


	Test Report issued under the responsibility of: NCB TÜV SÜD PSB Pte. Ltd. 15 International Business Park TÜV SÜD @ IBP Singapore 609937	
TEST REPORT IEC 62368-1 Audio/video, information and communication technology equipment Part 1: Safety requirements		
Report Number : 211-800644-000 Date of issue..... : 2022-10-10 Total number of pages : 82		
Name of Testing Laboratory preparing the Report : TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch		
Applicant's name : Shenzhen Anthy Electronics Co., Ltd. Address : 4/F, Building E, Lianchuang Industrial Park, Tangqian Village, Zhangge, Guanlan, Longhua New District, 518110 Shenzhen, PEOPLE'S REPUBLIC OF CHINA.		
Test specification: Standard..... : IEC 62368-1:2014 Test procedure : CB Scheme Non-standard test method : N/A		
TRF template used..... : IECEE OD-2020-F1:2021, Ed.1.4 Test Report Form No. : IEC62368_1D Test Report Form(s) Originator .. : UL(US) Master TRF..... : Dated 2022-04-14		
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Test Item description	AC ADAPTER	
Trade Mark(s)	N/A	
Manufacturer	Same as applicant	
Model/Type reference	AFUA04-K011, AF-045PD, AF1485305, AE-30, AE-45, AE45, AFUA04-K011A, AF-045PD-K011, AF1485305-K011, AF04-xxxxyy, AF04-xxxxyy-K011 (xxx, yyy are variables, see 'General product information and other remarks' for details of model description)	
Ratings	Input: 100-240VAC, 50-60Hz, 1.5A Output: See 'General product information and other remarks' for details	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/> CB Testing Laboratory:	TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch	
Testing location/ address	Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District, Shenzhen, Guangdong 518052, China	
Tested by (name, function, signature)	Alex Wu (Project Handler)	
Approved by (name, function, signature)	Kevin Chen (Designated Reviewer)	
Testing procedure: CTF Stage 1:		
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature)		
Testing procedure: CTF Stage 2:		
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature)		
Approved by (name, function, signature)		
Testing procedure: CTF Stage 3 :		
Testing procedure: CTF Stage 4:		
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature)		
Approved by (name, function, signature)		
Supervised by (name, function, signature)		

List of Attachments (including a total number of pages in each attachment): Attachment No. 1: 10 pages of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES for EN 62368-1:2014 +A11:2017; Attachment No. 2: 57 pages of National and Group Differences for IEC 62368-1:2014 (Second Edition) as per CB Bulletin; Attachment No. 3: 4 pages of plug portion test report; Attachment No. 4: 19 pages of photo documentation.	
Summary of testing:	
Tests performed (name of test and test clause): The submitted samples were found to comply with the requirements of: - IEC 62368-1:2014 - EN 62368-1:2014+A11:2017	Testing location: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District, Shenzhen, Guangdong 518052, China
Summary of compliance with National Differences (List of countries addressed): See the attachment No. 1 and No. 2 of National and Group Differences for details.	
<input checked="" type="checkbox"/> The product fulfils the requirements of <u>EN 62368-1:2014+A11:2017</u>. This CB report also covers EN 62368-1:2014+A11:2017 for project 65.210.22.090.01.	
Use of uncertainty of measurement for decisions on conformity (decision rule) : <input checked="" type="checkbox"/> No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method"). <input type="checkbox"/> Other:... (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)	
Information on uncertainty of measurement: The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE. IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer. Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.	

Copy of marking plate:

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

AC ADAPTER 交換式電源供應器

MODEL(型號): AE-30



INPUT (輸入): 100-240V~50-60Hz 1.5A

OUTPUT(輸出): 5.0V \Rightarrow 3.0A 15.0W or
 9.0V \Rightarrow 3.0A 27.0W or
 12.0V \Rightarrow 2.5A 30.0W or
 15.0V \Rightarrow 2.0A 30.0W or
 20.0V \Rightarrow 1.5A 30.0W

Manufactured by: Shenzhen Anthy Electronics Co., Ltd.
 4/F, Building E, Lianchuang Industrial Park, Tangqian Village, Zhangge,
 Guanlan, Longhua New District, 518110, Shenzhen, PEOPLE'S
 REPUBLIC OF CHINA

RoHS

製造地: 中国 MADE IN CHINA

AC ADAPTER

交換式電源供應器

MODEL / 型號: AF04-190237

INPUT (輸入)

100-240V~50-60Hz 1.5A

OUTPUT(輸出)

19.0V \Rightarrow 2.37A 45.03W

Manufactured by: Shenzhen Anthy Electronics Co., Ltd.
 4/F, Building E, Lianchuang Industrial Park, Tangqian Village, Zhangge,
 Guanlan, Longhua New District, 518110, Shenzhen, PEOPLE'S
 REPUBLIC OF CHINA



製造地: 中国 MADE IN CHINA

Importer: XXX

Address: XXX

Remarks:




- Representative marking as above, marking of other models are identical except for model names, output terminal and output ratings.
- The height dimension of CE mark should not less than 5mm, the height dimension of WEEE symbol should not less than 7mm.
- According to the EU directives which have been aligned with EU NLF (new legislative framework), both of manufacturer and importer's name and address shall be affixed on the product or, where that is not possible, on its packaging or in a document accompanying the product before the product is placed on the EU market.


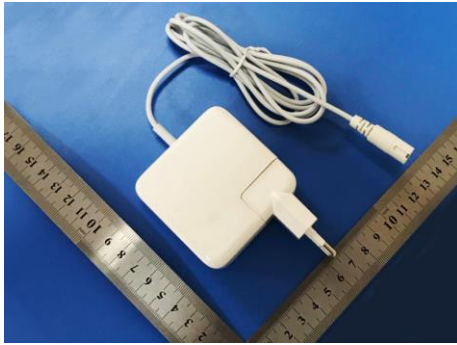
TEST ITEM PARTICULARS:	
Classification of use by	<input checked="" type="checkbox"/> Ordinary person <input checked="" type="checkbox"/> Instructed person <input checked="" type="checkbox"/> Skilled person <input checked="" type="checkbox"/> Children likely to be present
Supply Connection	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input type="checkbox"/> External Circuit - not Mains connected - <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> +____%/ -____% <input type="checkbox"/> None
Supply Connection – Type	<input checked="" type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input checked="" type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input type="checkbox"/> other:_____
Considered current rating of protective device as part of building or equipment installation.....	16 A (except 13A for UK and 20A for USA and Canada) Installation location: <input checked="" type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility.....	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input checked="" type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other: _____
Class of equipment	<input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Class II with functional earthing <input type="checkbox"/> Not classified
Access location	<input type="checkbox"/> restricted access area <input checked="" type="checkbox"/> N/A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified maxium operating ambient	25°C
IP protection class	<input type="checkbox"/> IPX0 <input checked="" type="checkbox"/> IP20__
Power Systems	<input checked="" type="checkbox"/> TN <input checked="" type="checkbox"/> TT <input type="checkbox"/> IT - ____ V L-L; <input type="checkbox"/> dc mains <input type="checkbox"/> N/A
Altitude during operation (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> ____ m or less
Altitude of test laboratory (m)	<input type="checkbox"/> 2000 m or less <input checked="" type="checkbox"/> __500__ m or less
Mass of equipment (kg)	<input checked="" type="checkbox"/> Approx. 0.17kg

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: 2022-07-11	
Date (s) of performance of tests: From 2022-07-11 to 2022-10-10	
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.	
Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	
When differences exist; they shall be identified in the General product information section.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60335-1:	
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.....:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
Name and address of factory (ies).....:	Sichuan Anthy Electronics Co., Ltd. 4/F, Building 3, Intellective Manufacturing Garden (First-stage), South of Qihe Road, Economic Development Area, 635000 Dazhou, Sichuan, PEOPLE'S REPUBLIC OF CHINA
General product information and other remarks:	
Product Description –	
1. AC ADAPTER, models AFUA04-K011, AF-045PD, AF1485305, AE-30, AE-45, AE45, AFUA04-K011A, AF-045PD-K011, AF1485305-K011, AF04-xxxxxxx, AF04-xxxxxxx-K011 (xxx, yyy are variables, see below model list for details), which designed to supply power for audio/video, information and communication technology equipment, for indoor use only.	
2. The top enclosure is sealed with bottom enclosure by ultrasonic welding.	
3. The output of these AC ADAPTER have been evaluated to comply with the requirements of limited power source (Annex Q.1).	
4. The European plug and Australian plug portions have been evaluated according to following standards: - European plug was tested according to EN 50075; - Australian plug was tested according to AS/NZS 3112.	

Model Differences –

1. All models are identical to each other except for model name, enclosure shape, output rating, plug type, output terminal and some secondary uncritical components, see below **Table I** (Enclosure difference) and **Table II** (model list) for details.
2. **Table I-Enclosure difference:**

Model	Enclosure shape	Plug type
AF04-xxxxyy, AF1485305		Fixed European plug
AFUA04-K011, AF-045PD		Fixed European plug
AE-45, AE45		Detachable European plug
AF04-xxxxyy-K011, AF1485305-K011		Fixed Australian plug

AFUA04-K011A, AF-045PD-K011		Fixed Australian plug
AE-30		Detachable European plug

3. Table II-Model list:

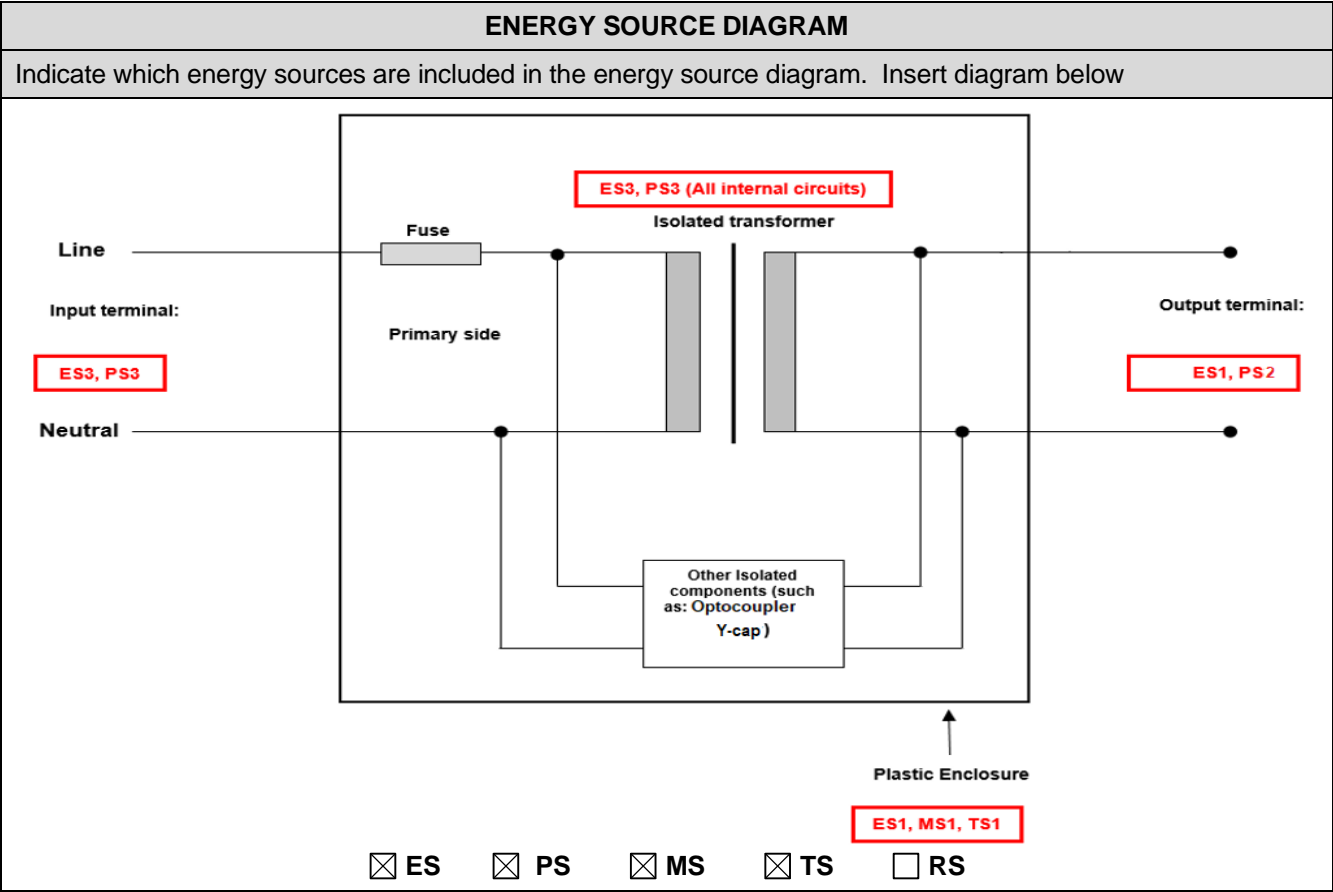
Model	Rated output voltage range (VDC)	Rated output current range (A)	Max. rated output power (W)
AF04-xxxxyy, AF04-xxxxyy-K011	14.0	0.01-3.00	42.00
	14.5	0.01-3.10	44.95
	15.0	0.01-3.00	45.00
	16.0	0.01-2.80	44.80
	18.0	0.01-2.50	45.00
	19.0	0.01-2.37	45.03
	19.5	0.01-2.31	45.05
	20.0	0.01-2.25	45.00
AF1485305, AF1485305-K011	14.85	3.05	45.29
AFUA04-K011, AFUA04-K011A	9.5	3.00	28.50
	10.0	3.00	30.00
	10.5	3.00	31.50
	11.0	3.00	33.00
	11.5	3.00	34.50
	12.0	3.00	36.00
	12.5	3.00	37.50
	13.0	3.00	39.00

		13.5	3.00	40.50
		14.0	3.00	42.00
		14.5	3.00	43.50
		15.0	3.00	45.00
		15.5	2.90	44.95
		16.0	2.80	44.80
		16.5	2.73	45.05
		17.0	2.64	44.88
		17.5	2.57	44.98
		18.0	2.50	45.00
		18.5	2.43	44.96
		19.0	2.37	45.03
		19.5	2.31	45.05
		20.0	2.25	45.00
	AF-045PD, AF-045PD-K011	5.0	3.00	15.00
		9.0	3.00	27.00
		12.0	3.00	36.00
		15.0	3.00	45.00
		18.0	2.25	40.50
		20.0	2.25	45.00
	AE-30	5.0	3.00	15.00
		9.0	3.00	27.00
		12.0	2.50	30.00
		15.0	2.00	30.00
		20.0	1.50	30.00
	AE-45	14.5	3.10	44.95
	AE45	14.85	3.05	45.29
xxx=140-200 denote rated output voltage range from 14.0VDC to 20.0VDC; yyy=001-310 denote rated output current range from 0.01A to 3.10A.				
4. Output terminal of models AFUA04-K011, AFUA04-K011A, AF-045PD, AF-045PD-K011, AE-30 should be equipped with a detachable output connector for different output voltage use, see photo documentation for details.				
5. Due to the similarity between models, the below models were selected for tests:				
Model		Performed test		
AE45, AE-45, AF04-200225		Full test		
AFUA04-K011A		Australian plug test		

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

- Clearance was evaluated for operating altitude up to 2000m above sea level.
- The maximum operating ambient temperature is 25°C.

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.)	
Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input ES1	
Source of electrical energy	Corresponding classification (ES)
Input terminal (mains plug)	ES3
Output terminal	ES1
All internal circuits (Both primary circuits and secondary circuits inside enclosure)	ES3
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): PS2	
Source of power or PIS	Corresponding classification (PS)
Input terminal (mains plug)	PS3
Output terminal	PS2
All internal circuits (Both primary circuits and secondary circuits inside enclosure)	PS3
Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component Glycol	
Source of hazardous substances	Corresponding chemical
N/A	N/A
Mechanically-caused injury (Clause 8) (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit MS2	
Source of kinetic/mechanical energy	Corresponding classification (MS)
Sharp edges and corners	MS1
Equipment mass (<7kg)	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 enclosure	TS1
Radiation (Clause 10) (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product RS1	
Type of radiation	Corresponding classification (RS)
N/A	N/A



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 person, Instructed person	ES3: Input terminal (2s after disconnected from mains)	N/A	Did not exceed ES2 limits of Table 5 under anyone bleeder resistor open-circuit condition	Bleeder resistors provided
Ordinary person, Instructed person	ES3: Internal circuits (All primary circuits inside enclosure)	N/A	N/A	Creepage and Clearance, Opto-coupler, Y-capacitor, Transformer, Plastic enclosure
Ordinary person, Instructed person	ES3: Internal circuits (Secondary circuits inside enclosure)	Separated from ES3 mains by a double safeguard or a reinforced safeguard	Touch voltage/current didn't exceed ES1 under single fault condition	N/A
Skilled person	ES3: All internal circuits (Both primary circuits and secondary circuits inside enclosure)	N/A (Unintentional contact with parts during service condition is unlikely)	N/A	N/A (Skilled safeguard)
Ordinary person, Instructed person Skilled person	ES1: Output terminal, ES1: External enclosure	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
All combustible materials within enclosure	PS3: All circuits except for output terminal	(N) and (A): 1. No ignition occurred; 2. No parts exceeding 90% of its spontaneous	Control fire spread (S): 1. min. V-1 PCB used; 2. All other components: at least V-2	N/A

		ignition temperature	except for mounted on min. V-1 material or small parts of combustible material; 3. Transformer complied with Annex G.5.3; 4. V-0 enclosure provided. 5. Internal and output wire complied with VW-1	
All combustible materials for output terminal	PS2: Output terminal*	(N) and (A): 1. No ignition occurred; 2. No parts exceeding 90% of its spontaneous ignition temperature	Control fire spread (S): 1. Internal and output wire complied with VW-1 and output terminal material rated V-1 or better	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 person, Instructed person, skilled person	MS1: Sharp edges and corners	N/A	N/A	N/A
Ordinary person, Instructed person, skilled person	MS1: Equipment mass (<7kg)	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary person, Instructed person, skilled person	TS1: External of plastic enclosure	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.
- (3) "*" means that the equipment which is intended to be connected to the output port shall also be considered.

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies		P
4.1.2	Use of components	(See appended table 4.1.2)	P
4.1.3	Equipment design and construction		P
4.1.15	Markings and instructions.....:	(See Annex F)	P
4.4.4	Safeguard robustness		P
4.4.4.2	Steady force tests.....:	(See Annex T.2, T.4)	P
4.4.4.3	Drop tests.....:	(See Annex T.7)	P
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.....:	No glass used	N/A
4.4.4.7	Thermoplastic material tests.....:	(See Annex T.8)	P
4.4.4.8	Air comprising a safeguard.....:	Considered	P
4.4.4.9	Accessibility and safeguard effectiveness	All safeguards remain effective	P
4.5	Explosion	No explosion occurs during normal operating conditions and abnormal operating conditions	P
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard	The input wire and output wire were double fixed by terminal and soldering, so that a loosen is not likely	P
4.6.2	10 N force test applied to.....:	Applied to internal components, internal wires and output wires	P
4.7	Equipment for direct insertion into mains socket - outlets		P
4.7.2	Mains plug part complies with the relevant standard.....:	See plug test report attachment	P
4.7.3	Torque (Nm).....:	European plug: For model AF04-200225: Max. 0.100Nm; For model AE45: Max. 0.102Nm; Australian plug: For model AFUA04-K011A: Max. 0.120Nm	P
4.8	Products containing coin/button cell batteries	No coin/button battery used	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Means to reduce the possibility of children removing the battery		—
4.8.4	Battery Compartment Mechanical Tests	(See Table 4.8.4)	N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object.....	No openings (See Annex P)	N/A

5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications.....	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current.....	(See appended table 5.2)	P
5.2.2.3	Capacitance limits	(See appended table 5.5.2.2)	P
5.2.2.4	Single pulse limits	No single pulse introduced	N/A
5.2.2.5	Limits for repetitive pulses	No repetitive pulses introduced	N/A
5.2.2.6	Ringling signals	No means for connection to telephone network and no ringing signal generated	N/A
5.2.2.7	Audio signals	No audio signal terminals	N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.2.1	Accessibility to electrical energy sources and safeguards		P
5.3.2.2	Contact requirements		P
	a) Test with test probe from Annex V	Checked by V.1.2 (Figure V.1) and V.1.3, cannot contact with the conductive part for ES3 voltage	P
	b) Electric strength test potential (V)		N/A
	c) Air gap (mm)	Air gap >0.2mm	P
5.3.2.4	Terminals for connecting stripped wire	No such terminals	N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Humidity conditioning	No hygroscopic insulating material used as insulation	N/A
5.4.1.4	Maximum operating temperature for insulating materials	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
5.4.1.5	Pollution degree	Pollution degree 2 considered	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.5.3	Thermal cycling		N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such transformer	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such circuit	N/A
5.4.1.8	Determination of working voltage		P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P
5.4.1.10.2	Vicat softening temperature..... :	Compliance is checked by ball pressure test	N/A
5.4.1.10.3	Ball pressure :	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage	(See appended table 5.4.2.2)	P
5.4.2.3	Determining clearance using required withstand voltage :	(See appended table 5.4.2.3)	P
	a) a.c. mains transient voltage :	Overvoltage category II, 2500V peak	—
	b) d.c. mains transient voltage :	No such transient voltage	—
	c) external circuit transient voltage :	No such transient voltage	—
	d) transient voltage determined by measurement ... :	No need to conduct this test	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	(See appended table 5.4.2.4)	N/A
5.4.2.5	Multiplication factors for clearances and test voltages :	Clearance was evaluated for altitude up to 2000m	N/A
5.4.3	Creepage distances :	(See appended table 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group :	Material group IIIb is assumed to be used	—
5.4.4	Solid insulation		P
5.4.4.2	Minimum distance through insulation :	(See appended table 5.4.4.2)	P
5.4.4.3	Insulation compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices	Complied with Annnex G.12 for optocoupler	P
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material	Insulation tape wrapped on outer of transformer (T1) used as reinforced insulation	P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Number of layers (pcs)	Min. 2 layers	P
5.4.4.6.3	Non-separable thin sheet material	No such material used	N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material	(See appended Table 5.4.9)	N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components	(See Annex G.6)	P
5.4.4.9	Solid insulation at frequencies >30 kHz	(See appended Table 5.4.4.2, 5.4.4.5 c) 5.4.4.9)	P
5.4.5	Antenna terminal insulation	Test applied between input terminal and output terminal as the client's request	P
5.4.5.1	General		P
5.4.5.2	Voltage surge test	10KV, 50 times	P
	Insulation resistance (MΩ).....	>500	—
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	Humidity conditioning for tropical conditions as the client's request	P
	Relative humidity (%).....	93% RH	—
	Temperature (°C)	40°C	—
	Duration (h)	120 h	—
5.4.9	Electric strength test	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for a solid insulation type test		P
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit	No transient voltage from external circuit	N/A
5.4.10.1	Parts and circuits separated from external circuits	(See appended table 5.4.9)	N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test	(See appended table 5.4.9)	N/A
5.4.10.2.3	Steady-state test.....	(See appended table 5.4.9)	N/A
5.4.11	Insulation between external circuits and earthed circuitry	(See appended table 5.4.9)	N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Rated operating voltage U_{op} (V).....:		—
	Nominal voltage U_{peak} (V).....:		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		P
5.5.1	General		P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement	(See appended table 4.1.2)	P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector.....:	(See appended table 5.5.2.2)	P
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	(See sub-clause 5.4 or Annex G.12)	P
5.5.5	Relays		N/A
5.5.6	Resistors	(See Annex G.10)	P
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.....:	(See Annex G.10.3)	N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors	Class II equipment	N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm ²)		—
5.6.4	Requirement for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²).		—
	Protective current rating (A)		—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Requirement		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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).....	(See appended table 5.6.6.2)	N/A
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current	Figure 4 and 5 of IEC 60990:1999 used	P
5.7.2.2	Measurement of prospective touch voltage	(See appended table 5.2)	P
5.7.3	Equipment set-up, supply connections and earth connections		P
	System of interconnected equipment (separate connections/single connection)	Single connection equipment	—
	Multiple connections to mains (one connection at a time/simultaneous connections)	Single connection to mains	—
5.7.4	Earthed conductive accessible parts	Class II equipment	N/A
5.7.5	Protective conductor current	Class II equipment	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 touch current due to external circuits	N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits	No such 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		P

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Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault :	(See appended table 6.2.2)	P
6.2.2.4	PS1 :	(See appended table 6.2.2)	P
6.2.2.5	PS2 :	(See appended table 6.2.2)	P
6.2.2.6	PS3 :	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS :	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS :	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials :	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure		N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Method of control fire spread used (Fire enclosure is used)	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		P
6.4.3.1	General		P
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions :	(See appended table B.4)	P
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits		P
6.4.5.2	Supplementary safeguards :	(See appended tables 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuit	- Parts as in 6.4.5 above; - PCB: V-0 material used; - Fire enclosure provided; - Internal and output wire complied UL 758, VW-1	P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.1	General :	(See tables 6.2.3.1 and 6.2.3.2)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers	Fire enclosure used	P
6.4.8.2	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	Enclosure material: V-0	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		N/A
6.4.8.3.1	Fire enclosure and fire barrier openings		N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm)		N/A
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm)		N/A
	Flammability tests for the bottom of a fire enclosure		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating	Fire enclosure is made of V-0 class material	P
6.5	Internal and external wiring		P
6.5.1	Requirements	Internal and output wire complied UL 758, VW-1	P
6.5.2	Cross-sectional area (mm ²)	(see appended table 4.1.2)	—
6.5.3	Requirements for interconnection to building wiring		N/A
6.6	Safeguards against fire due to connection to additional equipment		P
	External port limited to PS2 or complies with Clause Q.1	Output terminal complies with Annex Q.1	P

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		N/A
7.2	Reduction of exposure to hazardous substances	No such hazardous substances	N/A
7.3	Ozone exposure	No ozone production	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)		—

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Clause	Requirement + Test	Result - Remark	Verdict

7.6	Batteries.....:	(See Annex M)	N/A
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8	MECHANICALLY-CAUSED INJURY		P
8.1	General		P
8.2	Mechanical energy source classifications	Sharp edges and corners: MS1 classification; Equipment mass: MS1 classification	P
8.3	Safeguards against mechanical energy sources		N/A
8.4	Safeguards against parts with sharp edges and corners	Edges and corners are classified as MS1	N/A
8.4.1	Safeguards	MS1 classification	N/A
8.5	Safeguards against moving parts	No moving parts	N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard.....:		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks.....:		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard.....:		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N).....:		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test.....:		N/A
8.6	Stability	Equipment mass < 7kg and is classified as MS1	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

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Clause	Requirement + Test	Result - Remark	Verdict
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
	Position of feet or movable parts.....:		—
8.7	Equipment mounted to wall or ceiling	No wall or ceiling mounting means	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	No handle	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 attachment	N/A
8.9.1	Classification		N/A
8.9.2	Applied force		—
8.10	Carts, stands and similar carriers	No carts, stands or similar carriers	N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard.....:		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)		—
8.10.6	Thermoplastic temperature stability (°C).....:		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i>		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas.....	(See Annex T)	N/A
	Button/Ball diameter (mm)		—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications	External enclosure: TS1	P

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Clause	Requirement + Test	Result - Remark	Verdict
9.3	Safeguard against thermal energy sources		P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard		P
9.4.2	Instructional safeguard	Instructional safeguard is not required	N/A


10	RADIATION		N/A
10.2	Radiation energy source classification		N/A
10.2.1	General classification		N/A
10.3	Protection against laser radiation	No laser radiation	N/A
	Laser radiation that exists in the equipment:		—
	Normal, abnormal, single-fault..... :		N/A
	Instructional safeguard		—
	Tool..... :		—
10.4	Protection against visible, infrared, and UV radiation	No 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	(See appended table B.3 & B.4)	N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque..... :		N/A
10.4.1.f)	UV attenuation..... :		N/A
10.4.1.g)	Materials resistant to degradation UV		N/A
10.4.1.h)	Enclosure containment of optical radiation..... :		N/A
10.4.1.i)	Exempt Group under normal operating conditions..... :		N/A
10.4.2	Instructional safeguard		N/A
10.5	Protection against x-radiation		N/A
10.5.1	X- radiation energy source that exists equipment :	(See appended table B.3 & B.4)	N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards..... :		N/A
	Instructional safeguard for skilled person..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.5.3	Most unfavourable supply voltage to give maximum radiation		—
	Abnormal and single-fault condition	(See appended table B.3 & B.4)	N/A
	Maximum radiation (pA/kg).....		N/A
10.6	Protection against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)		N/A
	Output voltage, unweighted r.m.s.....		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards		N/A
	Equipment safeguard prevent ordinary person to RS2.....		—
	Means to actively inform user of increase sound pressure.....		—
	Equipment safeguard prevent ordinary person to RS2.....		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analogue input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output.....		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)		—

