



Test Report issued under the responsibility of:



TEST REPORT
IEC 60950-1
Information technology equipment – Safety –
Part 1: General requirements

Report Number..... : 151100936SHA-001
Date of issue..... : 2016-06-27
Total number of pages 221
(Main report 194 pages + attachments 27 pages)

Applicant's name : GlobTek, Inc.
Address..... : 186 Veterans Dr. Northvale, NJ 07647 USA

Test specification:
Standard : IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Test procedure : CB Scheme
Non-standard test method : N/A

Test Report Form No. : IEC60950_1F
Test Report Form(s) Originator : SGS Fimko Ltd
Master TRF : Dated 2014-02

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General disclaimer:
The test results presented in this report relate only to the object tested.
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Test item description	ITE POWER SUPPLY
Trade Mark	
Manufacturer	Same as applicant
Model/Type reference	GT**-***** (See page 9 for details)
Ratings	Input: 100-240V~, 50-60Hz, 0.6A / 1.0A / 1.5A; Output: 5-56VDC, Max 36W (See pages 9-11 for details)



Testing procedure and testing location:		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	Intertek Testing Services Shanghai
Testing location/ address.....:		Building No. 86, 1198 Qinzhou Road (North) 200233 Shanghai CHINA
<input type="checkbox"/>	Associated CB Testing Laboratory:	N/A
Testing location/ address.....:		
Tested by (name + signature)		Albert Zhou (Engineer) <i>Albert Zhou</i>
Approved by (name + signature).....:		Will Wang (Mandated Reviewer) <i>Will Wang</i>
<input type="checkbox"/>	Testing procedure: TMP/CTF Stage 1:	N/A
Testing location/ address.....:		
Tested by (name + signature)		
Approved by (name + signature).....:		
<input type="checkbox"/>	Testing procedure: WMT/CTF Stage 2:	N/A
Testing location/ address.....:		
Tested by (name + signature)		
Witnessed by (name + signature).....:		
Approved by (name + signature).....:		
<input type="checkbox"/>	Testing procedure: SMT/CTF Stage 3 or 4:	N/A
Testing location/ address.....:		
Tested by (name + signature)		
Witnessed by (name + signature).....:		
Approved by (name + signature).....:		
Supervised by (name + signature)		

<p>List of Attachments (including a total number of pages in each attachment):</p> <p>Appendix No.1: Group and national differences for the CENELEC countries: from page 70 to page 87, total 18 pages;</p> <p>Appendix No.2: National differences for Singapore: from page 88 to page 89, total 2 pages;</p> <p>Appendix No.3: National differences for Japan: from page 90 to page 98, total 9 pages;</p> <p>Appendix No.4: National differences for China: from page 99 to page 104, total 6 pages;</p> <p>Appendix No.5: National differences for Australia and New Zealand: from page 105 to page 112, total 8 pages;</p> <p>Appendix No.6: National differences for Korea: page 113, total 1 page;</p> <p>Appendix No.7: National differences for USA: from page 114 to page 121, total 8 pages;</p> <p>Appendix No.8: Photos of product: from page 122 to page 166, total 45 pages;</p> <p>Appendix No.9-27: Supplementary tests on plug portion: from page 167 to page 194, total 28 pages;</p> <p>Appendix excluded from main report:</p> <p>Test report 151001819SHA-001 for Coupler (connector integrated in plug portion and appliance inlet integrated in power supply portion) (total 27 pages)</p>	
<p>Summary of testing: From the result of our examination and tests in the submitted samples, conclude they comply with the requirements of the standard IEC 60950-1:2005 (Second Edition) + Am 1:2009 +Am 2:2013</p>	
<p>Tests performed (name of test and test clause):</p> <ul style="list-style-type: none"> 1.6.2 Input current test 1.7.11 Marking durability test 2.1.1.1 b Finger test 2.1.1.1 c Pin test 2.2.2 Voltage under Normal Conditions Test 2.2.3 Voltage under Fault Conditions Test 2.4 Limited current circuits Test 2.5 Limited Power Sources Test 2.9.2 Humidity conditioning test 2.10.2 Determination of Working Voltage Test 2.10.3 & 2.10.4 Clearances and Creepage Distances Measurement 4.2.4 Mechanical strength – steady force test, 250 N 4.2.6 Mechanical strength – drop test 4.2.7 Mechanical strength – stress relief test 4.5.2 Temperature test 4.5.5 Ball pressure test 5.1 Touch current test 5.2 Electric strength test 5.3 Abnormal operating and fault conditions test 	<p>Testing location:</p> <p>Intertek Testing Services Shanghai Building No. 86, 1198 Qinzhou Road (North) 200233 Shanghai CHINA</p>

Summary of compliance with National Differences:

The test report covers group- and national differences for the CENELEC countries.

The national differences for Singapore and Japan have been checked according to IEC 60950-1 1st ed.

The national differences for China and Australia/New Zealand have been checked according to IEC 60950-1 2nd ed.

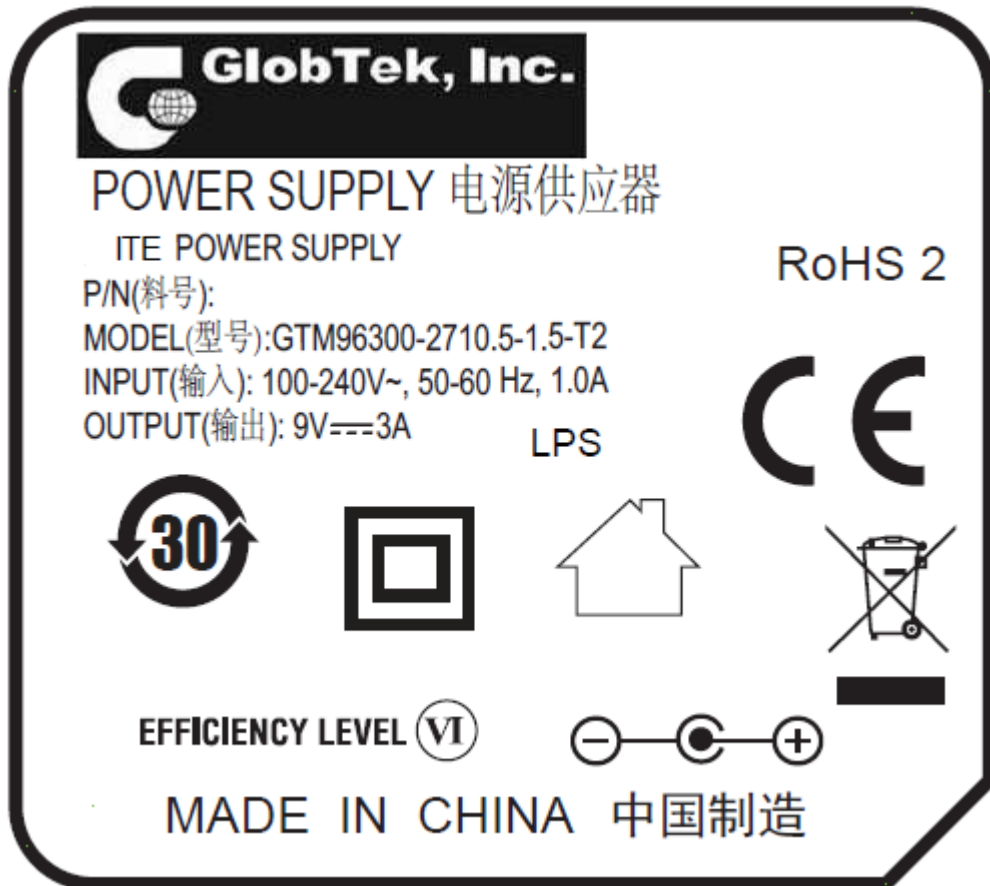
The national difference for Korea has been checked according to IEC 60950-1 2nd ed. + A1.

The national differences for USA and Canada have been checked according to IEC 60950-1 2nd ed. + A1 + A2.

The product fulfils the requirements of IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013 and EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011 + A2:2013.

Copy of marking plate(representative):

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.



Note: The above markings are the minimum requirements required by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added. Other models are with similar label as corresponding above models except different model name and output ratings.

Test item particulars.....:	
Equipment mobility.....:	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input checked="" type="checkbox"/> transportable <input type="checkbox"/> stationary <input checked="" type="checkbox"/> for building-in <input checked="" type="checkbox"/> direct plug-in
Connection to the mains.....:	<input checked="" type="checkbox"/> pluggable equipment <input checked="" type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input checked="" type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains
Operating condition.....:	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Mains supply tolerance (%) or absolute mains supply values	+10%/-10%
Tested for IT power systems	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
IT testing, phase-phase voltage (V)	120V or 230V
Class of equipment	<input checked="" type="checkbox"/> Class I <input checked="" type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating of protective device as part of the building installation (A)	16A (20A for Noth America)
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IPX0
Altitude during operation (m)	Max. 5000m
Altitude of test laboratory (m)	<100m
Mass of equipment (kg)	0.058
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	2015-11-18
Date (s) of performance of tests	2015-11-19 to 2016-06-07

General remarks:

The test results presented in this report relate only to the object tested.
 This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
 “(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.
 When determining for test conclusion, measurement uncertainty of tests has been considered.
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 The test report only allows to be revised only within the report defined retention period unless standard or regulation was withdrawn or invalid.

Manufacturer’s Declaration per sub-clause 4.2.5 of IEC60950:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:

- Yes**
- Not applicable**

When differences exist; they shall be identified in the General product information section.

- Name and address of factory (ies).....:**
1. GlobTek (Suzhou) Co., Ltd
 Building 4, No. 76 JinLing East Road, Suzhou Industrial Park, Suzhou, JiangSu, 215021, China
 2. GlobTek, Inc.
 186 Veterans Dr. Northvale, NJ 07647 USA

General product information:

Product covered by this report is ITE power supply module.

Desktop / direct plug-in power supply are provided with suitable external enclosure. The top and bottom parts of the enclosure are ultrasonic welded.

Open frame and encapsulated power supplies are without external enclosure. The external enclosure will be provided within the end product.

The products were tested to be suitable for connection to ≤ 16 A (IEC) and ≤ 20 A (USA) branch circuit in series. The unit is approved for TN mains star connections. The unit provides internally two fuses.

The power supplies are rated class I or class II. Open frame and encapsulated class I power supplies shall be properly bonded to the main protective bonding termination in the end product.

All the types are designed for continuous operation.

Model similarity:

GT**_*****

The 1st "*" part can be 'M' or '-' or 'H' for market identification and not related to safety.

The 2nd "*" can be 96180 or 96300 or 91120 or 91128 for market identification

The 3rd "*" denotes the rated output wattage designation, which can be "01" to "36", with interval of 1.

The 4th "*" denotes the standard rated output voltage designation, when the 2nd "*" = 96180 which can be "07", "11", "17.9", "30", "38", "48", "54" or "56"; when the 2nd "*" = 96300 or 91120 which can be "07.5", "10.5", "14.5", "19.5", "24", "36", "48", "54" or "56".

The 5th "*" is optional deviation, subtracted from standard output voltage, which can be "-0.01" to "-12.0" with interval of 0.01, or blank to indicate no voltage different.

The 4th "*" and 5th "*" together denote the output voltage, with a range of 5 - 56 volts.

The 6th "*" = blank, it means wall plug in with interchangeable blade

- =-T2 means desktop class II with C8 AC inlet
- =-T2A means desktop class II with C18 AC inlet
- =-T3 means desktop class I with C14 AC inlet
- =-T3A means desktop class I with C6 AC inlet
- =-R2 means hybrid desktop housing class II with C8 AC inlet
- =-R3A means hybrid desktop housing class I with C6 AC inlet
- =-F means Open Frame class I
- =-FW means Open Frame class II
- =-P2 means Encapsulated class II
- =-P3 means Encapsulated class I

The 7th "*" = Blank or -AP or -PP or -SP

-AP (with baby board) stands for Active POE (full IEEE compliant)

-PP (no baby board) stands for Passive POE

-SP (no baby board) stands for Simple POE

When the 2nd "*" = 91128,

the model will be GTM91128LI1CEL Output: 4.2V, 1000mA;

or Model GTM91128LI2CEL Output: 8.4V, 1000mA;

or Model GTM91128LI3CEL Output: 12.6V, 1000mA;

The last * denote any six character = 0-9 or A-Z or ()[] or – or blank for marketing purposes.

Ratings

When 2nd "*" = 96180, Input: 100-240V~,50-60Hz, 0.6A Output: 5-56Vdc

When 2nd "*" = 96300 or 91120, Input: 100-240V~,50-60Hz,1.5A or 1.0A Output: 5-56Vdc

When the model with POE, the output voltage is Max. 56Vdc,

others will be up to 48Vdc.

Model list:

GT*96180-** Interchangeable plug models**

Model	Output Voltage	Max. output current	Max. output power
GT*96180-*07**	5-7V	3.6A	18W
GT*96180-*11**	7.1-11V	2.53A	18W

GT*96180-*17.9**	11.1-17.9V	1.62A	18W
GT*96180-*30**	18-30V	1.0A	18W
GT*96180-*38**	30.1-38V	0.6A	18W
GT*96180-*48**	38.1-48V	0.47A	18W

GT*96180-*-T2/T2A/T3/T3A* Desktop models**

Model	Output Voltage	Max. output current	Max. output power
GT*96180-*07*-T2/T2A/T3/T3A*	5-7V	3.6A	18W
GT*96180-*11*-T2/T2A/T3/T3A*	7.1-11V	2.53A	18W
GT*96180-*17.9*-T2/T2A/T3/T3A*	11.1-17.9V	1.62A	18W
GT*96180-*30*-T2/T2A/T3/T3A*	18-30V	1.0A	18W
GT*96180-*38*-T2/T2A/T3/T3A*	30.1-38V	0.6A	18W
GT*96180-*48*-T2/T2A/T3/T3A*	38.1-48V	0.47A	18W

GT*96300-*-T2/T2A/T3/T3A/R2/R3A* Desktop models**

Model	Output Voltage	Max. output current	Max. output power
GT*96300-*07.5*-T2/T2A/T3/T3A/R2/R3A*	5-7.5V	4.5A	22.5W
GT*96300-*10.5*-T2/T2A/T3/T3A/R2/R3A*	7.6-9V	3.94A	30W
GT*96300-*10.5*-T2/T2A/T3/T3A/R2/R3A*	9.1-10.5V	3.95A	36W
GT*96300-*14.5*-T2/T2A/T3/T3A/R2/R3A*	10.6-14.5V	3.39A	36W
GT*96300-*19.5*-T2/T2A/T3/T3A/R2/R3A*	14.6-19.5V	2.46A	36W
GT*96300-*24*-T2/T2A/T3/T3A/R2/R3A*	19.6-24V	1.83A	36W
GT*96300-*36*-T2/T2A/T3/T3A/R2/R3A*	24.1-36V	1.49A	36W
GT*96300-*48*-T2/T2A/T3/T3A/R2/R3A*	36.1-48V	0.99A	36W

GT*91120-*-T2/T3A/F/FW/P2/P3* External/Hybrid desktop or direct plug-in model or Open Frame or Encapsulated**

Model	Output Voltage	Max. output current	Max. output power
GT*91120-*07.5*-T2/T3A/F/FW/P2/P3*	5-7.5V	4A	30W
GT*91120-*10.5*-T2/T3A/F/FW/P2/P3*	7.6-10.5V	3.94A	30W
GT*91120-*14.5*-T2/T3A/F/FW/P2/P3*	10.6-14.5V	2.83A	30W
GT*91120-*19.5*-T2/T3A/F/FW/P2/P3*	14.6-19.5V	2A	30W
GT*91120-*24*-T2/T3A/F/FW/P2/P3*	19.6-24V	1.6A	30W
GT*91120-*36*-T2/T3A/F/FW/P2/P3*	24.1-36V	1.25A	30W
GT*91120-*48*-T2/T3A/F/FW/P2/P3*	36.1-48V	0.83A	30W

GT*96180-*-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP**

Model	Output Voltage	Max. output current	Max. output power
GT-96180-*30-12.0-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP*	18V	1A	18W
GT-96180-*30-6.0-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP*	24V	0.75A	18W
GT-96180-*38-2.0-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP*	36V	0.5A	18W
GT-96180-*48-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP*	48V	0.375A	18W
GT-96180-*54-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP*	54V	0.33A	18W
GT-96180-*56-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP*	56V	0.32A	18W

GT*96300-*-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP**

Model	Output Voltage	Max. output current	Max. output power
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GT-96300-*19.5-1.5-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP*	18V	2A	36W
GT-96300-*24-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP*	24V	1.5A	36W
GT-96300-*36-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP*	36V	1A	36W
GT-96300-*48-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP*	48V	0.75A	36W
GT-96300-*54-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP*	54V	0.66A	36W
GT-96300-*56-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP*	56V	0.64A	36W

Abbreviations used in the report:

- | | | | |
|--------------------------------------|-------------|----------------------------|--------------|
| - normal conditions | N.C. | - single fault conditions | S.F.C |
| - functional insulation | FI | - basic insulation | BI |
| - double insulation | DI | - supplementary insulation | SI |
| - between parts of opposite polarity | BOP | - reinforced insulation | RI |


Indicate used abbreviations (if any)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1	GENERAL		P
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1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components		P
1.5.3	Thermal controls		N/A
1.5.4	Transformers		P
1.5.5	Interconnecting cables		N/A
1.5.6	Capacitors bridging insulation	Y1 capacitors according to IEC60384-14	P
1.5.7	Resistors bridging insulation		P
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.5.9	Surge suppressors		P
1.5.9.1	General	Surge suppressors comply with Annex Q.	P
1.5.9.2	Protection of VDRs		P
1.5.9.3	Bridging of functional insulation by a VDR		P
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

1.6	Power interface		P
1.6.1	AC power distribution systems		P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7	Marking and instructions		P
1.7.1	Power rating and identification markings		P
1.7.1.1	Power rating marking		P
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V)	100-240VAC	P
	Symbol for nature of supply, for d.c. only		N/A
	Rated frequency or rated frequency range (Hz)	50-60Hz	P
	Rated current (Ma or A)	0.6A, 1.0A or 1.5A	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark		P
	Model identification or type reference	GT**_*****	P
	Symbol for Class II equipment only	used for Class II model only. <input type="checkbox"/>	P
	Other markings and symbols	The additional marking does not give rise to misunderstandings	P
1.7.1.3	Use of graphical symbols		P
1.7.2	Safety instructions and marking		P
1.7.2.1	General		P
1.7.2.2	Disconnect devices	Applicant inlet.	P
1.7.2.3	Overcurrent protective device		N/A
1.7.2.4	IT power distribution systems		N/A
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone		N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment		N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment		N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	Fuse locations and markings are on PCB adjacent to fuse F1 and F2.	P
1.7.7	Wiring terminals		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.7.1	Protective earthing and bonding terminals	Class I models : the earth terminal is marked with standard earth symbol on the Inlet.	P
1.7.7.2	Terminals for a.c. mains supply conductors	The equipment is not permanently connected or provided with a nondetachable power supply cord.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	Not intended for connection to DC mains.	N/A
1.7.8	Controls and indicators	For functional indication a LED lights when the equipment is operating.	P
1.7.8.1	Identification, location and marking		N/A
1.7.8.2	Colours		N/A
1.7.8.3	Symbols according to IEC 60417		N/A
1.7.8.4	Markings using figures		N/A
1.7.9	Isolation of multiple power sources		N/A
1.7.10	Thermostats and other regulating devices		N/A
1.7.11	Durability	The marking withstands required tests.	P
1.7.12	Removable parts		N/A
1.7.13	Replaceable batteries		N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations		N/A

2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas		P
2.1.1.1	Access to energized parts		P
	Test by inspection	The concerned hazardous parts aren't accessible	P
	Test with test finger (Figure 2A)	The concerned hazardous parts aren't accessible	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Test with test pin (Figure 2B)	Hazardous live parts aren't accessible	P
	Test with test probe (Figure 2C)		P
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (V _{peak} or V _{rms}); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards	No energy hazard in output (see appended tables 2.1.1.5)	P
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment		P
	Measured voltage (V); time-constant (s)	See appended table	—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply ..		N/A
	b) Internal battery connected to the d.c. mains supply :		N/A
2.1.1.9	Audio amplifiers		N/A
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A

2.2	SELV circuits		P
2.2.1	General requirements	(see appended table 2.2)	P
2.2.2	Voltages under normal conditions (V)	(see appended table 2.2)	P
2.2.3	Voltages under fault conditions (V)	(see appended table 2.2 and 5.3)	P
2.2.4	Connection of SELV circuits to other circuits	SELV circuits are only connected to other SELV circuits.	P

2.3	TNV circuits		P
2.3.1	Limits		P
	Type of TNV circuits	TNV-1	—
2.3.2	Separation from other circuits and from accessible parts		P
2.3.2.1	General requirements		P
2.3.2.2	Protection by basic insulation		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages		P
	Insulation employed.....	Reinforced insulation	—
2.3.4	Connection of TNV circuits to other circuits		P
	Insulation employed.....	Reinforced insulation	—
2.3.5	Test for operating voltages generated externally		N/A

2.4	Limited current circuits		P
2.4.1	General requirements	Measuring instrument D.1 in Annex D is used	P
2.4.2	Limit values	(see appended table 2.4.2)	P
	Frequency (Hz)		—
	Measured current (Ma)		—
	Measured voltage (V)		—
	Measured circuit capacitance (nF or µF).....	CY1, CY2: 2200pF (for GT*96180 series and GT*96300 series) CY1, CY2: 1000pF (for GT*91120 series and GT*91128 series) CY1: 1000pF (for GT*96180 POE series and GT*96300 POE series)	—
2.4.3	Connection of limited current circuits to other circuits		P

2.5	Limited power sources		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition		P
	Use of integrated circuit (IC) current limiters		—
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA).....	(see appended table 2.5)	—
	Current rating of overcurrent protective device (A) ..		—

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Clause	Requirement + Test	Result - Remark	Verdict
2.6	Provisions for earthing and bonding		P
2.6.1	Protective earthing	Class I model series were checked.	P
2.6.2	Functional earthing		P
	Use of symbol for functional earthing	Fuction earting is separated from hazardous voltage by reinforced insulation.	P
2.6.3	Protective earthing and protective bonding conductors		P
2.6.3.1	General		P
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm ²), AWG	Certified appliance inlet used.	—
2.6.3.3	Size of protective bonding conductors	The protective bonding complies with Clause 2.6.3.4. Relevant for class I units.	P
	Rated current (A), cross-sectional area (mm ²), AWG		—
	Protective current rating (A), cross-sectional area (mm ²), AWG		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)	0.01mΩ, 0.45V, 40A, 2mins (GTM96300-3648-T3A)	P
2.6.3.5	Colour of insulation	Green/yellow wiring is used.	P
2.6.4	Terminals		P
2.6.4.1	General		P
2.6.4.2	Protective earthing and bonding terminals		P
	Rated current (A), type, nominal thread diameter (mm)	Certified appliance inlet used.	—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		P
2.6.5	Integrity of protective earthing		P
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switches or fuses provided in earthing conductor.	P
2.6.5.3	Disconnection of protective earth	Certified appliance coupler is used.	P
2.6.5.4	Parts that can be removed by an operator	Certified appliance coupler	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		P
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements		P
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		P
2.7.3	Short-circuit backup protection		P
2.7.4	Number and location of protective devices :	Two fuses provided, line and neutral.	P
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel :		N/A

2.8	Safety interlocks		N/A
2.8.1	General principles	No safety interlock.	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm):		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials		P
2.9.2	Humidity conditioning	120h	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Relative humidity (%), temperature (°C)	93%, 40°C	—
2.9.3	Grade of insulation	Insulation is considered to be functional, reinforced or double insulation	P
2.9.4	Separation from hazardous voltages	Separated from hazardous voltage by reinforced or double insulation	P
	Method(s) used	Method 1	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General		P
2.10.1.1	Frequency	65.8kHz	P
2.10.1.2	Pollution degrees	2	P
2.10.1.3	Reduced values for functional insulation		P
2.10.1.4	Intervening unconnected conductive parts		P
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage		P
2.10.2.1	General		P
2.10.2.2	RMS working voltage		P
2.10.2.3	Peak working voltage		P
2.10.3	Clearances		P
2.10.3.1	General		P
2.10.3.2	Mains transient voltages	2500V	P
	a) AC mains supply	100-240V	P
	b) Earthed d.c. mains supplies		N/A
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.4	Clearances in secondary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply		P
2.10.3.7	Transients from d.c. mains supply		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.8	Transients from telecommunication networks and cable distribution systems		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances		P
2.10.4.1	General		P
2.10.4.2	Material group and comparative tracking index		P
	CTI tests	Material group IIIb is assumed to be used	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation		P
2.10.5.1	General		P
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	P
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		P
2.10.5.5	Cemented joints		P
2.10.5.6	Thin sheet material – General		P
2.10.5.7	Separable thin sheet material		P
	Number of layers (pcs)	2 layers for insulation tape around transformer	—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure	(see appended table 2.10.5)	P
	Electric strength test		—
2.10.5.11	Insulation in wound components		P
2.10.5.12	Wire in wound components	Approved TIW was used.	P
	Working voltage	See appended table 2.10.2.	P
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		P
	c) Compliance with Annex U		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Two wires in contact inside wound component; angle between 45° and 90°	Not in contact between primary winding and secondary winding. The insulating tape is provided to protect against mechanical stress	P
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage		N/A
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation		N/A
2.10.6	Construction of printed boards		P
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	P
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3	WIRING, CONNECTIONS AND SUPPLY		N/A
3.1	General		N/A
3.1.1	Current rating and overcurrent protection		N/A
3.1.2	Protection against mechanical damage		N/A
3.1.3	Securing of internal wiring		N/A
3.1.4	Insulation of conductors	(see appended table 5.2)	N/A
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A
3.2	Connection to a mains supply		P
3.2.1	Means of connection		P
3.2.1.1	Connection to an a.c. mains supply	Desk top units are provided with an appliance inlet. Direct plug-in units are provided with a mains plug. Open frame units are provided with approved connector (see list of safety critical components). For encapsulated units shall be this considered in the end product.	P
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections	Only one supply connection.	N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets		P
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm).....		—
3.2.9	Supply wiring space		N/A
3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²).....		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	Disconnection from the mains supply		P
3.4.1	General requirement		P

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.2	Disconnect devices	Desk-top: appliance inlet is considered as disconnect device. Direct plug-in: the plug part is considered to be the disconnect device. Encapsulated, open frame: Shall be considered in the end product.	P
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized	There is no parts remained with hazardous voltage or energy in the equipment when SMPS is separated form AC mains.	P
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles – single-phase and d.c. equipment	Single-phase	P
3.4.7	Number of poles – three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		P
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A
3.5	Interconnection of equipment		P
3.5.1	General requirements		P
3.5.2	Types of interconnection circuits		P
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment		N/A
4	PHYSICAL REQUIREMENTS		P
4.1	Stability		P
	Angle of 10°	EUT with a mass less than 7kg.	N/A
	Test force (N)	Not a floor-standing unit.	N/A
4.2	Mechanical strength		P
4.2.1	General		P
	Rack-mounted equipment.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.2	Steady force test, 10 N		P
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N		P
4.2.5	Impact test		N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm):	1000mm	P
4.2.7	Stress relief test	After 7h at 92.0°C and cooling down to room temperature, no shrinkage, distortion or loosening of enclosure parts was noticeable on the unit.	P
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified:		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N):		N/A

4.3	Design and construction		P
4.3.1	Edges and corners		P
4.3.2	Handles and manual controls; force (N)..... :		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts		P
4.3.5	Connection by plugs and sockets		P
4.3.6	Direct plug-in equipment		P
	Torque:	0.04Nm	—
	Compliance with the relevant mains plug standard:		P
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries		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
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids		N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation		N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (Pa/kg)		—
	Measured high-voltage (Kv)		—
	Measured focus voltage (Kv)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	The visible LED indicators are diffuse type.	P
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class		—
4.3.13.5.2	Light emitting diodes (LEDs)		—
4.3.13.6	Other types		N/A
4.4	Protection against hazardous moving parts		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas		N/A
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. A).....		N/A
	Is considered to cause pain, not injury. B)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Considered to cause injury. C)		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning		N/A

4.5	Thermal requirements		P
4.5.1	General		P
4.5.2	Temperature tests		P
	Normal load condition per Annex L	Rated load with continuous operation.	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat	(see appended table 4.5.5)	P

4.6	Openings in enclosures		P
4.6.1	Top and side openings	No openings in the enclosure. Relevant for direct plug-in and desk top units.	P
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures	No openings in the enclosure. Relevant for direct plug-in and desk top units.	P
	Construction of the bottom, dimensions (mm) ..		—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm)		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks)		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	Enclosure of direct plug-in and desk top units meets requirements for fire enclosure. Fire enclosure for open frame and encapsulated units must be considered in the end product.	P
4.7.2.1	Parts requiring a fire enclosure		P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General		P
4.7.3.2	Materials for fire enclosures	The fire enclosure is minimum V-1 material.	P
4.7.3.3	Materials for components and other parts outside fire enclosures		P
4.7.3.4	Materials for components and other parts inside fire enclosures		P
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A
5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	(see appended Table 5.1)	P
5.1.2	Configuration of equipment under test (EUT)		P
5.1.2.1	Single connection to an a.c. mains supply		P
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit		P
5.1.4	Application of measuring instrument	Measuring instrument D.1 in Annex D is used	P
5.1.5	Test procedure		P
5.1.6	Test measurements		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Supply voltage (V)	264	—
	Measured touch current (mA)	(see appended table 5.1)	—
	Max. allowed touch current (mA)	(see appended table 5.1)	—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA)....		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (Ma)		—
	Max. allowed touch current (Ma)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

5.2	Electric strength		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure		P

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors		N/A
5.3.3	Transformers	(see appended Annex C)	P
5.3.4	Functional insulation	Method a) and c) used.	P
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE		N/A
5.3.7	Simulation of faults		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests		P
5.3.9.2	After the tests		P
6	CONNECTION TO TELECOMMUNICATION NETWORKS		P
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		P
6.1.1	Protection from hazardous voltages		P
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V)		—
	Current in the test circuit (Ma)		—
6.1.2.2	Exclusions		N/A
6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A
6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)		—
	Current limiting method		—
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General		N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples.....:		—
	Wall thickness (mm).....:		—
A.1.2	Conditioning of samples; temperature (°C).....:		N/A
A.1.3	Mounting of samples.....:		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D.....:		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material.....:		—
	Wall thickness (mm).....:		—
A.2.2	Conditioning of samples; temperature (°C).....:		N/A
A.2.3	Mounting of samples.....:		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C.....:		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
A.2.7	Alternative test acc. To IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
B.8	Test for motors with capacitors	(see appended table 5.3)	N/A
B.9	Test for three-phase motors	(see appended table 5.3)	N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position	T1	—
	Manufacturer	(see appended table 1.5.1)	—
	Type	(see appended table 1.5.1)	—
	Rated values	(see appended table 1.5.1)	—
	Method of protection	Protected by circuit	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended tables 5.2 and C2)	P
	Protection from displacement of windings	By insulation tape	P
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument		P
D.2	Alternative measuring instrument		N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	Earthed d.c. mains supplies		N/A
G.2.3	Unearthed d.c. mains supplies		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.2.4	Battery operation		N/A
G.3	Determination of telecommunication network transient voltage (V)		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances		N/A
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal(s) used	Verified.	—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V)		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		P
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringling signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (Ma)		—
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	- Preferred climatic categories		P
	- Maximum continuous voltage	REFER TO LIST OF CRITICAL COMPONENTS.	P
	- Combination pulse current		P
	Body of the VDR Test according to IEC60695-11-5.....		P
	Body of the VDR. Flammability class of material (min V-1).....	V-0	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		Approved TIW	—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction		P
V.2	TN power distribution systems		P
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		P
W.1	Touch current from electronic circuits		P
W.1.1	Floating circuits		P
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
X.1	Determination of maximum input current		P
X.2	Overload test procedure		P
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		N/A
CC.1	General		N/A
CC.2	Test program 1.....		N/A
CC.3	Test program 2.....		N/A
CC.4	Test program 3.....		N/A
CC.5	Compliance.....		N/A
DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N.....		N/A
DD.3	Mechanical strength test, 250N, including end stops.....		N/A
DD.4	Compliance.....		N/A
EE	ANNEX EE, Household and home/office document/media shredders		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols.....		N/A
	Information of user instructions, maintenance and/or servicing instructions.....		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
EE.3	Inadvertent reactivation test.....:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols.....:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A)		N/A
	Test with wedge probe (Figure EE1 and EE2)		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
PCB	WALEX ELECTRONIC (WUXI) CO LTD	T2, T2A, T2B T4	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 60950-1 UL 796	Tested with appliance UL E154355	
Alt. use	DONGGUAN HE TONG ELECTRONICS CO LTD	CEM1 2V0 FR4	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 60950-1 UL 796	Tested with appliance UL E243157	
Alt. use	CHEERFUL ELECTRONIC (HK) LTD	02 03 03A	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 60950-1 UL 796	Tested with appliance UL E199724	
Alt. use	DONGGUAN DAYSUN ELECTRONIC CO LTD	DS2	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 60950-1 UL 796	Tested with appliance UL E251754	
Alt. use	SUZHOU CITY YILIHUA ELECTRONICS CO LTD	YLH-1	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 60950-1 UL 796	Tested with appliance UL E251781	
Alt. use	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	02V0 04V0	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 60335-1 UL 796	Tested with appliance UL E186016	
Alt. use	BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	DKV0-3A DGV0-3A	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 60950-1 UL 796	Tested with appliance UL E177671	
Alt. use	KUOTIANG ENT LTD	C-2 C-2A	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 60950-1 UL 796	Tested with appliance UL E227299	
Alt. use	SHENZHEN TONGCHUANGXI N ELECTRONICS CO LTD	TCX	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 60950-1 UL 796	Tested with appliance UL E250336	
Alt. use	PACIFIC WIN INDUSTRIAL LTD	PW-02 PW-03	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 60950-1 UL 796	Tested with appliance UL E228070	
Alt. use	YUANMAN PRINTED CIRCUIT CO LTD	1V0	Min. 1,6 mm thickness, min. V- 0, 130°C	IEC 60950-1 UL 796	Tested with appliance UL E74757	

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alt. use	SUZHOU XINKE ELECTRONICS CO LTD	XK-2, XK-3	Min. 1,6 mm thickness, min. V-0, 130°C	IEC 60950-1 UL 796	Tested with appliance UL E231590
Alt. use	KUNSHAN CITY HUA SHENG CIRCUIT BOARD CO LTD	HS-S	Min. 1,6 mm thickness, min. V-0, 130°C	IEC 60950-1 UL 796	Tested with appliance UL E229877
Alt. use	JIANGSU DIFEIDA ELECTRONICS CO LTD	DFD-1	Min. 1,6 mm thickness, min. V-0, 130°C	IEC 60950-1 UL 796	Tested with appliance UL E213009
Alt. use	HUIZHOU SHUNJIA ELECTRONICS CO LTD	SJ-B	Min. 1,6 mm thickness, min. V-0, 130°C	IEC 60950-1 UL 796	Tested with appliance UL E320884
Fuse (F1,F2) (F2 is optional)	Conquer Electronics Co., Ltd.	MST series	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017118 UL E82636
Alt. use	Ever Island Electric Co., Ltd. And Walter Electric	2010, ICP	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40018781 UL E220181
Alt. use	Bel Fuse Ltd.	RST-Serie(s)	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40011144 UL E20624
Alt. use	Cooper Bussmann LLC	SS-5	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40015513 UL E19180
Alt. use	Shenzhen Lanson Electronics Co. Ltd.	SMT	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40012592 UL E221465
Alt. use	Das & Sons International Ltd.	385T series	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40008524 UL E205718

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	Dongguan Better Electronics Technology Co., Ltd.	932	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40033369 UL E300003
Alt. use	Hollyland Company Limited	5ET	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40015669 UL E156471
Alt. use	Sunny East Enterprise Co. Ltd.	CFD-Serie(s)	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40030246 UL E133774
Alt. use	Conquer Electronics Co., Ltd.	MET series	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017157 UL E82636
Alt. use	Zhongshan Lanbao Electrical Appliances Co., Ltd.	RTI-10 Serie(s)	T1.6A, 250V; T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017009 UL E213695
Bridging resistor	TY-Ohm Suzhou Electronic Works Co. Ltd	RT	10MΩ, 1W	IEC/EN 60950-1	VDE 40031266 UL E321764
Alt. use	Yageo Components (Suzhou) Co. Ltd	HHV	10MΩ, 1W	IEC/EN 60950-1	VDE 40031974 UL E333286
Y capacitor (CY1, CY2) (Optional)	TDK-EPC Corporation, Capacitors Group Circuit Devices Business Group	CD	Y1, AC250V, max 2200pF, 25/085/21/B	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 138526 UL E37861
Alt. use	Success Electronics Co., Ltd.	SE	Y1, AC250V, or AC500V, max 2200pF, 40/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40037211 VDE 40020002 UL E114280
Alt. use	Success Electronics Co., Ltd.	SB	Y1, AC250V, max 2200pF, 40/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40037221 VDE 40020001 UL E114280

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	Murata Mfg. Co., Ltd.	KX	Y1, AC250V, max 2200pF, 25/125/21/B	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40002831 UL E37921
Alt. use	Walsin Technology Corp.	AH	Y1, AC250V, max 2200pF, 25/125/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40001804 UL E146544
Alt. use	JYA-NAY Co., Ltd.	JN	Y1, AC250V, max 2200pF, 25/125/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40001831 UL E201384
Alt. use	Haohua Electronic Co.	CT 7	Y1, AC250V, max 2200pF, 30/125/56/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40003902 UL E233106
Alt. use	Jyh Chung Electronic Co., Ltd.	JD	Y1, AC250V, max 2200pF, 40/085/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 137027 UL E187963
Alt. use	Jerro Electronics Corp.	JX-series	Y1, AC250V, max 2200pF, 40/125/21/C	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40032158 UL E333001
X capacitor (CX1) (Optional)	Cheng Tung Industrial Co., Ltd.	CTX	Min. 300VAC, Max. 0.47μF, 110 °C, X1 or X2	IEC 60950-1 UL 60384-14 UL 1414	Tested with appliance UL E193049
Alt. use	Tenta Electric Industrial Co. Ltd.	MEX	Min. 250VAC, Max. 0.47μF, 40/100/21/B, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 119119 UL E222911
Alt. use	Joey Electronics (Dong Guan) Co., Ltd.	MPX	Min. 250VAC, Max. 0.47μF, 40/105/21/B, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40032481 UL E216807
Alt. use	Ultra Tech Xiphi Enterprise Co. Ltd.	HQX	Min. 250VAC, Max. 0.47μF, 40/100/21/C, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40015608 UL E183780

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Clause	Requirement + Test		Result - Remark		Verdict
Alt. use	Yuon Yu Electronics Co. Ltd.	MPX	Min. 250VAC, Max. 0.47μF, 40/100/21/C, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40032392 UL E200119
Alt. use	Sinhua Electronics (Huzhou) Co., Ltd.	MPX	Min. 250VAC, Max. 0.47μF, 40/100/21/C, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40014686 UL E237560
Alt. use	Jiangsu Xinghua Huayu Electronics Co., Ltd.	MPX - Series	Min. 250VAC, Max. 0.47μF, 40/100/21/C, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40022417 UL E311166
Alt. use	Dain Electronics Co., Ltd.	MEX, MPX, NPX	Min. 250VAC, Max. 0.47μF, 40/100/21/C, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40018798 UL E147776
Alt. use	Shenzhen Jinghao Capacitor Co., Ltd.	CBB62B	Min. 250VAC, Max. 0.47μF, 40/110/56/B, X1 or X2	IEC/EN 60384-14 UL 60384-14 UL 1414	VDE 40018690 UL E252286
Photo coupler (U2/U3) (U2 for GTM91120 series)	Everlight Electronics Co., Ltd.	EL817	Dti=0.5mm Int. , dcr=6.0mm EXT.dcr=7.7mm, thermal cycling test,110°C	IEC/EN 60747-5-2	VDE 132249
Alt. use	COSMO Electronics Corporation	K1010 / KP1010	Dti=0.6mm Int. , dcr=4.0mm EXT.dcr=5.0mm, thermal cycling test,115°C	IEC/EN 60747-5-2	VDE 101347
Alt. use	Lite-On Technology Corporation	LTV-817	Dti=0.8mm Int. , EXT.dcr=7.8mm, thermal cycling test,100°C	IEC/EN 60747-5-2	VDE 40015248

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alt. use	Fairchild Semiconductor Pte Ltd.	H11A817B / FOD817B	Insulation voltage: 850V; Transient overvoltage: 6000V; CTI175; Int. Cr/ Ext. Cr: ≥7,0/ 7,0 mm; 30/110/21	IEC/EN 60747-5-2	VDE 40026857
Alt. use	Sharp Corporation Electronic Components and Devices Group	PC817	Insulation voltage: 890V; Transient overvoltage: 9000V Int. Cr/ Ext. Cr: 7.62/ 7.62 mm; 30/100/21	IEC/EN 60747-5-2	VDE 40008087
Alt. use	Bright Led Electronics Corp.	BPC-817 A/B/C/D/L BPC-817 M BPC-817 S	Dti=0.4mm EXT.dcr=7.0mm, thermal cycling test,100°C	IEC/EN 60747-5-2	VDE 40007240
Alt. use	Toshiba Corporation Semiconductor & Storage Products Company	TLP781F	Dti > 0.4mm, Ext cr > 8.0mm, Isolation 3000Vac min., 110°C min., Thermal cycling test	IEC/EN 60747-5-2	VDE 40021173
Varistor MOV/MOV1 (Optional) (MOV for GTM91120 series)	Thinking Electronic Industrial Co., Ltd.	TVR10471K, TVR14471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 005944
Alt. use	Centra Science Corp.	10D471K, 14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 4008220
Alt. use	Success Electronics Co., Ltd.	SVR10D471K SVR14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40030401
Alt. use	Walsin Technology Co., Ltd.	14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40010090

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alt. use	Lien Shun Electronics Co., Ltd.	14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40005858
Alt. use	Ceramate Techn. Co., Ltd.	GNR10D471K GNR14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40031745
Alt. use	Brightking (Shenzhen) Co., Ltd.	14D471K 10D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40027827
Alt. use	Joyin Co., Ltd.	JVR10N471K JVR14N471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 005937
Appliance inlet CON1 Class I units(C6 type)	Zhejiang LECI Electronics Co., Ltd.	DB-6	2.5A, 250Vac	IEC/EN 60320-1	VDE 40032465
Alt. use	Rich Bay Co., Ltd.	R-30790	2.5A, 250Vac	IEC/EN 60320-1	VDE 40030381
Alt. use	Sun Fair Electric Wire & Cable (HK) Co. Ltd.	S-02	2.5A, 250Vac	IEC/EN 60320-1	VDE 40034448
Alt. use	TECX-UNIONS Technology Corporation	TU-333	2.5A, 250Vac	IEC/EN 60320-1	ENEC 00633
Alt. use	Rong Feng Industrial Co., Ltd.	RF-190	2.5A, 250Vac	IEC/EN 60320-1	VDE 40030379
Alt. use	Inalways Corporation	0724	2.5A, 250Vac	IEC/EN 60320-1	ENEC 2010080
Alt. use	Zhe Jiang Bei Er jia	ST-A04-002	2.5A, 250Vac	IEC/EN 60320-1	VDE 40016045
Alt. use	Shenzhen Delikang Electronics Technology Co. Ltd.	CDJ-2	2.5A, 250Vac	IEC/EN 60320-1	VDE 40015580
Appliance inlet CON1 Class I units (C14 type)	Zhejiang LECI Electronics Co., Ltd.	DB-14	10A, 250Vac	IEC/EN 60320-1	VDE 40032137

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alt. use	Rich Bay Co., Ltd.	R-301SN	10A, 250Vac	IEC/EN 60320-1	VDE 40030228
Alt. use	Sun Fair Electric Wire & Cable (HK)Co. Ltd.	S-03	10A, 250Vac	IEC/EN 60320-1	VDE 40034447
Alt. use	TECX-UNIONS Technology Corporation	TU-301-S, TU-301-SP	10A, 250Vac	IEC/EN 60320-1	ENEC 00647
Alt. use	Rong Feng Industrial Co., Ltd.	SS-120	10A, 250Vac	IEC/EN 60320-1	VDE 40028101
Alt. use	Inalways Corporation	0711	10A, 250Vac	IEC/EN 60320-1	ENEC 2010084
Alt. use	Zhe Jiang Bei Er jia	ST-A01-003J	10A, 250Vac	IEC/EN 60320-1	VDE 40013388
Appliance inlet CON1 Class II units (C8 type)	Zhejiang LECI Electronics Co., Ltd.	DB-8	2.5A, 250Vac	IEC/EN 60320-1	VDE 40032028
Alt. use	Rich Bay Co., Ltd.	R-201SN90	2.5A, 250Vac	IEC/EN 60320-1	VDE 40030384
Alt. use	Sun Fair Electric Wire & Cable (HK)Co. Ltd.	S-01	2.5A, 250Vac	IEC/EN 60320-1	VDE 40034449
Alt. use	TECX-UNIONS Technology Corporation	SO-222	2.5A, 250Vac	IEC/EN 60320-1	VDE 40043268
Alt. use	Rong Feng Industrial Co., Ltd.	RF-180	2.5A, 250Vac	IEC/EN 60320-1	VDE 40030168
Alt. use	Inalways Corporation	0721	2.5A, 250Vac	IEC/EN 60320-1	ENEC 2010087
Alt. use	Zhe Jiang Bei Er jia	ST-A03-005	2.5A, 250Vac	IEC/EN 60320-1	VDE 40014833
Alt. use	Shenzhen Delikang Electronics Technology Co. Ltd.	CDJ-8	2.5A, 250Vac	IEC/EN 60320-1	VDE 40025531
Input connector CON1 (For open frame)	NELTRON INDUSTRIAL CO LTD	2114S	Min 240V; Min 1.5A; Flame class min. V-2;	IEC/EN 60950-1	Tested with appliance UL E144392
Alt. use	JOINT TECH ELECTRONIC INDUSTRIAL CO LTD	A7920 series A3960 series	Min 250V; Min 7A; Flame class min. V-2;	IEC/EN 60950-1	Tested with appliance UL E179987
Alt. use	ZHEJIANG HONGXING ELECTRICAL CO LTD	HX396XX-YYY series	Min 250V; Min 5A; Flame class min. V-2;	IEC/EN 60950-1	Tested with appliance UL E228500

