



Test Report issued under the responsibility of:



**TEST REPORT
IEC 62368-1**

**Audio/video, information and communication technology equipment
Part 1: Safety requirements**

Report Number. : SHES221102046001

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Total number of pages : 61 Pages

Name of Testing Laboratory : SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
preparing the Report

Applicant's name : Hangzhou Hikvision Digital Technology Co., Ltd.

Address : No.555 Qianmo Road, Binjiang District, Hangzhou 310052, China

Test specification:

Standard : IEC 62368-1:2018

Test procedure..... : CB Scheme

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

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

Test Report Form No...... : IEC62368_1E

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

Master TRF : Dated 2022-04-14

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General disclaimer:

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

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Test item description	WIRELESS CONTROL PANEL (Product name: AX PRO)	
Trade Mark(s)	HIKVISION	
Manufacturer	Same as applicant	
Model/Type reference	See page 8	
Ratings	See page 8	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Testing location/ address		588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China.
Tested by (name, function, signature)		Emilien Li <i>Emilien Li</i> Project Engineer
Approved by (name, function, signature) ..		Leo Wang <i>Leo Wang</i> 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 1 – 22 pages of Photos documents;
 Attachment 2 – 23 pages of European group differences and national differences;
 Attachment 3 – 6 pages of Safety information in user manual;
 Attachment 4 – 2 pages of Circuit diagram & PCB layout.

Summary of test

The sample(s) tested complies with the requirements of IEC 62368-1: 2018 and EN IEC 62368-1:2020+A11:2020.

Unless otherwise specified, the EUT with model DS-PWA96-M-WE was selected as representative model for full testing, model DS-PWA64-L-WB only verified clause 5.4.1.4, 6.3.2, 9.0, B.2.6 temperature measurements and Clause B.2.5 input test for the differences.

All test data are copied from SGS test report SHES2105009091 dated on 2021-05-26, with the following changes:

- Upgrade standard to IEC 62368-1:2018 and EN IEC 62368-1:2020+ A11:2020.
- Change the Varistor (MOV101) model to 10D621K, please see table 4.1.2 for details.

After evaluation, Clause G.8.2.2 test was considered necessarily.

Heating test:

T_{ma} = 55 °C (declared by manufacturer)

K-type thermocouple used for temperature measurement.

Tests performed (name of test and test clause):

- ☒ 4. General requirements
- ☒ 5. Electrically-caused injury
- ☒ 6. Electrically-caused fire
- ☒ 7. Injury caused by hazardous substances
- ☒ 8. Mechanically-caused injury
- ☒ 9. Thermal burn injury
- ☒ 10. Radiation
- ☒ Annex B. Normal operating condition tests, abnormal operating condition tests and single fault condition tests
- ☒ Annex F.3.9. Performance of Marking test
- ☒ Annex M Equipment containing batteries and their protection circuits
- ☐ Annex Q. Limited Power Source
- ☒ Annex T. Mechanical strength tests
- ☒ Annex V. Determination of accessible parts

Testing location:

SGS-CSTC Standards Technical Services
(Shanghai) Co., Ltd.

588 West Jindu Road, Xinqiao, Songjiang, 201612
Shanghai, China

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

1. EU Group Differences (EN IEC 62368-1:2020+A11:2020)
2. EU Special National Conditions, EU A-deviations: DE, DK, FI, FR, GB, IE, NO, SE

Explanation of used codes: DE=Germany, DK=Denmark, FI=Finland, FR=France, GB= United Kingdom, IE=Ireland, NO=Norway, SE=Sweden

☒ **The products fulfil the requirements.**

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

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

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

Information on uncertainty of measurement:

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

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

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

Copy of marking plate:

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

Marking for DS-PWA96-M-WE**Remark:**

- 1) The Height of CE logo shall not be less than 5 mm; Height of WEEE logo shall not be less than 7 mm.
- 2) The marking plates for other models are of the same pattern except for model name.
- 3) As declared by the applicant, the importer (and manufacturer, if it is different)'s name, registered trade name or registered trade mark and the postal address will be marked on the products before being place on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities.

Test item particulars:			
Product group	<input checked="" type="checkbox"/> end product	<input type="checkbox"/> built-in component	
Classification of use by	<input checked="" type="checkbox"/> Ordinary person	<input checked="" type="checkbox"/> Children likely present	
	<input checked="" type="checkbox"/> Instructed person		
	<input checked="" type="checkbox"/> Skilled person		
Supply connection	<input checked="" type="checkbox"/> AC mains	<input type="checkbox"/> DC mains	
	<input type="checkbox"/> 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 checked="" type="checkbox"/> appliance coupler		
	<input type="checkbox"/> direct plug-in		
	<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	<input type="checkbox"/>		
	Location:	<input type="checkbox"/> building	<input type="checkbox"/> equipment
	<input checked="" type="checkbox"/> N/A		
Equipment mobility	<input checked="" type="checkbox"/> movable	<input type="checkbox"/> hand-held	<input type="checkbox"/> transportable
	<input type="checkbox"/> direct plug-in	<input type="checkbox"/> stationary	<input type="checkbox"/> for building-in
	<input type="checkbox"/> wall/ceiling-mounted	<input type="checkbox"/> SRME/rack-mounted	
	<input type="checkbox"/> other:		
Overvoltage 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"/> Not classified	<input type="checkbox"/>	
Special installation location	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> restricted access area	
	<input type="checkbox"/> outdoor location	<input type="checkbox"/>	
Pollution degree (PD)	<input type="checkbox"/> PD 1	<input checked="" type="checkbox"/> PD 2	<input type="checkbox"/> PD 3
Manufacturer's specified T_{ma}	55 °C	<input type="checkbox"/> Outdoor: minimum	°C
IP protection class	<input checked="" type="checkbox"/> IPX0	<input type="checkbox"/> IP__	
Power systems	<input checked="" type="checkbox"/> TN	<input checked="" type="checkbox"/> TT	<input type="checkbox"/> IT - V _{L-L}
	<input type="checkbox"/> not AC mains		
Altitude during operation (m)	<input checked="" type="checkbox"/> 5000 m or less	<input type="checkbox"/> _ m	
Altitude of test laboratory (m)	<input checked="" type="checkbox"/> 2000 m or less	<input type="checkbox"/> 100 m	
Mass of equipment (kg)	<input checked="" type="checkbox"/> 0,57 kg		

Possible test case verdicts: - test case does not apply to the test object.....: N/A - test object does meet the requirement.....: P (Pass) - test object does not meet the requirement.....: F (Fail)	
Testing: Date of receipt of test item: 2022-11-10 Date (s) of performance of tests: 2022-11-10 to 2023-02-23	
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 checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator. This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx . Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.	
Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Not applicable Factory declaration letter.pdf, dated 2022-12-12.
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies).....:	1. Hangzhou Hikvision Technology Co., Ltd. No. 700, Dongliu Road, Binjiang District, Hangzhou City, Zhejiang, 310052, China. 2. Hangzhou Hikvision Electronics Co., Ltd. No. 299, Qiushi Road, Tonglu Economic Development Zone, Tonglu County, Hangzhou, Zhejiang, 311500, China. 3. Chongqing Hikvision technology Co., Ltd. No. 118, Haikang Road, Area C, Jianqiao Industrial Park, Dadukou District, Chongqing, 401325, China

General product information:**Product Description –**

Product name	WIRELESS CONTROL PANEL (Product name: AX PRO)
Functions	The product is a class II WIRELESS CONTROL PANEL (Product name: AX PRO) with built-in SMPS and battery pack.
Power source	1× AC mains, 2 × Serial Ports, 1 × Network Interface, 1 × SD slot, 2 × SIM card slot.
Model Differences	All models are identical except model number and market purpose.
Material of enclosure	Plastic enclosure. Top enclosure and bottom enclosure are secured together by screws

Model/Type reference:

Model / Type Ref		Ratings and principal characteristics
DS-PWA96-M-WE	DS-PWA96-M-WEUHK	100 - 240 V a.c.; 50 / 60 Hz; 0,1 - 0,064 A; Class II
DS-PWA96-M-WECKV	DS-PWA96-M-WEUVS	
DS-PWA96-M-WEKVO	DS-PWA96-M-WEHUN	
DS-PWA64-L-WE	DS-PWA64-L-WEUHK	
DS-PWA64-L-WECKV	DS-PWA64-L-WEUVS	
DS-PWA64-L-WEKVO	DS-PWA64-L-WEHUN	
DS-PWA96-M-WB	DS-PWA96-M-WBUHK	
DS-PWA96-M-WBCKV	DS-PWA96-M-WBUVS	
DS-PWA96-M-WBKVO	DS-PWA96-M-WBHUN	
DS-PWA64-L-WB	DS-PWA64-L-WBUHK	100 - 240 V a.c.; 50 / 60 Hz; 0,2 - 0,09 A; Class II
DS-PWA64-L-WBCKV	DS-PWA64-L-WBUVS	
DS-PWA64-L-WBKVO	DS-PWA64-L-WBHUN	

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

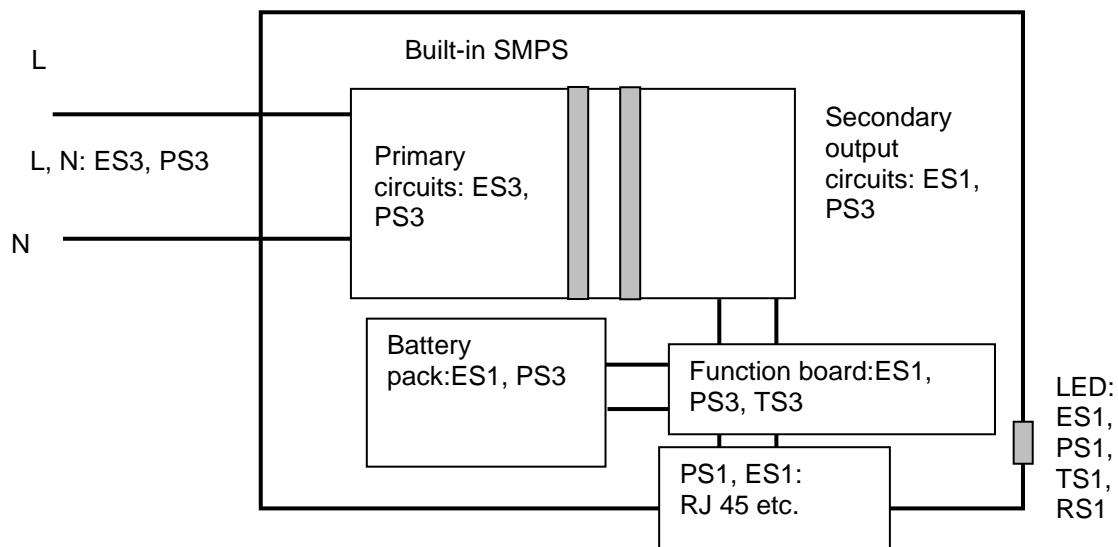
N/A

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	Possible Hazard			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
ES3: Internal circuits	Ordinary person	N/A	N/A	Y1 capacitor, transformer, and reinforced clearance and creepage distance. Enclosure
ES1: Circuits after T101 of SMPS board	Ordinary person	N/A	N/A	N/A
ES1: Enclosure	Ordinary person	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1 st S	2 nd S
PS3: All internal circuits	Enclosure, materials inside and outside the enclosure	1. No ignition occurred. 2. No parts exceeding 90% of its spontaneous ignition temperature. 3. combustible material outside fire enclosure is of min HB	1. PCB is of min V-1 material 2. All other components were mounted on min V-1 PCB or of min V-2 or small parts of combustible material less than 4g. 3. Fire enclosure provided	N/A
PS3: Circuits after T101	Circuits after T101	1. No ignition occurred. 2. No parts exceeding 90% of its spontaneous ignition temperature. 3. combustible material outside fire	1. PCB is of min V-1 material 2. All other components were mounted on min V-1 PCB or of min V-2 or small parts of combustible	N/A

		enclosure is of min HB	material less than 4g. 3. Fire enclosure provided	
PS1: Output terminals	Output terminals	N/A	N/A	N/A
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
Battery pack and RTC battery	Lithium-ion	N/A	N/A	Comply with Annex M
8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
MS1: Sharp edges and corners	Ordinary person	N/A	N/A	N/A
MS1: Equipment mass	Ordinary person	N/A	N/A	N/A
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS1: All accessible parts	Ordinary person	N/A	N/A	N/A
TS3: All parts inside of Enclosure	Ordinary person	N/A	N/A	N/A
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
RS1: LEDs only as indicator	Ordinary person	N/A	N/A	N/A
Supplementary Information:				
“B” – Basic Safeguard; “S” – Supplementary Safeguard; “R” – Reinforced Safeguard				

ENERGY SOURCE DIAGRAM

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



Mass of EUT: MS1, EUT edge and corner: MS1, All accessible part: TS1

☒ ES ☒ PS ☒ MS ☒ TS ☒ RS

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies		P
4.1.2	Use of components	<p>Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard.</p> <p>Components not certified are used in accordance with their ratings and they comply with applicable parts of this standard and the relevant component standard.</p> <p>Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of this standard.</p>	P
4.1.3	Equipment design and construction		P
4.1.4	Specified ambient temperature for outdoor use (°C) :		N/A
4.1.5	Constructions and components not specifically covered	No such part	N/A
4.1.8	Liquids and liquid filled components (LFC)		N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Annex T.2, T.5)	P
4.4.3.3	Drop tests		N/A
4.4.3.4	Impact tests	(See Annex T.6)	P
4.4.3.5	Internal accessible safeguard tests	Not accessible by ordinary person	N/A
4.4.3.6	Glass impact tests		N/A
4.4.3.7	Glass fixation tests		N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests	(See Annex T.8)	P
4.4.3.9	Air comprising a safeguard	(See Annex T)	P
4.4.3.10	Accessibility, glass, safeguard effectiveness		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.4.4	Displacement of a safeguard by an insulating liquid		N/A
4.4.5	Safety interlocks		N/A
4.5	Explosion		P
4.5.1	General		P
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	P
	No harm by explosion during single fault conditions	(See Clause B.4)	P
4.6	Fixing of conductors		P
	Fix conductors not to defeat a safeguard		P
	Compliance is checked by test..... :	(See Clause T.2)	P
4.7	Equipment for direct insertion into mains socket-outlets		N/A
4.7.2	Mains plug part complies with relevant standard .. :		N/A
4.7.3	Torque (Nm) :		N/A
4.8	Equipment containing coin/button cell batteries		N/A
4.8.1	General	RTC battery was soldered on PCB.	N/A
4.8.2	Instructional safeguard :		N/A
4.8.3	Battery compartment door/cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance		N/A
	30N force test with test probe		N/A
	20N force test with test hook		N/A
4.9	Likelihood of fire or shock due to entry of conductive object		P
4.10	Component requirements		P
4.10.1	Disconnect Device	(See Annex L)	P
4.10.2	Switches and relays		N/A
5	ELECTRICALLY-CAUSED INJURY		P
5.2	Classification and limits of electrical energy sources		P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current limits :	(See appended table 5.2)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.3	Capacitance limits	(See appended table 5.2)	P
5.2.2.4	Single pulse limits		N/A
5.2.2.5	Limits for repetitive pulses		N/A
5.2.2.6	Ringings signals		N/A
5.2.2.7	Audio signals		N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits	ES1 to ES1	N/A
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		P
5.3.2.1	Accessibility to electrical energy sources and safeguards		P
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements		P
	Test with test probe from Annex V	Checked by V.1.2 (Figure V.1), V.1.3, V.1.6.	-
5.3.2.2 a)	Air gap – electric strength test potential (V)		N/A
5.3.2.2 b)	Air gap – distance (mm)	More than 0,2mm	P
5.3.2.3	Compliance		P
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Material is non-hygroscopic		P
5.4.1.4	Maximum operating temperature for insulating materials	(See appended table)	P
5.4.1.5	Pollution degrees	2	P
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling test		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat test.....	Ball pressure tested.	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10.3	Ball pressure test	Bobbin of transformer is made of Phenolic.	P
5.4.2	Clearances		P
5.4.2.1	General requirements		P
	Clearances in circuits connected to AC Mains, Alternative method		N/A
5.4.2.2	Procedure 1 for determining clearance	(See appended table 5.4.2.2)	P
	Temporary overvoltage	(See appended table 5.4.2.3)	—
5.4.2.3	Procedure 2 for determining clearance		P
5.4.2.3.2.2	a.c. mains transient voltage	2500Vpk	—
5.4.2.3.2.3	d.c. mains transient voltage		—
5.4.2.3.2.4	External circuit transient voltage.....		—
5.4.2.3.2.5	Transient voltage determined by measurement		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages	1,48 for 5000m	P
5.4.2.6	Clearance measurement	(See appended table 5.4.2)	P
5.4.3	Creepage distances	(See appended table 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material group	IIIb	—
5.4.3.4	Creepage distances measurement	(See appended table 5.4.3)	P
5.4.4	Solid insulation		P
5.4.4.1	General requirements		P
5.4.4.2	Minimum distance through insulation	(See appended table 5.4.4.2)	P
5.4.4.3	Insulating compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		P
5.4.4.5	Insulating compound forming cemented joints		N/A
5.4.4.6	Thin sheet material	The thin sheet materials of polyester tape used in transformers are reinforced insulation.	P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material		P
	Number of layers (pcs)	Min 2 layers in transformer.	P
5.4.4.6.3	Non-separable thin sheet material		N/A
	Number of layers (pcs)		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
5.4.4.9	Solid insulation at frequencies >30 kHz, E_P , K_R , d , V_{PW} (V)	100KHz was assumed for transformer Bobbin: $V_W = E_P \times K_R \times d = 17 \times 0,71 \times 0,70 = 8,449KV$ exceed $2 \times 1,2 \times 448V$ ($V_{pw} = 448V$).	P
	Alternative by electric strength test, tested voltage (V), K_R		N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
5.4.5.3	Insulation resistance ($M\Omega$)		N/A
	Electric strength test		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%), temperature ($^{\circ}C$), duration (h)	90%, 40 $^{\circ}C$, 120h	—
5.4.9	Electric strength test		P
5.4.9.1	Test procedure for type test of solid insulation	(See appended table 5.4.9)	P
5.4.9.2	Test procedure for routine test		N/A
5.4.10	Safeguards against transient voltages from external circuits		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test		N/A
5.4.10.2.3	Steady-state test		N/A
5.4.10.3	Verification for insulation breakdown for impulse test		N/A
5.4.11	Separation between external circuits and earth		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	SPDs bridge separation between external circuit and earth		N/A
	Rated operating voltage U_{op} (V)		—
	Nominal voltage U_{peak} (V)		—
	Max increase due to variation ΔU_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
5.4.11.3	Test method and compliance		N/A
5.4.12	Insulating liquid		N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid		N/A
5.4.12.3	Compatibility of an insulating liquid		N/A
5.4.12.4	Container for insulating liquid		N/A
5.5	Components as safeguards		P
5.5.1	General		P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement	Certified capacitors.	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		P
5.5.5	Relays	No such part.	N/A
5.5.6	Resistors	Approved components used.	P
5.5.7	SPDs	(See Annex G.8)	P
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A
	RCD rated residual operating current (mA)		—
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors		N/A
5.6	Protective conductor	Class II equipment.	N/A
5.6.2	Requirement for protective conductors		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)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirements for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²). :		—
5.6.4.2	Protective current rating (A)..... :		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Terminal size for connecting protective earthing conductors (mm)..... :		N/A
	Terminal size for connecting protective bonding conductors (mm) :		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective bonding system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method..... :		N/A
5.6.6.3	Resistance (Ω) or voltage drop..... :		N/A
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm ²)..... :		N/A
	Class II with functional earthing marking :		N/A
	Appliance inlet cl & cr (mm) :		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current		P
5.7.2.2	Measurement of voltage		P
5.7.3	Equipment set-up, supply connections and earth connections		P
5.7.4	Unearthed accessible parts :	(See appended table 5.7.4)	P
5.7.5	Earthed accessible conductive parts :		N/A
5.7.6	Requirements when touch current exceeds ES2 limits		N/A
	Protective conductor current (mA)..... :		N/A
	Instructional Safeguard..... :		N/A
5.7.7	Prospective touch voltage and touch current associated with external circuits		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to earthed external circuits, current (mA)		N/A
	b) Equipment connected to unearthed external circuits, current (mA)		N/A
5.8	Backfeed safeguard in battery backed up supplies		N/A
	Mains terminal ES		N/A
	Air gap (mm).....		N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of PS and PIS		P
6.2.2	Power source circuit classifications	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials	(See appended table B.1.5 and B.3)	P
	Combustible materials outside fire enclosure		N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard method	Control fire spread.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	Supplementary safeguards		N/A
6.4.3.2	Single Fault Conditions	(See appended table B.4)	N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		P
6.4.5	Control of fire spread in PS2 circuits		N/A
6.4.5.2	Supplementary safeguards		N/A
6.4.6	Control of fire spread in PS3 circuits	PCB: V-1 material used; V-0 Fire enclosure provided.	P
6.4.7	Separation of combustible materials from a PIS		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	V-0 plastic enclosure was used.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties		P
	Openings dimensions (mm)..... :	No opening.	P
6.4.8.3.4	Bottom openings and properties		P
	Openings dimensions (mm)..... :	No opening.	P
	Flammability tests for the bottom of a fire enclosure	(See Clause S.3)	N/A
	Instructional Safeguard..... :		N/A
6.4.8.3.5	Side openings and properties		P
	Openings dimensions (mm)..... :	No opening.	P
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)		N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating	Enclosure is V-0.	P
6.4.9	Flammability of insulating liquid..... :	Control fire spread.	N/A
6.5	Internal and external wiring		P
6.5.1	General requirements	Approved TIW used at secondary wire	P
6.5.2	Requirements for interconnection to building wiring		N/A
6.5.3	Internal wiring size (mm ²) for socket-outlets..... :		N/A
6.6	Safeguards against fire due to the connection to additional equipment		P

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES	P
7.2	Reduction of exposure to hazardous substances	N/A
7.3	Ozone exposure	N/A
7.4	Use of personal safeguards or personal protective equipment (PPE)	N/A
	Personal safeguards and instructions	—

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Clause	Requirement + Test	Result - Remark	Verdict
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010)..... :		—
7.6	Batteries and their protection circuits		P

8	MECHANICALLY-CAUSED INJURY		P
8.2	Mechanical energy source classifications		P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners		P
8.4.1	Safeguards	No sharp edges or corners, MS1	P
	Instructional Safeguard..... :		N/A
8.4.2	Sharp edges or corners		N/A
8.5	Safeguards against moving parts		N/A
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts		N/A
	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional safeguard..... :		N/A
8.5.4	Special categories of equipment containing moving parts		N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts		N/A
8.5.4.2.1	Protection of persons in the work cell		N/A
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m)..... :		N/A
	Space between end point and nearest fixed mechanical part (mm) :		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A
	- Mechanical function check and visual inspection		N/A
	- Cable assembly :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts		N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N).....:		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps		N/A
	Explosion test.....:		N/A
8.5.5.3	Glass particles dimensions (mm)		N/A
8.6	Stability of equipment		N/A
8.6.1	General	Equipment mass: MS1	N/A
	Instructional safeguard.....:		N/A
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
8.6.2.3	Downward force test		N/A
8.6.3	Relocation stability		N/A
	Wheels diameter (mm)	No wheels.	—
	Tilt test		N/A
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test		N/A
8.7	Equipment mounted to wall, ceiling or other structure		N/A
8.7.1	Mount means type		N/A
8.7.2	Test methods		N/A
	Test 1, additional downwards force (N).....:		N/A
	Test 2, number of attachment points and test force (N).....:		N/A
	Test 3 Nominal diameter (mm) and applied torque (Nm).....:		N/A
8.8	Handles strength		N/A
8.8.1	General		N/A
8.8.2	Handle strength test		N/A
	Number of handles.....:		—
	Force applied (N)		—
8.9	Wheels or casters attachment requirements		N/A

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

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

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Clause	Requirement + Test	Result - Remark	Verdict
10	RADIATION		P
10.2	Radiation energy source classification		P
10.2.1	General classification		P
	Lasers		—
	Lamps and lamp systems	RS1 for LEDs only as indicator.	—
	Image projectors	No such part	—
	X-Ray	No such part	—
	Personal music player	No such part	—
10.3	Safeguards against laser radiation		N/A
	The standard(s) equipment containing laser(s) comply		N/A
10.4	Safeguards against optical radiation from lamps and lamp systems (including LED types)		P
10.4.1	General requirements		P
	Instructional safeguard provided for accessible radiation level needs to exceed		P
	Risk group marking and location	RS1 for LEDs only as indicator.	P
	Information for safe operation and installation		P
10.4.2	Requirements for enclosures		N/A
	UV radiation exposure		N/A
10.4.3	Instructional safeguard		N/A
10.5	Safeguards against X-radiation		N/A
10.5.1	Requirements		N/A
	Instructional safeguard for skilled persons		—
10.5.3	Maximum radiation (pA/kg)	(See appended tables B.3 & B.4)	—
10.6	Safeguards against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A)		N/A
	Unweighted RMS output voltage (mV)		N/A
	Digital output signal (dBFS)		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.6.3.2	Dose-based warning and automatic decrease		N/A
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30)		N/A
	Warning for MEL ≥ 100 dB(A)		N/A
10.6.4	Measurement methods		N/A
10.6.5	Protection of persons		N/A
	Instructional safeguards		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV).....		N/A
10.6.6.2	Corded listening devices with digital input		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A)		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A)		N/A

