

Delta Electronics, Inc.  
Mr. Ahui Wang, Assistant Manager  
Safety Engineering  
3, Pingyuan Road,  
Chungli Industrial Zone  
Taoyuan City 32053  
Taiwan

Date : 10.03.2020  
Our ref. : BEZ 03  
Your ref. : 70.25644

Ref : CB Certificate Japan

Type of Equipment : SWITCHING POWER SUPPLY (Built-in type)  
Model Designation : Sps Certificate  
Certificate No. : JPTUV-105829  
Report No. : 5033643 001

Dear Mr. Ahui Wang,

Thank you very much for your interest in our services.

Please find enclosed your certification documents.

We appreciate your support and would like to offer our assistance in the approval of your future products through our extensive range of technical services.

Please feel free to contact us whatever your requirements may be.

With kind regards,

Carl Tschöler Bony

Mr. Aihui Wang

Enclosure



Ref. Certif. No.

CEC07-205719

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST  
CERTIFICATES FOR ELECTRICAL EQUIPMENT  
(IECEE) CB SCHEMESYSTEME CEI D'ACCEPTATION MUTUELLE DE  
CERTIFICATS D'ESSAIS DES EQUIPEMENTS  
ELECTRIQUES (IECEE) METHODE OC

## CB TEST CERTIFICATE

## CERTIFICAT D'ESSAI OC

Product  
Produit

SWITCHING POWER SUPPLY (Built-in type)

Name and address of the applicant  
Nom et adresse du demandeurDelta Electronics, Inc.  
3, Tungyuan Road,  
Chungli Industrial Zone, Taoyuan City 32060 TaiwanName and address of the manufacturer  
Nom et adresse du fabricantDelta Electronics, Inc.  
3, Tungyuan Road,  
Chungli Industrial Zone, Taoyuan City 32060 TaiwanName and address of the factory  
Nom et adresse de l'usine

See additional page(s)

Ratings and principal characteristics  
Vos caractéristiques et les caractéristiques principalesInput: refer to the test report, Class I  
Output: refer to the test report.Trademark (if any)  
Marque de l'équipement (si elle existe)

DELTA ELECTRONICS, INC (logo)

Type of Manufacturer's Testing Laboratory used  
Type de programme de laboratoire d'essais utilisé

N/A

Model / Type Ref.  
Type de typeGPS-1000D0 XX, GPS-850KB XX, DSA-1K0W801APU X,  
DSA-850W801APB X  
(X = 0-B, A-Z or blank)Additional information (if necessary) may also be  
reported on page 2)  
Les informations complémentaires (si nécessaire,  
doivent être indiquées sur la 2<sup>e</sup> page)

For model differences, refer to the test report.

A sample of the product was examined and found to  
be in conformity with  
Un échantillon de ce produit a été essayé et a été  
trouvé conforme à laIEC 62366-1:2017  
See Test Report for National DifferencesAs shown in the Test Report Ref. No. which forms part  
of this Certificate  
Comme indiqué dans le Rapport d'essai, numéro de  
référence qui constitue partie intégrante de ce certificat

50328543 001

This CB Test Certificate is issued by the National Certification Body  
Ce certificat d'essai OC est établi par l'organisme national de certificationTÜV Rheinland Japan Ltd.  
Global Technology Assessment Center  
4-25-2 Kita-Yamate, Tsuzuki-ku  
Yokohama 224-8621 Japan  
Phone + 81 45 914 3838  
Fax + 81 45 914 3354  
Mail info@en.tuv.com  
Web www.tuv.com

Date: 10.05.2020

Signature:

Manufacturer Name:

- 1 Delta Electronics (Thailand)  
Public Co., Ltd.  
909 So. 9 Moo 4, Bangsoo Industrial  
Estate (E.P.7) Pathum Thani  
Tambon Pruksa Amphur Musng, Srirachaekarn 10260, Thailand
- 2 Delta Electronics Power  
(Dongguan) Co., Ltd.  
Dens Industrial Estate,  
Xinsheng District, Shijie Town,  
Dongguan, Guangdong 525306, P. R. China

**Additional information (if necessary)**  
**Information complémentaire (si nécessaire)**

Report Ref. No.: 50326:13 R01



Date: 10/03/2020

Signature:

Marklin Wang





Testing procedure and testing location:		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	<b>TÜV Rheinland (Guangdong) Ltd.</b>
Testing location/ address .....		No.199 Kezhu Road, Guangzhou Science City 510663 Guangzhou, China
<input type="checkbox"/>	Associated CB Testing Laboratory:	
Testing location/ address .....		
Tested by (name + signature) .....		Ben Zeng Project Engineer 
Approved by (name + signature) .....		Liheng Hu Reviewer 
<input type="checkbox"/>	Testing procedure: TMP/CTF Stage 1	
Testing location/ address .....		
Tested by (name + signature) .....		
Approved by (name + signature) .....		
<input type="checkbox"/>	Testing procedure: WMT/CTF Stage 2	
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	
Testing location/ address .....		
Tested by (name + signature) .....		
Approved by (name + signature) .....		
Supervised by (name + signature).....		

<b>List of Attachments (including a total number of pages in each attachment):</b> - Appended table (5 pages) - Attachment 1: Photo Document (30 pages) - Attachment 2: National Differences (36 pages) - Attachment 3: Other National Special Requirement Documentation (13 pages) - Attachment 4: Technical Documentation (11 pages)																																							
<b>Summary of testing:</b>																																							
<b>Tests performed (name of test and test clause):</b> All applicable tests as described in Test Case and Measurement Sections were performed:	<b>Testing location:</b> All tests as described in Test Case and Measurement Sections were performed at the laboratory described on page 2.																																						
<table border="1"> <tr><td>5.2</td><td>Electrical energy source classifications</td></tr> <tr><td>5.4.1.4, 6.3.2, 9.0, B.2.6</td><td>Maximum operating temperatures for materials, components and systems</td></tr> <tr><td>5.4.1.8</td><td>Determination of working voltage</td></tr> <tr><td>5.4.1.10.3</td><td>Ball pressure test</td></tr> <tr><td>5.4.8</td><td>Humidity conditioning</td></tr> <tr><td>5.4.9</td><td>Electric strength test</td></tr> <tr><td>5.5.2.2</td><td>Discharge of Capacitors</td></tr> <tr><td>5.6.6.2</td><td>Resistance of protective conductors</td></tr> <tr><td>5.7</td><td>Prospective touch voltage and touch current measurement</td></tr> <tr><td>5.7.5</td><td>Protective conductor current</td></tr> <tr><td>6.2.2</td><td>Electrical power sources (PS) measurements for classification</td></tr> <tr><td>B.2.5</td><td>Input tests</td></tr> <tr><td>B.3</td><td>Simulated abnormal operating condition tests</td></tr> <tr><td>B.4</td><td>Simulated single fault conditions</td></tr> <tr><td>F.3.9</td><td>Durability, legibility and permanence of markings</td></tr> <tr><td>T.2</td><td>Steady force test, 10 N</td></tr> <tr><td>T.4</td><td>Steady force test, 100N</td></tr> <tr><td>T.5</td><td>Steady force test, 250N</td></tr> <tr><td>T.6</td><td>Impact test</td></tr> </table>	5.2	Electrical energy source classifications	5.4.1.4, 6.3.2, 9.0, B.2.6	Maximum operating temperatures for materials, components and systems	5.4.1.8	Determination of working voltage	5.4.1.10.3	Ball pressure test	5.4.8	Humidity conditioning	5.4.9	Electric strength test	5.5.2.2	Discharge of Capacitors	5.6.6.2	Resistance of protective conductors	5.7	Prospective touch voltage and touch current measurement	5.7.5	Protective conductor current	6.2.2	Electrical power sources (PS) measurements for classification	B.2.5	Input tests	B.3	Simulated abnormal operating condition tests	B.4	Simulated single fault conditions	F.3.9	Durability, legibility and permanence of markings	T.2	Steady force test, 10 N	T.4	Steady force test, 100N	T.5	Steady force test, 250N	T.6	Impact test	
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Remark: <ul style="list-style-type: none"> <li>Unless otherwise specified, throughout this report, the tests were performed at around +25°C in an open bench, with the equipment at component side upward position and with installed DC fan, type AFB1312M-SE02, manufactured by Delta Electronics, Inc. that provides the lowest airflow.</li> </ul>																																							

<b>Load conditions:</b> For model GPS-1000DB XX: Test Condition A:
--

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6	V7	A7	V8	A8
+12V1	40A	+12V2	40A	+12V3	3.34A	+12V4	0A	+5V	0A	+3.3V	0A	-12V	0A	+5Vsb	0A

**Test Condition B**

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6	V7	A7	V8	A8
+12V1	0A	+12V2	0A	+12V3	40A	+12V4	30.75A	+5V	25A	+3.3V	1.6A	-12V	0.5A	+5Vsb	3A

**Test Condition C**

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6	V7	A7	V8	A8
+12V1	0A	+12V2	0A	+12V3	30.75A	+12V4	40A	+5V	9.5A	+3.3V	25A	-12V	0.5A	+5Vsb	3A

**Test Condition D**

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6	V7	A7	V8	A8
+12V1	0A	+12V2	0A	+12V3	0A	+12V4	0A	+5V	0A	+3.3V	0A	-12V	0 A	+5Vsb	3A

**For model GPS-850KB XX:**
**Test Condition A:**

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6	V7	A7	V8	A8
+12V1	40A	+12V2	30.84A	+12V3	0A	+12V4	0A	+5V	0A	+3.3V	0A	-12V	0A	+5Vsb	0A

**Test Condition B**

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6	V7	A7	V8	A8
+12V1	0A	+12V2	0A	+12V3	40A	+12V4	18.25A	+5V	25A	+3.3V	1.52A	-12V	0.5A	+5Vsb	3A

**Test Condition C**

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6	V7	A7	V8	A8
+12V1	0A	+12V2	0A	+12V3	19.5A	+12V4	40A	+5V	9.5A	+3.3V	25A	-12V	0.5A	+5Vsb	0A

**Test Condition D**

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6	V7	A7	V8	A8
+12V1	0A	+12V2	0A	+12V3	0A	+12V4	0A	+5V	0A	+3.3V	0A	-12V	0 A	+5Vsb	3A

**Summary of compliance with National Differences:**

List of countries addressed: (According to IEC 62368-1:2014 (Second Edition))

EU Group Differences, EU Special National Conditions

AU, DE, DK, FI, GB, IE, IT, JP, NO, NZ, SE, US.












Explanation of used codes: AU=Australia, DE=Germany, DK=Denmark, FI=Finland, GB=United Kingdom, IE=Ireland, IT=Italy, JP=Japan, NO=Norway, NZ=New Zealand, SE=Sweden, US=United States of America.

**Special national requirement: CA.**


Explanation of used codes: CA=Canada.

 The product fulfils the requirements of EN 62368-1:2014+A11:2017.

**Copy of marking plate(s):**
**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.**

		DELTA ELECTRONICS, INC. 台達電子工業股份有限公司 台达电子工业股份有限公司		S/N: XXXXXXXXXXXXXXXX 							
MODEL NO (型號/ 型号): GPS-1000DB A REV (版本/ 版本): S0											
AC INPUT 交流輸入 / 交流輸入	DC OUTPUT 直流輸出 / 直流輸出										
100V-240V~13A-6.5A 50Hz-60Hz	+3.3V 25A	+5V 25A	+12V1 40A	+12V2 40A	+12V3 40A	+12V4 40A	-12V 0.5A	+5V5B 3A			
MAX. Continuous 最大輸出 / 最大輸出 <b>1000W</b>	130W MAX.		1000W MAX.			8W	15W				
				Type Approved Safety Regular Production Surveillance www.tuv.com ID 2000000000							
SWITCHING POWER SUPPLY 交換式電源供應器 / 开关电源 PRODUCT OF CHINA (DCGP) 中國(東莞)產品 / 中國(东莞)产品											







DELTA ELECTRONICS, INC.  
台達電子工業股份有限公司  
台达电子工业股份有限公司

MODEL NO. (型號/ 型号):  
GPS-850KB A  
REV (版本/ 版本): S0


S/N: XXXXXXXXXXXXXXXX



AC INPUT 交流輸入/ 交流輸入	DC OUTPUT 直流輸出/ 直流輸出							
100V-240V~12A-5.5A 50Hz-60Hz	+3.3V 25A	+5V 25A	+12V1 40A	+12V2 40A	+12V3 40A	+12V4 40A	-12V 0.5A	+5VSB 3A
MAX. Continuous 最大輸出/ 最大輸出 850W	130W MAX.		850W MAX.				6W	15W





SWITCHING POWER SUPPLY  
交變式電源供應器 / 开关电源  
PRODUCT OF CHINA (DCGP)  
中國(東莞)產品 / 中國(東莞)產品



Type Approved  
Safety  
Regular Production  
Surveillance

www.tuv.com  
ID 200005000





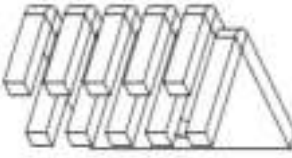
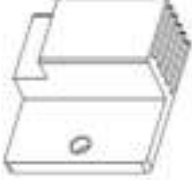




Note:

These are representative labels; the others are identical to them except for the model number, detail see model list on page 9.

TEST ITEM PARTICULARS:	
Classification of use by .....	<input type="checkbox"/> Ordinary person <input checked="" type="checkbox"/> Instructed person <input type="checkbox"/> Skilled person <input type="checkbox"/> Children likely to be present
Supply Connection .....	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input type="checkbox"/> External Circuit - not Mains connected - <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance .....	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> +____%/ -____% <input type="checkbox"/> None
Supply Connection – Type .....	<input checked="" type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input checked="" type="checkbox"/> appliance coupler <input type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input type="checkbox"/> other:
Considered current rating of protective device as part of building or equipment installation .....	16 A (20A for US and CA) Installation location: <input checked="" type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility.....	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input checked="" type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC) .....	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other: _____
Class of equipment .....	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III
Access location .....	<input type="checkbox"/> restricted access location <input type="checkbox"/> N/A <input checked="" type="checkbox"/> The case does not apply to the test object
Pollution degree (PD) .....	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified maximum operating ambient .....	45°C
IP protection class .....	<input checked="" type="checkbox"/> IPX0 <input type="checkbox"/> IP____
Power Systems .....	<input checked="" type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT - 230 V <sub>L-L</sub>
Altitude during operation (m) .....	<input type="checkbox"/> 2000 m or less <input checked="" type="checkbox"/> 5000 m
Altitude of test laboratory (m) .....	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> _____ m
Mass of equipment (kg) .....	<input checked="" type="checkbox"/> 0.764

<b>POSSIBLE TEST CASE VERDICTS:</b>																																																																																						
- test case does not apply to the test object..... :										N/A																																																																												
- test object does meet the requirement .....										P (Pass)																																																																												
- test object does not meet the requirement .....										F (Fail)																																																																												
<b>TESTING:</b>																																																																																						
Date of receipt of test item..... :										Jan. 23, 2020																																																																												
Date (s) of performance of tests..... :										Feb. 10, 2020 – Mar. 03, 2020																																																																												
<b>GENERAL REMARKS:</b>																																																																																						
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.																																																																																						
<b>Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950-1:</b>																																																																																						
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :										<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Not applicable																																																																												
<b>When differences exist; they shall be identified in the General product information section.</b>																																																																																						
<b>Name and address of factory (ies) .....</b>										1) <b>Delta Electronics Power (Dongguan) Co., Ltd.</b> Delta Industrial Estate, Xincheng District, Shijie Town, Dongguan, Guangdong 523308, P.R. China  2) <b>Delta Electronics (Thailand) Public Co., Ltd.</b> 909 Soi 9 Moo 4, Bangpoo Industrial Estate (E.P.Z.), Pattana 1 Road, Tambol Phraksa, Amphur Muang, Samutprakarn 10280, Thailand																																																																												
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<b>Model List:</b>																																																																																						
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**Model difference:**

Difference item	GPS-1000DB XX, DSA-1K0W801APD X	GPS-850KB XX, DSA-850W801APB X	Remark
Input / Output Rating	See model list.	See model list.	--
Transformer (T502)	DV-DTD15010	DV-PC17024	See spec.
Choke (L501)	CPH-PC17367	CPH-DTD15079	See spec.
Bulk capacitor (C801A, C801B)	470µF, 450V min.	390µF, 450V min.	--
Mosfets (Q502, Q503, Q506, Q507)	31.2A, 650V	21.0A, 600V	--
Bleeder resistors (R2A, R2B)	187kΩ max., 1/4W	150kΩ max., 1/4W	--
HS1			--
Layout 1			Not impact safety distance.
Layout 2			EMI circuit change.

**Engineering Considerations:**

- The product was submitted and tested for use at the **maximum ambient temperature (T<sub>ma</sub>)** permitted by the manufacturer's specification of: 45°C.
- The means of connection to the mains supply is **Pluggable Type A**.
- The product is intended for use on the following **power systems**: TN.
- The equipment **disconnect device** is considered to be: Appliance Inlet.
- The following **transformers** are provided:
  - Double/Reinforced insulation: CT501, T501, T502, and T901 ;
  - Basic insulation: None
  - Supplementary insulation: None
  - Functional insulation: None.
- The following **capacitors** bridging insulation:
  - Double/Reinforced insulation: CY8.
  - Basic insulation: CY1, CY2, CY3, CY4, CY5, CY6.
  - Supplementary insulation: None
  - Across mains conductors: CX1 and CX2.
  - Functional insulation: other than above mentioned.

- The following **resistors** bridging insulation:
  - Double/Reinforced insulation: None
  - Basic insulation: None
  - Supplementary insulation: None
  - Across mains conductors: R2A, R2B.
  - Functional insulation: other than above mentioned.
- The following **VDRs** are bridging insulation:
  - Basic insulation: None
- The following **solid insulation** are provided:
  - Reinforced insulation: Opto-couplers (IC802, IC902, IC903, IC904) and Insulator.
  - Basic insulation: None
  - Supplementary Insulation: None
  - Functional insulation: other than above mentioned.
- The following parts consist of the protective earthing:
  - Protective earthing conductor: The earth pin of power supply cord.
  - Protective bonding conductor: The green-and-yellow protective bonding wires fixed in earthing tab of appliance inlet by hooking-in and soldering, and the other end terminated in a ring type crimp which is secured to metal chassis by screw and star washer.
- The following parts are **protective earthing terminals**: The earth pin of appliance inlet.
- The following parts are **protective bonding terminals**: Green/Yellow wire to metal case.
- The following enclosures are provided:
  - Fire enclosure: the compliance shall be investigated in end product.
  - Mechanical enclosure: Yes
  - Electrical enclosure: Yes.

#### Additional Information

- The product is a **component** intended for incorporation in information technology equipment, the overall compliance shall be investigated in the complete information technology equipment
- The equipment was evaluated for a maximum operating altitude of **5000m**. Therefore the requirements of subclause 5.4.2.5 for clearances were considered and the required clearance was multiplied with an altitude correction factor of **1.48**.
- The label is draft of artwork for marking plates pending approval by National Certification Bodies and it shall not be affixed to products prior to such an approval.
- Tests were repeated with each alternative source of components with identical results unless otherwise specified.

#### Markings and Instructions

- Mains switch marking (see subclause F.3.5.2):
  - ⏏ (IEC 60417-5007) for "ON" of mains switch.
  - ⏏ (IEC 60417-5008) for "OFF" of mains switch.
- Fuse Identification (see subclauae F.3.5.3):
  - F1: F16AH/250V
- The product also marked with (see subclauses F.3.6.1.1, F.3.6.1.3):
  - ⏏ (IEC 60417-5019) for the wiring terminal of protective earth terminal.
  - ⏏ (IEC 60417-5017) for the wiring terminal of protective bonding conductor.

