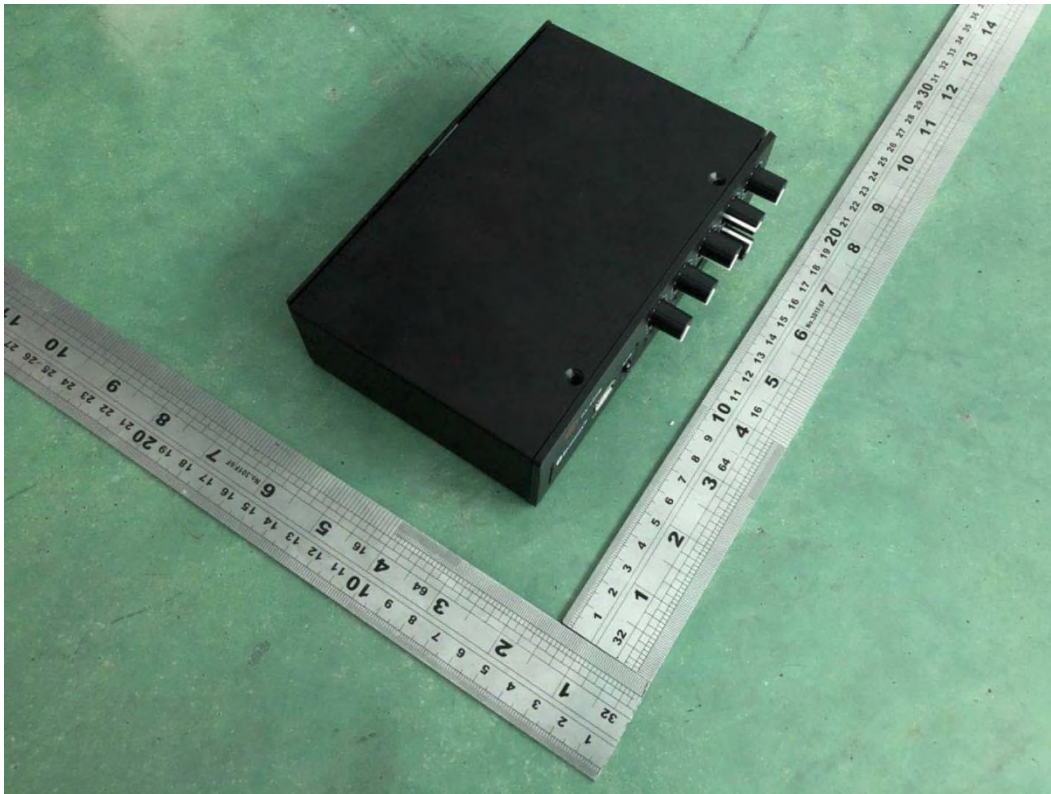


Picture 69. Model PA-40B

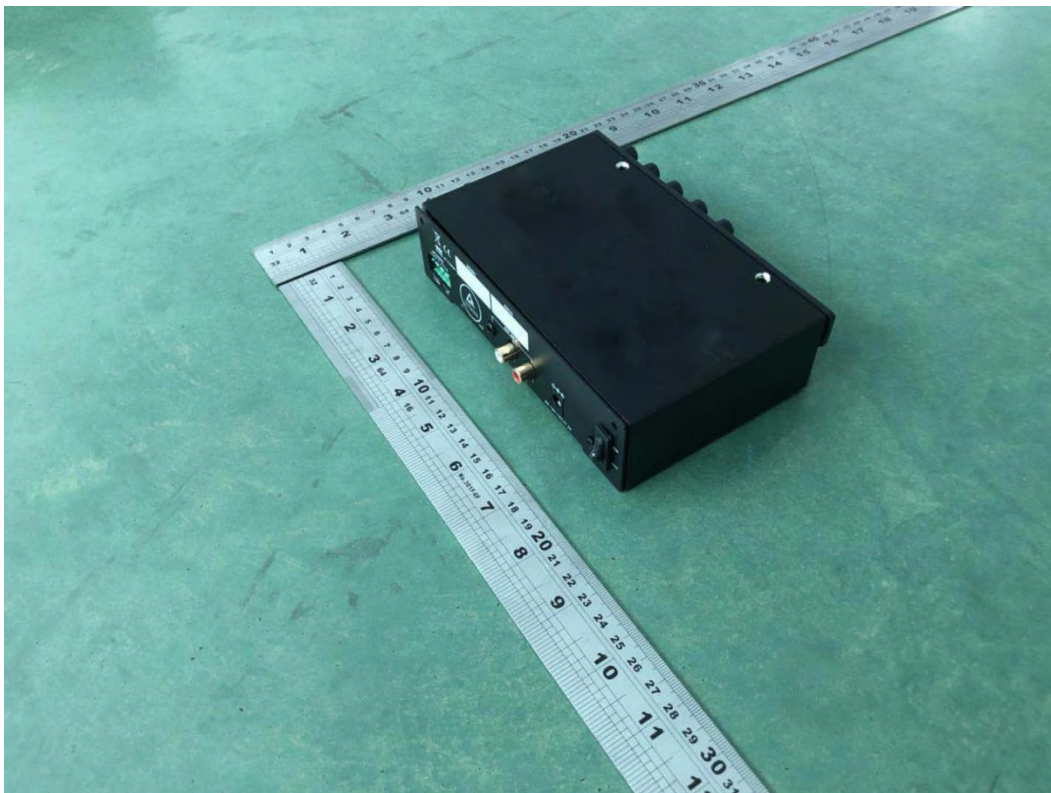


Picture 70. Model PA-40B

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