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.1	General		P
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	P
B.2	Normal operating conditions		P
B.2.1	General requirements.....	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers		N/A
B.2.3	Supply voltage and tolerances	$\pm 10\%$	P
B.2.5	Input test	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General		P
B.3.2	Covering of ventilation openings		N/A
	Instructional safeguard		N/A
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals	(See appended table B.3)	P
B.3.6	Reverse battery polarity	No battery.	N/A
B.3.7	Audio amplifier abnormal operating conditions		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.8	Safeguards functional during and after abnormal operating conditions		P
B.4	Simulated single fault conditions		P
B.4.1	General		P
B.4.2	Temperature controlling device		N/A
B.4.3	Blocked motor test		N/A
B.4.4	Functional insulation		P
B.4.4.1	Short circuit of clearances for functional insulation		P
B.4.4.2	Short circuit of creepage distances for functional insulation		P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors		P
B.4.6	Short circuit or disconnection of passive components		P
B.4.7	Continuous operation of components		N/A
B.4.8	Compliance during and after single fault conditions	(See appended table B.4)	P
B.4.9	Battery charging and discharging under single fault conditions	(See Annex M)	P
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus.....		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure test		N/A
C.2.4	Xenon-arc light-exposure test		N/A
D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Electrical energy source classification for audio signals		N/A
	Maximum non-clipped output power (W).....		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Rated load impedance (Ω)		—
	Open-circuit output voltage (V).....		—
	Instructional safeguard		—
E.2	Audio amplifier normal operating conditions		N/A
	Audio signal source type		—
	Audio output power (W).....		—
	Audio output voltage (V)		—
	Rated load impedance (Ω)		—
	Requirements for temperature measurement		N/A
E.3	Audio amplifier abnormal operating conditions		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General		P
	Language	English	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1	The Unit of Voltage, Current and frequency used.	P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations		P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification	See copy of marking plate	P
F.3.2.2	Model identification	See copy of marking plate	P
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage.....	See copy of marking plate	P
F.3.3.4	Rated voltage	See copy of marking plate	P
F.3.3.5	Rated frequency	See copy of marking plate	P
F.3.3.6	Rated current or rated power.....	See copy of marking plate	P
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.5.2	Switch position identification marking..... :		N/A
F.3.5.3	Replacement fuse identification and rating markings :	F101, T2AL, 250V; Marked adjacent to the fuse.	P
	Instructional safeguards for neutral fuse :		N/A
F.3.5.4	Replacement battery identification marking :		N/A
F.3.5.5	Neutral conductor terminal		N/A
F.3.5.6	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal..... :		N/A
F.3.6.1.2	Protective bonding conductor terminals :		N/A
F.3.6.2	Equipment class marking :	Class II	P
F.3.6.3	Functional earthing terminal marking :		N/A
F.3.7	Equipment IP rating marking :	IPX0	N/A
F.3.8	External power supply output marking :		N/A
F.3.9	Durability, legibility and permanence of marking	The label was subject to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. with cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge.	P
F.3.10	Test for permanence of markings		P
F.4	Instructions		P
	a) Information prior to installation and initial use		P
	b) Equipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection		P
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place		N/A
	f) Instructions for audio equipment terminals		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	g) Protective earthing used as a safeguard		N/A
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment	See marking plate for detail	P
	j) Permanently connected equipment not provided with all-pole mains switch		N/A
	k) Replaceable components or modules providing safeguard function		N/A
	l) Equipment containing insulating liquid		N/A
	m) Installation instructions for outdoor equipment		N/A
F.5	Instructional safeguards		P
G	COMPONENTS		P
G.1	Switches		N/A
G.1.1	General		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.1.3	Test method and compliance		N/A
G.2	Relays		N/A
G.2.1	Requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		N/A
G.3	Protective devices		P
G.3.1	Thermal cut-offs		N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links		N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.3.3	PTC thermistors		N/A
G.3.4	Overcurrent protection devices		P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions..... :		N/A
G.4	Connectors		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration :	Approved device used.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		P
G.5	Wound components		P
G.5.1	Wire insulation in wound components	Certified TIW used at transformer secondary winding	P
G.5.1.2	Protection against mechanical stress	Tube and insulation tape were used.	P
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Test time (days per cycle) :		—
	Test temperature (°C)..... :		—
G.5.2.3	Wound components supplied from the mains		N/A
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers		P
G.5.3.1	Compliance method..... :	The transformer meets the requirements given in G.5.3.2 and G.5.3.3.	P
	Position :	Bridging primary and secondary.	P
	Method of protection..... :	Double and reinforced insulation.	P
G.5.3.2	Insulation		P
	Protection from displacement of windings..... :	Secured by tubing and insulation tape.	—
G.5.3.3	Transformer overload tests	(See appended table B.3)	P
G.5.3.3.1	Test conditions		P
G.5.3.3.2	Winding temperatures		P
G.5.3.3.3	Winding temperatures - alternative test method		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter..... :		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation..... :		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A
G.5.4	Motors		N/A
G.5.4.1	General requirements		N/A
G.5.4.2	Motor overload test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4.2	Locked-rotor overload test		N/A
	Test duration (days) :		—
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
G.5.4.5.3	Alternative method		N/A
G.5.4.6	Locked-rotor overload test for DC motors		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature :		N/A
G.5.4.6.3	Alternative method		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage :		—
G.6	Wire Insulation		P
G.6.1	General	Certified TIW used at transformer secondary winding	P
G.6.2	Enamelled winding wire insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements		N/A
	Type..... :		—
G.7.2	Cross sectional area (mm ² or AWG) :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)..... :		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm) :		N/A
G.7.3.2.4	Strain relief and cord anchorage material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, D (mm) :		—
	Radius of curvature after test (mm)..... :		—
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	Varistors		P
G.8.1	General requirements	Approved varistors used.	P
G.8.2	Safeguards against fire		P
G.8.2.1	General		P
G.8.2.2	Varistor overload test		P
G.8.2.3	Temporary overvoltage test		N/A
G.9	Integrated circuit (IC) current limiters		N/A
G.9.1	Requirements		N/A
	IC limiter output current (max. 5A) :		—
	Manufacturers' defined drift :		—
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
G.10	Resistors		N/A
G.10.1	General		N/A
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A
G.11	Capacitors and RC units		N/A
G.11.1	General requirements		N/A
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	Optocouplers		N/A
	Optocouplers comply with IEC 60747-5-5 with specifics		N/A
	Type test voltage $V_{ini,a}$		—
	Routine test voltage, $V_{ini,b}$		—
G.13	Printed boards		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements		N/A
G.15	Pressurized liquid filled components		N/A
G.15.1	Requirements		N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.16	IC including capacitor discharge function (ICX)		N/A
G.16.1	Condition for fault tested is not required	No such part	N/A
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately		N/A
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test..... :		—
	Mains voltage that impulses to be superimposed on :		—
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test :		—
G.16.3	Capacitor discharge test..... :		N/A
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz) :		—
H.3.1.2	Voltage (V) :		—
H.3.1.3	Cadence; time (s) and voltage (V) :		—
H.3.1.4	Single fault current (mA):..... :		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V) :		N/A
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		P
J.1	General		P
	Winding wire insulation..... :	Certified TIW used at transformer secondary winding	—
	Solid round winding wire, diameter (mm) :		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm ²)..... :		N/A
J.2/J.3	Tests and Manufacturing	(See separate test report)	—
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
	Instructional safeguard :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
K.5.1	Under single fault condition		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm).....		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm).....		N/A
	Electric strength test before and after the test of K.7.2		N/A
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		P
L.1	General requirements	Appliance coupler was used as the disconnect device.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single-phase equipment		P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources		N/A
	Instructional safeguard		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		P
M.1	General requirements		P
M.2	Safety of batteries and their cells		P
M.2.1	Batteries and their cells comply with relevant IEC standards	Approved battery used.	P
M.3	Protection circuits for batteries provided within the equipment		P

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Clause	Requirement + Test	Result - Remark	Verdict
M.3.1	Requirements		P
M.3.2	Test method		P
	Overcharging of a rechargeable battery		P
	Excessive discharging		P
	Unintentional charging of a non-rechargeable battery		N/A
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance		P
M.4	Additional safeguards for equipment containing a portable secondary lithium battery		P
M.4.1	General		P
M.4.2	Charging safeguards		P
M.4.2.1	Requirements		P
M.4.2.2	Compliance..... :	(See appended table M.4.2)	P
M.4.3	Fire enclosure :		P
M.4.4	Drop test of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation and procedure for the drop test		N/A
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%): :		N/A
M.4.4.4	Check of the charge/discharge function		N/A
M.4.4.5	Charge / discharge cycle test		N/A
M.4.4.6	Compliance		N/A
M.5	Risk of burn due to short-circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Test method and compliance		N/A
M.6	Safeguards against short-circuits		P
M.6.1	External and internal faults		P
M.6.2	Compliance		P
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
	Calculated hydrogen generation rate :		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, Q (m ³ /h)..... :		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%)		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate.....		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%)		N/A
M.7.4	Marking		N/A
M.8	Protection against internal ignition from external spark sources of batteries with aqueous electrolyte		N/A
M.8.1	General		N/A
M.8.2	Test method		N/A
M.8.2.1	General		N/A
M.8.2.2	Estimation of hypothetical volume V_z (m ³ /s)		—
M.8.2.3	Correction factors		—
M.8.2.4	Calculation of distance d (mm)		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse		P
	Instructional safeguard		P
N	ELECTROCHEMICAL POTENTIALS		P
	Material(s) used	Pollution degree considered	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Value of X (mm).....	(See appended table 5.4.2, 5.4.3)	—
P	SAFEGUARDS AGAINST CONDUCTIVE OBJECTS		P
P.1	General		P
P.2	Safeguards against entry or consequences of entry of a foreign object		P
P.2.1	General		P
P.2.2	Safeguards against entry of a foreign object	No openings.	P
	Location and Dimensions (mm)		—
P.2.3	Safeguards against the consequences of entry of a foreign object		N/A
P.2.3.1	Safeguard requirements		N/A
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Transportable equipment with metalized plastic parts..... :		N/A
P.2.3.2	Consequence of entry test..... :		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	Metallized coatings and adhesives securing parts		N/A
P.4.1	General		N/A
P.4.2	Tests		N/A
	Conditioning, T _c (°C)		—
	Duration (weeks)		—
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		N/A
Q.1	Limited power sources		N/A
Q.1.1	Requirements		N/A
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output		N/A
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance		N/A
	Current rating of overcurrent protective device (A)		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A)		N/A
	Current limiting method		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General		N/A
R.2	Test setup		N/A
	Overcurrent protective device for test		—
R.3	Test method		N/A
	Cord/cable used for test		—
R.4	Compliance		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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)		—
S.3	Flammability test for the bottom of a fire enclosure		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance		N/A
	Mounting of samples		—
	Wall thickness (mm)		—
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosure materials of equipment with a steady state power exceeding 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
T	MECHANICAL STRENGTH TESTS		P
T.1	General		P
T.2	Steady force test, 10 N	(See appended table T.2)	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N		N/A
T.5	Steady force test, 250 N	(See appended table T.5)	P
T.6	Enclosure impact test	(See appended table T.6)	P
	Fall test		P
	Swing test		P

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Clause	Requirement + Test	Result - Remark	Verdict
T.7	Drop test		N/A
T.8	Stress relief test	(See appended table T.8)	P
T.9	Glass Impact Test.....		N/A
T.10	Glass fragmentation test		N/A
	Number of particles counted.....		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		N/A
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General		N/A
	Instructional safeguard :		N/A
U.2	Test method and compliance for non-intrinsically protected CRTs		N/A
U.3	Protective screen		N/A
V	DETERMINATION OF ACCESSIBLE PARTS		P
V.1	Accessible parts of equipment		P
V.1.1	General	Not accessible without tool	P
V.1.2	Surfaces and openings tested with jointed test probes		P
V.1.3	Openings tested with straight unjointed test probes		P
V.1.4	Plugs, jacks, connectors tested with blunt probe	No such plugs, jacks, connectors	N/A
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		P
V.2	Accessible part criterion		P
X	ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)		N/A
	Clearance	(See appended table X)	N/A
Y	CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES		N/A
Y.1	General		N/A
Y.2	Resistance to UV radiation		N/A
Y.3	Resistance to corrosion		N/A
Y.3	Resistance to corrosion		N/A
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by		N/A
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Y.3.4	Test procedure		N/A
Y.3.5	Compliance		N/A
Y.4	Gaskets		N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests		N/A
	Alternative test methods		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A
Y.4.6	Securing means	(See Annex P.4)	N/A
Y.5	Protection of equipment within an outdoor enclosure		N/A
Y.5.1	General		N/A
Y.5.2	Protection from moisture		N/A
	Relevant tests of IEC 60529 or Y.5.3		N/A
Y.5.3	Water spray test		N/A
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		N/A
Y.5.5.1	General		N/A
Y.5.5.2	IP5X equipment		N/A
Y.5.5.3	IP6X equipment		N/A
Y.6	Mechanical strength of enclosures		N/A
Y.6.1	General		N/A
Y.6.2	Impact test	(See Table T.6)	N/A

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Clause	Requirement + Test			Result - Remark			Verdict
5.2	TABLE: Classification of electrical energy sources						P
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters				ES Class
			U (V)	I (mA)	Type ¹⁾	Additional Info ²⁾	
264 V a.c.	Plastic enclosure to earth	Normal	0	--	SS	60Hz	ES1
		Abnormal	0	--	SS	60Hz	ES1
		Single fault – OC fuse	0	--	SS	60Hz	ES1
264 V a.c.	T101 Pin 7-8	Normal	17,2Vpk	--	SS	35KHz	ES1
		Abnormal	17,2Vpk	--	SS	35KHz	ES1
		Single fault – OC fuse	0	--	SS	-	ES1
264 Va.c.	T101 Pin 7-GND	Normal	9,17Vpk	--	SS	35KHz	ES1
		Abnormal	9,17Vpk	--	SS	35KHz	ES1
		Single fault – OC fuse	0	--	SS	-	ES1
264 Va.c.	T101 Pin 8-GND	Normal	1,12Vpk	--	SS	35KHz	ES1
		Abnormal	1,12Vpk	--	SS	35KHz	ES1
		Single fault – OC fuse	1,12Vpk	--	SS	35KHz	ES1
264 Va.c.	Primary circuits	Normal	264Vrms	--	SS	60Hz	ES3
		Abnormal	264Vrms	--	SS	60Hz	ES3
		Single fault – SC/OC	264Vrms	--	SS	60Hz	ES3
Supplementary information:							
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.							
2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.							

5.4.1.8	TABLE: Working voltage measurement				P
Location		RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments
T101 pin 1-5		291	448	60,7kHz	--
T101 pin 1-6		220	356	60,7kHz	--
T101 pin 2-5		220	345	60,7kHz	--
T101 pin 2-6		220	392	60,7kHz	--
T101 pin 3-5		222	408	60,7kHz	--
T101 pin 3-6		213	360	60,7kHz	--

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Clause	Requirement + Test			Verdict
T101 pin 4-5	212	340	60,7kHz	--
T101 pin 4-6	282	440	60,7kHz	Max V peak/RMS (T101)
CY101	212	340	60Hz	Max V peak/RMS (CY101)
U102 pin 1-3	215	344	60Hz	Max V peak/RMS (U102)
U102 pin 1-4	215	344	60Hz	--
U102 pin 2-3	215	344	60Hz	--
U102 pin 2-4	215	344	60Hz	--
Supplementary information:				

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

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

5.4.2, 5.4.3	TABLE: Minimum Clearances/Creepage distance							P
Clearance (cl) and creepage distance (cr) at/of/between:	U _p (V)	U _{rms} (V)	Freq ¹⁾ (Hz)	Required cl (mm)	cl (mm)	E.S. ²⁾ (V)	Required cr (mm)	cr (mm)
Functional:								
--	--	--	--	--	--	--	--	--
Basic/supplementary:								
Line to neutral before fuse (F101) (BI)	340	240	60Hz	2,22	3,2	--	2,5	3,2
Fuse terminals (F101) (BI)	340	240	60Hz	2,22	7,0	--	2,5	7,0

IEC 62368-1								
Clause	Requirement + Test			Result - Remark				Verdict
Reinforced:								
Bridging capacitor (CY101) primary to secondary (RI)	340	212	60Hz	4,5	7,0	--	5,0	7,0
U102 primary to secondary (RI)	344	215	60Hz	4,5	8,3	--	5,0	8,3
Primary to secondary on T101(RI)	448	291	60,7KHz	4,5	7,0	--	5,9	7,0
Primary trace to secondary trace under T101(RI)	448	291	60,7KHz	4,5	8,0	--	5,9	8,0
Primary components (D106) to secondary components (R204)	448	291	60,7KHz	4,5	9,0	--	5,9	9,0
Primary components to external accessible parts	448	291	60,7KHz	4,5	9,0	--	5,9	9,0
Supplementary information:								
Supplementary information: Note 1: Only for frequency above 30 kHz Note 2: See table 5.4.2.4 if this is based on electric strength test Note 3: Provide Material Group * BI: basic insulation; SI: supplementary insulation; DI: double insulation; RI: reinforced insulation. 10N force applied to components: C202L201, C107, NTC101, MOV101 Multiplication factor 1.48 was applied to the clearance distance.								

5.4.4.2	TABLE: Minimum distance through insulation				P
Distance through insulation (DTI) at/of	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)	
Bobbin of T1	448	RI	0,4	Min.0,7	
Plastic enclosure	448	RI	0,4	Min.1,5	
Supplementary information:					

5.4.4.9	TABLE: Solid insulation at frequencies >30 kHz						P
Insulation material	E_P	Frequency (kHz)	K_R	Thickness d (mm)	Insulation	V_{PW} (Vpk)	
Bobbin of T1	17	60,7	0,71	0,7	RI	448	
Supplementary information:							
For frequencies >30 kHz:							

5.4.9	TABLE: Electric strength tests						P
-------	--------------------------------	--	--	--	--	--	---

IEC 62368-1				
Clause	Requirement + Test	Result - Remark	Verdict	
Test voltage applied between:		Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
Basic/supplementary:				
Line to Neutral before fuse F101 (BI)		DC	2500	No
Across fuse F101 (BI) (Fuse open)		DC	2500	No
Reinforced:				
Primary trace to secondary trace under CY101 (RI)		DC	4000	No
PCB trace under T101 (RI)		DC	4000	No
T101 secondary to primary (RI)		DC	4000	No
Plastic enclosure (RI)		DC	4000	No
Supplementary information:				
T1 / T4: Secondary wire used triple insulation wire, core as primary.				

5.5.2.2	TABLE: Stored discharge on capacitors					P
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class	
L to N	240/50	N	--	0	ES1	
L to N	240/60	N	--	0	ES1	
Supplementary information:						
X-capacitors installed for testing are: 0,15μF						
[] bleeding resistor rating:						
[] ICX:						
1) Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit						

5.6.6	TABLE: Resistance of protective conductors and terminations					N/A
Location		Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
Supplementary information:						

5.7.4	TABLE: Unearthed accessible parts					P
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V _{rms} or V _{pk})	Current (A _{rms} or A _{pk})	Freq. (Hz)	
Plastic enclosure	Normal	264 V a.c.	0	--	60	ES1

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
to earth						
Supplementary information:						

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

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

6.2.2	TABLE: Power source circuit classifications					P	
Location		Operating and fault condition	Voltage (V)	Current (A)	Max. Power ¹⁾ (W)	Time (S)	PS class
Internal circuits		--	--	--	--	--	PS3 without testing
Supplementary information:							

6.2.3.1	TABLE: Determination of Arcing PIS				P
Location		Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No
All primary circuits		--	--	--	Yes
Supplementary information:					
All primary circuits are considered as Arcing PIS without test.					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.3.2	TABLE: Determination of resistive PIS		P
Location	Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No
The internal circuit	--	--	Yes
Supplementary information:			
Abbreviation: SC= short circuit; OC= open circuit			
The internal circuit except primary is considered as resistive PIS without test.			

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

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

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

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements							P
	Supply voltage (V)..... :		90V a.c. / 60 Hz		264V a.c. / 60 Hz		--	—
	Ambient temperature during test T_{amb} (°C) :		25,0		25,0		--	—
	Maximum measured temperature T of part/at:		T (°C)					Allowed T_{max} (°C)
Model: DS-PWA96-M-WE								
Electrolytic capacitor(C101)			60,1		60,6		--	105
Varistor (MOV101)			59,0		59,9		--	85
Inductor (LF101) coil			60,1		60,6		--	120
Inductor (LF101) core			61.3		61,0		--	120
X-capacitor (CX101)			58,6		58,0		--	100
Photo coupler(U102)			60,3		60,0		--	100
Transformer (T101) coil			60,4		60,3		--	110
Transformer (T101) core			60,4		60,1		--	110
Bridging capacitor(CY101)			59,8		59,8		--	125
PCB near R203			58,3		58,4		--	130
PCB near BD1			58,9		58,1		--	130
PCB near Q101			60,0		60,0		--	130
PCB near T101			60,0		59,3		--	130
RTC battery (BAT1)			65,1		65,3		--	Ref.
Battery pack			55,1		56,1		--	Ref.
AC inlet			58,1		58,7		--	70
Internal plastic enclosure near T101			62,8		64,2		--	110
Outside of plastic enclosure*			28,3		28,5		--	77
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:								
* The test results of touchable surface temperature were considered base on ambient temperature 25°C. Other measured temperature point list in this table has calculated to Tma (55°C).								

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

5.4.1.4, 9.3, B.1.5, B.2.6		TABLE: Temperature measurements							P		
Supply voltage (V)			90V a.c. / 60 Hz		264V a.c. / 60 Hz		--		—		
Ambient temperature during test T_{amb} (°C)			25,0		25,0		--		—		
Maximum measured temperature T of part/at:			T (°C)						Allowed T_{max} (°C)		
Model: DS-PWA64-L-WB											
T101 coil			79,4		71,6		--		110		
T101 core			80,0		72,6		--		110		
C101			76,4		70,8		--		105		
CX101			74,3		67,7		--		105		
LF101			79,8		68,7		--		105		
CY101			73,1		69,3		--		105		
PCB near U102			79,5		71,1		--		130		
PCB near MOV101			71,1		67,6		--		130		
PCB near DSP			74,9		75,9		--		130		
Battery			74,3		78,7		--		Ref.		
Plastic enclosure*			27,7		31,1		--		77		
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:											
* The test results of touchable surface temperature were considered base on ambient temperature 25°C. Other measured temperature point list in this table has calculated to Tma (55°C).											

IEC 62368-1			
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: DS-PWA96-M-WE									
90 V a.c.	50	0,11	--	5,03	--	F101	0,11	EUT was working under max normal load condition and exhausted battery charging.	
90 V a.c.	60	0,09	--	4,36	--	F101	0,09		
100 V a.c.	50	0,08	0,10	4,30	--	F101	0,08		
100 V a.c.	60	0,08	0,10	4,28	--	F101	0,08		
240 V a.c.	50	0,06	0,064	4,90	--	F101	0,06		
240 V a.c.	60	0,06	0,064	4,91	--	F101	0,06		
264 V a.c.	50	0,06	--	5,30	--	F101	0,06		
264 V a.c.	60	0,05	--	4,38	--	F101	0,05		
Model: DS-PWA64-L-WB									
90 V a.c.	50	0,14	--	7,22	--	F101	0,14	EUT was working under max normal load condition and exhausted battery charging.	
90 V a.c.	60	0,14	--	7,23	--	F101	0,14		
100 V a.c.	50	0,13	0,2	7,08	--	F101	0,13		
100 V a.c.	60	0,14	0,2	7,21	--	F101	0,14		
240 V a.c.	50	0,08	0,09	7,17	--	F101	0,08		
240 V a.c.	60	0,09	0,09	7,18	--	F101	0,09		
264 V a.c.	50	0,07	--	7,23	--	F101	0,07		
264 V a.c.	60	0,08	--	7,22	--	F101	0,08		
Supplementary information:									
Equipment may be have rated current or rated power or both. Both should be measured.									