Abbreviations used in the report:			
-normal conditions	N.C.	-Supplementary insulation	SI
-functional insulation	OP	-Reinforced insulation	RI
-double insulation	DI	-Component damage (list damaged component)	CD
-between parts of opposite polarity	BOP	-No component damaged	NCD
-short-circuited	s-c	-Test repeated, similar result(3 times)	TRSR
-open-circuited	o-c	-No indication of dielectric breakdown	NB
-overloaded	o-l	-Cheesecloth remained intact	NC
-internal protection operated	IP	-Tissue paper remained intact	NT
-Input	i/p	-The unit can recover auto when removing the abnormal condition	RA
-Output	o/p	-No hazards	NH
-Single fault conditions	S.F.C		
-Basic insulation	BI		
Indicate used abbreviations (if any)			

<b>ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:</b>	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.)	
<b>Electrically-caused injury (Clause 5):</b> (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input <span style="float: right;">ES1</span>	
<b>Source of electrical energy</b>	<b>Corresponding classification (ES)</b>
Primary circuit	ES3
Secondary output	ES1
<b>Electrically-caused fire (Clause 6):</b> (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): <span style="float: right;">PS2</span>	
<b>Source of power or PIS</b>	<b>Corresponding classification (PS)</b>
Primary circuit	PS3
Secondary output	PS3 (declared)
<b>Injury caused by hazardous substances (Clause 7)</b> (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component <span style="float: right;">Glycol</span>	
<b>Source of hazardous substances</b>	<b>Corresponding chemical</b>
N/A	N/A
<b>Mechanically-caused injury (Clause 8)</b> (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit <span style="float: right;">MS2</span>	
<b>Source of kinetic/mechanical energy</b>	<b>Corresponding classification (MS)</b>
Equipment mass < 7 kg	MS1
Smooth edges and corners of enclosure	MS1
DC fan blade	MS3 (declared)
<b>Thermal burn injury (Clause 9)</b> (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure <span style="float: right;">TS1</span>	
<b>Source of thermal energy</b>	<b>Corresponding classification (TS)</b>
External enclosure surfaces (AC inlet side)	TS1
<b>Radiation (Clause 10)</b> (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product <span style="float: right;">RS1</span>	
<b>Type of radiation</b>	<b>Corresponding classification (RS)</b>
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**ENERGY SOURCE DIAGRAM**

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

**ES3 (on the primary side of CT501, T501, T502, and T901),**  
**ES1 (on the secondary side of CT501, T501, T502, and T901 after rectifier),**  
**Enclosure surface (AC inlet side) is TS1,**  
**PS3 (All circuits are considered PS3), all areas contains PIS sources.**

■ ES

■ PS

■ MS

■ TS

□ RS



<b>OVERVIEW OF EMPLOYED SAFEGUARDS</b>				
<b>Clause</b>	<b>Possible Hazard</b>			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementar y	Reinforced (Enclosure)
Ordinary	ES3: Primary circuits when connected to mains	N/A	N/A	Enclosure, See 5.4.2, 5.4.3, 5.5.3, and 5.5.4
Ordinary	ES3: Primary circuits (charged capacitor)	N/A	N/A	See 5.5.2.2
Ordinary	ES1: Output connector	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementar y	Reinforced
Enclosure, PCB	PS3: > 100 Watt circuit (Primary and secondary circuits)	See 6.3.	See table 4.1.2.	N/A
Other combustible materials within equipment	PS3 circuit	See 6.3.	See 6.4.5, 6.4.6	N/A
Output connector	PS3 (All circuits are considered PS3)	See 6.3.	N/A	N/A
Internal/external wiring	PS3 circuit	N/A	N/A	See 6.5.
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementar y	Reinforced
N/A	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementar y	Reinforced (Enclosure)
Ordinary	MS1: Equipment mass < 7 kg	N/A	N/A	N/A
Ordinary	MS1: Smooth edges and corners	N/A	N/A	N/A
Ordinary	MS3: DC fan blade	N/A	N/A	See 8.5.

9.1		Thermal Burn		
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementar y	Reinforced
Ordinary	TS3: Internal parts/circuits	N/A	N/A	Enclosure
Ordinary	TS1: External enclosure surfaces (AC inlet side)	N/A	N/A	N/A
10.1		Radiation		
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementar y	Reinforced
Ordinary	N/A	N/A	N/A	N/A
Supplementary Information: (1) See attached energy source diagram for additional details. (2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

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Clause	Requirement + Test	Result - Remark	Verdict
<b>4</b>	<b>GENERAL REQUIREMENTS</b>		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified according to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
4.1.3	Equipment design and construction	No accessible parts which could cause injury. However, the equipment is a building-in type and evaluation is also to be made during the final system approval.	P
4.1.15	Markings and instructions .....	(See Annex F)	P
4.4.4	Safeguard robustness	See below.	P
4.4.4.2	Steady force tests .....	(See Annex T.2, T.3, T.4 and T.5)	P
4.4.4.3	Drop tests .....	No such consideration for building-in type equipment	N/A
4.4.4.4	Impact tests .....	(See Annex T.6)	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests.....	No such consideration for building-in type equipment	N/A
4.4.4.6	Glass Impact tests.....	No glass used.	N/A
4.4.4.7	Thermoplastic material tests.....	Metal case used.	N/A
4.4.4.8	Air comprising a safeguard.....	The equipment is a building-in type and evaluation is also need to be made during the final system approval (See Annex T).	P
4.4.4.9	Accessibility and safeguard effectiveness	During and after the tests, the safeguard remained effective. However, the equipment is a building-in type and evaluation is also to be made during the final system approval.	P
4.5	Explosion	No explosion occurs during normal/abnormal operation and single fault conditions	P
4.6	Fixing of conductors	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.6.1	Fix conductors not to defeat a safeguard	All internal wires were connected by soldering and glue (on PCB), pluggable wire, connector or fixed by cable tie etc in a reliable manner.  The wires are secured by or simaly double methold so that a loosening of the terminal connection is unlikely.	P
4.6.2	10 N force test applied to .....	10 N applied to all components other than the parts serving as an enclosure (See appended table 5.4.2.2, 5.4.2.4 and 5.4.3).	P
4.7	Equipment for direct insertion into mains socket - outlets	Not direct plug-in equipment.	N/A
4.7.2	Mains plug part complies with the relevant standard.....		N/A
4.7.3	Torque (Nm).....		N/A
4.8	Products containing coin/button cell batteries	No coin/button cell batteries used.	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery .....		—
4.8.4	Battery Compartment Mechanical Tests .....		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object .....	The side of appliance inlet was evaluated and complied with Annex P. (As client's requirement)  The equipment is a building-in type and re-evaluation is also to be made during the final system approval.	P

<b>5</b>	<b>ELECTRICALLY-CAUSED INJURY</b>		P
5.2.1	Electrical energy source classifications.....	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current.....	(See appended table 5.2.2.2)	P
5.2.2.3	Capacitance limits .....	(See appended table 5.2.2.3)	P
5.2.2.4	Single pulse limits .....	No such single pulse with the equipment.	N/A
5.2.2.5	Limits for repetitive pulses .....	No such repetitive pulses with the equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.6	Ringling signals .....	No such ringing signals with the equipment.	N/A
5.2.2.7	Audio signals .....	No such audio signals with the equipment.	N/A
5.3	Protection against electrical energy sources	(See appended table “ <b>OVERVIEW OF EMPLOYED SAFEGUARDS</b> ”)	P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See above.	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	ES2 or ES3 source cannot access by ordinary persons and ES3 source cannot accessed by instructed persons.  Double or reinforced safeguard is provided between ES2 or ES3 and ordinary persons or instructed persons.  However, the equipment is a building-in type and evaluation is also to be made during the final system approval.	P
5.3.2.2	Contact requirements	Only considered the appliance inlet side.  The equipment is a building-in type and evaluation is to be made during the final system approval.	P
	a) Test with test probe from Annex V .....	The test probe cannot access the hazardous live part (See Annex V).	P
	b) Electric strength test potential (V) .....		N/A
	c) Air gap (mm) .....	More than 0.2 mm.	P
5.3.2.4	Terminals for connecting stripped wire	No such terminals intended to be used by ordinary person.	N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	The choice and application have taken into account as specified in this Clause 5 and Annex T and natural rubber, hygroscopic materials or asbestos are not used as insulation.	P
5.4.1.3	Humidity conditioning .....	No hygroscopic material used. (See subclause 5.4.8)	P
5.4.1.4	Maximum operating temperature for insulating materials .....	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
5.4.1.5	Pollution degree .....	2	—

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2 is applied.	N/A
5.4.1.5.3	Thermal cycling	See above	N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such transformer.	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such starting pulses.	N/A
5.4.1.8	Determination of working voltage	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces	An accessible surface is considered to be covered by a thin metallic foil. The equipment is a building-in type and evaluation is to be made during the final system approval.	P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	See 5.4.1.10.3 as below.	P
5.4.1.10.2	Vicat softening temperature..... :		N/A
5.4.1.10.3	Ball pressure ..... :	(See appended table 5.4.1.10.3).	P
5.4.2	Clearances	The highest value of 5.4.2.2 and 5.4.2.3 to be used.	P
5.4.2.2	Determining clearance using peak working voltage		P
5.4.2.3	Determining clearance using required withstand voltage ..... :	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
	a) a.c. mains transient voltage ..... :	2500 Vpk considered for Overvoltage Cat. II	—
	b) d.c. mains transient voltage ..... :	Not d.c. mains.	—
	c) external circuit transient voltage ..... :	No such transient	—
	d) transient voltage determined by measurement :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test	Refer to 5.4.2.3	N/A
5.4.2.5	Multiplication factors for clearances and test voltages ..... :	See <b>Engineering Considerations - "Additional Information"</b> sections.	P
5.4.3	Creepage distances ..... :	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group ..... :	IIIa & IIIb	—
5.4.4	Solid insulation	See below.	P
5.4.4.2	Minimum distance through insulation ..... :	(See appended table 5.4.4.2).	P
5.4.4.3	Insulation compound forming solid insulation		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.4	Solid insulation in semiconductor devices	See table 4.1.2 for detail for optical isolator details.	P
5.4.4.5	Cemented joints		P
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements	See below.	P
5.4.4.6.2	Separable thin sheet material	Ref. G.5.3.	P
	Number of layers (pcs) ..... :	(See appended table G.5.3)	P
5.4.4.6.3	Non-separable thin sheet material	No such insulation used within the equipment as supplementary or reinforced insulator.	N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components	See G.5.3 and G.6.1 only.	P
5.4.4.9	Solid insulation at frequencies >30 kHz ..... :	(See appended table 5.4.1.8 and table 5.4.9).	P
5.4.5	Antenna terminal insulation	No antenna terminal used.	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ)..... :		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard..... :	No such internal wire.	N/A
5.4.7	Tests for semiconductor components and for cemented joints	Certified sources of optocouplers or isolator are used.	N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%) ..... :	95%	—
	Temperature (°C) ..... :	40°C	—
	Duration (h) ..... :	120h (as client's requirement)	—
5.4.9	Electric strength test..... :	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for a solid insulation type test		P
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit	No such external circuits	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test ..... :		N/A
5.4.10.2.3	Steady-state test ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.11	Insulation between external circuits and earthed circuitry .....	No such external circuit.	N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage $U_{op}$ (V) .....		—
	Nominal voltage $U_{peak}$ (V) .....		—
	Max increase due to variation $U_{sp}$ .....		—
	Max increase due to ageing $\Delta U_{sa}$ .....		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$ .....		—
5.5	Components as safeguards		
5.5.1	General	See below.	P
5.5.2	Capacitors and RC units	Approved X, Y capacitors used.	P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector .....	Approval bleeder resistors are used, which are served as safeguard but not across basic, supplementary or reinforced insulations, no energy hazards between Line/neutral and ordinary person 2s after disconnection the mains. (See appended table 5.5.2.2).	P
5.5.3	Transformers	(See appended table G.5.3)	P
5.5.4	Optocouplers	(See subclause 5.4 or Annex G.12)	P
5.5.5	Relays	Refer to G.2.	P
5.5.6	Resistors	(See append Annex G.10 and append table 4.1.2.)	P
5.5.7	SPD's	No such construction.	N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable .....	No such external circuits.	N/A
5.6	Protective conductor		
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation	Green and yellow	P



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Clause	Requirement + Test	Result - Remark	Verdict
5.6.3	Requirement for protective earthing conductors	The earth pin of the approved appliance inlet as main protective earthing conductor terminal.	N/A
	Protective earthing conductor size (mm <sup>2</sup> ) ..... :	No power supply cord is provided.	—
5.6.4	Requirement for protective bonding conductors		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm <sup>2</sup> ). ..... :	Min. 18 AWG (cross-sectional area 0.75mm <sup>2</sup> ) used.	—
	Protective current rating (A) ..... :	Not exceed 25A. Refer to the rated current of the equipment, see the model list for details.	—
5.6.4.3	Current limiting and overcurrent protective devices	No current limiting and overcurrent protective devices in parallel with any other components.	P
5.6.5	Terminals for protective conductors	AC inlet pin provided as protective earthing terminal.	P
5.6.5.1	Requirement	See above	P
	Conductor size (mm <sup>2</sup> ), nominal thread diameter (mm). ..... :	AC inlet pin provided as protective earthing terminal. Conductor: min. 0.75mm <sup>2</sup> . Nominal thread diameter: ≥ 3.5mm.	P
5.6.5.2	Corrosion	No combination above the line in Annex N is used.	P
5.6.6	Resistance of the protective system	See below.	P
5.6.6.1	Requirements	Compliance checked.	P
5.6.6.2	Test Method Resistance (Ω)..... :	(See appended table 5.6.6.2)	P
5.6.7	Reliable earthing	The equipment is not permanently connected equipment.	N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks	Figure 4 and Figure 5 of IEC 60990:1999 were used.	P
5.7.2.1	Measurement of touch current..... :	(See appended tables 5.2.2.2, 5.7.2.2, 5.7.4)	P
5.7.2.2	Measurement of prospective touch voltage		P
5.7.3	Equipment set-up, supply connections and earth connections	Clauses 4, 5.3 and 5.4 of IEC 60990:1999 applied.	P
	System of interconnected equipment (separate connections/single connection) ..... :	Single equipment.	—
	Multiple connections to mains (one connection at a time/simultaneous connections) ..... :	No multiple power sources.	—
5.7.4	Earthed conductive accessible parts..... :	(See appended table 5.7.2.2, 5.7.4)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.5	Protective conductor current	Not exceed the ES2 limits.	P
	Supply Voltage (V) .....	264V/50Hz	—
	Measured current (mA) .....	2.48mA	—
	Instructional Safeguard .....		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits	No external circuits.	N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits	No external circuits.	N/A
	a) Equipment with earthed external circuits Measured current (mA) .....		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA).....		N/A

<b>6</b>	<b>ELECTRICALLY- CAUSED FIRE</b>		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	PS (power source) classification determined by measuring the maximum power in Figure 34 and Figure 35 for load and power source circuits.	P
6.2.2.1	General	See the following details.	P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault .....	Client declare all circuit as PS3.	P
6.2.2.4	PS1 .....		N/A
6.2.2.5	PS2 .....		N/A
6.2.2.6	PS3 .....	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources	See below.	P
6.2.3.1	Arcing PIS .....	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS .....	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials.....	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure	The equipment is a building-in type and evaluation is to be made during the final system approval.	N/A
6.4	Safeguards against fire under single fault conditions		P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.1	Safeguard Method	Control of fire spread.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	See sub-clauses 6.4.4, 6.4.5 and 6.4.6.	N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions ..... :		N/A
	Special conditions for temperature limited by fuse	No such consideration.	N/A
6.4.4	Control of fire spread in PS1 circuits	PS3 circuits inside.	N/A
6.4.5	Control of fire spread in PS2 circuits	PS3 circuits inside.	N/A
6.4.5.2	Supplementary safeguards ..... :	Compliance detailed as follows: - Printed board: rated min. V-1 - Wire insulation (tubing): complying with Clause 6 (See Table 4.1.2 for tubing used). - All other components: at least V-2 except for mounted on min. V-1 material or small parts of combustible material. - Isolating transformer: complying with G.5.3. (See appended tables 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuit	Compliance detailed as follows: - Parts as in 6.4.5 above. - Fire enclosure provided.	P
6.4.7	Separation of combustible materials from a PIS		P
6.4.7.1	General..... :		P
6.4.7.2	Separation by distance	The appliance inlet side and PIS distance is more than <b>13mm</b> to the opening.  All components and combustible materials other than small parts are either rated at least V-2 class material or mounted on PCB material with rated min. V-1 class material.	P
6.4.7.3	Separation by a fire barrier	No such barrier provided.	N/A
6.4.8	Fire enclosures and fire barriers	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.1	Fire enclosure and fire barrier material properties	The side of appliance inlet was evaluated according to client's requirement. The equipment is a building-in type and re-evaluation is to be made during the final system approval.	P
6.4.8.2.1	Requirements for a fire barrier	No fire barrier used.	N/A
6.4.8.2.2	Requirements for a fire enclosure	Available power does not exceed 4000W, and metal enclosure used.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions	See clause 6.4.8.2.1.	N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) ..... :	The side of appliance inlet was evaluated according to client requirement. Max opening size. <b>3.5mm</b> <5 mm in any dimension.	P
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm) ..... :	No bottom opening.	P
	Flammability tests for the bottom of a fire enclosure ..... :	See above.	N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)..... :	The equipment is a building-in type and re-evaluation is to be made during the final system approval.	N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating..... :	See above.	N/A
6.5	Internal and external wiring		P
6.5.1	Requirements	The material of VW-1 on internal wiring were considered compliance equal to equivalent to IEC/TS 60695-11-21 relevant standards.	P
6.5.2	Cross-sectional area (mm <sup>2</sup> ) ..... :	See table 4.1.2.	—
6.5.3	Requirements for interconnection to building wiring ..... :	No such interconnection to building wiring.	N/A
6.6	Safeguards against fire due to connection to additional equipment	No such connection to additional equipment. The equipment is a building-in type and evaluation is also to be made during the final system approval.	N/A
	External port limited to PS2 or complies with Clause Q.1	See above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<b>7</b>	<b>INJURY CAUSED BY HAZARDOUS SUBSTANCES</b>		N/A
7.2	Reduction of exposure to hazardous substances	No hazardous chemicals within the equipment. The equipment is a building-in type and evaluation is also to be made during the final system approval.	N/A
7.3	Ozone exposure	No ozone production within the equipment. The equipment is a building-in type and evaluation is also to be made during the final system approval.	N/A
7.4	Use of personal safeguards (PPE)	The equipment is a building-in type and evaluation is to be made during the final system approval.	N/A
	Personal safeguards and instructions .....	See above.	—
7.5	Use of instructional safeguards and instructions	The equipment is a building-in type and evaluation is to be made during the final system approval.	N/A
	Instructional safeguard (ISO 7010) .....	(See Annex F)	—
7.6	Batteries .....	No batteries used.	N/A

<b>8</b>	<b>MECHANICALLY-CAUSED INJURY</b>		P
8.1	General	See the following details.	P
8.2	Mechanical energy source classifications	Sharp edges and corners, classified as MS1. However, the equipment is a building-in type and evaluation is also to be made during the final system approval.	P
8.3	Safeguards against mechanical energy sources	See above.	N/A
8.4	Safeguards against parts with sharp edges and corners	Accessible edges and corners of the equipment are rounded and classified as MS1.	N/A
8.4.1	Safeguards	See above.	N/A
8.5	Safeguards against moving parts	Fan blade is protected by fan guard and fan housing. The equipment is a building-in type and evaluation is also to be made during the final system approval.	P
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment	See above.	N/A
8.5.2	Instructional Safeguard .....	See above.	—
8.5.4	Special categories of equipment comprising moving parts	No such equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.1	Large data storage equipment	See above.	N/A
8.5.4.2	Equipment having electromechanical device for destruction of media	See above.	N/A
8.5.4.2.1	Safeguards and Safety Interlocks .....	See above.	N/A
8.5.4.2.2	Instructional safeguards against moving parts	See above.	N/A
	Instructional Safeguard .....	See above.	—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N) .....		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test.....		N/A
8.6	Stability	The equipment is a building-in type and evaluation is to be made during the final system approval.	N/A
8.6.1	Product classification		N/A
	Instructional Safeguard .....		—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force .....		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt.....		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force).....		N/A
	Position of feet or movable parts .....		—
8.7	Equipment mounted to wall or ceiling	The equipment is for building-in type and not mounted to wall or ceiling.	N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface) .....		N/A
8.7.2	Direction and applied force .....		N/A
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force .....		N/A
8.9	Wheels or casters attachment requirements	The equipment is for building-in type and no such wheels or casters within the equipment.	N/A
8.9.1	Classification	See above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.9.2	Applied force .....	See above.	—
8.10	Carts, stands and similar carriers	The equipment is for building-in type and no such devices provided within the equipment.	N/A
8.10.1	General	See above.	N/A
8.10.2	Marking and instructions	See above.	N/A
	Instructional Safeguard.....		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force .....		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N) .....		—
8.10.6	Thermoplastic temperature stability (°C).....		N/A
8.11	Mounting means for rack mounted equipment	The equipment is for building-in type and not intended to be rack mounted.	N/A
8.11.1	General	See above.	N/A
8.11.2	Product Classification	See above.	N/A
8.11.3	Mechanical strength test, variable <i>N</i> .....	See above.	N/A
8.11.4	Mechanical strength test 250N, including end stops	See above.	N/A
8.12	Telescoping or rod antennas .....	No such devices provided within the equipment.	N/A
	Button/Ball diameter (mm) .....	See above.	—