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements.....	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers	(See Annex E)	N/A
B.2.3	Supply voltage and tolerances	+10 % and -10 % for AC mains	P
B.2.5	Input test.....	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.1	General requirements..... :	(See appended table B.3)	P
B.3.2	Covering of ventilation openings	No ventilation openings	N/A
B.3.3	D.C. mains polarity test	A.C. mains supply only	N/A
B.3.4	Setting of voltage selector :	No such voltage selector	N/A
B.3.5	Maximum load at output terminals :	(See appended table B.3)	P
B.3.6	Reverse battery polarity	No batteries used	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	No audio amplifiers	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	During an abnormal operating condition that does not lead to a single fault condition, all safeguards are remained effective. After restoration of normal operating conditions, all safeguards are compliance with applicable requirements	P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited :	No such controlling device	N/A
B.4.3	Motor tests	No motors	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		P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards	N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components	Not intermittent or short-time operation equipment	N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions	During and after a single fault condition, a class 1 or class 2 energy sources did not become a class 3 energy source. For a class 3 energy source, during and after a single fault condition, at least one safeguard continued to comply with the relevant safeguard requirements.	P
B.4.9	Battery charging under single fault conditions ... :	No batteries used	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
D	TEST GENERATORS		P
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		P
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V)		—
	Rated load impedance (Ω)		—
E.2	Audio amplifier abnormal operating conditions		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements		P
	Instructions – Language	English checked	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Located on the external enclosure surface	P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification	See copy of marking plate for details	—
F.3.2.2	Model identification	See copy of marking plate for details	—
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.3.3	Nature of supply voltage.....:	~	—
F.3.3.4	Rated voltage	100-240V	—
F.3.3.5	Rated frequency	50-60Hz	—
F.3.3.6	Rated current or rated power	1.5A	—
F.3.3.7	Equipment with multiple supply connections	Single supply connection	N/A
F.3.4	Voltage setting device	No such device	N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings	No appliance-outlet or socket-outlet used	N/A
F.3.5.2	Switch position identification marking		N/A
F.3.5.3	Replacement fuse identification and rating markings	The current fuse is located within the equipment and not replaceable by an ordinary person or an instructed person. The current fuse is anyway marked PCB near the F1 with "T2A/250V"	N/A
F.3.5.4	Replacement battery identification marking	No replacement battery	N/A
F.3.5.5	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I Equipment	Class II equipment	N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)		P
F.3.6.2.1	Class II equipment with or without functional earth		P
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking	IP20, no marking is needed	—
F.3.8	External power supply output marking	See copy of marking plate	P
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings		P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking		N/A
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	d) Equipment intended for use only in restricted access area	Not intended for used only in restricted access area	N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1	No such terminal	N/A
	f) Protective earthing employed as safeguard	Class II equipment	N/A
	g) Protective earthing conductor current exceeding ES 2 limits		N/A
	h) Symbols used on equipment		P
	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 such components	N/A
F.5	Instructional safeguards		P
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction		P
G	COMPONENTS		P
G.1	Switches		N/A
G.1.1	General requirements	No switches used	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	Relays		N/A
G.2.1	General requirements	No relays 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		P
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 links used	N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H) :		—
	Single Fault Condition :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Test Voltage (V) and Insulation Resistance (Ω):		—
G.3.3	PTC Thermistors	No PTC thermistor used	N/A
G.3.4	Overcurrent protection devices	Approved current fuse used	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....:		N/A
G.4	Connectors		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration	Mains plug used within their ratings considered acceptable without further evaluation	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	Mismating of output connectors to mains plugs or sockets are impossible	P
G.5	Wound Components		P
G.5.1	Wire insulation in wound components.....	Approved source of triple insulated wire used as secondary winding for reinforced insulation (See Annex J)	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Physical separation provided by tubing	P
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).....	Comply with the requirements as below	P
	Position.....	T1	—
	Method of protection	See G.5.3.3	—
G.5.3.2	Insulation	(See appended table 5.4.9)	P
	Protection from displacement of windings.....	Fixed by bobbin and insulation tape	—
G.5.3.3	Overload test	(See appended table B.3)	P
G.5.3.3.1	Test conditions		P

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.3.3.2	Winding Temperatures testing in the unit	Maximum temperatures of windings did not exceed the limits given in Table G.3. During and after the test, the transformer did not emit flames or molten metal.	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 motor	N/A
	Position		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V)		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		P
G.6.1	General	Approved source of triple insulated wire used as secondary winding for reinforced insulation	P
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	General requirements	No mains supply cords	N/A
	Type.....:		—
	Rated current (A)		—
	Cross-sectional area (mm ²), (AWG)..... :		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm).....:		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry	(See appended table 5.4.11.1)	N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g)		—
	Diameter (m)		—
	Temperature (°C)		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		N/A
G.8.1	General requirements		N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test		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 IC 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

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Clause	Requirement + Test	Result - Remark	Verdict
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	Resistors		P
G.10.1	General requirements	(See appended table 4.1.2)	P
G.10.2	Resistor test		P
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		P
G.11.1	General requirements		P
G.11.2	Conditioning of capacitors and RC units	Approved X2 type capacitor (CX1) across between Line and Neutral conductor; Approved one Y1 type capacitor (CY1) across between primary and secondary circuits. (See appended table 4.1.2)	P
G.11.3	Rules for selecting capacitors		P
G.12	Optocouplers		P
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results)	Approved optocoupler (U3) used (See appended table 4.1.2)	P
	Type test voltage Vini	Min. 4000VDC	—
	Routine test voltage, Vini,b	Min. 4000VDC	—
G.13	Printed boards		P
G.13.1	General requirements	(See appended table 4.1.2)	P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards	No coated printed boards used	N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction)	No such insulation construction	—
G.13.5	Insulation between conductors on different surfaces	No such insulation construction	N/A
	Distance through insulation	(See appended table 5.4.4.5)	N/A
	Number of insulation layers (pcs)		—

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Clause	Requirement + Test	Result - Remark	Verdict
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements :	(See G.13)	N/A
G.15	Liquid filled components		N/A
G.15.1	General requirements		N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
a)	Humidity treatment in accordance with sc 5.4.8 – 120 hours	No ICX 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 :		—
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 signals produce	N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringling signal		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):.....		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)		—
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		P
	General requirements	Approved triple insulated wires complied with Annex U of IEC 62368-1	P
K	SAFETY INTERLOCKS		N/A
K.1	General requirements	No safety interlocks	N/A
K.2	Components of safety interlock safeguard mechanism	(See Annex G)	N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance	(See appended table B.4)	N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location)		N/A
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test	(See appended table 5.4.9)	N/A
L	DISCONNECT DEVICES		P
L.1	General requirements	The mains plug used as disconnect device	P
L.2	Permanently connected equipment	Not such equipment	N/A
L.3	Parts that remain energized	No parts remain energized after the mains plug disconnected	N/A
L.4	Single phase equipment	The mains plug disconnect both poles simultaneously	P

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Clause	Requirement + Test	Result - Remark	Verdict
L.5	Three-phase equipment	Single phase equipment	N/A
L.6	Switches as disconnect devices	No switches used as disconnect devices	N/A
L.7	Plugs as disconnect devices	Direct plug-in equipment	N/A
L.8	Multiple power sources	Single power source	N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements	No batteries 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	(See appended Tables and Annex M.3 and M.4)	N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature	(See Annex M.4)	—
M.4.2.2 b)	Single faults in charging circuitry	(See Annex B.4)	—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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 (m ³ /s).....		—
M.8.2.3	Correction factors.....		—
M.8.2.4	Calculation of distance d (mm)		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing)		N/A
N	ELECTROCHEMICAL POTENTIALS		N/A
	Metal(s) used	Pollution degree considered	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Figures O.1 to O.20 of this Annex applied	Considered	—
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

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Clause	Requirement + Test	Result - Remark	Verdict
	Location and Dimensions (mm)	No opening	—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard)		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C)		—
	Tr (°C)		—
	Ta (°C)		—
P.4.2 b)	Abrasion testing	(See G.13.6.2)	N/A
P.4.2 c)	Mechanical strength testing	(See Annex T)	N/A
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources		P
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition	(See appended table Annex Q.1)	P
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method	(See appended table Annex Q.1)	P
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A)		—
	Current limiting method		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)). :		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material :		—
	Wall thickness (mm) :		—
	Conditioning (°C) :		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material :		—
	Wall thickness (mm) :		—
	Conditioning (°C) :		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material :		—
	Wall thickness (mm) :		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosure materials of equipment with a steady-state power exceeding 4000 W		N/A
	Samples, material :		—
	Wall thickness (mm) :		—
	Conditioning (test condition), (°C) :		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A
T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements		P
T.2	Steady force test, 10 N	(See appended table T.2)	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N	(See appended table T.4)	P
T.5	Steady force test, 250 N	(See appended table T.5)	N/A
T.6	Enclosure impact test	(See appended table T.6)	N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test	(See appended table T.7)	P
T.8	Stress relief test	(See appended table T.8)	P
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J)		—
	Height (m)		—
T.10	Glass fragmentation test	(See sub-clause 4.4.4.9)	N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		—
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General requirements		N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....	(See Annex T)	N/A
V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		P
V.1	Accessible parts of equipment		P
V.2	Accessible part criterion		P

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Clause	Requirement + Test		Result - Remark		Verdict	
4.1.2	TABLE: List of critical components					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹	
Plastic enclosure	SABIC INNOVATIVE PLASTICS US L L C	945(GG)	V-0, 120°C, min. 1.5 mm thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance	
Plug holder & pin sleeving	SABIC INNOVATIVE PLASTICS US L L C	945(GG)	V-0, 120°C	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance	
Connector of interchangeable plug (used for model AE-30, AE-45, AE45)	Shenzhen Anthy Electronics Co., Ltd.	DOCZ00010	2.5A, 250VAC	IEC/EN IEC 60320-1 IEC/EN 62368-1	TÜV SÜD Tested with appliance	
All internal insulation sheet	Sabic Japan L L C	FR60 (GG1)	V-0, 130°C, min. 0.4mm thickness	UL94, IEC/EN 62368-1	UL, Tested with appliance	
Insulation tape (Cover shield and insulating sheet)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ* (b)	Min. 130°C	UL 510A IEC/EN 62368-1	UL, Tested with appliance	
PCB	Dong Guan Ling Nian Electronics co Ltd	LN-1, LN-2	V-0, 130°C	UL 796, UL94	UL	
(Alternative)	Interchangeable	Interchangeable	V-0, 130°C	UL 796, UL94	UL	
Primary lead wire	SHENZHEN BENDA ELECTRICIAN MATERIAL CO LTD	1007	VW-1, 300V, min. 22AWG, 80°C	UL 758	UL	
(Alternative)	DONGGUAN TAIXIN WIRE CO LTD	1007	VW-1, 300V, min. 22AWG, 80°C	UL 758	UL	
(Alternative)	DONGGUAN DANYANG ELECTRONIC WIRE CO LTD	1007	VW-1, 300V, min. 22AWG, 80°C	UL 758	UL	
(Alternative)	Shenzhen Jinhongyu Electricity Industry Technology Co Ltd	1007	VW-1, 300V, min. 22AWG, 80°C	UL 758	UL	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	DONGGUAN TRIUMPHCABLE CO LTD	1007	VW-1, 300V, min. 22AWG, 80°C	UL 758	UL
(Alternative)	Interchangeable	Interchangeable	VW-1, 300V, min. 22AWG, 80°C	UL 758	UL
Fuse (F1)	Dongguan LUOYI Electronics Technology Co., Ltd.	SAT	T2A, 250VAC	IEC/EN 60127-1, IEC/EN 60127-3, UL 248-1, UL 248-14	VDE, UL
(Alternative)	DONGGUAN ANLU ELECTRONICS TECHNOLOGY CO LTD	AMT	T2A, 250VAC	IEC/EN 60127-1, IEC/EN 60127-3, UL 248-1, UL 248-14	VDE, UL
(Alternative)	DONGGUAN CHEVRON ELECTRONIC TECHNOLOGY CO LTD	SET	T2A, 250VAC	IEC/EN 60127-1, IEC/EN 60127-3, UL 248-1, UL 248-14	VDE, UL
(Alternative)	SHENZHEN LANSON ELECTRONICS CO LTD	SMT	T2A, 250VAC	IEC/EN 60127-1, IEC/EN 60127-3, UL 248-1, UL 248-14	VDE, UL
X-capacitor (CX1)	SHANTOU XIN HUA XIONG ELECTRONICS INDUSTRY CO LTD	MKP	Max. 0.47uF, 275VAC, 110°C; X2 type	IEC/EN/UL 60384-14	VDE, UL
(Alternative)	SHANTOU XINYIN ELECTRONICS TECHNOLOGY CO LTD	MPX	Max. 0.47uF, 275VAC, 110°C; X2 type	IEC/EN/UL 60384-14	VDE, UL
(Alternative)	SHENZHEN RUIDIWEI TECHNOLOGY CO LTD	MKP	Max. 0.47uF, 275VAC, 110°C; X2 type	IEC/EN/UL 60384-14	VDE, UL
(Alternative)	DONG GUAN AJC INDUSTRIAL CO LTD	MPX/MKP	Max. 0.47uF, 275VAC, 110°C; X2 type	IEC/EN/UL 60384-14	VDE, UL
Bleeder resistor (R1, R2)	Yageo Corporation	RV1206	Each 1M ohm, 1/4W	IEC 62368-1(ed.2)	UL (Demko)
Line Choke (LF1)	SHENZHEN CHENG PENG ELECTRONICS CO., LTD	YY-SQ1212	130°C	IEC/EN 62368-1	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Dongguan mingchu electronics co., ltd	YY-SQ1212	130°C	IEC/EN 62368-1	Tested with appliance
(Alternative)	Shenzhen lucky Tengda Electronics Co., Ltd	YY-SQ1212	130°C	IEC/EN 62368-1	Tested with appliance
- Bobbin	CHANG CHUN PLASTICS CO LTD	T375HF	Phenolic, V-0, 150°C	UL 94	UL
- Magnet wire	DONG GUAN YIDA INDUSTRIAL CO LTD	xUEW/180, QA-x/180	180°C	UL 1446	UL
(Alternative)	TA YU ENTERPRISE CO LTD	UEW-H	180°C	UL 1446	UL
(Alternative)	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL
Y-capacitor (CY1)	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd.	CD (For UL), CD-Series (For VDE)	Max. 1000pF, min. 250VAC, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE, UL
(Alternative)	Guangdong South Hongming Electronic Science and Technology Co., Ltd.	F	Max. 1000pF, min. 250VAC, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE, UL
(Alternative)	Jyh Chung Electronic Co., Ltd.	JD	Max. 1000pF, min. 250VAC, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE, UL
(Alternative)	JYH HSU (JEC) ELECTRONICS LTD	JD Series (For UL), JD (For VDE)	Max. 1000pF, min. 250VAC, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE, UL
(Alternative)	DONG GUAN AJC INDUSTRIAL CO LTD	JT (For UL), JT Series (For VDE)	Max. 1000pF, min. 250VAC, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE, UL
(Alternative)	SHANTOU JINGTIAN ELECTRONICS CO LTD	CD	Max. 1000pF, min. 250VAC, 125°C, Y1 type	IEC/EN/UL 60384-14	VDE, UL
Opto-coupler (U3)	FUJIAN LIGHTNING OPTOELECTRONIC CO.,LTD	TD1010	Reinforced insulation, Dti≥0.4mm, Ext. Cr≥8.0mm, Ext. Cl≥8.0mm, 110°C	IEC/EN/UL 60747-5-5	VDE, UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Shenzhen Orient Components Co. Ltd.	OR1009	Reinforced insulation, Dti≥0.4mm, Ext. Cr≥8.0mm, Ext. Cl≥8.0mm, 110°C	IEC/EN/UL 60747-5-5	VDE, UL
(Alternative)	Everlight Electronics Co Ltd	EL1019	Reinforced insulation, Dti≥0.4 mm, Ext. Cr≥8.0mm, Ext. Cl≥8.0mm, 110°C	IEC/EN/UL 60747-5-5	VDE, UL
(Alternative)	Bright Led Electronics Corp	BPC-1009	Reinforced insulation, Dti≥0.4mm, Ext. Cr≥8.0mm, Ext. Cl≥8.0mm, 110°C	IEC/EN/UL 60747-5-5	VDE, UL
Transformer (T1)	SHENZHENSHI XINDAHUI ELECTRONICS CO LTD	BYRM101485A	Class B	IEC/EN 62368-1	Tested with appliance
-Insulation System of T1	SHENZHENSHI XINDAHUI ELECTRONICS CO LTD	CCP-130-1	Class B	UL 1446	UL
-Bobbin	SUMITOMO BAKELITE CO LTD	PM-8375	Phenolic, V-0, 150°C, min. 0.71mm thickness	UL 94	UL
-Magnet wire	DONG GUAN YIDA INDUSTRIAL CO LTD	xUEW/130, QA-x/130	130°C	UL 1446	UL
(Alternative)	Interchangeable	MW28, MW75	Min. 130°C	UL 1446	UL
-Triple insulated wire	Furukawa Electric Co., Ltd.	TEX-E	130°C	IEC/EN 62368-1, UL 2353	VDE, UL
-Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ* (b)	Min. 130°C	UL 510A	UL
-Tubing	GREAT HOLDING INDUSTRIAL CO LTD	TFT, TFS	200°C, VW-1, min. 300VAC	UL 224	UL
-Varnish	John C Dolph Co	BB-348	Min. 130°C	UL 1446	UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Output wire	Shenzhen Levitek Electronics Co Ltd	1015	VW-1, 300V, min. 24AWG, 105°C	UL 758	UL
(Alternative)	Dongguan Danyang Electronic Wire Co Ltd	1015, 3135	VW-1, 300V, min. 24AWG, 105°C	UL 758	UL
(Alternative)	Dongguan Winwin Electronics Co Ltd	1015	VW-1, 300V, min. 24AWG, 105°C	UL 758	UL
(Alternative)	Interchangeable	Interchangeable	VW-1, 300V, min. 24AWG, min. 80°C	UL 758	UL
Plastic of output terminal	SABIC INNOVATIVE PLASTICS US L L C	945(GG)	V-0, 120°C	UL 94	UL
(Alternative)	Interchangeable	Interchangeable	Min. V-1 or better material	UL 94	UL
Supplementary information: Provided evidence ensures the agreed level of compliance. See OD-CB2039. License available upon request.					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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)
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	
		10	
4.8.4.4	TABLE: Drop test		—
	Impact Area	Drop Distance	Drop No.
			1
			2
			3
4.8.4.5	TABLE: Impact		—
	Impacts per surface	Surface tested	Impact energy (Nm)
4.8.4.6	TABLE: Crush test		—
	Test position	Surface tested	Crushing Force (N)
			Duration force applied (s)
Supplementary information:			

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.5	TABLE: Lithium coin/button cell batteries mechanical test result		N/A
Test position	Surface tested	Force (N)	Duration force applied (s)
Supplementary information:			

5.2		Table: Classification of electrical energy sources					P
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
Model: AF04-200225 (with output 20VDC, 2.25A)							
1	264Va.c. 60Hz	All primary circuits	Normal	--	--	--	ES3 (declared)
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
2	264Va.c. 60Hz	Transformer T1 secondary pin A – B	Normal	60.8Vpeak	--	62.5k	ES1
			Abnormal – Overload	--	--	--	
			Single fault – SC: U3 pin 1-2	0	--	--	
			Single fault – SC: U3 pin 3-4	0	--	--	
			Single fault – OC: U3 pin 1	0	--	--	
			Single fault – OC: U3 pin 3	0	--	--	
			Single fault – SC: RS1	0	--	--	
			Single fault – SC: Q2 pin 2-3	0	--	--	
3	264Va.c. 60Hz	Output “+” to “-”	Normal	20.40Vd. c.	--	DC	ES1
			Abnormal – Overload	20.40Vd. c.	--	DC	
			Single fault – SC: U3 pin 1-2	0	--	--	
			Single fault – SC: U3 pin 3-4	0	--	--	
			Single fault – OC: U3 pin 1	0	--	--	

IEC 62368-1							
Clause		Requirement + Test		Result - Remark			Verdict
			Single fault – OC: U3 pin 3	0	--	--	
			Single fault – SC: RS1	0	--	--	
			Single fault – SC: Q2 pin 2-3	0	--	--	
4	264Va.c. 60Hz	Output “+/-” to earth	Normal	--	0.16mA peak (#)	60	ES1
			Abnormal – Overload	--	0.16mA peak (#)	60	
			Single fault – SC: U3 pin 1-2	--	0.16mA peak (#)	60	
			Single fault – SC: U3 pin 3-4	--	0.16mA peak (#)	60	
			Single fault – OC: U3 pin 1	--	0.16mA peak (#)	60	
			Single fault – OC: U3 pin 3	--	0.16mA peak (#)	60	
			Single fault – SC: RS1	--	0.18mA peak (#)	60	
			Single fault – SC: Q2 pin 2-3	--	0.16mA peak (#)	60	
			Single fault – Fuse open*	--	0.18mA peak (#)	60	
5	264Va.c. 60Hz	Accessible enclosure with metal foil to earth	Normal	--	0.04mA peak (#)	60	ES1
			Abnormal – Overload	--	0.04mA peak (#)	60	
			Single fault – SC: U3 pin 1-2	--	0.04mA peak (#)	60	
			Single fault – SC: U3 pin 3-4	--	0.04mA peak (#)	60	
			Single fault – OC: U3 pin 1	--	0.04mA peak (#)	60	
			Single fault – OC: U3 pin 3	--	0.04mA peak (#)	60	
			Single fault – SC: RS1	--	0.04mA peak (#)	60	
			Single fault – SC: Q2 pin 2-3	--	0.04mA peak (#)	60	
			Single fault – Fuse open*	--	0.04mA peak (#)	60	
Model: AE-45 (with output 14.5VDC, 3.10A)							
1	264Va.c. 60Hz	All primary circuits	Normal	--	--	--	ES3 (declared)
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

IEC 62368-1							
Clause		Requirement + Test			Result - Remark		Verdict
2	264Va.c. 60Hz	Transformer T1 secondary pin A – B	Normal	56.8Vpeak	--	62.5k	ES1
			Abnormal – Overload	--	--	--	
			Single fault – SC: U3 pin 1-2	0	--	--	
			Single fault – SC: U3 pin 3-4	0	--	--	
			Single fault – OC: U3 pin 1	0	--	--	
			Single fault – OC: U3 pin 3	0	--	--	
			Single fault – SC: RS1	0	--	--	
			Single fault – SC: Q2 pin 2-3	0	--	--	
3	264Va.c. 60Hz	Output “+” to “-”	Normal	14.97Vd. c.	--	DC	ES1
			Abnormal – Overload	14.97Vd. c.	--	DC	
			Single fault – SC: U3 pin 1-2	0	--	--	
			Single fault – SC: U3 pin 3-4	0	--	--	
			Single fault – OC: U3 pin 1	0	--	--	
			Single fault – OC: U3 pin 3	0	--	--	
			Single fault – SC: RS1	0	--	--	
			Single fault – SC: Q2 pin 2-3	0	--	--	
Model: AE45 (with output 14.85VDC, 3.05A)							
1	264Va.c. 60Hz	All primary circuits	Normal	--	--	--	ES3 (declared)
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
2	264Va.c. 60Hz	Transformer T1 secondary pin A – B	Normal	56.8Vpeak	--	62.5k	ES1
			Abnormal – Overload	--	--	--	
			Single fault – SC: U3 pin 1-2	0	--	--	
			Single fault – SC: U3 pin 3-4	0	--	--	
			Single fault – OC: U3 pin 1	0	--	--	
			Single fault – OC: U3 pin 3	0	--	--	

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

3	264Va.c. 60Hz	Output "+" to "-"	Single fault – SC: RS1	0	--	--	ES1
			Single fault – SC: Q2 pin 2-3	0	--	--	
			Normal	15.09Vd. c.	--	DC	
			Abnormal – Overload	15.09Vd. c.	--	DC	
			Single fault – SC: U3 pin 1-2	0	--	--	
			Single fault – SC: U3 pin 3-4	0	--	--	
			Single fault – OC: U3 pin 1	0	--	--	
			Single fault – OC: U3 pin 3	0	--	--	
			Single fault – SC: RS1	0	--	--	
			Single fault – SC: Q2 pin 2-3	0	--	--	

Supplementary information:

- SC - Short-circuited; OC - Open-circuited.

- #: Current (U_2 / 500 peak value) is measured using the measuring network specified in Figure 4, IEC 60990:1999.

- @: Current (U_3 / 500 peak value) is measured using the measuring network specified in Figure 5, IEC 60990:1999.

- *: Refer to table B.4 for details of fuse open condition.

- The no-load output voltage was not increase by more than 10% of its no-load output voltage in normal use during and after the fault tests.

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
1	264Va.c. 60Hz	Input terminal (Primary input filter circuit)	Normal	CX1=470nF±20%	368	ES3
			Abnormal	--	--	
			Single fault – SC/OC	--	--	

5.2.2.4 - Single Pulses

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

IEC 62368-1							
Clause		Requirement + Test			Result - Remark		Verdict
			Single fault – SC/OC	--	--	--	
5.2.2.5 - Repetitive Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
Test Conditions: Normal – Abnormal - Supplementary information: SC=Short Circuit, OC=Open Circuit							
Supplementary information: SC=Short-circuited, OC=Open-circuited. Current is measured using the measuring network specified in Figure 5, IEC 60990:1999. Output terminal does not exceed ES1 limits, and the maximum output voltage did not increase by more than 3V or 10% of rated output voltage.							

IEC 62368-1						
Clause	Requirement + Test		Result - Remark			Verdict
5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P
	Supply voltage (V)	90VAC, 60Hz Horizontal	90VAC, 60Hz Vertical	264VAC, 50Hz Vertical	264VAC, 50Hz Horizontal	—
	Ambient T _{min} (°C)	25.0	25.0	25.0	25.0	—
	Ambient T _{max} (°C)	25.0	25.0	25.0	25.0	—
	T _{ma} (°C)	25.0	25.0	25.0	25.0	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T _{max} (°C)
Model: AE-45 (with output 14.5VDC, 3.10A)						
Plug holder (outside)		48.8	56.2	43.5	39.0	77#
Plug holder (inside)		59.9	71.0	51.9	45.2	Annex T.8
Primary lead wire		61.8	69.7	50.5	45.9	80
CX1 body		81.1	88.3	58.4	54.3	110
LF1 winding		82.1	93.8	63.3	56.7	130
PCB near BD1		107.2	115.7	76.1	70.6	130
PCB near Q1		107.9	116.9	76.2	71.4	130
CE1 body		86.3	93.0	63.2	59.7	105
CE4 body		83.0	94.8	63.8	57.2	105
C9 body		83.6	95.5	64.2	57.5	105
T1 coil		98.3	105.5	83.2	78.4	110
T1 core		94.2	101.0	80.0	75.5	110
CY1 body		85.5	87.9	66.9	64.9	125
PCB near Q2		91.3	100.0	80.1	74.4	130
CE7 body		80.9	86.2	71.2	67.5	105
U3 body		88.1	95.8	73.1	68.0	110
Output wire (inside)		70.7	77.1	60.3	56.1	80
Output wire (outside)		54.6	58.6	48.2	45.5	77#
Enclosure inside near T1		73.8	80.7	62.7	58.1	Annex T.8
Enclosure outside near T1		63.9	69.3	55.2	51.6	77#
Ambient		25.0	25.0	25.0	25.0	--
Model: AF04-200225 (with output 20.0VDC, 2.25A)						
Plug holder (outside)		32.9	35.9	32.3	33.8	77#
Plug holder (inside)		41.2	47.7	39.7	43.2	Annex T.8

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Primary lead wire	44.2	48.9	40.6	42.4	80
CX1 body	66.5	80.9	55.5	56.8	110
LF1 winding	67.4	82.1	56.1	57.5	130
PCB near BD1	107.7	111.2	72.5	74.4	130
PCB near Q1	90.7	94.3	62.7	64.6	130
CE1 body	84.0	85.0	61.3	62.7	105
CE4 body	89.4	88.1	66.6	68.7	105
C9 body	89.4	88.1	66.6	68.7	105
T1 coil	95.5	95.2	77.0	78.7	110
T1 core	91.3	91.0	73.9	75.5	110
CY1 body	79.7	76.4	59.4	61.8	125
PCB near Q2	81.4	77.4	65.0	66.6	130
CE7 body	83.2	83.2	65.4	67.5	105
U3 body	80.4	78.0	65.9	68.6	110
Output wire (inside)	75.3	73.8	59.5	62.7	80
Output wire (outside)	57.5	57.3	47.5	50.0	77#
Enclosure inside near T1	62.1	61.9	50.6	53.5	Annex T.8
Enclosure outside near T1	51.5	54.1	45.3	48.2	77#
Ambient	25.0	25.0	25.0	25.0	--
Model: AE45 (with output 14.85VDC, 3.05A)					
Plug holder (outside)	48.1	55.4	42.9	38.4	77#
Plug holder (inside)	59.0	70.0	51.2	44.5	Annex T.8
Primary lead wire	60.9	68.7	49.8	45.2	80
CX1 body	79.9	87.0	57.6	53.5	110
LF1 winding	80.9	92.5	62.4	55.9	130
PCB near BD1	105.7	114.0	75.0	69.6	130
PCB near Q1	106.3	115.2	75.1	70.4	130
CE1 body	85.1	91.7	62.3	58.8	105
CE4 body	81.8	93.4	62.9	56.4	105
C9 body	82.4	94.1	63.3	56.7	105
T1 coil	96.9	104.0	82.0	77.3	110
T1 core	92.8	99.5	78.8	74.4	110
CY1 body	84.3	86.6	65.9	64.0	125
PCB near Q2	90.0	98.6	78.9	73.3	130
CE7 body	79.7	85.0	70.2	66.5	105

IEC 62368-1							
Clause	Requirement + Test		Result - Remark		Verdict		
U3 body	86.8	94.4	72.0	67.0	110		
Output wire (inside)	69.7	76.0	59.4	55.3	80		
Output wire (outside)	53.8	57.8	47.5	44.8	77#		
Enclosure inside near T1	72.7	79.5	61.8	57.3	Annex T.8		
Enclosure outside near T1	63.0	68.3	54.4	50.9	77#		
Ambient	25.0	25.0	25.0	25.0	--		
Supplementary information:							
- Thermal coupler method used for above temperature tests.							
- The maximum ambient temperature is 25°C.							
-#: External surfaces touched occasionally for very short periods: 1s<t<10s.							
- Horizontal means the adaptor is plugged into horizontal socket-outlet; Vertical means the adaptor is plugged into vertical wall socket-outlet.							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
Supplementary information:							

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

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics			P	
Allowed impression diameter (mm) :				≤ 2 mm	—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)		Impression diameter (mm)	
Plug holder & Enclosure / Type: 945(GG)	Sabic Innovative Plastics US L L C	125		1.1	
Supplementary information:					

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz)	Required* cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
For all models							
L to N before F1 (BI)	<420	240	0.06	1.27	2.6	2.4	2.6
Across F1 (BI)	<420	240	0.06	1.27	2.6	2.4	2.6
L to primary PCB trace after fuse F1 (FI)	<420	240	0.06	1.27	3.1	2.4	3.1
Primary trace to secondary trace under CY1 (RI)	<420	240	0.06	2.54	5.9	4.8	5.9
Primary trace to secondary trace under U3 (RI)	<420	240	0.06	2.54	6.9	4.8	6.9
Primary trace to secondary trace under T1 (RI)	508	292	62.5	2.54	11.0	6.0	11.0
T1: core to secondary heat sink (RI)	508	292	62.5	2.54	6.2	6.0	6.2
T1: core to secondary component EC7, EC8 (RI)	508	292	62.5	2.54	8.0	6.0	8.0
T1: secondary trace to primary component R11 (RI)	508	292	62.5	2.54	8.0	6.0	8.0
T1: core to secondary pin (RI)	508	292	62.5	2.54	20.0	6.0	20.0
T1: primary coil to secondary pin (RI)	508	292	62.5	2.54	20.0	6.0	20.0
Primary component C9 to CY1 secondary trace (RI)	<420	240	0.06	2.54	6.0	4.8	6.0
Metal shield to primary heat sink (BI)	<420	240	0.06	1.27	5.4	2.4	5.4
Metal shield to Primary PCB trace (BI)	<420	240	0.06	1.27	4.2	2.4	4.2
Metal shield to secondary component CE7 (BI)	<420	240	0.06	1.27	3.5	2.4	3.5
Metal shield to secondary heat sink (BI)	<420	240	0.06	1.27	3.5	2.4	3.5
For models: AE-30, AE-45, AE45							
Live parts of detachable plug to accessible parts (RI)	<420	240	0.06	2.54	5.3	4.8	5.3
Primary components to plastic enclosure outside accessible parts (RI)	<420	240	0.06	2.54	7.1	4.8	7.1

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Clause	Requirement + Test			Result - Remark			Verdict
Primary heat sink to plastic enclosure accessible parts (RI)	<420	240	0.06	2.54	7.1	4.8	7.1
Primary PCB trace to plastic enclosure accessible parts (RI)	<420	240	0.06	2.54	8.0	4.8	8.0
For models: AF04-xxxxyy-K011, AFUA04-K011A, AF-045PD-K011, AF1485305-K011, AF04-xxxxyy, AFUA04-K011, AF-045PD, AF1485305							
Primary components to plastic enclosure outside accessible parts (RI)	<420	240	0.06	2.54	7.1	4.8	7.1
Primary heat sink to plastic enclosure accessible parts (RI)	<420	240	0.06	2.54	7.1	4.8	7.1
Supplementary information:							
<p>Note 1: Only for frequency above 30 kHz;</p> <p>Note 2: See table 5.4.2.4 if this is based on electric strength test;</p> <p>Note 3: Provide Material Group IIIb;</p> <p>Note 4: BI: basic insulation; SI: supplementary insulation; DI: double insulation; RI: reinforced insulation;</p> <p>Note 5: Ferrite core of transformer T1 considered as primary live part;</p> <p>Note 6: If no specified, the worst conditions were recorded;</p> <p>Note 7: * Both frequencies lower than 30 kHz and higher than 30 kHz are present. Limit from Table 11 based on the temporary overvoltage (2000Vpeak) which is higher than Table 12.</p>							

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage			P
	Overvoltage Category (OV):			II
	Pollution Degree:			2
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measured cl (mm)
Same as table 5.4.2.2, 5.4.2.4 and 5.4.3		2500V _{peak}	1.5 for BI/SI 3.0 for RI	Same as table 5.4.2.2, 5.4.2.4 and 5.4.3
Supplementary information:				
Supplementary information:				
Note 1: BI: basic insulation; SI: supplementary insulation; DI: double insulation; RI: reinforced insulation.				