B.3, B.4		TABLE: Abnormal operating and fault condition tests					P
Ambient temperature T_{amb} (°C).....					25°C, if not specified.		—
Power source for EUT: Manufacturer, model/type, outputrating ..					See table 4.1.2		—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
T101 Pin 7 after D201 and Pin 8	overload	90V	4hrs	F101	0,11 →0,35 →0	Max temperture: T101 coil: 63,5°C, T1 core: 59,9°C, Ambient: 22,9°C. Output was loaded to 2,15A obtained max. steady temperature, unit was loaded to 2,17A shut down, no damage, no hazards.	

IEC 62368-1						
Clause	Requirement + Test				Result - Remark	Verdict
T101 Pin 1-2	Sc	90	10min	F101	0,11→0	Unit shut down instantly. No damage, no hazards.
T101 Pin 3-4	Sc	90	10min	F101	0,11→0	Unit shut down instantly. No damage, no hazards.
T101 Pin 7-8	Sc	90	10min	F101	0,11→0	Unit shut down instantly. No damage, no hazards.
"V+" and "V-"	Sc	90	10min	F101	0,11→0	Unit shut down instantly. No damage, no hazards.
BD101 Pin 1-2	Sc	264	<1s	F101	0,06→0	Fuse open ¹⁾ instantly. No damage, no hazard
BD101 Pin 1-2	Sc	90	<1s	F101	0,11→0	Fuse open ¹⁾ instantly. No damage, no hazard
C101	Sc	90V	<1s	F101	0,11→0	Fuse open ¹⁾ instantly. No damage, no hazard
C101	Sc	264V	<1s	F101	0,06→0	Fuse open ¹⁾ instantly. No damage, no hazard
U102 pin1-2	Sc	264V	10 min	F101	0,06→0,001	Unit shut down instantly. No damage, no hazards.
U102 pin3-4	Sc	264V	10 min	F101	0,06→0	Unit shut down instantly. No damage, no hazards.
U102 pin 3	Sc	264V	10 min	F101	0,06→0,005	Unit shut down instantly. No damage, no hazards.
Q101 Pin G-D	Sc	264V	10 min	F101	0,06→0	Fuse open ¹⁾ instantly. No damage, no hazard
Q101 Pin G-S	Sc	264V	10 min	F101	0,06→0,001	Unit shut down instantly. No damage, no hazards.
Q101 Pin S-D	Sc	264V	10 min	F101	0,06→0	Unit shut down instantly. No damage, no hazard
U101 pin1-2	Sc	264V	10 min	F101	0,06→0,013	Unit shut down instantly. No damage, no hazards.
U101 pin1-4	Sc	264V	10 min	F101	0,06→0,013	Unit shut down instantly. No damage, no hazard
COM port Pin 1-4	Sc	264V	10 min	F101	0,06→0,05	Unit was operating normally, no significant temperature raised. No damage, no hazard
RS232 Pin 1-4	Sc	264V	10 min	F101	0,06→0,05	Unit was operating normally, no significant temperature raised. No damage, no hazard.
Supplementary information:						
Sc: Short Circuit.						
¹⁾ Tested with all fuse or fuse sources with the same result.						

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

M.3	TABLE: Protection circuits for batteries provided within the equipment						P
Is it possible to install the battery in a reverse polarity position?:				No		—	
Equipment Specification	Charging						
	Voltage (V)			Current (A)			
	100 – 240 V a.c.			0,2 A max			
Manufacturer/type	Battery specification						
	Non-rechargeable batteries		Rechargeable batteries				
	Discharging current (A)	Unintentional charging current (A)	Charging		Discharging current (A)	Reverse charging current (A)	
			Voltage (V)	Current (A)			
RTC Battery SEIKO INSTRUMENTS INC MICRO-ENERGY DIV / ML414H	--	--	3 V	300mA	--	--	
Battery pack Li-Fun Technology Co. Ltd. / 765965	--	--	4,35 V	2,26A	--	--	
Note: The tests of M.3.2 are applicable only when above appropriate data is not available.							
Specified battery temperature (°C):				60		--	
Component No.	Fault condition	Charge/ discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation
RTC battery							
ML414H	RMS8 Sc	Charge	7h	--	53mA	3,3V	NL, NS, NE, NF.
ML414H	CMS11 Sc	Discharge	--	--	3,3 mA	--	NL, NS, NE, NF.
Battery pack							
765965	UV1 pin 13-15 Sc	Charge	7h	--	1,81 A	4,35V	NL, NS, NE, NF.
765965	UV1 pin 13-15 Sc	Discharge	--	--	0 A	--	NL, NS, NE, NF.
Supplementary information:							
Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.							

M.4.2	TABLE: Charging safeguards for equipment containing a secondary lithium battery	P
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IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Maximum specified charging voltage (V)				4,35	—
Maximum specified charging current (A)				2,26	—
Highest specified charging temperature (°C)				60	
Lowest specified charging temperature (°C)				0	--
Battery manufacture r/type	Operating and fault condition	Measurement			Observation
		Charging voltage (V)	Charging current (A)	Temp. (°C)	
Li-Fun Technology Co. Ltd. / 765965	Single fault – sc UV1 pin 1/24 – 13/14	5,0	0	--	Did not exceed MSCV
Li-Fun Technology Co. Ltd. / 765965	Single fault – sc UV1 pin 13-15	4,30	1,812	--	Did not exceed MSCV
Li-Fun Technology Co. Ltd. / 765965	Charge at oven with cell temp ≥HSCT	3,5	0	60	Stop charging.
Li-Fun Technology Co. Ltd. / 765965	Charge at oven with cell temp ≤LSCT	3,5	0	0	Did not exceed charging limit of LSCT
Supplementary information:					
Abbreviation: SC= short circuit; OC= open circuit; MSCV= maximum specified charging voltage; MSCC= maximum specified charging current; HSCT= highest specified charging temperature; LSCT= lowest specified charging temperature					

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

T.2, T.3, T.4, T.5	TABLE: Steady force test						P
Part/Location	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation	

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
Internal components	--	--	--	10	5	The clearance and creepage distances do not be reduced below the required values.
Enclosure	Plastic (FR3010+(z))	1,5	--	250	5	Class 3 energy sources not become accessible. Safeguards remain effective.
Supplementary information:						

T.6, T.9	TABLE: Impact test				P
Location/part	Material	Thickness (mm)	Height (mm)	Observation	
Enclosure	Plastic (FR3010+(z))	1,5	1300	Class 3 energy sources not become accessible. Safeguards remain effective.	
Supplementary information:					

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

T.8	TABLE: Stress relief test				P
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Enclosure	Plastic (FR3010+(z))	1,5	75	7	Intact.
Supplementary information:					

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

IEC 62368-1			
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	
Enclosure	COVESTRO DEUTSCHLAND AG [PC RESINS]	6487 + (z)(f1)	V-0, Min, thickness 1,5 mm, 115°C	UL94 CSA-C22.2 No. 0.17 UL 62368- 1:2014, CAN/CSA C22.2 No. 62368-1-14	UL E41613 Tested with appliance	
Alternative	KUMHO-SUNNY	PC2502NH	V-0, Min, thickness 1,5 mm, 110°C	UL94	UL E254819	
Alternative	KINGFA	JH860 UV	V-0, Min, thickness 1,5 mm, 120°C	UL94	UL E484599	
PCB	SUNTAK MULTILAYER PCB CO LTD	STM-5	V-0, 130 °C	UL 796	UL E207844	
Alternative	Interchangeable	Interchangeable	Min V-1, 130 °C	UL 796	UL	
Lithium battery pack	Li-Fun Technology Co., Ltd	765965	3,8Vdc, 4520mAh, 17,176Wh	IEC 62133- 2:2017	CB by TUV-Rh JPTUV-089405	
Coin battery	SEIKO INSTRUMENTS INC MICRO- ENERGY DIV	ML414H	Max Charging Current (Ic):300 mA, Max Charging Voltage: 3,4 V dc	UL 1642	UL MH15628	
AC inlet	Zhe Jiang Bei Er Jia Electronic Co Ltd	ST-A03-005	AC 250 V, 2,5A	IEC/EN 60320-1 UL 498	VDE 40014833 UL E225980	
Alternative	Steady Electronics Corporation	2123	AC 250 V, 2,5A	IEC/EN 60320-1UL 498	VDE 40036613 UL E217193	
Alternative	Zhejiang Le Ci Electronics Co.,Ltd.	DB-8	AC 250 V, 2,5A	IEC/EN 60320-1 UL 498	VDE 40032028 UL E302229	
Alternative	Yueqing Yanhui Electronic Co Ltd	DB-14-T-1	AC 250 V, 2,5A	IEC/EN 60320-1 UL 498	VDE 40035411 UL E334847	
Alternative	Yueqing Yanhui Electronic Co Ltd	DB-14-T-1M	AC 250 V, 2,5A	IEC/EN 60320-1 UL 498	VDE 40035411 UL E334847	

IEC 62368-1			
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	
Alternative	DongGuan Yuankai Plastic CO.,Ltd.	XHL-052C13	AC 250 V, 2,5A	IEC/EN 60320-1 UL 498	ENEC UL E496145	
Fuse (F101)	Conquer Electronic.,Ltd.	MST	T2AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 UL 248-1 UL 248-14	VDE 40017118 UL E82636	
Alternative	Shenzhen Lanson Electronics Co Ltd	SMT	T2AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 UL 248-1 UL 248-14	VDE 40012592 UL E221465	
Alternative	Suzhou Walter ElectronicCo. Ltd.	2010	T2AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 UL 248-1 UL 248-14	VDE 40018781 UL E56092	
Alternative	HonghuBluelight Electronic Co.,Ltd	6ET	T2AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 UL 248-1 UL 248-14	VDE 40034107 UL E324232	
Alternative	XC Electronics (Shen Zhen) Corp. Ltd.	5TE	T2AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 UL 248-1 UL 248-14	VDE 40029550 UL E249609	
Alternative	Smart Electronics Inc.	SPT250TE	T2AL, 250Vac	IEC/EN 60127-1 IEC/EN 60127-3 UL 248-1 UL 248-14	VDE 40014285 UL E238986	
NTC101	Thinking Electronic Industrial Co., Ltd	SCK-05101	5Ω at 25°C, 1A, 240V	IEC/EN/UL 60730-1 UL 1434	UL E138827 CE by TUV-Rh R 50050155	
X-capacitor (CX101)	Dongguan Easy-Gather Electronic Co Ltd	MKP-X2	Max. 0,15μF±10%, min, 250Vac, 105°C, X2 type	IEC/EN/UL 60384-14	VDE 40022258 UL E252221	

IEC 62368-1			
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	
Alternative	SHENZHEN SURONG CAPACITORS CO LTD	MPX, MKP	Max. 0,15μF±10%, min, 250Vac, 110°C, X2 type	IEC/EN/UL 60384-14	VDE 40008924 UL E314875	
Alternative	Shenzhen Jinghao Capacitor Co., Ltd.	CBB62B	Max. 0,15μF±10%, min, 250Vac, 110°C, X2 type	IEC/EN/UL 60384-14	VDE 40018690 UL E252286	
Alternative	Nanjing Tengen Rongguangda Electronics (Group) Co., Ltd.	MKP	Max. 0,15μF±10%, min. 250Vac, 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40028680 UL E200596	
Alternative	NANJING TENGGEN RONG GUANG DA ELECTRONIC SALES CO LTD	MKP	Max. 0,15μF±10%, min. 250Vac, 100°C, X2 type	IEC/EN/UL 60384-14	VDE 40049725 UL E502081	
Alternative	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd.	MPX	Max. 0,15μF±10%, min, 275Vac, 100°C, X2 type	IEC/EN/UL 60384-14	UL E208107 VDE 40034679	
Alternative	ZHUHAI SUNG HO ELECTRONICS CO LTD	CMPP	Max. 0,15μF±10%, min, 275Vac, 105°C, X2 type	IEC/EN/UL 60384-14	VDE 40026078 UL E327138	
Alternative	EUROPTRONIC (TAIWAN) INDUSTRIAL CORP	MPX2	Max. 0,15μF±10%, min, 250Vac, 110°C, X2 type	IEC/EN/UL 60384-14	VDE 40025981	
Alternative	EUROPTRONIC (TAIWAN) INDUSTRIAL CORP	MPX	Max, 0,15μF±10%, min, 250Vac, 105°C, X2 type	IEC/EN/UL 60384-14	VDE 40018238	
Alternative	ANHUI FEIDA ELECTRICAL TECHNOLOGY CO LTD	MKP	Max, 0,15μF±10%, min, 250Vac, 110°C, X2 type	IEC/EN/UL 60384-14	VDE 40045744	
Bleeder resistors (R101, R102)	Shenzhen Honor Electronic Co., Ltd	RC0805	2,4MΩ, 1/8W	IEC 62368-1: 2014	CB by TUV-Rh JPTUV-088430	

IEC 62368-1			
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	
Inductor (LF101)	SHENZHEN WANZHIYU TECHNOLOGY CO LTD	ADS-10KA-06 5V/1.5A	130°C	IEC/EN 62368-1	Test with appliance	
-Bobbin	SUMITOMO BAKELITE CO LTD	PM-9820, PM-9823	Min, thickness: 0,70 mm, V-0, 150°C	UL94	UL E41429	
-Magnet wire	SHENZHEN CHENGWEI INDUSTRIAL CO LTD	2UEW	130°C	UL 1446	UL E227475	
-Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT* (b)(g), PZ* (b)	VW-1, 130°C	UL 510A	UL E165111	
Rectifier (BD101)	Interchangeable	Interchangeable	1A Min., 1000VAC	IEC/EN 62368-1	Test with appliance	
Electrolytic capacitor (C101)	Interchangeable	Interchangeable	45µF, 400VAC, 105°C	UL 62368-1:2014, CAN/CSA C22.2 No. 62368-1-14	Test with appliance	
Bridging capacitor (CY101)	Guangdong South Hongming Electronic Science & Technology Co., Ltd	F	Max, 1000pF, Min, 250Vac, 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40036393 UL E154899	
Alternative	SHANTOU HIGH-NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD	CD	Max. 1000pF, Min. 250Vac, 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40025754 UL E208107	
Alternative	DONGGUAN EASY-GATHER ELECTRONIC CO LTD	DCF	Max. 1000pF, Min. 250Vac, 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40022942 UL E25222	

IEC 62368-1			
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	
Alternative	SUCCESS ELECTRONICS CO LTD	SE	Max.1000pF, Min. 250Vac, 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40020002 UL E114280	
Alternative	YINAN DON'S ELECTRONIC COMPONENT CO LTD	CT81	Max.1000pF, Min. 250Vac, 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 135256	
Alternative	HAOHUA ELECTRONIC CO	CT7	Max.1000pF, Min. 250Vac, 125°C, Y1 type,	IEC/EN/UL 60384-14	VDE 40003902 UL E233106	
Optocoupler (U102)	COSMO ELECTRONICS CORP	K1010, KPC817	Dti, =min. 0,4mm; Ext,dcr, =min, 6,0mm; min. 100°C	UL 1577 IEC/EN 60747-5-5 IEC/EN 60950-1	VDE 101347 UL E169586	
Alternative	LITE-ON TECHNOLOGY CORP	LTV-817	Dti, =min. 0,4mm; Ext,dcr, =min. 6,0mm; min. 100°C	UL 1577 IEC/EN 60747-5-5 IEC/EN 60950-1	VDE 40015248 UL E113898	
Alternative	EVERLIGHT ELECTRONICS CO LTD	EL817	Dti, =min. 0,4mm; Ext,dcr, =min. 6,0mm; min. 100°C	UL 1577 IEC/EN 60747-5-5 IEC/EN 60950-1	VDE 132249 UL E214129	
Alternative	Ct Microelectronics FarEast Led	CT817	Dti, =min. 0,4mm; Ext,dcr, =min. 6,0mm; min. 100°C	UL 1577 IEC/EN 60747-5-5 IEC/EN 60950-1	VDE 40039590 UL E364000	
Alternative	SHENZHEN ORIENT COMPONENTS CO LTD	ORPC-817x	Dti, =min. 0,4mm; Ext,dcr, =min. 6,0mm; min. 100°C	UL 1577 IEC/EN 60747-5-5 EC/EN 60950-1	VDE 40029733	

IEC 62368-1			
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	
Alternative	China Resources Semiconductor (ShenZhen) Ltd.,	PC817C	Dti, =min. 0,4mm; Ext,dcr, =min. 6,0mm; min. 100°C	IEC/EN 60747-5-5 IEC/EN 60950-1	VDE 40042139 UL E465130	
Transformer (T101) 2)	SHENZHEN TOHO ELECTRONIC TECHNOLOGY CO LTD	PQ2011-005015	Class B	IEC/EN 62368-1	Test with appliance	
Alternative	SHENZHEN LIKEWEI TECHNOLOGY CO LTD	PQ2011-005015	Class B	IEC/EN 62368-1	Test with appliance	
Alternative	SUNYCORE ELECTRONICS (FUZHOU)CO LTD	PQ2011-005015	Class B	IEC/EN 62368-1	Test with appliance	
-Electrical insulation systems	SHENZHEN TOHO ELECTRONIC TECHNOLOGY CO LTD	TOHO	Class B	UL 1446	UL E493533	
-Bobbin	SUMITOMO BAKELITE CO LTD	PM-9820, PM-9823	Min. thickness: 0,70 mm, V-0, 150°C	UL94	UL E41429	
- Magnet winding	Dongguan YIDA Industrial Co., Ltd	MW75-C	Min.130°C	UL 1446	UL E344055	
Alternative	Interchangeable	Interchangeable	Min.130°C	UL 1446	UL	
- TIW used at secondary winding	FURUKAWA ELECTRIC CO LTD	TEX-E	Class B	UL 2353 UL 60950-1 Annex Q IEC/EN 62368-1	UL E206440 VDE 006735	
- Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT* (b)(g), PZ* (b)	VW-1, 130°C	UL 510A	UL E165111	

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

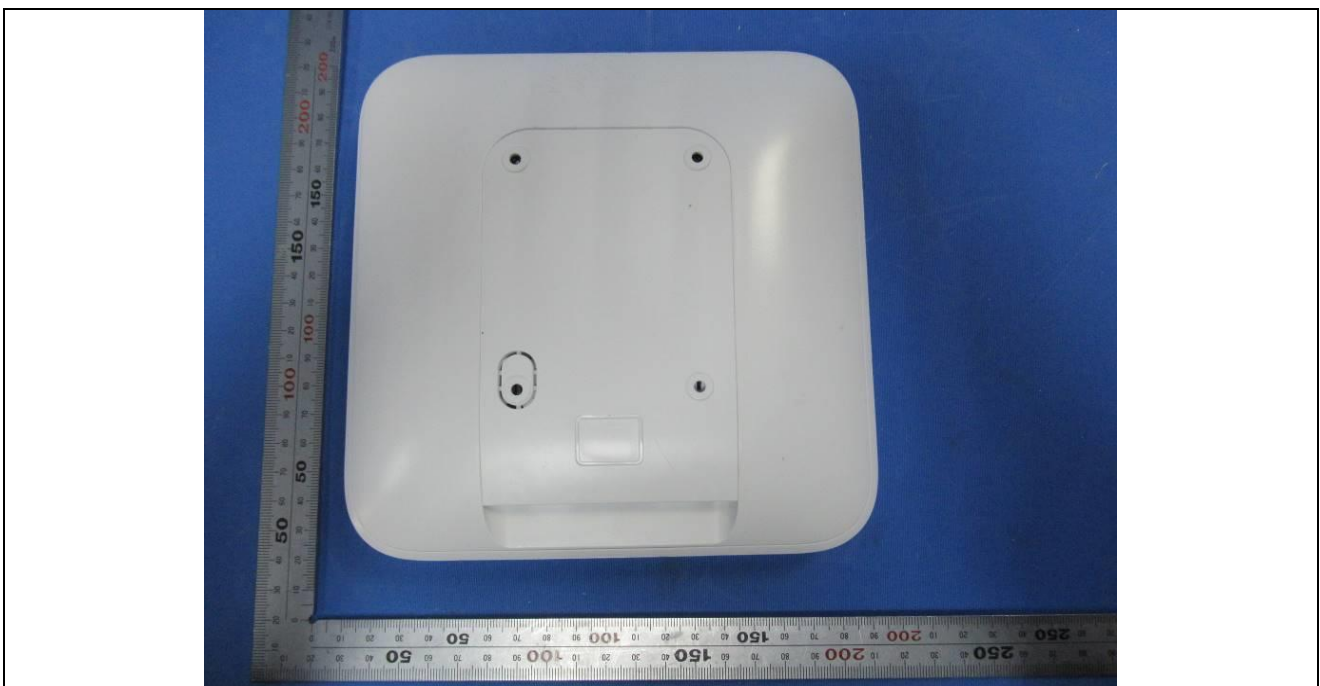
4.1.2	TABLE: List of critical components					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹	
Varistor (MOV101)	Cerglass MFG Inc	10D621K	Min. 300Vac, 125°C, Max. continuous voltage: 385Va.c.; Coating rated V-0.	IEC 61051-2:1991 IEC 61051-2:1991/AMD1:2009 IEC 61051-2:1991 IEC 61051-1:2007	VDE 40028836	
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039. ²⁾ Description line content is optional. Main line description needs to clearly detail the component used for testing						

---End of Report---

Details of: General View (model: DS-PWA96-M-WE)



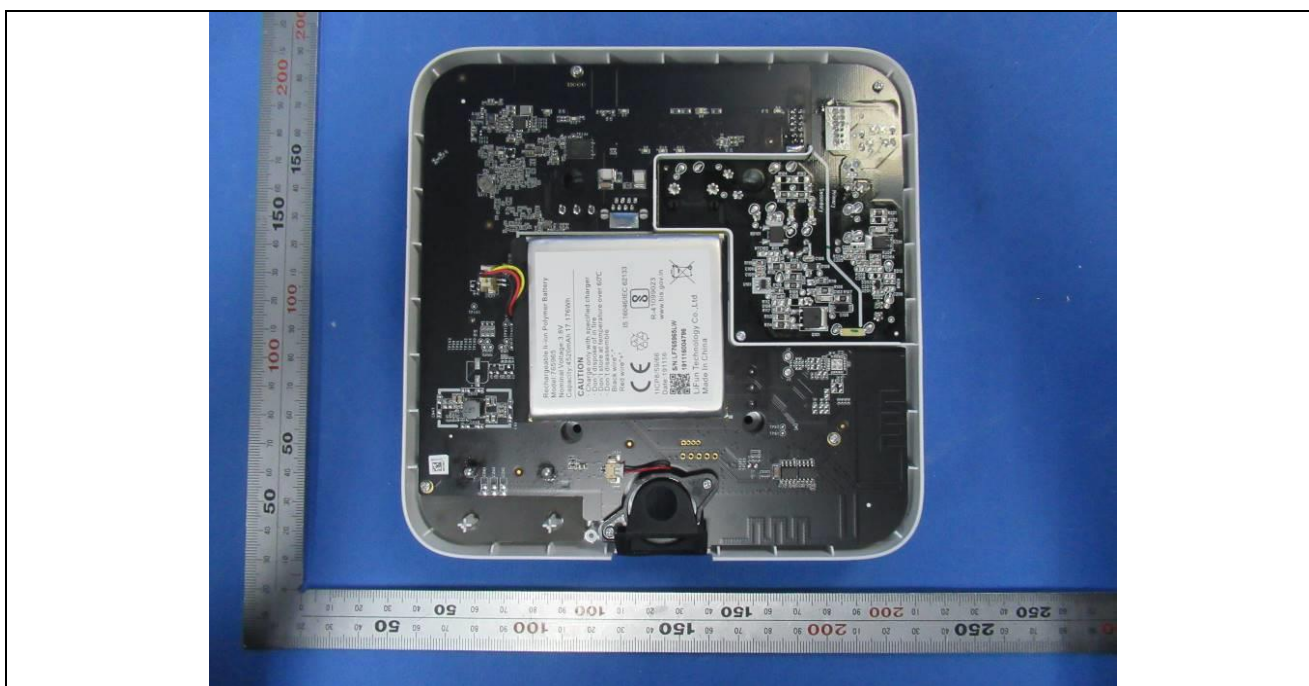
Details of: General View (model: DS-PWA96-M-WE)



Details of: Terminal View (model: DS-PWA96-M-WE)



Details of: Internal View (model: DS-PWA96-M-WE)



