Certificate of Conformity

No. ESTS-P19101207

The following products have been tested by us with the listed standards and found in compliance with the council Low Voltage Directive 2014/35/EU. It is possible to use CE marking to demonstrative for the compliance with this Directive.

Applicant : PCICASE UK LTD

Address : Unit 14 Avant Business centre, Third Avenue Milton Keynes, MK1 1DR United Kingdom

Product : SWITCHING POWER SUPPLY

Trade Name : CRS

Model No. : CRS-C2050-85-08

Test Standards :	
EN 62368-1:2014+A11:2017	Audio/Video, information and communication technology equipment – Part 1: Safety requirements

CE

EST Technology Co.,Ltd. * Authorized *

John Lan
Manager
Date: Oct. 24, 2019

EST Technology Co., Ltd.
Http://www.gdest.cn; Tel: +86 769-83081888
Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China

APPLICATION FOR LOW VOLTAGE DIRECTIVE

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

Report reference No.	ESTS-P19101207
Tested by..... (printed name and signature)	Bailey Li
Approved by..... (printed name and signature)	Clark ma
Date of issue.....	2019-10-24
Testing laboratory	EST Technology Co., Ltd.
Address.....	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China
Test location.....	Same as above
Applicant.....	PCICASE UK LTD
Address.....	Unit 14 Avant Business centre, Third Avenue Milton Keynes, MK1 1DR United Kingdom
Manufacturer.....	Same as applicant
Address:.....	Same as applicant
Standards.....	EN 62368-1:2014 +A11:2017
Test Procedure	LVD
Non-standard test method.....	N/A
Type of test equipment	SWITCHING POWER SUPPLY
Trade mark.....	CRS
Model/Type designation.....	CRS-C2050-85-08
Rating.....	Input: See page 5 for details Output: See page 5 for details
TRF originator.....	EST Technology Co., Ltd.
Copyright blank test report:	EST Technology Co., Ltd.
Test item particulars:	--
Equipment mobility	For direct plug-in apparatus
Operating Condition	Continuous
Tested for IT power systems	No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	Class I equipment
Mass of equipment (kg)	Max. 1.283kg
Protection against ingress of water	IPX0

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

- Attachment 1 (13 pages) –National differences
- Attachment 2 (16 pages) –Photo documentation
- Attachment 3 (7 pages) –Transformer Specification

Summary of testing:

Tests performed (name of test and test clause):

All applicable tests as described in test case and measurement sections were performed.

5.2	Electrical energy source classifications
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
5.4.8	Humidity conditioning
5.4.9	Electric strength test
5.5.2.2	Safeguards against capacitance discharge test
6.2.2	Electrical power sources (PS) measurements for classification
6.3,6.4	Simulated abnormal operating and single fault conditions
B.2.5	Input tests
B.3	Simulated Abnormal operating condition tests
B.4	Simulated single fault conditions
F.3.9	Durability, legibility and permanence of markings
G.5.3.3	Transformer overload
Q.1.2	Limited power sources
T.2	Steady force test, 10 N
T.5	Steady force test, 250 N

If not otherwise specified, the model CRS-C2050-85-08 was selected for test.

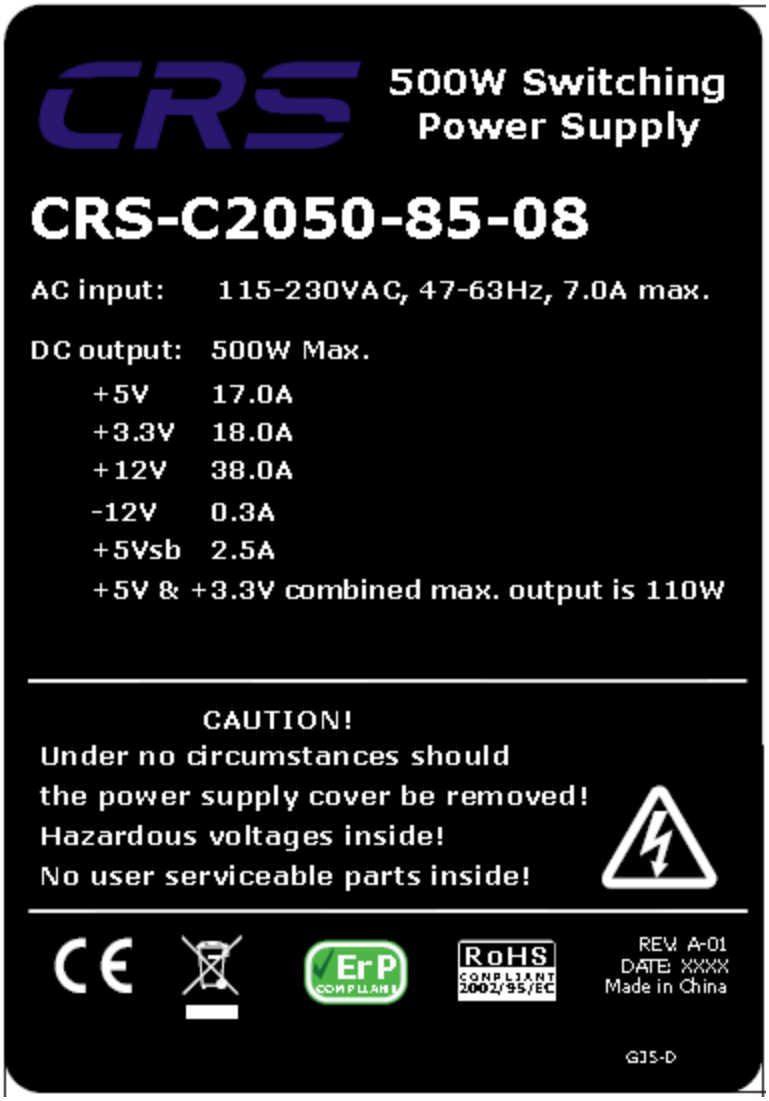
Testing location:

Unless otherwise indicated, all tests were performed at the location stated in “Testing procedure and testing location”.

Copy of marking plate:

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

Representative



Remark:

1. Since similar label used, only label for models above listed to represent other similar ones.
2. The CE marking and WEEE symbol should be added on label for European models.
3. The CE marking and WEEE symbol (if any) should be at least 5.0mm and 7.0mm respectively in height.
4. The mfr. and importer's name and address should be printed on label, if not possible can be printed on package or a document accompanying the equipment before the product is placed on the EU market.
5. The above markings are the minimum requirements required by the safety lab. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.

TEST ITEM PARTICULARS:	
Classification of use by.....:	☒ Ordinary person ☒ Instructed person ☒ Skilled person ☐ Children likely to be present
Supply Connection.....:	☒ AC Mains ☐ DC Mains ☐ External Circuit - not Mains connected ☐ ES1 ☐ ES2 ☒ ES3
Supply % Tolerance .....:	☒ +10%/-10% ☐ +20%/-15% ☐ other: _____ ☐ None
Supply Connection – Type .....:	☒ pluggable equipment type A ☐ non-detachable supply cord ☒ appliance coupler ☐ direct plug-in ☐ mating connector ☐ pluggable equipment type B ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☐ mating connector ☐ other: _____
Considered current rating of protective device as part of building or equipment installation..... :	☒ 16 A Installation location:☒ building ☐ equipment
Equipment mobility..... :	☐ movable ☐ hand-held ☐ transportable ☐ stationary ☒ for building-in ☐ direct plug-in ☐ rack-mounting ☐ wall-mounted
Over voltage category (OVC) ..... :	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other: _____
Class of equipment ..... :	☒ Class I ☐ Class II ☐ Class III
Access location ..... :	☐ restricted access location ☒ N/A
Pollution degree (PD) ..... :	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified maxium operating ambient :	40°C
IP protection class ..... :	☒ IPX0 ☐ IP _____
Power Systems ..... :	☒ TN ☐ TT ☐ IT (V_{L-L}): __
Altitude during operation (m) ..... :	☒ 2000 m or less ☐ 5000 m
Altitude of test laboratory (m) ..... :	☒ 2000 m or less ☐ _____ m
Mass of equipment (kg) ..... :	1.283kg

POSSIBLE TEST CASE VERDICTS:	
- test case does not apply to the test object ..... :	N/A
- test object does meet the requirement ..... :	P (Pass)
- test object does not meet the requirement ..... :	F (Fail)
TESTING:	
Date of receipt of test item..... :	2019-10-11
Date (s) of performance of tests..... :	2019-10-11 to 2019-10-21
GENERAL REMARKS:	
"(See Enclosure #)" refers to additional information appended to the report. **"(See appended table)" refers to a table appended to the report.** **Throughout this report a ☐ comma / ☒ point is used as the decimal separator.**	
Name and address of factory (ies) ..... :	Channel Well Technology (Guangzhou) Co.,Ltd Bld.B Eastern Hi-tech Industrial Base, Zengjiang Street, Zengcheng, Guangzhou, Guangdong 511300, P.R. China
GENERAL PRODUCT INFORMATION:	

1. The EUT's are building-in switching power supply for the use in information technology and audio/video equipment.
2. The test samples are pre-production sample without serial numbers.
3. Specified maximum ambient temperature is 40°C.

Model	Input Rating							
CRS-C2050-85-08	115-230Vac, 7.0A Max, 47-63Hz	+3.3V	+5V	+12V	-12V	+5Vsb	+5V & +3.3V (W)	Total max power (W)
		18	17	38	0.3	2.5	110	500

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.	
Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input ES1	
Source of electrical energy	**Corresponding classification (ES)**
Accessible terminals of mains input	ES3 (stored capacitance)
All circuits connected to a.c. mains	ES3 (steady-state voltage and current)
Output circuits	ES1
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): PS2	
Source of power or PIS	**Corresponding classification (PS)**
All circuits connected to a.c. mains	PS3, Arcing PIS, Resistive PIS
Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component Glycol	
Source of hazardous substances	**Corresponding chemical**
N/A	N/A
Mechanically-caused injury (Clause 8) (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit MS2	
Source of kinetic/mechanical energy	**Corresponding classification (MS)**
Sharp edges and corners	MS1
Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure TS1	
Source of thermal energy	**Corresponding classification (TS)**
Internal components	TS3
Accessible surface (only enclosure of AC inlet side)	TS1
Radiation (Clause 10) (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product RS1	
Type of radiation	**Corresponding classification (RS)**
N/A	

ENERGY SOURCE DIAGRAM
Indicate which energy sources are included in the energy source diagram. Insert diagram below
☐ ES ☐ PS ☐ MS ☐ TS ☐ RS **(refer to ENERGY SOURCE INDENTIFICATION AND CLASSIFICATION TABLE for DETAIL)**

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: Accessible part of input connector	N/A	N/A	Discharge resistors and discharge IC
Ordinary	ES3: Primary circuits	N/A	N/A	Transformer, Optocouplers, and bridging capacitor
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
Combustible materials within equipment fire barrier	PS3 circuit	See 6.3	See 6.4.5, 6.4.6	N/A
Metal chassis	PS3 circuit	See 6.3	See 6.4.5, 6.4.6	N/A
Internal wiring material	PS3 circuit	See 6.3	See 6.4.5, 6.4.6	N/A
The other components/materials	PS3 circuit	See 6.3	See 6.4.5, 6.4.6	N/A
Output connector and wiring material	PS3 circuit	See 6.3	See 6.5	See 6.5
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)

N/A	N/A	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	TS1:Metal chassis (the accessible surfaces of side of appliance inlet) (<70℃)	N/A	N/A	enclosure
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
4	**GENERAL REQUIREMENTS**		P
4.1.1	Acceptance of materials, components and subassemblies		P
4.1.2	Use of components		P
4.1.3	Equipment design and construction		P
4.1.15	Markings and instructions ..... :	(See Annex F)	P
4.4.4	Safeguard robustness		P
4.4.4.2	Steady force tests ..... :	(See Annex T.2, T.4)	P
4.4.4.3	Drop tests..... :	No such consideration for building-in type equipment (See Annex T.7)	N/A
4.4.4.4	Impact tests ..... :	The metal chassis was evaluated as a fire barrier. Due to the equipment is building-in type. However, the test applied to the side of appliance inlet. No hazards as result from the steel ball impact test. Overall compliance shall be evaluated for the final system approval (See Annex T.6).	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests ..... :		P
4.4.4.6	Glass Impact tests..... :		N/A
4.4.4.7	Thermoplastic material tests ..... :	(See Annex T.8)	N/A
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 ..... :	(See Annex T.2)	P
4.7	Equipment for direct insertion into mains socket - outlets	The equipment is not for direct insertion into mains socket outlets.	N/A
4.7.2	Mains plug part complies with the relevant standard ..... :	See above.	N/A
4.7.3	Torque (Nm)..... :	See above.	N/A
4.8	Products containing coin/button cell batteries	No coin/button batteries.	N/A
4.8.2	Instructional safeguard	See above.	N/A
4.8.3	Battery Compartment Construction	See above.	N/A
	Means to reduce the possibility of children removing the battery ..... :	See above.	—
4.8.4	Battery Compartment Mechanical Tests..... :	See above.	N/A
4.8.5	Battery Accessibility	See above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.9	Likelihood of fire or shock due to entry of conductive object ..... :	(See Annex P)	P

5	**ELECTRICALLY-CAUSED INJURY**		P
5.2.1	Electrical energy source classifications ..... :	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current ..... :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits..... :	(See appended table 5.2)	P
5.2.2.4	Single pulse limits ..... :		N/A
5.2.2.5	Limits for repetitive pulses ..... :		N/A
5.2.2.6	Ringing signals ..... :		N/A
5.2.2.7	Audio signals ..... :		N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.2.1	Accessibility to electrical energy sources and safeguards		P
5.3.2.2	Contact requirements	No openings.	P
	a) Test with test probe from Annex V..... :		P
	b) Electric strength test potential (V)..... :		N/A
	c) Air gap (mm) ..... :		P
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	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..... :	2	—
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
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		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	(see appended table 5.4.1.10.3)	N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage	(See appended table 5.4.2.2)	P
5.4.2.3	Determining clearance using required withstand voltage ..... :	(See appended table 5.4.2.3)	P
	a) a.c. mains transient voltage..... :	2500 Vpeak	—
	b) d.c. mains transient voltage ..... :	N/A	—
	c) external circuit transient voltage..... :	N/A	—
	d) transient voltage determined by measurement ..... :	N/A	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages..... :		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 or 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		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material	(See appended Table 5.4.9)	P
	Number of layers (pcs) ..... :	(See appended Table 5.4.4.2, 5.4.4.5 c) 5.4.4.9)	P
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		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	Surge test with 50 discharges at a maximum rate of 12/min from a 1 nF capacitor charged to 10 kV performed.	P
	Insulation resistance (MΩ) ..... :	Measured 500MΩ between mains supply to output terminals.	—

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Clause	Requirement + Test	Result - Remark	Verdict
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	Certified optocouplers used.	P
5.4.8	Humidity conditioning		P
	Relative humidity (%) ..... :	93 %	—
	Temperature (°C) ..... :	40 °C	—
	Duration (h) ..... :	120 hours	—
5.4.9	Electric strength test ..... :	(See appended table 5.4.9) Electric strength tests were conducted after 5.4.8 humidity conditioning test for each manufacturer source in table 4.1.2.	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		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test..... :		N/A
5.4.10.2.3	Steady-state test ..... :		N/A
5.4.11	Insulation between external circuits and earthed circuitry..... :		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V) ..... :		—
	Nominal voltage U_{peak} (V) ..... :		—
	Max increase due to variation U_{sp} ..... :		—
	Max increase due to ageing ΔU_{sa} ..... :		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$ ..... :		—
5.5	Components as safeguards		
5.5.1	General		P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector ..... :	(See appended table 5.5.2.2)	P
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.5	Relays		N/A
5.5.6	Resistors		P
5.5.7	SPD's	(See Annex G.8)	P
5.5.7.1	Use of an SPD connected to reliable earthing	Verified via visual inspection and per clause 5.6.6	P
5.5.7.2	Use of an SPD between mains and protective earth	See above	P
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable ..... :	No such connections.	N/A
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation	Green and yellow	P
5.6.3	Requirement for protective earthing conductors	The earth pin of the approved appliance inlet.	P
	Protective earthing conductor size (mm^2) .....:	See above	—
5.6.4	Requirement for protective bonding conductors		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm^2).....:	Min. 18AWG	—
	Protective current rating (A) ..... :	Protective current rating 8A	—
5.6.4.3	Current limiting and overcurrent protective devices	No current limiting and overcurrent protective devices in parallel with any other components.	P
5.6.5	Terminals for protective conductors	AC inlet pin provided as protective earthing terminal.	P
5.6.5.1	Requirement	See above	P
	Conductor size (mm^2), nominal thread diameter (mm).....:	Protective bonding conductor size 0.75mm2(18 AWG), nominal thread diameter for screw type 3.5 mm.	P
5.6.5.2	Corrosion	No combination above the line in Annex N is used.	P
5.6.6	Resistance of the protective system	See below.	P
5.6.6.1	Requirements	Compliance checked.	P
5.6.6.2	Test Method Resistance (Ω).....:	(See appended table 5.6.6.2)	P
5.6.7	Reliable earthing	The equipment is not permanently connected equipment.	N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current.....:	(See appended table 5.2)	P
5.7.2.2	Measurement of prospective touch voltage	(See appended table 5.2)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.3	Equipment set-up, supply connections and earth connections		P
	System of interconnected equipment (separate connections/single connection) ..... :	Single connection.	—
	Multiple connections to mains (one connection at a time/simultaneous connections) ..... :	N/A	—
5.7.4	Earthed conductive accessible parts ..... :	Following fault conditions of 6.1 and 6.2.2 of IEC 60990 for touch current measurement.	P
5.7.5	Protective conductor current	See below.	P
	Supply Voltage (V) ..... :	253	—
	Measured current (mA) ..... :	0.01mA	—
	Instructional Safeguard ..... :	See above.	N/A
5.7.6	Prospective touch voltage and touch current due to external circuits	No external circuits.	N/A
5.7.6.1	Touch current from coaxial cables	No such connections	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	Not multiple connections to external circuits	N/A
	a) Equipment with earthed external circuits Measured current (mA) ..... :		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA) ..... :		N/A

6	**ELECTRICALLY- CAUSED FIRE**		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	All circuits are considered as PS3; except for the equipment output circuit was evaluated as LPS circuits. See Annex Q	P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault ... :	See 6.2.2.	P
6.2.2.3	Power measurement for worst-case power source fault ..... :	See 6.2.2.	P
6.2.2.4	PS1 ..... :	See 6.2.2.	N/A
6.2.2.5	PS2 ..... :	See 6.2.2	P
6.2.2.6	PS3 ..... :	See 6.2.2.	P
6.2.3	Classification of potential ignition sources	All conductors and devices are considered as PIS.	P
6.2.3.1	Arcing PIS ..... :	See 6.2.3	P
6.2.3.2	Resistive PIS ..... :	See 6.2.3	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials..... :	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure		N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Control of fire spread	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	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..... :		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		P
6.4.5	Control of fire spread in PS2 circuits		P
6.4.5.2	Supplementary safeguards ..... :	Components other than PCB and wires are: - mounted on PCB rated V-1 min, and/or - made of V-2/VTM-2 or better. (See appended tables 4.1.2 and Annex G for detail)	P
6.4.6	Control of fire spread in PS3 circuit		P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.1	General ..... :		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.1	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier		P
6.4.8.2.2	Requirements for a fire enclosure		N/A
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) ..... :	No openings.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm) .....:	No openings.	N/A
	Flammability tests for the bottom of a fire enclosure .....:		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)..... :		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating .....:	Enclosure is V-0 material.	P
6.5	Internal and external wiring		P
6.5.1	Requirements	Internal wires and output wires having rating VW-1 or FT-1 are considered to meet IEC/TS 60695-11-21.	P
6.5.2	Cross-sectional area (mm^2) .....:	See appended table 4.1.2 for detail.	¾
6.5.3	Requirements for interconnection to building wiring.....:	No such interconnection to building wiring.	N/A
6.6	Safeguards against fire due to connection to additional equipment	No such connection to additional equipment. The equipment is a building-in type and evaluation is also to be made during the final system approval.	N/A
	External port limited to PS2 or complies with Clause Q.1	See above.	N/A

7	**INJURY CAUSED BY HAZARDOUS SUBSTANCES**		N/A
7.2	Reduction of exposure to hazardous substances		N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions.....:		¾
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010).....:		¾
7.6	Batteries..... :		N/A

8	**MECHANICALLY-CAUSED INJURY**		P
8.1	General	See the following details.	P
8.2	Mechanical energy source classifications	a.) Sharp edges and corners, classified as MS1.b.) DC fan (moving part), classified as MS3. However, the equipment is a building-in type and evaluation is also to be made during the final system approval.	P
8.3	Safeguards against mechanical energy sources	See above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.4	Safeguards against parts with sharp edges and corners	The sharp edges and corners of the equipment are considered as MS1.	P
8.4.1	Safeguards		P
8.5	Safeguards against moving parts	Safeguard provided in front of DC fan. However, the equipment is a building-in type and evaluation is also to be made during the final system approval.	P
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment	See above.	N/A
8.5.2	Instructional Safeguard..... :	See above.	—
8.5.4	Special categories of equipment comprising moving parts	Not this type of equipment	N/A
8.5.4.1	Large data storage equipment	Not this type of equipment	N/A
8.5.4.2	Equipment having electromechanical device for destruction of media	Not this type of equipment	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.....:		¾
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	No such components	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	The equipment is a building-in type and evaluation is to be made during the final system approval.	N/A
8.6.1	Product classification		N/A
	Instructional Safeguard.....:		¾
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force..... :		¾
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt ..... :		¾
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force) ..... :		N/A
	Position of feet or movable parts..... :		¾
8.7	Equipment mounted to wall or ceiling		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.7.1	Mounting Means (Length of screws (mm) and mounting surface) ..... :		N/A
8.7.2	Direction and applied force..... :		N/A
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force ..... :		N/A
8.9	Wheels or casters attachment requirements		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 ..... :		¾
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)..... :		¾
8.10.6	Thermoplastic temperature stability (°C) ..... :		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable *N* .....:		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas.....		N/A
	Button/Ball diameter (mm)..... :		¾

9	**THERMAL BURN INJURY**		P
9.2	Thermal energy source classifications	The equipment is a building-in type and evaluation is also to be made during the final system approval. The accessible surfaces of side of appliance inlet are classified as TS1. The accessible surfaces except for the side of appliance inlet are classified as TS1. (See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
9.3	Safeguard against thermal energy sources	See above.	P

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Clause	Requirement + Test	Result - Remark	Verdict
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard	See above.	P
9.4.2	Instructional safeguard .....:	See above.	N/A

10	**RADIATION**		N/A
10.2	Radiation energy source classification		N/A
10.2.1	General classification		N/A
10.3	Protection against laser radiation		N/A
	Laser radiation that exists equipment:		¾
	Normal, abnormal, single-fault .....:		N/A
	Instructional safeguard.....:		¾
	Tool .....:		¾
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 ..... :		¾
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1..:		N/A
10.4.1.d)	Normal, abnormal, single-fault conditions .....:		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque ..... :		N/A
10.4.1.f)	UV attenuation ..... :		N/A
10.4.1.g)	Materials resistant to degradation UV..... :		N/A
10.4.1.h)	Enclosure containment of optical radiation ..... :		N/A
10.4.1.i)	Exempt Group under normal operating conditions ..... :		N/A
10.4.2	Instructional safeguard..... :		N/A
10.5	Protection against x-radiation		N/A
10.5.1	X- radiation energy source that exists equipment:		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards ..... :		N/A
	Instructional safeguard for skilled person .....:		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation..... :		¾
	Abnormal and single-fault condition.....:		N/A
	Maximum radiation (pA/kg) .....:		N/A
10.6	Protection against acoustic energy sources		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A) .....:		N/A
	Output voltage, unweighted r.m.s. .....:		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards.....:		N/A
	Equipment safeguard prevent ordinary person to RS2 .....:		¾
	Means to actively inform user of increase sound pressure .....:		¾
	Equipment safeguard prevent ordinary person to RS2 .....:		¾
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 .....:		¾
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A) .....:		¾
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A) .....:		¾