<b>9</b>	<b>THERMAL BURN INJURY</b>		P
9.2	Thermal energy source classifications	The inlet side is complied with TS1. The equipment is a building-in type and evaluation is also to be made during the final system approval.	P
9.3	Safeguard against thermal energy sources	See below.	P
9.4	Requirements for safeguards		N/A
9.4.1	Equipment safeguard	The equipment is a building-in type and evaluation is also to be made during the final system approval.	N/A
9.4.2	Instructional safeguard .....		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
10.2.1	General classification	See above.	N/A
10.3	Protection against laser radiation		N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault.....:		N/A
	Instructional safeguard.....:		—
	Tool.....:		—
10.4	Protection against visible, infrared, and UV radiation		N/A
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons..... :		N/A
10.4.1.b)	RS3 accessible to a skilled person..... :		N/A
	Personal safeguard (PPE) instructional safeguard..... :		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1 ....:		N/A
10.4.1.d)	Normal, abnormal, single-fault conditions ..... :		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque..... :		N/A
10.4.1.f)	UV attenuation ..... :		N/A
10.4.1.g)	Materials resistant to degradation UV ..... :		N/A
10.4.1.h)	Enclosure containment of optical radiation ..... :		N/A
10.4.1.i)	Exempt Group under normal operating conditions:		N/A
10.4.2	Instructional safeguard..... :		N/A
10.5	Protection against x-radiation	No such X-radiation generated from the equipment.	N/A
10.5.1	X- radiation energy source that exists equipment:		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards..... :		N/A
	Instructional safeguard for skilled person.....:		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation..... :		—
	Abnormal and single-fault condition ..... :		N/A
	Maximum radiation (pA/kg)..... :		N/A
10.6	Protection against acoustic energy sources	Not such equipment.	N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A) ..... :		N/A
	Output voltage, unweighted r.m.s..... :		N/A



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

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Clause	Requirement + Test	Result - Remark	Verdict

<b>B</b>	<b>NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS</b>		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements .....	See " <b>Summary of testing</b> " on page 4 and appended table.	P
	Audio Amplifiers and equipment with audio amplifiers .....	Not such equipment.	N/A
B.2.3	Supply voltage and tolerances		P
B.2.5	Input test.....	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements .....	(See appended table B.3)	P
B.3.2	Covering of ventilation openings	(See appended table B.3)	P
B.3.3	D.C. mains polarity test	Not connected to D.C. mains	N/A
B.3.4	Setting of voltage selector .....	No voltage selector was used.	N/A
B.3.5	Maximum load at output terminals .....	(See appended table B.3)	P
B.3.6	Reverse battery polarity	No battery within the equipment.	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	Not such equipment.	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effective.	P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited .....	(See appended table B.4)	P
B.4.3	Motor tests	Approved DC motor used.	P
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature .....	(See appended table B.3)	P
B.4.4	Short circuit of functional insulation	See the following details.	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards used.	N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4 for faults on semiconductor components)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components	The equipment is continuous operating type and no such components intended for short time operation or intermittent operation	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		P
B.4.9	Battery charging under single fault conditions .....	No battery used.	N/A
<b>C</b>	<b>UV RADIATION</b>		N/A
C.1	Protection of materials in equipment from UV radiation	No UV generated from the equipment.	N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
<b>D</b>	<b>TEST GENERATORS</b>		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
<b>E</b>	<b>TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS</b>		N/A
E.1	Audio amplifier normal operating conditions	Not such equipment.	N/A
	Audio signal voltage (V) .....		—
	Rated load impedance ( $\Omega$ ) .....		—
E.2	Audio amplifier abnormal operating conditions		N/A
<b>F</b>	<b>EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS</b>		P
F.1	General requirements	See below.	P
	Instructions – Language .....	English version user manual was provided. (version in other language will be provided when submitted for national approval)	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific	See copy of marking plate.	P
F.3	Equipment markings		P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.1	Equipment marking locations	The required marking is located on the enclosure of the equipment and is easily visible.	P
F.3.2	Equipment identification markings	See copy of marking plate.	P
F.3.2.1	Manufacturer identification .....	See copy of marking plate.	—
F.3.2.2	Model identification .....	See model list.	—
F.3.3	Equipment rating markings	See the following details.	P
F.3.3.1	Equipment with direct connection to mains	The equipment is connection to AC mains directly, refers to F.3.3.3 - F.3.3.6.	P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage .....	AC	—
F.3.3.4	Rated voltage .....	See copy of marking plate.	—
F.3.3.4	Rated frequency.....	See copy of marking plate.	—
F.3.3.6	Rated current or rated power .....	See copy of marking plate.	—
F.3.3.7	Equipment with multiple supply connections	Only one mains supply connection provided.	N/A
F.3.4	Voltage setting device	No voltage setting device.	N/A
F.3.5	Terminals and operating devices	See below.	P
F.3.5.1	Mains appliance outlet and socket-outlet markings .....	No mains outlet used.	N/A
F.3.5.2	Switch position identification marking .....	See <b>General product information - Markings and Instructions.</b>	P
F.3.5.3	Replacement fuse identification and rating markings.....	The current fuse is not intended to be replaceable.	N/A
F.3.5.4	Replacement battery identification marking.....	No such battery on the equipment. See sub-clause F.5	N/A
F.3.5.5	Terminal marking location	The markings specified in F3.6.1 - F.3.6.2.2 were not placed on screws, removable parts.	P
F.3.6	Equipment markings related to equipment classification	See below.	P
F.3.6.1	Class I Equipment		P
F.3.6.1.1	Protective earthing conductor terminal	Class I equipment, protective earthing symbol marked on the appliance inlet.	P
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		P
F.3.6.2	Class II equipment (IEC60417-5172)	Class I	N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking .....	IPX0	—
F.3.8	External power supply output marking	See copy of marking plate.	P
F.3.9	Durability, legibility and permanence of marking	Marking is considered to be legible and easily discernible. See also the following details.	P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge. After each test, the marking remained legible.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking	Built-in equipment and should be considered at the end system.	N/A
	b) Instructions given for installation or initial use	User manual is available	P
	c) Equipment intended to be fastened in place	Not such equipment.	N/A
	d) Equipment intended for use only in restricted access area	Not such equipment.	N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1	No such terminals provided.	N/A
	f) Protective earthing employed as safeguard	Considered in the user manual.	P
	g) Protective earthing conductor current exceeding ES2 limits		N/A
	h) Symbols used on equipment	Considered in the user manual.	P
	i) Permanently connected equipment not provided with all-pole mains switch	Not such connection	N/A
	j) Replaceable components or modules providing safeguard function	No replaceable components or modules.	N/A
F.5	Instructional safeguards		N/A
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<b>G</b>	<b>COMPONENTS</b>		P
<b>G.1</b>	<b>Switches</b>		P
G.1.1	General requirements	The mains switches does not as disconnect devices.	P
G.1.2	Ratings, endurance, spacing, maximum load	The VDE approved mains switch used, detail see table 4.1.2.	P
<b>G.2</b>	<b>Relays</b>		P
G.2.1	General requirements	Approved source used	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
<b>G.3</b>	<b>Protection Devices</b>		P
G.3.1	Thermal cut-offs	No thermal cut-off used.	N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691	No thermal link used.	N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H) .....		—
	Single Fault Condition.....		—
	Test Voltage (V) and Insulation Resistance ( $\Omega$ ) ...:		—
G.3.3	PTC Thermistors	No such PTC thermistor used.	N/A
G.3.4	Overcurrent protection devices	Current fuse complying with IEC/EN 60127 series as overcurrent protection device.	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions .....		N/A
<b>G.4</b>	<b>Connectors</b>		P
G.4.1	Spacings	See below.	P
G.4.2	Mains connector configuration .....	Approved inlet.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	No mismatching of connectors, plugs or sockets possible.	P

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Clause	Requirement + Test	Result - Remark	Verdict
<b>G.5</b>	<b>Wound Components</b>		P
G.5.1	Wire insulation in wound components .....	Approved triple insulated wire (TIW) used in mains transformer. Refer to Annex J.	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Insulation tape or tube used.	P
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s) .....		—
	Temperature (°C) .....		—
G.5.2.3	Wound Components supplied by mains		N/A
<b>G.5.3</b>	<b>Transformers</b>		P
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1) .....	The transformer meets the requirements given in G.5.3.2 and G.5.3.3.	P
	Position .....	See table 4.1.2.	—
	Method of protection .....	By protection circuit design.	—
G.5.3.2	Insulation		P
	Protection from displacement of windings .....	By insulating tape	—
G.5.3.3	Overload test .....	(See appended table B.3)	P
G.5.3.3.1	Test conditions		P
G.5.3.3.2	Winding Temperatures testing in the unit	(See appended table B.3 & B.4)	P
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
<b>G.5.4</b>	<b>Motors</b>		P
G.5.4.1	General requirements	Approved DC fan used.	P
	Position .....		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days) .....		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V) .....		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h) .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Electric strength test (V) .....		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature .....		N/A
	Electric strength test (V) .....		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h) .....		N/A
	Electric strength test (V) .....		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage .....		—
<b>G.6</b>	<b>Wire Insulation</b>		P
G.6.1	General		P
G.6.2	Solvent-based enamel wiring insulation	Insulation does not rely on solvent-based enamel.	N/A
<b>G.7</b>	<b>Mains supply cords</b>		N/A
G.7.1	General requirements	No provided mains supply cords.	N/A
	Type.....		—
	Rated current (A) .....		—
	Cross-sectional area (mm <sup>2</sup> ), (AWG) .....		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N) .....		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm) .....		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry .....		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g) .....		—
	Diameter (m) .....		—
	Temperature (°C) .....		—



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Clause	Requirement + Test	Result - Remark	Verdict
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire	No such wire.	N/A
G.7.6.2.1	Test with 8 mm strand		N/A
<b>G.8</b>	<b>Varistors</b>		P
G.8.1	General requirements	Approved sources used	P
G.8.2	Safeguard against shock		P
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test..... :		N/A
G.8.3.3	Temporary overvoltage..... :		N/A
<b>G.9</b>	<b>Integrated Circuit (IC) Current Limiters</b>		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No IC current limiter provided within the equipment.	N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA ..... :		—
G.9.1 d)	IC limiter output current (max. 5A) ..... :		—
G.9.1 e)	Manufacturers' defined drift ..... :		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
<b>G.10</b>	<b>Resistors</b>		P
G.10.1	General requirements		P
G.10.2	Resistor test	The approval bleeder resistors are served as reinforced safeguard but not across basic, supplementary or reinforced insulations, no energy hazards between access terminal and ordinary person, see table 4.1.2.	P
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<b>G.11</b>	<b>Capacitor and RC units</b>		P
G.11.1	General requirements	Capacitors used in accordance with their rating and complied with subclasses of IEC/EN 60384-14.	P
G.11.2	Conditioning of capacitors and RC units	At least 21 days at 40°C and 93% R.H.	P
G.11.3	Rules for selecting capacitors	The selection followed with tables G.9 and G.12.	P
<b>G.12</b>	<b>Optocouplers</b>		P
	Optocouplers comply with IEC 60747-5-5: 2007 Spacing or Electric Strength Test (specify option and test results)..... :	The optocoupler complied with standard IEC/EN 60747-5-5. (See appended table 4.1.2)	P
	Type test voltage Vini .....		—
	Routine test voltage, Vini,b .....		—
<b>G.13</b>	<b>Printed boards</b>		P
G.13.1	General requirements	See the following details.	P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards	No coated printed board or multilayer board applied for within the equipment.	N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction) .....		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation .....		N/A
	Number of insulation layers (pcs) .....		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
<b>G.14</b>	<b>Coating on components terminals</b>		N/A
G.14.1	Requirements .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

<b>G.15</b>	<b>Liquid filled components</b>		N/A
G.15.1	General requirements	No such device provided within the equipment.	N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
<b>G.16</b>	<b>IC including capacitor discharge function (ICX)</b>		P
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours	Approved discharged IC used.	P
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage .....		P
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		P
C2)	Test voltage .....		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		P
D2)	Capacitance .....		—
D3)	Resistance .....		—

<b>H</b>	<b>CRITERIA FOR TELEPHONE RINGING SIGNALS</b>		N/A
H.1	General	No telephone ringing signal generated within the equipment.	N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringling signal		N/A
H.3.1.1	Frequency (Hz) .....		—
H.3.1.2	Voltage (V) .....		—
H.3.1.3	Cadence; time (s) and voltage (V) .....		—
H.3.1.4	Single fault current (mA):.....		—
H.3.2	Tripping device and monitoring voltage .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)..... :		—

<b>J</b>	<b>INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION</b>		P
	General requirements	Approved TIW used in mains transformer.	P

<b>K</b>	<b>SAFETY INTERLOCKS</b>		N/A
K.1	General requirements	No safety interlock provided.	N/A
K.2	Components of safety interlock safeguard mechanism .....		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance .....		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method .....		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location) .....		N/A
K.7.2	Overload test, Current (A) .....		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test .....		N/A

<b>L</b>	<b>DISCONNECT DEVICES</b>		P
L.1	General requirements	The appliance inlet was considered as disconnect device.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized	When the equipment was disconnected from mains, no remaining parts at hazardous voltage in the equipment. (See append table 5.5.2.2)	P
L.4	Single phase equipment	The disconnect device disconnects both poles simultanously.	P

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Clause	Requirement + Test	Result - Remark	Verdict
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources	Only one a.c. mains connection.	N/A

<b>M</b>	<b>EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS</b>		N/A
M.1	General requirements	No battery used.	N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method) .... :		N/A
M.3	Protection circuits		N/A
M.3.1	Requirements		N/A
M.3.2	Tests		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
M.3.3	Compliance ..... :		N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature..... :		—
M.4.2.2 b)	Single faults in charging circuitry..... :		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A

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

<b>N</b>	<b>ELECTROCHEMICAL POTENTIALS</b>		P
	Metal(s) used .....	Complied.	—

<b>O</b>	<b>MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES</b>		P
	Figures O.1 to O.20 of this Annex applied.....	Considered.	—

<b>IEC 62368-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>P</b>	<b>SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS</b>		<b>P</b>
P.1	General requirements	See the following details.	P
P.2.2	Safeguards against entry of foreign object	The appliance inlet side evaluated according to the opening requirements. Other sides should be evaluated during the final system approval.	P
	Location and Dimensions (mm) .....	The inlet side, see clause 6.4.8.3.3. Other sides should be evaluated during the final system approval.	—
P.2.3	Safeguard against the consequences of entry of foreign object	See above.	P
P.2.3.1	Safeguards against the entry of a foreign object		P
	Openings in transportable equipment	Not transportable equipment.	N/A
	Transportable equipment with metalized plastic parts .....		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard) .....		N/A
P.3	Safeguards against spillage of internal liquids	No such liquids.	N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts	No such construction.	N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C) .....		—
	Tr (°C) .....		—
	Ta (°C) .....		—
P.4.2 b)	Abrasion testing .....		N/A
P.4.2 c)	Mechanical strength testing .....		N/A

<b>Q</b>	<b>CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING</b>		<b>N/A</b>
Q.1	Limited power sources	The output is not complying with limited power sources (LPS).	N/A
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable	No such circuit within the equipment.	N/A
	Maximum output current (A) .....		—
	Current limiting method .....		—

R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A). .....		N/A

S	TESTS FOR RESISTANCE TO HEAT AND FIRE		P
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W	UL approved material used.	N/A
	Samples, material .....		—
	Wall thickness (mm) .....		—
	Conditioning (°C) .....		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material .....		—
	Wall thickness (mm) .....		—
	Conditioning (°C) .....		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material .....		—
	Wall thickness (mm) .....		—



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Clause	Requirement + Test	Result - Remark	Verdict
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials	See table 4.1.2.	P
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material .....		—
	Wall thickness (mm) .....		—
	Conditioning (test condition), (°C) .....		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A

T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements	The equipment is building-in type and evaluation is also to be made during the final system approval. See the following details.	P
T.2	Steady force test, 10 N .....	10 N applied to all components other than the parts serving as an enclosure.	P
T.3	Steady force test, 30 N .....		N/A
T.4	Steady force test, 100 N .....	(See appended table T.4)	P
T.5	Steady force test, 250 N .....	(See appended table T.5)	P
T.6	Enclosure impact test	(See appended table T.6)	P
	Fall test		P
	Swing test		N/A
T.7	Drop test .....		N/A
T.8	Stress relief test .....	The metal chassis is provided. (See appended table T.8).	N/A
T.9	Impact Test (glass)	No such glass provided within the equipment.	N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J) .....		—
	Height (m) .....		—
T.10	Glass fragmentation test .....		N/A

<b>IEC 62368-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
T.11	Test for telescoping or rod antennas	No such antennas provided within the equipment.	N/A
	Torque value (Nm) .....		—
<b>U</b>	<b>MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION</b>		N/A
U.1	General requirements	No CRT provided.	N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....:		N/A
<b>V</b>	<b>DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)</b>		P
V.1	Accessible parts of equipment	Only considered the inlet side. The equipment is building-in type and evaluation is to be made during the final system approval	P
V.2	Accessible part criterion	No accessible hazard part on the inlet side.	P

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Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	TABLE: List of critical components					P
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1</sup> )	
The below components used for all models						
Enclosure	Interchangeable	Interchangeable	Metal, 0.8mm thickness min.	--	Test with appliance	
Appliance Inlet	Rong Feng Industrial Co., Ltd.	SS-7B	AC 250V, 70°C, 10A (for VDE and CCC), 15A (for UL)	IEC/EN 60320-1, UL 498	VDE, UL	
(Alt.)	Solteam Electronics Co., Ltd.	ST-01	AC 250V, 70°C, 10A (for ENEC, CCC), 15A (for UL), AC 250V, 10A/ AC 125V, 15A (for VPC)	IEC/EN 60320-1+A1, UL 498	VDE, UL	
(Alt.)	Canal Electronics Co., Ltd.	KS-101	AC 250V, 10A/15A, (15A for UL) 70°C	IEC/EN 60320-1	ENEC	
For European power cord set (optional)						
Plug	I-Sheng Electric Wire & Cable Co., Ltd.	SP-022	AC 250V, 16A	VDE 0620-1, IEC/EN 60884-1+A1	VDE, Demko	
Power cord	I-Sheng Electric Wire & Cable Co., Ltd.	H05VV-F	3G 1.0mm <sup>2</sup>	IEC 60227	VDE, Demko	
Connector	I-Sheng Electric Wire & Cable Co., Ltd.	IS-14	AC 250V, 10A,	VDE 0625-1, IEC/EN 60320-1+A1	VDE, Demko	
For the United Kingdom power cord set (optional)						
Plug	I-Sheng Electric Wire & Cable Co., Ltd.	SP-62	AC 250V, 10A	BS 1363-1, SS145: part 1	ASTA	
Power cord	I-Sheng Electric Wire & Cable Co., Ltd.	H05VV-F	3G 0.75mm <sup>2</sup>	IEC60227	ASTA	
Connector	I-Sheng Electric Wire & Cable Co., Ltd.	IS-14	AC 250V, 10A,	VDE 0625-1, IEC 60320-1+A1	ASTA	
For Australia power cord set (optional)						
Plug	I-Sheng Electric Wire & Cable Co., Ltd.	SP-502B (Q88071)	AC 250V, 10A	AS/NZS3112	ESO	
Power cord	I-Sheng Electric Wire & Cable Co., Ltd.	H05Z1Z1-F (Q090060)	3G 1.0mm <sup>2</sup>	AS/NZS3112	ESO	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
Connector	I-Sheng Electric Wire & Cable Co., Ltd.	IS-14 (Q88116)	AC 250V, 10A,	AS/NZS3112	ESO
For Australia power cord set (optional) (alternate)					
Plug	Taiwan Line Tek Electronic Co., Ltd	LP-23A	AC 250V, 10A	AS/NZS3112	ESO
Power cord	Taiwan Line Tek Electronic Co., Ltd	H05VV-F	3G 1.0mm <sup>2</sup>	AS/NZS 3191	SAI
Connector	Taiwan Line Tek Electronic Co., Ltd	LS-60	AC 250V, 10A,	IEC 60320-1	SAI
For Japan power cord set (optional)					
Plug	I-Sheng Electric Wire & Cable Co., Ltd.	SP-18C	AC 125V, 15A	VDE 0620-1, IEC/EN 60884- 1+A1	PSE
Power cord	SANWA.D.S	VCTF	3G 2.0mm <sup>2</sup>	IEC60227	PSE
Connector	I-Sheng Electric Wire & Cable Co., Ltd.	IS-14	AC 125V, 15A,	VDE 0625-1, IEC/EN 60320- 1+A1	PSE
For Korea power cord set (optional)					
Plug	I-Sheng Manufacturing (Songgang) Factory	SP-023	AC 250V, 16A	K60799	KC
Power cord	I-Sheng Manufacturing (Songgang) Factory	H05VV-F	3G 1.0mm <sup>2</sup>	IEC60227	KC
Connector	I-Sheng Manufacturing (Songgang) Factory	IS-14	AC 250V, 10A,	K60799	KC
For Hong Kong power cord set (optional)					
Plug	I-Sheng Electric Wire & Cable Co., Ltd.	SP-62	AC 250V, 10A	BS 1363-1, SS145: part 1	ASTA
Power cord	I-Sheng Electric Wire & Cable Co., Ltd.	H05VV-F	3G 0.75mm <sup>2</sup>	IEC60227	ASTA
Connector	I-Sheng Electric Wire & Cable Co., Ltd.	IS-14	AC 250V, 10A,	VDE 0625-1, IEC 60320-1+A1	ASTA