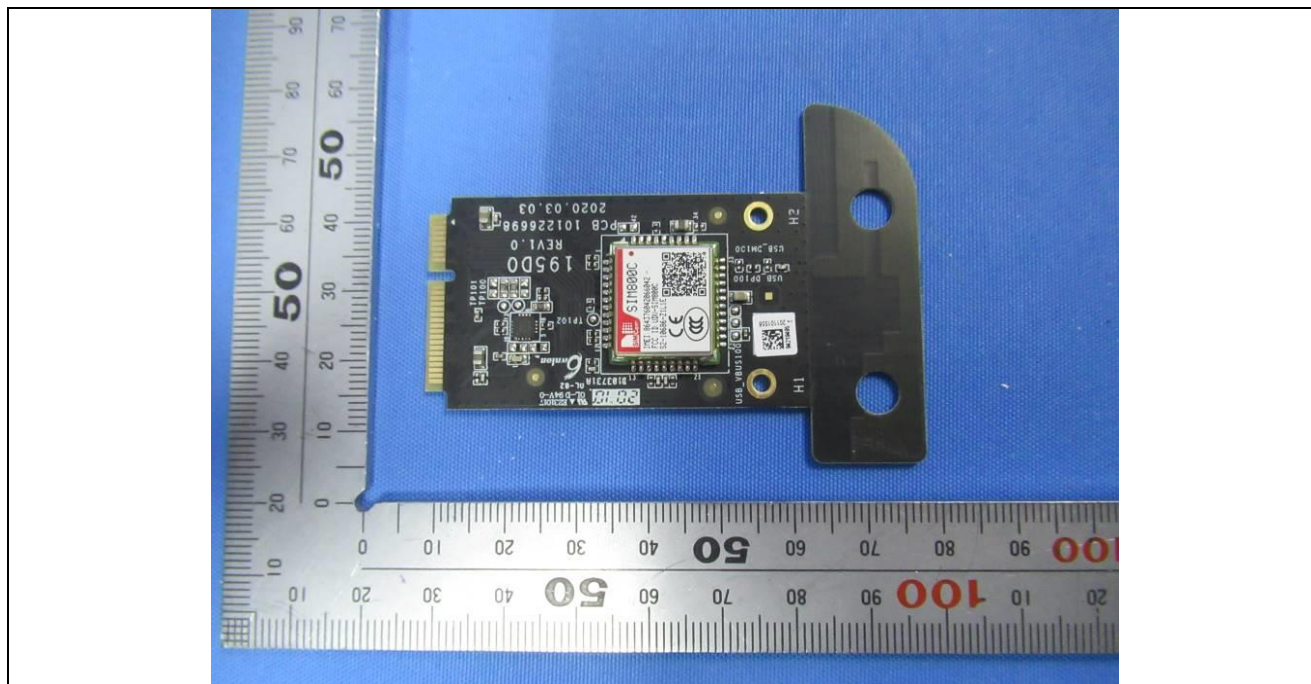
Details of: Internal View (model: DS-PWA96-M-WE)



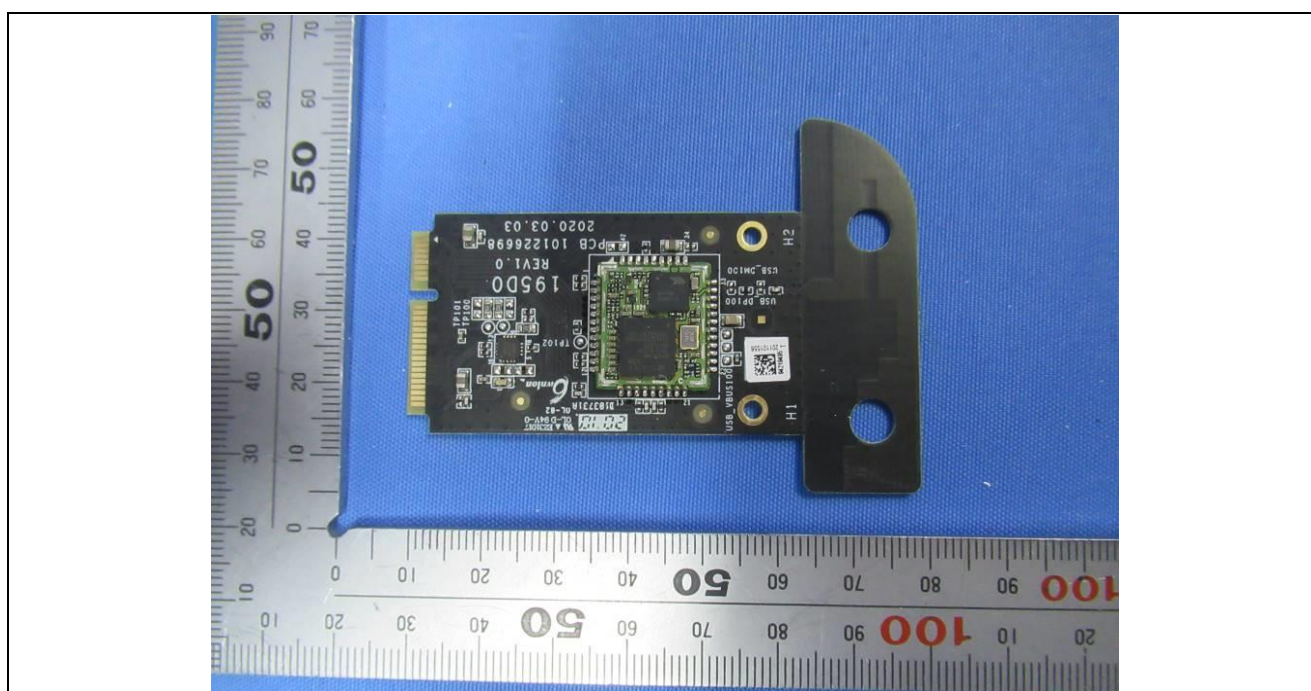
Details of: Internal View (model: DS-PWA96-M-WE)



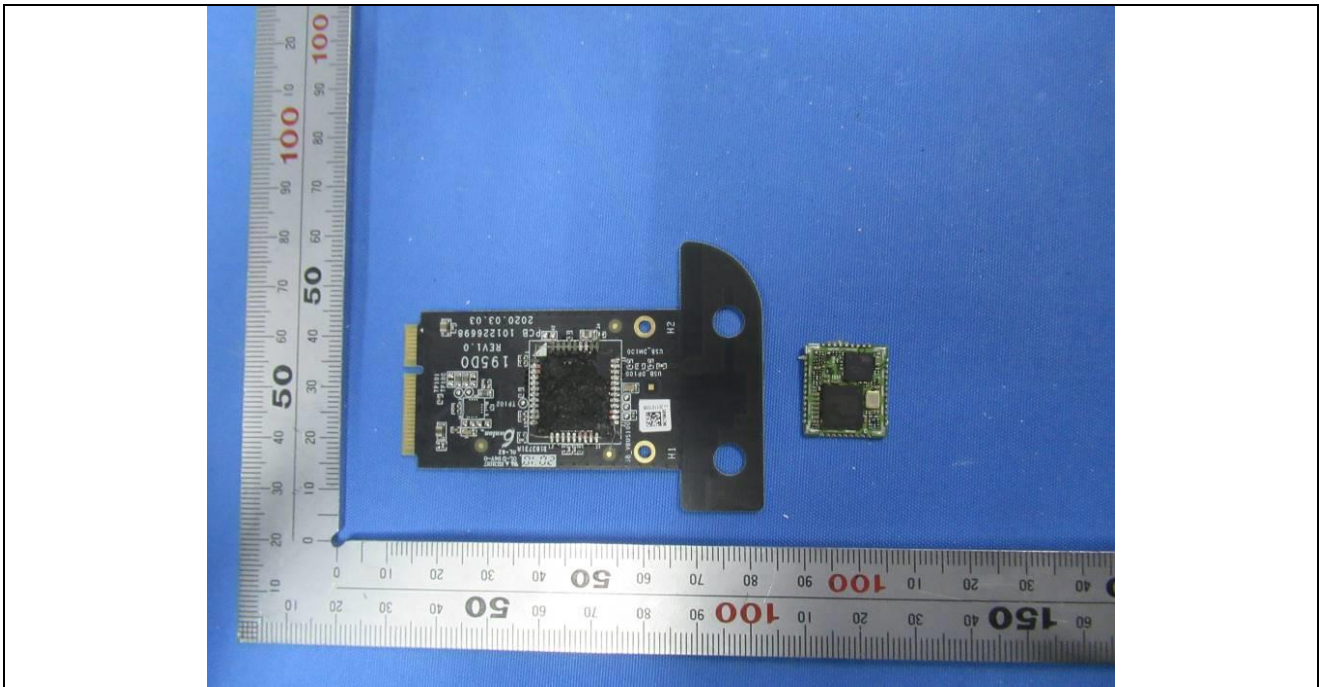
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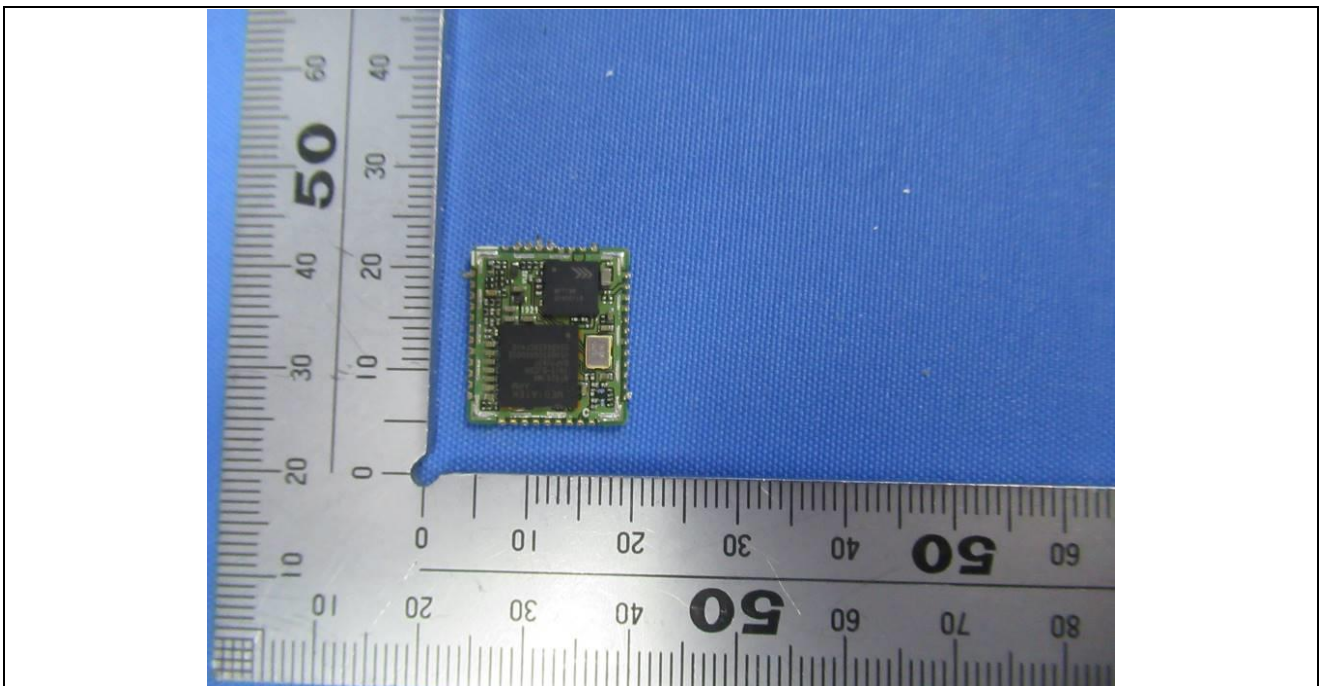
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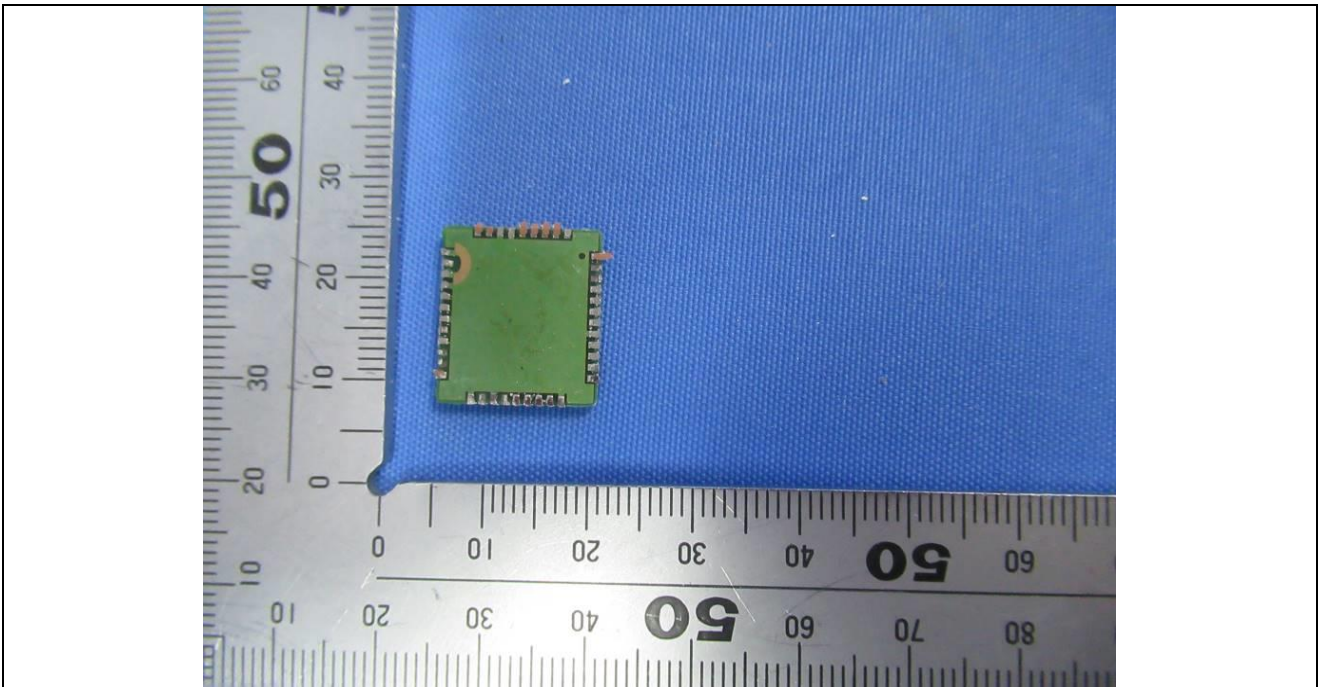
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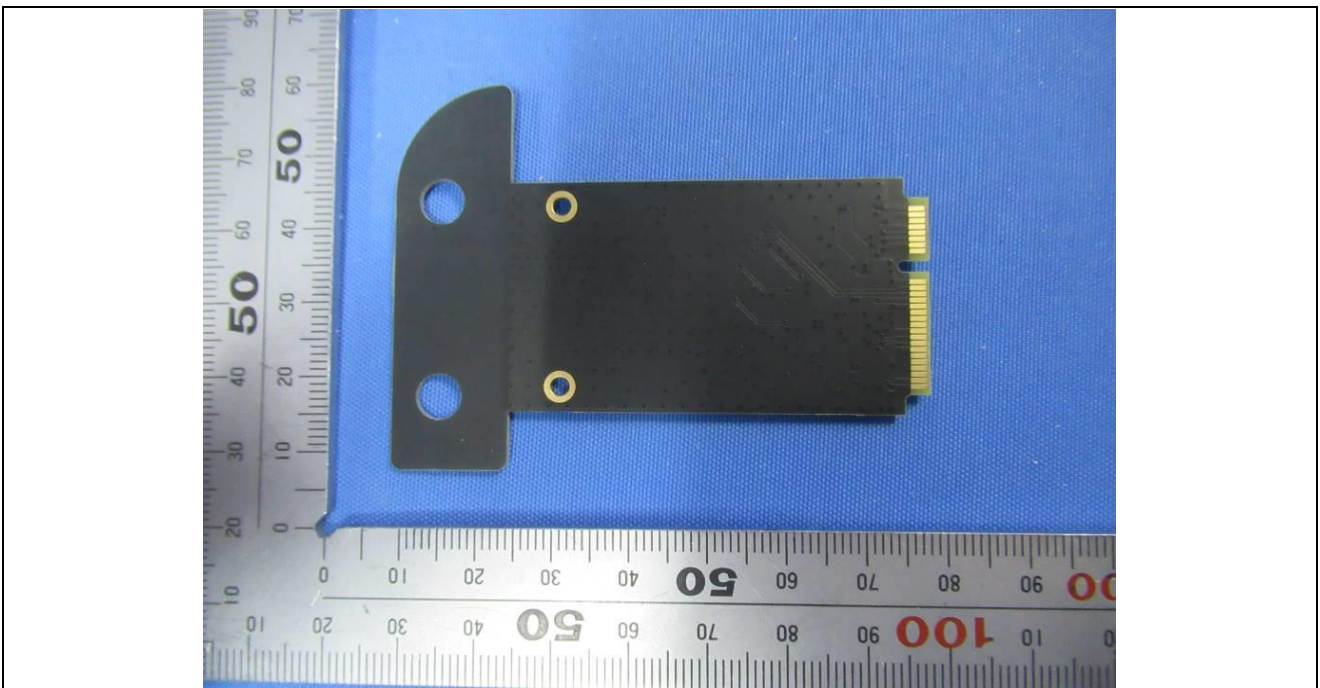
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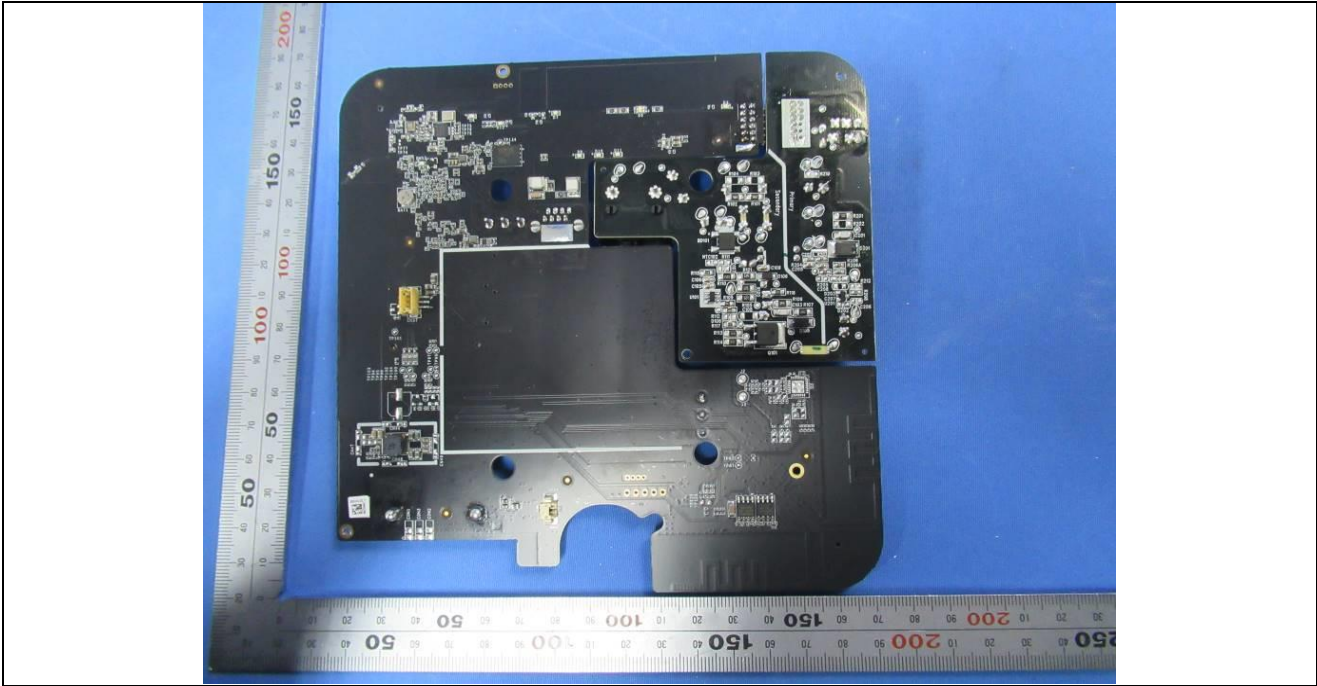
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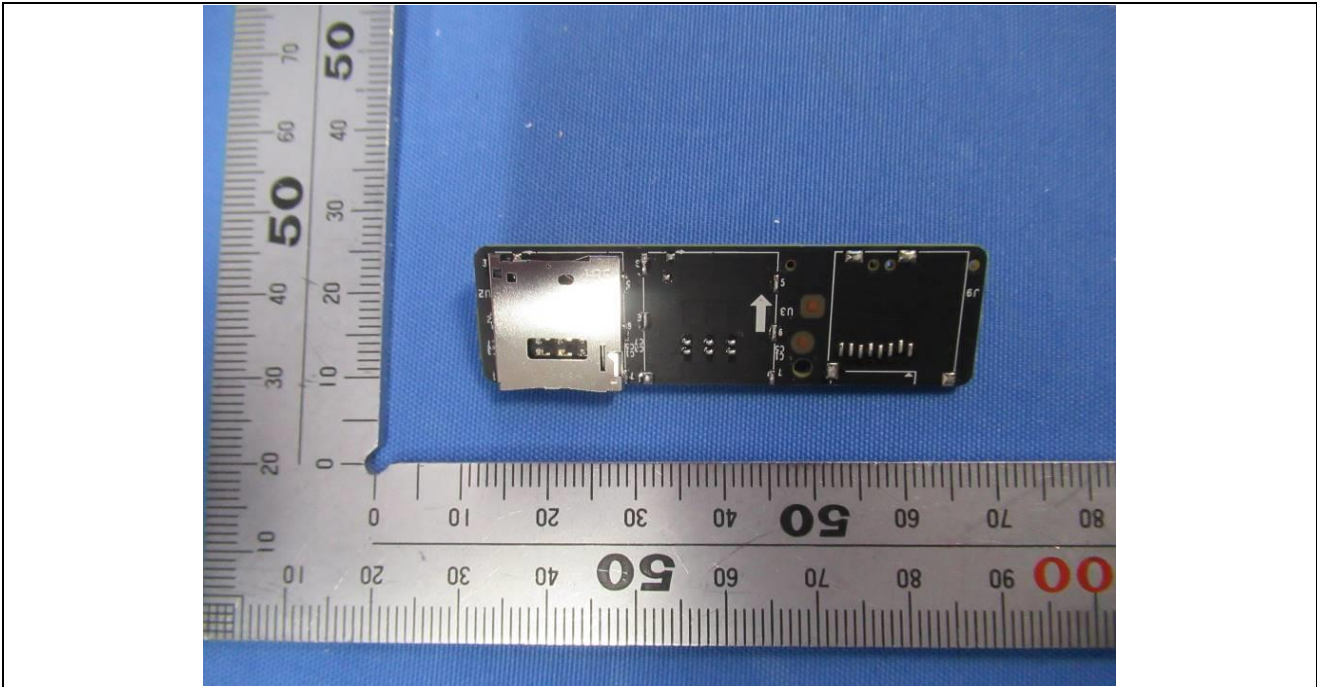
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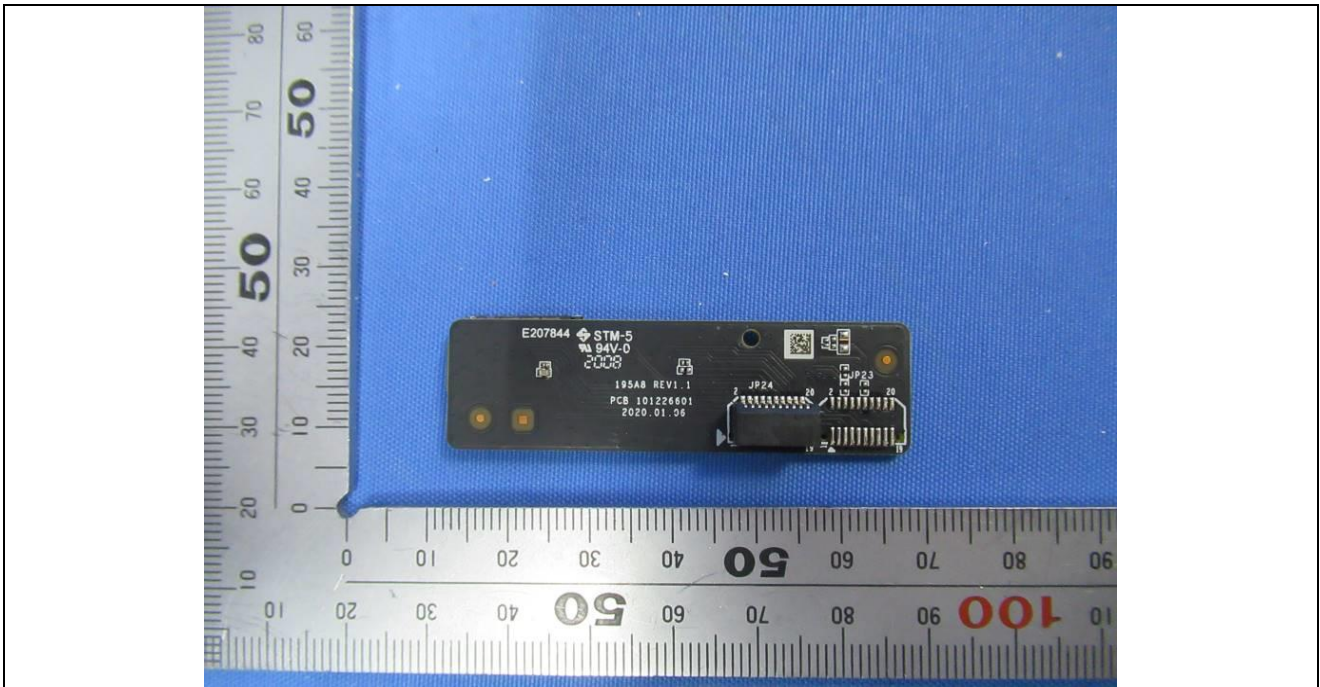
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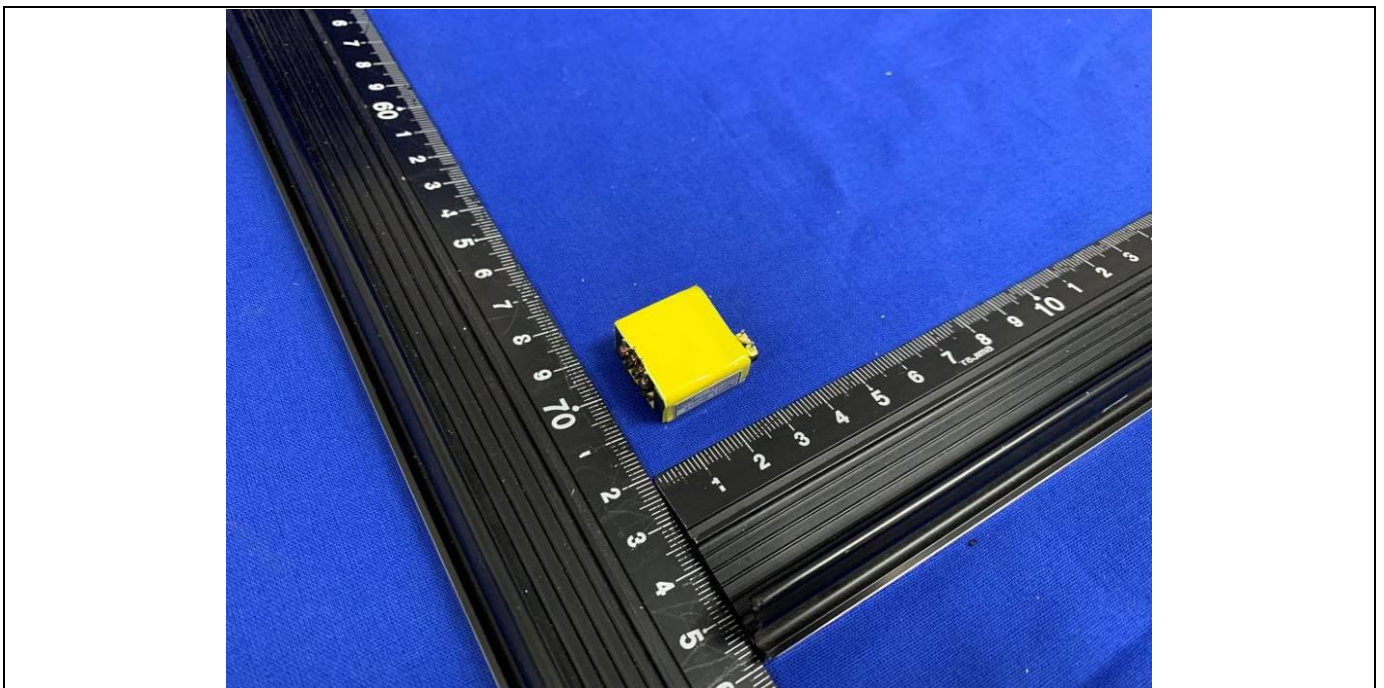
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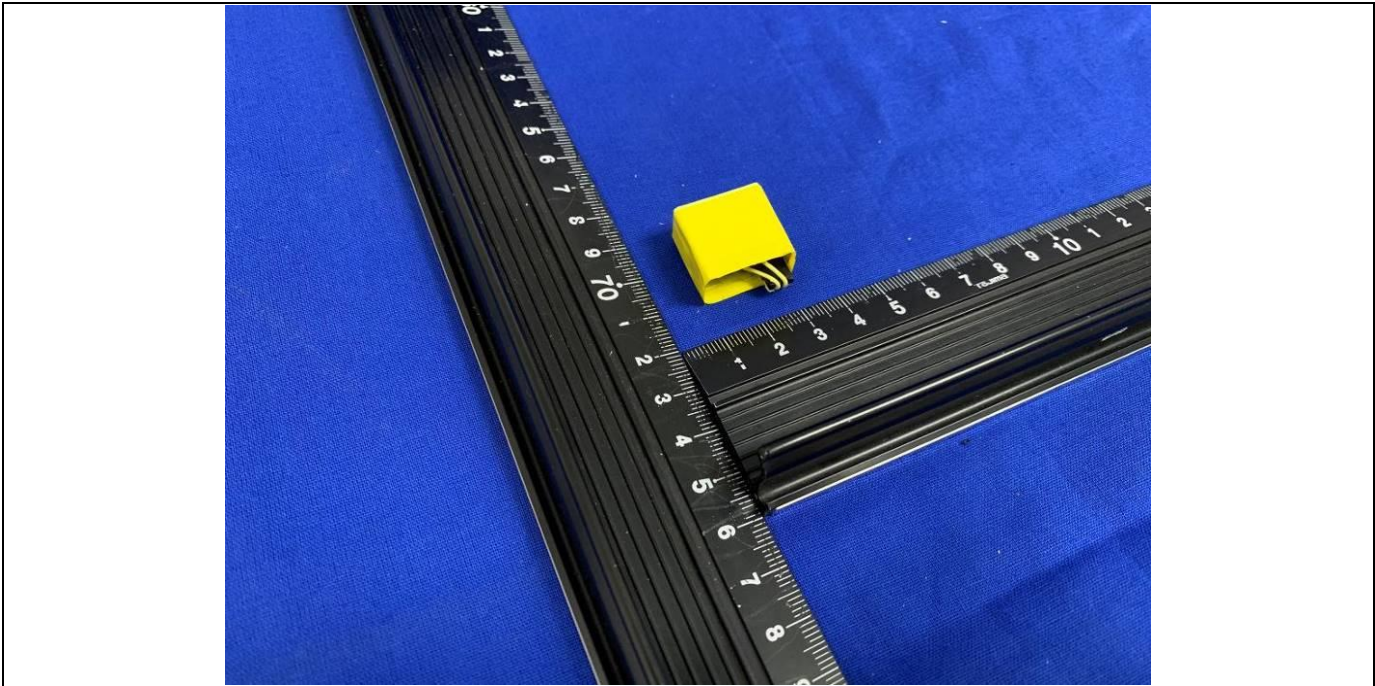
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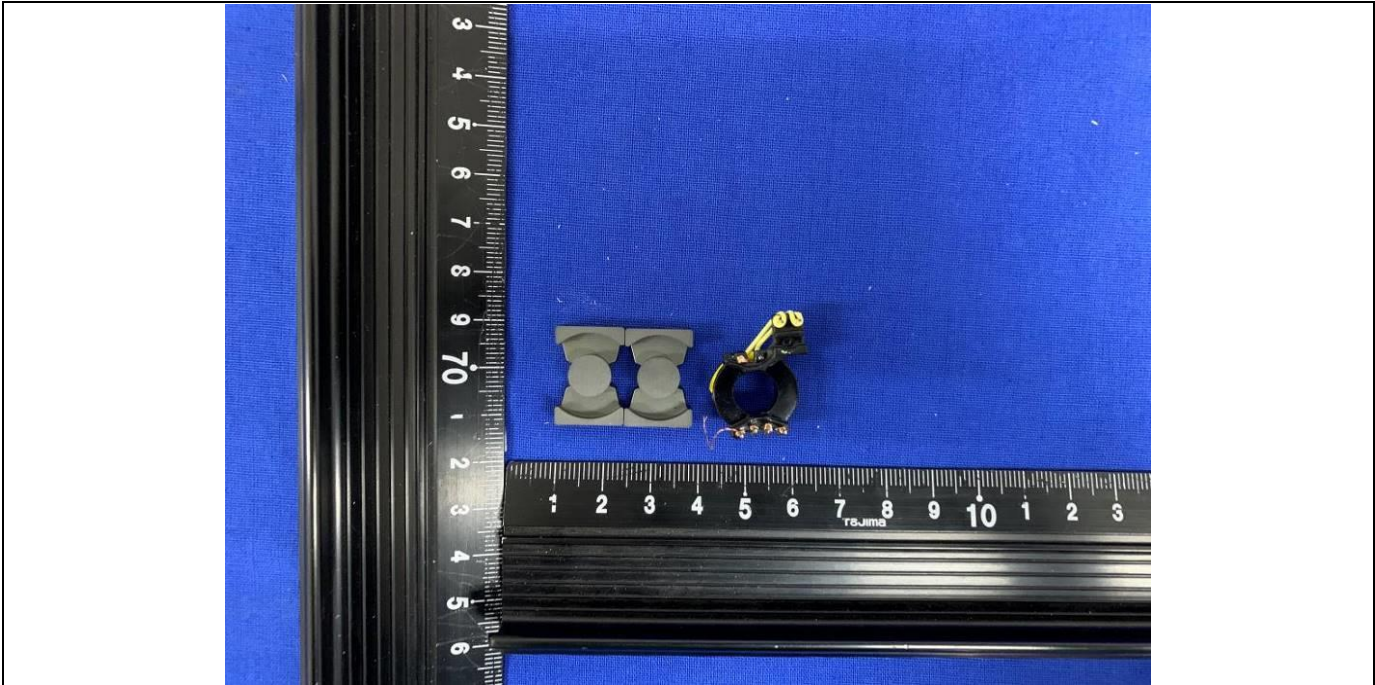
Details of: Transformer View



