



<b>TEST REPORT</b> <b>EN 62368-1</b> <b>Audio/video, information and communication technology equipment</b> <b>Part 1: Safety requirements</b>	
Report reference No. ....:	LP22100139C01-02
Tested by.....: (printed name and signature)	Cory Zhou (Project Engineer) 
Approved by.....: (printed name and signature)	Paul Zou (Reviewer) 
Date of issue.....:	Oct. 28, 2022
Testing laboratory .....	Dongguan Lepont Testing Service Co., Ltd.
Address.....:	Room 102, Building 11, No.7, Houjie Science And Technology Avenue, Houjie, Dongguan, Guangdong, China
Test location.....:	Same as above
Applicant.....:	Guangdong Quanzhi Technology Co., Ltd.
Address:.....:	Room 901, Building 9, NO.88 Daxing Road, Yangwu, Dalingshan Town, Dongguan City, 523820 Guangdong, P.R. China
Manufacturer.....:	Same as Applicant
Address:.....:	Same as Applicant
Standards.....:	EN 62368-1:2014+A11:2017
Test Procedure .....	LVD
Non-standard test method.....:	N/A
Test Report Form No.....:	EN 62368_1A
Type of test equipment .....	AC Adapter
Trade mark.....:	BESTGK
Model/Type designation.....:	QZ-01800EA00, QZ-01801EA00, QZ-01802EA00, QZ-01803EA00
Rating.....:	Input: 100-240V~, 50/60Hz, 0.5A Output: 5.0V---3.0A or 7.0V---2.0A or 9.0V---2.0A or 12.0V---1.5A (18.0W)
TRF originator.....:	Dongguan Lepont Testing Service Co., Ltd.
Copyright blank test report:	Dongguan Lepont Testing Service Co., Ltd.
Test item particulars:	--
Operating Condition	Continuous
Tested for IT power systems	No
Class of equipment	Class II equipment
Protection against ingress of water	IPX0

<p><b>List of Attachments (including a total number of pages in each attachment):</b></p> <ul style="list-style-type: none"> <li>- Attachment 1: Measurement (3 pages)</li> <li>- Attachment 2: National differences (14 pages)</li> <li>- Attachment 3: Plug test documentation (5 pages)</li> <li>- Attachment 4: Photo documentation (12 pages)</li> </ul>																																																	
<p><b>Summary of testing:</b></p>																																																	
<p><b>Tests performed (name of test and test clause):</b></p> <table border="1"> <thead> <tr> <th>Test clause</th> <th>Name of test</th> </tr> </thead> <tbody> <tr><td>4.7.3</td><td>Direct plug-in torque test</td></tr> <tr><td>5.2</td><td>Electrical energy source classifications</td></tr> <tr><td>5.3.2</td><td>Accessibility to electrical energy sources and safeguards (Accessibility test)</td></tr> <tr><td>5.4.1.4, 6.3.2, 9.0, B.2.6</td><td>Maximum operating temperatures for materials, components and systems</td></tr> <tr><td>5.4.1.8</td><td>Determination of working voltage</td></tr> <tr><td>5.4.1.10.3</td><td>Ball pressure test</td></tr> <tr><td>5.4.2.2, 5.4.2.4 &amp; 5.4.3</td><td>Minimum Clearances/Creepage distance</td></tr> <tr><td>5.4.5</td><td>Surge test</td></tr> <tr><td>5.4.8</td><td>Humidity conditioning</td></tr> <tr><td>5.4.9</td><td>Electric strength test</td></tr> <tr><td>6.2.2</td><td>Electrical power sources (PS) measurements for classification</td></tr> <tr><td>9.2</td><td>Thermal energy source Classifications</td></tr> <tr><td>B.2.5</td><td>Input tests</td></tr> <tr><td>B.3</td><td>Simulated Abnormal operating condition tests</td></tr> <tr><td>B.4</td><td>Simulated single fault conditions</td></tr> <tr><td>F.3.10</td><td>Test for permanence of markings</td></tr> <tr><td>G.5.3.2</td><td>Transformer insulation</td></tr> <tr><td>G.5.3.3</td><td>Transformer overload</td></tr> <tr><td>Q.1.2</td><td>Limited power sources</td></tr> <tr><td>T.2</td><td>Steady force test, 10 N</td></tr> <tr><td>T.4</td><td>Steady force test. 100N</td></tr> <tr><td>T.7</td><td>Drop test</td></tr> <tr><td>T.8</td><td>Stress relief test</td></tr> </tbody> </table>		Test clause	Name of test	4.7.3	Direct plug-in torque test	5.2	Electrical energy source classifications	5.3.2	Accessibility to electrical energy sources and safeguards (Accessibility test)	5.4.1.4, 6.3.2, 9.0, B.2.6	Maximum operating temperatures for materials, components and systems	5.4.1.8	Determination of working voltage	5.4.1.10.3	Ball pressure test	5.4.2.2, 5.4.2.4 & 5.4.3	Minimum Clearances/Creepage distance	5.4.5	Surge test	5.4.8	Humidity conditioning	5.4.9	Electric strength test	6.2.2	Electrical power sources (PS) measurements for classification	9.2	Thermal energy source Classifications	B.2.5	Input tests	B.3	Simulated Abnormal operating condition tests	B.4	Simulated single fault conditions	F.3.10	Test for permanence of markings	G.5.3.2	Transformer insulation	G.5.3.3	Transformer overload	Q.1.2	Limited power sources	T.2	Steady force test, 10 N	T.4	Steady force test. 100N	T.7	Drop test	T.8	Stress relief test
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<p><b>Remark:</b></p> <p>1. The model QZ-01800EA00 was selected for test.</p>																																																	

**Copy of marking plate:**

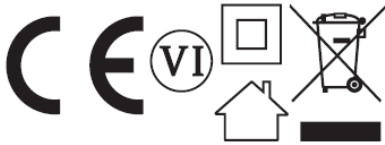
**The artwork below may be only a draft.**

### AC Adapter

Model: QZ-01800EA00

Input: 100-240V~50/60Hz 0.5A

Output: 5.0V=3.0A or 7.0V=2.0A or  
9.0V=2.0A or 12.0V=1.5A(18.0W)



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Made in China

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**Note:**

1. There are representative labels, the other models are identical to it except for model name.
2. The following information are on its packaging or in a document accompanying appliance:  
Importer name: XXXXX, Importer address: XXXXX, S/N: XXXXX, Manufacturer address: XXXXX

TEST ITEM PARTICULARS:	
Classification of use by .....	<input checked="" type="checkbox"/> Ordinary person <input type="checkbox"/> Instructed person <input type="checkbox"/> Skilled person <input checked="" type="checkbox"/> Children likely to be present
Supply Connection .....	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input type="checkbox"/> External Circuit - not Mains connected - <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance .....	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> +____%/ -____% <input type="checkbox"/> None
Supply Connection – Type .....	<input checked="" type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input checked="" type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input type="checkbox"/> other: _____
Considered current rating of protective device as part of building or equipment installation.....	16A; Installation location: <input checked="" type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility.....	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input checked="" type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC) .....	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other: _____
Class of equipment .....	<input type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Class II with functional earthing <input type="checkbox"/> Not classified
Access location .....	<input type="checkbox"/> restricted access area <input checked="" type="checkbox"/> N/A
Pollution degree (PD) .....	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified maximum operating ambient .....	_25_°C
IP protection class .....	<input checked="" type="checkbox"/> IPX0 <input type="checkbox"/> IP____
Power Systems .....	<input checked="" type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT - ____ V <sub>L-L</sub> ; <input type="checkbox"/> dc mains <input type="checkbox"/> N/A
Altitude during operation (m) .....	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> ____ m
Altitude of test laboratory (m) .....	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> ____ m
Mass of equipment (kg) .....	<input checked="" type="checkbox"/> _Approx. 0.054_kg

<b>Possible test case verdicts:</b>	
- 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)	
<b>Testing</b> .....	
Date of receipt of test item.....: Oct. 14, 2022	
Date (s) of performance of tests.....: Oct. 14, 2022 to Oct. 27, 2022	
<b>General remarks:</b>	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.	
Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies) .....	Same as applicant
<b>General product information and other remarks:</b>	
<b>Product Description</b>	
<ol style="list-style-type: none"> <li>1. The equipment is Class II AC Adapter (direct plug-in type) used for DC supply of Audio and Video and Information Technology Equipment. The output terminated with USB.</li> <li>2. The bottom enclosure is secured to top enclosure by ultrasonic welding method.</li> <li>3. The specified max. ambient temperature is 25°C.</li> <li>4. The test samples are pre-production sample without serial numbers.</li> <li>5. The plug pins of were moulded into the enclosure directly. It is impossible to remain in the mains socket-outlet after removal of the adapter, details see photo document.</li> <li>6. For the plug evaluation in the report, European plug according to EN 50075:1990.</li> </ol>	
<b>Model different:</b>	
All models are identical except model name.	
<b>Additional application considerations – (Considerations used to test a component or sub-assembly) –</b>	
N/A	

<b>ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:</b>	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.)	
<b>Electrically-caused injury (Clause 5):</b> (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input <span style="float: right;">ES1</span>	
Source of electrical energy	Corresponding classification (ES)
All internal circuit	ES3
X capacitor connected between L and N	N/A
Output connector	ES1
<b>Electrically-caused fire (Clause 6):</b> (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): <span style="float: right;">PS2</span>	
Source of power or PIS	Corresponding classification (PS)
All internal circuit	PS3
Output connector	PS2
<b>Injury caused by hazardous substances (Clause 7)</b> (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component <span style="float: right;">Glycol</span>	
Source of hazardous substances	Corresponding chemical
N/A	None
<b>Mechanically-caused injury (Clause 8)</b> (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit <span style="float: right;">MS2</span>	
Source of kinetic/mechanical energy	Corresponding classification (MS)
Edges and corners of enclosure	MS1
Mass of the unit	MS1
<b>Thermal burn injury (Clause 9)</b> (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure <span style="float: right;">TS1</span>	
Source of thermal energy	Corresponding classification (TS)
External enclosure surfaces	TS1
<b>Radiation (Clause 10)</b> (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product <span style="float: right;">RS1</span>	
Type of radiation	Corresponding classification (RS)
N/A	N/A

**ENERGY SOURCE DIAGRAM**

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

ES3: Primary part (on the primary side of T1);

ES1: Secondary output connector (on the secondary side of T1 after rectifier);

PS3: Primary circuit and secondary circuit; all areas contains PIS sources;

PS2: output terminal;

MS1: Smooth edges and corners of enclosure; Mass of equipment;

TS1: External enclosure surfaces

■ ES ■ PS ■ MS ■ TS □ RS

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	ES3: All internal circuit	N/A	N/A	See 5.5.2, 5.5.3, 5.5.4, 5.4.2, 5.4.3 and 5.4.4
Ordinary	ES3: Capacitor connected between L and N	N/A	N/A	N/A
Ordinary	ES1: Output connector	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
All combustible materials within equipment fire enclosure	PS3: All circuit	Equipment safeguard (e.g., no ignition occurs)	Equipment safeguard (e.g., control of fire spread)	N/A
Connections of secondary equipment	PS2: Secondary output connector	Equipment safeguard (e.g., no ignition occurs)	N/A	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3: High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	MS1: Edges and corners	N/A	N/A	N/A
Ordinary	MS1: Mass of the unit	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	TS1: Plastic enclosure	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced



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

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Clause	Requirement + Test	Result - Remark	Verdict

<b>4</b>	<b>GENERAL REQUIREMENTS</b>		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified to EN and/or national standards are used correctly within their ratings. Components not covered by EN standards are tested under the conditions present in the equipment. See also Annex G.	P
4.1.3	Equipment design and construction	Evaluation of safeguards regarding preventing access to ES3 parts, limiting the source supplying outputs to fulfill ES1, and protection in regard to risk of ignition, mechanical-caused injury and thermal burn considered.	P
4.1.15	Markings and instructions.....:	(See Annex F)	P
4.4.4	Safeguard robustness		P
4.4.4.2	Steady force tests.....:	(See Annex T.2, T.4, T.5)	P
4.4.4.3	Drop tests .....	(See Annex T.7)	P
4.4.4.4	Impact tests .....		N/A
4.4.4.5	Internal accessible safeguard enclosure and barrier tests.....:		N/A
4.4.4.6	Glass Impact tests .....		N/A
4.4.4.7	Thermoplastic material tests .....	(See Annex T.8)	P
4.4.4.8	Air comprising a safeguard.....:	(See Annex T)	P
4.4.4.9	Accessibility and safeguard effectiveness		P
4.5	Explosion		P
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard		P
4.6.2	10 N force test applied to .....	10 N force test was applied to internal components.	P
4.7	Equipment for direct insertion into mains socket - outlets		P
4.7.2	Mains plug part complies with the relevant standard.....:	For EU, See attached plug test reports.	P
4.7.3	Torque (Nm) .....	Max. 0.021Nm	P
4.8	Products containing coin/button cell batteries		N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children		—

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Clause	Requirement + Test	Result - Remark	Verdict
	removing the battery.....:		
4.8.4	Battery Compartment Mechanical Tests.....:	(See Table 4.8.4)	N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object.....:	(See Annex P)	P

<b>5</b>	<b>ELECTRICALLY-CAUSED INJURY</b>		P
5.2.1	Electrical energy source classifications.....:	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current.....:	(See appended table 5.2)	P
5.2.2.3	Capacitance limits.....:		N/A
5.2.2.4	Single pulse limits.....:		N/A
5.2.2.5	Limits for repetitive pulses.....:		N/A
5.2.2.6	Ringling signals.....:		N/A
5.2.2.7	Audio signals.....:		N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See only 4.3 and 5.3 to 5.5 which applies to protection between the accessible parts and hazardous parts of other circuits.	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	Only ES1 circuit can be accessed for this product.	P
5.3.2.2	Contact requirements	No openings on enclosures as received and after mechanical test.	P
	a) Test with test probe from Annex V.....:		N/A
	b) Electric strength test potential (V).....:		N/A
	c) Air gap (mm).....:		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	The choice and application have considered as specified in this Clause 5 and Annex T and natural rubber, hygroscopic materials or asbestos are not used as insulation.	P
5.4.1.3	Humidity conditioning.....:	(See sub-clause 5.4.8)	P
5.4.1.4	Maximum operating temperature for insulating materials.....:	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degree.....:	PD2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage		P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P
5.4.1.10.2	Vicat softening temperature..... :		N/A
5.4.1.10.3	Ball pressure ..... :	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances	(See appended table 5.4.2.2)	P
5.4.2.2	Determining clearance using peak working voltage	(See appended table 5.4.2.3)	P
5.4.2.3	Determining clearance using required withstand voltage ..... :	(See appended table 5.4.2.3)	P
	a) a.c. mains transient voltage ..... :	2500 Vpk.	—
	b) d.c. mains transient voltage ..... :	No connections to d.c. mains.	—
	c) external circuit transient voltage ..... :	No connections to external circuit with transient voltage.	—
	d) transient voltage determined by measurement ..... :	Option was not used.	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	(See appended table 5.4.2.4)	N/A
5.4.2.5	Multiplication factors for clearances and test voltages ..... :		N/A
5.4.3	Creepage distances ..... :	(See appended table 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group ..... :	IIIa/IIIb	—
5.4.4	Solid insulation		P
5.4.4.2	Minimum distance through insulation ..... :	(See appended table 5.4.4.2)	P
5.4.4.3	Insulation compound forming solid insulation	No insulation compound forming solid insulation other than optical isolator.	P
5.4.4.4	Solid insulation in semiconductor devices	No insulation compound forming solid insulation other than optical isolator, see table 4.1.2 for detail.	P
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material		P
	Number of layers (pcs) ..... :		P
5.4.4.6.3	Non-separable thin sheet material		N/A

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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 .....	(See appended Table 5.4.4.9)	P
5.4.5	Antenna terminal insulation		P
5.4.5.1	General		P
5.4.5.2	Voltage surge test		P
	Insulation resistance (MΩ).....	1000 MΩ	—
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	All source of insulation material listed table 4.1.2 were considered.	P
	Relative humidity (%).....	93%.	—
	Temperature (°C) .....	25°C.	—
	Duration (h) .....	48h.	—
5.4.9	Electric strength test .....	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for a solid insulation type test		P
5.4.9.2	Test procedure for routine tests		P
5.4.10	Protection against transient voltages between external circuit	No connection to external circuits with transient voltage.	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test .....		N/A
5.4.10.2.3	Steady-state test.....		N/A
5.4.11	Insulation between external circuits and earthed circuitry .....	No connection to external circuits with transient voltage.	N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage $U_{op}$ (V).....		—
	Nominal voltage $U_{peak}$ (V).....		—
	Max increase due to variation $U_{sp}$ .....		—
	Max increase due to ageing $\Delta U_{sa}$ .....		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$ .....		—

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Clause	Requirement + Test	Result - Remark	Verdict
5.5	Components as safeguards		P
5.5.1	General		P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector.....:	(See table 5.5.2.2)	N/A
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers		P
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPD's		N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable.....:		N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors		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 <sup>2</sup> ) .....		—
5.6.4	Requirement for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm <sup>2</sup> ). .....		—
	Protective current rating (A) .....		—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Requirement		N/A
	Conductor size (mm <sup>2</sup> ), nominal thread diameter (mm). .....		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method Resistance (Ω).....:		N/A
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current .....	(See appended table 5.2)	P
5.7.2.2	Measurement of prospective touch voltage		P
5.7.3	Equipment set-up, supply connections and earth connections	Test setup with Figure 4 of IEC60990:1999.	P
	System of interconnected equipment (separate connections/single connection) .....	Single equipment.	—
	Multiple connections to mains (one connection at a time/simultaneous connections) .....	Single connection	—
5.7.4	Earthed conductive accessible parts .....		N/A
5.7.5	Protective conductor current		N/A
	Supply Voltage (V).....		—
	Measured current (mA).....		—
	Instructional Safeguard.....		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA).....		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA) .....		N/A

<b>6</b>	<b>ELECTRICALLY- CAUSED FIRE</b>		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	PS (power source) classification determined by measuring the maximum power in Figures 34 and 35 for load and power source circuits.	P
6.2.2.1	General	See the following details.	P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault .....	(See appended table 6.2.2)	P
6.2.2.4	PS1 .....		N/A
6.2.2.5	PS2 .....	Output connector	P
6.2.2.6	PS3 .....	All primary circuit inside enclosure is claimed as PS3	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS .....	All circuit inside enclosure is claimed as Arcing PIS	P
6.2.3.2	Resistive PIS .....	All circuit inside enclosure is claimed as Resistive PIS	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials .....	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure		P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Method of "control of fire spread" is used.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions..... :	(See appended table 6.4.3)	N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits	Compliance detailed as follows: - <u>Printed board</u> : rated min. V-1 - <u>All other components</u> : at least V-2 except for mounted on min. V-0 material or small parts of combustible material. <u>Isolating transformer</u> : complying with G.5.3.	P
6.4.5	Control of fire spread in PS2 circuits		N/A
6.4.5.2	Supplementary safeguards .....	(See appended tables 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuit	All primary circuit inside enclosure is claimed as PS3	P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.1	General..... :	(See tables 6.2.3.1 and 6.2.3.2)	N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.1	Fire enclosure and fire barrier material properties		P



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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.2.1	Requirements for a fire barrier	No fire barrier.	N/A
6.4.8.2.2	Requirements for a fire enclosure		P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings	No opening	P
6.4.8.3.2	Fire barrier dimensions	No fire barrier	N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) .....		N/A
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm) .....		N/A
	Flammability tests for the bottom of a fire enclosure .....		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c) .....	No doors or covers.	N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating .....	Fire enclosure is made of V-0 material.	N/A
6.5	Internal and external wiring		N/A
6.5.1	Requirements		N/A
6.5.2	Cross-sectional area (mm <sup>2</sup> ) .....		—
6.5.3	Requirements for interconnection to building wiring .....		N/A
6.6	Safeguards against fire due to connection to additional equipment		P
	External port limited to PS2 or complies with Clause Q.1	Output complies with Clause Q.1.	P

<b>7</b>	<b>INJURY CAUSED BY HAZARDOUS SUBSTANCES</b>		N/A
7.2	Reduction of exposure to hazardous substances	No hazardous substance is accessible.	N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions .....		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010) .....		—
7.6	Batteries .....		N/A

<b>8</b>	<b>MECHANICALLY-CAUSED INJURY</b>		P
8.1	General	Mass<7Kg, classed as MS1.	P