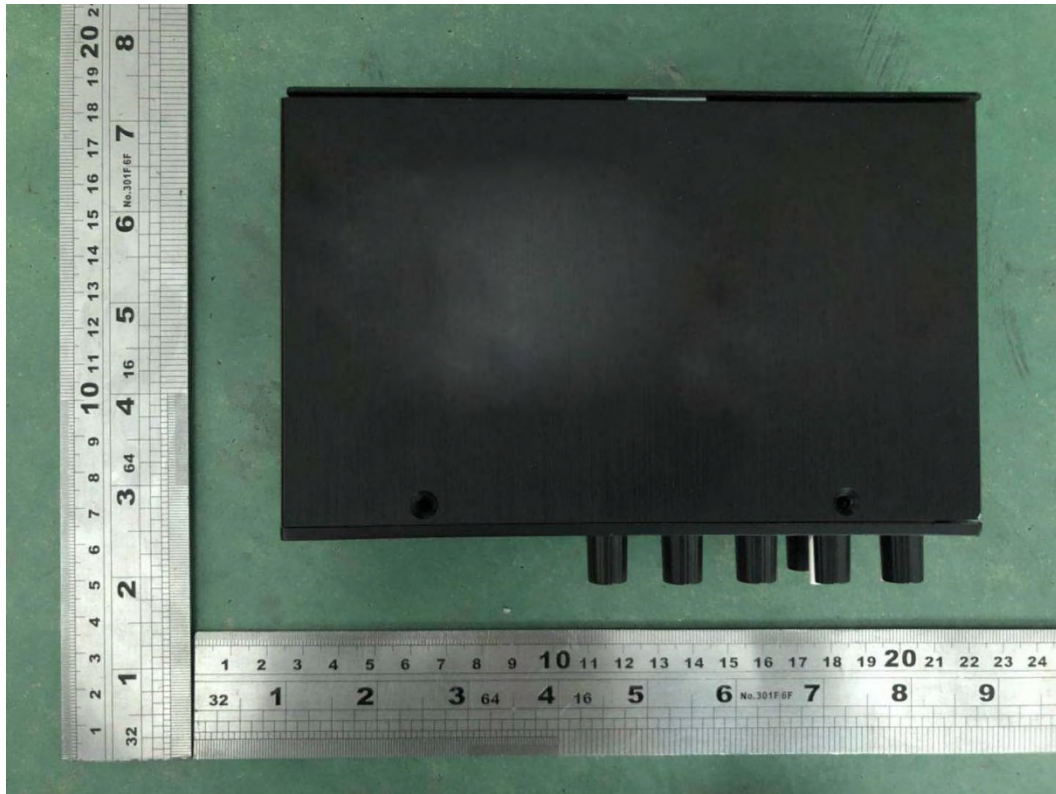
Picture 71. Model PA-40B



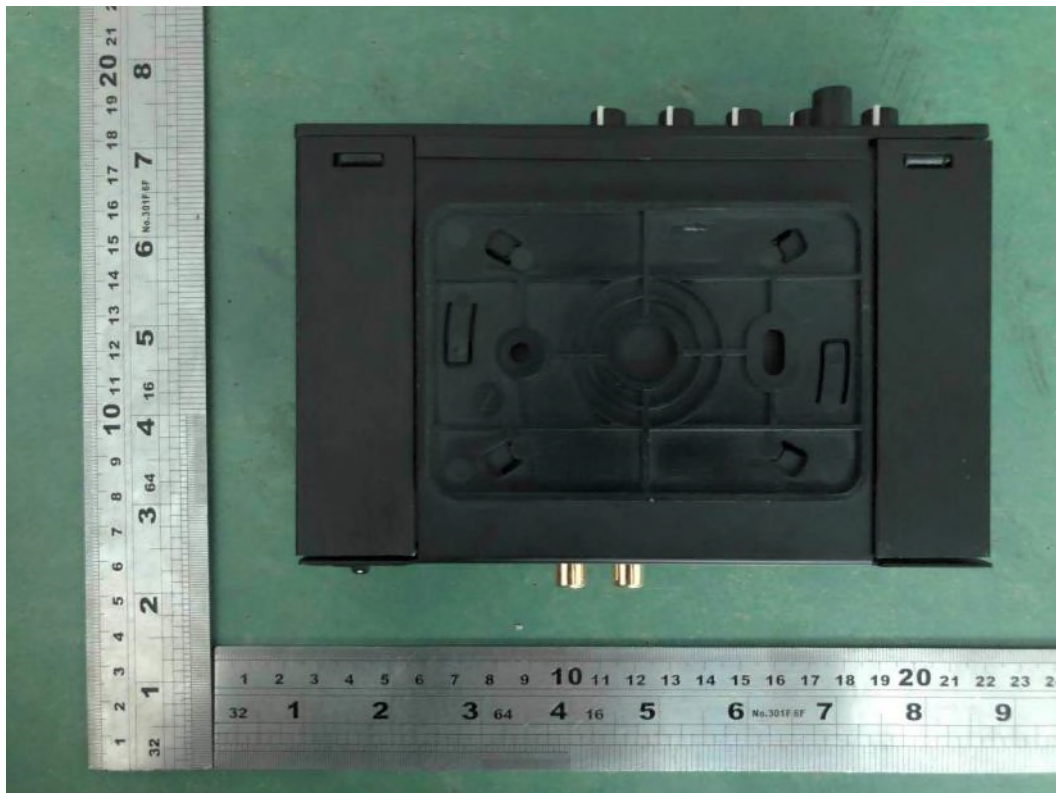
Picture 72. Model PA-40B

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



Picture 73. Model PA-40B