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:				

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Clause	Requirement + Test			Result - Remark	Verdict
5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements				P
Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)
Plastic enclosure (RI)	508	62.5	See appended table 4.1.2	0.4	Min. 1.5
Opto-coupler (U3) (RI)	<420	0.06	See appended table 4.1.2	0.4	Min. 0.4
All internal insulation sheet (RI)	508	62.5	See appended table 4.1.2	0.4	Min. 0.4
Insulation tape (RI)	508	62.5	See appended table 4.1.2	Min. 2 layer	Min. 2 layer
Supplementary information:					
RI: reinforced insulation.					

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Functional:				
--	--	--	--	--
Basic/supplementary:				
L to N before F1 (F1 disconnected)		DC	2500	No
Reinforced:				
L/N to accessible enclosure with metal foil (All source)		DC	4000	No
L/N to output terminal		DC	4000	No
T1: primary windings to secondary windings		DC	4000	No
T1: core to secondary windings		DC	4000	No
T1: one layer of insulation tape #		DC	4000	No
Insulation sheet (All source)		DC	4000	No
Insulation tape cover insulation sheet (All source)		DC	4000	No
Live parts of detachable plug to accessible parts (for models: AE-30, AE-45, AE45)		DC	4000	No
Routine Tests:				

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.9	TABLE: Electric strength tests		P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)
			Breakdown Yes / No
--		--	--
Supplementary information:			
# means all materials listed in table 4.1.2 are considered.			

5.5.2.2	TABLE: Stored discharge on capacitors					P
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification	
264V, 60Hz	AC mains plug (“L” to “N”)	N	--	18	ES1	
Supplementary information:						
X-capacitors installed for testing are: CX1=0.47uF±20%.						
[x] bleeding resistor rating: R1=R2=1.0MΩ						
[] 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						

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Clause	Requirement + Test	Result - Remark	Verdict

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

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

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Clause	Requirement + Test		Result - Remark		Verdict
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: AF04-200225 (with output 20.0VDC, 2.25A)					
Input terminal, All internal circuits	--	Power (W) :	-	-	PS3 (declared)
		V _A (V) :	-	-	
		I _A (A) :	-	-	
Output terminal (Normal)	#	Power (W) :	74.84	74.84	PS2
		V _A (V) :	18.48	18.48	
		I _A (A) :	4.05	4.05	
Output terminal (Single fault – SC Q2 pin 2-3)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – SC RS1)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – SC U3 pin 1-2)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – SC U3 pin 3-4)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – OC U3 pin 1)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – OC U3 pin 3)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Model: AE-45 (with output 14.5VDC, 3.10A)					
Input terminal, All internal circuits	--	Power (W) :	-	-	PS3 (declared)
		V _A (V) :	-	-	
		I _A (A) :	-	-	
Output terminal (Normal)	#	Power (W) :	65.08	65.08	PS2
		V _A (V) :	13.70	13.70	
		I _A (A) :	4.75	4.75	

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Clause	Requirement + Test		Result - Remark		Verdict
Output terminal (Single fault – SC Q2 pin 2-3)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – SC RS1)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – SC U3 pin 1-2)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – SC U3 pin 3-4)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – OC U3 pin 1)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – OC U3 pin 3)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Model: AE45 (with output 14.85VDC, 3.05A)					
Input terminal, All internal circuits	--	Power (W) :	-	-	PS3 (declared)
		V _A (V) :	-	-	
		I _A (A) :	-	-	
Output terminal	#	Power (W) :	63.80	63.80	PS2
		V _A (V) :	13.75	13.75	
		I _A (A) :	4.64	4.64	
Output terminal (Normal)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – SC Q2 pin 2-3)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – SC RS1)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output	&	Power (W) :	0	0	PS1

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Clause	Requirement + Test		Result - Remark		Verdict
terminal (Single fault – SC U3 pin 1-2)		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – SC U3 pin 3-4)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – OC U3 pin 1)	&	Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Output terminal (Single fault – OC U3 pin 3)		Power (W) :	0	0	PS1
		V _A (V) :	0	0	
		I _A (A) :	0	0	
Supplementary information:					
Measurement taken only when limits at 3 seconds exceed PS1 limits #: Test method-power measurement for worst-case fault. &: Test method-power measurement for worst-case power source fault. SC - Short-circuited; OC - Open-circuited.					

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 circuits except output terminal	--	--	--	Yes (declared)	
Output terminal	<50	--	--	No	
Supplementary information:					
All primary circuit/components were considered as arcing PIS, the open circuit of all secondary components/ circuit were not exceeded 50V. An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V _p) and normal operating condition rms current (I _{rms}) is greater than 15.					

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

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Clause	Requirement + Test	Result - Remark	Verdict

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

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:			

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5		TABLE: Input test							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
Model: AF04-200225									
90	50	1.027	--	50.02	--	F1	1.027	Loading rated output 20.0VDC, 2.25A	
90	60	1.044	--	51.00	--	F1	1.044		
100	50	0.898	1.5	49.42	--	F1	0.898		
100	60	0.905	1.5	50.41	--	F1	0.905		
240	50	0.447	1.5	49.77	--	F1	0.447		
240	60	0.440	1.5	49.00	--	F1	0.440		
264	50	0.386	--	49.92	--	F1	0.386		
264	60	0.380	--	49.06	--	F1	0.380		
Model: AE-45									
90	50	1.042	--	51.82	--	F1	1.042	Loading rated output 14.5VDC, 3.10A	
90	60	1.064	--	52.84	--	F1	1.064		
100	50	0.938	1.5	51.20	--	F1	0.938		
100	60	0.943	1.5	52.22	--	F1	0.943		
240	50	0.472	1.5	51.56	--	F1	0.472		
240	60	0.465	1.5	50.76	--	F1	0.465		
264	50	0.415	--	51.72	--	F1	0.415		
264	60	0.409	--	50.83	--	F1	0.409		
Model: AE45									
90	50	1.044	--	51.93	--	F1	1.044	Loading rated output 14.85VDC, 3.05A	
90	60	1.066	--	52.95	--	F1	1.066		
100	50	0.940	1.5	51.31	--	F1	0.940		
100	60	0.945	1.5	52.33	--	F1	0.945		
240	50	0.474	1.5	51.67	--	F1	0.474		
240	60	0.466	1.5	50.87	--	F1	0.466		
264	50	0.416	--	51.83	--	F1	0.416		
264	60	0.410	--	50.94	--	F1	0.410		
Supplementary information:									

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Clause	Requirement + Test	Result - Remark	Verdict

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C)					See below			—
Power source for EUT: Manufacturer, model/type, output rating ..					See page 2			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Model: AE-45								
Output	O-L	264	5 h 50 min	F1	0.415→ 0.467→ 0.526→ 0.014	Type K	Plug holder (outside): 52.6°C, T1 coil: 100.9°C, T1 core: 97.0°C, Output wire (outside): 58.3°C Enclosure outside near T1: 66.8°C Ambient: 25.0°C.	Max. loaded current was 4.00A and ran for thermal equilibrium under it, when loaded 4.03A, unit shut down immediately, recoverable, no damage, no hazard, Max. output voltage: 14.39V
Transformer pin B to Q2 pin 3	O-L	264	5 h 49 min	F1	0.415→ 0.472→ 0.535→ 0.014	Type K	Plug holder (outside): 54.2°C, T1 coil: 104.0°C, T1 core: 100.0°C, Output wire (outside): 60.1°C Enclosure outside near T1: 68.9°C Ambient: 25.0°C.	Max. loaded current was 3.24A and ran for thermal equilibrium under it, when loaded 3.26A, unit shut down immediately, recoverable, no damage, no hazard, Max. output voltage: 14.39V
Model: AF04-200225								

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Clause	Requirement + Test				Result - Remark		Verdict	
Output	O-L	264	5 h 50 min	F1	0.386→ 0.454→ 0.513→ 0.010	Type K	Plug holder (outside): 42.4°C, T1 coil: 102.9°C, T1 core: 98.7°C, Output wire (outside): 66.4°C Enclosure outside near T1: 64.6°C Ambient: 25.0°C.	Max. loaded current was 3.00A and ran for thermal equilibrium under it, when loaded 3.05A, unit shut down immediately, recoverable, no damage, no hazard, Max. output voltage: 19.81V
Model: AE45								
Output	O-L	264	5 h 16 min	F1	0.416→ 0.469→ 0.521→ 0.014	Type K	Plug holder (outside): 49.5°C, T1 coil: 94.7°C, T1 core: 91.1°C, Output wire (outside): 54.9°C Enclosure outside near T1: 62.8°C Ambient: 25.0°C.	Max. loaded current was 4.00A and ran for thermal equilibrium under it, when loaded 4.03A, unit shut down immediately, recoverable, no damage, no hazard, Max. output voltage: 19.81V
Supplementary information:								
<p>1. 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.</p> <p>2. S-C: short circuit, O-L: overload, O-C: open circuit; CD: Components damaged;</p> <p>3. The Hi-pot test conducted successfully after the completion of fault condition test.</p> <p>4. Temperature limits under the fault condition: T1 winding limit: 165°C (class B), Enclosure outside: 87°C, Other parts: 300°C.</p> <p>5. Output terminal does not exceed ES1 limits, and the maximum output voltage did not increase by more than 3V or 10% of rated output voltage.</p>								

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Clause	Requirement + Test	Result - Remark	Verdict

B.4 TABLE: Fault condition tests								P
Ambient temperature (°C)					25 (unless otherwise specified)			—
Power source for EUT: Manufacturer, model/type, output rating .:					See page 2			—
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Model: AF04-200225 (with output 20VDC, 2.25A)								
BD1 pin 1-3 #	S-C	264	< 1 s	F1	0.386→ 0	--	--	F1 opened immediately, BD1 damaged, no hazards, output voltage: 0V
CE1 #	S-C	264	< 1 s	F1	0.386→ 0	--	--	F1 opened immediately, BD1 damaged, no hazards, output voltage: 0V
CE2 #	S-C	264	< 1 s	F1	0.386→ 0	--	--	F1 opened immediately, BD1 damaged, no hazards, output voltage: 0V
CE3 #	S-C	264	< 1 s	F1	0.386→ 0	--	--	F1 opened immediately, BD1 damaged, no hazards, output voltage: 0V
CE4 #	S-C	264	< 1 s	F1	0.386→ 0	--	--	F1 opened immediately, BD1 damaged, no hazards, output voltage: 0V

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Clause	Requirement + Test				Result - Remark			Verdict
Q1 pin G-D #	S-C	264	< 1 s	F1	0.386→ 0	--	--	F1 opened immediately, BD1, Q1 damaged, no hazards, output voltage: 0V
Q1 pin D-S #	S-C	264	< 1 s	F1	0.386→ 0	--	--	F1 opened immediately, BD1, Q1 damaged, no hazards, output voltage: 0V
Q1 pin G-S	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
RS1 #	S-C	264	< 1 s	F1	0.386→ 0	--	--	F1 opened immediately, BD1, Q1 damaged, no hazards, output voltage: 0V
U1 pin 6-1	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
U1 pin 6-3	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
U1 pin 5-1	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
U3 pin 3-4	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
U3 pin 1-2	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
U3 pin 3	O-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
U3 pin 1	O-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
T1 pin 1-3	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V

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Clause	Requirement + Test				Result - Remark			Verdict
T1 pin 4-6	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
T1 pin A-B	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Q2 pin 2-3	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
CE7	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
CE8	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Q1 pin S-D (on secondary PCB: AF-AEWY)	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V

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Clause	Requirement + Test				Result - Remark			Verdict
Q1 pin S-G (on secondary PCB: AF- AEWY)	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Q1 pin G-D (on secondary PCB: AF- AEWY)	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
U1 pin 1-7 (on secondary PCB: AF- AEWY)	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
U1 pin 1-5 (on secondary PCB: AF- AEWY)	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Output	S-C	264	10 min	F1	0.386→ 0.010	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Model: AE-45 (with output 14.5VDC, 3.10A)								
U3 pin 1-2	S-C	264	10 min	F1	0.415→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
U3 pin 1	O-C	264	10 min	F1	0.415→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
T1 pin A-B	S-C	264	10 min	F1	0.415→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Q2 pin 2-3	S-C	264	10 min	F1	0.415→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
CE7	S-C	264	10 min	F1	0.415→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
CE8	S-C	264	10 min	F1	0.415→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Q1 pin S-D (on secondary PCB: AF-AEWY)	S-C	264	10 min	F1	0.415→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Q1 pin S-G (on secondary PCB: AF- AEWY)	S-C	264	10 min	F1	0.415→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Q1 pin G-D (on secondary PCB: AF- AEWY)	S-C	264	10 min	F1	0.415→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
U1 pin 1-7 (on secondary PCB: AF- AEWY)	S-C	264	10 min	F1	0.415→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
U1 pin 1-5 (on secondary PCB: AF- AEWY)	S-C	264	10 min	F1	0.415→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Output	S-C	264	10 min	F1	0.415→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Model: AE45 (with output 14.85VDC, 3.05A)								
U3 pin 1-2	S-C	264	10 min	F1	0.416→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
U3 pin 1	O-C	264	10 min	F1	0.416→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
T1 pin A-B	S-C	264	10 min	F1	0.416→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Q2 pin 2-3	S-C	264	10 min	F1	0.416→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
CE7	S-C	264	10 min	F1	0.416→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
CE8	S-C	264	10 min	F1	0.416→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Q1 pin S-D (on secondary PCB: AF-AEWY)	S-C	264	10 min	F1	0.416→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Q1 pin S-G (on secondary PCB: AF- AEWY)	S-C	264	10 min	F1	0.416→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Q1 pin G-D (on secondary PCB: AF- AEWY)	S-C	264	10 min	F1	0.416→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
U1 pin 1-7 (on secondary PCB: AF- AEWY)	S-C	264	10 min	F1	0.416→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
U1 pin 1-5 (on secondary PCB: AF- AEWY)	S-C	264	10 min	F1	0.416→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Output	S-C	264	10 min	F1	0.416→ 0.014	--	--	Unit shut down immediately, recoverable, no hazards, output voltage: 0V
Supplementary information:								
1) S-C: short circuit, O-L: overload, O-C: open circuit; CD: components damaged. 2) The Hi-pot test conducted successfully after the completion of fault condition test. 3) Output terminal does not exceed ES1 limits, and the maximum output voltage did not increased by more than 3V or 10% of rated output voltage. 4) # means all types of current fuse F1 listed in table 4.1.2 are considered for test and same result came out. Fuse open current >5.5A. 5) All tests were considered in AC 90V also, same result generated.								

IEC 62368-1										
Clause	Requirement + Test			Result - Remark				Verdict		
Annex M.3	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:								Verdict		
- 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:						

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
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)					P
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
Model: AF04-200225 (with output 20VDC, 2.25A)						
Output terminal	Normal operation	20.40	4.05	8.0	74.85	100
Output terminal	Single fault –SC: Q2 pin 2-3	0	0	8.0	0	100
Output terminal	Single fault –SC: RS1	0	0	8.0	0	100
Output terminal	Single fault –SC: U3 pin 1-2	0	0	8.0	0	100
Output terminal	Single fault –SC: U3 pin 3-4	0	0	8.0	0	100
Output terminal	Single fault –OC: U3 pin 3	0	0	8.0	0	100
Output terminal	Single fault –OC: U3 pin 1	0	0	8.0	0	100
Model: AE-45 (with output 14.5VDC, 3.10A)						
Output terminal	Normal operation	14.97	4.75	8.0	65.08	100
Output terminal	Single fault –SC: Q2 pin 2-3	0	0	8.0	0	100
Output terminal	Single fault –SC: RS1	0	0	8.0	0	100
Output terminal	Single fault –SC: U3 pin 1-2	0	0	8.0	0	100

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
Output terminal	Single fault –SC: U3 pin 3-4	0	0	8.0	0	100
Output terminal	Single fault –OC: U3 pin 3	0	0	8.0	0	100
Output terminal	Single fault –OC: U3 pin 1	0	0	8.0	0	100
Model: AE45 (with output 14.85VDC, 3.05A)						
Output terminal	Normal operation	15.09	4.64	8.0	63.80	100
Output terminal	Single fault –SC: Q2 pin 2-3	0	0	8.0	0	100
Output terminal	Single fault –SC: RS1	0	0	8.0	0	100
Output terminal	Single fault –SC: U3 pin 1-2	0	0	8.0	0	100
Output terminal	Single fault –SC: U3 pin 3-4	0	0	8.0	0	100
Output terminal	Single fault –OC: U3 pin 3	0	0	8.0	0	100
Output terminal	Single fault –OC: U3 pin 1	0	0	8.0	0	100
Supplementary Information:						
SC=Short circuit, OC=Open circuit.						

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Internal components	--	--	10	5	Clearance and creepage distance still complied with the requirement of this standard	
* Top enclosure	Plastic	Min. 1.5	100	5	Enclosure remained intact, no crack/opening developed. Internal ES3 were not accessible after test. no insulation breakdown.	

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
* Bottom enclosure	Plastic	Min. 1.5	100	5	Enclosure remained intact; no crack/opening developed. Internal ES3 were not accessible after test. no insulation breakdown.
* Side enclosure	Plastic	Min. 1.5	100	5	Enclosure remained intact; no crack/opening developed. Internal ES3 were not accessible after test. no insulation breakdown.
Supplementary information:					
*: means all enclosure source were considered.					

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

T.7	TABLE: Drop tests				P
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
* Top enclosure	Plastic	Min. 1.5	1000	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
* Bottom enclosure	Plastic	Min. 1.5	1000	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
* Side enclosure	Plastic	Min. 1.5	1000	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Supplementary information:					
*: means all enclosure source were considered.					

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	
T.8	TABLE: Stress relief test				P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
* The complete EUT	Plastic	Min. 1.5	91	7	Enclosure remained intact; no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Supplementary information:					
*: means all enclosure source were considered.					

Attachment No. 1

IEC62368_1D - ATTACHMENT																																							
Clause	Requirement + Test	Result - Remark	Verdict																																				
ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment - Part 1: Safety requirements)																																							
Differences according to : EN 62368-1:2014+A11:2017																																							
Attachment Form No. : EU_GD_IEC62368_1D_II																																							
Attachment Originator : Nemko AS																																							
Master Attachment..... : Date 2021-02-04																																							
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.																																							
	CENELEC COMMON MODIFICATIONS (EN)		P																																				
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed "Z".		P																																				
CONTENTS	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P																																				
	Delete all the "country" notes in the reference document (IEC 62368-1:2014) according to the following list: <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>0.2.1</td> <td>Note</td> <td>1</td> <td>Note 3</td> <td>4.1.15</td> <td>Note</td> </tr> <tr> <td>4.7.3</td> <td>Note 1 and 2</td> <td>5.2.2.2</td> <td>Note</td> <td>5.4.2.3.2.2 Table 13</td> <td>Note c</td> </tr> <tr> <td>5.4.2.3.2.4</td> <td>Note 1 and 3</td> <td>5.4.2.5</td> <td>Note 2</td> <td>5.4.5.1</td> <td>Note</td> </tr> <tr> <td>5.5.2.1</td> <td>Note</td> <td>5.5.6</td> <td>Note</td> <td>5.6.4.2.1</td> <td>Note 2 and 3</td> </tr> <tr> <td>5.7.5</td> <td>Note</td> <td>5.7.6.1</td> <td>Note 1 and 2</td> <td>10.2.1 Table 39</td> <td>Note 2, 3 and 4</td> </tr> <tr> <td>10.5.3</td> <td>Note 2</td> <td>10.6.2.1</td> <td>Note 3</td> <td>F.3.3.6</td> <td>Note 3</td> </tr> </tbody> </table>		0.2.1	Note	1	Note 3	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	P
0.2.1	Note	1	Note 3	4.1.15	Note																																		
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10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3																																		
	For special national conditions, see Annex ZB.		P																																				
1	Add the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.		N/A																																				

Attachment No. 1

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.Z1	<p>Add the following new subclause after 4.9:</p> <p>To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. mains, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <p>c) it is permitted for pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		P
5.4.2.3.2.4	<p>Add the following to the end of this subclause:</p> <p>The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.</p>		N/A
10.2.1	<p>Add the following to c) and d) in table 39:</p> <p>For additional requirements, see 10.5.1.</p>		N/A

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IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	<p>Add the following after the first paragraph:</p> <p><i>For RS 1 compliance is checked by measurement under the following conditions:</i></p> <p><i>In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</i></p> <p>NOTE Z1 Soldered joints and paint lockings are examples of adequate locking.</p> <p><i>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.</i></p> <p><i>Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.</i></p> <p><i>For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.</i></p> <p>NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.</p>		N/A
10.6.1	<p>Add the following paragraph to the end of the subclause:</p> <p>EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.</p>		N/A
10.Z1	<p>Add the following new subclause after 10.6.5.</p> <p>10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz</p> <p>The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz).</p> <p>For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566</p>		N/A
G.7.1	<p>Add the following note:</p> <p>NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.</p>		N/A

Attachment No. 1

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Bibliography	<p>Add the following standards:</p> <p>Add the following notes for the standards indicated:</p> <p>IEC 60130-9 NOTE Harmonized as EN 60130-9.</p> <p>IEC 60269-2 NOTE Harmonized as HD 60269-2.</p> <p>IEC 60309-1 NOTE Harmonized as EN 60309-1.</p> <p>IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series.</p> <p>IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4.</p> <p>IEC 60664-5 NOTE Harmonized as EN 60664-5.</p> <p>IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified).</p> <p>IEC 61508-1 NOTE Harmonized as EN 61508-1.</p> <p>IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1.</p> <p>IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4.</p> <p>IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6.</p> <p>IEC 61643-1 NOTE Harmonized as EN 61643-1.</p> <p>IEC 61643-21 NOTE Harmonized as EN 61643-21.</p> <p>IEC 61643-311 NOTE Harmonized as EN 61643-311.</p> <p>IEC 61643-321 NOTE Harmonized as EN 61643-321.</p> <p>IEC 61643-331 NOTE Harmonized as EN 61643-331.</p>		N/A
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
4.1.15	<p>Denmark, Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord."</p> <p>In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>		N/A
4.7.3	<p>United Kingdom</p> <p>To the end of the subclause the following is added:</p> <p>The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex</p>		N/A

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IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.2	<p>Denmark</p> <p>After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>		N/A
5.4.11.1 and Annex G	<p>Finland and Sweden</p> <p>To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; <p>the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.</p>		N/A

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IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.2.1	Norway After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
5.5.6	Finland, Norway and Sweden To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.		N/A
5.6.1	Denmark Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
5.6.4.2.1	Ireland and United Kingdom After the indent for pluggable equipment type A , the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.		N/A
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.		N/A
5.7.5	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

Attachment No. 1

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.1	<p>Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>“Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)”</p> <p>NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.”</p> <p>Translation to Swedish:</p> <p>“Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”</p>		N/A

Attachment No. 1

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.2	<p>Denmark</p> <p>To the end of the subclause the following is added:</p> <p>The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA.</p>		N/A
B.3.1 and B.4	<p>Ireland and United Kingdom</p> <p>The following is applicable:</p> <p>To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met</p>		N/A
G.4.2	<p>Denmark</p> <p>To the end of the subclause the following is added:</p> <p>Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.</p> <p>Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a.</p> <p>Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c.</p> <p>Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a</p> <p><i>Justification:</i></p> <p>Heavy Current Regulations, Section 6c</p>		N/A

Attachment No. 1

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	United Kingdom To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
G.7.1	United Kingdom To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
G.7.1	Ireland To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	Ireland and United Kingdom To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm ² is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A

Attachment No. 1

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
10.5.2	<p>Germany</p> <p>The following requirement applies:</p> <p>For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking.</p> <p><i>Justification:</i></p> <p>German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM.</p> <p>NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de</p>		N/A

Attachment No. 2

National and Group Differences for IEC 62368-1:2014 (Second Edition) as per CB Bulletin

National Differences covered by this report					
Country	CENELEC Group differ. (see separate attachment)	National differ.	Base standard	National standard	Tested
AR Argentina	-	Yes	IEC 62368-1 ed1	-	-
AU Australia	-	Yes	IEC 62368-1 ed2	AS/NZS 62368.1:2018	Yes
AT Austria	Yes	-	IEC 62368-1 ed2	EN 62368-1:2014	Yes
BY Belarus	-	-	IEC 62368-1 ed2	-	Yes
BE Belgium	Yes	-	IEC 62368-1 ed2	-	Yes
CA Canada	-	Yes	IEC 62368-1 ed2	CSA/UL 62368-1:2014	-
CH Switzerland	Yes	-	IEC 62368-1 ed2	-	-
CN China	-	-	IEC 62368-1 ed2	-	-
DE Germany	Yes	-	IEC 62368-1 ed2	EN 62368-1:2014-08	Yes
DK Denmark	Yes	Yes	IEC 62368-1 ed2	DS/EN 62368-1:2014	Yes
FI Finland	Yes	Yes	IEC 62368-1 ed2	-	Yes
FR France	Yes	-	IEC 62368-1 ed2	-	Yes
GB United Kingdom	Yes	-	IEC 62368-1 ed2	-	-
HU Hungary	Yes	-	IEC 62368-1 ed2	-	Yes
IT Italy	Yes	Yes	IEC 62368-1 ed2	CEI EN 62368-1:2016	-
IL Israel	-	-	IEC 62368-1 ed2	-	-
JP Japan	-	-	IEC 62368-1 ed2	J62368-1(2020), J3000(H25)	-
KR Korea	-	-	IEC 62368-1 ed2	-	-
MY Malaysia	-	-	IEC 62368-1 ed2	-	Yes
NO Norway	Yes	-	IEC 62368-1 ed2	-	-
NL Netherlands	Yes	-	IEC 62368-1 ed2	-	Yes
NZ New Zealand	-	Yes	IEC 62368-1 ed2	AS/NZS 62368.1:2018	Yes
SA Saudi Arabia	-	Yes	IEC 62368-1 ed2	SASO-IEC-62368-1	-
SE Sweden	Yes	Yes	IEC 62368-1 ed2	SS-EN 62368-1:2014+AC1:2015+AC2:2017+A11:2017	Yes
SG Singapore	-	-	IEC 62368-1 ed2	-	-
SI Slovenia	Yes	-	IEC 62368-1 ed2	-	Yes
UA Ukraine	-	-	IEC 62368-1 ed2	-	Yes
US United States of America	-	Yes	IEC 62368-1 ed2	CSA/UL 62368-1:2014	-

General remarks:

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

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

Throughout this report a point is used as the decimal separator.

See attachment 1 for European Group Differences and National Differences.