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Clause	Requirement + Test	Result - Remark	Verdict
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	Edges and corners are classed as MS1.	P
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts	No moving parts.	N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard..... :		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks .....		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard..... :		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N) .....		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test..... :		N/A
8.6	Stability		N/A
8.6.1	Product classification		N/A
	Instructional Safeguard..... :		—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force .....		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt .....		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force)..... :		N/A
	Position of feet or movable parts..... :		—
8.7	Equipment mounted to wall or ceiling		N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface) .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.7.2	Direction and applied force .....		N/A
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force .....		N/A
8.9	Wheels or casters attachment requirements		N/A
8.9.1	Classification		N/A
8.9.2	Applied force .....		—
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard .....		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force .....		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N) .....		—
8.10.6	Thermoplastic temperature stability (°C) .....		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.1	General	Not rack mounted.	N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i> .....		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas .....	No rod antennas.	N/A
	Button/Ball diameter (mm) .....		—

<b>9</b>	<b>THERMAL BURN INJURY</b>		P
9.2	Thermal energy source classifications	Enclosure is classed as TS1.	P
9.3	Safeguard against thermal energy sources	Enclosure is used as safeguard.	P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard		P
9.4.2	Instructional safeguard .....	Instructional safeguard is not required.	N/A


<b>10</b>	<b>RADIATION</b>		N/A
10.2	Radiation energy source classification		N/A
10.2.1	General classification		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.3	Protection against laser radiation		N/A
	Laser radiation that exists in the equipment:		—
	Normal, abnormal, single-fault .....		N/A
	Instructional safeguard .....		—
	Tool.....		—
10.4	Protection against visible, infrared, and UV radiation		N/A
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons .....		N/A
10.4.1.b)	RS3 accessible to a skilled person.....		N/A
	Personal safeguard (PPE) instructional safeguard.....		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1.:		N/A
10.4.1.d)	Normal, abnormal, single-fault conditions .....	(See appended table B.3 & B.4)	N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque.....		N/A
10.4.1.f)	UV attenuation.....		N/A
10.4.1.g)	Materials resistant to degradation UV .....		N/A
10.4.1.h)	Enclosure containment of optical radiation.....		N/A
10.4.1.i)	Exempt Group under normal operating conditions .....		N/A
10.4.2	Instructional safeguard .....		N/A
10.5	Protection against x-radiation		N/A
10.5.1	X- radiation energy source that exists equipment:	(See appended table B.3 & B.4)	N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards.....		N/A
	Instructional safeguard for skilled person.....		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation .....		—
	Abnormal and single-fault condition .....	(See appended table B.3 & B.4)	N/A
	Maximum radiation (pA/kg).....		N/A
10.6	Protection against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A).....		N/A
	Output voltage, unweighted r.m.s.....		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Equipment safeguard prevent ordinary person to RS2..... :		—
	Means to actively inform user of increase sound pressure..... :		—
	Equipment safeguard prevent ordinary person to RS2..... :		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) $L_{Aeq}$ acoustic pressure output..... :		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)..... :		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)..... :		—

<b>B</b>	<b>NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS</b>		P
B.2	Normal Operating Conditions	See the following details.	P
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers..... :	Not such equipment.	N/A
B.2.3	Supply voltage and tolerances	Rated voltage $\pm 10\%$	P
B.2.5	Input test..... :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements..... :	See below	P
B.3.2	Covering of ventilation openings		N/A
B.3.3	D.C. mains polarity test	AC mains	N/A
B.3.4	Setting of voltage selector..... :	No voltage selector	N/A
B.3.5	Maximum load at output terminals..... :	(See appended table B.3&B.4)	P
B.3.6	Reverse battery polarity	No battery within the EUT	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	Not such equipment.	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effective.	P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited..... :	Not such equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.3	Motor tests	No motors.	N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature .....		N/A
B.4.4	Short circuit of functional insulation	(See appended table B.4)	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components		N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		P
B.4.9	Battery charging under single fault conditions ... :	No batteries.	N/A
<b>C</b>	<b>UV RADIATION</b>		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
<b>D</b>	<b>TEST GENERATORS</b>		P
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		P
D.3	Electronic pulse generator		N/A
<b>E</b>	<b>TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS</b>		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V) .....		—
	Rated load impedance ( $\Omega$ ) .....		—
E.2	Audio amplifier abnormal operating conditions		N/A
<b>F</b>	<b>EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS</b>		P
F.1	General requirements		P
	Instructions – Language .....	Instructions in English are reviewed.	—

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Clause	Requirement + Test	Result - Remark	Verdict
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations		P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification .....	See copy of marking plate	—
F.3.2.2	Model identification .....	See on page 1 of details	—
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage .....	See copy of marking plate	—
F.3.3.4	Rated voltage .....	See copy of marking plate	—
F.3.3.5	Rated frequency .....	See copy of marking plate	—
F.3.3.6	Rated current or rated power .....	See copy of marking plate	—
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	See below.	P
F.3.5.1	Mains appliance outlet and socket-outlet markings .....	No such devices on the equipment.	N/A
F.3.5.2	Switch position identification marking .....	No such switch on the equipment.	N/A
F.3.5.3	Replacement fuse identification and rating markings .....	The Fuse are located within the equipment and not replaceable by an ordinary person or an instructed person. Fuse used, marking provided on PCB adjacent to them: F1: T2AL/250V	P
F.3.5.4	Replacement battery identification marking .....	No batteries.	N/A
F.3.5.5	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I Equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)		P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking .....	IPX0.	—
F.3.8	External power supply output marking		P
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking		N/A
	b) Instructions given for installation or initial use		N/A
	c) Equipment intended to be fastened in place		N/A
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard		N/A
	g) Protective earthing conductor current exceeding ES 2 limits		N/A
	h) Symbols used on equipment		P
	i) Permanently connected equipment not provided with all-pole mains switch		N/A
	j) Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards	Instructional safeguard is not required.	N/A
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A
<b>G</b>	<b>COMPONENTS</b>		P
<b>G.1</b>	<b>Switches</b>		N/A
G.1.1	General requirements		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
<b>G.2</b>	<b>Relays</b>		N/A
G.2.1	General requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
<b>G.3</b>	<b>Protection Devices</b>		P
G.3.1	Thermal cut-offs		N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691		N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H) .....		—
	Single Fault Condition .....		—
	Test Voltage (V) and Insulation Resistance (Ω) :		—
G.3.3	PTC Thermistors		N/A
G.3.4	Overcurrent protection devices	Current fuse is complying IEC 60127-1, IEC 60127-3.	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....	(See appended Table B.4)	P
<b>G.4</b>	<b>Connectors</b>		P
G.4.1	Spacings		N/A
G.4.2	Mains connector configuration .....	AC plug used.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		P
<b>G.5</b>	<b>Wound Components</b>		P
G.5.1	Wire insulation in wound components.....	Approved TIW used for secondary winding of T1.	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Insulation tube used separate primary winding and secondary winding where they are crossing	P
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s) .....		—
	Temperature (°C) .....		—
G.5.2.3	Wound Components supplied by mains		N/A
<b>G.5.3</b>	<b>Transformers</b>		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1) .....	The transformer meets the requirements given in G.5.3.2 and G.5.3.3.	—
	Position .....	T1	—
	Method of protection .....	See G.5.3.2 and G.5.3.3.	P
G.5.3.2	Insulation	Primary windings and secondary windings are separated by Reinforced insulation	P
	Protection from displacement of windings.....	Bobbin and insulation tape	—
G.5.3.3	Overload test .....	(See appended table B.3)	P
G.5.3.3.1	Test conditions	Transformer is tested in the complete unit.	P
G.5.3.3.2	Winding Temperatures testing in the unit		P
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
<b>G.5.4</b>	<b>Motors</b>		N/A
G.5.4.1	General requirements		N/A
	Position .....		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days) .....		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V).....		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h) .....		N/A
	Electric strength test (V).....		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature .....		N/A
	Electric strength test (V) .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h) .....		N/A
	Electric strength test (V).....		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage .....		—
<b>G.6</b>	<b>Wire Insulation</b>		P
G.6.1	General	Triple insulated winding in transformer secondary windings used as reinforced safeguard in the isolating transformer that has separately complied with Annex J.	P
G.6.2	Solvent-based enamel wiring insulation		N/A
<b>G.7</b>	<b>Mains supply cords</b>		N/A
G.7.1	General requirements		N/A
	Type.....		—
	Rated current (A).....		—
	Cross-sectional area (mm <sup>2</sup> ), (AWG) .....		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N) .....		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm).....		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry .....	(See appended table 5.4.11.1)	N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g) .....		—
	Diameter (m) .....		—
	Temperature (°C) .....		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
<b>G.8</b>	<b>Varistors</b>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.8.1	General requirements		N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test .....	(See appended table B.3)	N/A
G.8.3.3	Temporary overvoltage .....	(See appended table B.3)	N/A
<b>G.9</b>	<b>Integrated Circuit (IC) Current Limiters</b>		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.		N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA .....		—
G.9.1 d)	IC limiter output current (max. 5A) .....		—
G.9.1 e)	Manufacturers' defined drift .....		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
<b>G.10</b>	<b>Resistors</b>		N/A
G.10.1	General requirements		N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
<b>G.11</b>	<b>Capacitor and RC units</b>		P
G.11.1	General requirements	Capacitors used in accordance with their rating and complied with subclasses of IEC 60384-14. (see appended table 4.1.2)	P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		P
<b>G.12</b>	<b>Optocouplers</b>		P
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results).....	Optocouplers comply with IEC 60747-5-5:2007	P
	Type test voltage Vini .....	Considered	—
	Routine test voltage, Vini,b .....	Considered	—
<b>G.13</b>	<b>Printed boards</b>		P
G.13.1	General requirements	See the following details	P

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Clause	Requirement + Test	Result - Remark	Verdict
G.13.2	Uncoated printed boards	The insulation between conductors on the outer surfaces of an uncoated printed board complied with the minimum clearance and creepage requirements	P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction)..... :		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation..... :	(See appended table 5.4.4.5)	N/A
	Number of insulation layers (pcs)..... :		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
<b>G.14</b>	<b>Coating on components terminals</b>		N/A
G.14.1	Requirements..... :	No coating on component terminals considered to affect creepage or clearances.	N/A
<b>G.15</b>	<b>Liquid filled components</b>		N/A
G.15.1	General requirements		N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
<b>G.16</b>	<b>IC including capacitor discharge function (ICX)</b>		N/A
a)	Humidity treatment in accordance with sc 5.4.8 – 120 hours		N/A
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage..... :		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
C2)	Test voltage .....		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance .....		—
D3)	Resistance .....		—
<b>H</b>	<b>CRITERIA FOR TELEPHONE RINGING SIGNALS</b>		N/A
H.1	General	No telephone ringing signal generated within the equipment.	N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	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 complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V) .....		—
<b>J</b>	<b>INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION</b>		P
	General requirements	Approved triple insulated wire used. See appended table 4.1.2.	P
<b>K</b>	<b>SAFETY INTERLOCKS</b>		N/A
K.1	General requirements	No safety interlock provided.	N/A
K.2	Components of safety interlock safeguard mechanism .....		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance .....		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method .....		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location) .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
K.7.2	Overload test, Current (A).....:		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test .....		N/A
<b>L</b>	<b>DISCONNECT DEVICES</b>		<b>P</b>
L.1	General requirements	AC plug used as disconnect device.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized	When plug is disconnected no hazardous voltage in the equipment.	P
L.4	Single phase equipment	The plug disconnects both poles simultaneously.	P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		P
L.8	Multiple power sources		N/A
<b>M</b>	<b>EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS</b>		<b>N/A</b>
M.1	General requirements		N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method) .. :		N/A
M.3	Protection circuits		N/A
M.3.1	Requirements		N/A
M.3.2	Tests		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
M.3.3	Compliance .....		N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature .....	(See Annex M.4)	—
M.4.2.2 b)	Single faults in charging circuitry .....	(See Annex B.4)	—
M.4.3	Fire Enclosure		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method) .....		N/A
M.6.2	Leakage current (mA) .....		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume $V_z$ (m <sup>3</sup> /s).....		—
M.8.2.3	Correction factors .....		—
M.8.2.4	Calculation of distance $d$ (mm) .....		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing) .....		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
<b>N</b>	<b>ELECTROCHEMICAL POTENTIALS</b>		N/A
	Metal(s) used .....	No risk of corrosion.	—
<b>O</b>	<b>MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES</b>		P
	Figures O.1 to O.20 of this Annex applied .....	Considered.	—
<b>P</b>	<b>SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS</b>		P
P.1	General requirements	No opening.	P
P.2.2	Safeguards against entry of foreign object		N/A
	Location and Dimensions (mm) .....	No openings of enclosure.	—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts .....		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard) .....		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C).....		—
	Tr (°C) .....		—
	Ta (°C).....		—
P.4.2 b)	Abrasion testing .....		N/A
P.4.2 c)	Mechanical strength testing .....		N/A
<b>Q</b>	<b>CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING</b>		P
Q.1	Limited power sources	See appended table Annex Q.1	P
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		P
	- Regulating network limited output under normal operating and simulated single fault condition	A regulating network limits the output in compliance with table Q.1 both under normal operating conditions and after any single fault.	P

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Clause	Requirement + Test	Result - Remark	Verdict
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method	See appended table Annex Q.1	P
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) .....		—
	Current limiting method .....		—
<b>R</b>	<b>LIMITED SHORT CIRCUIT TEST</b>		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A). .....		N/A
<b>S</b>	<b>TESTS FOR RESISTANCE TO HEAT AND FIRE</b>		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	Approved fire enclosure with V-0 material used.	N/A
	Samples, material .....		—
	Wall thickness (mm).....		—
	Conditioning (°C).....		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material .....		—
	Wall thickness (mm).....		—
	Conditioning (°C).....		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material .....		—
	Wall thickness (mm).....		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
S.5	<del>Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W</del> Flammability test for fire enclosure materials of equipment with a steady-state power exceeding 4000 W		N/A
	Samples, material .....		—
	Wall thickness (mm).....		—
	Conditioning (test condition), (°C).....		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A
<b>T</b>	<b>MECHANICAL STRENGTH TESTS</b>		<b>P</b>
T.1	General requirements		P
T.2	Steady force test, 10 N .....	(See appended table T.2, T.3, T.4, T.5)	P
T.3	Steady force test, 30 N .....		N/A
T.4	Steady force test, 100 N .....	(See appended table T.2, T.3, T.4, T.5)	P
T.5	Steady force test, 250 N .....	(See appended table T.2, T.3, T.4, T.5)	N/A
T.6	Enclosure impact test	(See appended table T.6, T.9)	N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test .....	(See appended table T.7)	P
T.8	Stress relief test .....	(See appended table T.8)	P
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J).....		—
	Height (m) .....		—
T.10	Glass fragmentation test .....	(See sub-clause 4.4.4.9)	N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm) .....		—

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Clause	Requirement + Test	Result - Remark	Verdict
<b>U</b>	<b>MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION</b>		N/A
U.1	General requirements		N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....:	(See Annex T)	N/A
<b>V</b>	<b>DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)</b>		P
V.1	Accessible parts of equipment	No access with test probes to any hazardous parts	P
V.2	Accessible part criterion		P

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Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	TABLE: List of critical components					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity <sup>1</sup>	
Enclosure	Sabic Innovative Plastics B V	945(GG)	PC, V-0, min. 120°C, min. 1.5 mm thickness	UL 94, UL 746C, EN 62368-1	UL E45329 Tested with appliance	
(Alternative)	Sabic Innovative Plastics Us L L C	940(f1)(gg*)	PC, V-0, min. 120°C, min. 1.5 mm thickness	UL 94, UL 746C, EN 62368-1	UL E121562 Tested with appliance	
(Alternative)	Chi Mei Corporation	PC-110(+)	PC, V-0, min. 105°C, min. 1.5 mm thickness	UL 94, UL 746C, EN 62368-1	UL E56070 Tested with appliance	
EU Plug portion	Guangdong Quanzhi Technology Co., Ltd.	QZ018-EU	250Vac, 0.5A	EN 50075:1990	Tested with appliance	
Plug holder	Sabic Innovative Plastics B V	945(GG)	PC, V-0, min. 120°C	UL 94, UL 746C, EN 62368-1	UL E45329 Tested with appliance	
(Alternative)	Sabic Innovative Plastics Us L L C	940(f1)(gg*)	PC, V-0, min. 120°C	UL 94, UL 746C, EN 62368-1	UL E121562 Tested with appliance	
(Alternative)	Chi Mei Corporation	PC-110(+)	PC, V-0, min. 105°C	UL 94, UL 746C, EN 62368-1	UL E56070 Tested with appliance	
PCB	Jiangxi Yongzhao Electronics Co Ltd	CHT-5	130°C, V-0	UL 94, EN 62368-1	UL E336650 Tested with appliance	
(Alternative)	Interchangeable	Interchangeable	V-1 or better, min. 130°C	UL 94	UL	
Fuse(F1)	Dongguan Reomax Electronics Technology Co., Ltd.	MTS	T2.0AL, 250VAC	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40039420	
(Alternative)	Littelfuse Inc.	392	T2.0AL, 250VAC	IEC/EN 60127-1, IEC/EN 60127-3	VDE 126983	
(Alternative)	Conquer Electronics Co., Ltd.	MST	T2.0AL, 250VAC	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40017118	
(Alternative)	Dongguan Better Electronics Technology Co., Ltd.	932	T2.0AL, 250VAC	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40033369	

EN 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
(Alternative)	Shenzhen Lanson Electronics Co. Ltd.	3K T2.5A250V	T2.0AL, 250VAC	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40010682
Bridge diode (BD1)	Interchangeable	Interchangeable	Min. 0.6A, min. 600V	EN 62368-1	Tested with appliance
Electrolytic Capacitors (EC1, EC2)	Interchangeable	Interchangeable	4.7-22 $\mu$ F, min. 400V, 105°C	EN 62368-1	Tested with appliance
Transistor (U1)	Interchangeable	Interchangeable	Min. 1.5A, min. 600V	EN 62368-1	Tested with appliance
Line filter (L1) (optional)	Interchangeable	Interchangeable	Min. 130°C	EN 62368-1	Tested with appliance
Heat shrinkable tube on L1	Guangzhou Kaiheng New Material Co Ltd	K-102, K-102 (CB)	VW-1, 125°C	UL 224	UL E321827
(Alternative)	Dongguan Salipt Co Ltd	SALIPT S-901-600, SALIPT S-HPT-600	VW-1, 125°C	UL 224	UL E209436
(Alternative)	Shenzhen Woer Heat-Shrinkable Material Co Ltd	RSFR(CB), RSFR-H, RSFR-HPF(CB), RSFR	VW-1, 125°C	UL 224	UL E203950
(Alternative)	Shenzhen Xingqi Plastic Products Co Ltd	X-2	VW-1, 125°C	UL 224	UL E350991
Y capacitor (CY1) (optional)	Dongguan Cigu Electronic Technology Co., Ltd	CD series	Max. 1000pF, min. 250Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40043434
(Alternative)	Macrofar Electronics Technology (HK) Limited	HY	Max. 1000pF, min. 250Vac, 125°C, Y1 type	IEC/EN 60384-14	TUV R 50326364
(Alternative)	Guangdong South Hongming Electronic Science and Technology Co., Ltd.	F	Max. 1000pF, min. 250Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40036393
(Alternative)	Haohua Electronic Co.	CT7	Max. 1000pF, min. 250Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40003902
(Alternative)	Dongguan Easy-gather Electronic Co., Ltd.	DCF	Max. 1000pF, min. 250Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40022942