B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements.....:	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers.....:		N/A
B.2.3	Supply voltage and tolerances		P
B.2.5	Input test .....:	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements.....:	(See appended table B.3)	P
B.3.2	Covering of ventilation openings	Considered.	P
B.3.3	D.C. mains polarity test	No such connection	N/A
B.3.4	Setting of voltage selector .....:	Full range	N/A
B.3.5	Maximum load at output terminals.....:	(See appended table B.3)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.8	Safeguards functional during and after abnormal operating conditions		P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited.....:		N/A
B.4.3	Motor tests		N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature .....:		N/A
B.4.4	Short circuit of functional insulation		P
B.4.4.1	Short circuit of clearances for functional insulation		P
B.4.4.2	Short circuit of creepage distances for functional insulation		P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors		P
B.4.6	Short circuit or 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....:		N/A
C	**UV RADIATION**		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
D	**TEST GENERATORS**		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	**TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS**		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V) ..... :		¾
	Rated load impedance (Ω) ..... :		—
E.2	Audio amplifier abnormal operating conditions		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		P
F.1	General requirements		P
	Instructions – Language ..... :	English	¾
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		N/A
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	¾
F.3.2.2	Model identification ..... :	See copy of marking plate	¾
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	¾
F.3.3.4	Rated voltage..... :	See copy of marking plate	¾
F.3.3.4	Rated frequency..... :	See copy of marking plate	¾
F.3.3.6	Rated current or rated power..... :	See copy of marking plate	¾
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device	Full range	N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings .....:	No appliance outlet provided.	N/A
F.3.5.2	Switch position identification marking.....:		N/A
F.3.5.3	Replacement fuse identification and rating markings .....:	Fusible resister marking on PCB adjacent to fuse: F1: T2A250V	P
F.3.5.4	Replacement battery identification marking.....:		N/A
F.3.5.5	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I Equipment		P
F.3.6.1.1	Protective earthing conductor terminal		P
F.3.6.1.2	Neutral conductor terminal	Not permanently connected equipment	N/A
F.3.6.1.3	Protective bonding conductor terminals		P
F.3.6.2	Class II equipment (IEC60417-5172)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.2.1	Class II equipment with or without functional earth	The equipment did not provide with functional earthing. The symbol of IEC 60417-5172 used; see copy of marking plate for detail	N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking ..... :	N/A	¾
F.3.8	External power supply output marking	See copy of marking plate	P
F.3.9	Durability, legibility and permanence of marking	See below	P
F.3.10	Test for permanence of markings	After the test, the marking remains legible, and moreover the label shows no curling and is not removable by hand.	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	Explanation is provided with manuals.	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		N/A
	i) Permanently connected equipment not provided with all-pole mains switch		P
	j) Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards		N/A
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A
G	**COMPONENTS**		P
G.1	**Switches**		N/A
G.1.1	General requirements		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	**Relays**		N/A
G.2.1	General requirements		N/A
G.2.2	Overload test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	**Protection Devices**		P
G.3.1	Thermal cut-offs		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	(see appended table 4.1.2)	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 ..... :		N/A
G.4	**Connectors**		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration ..... :	Attachment Plug.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		P
G.5	**Wound Components**		P
G.5.1	Wire insulation in wound components	Certified triple insulation wire used.	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	The insulation tape or tube is provided for winding of transformer to protect against mechanical stress.	P
G.5.1.2 b)	Construction subject to routine testing	See G.5.1	N/A
G.5.2	Endurance test on wound components	See G.5.1	N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s) ..... :		—
	Temperature (°C) ..... :		—
G.5.2.3	Wound Components supplied by mains		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.3	**Transformers**		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1) ..... :	See G.5.3.2 and G.5.3.3.	P
	Position ..... :	See appended table 4.1.2.	¾
	Method of protection ..... :	Over current protection by circuit design.	¾
G.5.3.2	Insulation		P
	Protection from displacement of windings ..... :	Tapes	—
G.5.3.3	Overload test..... :	(See appended table B.3)	P
G.5.3.3.1	Test conditions		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
G.5.4	**Motors**		P
G.5.4.1	General requirements		P
	Position ..... :		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days) ..... :		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V) ..... :		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h) ..... :		N/A
	Electric strength test (V) ..... :		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature ..... :		N/A
	Electric strength test (V) ..... :		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h) ..... :		N/A
	Electric strength test (V) ..... :		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage ..... :		—
G.6	**Wire Insulation**		P

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Clause	Requirement + Test	Result - Remark	Verdict
G.6.1	General		P
G.6.2	Solvent-based enamel wiring insulation	Solvent-based enamel winding is not considered basic insulation.	P
G.7	**Mains supply cords**		N/A
G.7.1	General requirements	Directly plug-in unit, no power supply cord provided.	N/A
	Type ..... :		—
	Rated current (A) ..... :		—
	Cross-sectional area (mm^2), (AWG) ..... :		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N) ..... :		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm) ... :		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry ..... :		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g) ..... :		—
	Diameter (m) ..... :		—
	Temperature (°C) ..... :		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	**Varistors**		P
G.8.1	General requirements	(See appended table 4.1.2)	P
G.8.2	Safeguard against shock	Complies	P
G.8.3	Safeguard against fire		P
G.8.3.2	Varistor overload test ..... :	See above.	N/A
G.8.3.3	Temporary overvoltage ..... :	See above.	N/A
G.9	**Integrated Circuit (IC) Current Limiters**		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 ..... :		¾
G.9.1 d)	IC limiter output current (max. 5A) ..... :		¾

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Clause	Requirement + Test	Result - Remark	Verdict
G.9.1 e)	Manufacturers' defined drift ..... :		¾
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	**Resistors**		P
G.10.1	General requirements		P
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	**Capacitor and RC units**		P
G.11.1	General requirements	Capacitors used in accordance with their rating and complied with subclasses of IEC 60384-14 with at least 21 days damp heat test.	P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors	Considered	P
G.12	**Optocouplers**		P
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results) ..... :		P
	Type test voltage Vini ..... :	(See appended table 5.4.4.2)	¾
	Routine test voltage, Vini,b ..... :	(See appended table 5.4.4.2)	¾
G.13	**Printed boards**		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction) ..... :		¾
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation ..... :		N/A
	Number of insulation layers (pcs) ..... :		—
G.13.6	Tests on coated printed boards	No coated printed boards.	N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	**Coating on components terminals**		N/A
G.14.1	Requirements ..... :	Not used.	N/A
G.15	**Liquid filled components**		N/A
G.15.1	General requirements	No such components.	N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	**IC including capacitor discharge function (ICX)**		N/A
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours	No components critical to the discharge of a capacitor are accessible.	N/A
b)	Impulse test using circuit 2 with Uc = to transient voltage ..... :		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage ..... :		¾
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance ..... :		¾
D3)	Resistance ..... :		¾
H	**CRITERIA FOR TELEPHONE RINGING SIGNALS**		N/A
H.1	General	Equipment does not generate ringing signals.	N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz) ..... :		—
H.3.1.2	Voltage (V) ..... :		—
H.3.1.3	Cadence; time (s) and voltage (V) ..... :		—
H.3.1.4	Single fault current (mA): ..... :		—
H.3.2	Tripping device and monitoring voltage..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)..... :		—
J	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		P
	General requirements	Certified triple insulation wire used. (See appended table 4.1.2)	P
K	**SAFETY INTERLOCKS**		N/A
K.1	General requirements		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
K.7.2	Overload test, Current (A) ..... :		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test ..... :		N/A
L	**DISCONNECT DEVICES**		P
L.1	General requirements	AC inlet used as disconnect device.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized	When AC inlet is disconnected no hazardous voltage in the equipment.	P
L.4	Single phase equipment	The AC inlet disconnects both poles simultaneously.	P
L.5	Three-phase equipment	Not three-phase equipment.	N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices	The appliance coupler is considered as disconnect device.	N/A
L.8	Multiple power sources	Only one a.c. mains connection	N/A
M	**EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS**		N/A
M.1	General requirements	No batteries	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.2	Safety of batteries and their cells		N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method)...:		N/A
M.3	Protection circuits		N/A
M.3.1	Requirements		N/A
M.3.2	Tests		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
M.3.3	Compliance ..... :	(See appended Tables and Annex M and M.4)	N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature..... :	(See Table M.4)	¾
M.4.2.2 b)	Single faults in charging circuitry..... :	(See Annex B.4)	¾
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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 *Vz* (m^3/s) .....:		—
M.8.2.3	Correction factors .....:		—
M.8.2.4	Calculation of distance *d* (mm) .....:		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing) .....:		N/A
N	**ELECTROCHEMICAL POTENTIALS**		P
	Metal(s) used.....:	Complied, the combined electrochemical potential < 0.6 V.	—
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		P
	Figures O.1 to O.20 of this Annex applied .....:	Considered (See appended table 5.4.2)	—
P	**SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS**		P
P.1	General requirements	See the following details.	P
P.2.2	Safeguards against entry of foreign object	The equipment is building-in type and evaluation is also to be made during the final system approval.	P
	Location and Dimensions (mm) ..... :	The equipment is building-in type and evaluation is also to be made during the final system approval.	—
P.2.3	Safeguard against the consequences of entry of foreign object	See above.	N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment	No openings.	N/A
	Transportable equipment with metalized plastic parts.....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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	Certified label used.	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
Q	**CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING**		N/A
Q.1	Limited power sources		N/A
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition	(See appended table Annex Q.1)	N/A
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) ..... :		—
	Current limiting method ..... :		¾
R	**LIMITED SHORT CIRCUIT TEST**		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
S	**TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W	The fire barrier was made of metal. The equipment is building˘in type and evaluation is also to be made during the final system approval.	N/A
	Samples, material..... :	See above.	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Wall thickness (mm) ..... :	See above.	—
	Conditioning (°C) ..... :	See above.	—
	Test flame according to IEC 60695-11-5 with conditions as set out	See above.	N/A
	- Material not consumed completely	See above.	N/A
	- Material extinguishes within 30s	See above.	N/A
	- No burning of layer or wrapping tissue	See above.	N/A
S.2	Flammability test for fire enclosure and fire barrier integrity	See above.	N/A
	Samples, material ..... :	See above.	—
	Wall thickness (mm) ..... :	See above.	—
	Conditioning (°C) ..... :	See above.	—
	Test flame according to IEC 60695-11-5 with conditions as set out	See above.	N/A
	Test specimen does not show any additional hole	See above.	N/A
S.3	Flammability test for the bottom of a fire enclosure	See above.	N/A
	Samples, material ..... :	See above.	—
	Wall thickness (mm) ..... :	See above.	—
	Cheesecloth did not ignite	See above.	N/A
S.4	Flammability classification of materials	See above.	N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W	See above.	N/A
	Samples, material ..... :	See above.	—
	Wall thickness (mm) ..... :	See above.	—
	Conditioning (test condition), (°C)..... :	See above.	—
	Test flame according to IEC 60695-11-20 with conditions as set out	See above.	N/A
	After every test specimen was not consumed completely	See above.	N/A
	After fifth flame application, flame extinguished within 1 min	See above.	N/A
T	**MECHANICAL STRENGTH TESTS**		N/A
T.1	General requirements	The equipment is building-in type and evaluation is also to be made during the final system approval. See the following details.	N/A
T.2	Steady force test, 10 N ..... :	See below	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
T.3	Steady force test, 30 N .....:	The equipment is building-in type. Overall compliance shall be evaluated for the final system approval	N/A
T.4	Steady force test, 100 N .....:		N/A
T.5	Steady force test, 250 N .....:	The equipment is building-in type. Overall compliance shall be evaluated for the final system approval	N/A
T.6	Enclosure impact test	Overall compliance shall be evaluated for the final system approval.	N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test .....:		N/A
T.8	Stress relief test.....:	Metal enclosure	N/A
T.9	Impact Test (glass)	Not applied. No relevant glass material.	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 .....:	Not applied. No relevant glass material.	N/A
T.11	Test for telescoping or rod antennas	No such parts.	N/A
	Torque value (Nm) .....:		—
U	**MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFECTS OF IMPLOSION**		N/A
U.1	General requirements	No CRTs	N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen .....:		N/A
V	**DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)**		N/A
V.1	Accessible parts of equipment	The equipment is building-in type and evaluation is also to be made during the final system approval.	N/A
V.2	Accessible part criterion	The equipment is building-in type and evaluation is also to be made during the final system approval.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	TABLE: List of critical components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1]
Chassis	Interchangeable	Interchangeable	Metal, min. 0.5 mm thick.	--	--
Appliance Inlet	Rong Feng	SS-120, SS-7B	10A, 250Vac, type C14	IEC/EN 60320-1	VDE, UL
(Alternative)	Zhang Jia Gang Hua Feng	HF-301	10A, 250Vac, type C14	IEC/EN 60320-1	VDE, UL
(Alternative)	Rich Bay	R-301	10A, 250Vac, type C14	IEC/EN 60320-1	VDE, UL
(Alternative)	TECX-UNIONS	TU-301-Series	10A, 250Vac, type C14	IEC/EN 60320-1	VDE, UL
(Alternative)	Zhe Jiang Bei Er Jia	ST-A01 Series	10A, 250Vac, type C14	IEC/EN 60320-1	VDE, UL
Power Switch	Zhang Jia Gang Hua Feng	HF-606	8A, 250Vac	IEC/EN 61058-1	VDE, UL
(Alternative)	Light Country	R 19 series, R 19A series, R 9 series	8A, 250Vac	IEC/EN 61058-1	VDE, UL
(Alternative)	Legion	SS21	10A, 250Vac	IEC/EN 61058-1	VDE, UL
(Alternative)	Zhe Jiang Bei Er Jia	PS8A	8A, 250Vac	IEC/EN 61058-1	VDE, UL
(Alternative)	Rong Feng	RF-1003	10A, 250Vac	IEC/EN 61058-1	VDE, UL
(Alternative)	Canal	MR Series	10A, 250Vac	IEC/EN 61058-1	VDE, UL
(Alternative)	Canal	MR-2 series	10A, 250Vac	IEC/EN 61058-1	VDE, UL
PCB	Interchangeable	Interchangeable	V-1 or better, 130°C	--	UL
Fuse (F1)	Littelfuse	215	T8A, 250Vac	IEC/EN 60127	VDE, UL
(Alternative)	Bel Fuse	5HTP	T8A, 250Vac	IEC/EN 60127	VDE, UL
(Alternative)	Hollyland	50CT	T8A, 250Vac	IEC/EN 60127	VDE, UL
(Alternative)	Walter	TSC	T8A, 250Vac	IEC/EN 60127	VDE, UL
(Alternative)	Conquer	UDA, UDA-A	T8A, 250Vac	IEC/EN 60127	VDE, UL
Varistor (ZNR1) (Optional)	Thinking	TVR10471, TVR10561, TVR14471	Min. 300Vac, 385Vdc	IEC/EN 61051-1 IEC/EN 60950-1, 2nd Annex Q	VDE, UL

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Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Success	SVR14D471K	Min. 300Vac, 385Vdc	IEC/EN 61051-1 UL 1449 SPD type 3 approved	VDE, UL
(Alternative)	Joyin	JVR14N471	Min. 300Vac, 385Vdc	IEC/EN 61051-1 UL 1449 SPD type 3 approved	VDE, UL
(Alternative)	Nanjing Jocol	TUR14D471K	Min. 300Vac, 385Vdc	IEC/EN 61051-1 UL 1449 SPD type 3 approved	VDE, UL
Y-Capacitors (CY1, CY2, CY3, CY4) (Optional)	Murata Mfg	KY	Min. 250 V, max. 2200 pF, min. 125 °C, min. Y2 type.	IEC/EN 60384-14	VDE, UL
(Alternative)	TDK-EPC	CS	Min. 250 V, max. 2200 pF, min. 125°C, min. Y2 type.	IEC/EN 60384-14	VDE, UL
(Alternative)	JYA-NAY	JY	Min. 250 V, max. 2200 pF, min. 125°C, min. Y2 type.	IEC/EN 60384-14	VDE, UL
(Alternative)	Success	SE	Min. 250 V, max. 2200 pF, min. 125°C, min. Y1 type.	IEC/EN 60384-14	VDE, UL
(Alternative)	Success	SB	Min. 250 V, max. 2200 pF, min. 125°C min. Y1 type.	IEC/EN 60384-14	VDE, UL
(Alternative)	Success	SF	Min. 250 V, max. 2200 pF, min. 125°C, min. Y2 type.	IEC/EN 60384-14	VDE, UL
(Alternative)	Welson	KL	Min. 250 V, max. 2200 pF, min. 125°C, min. Y2 type.	IEC/EN 60384-14	VDE, UL
X-Capacitors (CX1, CX2) (Optional)	Pilkor	PCX2 335M	max. 0.47uF, min. 250 Vac, min. 105 °C, X2 type	IEC/EN 60384-14	ENEC, UL
(Alternative)	Arcotronics or KEMET	R.46	max. 0.47uF, min. 250 Vac, min. 110°C, X2 type	IEC/EN 60384-14	ENEC, UL

EN 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Ultra Tech Xiphi	HQX	max. 0.47uF, min. 250 Vac, min. 100°C, X2 type	IEC/EN 60384-14	VDE, UL
(Alternative)	Cheng Tung	CTX	max. 0.47uF, min. 250 Vac, min. 100°C, X2 type	IEC/EN 60384-14	VDE, UL
(Alternative)	Europtronic	MPX	CX1: max. 0.22uF, CX2: max. 0.68uF, min. 250 Vac, min. 105°C, X2 type	IEC/EN 60384-14	VDE, UL
(Alternative)	Strong	MPX	max. 0.47uF, min. 250 Vac, min. 100°C, X2 type	IEC/EN 60384-14	VDE, UL
(Alternative)	Hua Jung Components Co., Ltd	MKP	max. 0.47uF, min. 250 Vac, min. 105°C, X2 type	IEC/EN 60384-14	ENEC, UL
(Alternative)	Yimanfeng Science And Technology LTD CO	MPX/MKP	max. 0.47uF, min. 250 Vac, min. 105°C, X2 type	IEC/EN 60384-14	VDE, UL
Bleeder Resistor (XR) (XR exist when CX1 used) (at AC Inlet)	Pilkor	MSR 37	Max. 4.2 Mohm, 1/4W min.	IEC/EN 60065	VDE, UL
(Alternative)	Vishay	VR 37	Max. 4.2 Mohm, 1/4W min.	IEC/EN 60065	VDE, UL
(Alternative)	Vishay	VR 68	Max. 4.2 Mohm, 1/4W min.	IEC/EN 60065	VDE, UL
Bleeder Resistor (R1)	Interchangeable	Interchangeable	Max. 1.5 Mohm, 1/4W min.	--	--
Thermistor (TH1)	Interchangeable	Interchangeable	2.5 Ω min. at 25°C, 5A min.	--	--
Thermistor (FTH1)	Interchangeable	Interchangeable	10KΩ min., 20mA min.	--	--
Bridge diode (BD1)	Interchangeable	Interchangeable	Min. 4A, min.600V	--	--
Ripple capacitor (C2)	Interchangeable	Interchangeable	68-270uF, min. 400 Vac, min. 85°C	--	--
Transistor (Q1)	Interchangeable	Interchangeable	Min. 10A, min.500V	--	--

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Clause	Requirement + Test		Result - Remark		Verdict
Transistor (Q2, Q3)	Interchangeable	Interchangeable	Min. 8A, min.500V	--	--
IC (U3)	Interchangeable	Interchangeable	Min. 0.75A, min.500V	--	--
Current sense resistor	Interchangeable	Interchangeable	Max. 0.27 MΩ, 2W min.	--	--
Bridge-Cap. (CY5) (Optional)	Murata Mfg	KX	Min. 250 V, max. 2200 pF, min. 125°C C, Y1 type	IEC/EN 60384-14 : 2005	VDE, UL
(Alternative)	TDK-EPC	CD	Min. 250 V, max. 2200 pF, min. 125°C, Y1 type	IEC/EN 60384-14 : 2005	VDE, UL
(Alternative)	Haohua	CT7	Min. 250 V, max. 2200 pF, min. 125°C, Y1 type	IEC/EN 60384-14 : 2005	VDE, UL
(Alternative)	JYA-NAY	JN	Min. 250 V, max. 2200 pF, min. 125°C, Y1 type	IEC/EN 60384-14 : 2005	VDE, UL
(Alternative)	Success	SE	Min. 250 V, max. 2200 pF, min. 125°C, Y1 type	IEC/EN 60384-14 : 2005	VDE, UL
(Alternative)	Success	SB	Min. 250 V, max. 2200 pF, min. 125°C, Y1 type	IEC/EN 60384-14 : 2005	VDE, UL
(Alternative)	Welson	WD	Min. 250 V, max. 2200 pF, min. 125°C, Y1 type	IEC/EN 60384-14 : 2005	VDE, UL
Optical Isolator (U5, U7, U9)	Lite-On	LTV-817	Dti =0.8mm Ext. dcr=7.8mm, thermal cycling test, 100°C	IEC/EN 60747-5-2 IEC/EN 60950-1	VDE, FI, UL
(Alternative)	Cosmo	K1010, KPC817	Dti=0.6mm Int. dcr=4.0mm Ext. dcr=5.0mm, thermal cycling test, 115°C	IEC/ EN 60747-5-2 IEC/EN 60950-1	VDE, FI
(Alternative)	Vishay	TCET1109	Dti. = 0.6mm, Ext. dcr=8.4mm, Int. dcr=4.7mm, 100°C	IEC/EN 60747-5-2 IEC/EN 60950-1	VDE, FI, UL

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Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Renesas	PS2561(-1,-2)	Dti=0.4mm Ext. dcr= 7.0mm, thermal cycling test, 100°C	IEC/ EN 60747-5-2 IEC/EN 60950-1	VDE, FI
(Alternative)	Toshiba	TLP 621	Dti. = 0.8 mm, Ext. dcr= 8mm, Int. dcr= thermal cycling test, 100°C	IEC/EN 60747-5-2 IEC/EN 60950-1	VDE, FI, UL
(Alternative)	Toshiba	TLP721	Dti. = 0.8 mm, Ext. dcr= 8mm, Int. dcr= thermal cycling test, 100°C	IEC/EN 60747-5-2 IEC/EN 60950-1	VDE, FI, UL
(Alternative)	Fairchild	H11A817	Dti.=0.7 mm Ext. dcr=7.8mm, Int. dcr=5.2mm, 100°C	IEC/EN 60747-5-2 IEC/EN 60950-1	VDE, FI, UL
(Alternative)	Everlight Electronics Co Ltd	EL817	Dti=0.5mm Ext. dcr=7.7mm 100°C, thermal cycling test	IEC/EN 60747-5-2 IEC/EN 60950-1	VDE, FI
Line Filter (LF3) (Optional)	Channel Well Technology Co., Ltd.	T50-26	105°C	--	--
(Alternative)	Channel Well Technology Co., Ltd.	T68-26	105°C	--	--
Line Filter (LF1) (Optional)	Channel Well Technology Co., Ltd.	T18*10*7 A	105°C	--	--
(Alternative)	Channel Well Technology Co., Ltd.	T18*10*7	105°C	--	--
Line Filter (LF2) (Optional)	Channel Well Technology Co., Ltd.	T18*10*7 B	105°C	--	--
(Alternative)	Channel Well Technology Co., Ltd.	T18*10*7-C	105°C	--	--
PFC Choke (L1)	Channel Well Technology Co., Ltd.	KS106060A	105°C	--	--
(Alternative)	Channel Well Technology Co., Ltd.	CQ-25	105°C	--	--

EN 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Mylar Sheet	Dupont Teijin Films	Mylar MO31	VTM-2 or better, 0.25 mm min.	--	UL
(Alternative)	Interchangeable	Interchangeable	VTM-2 or better, 0.25 mm min.	--	UL
DC Fan (120x120x25m m)	Adda	AD1212MB-A71GL	12V, max. 0.33A, min. 80.5CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Adda	AD1212MS-A71GL	12V, max. 0.34A, min. 80.5CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Adda	AD1212HB-A71GL	12V, max. 0.37A, min. 85.2CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Adda	AD1212UB-A71GL, AD1212US-A71GL	12V, max. 0.50A, min. 98.6CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Yate Loon	D12SM-12	12V, max. 0.30A, min. 80.5CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Yate Loon	D12SH-12	12V, max. 0.30A, min. 89.5CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Honghua	HA1225H12S-Z	12V, max. 0.58A, min. 123.2CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Honghua	HA1225L12S-Z	12V, max. 0.33A, min. 92.38CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Honghua	HA1225M12S-Z	12V, max. 0.45A, min. 102.7CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Yate Loon Electronics Co., Ltd	D12BH-12	12V, max. 0.45A, min. 89.5CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Yate Loon Electronics Co., Ltd	D12BM-12	12V, max. 0.3A, min. 80.5CFM	IEC/EN 60950-1	TUV RH UL
DC Fan (80x80x25mm)	Adda	AD0812MS-A70GL	12V, max. 0.15A, min. 31.4CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Adda	AD0812MB-A70GL	12V, max. 0.15A, min. 32.9CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Adda	AD0812HS-A71GL, AD0812HX-A70GL, AD0812HS-A70GL	12V, max. 0.25A, min. 38.6CFM	IEC/EN 60950-1	TUV RH UL

EN 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Adda	AD0812HB-A70GL	12V, max. 0.25A, min. 39.6CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Adda	AD0812UX-A70GL, AD0812UB-A70GL, AD0812US-A70GL	12V, max. 0.30A, min. 43.8CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Adda	AD0812UX-A71GL, AD0812UB-A71GL, AD0812US-A71GL	12V, max. 0.45A, min. 50.0CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Kaimei.	JF0825B1UR-R	12V, max. 0.37A, min. 52.06CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Kaimei.	JF0825S1SR-R	12V, max. 0.26A, min. 45.0CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Kaimei.	JF0815B1H-R	12V, max. 0.15 A, min. 31.22CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Yate Loon	D80BM-12, D80SM-12	12V, max.0.14A, min. 34.5CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Yate Loon	D80BM-12B	12V, max. 0.18A, min. 24.7CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Yate Loon	D80SH-12	12V, max. 0.18A, min. 31.5CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Yate Loon	D80SH-12B	12V, max. 0.22A, min. 31.0CFM	IEC/EN 60950-1	TUV RH UL
(Alternative)	Yate Loon	D80BH-12	12V, max. 0.18A, min. 41.5CFM	IEC/EN 60950-1	TUV RH UL
Primary internal wire	Wonderful	1672, 1617	105°C, 300V, min. 20AWG, VW-1, double insulation wire, thickness of supplement insulation of PVC: 0.4mm Min.	--	UL

EN 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Interchangeable	Interchangeable	105°C, 300V, min. 20AWG, VW-1, double insulation wire, thickness of supplement insulation of PVC: 0.4mm Min.	--	UL
PE Green /yellow wire	Wonderful	1015	105°C, 600V, min.18AWG, VW-1	--	UL
(Alternative)	Interchangeable	Interchangeable	105°C, 600V, min.18AWG, VW-1	--	UL
Main Transformer (T1)	Channel Well Technology Co., Ltd.	ERL-35	Class B See Attachment 3 for details on Transformer Construction	EN/IEC 62368-1	Test with appliance
Stand by Transformer (T3)	Channel Well Technology Co., Ltd.	EE-16	Class B See Attachment 3 for details on Transformer Construction	EN/IEC 62368-1	Test with appliance
Drive Choke (T2)	Channel Well Technology Co., Ltd.	T9*5*3-C	105°C	--	--
- Base	Chang Chun	T375J	PF, V-0, 150°C min. Thickness: 0.5mm	--	UL
Supplementary information: [1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039. [2)] Description line content is optional. Main line description needs to clearly detail the component used for testing					

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

4.8.4, 4.8.5	**TABLE: Lithium coin/button cell batteries mechanical tests**	N/A

(The following mechanical tests are conducted in the sequence noted.)