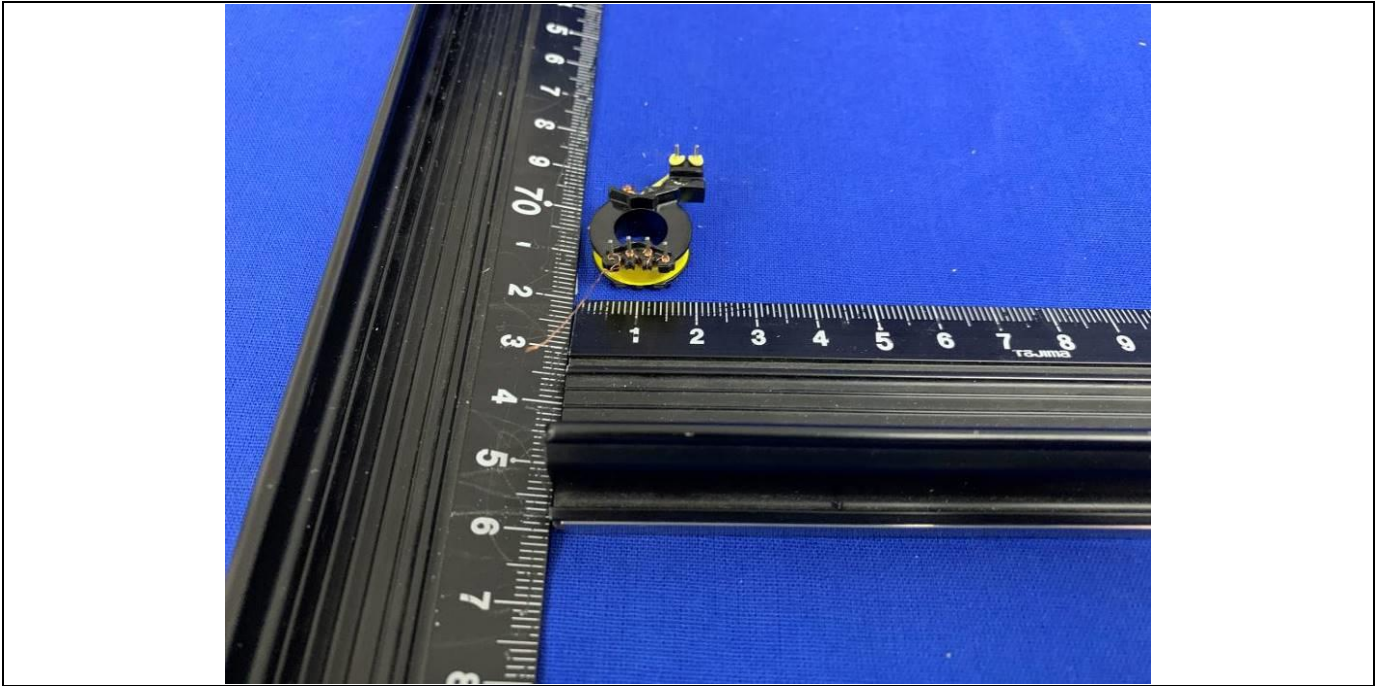
Details of: Transformer View



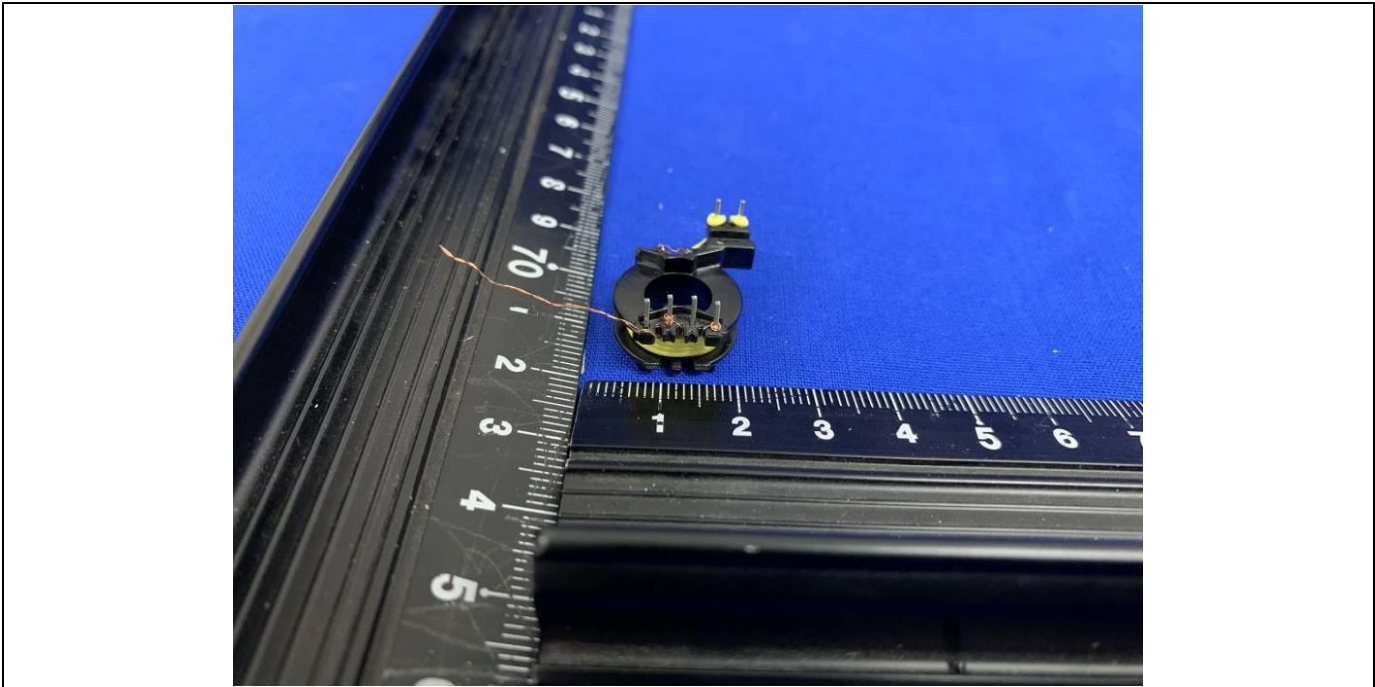
Details of: Transformer View



Details of: Transformer View



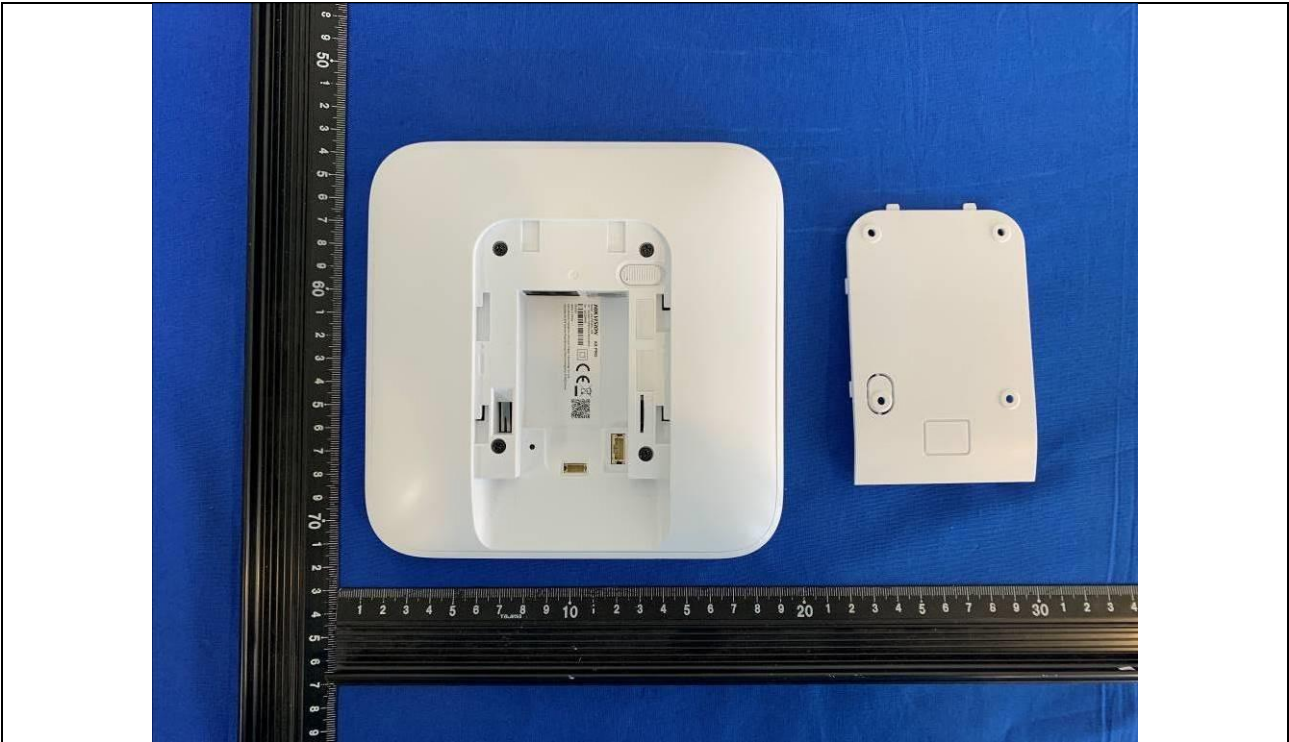
Details of: Transformer View



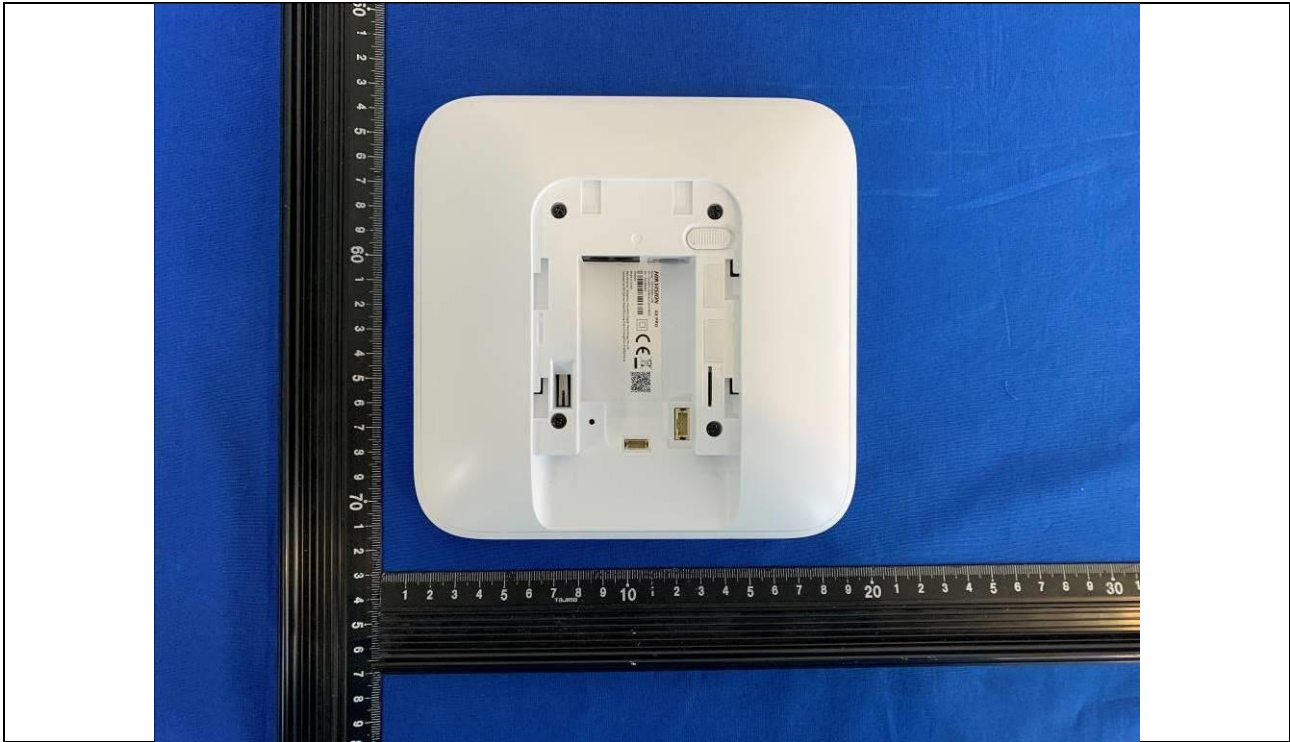
Details of: General view (DS-PWA64-L-WB)



Details of: General view (DS-PWA64-L-WB)



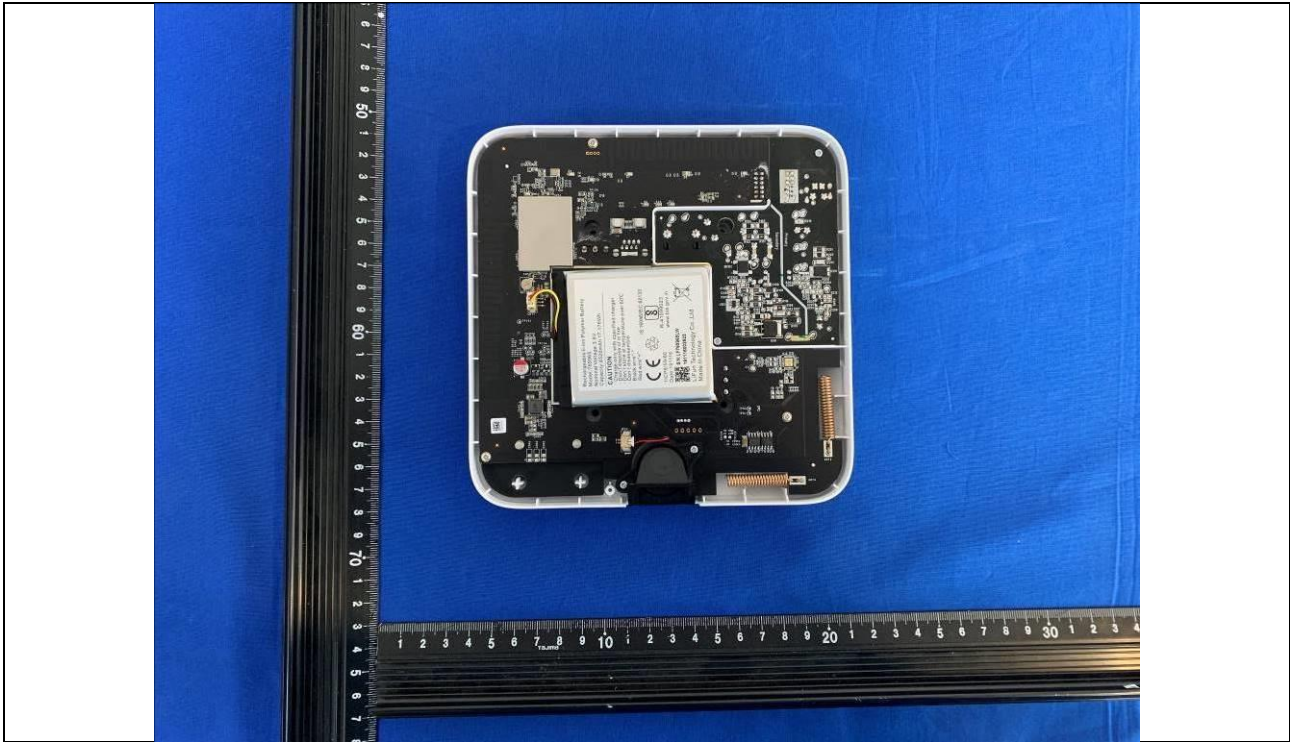
Details of: Internal view (DS-PWA64-L-WB)