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Clause	Requirement + Test			Result - Remark	Verdict
(Alternative)	South China Electronic Co., Ltd.	CY	Max. 1000pF, min. 250Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40045823
(Alternative)	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd.	CD-Series	Max. 1000pF, min. 250Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40025754
(Alternative)	Success Electronics Co., Ltd.	SE	Max. 1000pF, min. 250Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40020002
Thermistor (NTC) (optional)	Interchangeable	Interchangeable	Rated 5Ω at 25°C, min. 0.5A	UL 1434	UL
Insulation sheet	Sichuan Dongfang Insulating Material Co Ltd	DFR3A(d)	PP, V-0, min. 110°C, min. 0.43mm thickness	UL 94, EN 62368-1	UL E199019 Tested with appliance
(Alternative)	Sabic Innovative Plastics Us L L C	FR6	V-0, 125 °C, min. 0.40mm thickness	UL 94, EN 62368-1	UL E121562 Tested with appliance
Optocoupler (U3)	Everlight Electronics Co., Ltd.	EL1018	Cr.&Cl.=min. 6.0mm, Dti.=min. 0.4mm, min. 100°C	IEC/EN 60747-5-5	VDE 40028391
(Alternative)	Lite-On Technology Corporation	LTV-1008	Cr.&Cl.=min. 6.0mm, Dti.=min. 0.4mm, min. 100°C	IEC/EN 60747-5-5	VDE 138213
(Alternative)	Lite-On Technology Corporation	LTV-817	Cr.&Cl.=min. 6.0mm, Dti.=min. 0.4mm, min. 100°C	IEC/EN 60747-5-5	VDE 40015248
(Alternative)	COSMO Electronics Corporation	K1010, KP1010	Cr.&Cl.=min. 6.0mm, Dti.=min. 0.4mm, min. 100°C	IEC/EN 60747-5-5	VDE 101347
Transformer (T1)	Guangdong Quanzhi Technology Co., Ltd.	Q-01800-T2	Class B	Applicable part of EN 62368-1 and according to IEC/EN 60085	Tested in appliance
- Bobbin	Sumitomo Bakelite Co Ltd	PM-9820, PM-9630	Phenolic, V-0, 150°C, min. thickness: 0.70mm	UL 94, UL 746C, EN 62368-1	UL E41429 Tested with appliance
(Alternative)	Chang Chun Plastics Co Ltd	T375J(G5)(G6), T375HF, T355J	Phenolic, V-0, 150°C, min. thickness: 0.75mm	UL 94, UL 746C, EN 62368-1	UL E59481 Tested with appliance
- Triple Insulated Wire	Great Leoflon Industrial Co., Ltd.	TRW(B) Serie(s), TRW(B)-M Serie(s)	Reinforce insulation, Class B	IEC/EN 62368-1	VDE 136581

EN 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Shanghai Xiangxiang Electron Co., Ltd.	TKW-B	Reinforce insulation, Class B	IEC/EN 62368-1	VDE 40026588
(Alternative)	Suzhou Yusheng Electronic Co., Ltd.	TIW-B, TWE-3, TIW-F, TWE-F	Reinforce insulation, Class B	IEC/EN 62368-1	VDE 40033527
(Alternative)	Furukawa Electric Co., Ltd.	TEX-E	Reinforce insulation, Class B	IEC/EN 62368-1	VDE 006735
- Insulation tape	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	CT* (c)(g), PZ* (b)	130°C	UL 510A, EN 62368-1	UL E165111 Tested with appliance
(Alternative)	3m Company	1350F-1 (b), 1350FY-1 (b), 1350FW-1 (b), 1350FB-1 (b)	130°C	UL 510A, EN 62368-1	UL E17385 Tested with appliance
(Alternative)	Bondtec Pacific Co Ltd	370S (b)	130°C	UL 510A, EN 62368-1	UL E175868 Tested with appliance
(Alternative)	Symbio Inc	35660 (a), 35660Y (e)	130°C	UL 510A, EN 62368-1	UL E50292 Tested with appliance
- Magnet wire	Sihui Henghui Electrical Appliances Co Ltd	*UEW/155	155°C	UL 1446	UL E337948
(Alternative)	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL
- Varnish	JoJohn C Dolph Cohn C Dolph Co	BC-346A, BC-346-A, BC-346B, BC-346-E	Min. 130°C	UL 1446	UL E317427
(Alternative)	Elantas Pdg, Inc.	V1630, V1630FS, V1630FS50, V1630FS Black	Min. 130°C	UL 1446	UL E75225
(Alternative)	Suzhou Taihu Electric Advanced Material Co Ltd	T-4260(a)	Min. 130°C	UL 1446	UL E228349
(Alternative)	Yueyang Green Technology Co Ltd	JX-1150*	Min. 130°C	UL 1446	UL E303754
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance.					
2) License available upon request.					



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Clause	Requirement + Test	Result - Remark	Verdict
4.8.4, 4.8.5	<b>TABLE: Lithium coin/button cell batteries mechanical tests</b>		N/A
(The following mechanical tests are conducted in the sequence noted.)			
4.8.4.2	<b>TABLE: Stress Relief test</b>		—
	Part	Material	Oven Temperature (°C)
4.8.4.3	<b>TABLE: Battery replacement test</b>		—
	Battery part no. ....	--	—
	Battery Installation/withdrawal	Battery Installation/Removal Cycle	Comments
		1	--
		2	--
		3	--
		4	--
		5	--
		6	--
		8	--
		9	--
		10	--
4.8.4.4	<b>TABLE: Drop test</b>		—
	Impact Area	Drop Distance	Drop No.
	--	--	1
	--	--	2
	--	--	3
4.8.4.5	<b>TABLE: Impact</b>		—
	Impacts per surface	Surface tested	Impact energy (Nm)
	--	--	--
	--	--	--
	--	--	--
4.8.4.6	<b>TABLE: Crush test</b>		—
	Test position	Surface tested	Crushing Force (N)
	--	--	--
	--	--	--
Supplementary information:			

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Clause	Requirement + Test	Result - Remark	Verdict

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

5.2	Table: Classification of electrical energy sources						P
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
Model: QZ-01800EA00 (Output: 12V/1.5A)							
1	264Va.c. 60Hz	Primary circuits supplied by a.c. mains supply	Normal	264Vpk	--	60	ES3
			Abnormal	--	--	--	
			Single fault	--	--	--	
2	264Va.c. 60Hz	Output + to -	Normal	12.08Vdc	--	DC	ES1
			Abnormal: over load	12.08Vdc	--	DC	
			Single fault: Short circuit or open circuit (Refer to fault condition on table B.4, Unit shutdown immediately, recoverable)	0	--	--	
			Single fault: Short circuit or open circuit (Refer to fault condition on table B.4, Fuse F1 opened)	0	--	--	
3	264Va.c. 60Hz	Output +/- to earth	Normal	--	0.206mApk	60 Hz	ES1
			Abnormal: over load	--	0.218mApk	60 Hz	

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Clause	Requirement + Test			Result - Remark			Verdict
			Single fault: Short circuit or open circuit (Refer to fault condition on table B.4, Unit shutdown immediately, recoverable)	--	0.218mApk	60 Hz	
			Single fault: Short circuit or open circuit (Refer to fault condition on table B.4, Fuse F1 opened)	--	0.316mApk	60 Hz	
4	264Va.c. 60Hz	Plastic enclosure surface to earth	Normal	--	0.046mApk	60 Hz	ES1
			Abnormal: over load	--	0.060mApk	60 Hz	
			Single fault: Short circuit or open circuit (Refer to fault condition on table B.4, Unit shutdown immediately, recoverable)	--	0.060mApk	60 Hz	
			Single fault: Short circuit or open circuit (Refer to fault condition on table B.4, Fuse F1 opened)	--	0.072mApk	60 Hz	
<b>5.2.2.3 - Capacitance Limits</b>							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class	
				Capacitance, nF	Upk (V)		
--	--	--	Normal	--	--	--	
			Abnormal	--	--		
			Single fault – SC/OC	--	--		
Overall capacity: -- Limit: ES1=60V; ES2=120V.							

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Clause	Requirement + Test	Result - Remark	Verdict

5.2.2.4 - Single Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	lpk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

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

Test Conditions:  
 Normal – Full load and no load.  
 Abnormal - Overload output  
 Supplementary information: SC=Short Circuit, OC=Short Circuit

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P
	Supply voltage (V) .....	90V/60Hz		264V/50Hz		—
	Ambient T <sub>min</sub> (°C) .....	--	--	--		—
	Ambient T <sub>max</sub> (°C) .....	--	--	--		—
	T <sub>ma</sub> (°C) .....	See below	See below	See below	See below	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T <sub>max</sub> (°C)
Model: QZ-01800EA00 (Output:12.0V/1.5A)		Horizontal	Vertical	Horizontal	Vertical	--
Plug holder (inside)		40.0	43.4	35.4	38.8	105
E-capacitor EC1 body		70.9	75.4	55.5	60.6	105
E-capacitor EC2 body		79.2	84.1	69.2	72.5	105
Line choke of L1 Winding		77.8	82.1	58.3	63.5	130
Transformer T1 winding		80.9	85.1	76.8	80.0	110
Transformer T1 core		78.4	82.3	74.7	77.4	110
Y-capacitor CY1 body		73.4	76.0	61.9	64.7	125

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Clause	Requirement + Test	Result - Remark			Verdict
E-capacitor EC5 body	70.2	72.2	67.5	68.4	105
PCB near BD1	76.8	80.4	59.3	63.9	130
PCB near U1	97.2	101.7	93.9	97.4	130
Opto-coupler U3 body	78.6	82.4	76.1	78.1	100
PCB near U2	78.7	80.9	76.2	77.5	130
PCB near U5	65.9	67.5	61.2	63.1	130
Enclosure inside of near T1	57.5	62.3	53.6	58.0	105
Enclosure outside of near T1	48.5	54.4	45.2	49.5	77
Enclosure inside of near U1	66.7	73.5	63.6	69.4	105
Enclosure outside of near U1	55.9	64.2	53.6	60.3	77
Ambient	25.0	25.0	25.0	25.0	--
Model: QZ-01800EA00 (Output: 5.0V/3.0A)					
Plug holder (inside)	38.0	39.9	36.1	38.8	105
E-capacitor EC1 body	65.6	70.0	59.5	61.2	105
E-capacitor EC2 body	79.1	77.5	76.9	77.4	105
Line choke of L1 Winding	77.7	80.6	65.2	65.1	130
Transformer T1 winding	85.4	87.1	80.9	86.8	110
Transformer T1 core	83.1	84.5	78.4	83.8	110
Y-capacitor CY1 body	75.1	70.7	73.4	81.5	125
E-capacitor EC5 body	86.0	83.0	70.2	87.2	105
PCB near BD1	63.4	64.8	76.8	73.9	130
PCB near U1	110.7	110.9	97.2	96.9	130
Opto-coupler U3 body	90.0	90.3	78.6	85.4	100
PCB near U2	97.0	94.6	78.7	97.6	130
PCB near U5	85.4	76.0	65.9	89.3	130
Enclosure inside of near T1	58.4	62.2	57.5	59.3	105
Enclosure outside of near T1	48.5	53.7	48.5	49.4	77
Enclosure inside of near U1	73.0	75.9	66.7	68.6	105
Enclosure outside of near U1	60.3	65.0	55.9	57.9	77
Ambient	25.0	25.0	25.0	25.0	--
Model: QZ-01800EA00 (Output: 9.0V/2.0A)					
Plug holder (inside)	--	39.2	--	37.0	105
E-capacitor EC1 body	--	69.4	--	58.1	105
E-capacitor EC2 body	--	78.5	--	71.7	105
Line choke of L1 Winding	--	75.6	--	61.0	130

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Clause	Requirement + Test			Result - Remark			Verdict
Transformer T1 winding	--	81.1	--	80.1	110		
Transformer T1 core	--	78.4	--	77.7	110		
Y-capacitor CY1 body	--	69.7	--	62.6	125		
E-capacitor EC5 body	--	69.7	--	69.6	105		
PCB near BD1	--	74.6	--	61.2	130		
PCB near U1	--	94.4	--	98.1	130		
Opto-coupler U3 body	--	78.3	--	79.3	100		
PCB near U2	--	78.7	--	78.9	130		
PCB near U5	--	61.1	--	59.8	130		
Enclosure inside of near T1	--	58.9	--	57.8	105		
Enclosure outside of near T1	--	51.4	--	50.2	77		
Enclosure inside of near U1	--	67.3	--	67.8	105		
Enclosure outside of near U1	--	57.9	--	58.1	77		
Ambient	--	25.0	--	25.0	--		
Supplementary information:							
Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (T <sub>ma</sub> ) of 25°C.							
Note 2: The temperatures were measured under the worse case normal mode defined in clause B.2.1.							
Note 3. Temperature limits are calculated as follows:							
Winding components providing safety isolation:							
- Class F → T <sub>max</sub> = 140 – 10 = 130 °C.							
Components with maximum absolute temperature of others:							
- T <sub>max</sub> = T <sub>max</sub> of component							
Temperature T of winding:	t <sub>1</sub> (°C)	R <sub>1</sub> (Ω)	t <sub>2</sub> (°C)	R <sub>2</sub> (Ω)	T (°C)	Allowed T <sub>max</sub> (°C)	Insulation class
--	--	--	--	--	--	--	--

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

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Clause	Requirement + Test	Result - Remark	Verdict
<b>5.4.1.10.3</b>	<b>TABLE: Ball pressure test of thermoplastics</b>		P
Allowed impression diameter (mm) .....		≤ 2 mm	—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)
Enclosure and plug holder / 945(GG)	Sabic Innovative Plastics B V	125	1.39
Enclosure and plug holder / 940(f1)(gg*)	Sabic Innovative Plastics Us L L C	125	1.30
Enclosure and plug holder / PC-110(+)	Chi Mei Corporation	125	1.41
Supplementary information:			
The others bobbin material of transformer (T1) is phenolic, no test is needed.			

<b>5.4.2.2, 5.4.2.4 and 5.4.3</b>	<b>TABLE: Minimum Clearances/Creepage distance</b>						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz) <sup>1</sup>	Required cl (mm)	cl (mm) <sup>2</sup>	Required <sup>3</sup> cr (mm)	cr (mm)
L to N before fuse (Function insulation)	420	250	0.06	1.27	4.2	2.5	4.2
Different pole of fuse (Function insulation)	420	250	0.06	1.27	3.0	2.5	3.0
L to primary live parts after fuse (Basic insulation)	420	250	0.06	1.27	2.7	2.5	2.7
Live parts to accessible plastic enclosure (Reinforce insulation)	420	250	0.06	2.54	6.1	5.0	6.1
Two terminals of Y capacitor (CY1) (Reinforce insulation)	420	250	0.06	2.54	9.0	5.0	9.0
Primary trace to secondary trace of PCB under U3 (Reinforce insulation)	420	250	0.06	2.54	7.6	5.0	7.6
Primary trace to secondary trace of PCB under T1 (Reinforce insulation)	520	266	62.32	2.54	6.2	5.4	6.2
Transformer primary winding to secondary winding (Reinforce insulation)	520	266	62.32	2.54	6.8	5.4	6.8
Transformer core to secondary winding (Reinforce insulation)	520	266	62.32	2.54	6.7	5.4	6.7
Transformer primary winding to secondary component EC5 (Reinforce insulation)	520	266	62.32	2.54	7.0	5.4	7.0
Supplementary information:							
Note 1: Only for frequency above 30 kHz							

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Clause	Requirement + Test	Result - Remark	Verdict

Note 2: See table 5.4.2.4 if this is based on electric strength test

Note 3: Provide Material Group

1. Triple insulated wire used in secondary side. Core of transformer is considered as primary.
2. Unless otherwise specified, the worst conditions of Cl. & Cr. in above mentioned locations have been considered and listed.

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage			P
	Overvoltage Category (OV):			II
	Pollution Degree:			2
Clearance distanced between:		Required withstand voltage (DC)	Required cl (mm)	Measured cl (mm)
Basic insulation / Supplementary insulation / Functional insulation See table 5.4.2.2, 5.4.2.4 and 5.4.3 above.		2500V	1.5	See table 5.4.2.2, 5.4.2.4 and 5.4.3 above
Reinforced insulation See table 5.4.2.2, 5.4.2.4 and 5.4.3 above.		2500V	3.0	See table 5.4.2.2, 5.4.2.4 and 5.4.3 above.
Supplementary information: Limits in previous table for clearance selected based on Table 15 for Required Withstand Voltage 2.5kV (mains transient voltage 2.5kV).				

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

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements					P
Distance through insulation di at/of:	Peak voltage (V)	Frequency (Hz)	Material	Required DTI (mm)	DTI (mm)	
Enclosure	520	62.32k	1)	0.4	1)	
Opto-coupler	520	62.32k	1)	0.4	1)	
Insulating sheet	520	62.32k	1)	0.4	1)	
Supplementary information: 1) See appended table 4.1.2 for details.						

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (Vpeak)	Breakdown Yes / No



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Clause	Requirement + Test	Result - Remark	Verdict

Functional:			
Unit: Line to Neutral (with fuse disconnect)	DC	2500	No
Reinforced:			
Unit: primary circuit to secondary circuit	DC	4000	No
Unit: primary to plastic enclosure wrapped with metal foil	DC	4000	No
Transformer: primary winding to secondary winding	DC	4000	No
Transformer: core to secondary winding	DC	4000	No
Insulating sheet	DC	4000	No
One layer of insulation tape	DC	4000	No
Supplementary information:			
<p>1) Core of transformer was considered as primary.</p> <p>2) Test after humidity treatment, heating test, and for unit primary to secondary, primary to plastic enclosure electric strength after each fault condition test.</p> <p>3) Tests were performed on product with each source of insulation tape and insulation sheet listed in table 4.1.2.</p> <p>4) The DC voltage source was performed on all testing once in forward and once in reverse.</p>			

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

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

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Clause	Requirement + Test	Result - Remark	Verdict

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		N/A
Supply voltage .....			—
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7		Touch current (mA)
	1		
	2*		
	3		
	4		
	5		
	6		
	8		
Supplementary Information:			
Notes: [1] Supply voltage is the anticipated maximum Touch Voltage [2] Earthed neutral conductor [Voltage differences less than 1% or more] [3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3 [4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable. [5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.			

6.2.2	Table: Electrical power sources (PS) measurements for classification				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s <sup>*)</sup>	PS Classification
Model: QZ-01800EA00 (Output: 5.0V/3.0A)					
Output	Normal condition	Power (W) .....	--	16.91	PS2
		V <sub>A</sub> (V).....	--	4.37	
		I <sub>A</sub> (A).....	--	3.87	
Output	*Single fault – U3 pin 1-2 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....	0	--	
		I <sub>A</sub> (A).....	0	--	
Output	*Single fault – U3 pin 3-4 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....	0	--	
		I <sub>A</sub> (A).....	0	--	
Output	*Single fault – U3 pin 1 OC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....	0	--	
		I <sub>A</sub> (A).....	0	--	

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Clause	Requirement + Test		Result - Remark		Verdict
Output	*Single fault – U3 pin 3 OC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....	0	--	
		I <sub>A</sub> (A).....	0	--	
Output	*Single fault – R14 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....	0	--	
		I <sub>A</sub> (A).....	0	--	
Output	*Single fault – U1 pin 8-3 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....	0	--	
		I <sub>A</sub> (A).....	0	--	
Model: QZ-01800EA00 (Output: 7.0V/2.0A)					
Output	Normal condition	Power (W) .....	--	18.71	PS2
		V <sub>A</sub> (V).....	--	6.66	
		I <sub>A</sub> (A).....	--	2.81	
Output	*Single fault – U3 pin 1-2 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....	0	--	
		I <sub>A</sub> (A).....	0	--	
Output	*Single fault – U3 pin 3-4 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....	0	--	
		I <sub>A</sub> (A).....	0	--	
Output	*Single fault – U3 pin 1 OC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....	0	--	
		I <sub>A</sub> (A).....	0	--	
Output	*Single fault – U3 pin 3 OC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....	0	--	
		I <sub>A</sub> (A).....	0	--	
Output	*Single fault – R14 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....	0	--	
		I <sub>A</sub> (A).....	0	--	
Output	*Single fault – U1 pin 8-3 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....	0	--	
		I <sub>A</sub> (A).....	0	--	
Model: QZ-01800EA00 (Output: 9.0V/2.0A)					
Output	Normal condition	Power (W) .....	--	23.13	PS2
		V <sub>A</sub> (V).....	--	8.57	
		I <sub>A</sub> (A).....	--	2.70	
Output	*Single fault – U3	Power (W) .....	0	--	PS1

EN 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
	pin 1-2 SC	V <sub>A</sub> (V).....:	0	--	
		I <sub>A</sub> (A).....:	0	--	
Output	*Single fault – U3 pin 3-4 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....:	0	--	
		I <sub>A</sub> (A).....:	0	--	
Output	*Single fault – U3 pin 1 OC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....:	0	--	
		I <sub>A</sub> (A).....:	0	--	
Output	*Single fault – U3 pin 3 OC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....:	0	--	
		I <sub>A</sub> (A).....:	0	--	
Output	*Single fault – R14 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....:	0	--	
		I <sub>A</sub> (A).....:	0	--	
Output	*Single fault – U1 pin 8-3 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....:	0	--	
		I <sub>A</sub> (A).....:	0	--	
Model: QZ-01800EA00 (Output: 12.0V/1.5A)					
Output	Normal condition	Power (W) .....	--	23.92	PS2
		V <sub>A</sub> (V).....:	--	11.67	
		I <sub>A</sub> (A).....:	--	2.05	
Output	*Single fault – U3 pin 1-2 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....:	0	--	
		I <sub>A</sub> (A).....:	0	--	
Output	*Single fault – U3 pin 3-4 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....:	0	--	
		I <sub>A</sub> (A).....:	0	--	
Output	*Single fault – U3 pin 1 OC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....:	0	--	
		I <sub>A</sub> (A).....:	0	--	
Output	*Single fault – U3 pin 3 OC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....:	0	--	
		I <sub>A</sub> (A).....:	0	--	
Output	*Single fault – R14 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....:	0	--	
		I <sub>A</sub> (A).....:	0	--	

EN 62368-1					
Clause	Requirement + Test	Result - Remark		Verdict	
Output	*Single fault – U1 pin 8-3 SC	Power (W) .....	0	--	PS1
		V <sub>A</sub> (V).....	0	--	
		I <sub>A</sub> (A).....	0	--	
Supplementary Information:					
SC: Short-circuited, OC=Open-circuited *): Measurement taken only when limits at 3 seconds exceed PS1 limits. *: Test result refer to fault condition on table B.4					

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)				P
Location	Open circuit voltage After 3 s (V <sub>p</sub> )	Measured r.m.s current (I <sub>rms</sub> )	Calculated value (V <sub>p</sub> x I <sub>rms</sub> )	Arcing PIS? Yes / No	
Primary circuits and secondary circuit	--	--	--	Yes (Declaration)	
Supplementary information:					
An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V <sub>p</sub> ) and normal operating condition rms current (I <sub>rms</sub> ) is greater than 15.					