4.8.4.2 TABLE: Stress Relief test —

Part	Material	Oven Temperature (°C)	Comments

4.8.4.3 TABLE: Battery replacement test —

Battery part no.....:		—
Battery Installation/withdrawal	Battery Installation/Removal Cycle	Comments
	1	
	2	
	3	
	4	
	5	
	6	
	8	
	9	
	10	

4.8.4.4 TABLE: Drop test —

Impact Area	Drop Distance	Drop No.	Observations
		1	
		2	
		3	

4.8.4.5 TABLE: Impact —

Impacts per surface	Surface tested	Impact energy (Nm)	Comments

4.8.4.6 TABLE: Crush test —

Test position	Surface tested	Crushing Force (N)	Duration force applied (s)

Supplementary information:

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

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

5.2	Table: Classification of electrical energy sources					P
5.2.2.2 – Steady State Voltage and Current conditions						
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				U (Vrms or Vpk)	I (Apk or Arms) / Hz	
1	253Vac, 63Hz	12.0V Output "+" to "-"	Normal	12.01Vdc	-- / --	ES1
			Abnormal (Output overload)	12.01Vdc max. (Unit shutdown)	-- / --	
			Abnormal (Transformer overload)	12.01Vdc max. (Unit shutdown)	-- / --	
			Abnormal (Fan stall)	0 (Unit shutdown)	-- / --	
			Abnormal (Ventilation blocked)	0 (Unit shutdown)	-- / --	
			Single fault (U5 pin 1-2 SC)	0 (Unit shutdown)	-- / --	
			Single fault (U5 pin 3-4 SC)	0 (Unit shutdown)	-- / --	
			Single fault (U5 pin 1 OC)	0 (Unit shutdown)	-- / --	
			Single fault (U5 pin 3 OC)	0 (Unit shutdown)	-- / --	
			Single fault (U7 pin 1-2 SC)	0 (Unit shutdown)	-- / --	
			Single fault (U7 pin 3-4 SC)	0 (Unit shutdown)	-- / --	

EN 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
			Single fault (U7 pin 1 OC)	0 (Unit shutdown)	--	--	
			Single fault (U7 pin 3 OC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 1-2 SC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 3-4 SC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 1 OC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 3 OC)	0 (Unit shutdown)	--	--	
			Single fault (R36 SC)	0 (Unit shutdown)	--	--	
2	253Vac, 63Hz	12.0V Output "+" / "-" to earth "	Normal	--	0.656mA peak	--	ES1
			Abnormal (Output overload)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Transformer overload)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Fan stall)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Ventilation blocked)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	

EN 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
			Single fault (U7 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (R36 SC)	--	0.656mA peak (Unit shutdown)	--	
3	253Vac, 63Hz	5.0V Output "+" to "-"	Normal	5.01Vdc	--	--	
			Abnormal (Output overload)	5.01Vdc max. (Unit shutdown)	--	--	
			Abnormal (Transformer overload)	5.01Vdc max. (Unit shutdown)	--	--	
			Abnormal (Fan stall)	0 (Unit shutdown)	--	--	
			Abnormal (Ventilation blocked)	0 (Unit shutdown)	--	--	
			Single fault (U5 pin 1-2 SC)	0 (Unit shutdown)	--	--	ES1
			Single fault (U5 pin 3-4 SC)	0 (Unit shutdown)	--	--	
			Single fault (U5 pin 1 OC)	0 (Unit shutdown)	--	--	
			Single fault (U5 pin 3 OC)	0 (Unit shutdown)	--	--	
			Single fault (U7 pin 1-2 SC)	0 (Unit shutdown)	--	--	
			Single fault (U7 pin 3-4 SC)	0 (Unit shutdown)	--	--	

EN 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
			Single fault (U7 pin 1 OC)	0 (Unit shutdown)	--	--	
			Single fault (U7 pin 3 OC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 1-2 SC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 3-4 SC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 1 OC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 3 OC)	0 (Unit shutdown)	--	--	
			Single fault (R36 SC)	0 (Unit shutdown)	--	--	
4	253Vac, 63Hz	5.0V Output “+” / “-” to earth ”	Normal	--	0.656mA peak	--	ES1
			Abnormal (Output overload)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Transformer overload)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Fan stall)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Ventilation blocked)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	

EN 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
			Single fault (U7 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (R36 SC)	--	0.656mA peak (Unit shutdown)	--	
5	253Vac, 63Hz	3.3V Output “+” to “-”	Normal	3.3Vdc	--	--	ES1
			Abnormal (Output overload)	3.3Vdc max. (Unit shutdown)	--	--	
			Abnormal (Transformer overload)	3.3Vdc max. (Unit shutdown)	--	--	
			Abnormal (Fan stall)	0 (Unit shutdown)	--	--	
			Abnormal (Ventilation blocked)	0 (Unit shutdown)	--	--	
			Single fault (U5 pin 1-2 SC)	0 (Unit shutdown)	--	--	
			Single fault (U5 pin 3-4 SC)	0 (Unit shutdown)	--	--	
			Single fault (U5 pin 1 OC)	0 (Unit shutdown)	--	--	
			Single fault (U5 pin 3 OC)	0 (Unit shutdown)	--	--	
			Single fault (U7 pin 1-2 SC)	0 (Unit shutdown)	--	--	
			Single fault (U7 pin 3-4 SC)	0 (Unit shutdown)	--	--	

EN 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
			Single fault (U7 pin 1 OC)	0 (Unit shutdown)	--	--	
			Single fault (U7 pin 3 OC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 1-2 SC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 3-4 SC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 1 OC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 3 OC)	0 (Unit shutdown)	--	--	
			Single fault (R36 SC)	0 (Unit shutdown)	--	--	
6	253Vac, 63Hz	3.3V Output "+" / "-" to earth "	Normal	--	0.656mA peak	--	ES1
			Abnormal (Output overload)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Transformer overload)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Fan stall)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Ventilation blocked)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	

EN 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
			Single fault (U7 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (R36 SC)	--	0.656mA peak (Unit shutdown)	--	
7	253Vac, 63Hz	-12.0V Output “+” to “-”	Normal	12.03Vdc	--	--	ES1
			Abnormal (Output overload)	12.03Vdc max. (Unit shutdown)	--	--	
			Abnormal (Transformer overload)	12.03Vdc max. (Unit shutdown)	--	--	
			Abnormal (Fan stall)	0 (Unit shutdown)	--	--	
			Abnormal (Ventilation blocked)	0 (Unit shutdown)	--	--	
			Single fault (U5 pin 1-2 SC)	0 (Unit shutdown)	--	--	
			Single fault (U5 pin 3-4 SC)	0 (Unit shutdown)	--	--	
			Single fault (U5 pin 1 OC)	0 (Unit shutdown)	--	--	
			Single fault (U5 pin 3 OC)	0 (Unit shutdown)	--	--	
			Single fault (U7 pin 1-2 SC)	0 (Unit shutdown)	--	--	
			Single fault (U7 pin 3-4 SC)	0 (Unit shutdown)	--	--	

EN 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
			Single fault (U7 pin 1 OC)	0 (Unit shutdown)	--	--	
			Single fault (U7 pin 3 OC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 1-2 SC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 3-4 SC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 1 OC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 3 OC)	0 (Unit shutdown)	--	--	
			Single fault (R36 SC)	0 (Unit shutdown)	--	--	
8	253Vac, 63Hz	-12.0V Output “+” / “-” to earth ”	Normal	--	0.656mA peak	--	ES1
			Abnormal (Output overload)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Transformer overload)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Fan stall)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Ventilation blocked)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	

EN 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
			Single fault (U7 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (R36 SC)	--	0.656mA peak (Unit shutdown)	--	
9	253Vac, 63Hz	5VSB Output "+" to "-"	Normal	5.01Vdc	--	--	
			Abnormal (Output overload)	5.01Vdc max. (Unit shutdown)	--	--	
			Abnormal (Transformer overload)	5.01Vdc max. (Unit shutdown)	--	--	
			Abnormal (Fan stall)	0 (Unit shutdown)	--	--	
			Abnormal (Ventilation blocked)	0 (Unit shutdown)	--	--	
			Single fault (U5 pin 1-2 SC)	0 (Unit shutdown)	--	--	ES1
			Single fault (U5 pin 3-4 SC)	0 (Unit shutdown)	--	--	
			Single fault (U5 pin 1 OC)	0 (Unit shutdown)	--	--	
			Single fault (U5 pin 3 OC)	0 (Unit shutdown)	--	--	
			Single fault (U7 pin 1-2 SC)	0 (Unit shutdown)	--	--	
			Single fault (U7 pin 3-4 SC)	0 (Unit shutdown)	--	--	

EN 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
			Single fault (U7 pin 1 OC)	0 (Unit shutdown)	--	--	
			Single fault (U7 pin 3 OC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 1-2 SC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 3-4 SC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 1 OC)	0 (Unit shutdown)	--	--	
			Single fault (U9 pin 3 OC)	0 (Unit shutdown)	--	--	
			Single fault (R36 SC)	0 (Unit shutdown)	--	--	
10	253Vac, 63Hz	Output “+” / “-” to earth ”	Normal	--	0.656mA peak	--	ES1
			Abnormal (Output overload)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Transformer overload)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Fan stall)	--	0.656mA peak (Unit shutdown)	--	
			Abnormal (Ventilation blocked)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U5 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	

EN 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
			Single fault (U7 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U7 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 1-2 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 3-4 SC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 1 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (U9 pin 3 OC)	--	0.656mA peak (Unit shutdown)	--	
			Single fault (R36 SC)	--	0.656mA peak (Unit shutdown)	--	

Supplementary information:

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
1	253Va.c. 63Hz	L&N pin	Normal	1128	374	ES3
			Abnormal	--	--	
			Single fault – SC/OC	--	--	

Overall capacity:

Limit: ES1=60V; ES2=120V

5.2.2.4 - Single Pulses

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

5.2.2.5 - Repetitive Pulses

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

EN 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
			Single fault – SC/OC	--	--	--	
Test Conditions: Normal – Abnormal - 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) .....:	103.5V/47 Hz	103.5V/47 Hz	253V/47Hz	253V/47Hz	—
	Ambient T_{min} (°C) .....:	--	--	--	--	—
	Ambient T_{max} (°C) .....:	--	--	--	--	—
	Tma (°C) .....:	--	--	--	--	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
		Vertical	Horizontal	Vertical	Horizontal	--
Maximum measured temperature T of part/at +3.3V/7.57A, +5V/17A, 12V31.15A, -12V0.3A, +5Vsb/2.5A:						
AC inlet		46.6	50.1	45.6	48.3	70
Y-capacitor CY1		47.9	52.2	46.6	50.0	125
X-capacitor CX1		47.3	51.0	46.9	49.9	100
Input wire		47.0	52.7	45.9	50.5	80
Earth wire		55.3	49.8	54.8	48.0	80
Line chock of LF3 winding		59.1	61.2	54.8	56.7	130
Varistor ZNR1		81.8	82.4	60.3	60.8	85
X-capacitor CX2 body		61.5	59.0	53.7	50.9	100
Line chock of LF1 winding		72.4	72.2	62.1	61.9	130
Y-capacitor CY3 body		58.4	58.9	50.6	51.1	125
Line chock of LF2 winding		71.5	71.1	53.5	53.1	130
PCB under BD1		101.1	115.8	59.8	73.4	130
Line chock of L1 winding		98.7	109.4	53.4	62.9	130
PCB under Q1		96.2	102.0	61.2	66.1	130
E-capacitor C2 body		54.7	52.9	50.1	48.3	105
PCB under Q2		76.2	75.9	60.2	59.9	130
Line chock of T2 winding		69.1	67.9	58.9	57.7	130
T3 winding		56.1	55.5	56.4	55.8	110
T3 core		55.0	54.4	54.5	55.0	110
T1 winding		73.0	74.5	70.7	72.2	110
T1 core		61.8	61.9	59.6	59.7	110
Opto-coupler U9 body		56.2	53.6	55.0	52.3	100

EN 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
Opto-coupler U5 body	80.1	77.1	77.9	74.7	100
Opto-coupler U7 body	72.5	70.1	69.0	66.6	100
Y-capacitor CY5 body	54.2	51.8	53.4	51.0	125
PCB under D2	79.4	81.5	80.8	82.9	130
PCB under D32	87.4	89.3	88.2	90.1	130
E-capacitor C12 body	64.3	66.9	65.4	68.0	105
PCB under FHT1	73.6	75.7	73.8	75.9	130
PCB under D12	59.4	61.4	65.4	67.4	130
Line chock of L2 winding	82.4	83.9	81.2	82.7	130
Line chock of L7 winding	45.4	46.7	44.7	46.0	130
E-capacitor C43 body	42.7	43.6	42.7	43.6	105
Output wire	58.4	61.4	58.5	61.5	80
Fan body	52.4	54.8	48.0	50.4	Ref
Ambient	40.0	40.0	40.0	40.0	--
At room temperature					
Metal Enclosure	31.5	34.7	30.1	33.3	60
Switch	29.3	32.5	28.2	31.4	77
Ambient	25.0	25.0	25.0	25.0	--
Maximum measured temperature T of part/at+3.3V/18A, +5V/10.12A, 12V31.15A, -12V0.3A, +5Vsb/2.5A:					
AC inlet	49.9	50.2	46.4	46.4	70
Y-capacitor CY1	52.5	55.4	47.2	49.2	125
X-capacitor CX1	50.5	51.9	47.1	48.4	100
Input wire	52.5	54.7	47.6	49.2	80
Earth wire	49.7	51.2	46.1	47.4	80
Line chock of LF3 winding	62.3	65.1	54.0	56.5	130
Varistor ZNR1	80.4	81.3	60.1	61.0	85
X-capacitor CX2 body	58.8	59.0	52.5	52.7	100
Line chock of LF1 winding	72.4	72.9	62.0	62.5	130
Y-capacitor CY3 body	60.3	62.3	49.9	51.9	125
Line chock of LF2 winding	69.7	74.4	51.4	56.1	130
PCB under BD1	111.9	102.2	71.5	60.7	130
Line chock of L1 winding	105.5	97.5	61.1	52.2	130
PCB under Q1	100.1	95.9	66.5	62.2	130
E-capacitor C2 body	52.6	57.6	46.8	51.7	105
PCB under Q2	76.6	76.1	60.7	60.2	130
Line chock of T2 winding	66.6	65.1	60.0	58.5	130
T3 winding	55.4	51.2	57.2	54.7	110
T3 core	53.2	54.6	55.5	52.8	110
T1 winding	74.0	75.3	71.7	73.0	110
T1 core	61.7	61.5	61.0	60.8	110

EN 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
Opto-coupler U9 body	53.9	52.7	53.8	52.6	100
Opto-coupler U5 body	77.7	77.2	75.1	74.6	100
Opto-coupler U7 body	70.7	70.2	67.0	66.5	100
Y-capacitor CY5 body	52.4	51.7	52.4	51.7	125
PCB under D2	82.6	82.1	83.4	82.7	130
PCB under D32	89.2	89.6	89.8	90.2	130
E-capacitor C12 body	66.6	67.9	65.4	66.7	105
PCB under FHT1	75.9	76.8	74.5	75.4	130
PCB under D12	65.9	64.8	67.8	66.7	130
Line chock of L2 winding	78.6	80.2	77.5	79.1	130
Line chock of L7 winding	50.9	51.9	49.1	50.1	130
E-capacitor C43 body	44.5	45.8	42.8	44.1	105
Output wire	60.9	63.0	59.2	61.3	80
Fan body	54.3	50.6	48.7	49.4	Ref
Ambient	40.0	40.0	40.0	40.0	--
At room temperature					
Metal Enclosure	34.6	35.6	31.0	32.0	60
Switch	32.1	35.7	26.6	30.2	77
Ambient	25.0	25.0	25.0	25.0	--
Maximum measured temperature T of part/at +3.3V/0A, +5V/5.5A, 12V38A, -12V0.3A,+5Vsb/2.5A:					
AC inlet	47.9	49.8	46.1	47.4	70
Y-capacitor CY1	48.5	52.1	46.7	49.4	125
X-capacitor CX1	48.6	51.1	47.2	49.3	100
Input wire	48.7	52.6	46.4	49.5	80
Earth wire	51.8	49.8	51.1	48.3	80
Line chock of LF3 winding	60.4	62.8	54.8	57.0	130
Varistor ZNR1	80.3	80.9	61.4	62.1	85
X-capacitor CX2 body	62.2	61.0	55.8	54.5	100
Line chock of LF1 winding	73.0	73.1	62.6	62.7	130
Y-capacitor CY3 body	57.8	59.0	49.9	51.1	125
Line chock of LF2 winding	69.8	71.9	52.0	54.1	130
PCB under BD1	118.1	120.6	74.9	76.3	130
Line chock of L1 winding	108.1	109.4	65.2	65.5	130
PCB under Q1	103.2	104.0	67.2	67.5	130
E-capacitor C2 body	52.1	53.7	49.4	50.9	105
PCB under Q2	78.7	78.3	62.3	61.9	130
Line chock of T2 winding	49.1	47.7	61.6	60.2	130
T3 winding	60.1	57.7	60.7	58.2	110
T3 core	57.7	57.5	58.1	57.9	110
T1 winding	74.2	75.6	73.3	74.7	110

EN 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
T1 core	63.4	63.3	62.5	62.4	110
Opto-coupler U9 body	57.9	56.0	56.7	54.7	100
Opto-coupler U5 body	81.5	79.7	78.0	76.1	100
Opto-coupler U7 body	73.9	72.4	69.4	67.9	100
Y-capacitor CY5 body	55.8	54.2	55.1	53.5	125
PCB under D2	84.2	85.8	84.1	85.6	130
PCB under D32	89.3	90.4	88.5	89.6	130
E-capacitor C12 body	70.1	72.0	70.3	72.2	105
PCB under FHT1	75.7	77.2	74.7	76.2	130
PCB under D12	59.8	60.2	60.3	60.7	130
Line chock of L2 winding	91.1	92.6	92.2	93.7	130
Line chock of L7 winding	43.4	44.5	44.7	45.8	130
E-capacitor C43 body	42.4	43.5	42.7	43.8	105
Output wire	62.4	64.9	62.0	64.5	80
Fan body	53.6	55.1	48.0	49.7	Ref
Ambient	40.0	40.0	40.0	40.0	--
At room temperature					
Metal Enclosure	32.9	35.0	29.6	31.7	60
Switch	29.1	32.5	29.2	32.6	77
Ambient	25.0	25.0	25.0	25.0	--
Maximum measured temperature T of part/at +3.3V/8.45A, +5V/0A, 12V38A, -12V0.3A,+5Vsb/2.5A:					
AC inlet	46.2	47.6	45.8	47.1	70
Y-capacitor CY1	46.8	49.5	46.5	49.2	125
X-capacitor CX1	47.2	49.3	47.1	49.1	100
Input wire	46.5	49.6	46.2	49.3	80
Earth wire	51.1	48.4	51.0	48.2	80
Line chock of LF3 winding	55.0	57.2	54.5	56.7	130
Varistor ZNR1	62.0	62.8	60.2	61.0	85
X-capacitor CX2 body	56.0	54.7	55.4	54.1	100
Line chock of LF1 winding	63.1	63.2	61.5	61.4	130
Y-capacitor CY3 body	49.9	51.2	49.8	51.1	125
Line chock of LF2 winding	52.1	54.3	51.8	54.1	130
PCB under BD1	76.6	78.0	71.5	72.9	130
Line chock of L1 winding	66.1	66.4	63.5	63.8	130
PCB under Q1	68.1	68.4	65.5	65.8	130
E-capacitor C2 body	49.4	51.0	49.3	50.9	105
PCB under Q2	62.9	62.5	61.2	60.8	130
Line chock of T2 winding	61.7	60.4	61.3	59.9	130
T3 winding	61.0	58.4	60.2	57.6	110
T3 core	58.1	58.0	58.0	56.4	110

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Clause	Requirement + Test		Result - Remark			Verdict
T1 winding		74.2	75.5	71.6	72.9	110
T1 core		62.7	62.6	62.1	62.0	110
Opto-coupler U9 body		56.8	54.8	56.5	54.5	100
Opto-coupler U5 body		78.7	76.8	76.5	74.5	100
Opto-coupler U7 body		69.9	68.5	68.3	66.8	100
Y-capacitor CY5 body		55.2	53.7	54.8	53.2	125
PCB under D2		85.2	86.7	82.0	83.5	130
PCB under D32		89.6	90.8	86.2	87.3	130
E-capacitor C12 body		70.7	72.6	69.5	71.4	105
PCB under FHT1		75.9	77.3	72.4	73.8	130
PCB under D12		60.8	61.2	59.2	59.5	130
Line chock of L2 winding		93.7	95.2	89.1	90.5	130
Line chock of L7 winding		45.0	46.0	44.9	45.8	130
E-capacitor C43 body		43.6	44.4	43.3	43.8	105
Output wire		62.0	64.6	61.9	64.4	80
Fan body		48.6	50.0	48.5	49.7	Ref
Ambient		40.0	40.0	40.0	40.0	--
At room temperature						
Metal Enclosure		30.8	32.5	30.4	31.7	60
Switch		32.7	34.9	31.5	32.6	77
Ambient		25.0	25.0	25.0	25.0	--

Supplementary information: Temperature limit for T1 of accessible enclosure according to Table 38.

Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (Tma) of 40°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 B **à** Tmax = 120 - 10=110°C

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

Supplementary information:

Note 1: Tma should be considered as directed by appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

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

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

5.4.1.10.3	**TABLE: Ball pressure test of thermoplastics**			P
Allowed impression diameter (mm) ..... :		≤ 2 mm		—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)	
Plastic material of plug holder	Sabic Innovative Plastics BV /945 (GG)	125	1.26	
Supplementary information: The bobbin material of transformer (T1) is phenolic, no test is needed.				