Note: Before placing the products in the different countries, the manufacturer must ensure that:

1. Operating Instructions, Ratings Labels and Warnings Labels written in an Accepted or Official Language of the county in question.
2. The equipment complies with the National Standards and/or Electrical Codes of the country in question.
3. Mains plugs and internal wirings should be assessed to the national standard. (if necessary)

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) |

Attachment No. 2

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

AR Argentina	AR
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	Ratings shall cover 220 Vac - 50 Hz		N/A
	Class 0 and Class 0I appliances are not allowed		N/A
	Safety instructions and manuals shall be written in Spanish language (Resolution 92/98)		N/A
	Country of origin shall be shown on the marking plate or, if not possible, in the primary packaging (Resolution 92/98)		N/A
	Address of the importer in Argentina shall be shown on the product or on the primary packaging (Resolution 92/98)		N/A
	Class I appliances provided with plugs shall be provided with the label specified in sheet "Class I" (Disposition 731/87)		N/A
	Class II appliances provided with plugs shall be provided with the label specified in sheet "Class II" (Disposition 731/87)		N/A
	Plugs shall be in conformity with IRAM 2063 Standard for Class II appliances and IRAM 2073 Standard for Class I appliances (Resolution 524/98)		N/A
	Adaptors/Transformers provided with integrated plugs shall be provided with blades which shall meet the geometry of IRAM 2063 standard for Class II appliances or IRAM 2073 standard for Class I appliances (Resolution 524/98)		N/A
	Appliances certified under System N° 4 (Type Certification scheme) shall be marked with the symbol specified in sheet "St Mark" (Resolution 197/04)		N/A
	Appliances certified under System N°5 (Mark of Conformity Certification scheme) shall be marked with the symbols specified in sheet "S Mark" (Resolution 799/99)		N/A

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1 (AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment)			
Differences according to : AS/NZS 62368.1:2018			
TRF template used: : IECCE OD-2020-F3, Ed. 1.1			
Attachment Form No. : AU_NZ_ND_IEC62368_1D			
Attachment Originator : JAS-ANZ			
Master Attachment : 2022-05-01			
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	National Differences		
Appendix ZZ	Variations to IEC 62368-1:2014 (ED. 2.0) for Australia and New Zealand		P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2014 (ED. 2.0)		P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:		P
2	Add the following to the list of normative references: The following normative documents are referenced in Appendix ZZ: -AS/NZS 3112, <i>Approval and test specification—Plugs and socket-outlets</i> -AS/NZS 3123, <i>Approval and test specification—Plugs, socket-outlets and couplers for general industrial application</i> -AS/NZS 3191, <i>Electric flexible cords</i> -AS/NZS 60065, <i>Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)</i> -AS/NZS 60320.1, <i>Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)</i> -AS/NZS 60320.2.2, <i>Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)</i> -AS/NZS 60695.2.11, <i>Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products</i> -AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i> -AS/NZS 60695.11.10, <i>Fire hazard testing, Part</i>		

Attachment No. 2

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p><i>11.10: Test flames—50 W horizontal and vertical flame test methods</i></p> <p>-AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i></p> <p>-AS/NZS 60950.1:2015, <i>Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i></p> <p>IEC 61032:1997, <i>Protection of persons and equipment by enclosures—Probes for verification</i></p> <p>-AS/NZS 61558.1:2008 (including Amendment 2:2015), <i>Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 2.1, MOD)</i></p> <p>-AS/NZS 61558.2.16, <i>Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.</i></p>		
4.1.1	<p>Application of requirements and acceptance of materials, components and subassemblies</p> <p>1 <i>Replace</i> the text 'IEC 60950-1' with 'AS/NZS 60950.1:2015'.</p> <p>2 <i>Replace</i> the text 'IEC 60065' with 'AS/NZS 60065'.</p>		N/A
4.7	Equipment for direct insertion into mains socket-outlets		P
4.7.2	<p>Requirements</p> <p><i>Delete</i> the text of the second paragraph and <i>replace</i> with the following:</p> <p>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.</p>		P
4.7.3	<p>Compliance Criteria</p> <p><i>Delete</i> the first paragraph and Note 1 and Note 2 and <i>replace</i> with the following:</p> <p><i>Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.</i></p>		P
4.8	<p><i>Delete</i> existing clause title and <i>replace</i> with the following:</p> <p>4.8 Products containing coin/button cell batteries</p>		N/A

Attachment No. 2

IEC 62368_1D ATTACHMENT					
Clause	Requirement + Test		Result - Remark		Verdict
4.8.1	General 1 Second dashed point, <i>delete</i> the text and <i>replace</i> with the following: – include coin/button cell batteries with a diameter of 32 mm or less. 2 After the second dashed point, <i>insert</i> the following Note: NOTE 1: Batteries are specified in IEC 60086-2. 3 After the third dashed point, <i>renumber</i> the existing Note as 'NOTE 2'. 4 Fifth dashed point, <i>delete</i> the word 'lithium'.		Product not containing coin/button cell batteries		N/A
4.8.2	Instructional Safeguard First line, <i>delete</i> the word 'lithium'.				N/A
4.8.3	Construction First line, after the word 'Equipment' <i>insert</i> the words 'containing one or more coin/button batteries and'				N/A
4.8.5	Compliance criteria <i>Delete</i> the first paragraph and <i>replace</i> with the following: <i>Compliance is checked by applying a force of 30 N +/- 1 N for 10 s to the battery compartment door/cover by a rigid test finger according to test probe 11 of IEC 61032:1997 at the most unfavourable place and in the most unfavourable direction. The force shall be applied in one direction at a time.</i>				N/A
5.4.10.2	Test methods				N/A
5.4.10.2.1	General <i>Delete</i> the first paragraph and <i>replace</i> with the following: In Australia only, the separation is checked by the test of both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test of either Clause 5.4.10.2.2 or Clause 5.4.10.2.3.				N/A
Table 29	Replace the table with the following:				N/A
Parts		Impulse test		Steady state test	
		New Zealand	Australia	New Zealand	Australia
Parts indicated in Clause 5.4.10.1 a) ^a		2.5 kV 10/700 µs	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment. 10/700 µs	1.5 kV	3 kV
Parts indicated in Clause 5.4.10.1 b) and c) ^b		1.5 kV 10/700 µs ^c		1.0 kV	1.5 kV
^a Surge suppressors shall not be removed. ^b Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment. ^c During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.					

Attachment No. 2

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.10.2.2	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		N/A
5.4.10.2.3	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A
6	Electrically-caused fire		P
6.1	General After the first paragraph, <i>insert</i> the following new paragraph: Alternatively, the requirements of Clauses 6.2 to 6.5.2 are considered to be fulfilled if the equipment complies with the requirements of Clause 6.202		P
6.6	After Clause 6.6, <i>add</i> the new Clauses 6.201 and 6.202 as follows: 6.201 External power supplies, docking stations and other similar devices and 6.202 Resistance to fire—Alternative tests (see special national conditions)		P
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment In the first dashed row and the second dashed rows <i>replace</i> 'IEC 60950-1:2005' with 'AS/NZS 60950.1:2015'.		N/A
8.6	Stability of equipment		N/A

Attachment No. 2

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.1 and Table 36	Requirements 1. Table 36, <i>insert</i> Footnote c at the end of the 'Glass slide' heading, and <i>add</i> a new Footnote c after the text of Footnote b in the last row of Table 36 as follows: ^c The glass slide test is not applicable to floor standing equipment, even though the equipment may have controls or a display. 2. Table 36, fifth row, <i>insert</i> '201' at the end of 'No stability requirements' 3. Table 36, ninth row, <i>insert</i> '201' at the end of 'No stability requirements' 4. Table 36, <i>add</i> the following new footnote: 201 MS2 and MS3 television sets and display devices, designed only for fixing to a wall, ceiling or equipment rack, are not subjected to stability requirements only if the instructional safeguard of Clause 8.6.1.201 is provided. Otherwise, the glass slide requirements of Clause 8.6.4 and horizontal force requirements of Clause 8.6.5 apply. 5. Second paragraph beneath Table 36, <i>delete</i> the words 'MS2 and MS3 television sets' and <i>replace</i> with 'MS2 and MS3 television sets and display devices'	MS1 classification	N/A
8.6.1	After Clause 8.6.1 <i>add</i> the following new clauses: 8.6.1.201 Instructional safeguard for fixed-mount television sets (see special national conditions)		N/A
Annex F Paragraph F.3.5.1	Mains appliance outlet and socket-outlet markings <i>Replace</i> 'IEC 60320-2-2' with 'AS/NZS 60320.2.2'.	No mains appliance outlet and socket-outlet used	N/A
Annex G Paragraph G.4.2	Mains connectors 1 In the second line <i>insert</i> 'or AS/NZS 3123' after 'IEC 60906-1'. 2 In the second line <i>insert</i> 'or AS/NZS 60320 series' after 'IEC 60320 series' 3 <i>Add</i> the following new paragraph: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.		P
Paragraph G.5.3.1	Transformers, General 1 In the third dashed point <i>replace</i> 'IEC 61558-1 and the relevant parts of IEC 61558-2' with 'AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2' 2 In the fourth dashed point <i>replace</i> 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.	Transformer meets the requirements given in G.5.3.2 and G.5.3.3	N/A
Paragraph G.7.1	Mains supply cords, General In the fourth dashed paragraph, <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A

Attachment No. 2

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Table G.5	Sizes of conductors 1 In the second row, first column, <i>delete</i> '6' and <i>replace</i> with '7.5' 2 In the second row, second column, <i>delete</i> '0,75' and <i>replace</i> with '0.75 ^b 3 <i>Delete</i> Note 1. 4 <i>Replace</i> 'NOTE 2' with 'NOTE:'. 5 <i>Delete</i> the text of 'Footnote b' and <i>replace</i> with the following: ^b This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm ² three-core supply flexible cords are not permitted; see AS/NZS 3191). 6 In Footnote c <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1' 7 In Footnote d <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Annex M Paragraph M.3.2	Protection circuits for batteries provided within the equipment, Test method After the first dashed point <i>add</i> the following Note: NOTE 201: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.	No batteries	N/A
	Special national conditions (if any)		N/A

Attachment No. 2

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.201	<p>External power supplies, docking stations and other similar devices</p> <p>For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage—</p> <ul style="list-style-type: none"> – at all ES1 outlets or connectors shall not increase by more than 10% of its rated output voltage under normal operating condition; and – of a USB outlet or connector shall not increase by more than 3 V or 10% of its rated output voltage under normal operating conditions, whichever is higher. <p>For equipment with multiple rated output voltages, the requirements apply with the equipment configured for each rated output voltage in turn.</p> <p>NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries.</p> <p><i>Compliance shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single-fault conditions of Annex B.4</i></p>	<p>External power supplies.</p> <p>See appended table 5.2, B.3, B.4 in main report for result</p>	P
6.202	Resistance to fire—Alternative tests		N/A
6.202.1	<p>General</p> <p>Parts of non-metallic material shall be resistant to ignition and spread of fire.</p> <p>This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the equipment, or the following:</p> <ul style="list-style-type: none"> a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length. b) The following parts which would contribute negligible fuel to a fire: <ul style="list-style-type: none"> – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1 750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. <p>NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to</p>		N/A

Attachment No. 2

IEC 62368_1D ATTACHMENT									
Clause	Requirement + Test	Result - Remark	Verdict						
	another.								
	<i>Compliance shall be checked by the tests of Clauses 6.202.2, 6.202.3 and 6.202.4.</i> For the base material of printed boards, compliance shall be checked by the test of Clause 6.202.5. The tests shall be carried out on parts of non-metallic material which have been removed from the equipment. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring.		N/A						
6.202.2	Testing of non-metallic materials Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the relevant part is not thinner than the sample tested.		N/A						
6.202.3	Testing of insulating materials Parts of insulating material supporting Potential Ignition Sources shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE: Contacts in components such as switch contacts are considered to be connections		N/A						
	For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test need not be tested		N/A						
	<div><div>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:</div><table><tr><td>Clause of AS/NZS 60695.11.5</td><td>Change</td></tr><tr><td>9 Test procedure</td><td></td></tr><tr><td>9.2 Application of needle-flame</td><td>Delete the first and second paragraphs and <i>replace</i> with the</td></tr></table></div>	Clause of AS/NZS 60695.11.5	Change	9 Test procedure		9.2 Application of needle-flame	Delete the first and second paragraphs and <i>replace</i> with the		N/A
Clause of AS/NZS 60695.11.5	Change								
9 Test procedure									
9.2 Application of needle-flame	Delete the first and second paragraphs and <i>replace</i> with the								

Attachment No. 2

IEC 62368_1D ATTACHMENT				
Clause	Requirement + Test		Result - Remark	Verdict
		<p>following: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner.</p> <p>The duration of application of the test flame shall be 30 s +/- s.</p>		
	9.3 Number of test specimens	<p><i>Replace</i> with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.</p>		
	11 Evaluation of test results	<p><i>Replace</i> with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p>		
	<p>The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the relevant part is not thinner than the sample tested.</p>			
6.202.4	<p>Testing in the event of non-extinguishing material</p> <p>If parts, other than enclosures, do not withstand the glow wire tests of Clause 6.202.3, by failure to extinguish within 30 s after the removal of the glowwire tip, the needle-flame test detailed in Clause 6.202.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of Clause 6.202.3. Parts shielded by a separate barrier which meets the</p>			N/A

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>needle-flame test need not be tested.</p> <p>NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing.</p> <p>NOTE 2: If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing.</p> <p>NOTE 3: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.</p>		
6.202.5	<p>Testing of printed boards</p> <p>The base material of printed boards shall be subjected to the needle-flame test of Clause 6.202.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a potential ignition source.</p> <p>The test is not carried out if—</p> <ul style="list-style-type: none"> – the printed board does not carry any potential ignition source; – the base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or – the base material of printed boards, on which the available equipment power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. <p><i>Conformance shall be determined using the smallest thickness of the material.</i></p> <p>NOTE: Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximize the apparent power for more than 2 min when the circuit supplied is disconnected.</p>		N/A

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.202.6	For open circuit voltages greater than 4 kV Potential ignition sources with open circuit voltages exceeding 4 kV (peak) a.c. or d.c. under normal operating conditions shall be contained in a FIRE ENCLOSURE which shall comply with flammability category V-1 or better according to AS/NZS 60695.11.10.		N/A
8.6.1.201	8.6.1.201 Instructional safeguard for fixed-mount television sets MS2 and MS3 television sets and display devices designed only for fixed mounting to a wall of ceiling or equipment rack shall, where required in Table 36, footnote 201, have an instructional safeguard in accordance with Clause F.5 which may be on the equipment or included in the installation instructions or equivalent document accompanying the equipment. The elements of the instructional safeguard shall be as follows: – element 1a: not available; – element 2: 'Stability Hazard' or equivalent wording; – element 3: 'The television set may fall, causing serious personal injury or death' or equivalent text; – element 4: the following or equivalent text: To prevent injury, this television set must be securely attached to the floor/wall in accordance with the installation instructions		N/A
8.6.1.202	Restraining device MS2 and MS3 television sets and display devices that are not solely fixed-mounted should be provided with a restraining device such as a fixing point to facilitate restraining the equipment from toppling forward. The restraining device shall be capable of withstanding a pull of 100 N in all directions without damage. Where a restraining device is provided, instructions shall be provided in the instructions for installation or instructions for use to ensure correct and safe installation.		N/A

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AS/NZS 3112:2017 Appendix J			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT AS_NZS_3112:2017_+A1:2021 Appendix J AUSTRALIAN / NEW ZEALAND NATIONAL DIFFERENCES (Approval and test specification—Plugs and socket-outlets)			
Differences according to : AS_NZS_3112:2017_Amendment 1:2021_Appendix J			
TRF template used: : IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No. : AS_NZS_3112:2017_Appendix J			
Attachment Originator : JAS-ANZ			
Master Attachment : 2022-06			
Copyright © 2020 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	Note: AS/NZS 3112 is NOT covered by IECEE Accreditation for Testing / Reporting Please State Laboratory Accreditation for this Standard		P
	Accreditation		P
J1 SCOPE	<p>General: This Appendix specifies additional dimensional and constructional requirements for detachable plug portions, or equipment incorporating integral supply pins or equipment incorporating detachable plug portions.</p> <p>This Appendix shall be read in conjunction with Section 2 of this Standard.</p> <p>For the purposes of this Appendix, where the term 'plug' is used in Section 2 it shall be taken to mean the plug portion of equipment or the detachable plug portion.</p> <p>The equipment shall comply with the relevant product Standard. The tests and requirements specified in this Appendix are in addition to any test and requirements of the relevant product Standard for the equipment.</p> <p>(AS/NZS 3112:2017/A1:2021)</p>		P

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IEC 62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
J2	DEFINITION		P
J2.1	<p>Detachable plug portion</p> <p>A plug portion that is detachable from the equipment and with connections including the following standardized outputs and other contacts</p> <p>(a) Type A (see Figure J1):</p> <p>A detachable plug portion with a connection intended for plugging directly into equipment. The connection being via the equipment group 1 appliance inlet within the scope of AS/NZS 60320.1.</p> <p>(b) Type B (see Figure J2):</p> <p>A detachable plug portion with a non-standardized connection intended for plugging directly into equipment</p> <p>(c) Type C (see Figure J3):</p> <p>A detachable plug portion with a connection intended for use with an adaptor connected to a flexible cord so as to replicate a supply plug and flexible cord configuration. The connection being via a group 1 appliance outlet within scope of AS/NZS 60320.2.2, which is integral with the plug portion (AS/NZS 3112:2017)</p>		N/A
J2.2	<p>Integral plug portion</p> <p>A plug portion that is integral to the equipment enclosure and is not detachable (AS/NZS 3112:2017)</p>		P
J2.3	<p>Plug portion</p> <p>A plug portion is that portion of equipment with pins for insertion into a socket-outlet, including the plug pins, terminals of the plug pins, external dimensions of the 'maximum projection' and any connections of a detachable plug portion.</p> <p>(AS/NZS 3112:2017/A1:2021)</p>		P
J3	REQUIREMENTS FOR THE PLUG PORTION		P
J3.1	<p>General</p> <p>The following provisions apply to the dimensional and constructional requirements of plug portions of equipment and any detachable connection between the plug portion and the equipment:</p>		P
(a)	For detachable plug portions intended for connection to the equipment in multiple orientations, the relevant tests are performed in the most onerous orientation.		N/A
(b)	For Type A detachable plug portion, the relevant requirements of AS/NZS 3105:2014 are applicable, in addition to conformance with relevant clauses of this Appendix		N/A
(c)	For Type B detachable plug portions, the conformance is shown by the relevant clauses of this Appendix.		N/A
(d)	For Type C detachable plug portions, conformance is shown by assessment to Section 2 of this Standard (plugs) and relevant clauses of this Appendix (AS/NZS 3112:2017)		N/A

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Clause	Requirement + Test	Result - Remark		Verdict															
J3.2	Plug pins of plug portions The requirements of Clause 2.2 are applicable for plug pins.			P															
2.2	PLUG PINS			P															
2.2.1	Current carrying parts of plug pins of metal having sufficient mechanical strength, electrical conductivity and resistance to corrosion adequate for the intended use			P															
	Plug pin material?	Copper alloy containing 59.76%		--															
2.2.3	Plug pins adequately proportioned throughout and portion adjacent to the connection designed to not introduce a stress concentration which may lead to a fracture of the pin, and suitably shaped to prevent abrasion or cutting of conductor strands due to flexure in normal use			P															
	Exposed ends of plug pins have a lead-in, bevel or radius to facilitate entry into socket-outlets and to operate shutters			P															
	Flat-pins with the following profile are deemed to comply:			--															
(a)	Flat-pins with a radius on the end with side bevels may have a width and thickness profile as specified in Figure 2.1(h)	For models AF04-xxxxxyy-K011, AFUA04-K011A, AF-045PD-K011, AF1485305-K011: <table><tr><td>Position</td><td>Required (mm)</td><td>Measurement (mm)</td></tr><tr><td>R</td><td>0.35±0.05</td><td>0.35</td></tr><tr><td>S</td><td>0.9±0.1</td><td>0.88</td></tr><tr><td>T</td><td>≥0.60</td><td>N/A</td></tr><tr><td>V</td><td>6 ↑</td><td>By the gauge in Figure A1</td></tr></table>		Position	Required (mm)	Measurement (mm)	R	0.35±0.05	0.35	S	0.9±0.1	0.88	T	≥0.60	N/A	V	6 ↑	By the gauge in Figure A1	P
Position	Required (mm)	Measurement (mm)																	
R	0.35±0.05	0.35																	
S	0.9±0.1	0.88																	
T	≥0.60	N/A																	
V	6 ↑	By the gauge in Figure A1																	
(b)	Flat-pins square on the end with corner and side bevels may have a width and thickness profile as specified in Figure 2.1(i)			N/A															
(c)	Flat-pins square on the end with corner bevels and a radius on the sides may have a width and thickness profile as specified in Figure 2.1(j)			N/A															
	Contact portion of the pins smooth and free from openings or indentations			P															
	Flat pin plugs having a longitudinal seam or opening in the contact portion of one face; width not exceeding 0.3 mm and			N/A															
	Thickness not exceeding 1.58 mm			N/A															

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IEC 62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Exposed portion of earthing pins and pins other than insulated pins free from any non-metallic coverings or coatings (AS/NZS 3112:2017)		N/A
2.2.4	Live parts of insulated pin plugs not exposed when plug is partially or fully engaged with associated socket		P
	Compliance by measurement to Figure 2.4	(see appended table)	P
	Lacquer, enamel or sprayed insulating coating not considered to be insulation material		P
	All live pins on low voltage plugs except for those shown in Figure 2.1 (a2), (b) and (g) of the insulated pin type		P
	Colour green or green / yellow not used for insulation of insulated pins (AS/NZS 3112:2017)		P
J3.3	Ratings and dimensions for low-voltage plug portions Requirements of clauses 2.8.1 and 2.8.4 apply for rating and dimensions		P
2.8	Ratings and Dimensions of Low Voltage Plugs		--
2.8.1	Plugs with ratings up to and including 20A; shall conform to the appropriate dimensions shown in Figure 2.1	(see appended results)	P
	Rating of plug	__1.5_A	--
	Nominal dimensions covering disposition of pins checked by gauge of Appendix A		P
	Distance between live pin and edge of moulding to not less than 9 mm		P
	Measured distance	For models AF04-xxxxyy-K011, AFUA04-K011A, AF-045PD-K011, AF1485305-K011: 11.30mm	--
	No point on plug face protrudes more than 0.5 mm		N/A
	Measured protrusion	__0.1_mm	--
	Dimensional requirements of Figure 2.1(e2) did not applied to plugs with greater than three pins (AS/NZS 3112:2017)		N/A
2.8.4	Low voltage plugs comply with dimensions of Figure 2.1	(see appended table 2.8.1)	P
	Disposition of pins checked by gauge complying		P

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IEC 62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	with Appendix A, B or F as appropriate		
	Low voltage plug having rating up to 15A and of the Figure 2.1 (a1), (c), (d), (f) or (g) type; comply with dimensional requirements of Figure 2.1 (e1 and e2)	For models AF04-xxxxyy-K011, AFUA04-K011A, AF-045PD-K011, AF1485305-K011: Measured R0.85 Limit: R1.0 max. of Figure 2.1 (e2)	P
	20A plug of Figure 2.1 (a2) type complies with dimensional requirements of Figure 2.1 (e2)		N/A
	Plugs with insulated pins need not comply with dimension R20.0 ± 1 mm requirement of Figure 2.1 (e3) provided there is at least 9mm from the edge of the live pins to the edge of the plug face Figure 2.1(e3). (AS/NZS 3112:2017)		N/A
J3.4	Internal connections for plug portions Requirements of clause 2.9 apply for internal connections; unless requirements contained in the relevant product standard (AS/NZS 3112:2017)		N/A
2.9	INTERNAL CONNECTIONS		N/A
	Plug provided with earthing connections designed and constructed so that when plug is correctly wired and assembled:		N/A
(a)	Loose terminal screw or conductive material cannot bridge any live or earthed parts		N/A
(b)	Earthing parts effectively isolated from contact with live conductor which may become detached		N/A
(c)	Live parts effectively isolated from contact with any earthing conductor which may become detached		N/A
	Any connections for auxiliary devices comply with above requirements (AS/NZS 3112:2017)		N/A
J3.5	Arrangement of earthing connections for plug portions Requirements of clause 2.10 apply for arrangement of earthing connections		N/A
2.10	Arrangement of earthing connections		N/A
	Earthing pin radial to the circle embracing the pins (AS/NZS 3112:2017)		N/A

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IEC 62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
J3.6	Configuration of plug portions Requirements of clause 2.12.6 apply for configuration of the plug portion (AS/NZS 3112:2017)		P
2.12	Marking		P
2.12.6	Configuration of plugs		P
	Pins disposed so that configuration, as viewed from the pins, is earth, neutral and active in a clockwise direction		P
	Where there is no earthing pin; live pins conform to this configuration (AS/NZS 3112:2017)		P
J4	Tests		P
J4.1	General Plug portions of equipment shall be subjected to the following tests and unless stated otherwise, shall comply with the requirements specified in Section 2 for each test. The number of test samples shall be in accordance with Table J1 For equipment with a detachable plug portion, the assessment(s) of Table J1 tests 2, 3, 5, 10 and 11 shall be conducted on the— (a) assembled equipment with the detachable plug portion connected; and (b) the detachable plug portion after it has been separated from the equipment (AS/NZS 3112:2017/A1:2021)		P
J4.2	High voltage test The requirements of Clause 2.13.3 are applicable unless requirements are contained in the relevant product standard (AS/NZS 3112:2017)		P
2.13.3	Test No.1 - High voltage test		P
	Plug withstands without failure electric strength test as specified (AS/NZS 3112:2017)	(see appended table)	P
J4.3	Mechanical strength		P
J4.3.1	Tumbling barrel test The tumbling barrel test is applied to determine the mechanical strength of the plug portions and equipment having integral or detachable plug portions.		P

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>For equipment with a detachable plug portion, the detachable plug portion may become detached during the test. If this occurs the detachable plug portion shall be reassembled with the equipment when the pins are straightened as per (a) and (b) below.</p> <p>Three samples (Samples BCD in Table J1) that have not been subjected to any previous test are tested as specified in Clause 2.13.7.1, however the test is modified as follows:</p>		
	<p>They are tested in a tumbling barrel as described in AS 60068.2.32 or test Free fall repeated – Procedure 2 in IEC 60068-2.31.</p> <p>The samples shall be dropped from a height of 500 mm onto a steel plate, 3 mm thick.</p> <p>The barrel shall be turned at a rate of 5 r/min, to yield 10 falls per minute. Only one sample shall be tested at a time.</p> <p>A sample is dropped—</p> <p>(a) 500 times if the mass of the specimen does not exceed 250 g.</p> <p>The pins being straightened after each 100 drops and at the completion of the test to pass through the appropriate gauge of Figure A1, Figure B1 or Figure F1; and</p> <p>(b) 250 times if the mass of the specimen exceeds 250 g. The pins being straightened after each 25 drops and at the completion of the test to pass through the appropriate gauge of Figures A1, Figure B1 or Figure F1.</p> <p>(AS/NZS 3112:2017/A1:2021)</p>		P
	Mass of sample	For models AF04-xxxxyy-K011, AFUA04-K011A, AF-045PD-K011, AF1485305-K011: ___110___Grams	P
	Number of drops	500	P
	Compliance shall be checked by Paragraph J4.3.3	(See appended table)	P
J4.3.2	<p>Test No.3 Impact test.</p> <p>Plug portions and equipment having integral plug portions or detachable plug portions shall withstand lateral impact forces.</p> <p>All samples that were subjected to the tests in Paragraph J4.3.1 (Samples BCD in Table J1) shall be tested as follows:</p>		P
	<p>(a) The sample shall be positioned at the centre of a steel plate with a thickness of at least 6 mm. Apertures in the steel plate for the plug pins to pass through shall conform to the corresponding socket Standard. The sample shall be held against the steel plate by clamping all the pins.</p>		P
	<p>(b) Samples shall be subjected to blows, with an impact energy of 1.0 ± 0.05 J by any means having the same performance as the spring-operated</p>		P

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Clause	Requirement + Test	Result - Remark	Verdict
	impact-test apparatus of AS/NZS 3100.		
	(c) Three blows shall be applied to every point that is most likely to directly or indirectly stress the enclosure joints of the sample		P
	Compliance shall be checked by Paragraph J4.3.3		P
J4.3.3	Specific compliance criteria This Paragraph provides the common compliance assessment criteria for tests specified in Paragraphs J4.3.1 and J4.3.2 .		P
(a)	assembled equipment with the detachable plug portion connected;		N/A
	After the test, samples show no damage	(See appended table)	N/A
(b)	the detachable plug portion after it has been separated from the equipment.		N/A
	After the test, samples show no damage	(See appended table)	N/A
4.3.4	Pin bending test The pins of the plug portion of three samples (Samples EFG in Table J1) not subjected to any previous tests shall be tested for compliance with the pin bending test of Clause 2.13.7.2 (AS/NZS 3112:2017/A1:2021)		P
2.13.7.2	Test No.4 – Pin bending test		P
	All flat-pin plugs rated up to and including 15 A shall be subjected to the pin bending test		P
	Three samples are subjected by clamping the plug in a rigid holding block and applying the bending force as specified		P
	After the test the pins shall not be broken off. (AS/NZS 3112:2017)		P
J4.8.3	Test No.5 Plug portion detachment requirements		N/A
	For all Type B or C devices and for Type A devices where the outlet of the detachable plug portion is parallel to the plug supply pins, disengagement of the detachable plug portion from the equipment shall require at least two simultaneous independent actions or the use of a tool.		N/A
	The plug portion and the equipment/adaptor shall be connected and disconnected 50 times (100 strokes).		N/A
	Compliance is verified by the plugging test, a force which, over a period of 10 s, shall be increased steadily to 60 ±0.6 N and held at this value for a further 10 s, shall be applied evenly at the		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	connecting equipment in a direction parallel to the pins. This procedure shall be conducted three times on the same plug portion, at intervals of 5 min, without disturbing the plug portions between tests		
	During the test the plug portion shall not separate		N/A
	The test of AS/NZS 3112 'temperature rise test' for plugs shall be conducted immediately after the above test without disturbing the sample. Test No 6 Temperature Rise test J4.4 (AS/NZS 3112:2017/A1:2021)		N/A
J4.4	Temperature rise test The relevant requirements of Clause 2.13.8 are applicable for the temperature rise test, except that the test current shall be that specified in the relevant product standard		P
	The temperature rise of the pins shall not exceed 45 K irrespective of the temperature rise of parts specified in end-product standards.		P
	For detachable plug portions the temperature rise of terminals and contacts shall not exceed 45 K. (AS/NZS 3112:2017)		N/A
2.13.8	Test No.6 – Temperature rise test		P
	Plug tested in draught free environment as specified using clamping units as specified in Figure 2.10		P
	Test Current Relevant Product Standard	__1.65__ Amps; __IEC/EN 62368-1__	P
	Temperature of terminals and contacts of detachable plug portion not exceeding 45 K (AS/NZS 3112:2017)	(see appended table)	P
J4.5	Securement of pins of the plug portion The requirements of Clause 2.13.9 are applicable for the securement of pins. (AS/NZS 3112:2017)		P
2.13.9	Test No.7. Securement of pins		P
2.13.9.1	Movement of pins		P
	Plug pins clamped 5 ± 0.5 mm from pin face; test equipment and sample pre-conditioning for 1 h at $40 \pm 1^\circ\text{C}$		P
	Force of 18 ± 1 N applied to pin 14 ± 0.5 mm from plug face; applied gradually over 10 s and		P

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Clause	Requirement + Test	Result - Remark	Verdict
	maintained for 10 s; applied in four directions		
	Maximum deflection during test not exceeding 2.0 mm	(see appended results)	P
	Any distortion 5 minutes after test does not prevent insertion of plug into standard gauge(s) (AS/NZS 3112:2017 + A1:2021)		P
2.13.9.2	Fixing of pins		P
	Plug heated to $50 \pm 2^\circ\text{C}$ for 1h		P
	Force of 60 ± 0.6 N applied to each pin over 10 s and maintained for 10 minutes; applied in two directions along length of pin		P
	Maximum displacement during test not exceeding 2.4 mm		P
	Maximum measured displacement		--
	Pin returns to within 0.8 mm of nominal length within 5 minutes of removal of test force (AS/NZS 3112:2017)		P
J4.6	Tests on the insulation material of insulated pin-plug portions The requirements of Clause 2.13.13 are applicable for insulating material of insulated plug pins. (AS/NZS 3112:2017)		P
2.13.13	Test No.8 Tests for insulation material of insulated pin plugs		P
2.13.13.1	Material of pin-insulation resistant to stresses at temperature likely to occur		P
2.13.13.2	Pressure test at high temperature		P
	Specimen tested as per Figure 2.5 with force of 2.5 N applied as specified; maintained for 2 h at $160 \pm 5^\circ\text{C}$; removed and cooled by immersion in water within 10 s		P
	Thickness of insulation at point of impression not reduced by more than 50%		P
	Initial thickness	0.60mm for models AF04-xxxxyy-K011, AFUA04-K011A, AF-045PD-K011, AF1485305-K011	--
	Thickness after test	0.52mm for models AF04-xxxxyy-K011, AFUA04-K011A, AF-045PD-K011, AF1485305-K011	--
	No visible cracks on insulation material		P
	Dimension of insulating material not below minimum		P