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
For Hong Kong power cord set (optional) (alternate)					
Plug	Taiwan Line Tek Electronic Co., Ltd	LP-61L	AC 250V, 10A	BS1363	BSI
Power cord	Taiwan Line Tek Electronic Co., Ltd	H05VV-F	3G 1.0mm <sup>2</sup>	IEC 60227	BSI
Connector	Taiwan Line Tek Electronic Co., Ltd	LS-60	AC 250V, 10A,	EN60320-1	BSI
For China power cord set (optional)					
Plug	I-Sheng Manufacturing (Song gang) Factory	SP-504	AC 250V, 10A	GB15934-2008	CCC
Power cord	I-Sheng Manufacturing (Song gang) Factory	H05VV-F	3G 1.0mm <sup>2</sup>	GB/T 5023.5/ IEC60227-5	CCC
Connector	I-Sheng Manufacturing (Song gang) Factory	IS-14	AC 250V, 10A,	VDE 0625-1, IEC/EN 60320- 1+A1	CCC
Power switch (SW1 )	Rong Feng Industrial Co., Ltd.	RF-1003B	AC 250V, 16A	IEC/EN61058, UL1054	VDE, UL
Y-Capacitors (CY1, CY2) (soldered on Inlet)	Murata	KH	1500pF max., AC 250V min., 125°C, Y2 type.	IEC/EN 60384-14	VDE, UL
(Alt.)	TDK-EPC	CS	1500pF max., AC 250V min., 125°C, Y2 type.	IEC/EN 60384-14	VDE, UL
(Alt.)	Walsin	AC	1500pF max., AC 250V min., 125°C, Y2 type.	IEC/EN 60384-14	VDE, UL
X-Capacitors (CX1, CX2)	Okaya Electric Industries Co., Ltd. (for ENEC and UL) OKAYA(HONGK ONG) LTD DONG GUAN DONG KENG OKAYA FACTORY (for CQC)	LE(-*) (for ENEC) LE+++ (for UL) LE Series (for UL),LE (for CQC)	CX1=1.5µF max., CX2=0.68µF max., AC 250V min., 100°C min., X2 type min.	IEC/EN 60384-14	VDE, ENEC, UL, CQC

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
(Alt.)	Hua Jung Components Co., Ltd. (for UL and CQC), Hua Jung Electronics (Guangdong) Co., Ltd. (for ENEC)	MKP	CX1=1.5µF max., CX2=0.68µF max., AC 250V min., 100°C min., X2 type min.	IEC/EN 60384-14	ENEC, UL, CQC
(Alt.)	Panasonic Corporation, Panasonic Corporation Of North America (For UL)	ECQUL	CX1=1.5µF max., CX2=0.68µF max., AC 250V min., 100°C min., X2 type min.	IEC/EN 60384-14	VDE, UL, CQC
(Alt.)	KEMET ELECTRONICS ITALIA SRL (for UL), KEMET ELECTRONICS CORPORATION (for IMQ), 1.ARCOTRONIC S ITALIA S.P.A (for CQC), 2.3. ARCOTRONICS Industries S.r.l (for CQC)	R.46	CX1=1.5µF max., CX2=0.68µF max., AC 250V min., 100°C min., X2 type min.	IEC/EN 60384-14	ENEC, UL, CQC
(Alt.)	EPCOS Electronic Components S.A.	B3292# (for VDE) B3292x-x2xxx* (for UL) B3292x-x3xxx* (for UL)	CX1=1.5µF max., CX2=0.68µF max., AC 250V min., 100°C min., X2 type min.	IEC/EN 60384-14	ENEC, UL, CQC
(Alt.)	Europtronic (Taiwan) Ind. Corp. (for ENEC, VDE and CQC) EUROPTRONIC (TAIWAN) INDUSTRIAL CORP (for UL)	MPX2, MPX	CX1=1.5µF max., CX2=0.68µF max., AC 250V min., 100°C min., X2 type min.	IEC/EN 60384-14	VDE, UL, CQC

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
(Alt.)	1.PILKOR ELECTRONICS CO LTD (for UL) 2.Pilkor Electronics Ltd. (for ENEC, CQC) 3.RONG CHENG PILKOR ELEC.,LTD (for CQC)	PCX2 339	CX1=1.5µF max., CX2=0.68µF max., AC 250V min., 100°C min., X2 type min.	IEC/EN 60384-14	ENEC, UL, CQC
(Alt.)	Xiamen Faratronic Co. Ltd.	MKP62	CX1=1.5µF max., CX2=0.68µF max., AC 250V min., 100°C min., X2 type min.	IEC/EN 60384- 14:2005, UL 1414	VDE, ENEC, UL, CQC
(Alt.)	Strong Components Co Ltd	MPX	CX1=1.5µF max., CX2=0.68µF max., AC 250V min., 100°C min., X2 type min.	IEC/EN 60384- 14:2005, UL 1414	VDE, ENEC, UL, CQC
(Alt.)	ZhuHai Sung Ho Electronics Co. Ltd.	CMPP	CX1=1.5µF max., CX2=0.68µF max., AC 250V min., 100°C min., X2 type min.	IEC/EN 60384- 14:2005, UL 1414	VDE, ENEC, UL, CQC
Fuse (F1)	Littelfuse Inc (for UL) Suzhou Littelfuse OVS Ltd. (for S and CQC)	216	AC 250V, F16AH	IEC/EN 60127-1, IEC/EN 60127-2, UL 248	VDE, UL
(Alt.)	Conquer	UBM-A	AC 250V, F16AH	IEC/EN 60127-1, IEC/EN 60127-2, UL 248	TÜV, UL
Varistor (Z1)	Thinking	TVR14471	AC 300V, 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 60051-2-2, IEC/EN 60950-1 2nd 1.5.9.1 (Annex Q) UL 1449 (SPD Type 3)	VDE, UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
(Alt.)	Thinking	TVR14D471	AC 300V, 6000A, 85°C	IEC 61051-1, IEC 61051-2, IEC 60051-2-2, IEC/EN 60950-1 2nd 1.5.9.1 (Annex Q) UL 1449 (SPD Type 3)	VDE, UL
(Alt.)	Walsin	VZ14E471K	AC 300V, 6000A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, IEC/EN 60950-1 2nd 1.5.9.1 (Annex Q) UL 1449 (SPD Type 3)	VDE, UL
(Alt.)	Walsin	SR471K14E	AC 300V, 6000A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, IEC/EN 60950-1 2nd 1.5.9.1 (Annex Q) UL 1449 (SPD Type 3)	VDE, UL
(Alt.)	Joyin	14N471K	AC 300V, 4500A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, IEC/EN 60950-1 2nd 1.5.9.1 (Annex Q) UL 1449 (SPD Type 3)	VDE, UL
(Alt.)	Joyin	14S471K	AC 300V, 6000A, 85°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, IEC/EN 60950-1 2nd 1.5.9.1 (Annex Q) UL 1449 (SPD Type 3)	VDE, UL
Line Filter (FL1)	Delta Electronics, Inc.	HFH-DTD15064	130°C, 85°C	IEC/EN 62368-1	Tested with appliance
Y-Capacitors (CY3, CY4, CY5, CY6)	Murata Mfg. Co., Ltd. (for VDE, UL) Murata Manufacturing Co., Ltd. (for CQC)	KH or KX	CY3=CY4=CY5= CY6=2200pF max., AC 250V min., 125°C, Y2 type.	IEC/EN 60384-14	VDE, UL, CQC



IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
(Alt.)	TDK-EPC Corporation (for VDE), TDK-EPC CORP (for UL)	CS or CD	CY3=CY4=CY5= CY6=2200pF max., AC 250V min., 125°C, Y2 type.	IEC/EN 60384-14	VDE, UL, CQC
(Alt.)	Murata Mfg. Co., Ltd. (for VDE, UL) Murata Manufacturing Co., Ltd. (for CQC)	AC or AH	CY3=CY4=CY5= CY6=2200pF max., AC 250V min., 125°C, Y2 type.	IEC/EN 60384-14	VDE, ENEC, UL, CQC
Line Filter (FL2)	Delta Electronics, Inc.	HFV-DTD15065	130°C	IEC/EN 62368-1	Tested with appliance
Bridge Rectifiers (BD1, BD2)	Interchangeable	Interchangeable	25A min., 600V min.	IEC/EN 62368-1	Tested with appliance
PFC Choke (L801)	Delta Electronics, Inc.	PFCV-CN11407	130°C	IEC/EN 62368-1	Tested with appliance
Bridging Capacitor (CY8)	Murata Mfg. Co., Ltd. (for VDE, UL) Murata Manufacturing Co., Ltd. (for CQC)	KX	100F max., AC 250V min., 125°C, Y1 type	IEC/EN 60384-14	VDE, UL, CQC
(Alt.)	Walsin Technology Corp. (for UL and VDE) Walsin Technology Corporation (for CQC)	AH	100F max., AC 250V min., 125°C, Y1 type	IEC/EN 60384-14	VDE, UL, CQC
(Alt.)	TDK-EPC Corporation (for VDE), TDK-EPC CORP (for UL)	CD	100F max., AC 250V min., 125°C, Y1 type	IEC/EN 60384-14	VDE, UL, CQC
MOSFETs (Q803, Q805, Q807)	Interchangeable	Interchangeable	16-27A, 600V min.	IEC/EN 62368-1	Tested with appliance
MOSFETs (Q504, Q505, Q508, Q509)	Interchangeable	Interchangeable	-1A~-5.9A, -30V min.	IEC/EN 62368-1	Tested with appliance
Optocouplers (IC802, IC902, IC903, IC904)	Everlight Electronics Co Ltd (For UL), Everlight Electronics Co., Ltd(for VDE,FI)	EL816 (for UL and CQC) EL816 M (for VDE) EL816("."=S,M,o r blank) (for FI)	dti.>0.5mm, ext. cr.≥7.6mm, int. cr.≥6.0mm, 110°C, isolation: AC 3000V min.	IEC/EN60747-5-5 IEC/EN60950-1 UL 1577, GB4943-2001, GB8898-2001	UL, VDE, FI, CQC, N

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
(Alt.)	EVERLIGHT ELECTRONICS CO LTD(For UL), Everlight Electronics Co., Ltd(for VDE,FI)	EL357N (for UL,and CQC) EL357N V (for VDE) ,EL357N.( "=A-Z or blank or number ) (for N)	dti.>0.4mm, Ext. cr.≥5.0mm, int. cr.>4.0mm, thermal cycling test, 110°C, isolation: AC 4800V min.	IEC/EN60747-5-5 IEC/EN60950-1 UL 1577, GB4943-2001, GB8898-2001	UL,VDE, FI, CQC
(Alt.)	EVERLIGHT ELECTRONICS CO LTD(For UL), Everlight Electronics Co., Ltd(for VDE,FI),	EL357(for CQC & UL,) EL357 V (for VDE) ,EL357.( "=A-Z or blank or number ) (for N)	dti.>0.4mm, ext. cr.≥5.0mm, int. cr.>4.0mm, thermal cycling test, 110°C, isolation: AC 4800V min.	IEC/EN60747-5-5 IEC/EN60950-1 UL 1577, GB4943-2001, GB8898-2001	UL,VDE, CQC,FI,N
(Alt.)	EVERLIGHT ELECTRONICS CO LTD(For UL), Everlight Electronics Co., Ltd(for VDE,FI)	EL101 (for UL) EL101X(X=0;1;2; 3;4;5;6;7;8;9) V (for VDE) EL101X.(X=0;1;2 ;3;4;5;6;7;8;9) (for CQC&FI)	dti>0.4 mm, ext. cr.≥8.1 mm, int. cr.>5.2mm, thermal cycling test, isolation: min. AC 4800V min, 110°C. Humidity test 120h	IEC/EN60747-5-5 IEC/EN60950-1 UL 1577, GB4943-2001, GB8898-2001	UL,VDE, FI, CQC,N
(Alt.)	COSMO Electronics Corporation (for VDE and FI); COSMO ELECTRONICS CORP (for UL)	K1010 (for VDE, FI and CQC), K1010X (for UL)	dti.>0.4mm, ext. cr.>6.5mm, int. cr.>4.0mm, thermal cycling test, isolation: AC 3000V min, 115°C	IEC/EN60747-5-5 IEC/EN60950-1 UL 1577, GB4943-2001, GB8898-2001	FI, VDE, UL, CQC
(Alt.)	SHARP CORP ELECTRONIC COMPONENTS AND DEVICES GROUP (for UL ) Sharp Corporation (for VDE, S)	PC123	dti>0.4mm, ext>8.0mm,int cr.>4.0mm, thermal cycling test, isolation: AC 3000V Min, 110°C	IEC/EN60747-5-5 IEC/EN60950-1 UL 1577, GB4943-2001, GB8898-2001	UL, VDE, S, D, CQC,FI
(Alt.)	LITE-ON TECHNOLOGY CORP,	LTV-816M(for UL,N,CQC),LTV- 816(for VDE)	dti>0.6 mm, ext. cr.>7.0mm, int cr.>5.2mm, thermal cycling tested, isolation: min. AC 4800V, 110°C	IEC/EN60747-5-5 IEC/EN60950-1 UL 1577, GB4943-2001, GB8898-2001	VDE,FI,UL,CQC ,S

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
(Alt.)	TOSHIBA CORP, SEMICONDUCT OR CO DISCRETE SEMICONDUCT OR DIV (for UL) Toshiba Corporation Semicon. Co. Discrete Div (for VDE)	TLP781/TLP781F	dti>0.5 mm, ext. cr. > 8.0 mm, int cr. > 5.0 mm, thermal cycling tested, isolation: AC 3000V Min, 115°C .	IEC/EN60747-5-5 IEC/EN60950-1 UL 1577, GB4943-2001, GB8898-2001	UL, VDE, S, CQC
(Alt.)	Renesas Electronics Corporation (for UL,VDE,S)	PS2561BL1-1,	dti.>0.4 mm, ext. cr.>7 mm, int. cr.>4.0mm,therm al cycling test, 110°C, isolation: AC 3000V min.	IEC/EN60747-5-5 IEC/EN60950-1 UL 1577, GB4943-2001, GB8898-2001	VDE, UL, CQC
(Alt.)	Renesas Electronics Corporation (for UL,VDE,S)	PS2561DL1-1	dti.>0.4 mm, ext. cr.>7 mm, int. cr.>4.0mm,therm al cycling test, 110°C, isolation: AC 3000V min.	IEC/EN60747-5-5 IEC/EN60950-1 UL 1577, GB4943-2001, GB8898-2001	VDE, UL, CQC
Thermistor (NTC151)	Thinking	TSM2A103	10kΩ at 25°C	UL 1434	UL
Insulation Sheet (between PCBs and chassis, and primary components and chassis)	Formex, Div of Il Tool Works Inc., Frmrly Fastex, Div. of Il Tool Works Inc.	FORMEX GK-17	V-0, 115°C, min. 0.41mm thickness	UL 94, UL 746C	UL
(Alt.)	ITW Electronics Components/ Products (Shanghai) Co., Ltd.	FORMEX GK-17	V-0, 115°C, min. 0.41mm thickness	UL 94, UL 746C	UL
(Alt.)	Formex, Div of Il Tool Works Inc., Frmrly Fastex, Div. of Il Tool Works Inc.	FORMEX-18	V-0, 100°C, min. 0.41mm thickness	UL 94, UL 746C	UL
(Alt.)	ITW Electronics Components/ Products (Shanghai) Co., Ltd.	FORMEX-18	V-0, 100°C, min. 0.41mm thickness	UL 94, UL 746C	UL
(Alt.)	Sabic Innovative Plastics US L L C	FR700	V-0, 130°C, min. 0.23mm	UL 94, UL 746C	UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
(Alt.)	Sabic Innovative Plastics China Co., Ltd.	FR700	V-0, 130°C, min. 0.23mm	UL 94, UL 746C	UL
(Alt.)	Sabic Innovative Plastics B V	FR700	V-0, 130°C, min. 0.23mm	UL 94, UL 746C	UL
(Alt.)	Sabic Innovative Plastics US L L C	FR1	VTM-0, 125°C, min. 0.25mm thickness	UL 94, UL746C	UL
(Alt.)	Sabic Innovative Plastics China Co Ltd	FR1	VTM-0, 125°C, min. 0.25mm thickness	UL 94, UL746C	UL
(Alt.)	Sun Delta Corp.	VS120	V-0, 130°C, min. 0.4mm thickness	UL 94, UL 746C	UL
(Alt.)	Sun Delta Corp.	VS520	V-0, 130°C, min. 0.4mm thickness	UL 94, UL 746C	UL
(Alt.)	Sumitomo	PHF150MAB	VTM-0, 130°C, min. 0.4mm thickness	UL 94, UL 746C	UL
(Alt.)	Sumitomo	PHF150MA	VTM-0, 130°C, min. 0.4mm thickness	UL 94, UL 746C	UL
(Alt.)	Shenzhen Bornsun Industrial Co., Ltd.	BN-ZD16	V-0, 115°C, min. 0.41mm thickness	UL 94, UL 746C	UL
(Alt.)	Shenzhen Bornsun Industrial Co., Ltd.	BN-HF16	V-0, 115°C, min. 0.41mm thickness	UL 94, UL 746C	UL
(Alt.)	Sabic Innovative Plastics US L L C	FR25A	V-0, 130°C, min. 0.23mm	UL 94, UL 746C	UL
(Alt.)	Sabic Innovative Plastics China Co Ltd	FR25A	V-0, 130°C, min. 0.23mm	UL 94, UL 746C	UL
(Alt.)	ITW Electronics Components/ Products (Shanghai) Co., Ltd.	FORMEX-10	VTM-0, 95°C, min. 0.25mm thickness	UL 94, UL 746C	UL
(Alt.)	Formex, Div of Il Tool Works Inc., Frmrly Fastex, Div. of Il Tool Works Inc.	FORMEX-10	VTM-0, 95°C, min. 0.25mm thickness	UL 94, UL 746C	UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
(Alt.)	ITW Electronics Components/ Products (Shanghai) Co., Ltd.	FORMEX GK-10	VTM-0, 115°C, min. 0.25mm thickness	UL 94, UL 746C	UL
(Alt.)	Formex, Div of II Tool Works Inc., Frmrly Fastex, Div. of II Tool Works Inc.	FORMEX GK-10	VTM-0, 115°C, min. 0.25mm thickness	UL 94, UL 746C	UL
(Alt.)	Toray Industries Inc	Lumirror (S10)	VTM-2, 105°C, min. 0.188mm thickness	UL 94, UL 746C	UL
(Alt.)	Sichuan Dongfang Insulating Material Co., Ltd.	DFR117ECO	V-0, 80°C, min. 0.25mm thickness	UL 94, UL 746C	UL
Insulation Sheet (provided on HS5) (under L501)	Formex, Div of II Tool Works Inc., Frmrly Fastex, Div. of II Tool Works Inc.	FORMEX GK-17	V-0, 115°C, min. 0.41mm thickness	UL 94, UL 746C	UL
(Alt.)	ITW Electronics Components/ Products (Shanghai) Co., Ltd.	FORMEX GK-17	V-0, 115°C, min. 0.41mm thickness	UL 94, UL 746C	UL
(Alt.)	Formex, Div of II Tool Works Inc., Frmrly Fastex, Div. of II Tool Works Inc.	FORMEX-18	V-0, 100°C, min. 0.41mm thickness	UL 94, UL 746C	UL
(Alt.)	ITW Electronics Components/ Products (Shanghai) Co., Ltd.	FORMEX-18	V-0, 100°C, min. 0.41mm thickness	UL 94, UL 746C	UL
(Alt.)	Sabic Innovative Plastics US L L C	FR700	V-0, 130°C, min. 0.4mm	UL 94, UL 746C	UL
(Alt.)	Sabic Innovative Plastics China Co., Ltd.	FR700	V-0, 130°C, min. 0.4mm	UL 94, UL 746C	UL
(Alt.)	Sabic Innovative Plastics B V	FR700	V-0, 130°C, min. 0.4mm	UL 94, UL 746C	UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
(Alt.)	Sabic Innovative Plastics US L L C	FR1	Min. VTM-0, min. 125°C, min. 0.4mm thickness	UL 94, UL746C	UL
(Alt.)	Sabic Innovative Plastics China Co Ltd	FR1	Min. VTM-0, min. 125°C, min. 0.4mm thickness	UL 94, UL746C	UL
(Alt.)	Sun Delta Corp.	VS120	V-0, 130°C, min. 0.4mm thickness	UL 94, UL 746C	UL
(Alt.)	Sun Delta Corp.	VS520	V-0, 130°C, min. 0.4mm thickness	UL 94, UL 746C	UL
(Alt.)	Sumitomo	PHF150MAB	Min. VTM-0, min. 130°C, min. 0.4mm thickness	UL 94, UL 746C	UL
(Alt.)	Sumitomo	PHF150MA	Min. VTM-0, min. 130°C, min. 0.4mm thickness	UL 94, UL 746C	UL
(Alt.)	Shenzhen Bornsun Industrial Co., Ltd.	BN-ZD16	V-0, 115°C, min. 0.41mm thickness	UL 94, UL 746C	UL
(Alt.)	Shenzhen Bornsun Industrial Co., Ltd.	BN-HF16	V-0, 115°C, min. 0.41mm thickness	UL 94, UL 746C	UL
(Alt.)	Sabic Innovative Plastics US L L C	FR25A	V-0, 130°C, min. 0.4mm	UL 94, UL 746C	UL
(Alt.)	Sabic Innovative Plastics China Co Ltd	FR25A	V-0, 130°C, min. 0.43mm	UL 94, UL 746C	UL
(Alt.)	ITW Electronics Components/ Products (Shanghai) Co., Ltd.	FORMEX-10	Min. VTM-0, min. 95°C, min. 0.4mm thickness	UL 94, UL 746C	UL
(Alt.)	Formex, Div of Il Tool Works Inc., Frmrly Fastex, Div. of Il Tool Works Inc.	FORMEX-10	Min. VTM-0, min. 95°C, min. 0.4mm thickness	UL 94, UL 746C	UL