5.4.2.2, 5.4.2.4 and 5.4.3	**TABLE: Minimum Clearances/Creepage distance**						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz)[1]	Required cl (mm)	cl (mm)[2]	Required[3] cr (mm)	cr (mm)
PCB trace under L and N polarity(B)	420	250	0.063	1.27	3.8	2.5	3.8
Two terminals of current fuse F1 (under F1) (B)	420	250	0.063	1.27	9.0	2.5	9.0
Secondary component L6 to Core of T3(B)	640	360	50.71	1.27	6.0	3.6	6.0
Primary winding to core of T3(B)	640	360	50.71	1.27	4.0	3.6	4.0
Secondary winding to core of T3(B)	640	360	50.71	1.27	4.0	3.6	4.0
PCB trace under CY3, CY4 (B)	420	250	0.06	1.27	4.4	2.5	4.4
Primary winding to Secondary winding of T3 (R)	640	360	50.71	2.54	8.0	7.2	8.0
Primary winding to Secondary winding of T1(R)	560	250	61.32	2.54	9.0	5.0	9.0
Core to secondary to Secondary winding of T1(R)	560	250	61.32	2.54	8.0	5.0	8.0
PCB trace under F1 to secondary component R59(R)	420	250	0.063	2.54	8.0	5.0	8.0
PCB trace under U7, U5, U9(R)	420	250	0.063	2.54	6.0	5.0	6.0
PCB trace under CY5(R)	420	250	0.063	2.54	7.4	5.0	7.4
PCB trace under Pin 5 of T3 to secondary component D9(R)	420	250	0.063	2.54	5.9	5.0	5.9
PCB trace under T3(R)	640	360	50.71	2.54	7.8	7.2	7.8

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Clause	Requirement + Test			Result - Remark			Verdict
PCB trace under T1(R)	560	250	61.32	2.54	6.6	5.0	6.6

Supplementary information:

1. The core of T1 considered as primary part, the insulation between secondary to core is reinforced insulation.

2. The core of T3 considered as neutral part, the insulation between secondary to core is Basic insulation,

2. Components CY5, insulation sheet and internal wire terminals are additional fixed by glue.

4. Unless otherwise specified, the worst case conditions of Cl. & Cr. in above mentioned locations have been considered and listed.

Note 1: Only for frequency above 30 kHz

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

6. F = Functional insulation, B = Basic insulation,

Note 3: Provide Material Group: IIIa/IIIb

5.4.2.3	**TABLE: Minimum Clearances distances using required withstand voltage**			P
	Overvoltage Category (OV):			II
	Pollution Degree:			2
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measured cl (mm)
See table 5.4.2.2, 5.4.2.4 and 5.4.3 above.		2500Vpeak	1.5 for BI/SI 3.0 for RI	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: Using procedure 2 to determine the clearance.

5.4.4.2, 5.4.4.5 c) 5.4.4.9	**TABLE: Distance through insulation measurements**				P
Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)
Plastic enclosure(reinforced insulation)	420	--	1)	0.4	1)
Photo coupler (reinforce insulation)	420	--	1)	0.4	1)
Insulator sheet (reinforced insulation)	420	--	1)	0.4	1)

Supplementary information: 1) See appended table 4.1.2 for details.

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Basic/supplementary:				
Line to Neutral (with fuse disconnect)		DC	2500	No
Primary and Metal enclosure		DC	2500	No
Mylar sheet		DC	2500	No
Transformer(T3): Core to secondary winding		DC	2500	No
Transformer(T3): Core to primary winding		DC	2500	No
Reinforced:				
Unit: Primary circuit to secondary circuit		DC	4000	No
Unit: Primary circuit to enclosure		DC	4000	No
Transformer(T1): Primary winding to secondary winding		DC	4000	No
Transformer(T1):Core to secondary winding		DC	4000	No
Transformer(T3): Primary winding to secondary winding		DC	4000	No
One layer insulation tape of T1 and T3		DC	4000	No
Supplementary information: Core of transformer T1 was considered as primary. Test after humidity treatment, heating test, and for unit primary to secondary, primary to plastic enclosure electric strength after each fault condition test. Tests were performed on product with each source listed in table 4.1.2. Core of transformer T3was considered as neutral. Test after humidity treatment, heating test, and for unit primary to secondary, primary to plastic enclosure electric strength after each fault condition test. Tests were performed on product with each source listed in table 4.1.2.				

5.5.2.2	TABLE: Stored discharge on capacitors				P
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification
253Vac, 63Hz	Phase to Neutral	N	Off	24	ES1
253Vac, 63Hz	Phase to Neutral	N	On	52	ES1

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

The end system may be pluggable equipment type A. Limit of ES1 applied for mains terminal as accessible part.

X-capacitors installed for testing are: CX1=CX2 = 0.47μF±10%.

☒ bleeding resistor rating: R1=R2 =1.5Mohm

Notes:

A. Test Location:

Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth

B. Operating condition abbreviations:

N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition

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Clause	Requirement + Test	Result - Remark	Verdict

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

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		N/A
Supply voltage..... :			—
Location		Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)
Output terminal		1	0.92
		2*	--
		3	N/A[a)]
		4	N/A[b)]
		5	N/A[c)]
		6	N/A[d)]
		8	N/A[e)]
Supplementary Information: Notes: [1] Supply voltage is the anticipated maximum Touch Voltage [2] Earthed neutral conductor [Voltage differences less than 1% or more] [3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3 [4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable. [5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.			

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.2	Table: Electrical power sources (PS) measurements for classification				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification
+3.3V output "+"to"-"	Normal operation	Power (W) :	62.1	62.1	PS3
		V_A (V) :	3.26	3.26	
		I_A (A) :	26	26	
+5.0V output "+"to"-"	Normal operation	Power (W) :	144.1	144.1	PS3
		V_A (V) :	4.98	4.98	
		I_A (A) :	31	31	
+12V output "+"to"-"	Normal operation	Power (W) :	553.9	553.9	PS3
		V_A (V) :	11.98	11.98	
		I_A (A) :	49.0	49.0	
-12V output "+"to"-"	Normal operation	Power (W) :	16.91	16.91	PS3
		V_A (V) :	11.96	11.96	
		I_A (A) :	18.0	18.0	
+5VSB output "+"to"-"	Normal operation	Power (W) :	15.8	15.8	PS3
		V_A (V) :	5.41	5.41	
		I_A (A) :	3.3	3.3	
Supplementary Information: (*) Measurement taken only when limits at 3 seconds exceed PS1 limits Note: Refer. to table Annex Q.1.					

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)			P
Location	Open circuit voltage After 3 s (Vp)	Measured r.m.s current (Irms)	Calculated value (V_p x I_{rms})	Arcing PIS? Yes / No
See below	--	--	--	--
Supplementary information: **Considered arcing PIS in all primary and secondary circuit.** An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15.				

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Clause	Requirement + Test	Result - Remark	Verdict

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
See below	--	--	--	--	--

Supplementary Information:

Considered arcing PIS in all primary and secondary circuit.

A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter.

If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification.

A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.

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

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Clause	Requirement + Test	Result - Remark	Verdict

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
103.5V/47Hz	5.67	--	586	--	F1	5.67	Condition A
103.5V/63Hz	5.71	--	588	--	F1	5.71	Condition A
115V/47Hz	5.05	7.0	579	--	F1	5.05	Condition A
115V/63Hz	5.07	7.0	581	--	F1	5.07	Condition A
230V/47Hz	2.45	7.0	562	--	F1	2.45	Condition A
230V/63Hz	2.47	7.0	565	--	F1	2.47	Condition A
253V/47Hz	2.22	--	556	--	F1	2.22	Condition A
253V/63Hz	2.25	--	562	--	F1	2.25	Condition A
103.5V/47Hz	5.69	--	587		F1	5.69	Condition B
103.5V/63Hz	5.68	--	586		F1	5.68	Condition B
115V/47Hz	5.06	7.0	580		F1	5.06	Condition B
115V/63Hz	5.05	7.0	579		F1	5.05	Condition B
230V/47Hz	2.45	7.0	562		F1	2.45	Condition B
230V/63Hz	2.46	7.0	563		F1	2.46	Condition B
253V/47Hz	2.23	--	561		F1	2.23	Condition B
253V/63Hz	2.24	--	563		F1	2.24	Condition B
103.5V/47Hz	5.36	--	553		F1	5.36	Condition C
103.5V/63Hz	5.38	--	554		F1	5.38	Condition C
115V/47Hz	4.78	7.0	547		F1	4.78	Condition C
115V/63Hz	4.80	7.0	549		F1	4.80	Condition C
230V/47Hz	2.32	7.0	528		F1	2.32	Condition C
230V/63Hz	2.35	7.0	534		F1	2.35	Condition C
253V/47Hz	2.11	--	526		F1	2.11	Condition C
253V/63Hz	2.13	--	534		F1	2.13	Condition C

Supplementary information:

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

Load condition:
- Condition A: +3.3V/7.57A, +5V/17A, 12V31.15A, -12V0.3A,+5Vsb/2.5A
- Condition B: +3.3V/18A, +5V/10.12A, 12V31.15A, -12V0.3A,+5Vsb/2.5A
- Condition C: +3.3V/0A, +5V/5.5A, 12V38A, -12V0.3A, +5Vsb/2.5A

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Clause	Requirement + Test	Result - Remark	Verdict
B.3	**TABLE: Abnormal operating condition tests**		P
Ambient temperature (°C) :		25°C, if not specified	—
Power source for EUT: Manufacturer, model/type, output rating :		--	—

Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
T1 pin 3,4,5 after pin D12 (+3.3V)	o-l	253	3h31min	F1	2.24 → 2.3 → 2.44 → 0.17	See right	T1 winding=87.3°C, T1 core =77.9°C, T3 winding=58.6°C, T3 core =56.6°C, ambient =40.0°C Metal Enclosure=37.9℃ Switch=35.2℃ Ambient=25.0℃	Unit stable at 26.0 A, increased to 27.0A, unit shut down immediately. except 5.0Vsb. no damaged, no hazards. Touch voltage (+ to -): 12.01Vdc max. Touch current (+ to earth): 0.656mApeak ; Touch current (- to earth): 0.656mApeak
T1 pin 3,4,5 after pin D7 (+5V)	o-l	253	4h40min	F1	2.25 → 2.52 → 2.67 → 0.17	See right	T1 winding=85.3°C, T1 core =73.9°C, T3 winding=58.9°C, T3 core =58.6°C, ambient =40.0°C, Metal Enclosure=37.4℃ Switch=34.3℃ Ambient=25.0℃	Unit stable at 31.0 A, increased to 32.0A, unit shut down, unit shut down no damaged, no hazards. Touch voltage (+ to -): 12.01Vdc max. Touch current (+ to earth): 0.656mApeak ; Touch current (- to earth): 0.656mApeak

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Clause	Requirement + Test	Result - Remark	Verdict
B.3	**TABLE: Abnormal operating condition tests**		P
Ambient temperature (°C) :		25°C, if not specified	—
Power source for EUT: Manufacturer, model/type, output rating :		--	—

Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
T1 pin 3,4,5 after pin D2 (+12V)	o-l	253	5h06min	F1	2.13 → 2.43 → 2.69 → 0.16	See right	T1 winding=87.8°C, T1 core =79.1°C, T3 winding=59.1°C, T3 core =58.9°C, ambient =40.0°C, Metal Enclosure=38.3 ℃ Switch=35.2℃ Ambient=25.0℃	Unit stable at 49.0 A, increased to 50.0A, unit shut down immediately. except 5.0Vsb. no damaged, no hazards. Touch voltage (+ to -): 12.01Vdc max. Touch current (+ to earth): 0.656mApeak ; Touch current (- to earth): 0.656mApeak
T1 pin 3,4,5 after pin L2 (-12V)	o-l	253	3h21min	F1	2.25 → 2.31 → 2.33 → 0.17	See right	T1 winding=87.8°C, T1 core =79.1°C, T3 winding=59.1°C, T3 core =58.9°C, Ambient =40.0°C, Metal Enclosure=36.4 ℃ Switch=33.7℃ Ambient=25.0℃	Unit stable at 1.8 A, increased to 1.9A, unit shut down no damaged, no hazards. Touch voltage (+ to -): 12.01Vdc max. Touch current (+ to earth): 0.656mApeak ; Touch current (- to earth): 0.656mApeak

EN 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
B.3	**TABLE: Abnormal operating condition tests**		P
Ambient temperature (°C) :		25°C, if not specified	—
Power source for EUT: Manufacturer, model/type, output rating :		--	—

Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
T3 Pin 3,4 after D22 (+5.0Vsb)	o-l	253	4h31min	F1	2.25 → 2.28 → 0.17	See right	T1 winding=72.9°C, T1 core =67.2°C, T3 winding=59.2°C, T3 core =58.9°C, Ambient =40.0°C, Metal Enclosure=34.9℃ Switch=32.7℃ Ambient=25.0℃	Unit stable at 3.3 A, increased to 3.4A, unit shut down immediately. no damaged, no hazards. Touch voltage (+ to -): 12.01Vdc max. Touch current (+ to earth): 0.656mApeak ; Touch current (- to earth): 0.656mApeak
Output(+3.3V)	o-l	253	3h29min	F1	2.24 → 2.37 → 2.42 → 0.17	See right	T1 winding=86.0°C, T1 core =76.6°C, T3 winding=57.4°C, T3 core =56.3°C, Ambient =40°C, Metal Enclosure=37.6℃ Plastic enclosure near AC inlet=32.6℃ Switch=34.9℃ Ambient=25.0℃	Unit stable at 26.0 A, increased to 27.0A, unit shut down immediately. except 5.0Vsb. no damaged, no hazards. Touch voltage (+ to -): 12.01Vdc max. Touch current (+ to earth): 0.656mApeak ; Touch current (- to earth): 0.656mApeak

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Clause	Requirement + Test	Result - Remark	Verdict
B.3	**TABLE: Abnormal operating condition tests**		P
Ambient temperature (°C) :		25°C, if not specified	—
Power source for EUT: Manufacturer, model/type, output rating :		--	—

Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Output(+5.0V) (with Condition B)	o-l	253	4h02min	F1	2.25 → 2.50 → 2.66 → 0.17	See right	T1 winding=84.0°C, T1 core =73.5°C, T3 winding=57.3°C, T3 core =57.1°C, Ambient =40°C, Metal Enclosure=37.1℃ Switch=33.9℃ Ambient=25.0℃	Unit stable at 31.0 A, increased to 32.0A, unit shut down immediately. except 5.0Vsb. no damaged, no hazards. Touch voltage (+ to -): 12.01Vdc max. Touch current (+ to earth): 0.656mApeak ; Touch current (- to earth): 0.656mApeak

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Clause	Requirement + Test	Result - Remark	Verdict
B.3	**TABLE: Abnormal operating condition tests**		P
Ambient temperature (°C) :		25°C, if not specified	—
Power source for EUT: Manufacturer, model/type, output rating :		--	—

Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Output(+12V) (with Condition C)	o-l	253	4h16min	F1	2.13 → 2.42 → 2.68 → 0.16	See right	T1 winding=86.8°C, T1 core =78.9°C, T3 winding=58.9°C, T3 core =58.8°C, Ambient =40°C, Metal Enclosure=38.1℃ Switch=35.1℃ Ambient=25.0℃	Unit stable at 49.0 A, increased to 50.0A, unit shut down immediately. except 5.0Vsb. no damaged, no hazards. Touch voltage (+ to -): 12.01Vdc max. Touch current (+ to earth): 0.656mApeak ; Touch current (- to earth): 0.656mApeak

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Clause	Requirement + Test	Result - Remark	Verdict
B.3	**TABLE: Abnormal operating condition tests**		P
Ambient temperature (°C) :		25°C, if not specified	—
Power source for EUT: Manufacturer, model/type, output rating :		--	—

Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Output (-12V)	o-l	253	6h01min	F1	2.25 → 2.30 → 2.32 → 0.17	See right	T1 winding=72.3°C, T1 core =66.8°C, T3 winding=57.6°C, T3 core =57.3°C, Ambient =40°C, Metal Enclosure=35.9℃ Switch=33.2℃ Ambient=25.0℃	Unit stable at 1.8 A, increased to 1.9A, unit shut down immediately. except 5.0Vsb. no damaged, no hazards. Touch voltage (+ to -): 12.01Vdc max. Touch current (+ to earth): 0.656mApeak ; Touch current (- to earth): 0.656mApeak
Output (+5.0Vsb)	o-l	253	6h03min	F1	2.25 → 2. 27 → 0.17	See right	T1 winding=71.6°C, T1 core =66.2°C, T3 winding=58.7°C, T3 core =57.4°C, Ambient =40°C, Metal Enclosure=34.6℃ Switch=32.4℃ Ambient=25.0℃	Unit stable at 3.3A, increased to 3.4A, unit shut down immediately. no damaged, no hazards. Touch voltage (+ to -): 12.01Vdc max. Touch current (+ to earth): 0.656mApeak ; Touch current (- to earth): 0.656mApeak

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Clause	Requirement + Test	Result - Remark	Verdict
B.3	**TABLE: Abnormal operating condition tests**		P
Ambient temperature (°C) :		25°C, if not specified	—
Power source for EUT: Manufacturer, model/type, output rating :		--	—

Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Fan	stall	253	1h50min	F1	2.25 → 0	See right	T1 winding=91.°C, T1 core =86.8°C, T3 winding=101.4° C, T3 core =102.5°C, Ambient =40°C, Metal Enclosure=36.0 ℃ Switch=32..3℃ Ambient=25.0℃	unit shut down no damaged, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak ; Touch current (- to earth): 0.656mApeak
Opening	blocked	253	2h14min	F1	2.25 → 0	See right	T1winding=112. 6°C, T1 core =109.6°C, T3 winding=105.1° C, T3 core =104.4°C, Ambient =40°C, Metal Enclosure=61.5 ℃ Switch=42.1℃ Ambient=25.0℃	unit shut down no damaged, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak ; Touch current (- to earth): 0.656mApeak

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

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Clause	Requirement + Test	Result - Remark	Verdict

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 current, (A)	T-couple	Temp. (°C)	Observation
BD1	s-c	253	1s	F1	--	--	--	Fuse F1 opened immediately, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
C2	s-c	253	1s	F1	--	--	--	Fuse F1 opened immediately, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
Q1 Pin G-D	s-c	253	1s	F1	--	--	--	Fuse F1 opened immediately, the components Q1, damaged, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
Q1 Pin G-S	s-c	253	10min	F1	0.09	--	--	Unit shut down immediately, No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak

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Clause	Requirement + Test					Result - Remark		Verdict
Q1 Pin S-D	s-c	253	1s	F1	--	--	--	Fuse F1 opened immediately, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
Q2 Pin G-D	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb, No damage, no hazard. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
Q2 Pin G-S	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
Q2 Pin S-D	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
Q3 Pin G-D	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak.

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Clause	Requirement + Test					Result - Remark		Verdict
Q3 Pin G-S	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
Q3 Pin S-D	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
R36	s-c	253	1s	F1	--	--	--	fuse F1 opened immediately, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U2 Pin 9 - 5	s-c	253	10min	F1	2.23	--	--	Normal operation , No damage, no hazards. Touch voltage (+ to -): 12.01Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U2 Pin 9 - 1	s-c	253	10min	F1	2.23	--	--	Normal operation , No damage, no hazards. Touch voltage (+ to -): 12.01Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak

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Clause	Requirement + Test					Result - Remark		Verdict
U2 Pin 2 - 1	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U2 Pin 5 - 2	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U2 Pin 8 - 1	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U2 Pin 8 - 5	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
T1 pin 3,4,5 - pin 6	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak

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Clause	Requirement + Test					Result - Remark		Verdict
T1 pin 3,4,5 - Pin 1,2	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
T1 pin 12 - pin 10	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U3 Pin 4 - 5/6/7/8	s-c	253	1s	F1	--	--	--	fuse F1 opened immediately, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U3 Pin 4 - 1	s-c	253	1s	F1	--	--	--	fuse F1 opened immediately, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
T3 Pin 9 -10	s-c	253	10min	F1	0.09	--	--	Unit shut down immediately, No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak

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Clause	Requirement + Test					Result - Remark		Verdict
T3 Pin 1,2 -3.4	s-c	253	10min	F1	0.09	--	--	Unit shut down immediately, No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U7 Pin1 -2	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U7 Pin3 -4	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U7 Pin 1	o-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U7 Pin 3	o-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak

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Clause	Requirement + Test					Result - Remark		Verdict
U5 Pin 1-2	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U5 Pin 3-4	s-c	253	10min	F1	2.23	--	--	Normal operation , No damage, no hazards. Touch voltage (+ to -): 12.01Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U5 Pin 1	o-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U5 Pin 3	o-c	253	10min	F1	0.16	--	--	Unit shut down immediately, except 5Vsb , No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U9 Pin 1-2	s-c	253	10min	F1	0.09	--	--	Unit shut down immediately, No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak

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Clause	Requirement + Test					Result - Remark		Verdict
U9 Pin 3-4	s-c	253	10min	F1	0.09	--	--	Unit shut down immediately, No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U9 Pin 1	o-c	253	10min	F1	0.09	--	--	Unit shut down immediately, No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
U9 Pin 3	o-c	253	10min	F1	0.09	--	--	Unit shut down immediately, No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
D2	s-c	253	10min	F1	0.16	--	--	Unit shut down immediately except 5Vsb, No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak
-12.0V /5.0Vsb	s-c	253	10min	F1	0.09	--	--	Unit shut down immediately, No damage, no hazards. Touch voltage (+ to -): 0Vdc max. Touch current (+ to earth): 0.656mApeak; Touch current (- to earth): 0.656mApeak

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:
1) s-c: Short-circuited; o-c: Open-circuited; o-l: Overloaded.
2) The test result shown all safeguards remained effective and didn't lead to a single fault condition during abnormal operating condition; In addition all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions.
3) The test result showed no Class 1 or 2 energy source become Class 3 level during and after single fault condition.
4) The overloaded condition is applied according to annex G.5.3.3.
Winding Limit for T101: 175-10=165°C.
5) Tests were performed on product with each source listed in table 4.1.2.

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

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

Annex M.4	**Table: Additional safeguards for equipment containing secondary lithium batteries**	N/A

Battery/Cell No.	Test conditions	Measurements			Observation
		U	I (A)	Temp (C)	
	Normal				
	Abnormal				
	Single fault –SC/OC				
	Normal				
	Abnormal				
	Single fault – SC/OC				

Supplementary Information:

Battery identification	Charging at T_{lowest} (°C)	Observation	Charging at $T_{highest}$ (°C)	Observation

Supplementary Information:

Annex Q.1	**TABLE: Circuits intended for interconnection with building wiring (LPS)**	N/A

Note: Measured UOC (V) with all load circuits disconnected:

Output Circuit	Components	U_{oc} (V)	I_{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit

Supplementary Information:

SC=Short circuit, OC=Open circuit

Note:

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

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

T.7	TABLE: Drop tests			N/A
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation
Supplementary information: *Tests were performed on product with each source listed in table 4.1.2.				

T.8	TABLE: Stress relief test				N/A
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Supplementary information: *Tests were performed on product with each source listed in table 4.1.2.					

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

5.4.1.8	TABLE: Working voltage measurement			P
Location	RMS voltage (V)	Peak voltage (V)	Frequency (kHz) (> 30kHz)	Comments
T1 Pin 1,2 - Pin 8	207	460	61.32	--
T1 Pin 3,4,5 - Pin 8	216	428	61.32	--
T1 Pin 6 - Pin 8	191	464	61.32	--
T1 Pin 1,2 - Pin 10	155	352	61.32	--
T1 Pin 3,4,5 - Pin 10	150	332	61.32	--
T1 Pin 6 - Pin 10	166	452	61.32	--
T1 Pin 1,2 - Pin 12	220	512	61.32	--
T1 Pin 3,4,5 - Pin 12	208	496	61.32	--
T1 Pin 6 - Pin 12	**232**	**560**	61.32	Max Vrms and Max peak
T3 Pin 5 - Pin 1,2	321	468	50.71	--
T3 Pin 7 - Pin 1,2	355	628	50.71	--
T3 Pin 9 - Pin 1,2	154	372	50.71	--
T3 Pin 10 - Pin 1,2	153	332	50.71	--
T3 Pin 5 - Pin 3,4	322	428	50.71	--
T3 Pin 7 - Pin 3,4	**360**	**640**	50.71	Max Vrms and Max peak
T3 Pin 9 - Pin 3,4	156	392	50.71	--
T3 Pin 10 - Pin 3,4	152	328	50.71	--
U5 Pin 1- Pin 3	144	308	63	--
U5 Pin 1- Pin 4	146	310	63	--
U5 Pin 2- Pin 3	146	310	63	--
U5 Pin 2- Pin 4	146	310	63	--
U7 Pin 1- Pin 3	195	320	63	--
U7 Pin 1- Pin 4	192	317	63	--
U7 Pin 2- Pin 3	192	317	63	--
U7 Pin 2- Pin 4	192	317	63	--
U9 Pin 1- Pin 3	154	328	63	--
U9 Pin 1- Pin 4	152	325	63	--
U9 Pin 2- Pin 3	152	325	63	--
U9 Pin 2- Pin 4	152	325	63	--
CY5 Primary Pin - Secondary Pin	148	316	63	--

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Clause	Requirement + Test		Result - Remark	Verdict
T3 Pin 5 - D9	302	416	63	--
C2 - CY5	323	440	63	--
U9 - D9	164	364	63	--
supplementary information:				
Supply voltage: 230V, 63Hz, the test result represented the worst condition.				