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Earthing wire for Class I model	KUNSHAN NEW ZHICHENG ELECTRONICS TECHNOLOGIES CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 60950-1	Tested with appliance UL E237831
Alt. use	ZHUANG SHAN CHUAN ELECTRICAL PRODUCTS (KUNSHAN) CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 60950-1	Tested with appliance UL E333601
Alt. use	DONGGUAN CHUANTAI WIRE PRODUCTS CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 60950-1	Tested with appliance UL E315628
Alt. use	YONG HAO ELECTRICAL INDUSTRY CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 60950-1	Tested with appliance UL E240426
Alt. use	DONGGUAN GUNEETAL WIRE & CABLE CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 60950-1	Tested with appliance UL E204204
Alt. use	SHENG YU ENTERPRISE CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 60950-1	Tested with appliance UL E219726
Alt. use	KUNSHAN XINGHONGMENG ELECTRONIC CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 60950-1	Tested with appliance UL E315421
Alt. use	SUZHOU YEMAO ELECTRONIC CO LTD	1015, 1007, 1185	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 60950-1	Tested with appliance UL E353532
Connection wiring for encapsulated models	KUNSHAN NEW ZHICHENG ELECTRONICS TECHNOLOGIES CO LTD	1015, 2468	Min. 20 AWG, Min. 300V, Min. 80°C	IEC/EN 60950-1	Tested with appliance UL E237831
Alt. use	Interchangeable	1015, 2468	Min. 20AWG, min. 300Vac, min. 80°C	IEC/EN 60950-1 UL 758	Tested with appliance UL approved
Output cord	Interchangeable	Interchangeable	Min. 24AWG, min. 300Vac, min. 80°C	IEC/EN 60950-1 UL 758	Tested with appliance UL approved

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Heat-shrinkable tubing	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	RSFR, RSFR-H, RSFR-HPF	600V, 125°C	IEC/EN 60950-1	Tested with appliance UL E203950
Alt. use	QIFURUI ELECTRONICS CO	QFR-h	600V, 125°C	IEC/EN 60950-1 UL 224	Tested within appliance UL E225897
Alt. use	DONGGUAN SALIPT CO LTD	SALIPT S-901-300 SALIPT S-901-600	Min. 300V, 125°C	IEC/EN 60950-1 UL 224	Tested within appliance UL E209436
Alt. use	GUANGZHOU KAIHENG ENTERPRISE GROUP	K-2 (+) K-2 (CB)	Min. 300V, 125°C	IEC/EN 60950-1 UL 224	Tested within appliance UL E214175
Alt. use	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-HFT	Min. 300V, 125°C	IEC/EN 60950-1 UL 224	Tested within appliance UL E180908
Transformer (T1)1)	/ GlobTek / BOAM / HAOPUWEI	See attachment for details	Class B, with critical component listed below	IEC 60950-1	Tested with appliance
- Magnet wire	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWN/U (UL E201757)	MW28-C, 130°C	IEC 60950-1	Tested with appliance
Alt. use	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWS/U (UL E201757)	MW75-C, 130°C	IEC 60950-1	Tested with appliance
Alt. use	JUNG SHING WIRE CO LTD	UEW-4 (UL E174837)	MW75C, 130°C	IEC 60950-1	Tested with appliance
Alt. use	JUNG SHING WIRE CO LTD	UEY-2 (UL E174837)	MW28-C, 130°C	IEC 60950-1	Tested with appliance
Alt. use	JIANGSU HONGLIU MAGNET WIRE TECHNOLOGY CO LTD	2UEW/130 (UL E335065)	MW75-C, 130°C	IEC 60950-1	Tested with appliance
Alt. use	CHANGZHOU DAYANG WIRE & CABLE CO LTD	2UEW/130 (UL E158909)	MW75-C, 130°C	IEC 60950-1	Tested with appliance

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alt. use	WUXI JUFENG COMPOUND LINE CO LTD	2UEWB (UL E206882)	MW75#, 130°C	IEC 60950-1	Tested with appliance
Alt. use	JIANGSU DARTONG M & E CO LTD	UEW (UL E237377)	MW 75-C, 130°C	IEC 60950-1	Tested with appliance
Alt. use	SHANDONG SAINT ELECTRIC CO LTD	UEW/130 (UL E194410)	MW75#, 130°C	IEC 60950-1	Tested with appliance
Alt. use	ZHEJIANG LANGLI ELECTRIC EQUIPMENTS CO LTD	UEW (UL E222214)	MW 79#, 130°C	IEC 60950-1	Tested with appliance
-Triple-insulated wire (Secondary)	Great Leoflon Industrial Co., Ltd.	TRW (B) Serie(s)	Class B, reinforced insulation	IEC 60950-1 UL 2353 UL 60601-1	VDE 136581 UL E211989
- Alt. use	COSMOLINK CO. Ltd.	TIW-M Serie(s)	Class B, reinforced insulation	IEC 60950-1 UL 2353 UL 60601-1	VDE 138053 UL E213764
- Alt. use	Furukawa Electric Co., Ltd. Electronics & Automotive Systems Company Global Business Development Division	TEX-E	Class B, reinforced insulation	IEC 60950-1 UL 2353 UL 60601-1	VDE 006735 UL E206440
- Alt. use	TOTOKU ELECTRIC CO LTD	TIW-2	Reinforced insulation, rated 130° C (Class B)	UL 2353 UL60950-1 UL 60601-1	VDE 40005152 UL E249037
- Alt. use	E&B TECHNOLOGY CO LTD	E&B-XXXB E&B-XXXB-1	Reinforced insulation, Class B	IEC 60950-1 UL 2353 UL 60601-1	VDE 40023473 UL E315265
- Alt. use	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TIW	Reinforced insulation, Class B	IEC 60950-1 UL 2353 UL 60601-1	Tested with appliance UL E249037
- Alt. use	SHENZHEN JIUDING NEW MATERIAL CO LTD	DTIW-B	Reinforced insulation, Class B	IEC 60950-1 UL 2353 UL 60601-1	VDE 40037495 UL E357999

IEC 60950-1					
Clause	Requirement + Test		Result - Remark	Verdict	
-Bobbin	CHANG CHUN PLASTICS CO LTD	T375J T375HF	V-0, 150°C, thickness 0,45 mm min.	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E59481
- Alt. use	CHANG CHUN PLASTICS CO LTD	4130	V-0, 140°C, thickness 0,74 mm min.	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E59481
- Alt. use	SUMITOMO BAKELITE CO LTD	PM-9820	V-0, 150°C, thickness 0,45 mm min.	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E41429
- Alt. use	HITACHI CHEMICAL CO LTD	CP-J-8800	V-0, 150°C, thickness 0,45 mm min.	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E42956
-Insulating tape	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F-1 1350T-1 44	Min.130°C	IEC 60950-1 UL 510	Tested with appliance UL E17385
- Alt. use	BONDTEC PACIFIC CO LTD	370S	Min.130°C	IEC 60950-1 UL 510	Tested with appliance UL E175868
- Alt. use	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ CT WF	Min.130°C	IEC 60950-1 UL 510	Tested with appliance UL E165111
- Alt. use	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A	Min.130°C	IEC 60950-1 UL 510	Tested with appliance UL E246950
- Alt. use	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	Min.130°C	IEC 60950-1 UL 510	Tested with appliance UL E246820
-PTFE tubing	GREAT HOLDING INDUSTRIAL CO LTD	TFT / TFS	Min. 300V, 200°C	IEC 60950-1	Tested with appliance UL E156256
-Alt. use	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	WF	600V, 200°C	IEC 60950-1	Tested with appliance UL E203950

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
-Alt. use	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TT-T / CB-TT-S	Min. 300V, 200°C	IEC 60950-1	Tested with appliance UL E180908
Enclosure (all parts)	SABIC INNOVATIVE PLASTICS B V	SE1X, SE1	PPE+PS, Min. V-1, Min. thickness:2.0mm, 105°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	SE100	PPE+PS, Min. V-1, Min. thickness:2.0mm, 95°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	C2950	PC/ABS, Min. V-0, Min. thickness:2.0mm, 85°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	CX7211 EXCY0098	PC/ABS, Min. V-1, Min. thickness:2.0mm, 90°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	945	PC, Min. V-1, Min. thickness: 2.0mm, 120°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	SABIC INNOVATIVE PLASTICS B V	HF500R	PC, V-0, Min. thickness:2.0mm, 125°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E45329
Alt. use	TEIJIN CHEMICALS LTD	LN-1250P LN-1250G	PC, Min. V-0, Min. thickness:2.0mm, 115°C	IEC 60950-1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E50075
Coupler	GlobTek, Inc.	Q-coupler	Max. 240V, Max. 2.0A	IEC 60320-1	Tested with appliance
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039. For all transformers under all manufacturers.					

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment for transformer as below:

Product Model	Voltage Range	Transformer model	Product Model	Voltage Range	Transformer model
GTM96180	5V-8V	TF042	GTM96300	5-8.9V	TF038
	8.1V-14.9V	TF043		9-11.9V	TF057
	15V-18.9V	TF044		12-14.9V	TF039
	19V-30V	TF045		15-24V	TF040
	30.1V-48V	TF046		24.1-48V	TF041
GTM96180 POE	18V	TF064	GTM96300 POE	18V	TF068
	24V	TF065		24V	TF069
	36V	TF066		36V	TF070
	48V	TF067		48V	TF071
	54V, 56V	TF063		54V, 56V	TF051
GTM91120 GTM91128 series	5-7.5V	GT-3005001			
	7.6V-10.5V	GT-3009001			
	10.6V-14.5V	GT-3012001			
	14.6V-19.5V	GT-3015001			
	19.6V-24V	GT-3024001			
	24.1V-48V	GT-3048001			

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: Opto Electronic Devices	P
Manufacturer	See list of safety critical components.	
Type.....	See list of safety critical components.	
Separately tested	Approved optocouplers used. See list of safety critical components.	
Bridging insulation	Reinforced insulation	
External creepage distance	Approved optocouplers used. See list of safety critical components.	
Internal creepage distance	-*	
Distance through insulation	Approved optocouplers used. See list of safety critical components.	
Tested under the following conditions	R	
Input.....	-	
Output.....	-	
supplementary information		
* Compliance with thermal cycling test was checked on these parts.		

1.6.2	TABLE: Electrical data (in normal conditions)	P				
Model: GTM96180-1807-2.0-T2						
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
90	0.4062	--	22.64	F1/F2	0.4062	Max Normal Load
100	0.3675	0.6	22.27	F1/F2	0.3675	Max Normal Load
240	0.1901	0.6	21.95	F1/F2	0.1901	Max Normal Load
264	0.1758	--	22.18	F1/F2	0.1758	Max Normal Load
Supplementary information:						

1.6.2	TABLE: Electrical data (in normal conditions)	P				
Model: GTM96180-1817.9-5.9-T2						
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
90	0.3974	--	22.13	F1/F2	0.3974	Max Normal Load
100	0.3647	0.6	21.86	F1/F2	0.3647	Max Normal Load
240	0.1859	0.6	21.35	F1/F2	0.1859	Max Normal Load
264	0.1731	--	21.52	F1/F2	0.1731	Max Normal Load
Supplementary information:						

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: Electrical data (in normal conditions)						P
Model: GTM96180-1838-2.0-T2							
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status	
90	0.3851	--	21.35	F1/F2	0.3851	Max Normal Load	
100	0.3530	0.6	21.11	F1/F2	0.3530	Max Normal Load	
240	0.1806	0.6	20.55	F1/F2	0.1806	Max Normal Load	
264	0.1653	--	20.61	F1/F2	0.1653	Max Normal Load	
Supplementary information:							

1.6.2	TABLE: Electrical data (in normal conditions)						P
Model: GTM96180-1848-T2							
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status	
90	0.3794	--	20.94	F1/F2	0.3794	Max Normal Load	
100	0.3481	0.6	20.69	F1/F2	0.3481	Max Normal Load	
240	0.1774	0.6	20.26	F1/F2	0.1774	Max Normal Load	
264	0.1648	--	20.41	F1/F2	0.1648	Max Normal Load	
Supplementary information:							

1.6.2	TABLE: Electrical data (in normal conditions)						P
Model: GT-96180-1856-T2-APOE							
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status	
90	0.3634	--	20.46	F1/F2	0.3634	Max Normal Load	
100	0.3321	0.6	20.08	F1/F2	0.3321	Max Normal Load	
240	0.1594	0.6	19.56	F1/F2	0.1594	Max Normal Load	
264	0.1517	--	19.64	F1/F2	0.1517	Max Normal Load	
Supplementary information:							

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: Electrical data (in normal conditions)						P
Model: GTM96300-2307.5-2.5-R3A							
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
90	0.5931	--	31.03	F1/F2	0.5931	Max Normal Load	
100	0.5285	1.0	30.53	F1/F2	0.5285	Max Normal Load	
240	0.2643	1.0	30.59	F1/F2	0.2643	Max Normal Load	
264	0.2332	--	30.71	F1/F2	0.2332	Max Normal Load	
Supplementary information:							

1.6.2	TABLE: Electrical data (in normal conditions)						P
Model: GTM96300-3614.5-2.5-R3A							
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
90	0.8171	--	43.36	F1/F2	0.8171	Max Normal Load	
100	0.7227	1.0	42.68	F1/F2	0.7227	Max Normal Load	
240	0.3547	1.0	42.07	F1/F2	0.3547	Max Normal Load	
264	0.3133	--	41.93	F1/F2	0.3133	Max Normal Load	
Supplementary information:							

1.6.2	TABLE: Electrical data (in normal conditions)						P
Model: GTM96300-3624-R3A							
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
90	0.8007	--	42.30	F1/F2	0.8007	Max Normal Load	
100	0.7162	1.0	41.84	F1/F2	0.7162	Max Normal Load	
240	0.3407	1.0	40.80	F1/F2	0.3407	Max Normal Load	
264	0.3109	--	40.86	F1/F2	0.3109	Max Normal Load	
Supplementary information:							

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: Electrical data (in normal conditions)						P
Model: GTM96300-3648-R3A							
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
90	0.7682	--	41.46	F1/F2	0.7682	Max Normal Load	
100	0.6849	1.0	41.03	F1/F2	0.6849	Max Normal Load	
240	0.3343	1.0	39.91	F1/F2	0.3343	Max Normal Load	
264	0.3019	--	39.86	F1/F2	0.3019	Max Normal Load	
Supplementary information:							

1.6.2	TABLE: Electrical data (in normal conditions)						P
Model: GTM96300-3656-T3-APOE							
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
90	0.7245	--	40.92	F1/F2	0.7245	Max Normal Load	
100	0.6158	1.0	40.23	F1/F2	0.6158	Max Normal Load	
240	0.3205	1.0	39.37	F1/F2	0.3205	Max Normal Load	
264	0.2987	--	38.89	F1/F2	0.2987	Max Normal Load	
Supplementary information:							

1.6.2	TABLE: Electrical data (in normal conditions)						P
Model: GTM91120-2007.5-2.5-T2							
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
90	0.52	--	27.0	F1/F2	0.52	Max Normal Load	
100	0.47	1.0	26.2	F1/F2	0.47	Max Normal Load	
240	0.24	1.0	26.1	F1/F2	0.24	Max Normal Load	
264	0.22	--	26.1	F1/F2	0.22	Max Normal Load	
Supplementary information:							

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: Electrical data (in normal conditions)					P
Model: GTM91120-3014.5-2.5-T2						
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
90	0.70	--	36.1	F1/F2	0.70	Max Normal Load
100	0.64	1.0	35.7	F1/F2	0.64	Max Normal Load
240	0.32	1.0	35.0	F1/F2	0.32	Max Normal Load
264	0.29	--	35.1	F1/F2	0.29	Max Normal Load
Supplementary information:						

1.6.2	TABLE: Electrical data (in normal conditions)					P
Model: GTM91120-3024-T3A						
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
90	0.65	--	35.0	F1/F2	0.65	Max Normal Load
100	0.59	1.0	34.6	F1/F2	0.59	Max Normal Load
240	0.30	1.0	33.8	F1/F2	0.30	Max Normal Load
264	0.28	--	33.6	F1/F2	0.28	Max Normal Load
Supplementary information:						

1.6.2	TABLE: Electrical data (in normal conditions)					P
Model: GTM91120-3048-T2						
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
90	0.66	--	35.2	F1/F2	0.66	Max Normal Load
100	0.61	1.0	34.9	F1/F2	0.61	Max Normal Load
240	0.30	1.0	33.6	F1/F2	0.30	Max Normal Load
264	0.28	--	34.2	F1/F2	0.28	Max Normal Load
Supplementary information:						

2.1.1.5 c) 1)	TABLE: max. V, A, VA test				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
GTM96300-2307.5-2.5-R2					
5.0	5.0	4.8	5.4	33.9	
GTM96300-3648-R2					

IEC 60950-1				
Clause	Requirement + Test		Result - Remark	Verdict
48	0.75	47.74	0.77	42.7
GTM96180-1807-2.0-T2				
5.0	3.5	4.77	3.90	24.6
GTM96180-1848-T2				
48	0.37	48.25	0.46	26.6
GTM91120-2007.5-2.5-T2				
5.0	4.0	4.8	4.5	21.6
GTM91120-3048-T2				
48	0.62	48	0.85	38.4
GTM91128LI3CEL				
12.6	1.0	12.0	1.0	31.2
supplementary information:				

2.2	TABLE: evaluation of voltage limiting components in SELV circuits			P
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components	
	V peak	V d.c.		
GTM91120-2007.5-2.5-T2				
Transformer T1 (Pin A and Pin B)	33,7Vpk / 12,7Vrms	--	SELV	
GTM91120-3048-T2				
Transformer T1 (Pin A and Pin B)	31,8Vpk / 88,4Vrms	--	Diode D7	
Transformer T1 (Pin B and D7 Cathode)	--	47.8Vdc	SELV	
GTM96180-1807-2.0-T2				
Transformer T1 (Pin A and Pin B)	31,2Vpk / 10,5Vrms	--	SELV	
GTM96180-1848-T2				
Transformer T1 (Pin A and Pin B)	32,6Vpk / 90,4Vrms	--	Diode D4	
Transformer T1 (Pin B and D4 Cathode)	--	48.4Vdc	SELV	
GTM96300-2307.5-2.5-R2				

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Transformer T1 (Pin A and Pin B)	35,8Vpk / 14,3Vrms	--	SELV
GTM96300-3648-R2			
Transformer T1 (Pin A and Pin B)	33,6Vpk / 89,9Vrms	--	Diode D4
Transformer T1 (Pin B and D4 Cathode)	--	48.1Vdc	SELV
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		
supplementary information:			

2.4 Limited Current Circuits Test					P
Condition:	Measured between	Voltage (Vp/Vdc)	Current (mA)	Circuit capacitance (Uf)	Remarks
Normal	CY1 sec. pin to L&N	194mVpeak	0.336 Max.	2.2nF	<0.7mA
supplementary information:					

2.5	TABLE: Limited power sources					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Uoc (V)	I _{sc} (A)		VA		
		Meas.	Limit	Meas.	Limit	
GTM96300-2307.5-2.5-R2						
Output Oc	Max. 5.14	--	--	--	--	
Output OI	--	5.44	8	33.9	100	
Single fault: Primary current limitation disabled. (R13 short)	--	0	8	0	100	
GTM96300-3648-R2						
Output Oc	Max. 48.09	--	--	--	--	
Output OI	--	0.768	3.125	42.7	100	
Single fault: Primary current limitation disabled. (R13 short)	--	0	3.125	0	100	

IEC 60950-1					
Clause	Requirement + Test	Result - Remark			Verdict
GTM96180-1807-2.0-T2					
Output Oc	Max. 5.112	--	--	--	--
Output Ol	--	3.90	8	24.6	100
Single fault: Primary current limitation disabled. (R13 short)	--	0	8	0	100
GTM96180-1848-T2					
Output Oc	Max. 48.44	--	--	--	--
Output Ol	--	0.465	3.125	26.6	100
Single fault: Primary current limitation disabled. (R13 short)	--	0	3.125	0	100
GTM91120-2007.5-2.5-T2					
Output Oc	Max. 5.13	--	--	--	--
Output Ol	--	4.5	8	21.6	100
Single fault: Primary current limitation disabled. (R11 short)	--	0	8	0	100
GTM91120-3048-T2					
Output Oc	Max. 48.03	--	--	--	--
Output Ol	--	0.85	3.125	38.4	100
Single fault: Primary current limitation disabled. (R11 short)	--	0	3.125	0	100
supplementary information:					
Sc=Short circuit, Oc=Open circuit, Ol=over loaded					

IEC 60950-1						
Clause	Requirement + Test	Result - Remark				Verdict
2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements					P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
GTM96180 series						
L to N before fuse(FI)	400	240	2.22*	3.75	2.4	3.75
Two poles of fuse(FI)	400	240	2.22*	2.46	2.4	2.46
Primary to functional earth (Class I)(RI)	400	240	5.92*	6.1	5.92**	6.1
Live parts to accessible parts(RI)	426	259	6.22*	8.2	6.4	8.2
Primary circuits to secondary circuits(RI)	426	259	6.22*	6.53	6.4	6.53
Primary winding to secondary winding(RI)	426	259	6.22*	6.5	6.4	6.5
Secondary winding to core(RI)	426	259	6.22*	7.2	6.4	7.2
Core to secondary parts(RI)	426	259	6.22*	7.1	6.4	7.1
GTM96300 series						
L to N before fuse(FI)	400	245	2.22*	7.12	2.45	7.12
Two poles of fuse(FI)	400	245	2.22*	2.60	2.45	2.60
Primary to functional earth (Class I)(RI)	400	245	5.92*	6.1	5.92**	6.1
Live parts to accessible parts(RI)	500	259	6.52*	8.2	6.52**	8.2
Primary circuits to secondary circuits(RI)	500	259	6.52*	6.66	6.52**	6.66
Primary winding to secondary winding(RI)	500	259	6.52*	7.2	6.52**	7.2
Secondary winding to core(RI)	500	259	6.52*	6.85	6.52**	6.85
Core to secondary parts(RI)	500	259	6.52*	7.1	6.52**	7.1
GTM91120series						
L to N before fuse(FI)	340	240	2.22*	4.6	2.40	4.6
Two poles of fuse(FI)	340	240	2.22*	2.62	2.40	2.62
Primary to functional earth (Class I)(RI)	340	240	5.92*	6.1	5.92**	6.1

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
Live parts to accessible parts(RI)	526	278	6.52*	8.2	6.52**	8.2
Primary circuits to secondary circuits(RI)	526	278	6.52*	7.7	6.52**	7.7
Primary winding to secondary winding(RI)	526	278	6.52*	8.4	6.52**	8.4
Secondary winding to core(RI)	526	278	6.52*	6.85	6.52**	6.85
Core to secondary parts(RI)	526	278	6.52*	7.1	6.52**	7.1
Open frame model series						
L to N before fuse(FI)	400	240	2.22*	2.8	2.4	2.8
Two poles of fuse(FI)	400	240	2.22*	2.6	2.4	2.6
Primary to functional earth (Class I)(RI)	400	240	4.56***	5.0	4.8	5.0
Primary circuits to secondary circuits(RI)	500	259	4.56***	6.7	5.18**	6.7
Primary winding to secondary winding(RI)	500	259	4.56***	8.0	5.18**	8.0
Secondary winding to core(RI)	500	259	4.56***	6.85	5.18**	6.85
Supplementary information: *Required value was multiplied by the factor 1,48 due to the maximum specified altitude of 5000m **Required creepage not less than required clearance *** Required value was multiplied by the factor 1,14 due to the maximum specified altitude of 3000m						

2.10.5	TABLE: Distance through insulation measurements					P
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)	
Plastic enclosure	500	245	3000	0.4	1.5	
Bobbin	500	245	3000	0.4	0.45	
Thin sheet material at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required layers	Layers	
Insulation tape around transformer	500	245	3000	2	2	
Supplementary information:						

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.5	TABLE: Thermal requirements		P
	Supply voltage (V)	90 264	—
	Ambient T _{min} (°C)	40 40	—
	Model	GTM96180-1807-2.0-T2	
Maximum measured temperature T of part/at.....:		T (°C)	
	T1 winding	105 99	110
	T1 core	102 94	Ref
	C1	101 91	105
	U3	93 84	100
	MOV1	82 60	85
	CY1	101 95	125
	CX1	85 63	100
	PCB	111 105	130
	External enclosure	83 78	95
	Internal enclosure	97 88	Ref
	Inlet body	62 58	--
GTM96180-1817.9-5.9-T2			
	T1 winding	95 92	110
	T1 core	93 92	Ref
	C1	99 79	105
	U3	76 75	100
	MOV1	77 59	85
	CY1	86 83	125
	CX1	77 60	100
	PCB	94 80	130
	External enclosure	67 68	95
	Internal enclosure	76 77	Ref
	Inlet body	58 55	--
Supplementary information:			

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.5	TABLE: Thermal requirements			P
	Supply voltage (V)	90	264	—
	Ambient T _{min} (°C)	40	40	—
	Model	GTM96180-1838-2.0-T3A		—
	Maximum measured temperature T of part/at.....:	T (°C)		Allowed T _{max} (°C)
	T1 winding	97	88	110
	T1 core	95	88	Ref
	C1	96	73	105
	U3	76	70	100
	MOV1	74	55	85
	CY1	81	75	125
	CX1	71	55	100
	PCB	93	74	130
	External enclosure	68	62	95
	Internal enclosure	71	66	Ref
	Inlet body	63	62	--
	GTM96180-1848-T3			
	T1 winding	92	86	110
	T1 core	94	89	Ref
	C1	98	78	105
	U3	73	69	100
	MOV1	77	57	85
	CY1	90	84	125
	CX1	77	58	100
	PCB	95	75	130
	External enclosure	66	62	95
	Internal enclosure	75	71	Ref
	Inlet body	57	55	--
	Supplementary information:			

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.5	TABLE: Thermal requirements		P
	Supply voltage (V)	90 264	—
	Ambient T _{min} (°C)	40 40	—
	Model	GTM96300-2307.5-2.5-R2	
	Maximum measured temperature T of part/at.....:	T (°C)	
	T1 winding	106 102	110
	T1 core	98 93	Ref
	C1	95 84	105
	U3	96 90	100
	MOV1	66 55	85
	CY1	90 86	125
	CX1	75 63	100
	PCB	88 84	130
	External enclosure	73 70	95
	Internal enclosure	81 77	Ref
	Inlet body	61 54	--
	GTM96300-3617.9-5.9-R3A		
	T1 winding	105 98	110
	T1 core	105 98	Ref
	C1	103 81	105
	U3	97 92	100
	MOV1	72 56	85
	CY1	107 99	125
	CX1	85 64	100
	PCB	96 88	130
	External enclosure	73 68	95
	Internal enclosure	83 76	Ref
	Inlet body	61 50	--
	Supplementary information:		

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.5	TABLE: Thermal requirements		P
	Supply voltage (V)	90 264	—
	Ambient T _{min} (°C)	40 40	—
	Model	GTM96300-3624-R2	
	Maximum measured temperature T of part/at.....:	T (°C)	
	T1 winding	105 88	110
	T1 core	105 91	Ref
	C1	103 76	105
	U3	92 87	100
	MOV1	72 54	85
	CY1	98 87	125
	CX1	89 62	100
	PCB	95 81	130
	External enclosure	76 66	95
	Internal enclosure	84 74	Ref
	Inlet body	72 55	--
	GTM96300-3648-R3A		
	T1 winding	103 90	110
	T1 core	101 90	Ref
	C1	100 76	105
	U3	98 90	100
	MOV1	67 52	85
	CY1	95 86	125
	CX1	79 58	100
	PCB	104 86	130
	External enclosure	76 70	95
	Internal enclosure	88 81	Ref
	Inlet body	58 50	--
	Supplementary information:		

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.5.5	TABLE: Ball pressure test of thermoplastic parts		P
	Allowed impression diameter (mm)	≤ 2 mm	—
Part		Test temperature (°C)	Impression diameter (mm)
Supplementary information: Approved materials are used. Refer to list of safety critical components.			

4.7	TABLE: Resistance to fire					P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
--	--	--	--	--	--	
Supplementary information: Approved materials are used. Refer to list of safety critical components.						

5.1	TABLE: touch current measurement			P
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	
L/N to enclosure(with metal foil)	0.076	0.25	--	
L/N to output	0.083	0.25	--	
Main to PE	0.22	3.5	--	
supplementary information:				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:	Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No	
Primary circuit to body (RI)	AC	3000	No	
Primary circuit to functional earth	AC	3000	No	
Primary circuit to secondary circuit (RI)	AC	3000	No	
L and N (FS1)	AC	1500	No	
Primary winding to secondary winding of T1 (RI)	AC	3000	No	
Secondary winding to core (RI)	AC	3000	No	
Insulation tape around transformer per layer	AC	3000	No	
Primary and secondary of Y1 capacitor	DC	4242	No	
Supplementary information:				

IEC 60950-1							
Clause	Requirement + Test					Result - Remark	Verdict
5.3	TABLE: Fault condition tests						P
	Ambient temperature (°C)					25, if no else specified	—
	Power source for EUT: Manufacturer, model/type, output rating					--	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	
Output (5V series)	OL	264	1h	F1/F2	0.858A	Load to 5.44A, EUT protected immediately, no hazards. Temperature recorded: T1 winding = 94°C Enclosure: 58°C	
Output (48V series)	OL	264	1h	F1/F2	0.803A	Load to 0.768A, EUT protected immediately, no hazards. Temperature recorded: T1 winding = 109°C Enclosure: 66°C	
Output	SC	90/264	10mins	F1/F2	0	EUT protected immediately, no hazards	
C4	SC	90/264	10mins	F1/F2	0	EUT protected immediately, no hazards	
Q1 pinD-S	SC	90/264	<1s	F1/F2	10*	EUT shut down immediately, fuse opened, repeat 10 times, no hazards	
Q1 pinG-S	SC	90/264	10mins	F1/F2	0	EUT protected immediately, no hazards	
D2	SC	90/264	10mins	F1/F2	0	EUT protected immediately, no hazards	
T1 pin1-2	SC	90/264	<2mins	F1/F2	10*	EUT shut down, fuse opened, repeat 10 times, no hazards	
T1 pinTA-TB	SC	90/264	10mins	F1/F2	0	EUT protected immediately, no hazards	
C1	SC	90/264	<1s	F1/F2	10*	EUT shut down immediately, fuse opened, repeat 10 times, no hazards	
BD1	SC	90/264	<1s	F1/F2	10*	EUT shut down immediately, fuse opened, repeat 10 times, no hazards	
Supplementary information: “Sc” means short-circuited test, “Ol” means overload test, “Oc” means open-circuited test; “Uoc” means output voltage without load.							

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

C.2		TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)	
T1	Reinforced (Sec. – core)	500	259	3000	4.0	5.18	Triple insulated winding comply with Annex U	
T1	Reinforced (Pri. – Sec.)	500	259	3000	4.0	5.18	Triple insulated winding comply with Annex U	
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers	
T1	Reinforced (Sec. – core)			3000	>7	>7	2	
T1	Reinforced (Pri. – Sec.)			3000	>7	>7	2	
supplementary information:								

Appendix No.1: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.1.1 (A1:2010)	Replace the text of NOTE 3 by the following. NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies.		P
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.		N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010		N/A
1.5.1 (Added info*)	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC. New Directive 2011/65/11 *		P
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.		N/A
1.7.2.1 (A12.2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.		N/A
	Zx Protection against excessive sound pressure from personal music players		N/A

Appendix No.1: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.1 General This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players.</p> <p>A personal music player is a portable equipment for personal use, that: is designed to allow the user to listen to recorded or broadcast sound or video; and primarily uses headphones or earphones that can be worn in or on or around the ears; and allows the user to walk around while in use.</p> <p>NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment.</p> <p>A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause.</p> <p>The requirements in this sub-clause are valid for music or video mode only.</p> <p>The requirements do not apply: while the personal music player is connected to an external amplifier; or while the headphones or earphones are not used.</p> <p>NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player.</p> <p>The requirements do not apply to: hearing aid equipment and professional equipment;</p> <p>NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.</p>		N/A
	<p>analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015.</p> <p>NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies.</p> <p>For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.</p>		N/A


Appendix No.1: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following:</p> <ul style="list-style-type: none"> equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1. <p>NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx.</p> <p>All other equipment shall:</p> <ul style="list-style-type: none"> a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and 		N/A

Appendix No.1: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off.</p> <p>d) have a warning as specified in Zx.3; and</p> <p>e) not exceed the following:</p> <ol style="list-style-type: none"> 1) equipment provided as a package (player with its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed "programme simulation noise" described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" described in EN 50332-1. <p>For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song.</p> <p>NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA.</p> <p>For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.</p>		N/A

Appendix No.1: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: the symbol of Figure 1 with a minimum height of 5 mm; and the following wording, or similar: "To prevent possible hearing damage, do not listen at high volume levels for long periods."</p>  <p>Figure 1 – Warning label (IEC 60417-6044)</p> <p>Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.</p>		N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	<p>Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed "programme simulation noise" described in EN 50332-2 shall be ≥ 75 mV. This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.</p>		N/A

Appendix No.1: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.4.2 Wired listening devices with digital input With any playing device playing the fixed “programme simulation noise” described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA.</p> <p>This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.).</p> <p>NOTE An example of a wired listening device with digital input is a USB headphone.</p>		N/A
	<p>Zx.4.3 Wireless listening devices In wireless mode: with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA.</p> <p>NOTE An example of a wireless listening device is a Bluetooth headphone.</p>		N/A
	<p>Zx.5 Measurement methods Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s.</p> <p>NOTE Test method for wireless equipment provided without listening device should be defined.</p>		N/A

Appendix No.1: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)												
Clause	Requirement + Test	Result - Remark	Verdict									
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>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):</p> <p>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;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p>		P									
	<p>c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		P									
2.7.2	This subclause has been declared 'void'.		N/A									
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A									
3.2.5.1	<p>Replace "60245 IEC 53" by "H05 RR-F";</p> <p>"60227 IEC 52" by "H03 VV-F or H03 VVH2-F";</p> <p>"60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".</p> <p>In Table 3B, replace the first four lines by the following:</p> <table border="0"> <tr> <td>Up to and including 6 </td> <td>0,75 ^{a)} </td> <td>Over 6</td> </tr> <tr> <td>up to and including 10 (0,75) ^{b)}</td> <td>1,0 </td> <td>Over 10</td> </tr> <tr> <td>up to and including 16 (1,0) ^{c)}</td> <td>1,5 </td> <td></td> </tr> </table> <p>In the conditions applicable to Table 3B delete the words "in some countries" in condition ^{a)}.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Up to and including 6	0,75 ^{a)}	Over 6	up to and including 10 (0,75) ^{b)}	1,0	Over 10	up to and including 16 (1,0) ^{c)}	1,5			N/A
Up to and including 6	0,75 ^{a)}	Over 6										
up to and including 10 (0,75) ^{b)}	1,0	Over 10										
up to and including 16 (1,0) ^{c)}	1,5											

Appendix No.1: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N/A
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 1,5 to 2,5 1,5 to 4 Delete the fifth line: conductor sizes for 13 to 16 A		N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation).		N/A
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		N/A
Bibliography	Additional EN standards.		—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.2.13.14 (A11:2009)	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A

Appendix No.1: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.7.1 (A11:2009)	In Finland, Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A

Appendix No.1: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	<p>In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows:</p> <p>In Finland: "Laitte on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>		N/A
1.7.2.1 (A11:2009)	<p>In Norway and Sweden, the screen of the cable 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 need to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>"Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)."</p>		

Appendix No.1: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.”</p> <p>Translation to Swedish:</p> <p>”Utrustning 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 utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”</p>		N/A
1.7.2.1 (A2:2013)	<p>In Denmark, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in Denmark shall be as follows: In Denmark: “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.”</p>		N/A
1.7.5 1.7.5 (A11:2009)	<p>In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.</p> <p>For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>		N/A

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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5 (A2:2013)	In Denmark , socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011. For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a. Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b. Justification the Heavy Current Regulations, 6c		N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A
3.2.1.1	In Switzerland , supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A		N/A

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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A</p> <p>SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A</p> <p>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <p>SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A</p> <p>SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A</p> <p>SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A</p>		
3.2.1.1	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>		N/A

Appendix No.1: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1 (A2:2013)	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.</p> <p>Justification the Heavy Current Regulations, 6c</p>		N/A
3.2.1.1	<p>In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>		N/A
3.2.1.1	<p>In the United Kingdom, apparatus 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 and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations.</p> <p>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		N/A

Appendix No.1: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In Ireland , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.		N/A
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and 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
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A

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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	<p>In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:</p> <ul style="list-style-type: none"> • STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT. 		N/A
6.1.2.1 (A1:2010)	<p>In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>Alternatively for components, there is no distance through insulation requirements for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 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. 		N/A

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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - 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. 		N/A
6.1.2.2	In Finland, Norway and Sweden , the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A
7.2	In Finland, Norway and Sweden , for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3 (A11:2009)	In Norway and Sweden , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A

APPENDIX NO.2	National differences for Singapore IEC 60950-1, 1st edition			—
<p>The following is the national differences in accordance with safety authority website www.safety.org.sg/ , ref. Singapore Consumer Protection (Safety Requirements) - Information booklet - chapter 7 (page 23 - 26). Based on information by Singapore NCB – PSB Corp.</p>				
<p>7 SAFETY AUTHORITY'S REQUIREMENTS</p>				
<p>The Safety Authority monitors the safety of the controlled goods sold in Singapore by investigating all complaints, incidents and accidents reported to the authority. Experiences gained are translated into the Safety Authority's Requirements. These requirements are to be fulfilled in addition to the applicable safety standards.</p>				
<p>Applicable to all electrical products</p>				
No	Item	Requirement	Result - Remark	Verdict
2	Controlled Goods incorporated with additional function	The additional function must be tested to its applicable safety standard.		P
3	All appliances	All appliances must be tested to 230 VAC.	The voltage range includes 230Vac.	P
4	Voltage selector (voltage mis-match test)	Appliance fitted with voltage selector shall be tested as follows: Connect appliance to 230 VAC mains with voltage selector switch to settings not suitable for operation at 230 VAC.	No voltage selector.	N/A
5	Tropical condition test	All appliances (with tropical test requirements in applicable Standards) shall comply with the tropical condition test as stated in the relevant IEC Standards.		P
6	Class I appliances (3-pin mains plug)	All Class I appliances must be fitted with 3-pin mains plugs complied with SS 145/SS 472 that are registered with the Safety Authority.		N/A
7	Class II appliances (mains plug)	a) All Class II appliances must be fitted with 2-pin mains plug (Appendix T) complied with EN 50075. b) Class II appliances that are fitted with 3-pin mains plugs must use plugs that are complied with SS 145 and registered with the Safety Authority.		P
8	Appliances rated \geq 3 kW or connected to fixed wiring	Electric appliance \geq 3kW must be connected to fixed wiring. All connection to fixed wiring must be in accordance with Code of Practice CP5.	Not exceed 3kW.	N/A
9	Detachable power cord set (consists of mains plug, mains cord and appliance connector)	Detachable power cord set must be listed in the test report critical component list.	Direct plug-in device.	N/A

No	Item	Requirement	Result - Remark	Verdict
10	Circuit diagrams	Circuit diagrams must be indicated with component's values for products tested to IEC 60065 and IEC 60950-1.		P
11	Circuit diagrams of electronic modules in electrical appliances	Circuit diagrams of the electronic modules in the electrical appliances must be provided.		P
12	Controlled goods likely to be treated as toy by children	Controlled goods, having an enclosure, which is shaped and decorated so that it is likely to be treated as a toy by children, shall not be accepted for certification and registration.	The shape and function are not considered for toy.	N/A
Applicable to AC adaptor				
14	3-pin AC adaptor (Appendix V)	Test report showing that the 3-pin complied with sub-clauses 12.1 & 12.3 of SS 246 must be submitted.		N/A
15	2-pin AC adaptor (Appendix V)	The 2-pin (Appendix T) shall comply with EN 50075	See the appendix page.	P
16	Detachable power supply cord set not supplied by Registered Supplier	Registered Supplier who is not supplying the detachable power supply cord set together with the AC Adaptor must provide written instruction to its customer on the type of approved detachable power cord set to use.		N/A
Applicable to computer products				
17	CD/DVD ROM (used in personal computer)	Test certificate showing that CD/DVD ROM has complied with IEC 825 must be provided.	No CD/DVD ROM provided.	N/A
18	Modem Card (used in personal computer)	Modem card incorporated in the personal computer must be tested at set level (sub-clauses 5.1& 6 of IEC 60950-1) or at component level.	No modem card provided.	N/A
Applicable to plasma/LCD display monitor				
37	Plasma/LCD display monitor with TV tuner	Plasma/LCD display monitor tested to IEC 60950-1 would require additional test to clauses 9 (related to antenna only), 10.1, 10.2, 10.3 and 12.5 of IEC 60065.	No TV tuner.	N/A


APPENDIX No.3	National differences for Japan IEC 60950-1, 1 st edition	—
1.2.4.1	<p>Add the following new notes.</p> <p>Note: Even if the equipment is designed as Class I, the equipment is regarded as Class 0I equipment when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.</p>	N/A
1.2.4.3A	<p>Add the following new clause.</p> <p>1.2.4.3A CLASS 0I EQUIPMENT</p> <p>Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by:</p> <ul style="list-style-type: none"> - using BASIC INSULATION, and - providing externally an earth terminal or a lead wire for earthing in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring. <p>NOTE – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation circuit.</p>	N/A
1.3.2	<p>Add the following notes after first paragraph:</p> <p>Note 1 Transportable or similar equipment that are relocated frequently for intended usage should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.</p> <p>Note 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.</p>	N/A

Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	<p>Replace the first paragraph with the follows: Where safety is involved, components shall comply either with the requirements of this standard, with the safety aspects of the relevant JIS component standard, or IEC component standards in case there is no applicable JIS component standard is available. However, a component that falls within the scope of METI Ministerial ordinance No. 85 is properly used in accordance with its marked ratings, requirements of 1.5.4, 2.8.7 and 3.2.5 apply, and in addition, a cord connector of power supply cord set mating with appliance inlet complying with the standard sheet of IEC 60320-1, shall comply with relevant standard sheet of IEC 60320-1.</p> <p>Replace Note 1 with the following: Note 1 A JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.</p>		P
1.5.2	<p>Replace first sentence in the first dashed paragraph with the following:</p> <ul style="list-style-type: none"> - A component that has been demonstrated to comply with a JIS component standard harmonized with the relevant IEC component standard, or where such JIS component standard is not available, a component that has been demonstrated to comply with the relevant IEC component standard shall be checked for correct application and use in accordance with its rating. <p>Add a note after the first dashed paragraph as follows: Note 1 See 1.7.5A when Type C.14 appliance coupler rated 10 A per IEC 60320-1 is used with an equipment rated not more than 125 V and rated more than 10 A.</p> <p>Replace first sentence in the third dashed paragraph as follows:</p> <ul style="list-style-type: none"> - Where no relevant IEC component standard or JIS component standard harmonized with the relevant IEC component standard exists, or where components are used in circuits not in accordance with their specified rating, the components shall be tested under the conditions occurring in the equipment. 		N/A

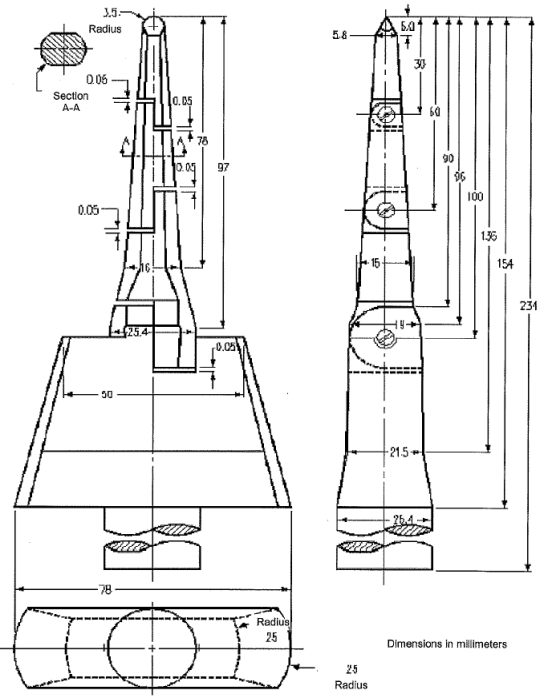
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	Replace fifth dashed paragraph with the following: - manufacturer's or responsible company's name or trade-mark or identification mark;		P
1.7.5A	Add the following new clause. after 1.7.5 1.7.5A Appliance Coupler If appliance coupler according to IEC60320-1, C.14(rated current: 10A)is used in equipment whose rated voltage is less than 125V and rated current is over 10A, the following instruction or equivalent shall be described in the user instruction. "Use only designated cord set attached in this equipment"		N/A
1.7.12	Replace first sentence with the following: Instructions and equipment marking related to safety shall be in Japanese.	It shall be checked for proper certificate of these countries' certification before products are sold in the market.	N/A
1.7.17A	Add the following new clause. after 1.7.17 1.7.17A Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following instruction shall be marked on the visible place of the mains plug or the main body: "Provide an earthing connection" Moreover, for CLASS 0I EQUIPMENT, the following or equivalent instruction shall be indicated on the visible place of the main body or written in the operating instructions: "Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains."		N/A
2.6.3.2	Add the following after 1st paragraph. This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT.		N/A
2.6.4.2	Replace 1st paragraph with the following. Equipment required to have protective earthing shall have a main protective earthing terminal. For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal except for CLASS 0I EQUIPMENT providing separate main protective earthing terminal other than appliance inlet.		N/A

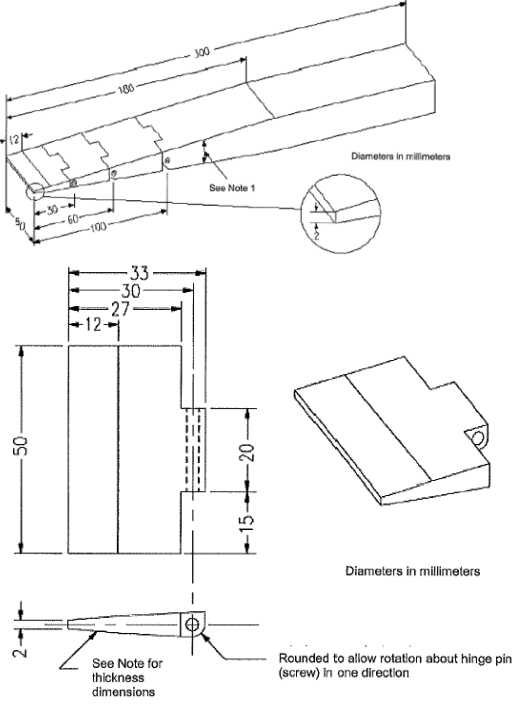
Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.4	Replace 1st sentence with the following. Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:		P
2.6.5.8A	Add the following new clause. after 2.6.5.8A 2.6.5.8A Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible.		N/A
3.2.3	Add the following after Table 3A: Table 3A applies when cables complying JIS C 3662 or JIS C 3663 are used. In case of other cables, cable entries shall be so designed that a conduit suitable for the cable used can be fitted.		N/A
3.2.5.1	Add the following to the last of first dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance. Add the following to the last of second dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance.. Delete 1) in Table 3B.		N/A
3.3.4	Add the following note to Table 3D: Note For cables other than those complying with JIS C 3662 or JIS C 3663; terminals shall be suitable for the size of the intended cables.		N/A
3.3.7	Add the following after the first sentence: This requirement is not applicable to the external earthing terminal of Class 0I equipment.		N/A
4.3.4	Add the following after the first sentence: This requirement also applies to those connections in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.		N/A