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

Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
(Alt.)	ITW Electronics Components/ Products (Shanghai) Co., Ltd.	FORMEX GK-10	Min. VTM-0, min. 115°C, min. 0.4mm thickness	UL 94, UL 746C	UL
(Alt.)	Formex, Div of Il Tool Works Inc., Frmrly Fastex, Div. of Il Tool Works Inc.	FORMEX GK-10	Min. VTM-0, min. 115°C, min. 0.4mm thickness	UL 94, UL 746C	UL
(Alt.)	Toray Industries Inc	Lumirror (S10)	Min. VTM-2, min. 105°C, min. 0.4mm thickness	UL 94, UL 746C	UL
(Alt.)	Sichuan Dongfang Insulating Material Co., Ltd.	DFR117ECO	V-0, min. 80°C, min. 0.4mm thickness	UL 94, UL 746C	UL
Heat Shrinkable Tubing	Interchangeable	Interchangeable	VW-1, min. 105°C, min 0.4mm thickness	UL 224	UL
DC Fan	Delta Electronics, Inc.	AFB1312M-SE02	DC 12V, 0.38A, 95.44 CFM min.	IEC/EN 60950-1, UL 507	VDE, UL
(Alt.)	Magic	MGA13512XF- O25	DC 12V, 0.38A, 104.22 CFM min.	IEC/EN 60950-1, UL 507	TÜV, UL
PCBs material	Interchangeable	Interchangeable	V-0 min., 130°C min.	UL 796	UL

The below components only used for models GPS-850KB XX, DSA-850W801APB X

Bleeder Resistor (R2A, R2B) (before fuse) (soldered on DC- 4914)	Ta-I Technology Co., Ltd.	RH12	150K ohm max, 1/4W	(1) IEC/EN 60065, cl 14.1 a) and b)	(1) Type tested by Semko, Ref. No. ETS- 070191
(Alt.)	Taiwan Kamaya Electric co., Ltd	RVC32	150K ohm max, 1/4W	(1) IEC/EN 60065, cl 14.1 a) and b)	(1) Type tested by Intertek, Ref. No. TP09040105- ETS
(Alt.)	Yageo Corporation	2322 79xxxxxx	150K ohm max, 1/4W	(1) IEC/EN 60065, cl 14.1 a) and b)	(1) Type tested by Intertek, Ref. No. TP09040105- ETS
Discharge IC (IC1)	Power Integration	CAP008DG	85-265VAC, 47- 63Hz	IEC/EN 62368-1	Nemko CB
(Alt.)	Champion	CM02XIS	100-250Vac 47- 63Hz	IEC/EN 62368-1	UL CB

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
Electrolytic Capacitor (C801A, C801B)	Interchangeable	Interchangeable	390 $\mu$ F, 450V min., 105°C min.	IEC/EN 62368-1	Tested with appliance
MOSFETs (Q502, Q503, Q506, Q507)	Interchangeable	Interchangeable	21A min, 600V min.	IEC/EN 62368-1	Tested with appliance
Choke (L501)	Delta Electronics, Inc.	CPH-DTD15079	130°C	IEC/EN 62368-1	Tested with appliance
Thermistor (NTC801)	Interchangeable	Interchangeable	5 ohm, at 25°C	IEC/EN 62368-1	Tested with appliance
PFC Choke (L801)	Delta Electronics, Inc.	PFCV-DTD13003	130°C	IEC/EN 62368-1	Tested with appliance
Relay (RL801)	Song Chuan Precision Co. Ltd.	835-1A-B-C	Min. 250Vac, 12Vdc, 10A, 85°C	IEC/EN 61810-1, UL 508	VDE, UL
(Alt.)	Tyco Electronics (Shenzhen) Co., Ltd.	OJE-SS-112HM2	Min. 250Vac, 12Vdc, 10A, 85°C	IEC/EN 61810-1, UL 508	VDE, UL
(Alt.)	Xiamen Hongfa Electroacoustic Co., Ltd.	HF32F-G/012-HT	Min. 250Vac, 12Vdc, 10A, 85°C	IEC/EN 61810-1, UL 508	VDE, UL
(Alt.)	Xiamen Hongfa Electroacoustic Co., Ltd.	HF32FA-G/012-HL2	Min. 250Vac, 12Vdc, 10A, 85°C	IEC/EN 61810-1, UL 508	VDE, UL
(Alt.)	Song Chuan Precision Co. Ltd.	307HN-1AH-F-C	Min. 250Vac, 12Vdc, 10A (30,000 cycles) or 8A (50,000 cycles), 85°C/ Min. 250Vac, 12Vdc, 6A (50,000 cycles), 105°C	IEC/EN 61810-1, UL 508	VDE, UL
Dio Zen (ZD902)	Interchangeable	Interchangeable	0.5W, 40.85-45.15V	IEC/EN 62368-1	Tested with appliance
Resistor (R913)	Interchangeable	Interchangeable	1/2W, 4.7ohm	IEC/EN 62368-1	Tested with appliance
Thermistor (NTC151)	Thinking Electronic Industrial Co Ltd	TSM2A103	10k ohm at 25°C	UL 1434	UL
Transformer (T501)	Delta Electronics, Inc. * See Note 3)	MH-DTD15102	Class B	Applicable parts in IEC/EN 62368-1 and according to IEC/EN 60085	Tested with appliance



IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
Transformer (CT501)	Delta Electronics, Inc. * See Note 3)	SH-PC9012	Class B	Applicable parts in IEC/EN 62368-1 and according to IEC/EN 60085	Tested with appliance
Transformer (T502)	Delta Electronics, Inc. * See Note 3)	DV-PC17024	Class B	Applicable parts in IEC/EN 62368-1 and according to IEC/EN 60085	Tested with appliance
Transformer (T901)	Delta Electronics, Inc. * See Note 3)	AV-DTD15031	Class B	Applicable parts in IEC/EN 62368-1 and according to IEC/EN 60085	Tested with appliance
Insulator (used on Main board & For HS5 and L501)	Sabic Innovative Plastics US L L C	FR25A, FR700, FR60, FR1	V-0, Min 125°C, Min. 0.23 mm thick	UL 94, UL746C	UL
(Alt.)	ITW Electronics Components/ Products (Shanghai) Co., Ltd.	FORMEX-10	VTM-0, Min 95°C, Min. 0.21mm thick	UL 94, UL746C	UL
(Alt.)	Formex, Div of II Tool Works Inc., Frmrly Fastex, Div. of II Tool Works Inc.	FORMEX-10	VTM-0, Min 95°C, Min. 0.21mm thick,	UL 94, UL746C	UL
(Alt.)	Formex, Div of II Tool Works Inc., Frmrly Fastex, Div. of II Tool Works Inc.	FORMEX-18	V-0, min 95°C, Min. 0.4mm thick,	UL 94, UL746C	UL
(Alt.)	ITW Electronics Components/ Products (Shanghai) Co., Ltd.	FORMEX GK-10	VTM-0, Min115°C, Min. 0.21mm thick,	UL 94, UL746C	UL
(Alt.)	Formex, Div of II Tool Works Inc., Frmrly Fastex, Div. of II Tool Works Inc.	FORMEX GK-10	VTM-0, Min115°C, Min. 0.21mm thick,	UL 94, UL746C	UL
(Alt.)	ITW Electronics Components/ Products (Shanghai) Co., Ltd.	FORMEX GK-17	VTM-0, Min 115°C, Min. 0.21mm thick,	UL 94, UL746C	UL

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

Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
(Alt.)	Formex, Div of Il Tool Works Inc., Frmrly Fastex, Div. of Il Tool Works Inc.	FORMEX GK-17	VTM-0, Min 115°C, Min. 0.21 mm thick,	UL 94, UL746C	UL
(Alt.)	ITW Electronics Components/ Products (Shanghai) Co., Ltd.	FORMEX-18	V-0, Min 95°C, Min. 0.21mm thick,	UL 94, UL746C	UL
(Alt.)	Toray Industries Inc	Lumirror S10	Min. VTM-2, Min 105°C, Min. 0.188 mm thick,	UL 94, UL746C	UL
(Alt.)	Sun Delta Corp	VS120	VTM-0, Min 130°C, Min. 0.1-0.33 mm thick,	UL 94, UL746C	UL
(Alt.)	Sun Delta Corp	VS520	VTM-0, Min 130°C, Min. 0.1-0.33 mm thick,	UL 94, UL746C	UL
(Alt.)	Shenzhen Bornsun Industrial Co Ltd	BN-ZD16	V-0, Min 115°C, Min. 0.41mm thick,	UL 94, UL746C	UL
(Alt.)	Shenzhen Bornsun Industrial Co Ltd	BN-ZD16	V-0, Min 115°C, Min. 0.25mm thick,	UL 94, UL746C	UL
(Alt.)	SICHUAN DONGFANG	DFR3732A	V-0, Min 120°C Min. 0.5mm	UL 94, UL746C	UL
(Alt.)	SABIC INNOVATIVE PLASTICS US L L C	EFR95	V-0, 130 degree C, Min. 0.5mm	UL 94, UL746C	UL

The below components only used for models GPS-1000DB XX, DSA-1K0W801APD X

Bleeder Resistors (R2A, R2B) (before fuse) (soldered on DC-4914)	Taiwan Kamaya Electric Co., Ltd.	RVC32	187kΩ max., 1/4W, SMD Type	IEC/EN 60950-1 2nd, cl. 1.5.7.2	Intertek, TP10030283-ETS
(Alt.)	Phycomp Taiwan Ltd.	2322 79XX	187kΩ max., 1/4W, SMD Type	IEC/EN 60950-1 2nd, cl. 1.5.7.2	Intertek, Ref. No. TP09080028-ETS
Discharge IC (IC1)	Power Integration	CAP008DG	85-265VAC, 47-63Hz	IEC/EN 62368-1	Nemko CB
(Alt.)	Champion	CM02XIS	100-250Vac 47-63Hz	IEC/EN 62368-1	UL CB

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
Choke (L501)	Delta Electronics, Inc.	CPH-PC17367	130°C	IEC/EN 62368-1	Tested with appliance
Thermistor (NTC801)	Interchangeable	Interchangeable	7A, 5Ω at 25°C	IEC/EN 62368-1	Tested with appliance
Relay (RL801)	Tyco International Ltd.	OJE-SS-112HM2	250Vac min., 10A, 12Vdc, 85°C	IEC/EN 61810-1, UL 508	VDE, UL
(Alt.)	Song Chuan Precision Co., Ltd.	835-1A-B-C	277Vac min., 10A, 12Vdc, 85°C	IEC/EN 61810-1, UL 508	TÜV, UL
(Alt.)	Xiamen Hongfa Electroacoustic Co.,	HF32F-G/012-HT	250Vac min., 10A, 12Vdc, 85°C	IEC/EN 61810-1, UL 508	VDE, UL
Electrolytic Capacitors (C801A, C801B)	Interchangeable	Interchangeable	470μF, 450V min., 105°C min.	IEC/EN 62368-1	Tested with appliance
MOSFETs (Q502, Q503, Q506, Q507)	Interchangeable	Interchangeable	31.2A, 650V min.	IEC/EN 62368-1	Tested with appliance
Isolating (current) Transformer (CT501)	Delta Electronics, Inc. * See Note 3)	SH-PC9012	Class B	Applicable parts in IEC/EN 62368-1 and according to IEC/EN 60085	Tested with appliance
Bobbin Material (for CT501)	Sumitomo Bakelite Co., Ltd.	PM-9630	Phenolic, V-0, 150°C	UL 94, UL 746C	UL
(Alt.)	Sumitomo Bakelite Co., Ltd.	E4008	LCP, V-0, 130°C	UL 94, UL 746C	UL
Isolating Transformer (T901)	Delta Electronics, Inc. * See Note 3)	AV-DTD15031	Class B	Applicable parts in IEC/EN 62368-1 and according to IEC/EN 60085	Tested with appliance
Bobbin Material (for T901)	Sumitomo	PM-9820, PM-9630, PM-8375	Phenolic, V-0, 150°C	UL 94, UL 746C	UL
Isolating Transformer (T501)	Delta Electronics, Inc. * See Note 3)	MH-DTD15102	Class B	Applicable parts in IEC/EN 62368-1 and according to IEC/EN 60085	Tested with appliance
Bobbin and Base Material (for T501)	Sumitomo	PM-9820, PM-9630	Phenolic, V-0, 150°C	UL 94, UL 746C	UL
Triple insulated wire used in T501	Furukawa Electric Co., Ltd.	TEX-E	130°C	IEC/EN 60950-1, IEC 60065:2001, EN 60065:2002, UL 2353	VDE, UL

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

Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>
(Alt.)	Totoku Electric Co., Ltd.	TIW-2 for TÜV (TIW-2X for UL), TIW-2LZ for TÜV (TIW-2LZX for UL), TIW-2S for TÜV (TIW-2SX for UL)	130°C	IEC/EN 60950-1, IEC 60065:2001, EN 60065:2002, UL 2353	TÜV, UL
Isolating Transformer (T502)	Delta Electronics, Inc. * See Note 3)	DV-DTD15010	Class B	Applicable parts in IEC/EN 62368-1 and according to IEC/EN 60085	Tested with appliance
Bobbin Material (for T502)	Sumitomo	PM-9820, PM-9630, PM-8375,	Phenolic, V-0, 150°C	UL 94, UL 746C	UL
Triple insulated wire used in T502	Furukawa Electric Co., Ltd.	TEX-E	130°C	IEC/EN 60950-1, IEC 60065:2001, EN 60065:2002, UL 2353	VDE, UL
(Alt.)	Totoku Electric Co., Ltd.	TIW-2 for TÜV (TIW-2X for UL), TIW-2LZ for TÜV (TIW-2LZX for UL), TIW-2S for TÜV (TIW-2SX for UL)	130°C	IEC/EN 60950-1, IEC 60065:2001, EN 60065:2002, UL 2353	TÜV, UL
(Alt.)	Totoku Electric Co., Ltd.	TIW-3 for TÜV (TIW-3X for UL), TIW-3LZ for TÜV (TIW-3LZX for UL)	155°C	IEC/EN 60950-1, IEC 60065:2001, EN 60065:2002, UL 2353	TÜV, UL

Supplementary Information:

- 1) Provided Evidence Ensures The Agreed Level Of Compliance. See OD-CB2039.
- 2) In Optocoupler Technical Data Column, Where "Dti." Means Distance Through Insulation, "Int." Means Internal Creepage Distance, "Ext." Means External Creepage Distance.
- 3) \* Transformer Manufacturing Plants Of Delta Electronics, Inc.:
  - Delta Electronics, Inc.
  - Delta Electronics (Wuhu) Ltd.
  - Delta Electronics (Chen Zhou) Co., Ltd.
  - Delta Electronics (Thailand) Public Co., Ltd.
  - Delta Electronics (Jiangsu) Co., Ltd.

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

4.8.4, 4.8.5	<b>TABLE: Lithium coin/button cell batteries mechanical tests</b>		N/A
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(The following mechanical tests are conducted in the sequence noted.)