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)				P
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
All internal circuits /components	--	--	--	--	Yes (Declaration)
Supplementary Information:					
A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter. If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification. A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, <u>or</u> (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.					

8.5.5	TABLE: High Pressure Lamp		N/A
Description	Values	Energy Source Classification	
Lamp type .....		—	
Manufacturer .....		—	
Cat no. ....		—	
Pressure (cold) (MPa).....		MS_	

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Pressure (operating) (MPa).....:		MS_
	Operating time (minutes).....:		—
	Explosion method .....		—
	Max particle length escaping enclosure (mm) .:		MS_
	Max particle length beyond 1 m (mm).....:		MS_
	Overall result .....		
Supplementary information: --			

B.2.5		TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
Model: QZ-01800EA00 (Output: 5V/3A)								
90/50Hz	0.343	--	18.85	--	F1	0.343	Max normal load	
90/60Hz	0.347	--	18.81	--	F1	0.347	Max normal load	
100/50Hz	0.313	0.5	18.62	--	F1	0.313	Max normal load	
100/60Hz	0.319	0.5	18.61	--	F1	0.319	Max normal load	
240/50Hz	0.190	0.5	18.57	--	F1	0.190	Max normal load	
240/60Hz	0.183	0.5	18.56	--	F1	0.183	Max normal load	
264/50Hz	0.175	--	18.66	--	F1	0.175	Max normal load	
264/60Hz	0.170	--	18.66	--	F1	0.170	Max normal load	
Model: QZ-01800EA00 (Output: 9V/2A)								
90/50Hz	0.397	--	21.57	--	F1	0.397	Max normal load	
90/60Hz	0.401	--	21.52	--	F1	0.401	Max normal load	
100/50Hz	0.360	0.5	21.37	--	F1	0.360	Max normal load	
100/60Hz	0.368	0.5	21.37	--	F1	0.368	Max normal load	
240/50Hz	0.221	0.5	21.05	--	F1	0.221	Max normal load	
240/60Hz	0.210	0.5	21.05	--	F1	0.210	Max normal load	
264/50Hz	0.203	--	21.19	--	F1	0.203	Max normal load	
264/60Hz	0.195	--	21.21	--	F1	0.195	Max normal load	
Model: QZ-01800EA00 (Output: 12V/1.5A)								
90/50Hz	0.398	--	21.42	--	F1	0.398	Max normal load	
90/60Hz	0.403	--	21.39	--	F1	0.403	Max normal load	
100/50Hz	0.361	0.5	21.23	--	F1	0.361	Max normal load	
100/60Hz	0.368	0.5	21.21	--	F1	0.368	Max normal load	
240/50Hz	0.223	0.5	20.95	--	F1	0.223	Max normal load	
240/60Hz	0.211	0.5	20.94	--	F1	0.211	Max normal load	
264/50Hz	0.205	--	21.03	--	F1	0.205	Max normal load	

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Clause	Requirement + Test	Result - Remark	Verdict

264/60Hz	0.196	--	21.02	--	F1	0.196	Max normal load
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Supplementary information:  
The maximum measured current under rated voltage did not exceed 110% of the rated current.

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C) .....					See below			—
Power source for EUT: Manufacturer, model/type, output rating . :					--			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse (A)	T-couple	Temp. (°C)	Observation
Model: QZ-01800EA00 (Output: 12V/1.5A)								
Output	SC	264	30min	F1	0.019	--	--	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mApk
Output overload	OL	264	3h45min	F1	0.211→ 0.215→ 0.239→ 0.021	Type J	T1 winding: 101.4°C, T1 core: 97.7°C, Plastic enclosure outside near T1: 61.1°C, Plastic enclosure outside near U1: 74.8°C, Ambient: 25.0°C	Output overload to 1.9A, and unit shutdown at 2.0A, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mApk

EN 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Transformer output	OL	264	3h30min	F1	0.211→ 0.235→ 0.257→ 0.022	Type J	T1 winding: 107.4°C, T1 core: 103.5°C, Plastic enclosure outside near T1: 64.0°C, Plastic enclosure outside near U1: 78.5°C, Ambient: 25.0°C	Output normal load. Transformer overload to 0.5A, and unit shutdown at 0.53A, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mApk
Model: QZ-01800EA00 (Output: 9V/2.0A)								
Output	SC	264	30min	F1	0.019	--	--	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mApk
Output overload	OL	264	3h40min	F1	0.203→ 0.228→ 0.254→ 0.023	Type J	T1 winding: 92.5°C, T1 core: 89.2°C, Plastic enclosure outside near T1: 55.2°C, Plastic enclosure outside near U1: 65.3°C, Ambient: 25.0°C	Output overload to 2.57A, and unit shutdown at 2.60A, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mApk



EN 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Transformer output	OL	264	3h50min	F1	0.203→ 0.246→ 0.271→ 0.022	Type J	T1 winding: 98.7°C, T1 core: 95.2°C, Plastic enclosure outside near T1: 58.2°C, Plastic enclosure outside near U1: 69.8°C, Ambient: 25.0°C	Output normal load. Transformer overload to 0.60A, and unit shutdown at 0.63A, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mApk
Model: QZ-01800EA00 (Output: 5V/3.0A)								
Output	SC	264	30min	F1	0.019	--	--	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mApk
Output overload	OL	264	3h15min	F1	0.175→ 0.194→ 0.210→ 0.024	Type J	T1 winding: 109.1°C, T1 core: 106.0°C, Plastic enclosure outside near T1: 63.9°C, Plastic enclosure outside near U1: 79.6°C, Ambient: 25.0°C	Output overload to 3.70A, and unit shutdown at 3.80A, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mApk

EN 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Transformer output	OL	264	3h35min	F1	0.175→ 0.225→ 0.257→ 0.022	Type J	T1 winding: 118.9°C, T1 core: 114.9°C, Plastic enclosure outside near T1: 68.2°C, Plastic enclosure outside near U1: 84.7°C, Ambient: 25.0°C	Output normal load. Transformer overload to 0.83A, and unit shutdown at 0.84A, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mApk
Supplementary information:								
<p>SC: Short-circuited; OL: Overloaded.</p> <p>Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column "Abnormal/Fault." Specify if test condition by indicating "Abnormal" then the condition for a Clause B.3 test or "Single Fault" then the condition for Clause B.4.</p> <p>During and after abnormal operating condition test, the output voltage did not increase by more than 10% of its rated output voltage under normal operating condition (For other outlet or connector at ES1)</p> <p>1) The overloaded condition is applied according to annex G.5.3.3.</p> <p>Winding Limit for T1: 175-10=165°C, Enclosure outside: TS2=87°C.</p>								

B.4 TABLE: Fault condition tests								P
Ambient temperature (°C) .....					25°C, if not specified			—
Power source for EUT: Manufacturer, model/type, output rating ...:					--			—
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse (A)	T-couple	Temp. (°C)	Observation
Model: QZ-01800EA00 (Output: 12V/1.5A)								
BD1 - to +	SC	264	1s	F1	--	--	--	Fuse F1 opened immediately, no hazard. Output voltage: 0V Touch current: 0.316mApk

EN 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
EC1	SC	264	1s	F1	--	--	--	Fuse F1 opened immediately, no hazard. Output voltage: 0V Touch current: 0.316mA <sub>p</sub>
U1 pin 8-3	SC	264	1s	F1	--	--	--	Fuse F1 opened immediately, no hazard. Output voltage: 0V Touch current: 0.316mA <sub>p</sub>
U1 pin 8-2	SC	264	1s	F1	--	--	--	Fuse F1 opened immediately, no hazard. Output voltage: 0V Touch current: 0.316mA <sub>p</sub>
R14	SC	264	30min	F1	0.019	--	--	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mA <sub>p</sub>
T1 Pin 2-3	SC	264	30min	F1	0.020	--	--	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mA <sub>p</sub>
T1 Pin 6-7	SC	264	30min	F1	0.018	--	--	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mA <sub>p</sub>

EN 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
T1 Pin 4-5	SC	264	30min	F1	0.019	--	--	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mA <sub>p</sub> k
U3 pin 1-2	SC	264	30min	F1	0.018	--	--	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mA <sub>p</sub> k
U3 pin 3-4	SC	264	30min	F1	0.018	--	--	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mA <sub>p</sub> k
U3 pin 1	OC	264	30min	F1	0.020	--	--	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mA <sub>p</sub> k
U3 pin 3	OC	264	30min	F1	0.020	--	--	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mA <sub>p</sub> k
U2 pin 4-5	SC	264	30min	F1	0.018	--	--	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mA <sub>p</sub> k

EN 62368-1									
Clause	Requirement + Test				Result - Remark				Verdict
U5 pin 1-5	SC	264	30min	F1	0.019	--	--	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mA <sub>p</sub>	
EC5	SC	264	30min	F1	0.018	--	--	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V Touch current: 0.218mA <sub>p</sub>	
Supplementary information:									
SC: Short-circuited, OC=Open-circuited. All source of Fuse F1 listed on table 4.1.2 were considered and passed the test. During single fault operating condition test, the output voltage did not increase by more than 10% of its rated output voltage under normal operating condition (For other outlet or connector at ES1).									

Annex M.3	TABLE: Batteries								N/A
The tests of Annex M are applicable only when appropriate battery data is not available									
Is it possible to install the battery in a reverse polarity position? .....									
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	--	--	--	--	--	--	--	--	--
Max. current during fault condition	--	--	--	--	--	--	--	--	--
Test results:									
- Chemical leaks									Verdict
- Explosion of the battery									
- Emission of flame or expulsion of molten metal									

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
- Electric strength tests of equipment after completion of tests			
Supplementary information:			

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

Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)					P
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U <sub>oc</sub> (V)	I <sub>sc</sub> (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
Model: QZ-01800EA00 (Output: 5V/3.0A)						
Output	Normal condition	5.23	3.87	8.0	16.91	100
Output	*Single fault –U3 pin 1-2 SC	0	0	8.0	0	100
Output	*Single fault –U3 pin 3-4 SC	0	0	8.0	0	100
Output	*Single fault –U3 pin 1 OC	0	0	8.0	0	100

EN 62368-1						
Clause	Requirement + Test	Result - Remark				Verdict
Output	*Single fault –U3 pin 3 OC	0	0	8.0	0	100
Output	*Single fault –R14 SC	0	0	8.0	0	100
Output	*Single fault –U1 pin 8-3 SC	0	0	8.0	0	100
Model: QZ-01800EA00 (Output: 7V/2.0A)						
Output	Normal condition	7.12	2.81	8	18.71	100
Output	*Single fault –U3 pin 1-2 SC	0	0	8.0	0	100
Output	*Single fault –U3 pin 3-4 SC	0	0	8.0	0	100
Output	*Single fault –U3 pin 1 OC	0	0	8.0	0	100
Output	*Single fault –U3 pin 3 OC	0	0	8.0	0	100
Output	*Single fault –R14 SC	0	0	8.0	0	100
Output	*Single fault –U1 pin 8-3 SC	0	0	8.0	0	100
Model: QZ-01800EA00 (Output: 9V/2.0A)						
Output	Normal condition	9.12	2.70	8	23.13	100
Output	*Single fault –U3 pin 1-2 SC	0	0	8.0	0	100
Output	*Single fault –U3 pin 3-4 SC	0	0	8.0	0	100
Output	*Single fault –U3 pin 1 OC	0	0	8.0	0	100
Output	*Single fault –U3 pin 3 OC	0	0	8.0	0	100
Output	*Single fault –R14 SC	0	0	8.0	0	100
Output	*Single fault –U1 pin 8-3 SC	0	0	8.0	0	100
Model: QZ-01800EA00 (Output: 12V/1.5A)						
Output	Normal condition	12.08	2.05	8	23.92	100
Output	*Single fault –U3 pin 1-2 SC	0	0	8.0	0	100
Output	*Single fault –U3 pin 3-4 SC	0	0	8.0	0	100

EN 62368-1						
Clause	Requirement + Test	Result - Remark				Verdict
Output	*Single fault –U3 pin 1 OC	0	0	8.0	0	100
Output	*Single fault –U3 pin 3 OC	0	0	8.0	0	100
Output	*Single fault –R14 SC	0	0	8.0	0	100
Output	*Single fault –U1 pin 8-3 SC	0	0	8.0	0	100
Supplementary Information:						
SC=Short circuit, OC=Open circuit						
*: Test result refer to fault condition on table B.4						

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Enclosure top, (T.4)	Plastics*	See table 4.1.2	100	5	Enclosure <b>remained</b> intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Enclosure side (T.4)	Plastics*	See table 4.1.2	100	5	Enclosure <b>remained</b> intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Enclosure bottom (T.4)	Plastics*	See table 4.1.2	100	5	Enclosure <b>remained</b> intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Internal components (T.2)	--	--	10	5	No <b>insulation</b> breakdown. No reduction the clearances and creepage distances	
Supplementary information:						
1). *Test were performed on enclosure with each source listed in table 4.1.2.						

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



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

Supplementary information:
1). *See appended table 4.1.2.

T.7	TABLE: Drop tests				P
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
Enclosure top (T.7)	Plastics*	See table 4.1.2	1000	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Enclosure side (T.7)	Plastics*	See table 4.1.2	1000	Enclosure remained intact. Internal ES3 voltage was not accessible after test. No insulation breakdown.	
Enclosure bottom (T.7)	Plastics*	See table 4.1.2	1000	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	

Supplementary information:
1). * Test were performed on enclosure with each source listed in table 4.1.2.

T.8	TABLE: Stress relief test					P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
Enclosure (T.8)	Plastics	See table 4.1.2	86°C	7	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	

Supplementary information:
1). *Test were performed on enclosure with each source listed in table 4.1.2.

## Attachment 1\_Measurement Section

Clause	Requirement + Test	Result - Remark	Verdict
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**Appendix 1:**

Appended table	Table: working voltage measurement			P
Location	RMS voltage (V)	Peak voltage (V)	Comments	
Model: QZ-01800EA00 (Output: 12V/1.5A)				
Transformer T1 pin 3-4	216	380	--	
Transformer T1 pin 2-4	220	368	--	
Transformer T1 pin 7-4	256	512	--	
Transformer T1 pin 6-4	210	368	--	
Transformer T1 pin 3-5	221	424	--	
Transformer T1 pin 2-5	214	348	--	
Transformer T1 pin 7-5	<b>266</b>	<b>520</b>	Max. RMS and Max. PEAK Max. frequency: 62.32k	
Transformer T1 pin 6-5	209	340	--	
Opto-coupler U3 pin 1-3	228	350		
Opto-coupler U3 pin 1-4	221	364		
Opto-coupler U3 pin 2-3	220	356		
Opto-coupler U3 pin 2-4	226	360		
CY1 primary to secondary	215	252	--	
supplementary information:				
Test voltage: 240 V Test frequency: 60 Hz				

Attachment 1\_Measurement Section

Clause	Requirement + Test	Result - Remark	Verdict
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**Appendix 2:**

G.5.3		TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V	Working voltage rms / V	Required electric strength	Required clearance / mm	Required creepage distance / mm	Required distance thr. insul.	
		(5.4.1.8)	(5.4.1.8)	(5.4.9)	(5.4.2.3)	(5.4.3)	(5.4.4.6)	
Primary winding to secondary winding	RI	520	266	4000 Vdc	3.0	5.4	0.4	
Core to secondary winding	RI	520	266	4000 Vdc	3.0	5.4	0.4	
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers	
Primary winding to secondary winding terminal	RI			4000 Vdc	6.8	6.8	TIW	
Core to secondary winding terminal	RI			4000 Vdc	6.7	6.7	TIW	

Transformer description: Concentric windings on Phenolic bobbin, Outer winding is primary winding, Magnet wire used as primary winding. Insulation tube was used to separate primary windings and secondary triple insulated wires where crossing, core considered as primary part. For more details see photo document.