Clause	Requirement + Test	Result - Remark	Verdict																													
5.1.3	<p>Add a note after the first paragraph as follows: Note – Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, test is conducted using the test circuit from IEC 60990, figure 13.</p>		N/A																													
5.1.6	<p>Replace Table 5A. as follows</p> <table border="1" data-bbox="368 611 938 1373"> <thead> <tr> <th>Type of equipment</th> <th>Terminal A of measuring instrument connected to:</th> <th>Maximum TOUCH CURRENT mA r.m.s. 1)</th> <th>Maximum PROTECTIVE CONDUCTOR CURRENT</th> </tr> </thead> <tbody> <tr> <td>ALL equipment</td> <td>ALL equipment Accessible parts and circuits not connected to protective earth</td> <td>0,25</td> <td>-</td> </tr> <tr> <td>HAND-HELD</td> <td rowspan="4">Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT</td> <td>0,75</td> <td>-</td> </tr> <tr> <td>MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT</td> <td>3,5</td> <td>-</td> </tr> <tr> <td>STATIONARY, PLUGGABLE TYPE A</td> <td>3,5</td> <td>-</td> </tr> <tr> <td>ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7</td> <td>3.5</td> <td>-</td> </tr> <tr> <td>HAND-HELD</td> <td>Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT</td> <td>0,5</td> <td>-</td> </tr> <tr> <td>Others</td> <td></td> <td>1.0</td> <td>-</td> </tr> </tbody> </table> <p>1) If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.</p>	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. 1)	Maximum PROTECTIVE CONDUCTOR CURRENT	ALL equipment	ALL equipment Accessible parts and circuits not connected to protective earth	0,25	-	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	0,75	-	MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT	3,5	-	STATIONARY, PLUGGABLE TYPE A	3,5	-	ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7	3.5	-	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	0,5	-	Others		1.0	-		P
Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. 1)	Maximum PROTECTIVE CONDUCTOR CURRENT																													
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STATIONARY, PLUGGABLE TYPE A		3,5	-																													
ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7		3.5	-																													
HAND-HELD	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	0,5	-																													
Others		1.0	-																													
7.2	<p>Add the following after the paragraph: However, the separation requirements and tests of 6.2.1 a), b) and c) do not apply to a CABLE DISTRIBUTION SYSTEM if all of the following apply: – the circuit under consideration is a TNV-1 CIRCUIT; and – the common or earthed side of the circuit is connected to the screen of the coaxial cable and to all accessible parts and circuits (SELV, accessible metal parts and LIMITED CURRENT CIRCUITS, if any); and – the screen of the coaxial cable is intended to be connected to earth in the building installation.</p>		N/A																													



Clause	Requirement + Test	Result - Remark	Verdict
W.1	<p>Replace second and third sentence in the first paragraph with the following:</p> <p>This distinction between earthed and unearthed (floating) circuit is not the same as between CLASS I EQUIPMENT, CLASS 0I EQUIPMENT and CLASS II EQUIPMENT. Floating circuits can exist in CLASS I EQUIPMENT or CLASS 0I EQUIPMENT and earthed circuits in CLASS II EQUIPMENT.</p>		N/A
Annex JA	<p>Add a new annex JA with the following contents.</p> <p style="text-align: center;">Annex JA (normative) Document shredding machines</p> <p>Document shredding machines shall also comply with the requirements of this annex except those of STATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more.</p> <p>JA.1 Markings and instructions</p> <p>The symbol  (JIS S 0101:2000, 6.2.4) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible;</p> <ul style="list-style-type: none"> - that use by an infants/children may cause a hazard of injury etc.; - that a hand can be drawn into the mechanical section for shredding when touching the document-slot; - that clothing can be drawn into the mechanical section for shredding when touching the document-slot; - that hairs can be drawn into the mechanical section for shredding when touching the document-slot; - in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas. <p>JA.2 Inadvertent reactivation</p> <p>Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard.</p> <p>Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1</p>		N/A

Clause	Requirement + Test	Result - Remark	Verdict
	<p>JA.3 Disconnection from the mains supply</p> <p>Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used.</p> <p>If two-position switch, the positions for “ON” and “OFF” shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for “OFF” shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols.</p> <p>Compliance is checked by inspection</p> <p>JA.4 Protection against hazardous moving parts</p> <p>Any warning shall not be used instead of the structure for preventing access to hazardous moving parts.</p> <p>Document shredding machines shall comply with the following requirements.</p> <p>Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended. Before testing with the test finger, remove the parts detachable without a tool.</p> <p>Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.</p>		<p>N/A</p>

Clause	Requirement + Test	Result - Remark	Verdict
	 <p>Figure JA.1 Test finger</p>		



Clause	Requirement + Test	Result - Remark	Verdict								
	 <p>(Details of the tip of wedge)</p> <table border="1" data-bbox="367 1131 954 1294"> <thead> <tr> <th>Distance from the tip (mm)</th> <th>Thickness of probe (mm)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>2</td> </tr> <tr> <td>12</td> <td>4</td> </tr> <tr> <td>180</td> <td>24</td> </tr> </tbody> </table> <p>Note 1 - The thickness of the probe varies linearly, with slope changes at the respective points shown in the table.</p> <p>Note 2 -The allowable dimensional tolerance of the probe is +/- 0.127 mm.</p> <p>Figure JA.2 Wedge-probe</p>	Distance from the tip (mm)	Thickness of probe (mm)	0	2	12	4	180	24		
Distance from the tip (mm)	Thickness of probe (mm)										
0	2										
12	4										
180	24										

APPENDIX No.4	National differences for China IEC 60950-1, 2nd edition		—
1.1.2	<p>GB 4943.1-2011 applies to equipment for use at altitudes not exceeding 5000m above sea level, primarily in regions with moderate or tropical climates.</p> <p>Amend the third dashed paragraph of 1.1.2 as: —equipment intended to be used in vehicles, on board ships or aircraft, at altitudes greater than 5000m;</p>	Altitude: 3000 m	N/A
1.4.5	<p>After the third paragraph, add a paragraph: If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10%,-10% unless a wider tolerance is declared by the manufacturer. The first dash paragraph "-the RATED VOLTAGE is 230V single -phase or 400V three-phase, in which case the tolerance shall be taken as +10% and -10%" of IEC 60950-1:2005 is deleted in GB 4943.1-2011</p>		P
1.4.12.1	<p>T_{ma} in clause 1.4.12.1 amended as: T_{ma}: is the maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater.</p> <p>Add note 1: For equipment not to be operated at tropical climatic conditions, T_{ma}: is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater.</p> <p>Add note 2: For equipment is to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration.</p>		P
1.5. 2	<p>Add a note behind the first break off section in Clause 1.5.2: A component used shall comply with related requirements corresponding altitude of 5000m.</p>		N/A
1.7	<p>Add one paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.</p>	<p>It shall be checked for proper certificate of these countries' certification before products are sold in the market.</p>	N/A

Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	<p>Based on the AC mains supply of China, the RATED VOLTAGE should be 220V (single phase) or 380V (three-phases) for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220V or 380V (three-phases), for multiple RATED VOLTAGES, one of them should be 220V or 380V (three-phases) and set on 220V or 380V (three-phases) when manufactured.</p> <p>And the RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or include 50Hz.</p>		P
1.7.2.1	<p>Add requirements of warning for equipment intended to be used at altitudes not exceeding 2000m or at non-tropical climate regions:</p> <p>For equipment intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place.</p> <p>"Only used at altitude not exceeding 2000m."</p>  <p>For equipment intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place.</p> <p>"Only used in not-tropical climate regions."</p>  <p>If only the symbol used, the explanation of the symbol shall be contained in the instruction manual.</p> <p>The above statements shall be given in a language acceptable to the regions where the apparatus is intended to be used.</p>	<p>Altitude: 3000 m.</p> <p>The marking label shall be checked for proper certificate of these countries' certification before products are sold in the market.</p>	N/A
2.7.1	<p>Amended the first paragraph as:</p> <p>Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except special provisions. And the protective device shall meet the requirement of Clause 5.3.</p> <p>Delete note of Clause 2.7.1.</p>		P

Clause	Requirement + Test	Result - Remark	Verdict
2.9.2	<p>First section of Clause 2.9.2 amended as two sections:</p> <p>Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature 40 ± 2 °C and a relative humidity of (93 ± 3) %. During this conditioning the component or subassembly is not energized.</p> <p>For equipment not to be operated at tropical climatic conditions, Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of (93 ± 3) %. The temperature of the air, at all places where samples can be located, is maintained within 2 °C of any convenient value between 20 °C and 30 °C such that condensation does not occur.</p> <p>Due to pretreatment of equipment operated at high altitude area is humidity conditioning withstand hot shock, specific requirements are to be considered.</p> <p>Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered.</p>		P
2.10.3.1	<p>Amend the third paragraph of Clause 2.10.3.1 to be:</p> <p>These requirements apply for equipment to be operated up to 2000 m above sea level. For equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of IEC 60664-1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0.1 mm increment.</p>	Altitude: 3000 m.	N/A
2.10.3.3& 2.10.3.4	Add "(applicable for altitude up to 2000m)" in header of Table 2K, 2L and 2M.		N/A

Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.4	Add a new section above Table 2K and in Clause 2.10.3.4: Minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1 (IEC 60664-1) . For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T16935.1.	Altitude: 3000 m.	N/A
3.2.1.1	Add a paragraph before the last paragraph: Plugs connected to AC mains supply shall comply with GB 1002 or GB 1003 or GB/T 11918 as applicable.		N/A
4.2.8	Clause 4.2.8 cathode ray tubes quoted Clause 18 of GB8898-2011. Delete note of Clause 4.2.8.		N/A
Annex E	Last section of Annex E amended as: For comparison of winding temperatures determined by the resistance method of this annex with the temperature limits of Table 4B, 35 °C shall be added to the calculated temperature rise. And add note: for equipment not to be operated at tropical climatic conditions, 25 °C shall be added to the calculated temperature rise to compare with the temperature of Table 4B.		P
Annex G.6	Change the second section of Clause G.6 to be: For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.		P
Annex BB (informative)	Amended as : The differences between Chinese national standards GB 4943.1-2011 and GB 4943-2001.		N/A

Clause	Requirement + Test	Result - Remark	Verdict
Annex DD (normative)	<p>Added annex DD: Instructions for the new safety warning labels.</p> <p>DD.1 Altitude warning label</p>  <p>Meaning of the label: Evaluation for apparatus only based on altitude not exceeding 2000m, therefore it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used at altitude above 2000m.</p> <p>DD.2 Climate warning label</p>  <p>Meaning of the label: Evaluation for apparatus only based on temperate climate condition, therefore it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used in tropical climate region.</p>	It shall be checked for proper certificate of these countries' certification before products are sold in the market.	N/A
Annex EE (informative)	<p>Added annex EE:</p> <p>Illustration relative to safety explanation in normative Chinese, Tibetan, Mongolian, Zhuang Language and Uighu.</p>	It shall be checked for proper certificate of these countries' certification before products are sold in the market.	N/A
Other amendments	<p>In accordance with the relevant CTL decisions and the amendments of IEC 60950-1, the specific requirements or mistakes in IEC standard are corrected or editorially modified in this part, Including clause 1.7, 2.1.1.7, 2.9.2, Table 2H, Figure 2H, F.8, F.9, M.3 and Annex U.</p>		P

Clause	Requirement + Test	Result - Remark	Verdict
<p>Quoting standards and reference documents</p>	<p>The principles of quoting and referring to other standards in Annex P and reference documents of IEC 60950-1 are as follows:</p> <p>If the date of the reference document is given, only that edition applies, excluding any subsequent corrigenda and amendments. However, parties to agreements based on this part are encouraged to investigate the possibility of applying the most recent editions of the reference documents. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendments.</p> <p>For the usage of international standards in Chinese national standards and industry standards is various, in the aim of achieving easy operation and based on the requirements of GB/T 1.1 and GB/T 20000.2, when quoting an entire international standard in the normative quoting files and reference documents of Annex P of this part, the principles of quotation are as follows:</p> <ul style="list-style-type: none"> - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted; - If the date of the national standard or industry standard is not given, the latest edition of the standard applies; - The national standard or industry standard number, corresponding international standard number and the consistency level code should be identified in parentheses behind the listed national standard or industry standard. <p>When quoting several chapters or clauses of the international standard, the principles of quotation are as follows:</p> <ul style="list-style-type: none"> - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted. 		<p>P</p>
	<p>Meanwhile, in order to retain the relevant information on international standards, informative annex CC is increased, which gives the table about the comparison of the normative quoting files and reference documents in IEC 60950-1:2005 and GB 4943.1-2011.</p>		<p>P</p>

APPENDIX No.5	National differences for Australia and New Zealand IEC 60950-1, 2nd edition	
	ANNEX ZZ (normative) Variations to IEC 60950-1, ED.2.0 (2005) for application in Australia and New Zealand	
ZZ1	Introduction This Annex sets out variations and additional requirements to cover issues which have not been addressed by the International Standard. These variations indicate national variations for purposes of the IECEE CB Scheme and will be published in the IECEE CB Bulletin.	-
ZZ2	Variations The following variations apply to the source text:	-
1.2	Between the definitions for 'Person, service' and 'Range, rated frequency' insert the following: POTENTIAL IGNITION SOURCE 1.2.12	P
1.2.12.201	Insert a new Clause 1.2.12.201 after Clause 1.2.12.15 as follows: 1.2.12.201 POTENTIAL IGNITION SOURCE: Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s current under normal operating conditions exceeds 15 VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS. NOTE 201 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE. NOTE 202 This definition is from AS/NZS 60065:2003.	P
1.5.1	Add the following to the end of first paragraph: "or the relevant Australian/New Zealand Standard". In NOTE 1, add the following after the word "standard": "or an Australian/New Zealand Standard".	P
1.5.2.	Add the following to the end of first and third dash items: "or the relevant Australian/New Zealand Standard".	P

Clause	Requirement + Test	Result - Remark	Verdict																	
3.2.5.1	<p>Modify Table 3B as follows:</p> <p>Delete the first four rows and replace with the following:</p> <table border="1" data-bbox="368 472 959 797"> <thead> <tr> <th data-bbox="368 472 563 600" rowspan="2">RATED CURRENT of equipment A</th> <th colspan="2" data-bbox="563 472 959 510">Minimum conductor sizes</th> </tr> <tr> <th data-bbox="563 510 762 600">Nominal cross-sectional area mm²</th> <th data-bbox="762 510 959 600">AWG or kcmil [cross-sectional area in mm²] see Note 2</th> </tr> </thead> <tbody> <tr> <td data-bbox="368 600 563 651">Over 0.2 up to and including 3</td> <td data-bbox="563 600 762 651">0,5^{a)}</td> <td data-bbox="762 600 959 651">18 [0,8]</td> </tr> <tr> <td data-bbox="368 651 563 703">Over 3 up to and including 7.5</td> <td data-bbox="563 651 762 703">0,75</td> <td data-bbox="762 651 959 703">16 [1,3]</td> </tr> <tr> <td data-bbox="368 703 563 754">Over 7.5 up to and including 10</td> <td data-bbox="563 703 762 754">(0,75)^{b)} 1,00</td> <td data-bbox="762 703 959 754">16 [1,3]</td> </tr> <tr> <td data-bbox="368 754 563 797">Over 10 up to and including 16</td> <td data-bbox="563 754 762 797">(1,0)^{c)} 1,5</td> <td data-bbox="762 754 959 797">14 [2]</td> </tr> </tbody> </table> <p>Delete NOTE 1.</p> <p>Replace footnote ^{a)} with the following:</p> <p>¹⁾ This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm² three-core supply flexible cords are not permitted; see AS/NZS 3191).</p>	RATED CURRENT of equipment A	Minimum conductor sizes		Nominal cross-sectional area mm ²	AWG or kcmil [cross-sectional area in mm ²] see Note 2	Over 0.2 up to and including 3	0,5 ^{a)}	18 [0,8]	Over 3 up to and including 7.5	0,75	16 [1,3]	Over 7.5 up to and including 10	(0,75) ^{b)} 1,00	16 [1,3]	Over 10 up to and including 16	(1,0) ^{c)} 1,5	14 [2]		N/A
RATED CURRENT of equipment A	Minimum conductor sizes																			
	Nominal cross-sectional area mm ²	AWG or kcmil [cross-sectional area in mm ²] see Note 2																		
Over 0.2 up to and including 3	0,5 ^{a)}	18 [0,8]																		
Over 3 up to and including 7.5	0,75	16 [1,3]																		
Over 7.5 up to and including 10	(0,75) ^{b)} 1,00	16 [1,3]																		
Over 10 up to and including 16	(1,0) ^{c)} 1,5	14 [2]																		
4.1.201	<p>Insert a new Clause 4.1.201 after Clause 4.1 as follows:</p> <p>4.1.201 Display devices used for television purposes</p> <p>Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.</p>		N/A																	
4.3.6	<p>Delete the third paragraph and replace with the following:</p> <p>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.</p>		N/A																	
4.3.13.5	<p>Add the following to the end of the first paragraph: “, or AS/NZS 2211.1”.</p>		N/A																	
4.7	<p>Add the following new paragraph to the end of the clause:</p> <p>“For alternate tests refer to Clause 4.7.201.”</p>		P																	

Clause	Requirement + Test	Result - Remark	Verdict
4.7.201	<p><i>Insert a new Clause 4.7.201 after Clause 4.7.3.6 as follows:</i></p> <p>4.7.201 Resistance to fire – Alternative tests</p> <p>4.7.201.1 General</p> <p>Parts of non-metallic material shall be resistant to ignition and spread of fire.</p> <p>This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following:</p> <p>(a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length.</p> <p>(b) The following parts which would contribute negligible fuel to a fire:</p> <ul style="list-style-type: none"> - small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1,750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. <p>NOTE In considering how to minimize propagation of fire and what "small parts" are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another.</p> <p>Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5.</p> <p>For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5.</p> <p>The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use.</p> <p>These tests are not carried out on internal wiring.</p>	<p>The equipment complies with the requirements of IEC 60950-1. Alternative test methods are not considered.</p>	N/A

Clause	Requirement + Test	Result - Remark	Verdict
Cont.	<p>4.7.201.2 Testing of non-metallic materials</p> <p>Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C.</p> <p>Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.</p> <p>4.7.201.3 Testing of insulating materials</p> <p>Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C.</p> <p>The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection.</p> <p>NOTE Contacts in components such as switch contacts are considered to be connections.</p> <p>For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested.</p> <p>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:</p>		N/A

Clause	Requirement + Test		Result - Remark	Verdict
Cont.	Clause of AS/NZS 60695.11.5	Change		N/A
	9 Test procedure			
	9.2 Application of needle-flame	<p><i>Replace</i> the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner</p> <p><i>Replace</i> the first paragraph with: The duration of application of the test flame shall be 30 s ±1 s.</p>		
	9.3 Number of test specimens	<p><i>Replace</i> with: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.</p>		
	11 Evaluation of test results	<p><i>Replace</i> with: The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p>		
<p>The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part.</p> <p>4.7.201.4 Testing in the event of non-extinguishing material</p> <p>If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.</p>				

Clause	Requirement + Test	Result - Remark	Verdict
Cont.	<p>NOTE 1 - If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 2 - If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 3 - Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.</p> <p>4.7.201.5 Testing of printed boards</p> <p>The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE.</p> <p>The test is not carried out if the —</p> <ul style="list-style-type: none"> - Printed board does not carry any POTENTIAL IGNITION SOURCE; - Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or - Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. 		N/A

Clause	Requirement + Test	Result - Remark	Verdict
	<p>Compliance shall be determined using the smallest thickness of the material.</p> <p>NOTE – Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 min when the circuit supplied is disconnected.</p>		N/A
6.2.2	<p>For Australia only, <i>delete</i> the first paragraph and Note, and <i>replace</i> with the following:</p> <p>In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2.</p>		N/A
6.2.2.1	<p>For Australia only, <i>delete</i> the first paragraph including the Notes, and <i>replace</i> with the following:</p> <p>In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, U_c, is:</p> <p>(i) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and</p> <p>(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.</p> <p>NOTE 201 – The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines.</p> <p>NOTE 202 – The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.</p>		N/A
6.2.2.2	<p>For Australia only, <i>delete</i> the second paragraph including the Note, and <i>replace</i> with the following.</p> <p>In Australia only, the a.c. test voltage is:</p> <p>(i) for 6.2.1 a): 3 kV; and</p> <p>(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.</p> <p>NOTE 201 – Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.</p> <p>NOTE 202 – The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.</p>		N/A
7.3	<p><i>Add</i> the following before the first paragraph:</p> <p>Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.</p>		N/A

Clause	Requirement + Test	Result - Remark	Verdict
Annex P	<p><i>Add</i> the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification— Plugs and socket-outlets</p>		P
Index	<p><i>Insert</i> the following between “asbestos, not be used as insulation” and “attitude see orientation”:</p> <p>AS/NZS 2211.1 4.3.13.5 AS/NZS 3112 4.3.6 AS/NZS 3191 3.2.5.1 (Table 3B) AS/NZS 60064 4.1.201 AS/NZS 60695.2.11 4.7.201.2, 4.7.201.3 AS/NZS 60695.11.10 4.7.201.1, 4.7.201.5 AS/NZS 60695.11.5 4.7.201.3</p> <p><i>Insert</i> the following between “positive temperature coefficient (PTC) device” and ‘powder’: potential ignition source 1.2.201, 4.7.201.3, 4.7.201.5</p>		P

APPENDIX No.6	National differences for Korea IEC 60950-1, 2nd edition; Am 1:2009	—	
1.5.101	Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	To be evaluated when submitted for the national approval.	—
8	EMC The apparatus shall comply with the relevant CISPR standards.	To be evaluated when submitted for the national approval.	—

ATTACHMENT TO TEST REPORT IEC 60950-1 with A1: 2009 and A2:2013 U.S.A. NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to	UL 60950-1-07(Second Edition) + A1: 2011 + A2: 2014
Attachment Form No.	US_ND_IEC60950_1F
Attachment Originator	UL
Master Attachment	Date 2014-07
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USA - Differences to IEC 60950-1:2005, Second Edition			P
1.1	Equipment able to be installed in accordance with the National Electrical Code ANSI/NFPA 70		P
1.1.1	Equipment able to be installed in accordance with ANSI/NFPA 75 and NEC Art. 645 unless intended for use outside of computer room and provided with such instructions.		P
1.1.2	Equipment in wire-line communication facilities serving high-voltage electric power stations operating at greater than 1kV are excluded.		N/A
1.1.2	Equipment intended for outdoor use		N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20 A.		P
1.5.1	All IEC standards for components identified in Annex P.1 replaced by the relevant requirements of UL component standards in Annex P.1.		P
1.5.1	All IEC standards for components identified in Annex P.2 alternatively satisfied by the relevant requirements of UL component standards		P
1.5.5	Interconnecting cables acceptable for the application regarding voltage, current, temperature, flammability, mechanical serviceability and the like.		N/A
1.5.5	For other than limited power and TNV circuits, the type of output circuit identified for output connector.		N/A
1.5.5	External cable assemblies that exceed 3.05 m in length to be types specified in the NEC		N/A
1.5.5	Detachable external interconnecting cables 3.05 m or less in length and provided with equipment marked to identify the responsible organization and the designation for the cable		N/A
1.5.5	Building wiring and cable for use in ducts, plenums and other air handling space subject to special requirements and excluded from scope.		N/A
1.5.5	Telephone line and extension cords and the like comply with UL 1863		N/A

Clause	Requirement + Test	Result - Remark	Verdict
1.6.1.2	Equipment intended for connection to a d.c. power (mains) distribution system subjected to special circuit classification requirements (e.g., TNV-2)		N/A
1.6.1.2	Earthing of d.c. powered equipment provided		N/A
1.7	Lamp replacement information indicated on lampholder in operator access area		N/A
1.7.1	Special marking format for equipment intended for use on a supply system with an earthed neutral and more than one phase conductor		N/A
1.7.1	Equipment voltage rating not higher than rating of the plug except under special conditions		P
1.7.6	Fuse replacement marking for operator accessible fuses		N/A
1.7.7	Identification of terminal connection of the equipment earthing conductor		N/A
1.7.7	Connectors and field wiring terminals for external Class 2 or Class 3 circuits provided with marking indicating minimum Class of wiring to be used.		N/A
1.7.7	Marking located adjacent to terminals and visible during wiring		N/A
2.1.1.1	Bare TNV conductive parts protected by a cover are exempt if instructions include directions for disconnection of TNV prior to removal of the cover		N/A
2.3.1.b	Other telecommunication signaling systems than described in 2.3.1(b) are subject to M.4.		N/A
2.3.1.b	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vp or 60 V d.c., the max. current limit through a resistor ≥ 2000 Ohm with loads disconnected is 7.1 mA peak or 30 mA d.c. under normal conditions		N/A
2.3.1.b	Limits for measurements across 5000 Ohm resistor in the event of a single fault are replaced after 200 ms with the limits of M.3.1.4.		N/A
2.3.2.1	For a single fault, the limits of 2.2.3 apply to SELV circuits and accessible conductive parts.		N/A
2.3.2.4	Enamel coating on signal transformer winding wire allowed as an alternative to Basic insulation in specific telecommunication applications if subject to special construction requirements and testing		N/A
2.5	Overcurrent protection device required for Class 2 and Class 3 limiting according to the NEC, or for a Limited Power Source, not interchangeable with devices of higher ratings if operator replaceable		N/A

Clause	Requirement + Test	Result - Remark	Verdict
2.6	Equipment having receptacles for output a.c. power connectors generated from an internal separately derived source have the earthed (grounded) circuit conductor suitably bonded to earth.		N/A
2.6.3.3	For Pluggable Equipment Type A, if a) b) or c) are not applicable, the current rating of the circuit is taken as 20 A		N/A
2.6.3.4	Capacity of connection between earthing terminal and parts required to be earthed subject to special conditions based on the current rating of the circuit.		N/A
2.6.4.1	Field wiring terminals for earthing conductors suitable for wire sizes (gauge) used in US		N/A
2.7.1	Data for selection of special external branch circuit overcurrent devices marked on the equipment		N/A
2.7.1	Standard supply outlets protected by overcurrent device in accordance with the NEC		N/A
2.7.1	Overcurrent protection for individual transformers that distribute power to other units over branch circuit wiring		N/A
2.7.1	Additional requirements for overcurrent protection apply to equipment provided with panelboards		N/A
2.7.1	Non-motor-operated equipment requiring special overcurrent protective device marked with device rating.		N/A
2.10.5.12	Multi-layer winding wire subject to UL component wire requirements in addition to 2.10.5.12 and Annex U.	Approved TIW used.	P
3.1.1	Permissible combinations of internal wiring/external cable sizes for overcurrent & short circuit protection		N/A
3.1.1	All interconnecting cables protected against overcurrent and short circuit.		N/A
3.2	Wiring methods permit connection of equipment to primary power supply in accordance with the NEC		P
3.2.1	Permitted use for flexible cords and plugs.		N/A
3.2.1	Flexible cords provided with attachment plug rated 125% of equipment current rating.		N/A
3.2.1	Any Class II equipment provided with 15 or 20 A standard supply outlets, Edison-base lampholders or single pole disconnect device provided with a polarized type attachment plug.		N/A
3.2.1.2	Equipment intended for connection to DC mains supply power systems complies with special wiring requirements		N/A

Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.2	Equipment with one pole of the DC mains supply connected to both the equipment mains input terminal and the main protective earthing terminal provided with special instructions and construction provisions for earthing		N/A
3.2.1.2	Equipment with means for connecting supply to earthing electrode conductor has no switches or protective devices between supply connection and earthing electrode connection.		N/A
3.2.1.2	Markings and instructions for equipment with provisions to connect earthed conductor of a DC supply circuit to the equipment earthing conductor		N/A
3.2.1.2	Special markings and instructions for equipment with earthed conductor of a DC supply circuit connected to the equipment earthing conductor		N/A
3.2.1.2	Terminals and leads provided for permanent connection of DC powered equipment to supply marked to indicate polarity if reverse polarity may result in a hazard.		N/A
3.2.3	Permanently connected equipment has provision for connecting and securing a field wiring system (i.e. conduit, or leads etc.) per the NEC		N/A
3.2.3	Permanently connected equipment may have terminals or leads not smaller than No. 18 AWG (0.82 mm ²) and not less than 150 mm in length for connection of field installed wiring.		N/A
3.2.3	If supply wires exceed 60 °C, marking indicates use of 75 °C or 90 °C wiring for supply connection as appropriate.		N/A
3.2.3	Equipment compatible with suitable trade sizes of conduits and cables.		N/A
3.2.5	Length of power supply cord limited to between 1.5 and 4.5 m unless shorter length used when intended for a special installation.		N/A
3.2.5	Conductors in power supply cords sized per NEC		N/A
3.2.5	Power supply cords and cord sets incorporate flexible cords suitable for the particular application.		N/A
3.2.6	Strain relief provided for non-detachable interconnecting cables not supplied by a limited power source.		N/A
3.2.9	Adequate wire bending space and volume of field wiring compartment required to properly make the field connections.		N/A

Clause	Requirement + Test	Result - Remark	Verdict
3.2.9	Equipment solely for installation in Restricted Access Locations using low voltage d.c. systems may not need provision for connecting and securing a field wiring system when wiring is protected from abuse.		N/A
3.3	Field wiring terminals provided for interconnection of units for other than LPS or Class 2 circuits also comply with 3.3.		N/A
3.3	Interconnection of units by LPS or Class 2 conductors may have field wiring connectors other than specified in 3.3 if wiring is reliably separated		N/A
3.3.1	Terminals for the connection of neutral conductor identified by a distinctive white marking or other equally effective means		N/A
3.3.3	Wire binding screw terminal permitted for connection of No. 10 AWG (5.3 mm ²) or smaller conductor if provided with upturned lugs, cupped washer or equivalent retention.		N/A
3.3.4	Terminals accept US wire sizes (gauge)		N/A
3.3.4	Terminals accept current-carrying conductors rated 125% of the equipment current rating.		N/A
3.3.6	Field wiring terminals marked to indicate the material(s) of the conductor for the terminals used		N/A
3.3.6	Aluminum conductors not permitted for connection to terminal for equipment earthing conductor		N/A
3.3.6	Field wiring connections made through the use of suitable pressure connectors (including set screw type), solder lugs or splices to flexible leads.		N/A
3.4.2	Separate motor control device(s) required for cord-connected equipment rated more than 12 A, or with motor rated more than 1/3 hp or more than 120 V.		N/A
3.4.8	Vertically mounted disconnect devices oriented so up position of handle is "on".		N/A
3.4.11	For computer-room applications, equipment with battery systems capable of supplying 750 VA for 5 minutes provided with battery disconnect means		N/A
4.2.8.1	Special opening restrictions for enclosures around CRTs with face dimension of 160 mm or more.		N/A
4.2.9	Compartment housing high-pressure lamp marked to indicate risk of explosion.		N/A
4.2.11	For equipment mounted on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails		N/A

Clause	Requirement + Test	Result - Remark	Verdict
4.3.2	Loading test for equipment with handle(s) used to support more than 9 kg		N/A
4.3.6	In addition to the IEC requirements, Direct Plug-in Equipment complies with UL 1310		N/A
4.3.12	The max. quantity of flammable liquid stored in equipment per ANSI/NFPA 30 (Table NAE.6)		N/A
4.3.12	Equipment using replenishable liquids marked to indicate type of liquid to be used.		N/A
4.3.13.2	Equipment that produces x-radiation and does not comply with 4.3.12 under all conditions of servicing marked to indicate the presence of radiation		N/A
4.3.13.5	Requirements contained in the applicable national codes apply to lasers (21 CFR 1040).		N/A
4.7	Automated information storage equipment intended to contain more than 0.76 m ³ of combustible media requires provision for automatic sprinklers or a gaseous agent extinguishing system.		N/A
4.7.3.1	Equipment for use in environmental air space other than ducts or plenums provided with metal enclosure or with non-metallic enclosure having adequate fire-resistance and low smoke producing characteristics (according to UL 2043). Equipment for installation in space used for environmental air, described in Sec. 300-22(c) of the NEC, provided with instructions indicating suitability for installation		N/A
4.7.3.1	Flame spread rating for external surface of combustible material with exposed area greater than 0.93 m ² or a single dimension greater than 1.8 m; 50 or less for computer room applications or 200 or less for other applications.		N/A
4.7.3.4	Wire marked "VW-1" or "FT-1" considered equivalent.		P
5.1.8.2	Special earthing provisions and instructions for equipment with high touch current due to telecommunication network connections.		N/A
5.1.8.3	Touch current due to ringing voltage for equipment containing telecommunication network leads.		N/A
5.3.7	Overloading of SELV connectors and printed wiring board receptacles accessible to the operator.		P
5.3.7	Tests interrupted by opening of a component repeated two additional times.		P
5.3.9.1	Test interrupted by opening of wire or trace subject to certain conditions.		N/A
6	Specialized instructions for telephones that may be connected to a telecommunications network		N/A

Clause	Requirement + Test	Result - Remark	Verdict
6	Marking identifying function of telecommunication type connectors not used for connection to a telecommunication network.		N/A
6.3	Equipment remotely powered over telecommunication wiring systems provided with specialized markings adjacent to the connection.		N/A
6.3	Overcurrent protection incorporated into equipment to provide power over telecommunication wiring system not interchangeable with devices of higher ratings if operator replaceable.		N/A
6.4	Additional requirements for equipment connected to a telecommunication network using cable subject to overvoltage from power line failures		N/A
6.4	Where 26 AWG line cord required by Fig. 6C, either the cord is provided with the equipment or described in the safety instructions.		N/A
7	Equipment associated with the cable distribution system may need to be subjected to applicable parts of Chapter 8 of the NEC.		N/A
H	Ionizing radiation measurements made under single fault conditions according to 21 CFR 1020		N/A
M.2	Continuous ringing signals evaluated to Method A subjected to special accessibility considerations.		N/A
M.4	Special requirements for message waiting and similar telecommunications signals.		N/A
NAC	Equipment for use with a generic secondary protector marked with suitable instructions.		N/A
NAC	Equipment marked with suitable instructions if for use with a specific primary or secondary protector		N/A
NAD	Acoustic pressure from an ear piece for short and long duration disturbances		N/A
NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements		N/A
NAF	Household/Home Office Document Shredders		N/A
NAF.1.7	Markings and instructions alert the user to key safety considerations related to use of shredders, including not intended to be used by children, avoid touching document feed opening, avoid clothes and hair entanglement, and avoid aerosol products.		N/A
NAF.2.8.3	Safety interlock cannot be inadvertently activated by the articulated accessibility probe		N/A

Clause	Requirement + Test	Result - Remark	Verdict
NAF.3.4	Provided with an isolating switch complying with 3.4.2, including 3 mm contact gap, with appropriate markings associated with the switch.		N/A
NAF.4.4	Hazardous moving parts are not accessible, as determined using the articulated accessibility probe and the accessibility probe/wedge		N/A

Appendix No.8: Photos of product

External view for GTM96300 series

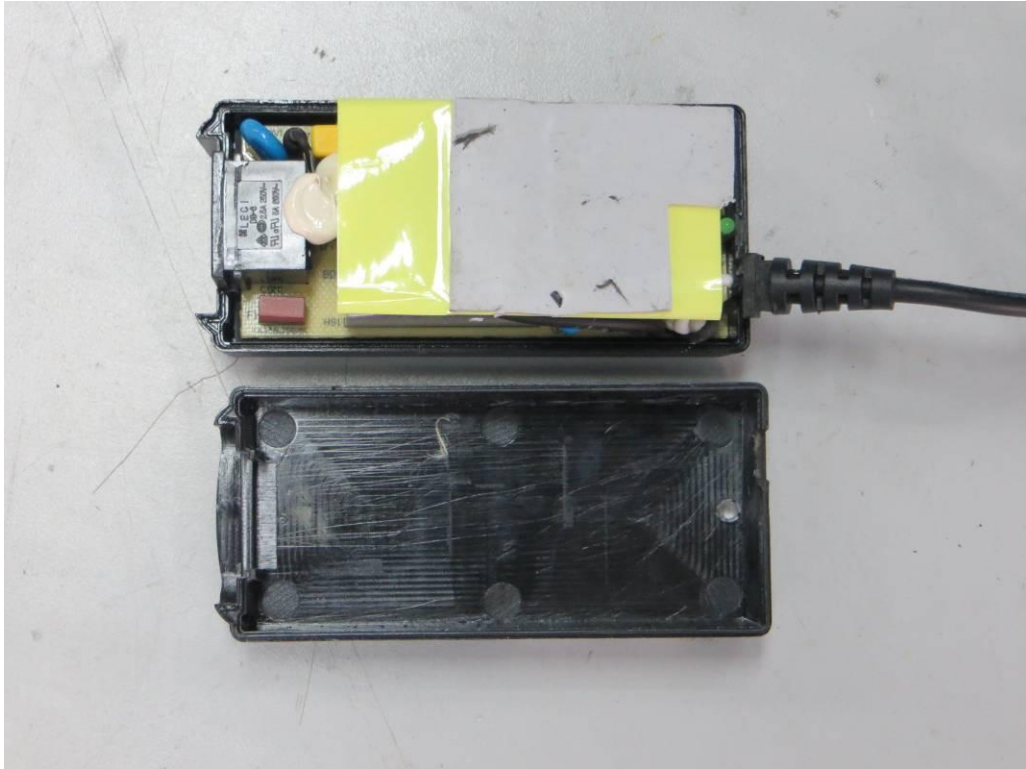


External view for GTM96300 series

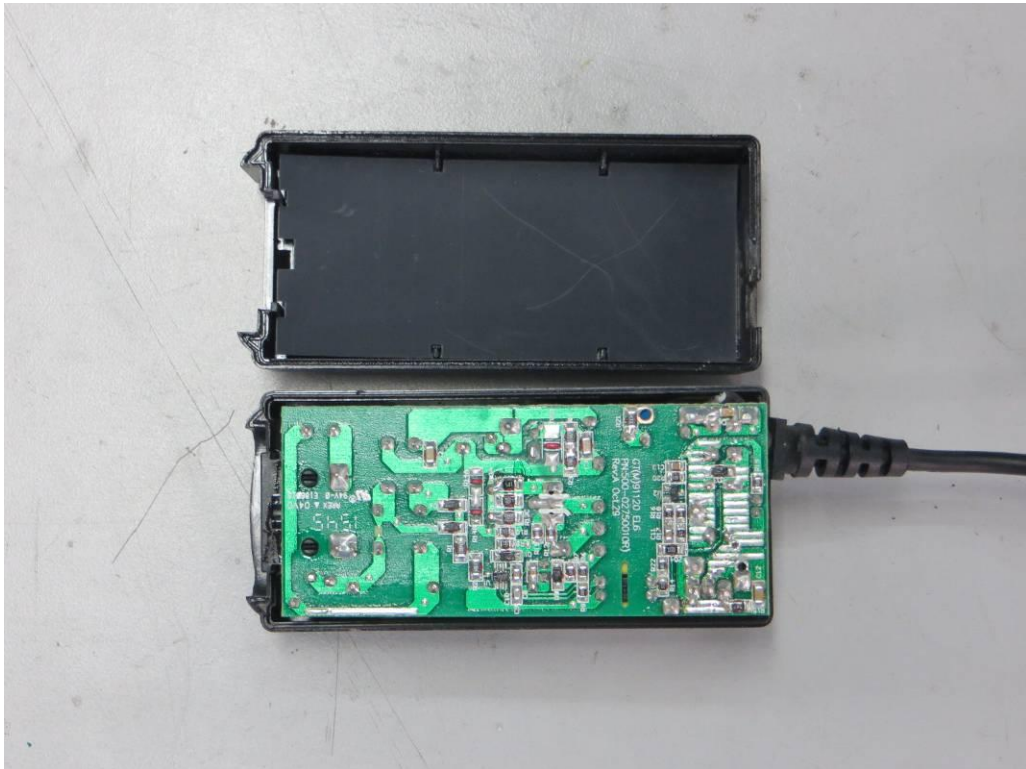


Appendix No.8: Photos of product

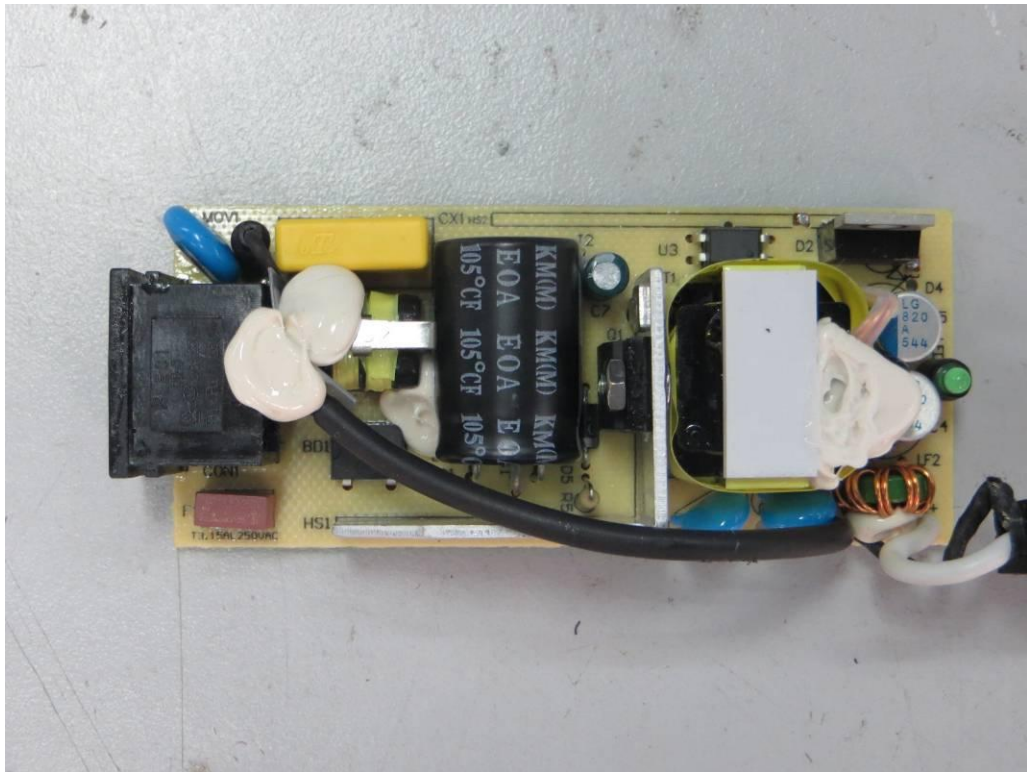
Internal view for GTM96300 series (Class I)



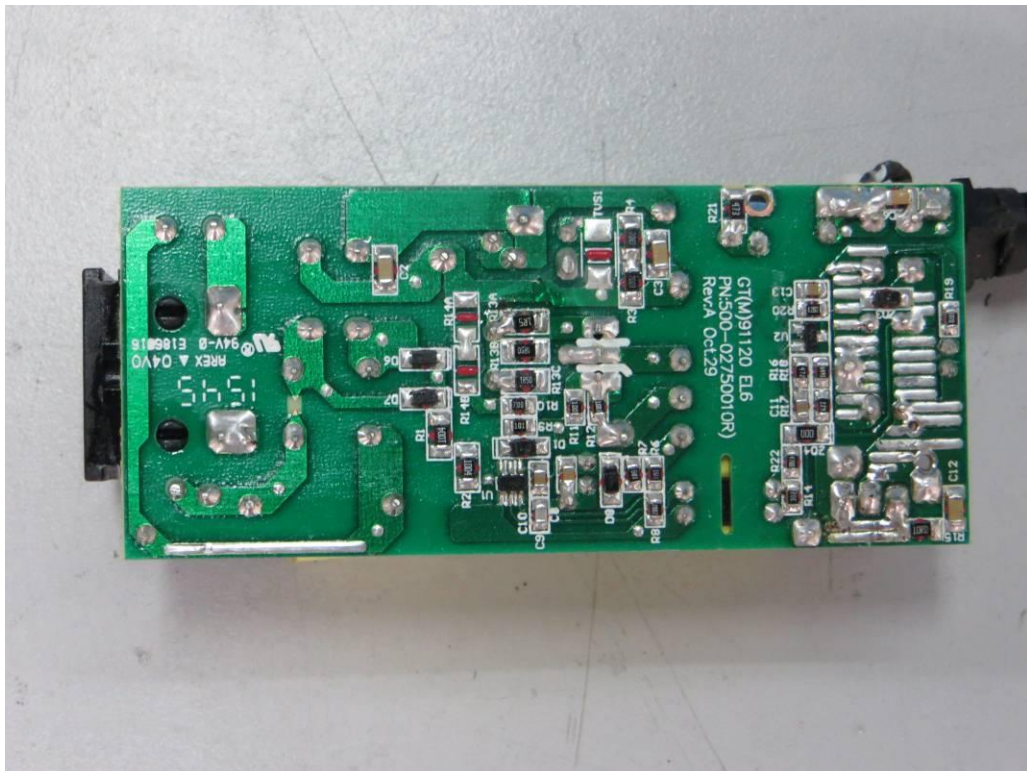
Internal view for GTM96300 series (Class I)



PCB for GTM96300 series (Class I)