Details of: Internal view (DS-PWA64-L-WB)



Details of: Internal view (DS-PWA64-L-WB)



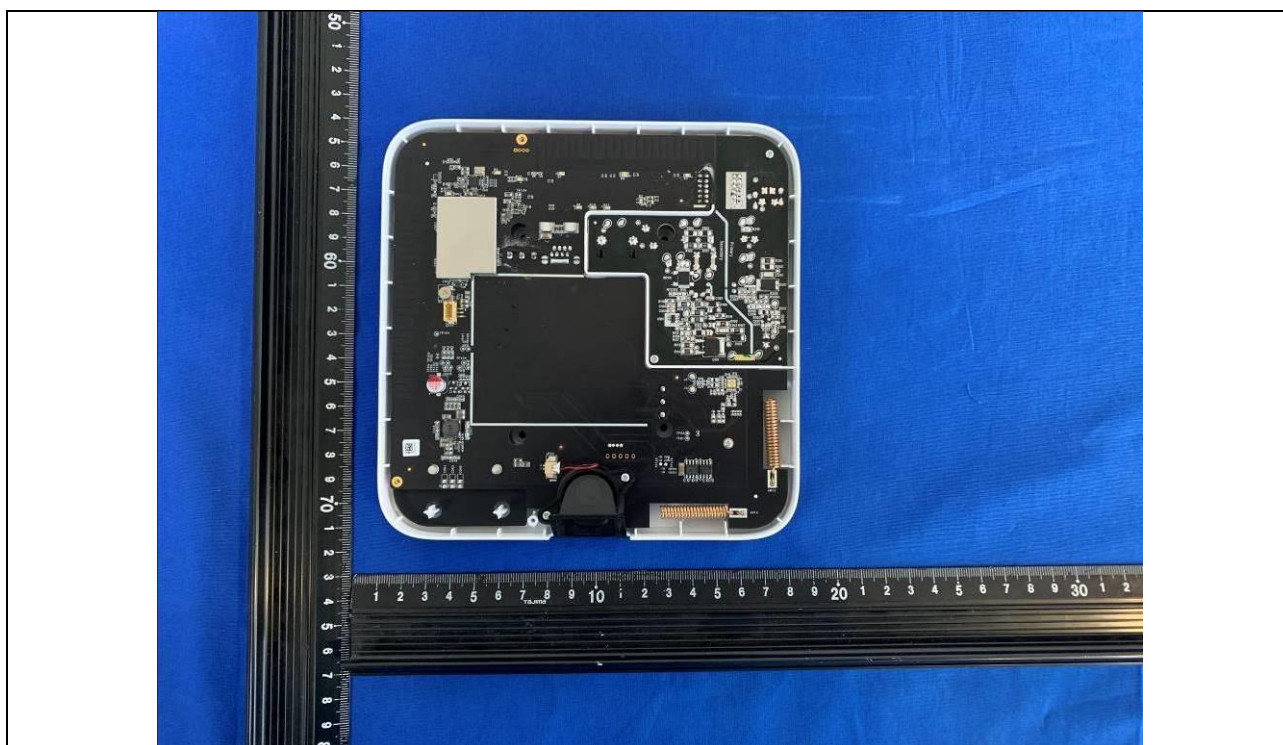
Details of: Internal view (DS-PWA64-L-WB)



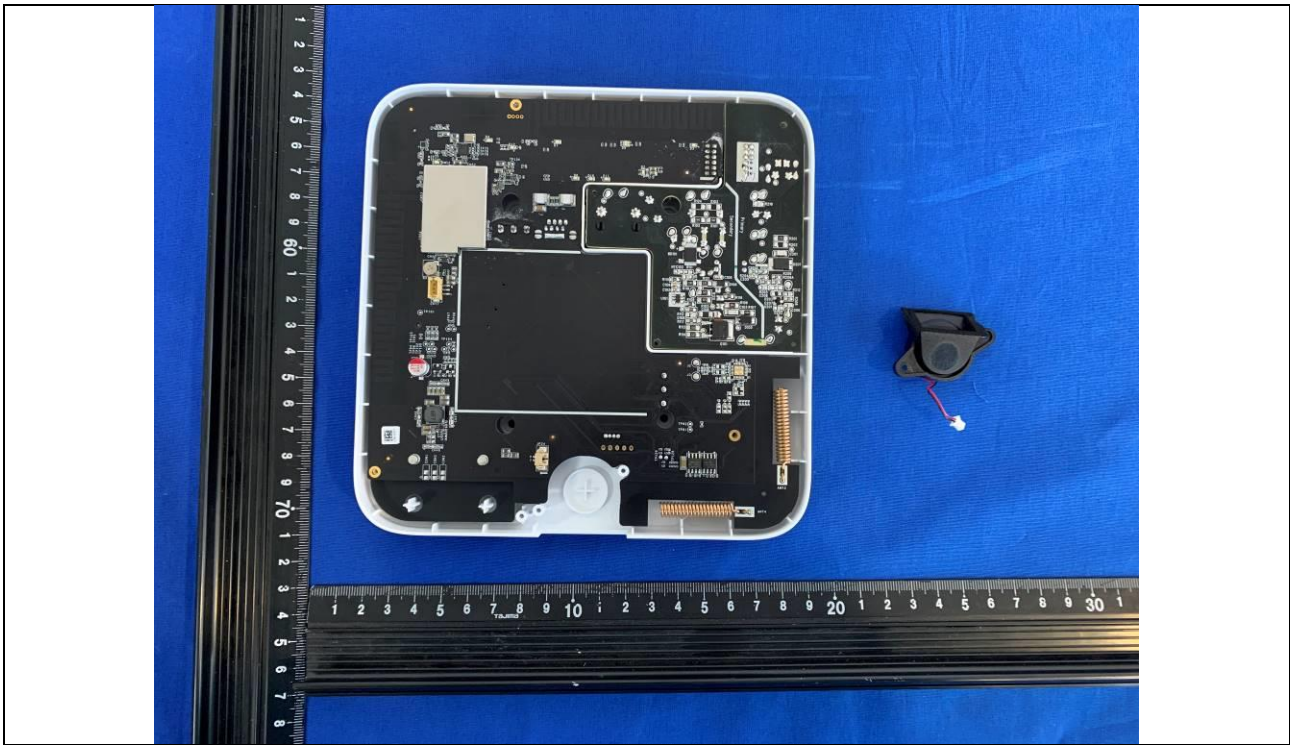
Details of: Battery (DS-PWA64-L-WB)



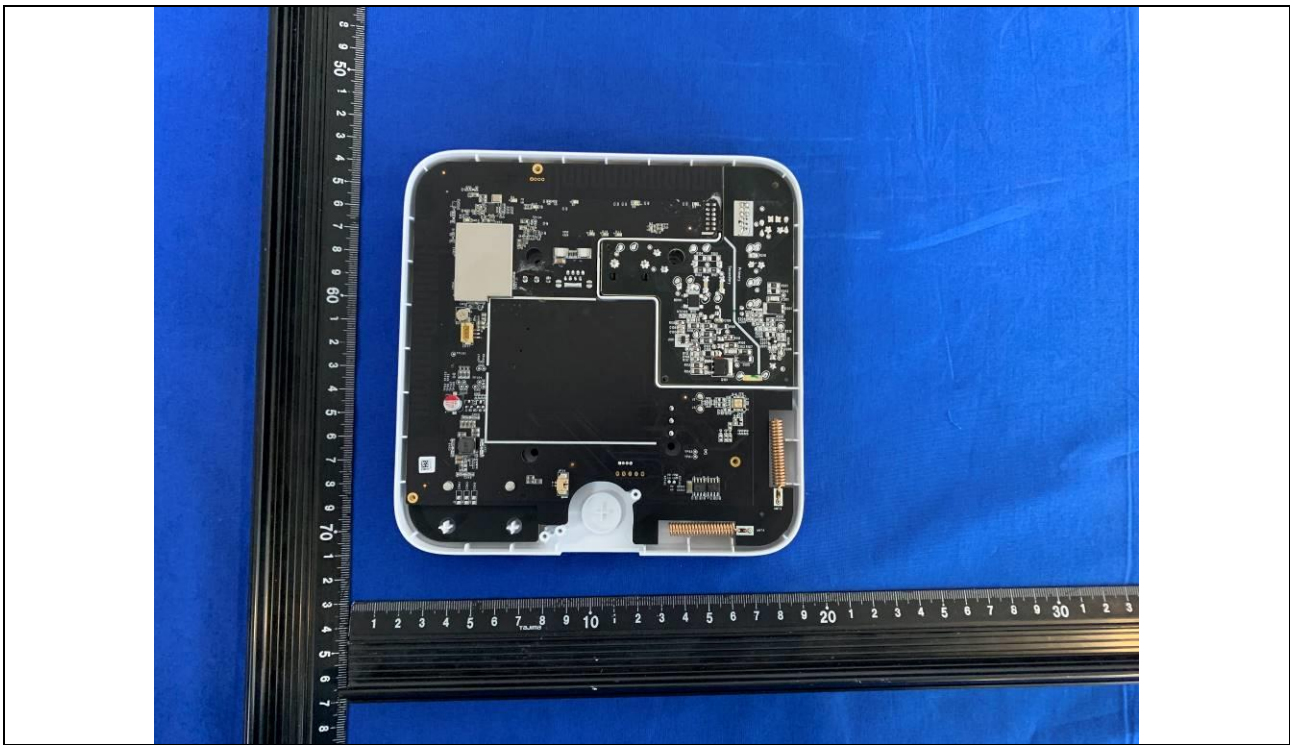
Details of: Internal view (DS-PWA64-L-WB)



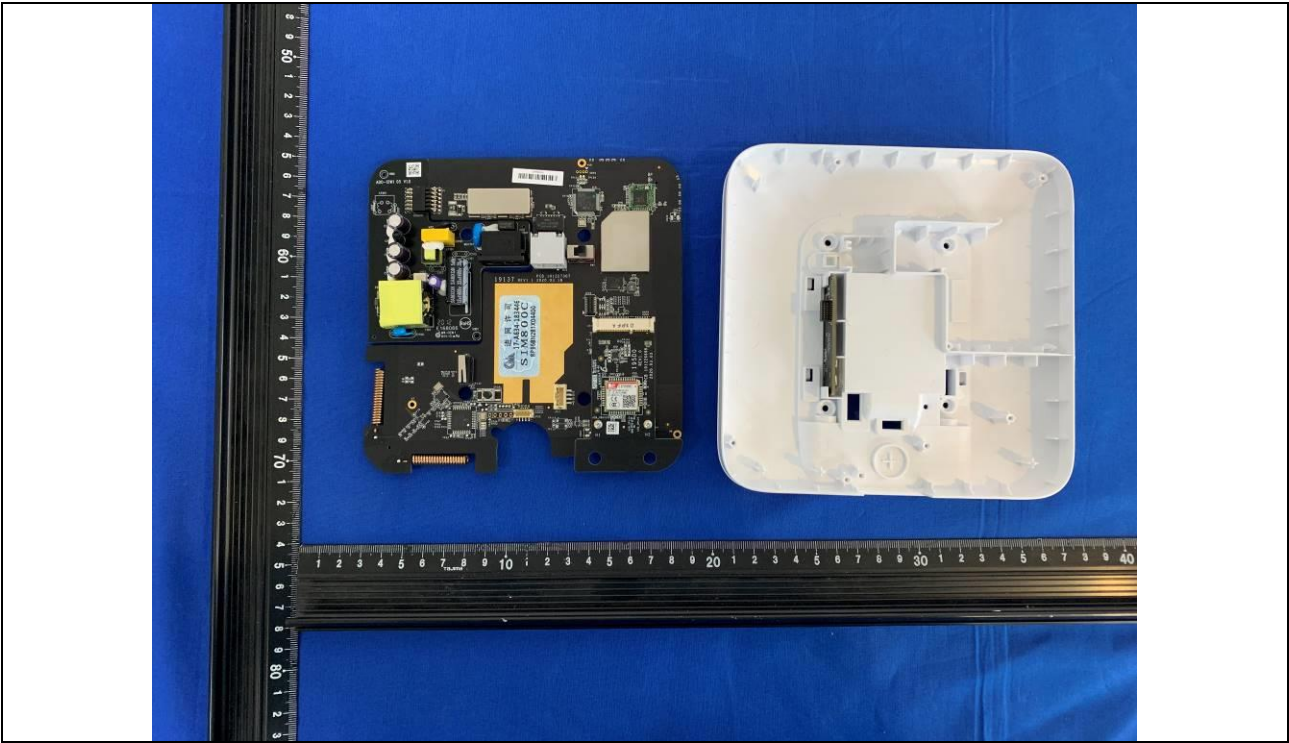
Details of: Internal view (DS-PWA64-L-WB)



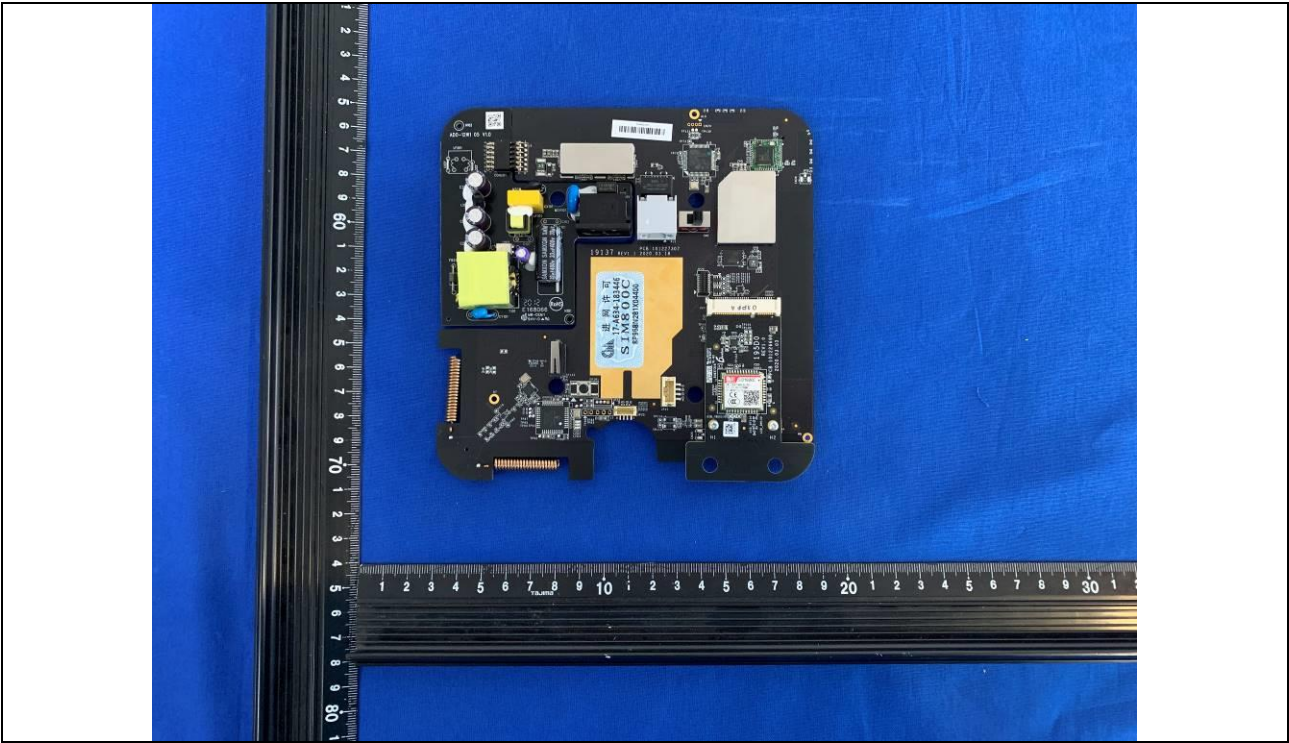
Details of: Internal view (DS-PWA64-L-WB)



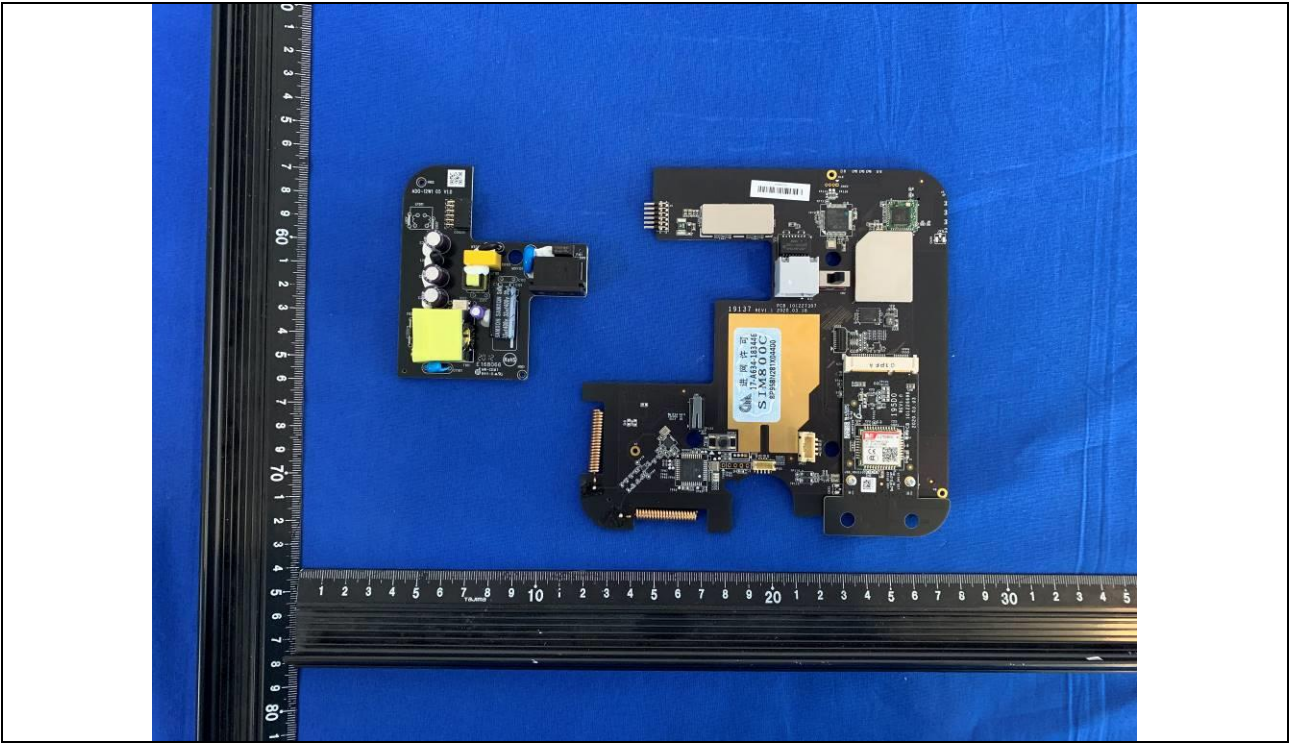
Details of: Internal view (DS-PWA64-L-WB)