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Clause	Requirement + Test	Result - Remark	Verdict
	size in Figure 2.4 (AS/NZS 3112:2017)		
2.13.13.3	Static damp heat test		P
	Specimen subjected to two damp heat cycles in accordance with AS 60068.2.30; Db (12 + 12h), 95% RH, 25 ± 3°C; 40°C		P
	After this treatment and recovery to room temperature; specimen subjected to:		P
(a)	Insulation resistance test in accordance with clause 2.13.2 (e)	(see appended table)	P
(b)	High voltage test in accordance with clause 2.13.3	(see appended table)	P
(c)	Abrasion test in accordance with clause 2.13.13.6		P
2.13.13.4	Low temperature test		P
	Plug maintained at -15 ± 2°C for minimum of 24 h and returned to room temperature; after which specimen subjected to:		P
(a)	Insulation resistance test in accordance with clause 2.13.2 (e)	(see appended table)	P
(b)	High voltage test in accordance with clause 2.13.3	(see appended table)	P
(c)	Abrasion test in accordance with clause 2.13.13.6		P
2.13.13.5	Impact test at low temperature		P
	Specimen maintained at -15 ± 2°C for 24 h		P
	Specimen placed in position and subjected to impact test as per Figure 2.6; mass of 100 ± 1 g falling through 100 mm		P
	Four impacts applied; specimen rotated through 90° between impacts		P
	After return to room temperature; no visible cracks of insulating material		P
2.13.13.6	Abrasion test		P
	Plug held in clamp and tested as per Figure 2.7; pin loaded at 4 N; 20 000 movements		P
	After test; pins show no damage affecting safety or impairing further use of the plug		P
	Insulating sleeve not punctured or rucked up (AS/NZS 3112:2017)		P
J4.7	Test no.9 Equipment with a plug portion intended to be supported by the contacts of a socket-outlet		P
	Equipment with pins intended to be introduced into fixed socket-outlets not imposing undue strain on socket-outlet		P

Attachment No. 2

IEC 62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Applied torque not exceeding 0.25 Nm		P
	Measured torque (AS/NZS 3112:2017)	For models AF04-xxxxxy-K011, AFUA04-K011A, AF-045PD- K011, AF1485305-K011: Max. 0.12Nm	--
J4.8	Additional requirements for detachable plug portions		N/A
J4.8.1	Test no.10 Access to live parts		N/A
	Small test finger of Figure 13 of IEC 61032 was not possible to contact live parts with the force of 20N		N/A
	incorrectly assemble the plug portion was not possible (AS/NZS 3112:2017)		N/A
J4.8.2	Test No.11 Construction of detachable contacts where the input current of the equipment exceeds 0.2 A		N/A
	Contacts of the equipment shall be such that they make and maintain, under normal service conditions, satisfactory electrical and mechanical contact with the corresponding contact of the detachable plug portion.		N/A
	For connections intended to accommodate pins, contact shall be made on two surfaces diametrically opposite, except if a single spring-assisted contact is used. (AS/NZS 3112:2017/A1:2021)		N/A
	Contacts shall not rely exclusively on the resilience of the contact material and shall have an opposite face of material other than thermoplastic or resilient insulating material. (AS/NZS 3112:2017/ A1:2021)		N/A
	The alignment and contact-making properties of contacts shall be independent of terminal screws		N/A
	The effectiveness of the contacts shall be independent of pressure from any thermoplastic or resilient moulding.		N/A
	A visual inspection is conducted to determine the existence of interference between the metal contacts and the thermoplastic or resilient moulding to provide supplementary contact pressure to the metal contacts.		N/A
	Conformance of the effectiveness of the contacts is checked by inspection and by the inspection and tests in J4.8.3 (AS/NZS 3112:2017)		N/A
J4.8.4	Resistance of insulating material to heat and fire		N/A
J4.8.4.1	Test no.12 Resistance to heat For Type B detachable plug portions parts of non-metallic material, parts of insulating		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	material supporting live parts including connections, and parts of thermoplastic material providing supplementary insulation or reinforced insulation, shall be sufficiently resistant to heat if their deterioration could cause the appliance to fail to comply with this Standard.		
	Ball pressure test conducted in accordance with IEC 60695-10-2		N/A
(a)	75°C ± 2°C, for external parts;		N/A
(b)	125°C ± 2°C, for parts supporting live parts.		N/A

J4.8.4.2	Test no.13 Resistance to fire		N/A
	Plug portions comply with resistance to fire requirements of AS/NZS 3100 as follows:		N/A
	The glow wire test temperature 'T' for 'retaining parts' of fixed socket outlets shall be 750 C (AS/NZS 3112:2017)		N/A

TABLES OF RESULTS

2.2.4	TABLE: Dimensions of insulation on insulated pin plugs		P
Dimension (Figure 2.1 designation)		Measured (mm)	Allowed (mm)
Phase pin			8.7 ± 0.5
Neutral pin			8.7 ± 0.5

2.8.1	TABLE: Dimensions of plugs- 10A (a1)		P
Dimension (Figure 2.1 designation)		Measured (mm)	Allowed (mm)
Phase and neutral pin width (A)		6.35	6.35 ± 0.15
Earth pin width (B)		N/A	6.35 ± 0.15
Pin thickness (C)		1.65	1.63 + 0.15, -0.05
Pin disposition (D)			checked by test gauge
Pin disposition (E)			checked by test gauge
Phase and neutral pin length (F)		17.32	17.06 ± 0.4
Earth pin length (G)		N/A	19.94 ± 0.8
Pin boss radius - maximum		20.85	21.0 max
9.05		11.57	8.6 min
9.05			

2.8.1	TABLE: Dimensions of plugs- 15A (a1)		N/A
Dimension (Figure 2.1 designation)		Measured (mm)	Allowed (mm)

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IEC 62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Phase and neutral pin width (A)		6.35 ± 0.15
Earth pin width (B)		9.08 ± 0.15
Pin thickness (C)		1.63 + 0.15, -0.05
Pin disposition (D)		checked by test gauge
Pin disposition (E)		checked by test gauge
Phase and neutral pin length (F)		17.06 ± 0.4
Earth pin length (G)		19.94 ± 0.8
Pin boss radius - maximum		21.0 max
Pin boss height		8.6 min

2.8.1	TABLE: Dimensions of plugs-20A (a2)		N/A
Dimension (Figure 2.1 designation)	Measured (mm)	Allowed (mm)	
Phase and neutral pin width (A)		9.08 ± 0.15	
Earth pin width (B)		9.08 ± 0.15	
Pin thickness (C)		1.63 + 0.15, -0.05	
Pin disposition (D)		checked by test gauge	
Pin disposition (E)		checked by test gauge	
Phase and neutral pin length (F)		17.06 ± 0.4	
Earth pin length (G)		19.94 ± 0.8	
Pin boss radius - maximum		21.0 max	
Pin boss height		8.6 min	

2.8.1	TABLE: Projection from plug face centroid		P
Direction of projection	Measured (mm)	Allowed (mm)	
Left	20.85	≤ 21.9 or ≥ 27.0	
Right	20.85	≤ 21.9 or ≥ 27.0	
Up	20.85	≤ 21.9 or ≥ 27.0	
Down	44.29	≤ 21.9 or ≥ 27.0	

2.13.3	TABLE: Test No. 1 – High voltage test		P
Test voltage applied between:	Test voltage (V)	Breakdown	
All poles of the plug; taken in pairs	1000	No	
Live poles of the plug and any external metal	3500	No	
Live poles and metal foil applied around insulation on pins	1250	No	

2.13.7.1	Test No.2 – Tumbling barrel test		P
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Attachment No. 2

IEC 62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Following the test, the samples shall comply with Clause 2.13.7.1(a..e)		P
	(a) Live parts shall not have become exposed to the standard test finger		P
	(b) For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained. AS/NZS 3100 Cl 8.5 The resistance shall not exceed 0.1 Ω	___ Ω .	N/A
	(c) Any other function affecting safety shall not be impaired		P
	(d) No live part shall have become detached or loosened, to the extent that a hazardous situation is created (see Clause 2.9)		P
	(e) The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking		P

	Test No.3 Impact test for assembled equipment with the detachable plug portion connected and for equipment with an integral plug portion.		N/A
	Following the test, the samples shall comply with Clause 2.13.7.1 (a..e) as follows:		N/A
	(a) Live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	(b) For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained so that the resistance between the earthing terminal of any socket-outlet provided with an earthing contact and the earthing terminal of the plug used for testing shall be of a low resistance. Compliance is by the test of earthing connection in AS/NZS 3100 Clause 8.5. The resistance shall not exceed 0.1 Ω	___ Ω .	N/A
	(c) Any other function affecting safety shall not be impaired		N/A
	(d) No live part shall have become detached or loosened, to the extent that a hazardous situation is created		N/A
	(e) The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking.		N/A

Attachment No. 2

IEC 62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Following the test, the samples shall conform to the 'Guarding of live parts' requirements of AS/NZS 3100:2015 cl 5.1 as follows:		N/A
	Except for equipment intended for use only in a position not accessible to unauthorized persons, all equipment shall be so designed and constructed that, when the equipment is standing, supported, or fixed, in a normal manner, no person can inadvertently come into contact with any live part		N/A
	If a hole giving access to preset controls is marked as such on the enclosure or reference made to it in the instructions and the setting of this control requires a screwdriver or other tool, the adjustment of the control shall not allow contact with any live parts. A metal test pin having a diameter of 2 mm and a length of 100 mm shall not become live when it is inserted through the hole in every position with a force of 10 N.		N/A
	In addition, the opening or removal of any cover or component, with or without tools, where such opening or removal is necessary as a normal operation of the equipment as distinct from maintenance, repairs, or adjustment, shall not expose live parts to inadvertent personal contact.		N/A
	Any metal cover or casing enclosing live parts shall be of a strength sufficient to ensure that it cannot be deformed readily so as to come into contact with live parts.		N/A
	Compliance is checked by inspection, test and checking that live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Class II equipment and class II constructions shall be constructed and enclosed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only.		N/A
	It shall only be possible to touch parts which are separated from live parts by double insulation or reinforced insulation.		N/A
	Compliance is checked by application of the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Following the test, the samples shall conform to the 'Separation of live parts from non-current-carrying conductive parts' requirements of AS/NZS 3100:CI 5.2.2 as follows:		N/A
	The support and insulation of every live part shall be such as will ensure that no live part can make contact with any non-current-carrying conductive part exposed to personal contact.		N/A

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IEC 62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	In respect of terminals of components such as switches, adequate clearances shall be maintained or insulation shall be provided to prevent contact of the terminals, or loose strands of flexible cords intended to be terminated therein, with exposed conductive parts. Where necessary, provision shall be made to ensure that conductors protruding through terminals, when normally connected, will not contact exposed conductive parts.		N/A
	Compliance is checked by inspection.		N/A
	Test No.3 Impact test for the detachable plug portion after it has been separated from the equipment		N/A
	Following the test, the samples shall comply with Clause 2.13.7.1 (a..e)		N/A
	(a) Live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	(b) For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained so that the resistance between the earthing terminal of any socket-outlet provided with an earthing contact and the earthing terminal of the plug used for testing shall be of a low resistance. Compliance is by the test of earthing connection in AS/NZS 3100 Clause 8.5. The resistance shall not exceed 0.1 Ω	___ Ω .	N/A
	(c) Any other function affecting safety shall not be impaired		N/A
	(d) No live part shall have become detached or loosened, to the extent that a hazardous situation is created		N/A
	(e) The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking.		N/A
	Following the test, the samples shall conform to the 'Guarding of live parts' requirements of AS/NZS 3100:2015 cl 5.1 as follows:		N/A
	Except for equipment intended for use only in a position not accessible to unauthorized persons, all equipment shall be so designed and constructed that, when the equipment is standing, supported, or fixed, in a normal manner, no person can inadvertently come into contact with any live part		N/A

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IEC 62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	If a hole giving access to preset controls is marked as such on the enclosure or reference made to it in the instructions and the setting of this control requires a screwdriver or other tool, the adjustment of the control shall not allow contact with any live parts. A metal test pin having a diameter of 2 mm and a length of 100 mm shall not become live when it is inserted through the hole in every position with a force of 10 N.		N/A
	In addition, the opening or removal of any cover or component, with or without tools, where such opening or removal is necessary as a normal operation of the equipment as distinct from maintenance, repairs, or adjustment, shall not expose live parts to inadvertent personal contact.		N/A
	Any metal cover or casing enclosing live parts shall be of a strength sufficient to ensure that it cannot be deformed readily so as to come into contact with live parts.		N/A
	Compliance is checked by inspection, test and checking that live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Class II equipment and class II constructions shall be constructed and enclosed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only.		N/A
	It shall only be possible to touch parts which are separated from live parts by double insulation or reinforced insulation.		N/A
	Compliance is checked by application of the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Following the test, the samples shall conform to the 'Separation of live parts from non-current-carrying conductive parts' requirements of AS/NZS 3100.CI 5.2.2 as follows:		N/A
	The support and insulation of every live part shall be such as will ensure that no live part can make contact with any non-current-carrying conductive part exposed to personal contact.		N/A
	In respect of terminals of components such as switches, adequate clearances shall be maintained or insulation shall be provided to prevent contact of the terminals, or loose strands of flexible cords intended to be terminated therein, with exposed conductive parts. Where necessary, provision shall be made to ensure that conductors protruding through terminals, when normally connected, will not contact exposed conductive parts.		N/A
	Compliance is checked by inspection.		N/A

Attachment No. 2

IEC 62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

2.13.8	TABLE: Test No. 6 - Temperature rise test		P
	Ambient temperature	25°C	
	Test current	1.65A	
Measured part		dT measured (K)	dT allowed (K)
Active (phase) terminal		9.4	45
Neutral terminal		8.1	45

2.13.9.1	TABLE: Movement of pins		P
	Earth and neutral pins clamped – phase pin loaded		
Force direction		Measured deflection (mm)	Allowed deflection (mm)
Force towards neutral plane parallel to pin plane		0.4	2.0
Force from neutral plane parallel to pin plane		0.4	2.0
Force outwards at 90° to pin plane		0.4	2.0
Force inwards at 90° to pin plane		0.4	2.0

2.13.9.1	TABLE: Movement of pins		N/A
	Phase and neutral pins clamped – earth pin loaded		
Force direction		Measured deflection (mm)	Allowed deflection (mm)
Force inwards parallel to pin plane			2.0
Force outwards parallel to pin plane			2.0
Force towards neutral			2.0
Force towards phase			2.0

2.13.9.1	TABLE: Movement of pins		P
	Phase and earth pins clamped – neutral pin loaded		
Force direction		Measured deflection (mm)	Allowed deflection (mm)
Force towards phase plane parallel to pin plane		0.4	2.0
Force from phase plane parallel to pin plane		0.4	2.0
Force outwards at 90° to pin plane		0.4	2.0
Force inwards at 90° to pin plane		0.4	2.0

2.13.13.3	TABLE: Test No.13(b) – Insulation resistance test after static damp heat test		P
Applied between:		Insulation resistance	Minimum required

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IEC 62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	(MΩ)	(MΩ)
Live poles and metal foil applied around insulation on pins	>500	5

2.13.13.3	TABLE: Test No.1 – High voltage test after static damp heat test		P
Test voltage applied between:		Test voltage (V)	Breakdown
Live poles and metal foil applied around insulation on pins		1250	No

2.13.13.4	TABLE: Test No.1 – Insulation resistance test after low temperature test		P
Applied between:		Insulation resistance (MΩ)	Minimum required (MΩ)
Live poles and metal foil applied around insulation on pins		>500	5

2.13.13.4	TABLE: Test No.1 – High voltage test after low temperature test		P
Test voltage applied between:		Test voltage (V)	Breakdown
Live poles and metal foil applied around insulation on pins		1250	No

J4.8.4.1	TABLE: Test no.12 Resistance to heat		N/A
Component tested		Temperature (°C)	Diameter of impression (mm)

Conformance is checked by subjecting the relevant part to the ball pressure test of IEC 60695-10-2.

J4.8.4.2	TABLE: Test no.13 Resistance to Fire		N/A
	Plug portions shall comply with the requirements for resistance to fire in accordance with AS/NZS 3100:2017 Annex A. The glow-wire test temperature 'T' shall be 750°C.		

Glow-wire testing was conducted in accordance with IEC 60695-2-10 and IEC 60695-2-11.

Test specimens arranged so that the surface in contact with the tip of the glow-wire was vertical and glow wire tip applied to surface of the specimen likely to be subjected to thermal stresses in normal use.

A layer of white pine board and wrapping tissue was placed beneath the sample at 200mm ± 5mm distance.

SPECIMEN NUMBER	1	2	3	4
SPECIMEN DESCRIPTION				
Material				
Colour				

Attachment No. 2

IEC 62368_1B ATTACHMENT				
Clause	Requirement + Test	Result - Remark		Verdict
Test specimen				
Glow wire tip temperature (°C)	750	750	750	750
Duration of glow wire application (t _a) (s)	30	30	30	30
OBSERVATIONS				
Duration from beginning of glow-wire tip application to ignition of specimen or layer (t _i) (s)				
Duration from beginning of glow-wire tip application to when flames extinguish (t _e) (s)				
Maximum height of flames after initial 1s (to nearest 5 mm) (mm)				
Flame impingement on other parts				
Degree of tip penetration				
Degree of specimen distortion				
Scorching of pinewood board				
EVALUATION CRITERIA				
Visible flame or sustained glowing				
Visible Flame Duration in Seconds during test.				
Duration of flaming or glowing after tip removal (max. allowable 30 s) (s)				
Surrounding parts burned away completely (not permitted)				
Ignition of wrapping tissue layer (not permitted)				
RESULTS If parts tested withstand the glow-wire test, but during the test produce a flame that persists for longer than 2 s, then the consequential needle flame test of AS/NZS 3100:2017 Annex A 6.1.5 applies.				

LEGEND:

CE	Complete Equipment	SA	Sub Assembly	SE	Self Extinguished
EBD	Emitted Burning Droplets	SBD	Specimen Burned and Distorted	SMD	Specimen Melted and Distorted
ME	Manually Extinguished	SC	Separate Component	SS	Specimen Scorched
NA	Not Applicable	SCC	Specimen Completely Consumed	WPNI	Wall Penetrated but no Ignition
NI	No Ignition	X	Flame Appeared for an Instant		

Glow-wire testing was conducted in accordance with IEC 60695-2-10 and IEC 60695-2-11. Test specimens arranged so that the surface in contact with the tip of the glow-wire was vertical and glow wire tip applied to surface of the specimen likely to be subjected to thermal stresses in normal use. A layer of white pine board and wrapping tissue was placed beneath the sample at 200mm ± 5mm distance.

Attachment No. 2

IEC 62368_1B ATTACHMENT					
Clause	Requirement + Test	Result - Remark			Verdict
SPECIMEN NUMBER	5	6	7	8	
SPECIMEN DESCRIPTION					
Material					
Colour					
Test specimen					
Glow wire tip temperature (°C)					
Duration of glow wire application (t _a) (s)	30	30	30	30	
OBSERVATIONS					
Duration from beginning of glow-wire tip application to ignition of specimen or layer (t _i) (s)					
Duration from beginning of glow-wire tip application to when flames extinguish (t _e) (s)					
Maximum height of flames after initial 1s (to nearest 5 mm) (mm)					
Flame impingement on other parts					
Degree of tip penetration					
Degree of specimen distortion					
Scorching of pinewood board					
EVALUATION CRITERIA					
Visible flame or sustained glowing					
Visible Flame Duration in Seconds during test.					
Duration of flaming or glowing after tip removal (max. allowable 30 s) (s)					
Surrounding parts burned away completely (not permitted)					
Ignition of wrapping tissue layer (not permitted)					
RESULTS If parts tested withstand the glow-wire test, but during the test produce a flame that persists for longer than 2 s, then the consequential needle flame test of AS/NZS 3100:2017 Annex A 6.1.5 applies					

LEGEND: CE Complete Equipment SA Sub Assembly SE Self Extinguished
EBD Emitted Burning Droplets SBD Specimen Burned and Distorted SMD Specimen Melted and Distorted
ME Manually Extinguished SC Separate Component SS Specimen Scorched

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IEC 62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

NA Not Applicable
NI No Ignition

SCC Specimen Completely Consumed
X Flame Appeared for an Inst

WPNI Wall Penetrated but no Ignition

TABLE: Needle- flame test (NFT)					
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict

Supplementary information:

- NFT not relevant (or applicable) for Parts of material classified as V-0 or V-1
- NFT not relevant (or applicable) for Base material of PCBs classified as V-0 or if relevant VTM-0

Attachment No. 2

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
<div>ATTACHMENT TO TEST REPORT</div> <div>IEC 62368-1</div> <div>U.S.A. AND CANADA NATIONAL DIFFERENCES</div> <div>(Audio/video, information and communication technology equipment – Part 1: Safety requirements)</div>			
Differences according to		CSA/UL 62368-1:2014	
TRF template used:		IECEE OD-2020-F3, Ed. 1.1	
Attachment Form No.....		US_CA_ND_IEC62368_1D	
Attachment Originator		UL(US)	
Master Attachment.....		Dated 2021-02-04	
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			

IEC 62368-1 - US and Canada 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.		N/A
1.4	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.		N/A
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.		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.		N/A
4.8	Lithium coin / button cell batteries have modified special construction and performance requirements.		N/A

Attachment No. 2

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
5.7.7	Equipment intended to receive telecommunication ringing signals complies with a special touch current measurement tests.		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.		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.		N/A
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.		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.		N/A
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
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.		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.		N/A
Annex M	Battery packs for stationary applications comply with special component requirements.		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.		N/A

Attachment No. 2

IEC62368_1D 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.		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.		N/A
	Baby monitors additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
Annex DVA (5.6.3)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.		N/A
Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) 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.		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).		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).		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."		N/A
Annex DVA (F.3.3.5)	Equipment identified for ITE (computer) room installation is marked with the rated current		N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position		N/A

Attachment No. 2

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (G.3.4)	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
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).		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.		N/A
Annex DVA (G.5.3)	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
Annex DVA (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.		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.		N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.		N/A

Attachment No. 2

IEC62368_1D 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.		N/A
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.		N/A
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are in accordance with the NEC/CEC.		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.		N/A
Annex DVH (DVH.3.2)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
Annex DVH (DVH 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.		N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.		N/A



Attachment No. 2

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

Attachment No. 2

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 DENMARK NATIONAL DIFFERENCES Audio/video, information and communication technology equipment – Part 1: Safety requirements	
Differences according to.....:	DS/EN 62368-1:2014
Attachment Form No.....:	DK_ND_IEC62368_1D
Attachment Originator	UL (Demko)
Master Attachment	2021-02-04
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	National Differences		
4.1.15	<p>To the end of the subclause the following is added:</p> <p>Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.”</p>		N/A
5.2.2.2	<p>After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>		N/A
5.6.1	<p>Add to the end of the subclause:</p> <p>Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment.</p> <p>Justification: In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.</p>		N/A
5.7.5	<p>To the end of the subclause the following is added:</p> <p>The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10</p>		N/A

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IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	mA d.c.		
5.7.6.2	<p>To the end of the subclause the following is added:</p> <p>The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA.</p>		N/A
G.4.2	<p>To the end of the subclause the following is added:</p> <p>Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.</p> <p>Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a.</p> <p>Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c.</p> <p>Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a</p> <p>Justification: Heavy Current Regulations, Section 6c</p>		N/A

Attachment No. 2

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 ITALY NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment – Part 1: Safety requirements)			
Differences according to : CEI EN 62368-1:2016			
Attachment Form No. : IT_ND_IEC62368_1D			
Attachment Originator : IMQ S.p.A.			
Master Attachment : Date 2021-02-04			
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F.1	Italy The following requirements shall be fulfilled: <ul style="list-style-type: none"> • The power consumption in Watts (W) shall be indicated on TV receivers and in their instruction for use (Measurement according to EN 60555-2). <i>Note: EN 60555-2 has since been replaced by IEC 60107-1:1997.</i> <ul style="list-style-type: none"> • TV receivers shall be provided with an instruction for use, schematic diagrams and adjustments procedure in Italian language. • Marking for controls and terminals shall be in Italian language. Abbreviation and international symbols are allowed provided that they are explained in the instruction for use. • The ECC manufacturers are bound to issue a conformity declaration according to the above requirements in the instruction manual. The correct statement for conformity to be written in the instruction manual, shall be: <i>Questo apparecchio è fabbricato nella CEE nel rispetto delle disposizioni del D.M. marzo 1992 ed è in particolare conforme alle prescrizioni dell'art. 1 dello stesso D.M.</i> • The first importers of TV receivers manufactured outside EEC are bound to submit the TV receivers for previous conformity certification to the Italian Post Ministry (PP.TT). The TV receivers shall have on the backcover the certification number in the following form: D.M. 26/03/1992 xxxxx/xxxxx/S or T or pT S for stereo T for Teletext 		N/A

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IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>pT for retrofitable teletext</p> <p><i>Justification:</i></p> <p>Ministerial Decree of 26 March 1992 : National rules for television receivers trade.</p> <p>NOTE/: Ministerial decree above contains additional, but not safety relevant requirements</p>		

Attachment No. 2

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

ATTACHMENT TO TEST REPORT IEC 62368-1 (JAPAN) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment – Part 1: Safety requirements)			
Differences according to : J62368-1 (2020)			
TRF template used: : IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No. : JP_ND_IEC62368_1D			
Attachment Originator : UL (JP)			
Master Attachment : Date 2021-02-04			
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	National Differences		—
4.1.2	Where the component, or a characteristic of a component, is a safeguard or a part of a safeguard, components shall comply with the requirements of this standard or, where specified in a requirements clause, with the safety aspects of the relevant JIS component standards or IEC component standards, or components shall have properties equivalent to or better than these.		N/A
5.6.1	Mains socket-outlet and appliance outlet shall comply with Clause G.4.2A if they are incorporated as part of the equipment.		N/A
5.6.2.1	Mains connection of class 0I equipment: Instructional safeguard in accordance with Clause F.3.6.1A; Mains plug having a lead wire for protective earthing connection of class 0I equipment; Independent main protective earthing terminal installed by ordinary person.		N/A
5.6.2.2	This requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector.		N/A
5.6.3	In case of class 0I equipment using power supply cord having two conductors (no earthing conductor), the conductor of protective earthing lead wire shall comply with either of the following: – use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having size and strength that are equivalent to or more than the above copper wire – single core cord or single core cable with 1.25 mm ² or more cross-sectional area		N/A

Attachment No. 2

IEC 62368-1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.3	For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS C 8282 series or JIS C 8303, or otherwise being considered to comply with relevant regulations, or that is provided with mains appliance outlet as specified in JIS C 8283-2-2 for the purpose of interconnection, the measurement is conducted on the system of the interconnected equipment having a single connection to the mains.		N/A
5.7.4	In case of class 0I equipment, touch current shall not exceed 1.41 mA peak or for sinusoidal wave, 1.0 mA r.m.s. when measured using the network specified in Figure 4 of IEC 60990.		N/A
6.4.3.3	A fuse complying with JIS C 6575 series or a fuse having equivalent characteristics shall open within 1 s. For Class A fuse of JIS C 6575, replace "2.1 times" by "1.35 times" and in case of Class B fuse of JIS C 6575, replace "2.1 times" by "1.6 times". A fuse not complying with JIS C 6575 series shall be tested with the breaking capacity taken into account.		N/A
8.5.4.2.1	Only three-phase stationary equipment rated more than 200 V ac can be considered as being for use in locations where children are not likely to be present, when complying with Clause F.4.		N/A
8.5.4.2.2	For equipment installed where children may be present, an instructional safeguard shall be provided by easily understandable wording in accordance with Clause F.5, except that element 3 is optional.	Should be evaluated when submitted to national approval	N/A
8.5.4.2.4	The media destruction device is tested according to Clause V.1.2 with applicable jointed test probes to the opening. And then the wedge probe per Figure V.4 shall not contact any moving part.	Not media destruction device	N/A
8.5.4.2.5	The wedge probe of Figure V.4 and applicable jointed test probes specified in Clause V.1.2 shall not contact any moving part. Instructional safeguard shall not be used instead of equipment safeguard for preventing access to hazardous moving parts.		N/A
9.2.6, Table 38	Handles, Knobs, grips, etc. and external surfaces either held, touched or worn against the body in normal use (> 1 min) ^{b,c}	No TS2 accessible parts	N/A
F.3.5.1	Instructional safeguard of class 0I equipment in accordance with Clause F.5 when a mains socket-outlet as specified in JIS C 8282 series, JIS C 8303 or relevant regulation to which class I equipment can be connected is provided in accordance with Clause G.4.2A except for the cases where the socket-outlet is accessible only to skilled persons.		N/A

Attachment No. 2

IEC 62368-1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.5.3	If the fuse is necessary for the safeguard function, the symbols indicating pre-arcing time-current characteristic.		N/A
F.3.6.1A	Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.3 shall be applied to class 0I equipment. For class 0I equipment, a marking of instructions and instructional safeguard shall be provided regarding the earthing connection.		N/A
F.3.6.2.1	Symbols, IEC 60417-5172 (2003-02) or IEC 60417-6092 (2011-10), shall not be used for class I equipment or class 0I equipment.		N/A
F.4	Instruction for audio equipment with terminals classified as ES3 in accordance with Table E.1, and for other equipment with terminals marked in accordance with F.3.6.1 and F.3.6.1A. Installation instruction for the protective earthing connection for class 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided within the package for the equipment.		N/A
G.3.2.1	The thermal link when tested as a separate component, shall comply with the requirements of JIS C 6691 or have properties equivalent to or better than that.		N/A
G.3.4	Except for devices covered by Clause G.3.5, overcurrent protective devices used as a safeguard shall comply with the relevant part of JIS C 6575 (corresponding to IEC60127) or shall have equivalent characteristics. If there are no applicable IEC standards, overcurrent protective devices used as a safeguard shall comply with their applicable IEC standards.		N/A
G.4.1	This requirement is not applicable to Clauses G.4.2 and G.4.2A.		N/A
G.4.2	Mains connector shall comply with JIS C 8282 series, JIS C 8283 series, JIS C 8285, JIS C 8303 or IEC 60309 series. Mains plugs and socket-outlets shall comply with JIS C 8282 series, JIS C 8303, IEC 60309 series, or have equivalent or better performance. A power supply cord set provided with appliance connector that can fit appliance inlet complying with JIS C 8283-1 shall comply with JIS C 8286. Construction preventing mechanical stress not to transmit to the soldering part of inlet terminal. Consideration for an equipment rated not more than 125 V provided with Type C14 and C18 appliance coupler complying with JIS C 8283 series.		N/A