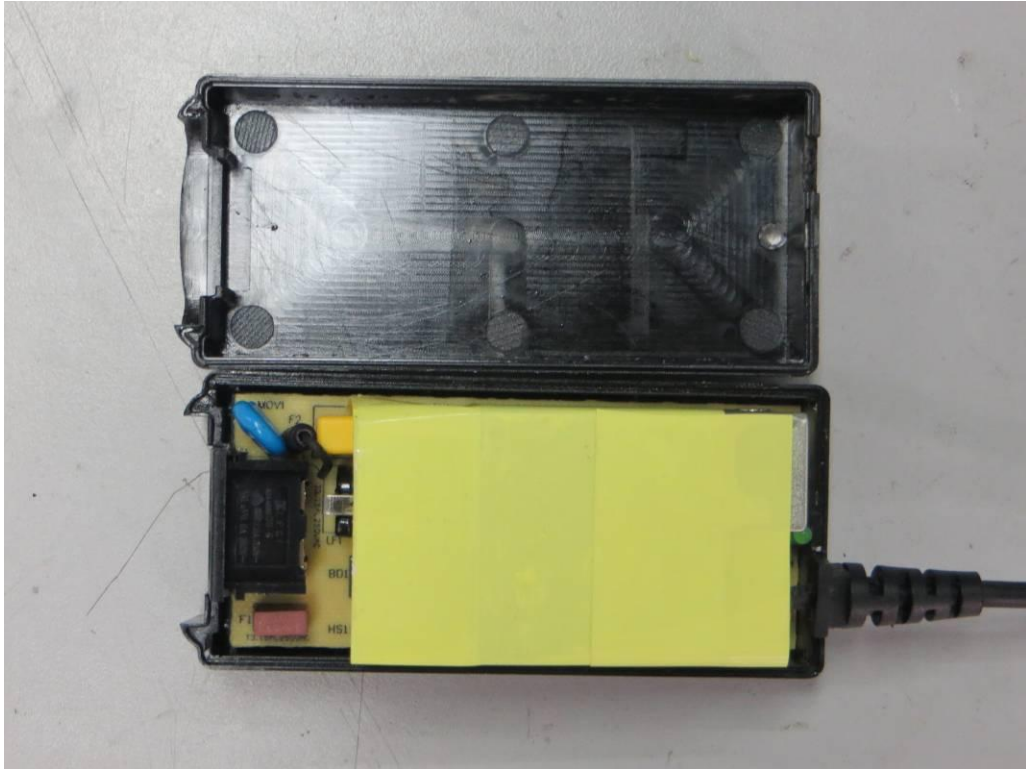


PCB for GTM96300 series (Class I)

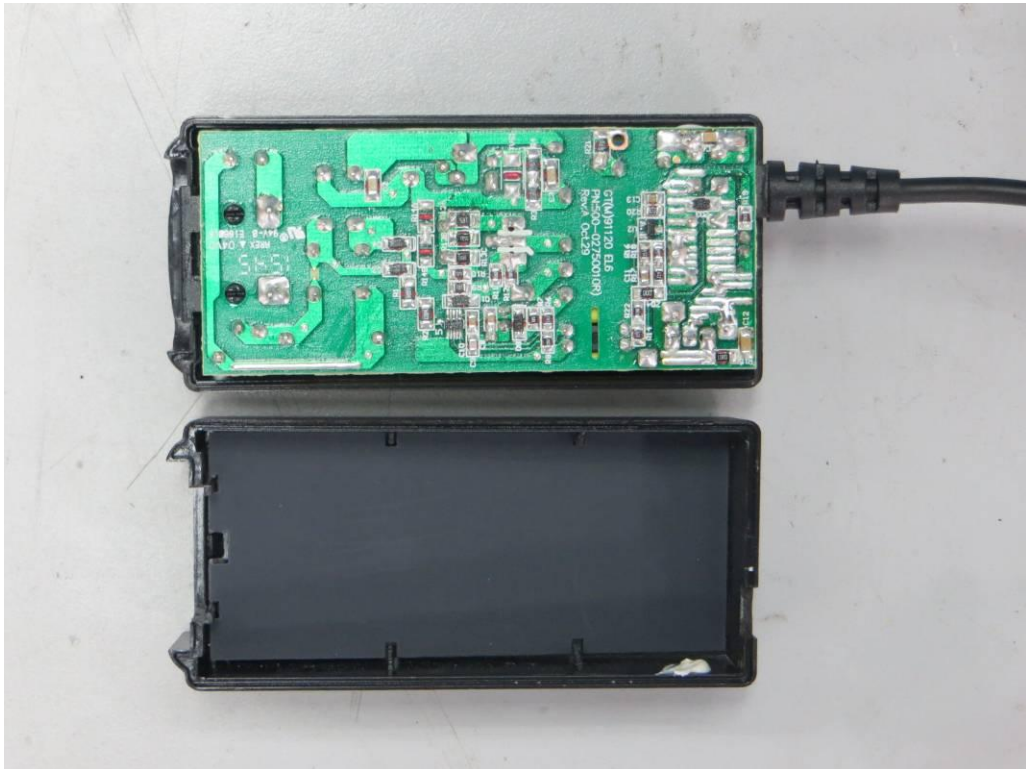


Appendix No.8: Photos of product

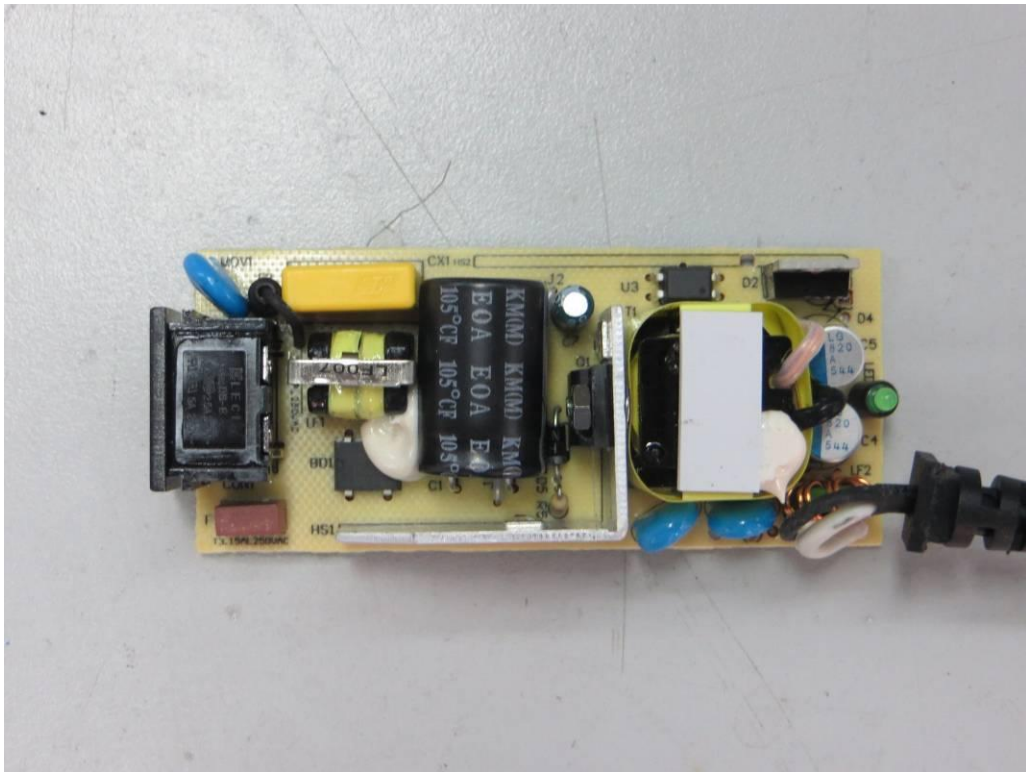
Internal view for GTM96300 series (Class II)



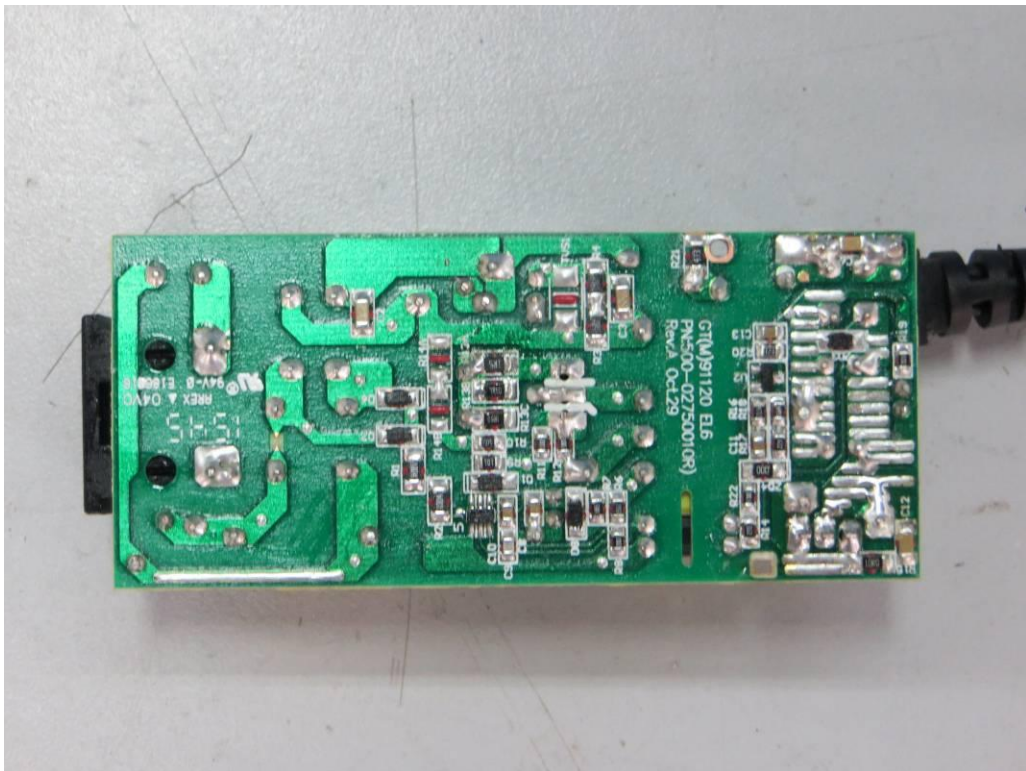
Internal view for GTM96300 series (Class II)



PCB for GTM96300 series (Class II)

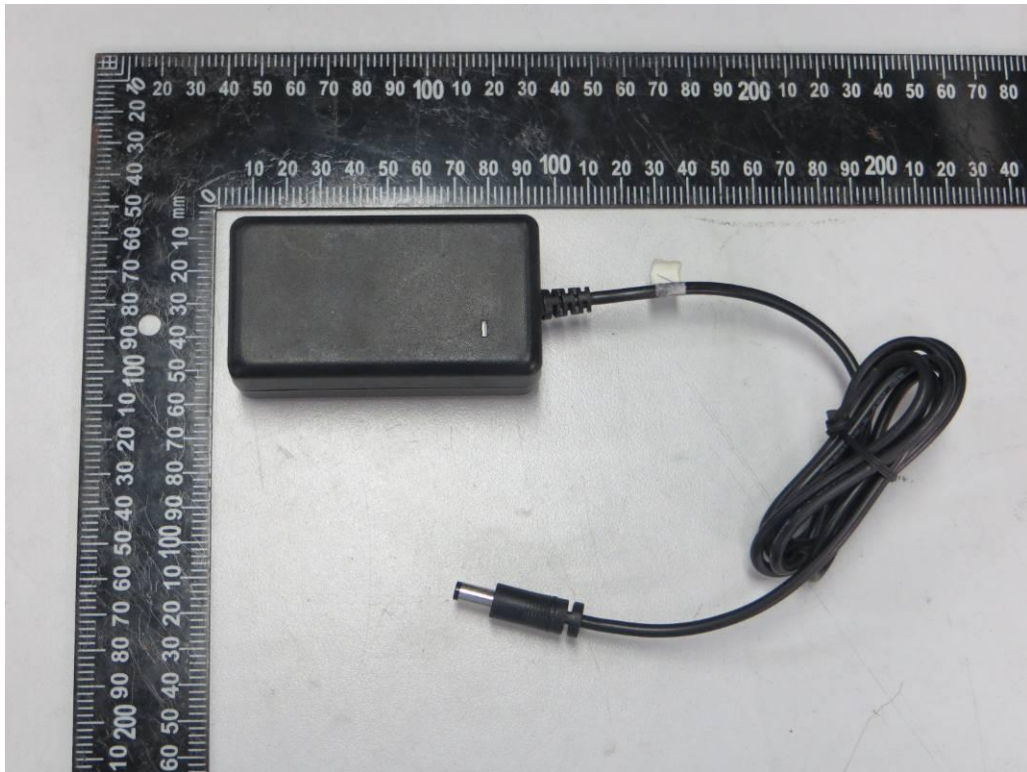


PCB for GTM96300 series (Class II)



Appendix No.8: Photos of product

External view for GTM96180 series (desktop)



External view for GTM96180 series (desktop)



Appendix No.8: Photos of product

External view for GTM96180 series (Interchangeable plug)

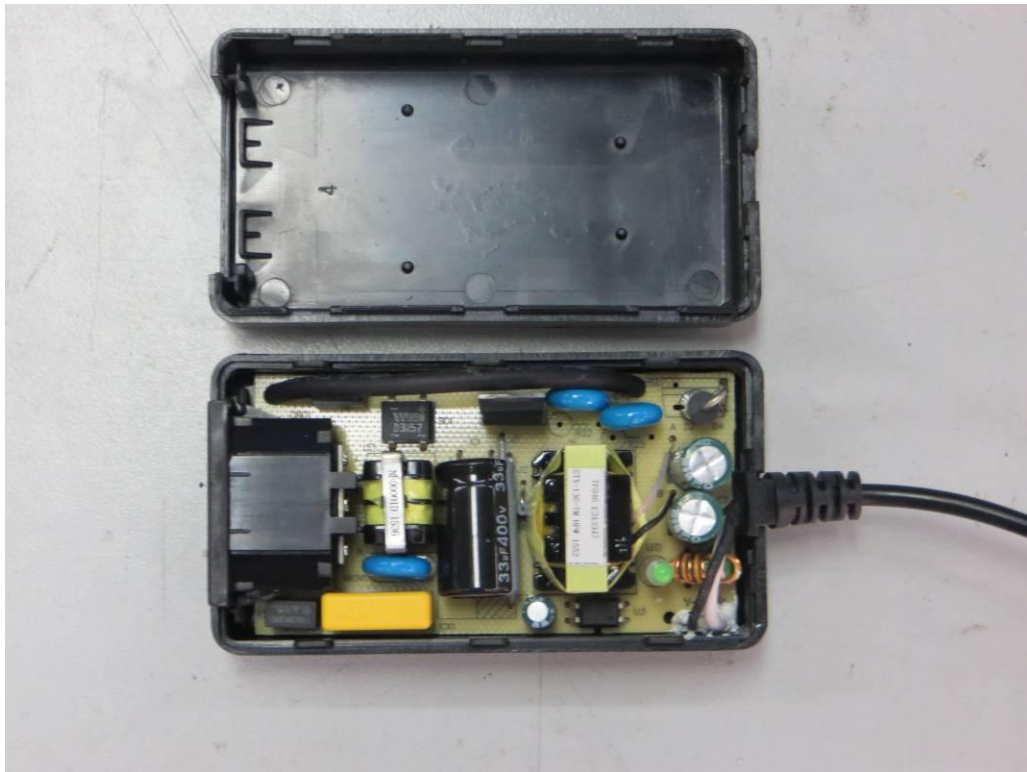


External view for GTM96180 series (Interchangeable plug)



Appendix No.8: Photos of product

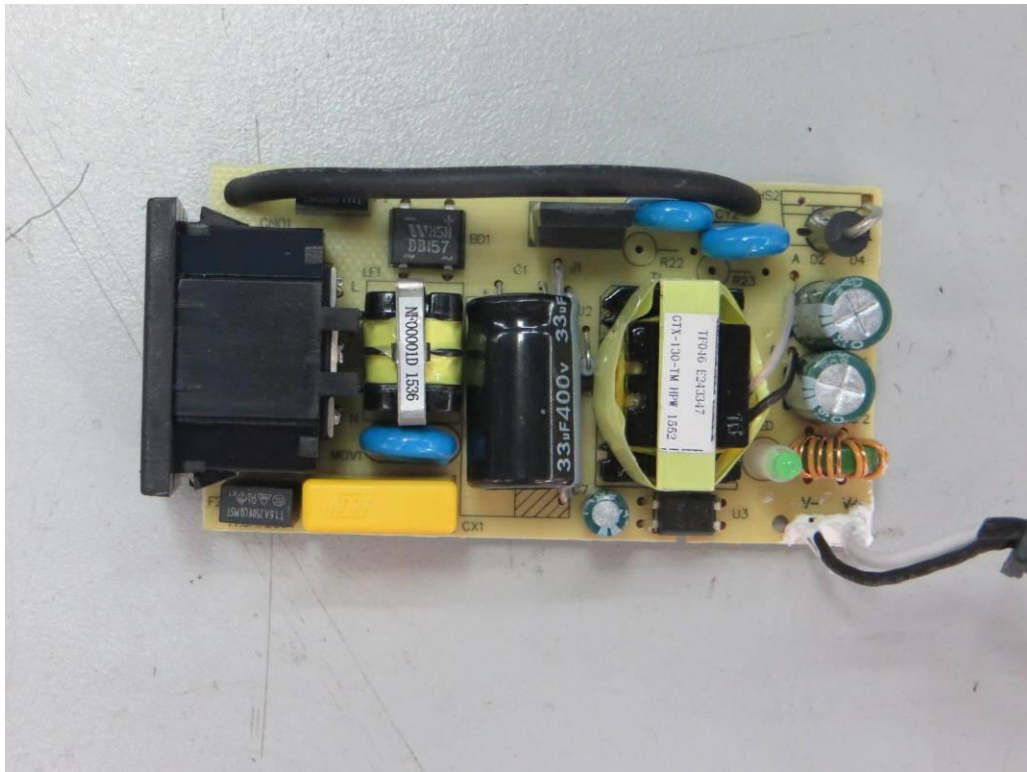
Internal view for GTM96180 series (Class I)



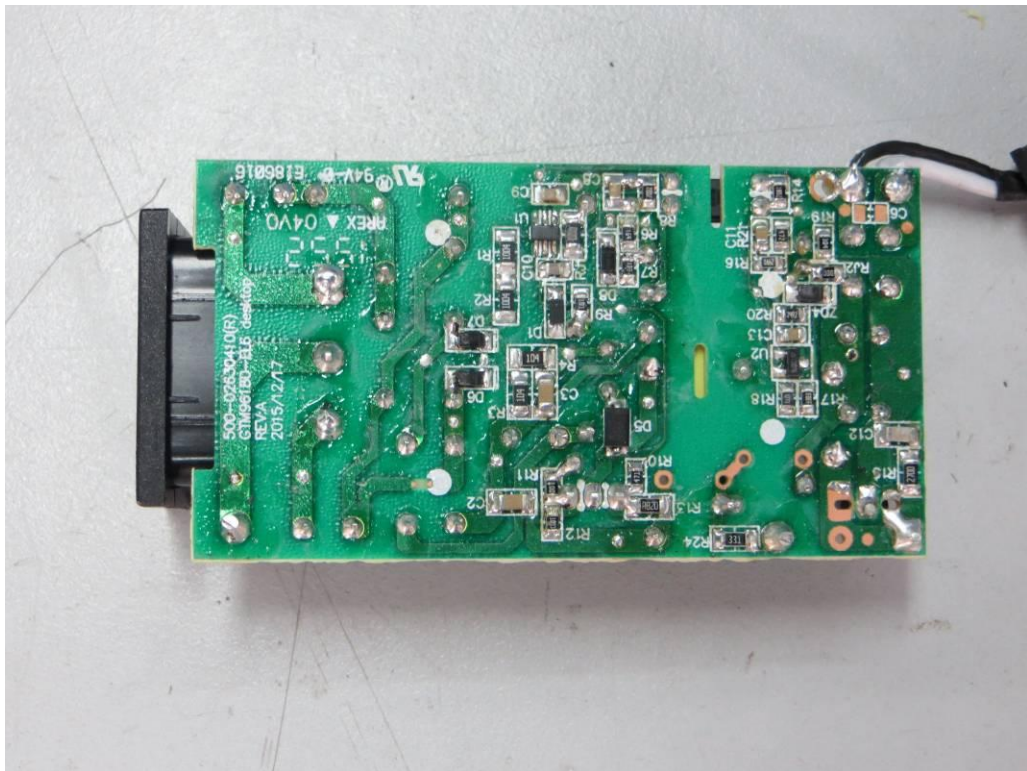
Internal view for GTM96180 series (Class I)



PCB for GTM96180 series (Class I)

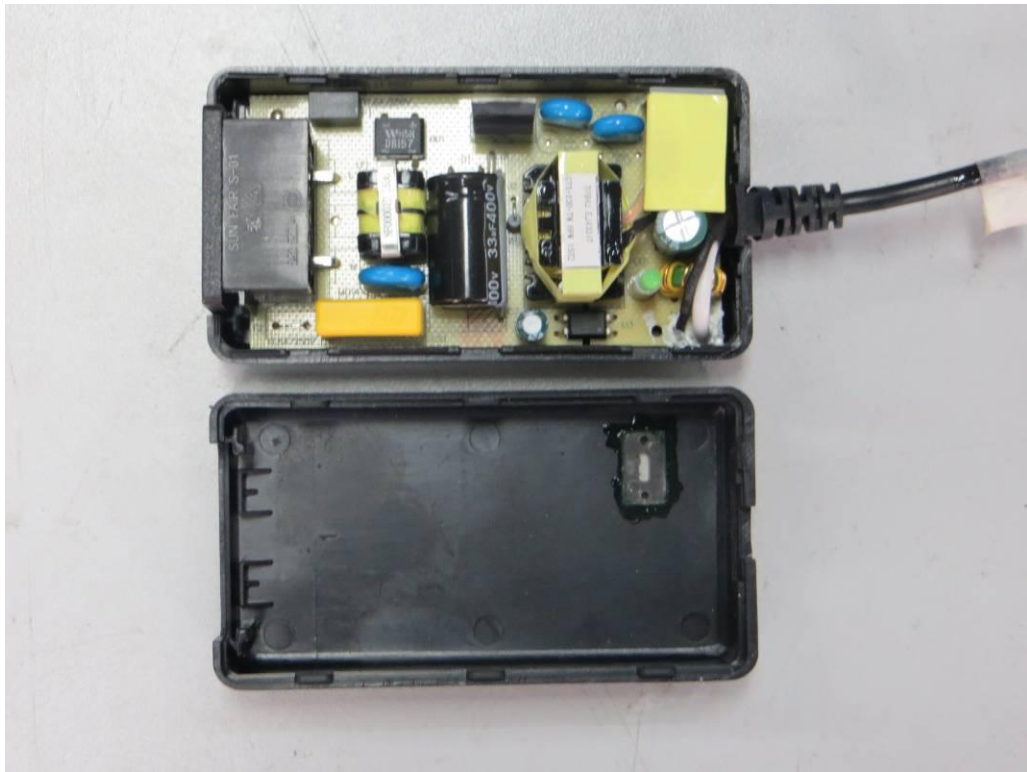


PCB for GTM96180 series (Class I)



Appendix No.8: Photos of product

Internal view for GTM96180 series (Class II)

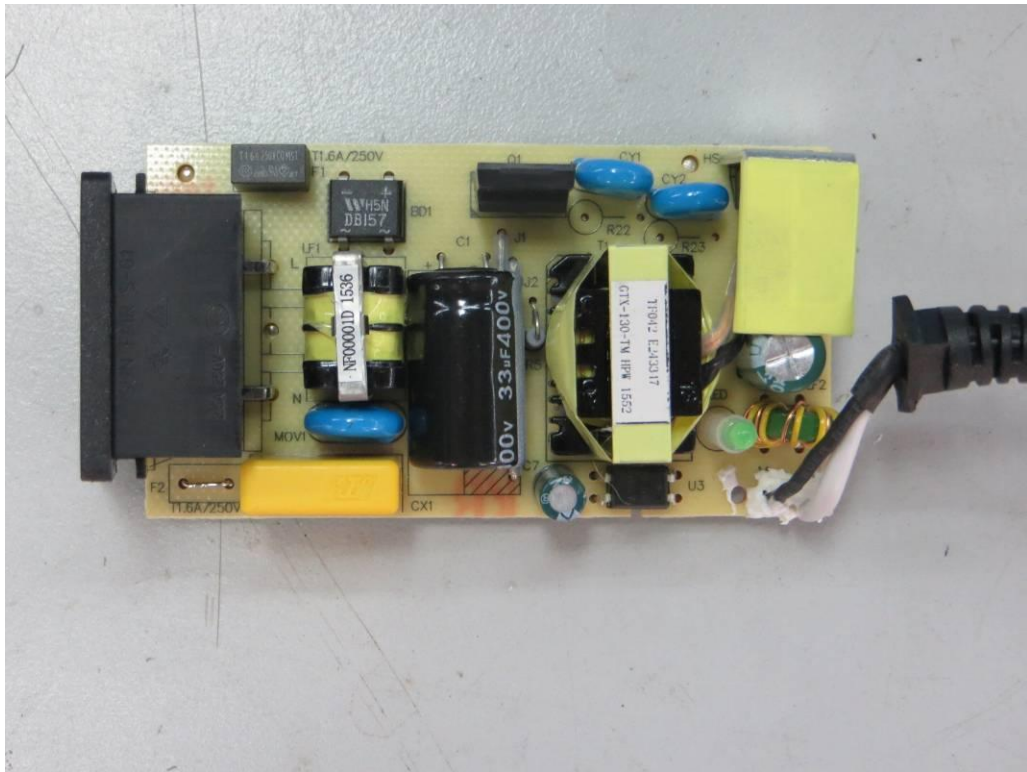


Internal view for GTM96180 series (Class II)

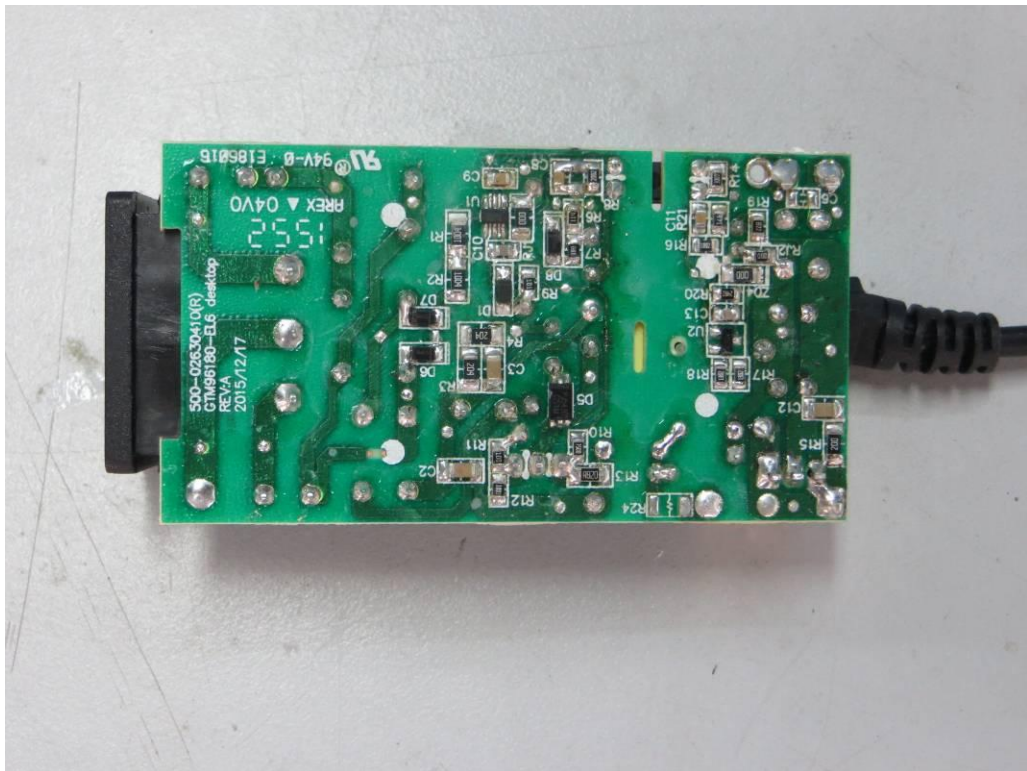


Appendix No.8: Photos of product

PCB for GTM96180 series (Class II)

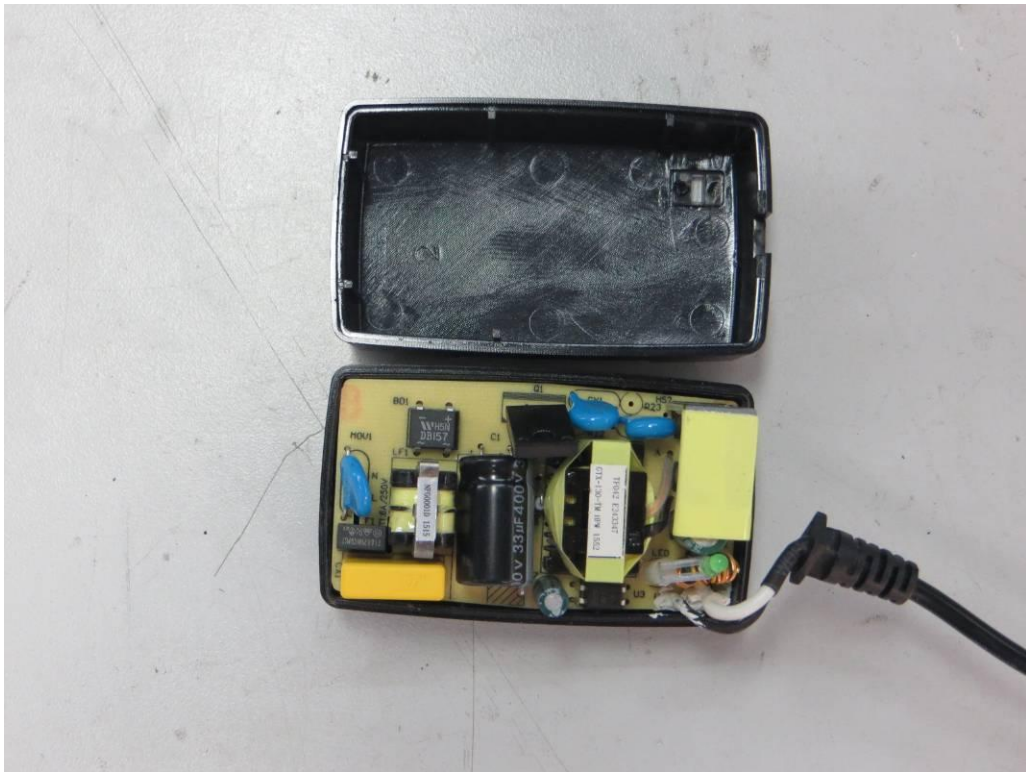


PCB for GTM96180 series (Class II)



Appendix No.8: Photos of product

Internal view for GTM96180 series (Interchangeable plug)

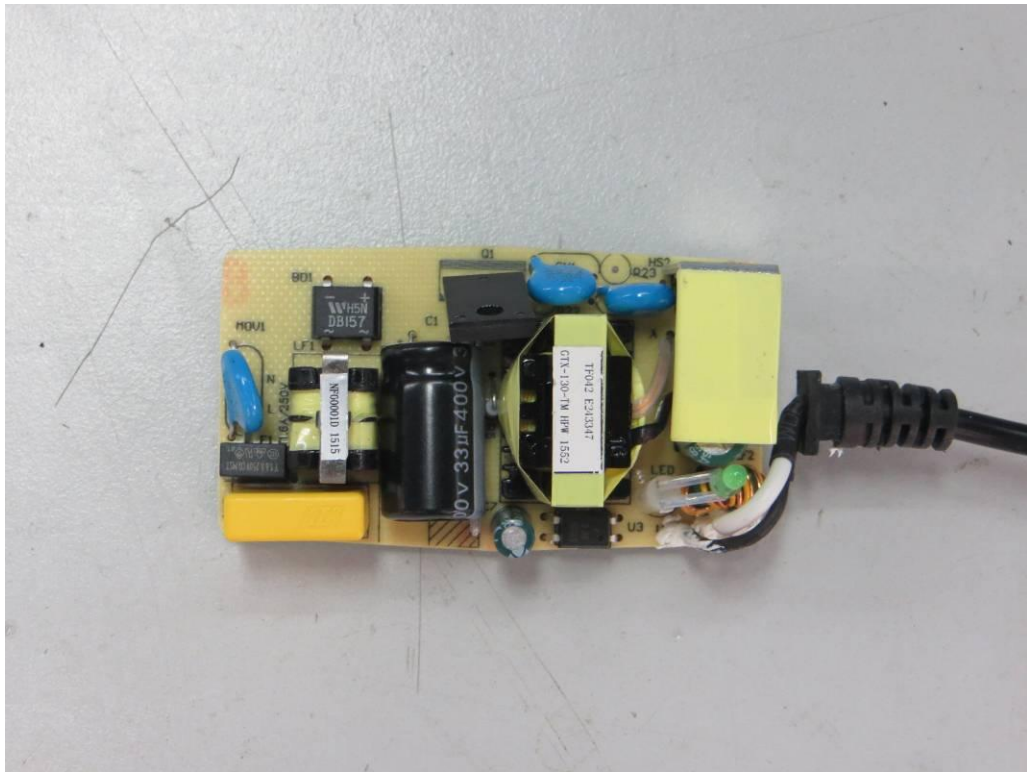


Internal view for GTM96180 series (Interchangeable plug)

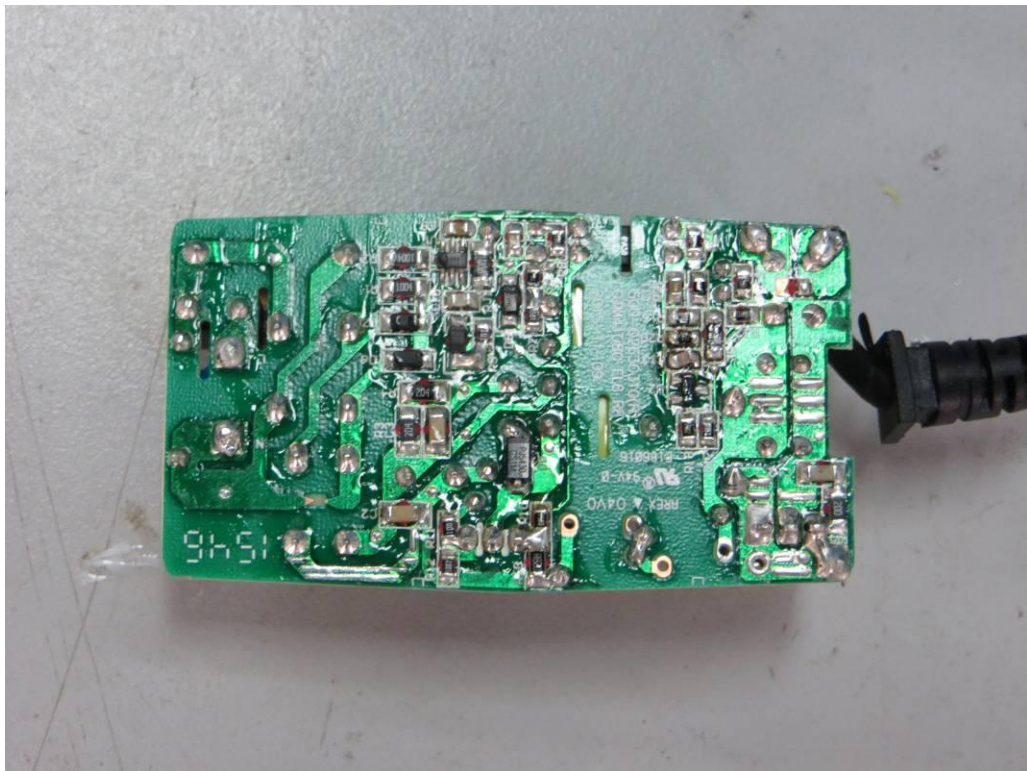


Appendix No.8: Photos of product

PCB for GTM96180 series (Interchangeable plug)



PCB for GTM96180 series (Interchangeable plug)



External view for GTM91120 series



External view for GTM91120 series



Appendix No.8: Photos of product

External view for GTM91120 series



External view for GTM91120 series



External view for GTM91120 series



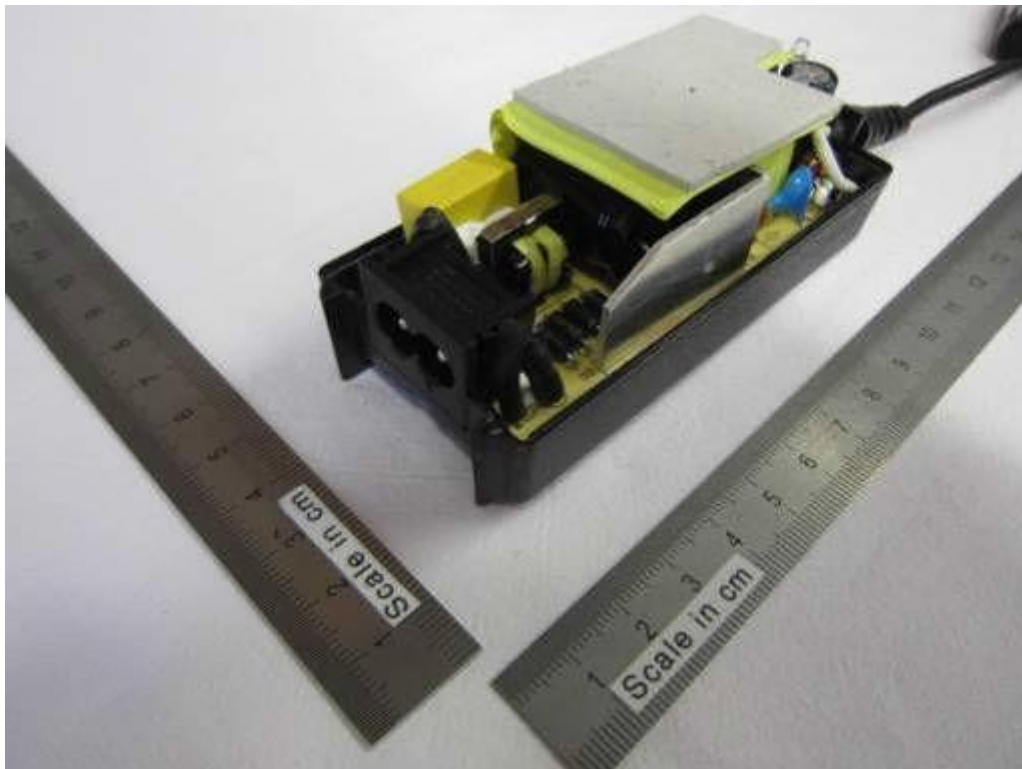
External view for GTM91120 series



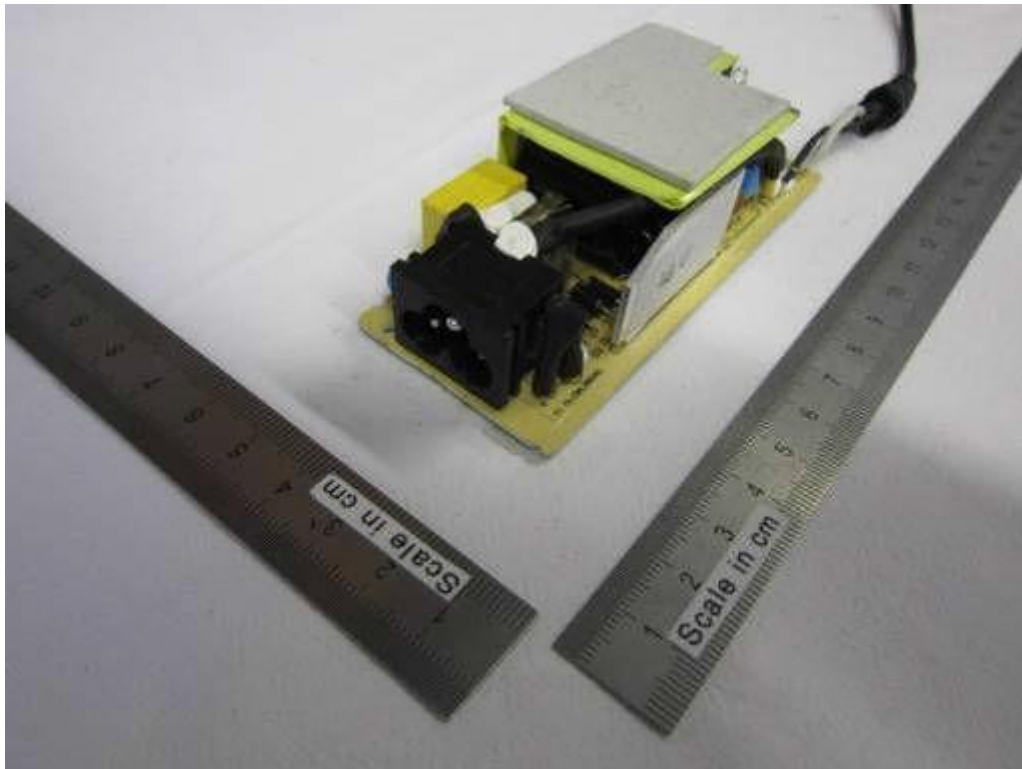
Internal view for GTM91120 series



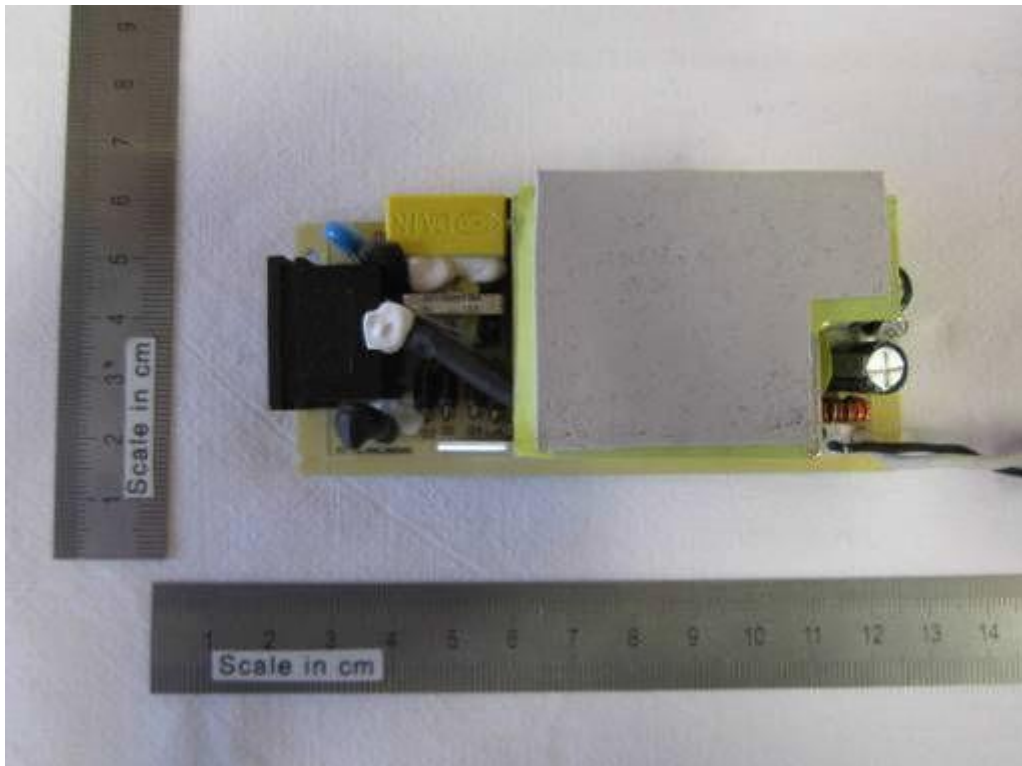
Internal view for GTM91120 series



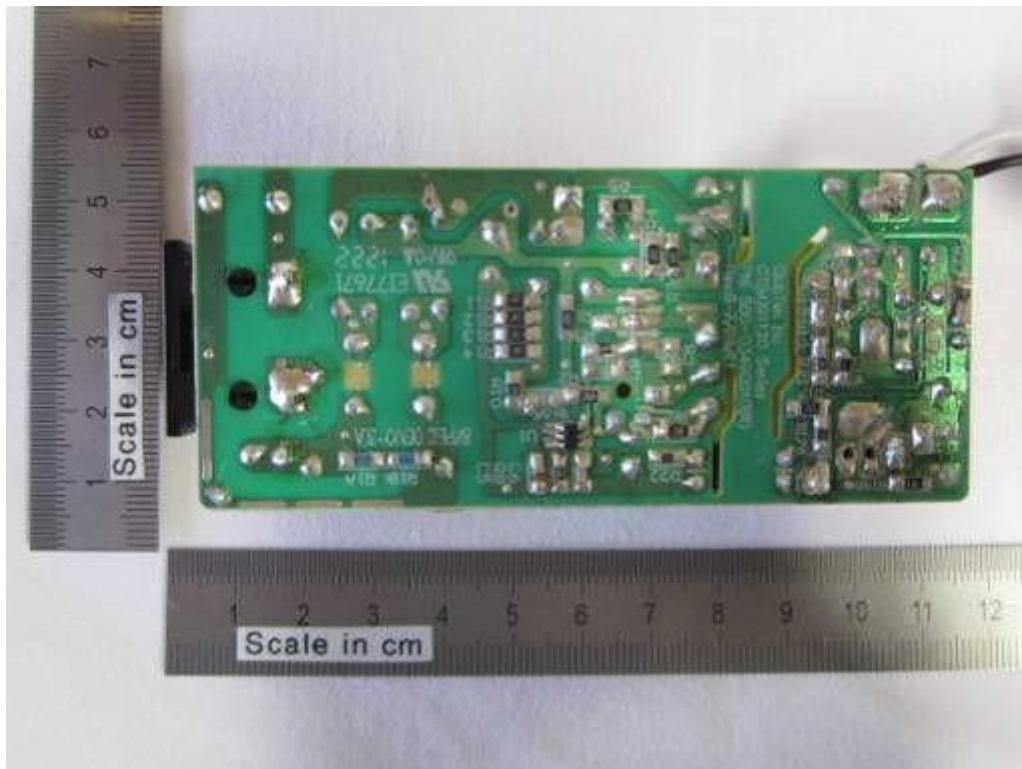
Internal view for GTM91120 series



Internal view for GTM91120 series



Internal view for GTM91120 series



External view for GTM91120 series (Encapsulated)