IEC62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment Part 1: Safety requirements**)**	
Differences according to ..... :	EN 62368-1:2014
Attachment Form No. ..... :	EU_GD_IEC62368_1B
Attachment Originator..... :	Intertek Semko AB
Master Attachment..... :	Date (2015-08)
Copyright © 2015 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE)	

1.	NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.		P
4.Z1	Add the follwing new subclause after 4.9: To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for **pluggable equipment type B** or **permanently connected equipment**, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for **pluggable equipment type A** the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.	Considered.	P
5.4.2.3.2.4	**Add** the following to the end of this subclause: The requirement for interconnection with **external circuit** is in addition given in EN 50491-3:2009.	No connection to external circuit.	N/A
10.2.1	**Add** the following to c) and d) in Table 39: For additional requirements, see 10.5.1.	No radiation.	N/A

IEC62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	**Add** the following after the first paragraph: *For RS 1 compliance is checked by measurement under the following conditions*: *In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or 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.* NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. *The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.* *Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.* *For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.* NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.	Added.	N/A
10.6.2.1	**Add** the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.	Added.	N/A
10.Z1	**Add** the following new subclause after 10.6.5. **10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz** The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566	Added.	N/A

IEC62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	**Add** the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.	Added.	N/A
Bibliography	**Add** the notes for the standards EN references indicated	Added.	N/A
ZA	**NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS**		—

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
4.1.15	**Denmark, Finland, Norway** and **Sweden** To the end of the subclause the following is added: **Class I pluggable equipment type A** intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and **accessible** parts, have a marking stating that the equipment shall be connected to an earthed **mains** socket-outlet. The marking text in the applicable countries shall be as follows: In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.” In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”	Added	P
4.7.3	**United Kingdom** To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex		N/A

IEC62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) **SPECIAL NATIONAL CONDITIONS (EN)**			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.2	**Denmark** After the 2nd paragraph add the following: A warning (marking **safeguard**) for high **touch current** is required if the **touch current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.	No high touch current measured.	N/A

IEC62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.11.1 and Annex G	**Finland and Sweden** To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.	No connection to such a network.	N/A

IEC62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.2.1	**Norway:** Capacitors rated for the applicable line-to-line voltage (230 V).		N/A
5.5.6	**Finland, Norway** and **Sweden** To the end of the subclause the following is added: Resistors used as **basic safeguard** or bridging **basic insulation** in **class I pluggable equipment type A** shall comply with G.10.1 and the test of G.10.2.	No such resistor used.	N/A
5.6.1	**Denmark** **Add** to the end of the subclause: Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. *Justification:* In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.	Added.	N/A
5.6.4.2.1	**Ireland and United Kingdom** After the indent for **pluggable equipment type A**, the following is added: – the **protective current rating** is taken to be 13 A, this being the largest rating of fuse used in the **mains** plug.	Added.	N/A
5.6.5.1	**Ireland and United Kingdom** To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm^2 to 1,5 mm^2 in cross-sectional area.	Added.	N/A
5.7.5	**Denmark** To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the **protective conductor current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

IEC62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.1	**Norway and Sweden** To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.		N/A

IEC62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.” Translation to Swedish: ”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.		N/A
5.7.6.2	**Denmark** To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .	See for 5.2.2.2 above.	N/A
B.3.1 and B.4	**Ireland and United Kingdom** The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of **direct plug-in equipment**, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the **direct plug-in equipment**, until the requirements of Annexes B.3.1 and B.4 are met	Not direct plug-in equipment.	N/A

IEC62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	**Denmark** To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a 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
G.4.2	**United Kingdom** To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A

IEC62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	**United Kingdom** To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
G.7.1	**Ireland** Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	**Ireland and United Kingdom** To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm^2 is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A

IEC62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZC	**ANNEX (normative) A-DEVIATIONS (EN)**		—
10.5.2	**Germany** The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. *Justification*: German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. **NOTE :** Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int+49-531-592-6320, Internet: http://www.ptb.de	Not such equipment.	N/A

IEC62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
F.1	**Italy** The following requirements shall be fulfilled: • The power consumption in Watts (W) shall be indicated on TV receivers and in their instruction for use (Measurement according to EN 60555-2). Note/Nota *EN 60555-2 has since been replaced by IEC 60107-1:1997.* • TV receivers shall be provided with an instruction for use, schematic diagrams and adjustments procedure in Italian language. • Marking for controls and terminals shall be in Italian language. Abbreviation and international symbols are allowed provided that they are explained in the instruction for use. • The ECC manufacturers are bound to issue a conformity declaration according to the above requirements in the instruction manual. The correct statement for conformity to be written in the instruction manual, shall be: *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.* • 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 pT for retrofitable teletext *Justification:* Ministerial Decree of 26 March 1992 : National rules for television receivers trade.	Not such equipment.	N/A

IEC62368_1B ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Annex ZD
(informative)

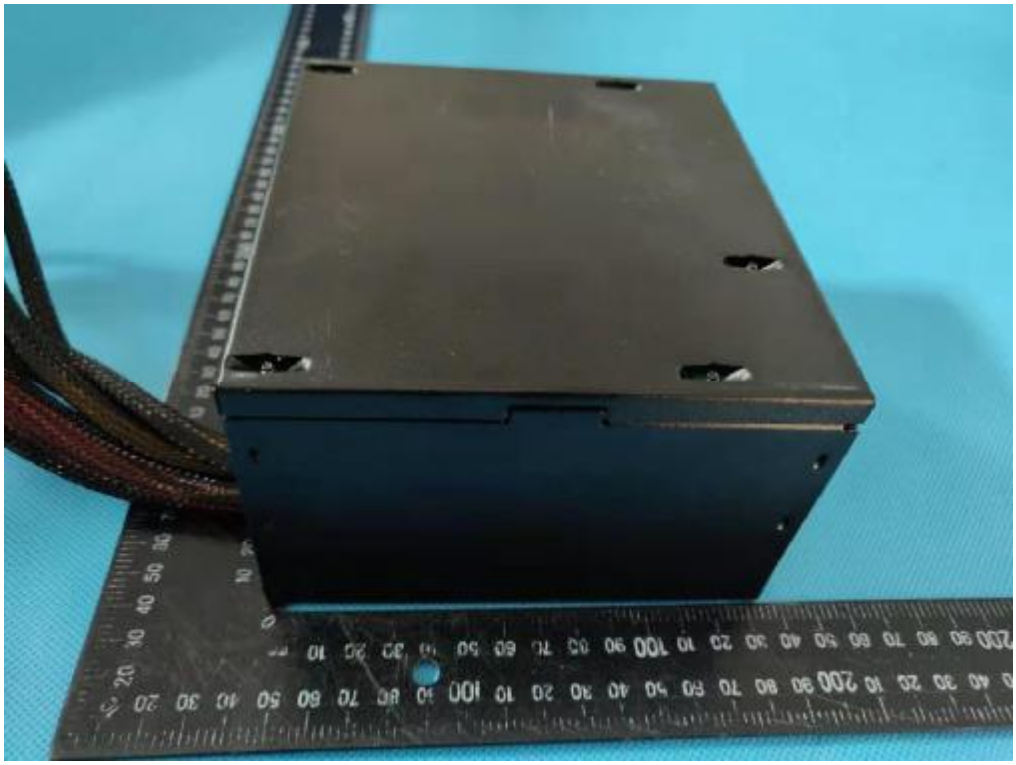
IEC and CENELEC code designations for flexible cords

Type of flexible cord	Code designations	
	IEC	CENELEC
PVC insulated cords		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60277 IEC 53	H05VV-F H05VVH2-F
Rubber insulated cords		
Braided cord	60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
Cords having high flexibility		
Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H
Cords insulated and sheathed with halogen-free thermoplastic compounds		
Light halogen-free thermoplastic insulated and sheathed flexible cords		**H03Z1Z1-F** **H03Z1Z1H2-F**
Ordinary halogen-free thermoplastic insulated and sheathed flexible cords		**H05Z1Z1-F** **H05Z1Z1H2-F**

Product	SWITCHING POWER SUPPLY
Type Designation	CRS-C2050-85-08

Photo 1

Photo 2



Product SWITCHING POWER SUPPLY
Type Designation CRS-C2050-85-08

Photo 3

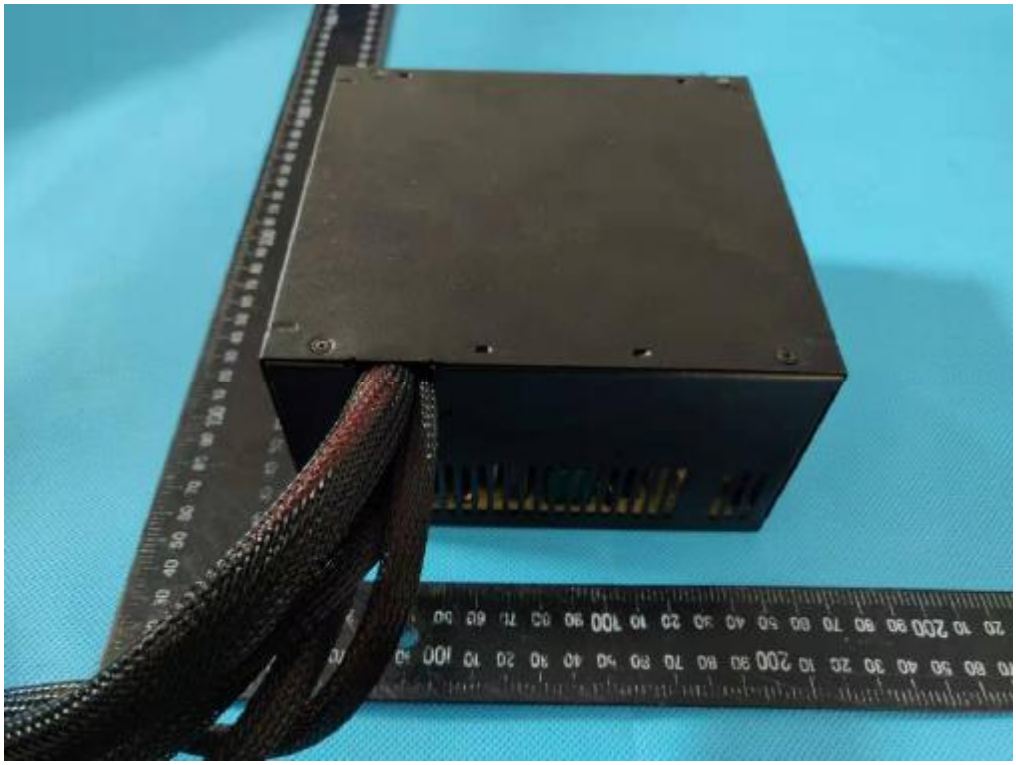


Photo 4

Product	SWITCHING POWER SUPPLY
Type Designation	CRS-C2050-85-08

Photo 5

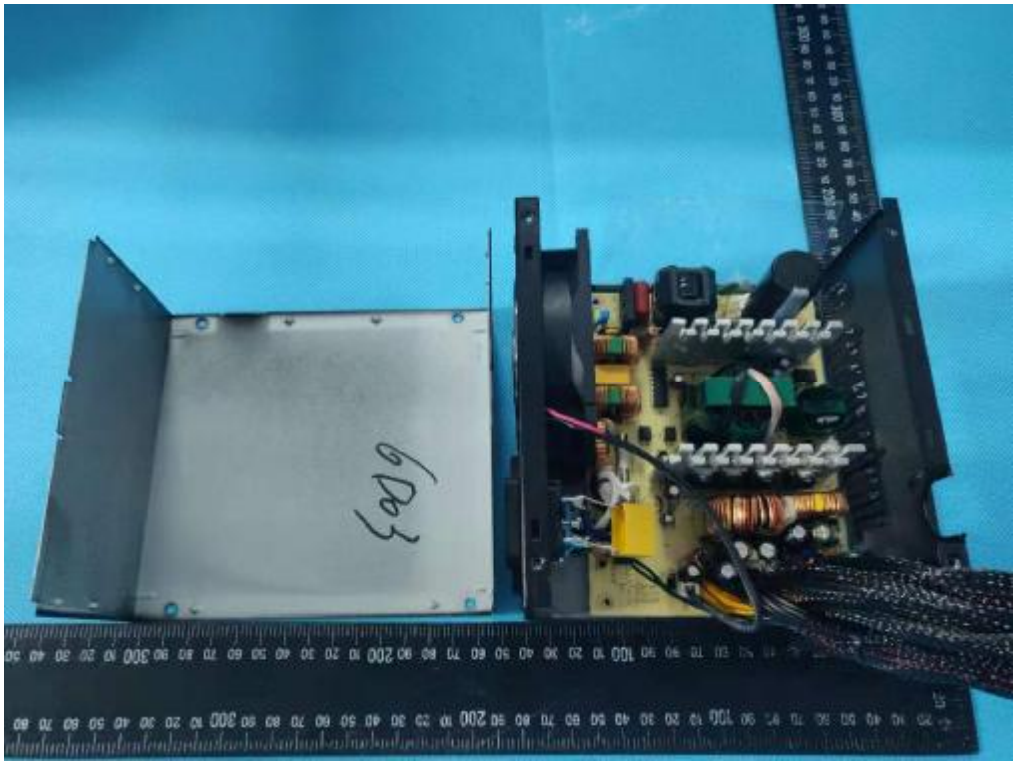
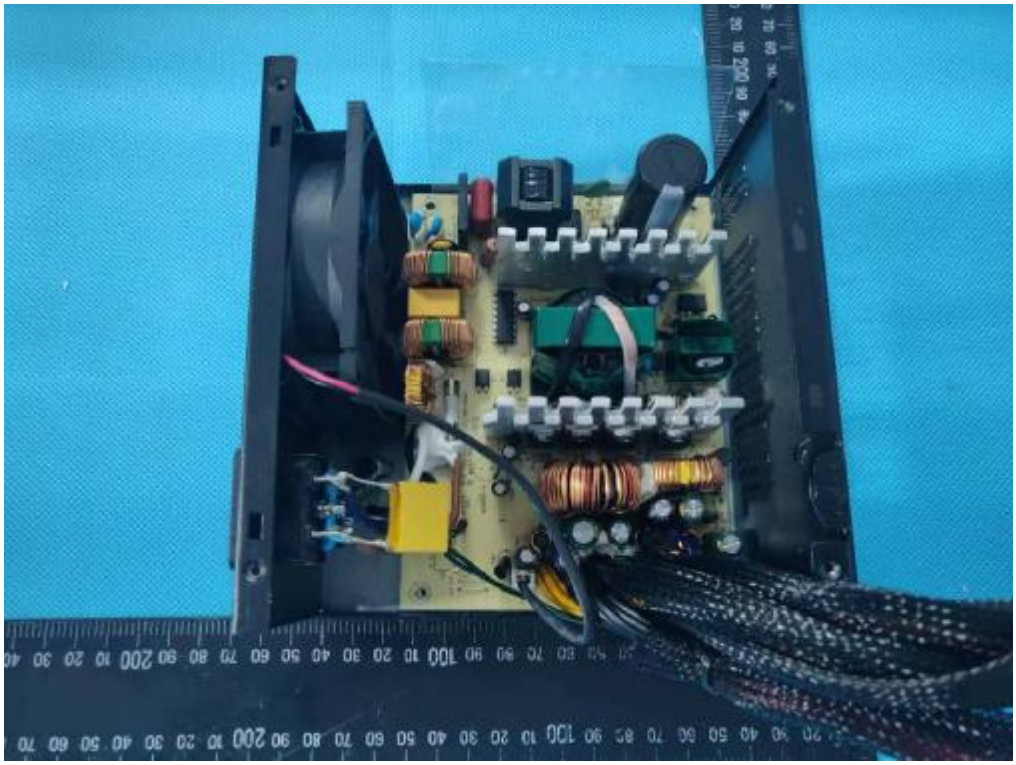


Photo 6



Product SWITCHING POWER SUPPLY
Type Designation CRS-C2050-85-08

Photo 7

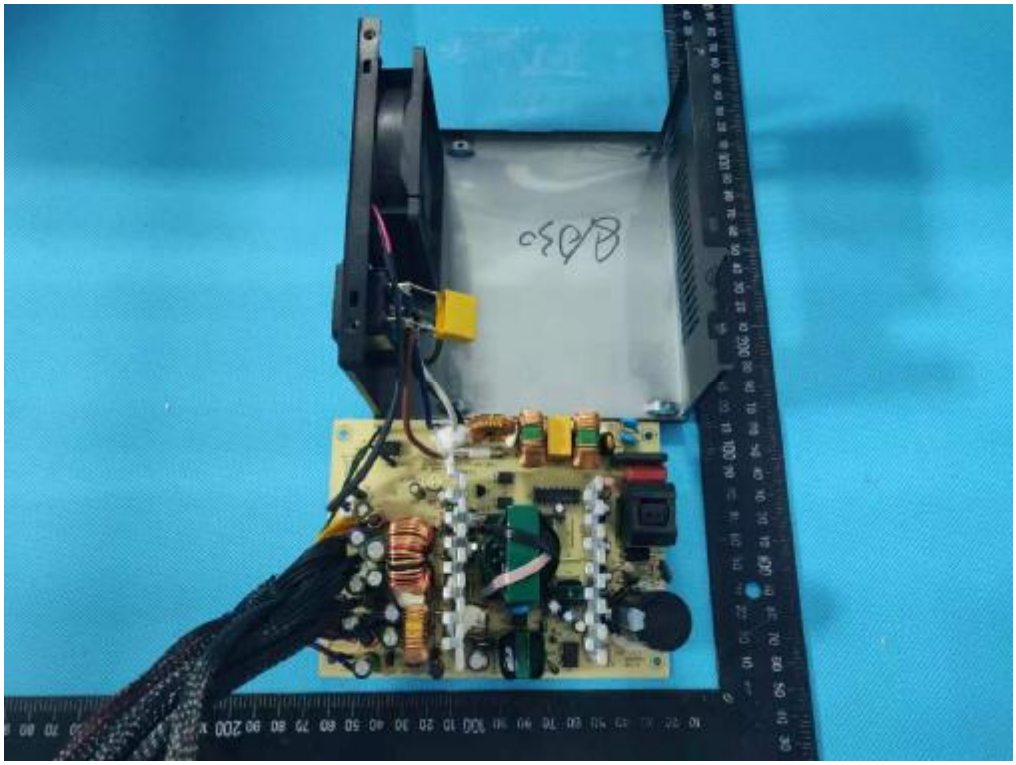
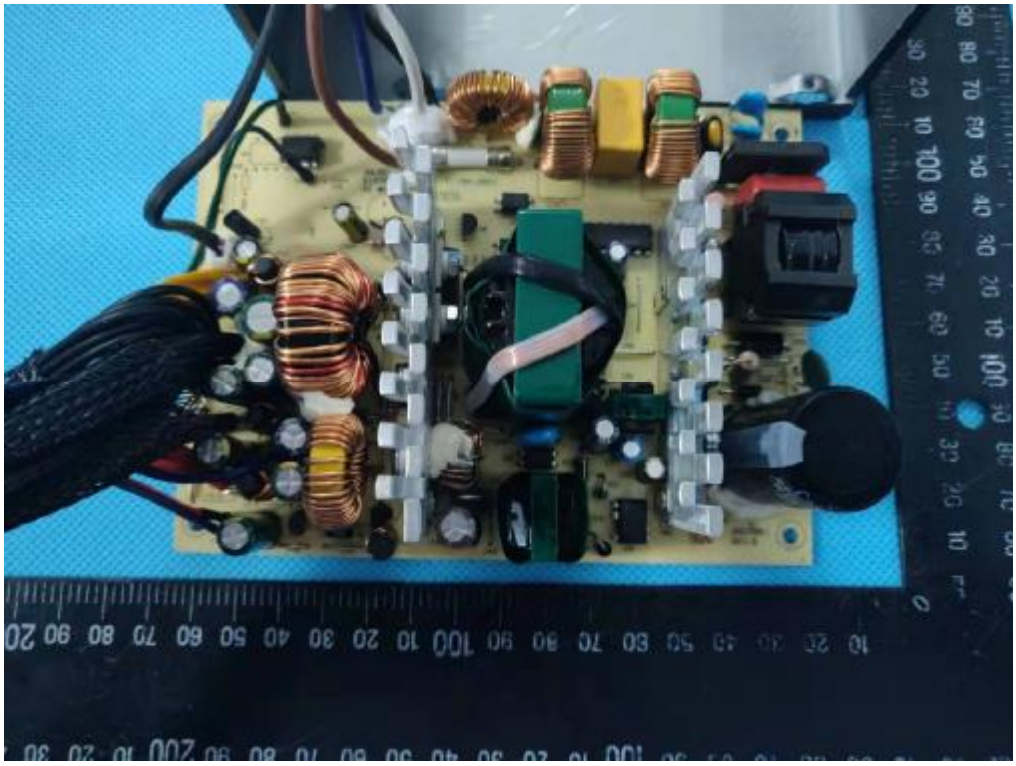
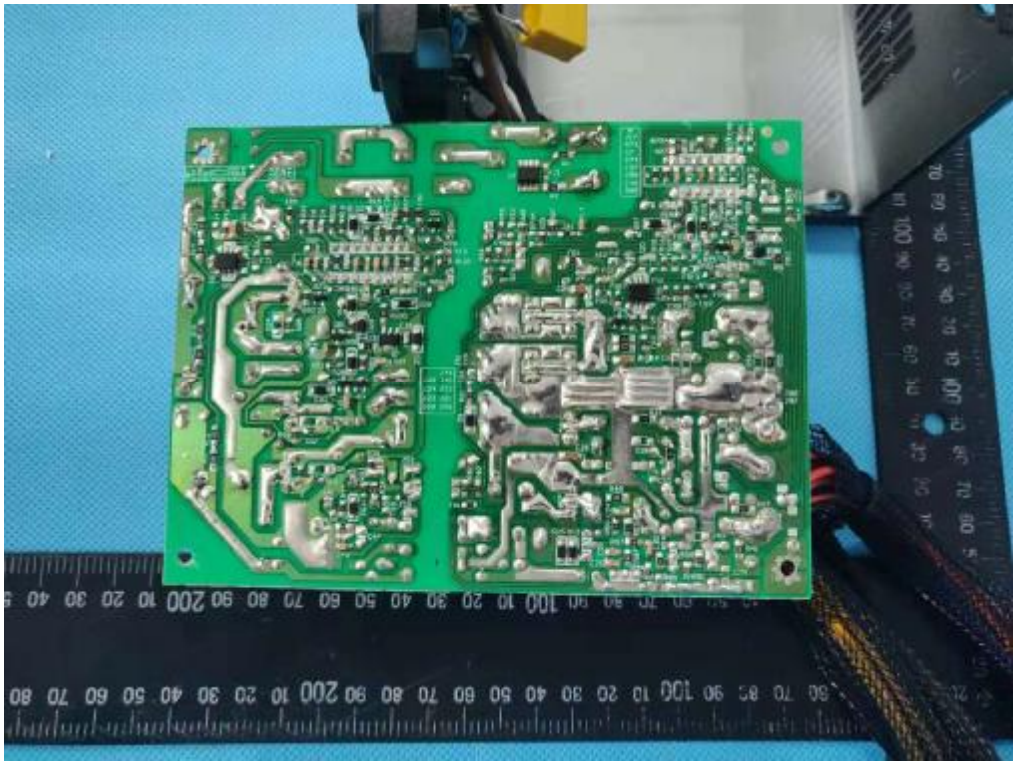