## Attachment 1\_Measurement Section

Clause	Requirement + Test	Result - Remark	Verdict
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## Appendix 3:

<b>G.5.3</b>	<b>TABLE: transformers</b>		<b>P</b>				
1.Outlook drawing							
2.Schematic and section drawing							
3. Winding specification							
绕组	绕组规格 线径*根数	脚位 进 出	圈数 (Ts)	套管 进 出	档墙(宽/层/圈) 初/顶 次/底	层间绝缘 8mm/Ts	绕线 方式
N1	2UEW $\phi$ 0.25mm*1P	6 1	50.5			2	密绕
N2	2UEW $\phi$ 0.16mm*2P	3 2	16			2	匀绕
N3	TEX-E $\phi$ 0.7mm*1P	4 5	7	18#	18#	2	密绕
N4	2UEW $\phi$ 0.16mm*2P	2 NC	14			2	密绕
N5	2UEW $\phi$ 0.25mm*1P	1 7	23.5			2	密绕

Attachment 2_National differences			
Clause	Requirement + Test	Result - Remark	Verdict

**ATTACHMENT TO TEST REPORT**  
**IEC 62368-1**  
**EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES**  
 (Audio/video, information and communication technology equipment - Part 1: Safety requirements)

**Differences according to** ..... : EN 62368-1:2014+A11:2017  
**Attachment Form No.** ..... : EU\_GD\_IEC62368\_1D\_II  
**Attachment Originator**..... : Nemko AS  
**Master Attachment** ..... : Date 2021-02-04

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	<b>CENELEC COMMON MODIFICATIONS (EN)</b>						P
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed "Z".						P
CONTENTS	<b>Add</b> 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
	<b>Delete</b> all the "country" notes in the reference document (IEC 62368-1:2014) according to the following list:						P
	0.2.1	Note	1	Note 3	4.1.15	Note	
	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	
	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	
	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	
	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	
	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	
	For special national conditions, see Annex ZB.						P

Attachment 2_National differences			
Clause	Requirement + Test	Result - Remark	Verdict
1	<p><b>Add</b> the following note:</p> <p>NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.</p>		P
4.Z1	<p><b>Add</b> 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. <b>mains</b>, 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 <b>pluggable equipment type B</b> or <b>permanently connected equipment</b>, 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 <b>pluggable equipment type A</b> the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		P
5.4.2.3.2.4	<p><b>Add</b> the following to the end of this subclause:</p> <p>The requirement for interconnection with <b>external circuit</b> is in addition given in EN 50491-3:2009.</p>	No such x-radiation generated from the equipment.	N/A
10.2.1	<p>Add the following to <sup>c)</sup> and <sup>d)</sup> in table 39:</p> <p>For additional requirements, see 10.5.1.</p>	Added. The equipment is a low power AC ADAPTER, it does incorporate only non-intentional radiators, but does not contain radio transmitters; the typical usage, installation and physical characteristics make the equipment inherently compliant with all applicable EMF exposure levels (EN 62479:2010 clause 4.1 Route A).	N/A

Attachment 2_National differences			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	<p><b>Add</b> the following after the first paragraph:  <i>For RS 1 compliance is checked by measurement under the following conditions:</i></p> <p><i>In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</i></p> <p>NOTE Z1 Soldered joints and paint lockings are examples of adequate locking.</p> <p><i>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm<sup>2</sup>, at any point 10 cm from the outer surface of the apparatus.</i></p> <p><i>Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.</i></p> <p><i>For RS1, the dose-rate shall not exceed 1 μSv/h taking account of the background level.</i></p> <p>NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.</p>		N/A
10.6.1	<p><b>Add</b> the following paragraph to the end of the subclause:            EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.</p>	No such x-radiation generated from the equipment.	N/A
10.Z1	<p><b>Add</b> the following new subclause after 10.6.5.  <b>10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz</b></p> <p>The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz).</p> <p>For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566</p>	Added. The equipment is a low power AC ADAPTER, it does incorporate only non-intentional radiators, but does not contain radio transmitters; the typical usage, installation and physical characteristics make the equipment inherently compliant with all applicable EMF exposure levels (EN 62479:2010 clause 4.1 Route A).	N/A
G.7.1	<p><b>Add</b> the following note:            NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.</p>		P

Attachment 2_National differences			
Clause	Requirement + Test	Result - Remark	Verdict
Bibliography	<p><b>Add</b> the following standards:</p> <p><b>Add</b> 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
<b>ZB</b>	<b>ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)</b>		P
4.1.15	<p><b>Denmark, Finland, Norway and Sweden</b></p> <p>To the end of the subclause the following is added:</p> <p><b>Class I pluggable equipment type A</b> 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 <b>accessible</b> parts, have a marking stating that the equipment shall be connected to an earthed <b>mains</b> socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In <b>Denmark</b>: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord."</p> <p>In <b>Finland</b>: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In <b>Norway</b>: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In <b>Sweden</b>: "Apparaten skall anslutas till jordat uttag"</p>	Should be evaluated in national approval	N/A
4.7.3	<p><b>United Kingdom</b></p> <p>To the end of the subclause the following is added:</p> <p>The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex</p>		N/A



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

Attachment 2_National differences			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.2.1	<p><b>Norway</b></p> <p>After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).</p>	Should be evaluated in national approval	N/A
5.5.6	<p><b>Finland, Norway and Sweden</b></p> <p>To the end of the subclause the following is added: Resistors used as <b>basic safeguard</b> or bridging <b>basic insulation</b> in <b>class I pluggable equipment type A</b> shall comply with G.10.1 and the test of G.10.2.</p>	No such resistors.	N/A
5.6.1	<p><b>Denmark</b></p> <p><b>Add</b> 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> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.</p>	Class II equipment.	N/A
5.6.4.2.1	<p><b>Ireland and United Kingdom</b></p> <p>After the indent for <b>pluggable equipment type A</b>, the following is added: – the <b>protective current rating</b> is taken to be 13 A, this being the largest rating of fuse used in the <b>mains</b> plug.</p>		N/A
5.6.5.1	<p>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<sup>2</sup> to 1,5 mm<sup>2</sup> in cross-sectional area.</p>		N/A
5.7.5	<p><b>Denmark</b></p> <p>To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the <b>protective conductor current</b> exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>	No high protective conductor current.	N/A

Attachment 2_National differences			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.1	<p><b>Norway and Sweden</b></p> <p>To the end of the subclause the following is added:</p> <p>The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>“Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)”</p> <p>NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkøp utstyr – og er tilkøp et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkøp av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.”</p> <p>Translation to Swedish:</p> <p>“Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.</p>	Not such system.	N/A

Attachment 2_National differences			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.2	<p><b>Denmark</b></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>	No external circuits.	N/A
B.3.1 and B.4	<p><b>Ireland and United Kingdom</b></p> <p>The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of <b>direct plug-in equipment</b>, 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 <b>direct plug-in equipment</b>, until the requirements of Annexes B.3.1 and B.4 are met</p>		N/A
G.4.2	<p><b>Denmark</b></p> <p>To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a <i>Justification:</i> Heavy Current Regulations, Section 6c</p>	Should be evaluated in national approval	N/A

Attachment 2_National differences			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	<p><b>United Kingdom</b></p> <p>To the end of the subclause the following is added:            The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.</p>		N/A
G.7.1	<p><b>United Kingdom</b></p> <p>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.</p> <p>NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		N/A
G.7.1	<p><b>Ireland</b></p> <p>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</p>		N/A
G.7.2	<p><b>Ireland and United Kingdom</b></p> <p>To the first paragraph the following is added:            A power supply cord with a conductor of 1,25 mm<sup>2</sup> is allowed for equipment which is rated over 10 A and up to and including 13 A.</p>		N/A

Attachment 2_National differences			
Clause	Requirement + Test	Result - Remark	Verdict
<b>ZC</b>	<b>ANNEX ZC, NATIONAL DEVIATIONS (EN)</b>		N/A
10.5.2	<p><b>Germany</b></p> <p>The following requirement applies:            For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking.</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><b>NOTE</b> Contact address:            Physikalisch-Technische Bundesanstalt, Bundesallee 100,            D-38116 Braunschweig,            Tel.: Int +49-531-592-6320,            Internet: <a href="http://www.ptb.de">http://www.ptb.de</a></p>	No CRT within the equipment.	N/A

Attachment 2_National differences			
Clause	Requirement + Test	Result - Remark	Verdict

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

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



Attachment 2_National differences			
Clause	Requirement + Test	Result - Remark	Verdict

**ATTACHMENT TO TEST REPORT**  
**IEC 62368-1**  
**ITALY NATIONAL DIFFERENCES**  
 (Audio/video, information and communication technology equipment – Part 1: Safety requirements)

**Differences according to** ..... : CEI EN 62368-1:2016

**Attachment Form No.** ..... : IT\_ND\_IEC62368\_1D

**Attachment Originator** ..... : IMQ S.p.A.

**Master Attachment**..... : Date 2021-02-04

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	National Differences		N/A
F.1	<p><b>Italy</b></p> <p>The following requirements shall be fulfilled:</p> <ul style="list-style-type: none"> <li>• The power consumption in Watts (W) shall be indicated on TV receivers and in their instruction for use (Measurement according to EN 60555-2).  <i>Note: EN 60555-2 has since been replaced by IEC 60107-1:1997.</i></li> <li>• TV receivers shall be provided with an instruction for use, schematic diagrams and adjustments procedure in Italian language.</li> <li>• Marking for controls and terminals shall be in Italian language. Abbreviation and international symbols are allowed provided that they are explained in the instruction for use.</li> <li>• The ECC manufacturers are bound to issue a conformity declaration according to the above requirements in the instruction manual. The correct statement for conformity to be written in the instruction manual, shall be:  <i>Questo apparecchio è fabbricato nella CEE nel rispetto delle disposizioni del D.M. marzo 1992 ed è in particolare conforme alle prescrizioni dell'art. 1 dello stesso D.M.</i></li> <li>• The first importers of TV receivers manufactured outside EEC are bound to submit the TV receivers for previous conformity certification to the Italian Post Ministry (PP.TT). The TV receivers shall have on the backcover the certification number in the following form:            D.M. 26/03/1992 xxxxx/xxxxx/S or T or pT            S for stereo            T for Teletext</li> </ul>		N/A

Attachment 2_National differences			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>pT for retrofitable teletext</p> <p><i>Justification:</i> Ministerial Decree of 26 March 1992 : National rules for television receivers trade.</p> <p><i>NOTE: Ministerial decree above contains additional, but not safety relevant requirements</i></p>		

-END-

## Attachment 3\_Plug test EN 50075 (Partial)

Clause	Requirement – Test	Result - Remark	Verdict
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**European plug portion test (for EU plug portion QZ018-EU):**

6	<b>Marking</b>		<b>P</b>
	Appliances shall be marked as follows:	Incorporated with adaptor.	<b>P</b>
	Rated current in amperes (A)		<b>P</b>
	Rated Voltage in volts (V)		<b>P</b>
	Symbol for nature of supply (~)		<b>P</b>
	Name, trade mark or identification mark of manufacturer or responsible vendor		<b>P</b>
	Type reference		<b>P</b>

7	<b>Dimensions</b>		<b>P</b>	
	Plug shall comply with Standard Sheet 1		<b>P</b>	
	Between two pins (pin base)	18.0 – 19.2 mm	18.40 mm	<b>P</b>
	Between two pins (pin top)	17.0 – 18.0 mm	17.41 mm	<b>P</b>
	Diameter of pin (metallic part)	4 <sup>±0.06</sup> mm	3.97 mm	<b>P</b>
	Diameter of pin (pin base)	max. 4.0 mm	3.92 mm	<b>P</b>
	Distance from the engagement face of the plug <sup>3)</sup>	max. 4.0 mm	3.77 mm	<b>P</b>
	Diameter of pin (middle part)	max. 3.8 mm	3.67 mm	<b>P</b>
	Pin length	19 <sup>±0.5</sup> mm	18.91 mm	<b>P</b>
	Length of pin except metal part	10 <sup>+1.0</sup> mm	10.48 mm	<b>P</b>
	Shape of pin top		Round shape mm	<b>P</b>
	Length of plug base	35.3 <sup>±0.7</sup> mm	35.13 mm	<b>P</b>
	Width of plug base	13.7 <sup>±0.7</sup> mm	13.73 mm	<b>P</b>
	Diagonal dimension of plug base within a distance of 18mm	26.1 <sup>±0.5</sup> mm 26.1 <sup>±0.5</sup> mm	25.89 mm 25.95 mm	<b>P</b>
	Angle	45°	45 °	<b>P</b>
	Radius	R 5 -0, +1 mm	5.05 mm	<b>P</b>

8	<b>Protection against electric shock</b>		<b>P</b>
8.1	Live parts of the plug not accessible (standard test finger)	Incorporated with adaptor.	<b>P</b>
8.2	No connection between one plug-pin and socket outlet		<b>P</b>
8.3	External parts of insulating material		<b>P</b>

9	<b>Construction</b>		<b>P</b>
9.1	Plugs are not replaceable	Incorporated with adaptor.	<b>P</b>

## Attachment 3\_Plug test EN 50075 (Partial)

Clause	Requirement – Test	Result - Remark	Verdict
9.2	Switches, fuse, lampholder not incorporated		<b>P</b>
9.3	Solid pins	See clause 13	<b>P</b>
	Adequate mechanical strength	All source of material listed in report were considered.	<b>P</b>
9.4	Pins locked against rotation	All source of material listed in report were considered. See clause 13.1 & 13.4	<b>P</b>
	Adequate fixed into the body		<b>P</b>
9.5	Kind of connection		<b>P</b>
9.6	Easily to be withdrawn from socket-outlet	Incorporated with adaptor	<b>P</b>
<b>10</b>	<b>Resistance to humidity</b>		<b>P</b>
	-Humidity treatment for 48 hours	Tested with adaptor.	<b>P</b>
<b>11</b>	<b>Insulation resistance and electric strength</b>		<b>P</b>
11.1	Insulation resistance (500V, min 5M $\Omega$ )	200M $\Omega$	<b>P</b>
11.2	Electric strength (2000V)	(see appended table)	<b>P</b>
<b>13</b>	<b>Mechanical strength</b>		<b>P</b>
13.1	Pressed with 150N for 5 min		<b>P</b>
13.2	Tumbling barrel acc Tumbling barrel test: number of falls..... :	Weight: 54.0g Number of falls: 1000 1000 falls was conducted according to DIN VDE 0620-2-1:2013, item 24.2. Three samples tested. After the test, it was fulfilled the requirements of DIN VDE 0620-101:1992 item 7 figure 2 "gauge for interchangeability" and no damage. All source of material listed in report were considered.	<b>P</b>
	No damages after the test		<b>P</b>
	Requirements of clause 7 and 8.2 still fulfilled		<b>N/A</b>
13.3	Rubbing test of plug-pins: 10000 cycles, 4N		<b>P</b>
	No damage of the pins		<b>P</b>
13.4	Pull test at 70°C with 40N		<b>P</b>
	Pins not more than 1 mm displaced	Displacement: 0.80 mm All source of material listed in report were considered.	<b>P</b>
<b>14</b>	<b>Resistance to heat and to aging</b>		<b>P</b>

## Attachment 3\_Plug test EN 50075 (Partial)

Clause	Requirement – Test	Result - Remark	Verdict
14.1	Sufficient resistant to heat	Incorporated with adaptor.	<b>P</b>
14.1.1	After 1 h in heating cabinet at 100°C no damage shown	Tested with adaptor. All source of material listed in report were considered.	<b>P</b>
14.1.2	After 1 h in heating cabinet at 80°C and a force of 20N through the jaws no damage shown	All source of material listed in report were considered.	<b>P</b>
14.2	Aging test	All source of material listed in report were considered.	<b>P</b>
	-at 70°C for 168h		<b>P</b>
	-at room temperature for 96h		<b>P</b>
	No traces of cloth at a force of 5N		<b>P</b>
	No damage leads to non-compliance		<b>P</b>
<b>15</b>	<b>Current-carrying parts and connections resistance to heat and to aging</b>		<b>P</b>
15.1	Connections withstand the mechanical stresses occurring in normal use	All source of material listed in report were considered.	<b>P</b>
15.2	Contact pressure not through isolating material		<b>P</b>
15.3	Current carrying parts of copper		<b>P</b>
	No electroplated coating when part is subjected to mechanical wear		<b>P</b>
	Other metals having a mechanical strength, an electrical conductivity and a resistance to corrosion		<b>N/A</b>
<b>16</b>	<b>Creepage distances, clearances and distances through insulation</b>		<b>P</b>
	Live parts of different polarity: 3mm	>3.0mm	<b>P</b>
	Through insulation between live parts and accessible surfaces: 1.5mm	>1.5mm	<b>P</b>
<b>17</b>	<b>Resistance of insulation material to abnormal heat and fire</b>		<b>P</b>
	Insulating material not unduly affected by abnormal heat and by fire	(see appended table) All source of material listed in report were considered.	<b>P</b>

## Attachment 3\_Plug test EN 50075 (Partial)

Clause	Requirement – Test	Result - Remark	Verdict
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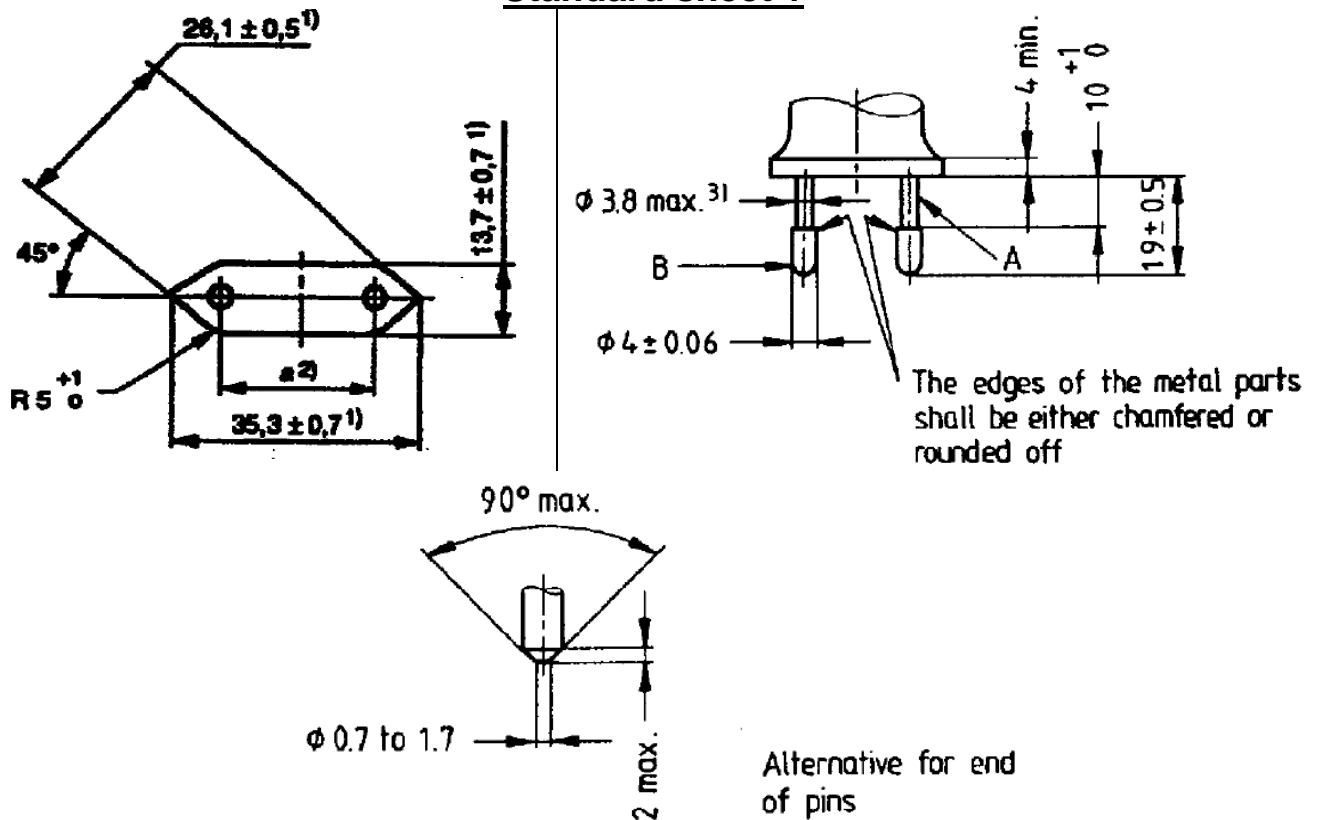
11.1	TABLE: Insulation resistance measurements		P
Measured between:		Result	
Pins connected together and the body ( $\geq 5M\Omega$ )		200M $\Omega$	P
Each pins in turn and the other, the latter being connected to the body ( $\geq 5M\Omega$ )		200M $\Omega$	P
Note: All source of material listed in report were considered.			

11.2	TABLE: electric strength measurements		P
Test voltage applied between:		Test voltage (V)	Break down
Pins connected together and the body		2000VAC	No
Each pins in turn and the other, the latter being connected to the body		2000VAC	No
Note: All source of material listed in report were considered.			

17.3	TABLE: Resistance of insulating material to abnormal heat and to fire		P
Parts that retain current-carrying parts in position: 750°C			P
Other parts: 650°C			P
Note: All source of material listed in report were considered.			

## Attachment 3\_Plug test EN 50075 (Partial)

Clause	Requirement – Test	Result - Remark	Verdict
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**Standard sheet 1**


Dimensions in millimetres

A = insulating collar

B = metal pin

<sup>1)</sup> These dimensions shall not be exceeded within a distance of 18 mm from the engagement face of the plug.

<sup>2)</sup> Dimension *a* is:

18 mm to 19,2 mm in the plane of the engagement face;

17 mm to 18 mm at the ends of the pins.

<sup>3)</sup> This dimension may be increased to 4 mm within a distance of 4 mm from the engagement face of the plug.

Pin ends shall be rounded, or conical as shown in detail sketch.

The sketches are not intended to govern design except as regards the dimensions shown.