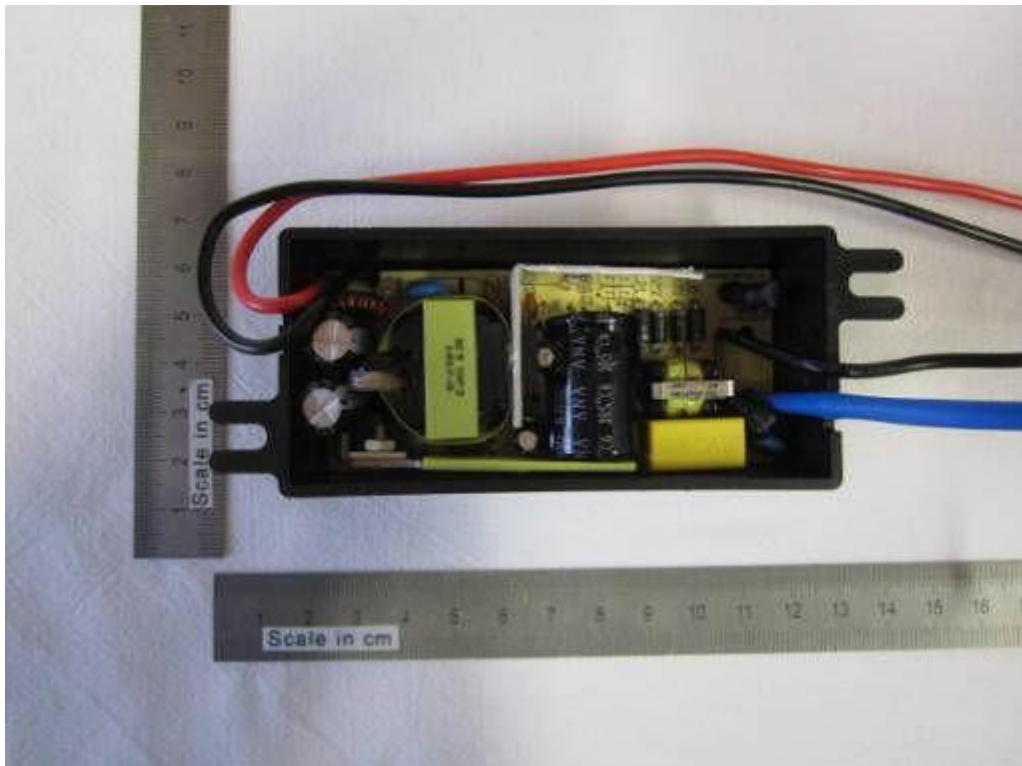


Appendix No.8: Photos of product

External view for GTM91120 series (Encapsulated)

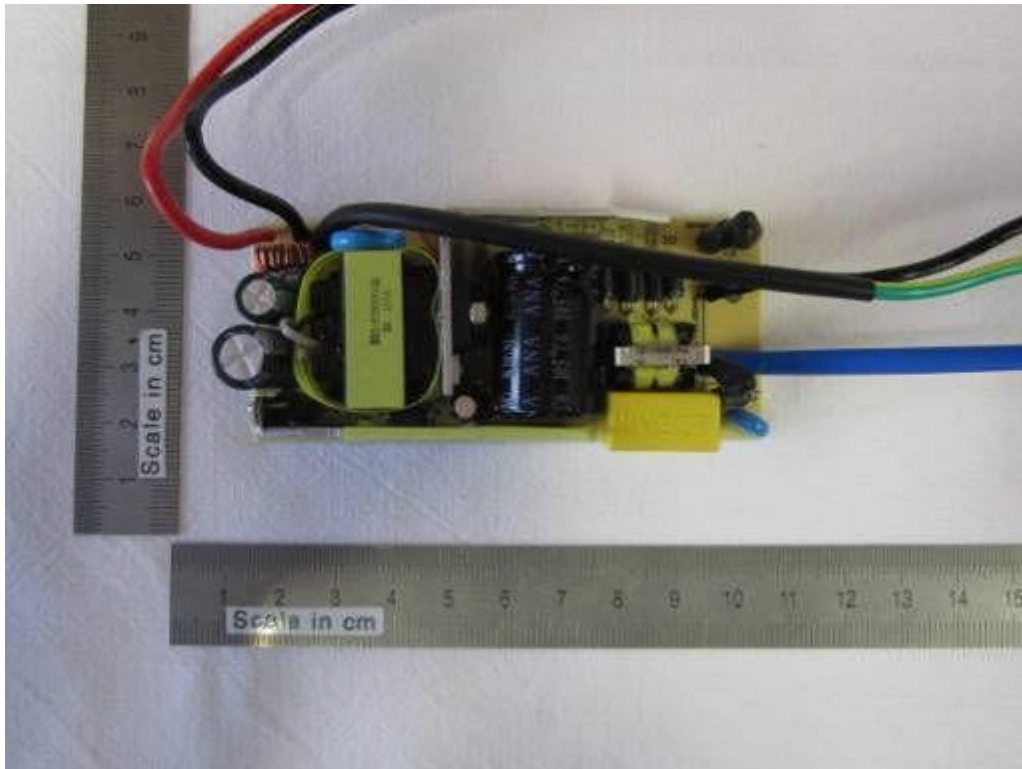


Internal view for GTM91120 series (Encapsulated)

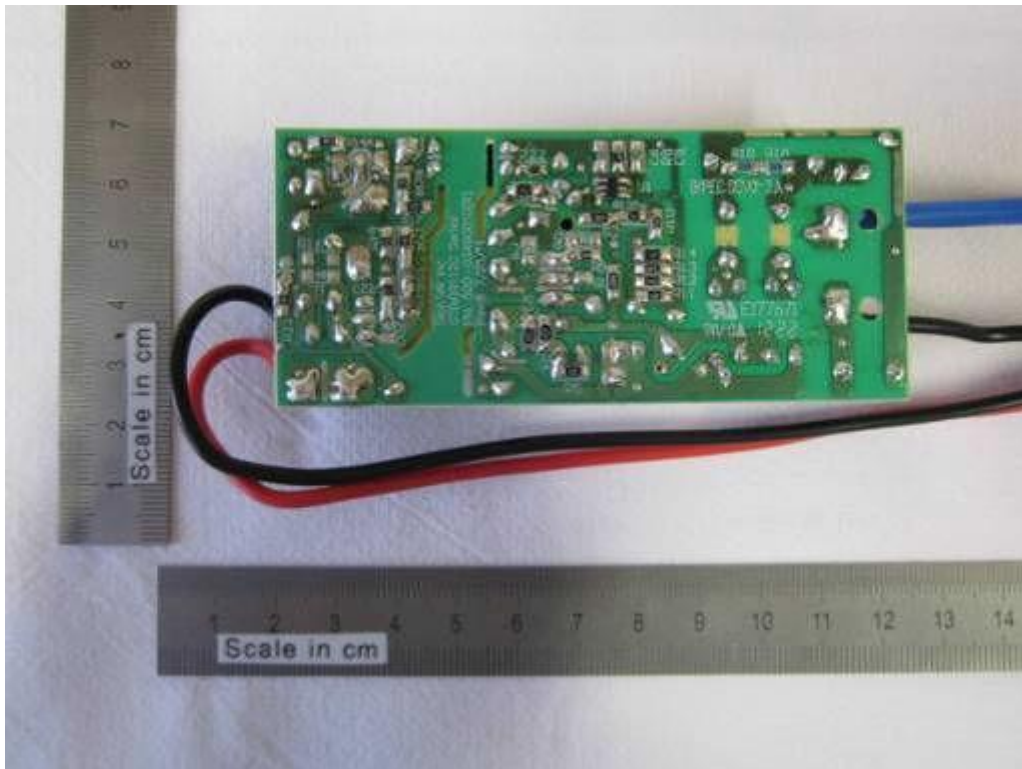


Appendix No.8: Photos of product

Internal view for GTM91120 series (Encapsulated)

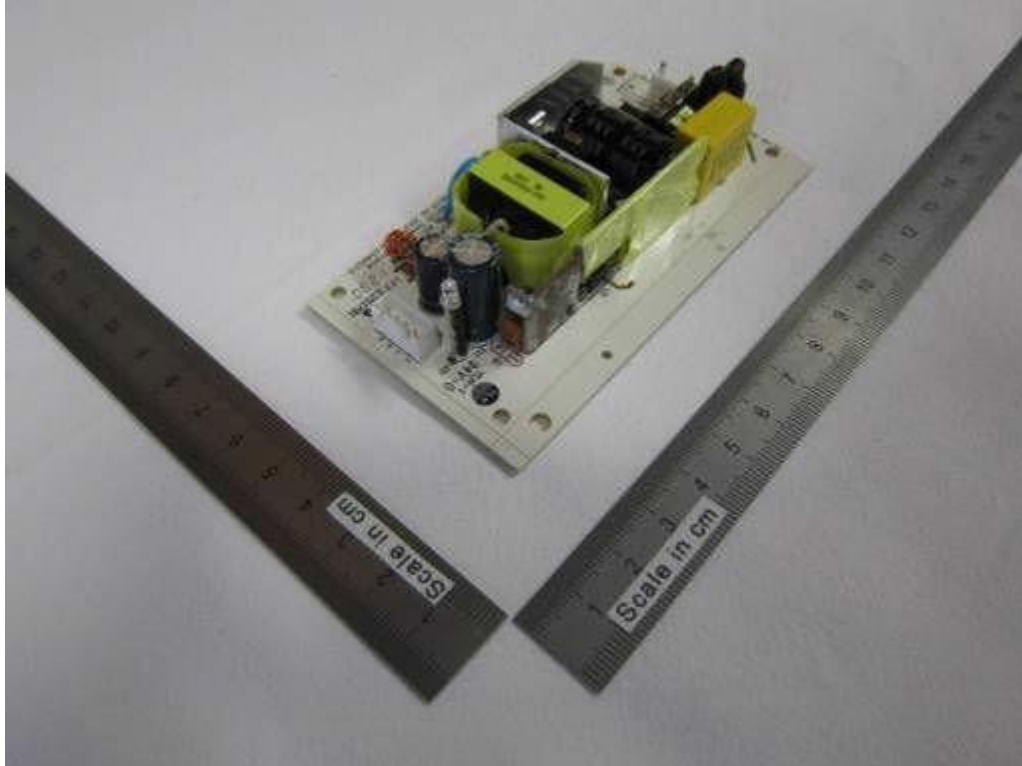


Internal view for GTM91120 series (Encapsulated)

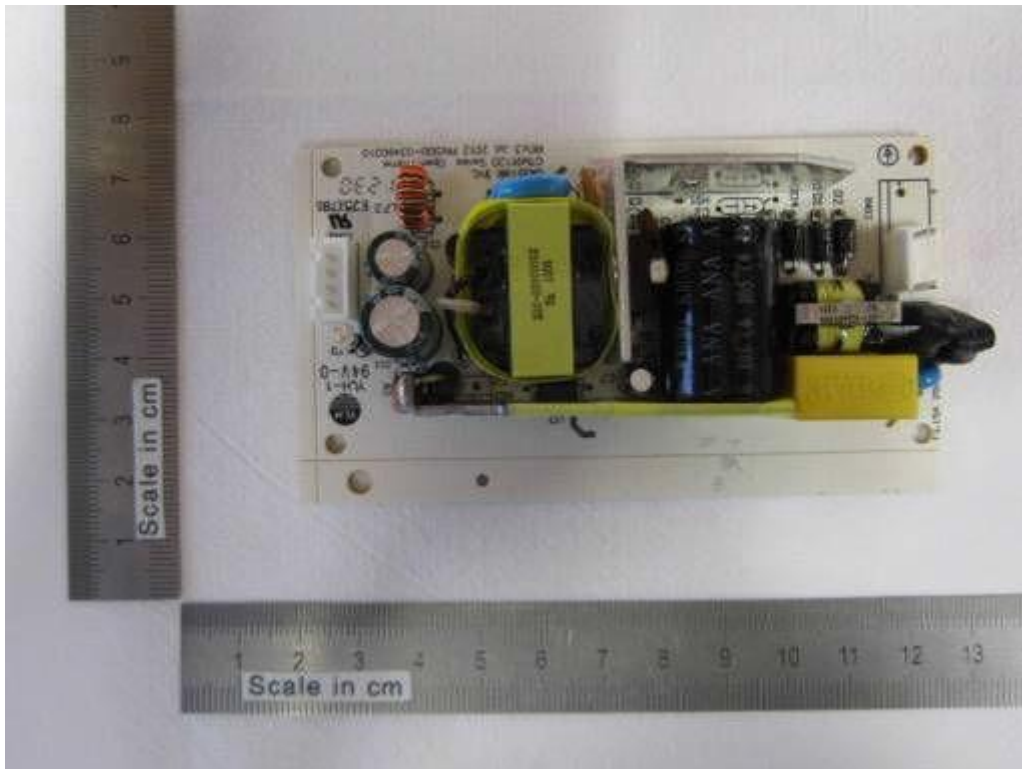


Appendix No.8: Photos of product

External view for GTM91120 series (Open frame)

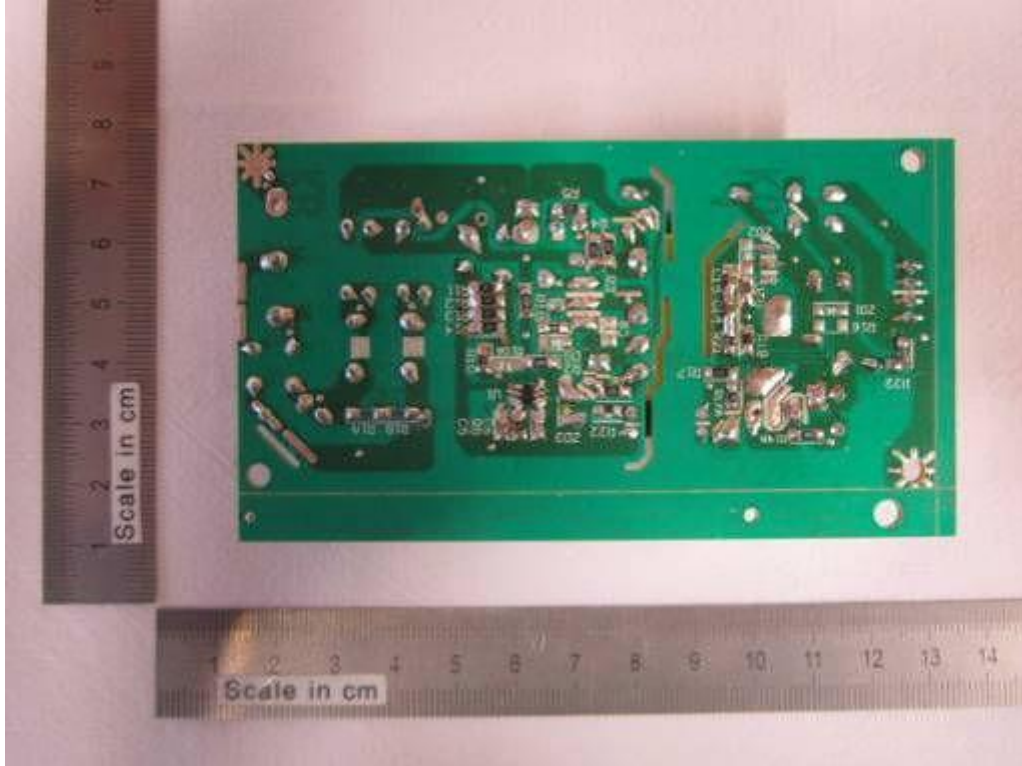


External view for GTM91120 series (Open frame)



Appendix No.8: Photos of product

External view for GTM91120 series (Open frame)



External view for GTM91128LI1CELL, GTM91128LI2CELL, GTM91128LI3CELL



Appendix No.8: Photos of product

External view for GTM91128LI1CELL, GTM91128LI2CELL, GTM91128LI3CELL



External view for GTM91128LI1CELL, GTM91128LI2CELL, GTM91128LI3CELL



Appendix No.8: Photos of product

External view for GTM91128LI1CELL, GTM91128LI2CELL, GTM91128LI3CELL

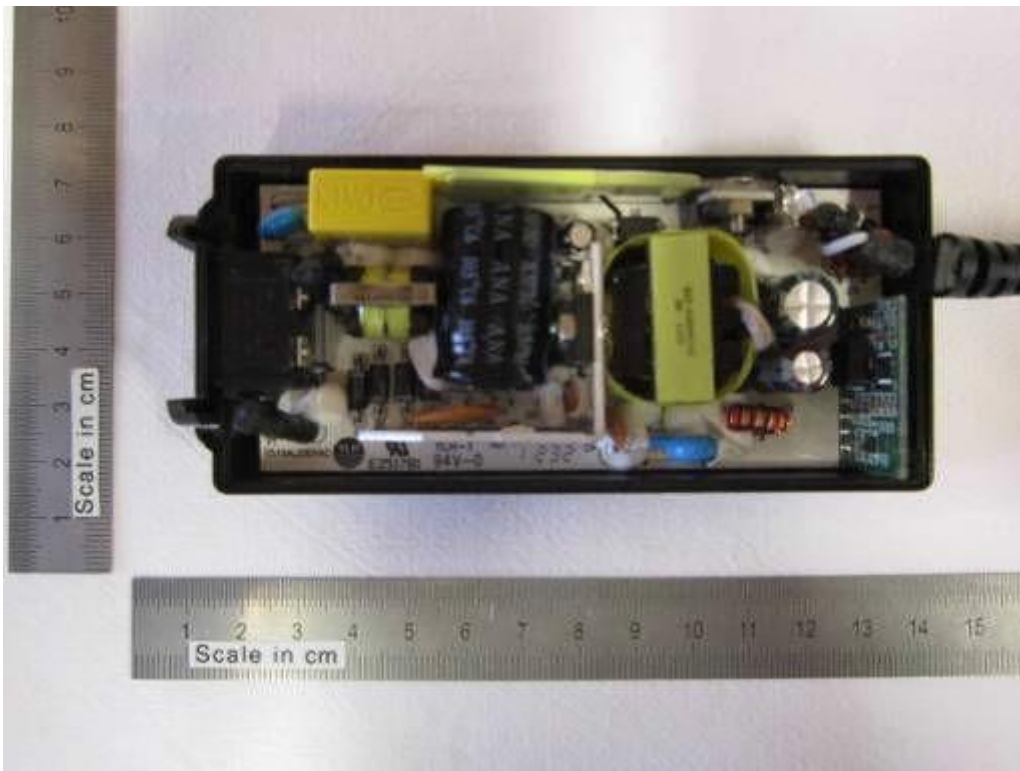


Internal view for GTM91128LI1CELL, GTM91128LI2CELL, GTM91128LI3CELL

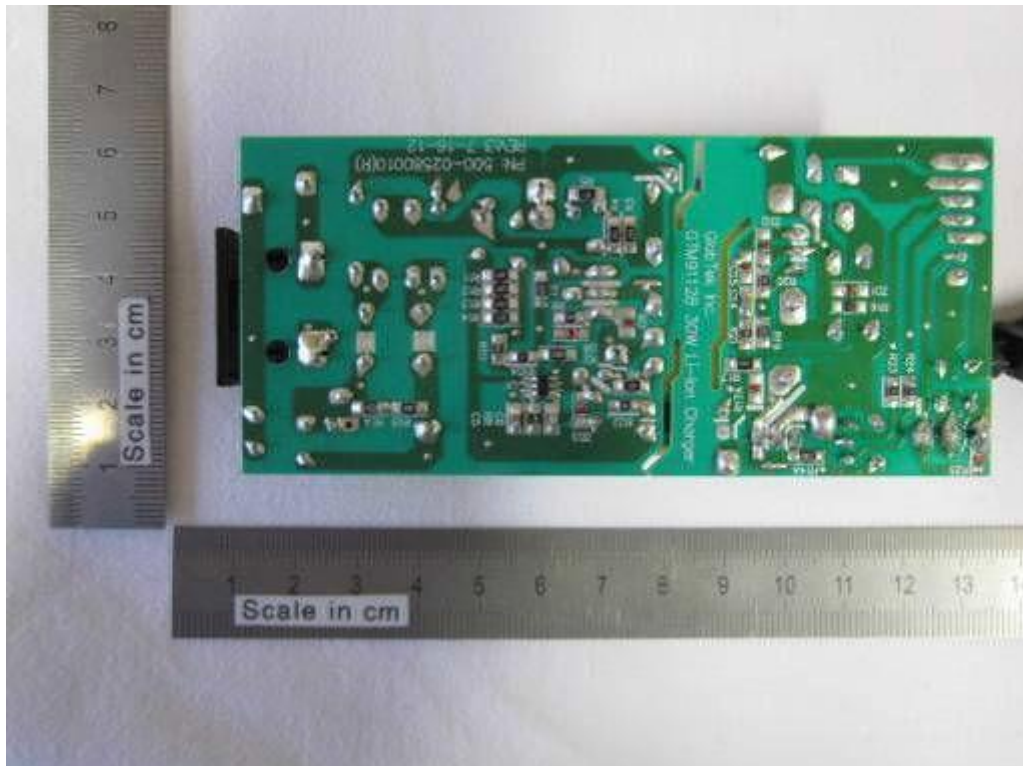


Appendix No.8: Photos of product

PCB for GTM91128LI1CELL, GTM91128LI2CELL, GTM91128LI3CELL



PCB for GTM91128LI1CELL, GTM91128LI2CELL, GTM91128LI3CELL

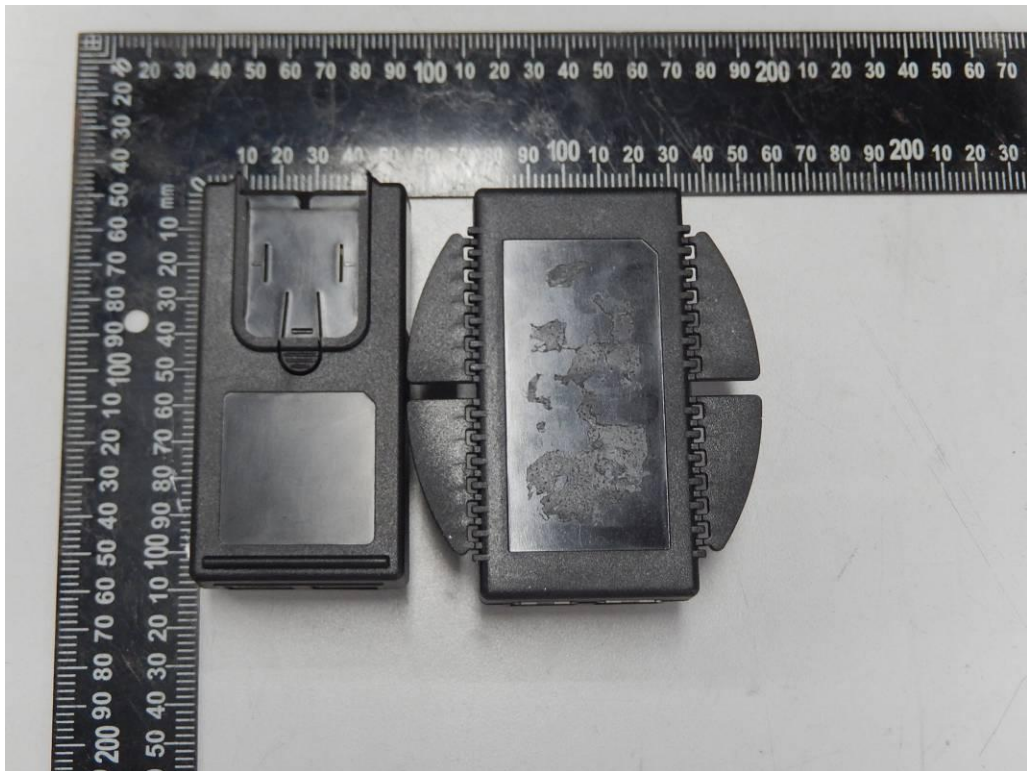


Appendix No.8: Photos of product

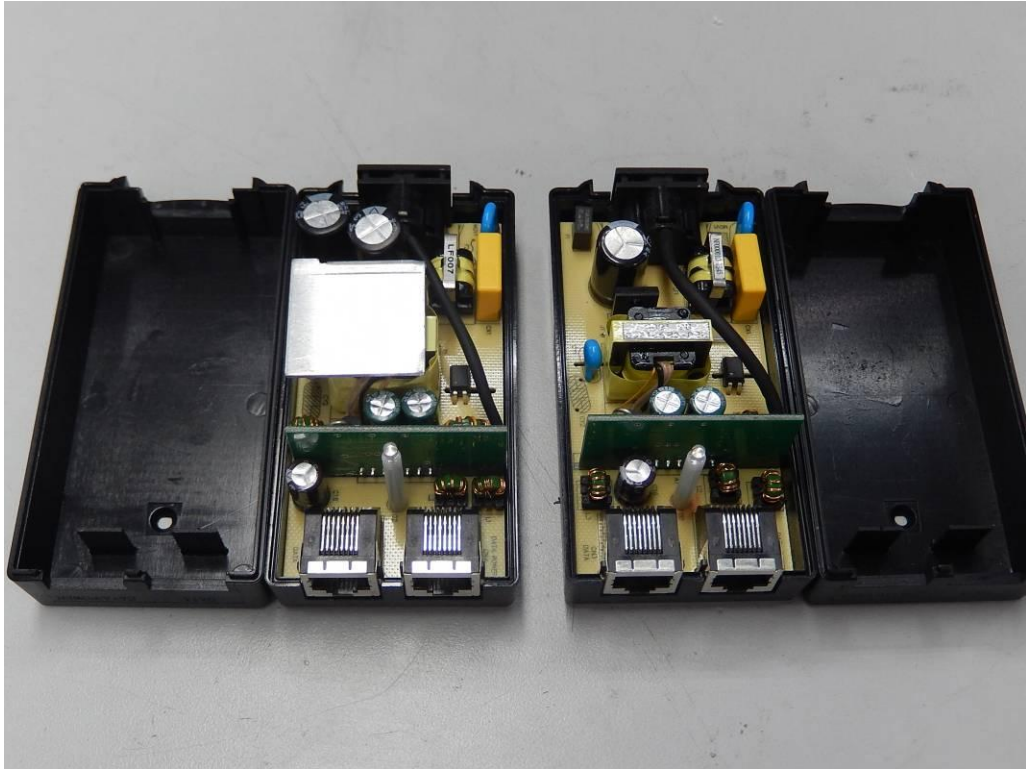
External view for POE series



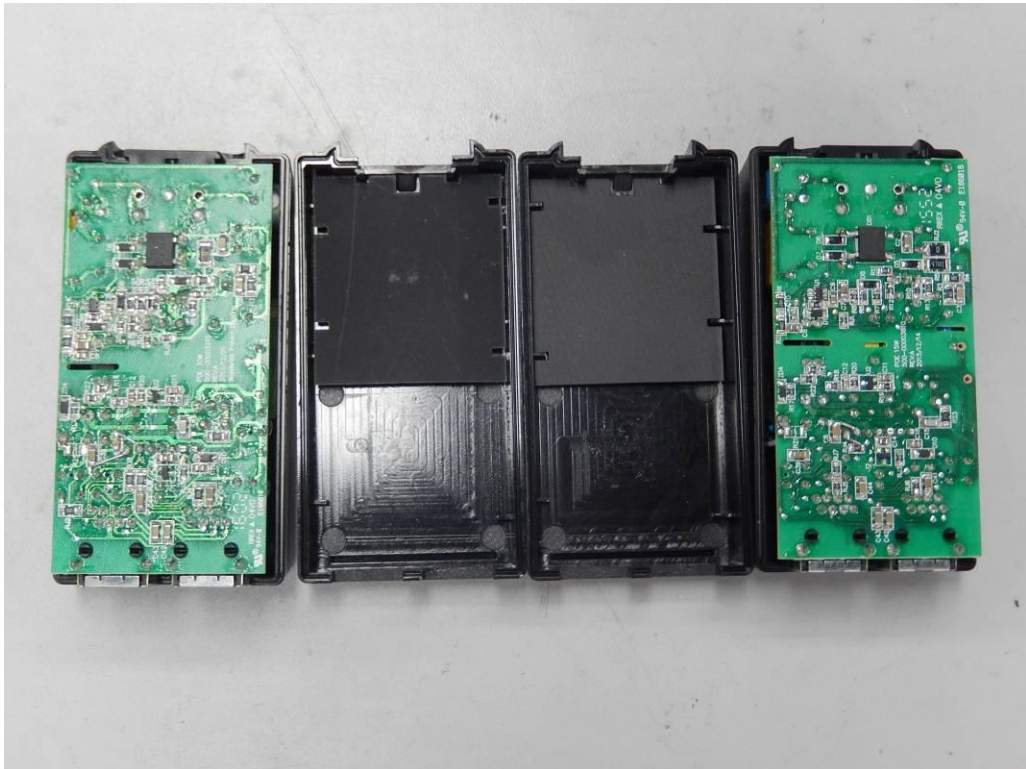
External view for POE series



Internal view for POE series

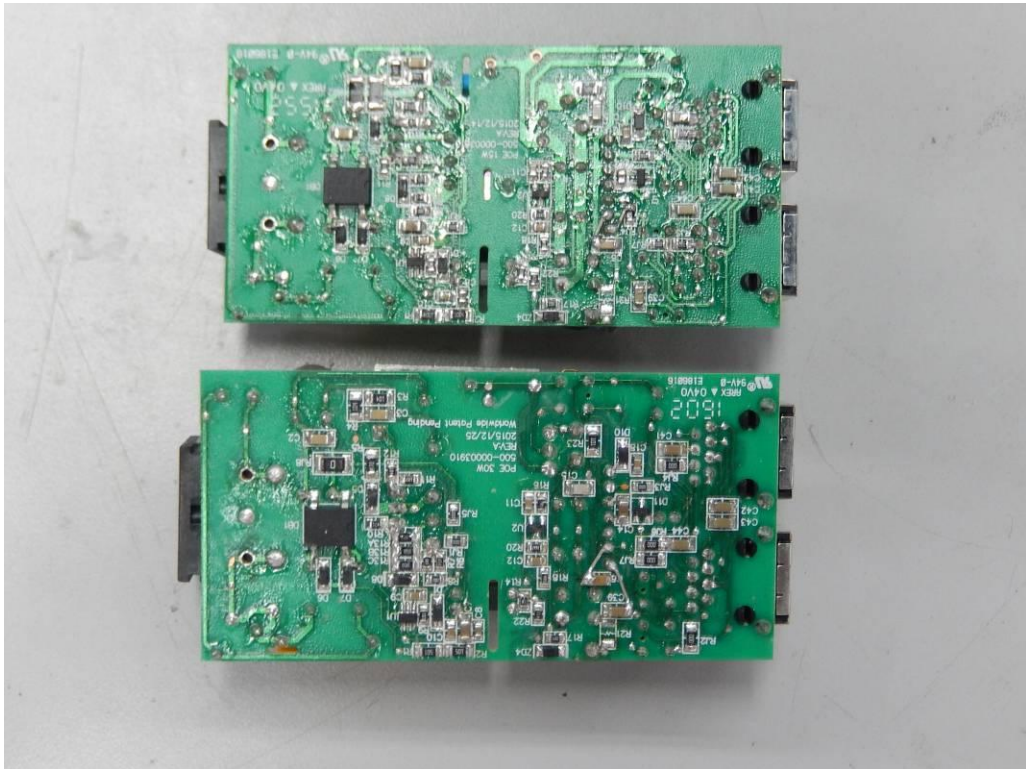


Internal view for POE series



PCB for POE series

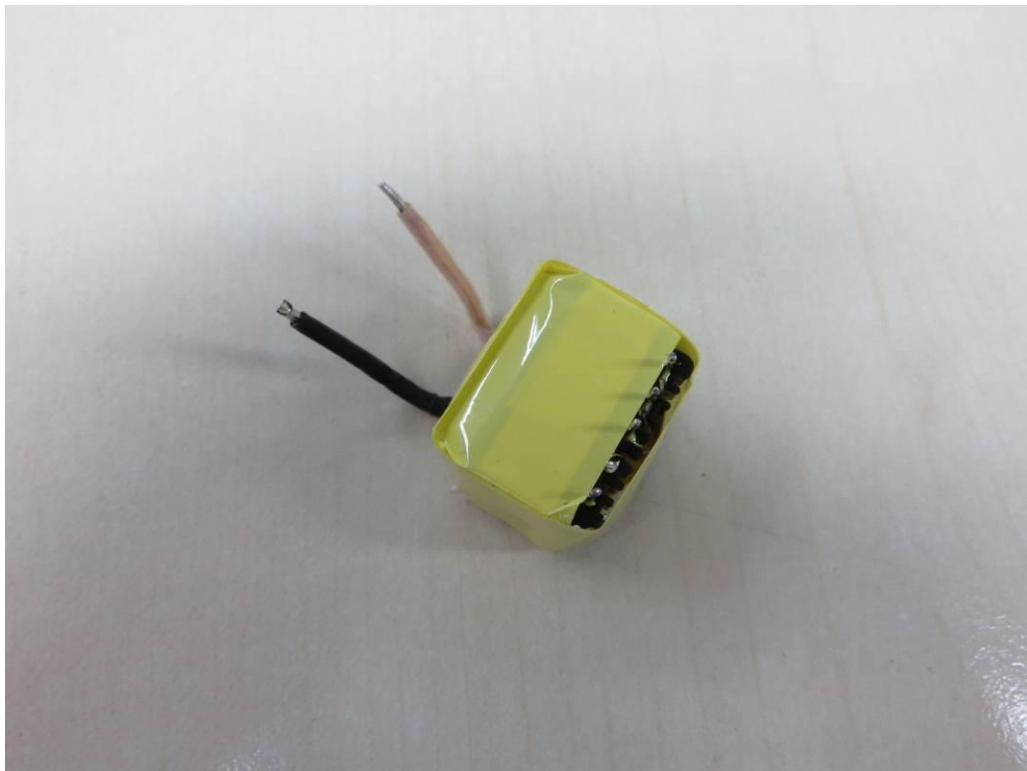
PCB for POE series



Transformer (EE22)

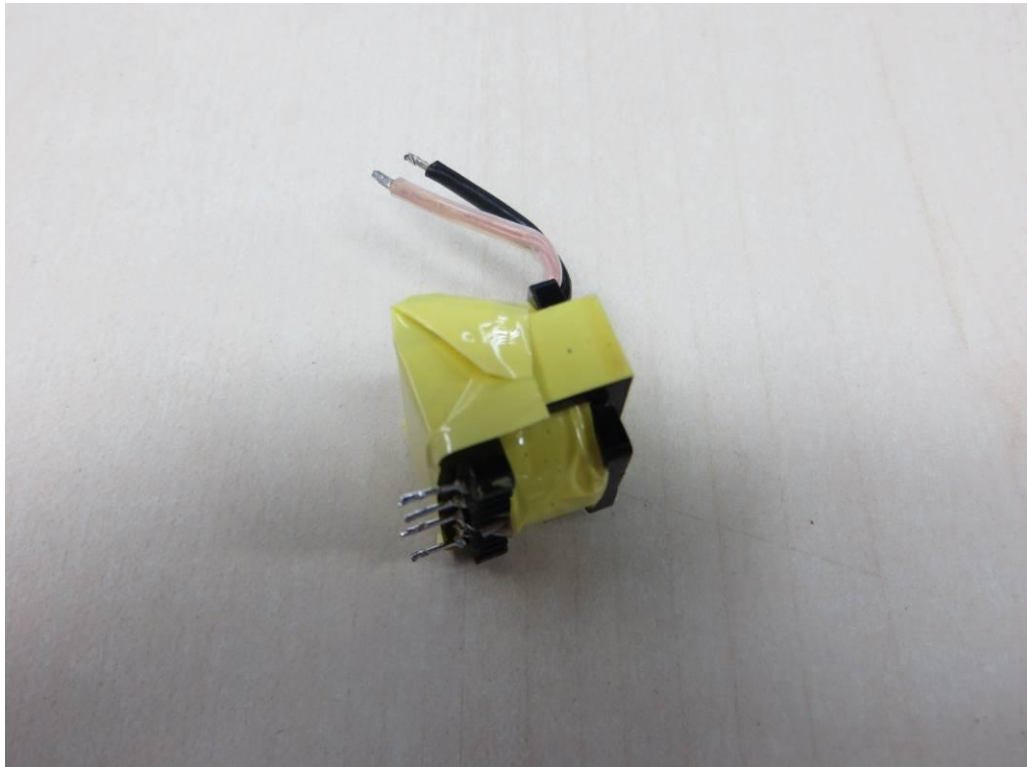


Transformer (EE22)

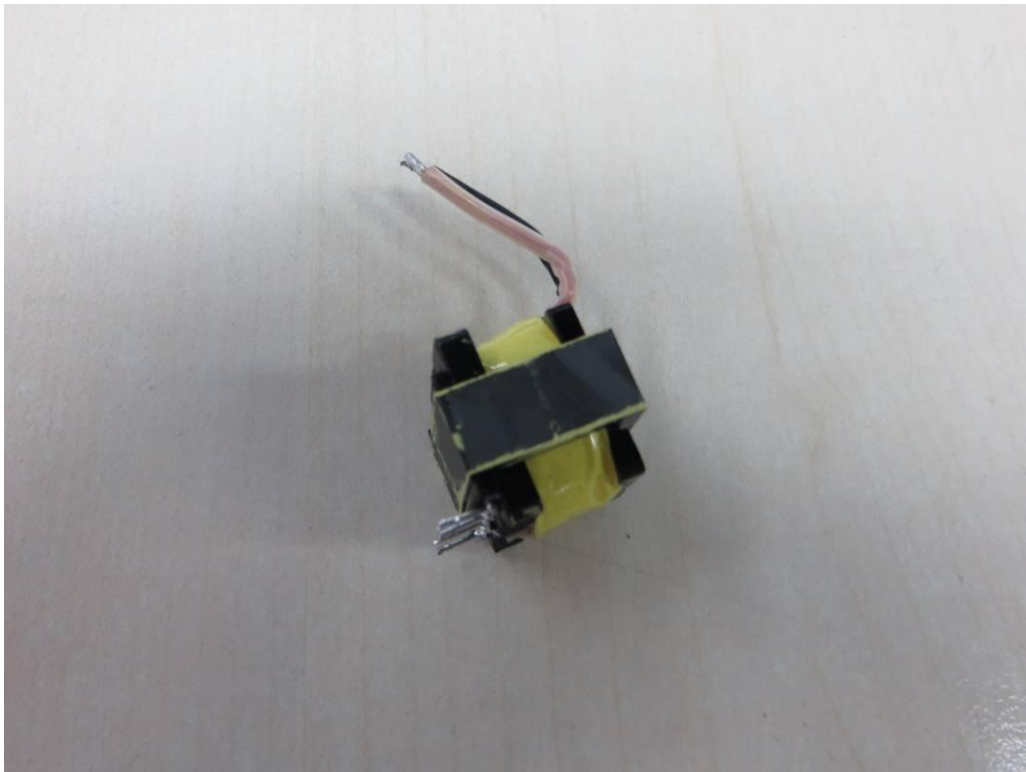


Transformer (EE22)

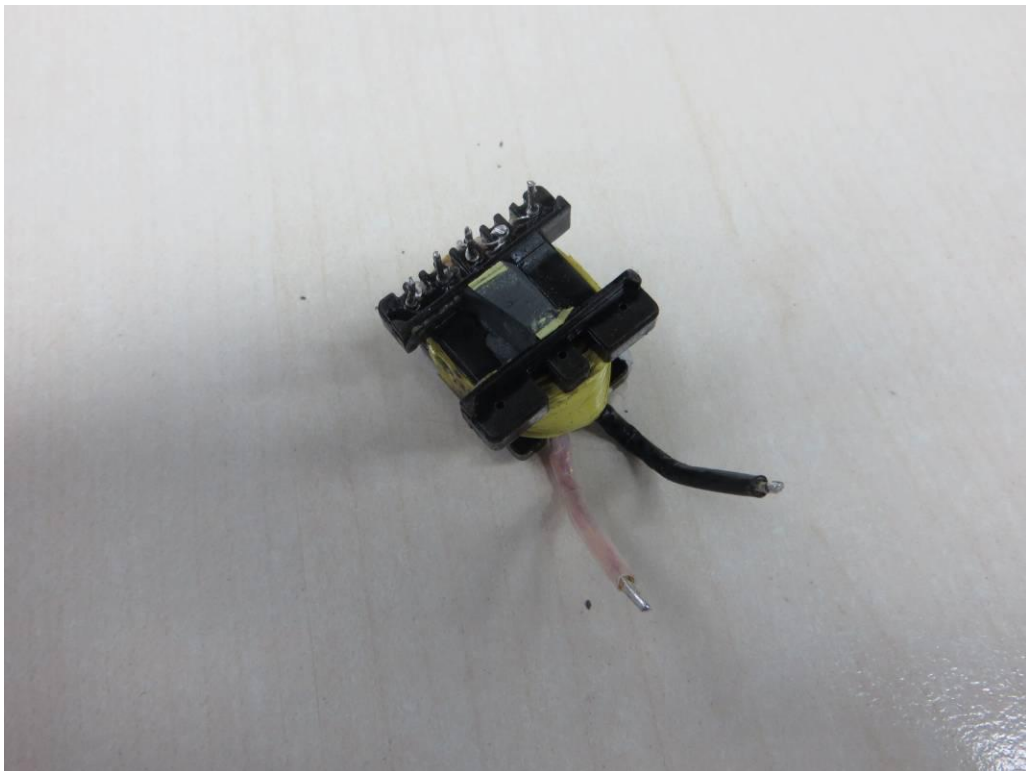
Transformer (EE22)



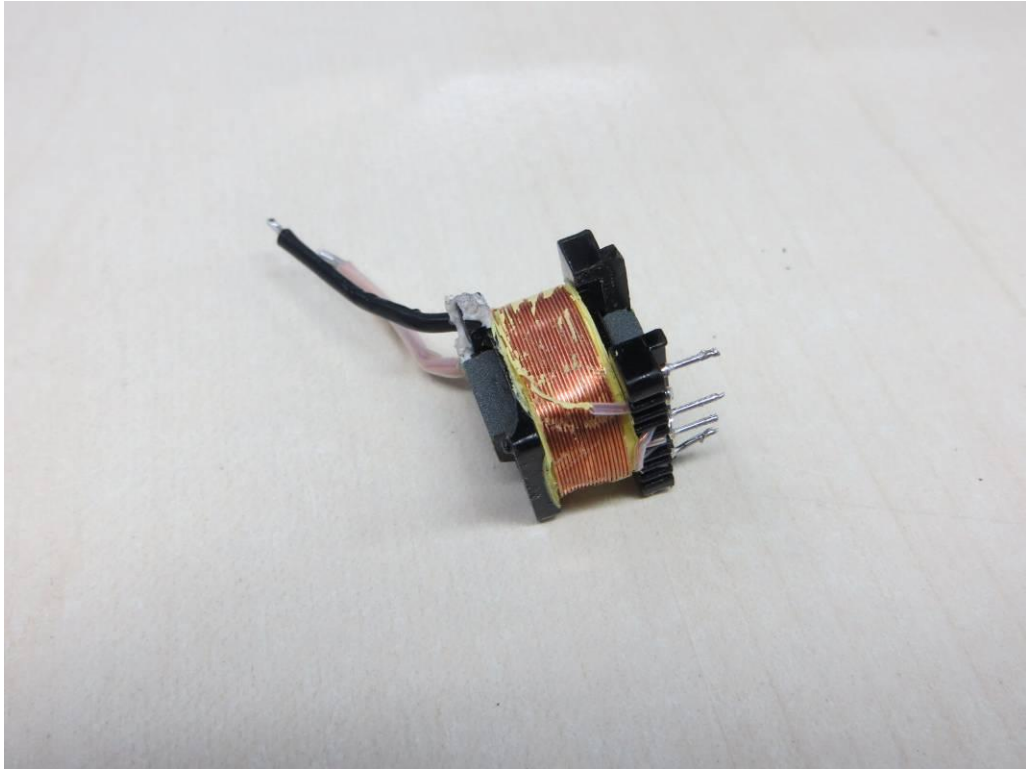
Transformer (EE22)



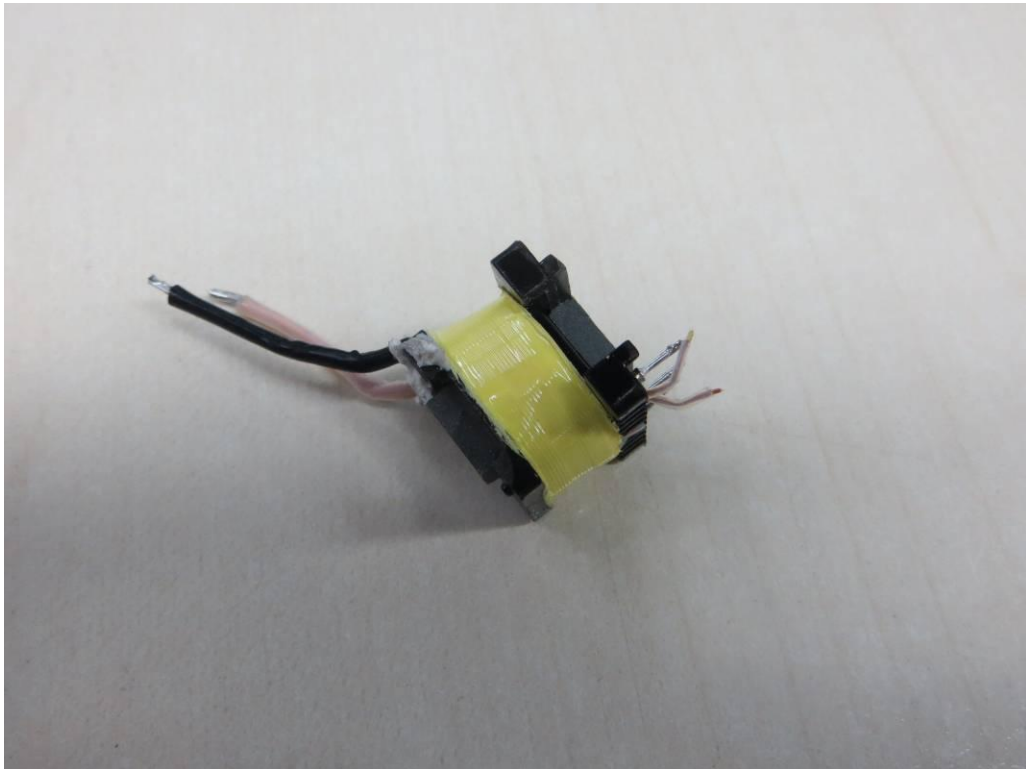
Transformer (EE22)