Photo 8



Product	SWITCHING POWER SUPPLY
Type Designation	CRS-C2050-85-08

Photo 9



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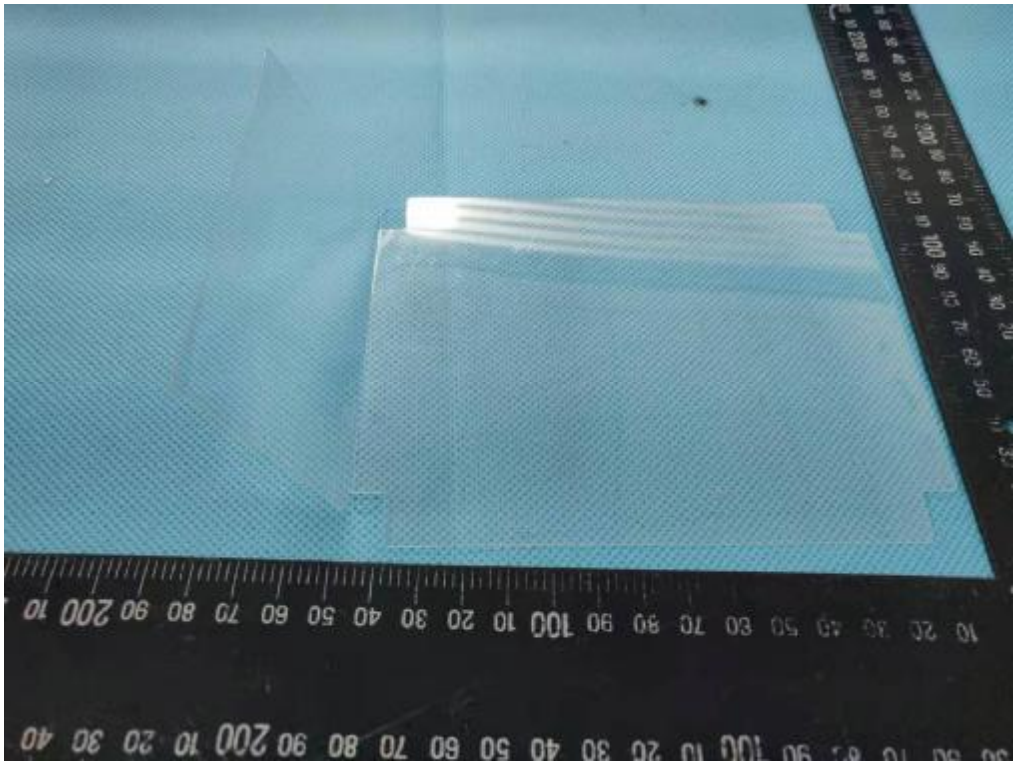


Product SWITCHING POWER SUPPLY
Type Designation CRS-C2050-85-08

Photo 11

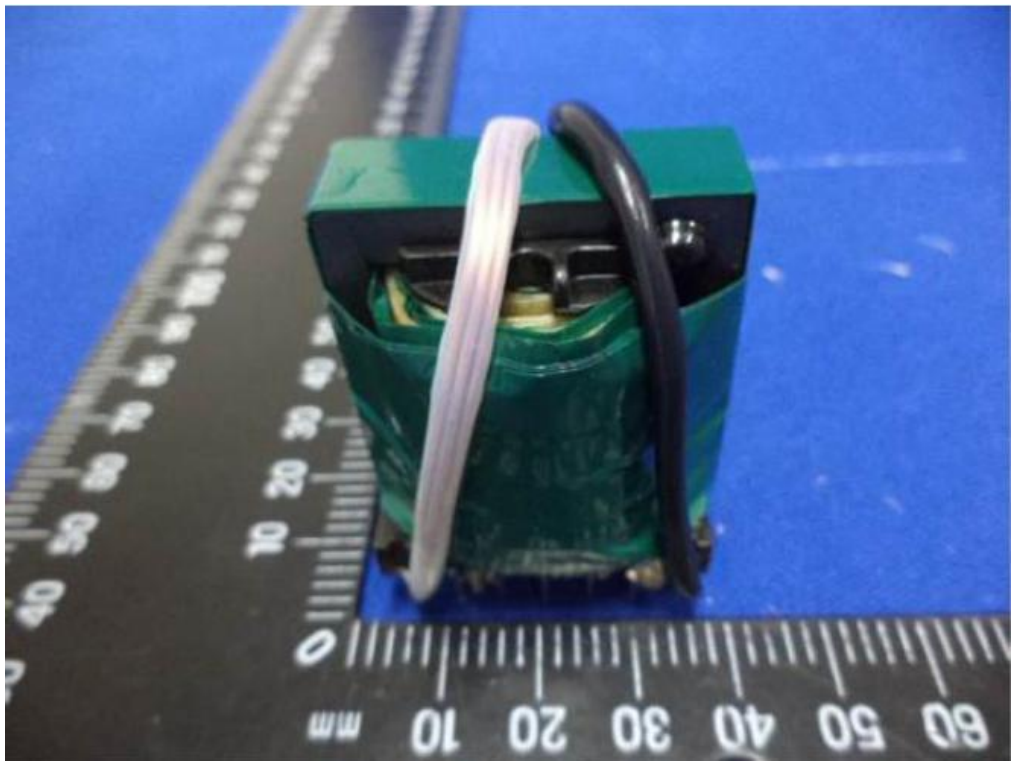
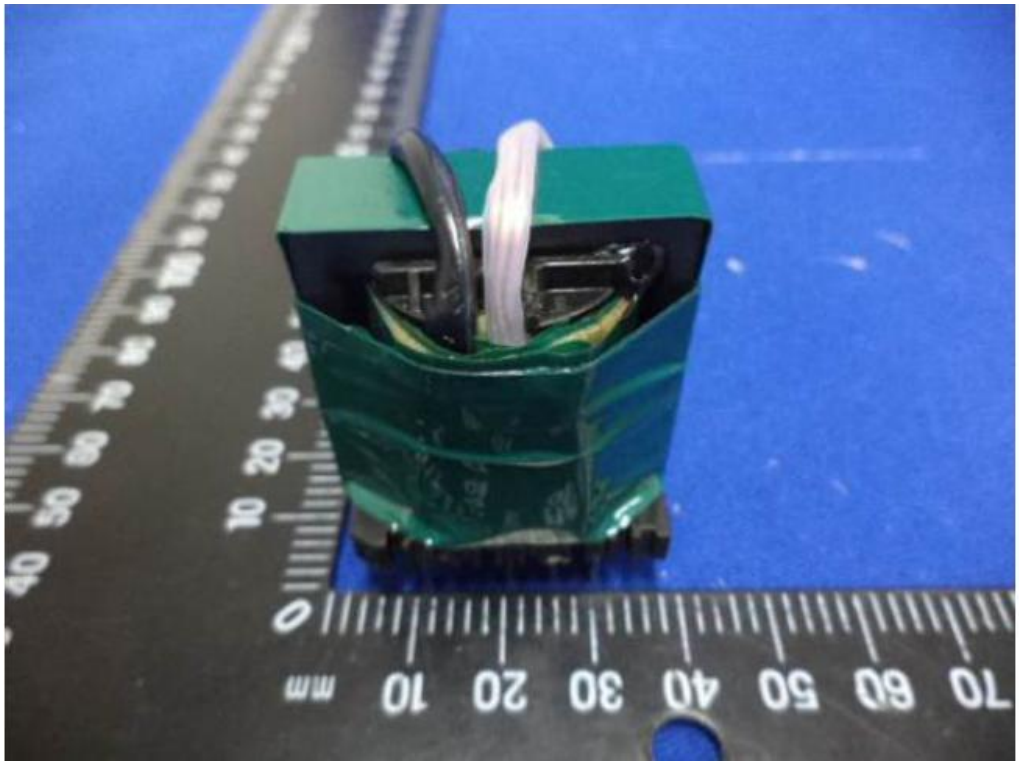
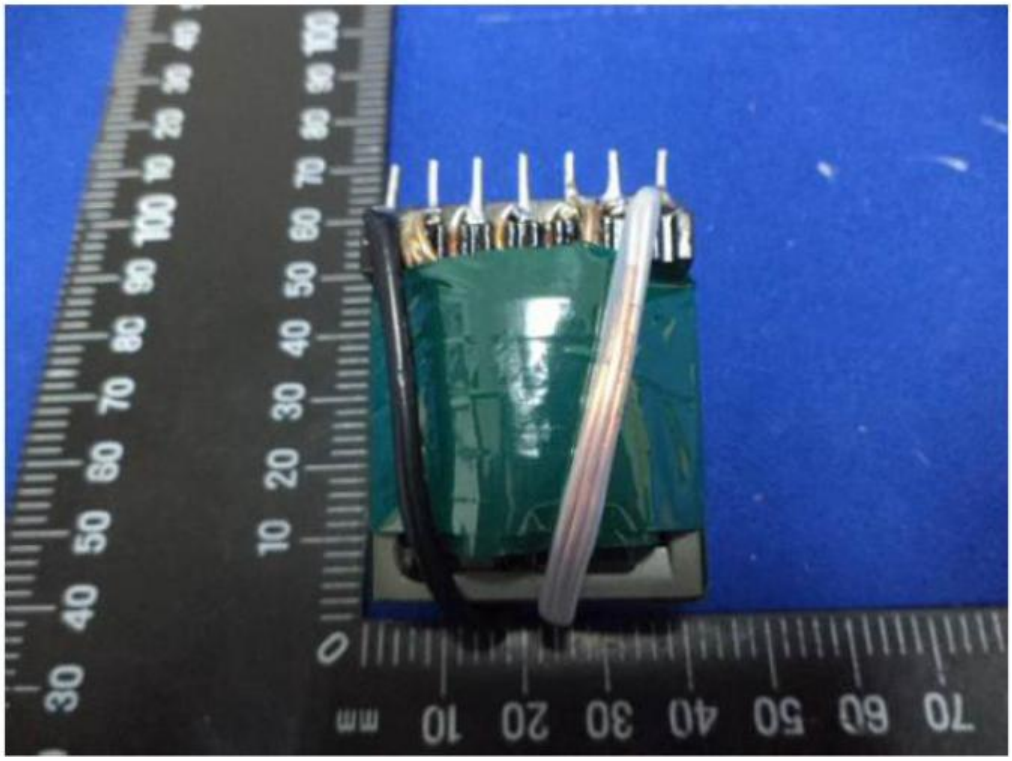


Photo 12



Product SWITCHING POWER SUPPLY
Type Designation CRS-C2050-85-08

Photo 13



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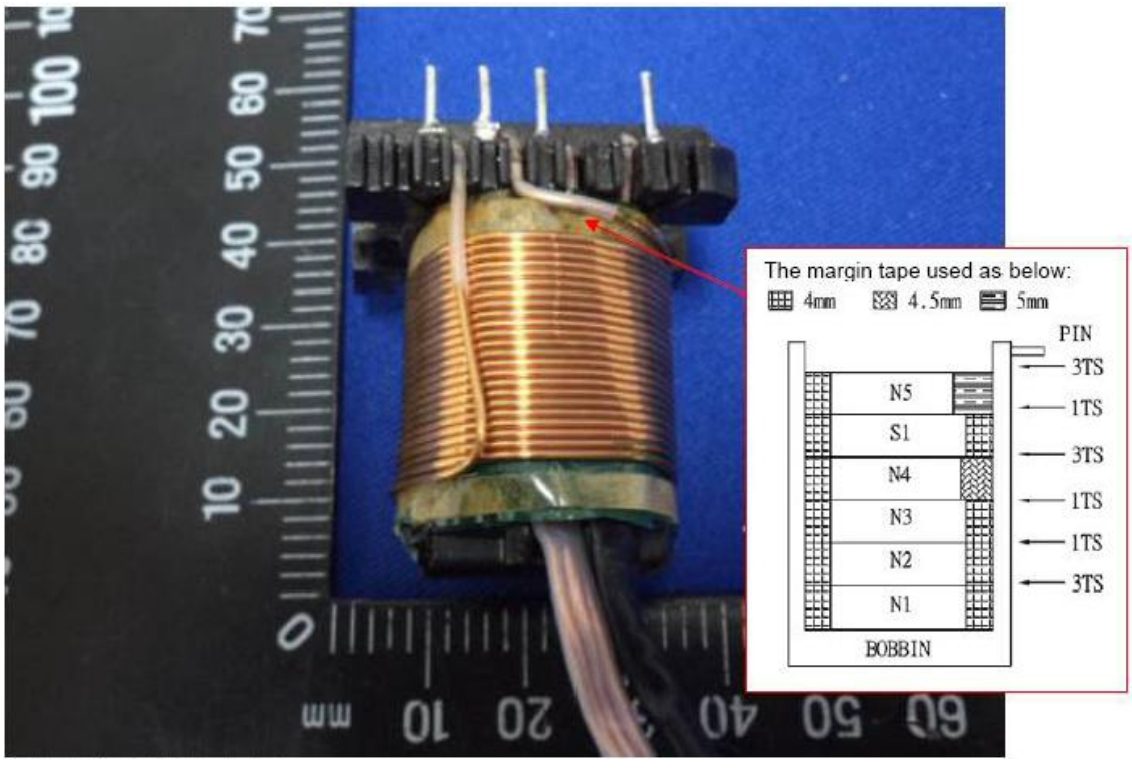


Product SWITCHING POWER SUPPLY
Type Designation CRS-C2050-85-08

Photo 15

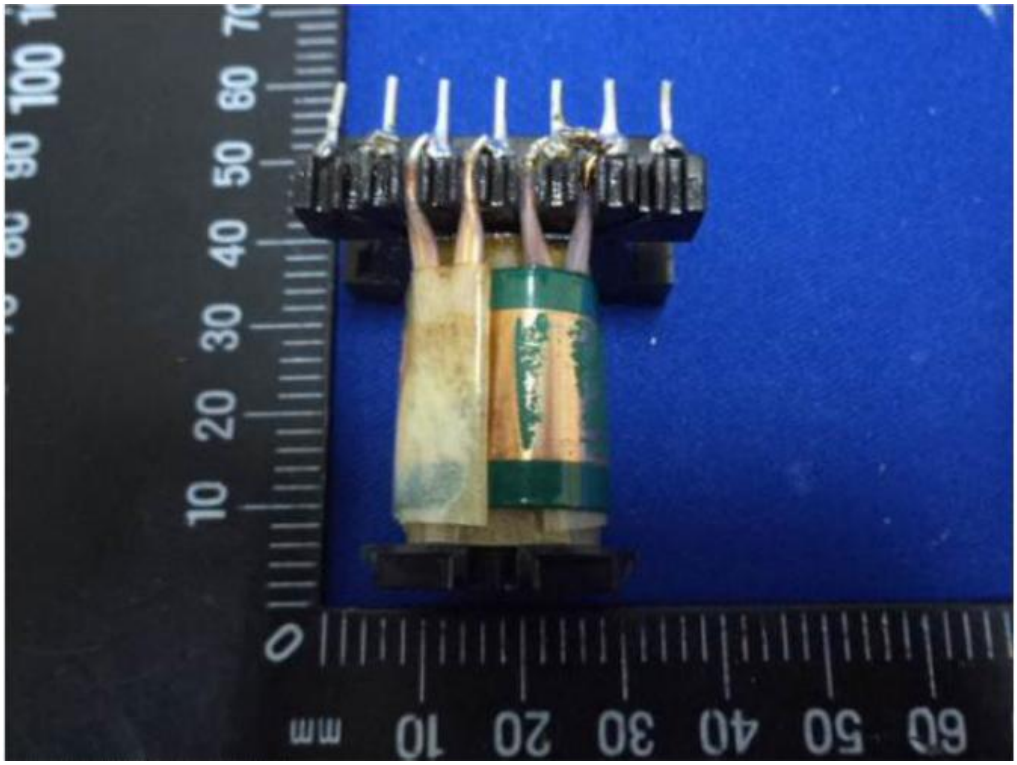
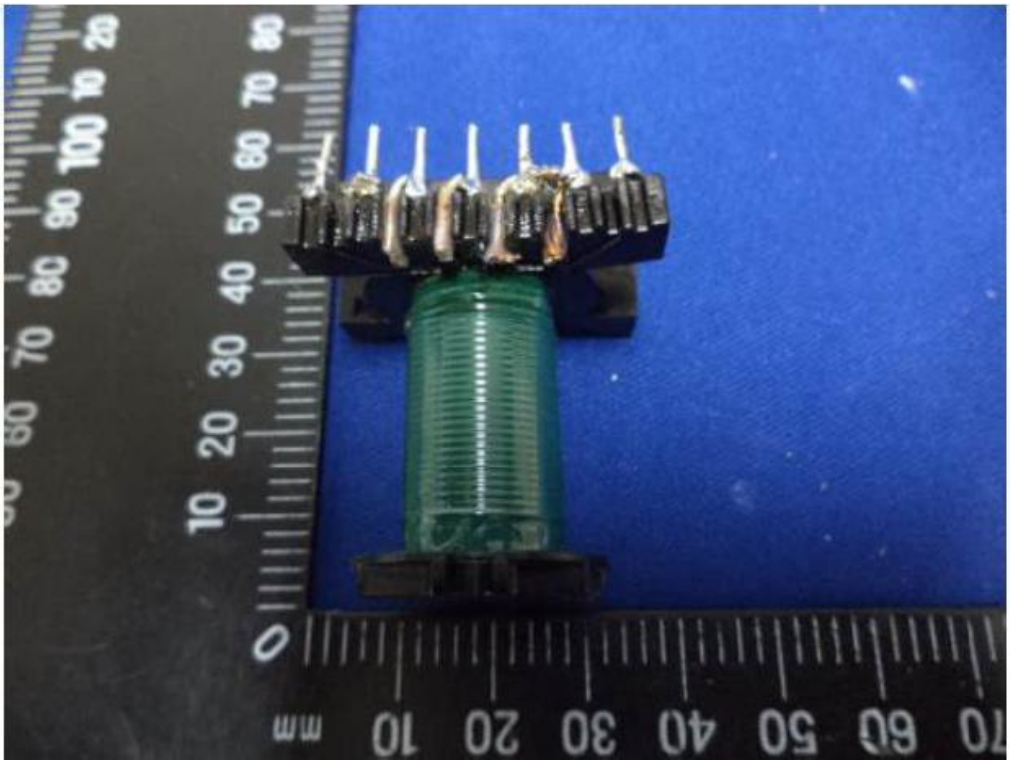


Photo 16



Product SWITCHING POWER SUPPLY
Type Designation CRS-C2050-85-08

Photo 17

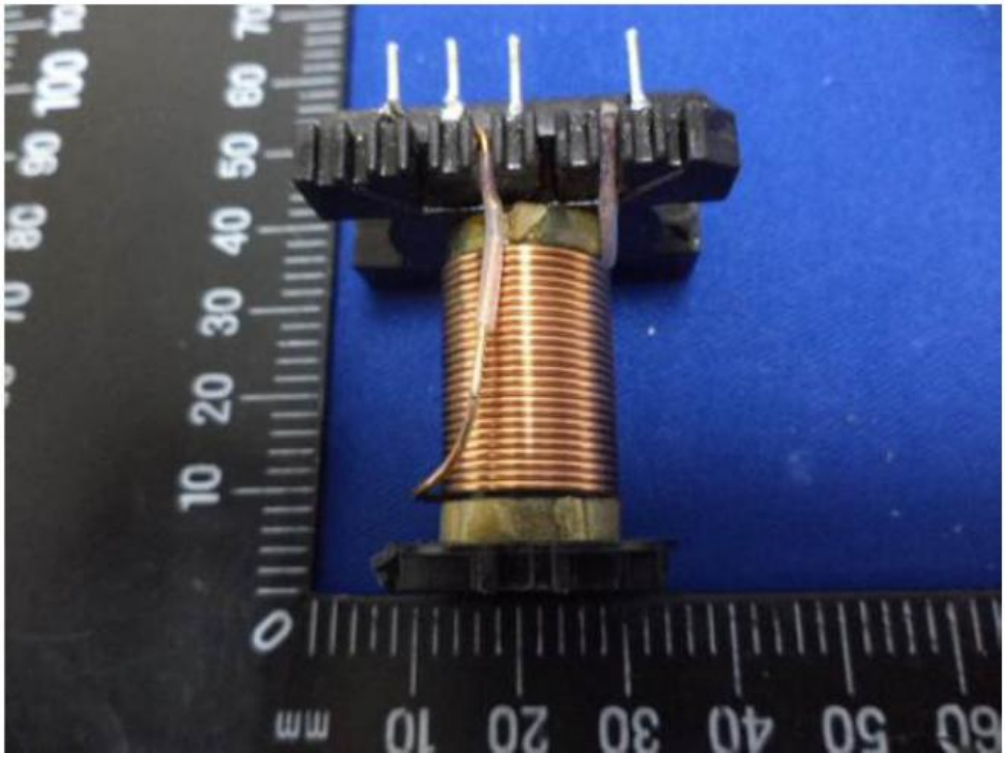
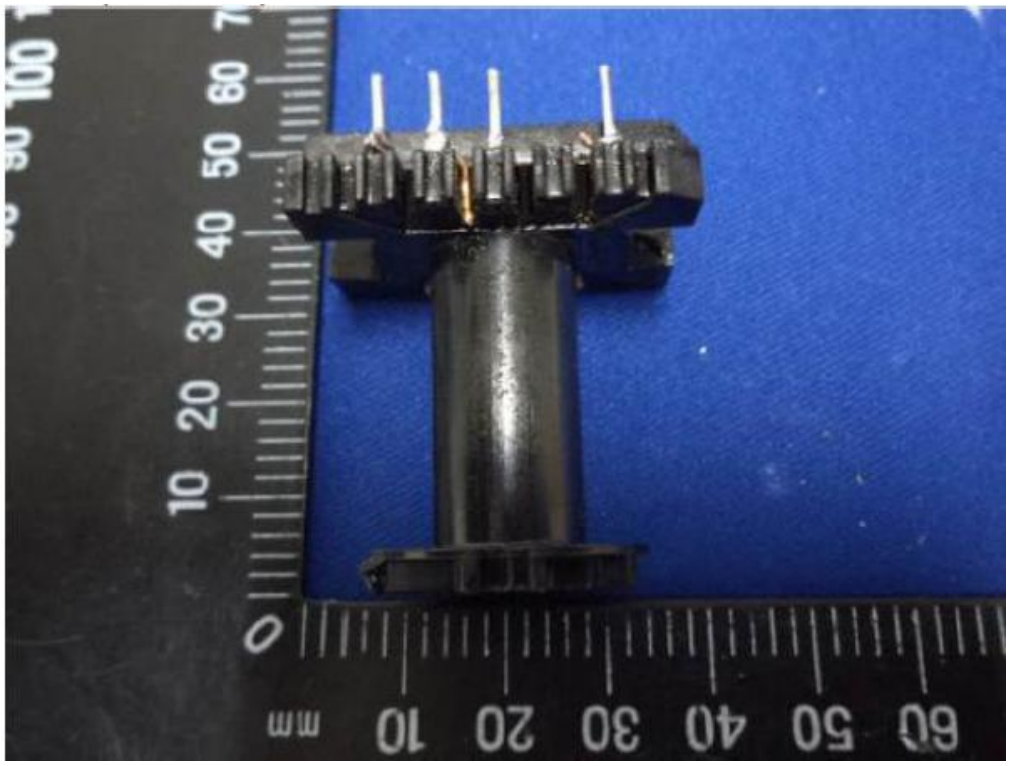
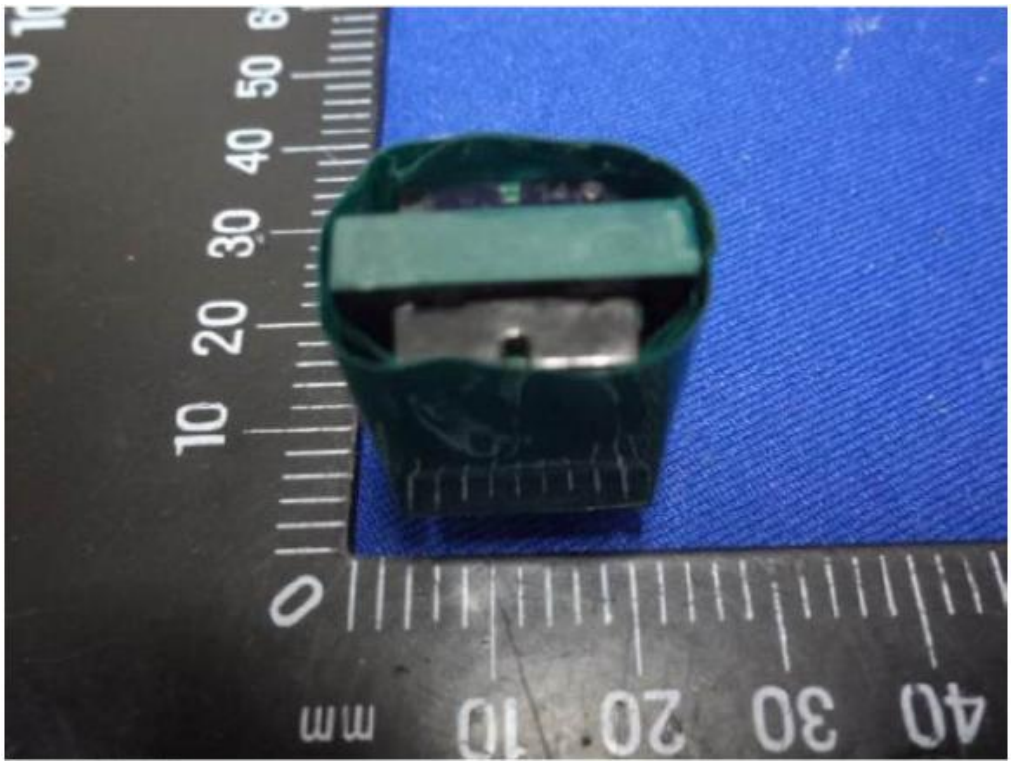