Attachment 4\_Photo documentation

Model: QZ-01800EA00, QZ-01801EA00, QZ-01802EA00, QZ-01803EA00

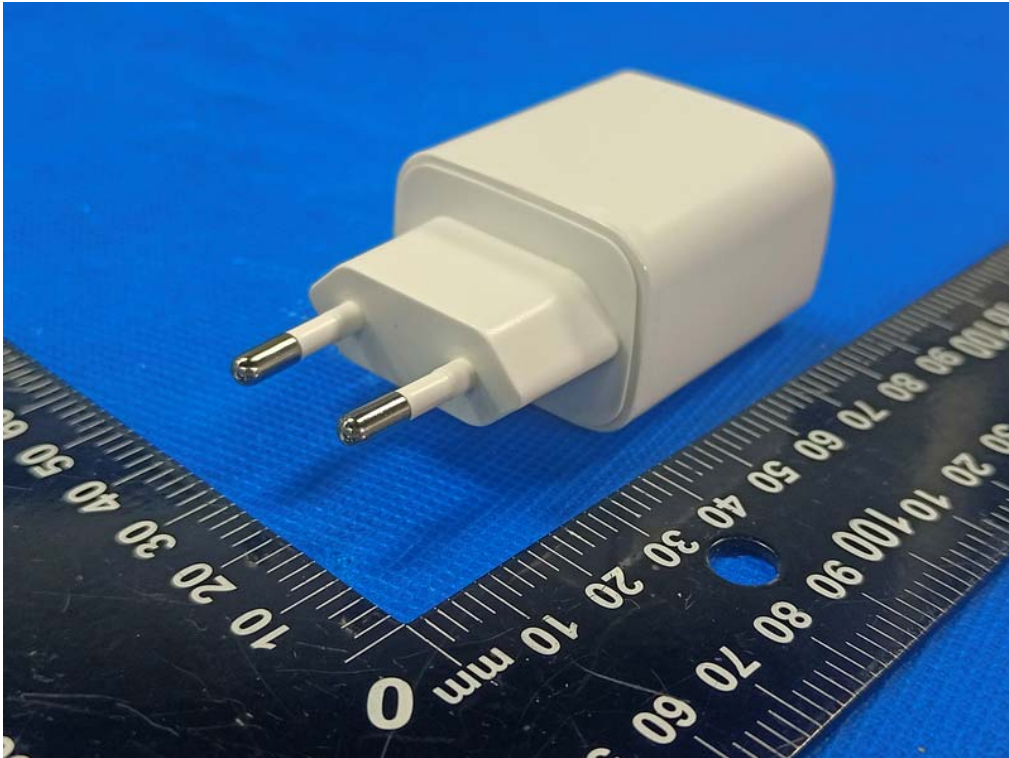


Photo 1 External view

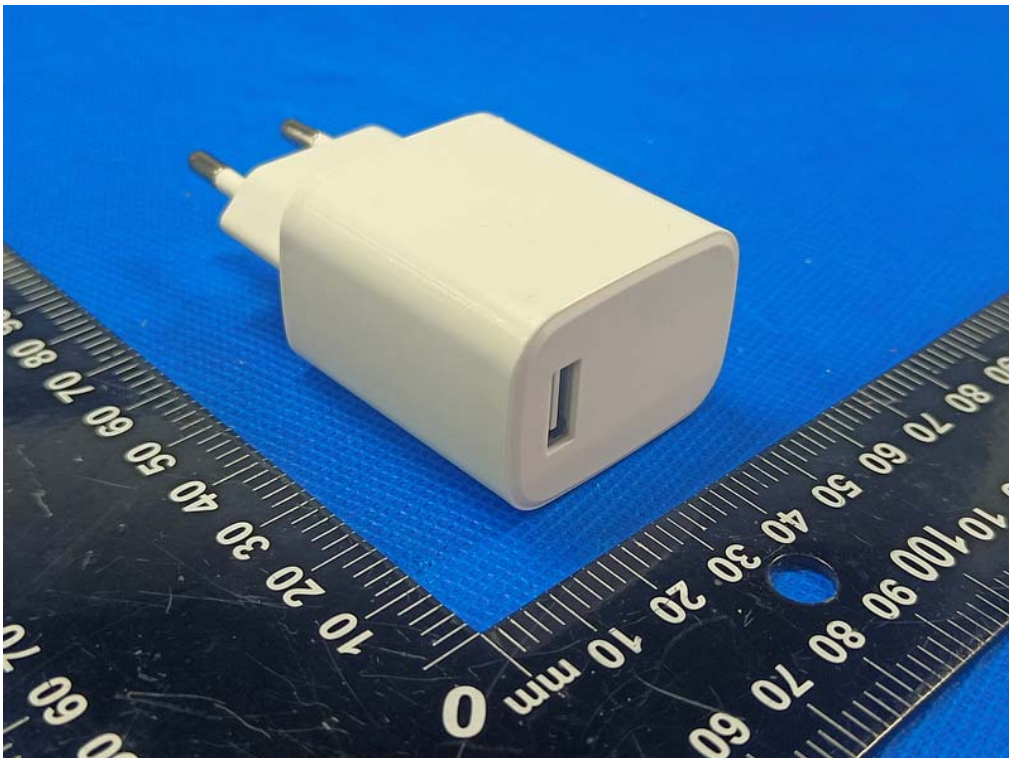


Photo 2 External view



Attachment 4\_Photo documentation

Model: QZ-01800EA00, QZ-01801EA00, QZ-01802EA00, QZ-01803EA00

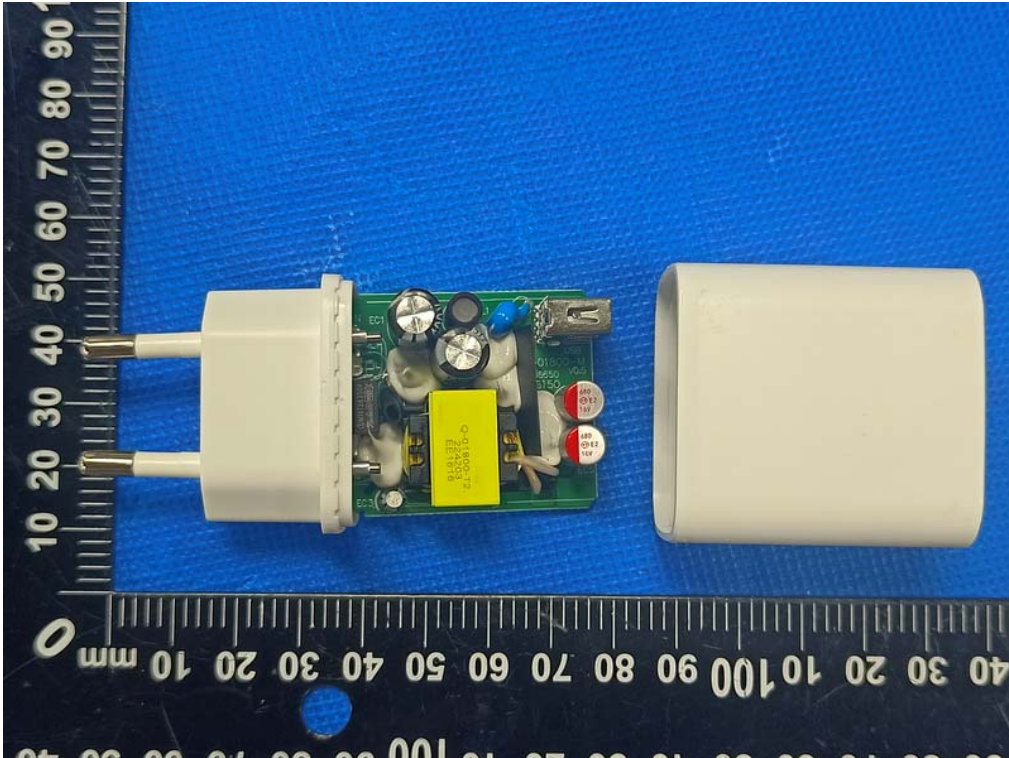


Photo 3 Internal view

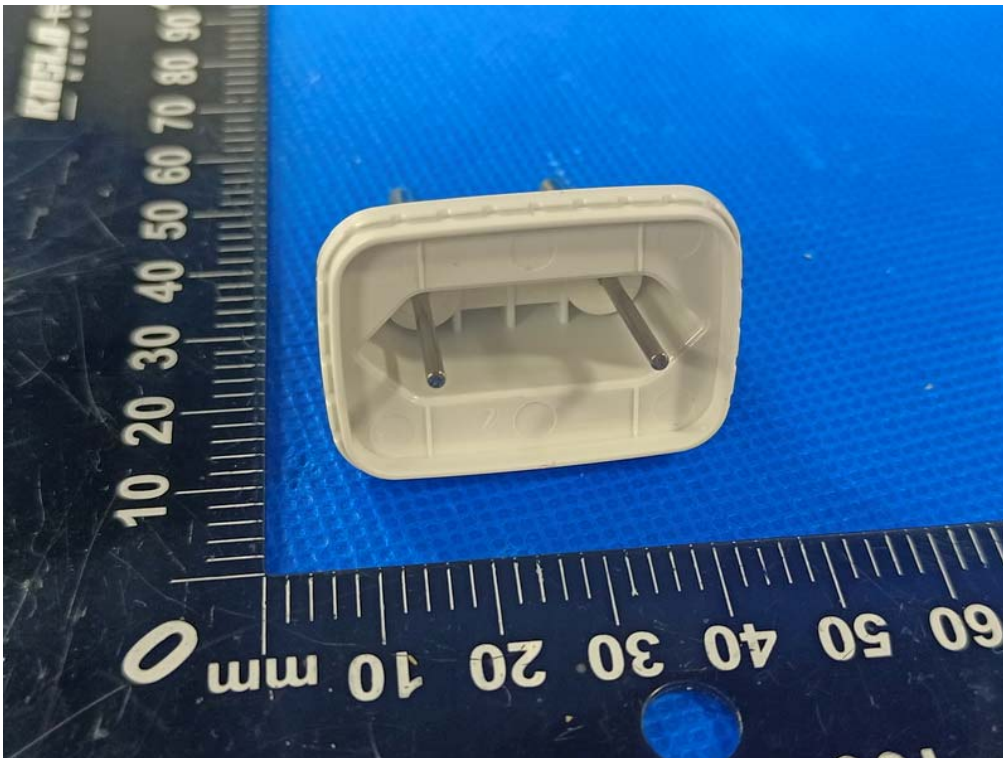


Photo 4 Internal view

Attachment 4\_Photo documentation

Model: QZ-01800EA00, QZ-01801EA00, QZ-01802EA00, QZ-01803EA00

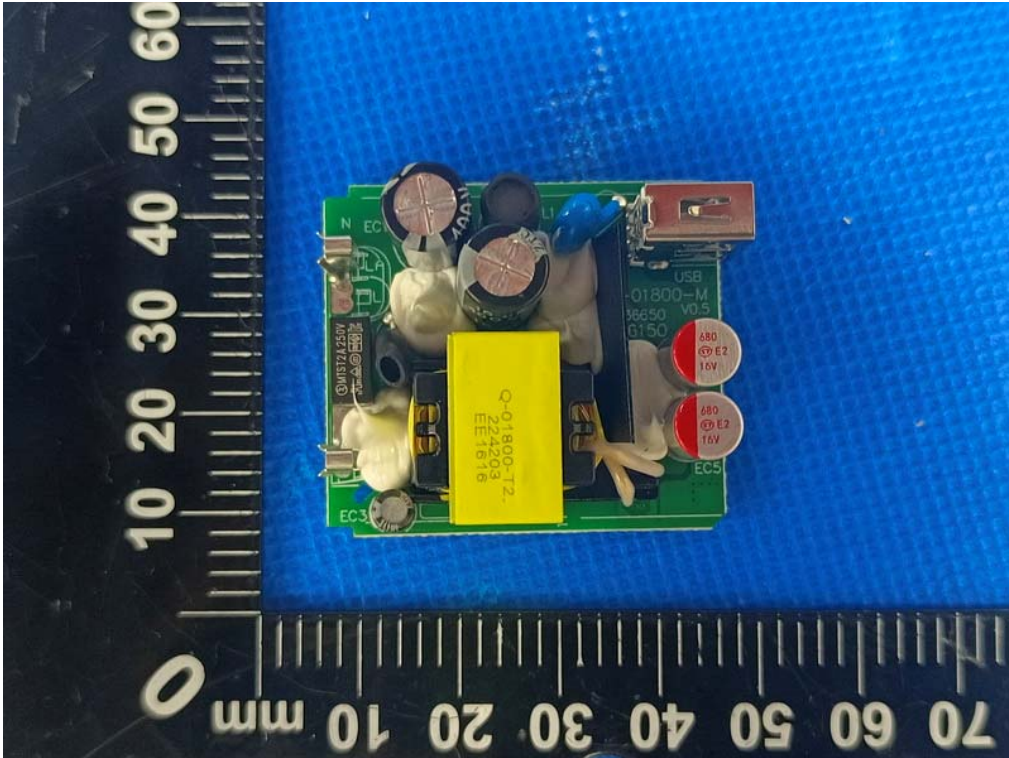


Photo 5 PCB components side view

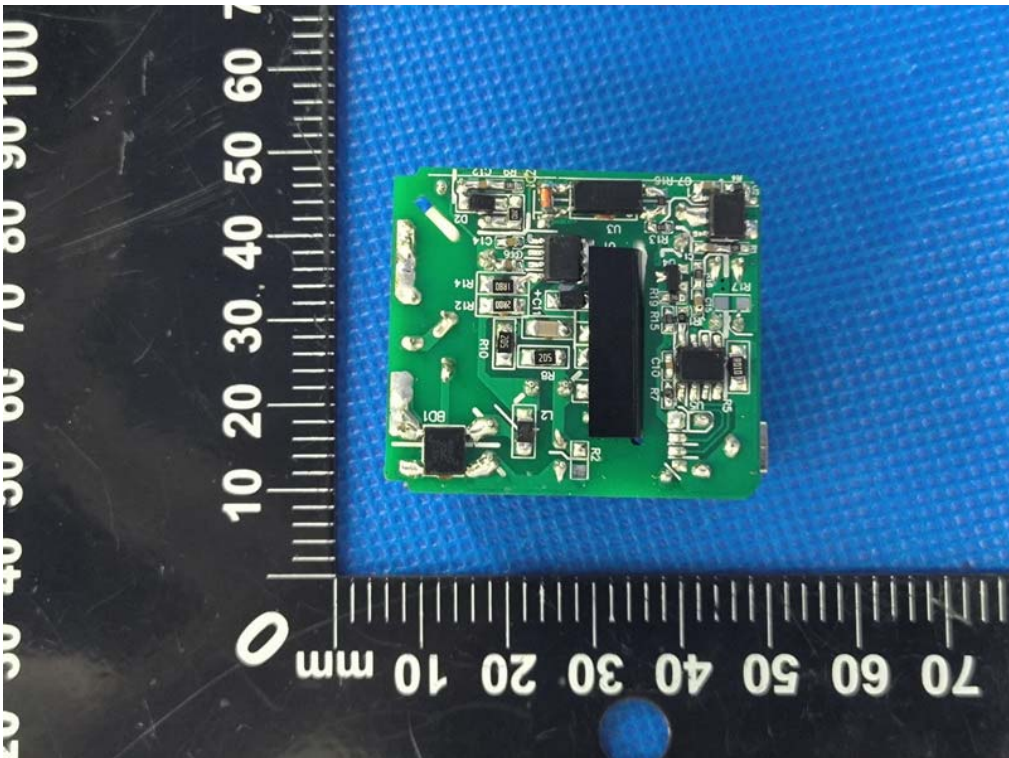


Photo 6 PCB trace side view

Attachment 4\_Photo documentation

Model: QZ-01800EA00, QZ-01801EA00, QZ-01802EA00, QZ-01803EA00

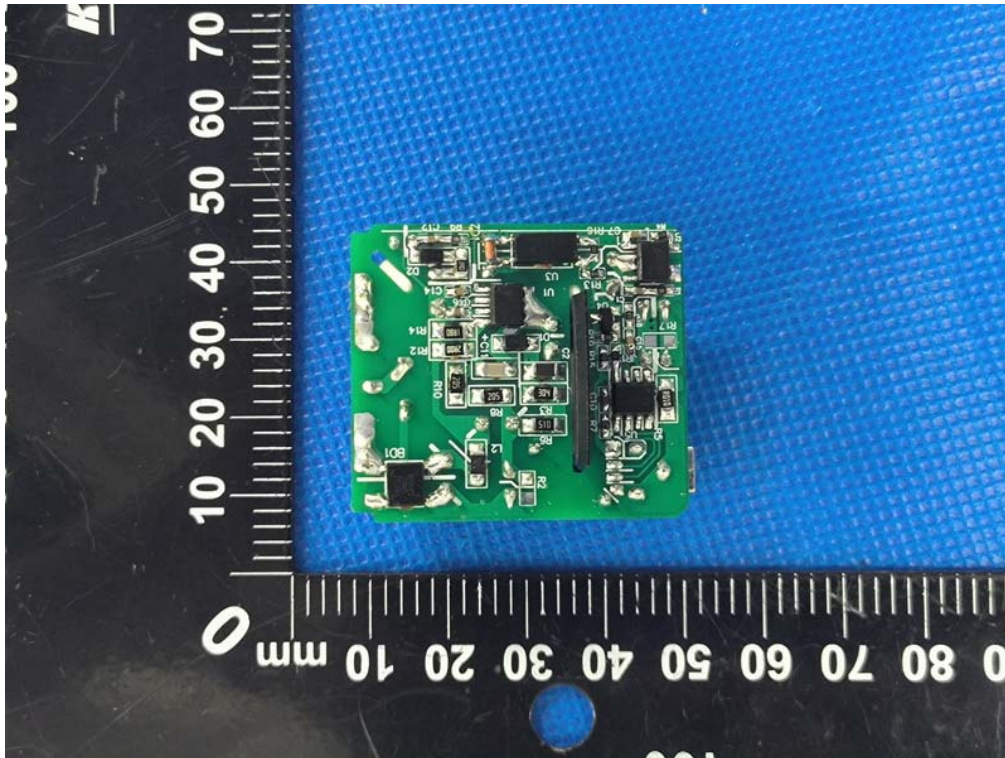


Photo 7 PCB trace side view

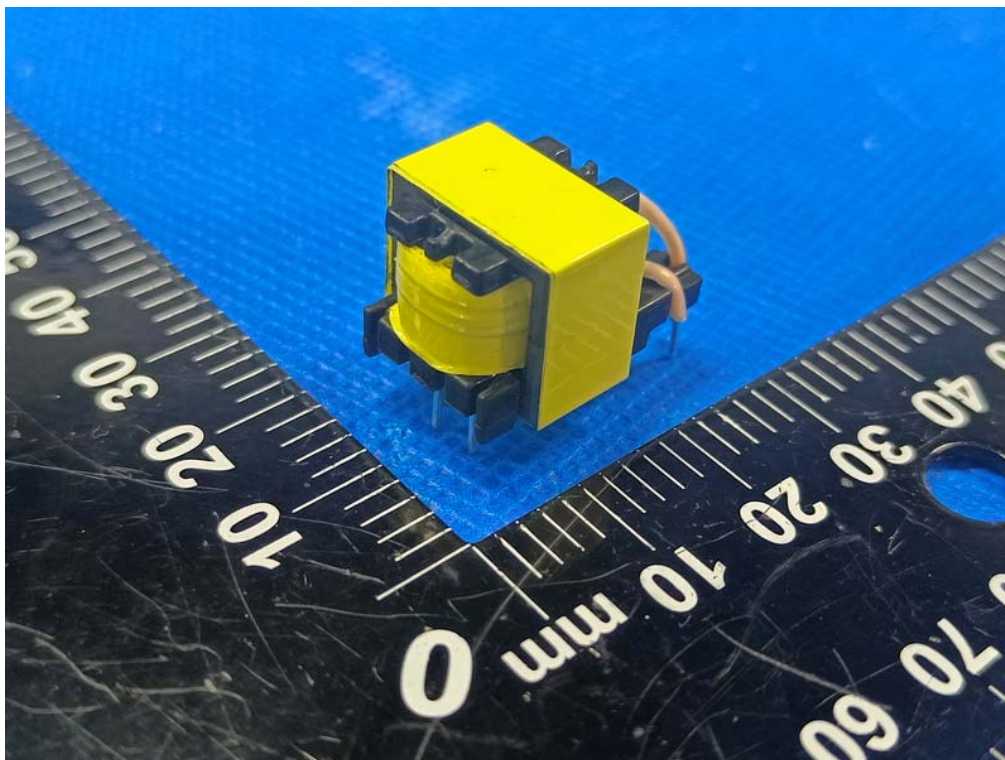


Photo 8 Transformer view