4.8.4.2	<b>TABLE: Stress Relief test</b>		---
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Part	Material	Oven Temperature (°C)	Comments
--	--	--	--

4.8.4.3	<b>TABLE: Battery replacement test</b>		---
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Battery part no. ....:			---
------------------------	--	--	-----

Battery Installation/withdrawal	Battery Installation/Removal Cycle	Comments
	1	--
	2	--
	3	--
	4	--
	5	--
	6	--
	8	--
	9	--
	10	--

4.8.4.4	<b>TABLE: Drop test</b>		---
---------	-------------------------	--	-----

Impact Area	Drop Distance	Drop No.	Observations
--	--	1	--
--	--	2	--
--	--	3	--

4.8.4.5	<b>TABLE: Impact</b>		---
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Impacts per surface	Surface tested	Impact energy (Nm)	Comments
--	--	--	--

4.8.4.6	<b>TABLE: Crush test</b>		---
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Test position	Surface tested	Crushing Force (N)	Duration force applied (s)
--	--	--	--

Supplementary information: **Not Lithium coin/button cell batteries**

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

Supplementary information: --

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

5.2	Table: Classification of electrical energy sources		P
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### 5.2.2.2 – Steady State Voltage and Current conditions

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions 1)	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
1	264Va.c, 60Hz	+12V <sub>1</sub> output	Normal	12.34Vdc	--	--	ES1
			Abormal (See appended table B.3)	12.34Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	12.34Vdc	--	--	
2	264Va.c, 60Hz	+12V <sub>2</sub> output	Normal	5.12Vdc	--	--	ES1
			Abormal (See appended table B.3)	5.12Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	5.12Vdc	--	--	
3	264Va.c, 60Hz	+12V <sub>3</sub> output	Normal	12.16Vdc	--	--	ES1
			Abormal (See appended table B.3)	12.16Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	12.16Vdc	--	--	
4	264Va.c, 60Hz	+12V <sub>4</sub> output	Normal	12.16Vdc	--	--	ES1
			Abormal (See appended table B.3)	12.16Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	12.16Vdc	--	--	

Note: Input voltage: 264Vac, 60Hz

### 5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
1	264Va.c, 60Hz	L to N	Normal	CX1 =1.5µF, CX2=0.68µF	370	ES3

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

		Abnormal	--	--	--
		Single fault – SC/OC	--	--	--

5.2.2.4 - Single Pulses

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

5.2.2.5 - Repetitive Pulses

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

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

<b>5.4.1.4, 6.3.2, 9.0, B.2.6</b>	<b>TABLE: Temperature measurements</b>	P
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Supply voltage (V) ...	90	90	90	90	264	—	—
Supply frequency (Hz) .....	60	60	60	60	50	—	—
Test condition .....	A	B	C	D	C	—	—
Test position .....	I	I	I	I	I	—	—
T <sub>ma</sub> (°C) .....	See below.						—

Maximum measured temperature T of part/at:	T (°C)						Allowed T <sub>max</sub> (°C)
--	--------	--	--	--	--	--	-------------------------------

GPS-1000DB XX							
Ambient during the test	44.8	44.8	45.3	45.3	45.3	--	--
T501 primary coil	79.4	79.4	80.6	47.5	80.5	--	110
T501 secondary coil	61.4	61.1	62.0	47.4	61.6	--	110
T501 core	55.5	54.7	55.5	47.1	55.1	--	110

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
T502 coil	62.3	62.7	63.9	48.2	63.2	--	110
T502 core	62.1	62.4	63.5	48.0	62.9	--	110
CT501 coil	64.6	65.2	66.3	49.1	66.1	--	110
CT501 core	64.2	64.7	65.8	48.7	65.5	--	110
T901 coil	46.1	50.9	52.0	69.4	52.0	--	110
T901 core	45.9	49.9	50.9	68.3	50.9	--	110
IC802	65.3	66.0	67.0	48.6	66.8	--	100
IC903	46.1	49.1	49.9	61.5	49.8	--	100
IC904	48.1	52.5	53.2	58.2	53.2	--	100
L pin of inlet	48.5	48.5	49.4	45.6	46.2	--	70
FL1 coil (touches CX1)	71.5	71.4	72.6	46.4	50.7	--	130 (100)
FL2 coil (touches CY5, CY6)	65.4	65.8	66.8	47.5	56.3	--	130 (125)
CX2 near FL1	51.3	51.3	52.2	47.0	50.2	--	100
Z1	53.8	53.7	54.6	46.2	47.9	--	85
PCB near BD2 and HS1	87.3	88.7	90.3	49.4	65.8	--	130
L801 coil	68.7	69.6	70.4	48.2	51.2	--	130
RL801	47.5	48.8	49.4	52.7	48.7	--	85
C801A near NTC801	49.3	50.2	51.1	52.0	48.9	--	105
L501 coil	77.9	81.4	82.7	50.4	82.2	--	130
PCB near Q502	64.2	66.4	67.6	49.9	67.1	--	130
PCB near Q807	62.1	63.2	64.5	49.9	53.1	--	130
L951 (touches C952/C162B)	45.8	51.1	52.1	61.1	51.9	--	105 (85/85)
L101	45.9	55.1	48.8	48.7	48.5	--	105
L301	45.9	47.4	57.2	56.6	57.3	--	105
Ambient during the test	--	--	25	--	--	--	--
T501 primary coil	--	--	75.9	--	--	--	110
T501 secondary coil	--	--	76.4	--	--	--	110
T502 coil	--	--	48.5	--	--	--	110
CT501 coil	--	--	51.5	--	--	--	110
T901 coil	--	--	39.3	--	--	--	110
Case (near inlet)	--	--	31.2	--	--	--	70
Model GPS-850KB XX							
Ambient	--	--	45.1	45.0	--	--	--
T501 primary coil (Class B)	--	--	77.8	46.3	--	--	110



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

T501 secondary coil (Class B)	--	--	70.2	46.2	--	--	110
T501 Core(Class B)	--	--	71.3	46.2	--	--	110
T502 Coil(Class B)	--	--	61.7	47.5	--	--	110
T502 Core(Class B)	--	--	61.2	47.6	--	--	110
CT501 Coil(Class B)	--	--	63.7	47.8	--	--	110
CT501 Core(Class B)	--	--	64.1	47.7	--	--	110
T901 Coil(Class B)	--	--	47.6	68.6	--	--	110
T901 Core(Class B)	--	--	47.2	67.4	--	--	110
L501 coil	--	--	73.4	48.7	--	--	130
IC802	--	--	66.1	47.5	--	--	100
L pin of Socket	--	--	54.7	45.4	--	--	70
PWB near BD1	--	--	74.6	49.3	--	--	130
Fan voltage	--	--	11.452V	0.306V	--	--	--

Temperature T of winding:	t <sub>1</sub> (°C)	R <sub>1</sub> (Ω)	t <sub>2</sub> (°C)	R <sub>2</sub> (Ω)	T (°C)	Allowed T <sub>max</sub> (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

**Supplementary information:**

Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (T<sub>ma</sub>). Therefore the maximum temperatures measured are recalculated as follows: T + (T<sub>ma</sub> - T<sub>amb</sub>), where T is the maximum temperature measured during test and T<sub>amb</sub> is the ambient temperature during the test.

Note 2: The temperatures were measured under the worse case normal mode defined in clause B.2.5.

Note 3. Temperature limits are calculated as follows:  
Winding components providing safety isolation:

- Class B T<sub>max</sub> = 120°C - 10°C = 110°C

Position:

I  On test bench, component side upward

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

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

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics			P
Allowed impression diameter (mm) .....		≤ 2 mm		—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)	
Bobbin of transformer	Sumitomo Bakelite Co., Ltd., type E4008	125	0.7	
Supplementary information: The phenolic materials used for the bobbin of transformer, which are accepted without the further testing.				

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
GPS-1000DB XX							
Primary traces of different polarity before fuse at component side (BI)	≤420	≤250	--	2.3	6.9	2.5	6.9
Primary traces of different polarity before fuse at solder side (BI)	≤420	≤250	--	2.3	6.9	2.5	6.9
Primary traces under fuse at component side (BI)	≤420	≤250	--	2.3	3.9	2.5	3.9
Primary traces under fuse at solder side (BI)	≤420	≤250	--	2.3	3.9	2.5	3.9
Primary traces under fuse at component side (BI)	≤420	≤250	--	2.3	3.0	2.5	3.0
Primary traces under fuse at solder side (BI)	≤420	≤250	--	2.3	3.0	2.5	3.0
<b>Primary components (with 10N) to protective bonding conductors (with 10N) (BI/SI)</b>	<b>≤420</b>	<b>≤250</b>	<b>--</b>	<b>2.3</b>	<b>See below</b>	<b>2.5</b>	<b>See below</b>
- CX1 bottom to inlet PE pin	≤420	≤250	--		3.0		3.0
- CY3/CY5/CY6 to protectively bonded chassis	≤420	≤250	--		6.0		6.0
- L801 to protectively bonded chassis	≤420	≤250	--		3.0		>3.3
- HS2 to protectively bonded chassis	≤420	≤250	--		3.4		3.4
<b>Primary traces to protective bonding conductors (with 10N) at component side (BI/SI)</b>	<b>≤420</b>	<b>≤250</b>	<b>--</b>	<b>2.3</b>	<b>See below</b>	<b>2.5</b>	<b>See below</b>
- F1/Z1 trace to protectively bonded chassis (BI)	≤420	≤250	--		3.0		3.0

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
- N/Z1 trace to protectively bonded screw (BI)	≤420	≤250	--		3.8			3.8
- Under CY3 (BI)	≤420	≤250	--		5.8			5.8
- Under CY4 (BI)	≤420	≤250	--		2.9			2.9
- Under CY5 (BI)	≤420	≤250	--		5.8			5.8
- Under CY6 (BI)	≤420	≤250	--		3.5			3.5
- Under CY7 (BI)	≤420	≤250	--		5.3			5.3
- C819/pin1 of DC-3522 trace to protectively bonded chassis/mounting hole trace	≤420	≤250	--		3.1			3.1
<b>Primary traces to protective bonding conductors (with 10N) at solder side (BI/SI)</b>	<b>≤420</b>	<b>≤250</b>	<b>--</b>	<b>2.3</b>	<b>See below measurements</b>	<b>2.5</b>		<b>See below measurements</b>
- J11/L801 trace to protectively bonded chassis/mounting hole trace (BI)	≤420	≤250	--		3.1			3.1
- HS2/CY7 primary trace to protectively bonded chassis/mounting hole trace (BI)	≤420	≤250	--		2.9			2.9
- Under CY7 (BI)	≤420	≤250	--		5.0			5.0
- Under CY6 (BI)	≤420	≤250	--		3.1			3.1
- Under CY5 (BI)	≤420	≤250	--		3.1			3.1
- Under CY4 (BI)	≤420	≤250	--		3.1			3.1
- Under CY3 (BI)	≤420	≤250	--		5.8			5.8
- N/Z1 trace to protectively bonded screw (BI)	≤420	≤250	--		5.8			5.8
- F1/Z1 trace to protectively bonded chassis (BI)	≤420	≤250	--		2.7			2.7
<b>Primary components (with 10N) to secondary components (with 10N) or traces (RI)</b>	<b>≤420</b>	<b>≤250</b>	<b>--</b>	<b>4.5</b>	<b>See below measurements</b>	<b>5.0</b>		<b>See below measurements</b>
- L terminal to HS5 touches T501 secondary core	894	264	66.30	4.5	7.4	5.4		7.4
- CX2 to HS5 touches T501 secondary core	894	264	66.30	4.5	11.9	5.4		11.9
- T501 primary core to HS5 touches T502 secondary core	894 (T501)	264 (T501)	66.30	4.5	8.9	5.4		8.9
- T501 primary core to CT501 secondary core	894 (T501)	336 (CT501)	0.06	4.5	12.0	6.8		12.0
- C522 to CT501 secondary core	≤420	336	0.06	4.5	7.2	6.8		7.2

IEC 62368-1								
Clause	Requirement + Test			Result - Remark			Verdict	
- IC802 pin 2 to CT501 secondary core	≤420	336	0.06	4.5	10.6	6.8	10.6	
- CT501 pin 3 to IC802 pin 3	≤420	336	0.06	4.5	8.9	6.8	8.9	
- L501 to opposite secondary components	≤420	≤250			7.4		7.4	
- C801B to IC802/C957 trace	≤420	≤250			8.8		8.8	
- T901 primary winding to C953	580	364	43.99	4.5	12.0	7.4	12.0	
- T901 primary winding to D953	580	364	43.99	4.5	10.0	7.4	10.0	
- Primary components to secondary DC fan PCB	≤420	≤250			7.0		7.0	
<b>Primary to secondary traces at component side (RI)</b>	<b>≤420</b>	<b>≤250</b>	<b>--</b>	<b>4.5</b>	<b>See below measure-ments</b>	<b>7.4</b>	<b>See below measure-ments</b>	
- L/F1 trace to T501 shield trace	894	264	66.30	4.5	7.3	5.4	7.3	
- FL1/FL2 trace to T501 shield trace	894	264	66.30	4.5	10.3	5.4	10.3	
- FL1/FL2 trace to T502 pin 5 trace	≤420	255	0.06	4.5	10.3	5.2	10.3	
- Under T502	≤420	255	0.06	4.5	9.3	5.2	9.3	
- CT501 pin 4 to T502 pin 9	≤420	336 (CT501)	0.06	4.5	7.0	6.8	7.0	
- Under CT501	≤420	336	0.06	4.5	7.2	6.8	7.2	
- Under IC802	≤420	≤250	--		8.3		8.3	
- T501 pin NO2 trace to IC802 pin 4/C957 trace	894	264	66.30	4.5	7.3	5.4	7.3	
- Under CY8	≤420	≤250	--		7.4		7.4	
- D905/ DC-3522 pin 6 trace to IC802 pin 4/C957 trace	≤420	≤250	--		6.9		6.9	
- IC904 pin 4 trace to IC802 pin 4/C957 trace	≤420	≤250	--		7.6		7.6	
- Under IC902/IC903/IC904	≤420	≤250	--		8.3		8.3	
- Under T901 with slot	580	364	43.99	4.5	7.8	7.4	8.6	
<b>Primary to secondary traces at solder side (RI)</b>	<b>≤420</b>	<b>≤250</b>	<b>--</b>	<b>4.5</b>	<b>See below measure-ments</b>	<b>5.0</b>	<b>See below measure-ments</b>	
- L/F1 trace to T501 shield trace (RI)	894	264	66.30	4.5	7.4	5.4	7.4	
- FL1/FL2 trace to T501 shield trace (RI)	894	264	66.30	4.5	10.2	5.4	10.2	
- Under T502	≤420	255	0.06	4.5	9.0	5.2	9.0	

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Clause	Requirement + Test			Result - Remark			Verdict
- CT501 pin 4 to T502 pin 9	≤420	336 (CT501)	0.06	4.5	6.9	6.8	6.9
- Under CT501	≤420	336	0.06	4.5	7.6	6.8	7.6
- Under IC802	≤420	≤250	--		8.1		8.1
- T501 pin NO2 trace to R963/Q159 trace	894	264	66.30	4.5	7.4	5.4	7.4
- Under CY8	≤420	≤250	--		7.0		7.0
- R821/DC-3522 pin 11 to R963/Q159 trace	≤420	≤250	--		5.5		5.5
- Under IC902/IC903/IC904	≤420	≤250	--		5.7		5.7
- Under T901 with slot	580	364	43.99	4.5	6.2	7.4	7.9
GPS-850KB XX (deviated clearance and creepage distance)							
Basic/supplementary:							
Primary traces under fuse at component side	≤420	≤250	--	2.3	3.0	2.5	3.0
Primary traces under fuse at solder side	≤420	≤250	--	2.3	3.0	2.5	3.0
<b>Primary traces to protective bonding conductors (with 10N) at component side</b>	<b>≤420</b>	<b>≤250</b>	--	<b>2.3</b>	<b>See below measurements</b>	<b>2.5</b>	<b>See below measurements</b>
- J12 to protectively bonded chassis			--	2.3	3.0	2.5	3.0
- N/Z1 trace to protectively bonded screw			--	2.3	3.8	2.5	3.8
- Under CY3			--	2.3	5.8	2.5	5.8
- Under CY4			--	2.3	2.9	2.5	2.9
- Under CY5			--	2.3	5.8	2.5	5.8
- Under CY6			--	2.3	3.5	2.5	3.5
<b>Primary traces to protective bonding conductors (with 10N) at solder side of</b>	<b>≤420</b>	<b>≤250</b>	--	<b>2.3</b>	<b>See below measurements</b>	<b>2.5</b>	<b>See below measurements</b>
- J12 to protectively bonded chassis			--	2.3	3.0	2.5	3.0
- N/Z1 trace to protectively bonded screw			--	2.3	3.0	2.5	3.0
- Under CY3			--	2.3	5.8	2.5	5.8
- Under CY4			--	2.3	2.9	2.5	2.9
- Under CY5			--	2.3	3.1	2.5	3.1
- Under CY6			--	2.3	3.1	2.5	3.1

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

<b>Supplementary information:</b>							
<ol style="list-style-type: none"> <li>1) This equipment operate altitude considers to <b>5000m</b> and the required cl need to multiply factor <b>1.48</b>.</li> <li>2) Glued components (safety relevant only) F1, Z1, CX1, CY3, CY8, C908, C954, insulator under L501, and T501 fly wires are fixed by non-chemical bonding glue.</li> <li>3) One insulator between PCBs and chassis, and primary components and chassis as BI.</li> <li>4) One insulator provide on HS5 as RI.</li> <li>5) One insulator provide under L501 as RI.</li> <li>6) Heat shrinkable tubing provided at F1, Z1, CX1, +5VSB wires and DC fan wires.</li> <li>7) Heat shrinkable tubing provided at CY3, CY4, CY5, CY6, L wire and C522 as SI.</li> <li>8) Heat shrinkable tubing provided at L951 as RI</li> <li>9) One slot with dimensions of 12mm by 1.1mm width under T901.</li> <li>10) There is a piece of insulation sheet used under the main power board.</li> <li>11) CT501 core was considered as secondary conductor, T501 core were considered as primary conductor, T502 core was considered as secondary conductor, T901 was considered as floating conductor, detail see tables G.5.3.</li> <li>12) The distance didn't be described above are much larger than limitation.</li> <li>13) For others, please refer to photo documentation.</li> <li>14) Insulation definition:  <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">FI: functional insulation</td> <td style="width: 50%;">DI/RI: double/reinforced insulation</td> </tr> <tr> <td>BI: basic insulation</td> <td>SI: supplementary insulation</td> </tr> </table> </li> </ol>				FI: functional insulation	DI/RI: double/reinforced insulation	BI: basic insulation	SI: supplementary insulation
FI: functional insulation	DI/RI: double/reinforced insulation						
BI: basic insulation	SI: supplementary insulation						

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

<b>5.4.2.4</b>	<b>TABLE: Clearances based on electric strength test</b>			N/A
Test voltage applied between:		Required cl (mm)	Test voltage (kV) peak/ r.m.s. / d.c.	Breakdown Yes / No
--		--	--	--
Supplementary information: Using procedure 2 to determine the clearance.				

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements					P
Distance through insulation di at/of:	Peak voltage (V)	Frequency (Hz)	Material	Required DTI (mm)	DTI (mm)	
Opto-coupler (RI)	420	--	Epoxy	*2) 0.4mm	See appended table 4.1.2	
Supplementary information:						
1. See also sub-clause 5.4.4.9.						
2. If opto-coupler is complied with IEC/EN 60747-5-5, no dti requirement.						

5.4.9	TABLE: Electric strength test			P
Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No	
Basic/supplementary:				
Heat shrinkable tubing provided at F1, Z1, CX1, +5VSB wires and DC fan wires as FI	DC	2500	No	
Primary and protective earthing conductor	AC	2285	No	
Heat shrinkable tubing provided at CY3, CY4, CY5, CY6, L wire and C522 as BI	AC	2285	No	
Insulator between PCBs and chassis, and primary components and chassis as BI	AC	2285	No	
T901 primary to floating core	AC	1864	No	
T901 floating core to secondary	AC	1864	No	
Y2 capacitor (BI)	DC	2500	No	
Reinforced:				
Primary and secondary	DC	4242	No	
CT501 primary to secondary	DC	4242	No	
CT501 primary to secondary core	DC	4242	No	
T501 primary to secondary	DC	4242	No	
T501 primary to core	DC	4242	No	
T502 primary to secondary	DC	4242	No	
T502 core to secondary	DC	4242	No	
T901 primary to secondary	DC	4242	No	
Insulator provide on HS5 as RI	DC	4242	No	
Insulator provide under L501 as RI	DC	4242	No	
One layer insulation tape (total two layers as RI)	DC	4242	No	

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

1. Considered for all sources of manufacturer, see 4.1.2 for details.
2. The testing have been also conducted after humidity test for all sources of mains transformer.
3. CT501 core was considered as secondary conductor, T501 core were considered as secondary conductor, T502 core was considered as primary conductor, T901 was considered as floating conductor, detail see tables G.5.3.

5.5.2.2	TABLE: Stored discharge on capacitors					P
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification	
GPS-1000DB XX						
264Vac, 50Hz	L to N	N	Fuse In	10	ES1	
264Vac, 50Hz	L to N	S (BD1 oc)	Fuse In	14	ES1	

Supplementary information:

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

X-capacitors installed for testing are: 264Vac, 50Hz;

Discharge IC1 type: CAP008;

Overall capacity: CX1=1.5µF max., CX2=0.68µF max.;

Overall resistance: R2A=R2B=187KΩ.

Notes:

A. Test Location:  
Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth

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

5.6.6.2	TABLE: Resistance of protective conductors and terminations				P
Accessible part	Test current (A)	Duration (s)	Voltage drop (V)	Resistance (mΩ)	
Between ground pin and farthest point on metal chassis	40	120	--	0.02	

Supplementary Information: Limit is 0.1Ω.