Photo 18



Product SWITCHING POWER SUPPLY
Type Designation CRS-C2050-85-08

Photo 17



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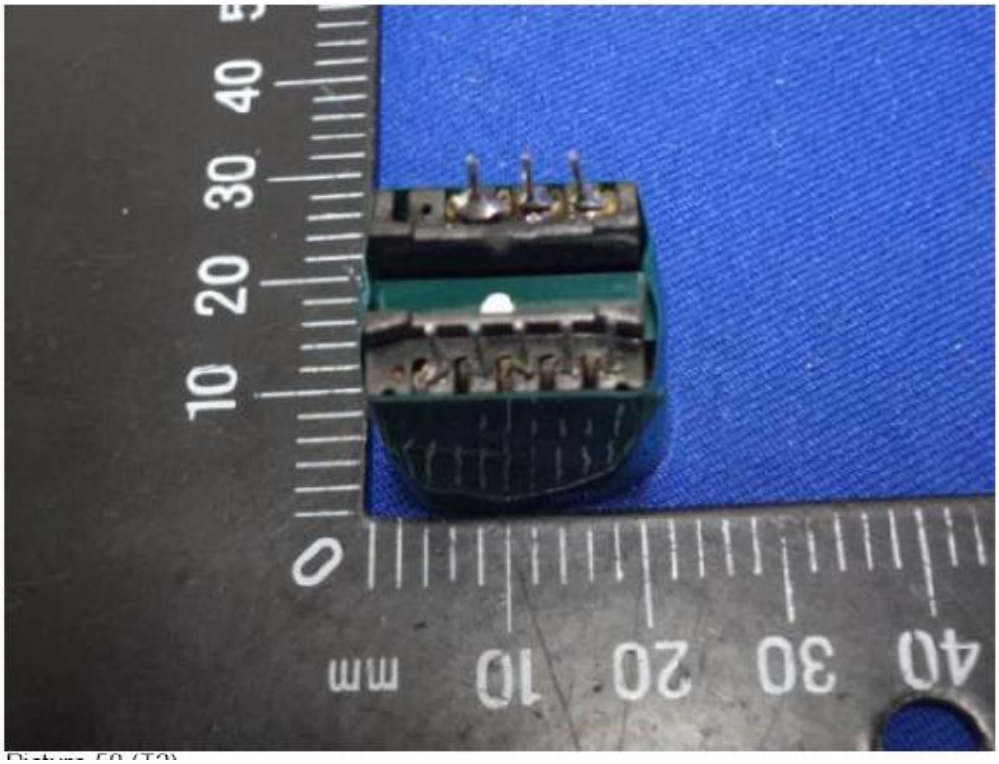


Product SWITCHING POWER SUPPLY
Type Designation CRS-C2050-85-08

Photo 19

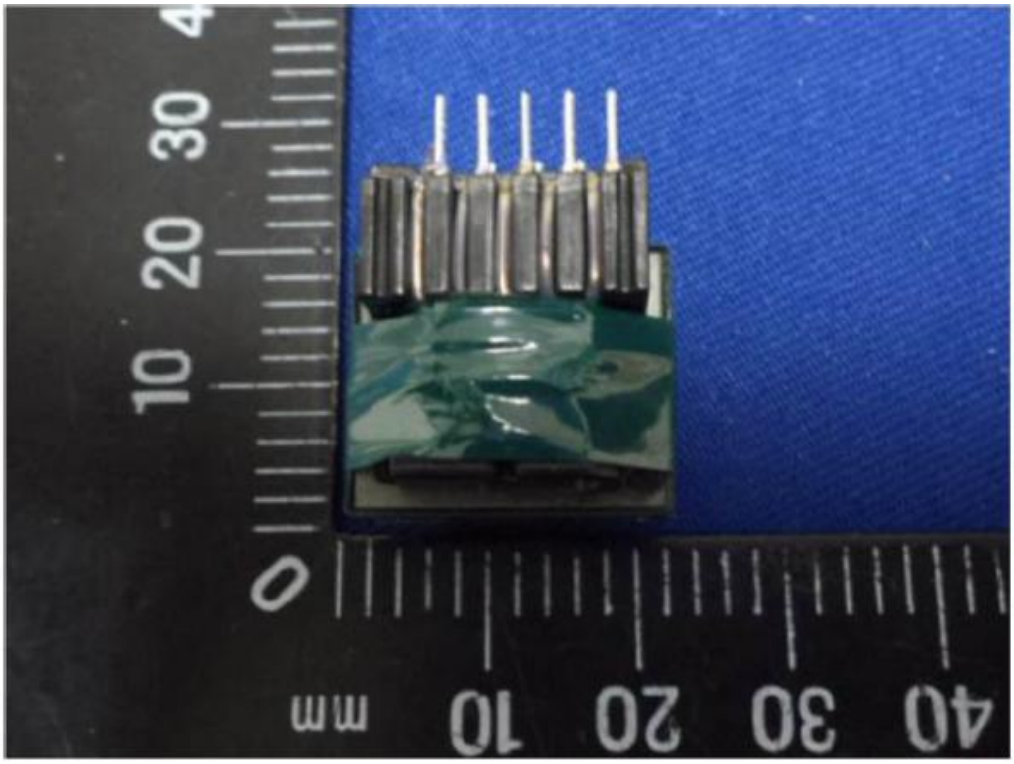
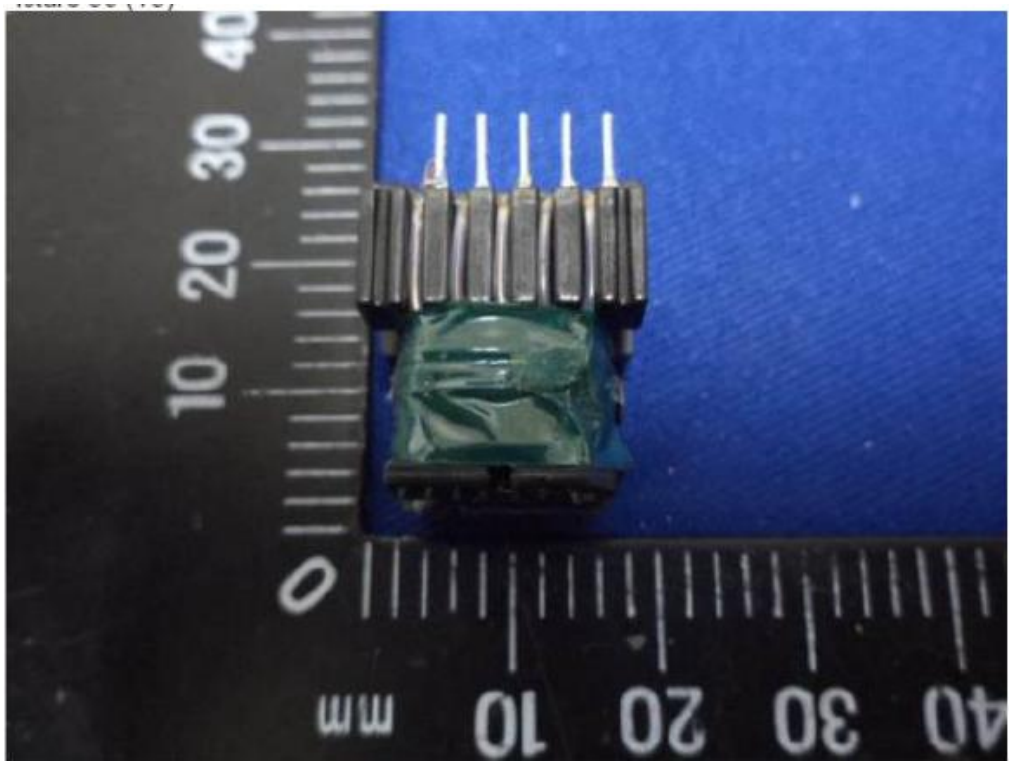


Photo 20



Product SWITCHING POWER SUPPLY
Type Designation CRS-C2050-85-08

Photo 21

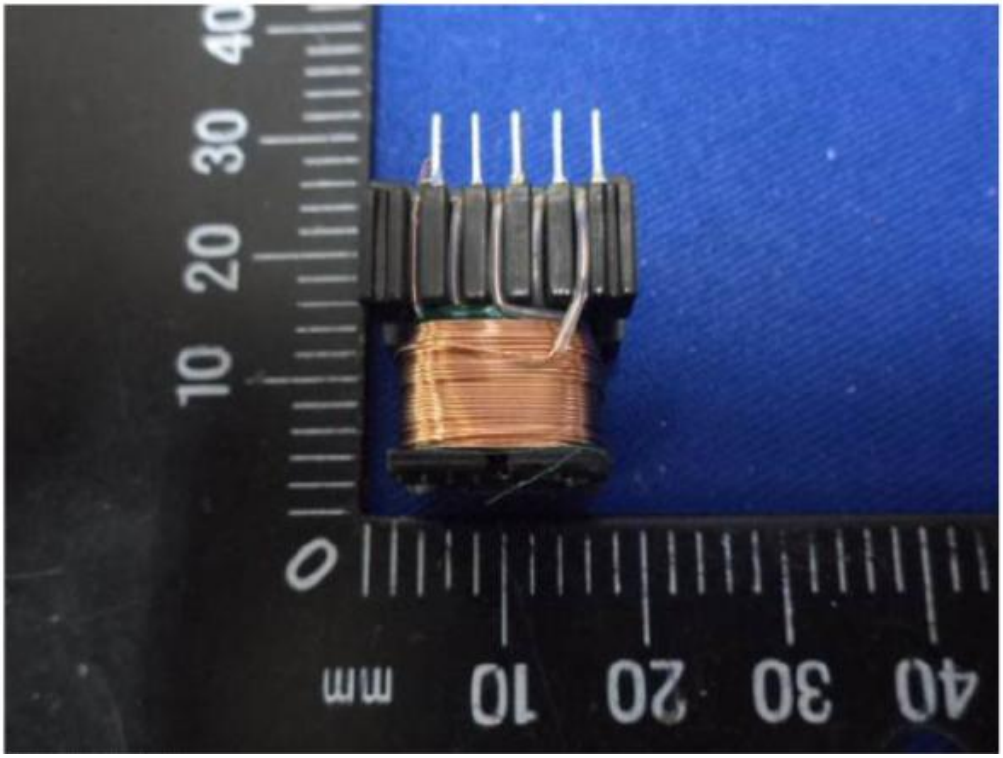
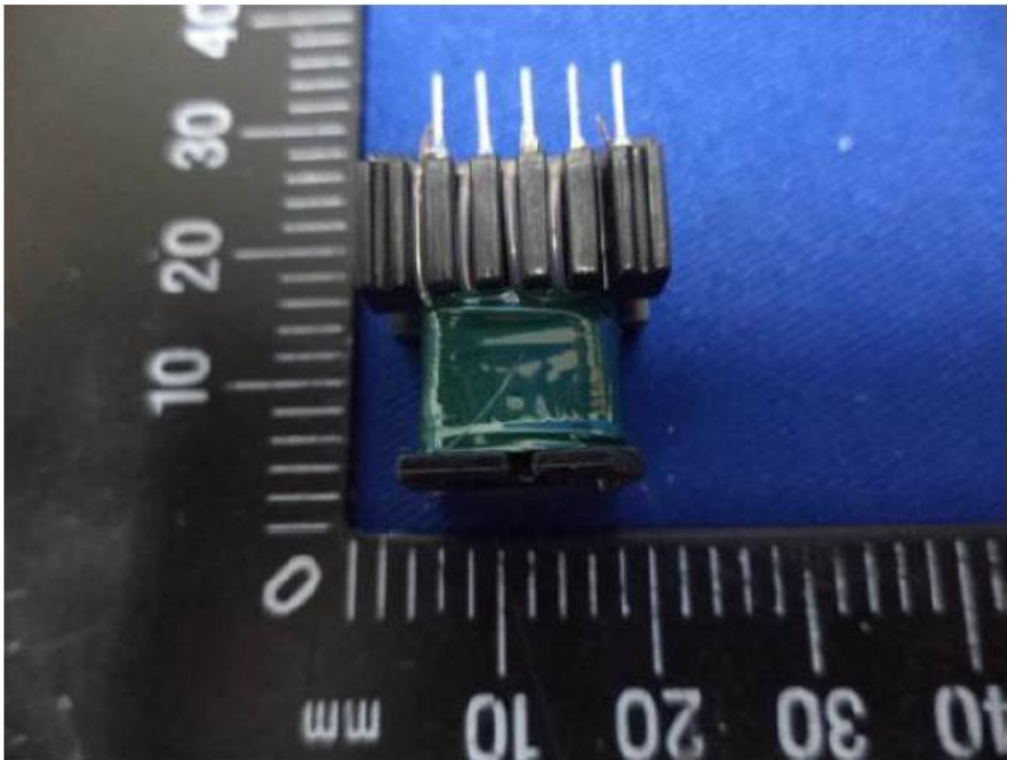


Photo 22



Product SWITCHING POWER SUPPLY
Type Designation CRS-C2050-85-08

Photo 23

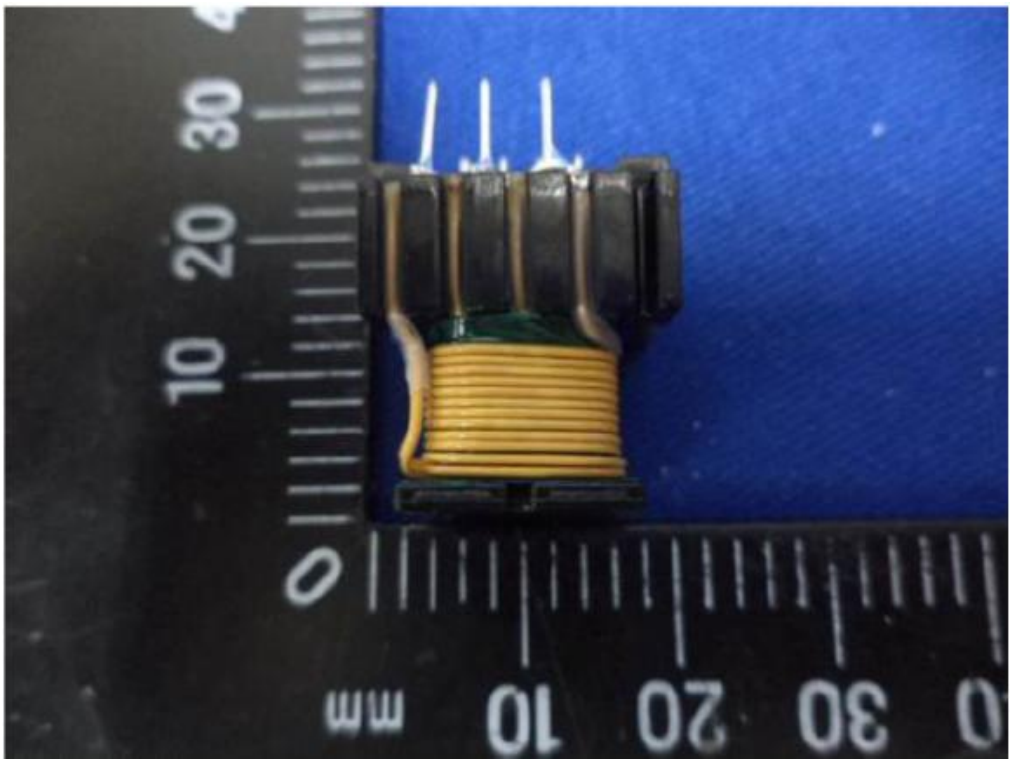
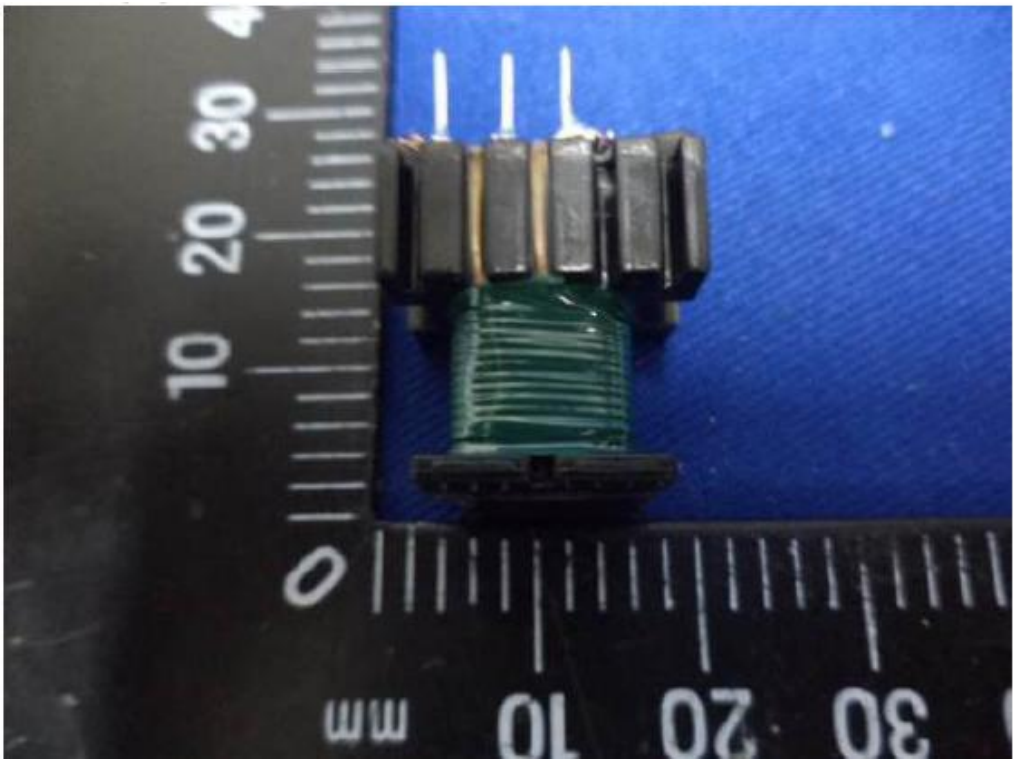


Photo 24



Product SWITCHING POWER SUPPLY
Type Designation CRS-C2050-85-08

Photo 25

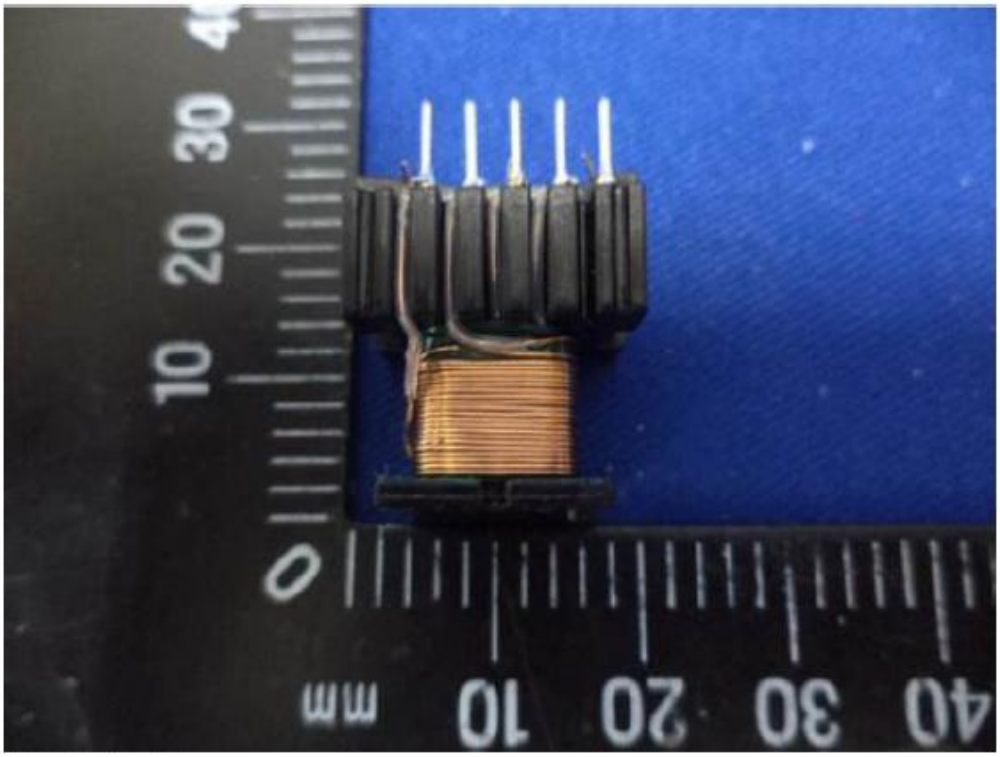
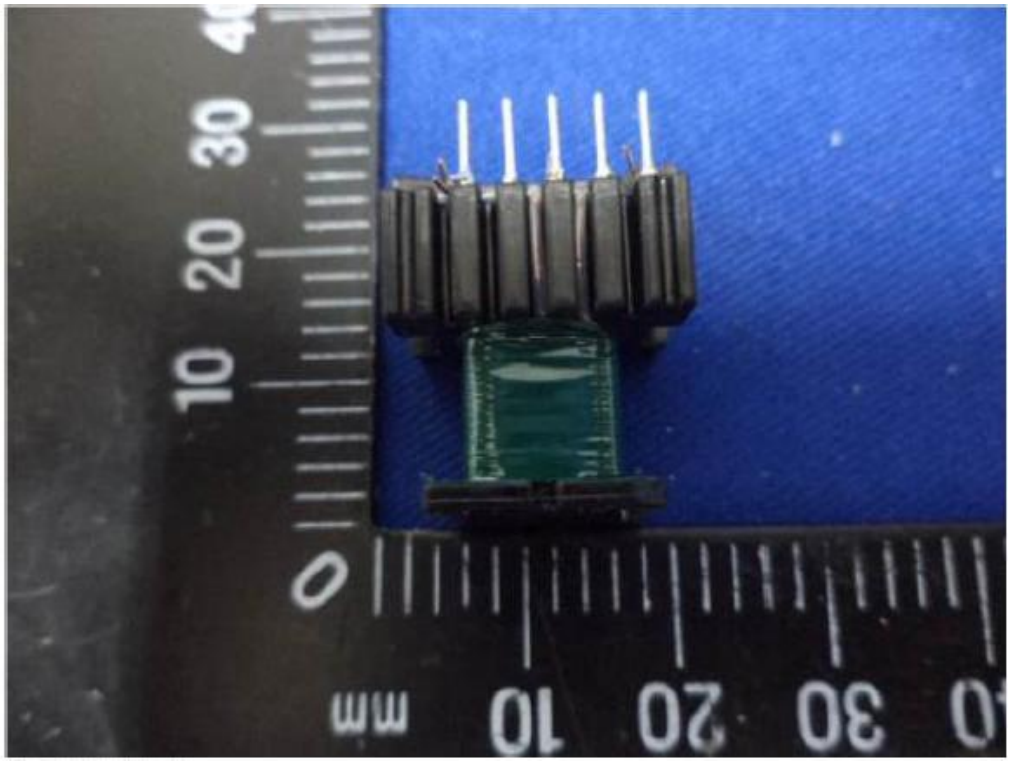