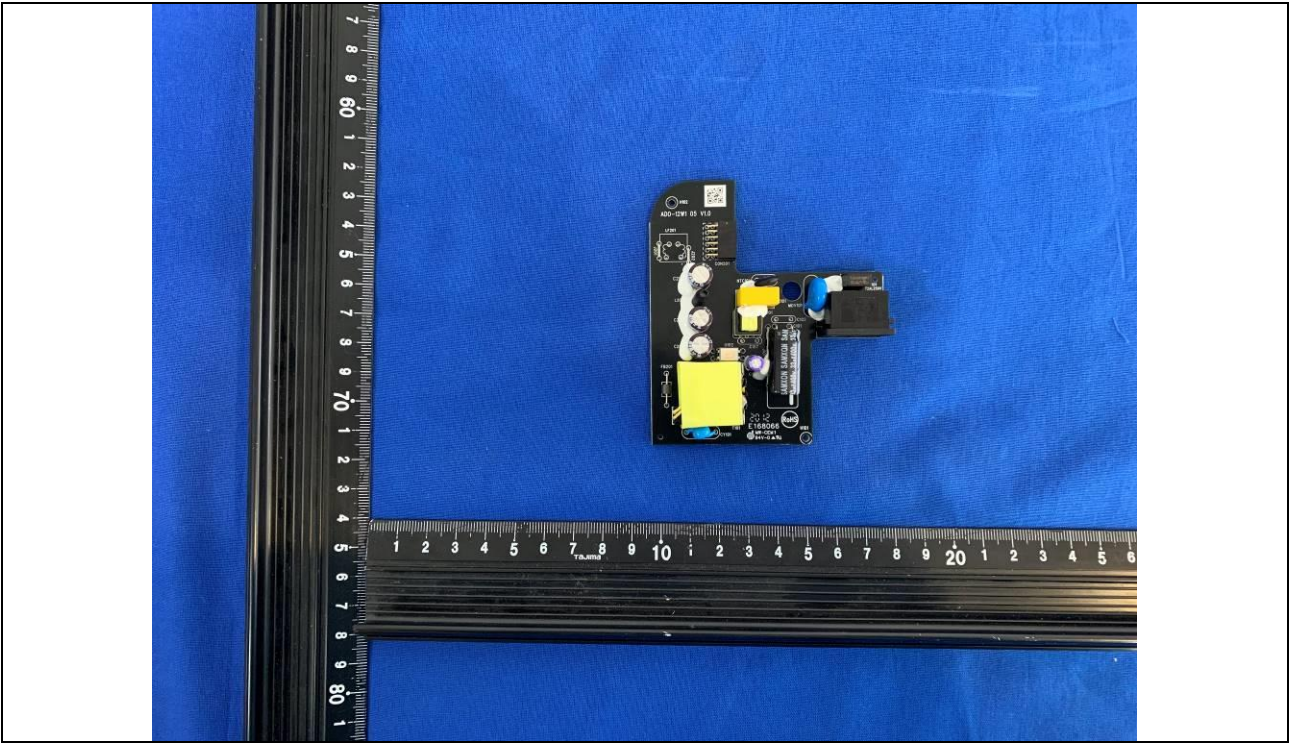
Details of: PCB



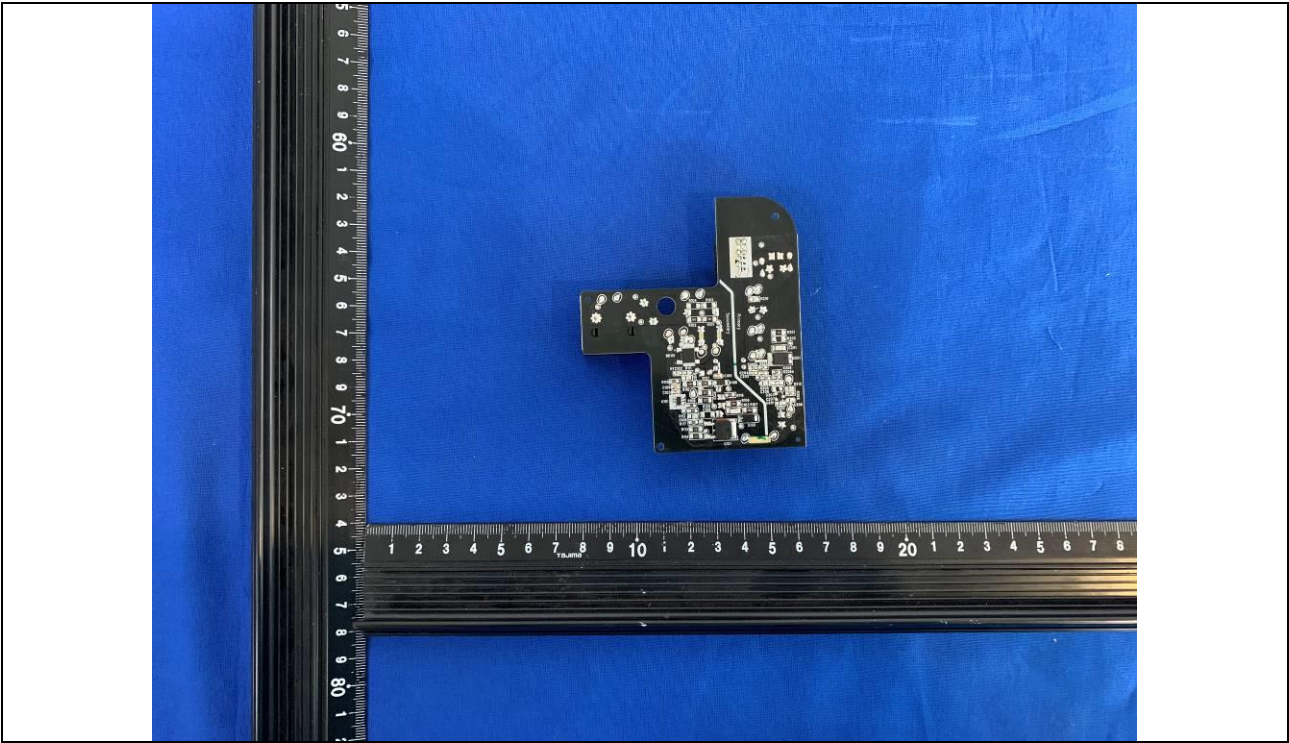
Details of: PCB



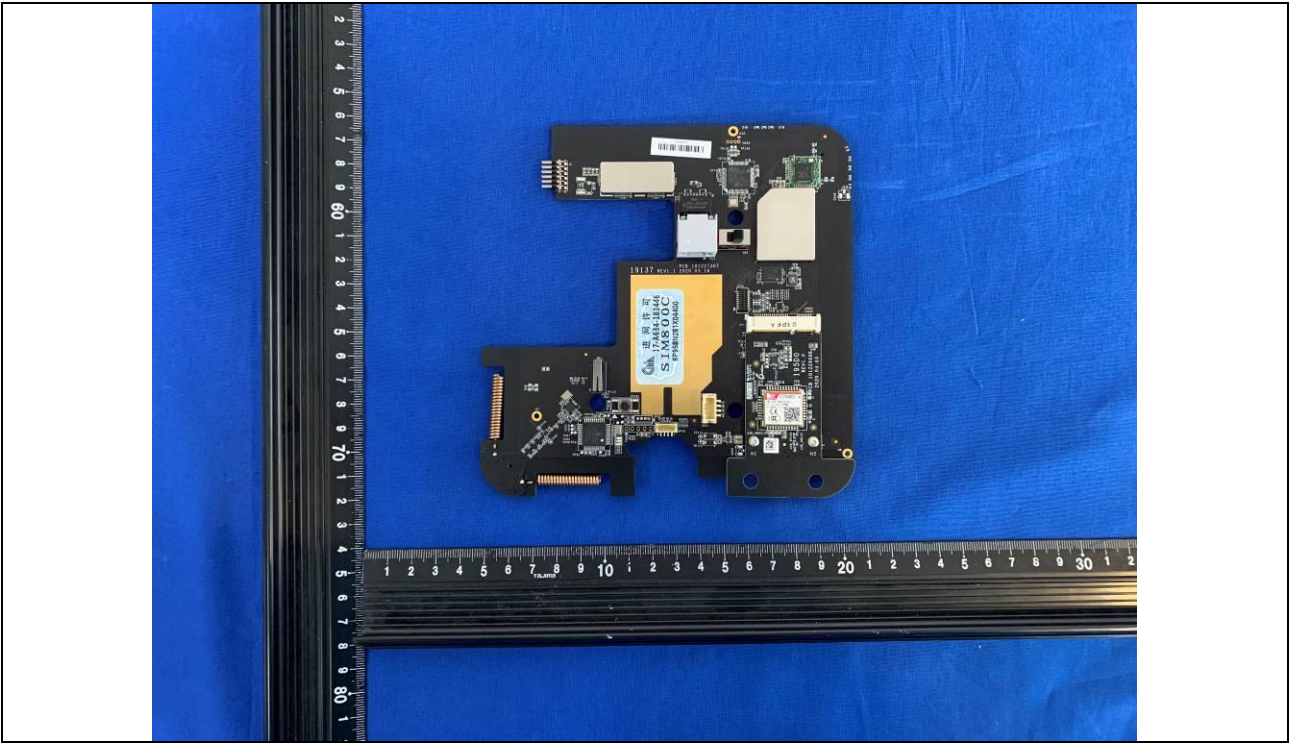
Details of: Power supply



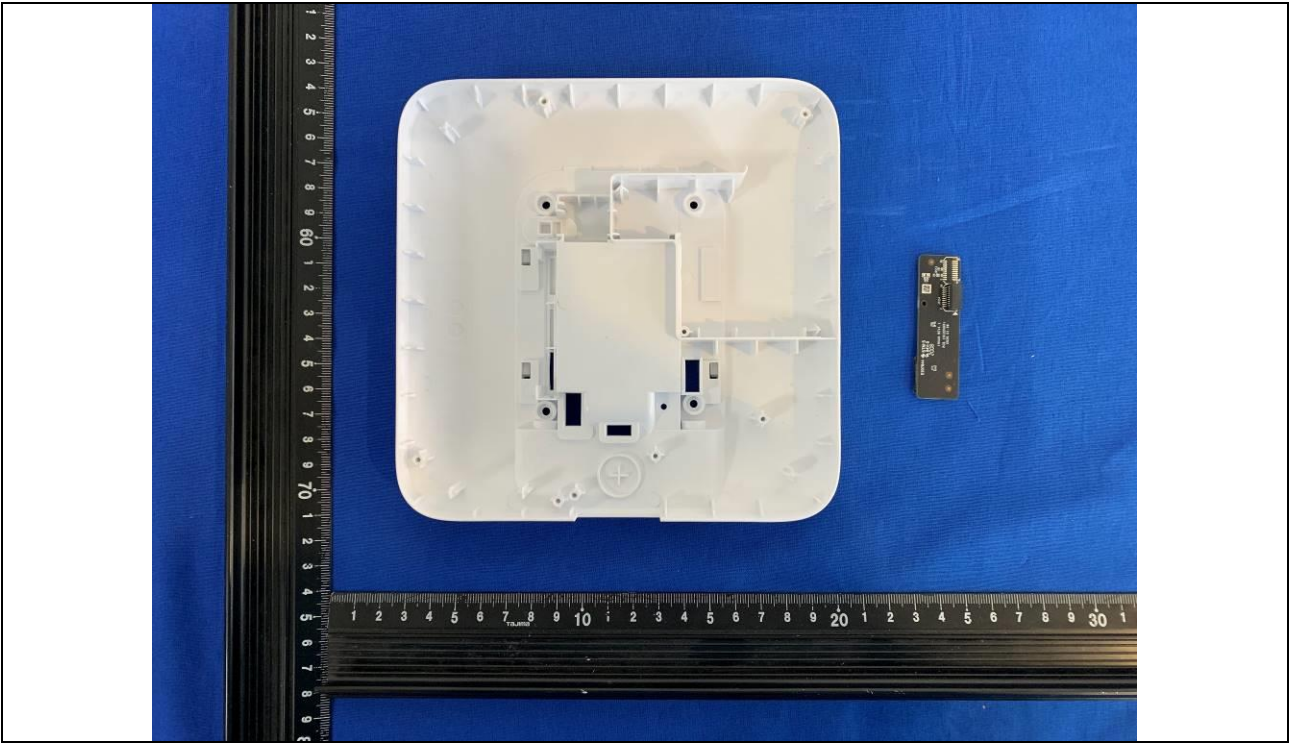
Details of: Power supply



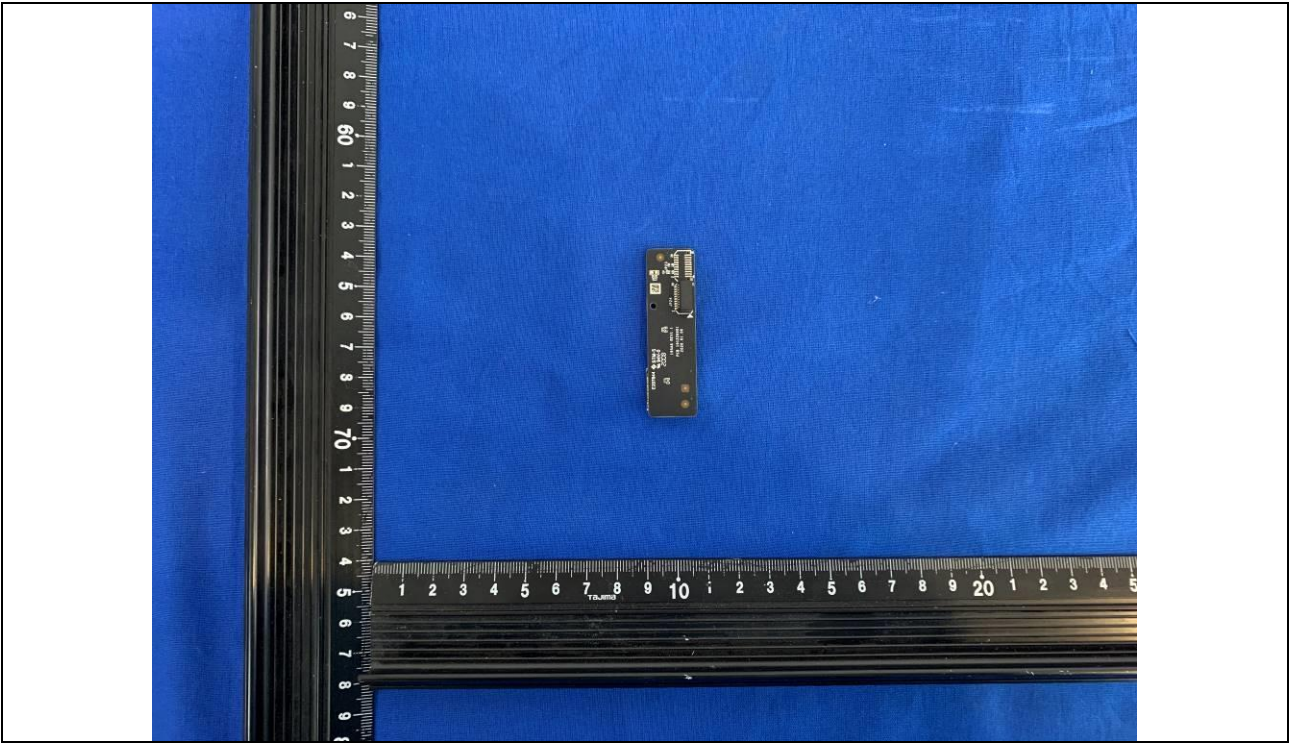
Details of: PCB-1



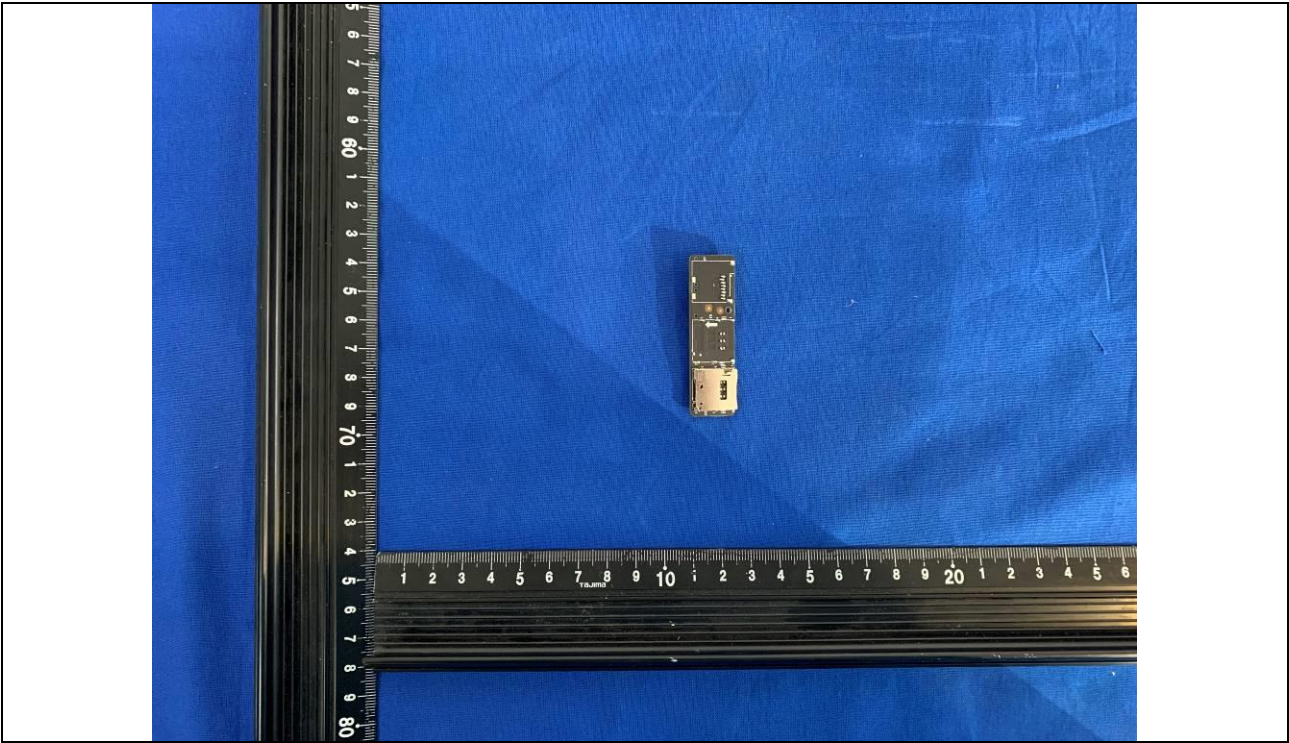
Details of: Internal view



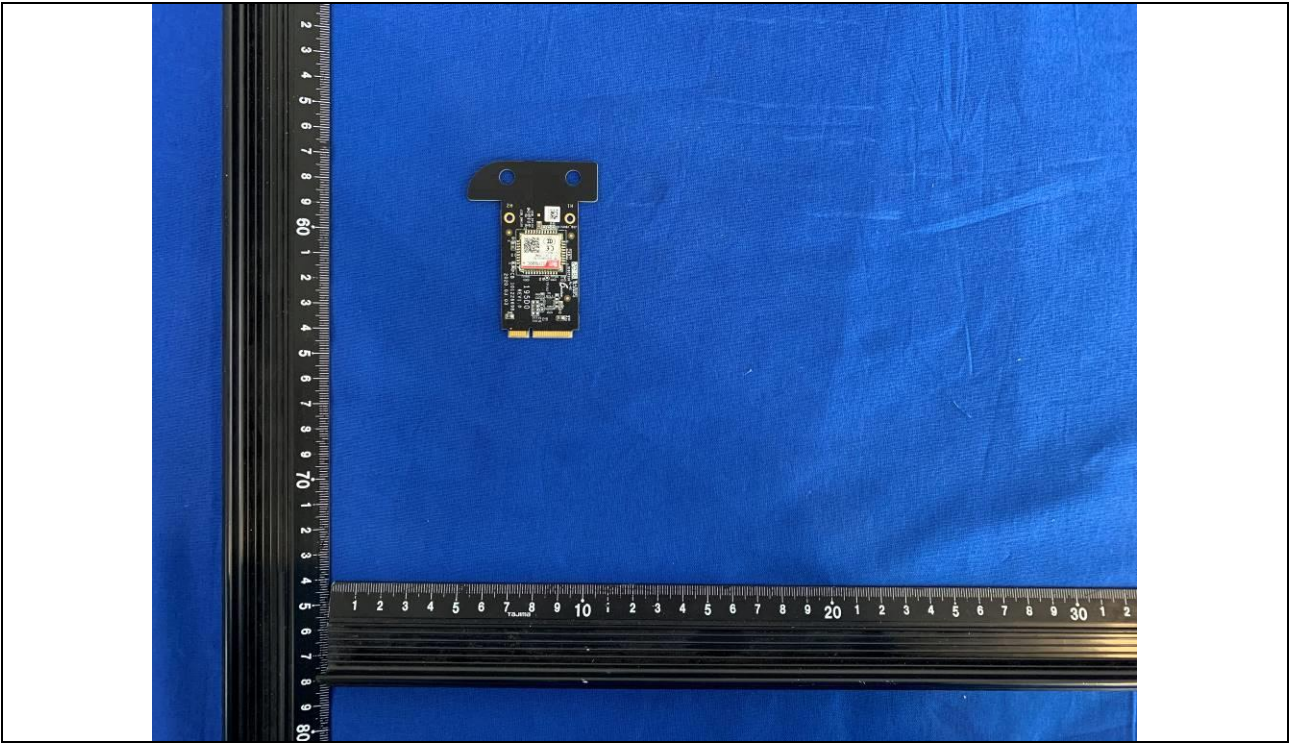
Details of: PCB-2



Details of: PCB-2



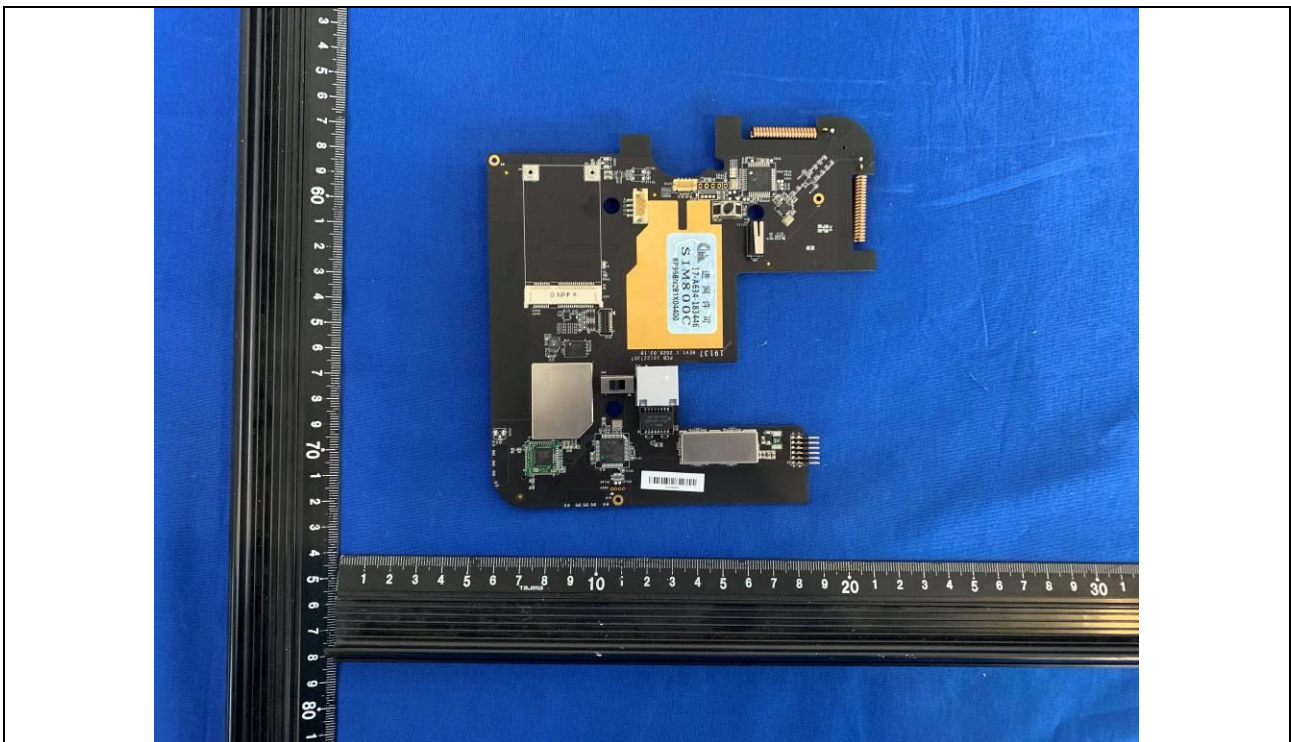
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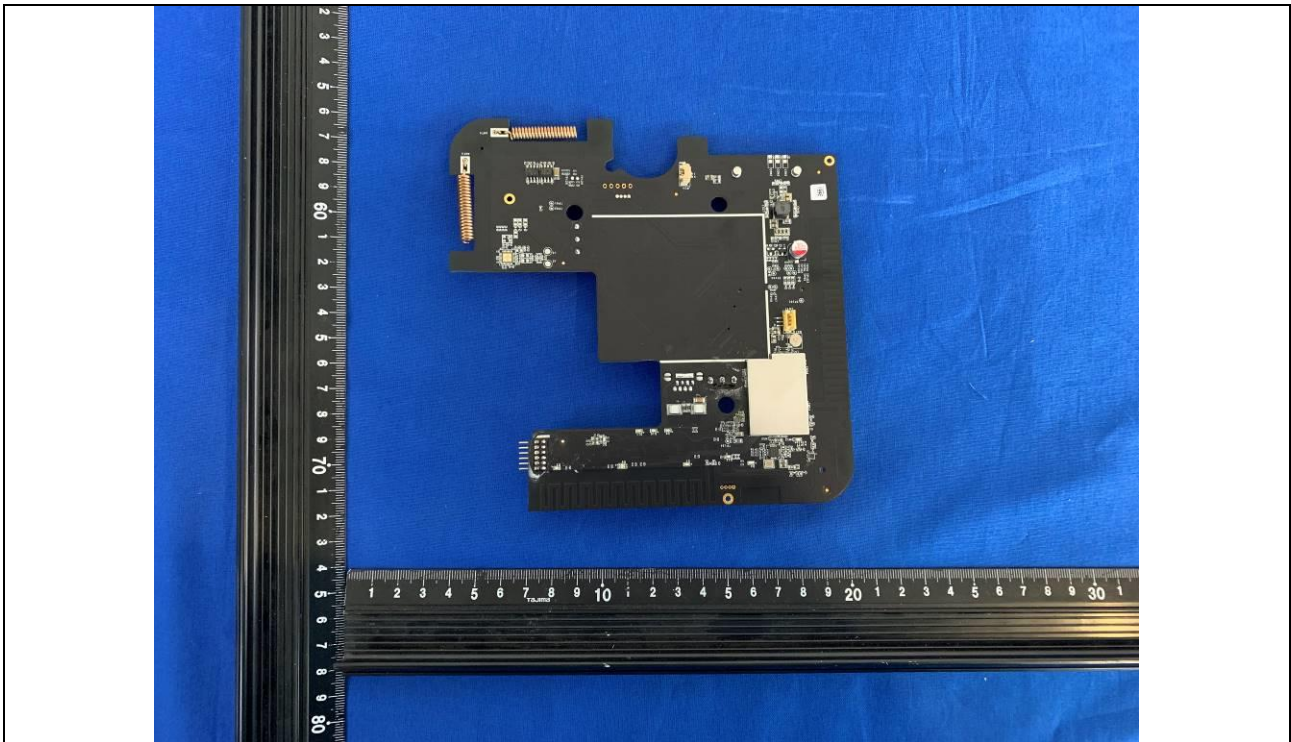
Details of: PCB-3



Details of: PCB-4



Details of: PCB-4



*****End of Attachment 1*****

IEC62368_1E – ATTACHMENT 2			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment - Part 1: Safety requirements)			
Differences according to : EN IEC 62368-1:2020+A11:2020			
Attachment Form No. : EU_GD_IEC62368_1E			
Attachment Originator : UL(Demko)			
Master Attachment : 2021-02-04			
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	CENELEC COMMON MODIFICATIONS (EN)		P
	<p>Clause numbers in the cells that are shaded light grey are clause references in EN IEC 62368-1:2020+A11:2020. All other clause numbers in that column, except for those in the paragraph below, refers to IEC 62368-1:2018.</p> <p>Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2018 are prefixed “Z”.</p>		P
	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P
1	Modification to Clause 3 .		N/A
3.3.19	Sound exposure <i>Replace 3.3.19 of IEC 62368-1 with the following definitions:</i>		N/A



IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.19.1	momentary exposure level, MEL metric for estimating 1 s sound exposure level from the HD 483-1 S2 test signal applied to both channels, based on EN 50332-1:2013, 4.2. Note 1 to entry: MEL is measured as A-weighted levels in dB. Note 2 to entry: See B.3 of EN 50332-3:2017 for additional information.		N/A
3.3.19.3	sound exposure, E A-weighted sound pressure (p) squared and integrated over a stated period of time, T Note 1 to entry: The SI unit is Pa ² s. $E = \int_0^T p(t)^2 dt$		N/A
3.3.19.4	sound exposure level, SEL logarithmic measure of sound exposure relative to a reference value, E_0 , typically the 1 kHz threshold of hearing in humans. Note 1 to entry: SEL is measured as A-weighted levels in dB. $SEL = 10 \lg \left(\frac{E}{E_0} \right) \text{ dB}$ Note 2 to entry: See B.4 of EN 50332-3:2017 for additional information.		N/A
3.3.19.5	digital signal level relative to full scale, dBFS levels reported in dBFS are always r.m.s. Full scale level, 0 dBFS, is the level of a dc-free 997-Hz sine wave whose undithered positive peak value is positive digital full scale, leaving the code corresponding to negative digital full scale unused Note 1 to entry: It is invalid to use dBFS for non-r.m.s. levels. Because the definition of full scale is based on a sine wave, the level of signals with a crest factor lower than that of a sine wave may exceed 0 dBFS. In particular, square wave signals may reach +3,01 dBFS.		N/A
2	Modification to Clause 10		N/A
10.6	Safeguards against acoustic energy sources Replace 10.6 of IEC 62368-1 with the following:		N/A
10.6.1.1	Introduction Safeguard requirements for protection against long-term exposure to excessive sound pressure levels from personal music players closely coupled to the ear are specified below. Requirements		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>for earphones and headphones intended for use with personal music players are also covered. A personal music player is a portable equipment intended for use by an ordinary person, that:</p> <ul style="list-style-type: none"> – is designed to allow the user to listen to audio or audiovisual content / material; and – uses a listening device, such as headphones or earphones that can be worn in or on or around the ears; and – has a player that can be body worn (of a size suitable to be carried in a clothing pocket) and is intended for the user to walk around with while in continuous use (for example, on a street, in a subway, at an airport, etc.). <p>EXAMPLES Portable CD players, MP3 audio players, mobile phones with MP3 type features, PDAs or similar equipment.</p> <p>Personal music players shall comply with the requirements of either 10.6.2 or 10.6.3.</p> <p>NOTE 1 Protection against acoustic energy sources from telecom applications is referenced to ITU-T P.360.</p> <p>NOTE 2 It is the intention of the Committee to allow the alternative methods for now, but to only use the dose measurement method as given in 10.6.5 in future. Therefore, manufacturers are encouraged to implement 10.6.5 as soon as possible.</p> <p>Listening devices sold separately shall comply with the requirements of 10.6.6.</p> <p>These requirements are valid for music or video mode only.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> – professional equipment; <p>NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.</p> <ul style="list-style-type: none"> – hearing aid equipment and other devices for assistive listening; – the following type of analogue personal music players: <ul style="list-style-type: none"> • long distance radio receiver (for example, a multiband radio receiver or world band radio receiver, an AM radio receiver), and • cassette player/recorder; <p>NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies.</p> <ul style="list-style-type: none"> – a player while connected to an external amplifier that does not allow the user to walk around while in use. 		