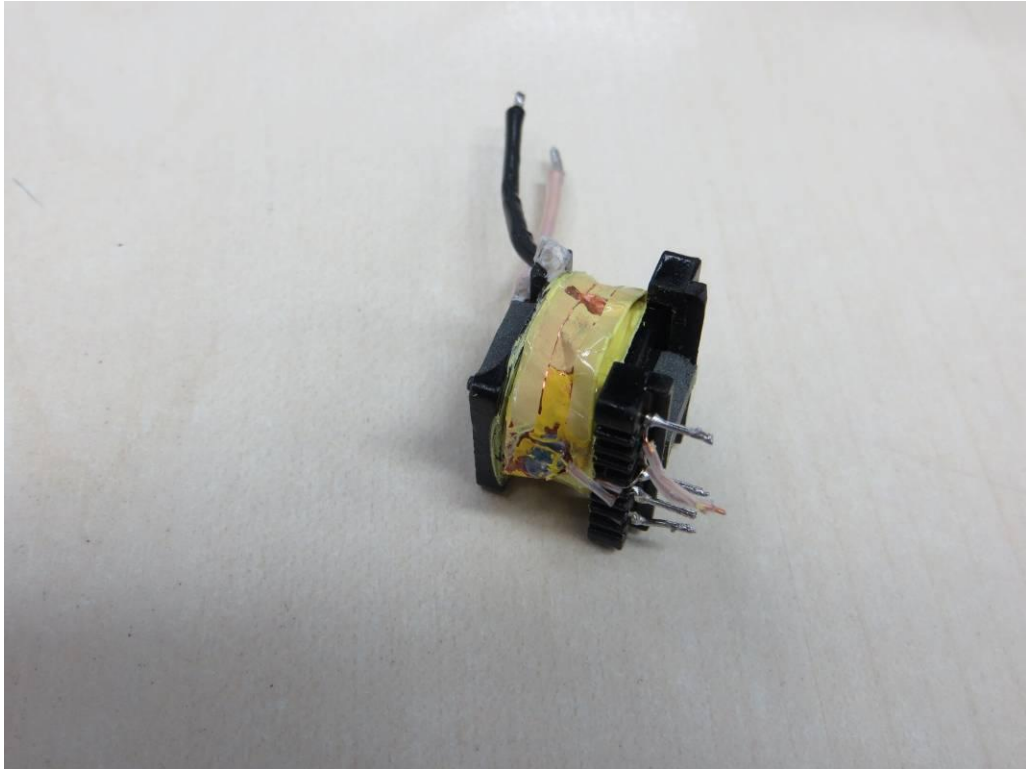
Transformer (EE22)



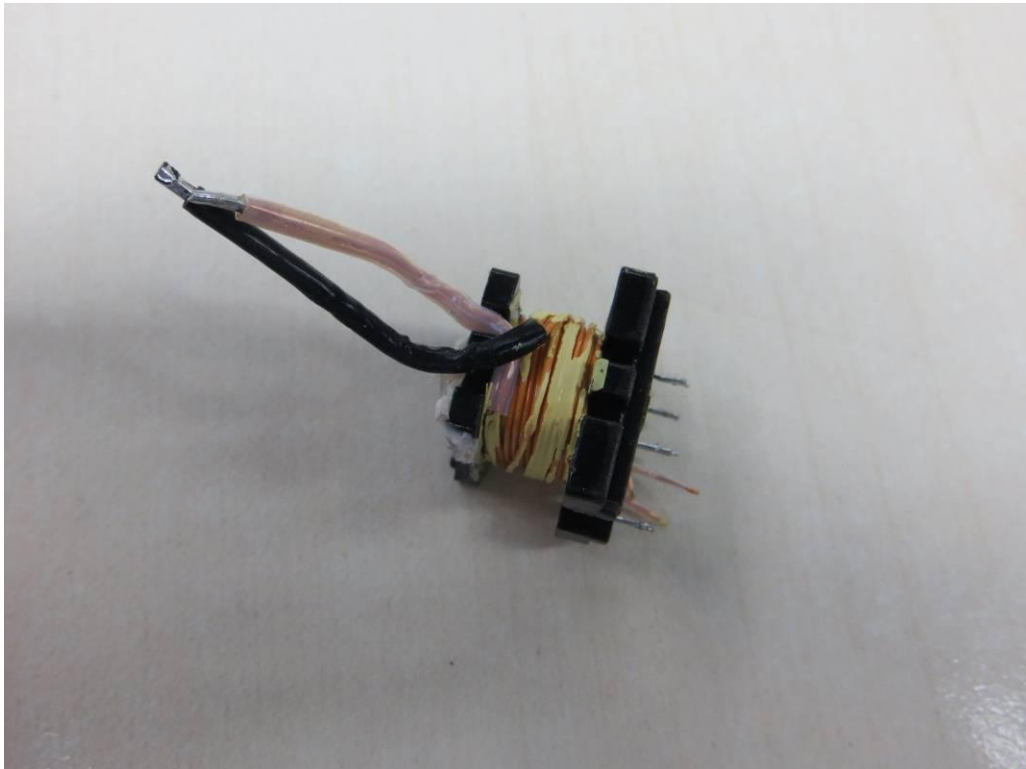
Transformer (EE22)



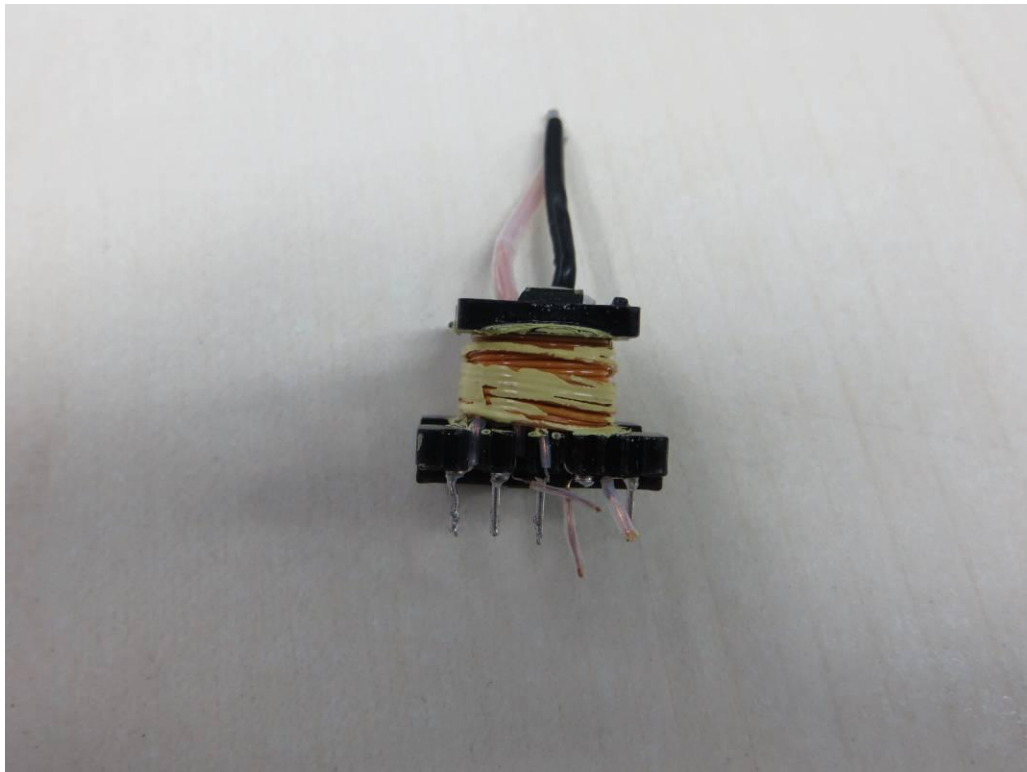
Transformer (EE22)



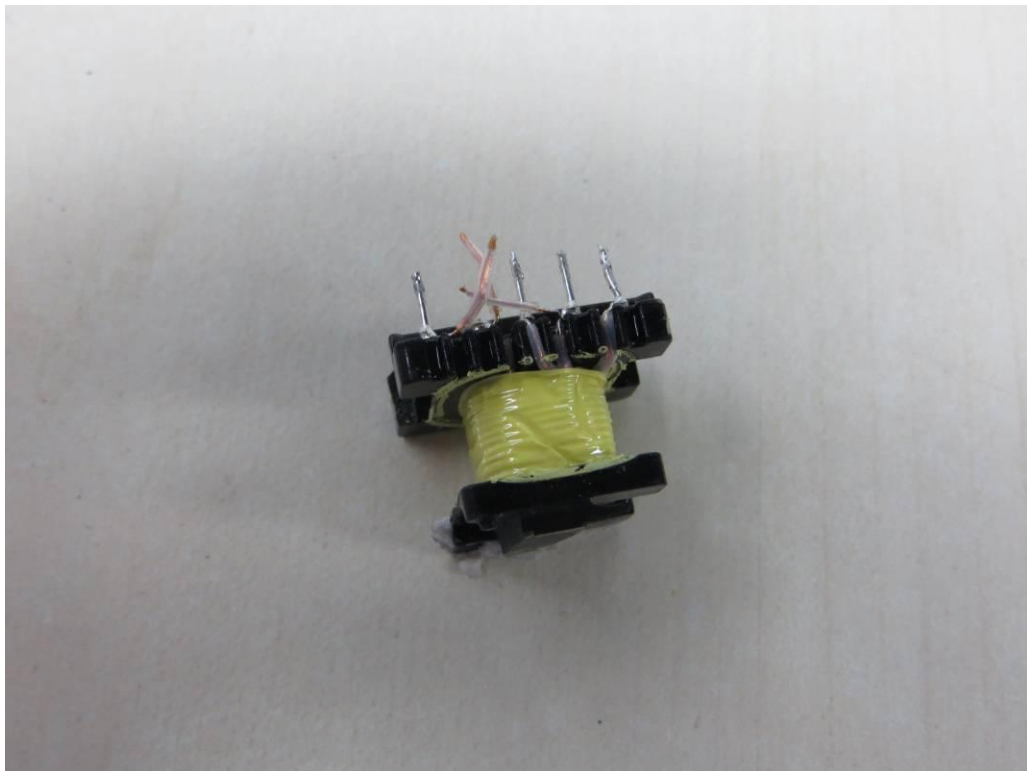
Transformer (EE22)



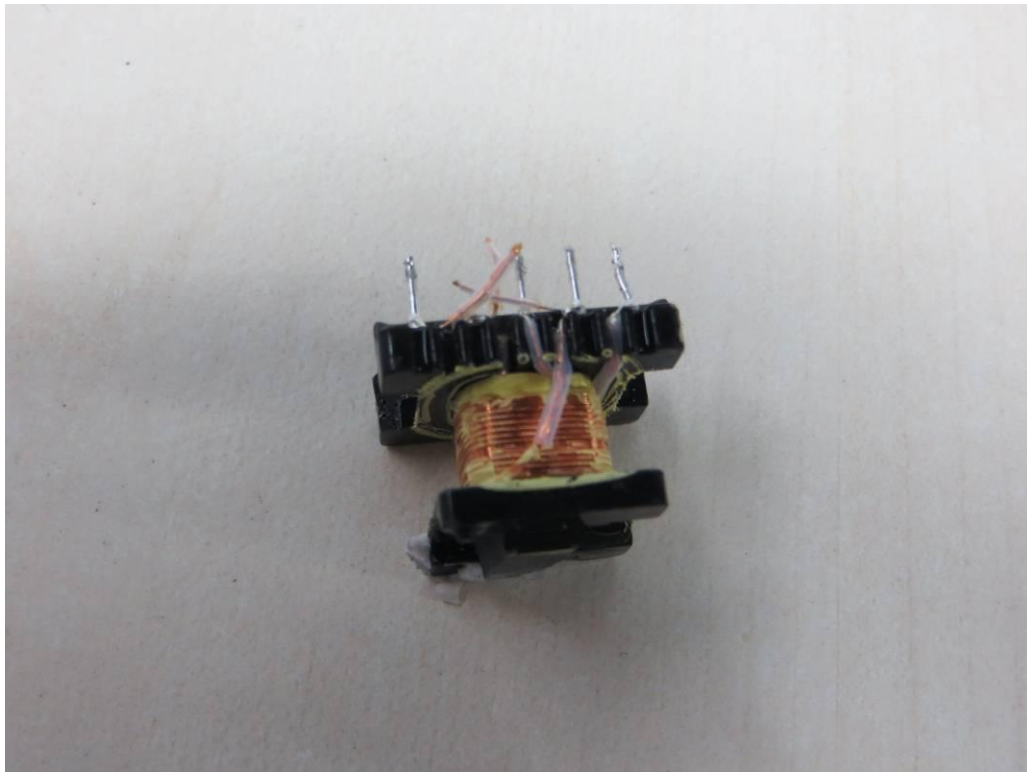
Transformer (EE22)



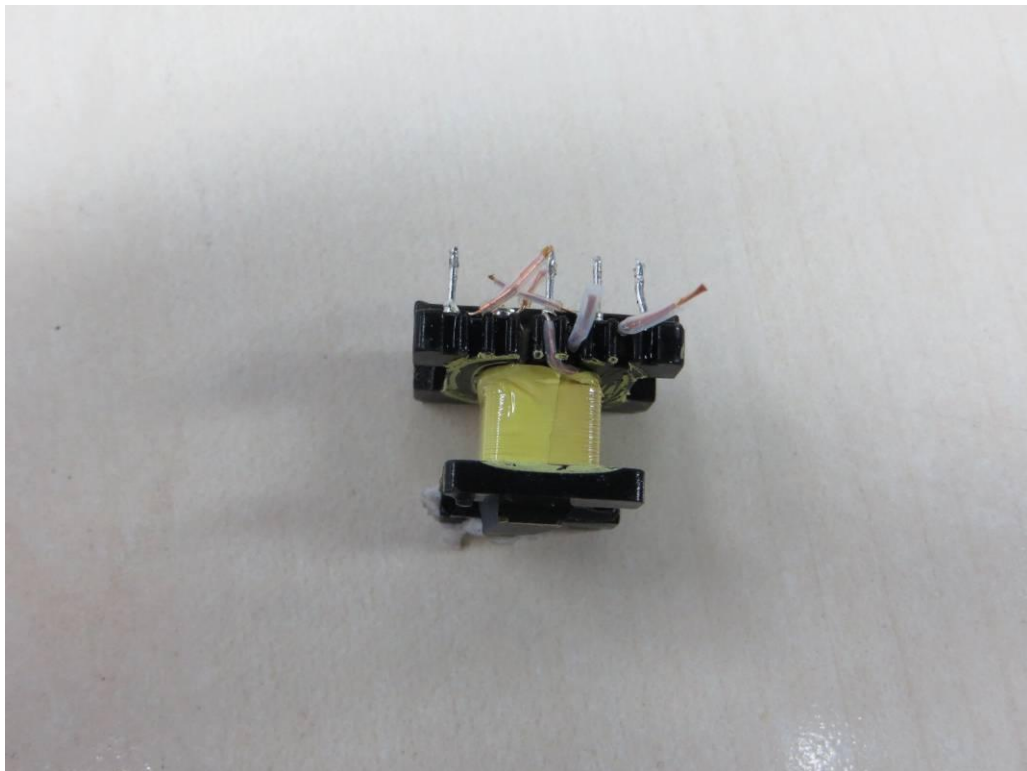
Transformer (EE22)



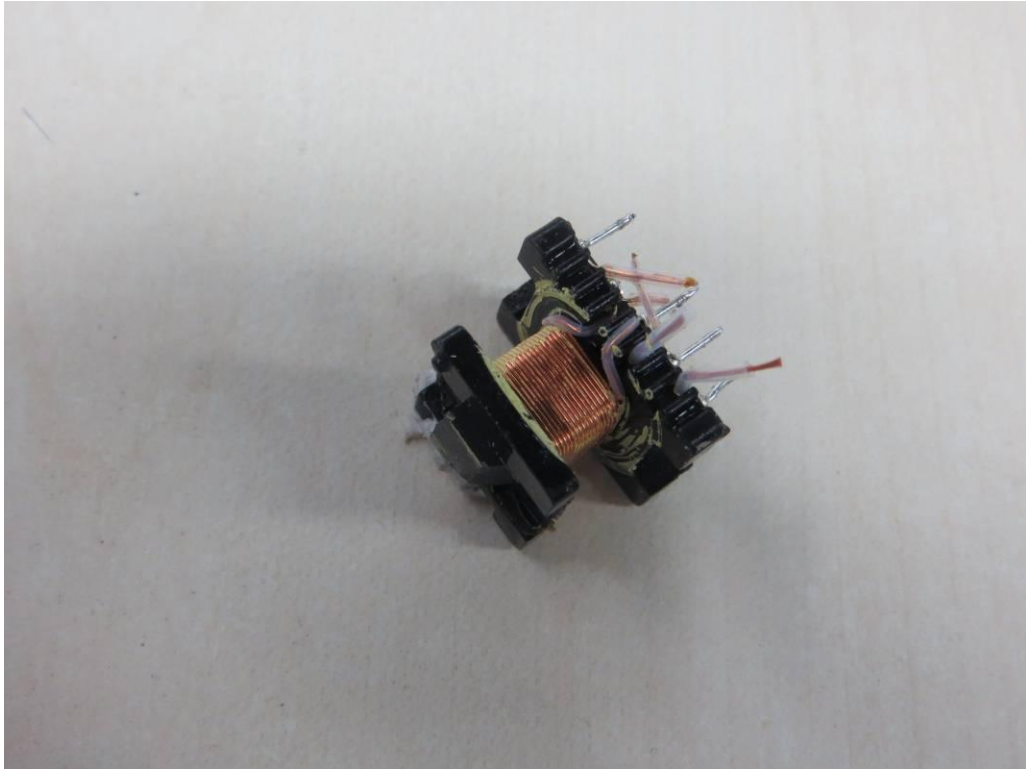
Transformer (EE22)



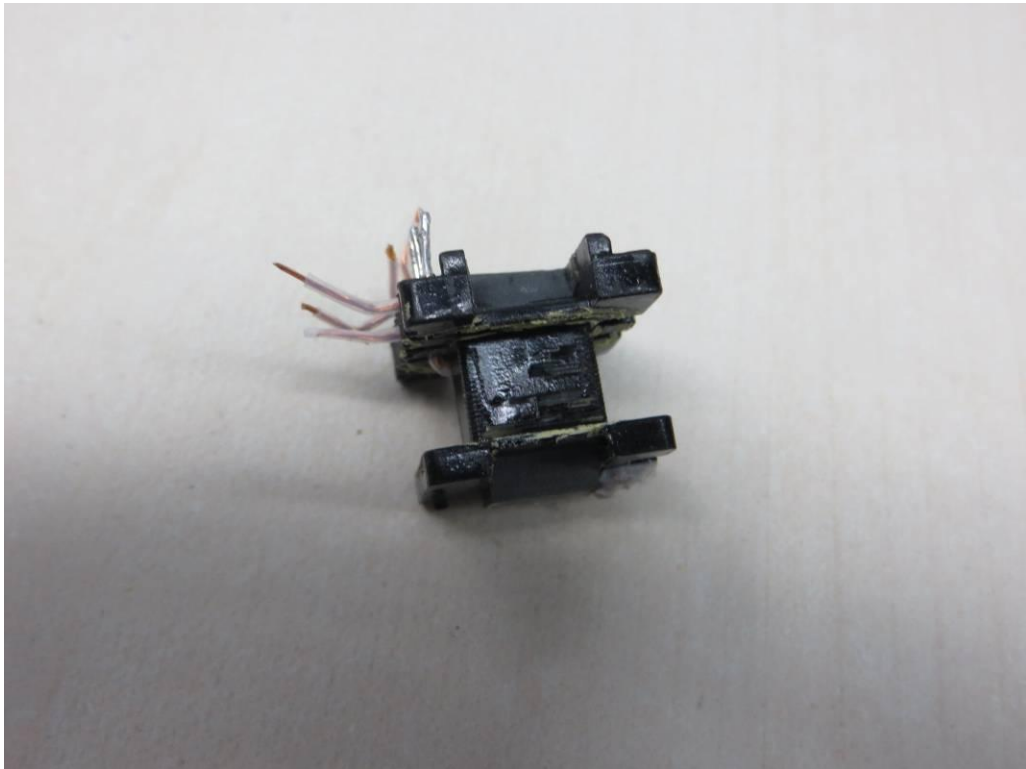
Transformer (EE22)



Transformer (EE22)



Transformer (EE22)



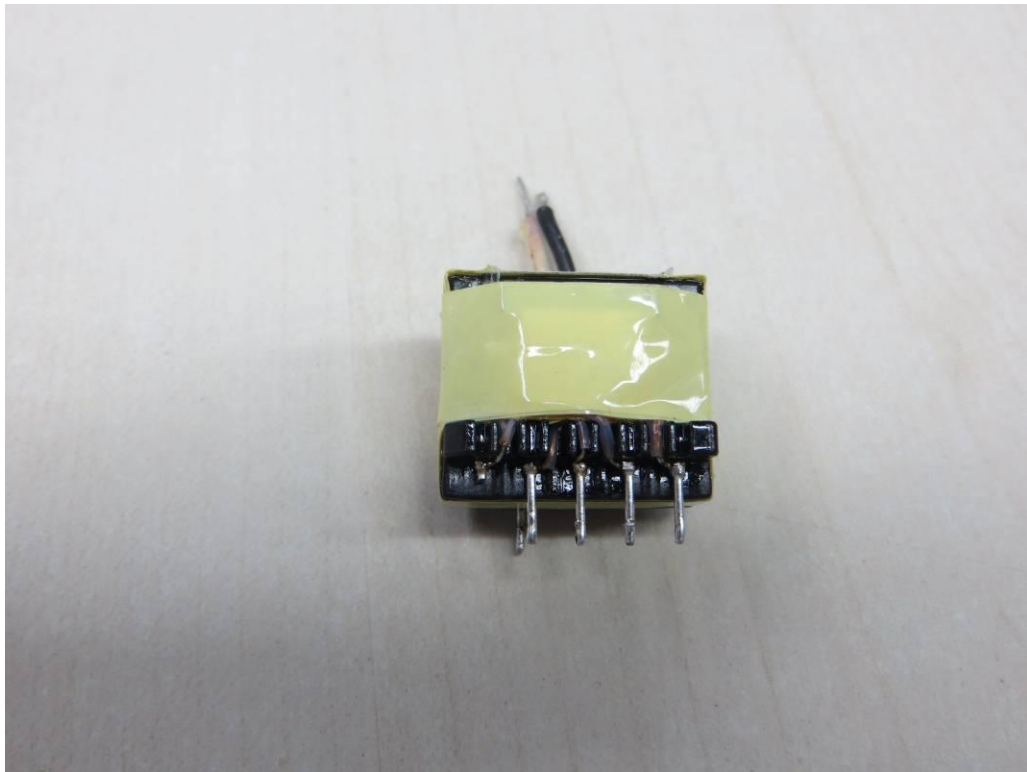
Transformer (EE16)



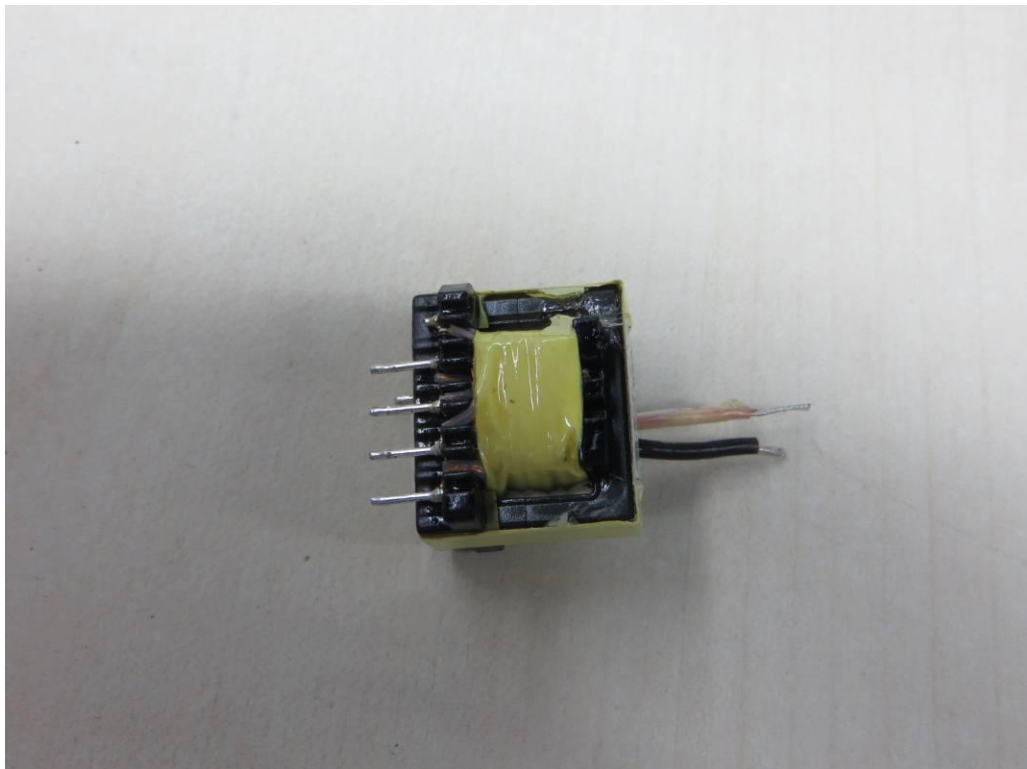
Transformer (EE16)



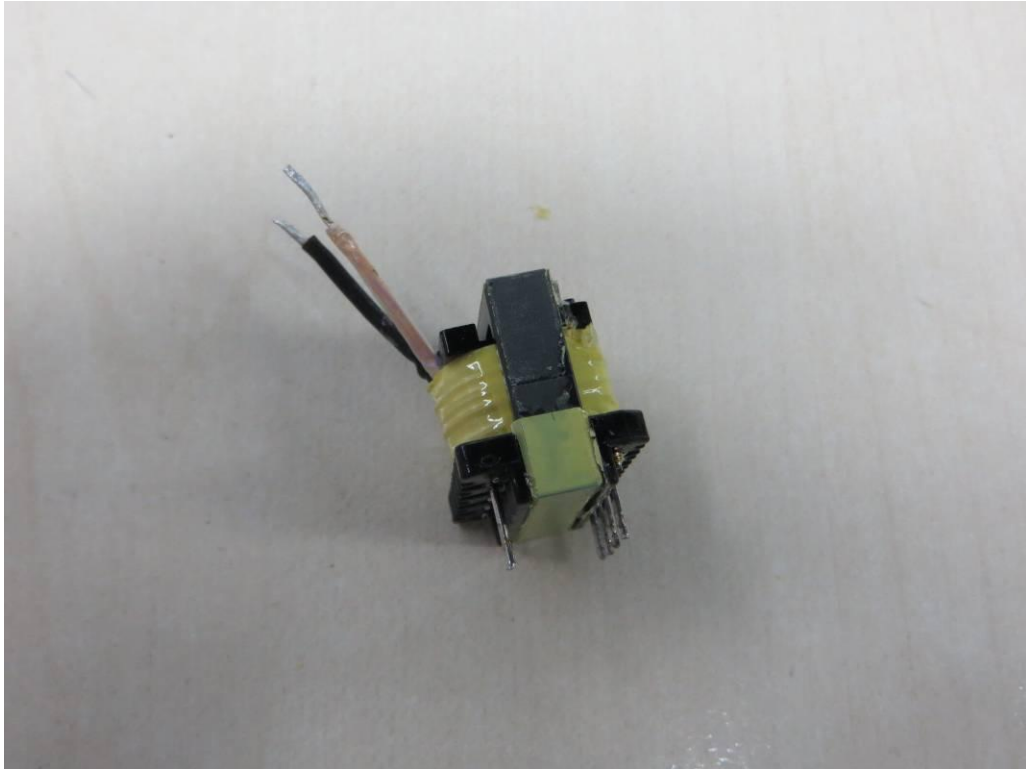
Transformer (EE16)



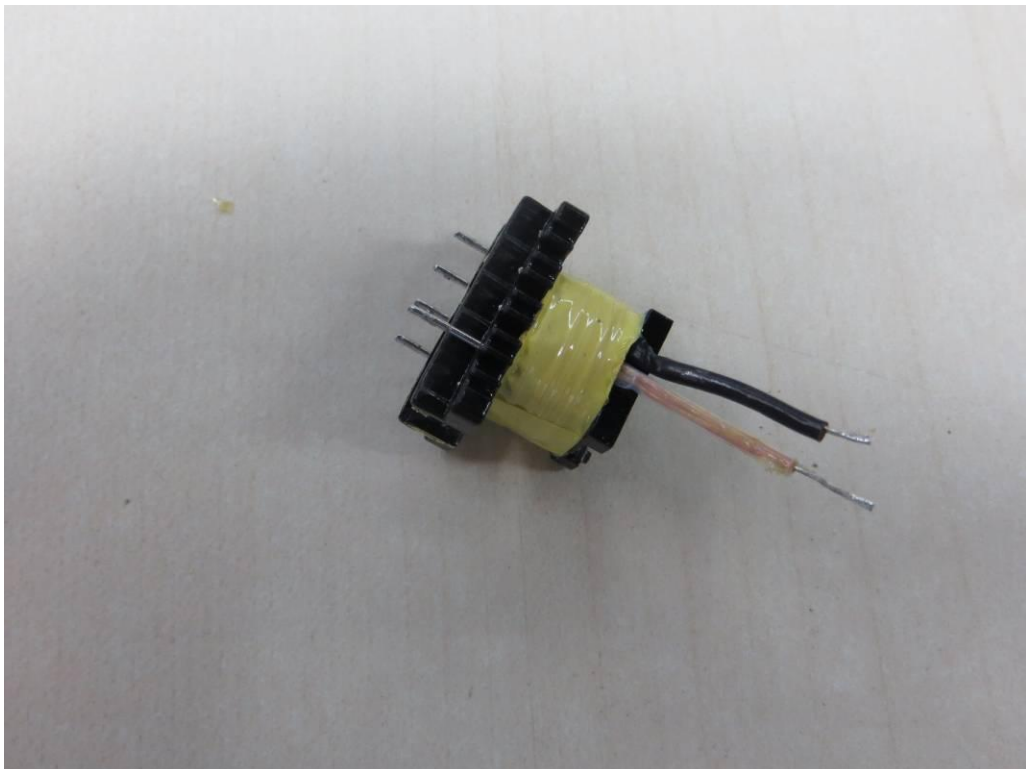
Transformer (EE16)



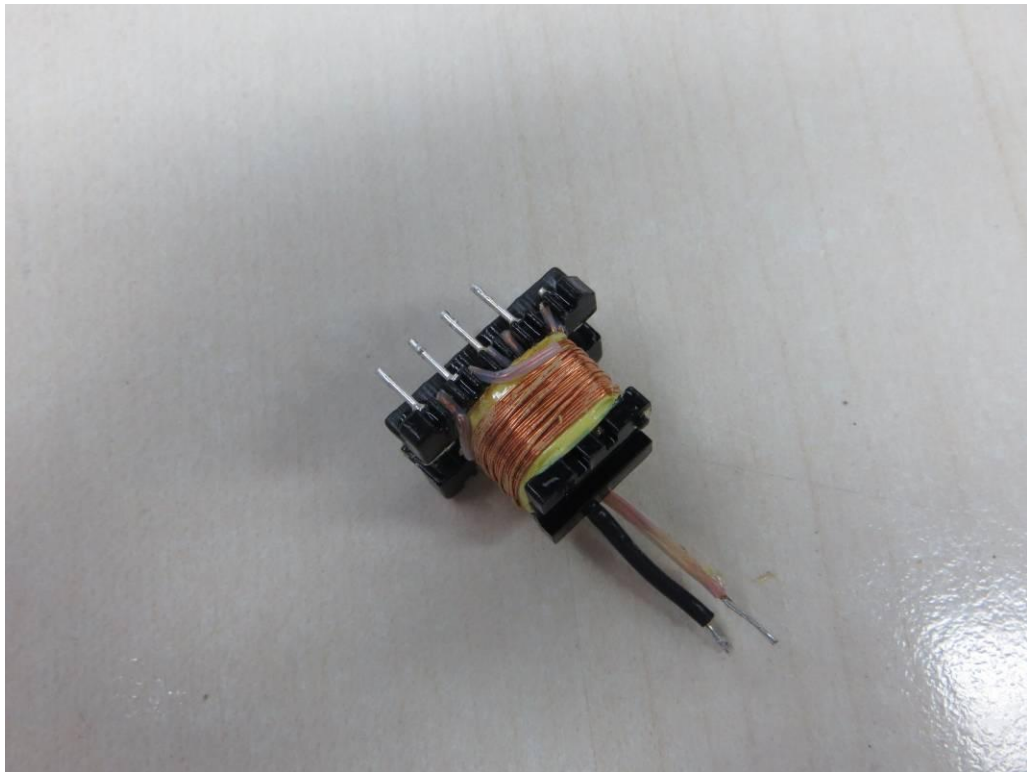
Transformer (EE16)



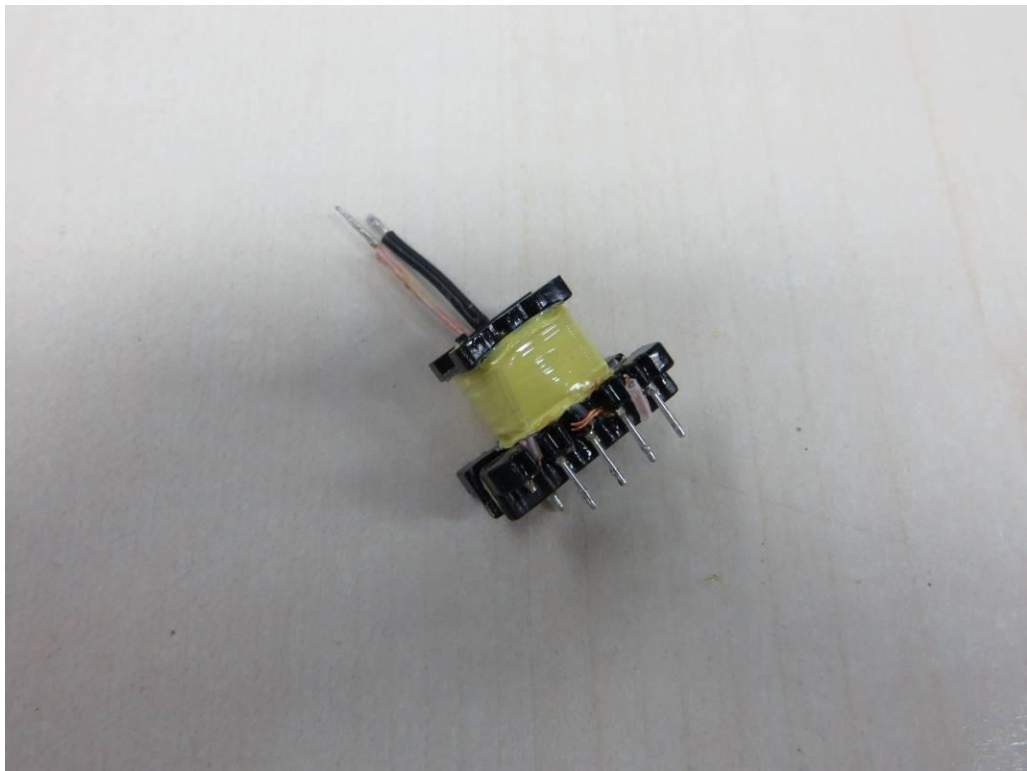
Transformer (EE16)



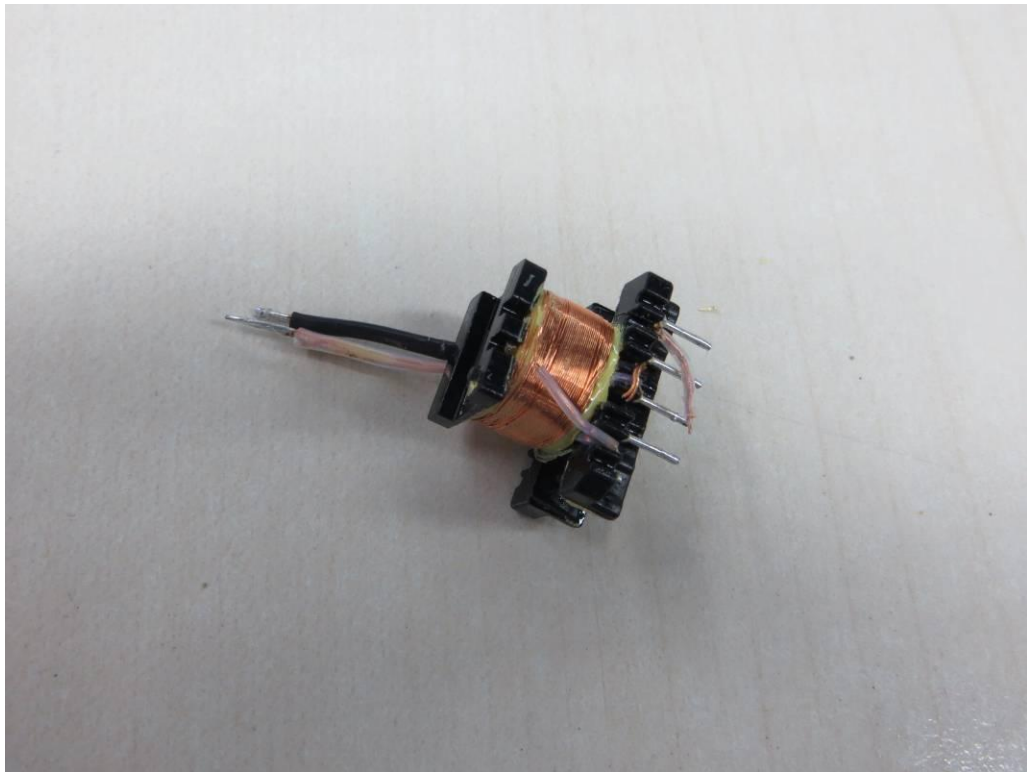
Transformer (EE16)



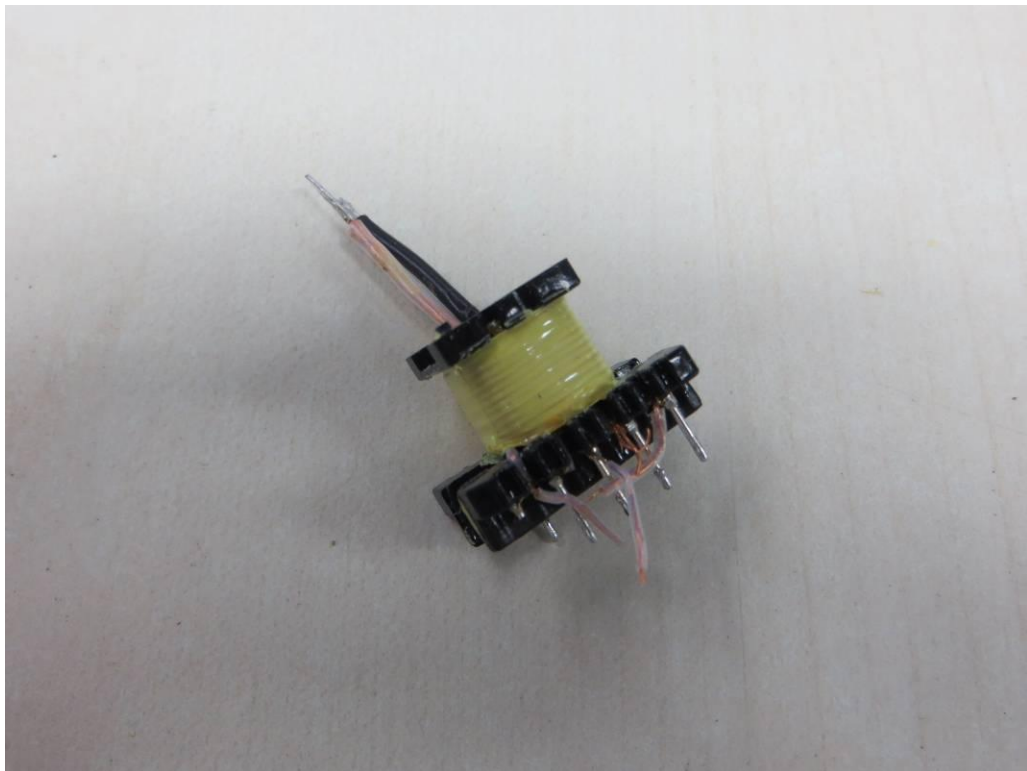
Transformer (EE16)



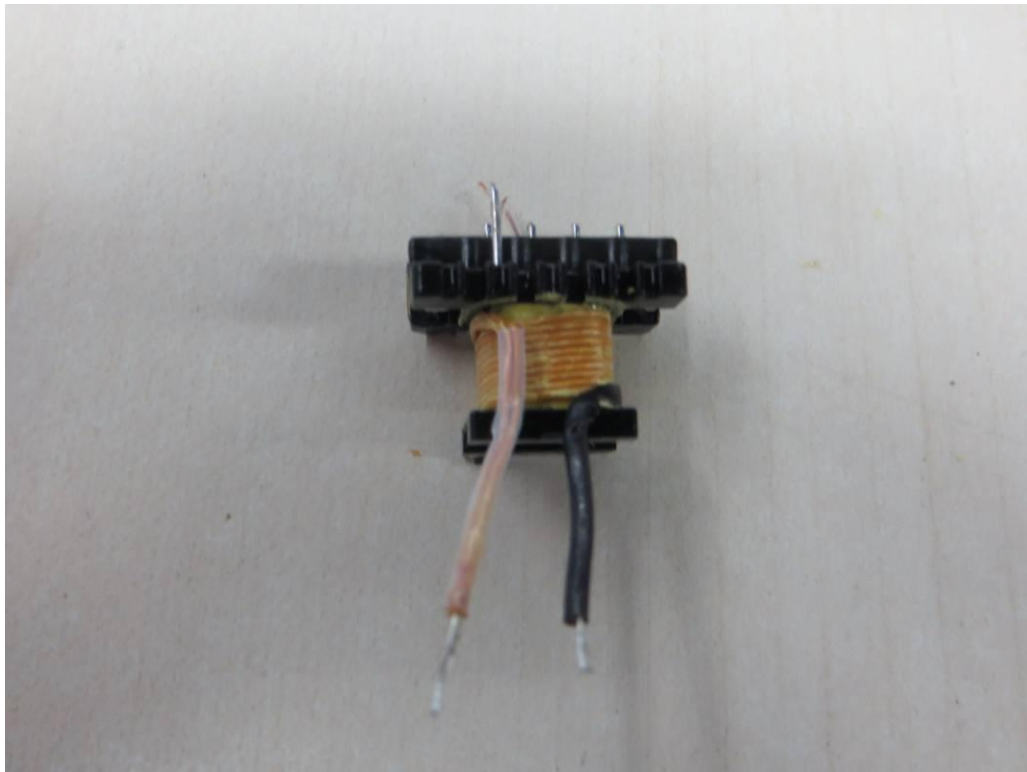
Transformer (EE16)



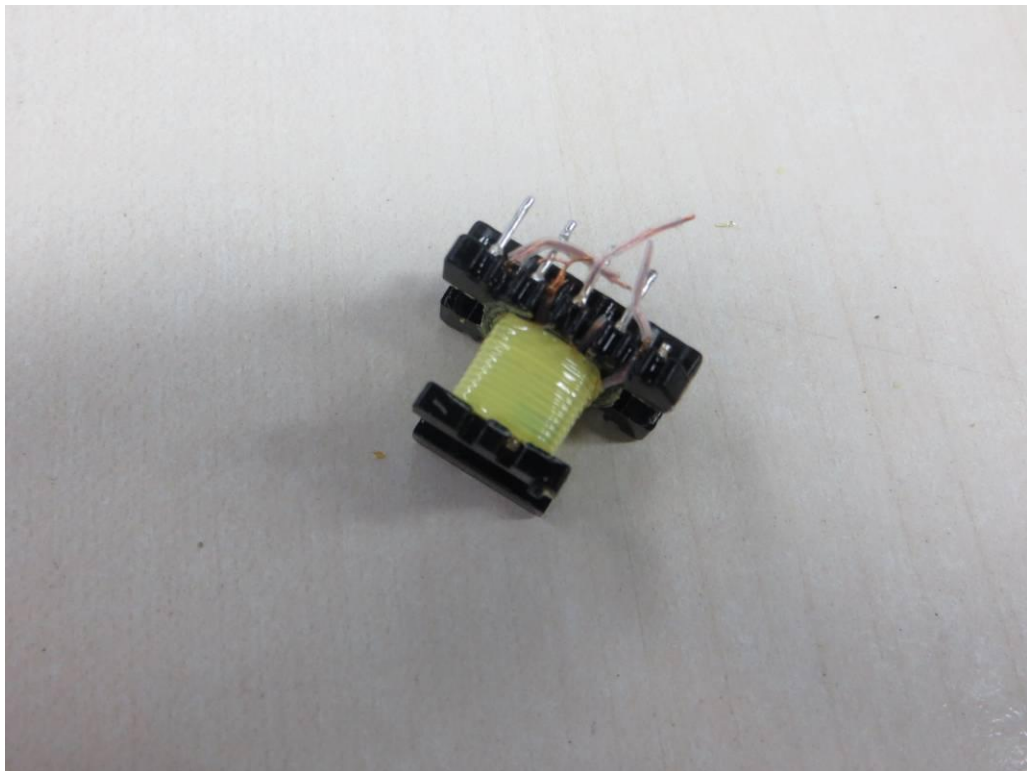
Transformer (EE16)



Transformer (EE16)



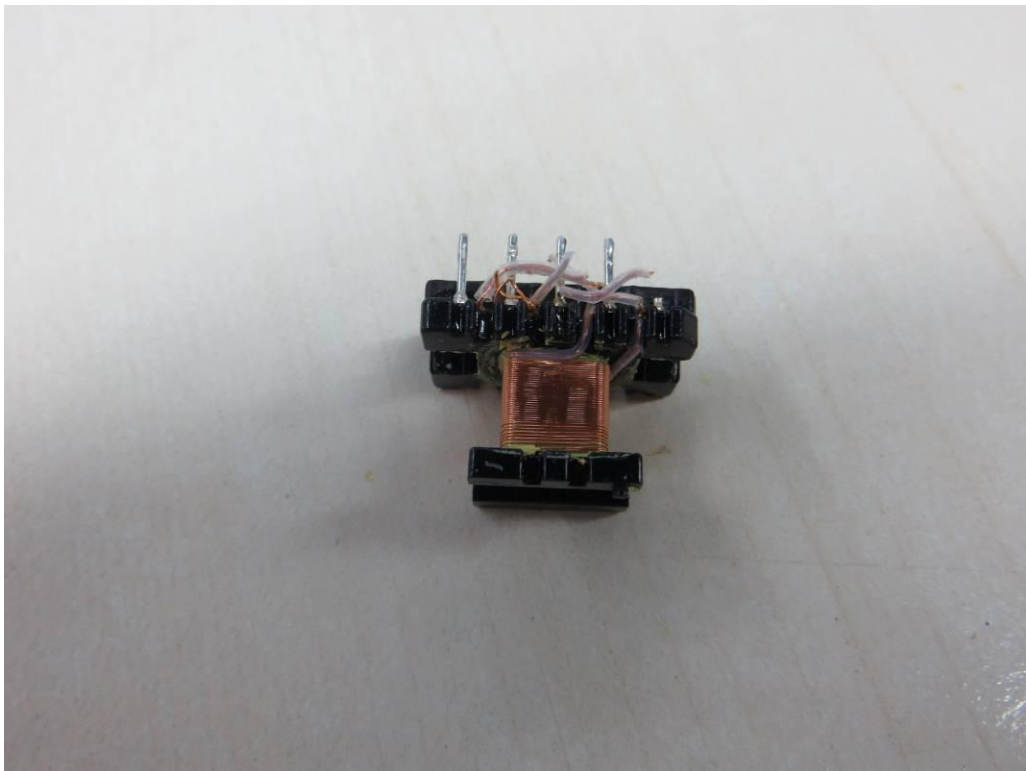
Transformer (EE16)