Attachment No. 2

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

G.4.2A	Mains socket-outlet and interconnection coupler provided with the class II, class I and class 0I equipment respectively.		N/A
G.7.1	A mains supply cord need not include the protective earthing conductor for class 0I equipment provided with independent protective earthing conductor.		N/A
G.8.3.3	Withstand $1,71 \times 1.1 \times U_0$ for 5 s.		N/A

APPENDIX	J3000 (H25) Special National conditions, National deviation and other information according to MITI Ordinance No. 85.		--
1	General requirement When equipment provides with appliance inlet complying with JIS C 8283-1 (2008), soldered parts of appliance inlet is not applied by force during insert or removal of connector. This is not applied when inlet body is fixed itself and not fixed by solder.		N/A
2	Requirement for equipment		N/A
2.1	Electric heater, and the matches that are connected in parallel to power regulation diode, and that there is no abnormality in a state of being opened diode 1. Compliance is checked by the following.		N/A
	- Diode 1 has a rated capacity of more than the current of the main circuit, a diode which are connected in parallel, that this is the same specifications.		N/A
	- When subjected to a temperature rise test as specified in 11 JIS C 9335-2-30 (2006) and uncoupled one of the diode connected in parallel, to conform thereto. "		N/A
	In and an electric heating device, it can be in one that is connected in parallel rectifier connected to the power supply to adjust the power consumption, and that there is no abnormality in a state where the rectifier 1 is opened. Compliance is checked by the following.		N/A
	- Rectifier 1 has a rated capacity of more than the current of the main circuit, rectifiers connected in parallel, that this is the same specifications.		N/A

Attachment No. 2

IEC 62368-1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- The Addition 11. JIS C 9335-1 (2003), when subjected to temperature rise test specified in the individual requirements of the application, can be adapted to this in uncoupled one of the rectifier connected in parallel. "		N/A
2.2	Electronic heater with glowing heating elements		N/A
	Surface treatment by paint or adhesive on protective frame or protective mesh shall not be used.		N/A
	Caution marking like below shall be on -easily visible place of the equipment or -Instruction manual		N/A
3	Components used in equipment		N/A
3.1	To be used for electric freezer Electric Cooling machines, electric washing machine, or electric refrigerator "		N/A
	To be used for electricity Freezer hood, electric fan, electric cooling machines, electric washing machine, or electric refrigerator		N/A
	Due to malfunction of the capacitor, which are housed to prevent the spread of flame or melt, the outer shell of metal or ceramic. However, the shell, there may be openings for connecting wires to the motor capacitor.		N/A
	Due to malfunction of the capacitor, which are housed to prevent nucleic acid melt or flame, the outer metal or ceramic. However, the shell, there may be openings for connecting wires to the motor capacitor.		N/A
	In this case, the expression "are housed in a ceramic shell or metal" is housed case ceramic (inner shell) metal or prevent the diffusion of the melt flame or means of the shell except the capacitor touches the test finger even if there to within 50mm of the capacitor is non-metallic section that refers to, housed along with capacitor not specified JIS C 4908 (2007) in the case of metal or ceramic thereof, and the melt or flame shall be deemed to prevent it from spreading.		N/A
	No non-metallic materials within 50 mm from capacitor surface		N/A
	Non-metallic material with 50 mm from capacitor surface comply with needle frame test of JIS 9335-1(2003), Annex E		N/A

Attachment No. 2

IEC 62368-1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Non-metallic material with 50 mm from capacitor surface comply with V-1 test of JIS C 60965-11-10(2006)		N/A
3.2	<p>Plug directly inserted to outlet used refrigerator or electric freezer.</p> <p>Shall comply with</p> <ul style="list-style-type: none"> - Face contact with outlet shall have CTI with more than 400 according to JIS C 2134(2007) or - Supporting material of blades shall comply with glow wire test by temperature of 750°C according to JIS C 60695-2-11(2004) or JIS C 60695-2-12(2004). <p>Materials having glow wire frame temperature of 775°C are acceptable.</p>		N/A

Attachment No. 2

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

SE Sweden			SE
4.1.15	<p>Denmark, Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord."</p> <p>In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>		N/A

Attachment No. 2

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.11.1 And Annex G	<p>Finland and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5 kV. <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; <p>the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.</p>		N/A
5.5.6	<p>Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.</p>		N/A

Attachment No. 2

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.1	<p>Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>“Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)”</p> <p>NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.”</p> <p>Translation to Swedish:</p> <p>“Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”</p>		N/A

Attachment No. 2

IEC 62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 SASO NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment – Part 1: Safety requirements)		
National Differences : SASO-IEC-62368-1		
National standards website : https://wasif.saso.gov.sa/		
Important for products that have plug		
Plug National Differences	SASO-2203	N/A

Contains

Cover page	1 page
EU plug portion test report	3 pages
Total:	4 pages

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“EU plug portion test” according to EN 50075:1990

Clause	Requirement- Test	Result- Remark	Verdict
7	Dimension of plug shall comply with Standard Sheet 1	(See appended table)	P

8	Protection against electric shock		P
8.1	Live parts of the plugs, with the exception of the bare metal pins, should not be accessible. (75N, 60 second in 35°C ambient)		P
8.2	It should not be possible to make connection between a pin of a plug and live socket contact of a socket while the other pin is accessible.		P
8.3	External parts of the plugs made of insulating material.		P

9	Construction		P
9.3	Plugs shall have adequate mechanical strength to withstand the stresses imposed during use.		P
9.4	Pins of plugs shall be locked against rotation and adequately fixed into body of the plug.		P
9.6	Plug shall be shaped in such a way and made of such material that they can easily be withdrawn by hand from the socket outlet		P

13	Mechanical Strength		P
13.1	Compression test, 150N		P
13.2	Tumbling barrel test for adapter After test, the pin shall not turn when a torque of 0.4Nm is applied, first in one direction for 1 min and then in the opposite direction for 1 min.	Tumbling barrel: __500__ times (The EK1 557-13 requirement was considered)	P
13.3	Abrasion test on the insulating sleeves		P
13.4	Pin shall not have displaced in body of the plug more than 1mm; force (N)	50N, displacement: 0.4mm	P

15	Current-carrying parts and connection		P
15.2	Electric connection shall be so designed that contact pressure is not transmitted through insulation.		P
15.3	Current-carrying parts		P
	Copper		P
	Alloy containing at least 58% of copper or equivalent	59.76%	P
	Suitable metals, other than copper or copper alloy		N/A

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Clause	Requirement- Test	Result- Remark	Verdict
17	Resistance of insulating material to abnormal heat and fire		P
	Glow-wire test		P
	Parts of insulating material to retain current-carrying parts:750°C		P
	Other parts: 650°C		P

For model: AF04-xxxxyy, AFUA04-K011, AF-045PD, AF1485305

7	Table: Dimension of plug				P
Location	1 st Sample	2 nd Sample	3 rd sample	Limit (mm)	
A	26.19	26.18	26.20	26.1 ± 0.5* ¹	
B	13.62	13.63	13.60	13.7 ± 0.7* ¹	
C	35.56	35.55	35.54	35.3 ± 0.7* ¹	
(see note *1)	19.12	19.10	19.11	≥18	
D	19.18	19.17	19.16	19 ± 0.5	
E	4.02	4.01	4.02	Ø4.0 ± 0.06	
F	3.37	3.38	3.38	Ø3.8 Max.	
F	3.79	3.79	3.80	Ø4.0 Max.* ³	
F	3.78	3.78	3.79	4 Max.* ³	
G	10.24	10.26	10.25	10-11	
a1	18.44	18.46	18.45	18-19.2* ²	
a2	17.37	17.37	17.36	17-18* ²	
H	19.12	19.10	19.11	4 Min.	
I	R5.54	R5.52	R5.53	R5-R6	
J	45°	45°	45°	---	
Alternative for end of pins					
K	N/A	N/A	N/A	Ø0.7- Ø1.7	
L	N/A	N/A	N/A	90° Max.	
M	N/A	N/A	N/A	2 Max.	

For model: AE-30, AE-45, AE45

7	Table: Dimension of plug				P
Location	1 st Sample	2 nd Sample	3 rd sample	Limit (mm)	
A	25.76	25.78	25.77	26.1 ± 0.5* ¹	
B	14.32	14.30	14.31	13.7 ± 0.7* ¹	
C	34.93	34.94	34.94	35.3 ± 0.7* ¹	
(see note *1)	18.60	18.61	18.60	≥18	
D	18.84	18.86	18.86	19 ± 0.5	
E	3.99	3.99	4.00	Ø4.0 ± 0.06	
F	3.43	3.44	3.43	Ø3.8 Max.	
F	3.81	3.82	3.81	Ø4.0 Max.* ³	
F	3.78	3.78	3.79	4 Max.* ³	
G	10.32	10.33	10.32	10-11	
a1	18.53	18.55	18.55	18-19.2* ²	
a2	17.88	17.86	17.85	17-18* ²	
H	18.60	18.61	18.60	4 Min.	
I	R5.47	R5.48	R5.48	R5-R6	
J	45°	45°	45°	---	
Alternative for end of pins					

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K	N/A	N/A	N/A	Ø0.7- Ø1.7
L	N/A	N/A	N/A	90° Max.
M	N/A	N/A	N/A	2 Max.

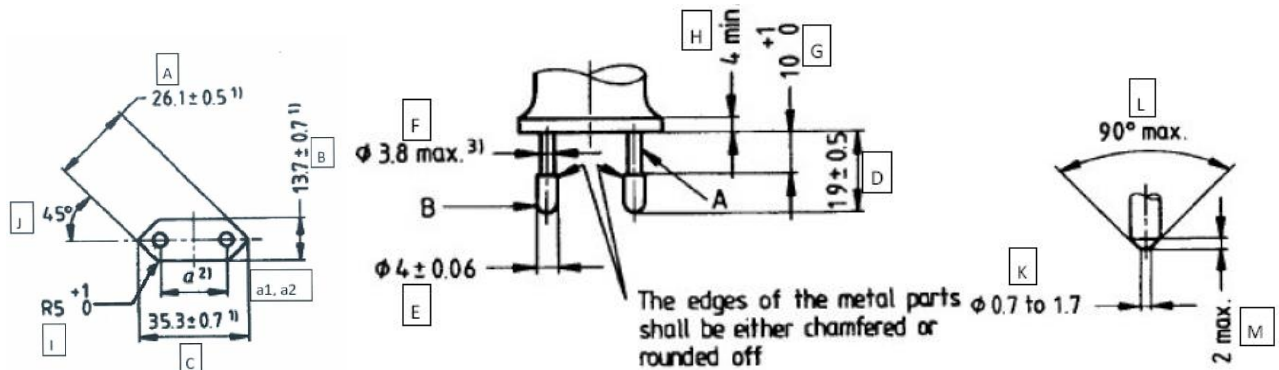
Note

*1: These dimension shall not exceeded within a distance of 18mm from the engagement face of plug.

*2: a1: in the plane of the engagement face, a2: at the ends of pins.

*3: This dimension may be increased to 4mm within a distance of 4mm from engagement face of plug.

Remark: see standard sheet 1 for details of location of measurement.

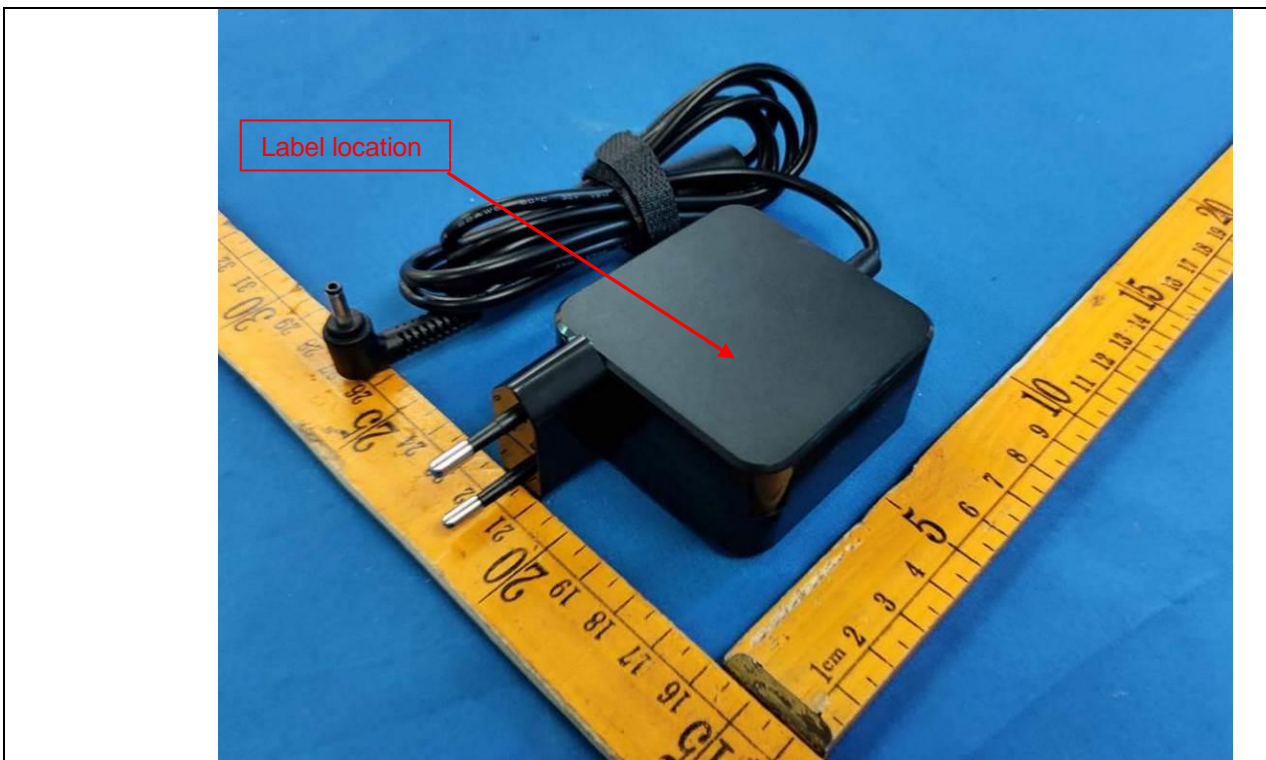


Standard sheet 1

Details of: Overall view-1 (Model: AF04-xxxxyy, AFUA04-K011, AF-045PD, AF1485305)

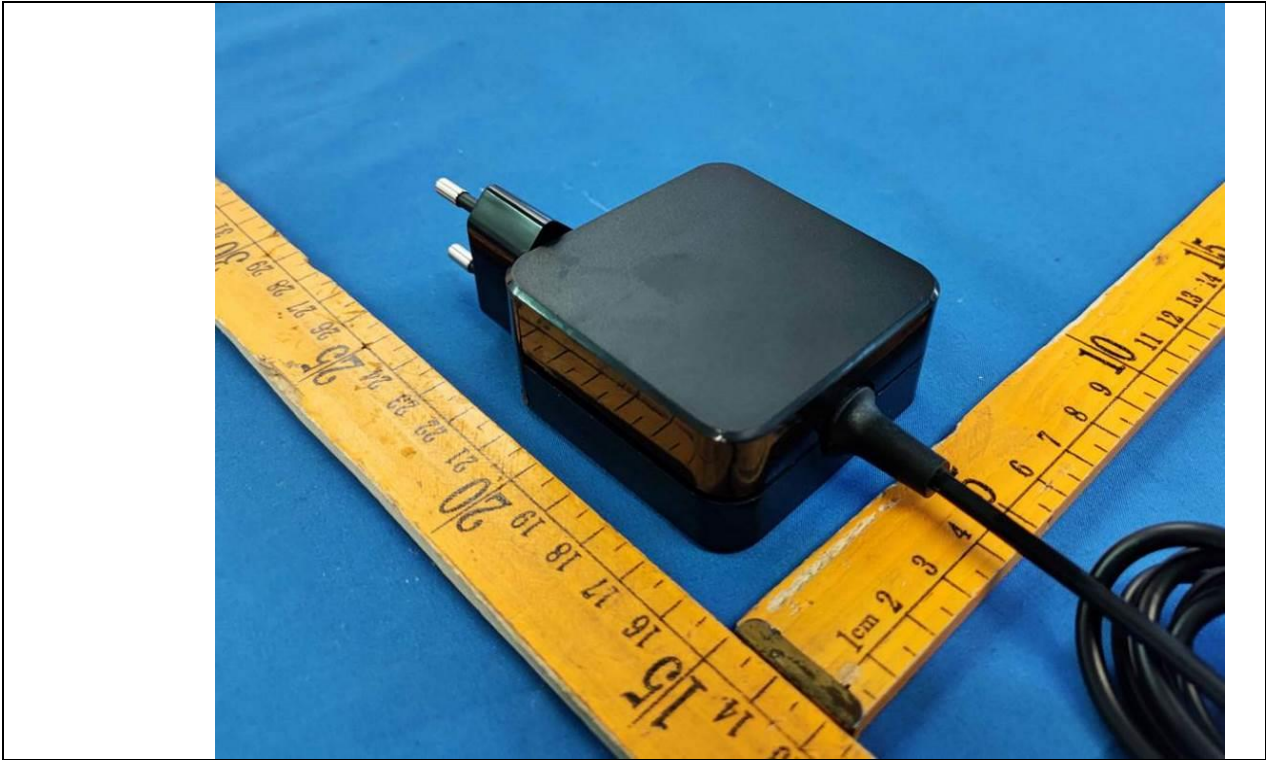


Details of: Overall view-2 (Model: AF04-xxxxyy, AF1485305)



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Details of: Overall view-3 (Model: AF04-xxxxyy, AFUA04-K011, AF-045PD, AF1485305)



Details of: Overall view-4 (Model: AFUA04-K011, AF-045PD)



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Details of: Overall view-5 (Model: AFUA04-K011A, AF-045PD-K011)



Details of: Overall view-6 (Model: AF04-xxxxyy-K011, AF1485305-K011)

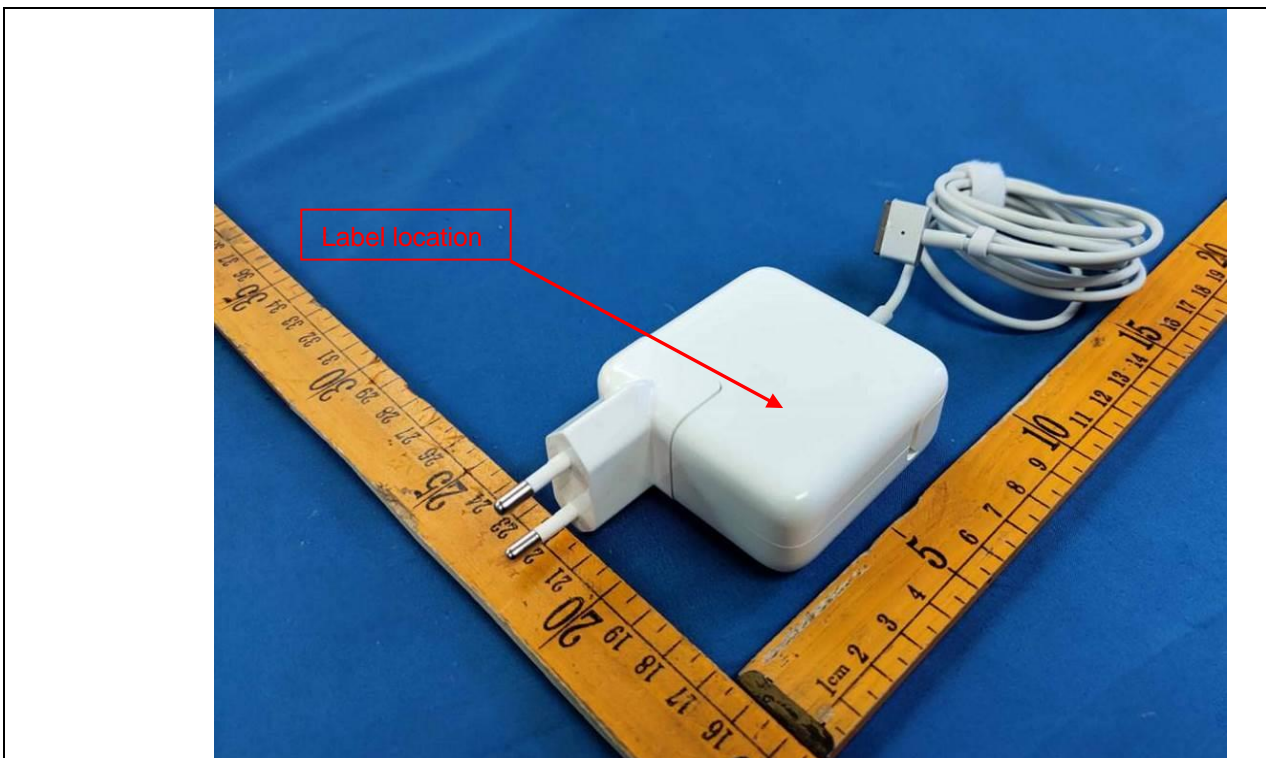


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Details of: Overall view-7 (Model: AF04-xxxxyy-K011, AFUA04-K011A, AF-045PD-K011, AF1485305-K011)



Details of: Overall view-8 (Model: AE-45, AE45)

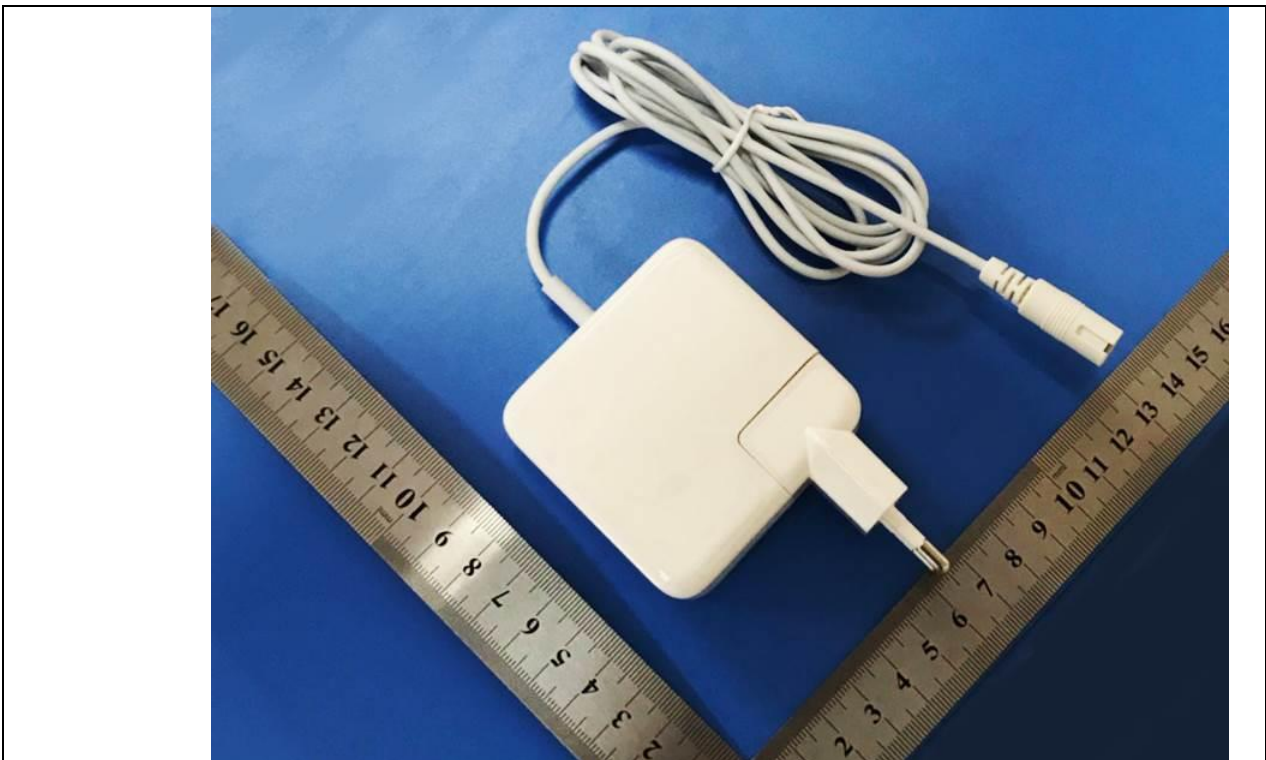


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Details of: Overall view-9 (Model: AE-30, AE-45, AE45)



Details of: Overall view-10 (Model: AE-30)



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Details of: Overall view-11 (Model: AE-30, AE-45, AE45)



Details of: Internal view-1 (Model: AF04-xxxxyy, AFUA04-K011, AF-045PD, AF1485305)

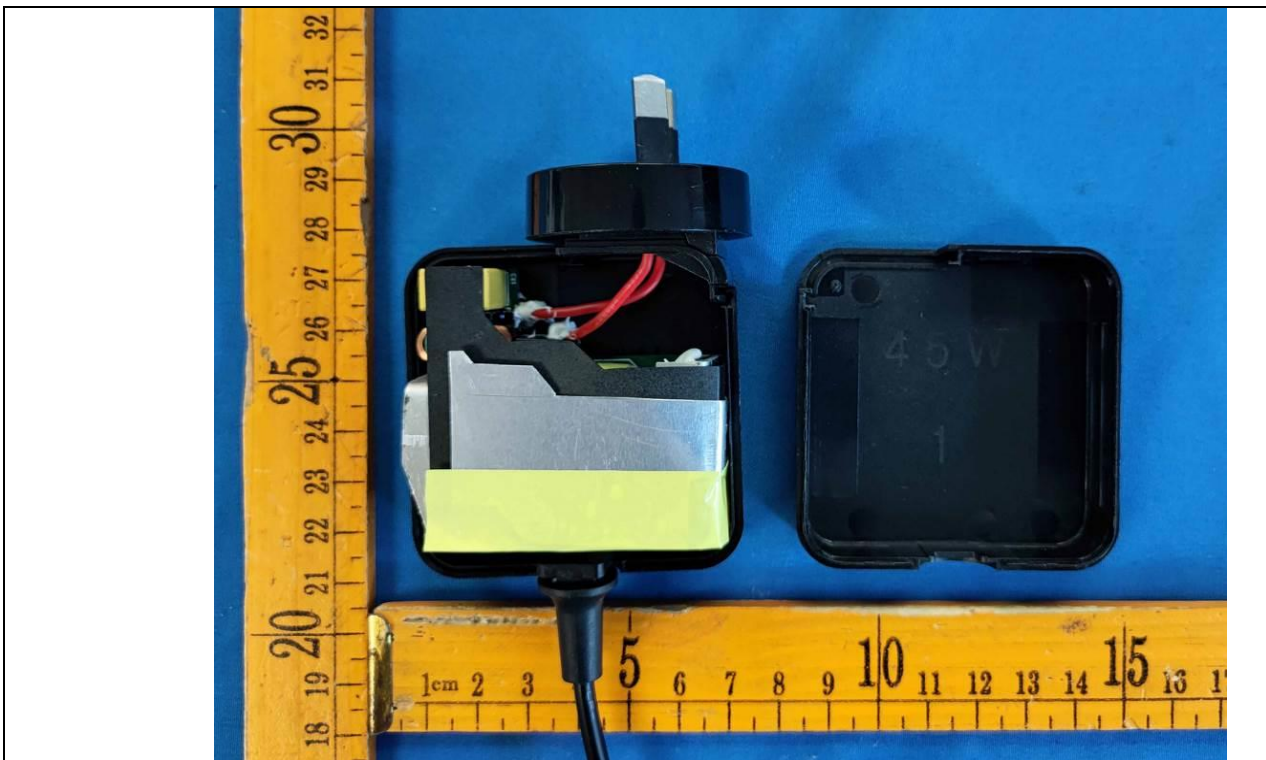


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Details of: Internal view-2 (Model: AF04-xxxxyy, AFUA04-K011, AF-045PD, AF1485305)

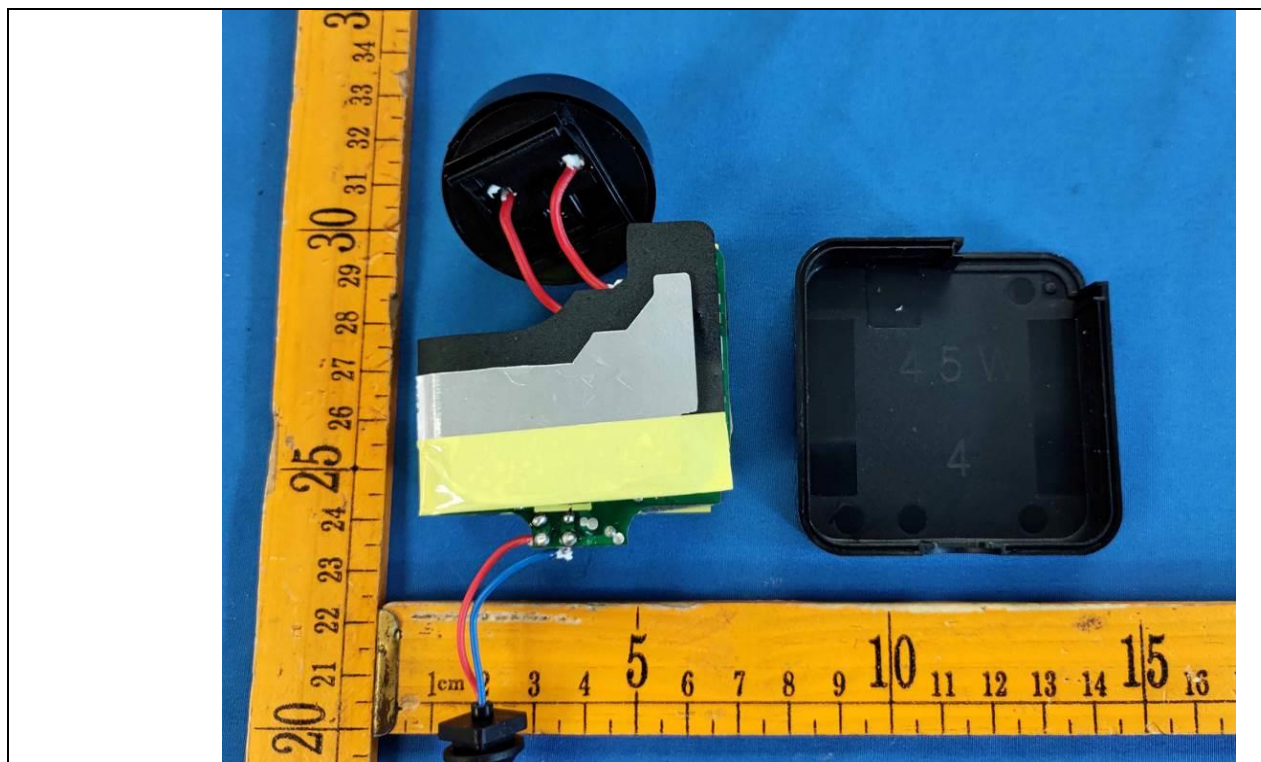


Details of: Internal view-3 (Model: AF04-xxxxyy-K011, AFUA04-K011A, AF-045PD-K011, AF1485305-K011)