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Clause	Requirement + Test	Result - Remark	Verdict

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part	P
Supply voltage.....:	264Vac, 50Hz	—
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)
Metal enclosure	1 (e open, normal and reverse polarity p)	1.25
Output terminal	2* (neutral open (switch n), earth intact and normal polarity, again in reverse polarity (switch p))	N/A <sup>5)</sup>
Output terminal	3 (for IT system, each phase conductor faulted to earth, one at a time (switch g))	N/A <sup>a)</sup>
Output terminal	4 (for three-phase, each phase conductor open, one at a time switches l)	N/A <sup>b)</sup>
Output terminal	5 (IT power system or three phase delta system)	N/A <sup>c)</sup>
Output terminal	6 (three-phase for use on centre-earthed delta supply system)	N/A <sup>d)</sup>
Output terminal	8 (incidental electrically connected to other parts)	N/A <sup>e)</sup>

Notes:

[1] Supply voltage is the anticipated maximum Touch Voltage

[2] Earthed neutral conductor [Voltage differences less than 1% or more]

[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3

[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.

[5] (\*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.

a) Not considered IT power system.

b) Not three phase equipment.

c) Not IT power system or three phase delta system.

d) Not three-phase for use on centre-earthed delta supply system.

e) Not such parts.

Overall capacity:  
 CY1=CY2=1500pF, CY3=CY4=CY5=CY6=2200pF, CY8=100pF;

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.2	Table: Electrical power sources (PS) measurements for classification					P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s <sup>*)</sup>	PS Classification	
Output	Normal / Abnormal operation, Single Fault (Component short circuited)	Power (W) :	--	--	PS3*	
		V <sub>A</sub> (V) :	--	--		
		I <sub>A</sub> (A) :	--	--		
Supplementary Information: (* ) All circuits are considered PS3.						

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

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

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Clause	Requirement + Test	Result - Remark	Verdict

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

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
GPS-1000DB XX							
90/50Hz	12.9	--	1150	--	F1	12.9	Load condition A.
90/60Hz	12.9	--	1150	--	F1	12.9	Load condition A.
100/50Hz	11.5	13	1137	--	F1	11.5	Load condition A.
100/60Hz	11.5	13	1137	--	F1	11.5	Load condition A.
240/50Hz	4.67	6.5	1091	--	F1	4.67	Load condition A.
240/60Hz	4.67	6.5	1091	--	F1	4.67	Load condition A.
264/50Hz	4.27	--	1090	--	F1	4.27	Load condition A.
264/60Hz	4.27	--	1090	--	F1	4.27	Load condition A.
90/50Hz	12.9	--	1148	--	F1	12.9	Load condition B.
90/60Hz	12.9	--	1148	--	F1	12.9	Load condition B.
100/50Hz	11.5	13	1138	--	F1	11.5	Load condition B.
100/60Hz	11.5	13	1138	--	F1	11.5	Load condition B.
240/50Hz	4.67	6.5	1092	--	F1	4.67	Load condition B.
240/60Hz	4.68	6.5	1092	--	F1	4.68	Load condition B.
264/50Hz	4.26	--	1091	--	F1	4.26	Load condition B.
264/60Hz	4.26	--	1091	--	F1	4.26	Load condition B.
90/50Hz	12.9	--	1150	--	F1	12.9	Load condition C.
90/60Hz	12.9	--	1151	--	F1	12.9	Load condition C.
100/50Hz	11.5	13	1138	--	F1	11.5	Load condition C.

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5		TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
100/60Hz	11.5	13	1138	--	F1	11.5	Load condition C.	
240/50Hz	4.67	6.5	1092	--	F1	4.67	Load condition C.	
240/60Hz	4.68	6.5	1092	--	F1	4.68	Load condition C.	
264/50Hz	4.26	--	1091	--	F1	4.26	Load condition C.	
264/60Hz	4.26	--	1092	--	F1	4.26	Load condition C.	
GPS-850KB XX								
90/50Hz	10.89	--	974	--	F1	10.89	Load condition A.	
90/60Hz	10.87	--	974	--	F1	10.87	Load condition A.	
100/50Hz	9.72	12	964	--	F1	9.72	Load condition A.	
100/60Hz	9.70	12	964	--	F1	9.70	Load condition A.	
240/50Hz	3.96	5.5	927	--	F1	3.96	Load condition A.	
240/60Hz	3.97	5.5	927	--	F1	3.97	Load condition A.	
264/50Hz	3.62	--	926	--	F1	3.62	Load condition A.	
264/60Hz	3.61	--	928	--	F1	3.61	Load condition A.	
90/50Hz	11.02	--	987	--	F1	11.02	Load condition B.	
90/60Hz	11.00	--	987	--	F1	11.00	Load condition B.	
100/50Hz	9.83	12	976	--	F1	9.83	Load condition B.	
100/60Hz	9.81	12	976	--	F1	9.81	Load condition B.	
240/50Hz	4.02	5.5	941	--	F1	4.02	Load condition B.	
240/60Hz	4.02	5.5	941	--	F1	4.02	Load condition B.	
264/50Hz	3.67	--	940	--	F1	3.67	Load condition B.	
264/60Hz	3.68	--	938	--	F1	3.68	Load condition B.	
90/50Hz	11.04	--	988	--	F1	11.04	Load condition C.	
90/60Hz	11.02	--	988	--	F1	11.02	Load condition C.	
100/50Hz	9.84	12	978	--	F1	9.84	Load condition C.	
100/60Hz	9.82	12	978	--	F1	9.82	Load condition C.	
240/50Hz	4.01	5.5	939	--	F1	4.01	Load condition C.	
240/60Hz	4.01	5.5	941	--	F1	4.01	Load condition C.	
264/50Hz	3.66	--	938	--	F1	3.66	Load condition C.	
264/60Hz	3.66	--	939	--	F1	3.66	Load condition C.	

Supplementary information:

The maximum measured current under rated voltage did not exceed 110% of the rated current.

Test condition: See the **“Summary of testing”** for load condition on page 4.

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Clause	Requirement + Test	Result - Remark	Verdict

B.3		TABLE: Abnormal operating condition tests						P
Ambient temperature (°C) .....		25°C, if not specified						—
Power source for EUT: Manufacturer, model/type, output rating ... :		--						—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Fan	Stalled Fan	264	4h	F1	4.26→0.28	Type K	Highest temperature at: T501 primary winding=84.0°C, T501 secondary winding=78.0°C, T501 core=75.8°C, T502 winding=44.1°C, T502 core=43.9°C, CT501 winding=54.2°C, CT501 core=56.5°C, T900 winding=56.0°C, T900 winding=51.1°C, Ambient=23.5°C. No hazards.	Normal operation. Unit shutdown after temperature rise. No hazards. Note: Load condition C
Ventilation Openings	Blocked	264	5.5h	F1	4.26→0.27	Type K	Highest temperature at: T501 primary winding=85.0°C, T501 secondary winding=78.0°C, T501 core=77.0°C, T502 winding=57.4°C, T502 core=56.7°C, CT501 winding=62.1°C, CT501 core=65.4°C, T900 winding=69.1°C, T900 winding=67.8°C, Ambient=23.1°C.	Normal operation. Unit shutdown after temperature rise. No hazards. Note: Load condition C
+3.3V	s-c	264	5min.	F1	0.29	Type K	--	+5VSB normal operation, other output shutdown. No hazards.

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Clause	Requirement + Test					Result - Remark		Verdict
+12V <sub>1</sub> / +12V <sub>2</sub> / +12V <sub>3</sub> / +12V <sub>4</sub>	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
+5V	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
+5VSB	s-c	264	5min.	F1	0.2	--	--	All output shutdown. No hazards.
-12V	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
+3.3V to +5V	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
+3.3V to +5VSB	s-c	264	5min.	F1	0.2	--	--	All output shutdown. No hazards.
+3.3V to +12V <sub>1</sub> / +12V <sub>2</sub> / +12V <sub>3</sub> / +12V <sub>4</sub>	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
+3.3V to -12V	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
+12V <sub>1</sub> / +12V <sub>2</sub> / +12V <sub>3</sub> / +12V <sub>4</sub> to +5V	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
+12V <sub>1</sub> / +12V <sub>2</sub> / +12V <sub>3</sub> / +12V <sub>4</sub> to +5VSB	s-c	264	5min.	F1	0.2	--	--	All output shutdown. No hazards.
+12V1 to -12V	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
+5V to +5VSB	s-c	264	5min.	F1	4.26	--	--	Normal operation. No hazards.
+5V to -12V	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
+5VSB to -12V	s-c	264	5min.	F1	0.2	--	--	All output shutdown. No hazards.
T501 before L151 to GND	o-l	264	6h	F1	5.29→5.94→0.23	Type K	Highest temperature at: T501 primary winding=72.0°C, T501 secondary winding=68.0°C, T501 core=57.1°C, T502 winding=45.2°C, T502 core=42.0°C, CT501 winding=52.4°C, CT501 core=52.4°C, T900 winding=29.8°C, T900 winding=29.7°C, Ambient=22.3°C.	Overloaded up to 72A before fold-back. Other output normal operation. No hazards. Note: Load condition A

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
T901 after D951 to GND	o-l	264	7.5h	F1	4.31→4.36→0.20	Type K	Highest temperature at: T501 primary winding=64.0°C, T501 secondary winding=50.0°C, T501 core=40.0°C, T502 winding=43.0°C, T502 core=40.0°C, CT501 winding=51.0°C, CT501 core=51.2°C, T900 winding=42.2°C, T900 winding=35.0°C, Ambient=22.1°C.	Overloaded up to 1.0A before fold-back. Other output normal operation. No hazards. Note: Load condition C
+5V	o-l	264	8h	F1	4.29→4.41→0.27	Type K	Highest temperature at: T501 primary winding=73.1°C, T501 secondary winding=61.5°C, T501 core=61.0°C, T502 winding=50.0°C, T502 core=49.5°C, CT501 winding=55.5°C, CT501 core=55.0°C, T900 winding=55.7°C, T900 winding=53.8°C, Ambient=23.8°C.	Overloaded up to 31.0A before fold-back. Other output normal operation. No hazards. Note: Load condition B
+3.3V	o-l	264	8.3h	F1	4.34→4.40→0.26	Type K	Highest temperature at: T501 primary winding=74.0°C, T501 secondary winding=63.1°C, T501 core=59.0°C, T502 winding=48.2°C, T502 core=47.1°C, CT501 winding=52.5°C, CT501 core=53.0°C, T900 winding=53.4°C, T900 winding=54.1°C, Ambient=23.5°C.	Overloaded up to 32.0A before fold-back. Other output normal operation. No hazards. Note: Load condition C



IEC 62368-1								
Clause	Requirement + Test					Result - Remark	Verdict	
+3.3V	o-l	264	4 hours 12 min.	F1	4.404→ 4.506→ 4.543→ 0.2785	Type K	--	Overloaded up to 32.0A before fold- back. Other output normal operation. Highest temperature at: Case near inlet: 28.7°C Ambient: 25°C No hazards. Note: Load condition C
+12V <sub>1</sub> / +12V <sub>2</sub> / +12V <sub>3</sub> / +12V <sub>4</sub>	o-l	264	7.5h	F1	4.54→4. 64→0.2 5	Type K	Highest temperature at: T501 primary winding=72.0°C, T501 secondary winding=60.0°C, T501 core=58.0°C, T502 winding=46.3°C, T502 core=46.0°C, CT501 winding=51.8°C, CT501 core=51.7°C, T900 winding=27.7°C, T900 winding=27.6°C, Ambient=22.4°C.	Overloaded up to 47A before fold- back. Other output normal operation. No hazards. Note: Load condition A
+12V <sub>1</sub> / +12V <sub>2</sub> / +12V <sub>3</sub> / +12V <sub>4</sub>	o-l	264	5h	F1	4.397→ 5.427→ 5.6168 → 0.1984	Type K	Highest temperature at: Case near inlet: 28.5°C; Ambient: 25°C	+12V <sub>3</sub> overloaded up to 23.5A before fold- back. Other output normal operation. No hazards. Note: Load condition A

IEC 62368-1								
Clause	Requirement + Test					Result - Remark	Verdict	
+5VSB	o-l	264	14h	F1	0.33→0.41→0.21	Type K	Highest temperature at: T501 primary winding=30.9°C, T501 secondary winding=30.3°C, T501 core=29.8°C, T502 winding=32.2°C, T502 core=31.9°C, CT501 winding=34.4°C, CT501 core=32.8°C, T900 winding=85.8°C, T900 winding=80.4°C, Ambient=21.6°C.	Overloaded up to 6.9A before fold-back. Other output normal operation. No hazards. Note: Load condition D
-12V	o-l	264	6h	F1	4.37→4.41→0.27	Type K	Highest temperature at: T501 primary winding=72.1°C, T501 secondary winding=62.0°C, T501 core=59.0°C, T502 winding=49.3°C, T502 core=49.0°C, CT501 winding=54.0°C, CT501 core=53.8°C, T900 winding=55.3°C, T900 winding=53.3°C, Ambient=22.5°C.	Overloaded up to 5.0A before fold-back. Other output normal operation. No hazards. Note: Load condition C

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

1) s-c: Short-circuited; o-l: Overloaded.

2) The test result shown all safeguards remained effective and didn't lead to a single fault condition during abnormal operating condition; In addition all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions.

3) The test result showed no Class 1 or 2 energy source become Class 3 level during and after single fault condition.

4) The overloaded condition is applied according to annex G.5.3.3.

Winding Limit for Class B: 175-10=165°C

Winding Limit for Class A: 150-10=140°C

<b>B.4</b>	<b>TABLE: Fault condition tests</b>	P
Ambient temperature (°C) .....	25°C, if not specified	—

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Power source for EUT: Manufacturer, model/type, output rating ... :					--		—	
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-coupl e	Temp. (°C)	Observation
FL1 (L to N)	s-c	264	<1sec	F1	--	--	--	F1 opened immediately. No hazards.
FL2 (L to N)	s-c	264	<1sec	F1	--	--	--	F1 opened immediately. No hazards.
RL801 coil	o-c	264	5min.	F1	4.25	--	--	Normal operation. No hazards.
BD1 (AC to +)	s-c	264	<1sec	F1	--	--	--	F1 opened immediately. No hazards.
BD1 (AC to -)	s-c	264	<1sec	F1	--	--	--	F1 opened immediately. No hazards.
L801	s-c	264	<1sec	F1	--	--	--	F1 opened immediately. Q803, Q805, Q807, BD1, BD2, ZD801, ZD802, ZD803, Q802 and Q806 damaged. No hazards.
Q807 (D-G)	s-c	264	<1sec	F1	--	--	--	F1 opened immediately. Q803, Q805, Q807, BD1, BD2, ZD801, ZD802, ZD803, Q802 and Q806 damaged. No hazards.
Q807 (D-S)	s-c	264	<1sec	F1	--	--	--	F1 opened immediately. No hazards.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
Q807 (G-S)	s-c	264	3.5h	F1	4.25→4.3	Type K	Normal operation. Temperature stable at: T501 primary winding=70.8°C, T501 secondary winding=52.7°C, T501 core=47.5°C, T502 winding=49.4°C, T502 core=50.0°C, CT501 winding=54.0°C, CT501 core=53.3°C, T900 winding=36.1°C, T900 winding=32.0°C, Ambient=23.6°C.	No hazards. Note: Load condition C No hazards.
C801A	s-c	264	<1sec	F1	--	--	--	F1 opened immediately. D805 and D806 damaged.
L951	s-c	264	5min.	F1	4.25	--	--	Normal operation. No hazards.
Q502 (D-G)	s-c	264	<1sec	F1	--	--	--	F1 opened immediately. D805, D806, Q502, Q504 and D515 damaged.
Q502 (D-S)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
Q502 (G-S)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
L501, pin (2-3)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
CT501, pin (1-2)	s-c	264	5min.	F1	4.25	--	--	Normal operation. No hazards.
CT501, pin (3-4)	s-c	264	5min.	F1	4.25	--	--	Normal operation. No hazards.
T501, pin (NO1-NO2)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
T501, pin (1-4)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
T501, pin (4-7)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
T502, pin (13-12)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
T502, pin (16-17)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
T502, pin (11-10)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
T502, pin (18-15)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
T502, pin (5-9)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
T901, pin (1-3)	s-c	264	5min.	F1	0.2	--	--	All output shutdown. No hazards.
T901, pin (9-8)	s-c	264	5min.	F1	0.2	--	--	All output shutdown. No hazards.
T901, pin (8-7)	s-c	264	5min.	F1	0.2	--	--	All output shutdown. No hazards.
IC802, pin (1)	o-c	264	5min.	F1	4.25	--	--	Normal operation. No hazards.
IC802, pin (3-4)	s-c	264	5min.	F1	4.25	--	--	Normal operation. No hazards.
IC902, pin (3-4)	s-c	264	5min.	F1	0.2	--	--	All output shutdown. No hazards.
IC902, pin (4)	o-c	264	5min.	F1	4.25	--	--	Normal operation. No hazards.
IC902, pin (1-2)	s-c	264	5min.	F1	4.25	--	--	Normal operation. No hazards.
IC903, pin (3-4)	o-c	264	5min.	F1	0.2	--	--	All output shutdown. No hazards.
IC903, pin (4)	o-c	264	5min.	F1	4.25	--	--	Normal operation. No hazards.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
IC903, pin (1-2)	s-c	264	5min.	F1	0.2	--	--	All output shutdown. No hazards.
IC904, pin (3-4)	s-c	264	5min.	F1	4.25	--	--	Normal operation. No hazards.
IC904, pin (4)	o-c	264	5min.	F1	4.25	--	--	Normal operation. No hazards.
IC904, pin (1-2)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
Q503 (S-G)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
Q503 (D-G)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
Q503 (D-S)	s-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.
D951	s-c	264	5min.	F1	0.2	--	--	All output shutdown. No hazards.
D953	s-c	264	5min.	F1	0.2	--	--	All output shutdown. No hazards.
D151	s-c	264	5min.	F1	4.25	--	--	Normal operation. No hazards.
R852A	o-c	264	5min.	F1	0.29	--	--	+5VSB normal operation, other output shutdown. No hazards.

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

Supplementary information:

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

1) s-c: Short-circuited; o-c: Open-circuited; o-l: Overloaded

2) The test result shown all safeguards remained effective and didn't lead to a single fault condition during abnormal operating condition; In addition all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions.

3) The test result showed no Class 1 or 2 energy source become Class 3 level during and after single fault condition.

4) The overloaded condition is applied according to annex G.5.3.3.

Winding Limit for Class B:  $175-10=165^{\circ}\text{C}$

Winding Limit for Class A:  $150-10=140^{\circ}\text{C}$

- | For fuse opened condition, same result came out for each source of fuse used.
- | When 16A breaker opens, used the 20A breaker repeat three times the tests.
- | For component damaged but current fuse not open condition, same result came out after repeating three times.
- | If not otherwise specified, all tests were conducted on load condition A, Refer to table **B.2.5**.



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

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

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

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

<b>Annex Q.1</b>	<b>TABLE: Circuits intended for interconnection with building wiring (LPS)</b>					N/A
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U <sub>oc</sub> (V)	I <sub>sc</sub> (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
<b>Test model: --</b>						
Normal	--	--	--	--	--	--
Abnormal	--	--	--	--	--	--
Supplementary Information:						

<b>T.2, T.3, T.4, T.5</b>	<b>TABLE: Steady force test</b>					<b>P</b>
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Internal components (according to T.2)	--	--	10	5	No hazard.	
External enclosure near appliance inlet side (according to T.4)	1)	1)	100	5	No hazard.	
External enclosure near appliance inlet side (according to T.5)	1)	1)	250	5	No hazard.	
Supplementary information: 1) Details, see table 4.1.2.						