Transformer (EE16)



Transformer (EE16)



Appendix No.8: Photos of product

Transformer (EE16)



Appendix No.9: Equipment combined with two-pole plug (Class II)

Supplementary tests on plug portion according to EN 50075:1990

Clause	Requirement + Test	Result - Remark	Verdict
1.	Dimensions (Clause 7 of EN 50075)		
	Plugs shall comply with standard size. (Standard sheet 1)		P
2.	Protection Against Electric Shock (Clause 8 of EN 50075)		
2.1	Live parts of plugs with the exception of the bare metal parts of the pins, shall not be accessible. (Clause 8.1 of EN 50075)		P
2.2	It shall not be possible to make connection between a pin of a plug and a live socket contact of a socket-outlet while the other pin is an accessible. (Clause 8.2 of EN 50075)		P
2.3	External parts of plugs, with the exception of pins, shall be of insulating material. (Clause 8.3 of EN 50075)		P
3.	Construction (Clause 9 of EN 50075)		
3.1	The plug cannot be opened by hand or by using a general purpose tool. (Clause 9.1 of EN 50075)		P
3.2	Pins of plugs shall be solid and shall have adequate mechanical strength. (Clause 9.3 of EN 50075)		P
3.3	Pins of plugs shall be locked against rotation and adequately fixed into the body of the plug. (Clause 9.4 of EN 50075)		P
3.4	Plugs shall be provided with soldered, crimped or equally effective permanent connection. (Clause 9.5 of EN 50075)		P
3.5	Plug shall be shaped in such a way and made of such a material that they can easily be withdrawn by hand from a socket-outlet. (by gripping the product enclosure, Clause 9.6 of EN 50075)		P
4.	Resistance to Humidity (Clause 10 of EN 50075)		N/A
	The integrated pins were tested together with the product. (See test report for product)		
5.	Insulation Resistance and Electric Strength (Clause 11 of EN 50075)		N/A
	(See test report for product)		
6.	Mechanical Strength (Clause 13 of EN 50075)		
	Plug shall have adequate mechanical strength to withstand the stresses imposed during use.		P

Clause	Requirement + Test	Result - Remark	Verdict
6.1	The plugs are pressed between two flat surfaces with a force of 150N for 5min. 15min after removal of the force, the plug shall not show such deformation as would result in undue alteration of the dimensions which ensure safety. (Clause 13.1 of EN 50075)		P
6.2	The plug is tested in a tumbling barrel. (Clause 13.2 of EN 50075, fall number is shown in test report for product) After the test, the plug shall show no damage within the meaning of this standard, in particular: --- no part shall become detached or loosened. --- the pin shall not turn when a torque of 0.4Nm is applied. Note: A section of the pin is square constructed for preventing the rotation.		P
6.3	The pins is held in a suitable clamp in such a position that the straight part of a steel wire (D=1+-0.02mm, U-shaped) rests on the plug pin. The plug is caused to move backwards and forwards, so that the wire rubs along the pin. The number of the movements is 20 000, and the rate of the operation is 25 movements per min. (Clause 13.3 of EN 50075)		P
	After the test, the pin show no damage which may effect safety or impair the further use of the plug, in particular, the insulating sleeve shall not have punctured or rucked up.		P
6.4	A pull force of 40N is applied for 60s on each pin in turn in the direction of the longitudinal axis of the pin. The pull is applied 60min after the plug has been placed in a heating cabinet of 70°C. After the plug cooling down to ambient temperature, any pin shall not have displaced in the body of the plug more than 1mm. (Clause 13.4 of EN 50075)		P
7.	Resistance to Heat and to Ageing (Clause 14 of EN 50075)		P
8.	Current-carrying Parts and Connections (Clause 15 of EN 50075)		
8.1	Connection, electrical and mechanical, shall withstand the mechanical stresses occurring in normal use, and electrical connections shall be designed that contact pressure is not transmitted through insulating material. (Clause 15.1 & 15.2 of EN 50075)		P
8.2	Current-carrying parts shall be of copper or an alloy containing at least 58% of copper. (Clause 15.3 of EN 50075)		P
9.	Creepage Distance, Clearances, and Distances Through Insulation (Clause 16 of EN 50075)		P
10.	Resistance of Insulating Material to Abnormal Heat and to fire (Clause 17 of EN 50075)		P

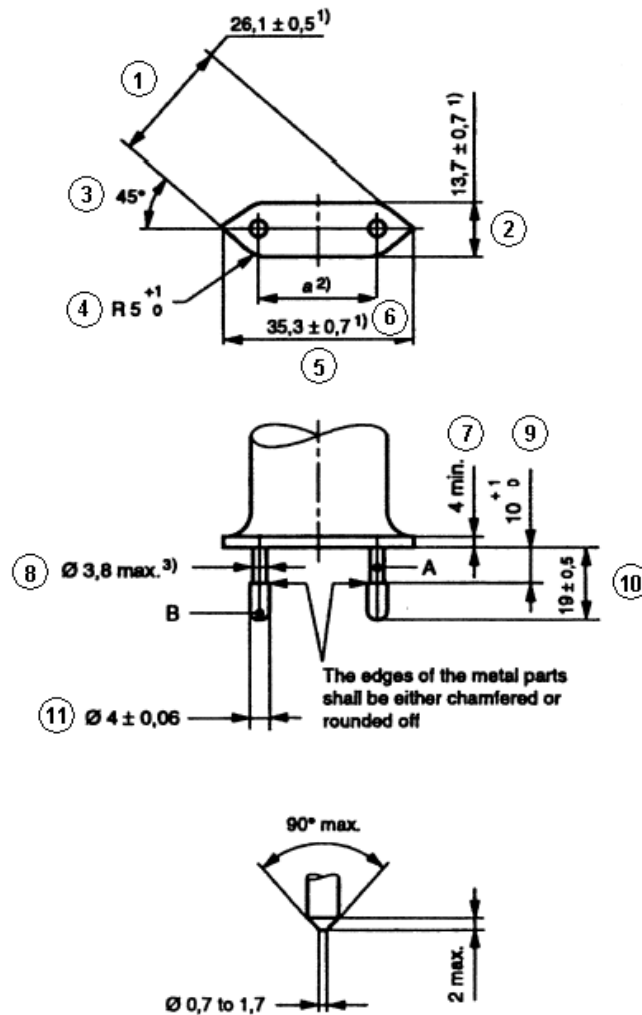
Appendix No.10: Dimension Checking for Two-pin plug according to EN50075

	<p>DIMENSIONS</p> <p>Checked by means of measurement according to EN50075 Standard sheet 1 (see appendix no.5)</p>	P
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<i>Position</i>	Requirement (mm)	Measured (mm)	<i>Verdict</i>
1	25,6 – 26,6	25,84	P
2	13 – 14,4	13,98	P
3	45°	45°	P
4	R5 – 6	R5,4	P
5	34,6 – 36	35,09	P
6	18-19,2 in the plane of the engagement face	18,15	P
	17-18 at the ends of the pins	17,55	P
7	4min	-	N/A
8	φ3,8max	φ3,42	P
9	10-11	10,05	P
10	18,5 – 19,5	19,12	P
11	φ3,94 - φ4,06	φ3,98	P
	Dimensions of position 1, 2 and 3 shall not be exceeded within a distance of 18mm from the engagement face of the plug	19,15	P
	The edges of the metal parts shall be either chamfered or rounded off	Rounded off	P

Appendix No.11:

EN50075: 1990 Standard sheet 1



Alternative for end of pins

A. Insulating collar
B. Metal pin

Dimensions in millimetres

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

²⁾ Dimension *a* is:

- 18 mm to 19,2 mm in the plane of the engagement face;
- 17 mm to 18 mm at the ends of the pins.

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

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

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

Appendix No.12: Photo for plug portion according to EN 50075:1990



The connector conduct part can't be touched by test finger. CI & CR are measured according to table 2.10.3 & 2.10.4.

Appendix No.13: Equipment’s combined with Australian plug.

The Australian plug was tested according to Annex J of AS/NZS 3112:2011+A1:2012:

Clause	Requirement – Test	Remark	Verdict
2.2	PLUG PINS		P
2.2.1	MATERIAL FOR PINS: - Copper alloy containing at least 58% copper for parts made from cold rolled sheet		P
2.2.2	ASSEMBLY OF PINS - Assembled in factory and non-rewirable		P
2.2.3	FORM OF PIN		P
2.2.4*	INSULATION OF PLUG PINS - Live parts of insulated pins plug are not exposed when plug is partially or fully engaged with the associated socket.		P
2.3	INSULATING MATERIALS		P
2.3.1	GENERAL		P
2.3.2	PLUG BODY - Consisting of PBT which has properties not inferior to those specified in AS 3121 for insulating mouldings having a temperature class of 80°C		P
2.3.3	PLUG COVER - Consisting of PVC which has properties not inferior to those specified in AS 3121 for insulating mouldings having a temperature class of 60°C		P
2.8	RATINGS AND DIMENSIONS OF LOW VOLTAGE PLUGS - Comply with Figure 2.1 (c), rated 10A 250V~. - Distance between live pin and edge of plug moulding more than 9 mm		P
2.9	INTERNAL CONNECTIONS -No earthing connection		N/A
2.10	ARRANGEMENT OF EARTHING CONNECTIONS -No earthing connection		N/A
2.12	MARKING (No marking is applicable for the integral plug portion. See markings for transformer)		N/A
2.12.6	CONFIGURATION OF PLUGS - Figure 2.1 (c), the pin configuration is neutral and active in a clockwise direction		P
2.13	TESTS ON PLUGS		P
2.13.3	HIGH VOLTAGE TEST		P
2.13.7	TUMBLING BARREL TEST		P
2.13.8	TEMPERATURE RISE TEST		P

Clause	Requirement – Test	Remark	Verdict
2.13.9	SECUREMENT OF PLUG		P
2.13.9.1	MOVEMENT OF PINS		P
2.13.9.2	FIXING OF PINS		P
2.13.13	ADDITIONAL TESTS ON THE INSULATION MATERIAL OF INSULATED PIN PLUGS		P

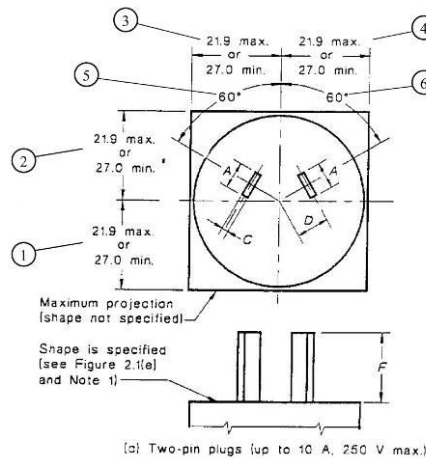
INSULATING MATERIALS TEST IN ACCORDANCE WITH AS/NZS 3121: 2002			
7.1	General		P
7.2	<p>Resistance to heat test The moulding shall be placed in an oven and maintained for 6 h at the temperature appropriate to its class (see Clause 5) plus 10°C. The temperature of the oven during this period shall not vary by more than ± 5°C. The moulding shall show no physical or chemical change likely to impair the safety of the equipment of which it forms a part.</p>		P
7.3	<p>Water absorption test The complete moulding shall be immersed in water at 20 °C ± 5°C for 48 h. The moulding shall not swell, delaminate, warp or show any physical change to a degree that would be liable to impair the safety of the equipment of which it forms a part.</p>		P
7.4	<p>Resistance to white spirit test Sample shall be immersed in white spirit at room temperature for 2 min. The moulding shall not blister, warp or show any physical or chemical change to a degree that would be liable to impair the safety of the equipment of which it forms a part.</p>		P

Appendix No.14: Dimension Checking for Two-pin plug (Up to 10 A rating) According to AS/NZS 3112: 2011 + A1: 2012+ A2: 2013

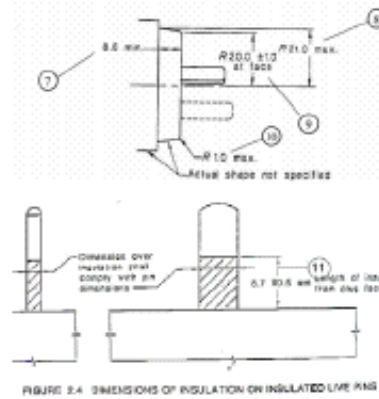
CHECKING OF DIMENSIONS

Dimensions checked by gauge and measurement

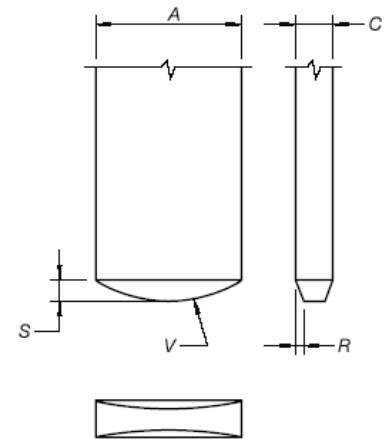
Standard sheet Figure 2.1 (c)



Standard sheet Figure 2.1 (e)



Standard sheet Figure 2.1 (h)



Position	Required (mm)	By Measurement (mm)	By the gauge shown in Figure A1
A	6.35±0.15	6,35	-
B	-	-	-
C	1.63 ^{+0.15} _{-0.50}	1,64	-
D	7.92	-	OK
E	-	-	-
F	17.06±0.4	17,17	-
G	-	-	-
R	0.35±0.05	0,32	-
S	0.90±0.10	0,84	-
T	≥0.60	-	-
V	6	-	OK
1	21.9 max. or 27.0 min.	21,14	-
2	21.9 max. or 27.0 min.	21,14	-
3	21.9 max. or 27.0 min.	62,88	-
4	21.9 max. or 27.0 min.	20,65	-
5	60°	-	OK
6	60°	-	OK
7	8.6 min.	12,15	-
8	21.0 max.	20,75	-
9	20.0±1.0	20,61	-
10	1.0 max	0,34	-
11	8.7±0.5	8,95	-

Appendix No.15: Photos of Australian plug portion



The connector conduct part can't be touched by test finger. CI & CR are measured according to table 2.10.3 & 2.10.4.

Appendix No.16: Equipment combined with NEMA 1-15 plug portion.

KEY:

- √ = Complies.
- E = Further evaluation required
- E√ = Once “E” is found acceptable
- F = Non-compliance
- G = General comment
- N/A = Not applicable
- T = Testing required
- TF = Test failed

Section	Key	Comment
FORWARD		
Introduction		
1		Scope
1.1-1.4	G	The device under evaluation is an integral plug for model GT*46101-***-USB input rating 100-240V~, 50-60Hz, 0.3A. The plug is evaluated according to rated input.
2		Glossary
2.1-2.38	G	Noted.
3		Components
3.1-3.4	G	Noted
4		Units of Measurement
4.1	G	Noted
5		Reference
5.1	G	Noted
CONSTRUCTION		
		ALL DEVICES
6		General
6.1	√	According to declared reasonable condition, 100-240VAC, 50-60Hz, has been considered in all following test.
6.2	√	Plug for AC use only
7		Configurations
7.1	√	1-15P plug applied.
8		Insulating Materials
8.1		General
8.1.1	√	All parts that act as the electrical insulation or enclosure are made of plastic material. See 8.2.1
8.1.2	N/A	Vulcanized fiber is not provided
8.2		Flammability
8.2.1	√	The insulating material required HB or more. For detailed parts, see report of end product)
8.3		Electrical properties
8.3.1	√	Exception No. 1: No information according to above table info. The insulating material has a CTI 3 (Required 3), so it need NOT comply with Comparative Tracking Index Test, Section 55.
8.3.2	√	Exception No. 2: The insulating material has a HWI 3, (required HWI value is 4 when material class is V-0). According to 8.1.2 (UL746D) and reasonable usage, reasonable arcing occurs in normal use. We are of the opinion that it need NOT comply with Glow Wire Test, see Section 56. Exception No. 3: The insulating material has a HAI 2. (required HWI value is 4 when

		material class is V-0. or check if the thickness), since no arcing in normal use, so it need not comply with High-Current Arc Resistance to Ignition Test, Section 57.
8.4		Thermal properties
8.4.1	√	All the RTI rating of the insulating materials are higher than 80 degree (C)
8.5		Vulcanized fiber
8.5.1	N/A	No Vulcanized fiber is provided
8.5.2	N/A	No Vulcanized fiber is provided
8.6		Sealing compounds
8.6.1-8.6.2	N/A	Sealing compound is not provided, no need to comply with relevant requirement involved in ASTM 28.
8.7		Fuse enclosures
8.7.1-8.7.2	N/A	Fuse is not provided
9		Enclosure
9.1		General
9.1.1	√	Live parts of plug parts are protected against exposure to contact by persons when fully assembled using all essential parts. Exception no. 2: for fixed wiring.
9.1.2-9.1.3	N/A	No accessible dead-metal parts
9.1.4	√	The probe shown in Figure 9.1 is used to judge the accessibility of a live or dead-metal part. The applied force is not more than 13.3N.
9.1.5-9.1.7	N/A	No such separable part
9.2		Male faces and wire terminations
9.2.1	N/A	Not a 15 or 20A attachment plug or current tap
9.2.2	N/A	There is no exposed live part.
9.2.3	N/A	No such parts
9.2.4-9.2.5	√	Probe not access to live parts. The cover is securely fixed for all acceptable wiring.
9.2.6	√	The face plate is secure with the back part.
10		Current-carrying Parts
10.1		General
10.1.1	√	Iron or steel is not used for current-carrying parts.
10.1.2	√	The current-carrying parts are not able to be turned by means of general tools due to the appliance shroud mounted on Evaluated appliance.
10.1.3	N/A	No such uninsulated live parts except for female contact of connector
10.2		Contacts (applying to the connector)
10.2.1	N/A	Female contacts of the connector cannot be touched by the probe. Others parts are covered by exception no. 3
11		Grounding and Dead Metal Parts
11.1-11.10	N/A	No grounding parts
12		Terminals
12.1-12.4		No terminals for end user
13		Cord Entry and Strain Relief
13.1-13.5	N/A	Flexible cord part are considered in the end appliances.
14		Spacings
14.1	√	The spacing through air between uninsulated live parts of opposite polarity and between uninsulated live parts and exposed external surface is measured more than 2mm (required 3/36 inch, 1,2mm) for a device rated 250V or less.

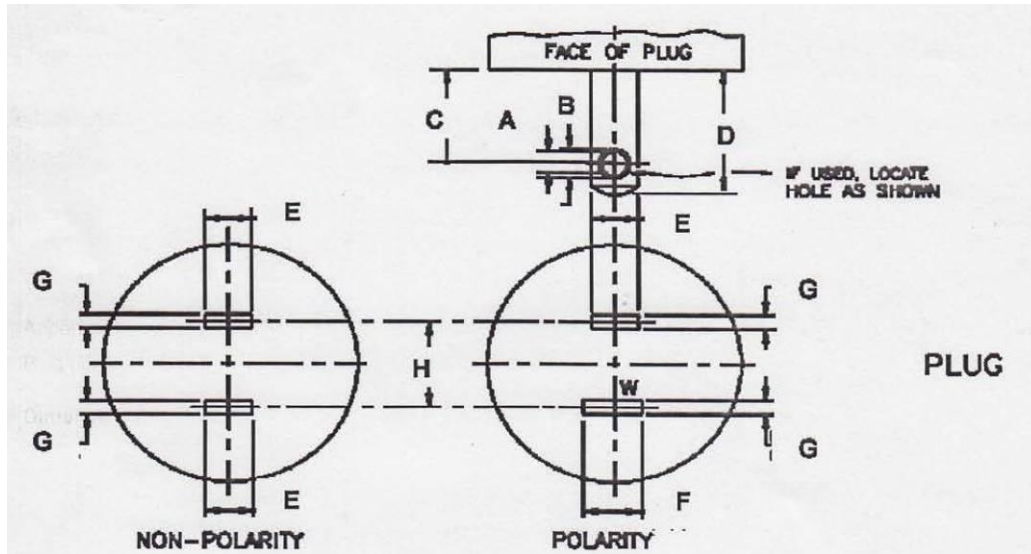
14.2	N/A	No such isolated dead-metal part
15		Assembly
15.1		General
15.1.1	√	Pre-wired in factory
15.1.2	√	Electrical contact is reliably maintained at any point
15.1.3	√	Live parts is protected against exposure to persons
15.1.4	N/A	Not multiple outlet device
15.1.5	N/A	Female contacts of the connector can be mated with the inlet in right way without exposure of the blades
15.2		Grounding and polarization
15.2.1-15.2.4	N/A	No grounding
15.3		Mating and interchangeability
15.3.1	√	The electrical continuity is automatically established.
15.3.2-15.3.6	√	1-15P receptacles ensuring.
15.4		Fuseholders
15.4.1-15.4.8	N/A	Fuseholder is not provided
15.5		Switches
15.5.1	N/A	The switch is provided between coupler 1 and coupler 2. but it is a information
ATTACHMENT PLUGS AND INLETS (for plug only)		
16		Insulating material
16.1	√	The enclosure is measured min. 2.1 mm.
17		Enclosure
17.1		General
17.1.1	N/A	Not a general use plug.
17.1.2	√	Measured 44 mm.
17.1.3	N/A	Not a 50A plug
17.2		Grip
17.2.1	N/A	See section 69
17.3		Face size
17.3.1	√	Larger than figure 17.1
18		Current carrying parts
18.1	N/A	Not a folded-over plug.
18.2	√	Dimensional requirements fulfilled.
19		Grounding and dead metal parts
19.1-19.4	N/A	No grounding or dead metal parts.
20		Terminals and leads
20.1-20.5	N/A	All the assembly are pre-wired in factory
21		Assembly
21.1	√	The blades are held securely in place
21.2	N/A	Not a inlet
21.3-21.4	N/A	The device under evaluate is a plug part not inlet or surface mounting.

21.5	N/A	Not for radio antenna or ground.
22		Weatherproof type
22.1-22.2	N/A	Not weatherproof type
23-26	N/A	CONNECTORS
27-37	N/A	RECEPTACLES
		SELF-CONTAINED RECEPTACLES FOR USE WITHOUT A SEPARATE OUTLET BOX
38-44	N/A	These sections are applicable for self-contained receptacles.
		CURRENT TAPS
45	N/A	The section is applicable for current taps only
		FLATIRON AND APPLIANCE PLUGS
46-53	N/A	These sections are applicable for flatiron and appliance plugs.
PERFORMANCE		
		GENERAL
54		Representative Devices
54.1-54.7	G	Noted.
		ALL DEVICES
55		Comparative Tracking Index Test
55.1	N/A	Refer to Exception No. 2 of 8.3.2. Not main tests but the test is considered
56		Glow Wire Test
56.1-56.2	N/A	Refer to Exception No. 2 of 8.3.2, Not main tests but the test is considered
57		High-Current Arc Resistance to Ignition Test
57.1-57.6	G	Refer to Exception No. 3 of 8.3.2
58		Mold Stress Relief
58.1-58.2	T	All devices are placed in air oven maintained at a 80oC for 7 hours. After 58.2, there is not any warpage, shrinkage or other distortion.
58.3	T	Refer to data sheet. Repeat dielectric voltage-withstand test as described in section 60. Not required to be subjected to the humidity conditioning described in 60.1.2.
59		Moisture Absorption Resistance
59.1-59.2	T	Refer to data sheet
60		Dielectric Withstand Test
60.1-60.2	T	Refer to data sheet
61		Accelerated Aging Tests
61.1		General
61.1.1	G	Exception to 8.4.1 for other material is not applicable for the devices under evaluation
61.2		Rubber, EPDM, and TEE compounds
61.2.1-61.2.4	N/A	Not a rubber , EPDM, and TEE compounds
61.3		PVC compounds and copolymers
61.3.1-61.3.2	G	See 61.1.1 shown as above
62		Insulation Resistance Test
62.1-62.6	T	Refer to data sheet
63		Conductor Secureness Test

63.1-63.2	N/A	No wire leads provided.
64		Tightening Torque Test
64.1-64.2	N/A	Not provide any wire-binding screw
	N/A	ATTACHMENT PLUGS
65		General
65.1	G	Noted.
66		Security of blades test
66.1-66.2	T	Refer to data sheet
67		Secureness of cover test
67.1-67.2	T	Refer to data sheet
68		Crushing test
68.1-68.2	T	Refer to data sheet
69		Attachment plug grip test
69.1-69.9	T	Refer to data sheet
70		Integrity of assembly test
70.1-70.2	N/A	Cord part shall be considered in the end appliance.
71		Self-hinge Flexing test
71.1-71.3	N/A	Not self-hinge type
72		Terminal temperature test
72.1-72.4	N/A	No terminal for end user.
73		Fuse-holder temperature test
73.1-73.8	N/A	No fuse-holder applied.
74-79	N/A	Pin type terminal
80-85	N/A	INLET (applying for inlet)
86-103	N/A	CONNECTORS
104-150	N/A	RECEPTACLES
		CURRENT-TAPS
		All devices
151-152	N/A	These sections are for current-taps
		Flatiron and appliance plugs.
153-161	N/A	These sections are applicable for flatiron and appliance plugs.
RATINGS		
162		Details
162.1	G	According to exception no. 2, rating is not required. The special-use device is not intended to ship out solely. (Note: plug is mounted in evaluated appliance).
162.2	√	Rating of 1A 120V~ is evaluated
162.3	√	0.5HP rated.
162.4-162.7	N/A	Not have the specified devices
MARKINGS AND INSTRUCTIONS		
163		General
163.1-163.2	G	The location of the catalog number is not prohibited from appearing according to exceptions of table 163.1 and 163.2
164		Identification and marking of terminals

164	G	No any grounding parts and terminals
SUPPLEMENT SA		(reserved for future use)
SUPPLEMENT SB		ENCLOSURE TYPES FOR ENVIRONMENTAL PROTECTION
SB1-SB7	N/A	The requirements of SB don't apply to the device under evaluation for it's intended for indoor use only (refer to SB1.1)
SUPPLEMENT SC		MARINE SHORE POWER INLETS
SC1-SC12	N/A	These sections are for marine shore power inlets
SUPPLEMENT SD		HOSPITAL GRADE DEVICES
SD1-SD30	N/A	These sections are for hospital grade devices

Appendix No.17: Dimensions of NEMA 1-15 plug portion



Symbol	Requirement (inch)	Measured (inch)	Symbol	Requirement (inch)	Measured (inch)
A	0.120 – 0.130	0.123	E	0.240 – 0.260	0.248
B	0.151 – 0.161	0.157	F	0.307 – 0.322	--
C	0.449 – 0.479	0.466	G	0.055 – 0.065	0.057
D	0.625 – 0.718	0.656	H	0.495 – 0.505	0.498
Perimeter faces to the plug blades shall not be less than 7.9 mm (intended for use with children's toys) or 5.1 mm from any point of either blade					12.39

Appendix No.18: Photos for NEMA 1-15 plug portion.



The connector conduct part can't be touched by test finger. CI & CR are measured according to table 2.10.3 & 2.10.4.

Appendix No.19: Equipment combined with BS-plug portion

Supplementary tests on plug portion according to BS1363: Part 3 + Amd 9543 + Amd 14225 + Amd 14540 + Amd 17437 + Amd A4

Clause	Requirement - Test	Result-Remark	Verdict
12.1	Dimensions (Checked according to figure 4)	See appendix no. 1 & 2	P
12.2	Outline of plug shall not exceed the dimension shown in Figure 4 for a distance of not less than 6.35 mm from the engagement surface	8.90 mm	P
	Pin disposition, length and body outline shall be checked by use of the gauge shown in Figure 5		P
12.3	L/N pin was more than 9.5 mm from the periphery of the plug measured along the engagement surface	9.60 mm	P
12.7	The base and cover of rewirable plugs shall be adaptor plugs having the cover fixed by screws shall be firmly secured to each other. It shall not be possible to remove the cover unless the adaptor is completely withdrawn from the socket-outlet. Fixing screws shall be captive. The test is carried out using apparatus similar to that shown in Figure 6		N/A
12.9	After the temperature rise test (clause 16). Use test probe 11 of BS EN 61032:1998 is applied a force 30 -5/0 N. During and after the test, it was not possible to touch the live parts.		P
12.11	Adaptor plug pins shall be constructed of brass, except for sleeves of pins as specified in 12.18		P
	All exposed surfaces of the adaptor plug pins shall be smooth and free from burrs or sharp edges and other irregularities which could cause damage or excessive wear to corresponding socket contacts or shutters.		P
	Those surfaces of the non-solid adaptor plug pins which are visible when the adaptor is correctly assembled shall be free of apertures.		P
	All seams and joints of non-solid adaptor plug pins shall be closed over their entire length.		P
	For solid pins, conformity shall be checked by 12.11.4.1.		P
	For non-solid pins, compliance shall be checked by 12.11.4.2.		N/A

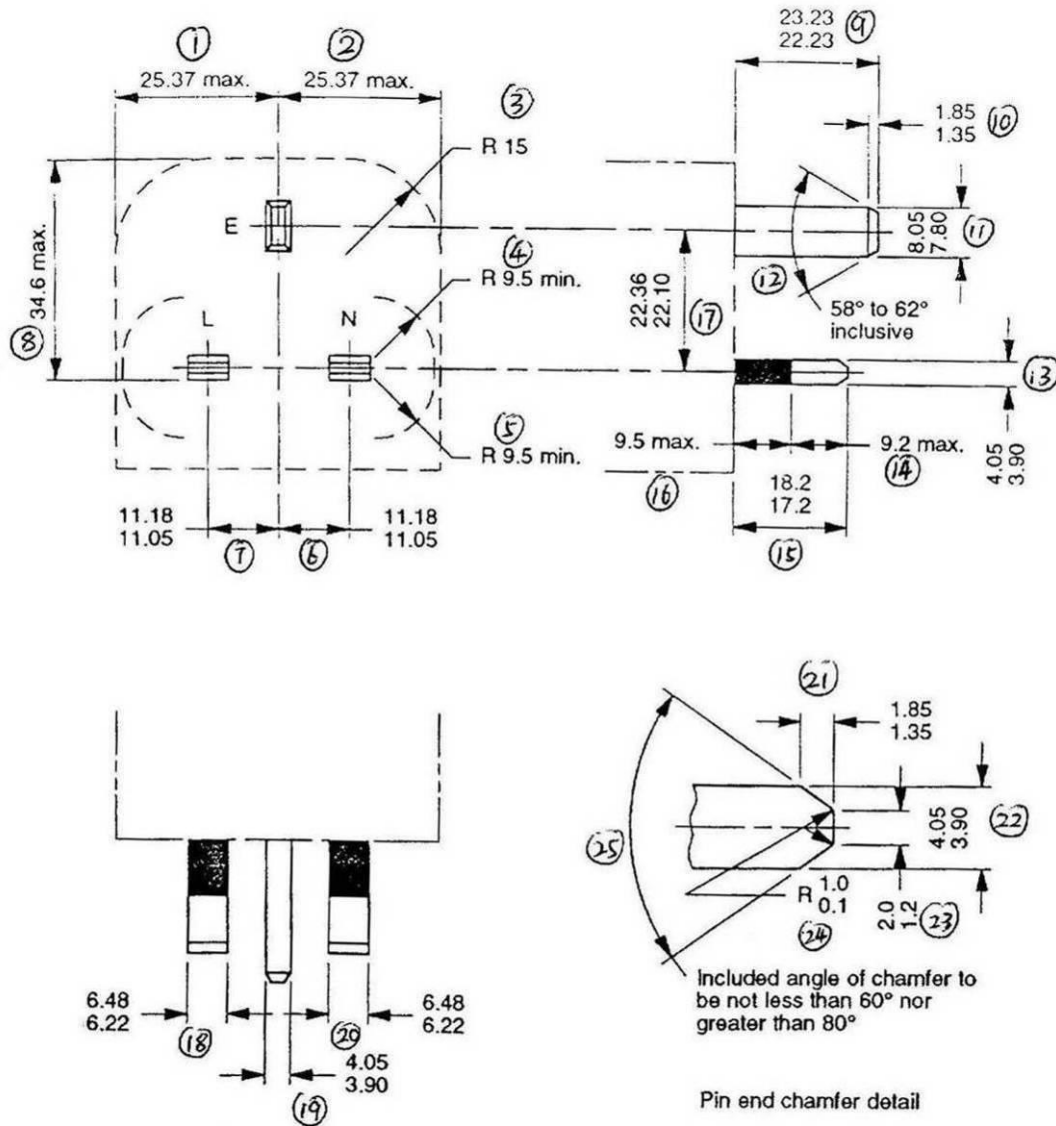
Clause	Requirement - Test	Result-Remark	Verdict
	Adaptors with non-solid pins shall not cause excessive wear to socket contacts or shutters of socket-outlets in accordance with BS 1363-2:1995.		N/A
	Adaptor plug pins shall have adequate mechanical strength to ensure that they cannot be distorted by twisting. Apply a torque $1\text{N.m} \pm 10\%$ for $60 \pm 5/0$ S. After each pin has been separately twisted, the plug was fit the gauge in fig. 5. Repeated with opposite direction.		P
12.13	Adaptors shall be so designed that when fully assembled the pins are adequately retained in position such that there is no likelihood of them becoming detached from the adaptor during normal use.		P
	Each pin is subjected for $60 \pm 5/0$ S to a pull of $100 - 2/0$ N without jerks in the direction of the major axis. The plug is mounted using the steel plate shown in fig.7. The apparatus is placed within an oven and the pull is applied at least 1 h after the plug body has attained the test temperature of $70^\circ\text{C} \pm 5^\circ\text{C}$ while maintained at this temperature. After the test, the plug pin shall fit into the gauge and comply with 12.2.1.		P
12.14	The degree of flexibility of mounting of the plug pins or the angular movement of the pins in the base shall be not greater than $3^\circ 30'$. See fig. 8.		P
	Test procedure refers to standard. During each test, the declination from the horizontal measured on the scale shall not exceed $3^\circ 30'$ and comply with 12.2.1.		P
12.18	Live and neutral adaptor plug pins shall be fitted with insulating sleeves. See fig.4. Sleeves shall not be fitted to any earthing adaptor plug pin.		P
12.19.3	Abrasion test – 10 000 times in each direction (20 000 movements) at a rate of 25 movements to 30 movements per min. (fig. 9). After the test, the sleeve shall show no damage and also shall not have been penetrated or creased, satisfy the tests in 12.19.2.		P

Clause	Requirement - Test	Result-Remark	Verdict
13.10	The total mass of the equipment with all specified connectors shall not exceed 800 g. The torque exerted on a socket shall not exceed 0.7 N·m. The test apparatus as Figure 37	Compliance with the main standard	N/A
	Additional: Products with torque exceeding 0.25Nm do not comply with the main standard hence full compliance with the main standard cannot be claimed		N/A
Additional test for ISODs according to BS1363: Part 1 + Amd 9541 + Amd 14539 + Amd 17435 + Amd A4			
12.9.1	All exposed surfaces of plug pins shall be smooth and free from burrs or sharp edges and other irregularities which could cause damage or excessive wear to corresponding socket contacts or shutters.		P
12.9.4	Apply a force of 1100 -10/0N at a rate not exceeding 10 mm/min. After this test the plug should fit the gauge to fig. 5.		P
	Apply a force of 400 +10/0N at a rate 10 ± 2 mm/min. Deflection shall not exceed 1.5 mm. After this test the plug should fit the gauge to fig. 5.		P
12.9.6	ISODs shall have adequate mechanical strength to ensure that they cannot be distorted by twisting. Apply a torque 1N.m ± 10% for 60 +5/0 S. After each pin has been separately twisted, the plug shall fit the gauge in fig. 5. Repeated with opposite direction.		P

Appendix No.20: Dimensions of BS1363 plug portion

Dimensions Checked by means of measurement according to BS1363-3 Fig. 4 (see appendix no. 2)			
Position	Requirement (mm)	Measured (mm)	Verdict
1	25.37max	24.02	P
2	25.37max	24.02	P
3	R15min	Measured by gauge	P
4	R9.5min	9.60	P
5	R9.5min	9.60	P
6	11.05-11.18	11.12	P
7	11.05-11.18	11.12	P
8	34.6max	30.50	P
9	22.23-23.23	22.60	P
10	1.35-1.85	1.55	P
11	7.80-8.05	8.03	P
12	58°-62° inclusive	60°	P
13	3.90-4.05	3.99	P
14	9.2max	8.88	P
15	17.2-18.2	18.05	P
16	9.5max	9.17	P
17	22.10-22.36	22.21	P
18	6.22-6.48	6.26	P
19	3.90-4.05	4.03	P
20	6.22-6.48	6.26	P
21	1.35-1.85	1.81	P
22	3.90-4.05	3.98	P
23	1.2-2.0	1.24	P
24	R0.1-R1.0	R0.55	P
25	60°-80° inclusive	68°	P
Outline of the plug not exceed the dimension shown in figure 4 at least 6.35mm from the engagement surface		8.90	P

Appendix No.21: BS1363-3 Fig 4

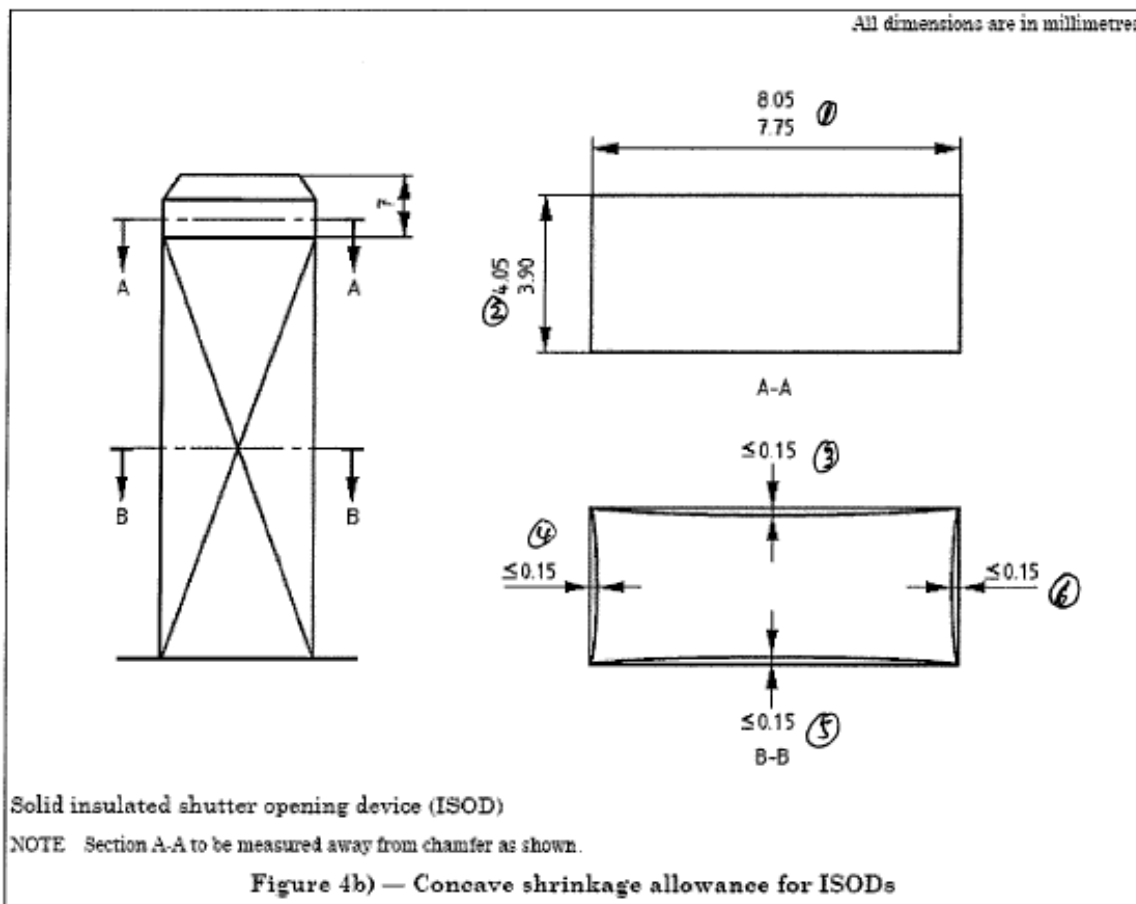


All dimensions are in millimetres.

Figure 4. Dimensions and disposition of pins (see clause 12)

Appendix No.22: Concave shrinkable allowance for ISODs

Dimensions Checked by means of measurement according to BS1363-1 Fig. 4b			
Position	Requirement (mm)	Measured (mm)	Verdict
1	7.75-8.05	8.03	P
2	3.90-4.05	3.99	P
3	≤ 0.15	0.01	P
4	≤ 0.15	0.01	P
5	≤ 0.15	0.01	P
6	≤ 0.15	0.01	P



Appendix No.23: Photo for BS1363 plug



The connector conduct part can't be touched by test finger. CI & CR are measured according to table 2.10.3 & 2.10.4.

Appendix No.24: Specification of NBR 14136 plug

REV: A

DESCRIPTION: Initial Release

DATE: 2012/01/09

APPROVED: DAVID

REVISION

DATE

APPROVED

Attachment to Report No.: 15057220 002

Note:

- No label tolerance refer to tolerance sheet.
- * is the important dimension.
- Plastic material: PC+ABS 94-V0.
- Color: Black.
- Material pin material: Brass.
- Material pin Finish: nickelage.