Photo 26



Product SWITCHING POWER SUPPLY
Type Designation CRS-C2050-85-08

Photo 27

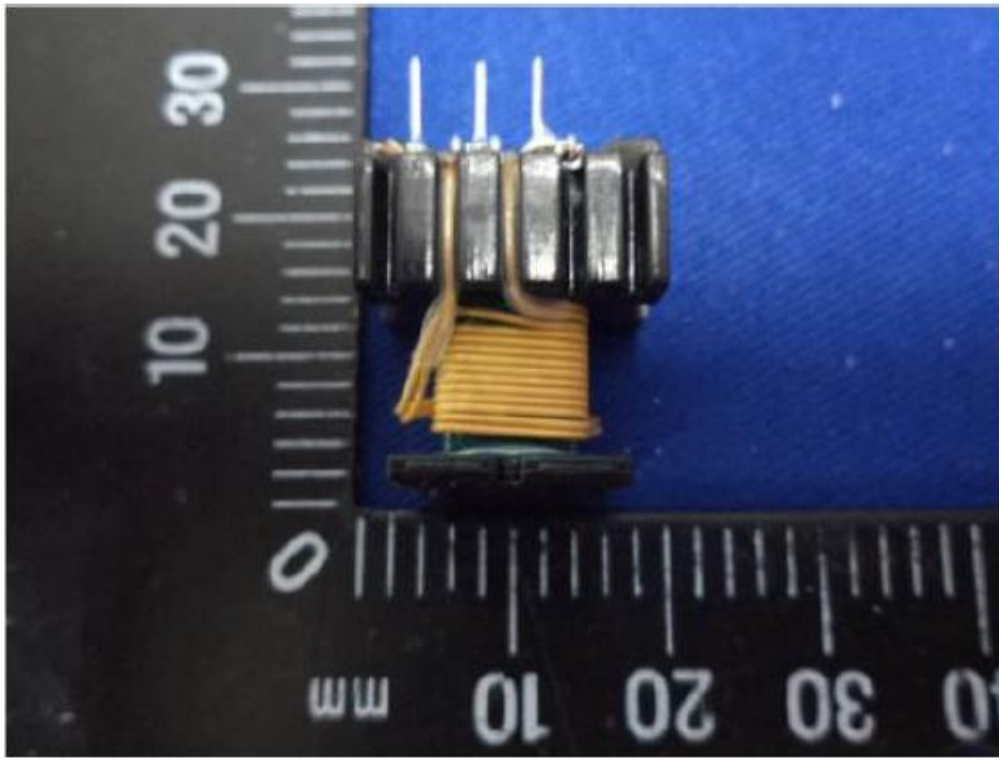
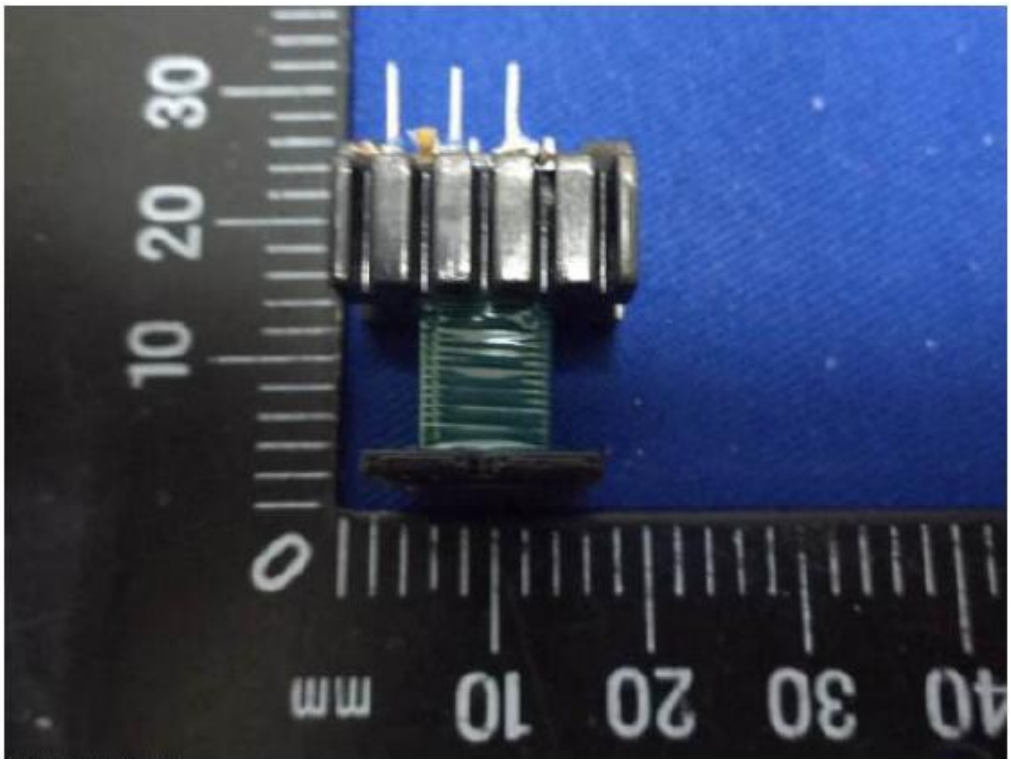


Photo 28



Product SWITCHING POWER SUPPLY
Type Designation CRS-C2050-85-08

Photo 29

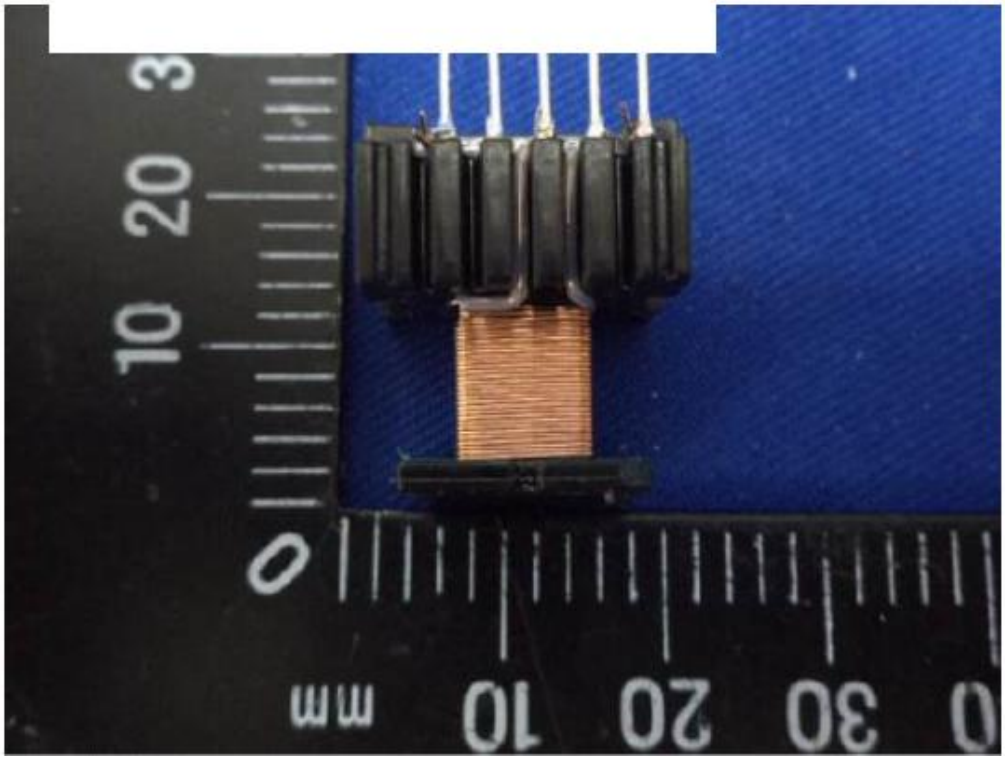
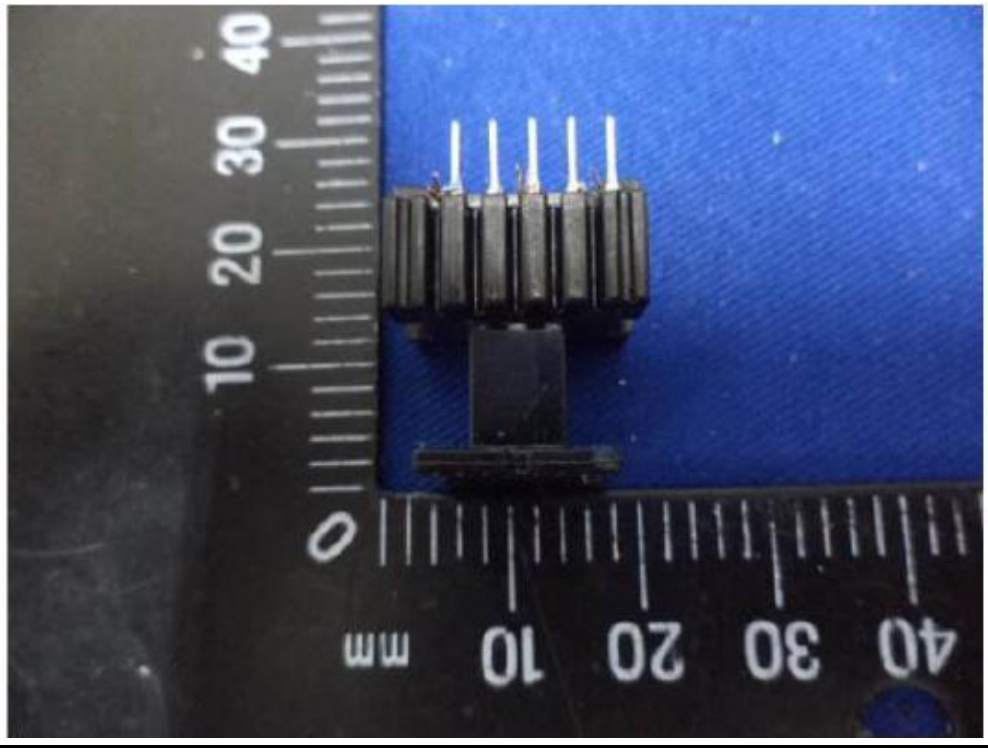


Photo 30



Product SWITCHING POWER SUPPLY

Type Designation CRS-C2050-85-08

For Transformer(T3)

SPECIFICATION FOR APPROVAL

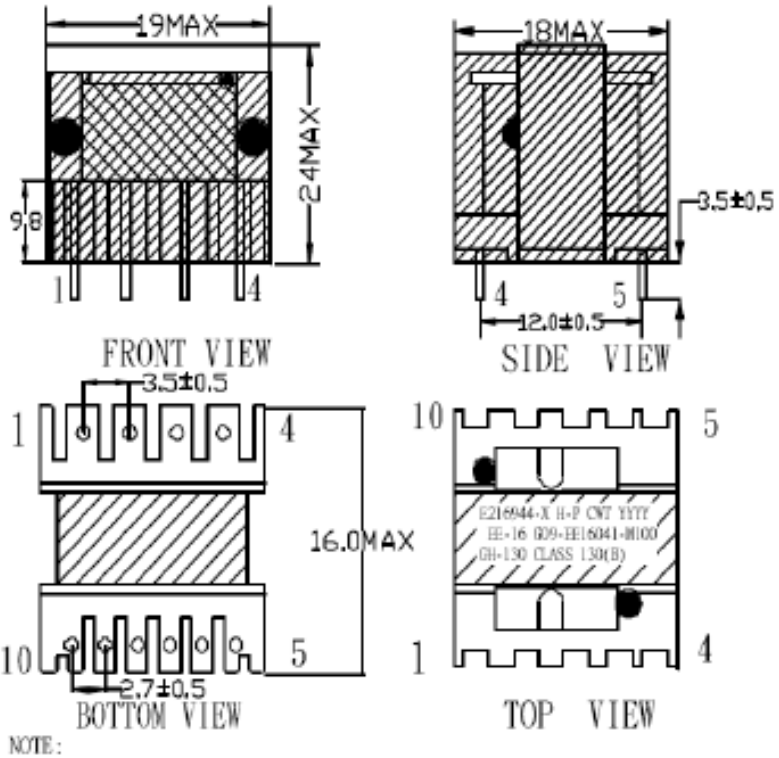
SHEET: 1 OF 4

CUSTOMER: 貴冠 TYPE: EE-16（高擋壇）

PART NO: G09-EE16041-M100 OUR P/N:

REVISION: A ISSUE DATE: 2015.4.10

1. MECHANICAL DIMENSIONS: (UNIT :mm) 成品單重: 9.5g



-後X:表示生產商
昌聖：W
冠鎮：I
貴冠：G

YYWW 表示:周期

NOTE:

1. PIN8 NO. PIN6 CUT OFF 1/2
2. CORE TAPE 3TS, 磁芯需研磨.
3. 所有出入線須加TFL TUBE.
4. 成品需点胶, 磁芯與磁芯結合處點膠2點, 頂部磁芯與BOBBIN之間兩點.
5. 成品平齊骨架支點包20.0mm膠帶2TS.
5. 標籤材質為25#透明龍, 標籤貼於頂部, 字腳朝向PIN1-4側(如圖所示).

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	楊景龍	張麗云

Product SWITCHING POWER SUPPLY

Type Designation CRS-C2050-85-08

SPECIFICATION FOR APPROVAL

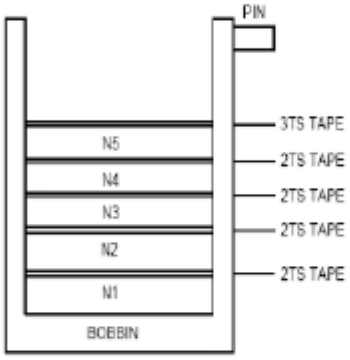
SHEET: 2 OF 4

CUSTOMER: 貴 冠 TYPE: EE-16（高擋墻）

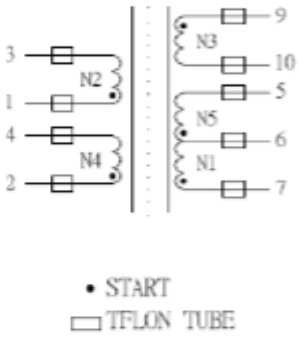
PART NO: G09-EE16041-M100 OUR P/N:

REVISION: A ISSUE DATE: 2015.4.10

2. CONSTRUCTIONS:



3. SCHEMATIC:



4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		TAPE		NOTE
						ST	FI	PIN	TOP	
N1	2UEW Φ0.2mm	7	6	64TS	2TS	V	V			密繞
N2	TRW(B) Φ0.4mm	1	3	8TS	2TS	V	V			密繞
N3	2UEW Φ0.3mm	9	10	24TS	2TS	V	V			密繞
N4	TRW(B) Φ0.4mm	2	4	8TS	2TS	V	V			密繞
N5	2UEW Φ0.2mm	6	5	64TS	3TS	V	V			密繞

NOTE：

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	楊景龍	張麗云

Product SWITCHING POWER SUPPLY

Type Designation CRS-C2050-85-08

wwz, CSAxy-wwz, SPAxy-wwz

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 4

CUSTOMER: 貴冠 TYPE: EE-16（高擋墻）

PART NO: G09-EE16041-M100 OUR P/N:

REVISION: A ISSUE DATE: 2015.4.10

5. ELECTRICAL CHARACTERISTICS:(AT20℃ 65±5%RH)
   (1). INDUCTANCE: AT 1KHz 0.25V
   L(7--5):1.3mH±5%
   (2). LEAKAGE INDUCTANCE: AT 1KHz 0.3V
   LK(7--5): 160uH MAX (SHORT PIN1.2.3.4.9.10)
   (3). DC RESISTANCE:
   DCR(7--5):2.7Ω MAX
   (4). HI-POT TEST :AC 50Hz OR 60Hz 5mA 60SEC
   PRI -- CEC: 3000V
   PRI -- CORE:1500V
   SEC -- CORE:1500V
   (5). INSULATION RESISTANCE: DC500V
   PRI -- SEC:100M OHMS MIN
   PRI -- CORE:100M OHMS MIN
   SEC -- CORE:100M OHMS MIN

APPROVED BY	CHECKED BY	DRAWING BY
李俊良	楊景龍	張麗云

Product SWITCHING POWER SUPPLY

Type Designation CRS-C2050-85-08

For Transformer(T1)

SPECIFICATION FOR APPROVAL

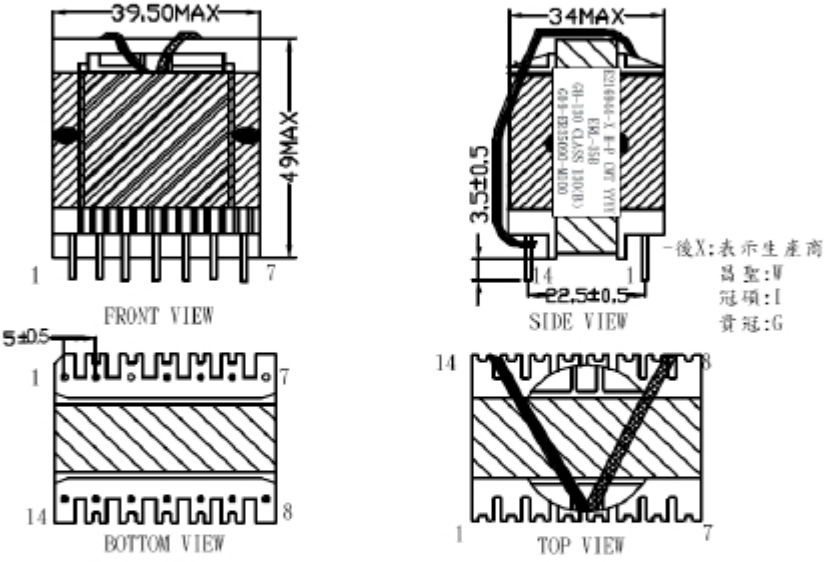
SHEET: 1 OF 4

CUSTOMER: 貴 冠 TYPE: ERL-35/43

PART NO: G09-ER35090-M100 OUR P/N:

REVISION: A ISSUE DATE: 2015.05.28

1. MECHANICAL DIMENSIONS: (UNIT :mm)



NOTE:

1. PIN5, 6, 7 NO, PIN2 CUT OFF1/2.
2. N3繞制工法:銅箔從二次側起繞,飛線從一次側頂部出線,加白色TEFLON套管,待組裝完鐵芯後再焊接到14腳.
3. N4繞制工法:銅箔從一次側起繞,飛線從一次側頂部出線,加黑色TEFLON套管,待組裝完鐵芯後再焊接到8腳.
4. CORE TAPE 3TS:所有出入線加TFL套管.
5. 飛線焊接前,先包外圍膏膠銅箔0.025mm*20mm*1TS(膏膠上下反折5mm,銅箔居於BOBBIN中間)首尾需焊接,焊接于PIN4,然後再包膠帶28mm*3TS.
6. 磁芯與磁芯結合處及磁芯與BOBBIN結合處共點膠四點(如圖所示).
7. 線鐵貼於側面,字腳朝向PIN14側(如圖所示).

APPROVED BY	CHECKED BY	DRAWING BY
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Product SWITCHING POWER SUPPLY
Type Designation CRS-C2050-85-08

SPECIFICATION FOR APPROVAL

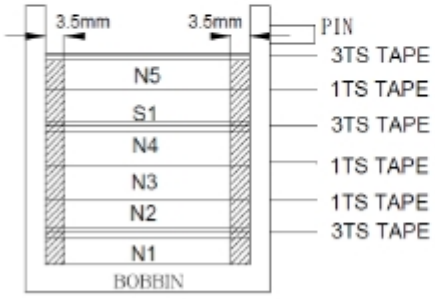
SHEET: 2 OF 4

CUSTOMER: 贵冠 TYPE: ERL-35

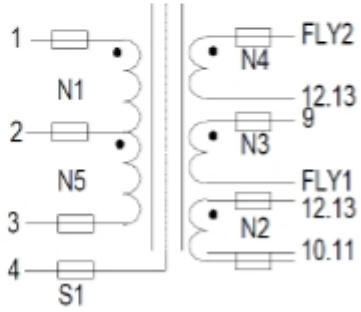
PART NO: G09-ER35090-M100 OUR P/N:

REVISION: A ISSUE DATE: 2015.5.28

2. CONSTRUCTIONS:



3. SCHEMATIC:



4. WINDING DATA:

WINDING	WIRE SIZE	START	FINISH	TURNS	UL TAPE	TEFLON		MARGIN TAPE		NOTE
						ST	FI	TOP	PIN	
N1	2UEW Φ0.7mm	1	2	25TS	3TS	V	V	3.5mm	3.5mm	密繞一層
N2	0.3mm/T*20mm/W	12.13	10.11	2TS	1TS	V	V	3.5mm	3.5mm	
N3	Φ0.8mm*4C 2UEW	9	FLY1	2.5TS	1TS	V	V	3.5mm	3.5mm	
N4	Φ0.8mm*4C 2UEW	FLY2	12.13	2.5TS	3TS	V	V	3.5mm	3.5mm	
S1	0.025mm/T*20mm/W	/	4	1TS	1TS	V	-	3.5mm	3.5mm	引線焉Φ0.3
N5	2UEW Φ0.7mm	2	3	25TS	3TS	V	V	3.5mm	3.5mm	密繞一層

NOTE:
1.N2,S1均焉背膠銅箔,需四端包膠,反折5mm.
2.N2的PIN12,13引線焉Φ0.8*5,PIN12焊接3條,PIN13焊接2條；PIN10,11引線焉Φ0.8*6,
3.N4的PIN12焊接2條，PIN13焊接2條
4.PIN12.13.14之間可短路亦可不短路;PIN8,PIN9之間可短路亦可不短路.

APPROVED BY	CHECKED BY	DRAWING BY
楊景龍	高 丹	張龍云

Product SWITCHING POWER SUPPLY

Type Designation CRS-C2050-85-08

SPECIFICATION FOR APPROVAL

SHEET: 3 OF 4

CUSTOMER: 貴 冠	TYPE: ERL-35
PART NO: G09-ER35090-M100	OUR P/N:
REVISION: A	ISSUE DATE: 2015.5.28

5. ELECTRICAL CHARACTERISTICS:(AT20℃ 65±5%RH)

(1). INDUCTANCE: AT 1KHz 0.25V
L(1-2):5mH MIN

(2). LEAKAGE INDUCTANCE: AT 1KHz 0.25V
LK(1-2):20uH MAX(PIN8,9,10,11,12,13,14 SHORT)

(3). DC RESISTANCE:
DCR(2-6):150mΩ MAX

(4). HI-POT TEST :AC 50Hz OR 60Hz 5mA 5SEC
PRI-- SEC:3000V
SEC--CORE:1500V
PRI--CORE:1500V

(5). INSULATION RESISTANCE: DC500V
PRI-- SEC:100M OHMS MIN
SEC--CORE:100M OHMS MIN
PRI--CORE:100M OHMS MIN

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楊景龍	高丹	張麗云

Product SWITCHING POWER SUPPLY

Type Designation CRS-C2050-85-08

SHEET: 4 OF 4

CUSTOMER: 貴 冠 TYPE: ERL-35

PART NO: G09-ER35090-M100 OUR P/N:

REVISION: A ISSUE DATE: 2015.5.28

6. MATERIAL LIST:

NO	ITEM	MATERIAL	SUPPLIER	UL FILE NO
1	BOBBIN	PHENOLICS T375J 94V-0	CHANG CHUN PLASTICS CO.,LTD	E59481(S)
2	CORE	SSP-4	SHANGPENG	-
		PC40	TDK	-
		FP2	FINEMAG	-
		JF1/JF2	SPINEL	-
3	MAGNET WIRE	UEW-U	SIAM PACIFIC ELECTRIC WIRE & CABLE CO LTD	E142108
		2UEW 130℃	SHENZHEN CHENGWEI INDUSTRY CO LTD	E227475
4	MYLAR TAPE	CAT NO 1350-1	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	E17385
		#PZ-280 130℃	JINGJIANG YAHUA PRESSURE SENSITIVEGLUE CO LTD	E165111
5	MARGIN TAPE	WF 130℃	JINGJIANG YAHUA PRESSURE SENSITIVEGLUE CO LTD	E165111
		CAT NO 44	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	E17385
6	COPPER	0.025mm/T 0.3mm/T	ZHENG ZE XIANG	-
7	SLEEVING	TFL	GREAT HOLDING INDUSTRIAL CO ,LTD	E156256
8	VARNISH	V1380FC/V1360FS	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC	E75225
9	EPOXY	3300A/B	SUZHOU EATTO ELECTRONIC MATERIAL CO.LTD	E218090

APPROVED BY	CHECKED BY	DRAWING BY
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