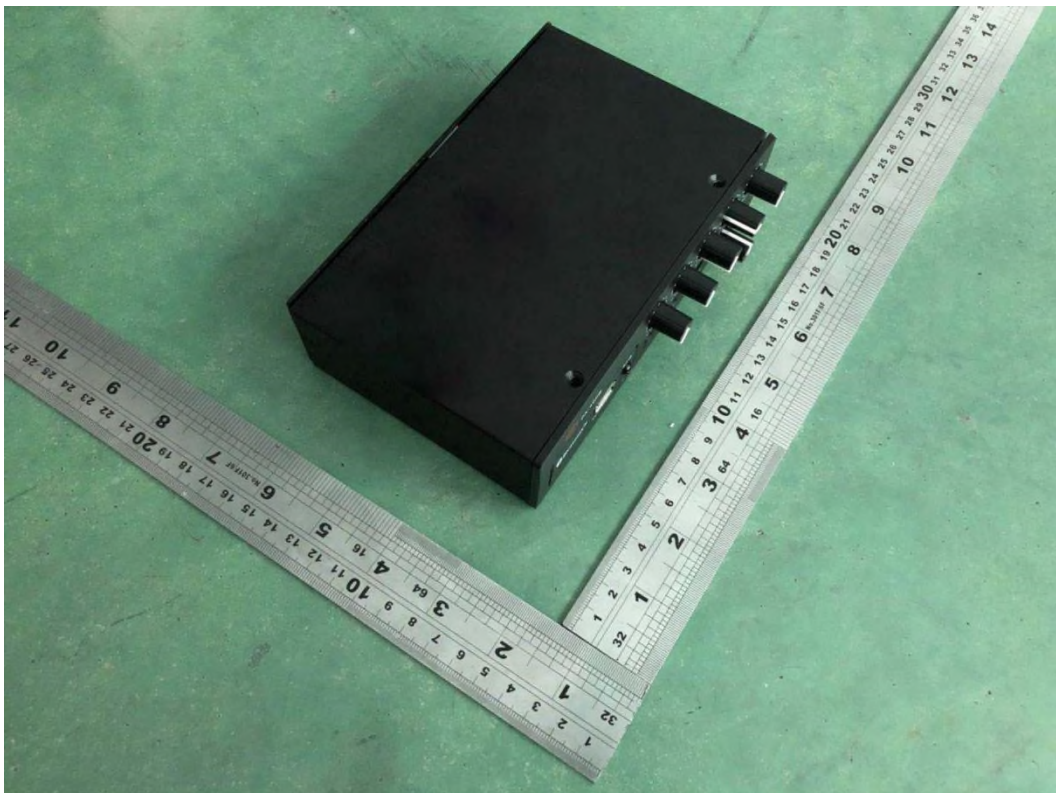


Picture 74. Model PA-40B

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



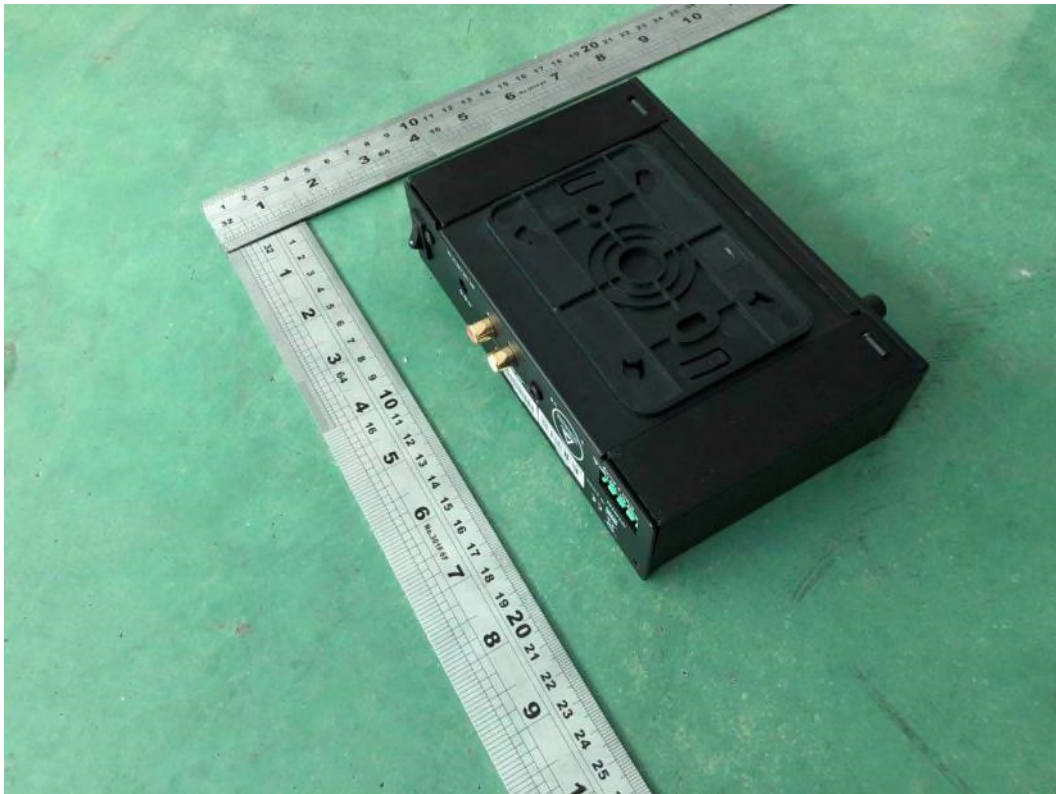
Picture 75. Model PA-40HB