RANGE	GRADE 1	GRADE 2	GRADE 3
0-4	+/-0.05	+/-0.1	+/-0.2
4-16	+/-0.08	+/-0.15	+/-0.3
16-64	+/-0.12	+/-0.25	+/-0.5
64-250	+/-0.25	+/-0.4	+/-0.8

DASH NO: 450-02070214(R)

PART NO: 450-02070214(R)

REV: A

DESCRIPTION: NBR 14136 plug

DATE: 2012/01/09

APPROVED: DAVID

Global Title: Q-BRAZIL DRAWING FOR GT-41052 BTM-CASE

Model No: Q-BR

Part No: N/A

Rev: A

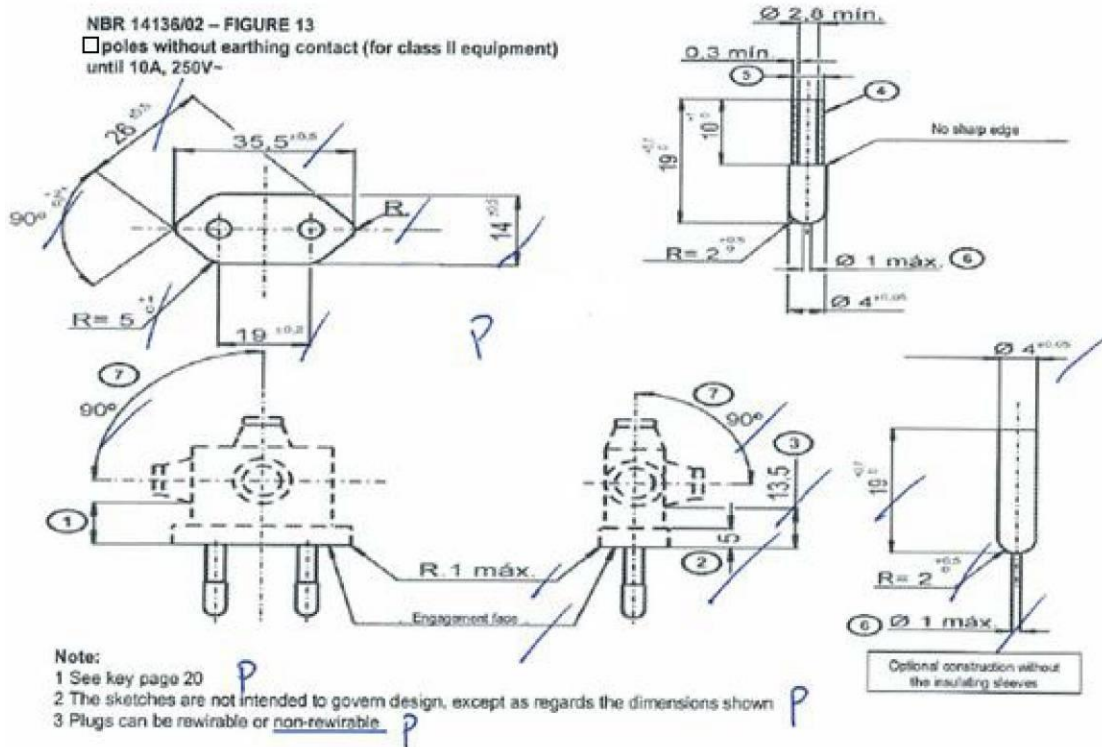
Intertek (Suzhou), Co., Ltd

Tel: +86-512-62790800 Fax: +86-512-62790855 Web: www.intertek.com

Approval Flow:

1. CUSTOMER (INHOUSE/OUTSIDE) → 2. ENG G MANAGER (CHECK/REVIEW) → 3. MECH ENGR (BRW/DREX) → 4. ENG G MANAGER (REVIEW/PROVE/FILE/KEEPING/ENG and Q&E ASSISTANT) → 5. OP RN MANAGER → 6. RELEASE TO MECH ENGR (INHOUSE/OUTSIDE) → 7. END CUSTOMER

Appendix No.25: Evaluation sheet of NBR 14136 Figure 13 plug



Key of page 20:

- 1- The distance between the engagement face and the cord or cord guard, if any, shall be at least 14 mm P
- 2- Within this distance, the outline shall be not smaller than the engagement face. P P
- 3- Within this distance, the outline shall be not larger than the engagement face. P P
- 4- Insulating sleeves on the current-carrying pins are optional N/A
- If the insulating sleeves are separate parts, they shall enter the plug by at least 3mm measured from the engagement face. N/A
- 5- The external diameter of the insulating sleeves shall not be larger than the diameter of the uninsulated part of the pins. N/A
- 6- To avoid damage to shutters, the ends of the pins shall show neither sharp edges nor burrs. They shall be of rounded shape as shown. P
- 7- The angle of 90° represents the maximum permissible area for the orientation of the entry of the flexible cable or cord. P

Plug Marking for the 10A 250V~ Plug:

- Cable section of 0.5mm² - 2,5A 250V~ P
- Cable section of 0.75mm² - 10A 250V~
- Cable section of 1mm² - 10A 250V~
- Cable section of 1.5mm² - 10A 250V~
- Cable section of 2.5mm² - 10A 250V~

Appendix No.26: Evaluation sheet of IRAM 2063 plug

25	RESISTANCE TO HEAT		
25.2	Parts of insulating material of fixed socket-outlets necessary to retain current-carrying parts and parts of the earthing circuit in position, as well as parts of the front surface zone of 2 mm wide surrounding the phase and neutral pin entry holes: ball-pressure test at $(125 \pm 2)^\circ\text{C}$ for 1 h		P
	After the test: diameter of impression ≤ 2 mm	0.67 mm	P
25.3	For parts not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: ball-pressure test (1 h)		---
	Test temperature ($^\circ\text{C}$)	$(70 \pm 2)^\circ\text{C}$ / $(40 \pm 2)^\circ\text{C}$ + highest temperature rise determined during the test of clause 19	---
	After the test: diameter of impression ≤ 2 mm		---

28	RESISTANCE OF INSULATING MATERIAL TO ABNORMAL HEAT, TO FIRE AND TO TRACKING		P
28.1	Resistance to abnormal heat and to fire		P
28.1.1	Glow-wire test		
	For parts of fixed accessories necessary to retain current-carrying parts and parts of the earthing circuit in position: test temperature 850°C		P
	No visible flame and no sustained glowing		P
	Flame and glowing extinguish within 30 s		P
	No ignition of the tissue paper		P
	For parts of fixed accessories needed to retain the earth terminal in position in a box: test temperature 650°C		---
	No visible flame and no sustained glowing		---
	Flame and glowing extinguish within 30 s		---
	No ignition of the tissue paper		---
	For parts of portable accessories necessary to retain current-carrying parts and parts of the earthing circuit in position: test temperature 750°C		P
	No visible flame and no sustained glowing		P
	Flame and glowing extinguish within 30 s		P
	No ignition of the tissue paper		P
	For parts not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: test temperature 650°C		---
	No visible flame and no sustained glowing		---
	Flame and glowing extinguish within 30 s		---
	No ignition of the tissue paper		---


28.1	Table: Glow wire		P
Tested part:		Temperature of test ($^\circ\text{C}$)	Result
Plug		850	P

Appendix No.27: Evaluation sheet of IRAM 2063 plug

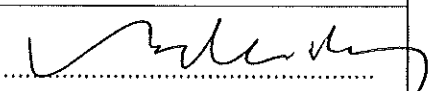
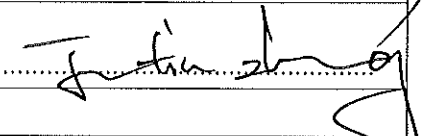
6.4 PLUG PINS MEASUREMENT			
	Measured in mm	Allowed in mm	Verdict
- Phase Pin:			
Length:	18.03,18.05,18.04	18,2 ± 0,2 (18.0/18.4)	P
Wide:	6.25,6.26,6.25	6,25 ± 0,1 (6.15/6.35)	P
Thickness:	1.57,1.55,1.56	1,55 ± 0,07 (1.48/1.62)	P
- Neutral Pin:			
Length:	18.10,18.09,18.08	18,2 ± 0,2 (18.0/18.4)	P
Wide:	6.23, 6.25,6.23	6,25 ± 0,1 (6.15/6.35)	P
Thickness:	1.51,1.51,1.52	1,55 ± 0,07 (1.48/1.62)	P
- Pin of earth			
Length:	---	21,4 ± 0,2 (21.2/21.6)	---
Wide:	---	6,25 ± 0,1 (6.15/6.35)	---
Thickness:	---	1,55 ± 0,07 (1.48/1.62)	---
Perimeter:	11.86.11.86, 11.85	≥ 8mm	P
Comments:	-		

Photos:



TEST REPORT IEC 60320-1 Appliance couplers for household and similar general purposes Part 1: General requirements	
Report Number	151001819SHA-001
Date of issue	2015-11-03
Total number of pages	27
Testing Laboratory	Intertek Testing Services Shanghai
Address	Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China
Applicant's name	GlobTek, Inc.
Address	186 Veterans Dr.Northvale, NJ 07647 USA
Test specification:	
Standard.....	IEC / EN 60 320-1:2001 + A1:2007
Test procedure	Testing
Non-standard test method.....	N/A
Test Report Form No.	IEC60320_1A
Test Report Form(s) Originator.....	IMQ
Master TRF	Dated 2008-10
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Test item description	Coupler (connector integrated in plug portion and appliance inlet integrated in power supply portion)
Trade Mark.....	
Manufacturer	Same as applicant
Model/Type reference	Q-Coupler
Ratings	Max 240V, Max 2.0A

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

Testing procedure and testing location:		
<input checked="" type="checkbox"/>	Testing Laboratory:	Intertek Testing Services Shanghai
Testing location/ address		Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China
<input type="checkbox"/>	Associated Laboratory:	
Testing location/ address		
Tested by (name + signature)		Mathew Shen 
Approved by (+ signature)		Justin Zhang 
<input type="checkbox"/>	Testing procedure: TMP	
Testing location/ address		
Tested by (name + signature)		
Approved by (+ signature)		
<input type="checkbox"/>	Testing procedure: WMT	
Testing location/ address		
Tested by (name + signature) :		
Witnessed by (+ signature) :		
Approved by (+ signature) :		
<input type="checkbox"/>	Testing procedure: SMT	
Testing location/ address		
Tested by (name + signature)		
Approved by (+ signature)		
Supervised by (+ signature)		
<input type="checkbox"/>	Testing procedure: RMT	
Testing location/ address		
Tested by (name + signature)		
Approved by (+ signature)		
Supervised by (+ signature)		

Summary of testing: We conclude that the products described in this test report comply with the standard according to the testing results on the submitted samples.	
Tests performed (name of test and test clause): The test report also complies with IEC/EN 60 320-1:2001 + A1:2007. We conclude that the product(s) presented in this test report complies(comply) with the standard according to the test results on the submitted samples. Non-standard coupler (see clause 9.6), the coupler with a lock device. The clause 8 and 23 shall be checked with end-use product. The insulating material in this test report shall be considered together with the end-use product power supply.	Testing location: All the tests were performed at INTERTEK TESTING SERVICES SHANGHAI.
Summary of compliance with National Differences: N/A	
Copy of marking plate: N/A (checked with end-use product)	

Test item particulars:	
Connector	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
... which is	<input checked="" type="checkbox"/> integrated <input type="checkbox"/> incorporated
Appliance inlet	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
... which is	<input checked="" type="checkbox"/> integrated <input type="checkbox"/> incorporated
For	<input checked="" type="checkbox"/> cold <input type="checkbox"/> hot <input type="checkbox"/> very hot conditions
For	<input type="checkbox"/> class I equipment <input checked="" type="checkbox"/> class II equipment
Earthing contact.....	<input type="checkbox"/> with <input checked="" type="checkbox"/> without
Type of terminal or terminations	N/A
Type of cord.....	N/A
Cross-sectional areas (mm ²).....	N/A
Voltage (V)	Max.240~
Current (A)	2A (under evaluation)
Standard Sheet.....	Manufacture's non-standardised drawing
Possible test case verdicts:	
- test case does not apply to the test object	: N/A (not applicable)
- test object does meet the requirement	: P (Pass)
- test object does not meet the requirement	: F (Fail)
Testing	
Date of receipt of test item	: 2013-03-05; 2015-10-10
Date (s) of performance of tests	: 2013-03-05 to 2013-04-07; 2015-10-10 to 2015-11-03
General remarks:	
The test results presented in this report relate only to the object tested.	
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.	
"(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 is used as the decimal separator.	
Factory information:	
Same as applicant	

General product information:

The coupler under testing is focused on connector integrated in plug portion and appliance inlet integrated in power supply for charging purpose.

Remark:

1. The samples for each group of testing were selected randomly from the samples provided by the manufacturer.
2. The test results reported in this test report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
3. Test results given in this test report supplements the test results given in test report for power supply.
4. This test report shall be read in conjunction with related test report for end-use product power supply.

Components Data Form:

N/A(changed with end-use product)

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict
8	MARKING (checked with end-use product)		
8.1	Connectors are marked with:		
	- rated current (A)		N/A
	- rated voltage (V)		N/A
	- symbol for nature of supply		N/A
	- name, trademark or identification mark of the maker or responsible vendor		N/A
	- type reference		N/A
	- marking as specified in subclause 7.5 of IEC 60999-1 to identify the type of conductors suitable for screwless terminals		N/A
8.2	Appliance inlets are marked with:		
	- name, trademark or identification mark of the maker or responsible vendor		N/A
	- type reference (not visible).....		N/A
8.3	Connectors and appliance inlets for class II are not marked with the symbol for class II construction		N/A
8.4	Correct symbols are used		N/A
8.5	Marking is easily discernible		N/A
8.6	Contacts in non-reversible connectors are disposed as follows:		
	- earthing contact: upper central position		N/A
	- line contact: lower right-hand position		N/A
	- neutral contact: lower left-hand position		N/A
	Terminals in rewirable, non-reversible connectors are indicated as follows:		
	- earthing terminal: [earth symbol]		N/A
	- neutral terminal: N		N/A
	Cores in non-rewirable, non-reversible connectors are connected as specified in 22.1		N/A
	Appliance inlets, other than those integrated or incorporated in an appliance or equipment, for use with connectors according to this subclause, have terminal markings to correspond with this subclause		N/A
	Marking symbol or letters are not placed on removable parts		N/A
	Rewirable connectors are supplied with the following instruction:		
	- method of connection of conductors		N/A
	- full-scale diagram		N/A
	- sizes and types of cords suitable.....		N/A

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.7	Marking is easily legible and durable		N/A
8.8	Test: 15 s with water, 15 s with petroleum spirit		N/A
9	DIMENSIONS AND COMPATIBILITY		
9.1	Appliance couplers comply with relevant Standard Sheet	Non-standard drawing (see annex B for dimension)	P
9.2	Retaining device comply with Standard Sheet C 25	No such devices	N/A
9.3	Single-pole connections between connectors and appliance inlets are not possible		P
	Appliance inlets do not allow improper connections with portable socket-outlets complying with IEC 60083		P
	Connectors do not allow improper connections with plugs complying with IEC 60083		P
9.4	Engagement impossible of:		
	- connectors for Class II with appliance inlets for other equipment		P
	- connectors for cold conditions in appliance inlets for hot or very hot conditions		P
	- connectors for hot conditions in appliance inlets for very hot conditions		N/A
	- connectors in appliance inlets having a higher rated current		P
9.5	Pin ends do not protrude beyond the limiting surface of the shroud		N/A
9.6	Non-standardized appliance couplers provide a technical advantage and do not adversely affect the purpose and safety of standardized appliance couplers		P
	Non-standardized appliance couplers comply with all other requirements of the standard		P
	There are no small deviations from the dimensions as specified in the standard sheets which give the impression of a standardized coupler and lead to confusion with standardized appliance couplers		P
	There are no changes which adversely affect the contact-making ability		P
	It is not possible to engage a non-standardized accessory with:		
	- a standardized complementary accessory, but of a different current rating;		P

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- a standardized complementary accessory, of the same rating, if live parts are rendered any more accessible or if the combination fails to comply with the requirements of the standard other than the dimensions in the standard sheets;		P
	It is not possible to make improper connections other than the intended position or partial connections causing deformation which can impair the further use of the appliance		P

10	PROTECTION AGAINST ELECTRIC SHOCK		
10.1	Live parts of appliance inlets are not accessible when the connector is in partial or complete engagement		P
	Live parts, earthing contact and parts connected thereto of connectors are not accessible		N/A
	Connectors with enclosures or bodies of elastomeric or thermoplastic material: test made at 35 °C ± 2 °C with the standard test finger shown in figure 10 applied for 30 s with a force of 20 N		P
10.2	Connection between a pin of an appliance inlet and a contact of a connector is not possible as long as any of the pins is accessible		P
10.3	It is not possible to remove parts preventing access to live parts without the aid of a tool		P
	Means for fixing these parts are insulated from live parts		P
	Bushes are adequately fixed and it is not possible to remove them without dismantling the connector		N/A
10.4	External parts of connectors are of insulating material		P
	Shroud and base of appliance inlets without earthing contact and those of 2,5 A appliance inlets with earthing contact are of insulating material		P

11	PROVISION FOR EARTHING		
11.1	Earthing terminals comply with the requirements of clause 12		N/A
11.2	Appliance couplers with earthing contact are so constructed that:		
	when inserting the connector, the earth connection is made before the current-carrying contacts of the appliance inlet are energized		N/A

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict
	when withdrawing a connector, the current-carrying contacts separate before the earth connection is broken		N/A

12	TERMINALS AND TERMINATIONS		
12.1	General		
	Requirements of this clause applied only to connectors		P
	Particular requirements are under consideration for appliance inlets submitted as individual accessories not integrated or incorporated in an appliance or equipment		N/A
	Appropriate IEC standard of the relevant equipment applied for appliance inlets incorporated in equipment		N/A
12.2	Rewirable connectors are provided with clamping units according to IEC 60999-1		N/A
	Non-rewirable connectors are provided with soldered, welded, crimped or equally effective screwless connections which do not allow the possibility to disconnect the conductor	In one piece	P
	In non-rewirable connectors, screwed connections are not used		P
	The end of a stranded conductor is not consolidated by soft soldering at places where the conductor is subjected to contact pressure		P
12.3	Rewirable connectors with a rated current not exceeding 16 A has a rated connecting capacity of 1,5 mm ² according to IEC 60999-1		N/A
12.4	Clamping units are so fixed and located within the connector that when operated, the clamping units do not work loose and creepage distances and clearances are not reduced below the values specified		N/A
12.5	Clamping units for earthing conductors are of the same size as the corresponding terminals for the current carrying conductors		N/A

13	CONSTRUCTION		
13.1	There is no risk of accidental contact between earthing contact of appliance inlet and current-carrying contacts of the connector		P
13.2	Fixing screws adequately locked against loosening		N/A
13.3	Pins and contacts adequately locked against rotation		P

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict
13.4	Pins of appliance inlets:		
	- are securely retained		P
	- have adequate mechanical strength		P
	- it is not possible to remove them without the aid of a tool		P
	- are surrounded by a shroud		P
	Appliance inlet with non-solid pins: force of 100 N applied for 1 min by means of a steel rod having a diameter of 4,8 mm		N/A
	There is no significant alteration in the shape of the pin after the test		N/A
	Test for security of pin retention (1 h); each pin subjected to a force of 60 N for 1 min; test temperature (°C)	70 °C	—
	During the test on any pin there is no movement exceeding 2,5 mm.....	Max. 0,5mm	P
	After removal of test force, pins remain within the tolerances specified in the Standard Sheet	Complying with manufacturer drawing	P
13.5	Contacts of connectors are self-adjusting so as to provide adequate contact pressure		P
	Self-adjustment of the contacts in connectors other than 0,2 A does not depend upon the resiliency of insulating material		P
13.6	Enclosure of rewirable connectors consists of more than one part and encloses the terminals and the ends of cord		N/A
	Construction is such that conductors can be properly connected and the cores are not pressed against each other		N/A
	Core of live conductor is not pressed against accessible metal parts		N/A
	Core of earthing conductor is not pressed against live parts		N/A
13.7	It is not possible to assemble the rewirable connector in such a way that terminals are enclosed and contacts accessible		N/A
13.8	Parts of the body of connectors are reliably fixed to one another		P
	It is not possible dismantle the connector without the aid of a tool		P
	Separate independent means for fixing and locating parts of the body with respect to each other are present in rewirable connectors		N/A
	Thread-cutting screws are not used		N/A

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Resiliency of the contacts does not depend upon the assembly of the parts of the body		P
	Partial loosening of assembly screws does not allow the detachment of parts providing protection against electric shock		N/A
13.9	Earthing contact of connectors is fixed to the body		N/A
	Various parts of earthing contact and earthing terminal which are not in one piece are fixed together by riveting, welding or similar reliable manner		N/A
	Connection between earthing contact and earthing terminal is of metal resistant to corrosion		N/A
13.10	Terminals of rewirable accessories and terminations of non-rewirable accessories are located and shielded that loose wires will not present a risk of electric shock		P
	Non-rewirable moulded-on accessories are provided with means to prevent loose wires of a conductor from reducing the minimum isolation distance requirements		N/A
13.10.1	Rewirable accessories: test with 6 mm free wire		
	Free wire of a conductor connected to a live terminal does not touch any accessible metal part or is not able to emerge from the enclosure		N/A
	Free wire of a conductor connected to an earthing terminal does not touch a live part		N/A
13.10.2	Non-rewirable, non-moulded-on accessories: test with a free wire of length equivalent to the maximum designed stripping length declared by the manufacturer plus 2 mm		
	Free wire of a conductor connected to a live termination does not touch any accessible metal part or does not reduce creepage distance and clearance below 1,5 mm to the external surface		N/A
	Free wire of a conductor connected to an earth termination does not touch any live part		N/A
13.10.3	Non-rewirable, moulded-on accessories:		
	Verification of means to prevent stray wires reducing the minimum distance through insulation to external accessible surface below 1,5 mm		N/A
13.11	Connectors without earthing contact and 2,5 A connectors with earthing contact are part of a cord set		N/A
13.12	Fuses, relays, thermostats and thermal cut-outs are not incorporated in connectors complying with the standard sheets		N/A

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Fuses, relays, thermostats and thermal cut-outs incorporated in appliance inlets comply with the relevant IEC standards		N/A
	Switches comply with IEC 61058-1		N/A
	Energy regulators comply with IEC 60730		N/A
	Integrated or incorporated appliance inlets comply with requirements of this standard		P
14	MOISTURE RESISTANCE		
14.1	Specimens kept in a humidity cabinet containing air with relative humidity maintained between 91 % and 95 % for:		
	- 168 h (seven days) for connectors and appliance inlets with earthing contacts		N/A
	- 48 h (two days) in all other cases		P
	After this treatment the specimens show no damage		P
15	INSULATION RESISTANCE AND ELECTRIC STRENGTH		
15.2	The insulation resistance measured 60 s ± 5 s after application of 500 V d.c. is not less than 5 MΩ	See appended table 15.2	P
15.3	Electric strength: a.c. test voltage applied for 1 min	See appended table 15.3	P
16	FORCES NECESSARY TO INSERT AND TO WITHDRAW THE CONNECTOR (Non-standard coupler, with lock device for coupler, rating current <0,2A)		
16.2	Verification of the maximum withdrawal force (multi-pin gauge)	See appended table 16	N/A
16.3	Verification of the minimum withdrawal force (single-pin gauge)	See appended table 16	N/A
17	OPERATION OF CONTACTS		
	Contacts and pins of appliance couplers make connection with a sliding action		P
	Contacts of connectors provide adequate contact pressure and do not deteriorate in normal use		P
	Effectiveness of pressure between contacts and pins does not depend upon the resiliency of the insulating material		P
18	RESISTANCE TO HEATING OF APPLIANCE COUPLERS FOR HOT CONDITIONS OR VERY HOT CONDITIONS		

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict
18.2	Test: connectors remained for 96 h inserted into the appliance inlet of an appropriate test apparatus (example given in figure 13)	See appended table 18.2	N/A
18.3	Appliance inlets kept 96 h in a heating cabinet at a test temperature (°C)	120 °C ± 2 °C / 155 °C ± 2 °C	—
	After this test the specimens show no damage		N/A

19	BREAKING CAPACITY		
	Test conditions applied to connectors (other than 0,2 A connectors): a.c. test voltage 275 V; 100 strokes at a rate of 30 strokes per min		
	- test current 1,25 In (A)		—
	- power factor		—
	During the test: no flashover and any sustained arcing		N/A
	After the test: specimen show no damage and entry holes for the pins show any serious damage		N/A

20	NORMAL OPERATION		
	Test conditions for 0,2 A connectors and appliance inlets: 4000 strokes without current flowing		N/A
	Test conditions applied to other connectors and appliance inlets:: 2000 strokes at test current In (A); test voltage 250 V; power factor		N/A
	After the test the specimens withstand an electric strength test as specified in 15.3 with the test voltage reduced to 1500 V		N/A
	Specimen does not show:		
	- wear impairing its further use		N/A
	- deterioration of enclosures or barriers		N/A
	- damage to the entry holes for the pins		N/A
	- loosening of electrical or mechanical connections		N/A
	- seepage of sealing compound		N/A

21	TEMPERATURE RISE		
	Temperature rise test (connectors other than 0,2 A connectors)	See appended table 21	N/A
	After the test the specimens withstand the test of clause 16	See appended table 21	N/A

22	CORDS AND THEIR CONNECTION		
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IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict
22.1	Non-rewirable connectors are provided with cord complying with either IEC 60227 or IEC 60245	See appended table 22.1	N/A
	Type of cord complies with standard indicated in Table 4)		N/A
	Cord has a nominal cross-sectional area not less than that specified in Table 4 (mm ²).....		N/A
	Non-rewirable connectors with earthing contact are provided with a three-core cord		N/A
	Connections to the contacts in non-rewirable, non-reversible connectors:		
	- green/yellow core: to the earthing contact		N/A
	- brown core: to the line contact		N/A
	- light blue core: to the neutral contact		N/A
22.2	Connectors are provided with a cord anchorage		N/A
22.3	Construction of cord anchorage in rewirable connectors:		
	- it is clear how to relief from strain and prevention of twisting is intended to be effected		N/A
	- it is integral with or fixed to the plug connector		N/A
	- makeshift methods is not used		N/A
	- it is suitable for the different types of cord and its effectiveness does not depend upon the assembly		N/A
	- it is of insulating material or provided with insulating lining		N/A
	- it is not possible for the cord to touch the clamping screws, if accessible		N/A
	- its metal parts are insulated from earthing circuit		N/A
	Pull and torque test	See appended table 22.3	N/A
	During the tests: cord not damaged		N/A
	After the tests:		
	- cord not displaced by more than 2 mm		N/A
	- rewirable connectors: ends of conductors have not moved noticeably in the terminals		N/A
	- non-rewirable connectors: there was no break in the electrical connections		N/A
	- no undue twisting of the conductors where they are connected to terminals or terminations is ensured		N/A
22.4	Guards are of insulating material and are fixed in reliable manner		N/A
	Flexing test	See appended table 22.4	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- specimen show no damage		N/A
	- guard, if any, not separated from the body		N/A
	- insulation of the cord show no sign of abrasion or wear		N/A
	- non-rewirable connector: broken strands not pierced the insulation as to become accessible		N/A
	During the test: no interruption of the test current and no short-circuit between conductors		N/A

23	MECHANICAL STRENGTH		
23.1	Appliance couplers have adequate mechanical strength		P
23.2	Connectors subjected to test Ed: Free fall, procedure 2 of IEC 60068-2-32:		
	Number of falls	(checked with end-use product)	—
	After the test: specimens show no damage and no part become detached or loosened		N/A
23.3	Pulling test for connectors with rating exceeding 0,2 A (carried out after the test of 23.2):		
	- rated current (A)		—
	- pull (N)		—
	During the test: guard, if any, not separated from the body		N/A
	After the test: connector show no damage		N/A
	Specimens comply with the requirements for minimum withdrawal force and withstand the test of 16.3	See appended table 23.3	N/A
23.4	Surface mounting appliance inlets: shroud of metal compressed with a force of 40 N ± 2 N for 60 s ± 6 s		
	After the test: no deformation or loosening of the shroud		N/A
23.5	The shroud of insulating material of surface mounting appliance inlets does not show damage after 12 blows at 0,5 J ± 0,05 J are applied by means of the spring-operated impact-test apparatus of Figure 21		P
23.6	2,5 A connectors class II equipment, standard sheet C 7: deformation test at 70 °C + ± 2 °C for 2 h, blade A with a force of 10 N, blade B with a force of 5 N		
	Difference between thickness values measured at the point of impression before and after the test is not more than 0,2 mm (mm)		N/A
23.7	External parts of connectors with a separate front part: front part and rear part are securely fixed		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Test performed immediately after the test of 18.2		P
	The two parts of the connector after a pull test with a force of 100 N \pm 2 N for 1 min, followed by a torque test of 2 Nm applied twice for 1 min:		
	- not detached		P
	- parts providing protection against electric shock not loosened		P
	- live parts not become accessible		P
23.8	Shroud of appliance inlets: pressure test (20 N \pm 2 N for 1 min)		
	After 1 min while the shroud is still under pressure: corresponding go-gauges enter the appliance inlet		N/A
	Test repeated with the specimen rotated 90°		N/A
24	RESISTANCE TO HEAT AND AGEING		
24.1.1	Connectors and appliance inlets other than those integrated or incorporated are kept for 1 h in a heating cabinet at a temperature of 100 °C \pm 2 °C		
	During the test: no change impairing their further use and sealing compound, if any, not flow		P
24.1.2	Parts of insulating material of appliance inlets not integrated or incorporated and of connectors other than 0,2 A connectors: ball-pressure test of 1 h		
	After the test: diameter of impression \leq 2 mm	See appended table 24.1.2	P
24.1.3	Connectors of thermoplastic material: pressure test with a force of 20 N at 100 °C \pm 2 °C for 1 h		
	After the test: specimen show no damage		N/A
24.2.1	Connectors of elastomeric material are kept for 10 days (240 h) in a heating cabinet at 70 °C \pm 2 °C		N/A
24.2.2	Connectors of thermoplastic material are kept for 7 days (168 h) in a heating cabinet at 80 °C \pm 2 °C		P
24.2.3	After the tests, samples show:		
	- no crack visible after test with normal or corrected vision without additional magnification		P
	- no sticky or greasy material as a result of heat		P
	- no trace of cloth (forefinger pressed with 5 N)		P
	- no other damage as a result of heat		P
25	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		
25.1	Connections withstand mechanical stresses		P
	Screws and nuts which transmit contact pressure: in engagement with a metal thread		N/A
	Screws and nuts operated when mounting the accessory are not of the thread-cutting type		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Threaded part torque test	See appended table 25.1	N/A
25.2	Screws in engagement with a thread of insulating material and screws of insulating material: correct introduction into the screw hole or nut is ensured		N/A
	Screws of insulating material: not used if they could impair insulation		N/A
25.3	Contact pressure is not transmitted through insulating material other than ceramic, or other material with characteristics at least equivalent		P
	Requirement not applicable to appliance couplers for cold conditions if there is sufficient resiliency in the metallic parts		N/A
22.4	Screws and rivets are locked against loosening or turning		N/A
25.5	Connections between terminals and other parts do not work loose in normal use		N/A
25.6	Current-carrying parts and earthing contacts are of:		
	- copper		N/A
	- alloy with at least 58% copper for cold worked parts or at least 50% copper for other parts	> 59%	P
	- stainless steel with at least 13 % chromium and not more than 0,09 % carbon		N/A
	- steel with electroplated coating of zinc (ISO 2081); coating thickness at least 5 µm (ISO Service Condition No. 1); thickness (µm)		N/A
	- steel with electroplated coating of nickel and chromium (ISO 1456); coating thickness at least 20 µm (ISO Service Condition No. 2); thickness (µm)		N/A
	- steel with electroplated coating of tin (ISO 2093); coating thickness at least 12 µm (ISO Service Condition No. 2); thickness (µm)		N/A
	Parts subjected to mechanical wear are not made of steel with electroplated coating		P
	Steel with an electroplated coating of zinc is not permitted if fixed electrical connection is made in prime current-carrying parts		N/A
	Electroplated coating of zinc is permissible only on parts which do not participate directly in current transmission		N/A
25.7	Metals having a great difference of electro-chemical potential are not used in contact with each other under moist conditions		P

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Clause	Requirement + Test	Result - Remark	Verdict
25.8	Pins of appliance inlets for very hot conditions are protected by nickel plating or are of a material no less resistant to corrosion		N/A
26	CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH INSULATION		
	Creepage distances, clearances and distances through insulation are not less than the values shown in table 9 if not otherwise specified in the standard sheets	See appended table 26	P
27	RESISTANCE OF INSULATING MATERIAL TO HEAT, FIRE AND TRACKING		
27.1	Parts made of insulating material of accessories with a rated current exceeding 0,2 A subjected to glow-wire test	See appended table 27.1	P
27.2	Resistance to tracking: insulating parts supporting, or in contact with, live parts of appliance couplers for hot and very hot conditions, are of material resistant to tracking (175 V, 50 drops, solution A of IEC 60112)	See appended table 27.2	N/A
28	RESISTANCE TO RUSTING		
	No sign of rust on ferrous parts after 10 min in 10% solution of ammonium chloride, 10 min in box with air saturated with moisture and 10 min at 100 °C ± 2 °C		N/A
29	ELECTROMAGNETIC COMPATIBILITY (EMC) REQUIREMENTS		
29.1	Immunity		
29.1.1	Accessories not incorporating electronic components are not sensitive to normal electromagnetic disturbances and therefore no immunity tests are required		N/A
29.2	Emission		
29.2.1	Accessories not incorporating electronic components do not generate electromagnetic disturbances; consequently no emission tests are necessary		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

15.2	TABLE: Insulation resistance			P
Test voltage applied between:		Measured (MΩ)	Required (MΩ)	
c) between all poles connected together and the body		199	≥ 5 MΩ	P
d) between each pin in turn and the others connected together		199	≥ 5 MΩ	P
Supplementary information: N/A				

15.3	TABLE: Electric strength			P
Points of application of the test voltage (Table 101):		Test voltage (V)	Flashover / breakdown (Yes/No)	
c) between all poles connected together and the body		3000	No	P
d) between each pin in turn and the others connected together		1500	No	P
Supplementary information: N/A				

16	TABLE: Force necessary to withdraw the plug			N/A
	Type of connector (A).....:			—
	Standard Sheet.....:			—
16.2	Verification of the maximum withdrawal force			
	Connectors for hot or very hot conditions: test temperature by means of the heating device (°C) . :			—
specimen N°	maximum withdrawal force (multi-pin gauge) (N)	the connector did not remain in the appliance inlet (Y/N)		
16.3	Verification of the minimum withdrawal force			
specimen N°	minimum withdrawal force (single-pin gauge) (N)	the single pin gauge did not fall from the contact assembly within 3 s (Y/N)		
Supplementary information: N/A				

18.2	TABLE: Resistance to heating of connectors for hot conditions or very hot conditions			N/A
	Temperature at base of the pins (°C)	120 °C ± 2 °C / 155 °C ± 2 °C		—

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Clause	Requirement + Test			Result - Remark		Verdict	
Specimen N°	Temperature rise at the point of separation of the cores during the test (K)		One of the connector subjected to the test of 23.7 within 15 s (P/F)	After cool down and insertion into and withdrawn from the appliance inlet 10 times:			
	Measured Δt (K)	Allowed Δt (K)		No damage	No loosening of electrical or mechanical connections	No cracks	
		≤ 50					
		≤ 50					
		≤ 50					
Supplementary information: N/A							

21	TABLE: Temperature rise test				N/A
	Type and cross-sectional area of cord fitted to rewirable connector				—
	Torque applied to screws of clamping units (Table 8) (Nm).....				—
Specimen N°	Test circuit (L-N / L-E)	Test current (1,25 In) (A)	Measured temperature rise Δt of terminals and contacts (K):	Allowed ΔT (K)	

Supplementary information:					
16	TABLE: Force necessary to withdraw the plug				N/A
16.2	Verification of the maximum withdrawal force				
	Connectors for hot or very hot conditions: test temperature by means of the heating device (°C)..:				—
specimen N°	maximum withdrawal force (multi-pin gauge) (N)	the connector did not remain in the appliance inlet (Y/N)			
16.3	Verification of the minimum withdrawal force				
specimen N°	minimum withdrawal force (single-pin gauge) (N)	the single pin gauge did not fall from the contact assembly within 3 s (Y/N)			
Supplementary information: N/A					

22.1	TABLE: List of cords connected to non-rewirable connectors			N/A
	Type of cord	Nominal cross-sectional area (mm ²)		

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Clause	Requirement + Test	Result - Remark	Verdict
Supplementary information: N/A			

22.3	TABLE: Pull and torque test for connectors					N/A
	Torque applied on clamping screws of cord anchorage (2/3 of table 8) (Nm)					—
Specimen N°	Type of cord	Nominal cross-sectional area (mm ²)	Pull (100 times) (N)	Torque (1 min) (Nm)	Displacement of cord (mm)	
Supplementary information: N/A						

22.4	TABLE: Flexing test for connectors						N/A
Specimen N°	Type of cord	Nominal cross-sectional area (mm ²)	Ageing test for rewirable connectors (24.2.1 / 24.2.2)	Test current (A)	Force (N)	Number of flexings	
Supplementary information: N/A							

23.3	TABLE: Verification of the minimum withdrawal force after the pulling test of 23.3			N/A
Specimen N°	minimum withdrawal force (single-pin gauge) (N)		the single pin gauge did not fall from the contact assembly within 3 s (Y/N)	
Supplementary information: N/A				

24.1.2	TABLE: Ball pressure test				P
Part under test	Material designation	Test temperature (°C)	Impression diameter (mm)		
live part carrier	-	125	1,4		P
Supplementary information:					

25.1	TABLE: Threaded part torque test					N/A
Threaded part identification	Diameter of thread (mm)	Column number (I or II)	Applied torque (Nm)	Times (5/10)	No work loose and no damage (P/F)	

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Clause	Requirement + Test	Result - Remark				Verdict
Supplementary information:						

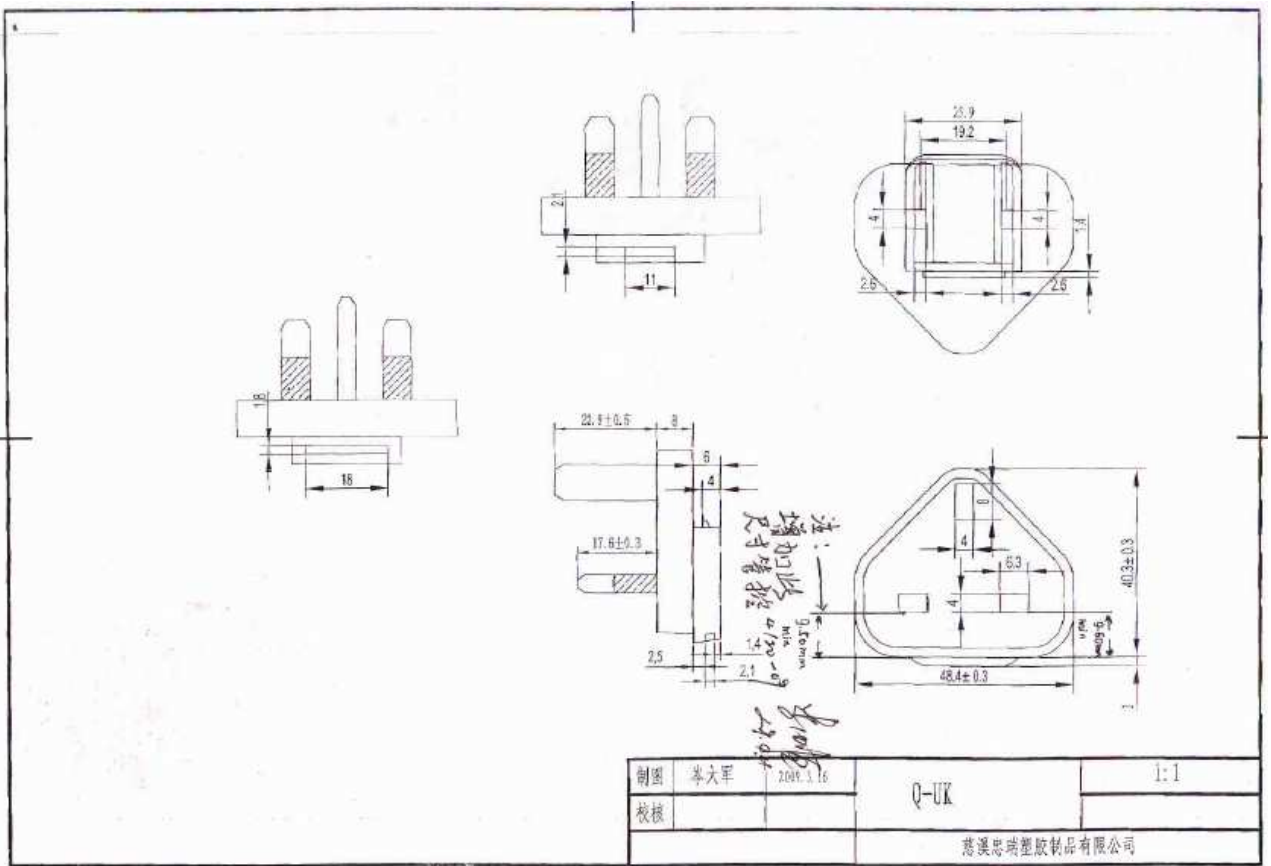
26	TABLE: Creepage distances, clearances and distances through insulation						P
Item per table 23	Creepage distance dcr, clearance cl and distance through insulation dtsc at/of:	Required cl (mm)	cl (mm)	Required dcr (mm)	dcr (mm)	Required dtsc (mm)	dtsc (mm)
	Between live parts of different polarity	≥ 3	> 4 (by gauge)	≥ 3	> 4 (by gauge)	—	—
	Between live parts and accessible metal parts	≥ 4	> 4 (by gauge)	≥ 4	> 4 (by gauge)	—	—
Supplementary information: test by gauges							

27.1	TABLE: Glow-wire test					P
Part under test	Material designation	Test temperature (°C)	no visible flame and no sustained glowing (P/F) or flame and glowing extinguish within 30 s (s)	no ignition of the tissue paper (P/F)		
Insert (live part carrier)	-	750	No	No		P
Supplementary information: N/A						

27.2	TABLE: Resistance to tracking			N/A
Part under test	Material designation	Test voltage (V)	Flashover / breakdown (Yes/No)	
		175		
Supplementary information: N/A				

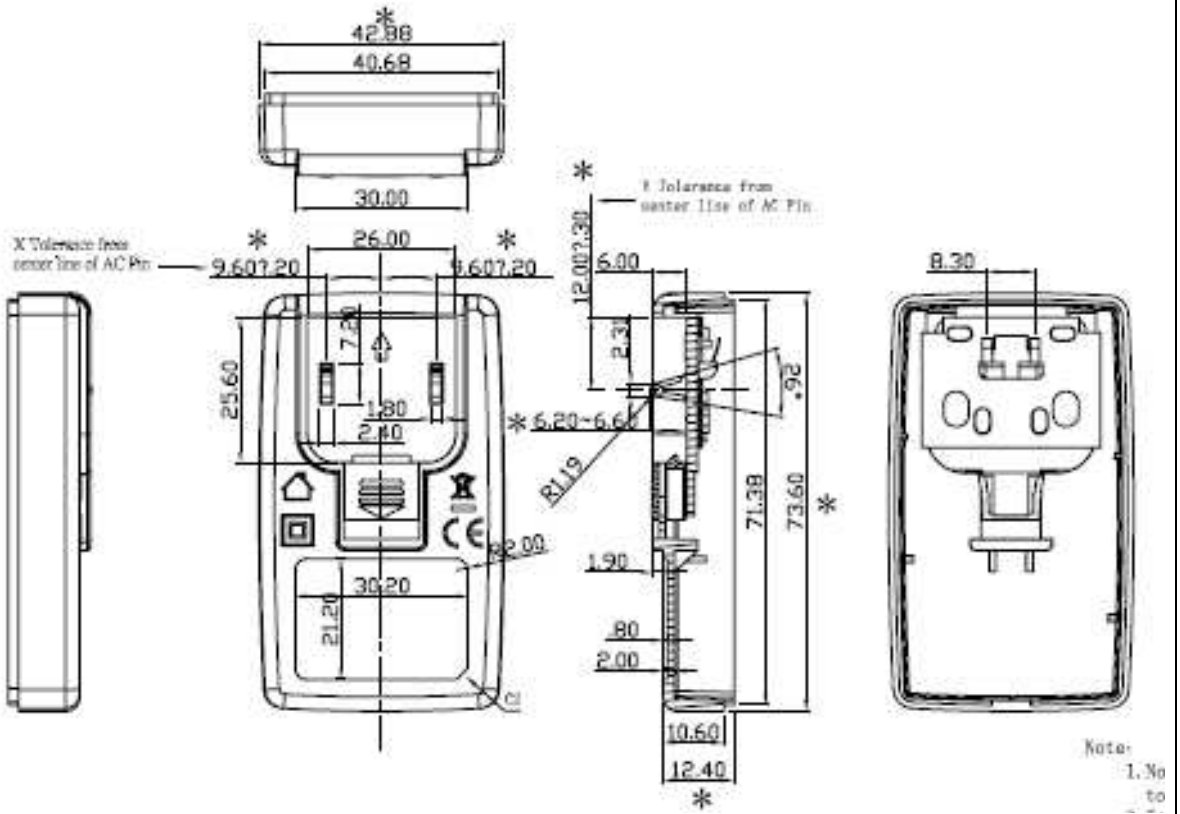
Annex B: DIMENSIONS

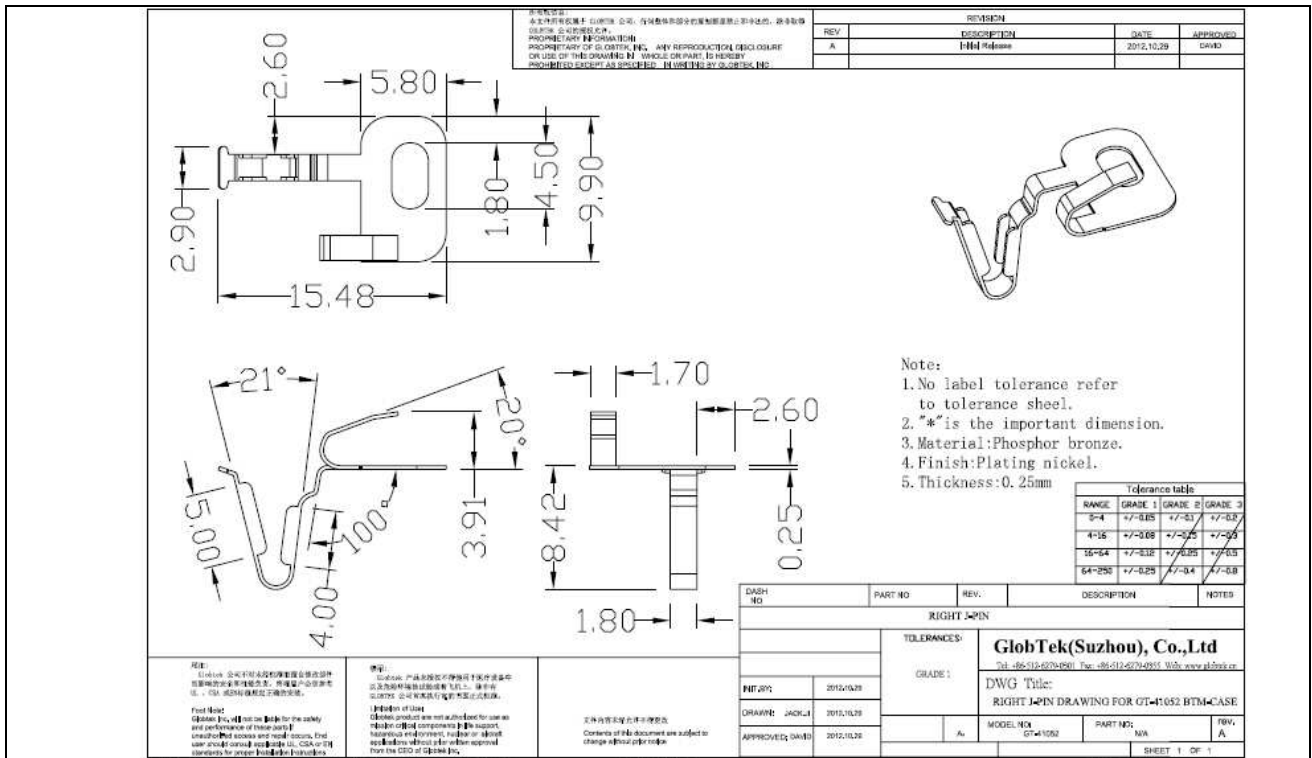
Outlet portion: connector integrated in plug portion



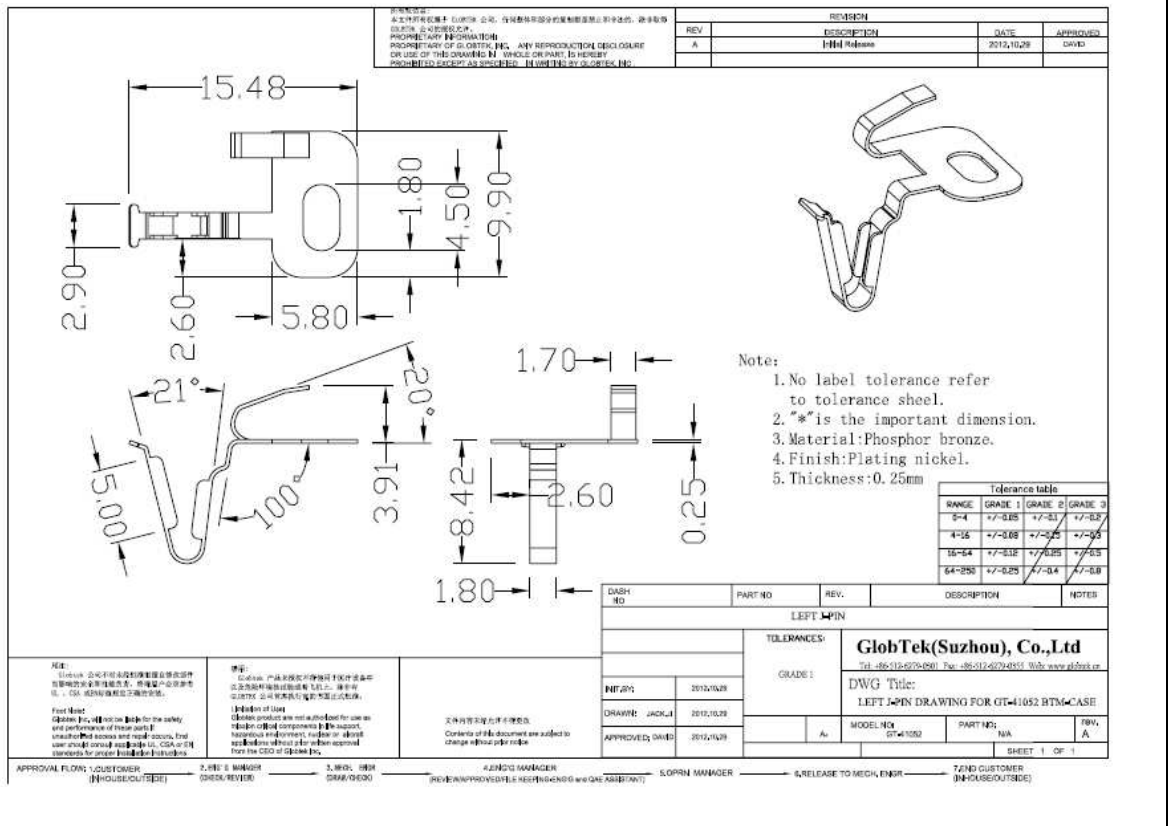
Annex B: DIMENSIONS

appliance inlet portion: overall view





Right pin



Left pin

Photos:



Engagement surface of appliance inlet portion



Engagement surface of connector portion



Internal view connector portion



Overall view of appliance inlet



Internal view of appliance inlet



Internal view of appliance inlet