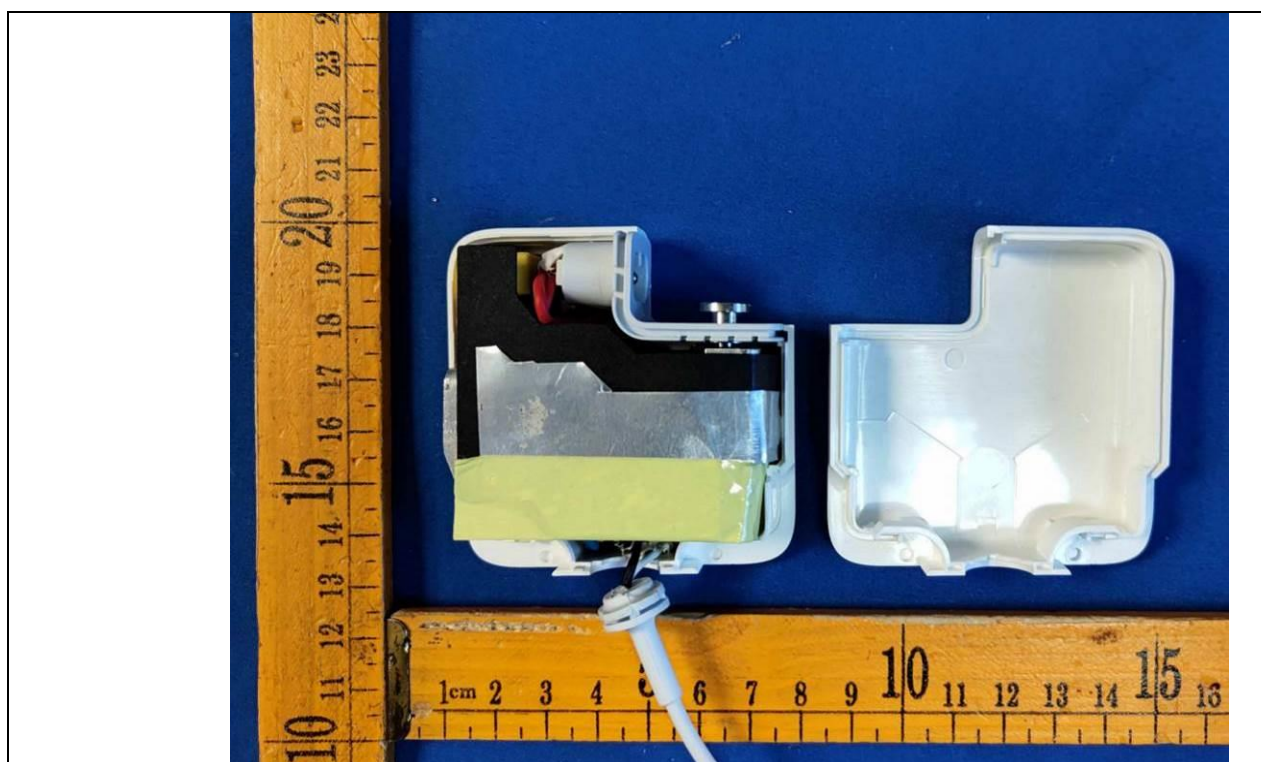


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Details of: Internal view-4 (Model: AF04-xxxxyy-K011, AFUA04-K011A, AF-045PD-K011, AF1485305-K011)

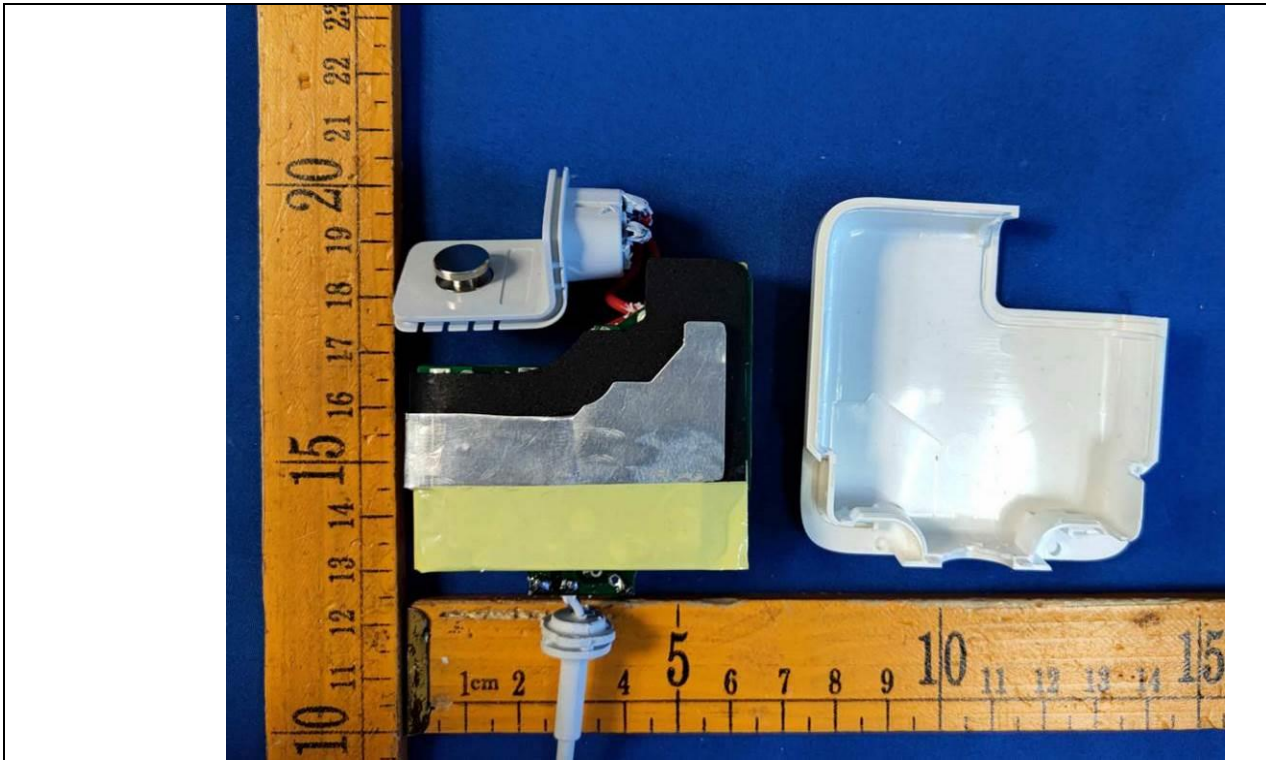


Details of: Internal view-5 (Model: AE-30, AE-45, AE45)

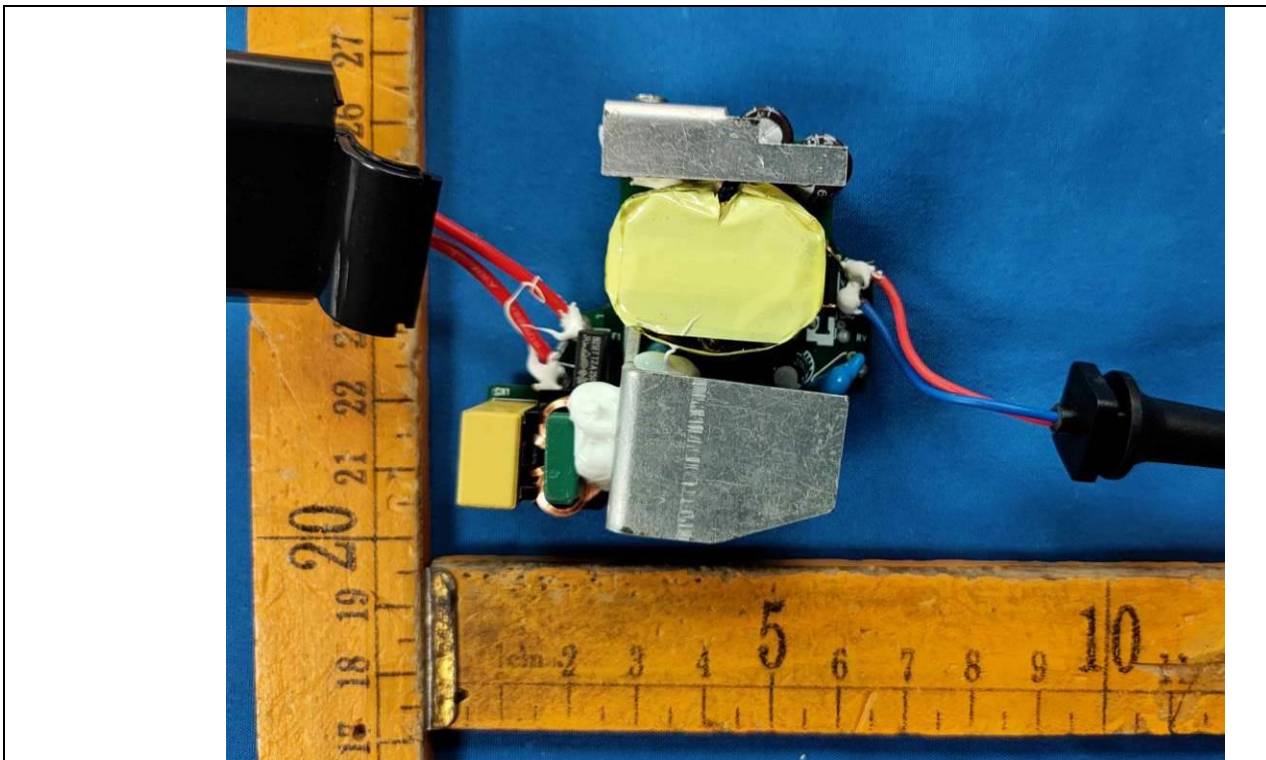


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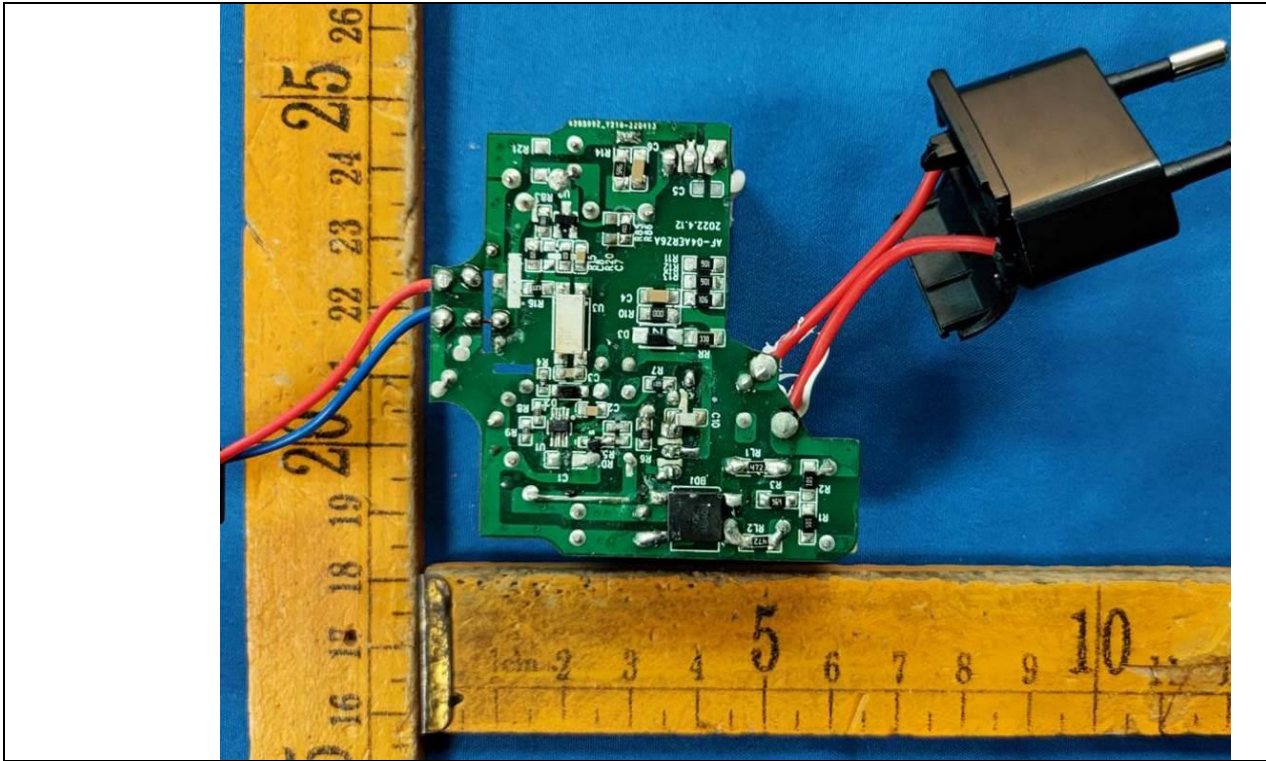
Details of: Internal view-6 (Model: AE-30, AE-45, AE45)



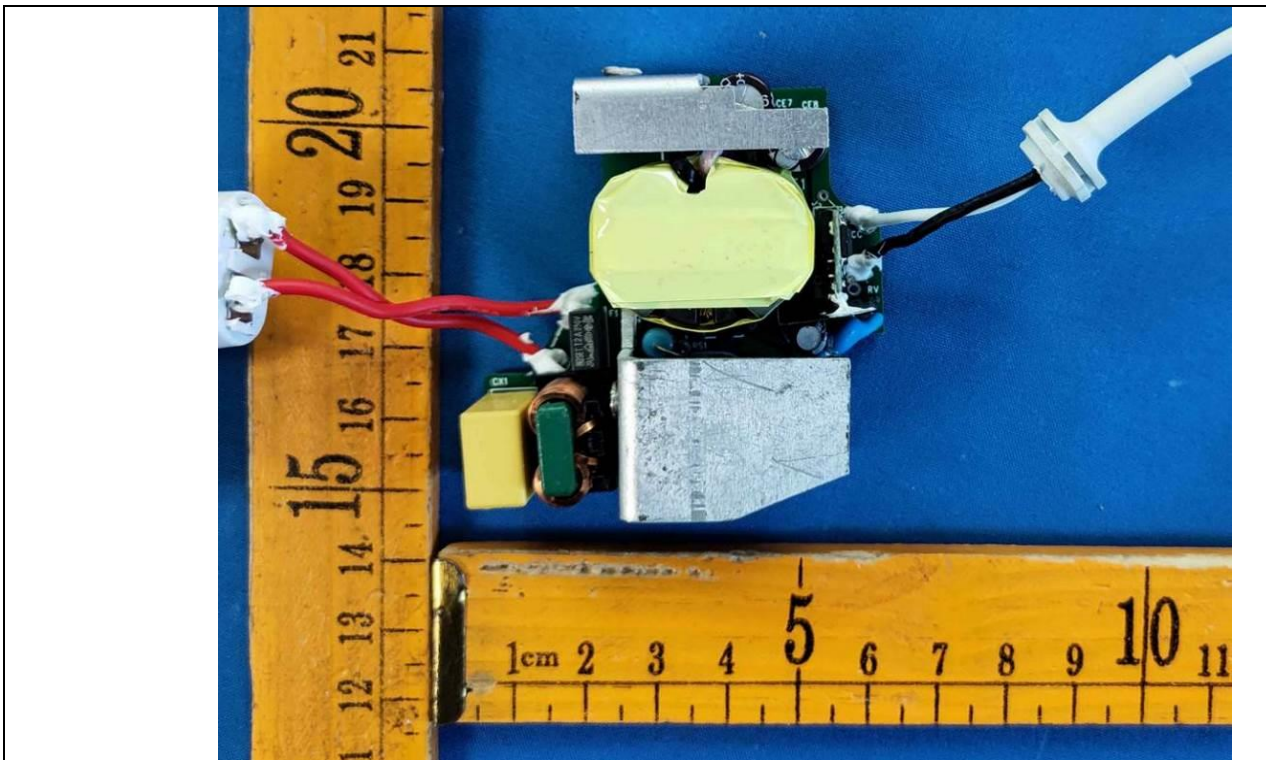
Details of: Internal view-7, without secondary PCB: AF-AEWY



Details of: Internal view-8, without secondary PCB: AF-AEWY

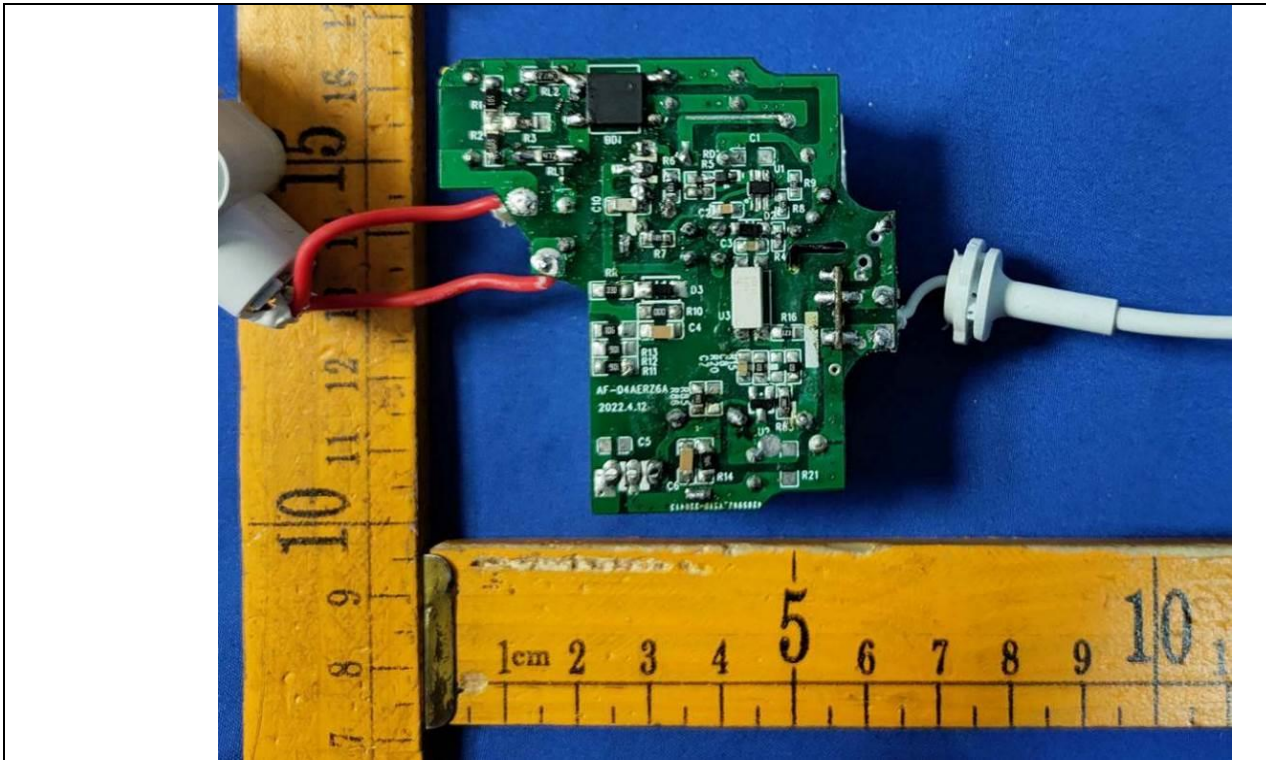


Details of: Internal view-9, with secondary PCB: AF-AEWY

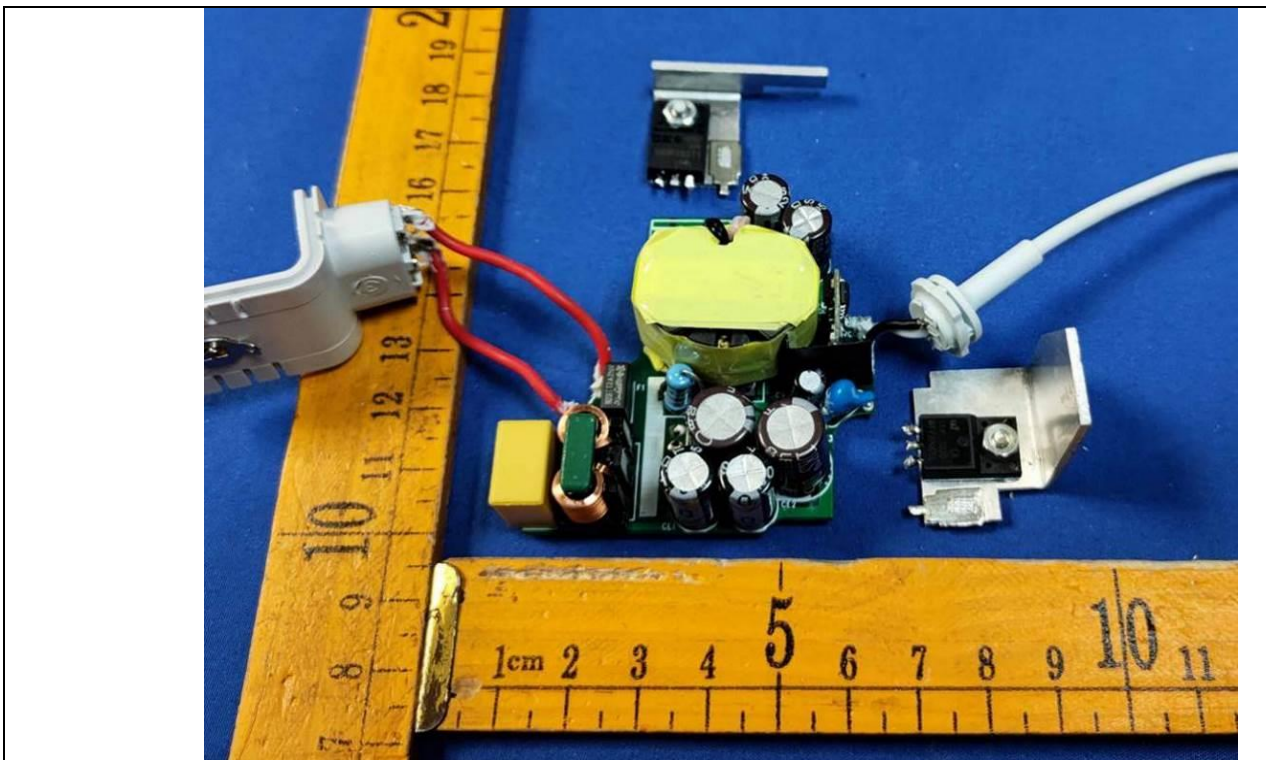


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Details of: Internal view-10, with secondary PCB: AF-AEWY



Details of: Internal view-11, with secondary PCB: AF-AEWY



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Details of: Insulation sheet-1