Picture 76. Model PA-40HB

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



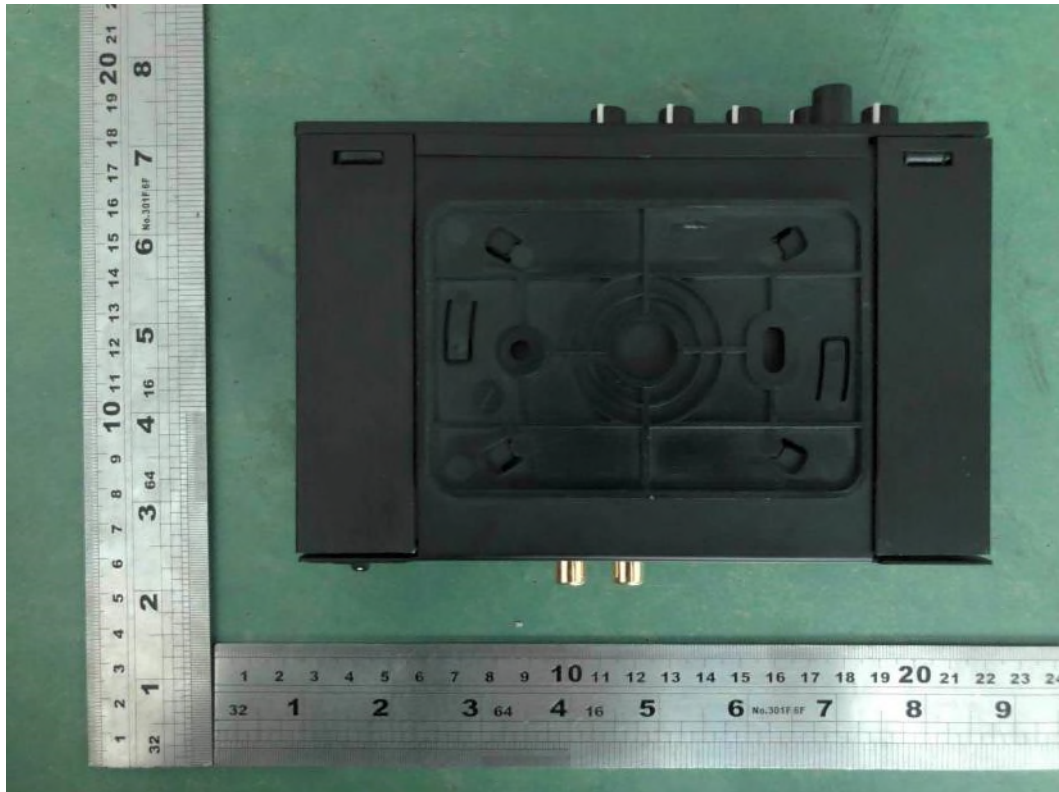
Picture 77. Model PA-40HB



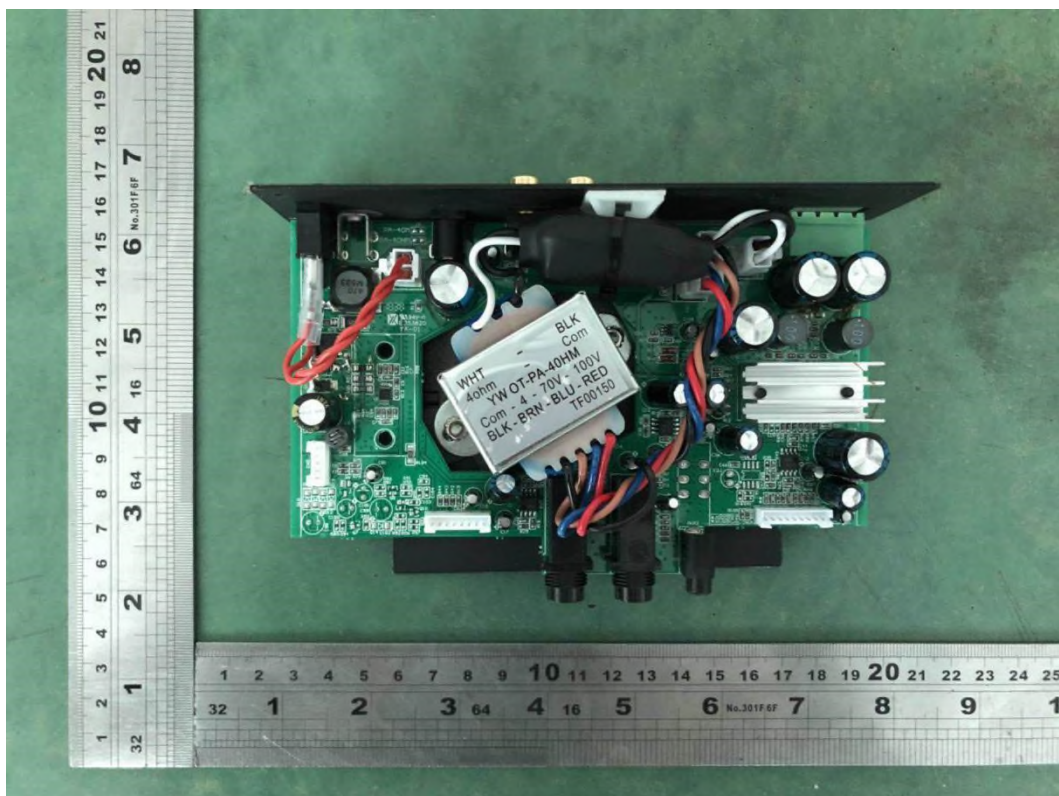
Picture 78. Model PA-40HB

Report Number: 50271943 001

Model: PA-20, PA-20M, PA-20H, PA-20HM, PA-20B, PA-20HB,
PA-40, PA-40M, PA-40H, PA-40HM, PA-40B, PA-40HB



Picture 79. Model PA-40HB



Picture 80. Model PA-40HB