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>For equipment that is clearly designed or intended primarily for use by children, the limits of the relevant toy standards may apply.</p> <p>The relevant requirements are given in EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.</p>		
10.6.1.2	<p>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). 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
10.6.2	Classification of devices without the capacity to estimate sound dose		N/A
10.6.2.1	<p>General</p> <p>This standard is transitioning from short-term based (30 s) requirements to long-term based (40 hour) requirements. These clauses remain in effect only for devices that do not comply with sound dose estimation as stipulated in EN 50332-3.</p> <p>For classifying the acoustic output $L_{Aeq,T}$, measurements are based on the A-weighted equivalent sound pressure level over a 30 s period.</p> <p>For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, measurements may be done over the duration of the complete song. In this case, T becomes the duration of the song.</p> <p>NOTE Classical music, acoustic music and broadcast typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the content and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song does not exceed the required limit. For example, if the player is set with the programme simulation noise to 85 dB, but the average music level of the song is only 65 dB, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dB.</p>		N/A
10.6.2.2	<p>RS1 limits (to be superseded, see 10.6.3.2)</p> <p>RS1 is a class 1 acoustic energy source that does not exceed the following:</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<ul style="list-style-type: none"> – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 85 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 27 mV (analogue interface) or -25 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1. – The RS1 limits will be updated for all devices as per 10.6.3.2. 		
10.6.2.3	<p>RS2 limits (to be superseded, see 10.6.3.3)</p> <p>RS2 is a class 2 acoustic energy source that does not exceed the following:</p> <ul style="list-style-type: none"> – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or when the combination of player and listening device is known by other means such as setting or automatic 130 detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 100 dB(A) when playing the fixed “programme simulation noise” as described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 150 mV (analogue interface) or -10 dBFS (digital interface) when playing the fixed “programme simulation noise” as described in EN 50332-1. 		N/A
10.6.2.4	<p>RS3 limits</p> <p>RS3 is a class 3 acoustic energy source that exceeds RS2 limits.</p>		N/A
10.6.3	Classification of devices (new)		N/A
10.6.3.1	<p>General</p> <p>Previous limits (10.6.2) created abundant false negative and false positive PMP sound level warnings. New limits, compliant with The Commission Decision of 23 June 2009, are given below.</p>		N/A
10.6.3.2	<p>RS1 limits (new)</p> <p>RS1 is a class 1 acoustic energy source that does not exceed the following:</p> <ul style="list-style-type: none"> – for equipment provided as a package (player 		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>that the instructional safeguard shall be placed on the equipment, or on the packaging, or in the instruction manual.</p> <p>Alternatively, the instructional safeguard may be given through the equipment display during use.</p> <p>The elements of the instructional safeguard shall be as follows:</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> – element 1a: the symbol , IEC 60417-6044 (2011-01) – element 2: “High sound pressure” or equivalent wording – element 3: “Hearing damage risk” or equivalent wording – element 4: “Do not listen at high volume levels for long periods.” or equivalent wording <p>An equipment safeguard shall prevent exposure of an ordinary person to an RS2 source without intentional physical action from the ordinary person and shall automatically return to an output level not exceeding what is specified for an RS1 source when the power is switched off.</p> <p>The equipment shall provide a means to actively inform the user of the increased sound level when the equipment is operated with an output exceeding RS1. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an output exceeding RS1. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time.</p> <p>NOTE 2 Examples of means include visual or audible signals. Action from the user is always needed.</p> <p>NOTE 3 The 20 h listening time is the accumulative listening time, independent of how often and how long the personal music player has been switched off.</p> <p>A skilled person shall not be unintentionally exposed to RS3.</p>		
10.6.5	Requirements for dose-based systems		N/A
10.6.5.1	<p>General requirements</p> <p>Personal music players shall give the warnings as provided below when tested according to EN 50332-3, using the limits from this clause.</p> <p>The manufacturer may offer optional settings to allow the users to modify when and how they wish to receive the notifications and warnings to promote a better user experience without defeating the safeguards. This allows the users to be informed in a method that best meets their physical</p>		N/A

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

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

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Clause	Requirement + Test				Result - Remark		Verdict
	Delete all the “country” notes in the reference document according to the following list:						P
	0.2.1	Note 1 and 2	1	Note 4 and 5	3.3.8.1	Note 2	
	3.3.8.3	Note 1	4.1.15	Note	4.7.3	Note 1 and 2	
	5.2.2.2	Note	5.4.2.3.2.2 Table 12	Note c	5.4.2.3.2.4	Note 1 and 3	
	5.4.2.3.2.4 Table 13	Note 2	5.4.2.5	Note 2	5.4.5.1	Note	
	5.4.10.2.1	Note	5.4.10.2.2	Note	5.4.10.2.3	Note	
	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3 and 4	
	5.6.8	Note 2	5.7.6	Note	5.7.7.1	Note 1 and Note 2	
	8.5.4.2.3	Note	10.2.1 Table 39	Note 3 and 4 and 5	10.5.3	Note 2	
	10.6.1	Note 3	F.3.3.6	Note 3	Y.4.1	Note	
	Y.4.5	Note					
4	Modification to Clause 1						P
1	Add the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.						P

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Clause	Requirement + Test	Result - Remark	Verdict

5	Modification to 4.Z1		P
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
6	Modification to 5.4.2.3.2.4		N/A
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
7	Modification to 10.2.1		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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Clause	Requirement + Test	Result - Remark	Verdict

8	Modification to 10.5.1		N/A
10.5.1	<p>Add the following after the first paragraph:</p> <p>For RS 1 compliance is checked by measurement under the following conditions:</p> <p>In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or pre-sets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</p> <p>NOTE Z1 Soldered joints and paint lockings are examples of adequate locking.</p> <p>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.</p> <p>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.</p> <p>For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.</p> <p>NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.</p>		N/A
9	Modification to G.7.1		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

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Clause	Requirement + Test	Result - Remark	Verdict

10	Modification to Bibliography		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>		P
11	ADDITION OF ANNEXES		N/A
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3	United Kingdom To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex		N/A
5.2.2.2	Denmark After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.4.11.1 and Annex G	Finland and Sweden To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either <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. 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 <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 <ul style="list-style-type: none"> • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>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>		
5.5.2.1	<p>Norway</p> <p>After the 3rd paragraph the following is added:</p> <p>Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).</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
5.6.1	<p>Denmark</p> <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><i>Justification:</i></p> <p>In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.</p>		N/A
5.6.4.2.1	<p>Ireland and United Kingdom</p> <p>After the indent for pluggable equipment type A, the following is added:</p> <p>– the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.4.2.1	France After the indent for pluggable equipment type A , the following is added: – in certain cases, the protective current rating of the circuit supplied from the mains is taken as 20 A instead of 16 A.		N/A
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.		N/A
5.6.8	Norway To the end of the subclause the following is added: Equipment connected with an earthed mains plug is classified as class I equipment . See the Norway marking requirement in 4.1.15. The symbol IEC 60417-6092, as specified in F.3.6.2, is accepted.		N/A
5.7.6	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5.7.6.2	<p>Denmark</p> <p>To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .</p>		N/A
5.7.7.1	<p>Norway and Sweden</p> <p>To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system.</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>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>Translation to Swedish: "Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet."</p>		
8.5.4.2.3	<p>United Kingdom</p> <p>Add the following after the 2nd dash bullet in 3rd paragraph:</p> <p>An emergency stop system complying with the requirements of IEC 60204-1 and ISO 13850 is required where there is a risk of personal injury.</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

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Clause	Requirement + Test	Result - Remark	Verdict
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 polyphase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.</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> Heavy Current Regulations, Section 6c</p>		N/A
G.4.2	<p>United Kingdom</p> <p>To the end of the subclause the following is added:</p> <p>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.</p>		N/A

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		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> 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

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

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

---End of Attachment 2---



AX PRO

Quick Start Guide

Security Grade(SG) 2
Environmental Class(EC) II

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About this Manual

The Manual includes instructions for using and managing the Product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version of this Manual at the Hikvision website (<https://www.hikvision.com/>).

Please use this Manual with the guidance and assistance of professionals trained in supporting the Product.

HIKVISION and other Hikvision's trademarks and logos are the properties of Hikvision in various jurisdictions. Other trademarks and logos mentioned are the properties of their respective owners.



This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the RE Directive 2014/53/EU, the RoHS Directive 2011/65/EU.



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info



replacement of a battery with an incorrect type that can defeat a safeguard (for example, in the case of some lithium battery types);

- disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion;
- leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas; and
- a battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas

CAUTION

IF THE BATTERY COMPARTMENT
DOES NOT CLOSE SECURELY,
STOP USING THE PRODUCT AND
KEEP IT AWAY FROM CHILDREN.

CAUTION

CHEMICAL BURNING DANGER
DO NOT SWALLOW THE
BATTERY
KEEP NEW AND USED
BATTERIES AWAY FROM THE
CHILDREN.

IF YOU THINK BATTERIES MIGHT
HAVE BEEN SWALLOWED OR
PLACED INSIDE ANY PART OF
THE BODY, SEEK IMMEDIATE
MEDICAL ATTENTION.

CAUTION

RISK OF EXPLOSION IF BATTERY
IS REPLACED BY AN INCORRECT
TYPE.
REPLACEMENT OF A BATTERY
WITH AN INCORRECT TYPE THAT
CAN DEFEAT A SAFEGUARD.

CAUTION

DISPOSE OF USED BATTERIES
ACCORDING TO THE
INSTRUCTIONS AND LOCAL
REGULATION.

ENGLISH

Diagram References

1 Appearance

1. Function Indicator



2. Power Indicator

8. Power Switch

3. Tag Present Area

9. Network Interface

4. Tamper Switch

10. SD Card Slot

5. Reset Button

11. SIM Card 2 Slot

6. Serial Port

12. SIM Card 1 Slot

7. Power Interface

13. Serial Port

Note:

Remove the rear cover, and some of the components and interfaces are on the rear panel.

The function of GPRS or 3/4G(implemented with build-in SIM card slot) depends on the model of the device.

2 Wiring and Power On

1. Loosen the screws on the rear cover. Slide down and remove the rear cover .

2. Well connect the Ethernet cable.

3. Well connet the power adapter. Then the power and link LED turn green.

4. Push the power switch to "ON" to power the device on.

3 Set Up

1. Log into the App Store or Google Play to search and install Hik-Proconnect.
2. Log into Hik-Proconnect.
3. Scan the QR code to add the device.
4. Activate the device.
4. In the APP, tap the icon "+" and scan the peripheral's QR code.
5. Power on the peripheral to enroll it.

Note: for more set up and configuration details, refer to the user manual.

4 Installation



Notice: The additional force shall be equal to three times the weight of the equipment but not less than 50N. The equipment and its associated mounting means shall remain secure during the installation. After the installation, the equipment, including any associated mounting plate, shall not be damaged.

1. Secure the rear cover in the installation position with the supplied screws.
2. Attach the device body on the rear cover.
3. Tighten the rear cover screw to complete the installation.



Tamper Screw

It is compulsory to secure the tamper screw.

4 Installation

Restart the device, the power LED flashes 3 times, and hold the reset button for 5 s. The voice prompt indicates the operation result.

User Manual

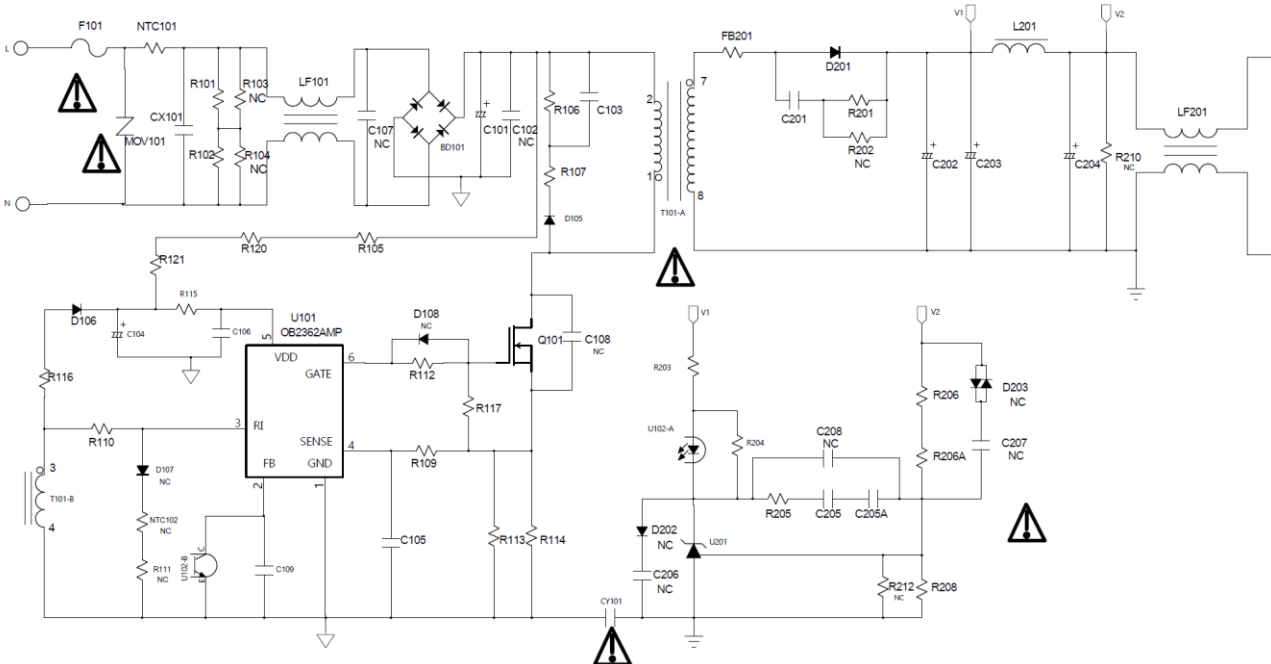
Scan the QR code to get the user manual.
Refer to the user manual for more information about the device and details about the configurations and operations.

Specification

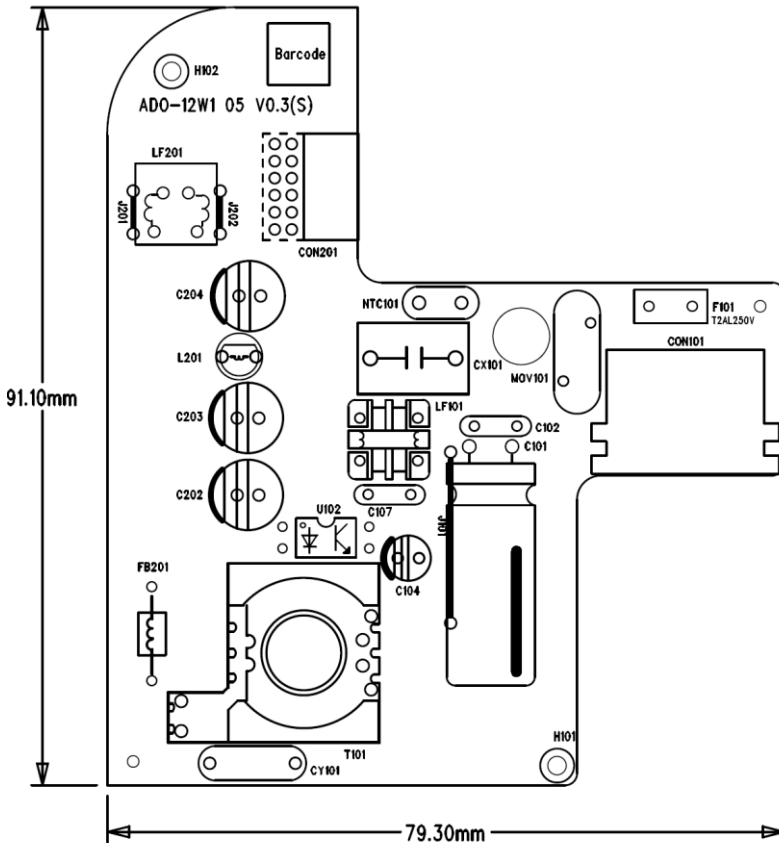
	Parameters	64 Series	96 Series	128 Series
Basic	RF frequency	868Mhz	868Mhz	868Mhz
	Wireless zones	Up to 64	Up to 96	Up to 128
	Wireless Relay module&Wall switch	Up to 64	Up to 96	Up to 128
	Wireless tag Reader & keypad	Up to 8	Up to 8	Up to 8
	Wireless Sounders	4	6	8
	Wireless keyfobs	32	48	64
	Wireless repeaters	2	4	4
	Tag	32	48	64
	PIR camera	2	4	8
	IP camera integration	0	4 x 7s clips	8 x 7s clips
User	Installer	1	1	1
	admin	1	1	1
	Users	30	46	62
software	Area	16	32	64
	Voice prompt	Yes	Yes	Yes
	Loudspeaker built in	Yes	Yes	Yes
	SD slot	No	No	Yes
	Tag reader built in	No	Yes	Yes
	LEDs indication	Arm/Disarm, Alarm, Tamper, Fault, Cloud, Power	Arm/Disarm, Alarm, Tamper, Fault, Cloud, Power	Arm/Disarm, Alarm, Tamper, Fault, Cloud, Power
	Memory Log stored	1000	5000	5000
	RS232 output	Yes	Yes	Yes
	Programming tools	HC/HC Pro/Web Portal/IVMS4200	HC/HC Pro/Web Portal/IVMS4200	HC/HC Pro/Web Portal/IVMS4200
Communication	LAN port	Yes	Yes	Yes
	WiFi on board	No	Yes(2.4G)	Yes(2.4G)
	GPRS on board	Yes	No	No
	3/4G on board	No	Yes	Yes
	SIM slot	Single	Dual	Dual
	SMS notification	Yes	Yes	Yes
	Alarm voice call	Yes	Yes	Yes
	Protocal	SIA 09, Contact ID, ISUP	SIA 09, Contact ID, ISUP	SIA 09, Contact ID, ISUP
	APP for operating/programming/maintenance	Yes	Yes	Yes
Hardwear	Power supply	100 to 240 VAC	100 to 240 VAC	100 to 240 VAC
	Battery pack	Built in on board Battery	Built in on board Battery	Built in on board Battery
	Battery back up	Up to 12 hrs standby	Up to 12 hrs standby	Up to 12 hrs standby
	Housing	Plastic	Plastic	Plastic
Approvals	EN Grade	2	2	2
	CE	Yes	Yes	Yes
	Rohs/Reach/WEEE	Yes	Yes	Yes
Others	Consumption	100-240V to 50/60Hz, 0.1A-0.064A	100-240V to 50/60Hz, 0.1A-0.064A	100-240V to 50/60Hz, 0.1A-0.064A
	Operation Temperature	-10°C to 55°C	-10°C to 55°C	-10°C to 55°C
	Operation Humidity	10 to 90%	10 to 90%	10 to 90%
	Dimension(W x H x D)	170.0 mm (6.7") x 170.0 (6.7") mm x 38.6 mm (1.5")	170.0 mm (6.7") x 170.0 (6.7") mm x 38.6 mm (1.5")	170.0 mm (6.7") x 170.0 (6.7") mm x 38.6 mm (1.5")
	Weight	557.5 g(19.7 oz)	557.5 g(19.7 oz)	557.5 g(19.7 oz)

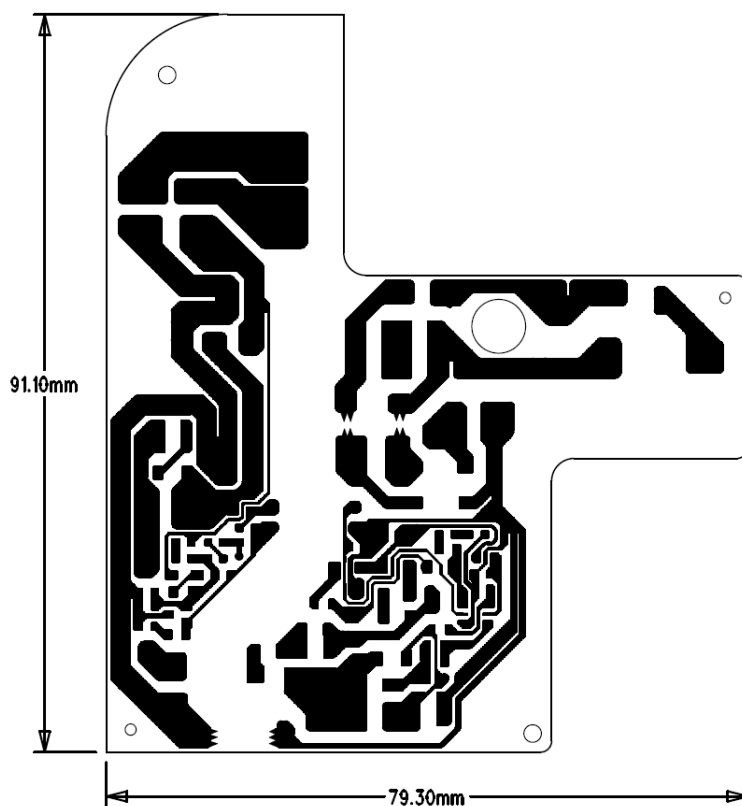
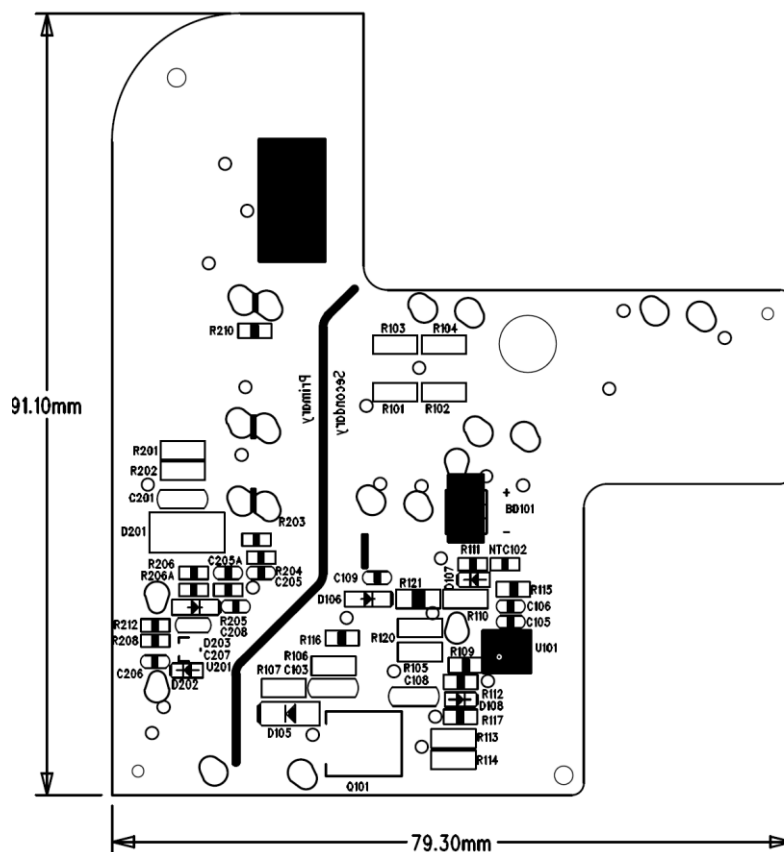
*****End of Attachment 3*****

Circuit Diagram



PCB Layout





*****End of attachment 4*****