Attachment 4\_Photo documentation

Model: QZ-01800EA00, QZ-01801EA00, QZ-01802EA00, QZ-01803EA00

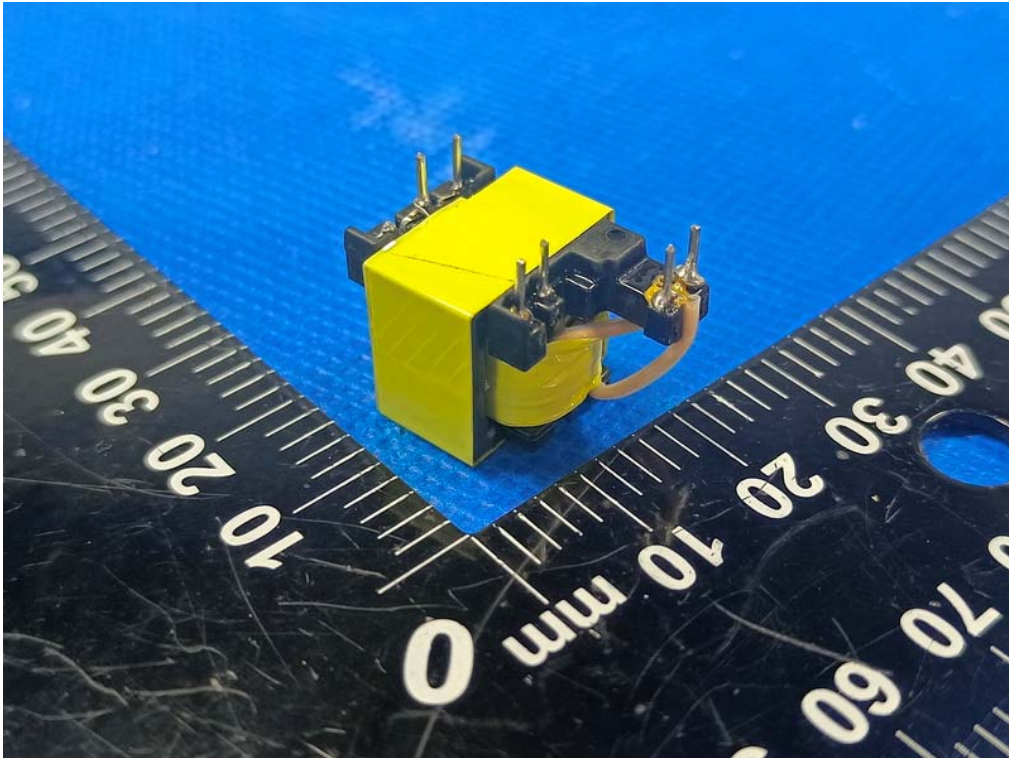


Photo 9 Transformer view

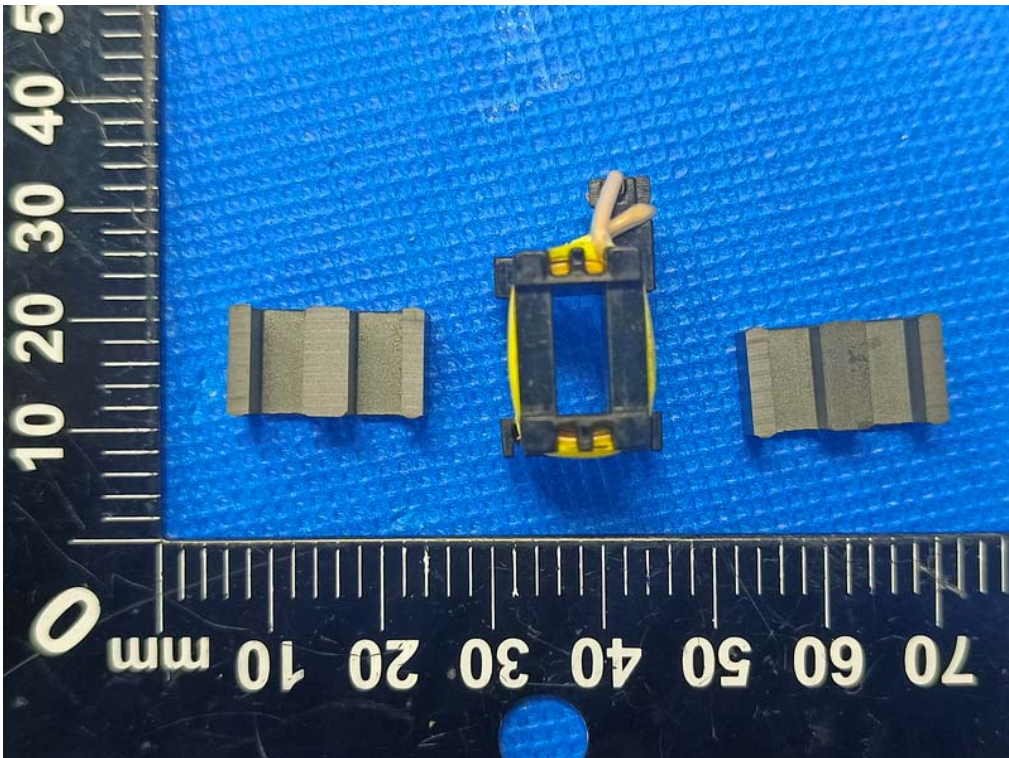


Photo 10 Transformer view

Attachment 4\_Photo documentation

Model: QZ-01800EA00, QZ-01801EA00, QZ-01802EA00, QZ-01803EA00

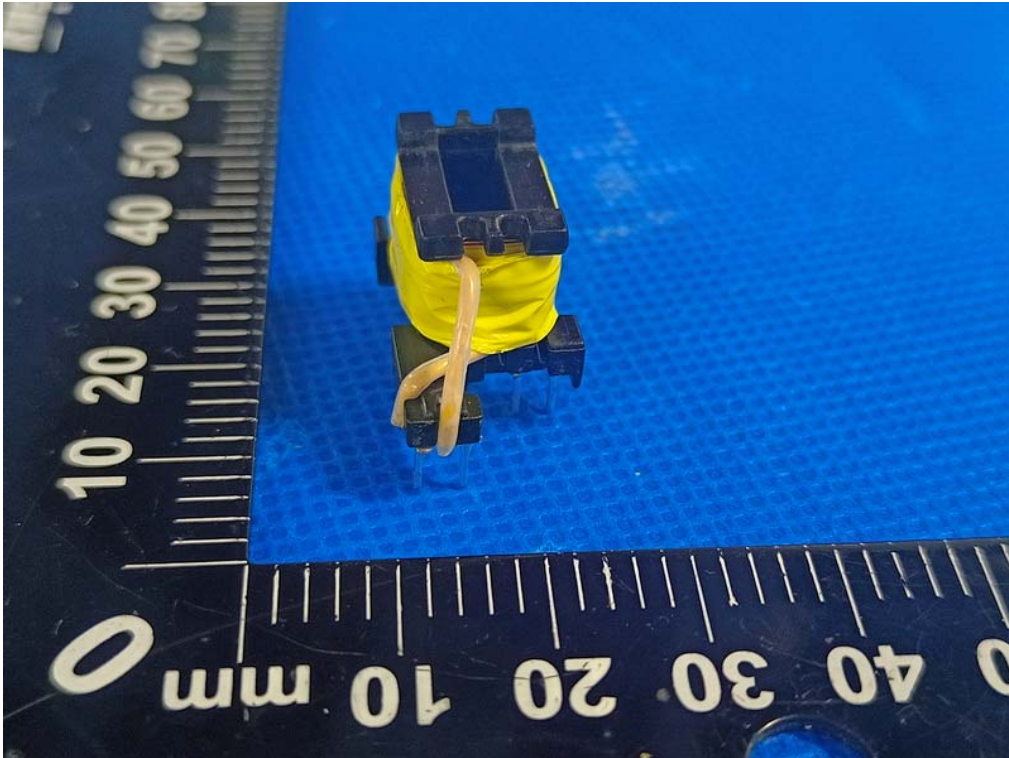


Photo 11 Transformer view

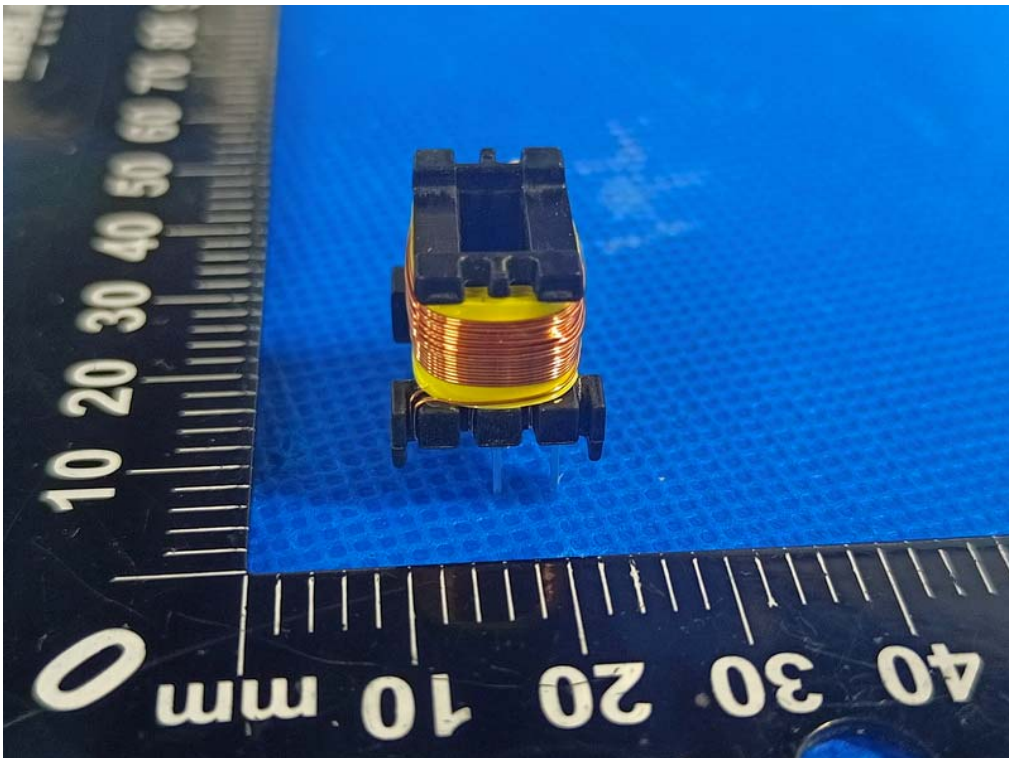


Photo 12 Transformer view

Attachment 4\_Photo documentation

Model: QZ-01800EA00, QZ-01801EA00, QZ-01802EA00, QZ-01803EA00

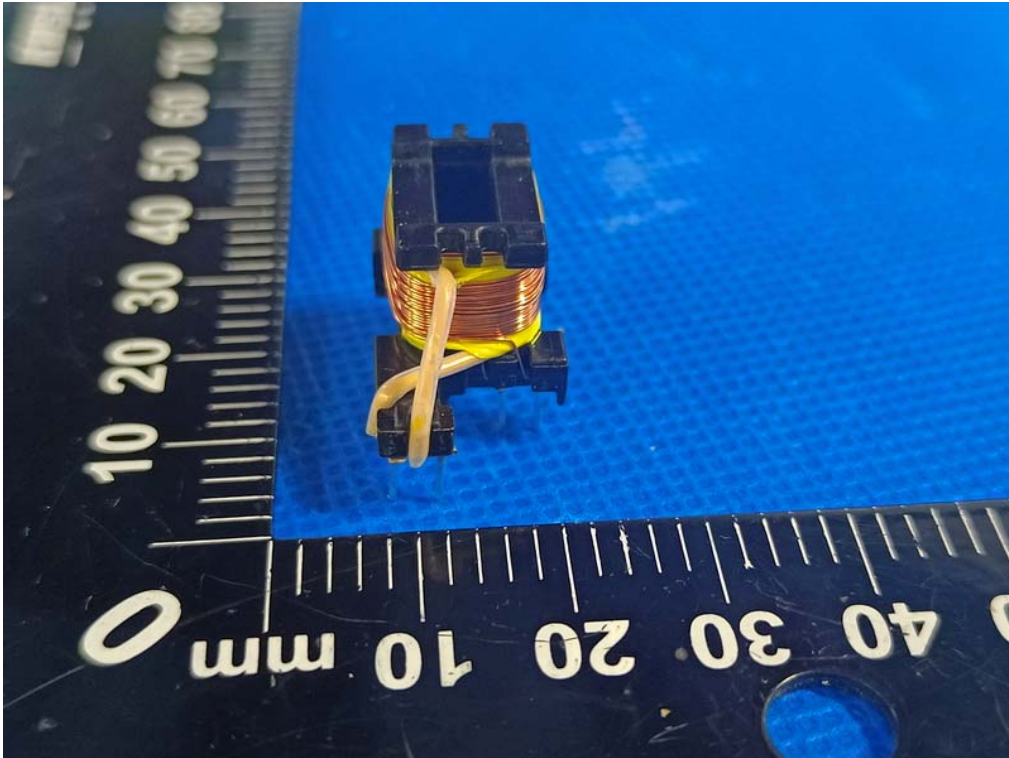


Photo 13 Transformer view

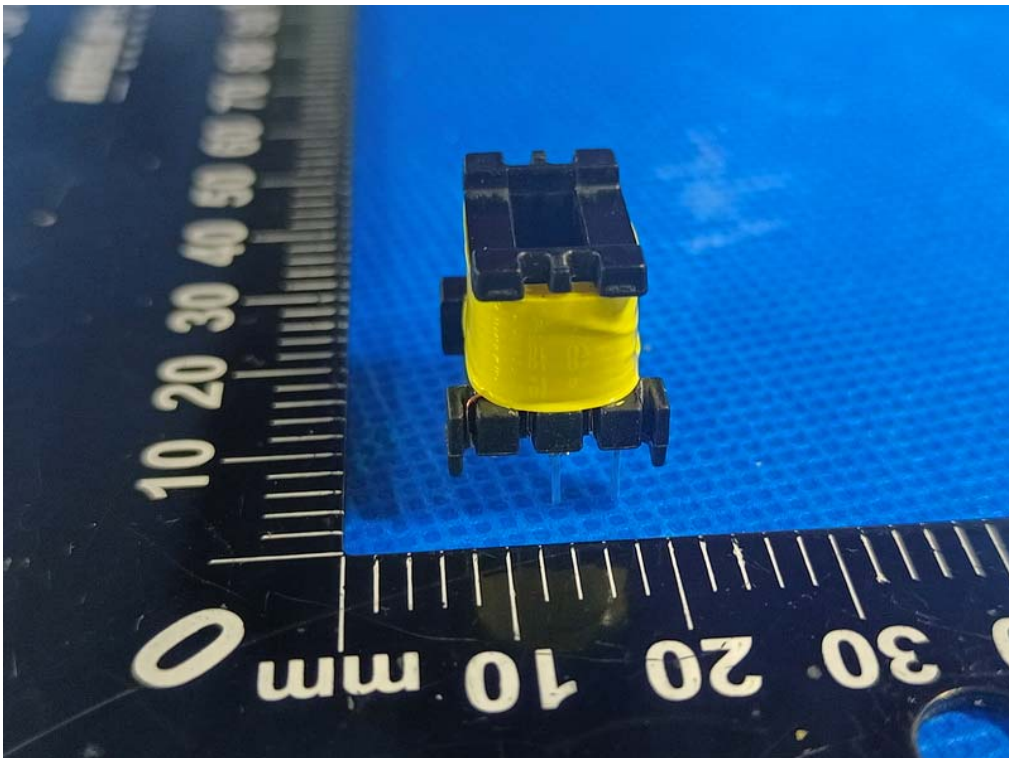


Photo 14 Transformer view

Attachment 4\_Photo documentation

Model: QZ-01800EA00, QZ-01801EA00, QZ-01802EA00, QZ-01803EA00

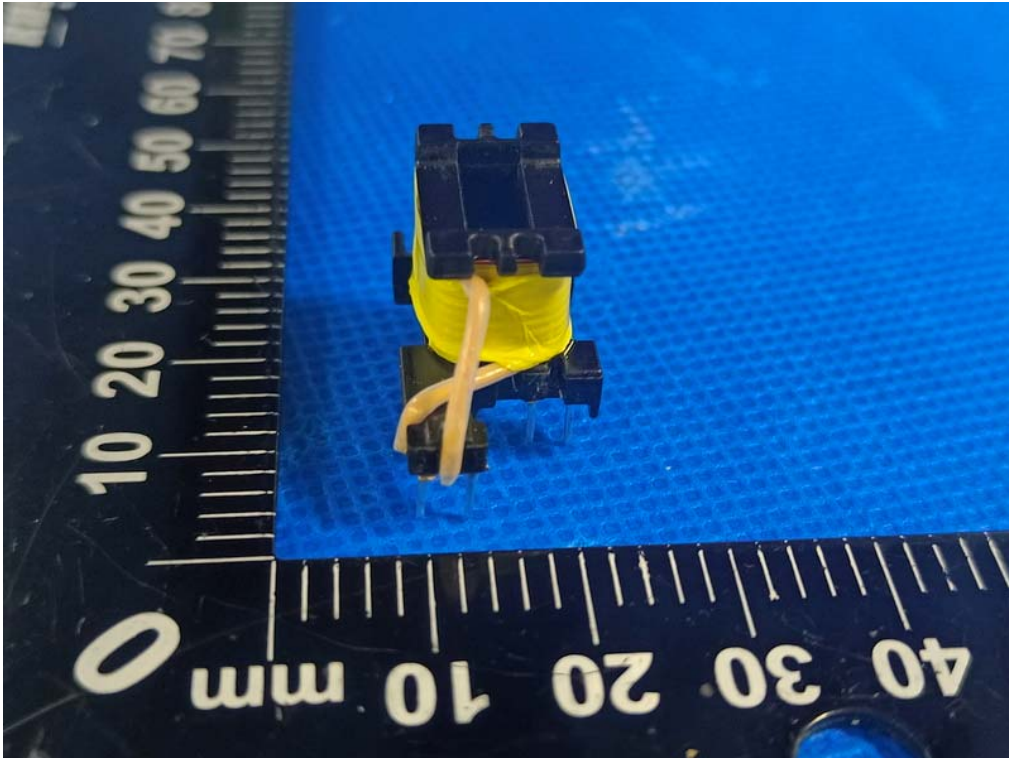


Photo 15 Transformer view

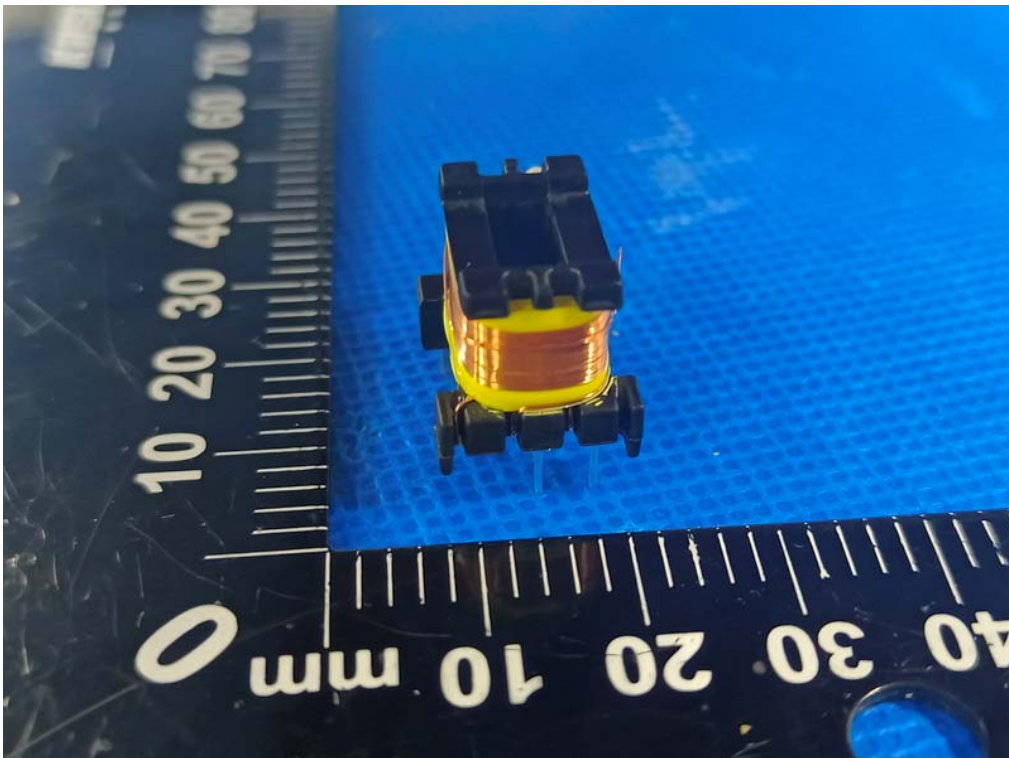


Photo 16 Transformer view