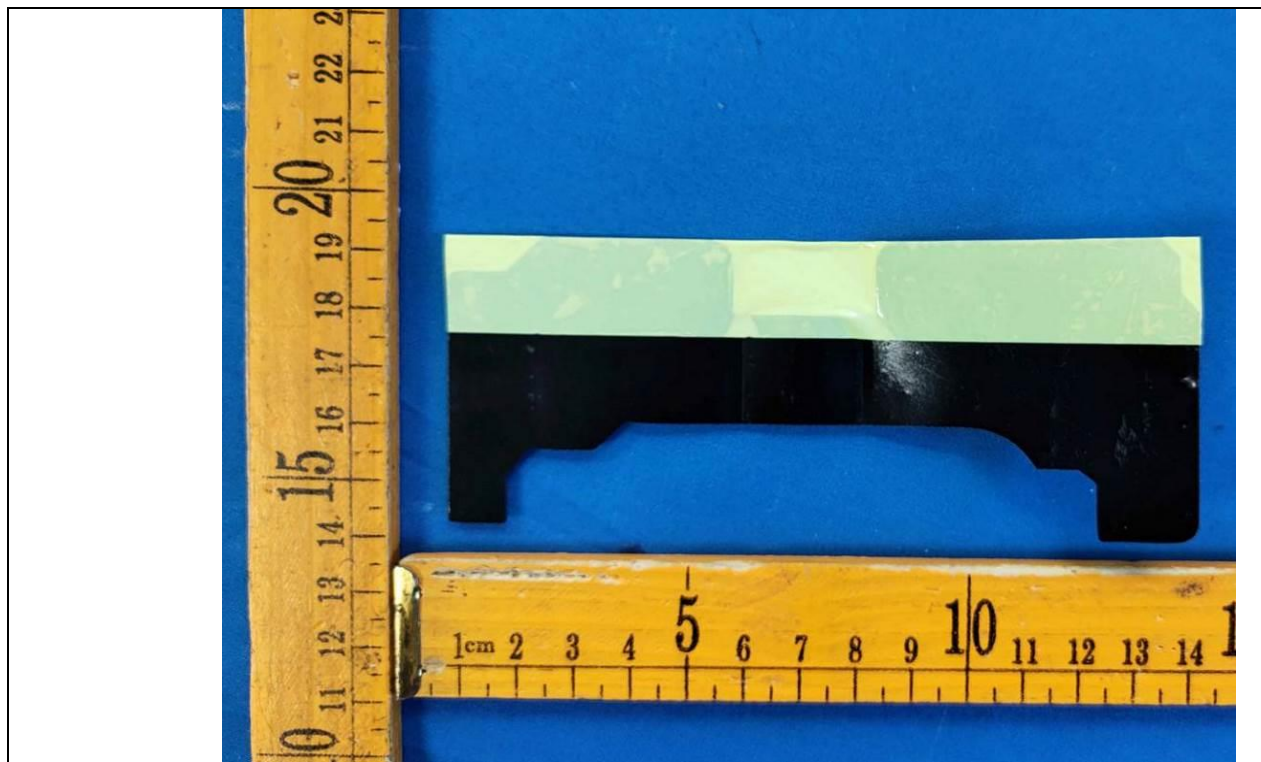


Details of: Shielding layer-1

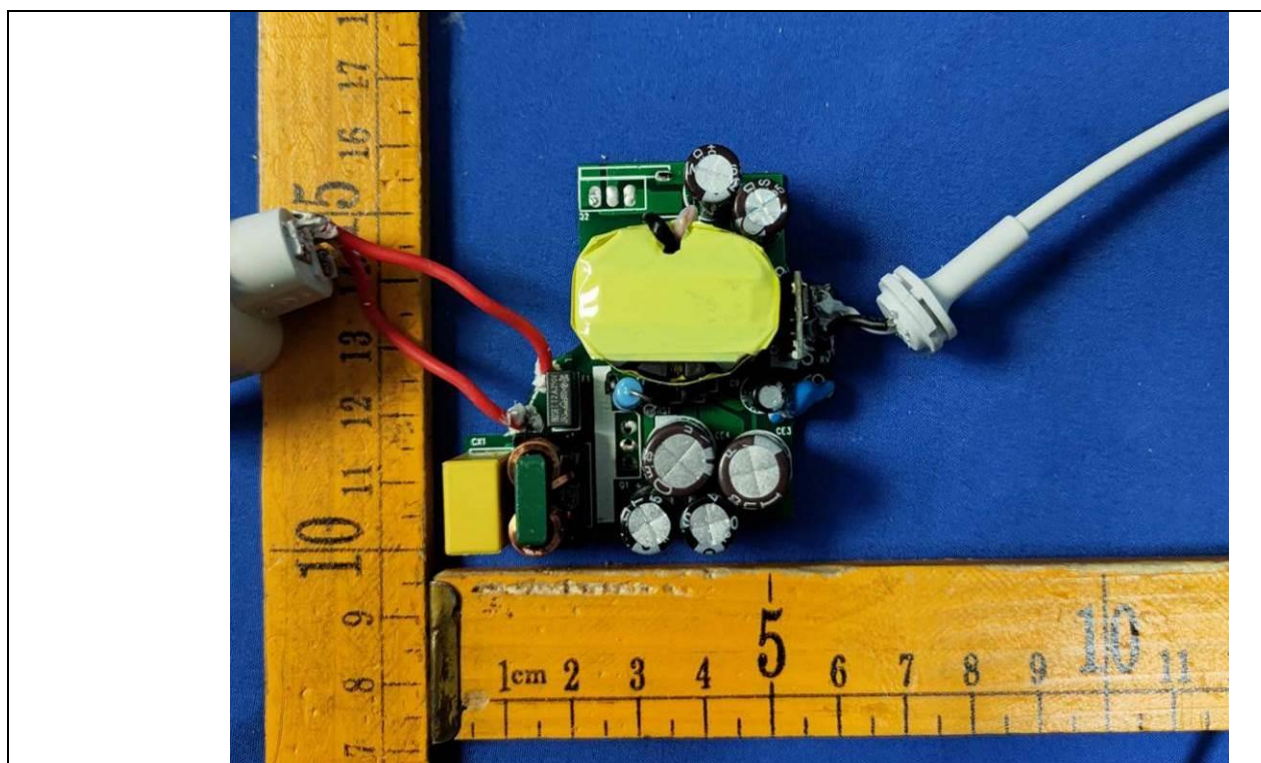


Attachment No. 4

Details of: Shielding layer-2

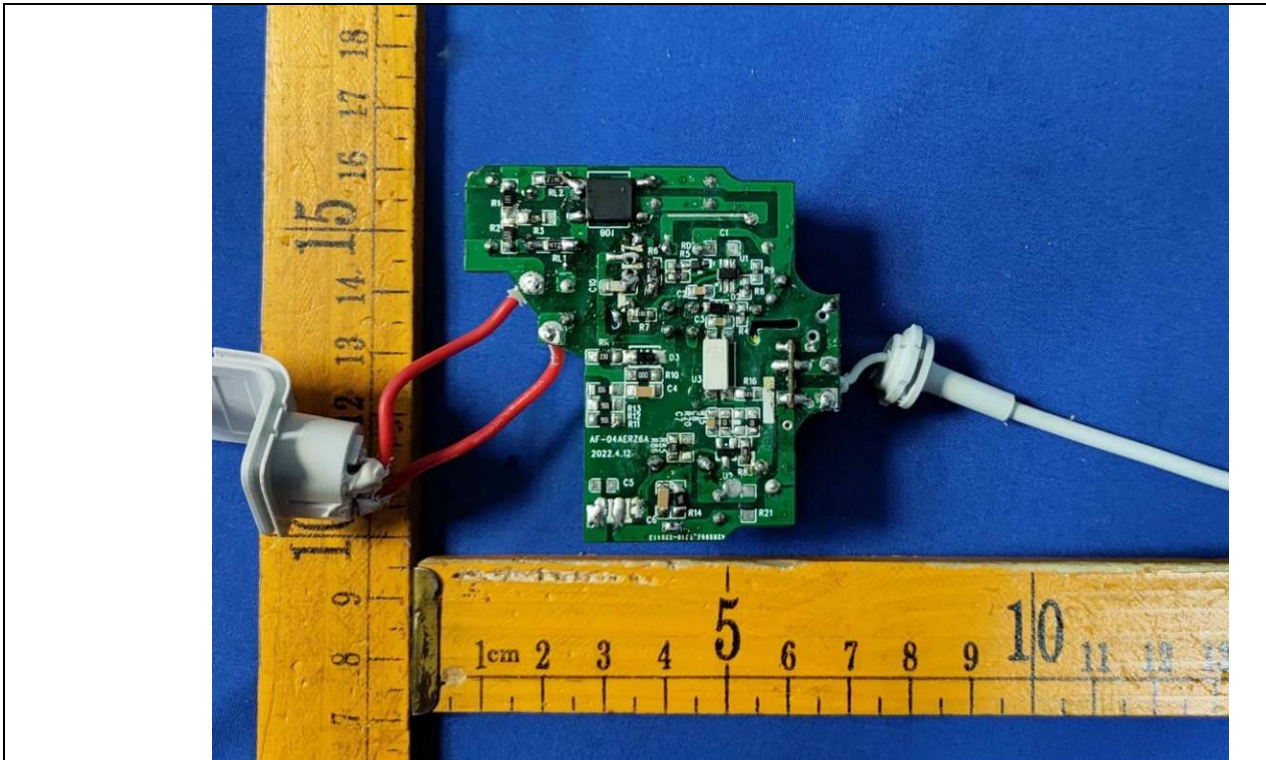


Details of: Main PCB trace view-1, with secondary PCB: AF-AEWY

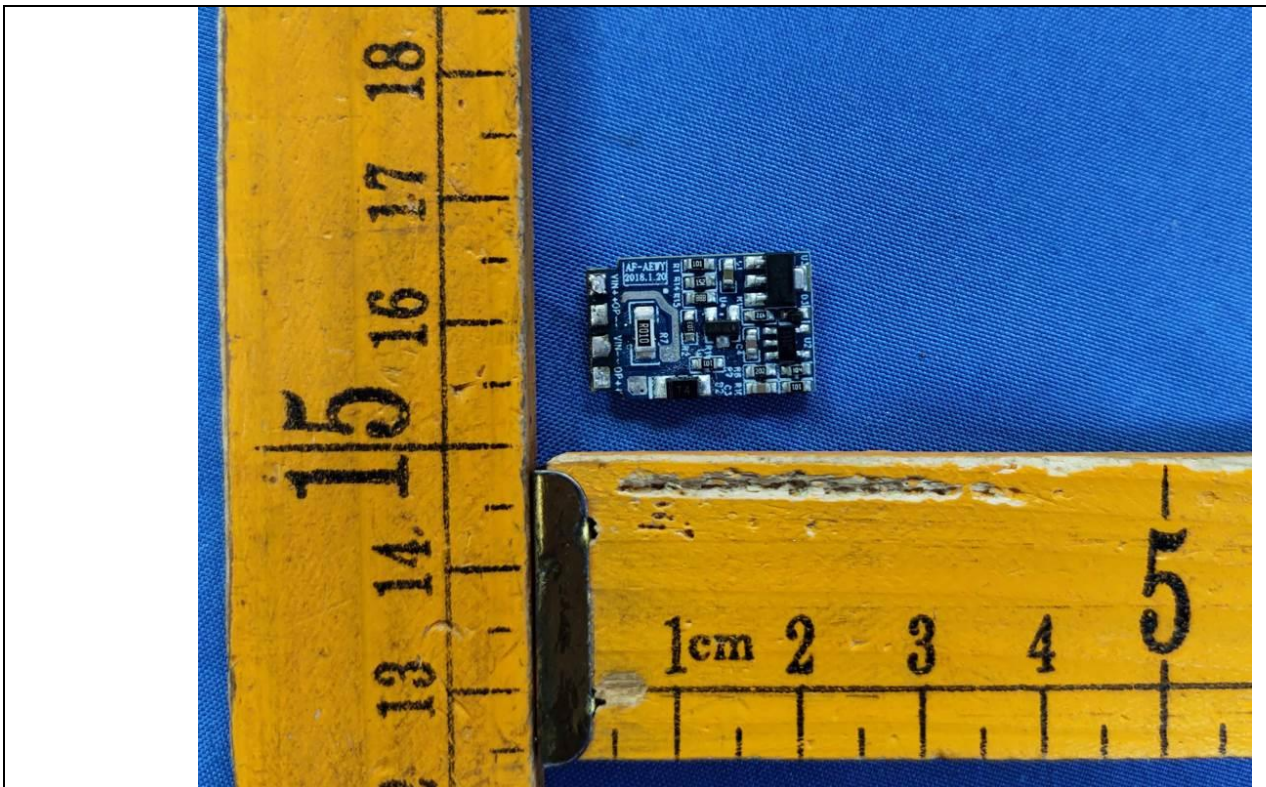


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Details of: Main PCB trace view-2, with secondary PCB: AF-AEWY

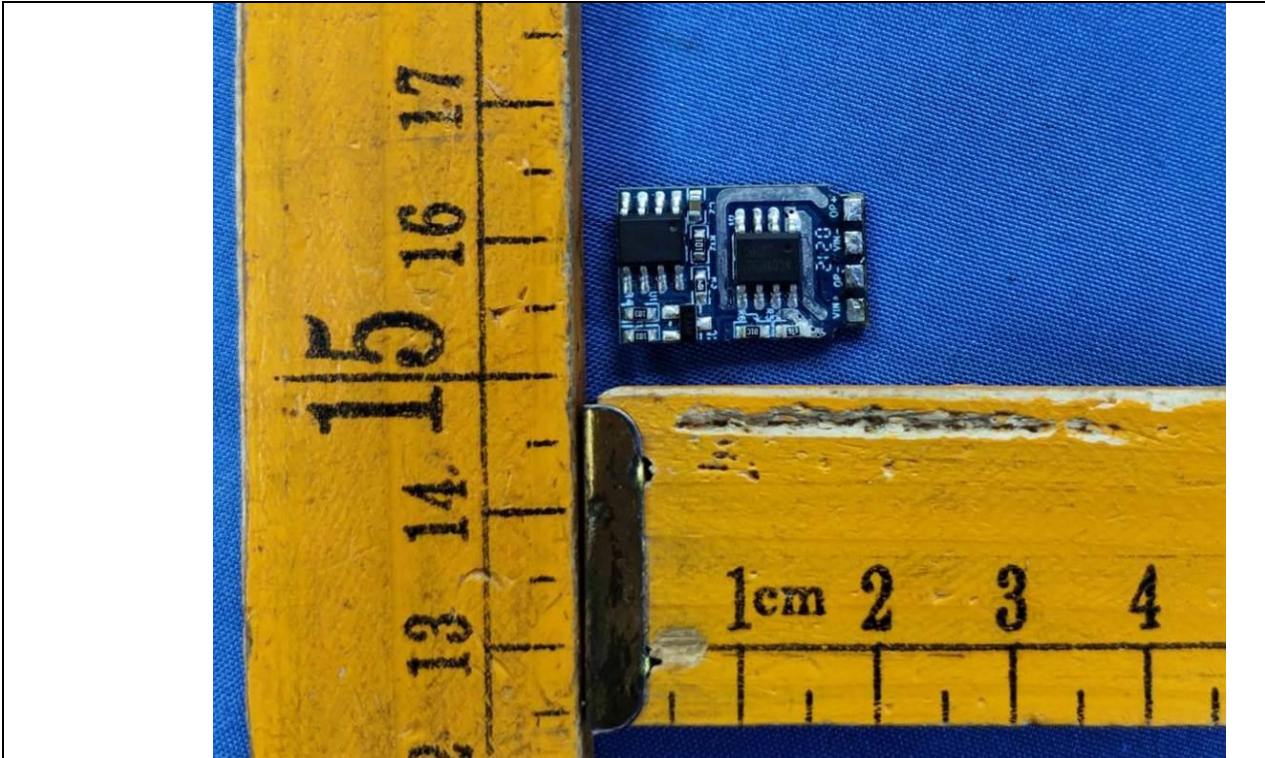


Details of: Secondary PCB (name: AF-AEWY) view-1



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Details of: Secondary PCB (name: AF-AEWY) view-2



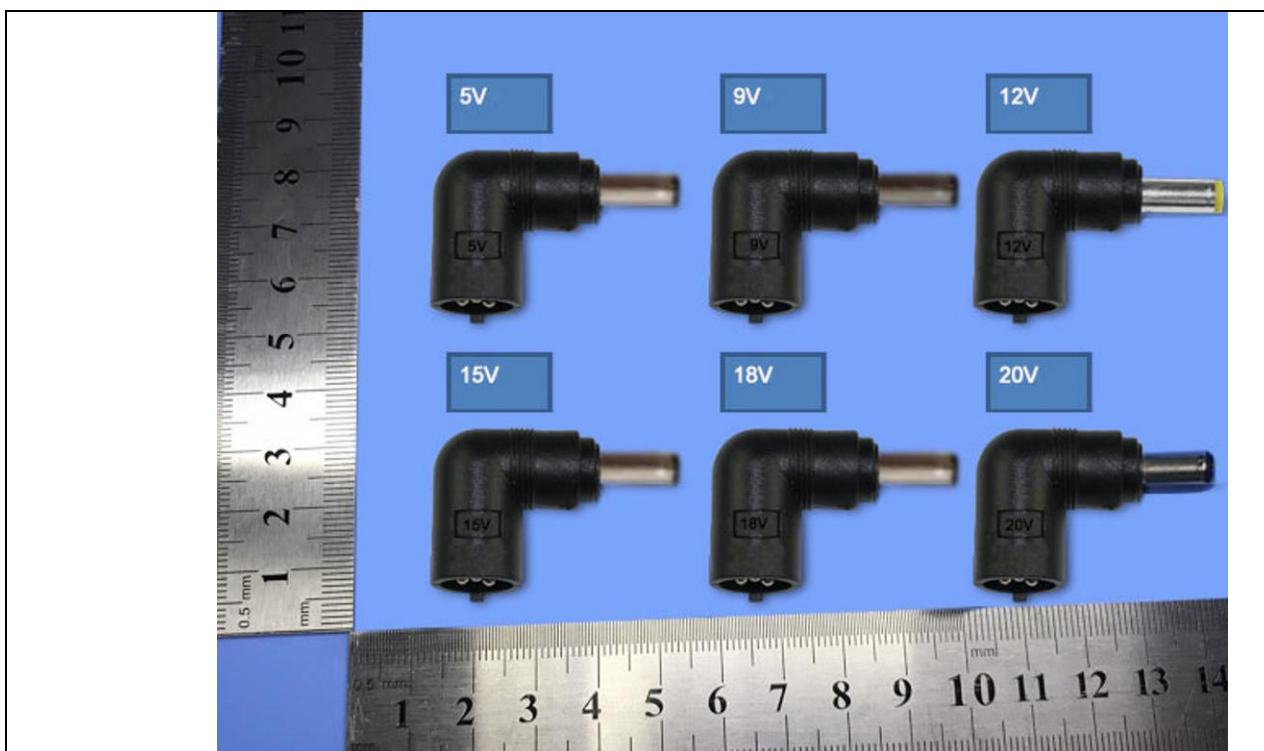
Details of: Overall view of output terminal connection (for model: AE-30, AF-045PD, AF-045PD-K011, AFUA04-K011, AFUA04-K011A)



Details of: Detachable output connector for model: AE-30

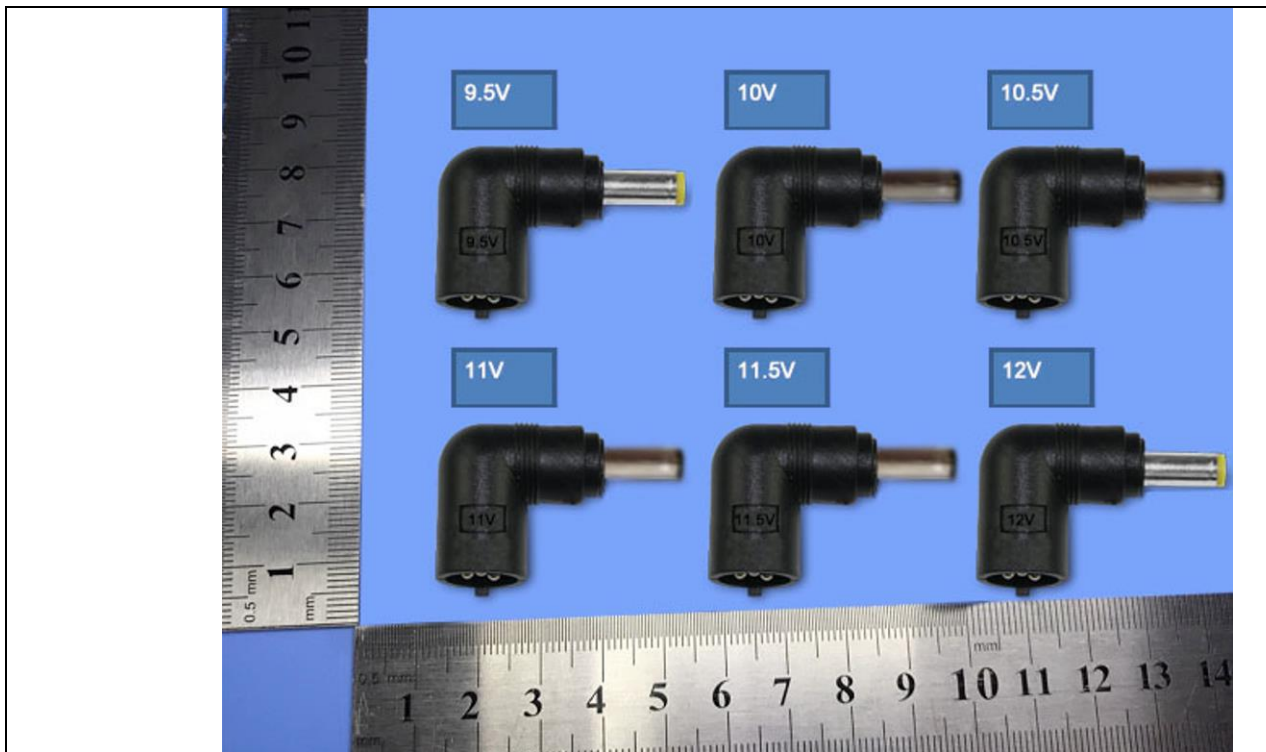


Details of: Detachable output connector for model: AF-045PD, AF-045PD-K011

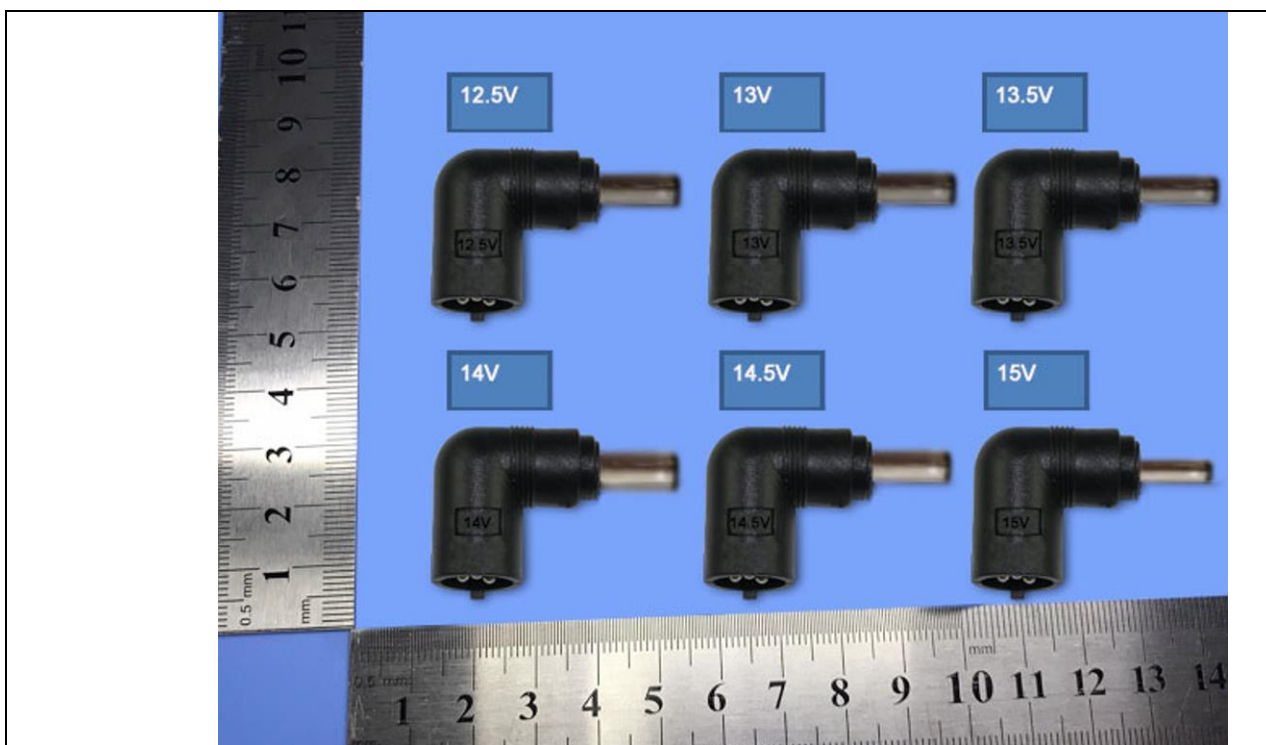


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Details of: Detachable output connector for model: AFUA04-K011, AFUA04-K011A

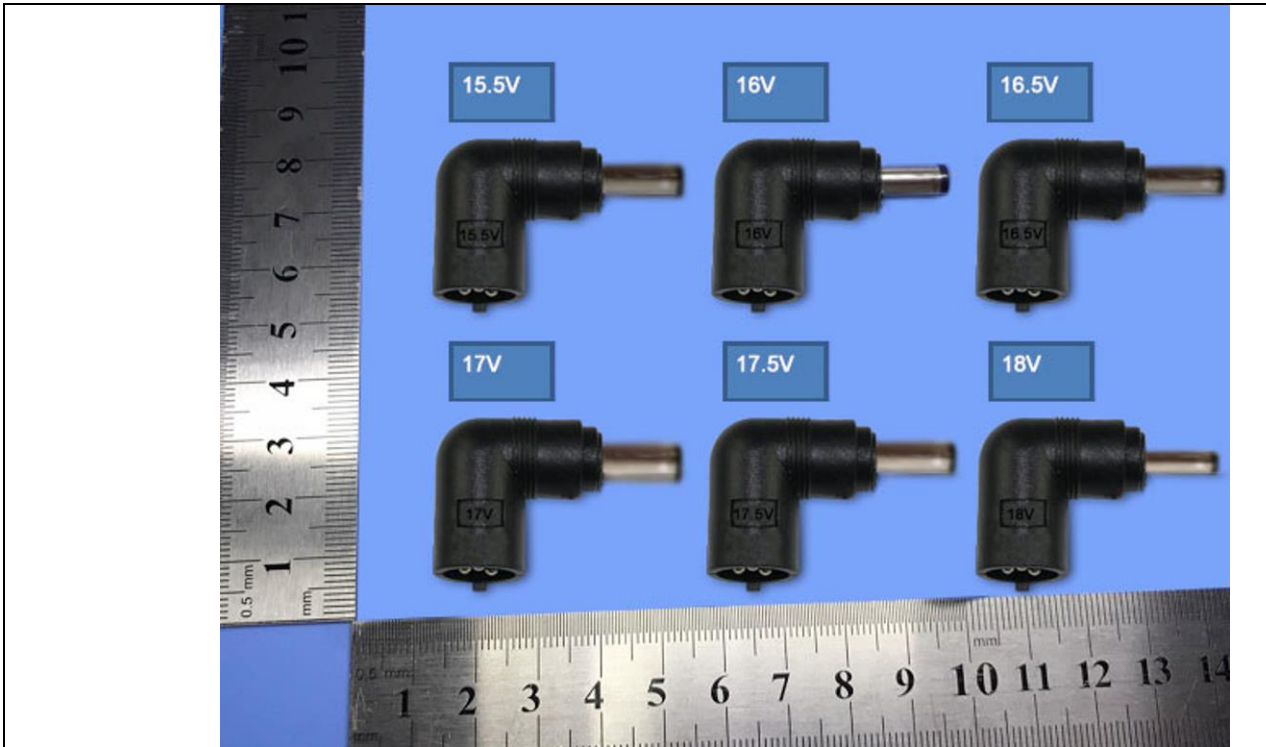


Details of: Detachable output connector for model: AFUA04-K011, AFUA04-K011A

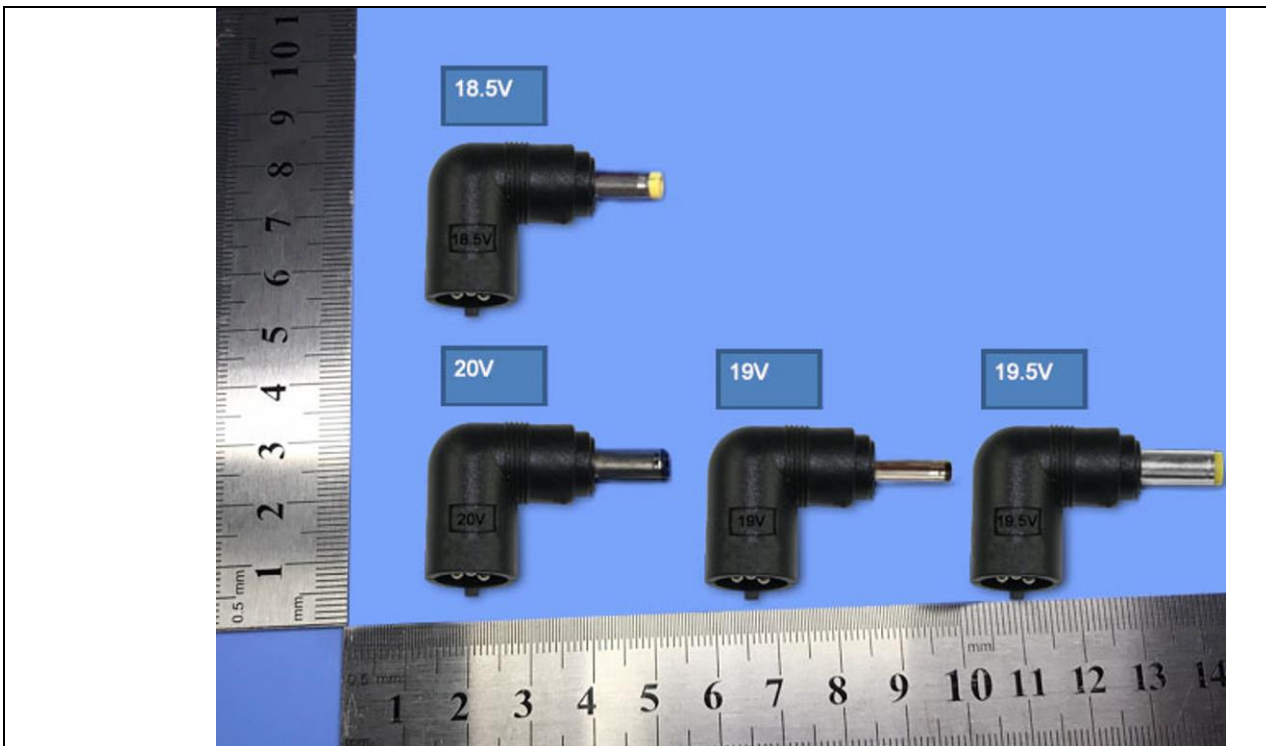


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Details of: Detachable output connector for model: AFUA04-K011, AFUA04-K011A

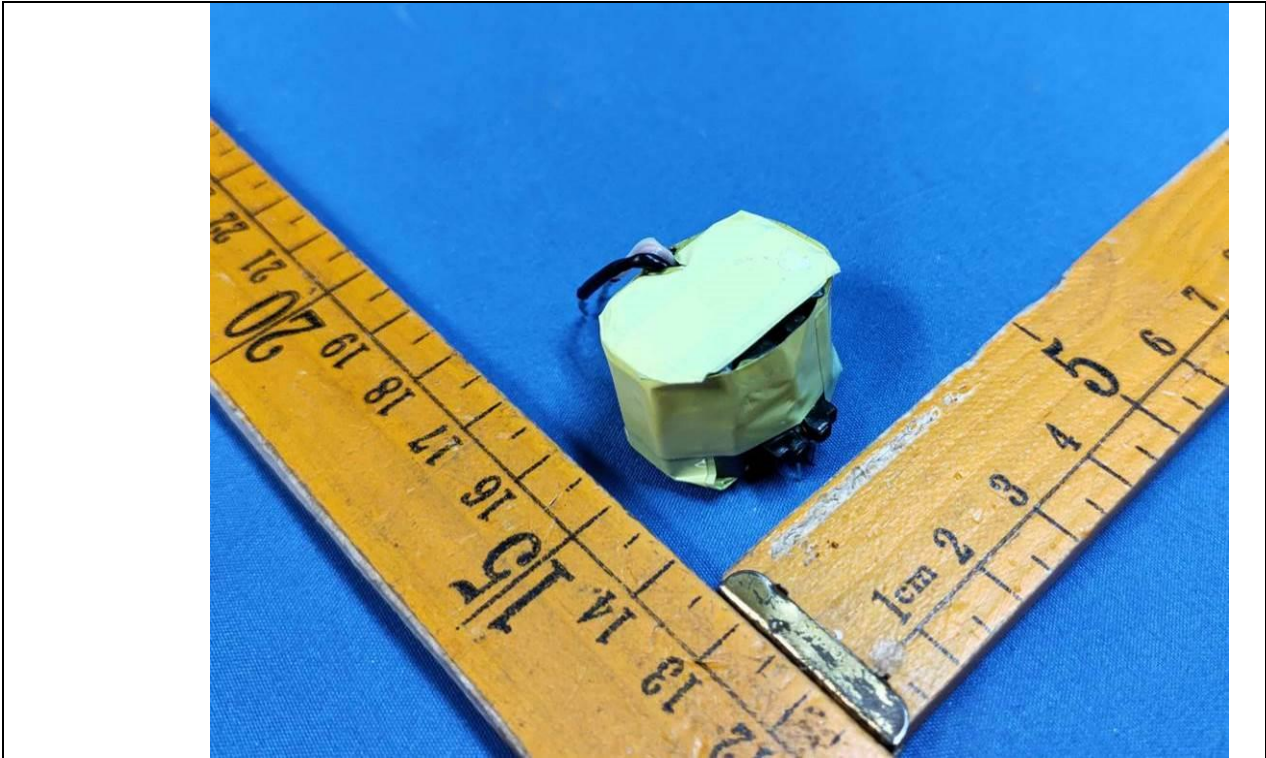


Details of: Detachable output connector for model: AFUA04-K011, AFUA04-K011A

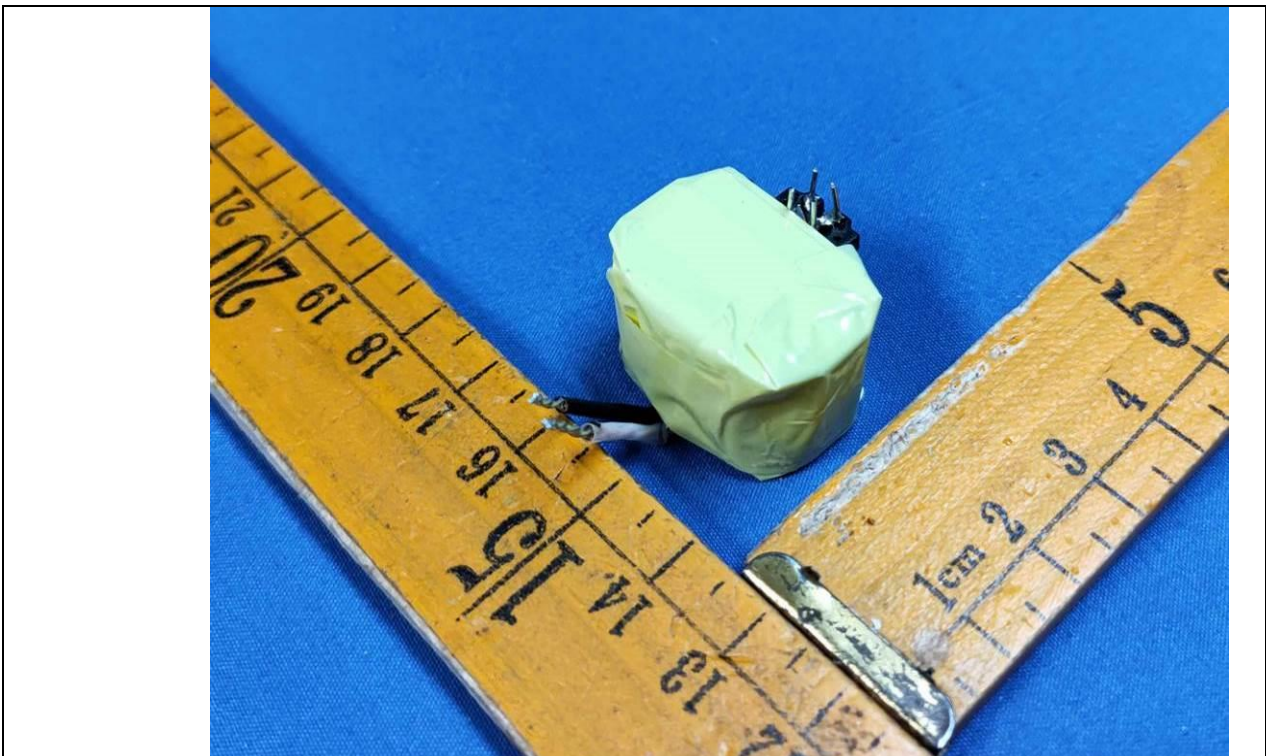


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Details of: Overall view of transformer T1



Details of: Overall view of transformer T1



-END OF TEST REPORT-