Attachment 4\_Photo documentation

Model: QZ-01800EA00, QZ-01801EA00, QZ-01802EA00, QZ-01803EA00

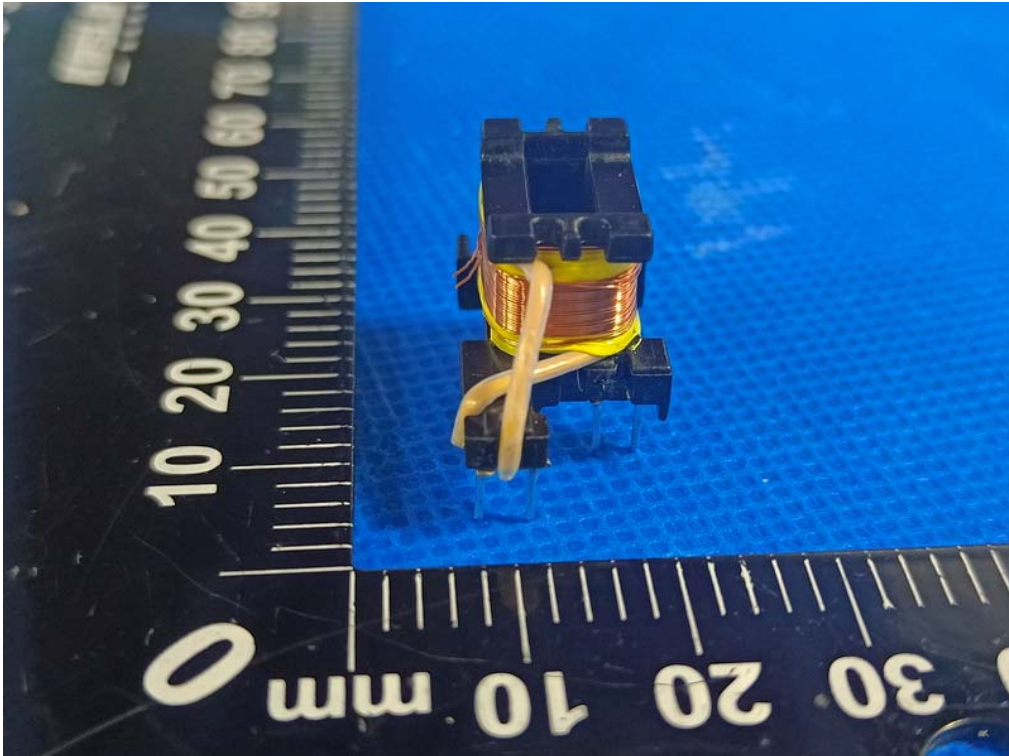


Photo 17 Transformer view

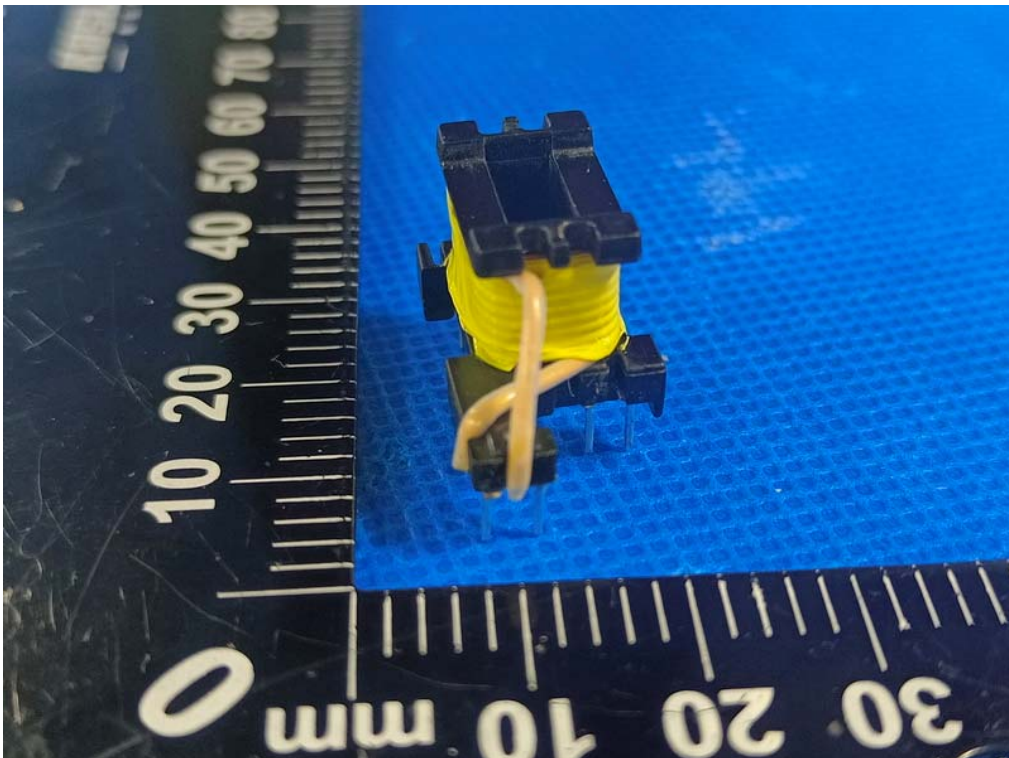


Photo 18 Transformer view



Attachment 4\_Photo documentation

Model: QZ-01800EA00, QZ-01801EA00, QZ-01802EA00, QZ-01803EA00

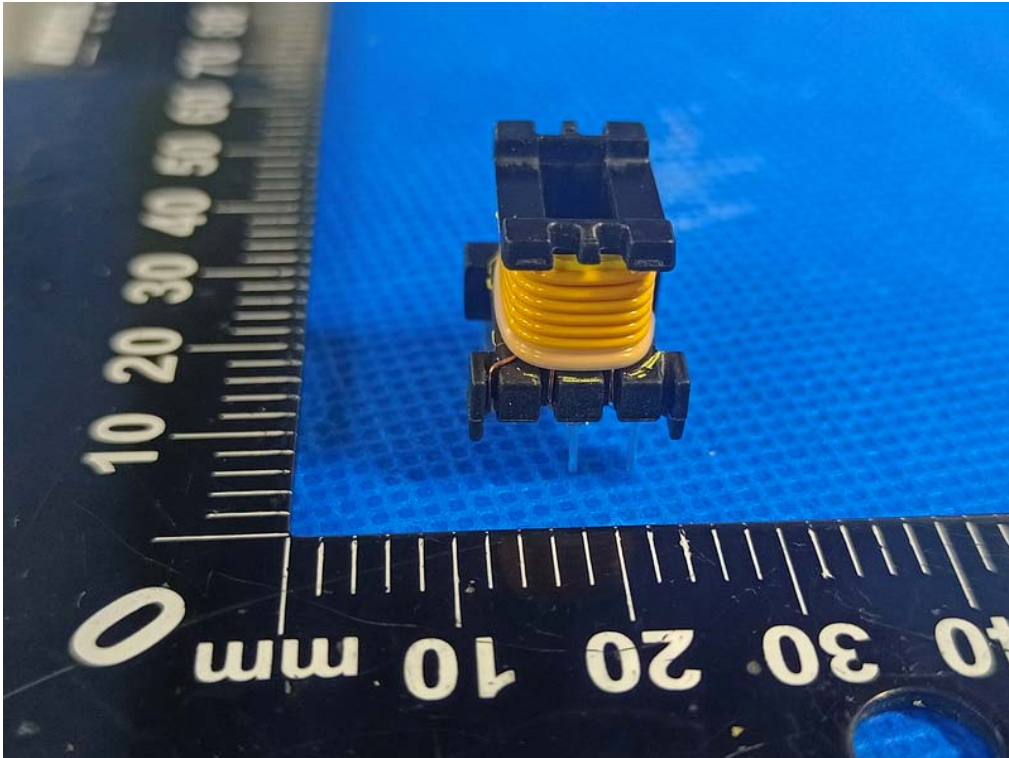


Photo 19 Transformer view

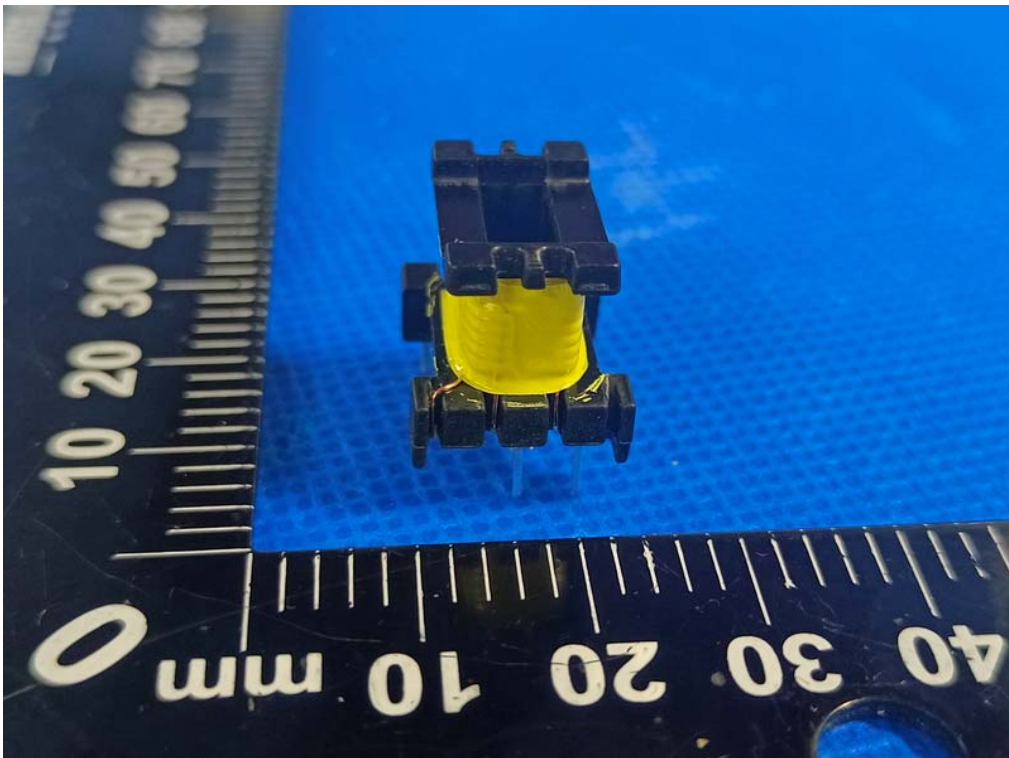


Photo 20 Transformer view

Attachment 4\_Photo documentation

Model: QZ-01800EA00, QZ-01801EA00, QZ-01802EA00, QZ-01803EA00

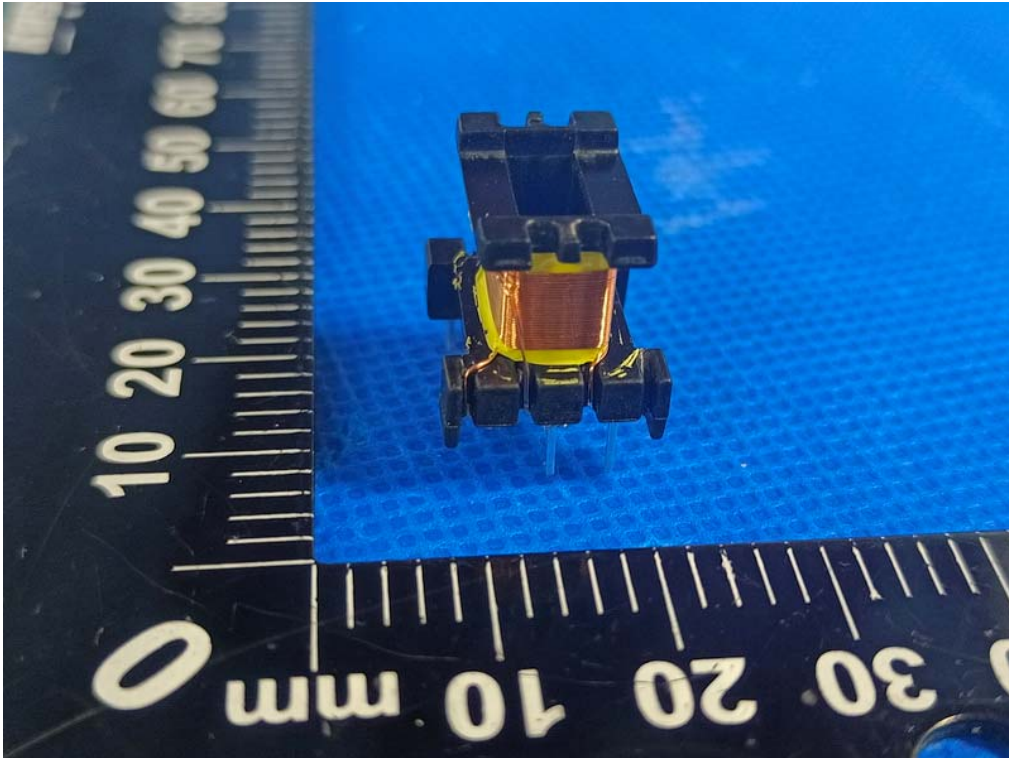


Photo 21 Transformer view

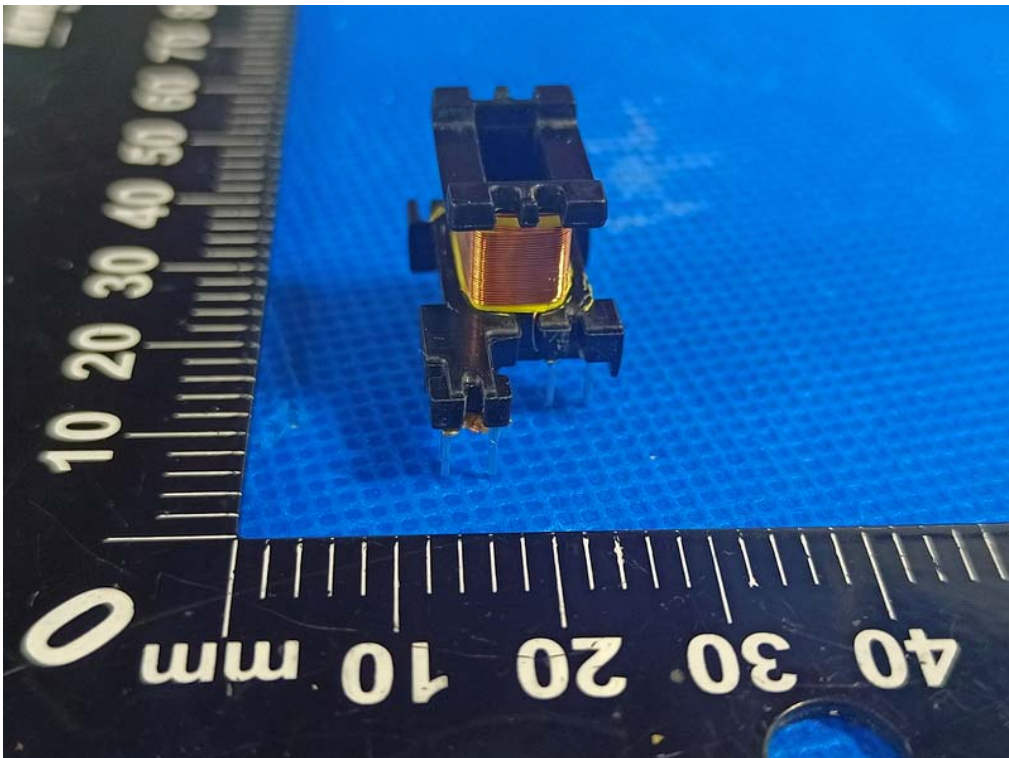


Photo 22 Transformer view

Attachment 4\_Photo documentation

Model: QZ-01800EA00, QZ-01801EA00, QZ-01802EA00, QZ-01803EA00

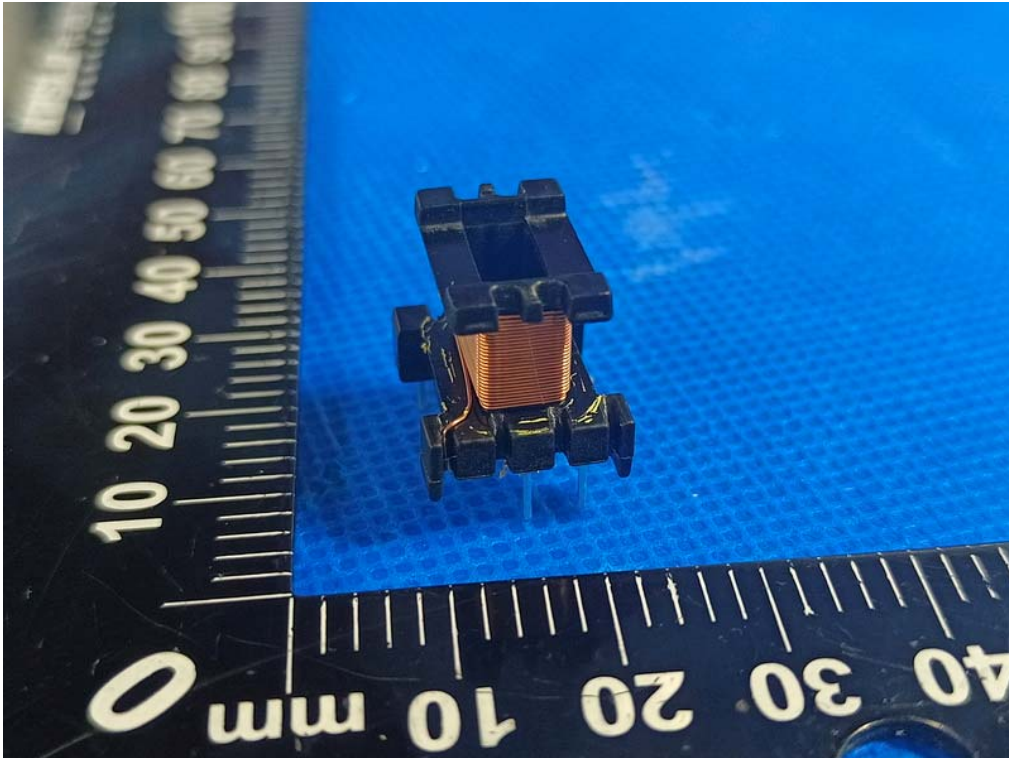


Photo 23 Transformer view

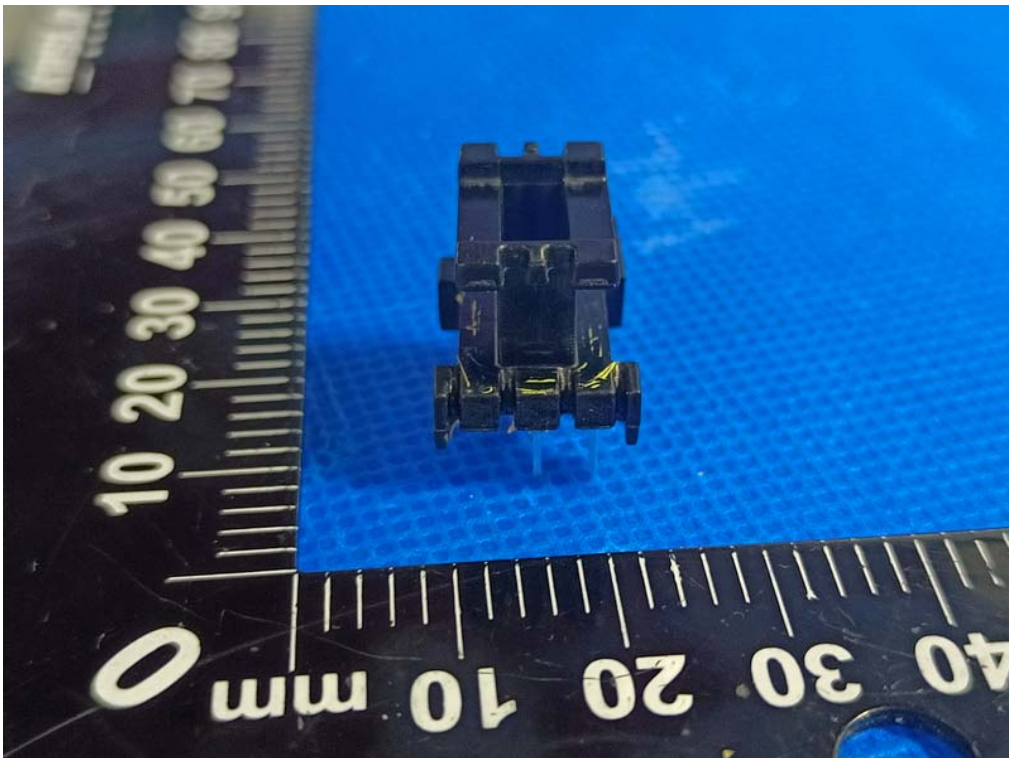


Photo 24 Transformer view