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

T.6, T.9	TABLE: Impact tests				P
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
AC inlet side	Metal	0.8	1300	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Supplementary information: --					

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

T.8	TABLE: Stress relief test					N/A
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
--	Metal case	See appended table	--	--	--	
Supplementary information:						

5.4.1.8		Table: working voltage measurement					--
Location From (Pri.)	To (Sec.)	RMS voltage (V)		Peak voltage (V)		Comments	
		100V	240V	100V	240V		
GPS-1000DB XX							
Transformer: T501							
Pin NO1	pin 1/2/3	--	234	--	404	At load condition A.	
Pin NO1	pin 4/5/6	--	241	--	404	At load condition A.	
Pin NO1	pin 7/8/9	--	251	--	408	At load condition A.	
Pin NO1	PE	--	244	--	408	At load condition A.	
Pin NO2	pin 1/2/3	--	<b>264*</b>	--	<b>894*</b>	At load condition A. 66.01KHz	
Pin NO2	pin 4/5/6	--	253	--	888	At load condition A.	
Pin NO2	pin 7/8/9	--	250	--	856	At load condition A.	
Pin NO2	PE	--	258	--	888	At load condition A.	
Pin NO2	pin 1/2/3	--	260	--	868	At load condition A. (At 100V, 60Hz)	
CT501:							
Pin 3	pin 1	--	296	--	404	At load condition A.	
Pin 3	pin 1	--	297	--	<b>408*</b>	At load condition A. 60.03Hz	
Pin 3	pin 1	--	299	--	<b>408*</b>	At load condition A. 60.03 Hz	
Pin 4	pin 2	--	296	--	<b>408*</b>	At load condition A. 60.03 Hz	
Pin 4	pin 2	--	296	--	404	At load condition A.	
Pin 4	pin 2	--	296	--	404	At load condition A.	
Pin 3	PE	--	<b>336*</b>	--	<b>408*</b>	At load condition A. (At 100V, 60Hz), 60.41Hz	
T502:							
Pin 13	pin 5	--	247	--	404	At load condition A.	
Pin 12	pin 5	--	241	--	400	At load condition A.	
Pin 16	pin 5	--	174	--	380	At load condition A.	
Pin 17	pin 5	--	172	--	368	At load condition A.	
Pin 11	pin 5	--	251	--	412	At load condition A.	
Pin 10	pin 5	--	244	--	404	At load condition A.	
Pin 18	pin 5	--	173	--	368	At load condition A.	
Pin 15	pin 5	--	174	--	368	At load condition A.	
Pin 13	pin 9	--	<b>255*</b>	--	<b>420*</b>	At load condition A. 93.37kHz	

Location		RMS voltage (V)		Peak voltage (V)		Comments
From (Pri.)	To (Sec.)	100V	240V	100V	240V	
Pin 12	pin 9	--	245	--	412	At load condition A.
Pin 16	pin 9	--	175	--	368	At load condition A.
Pin 17	pin 9	--	173	--	364	At load condition A.
Pin 11	pin 9	--	247	--	412	At load condition A.
Pin 10	pin 9	--	237	--	408	At load condition A.
Pin 18	pin 9	--	173	--	384	At load condition A.
Pin 15	pin 9	--	172	--	364	At load condition A.
Pin 13	PE	--	251	--	416	At load condition A.
Pin 12	PE	--	246	--	404	At load condition A.
Pin 16	PE	--	169	--	360	At load condition A.
Pin 17	PE	--	169	--	360	At load condition A.
Pin 11	PE	--	246	--	416	At load condition A.
Pin 10	PE	--	240	--	404	At load condition A.
Pin 18	PE	--	169	--	364	At load condition A.
Pin 15	PE	--	169	--	356	At load condition A.
Pin 13	pin 9	--	254	--	<b>420*</b>	At load condition A. (At 100V, 60Hz)
T901:						
Pin 1	pin 7 (GND)	--	301	--	424	At load condition B.
Pin 1	pin 8	--	302	--	428	At load condition B.
Pin 1	pin 9	--	302	--	496	At load condition B.
Pin 3	pin 7 (GND)	--	330	--	564	At load condition B.
Pin 3	pin 8	--	326	--	556	At load condition B.
Pin 3	to pin 9	--	316	--	552	At load condition B.
Pin 4	pin 7 (GND)	--	166	--	424	At load condition B.
Pin 4	pin 8	--	166	--	400	At load condition B.
Pin 4	pin 9	--	164	--	360	At load condition B.
Pin 5	pin 7 (GND)	--	164	--	344	At load condition B.
Pin 5	pin 8	--	164	--	348	At load condition B.
Pin 5	pin 9	--	166	--	364	At load condition B.
Pin 3	pin 7 (GND)	--	<b>364*</b>	--	<b>580*</b>	At load condition B. (At 100V, 60Hz), 43.99kHz

Location		RMS voltage (V)		Peak voltage (V)		Comments
From (Pri.)	To (Sec.)	100V	240V	100V	240V	
<b>Model GPS-850KB XX</b>						
Transformer: T502						
Pin 10	Pin 5	--	408	--	244	At load condition B.
Pin 10	Pin 9	--	408	--	240	At load condition B.
Pin 10	Secondary GND	--	408	--	244	At load condition B.
Pin 11	Pin 5	--	<b>416*</b>	--	<b>254*</b>	At load condition B.
Pin 11	Pin 9	--	408	--	245	At load condition B.
Pin 11	Secondary GND	--	416	--	249	At load condition B.
Pin 12	Pin 5	--	400	--	241	At load condition B.
Pin 12	Pin 9	--	400	--	247	At load condition B.
Pin 12	Secondary GND	--	400	--	248	At load condition B.
Pin 13	Pin 5	--	408	--	244	At load condition B.
Pin 13	Pin 9	--	416	--	254	At load condition B.
Pin 13	Secondary GND	--	408	--	250	At load condition B.
Pin 15	Pin 5	--	-352	--	170	At load condition B.
Pin 15	Pin 9	--	-360	--	176	At load condition B.
Pin 15	Secondary GND	--	-352	--	168	At load condition B.
Pin 16	Pin 5	--	-368	--	172	At load condition B.
Pin 16	Pin 9	--	-352	--	172	At load condition B.
Pin 16	Secondary GND	--	-352	--	168	At load condition B.
Pin 17	Pin 5	--	-360	--	172	At load condition B.
Pin 17	Pin 9	--	-360	--	172	At load condition B.
Pin 17	Secondary GND	--	-352	--	168	At load condition B.
Pin 18	Pin 5	--	-352	--	172	At load condition B.
Pin 18	Pin 9	--	-360	--	173	At load condition B.
Pin 18	Secondary GND	--	-352	--	169	At load condition B.
Supplementary information: --						

G.5.3		TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V	Working voltage rms / V	Required electric strength	Required clearance / mm	Required creepage distance / mm	Required distance thr. insul.	
CT501	Primary to secondary (RI)	≤420	336	DC4242V	4.5	6.8	Two layers insulation tape	
CT501	Primay to core (RI)	≤420	336	DC4242V	4.5	6.8	Two layers insulation tape	
T501	Primary to secondary (RI)	894	264	DC4242V	4.5	5.4	Two layers insulation tape	
T501	Primay to core (RI)	894	264	DC4242V	4.5	5.4	Two layers insulation tape	
T502	Primary to secondary (RI)	420	255	DC4242V	4.5	5.2	Two layers insulation tape	
T502	Secondary to core (RI)	420	255	DC4242V	4.5	5.2	Two layers insulation tape	
T901	Primary to secondary (RI)	580	364	DC4242V	4.5	7.4	Two layers insulation tape	
T901	Primay to core (BI)	580	364	DC2500V	2.3	3.7	--	
T901	Secondary to core (SI)	580	364	DC2500V	2.3	3.7	Two layers insulation tape	
Loc.	Tested insulation	Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers			
CT501	Primary to secondary (RI)	DC4242V	8.1	8.1	TIW			
CT501	Primay to core (RI)	DC4242V	8.1	8.1	TIW			
T501	Primary to secondary (RI)	DC4242V	>8.4	>8.4	TIW			
T501	Primay to core (RI)	DC4242V	>8.4	>8.4	TIW			
T502	Primary to secondary (RI)	DC4242V	6.4	6.4	TIW			
T502	Secondary to core (RI)	DC4242V	5.4	5.4	TIW			
T901	Primary to secondary (RI)	DC4242V	8.0	8.0	TIW			
T901	Primay to core (BI)	DC2500V	4.0	4.0	--			
T901	Secondary to core (SI)	DC2500V	4.0	4.0	TIW			
Supplementary information:								
1. CT501 core was considered as secondary conductor, T501 core were considered as secondary conductor, T502 core was considered as primary conductor, T901 was considered as floating conductor.								
2. For transformer specification, see attachment 4.								

TABLE: evaluation of voltage limiting components in SELV circuits			--
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
T901 for +5VSB output (pin 8 – pin 7 (GND))	29.4	--	(At load condition B.)
T901 for internal 12V_SEC (pin 9 – pin 7 (SGND))	98.0	--	(At load condition B.)
T901 for internal 12V_SEC (after D951 – pin 7 (SGND))	--	21.1	D951
T502 for internal 12V_SEC (pin 5 – pin 9)	16.4	--	(At load condition A.)
T501 for +12V <sub>1</sub> /+12V <sub>2</sub> /+12V <sub>3</sub> /+12V <sub>4</sub> output (pin 1/2/3 to 4/5/6)	20.6	--	(At load condition A.)
T501 for +12V <sub>1</sub> /+12V <sub>2</sub> /+12V <sub>3</sub> /+12V <sub>4</sub> output (pin 7/8/9 to 4/5/6)	21.4	--	(At load condition A.)
CT501 for internal IP_LIMIT (pin 1 – pin 2)	8.70	--	(At load condition A.)
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		
Transformer: T901 for internal 12V_SEC			
D951 s-c	No output, unit shutdown after short circuit voltage limiting component D951		
supplementary information:			
The unit was connected to AC 240V, 60Hz.			
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		
--	--		
Supplementary information: 1. Test voltage: 240Vac, 60Hz, load condition: A. 2. s-c: short-circuit.			

-END-



Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)



Picture 1 GPS-1000DB XX



Picture 2 GPS-1000DB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

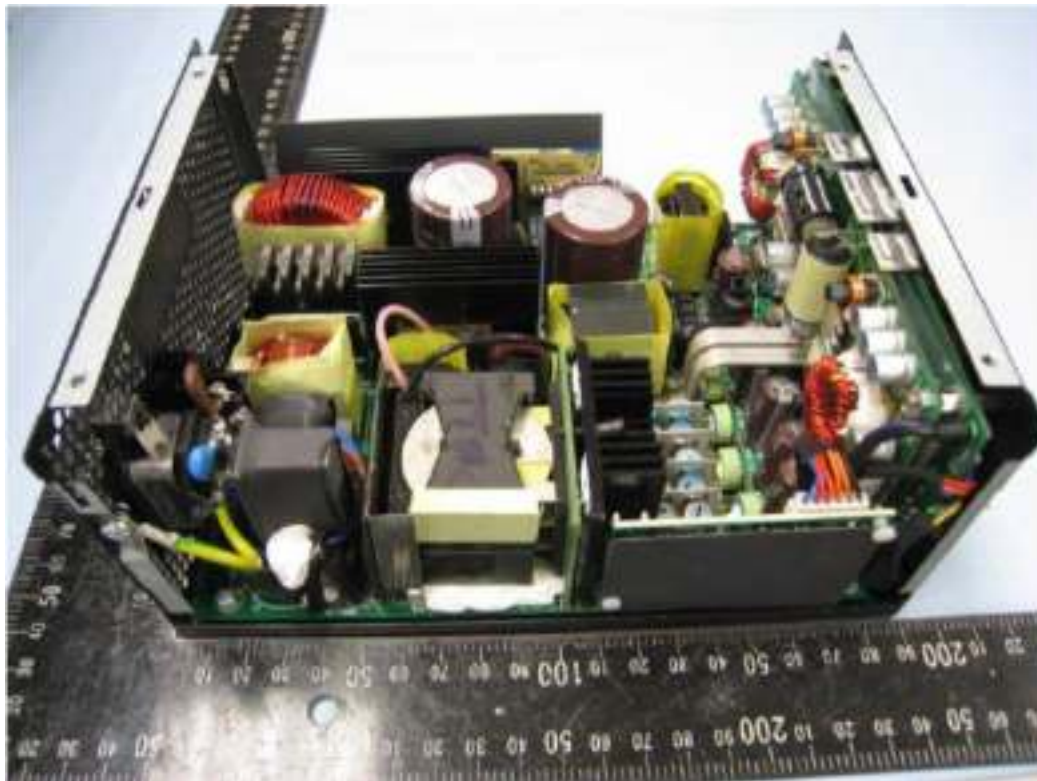


Picture 3 GPS-1000DB XX

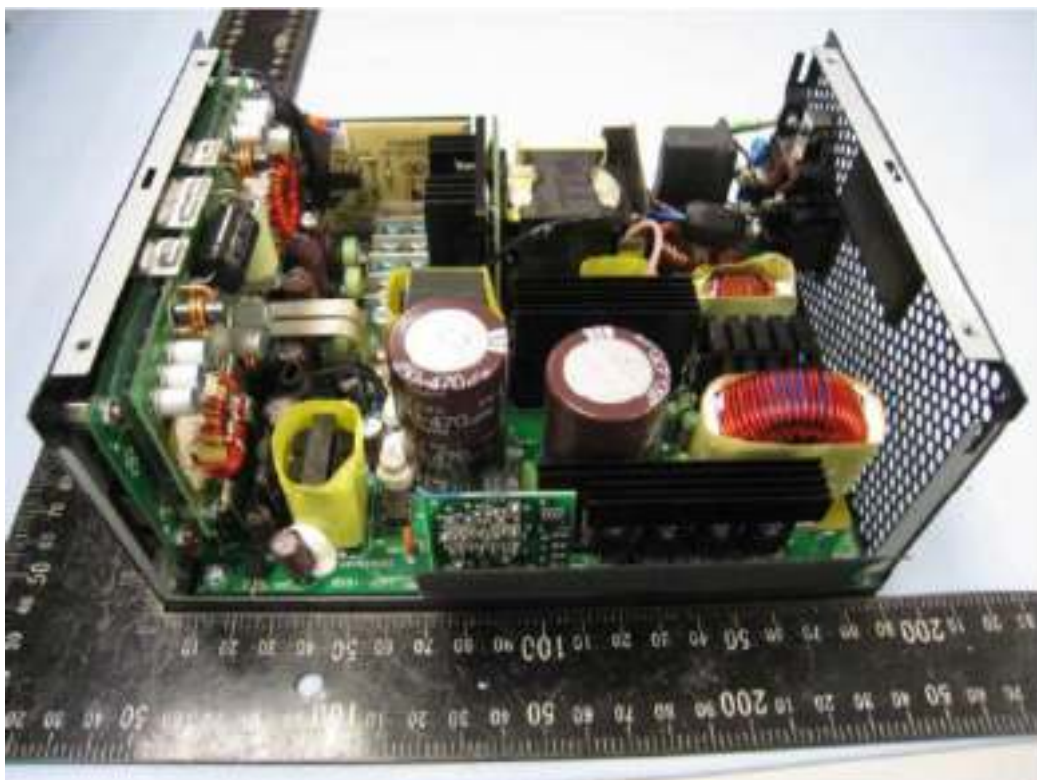


Picture 4 GPS-1000DB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

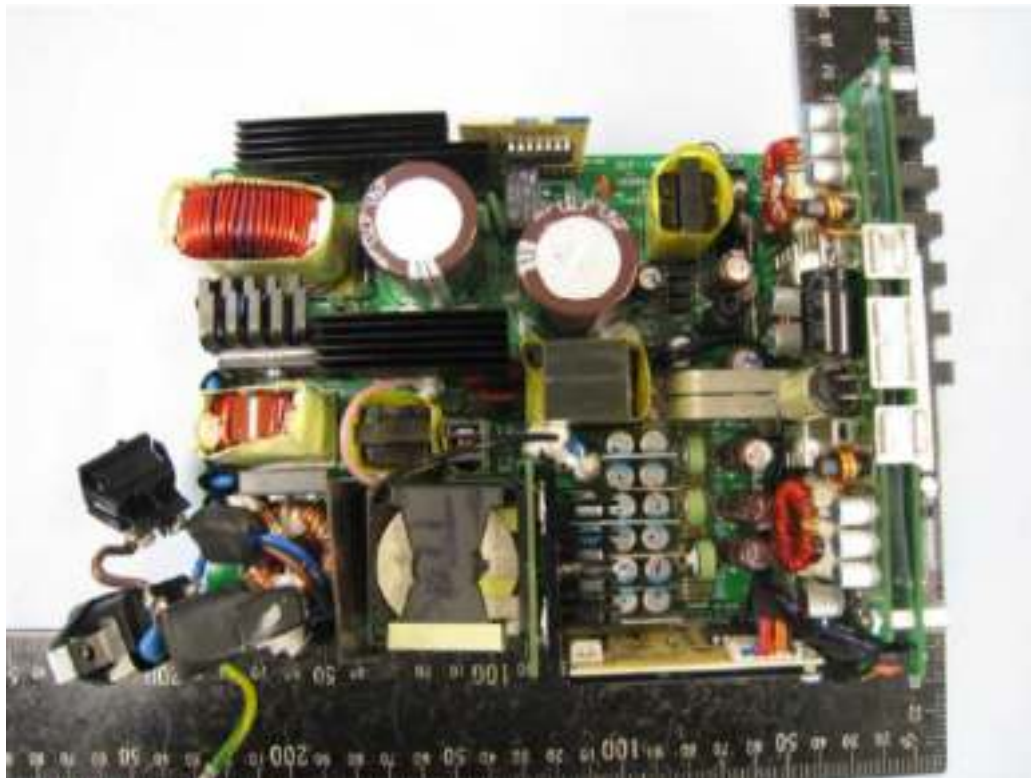


Picture 5 GPS-1000DB XX



Picture 6 GPS-1000DB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)



Picture 7 GPS-1000DB XX

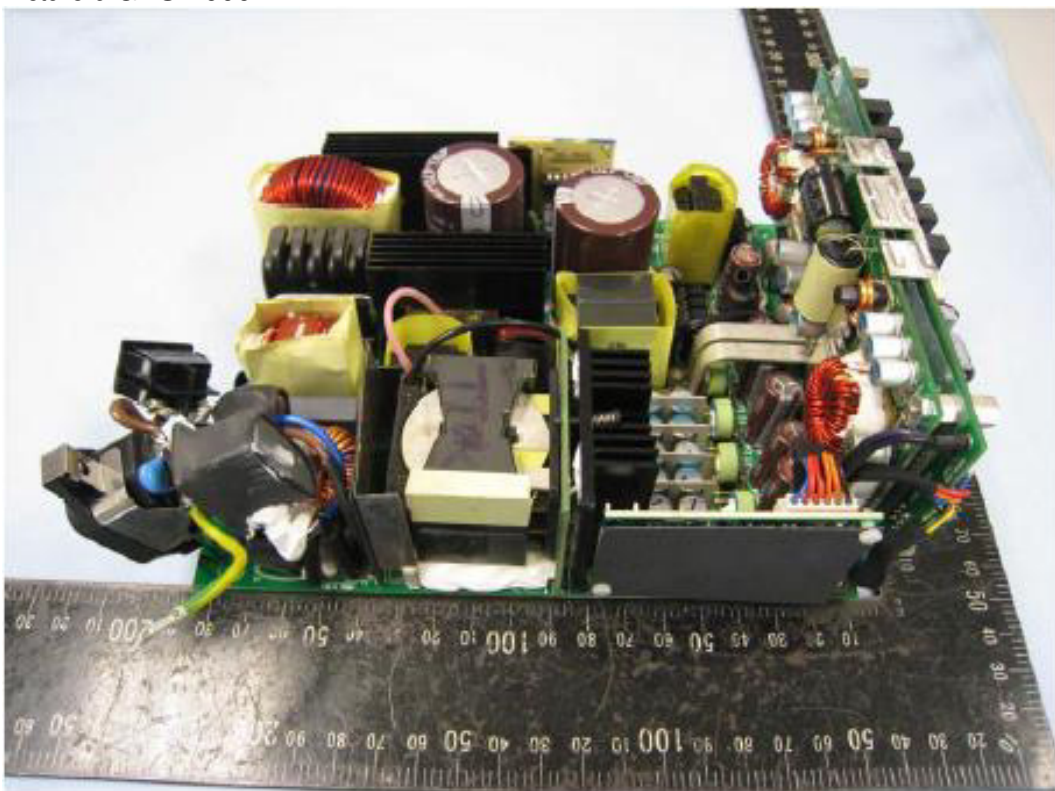


Picture 8 GPS-1000DB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

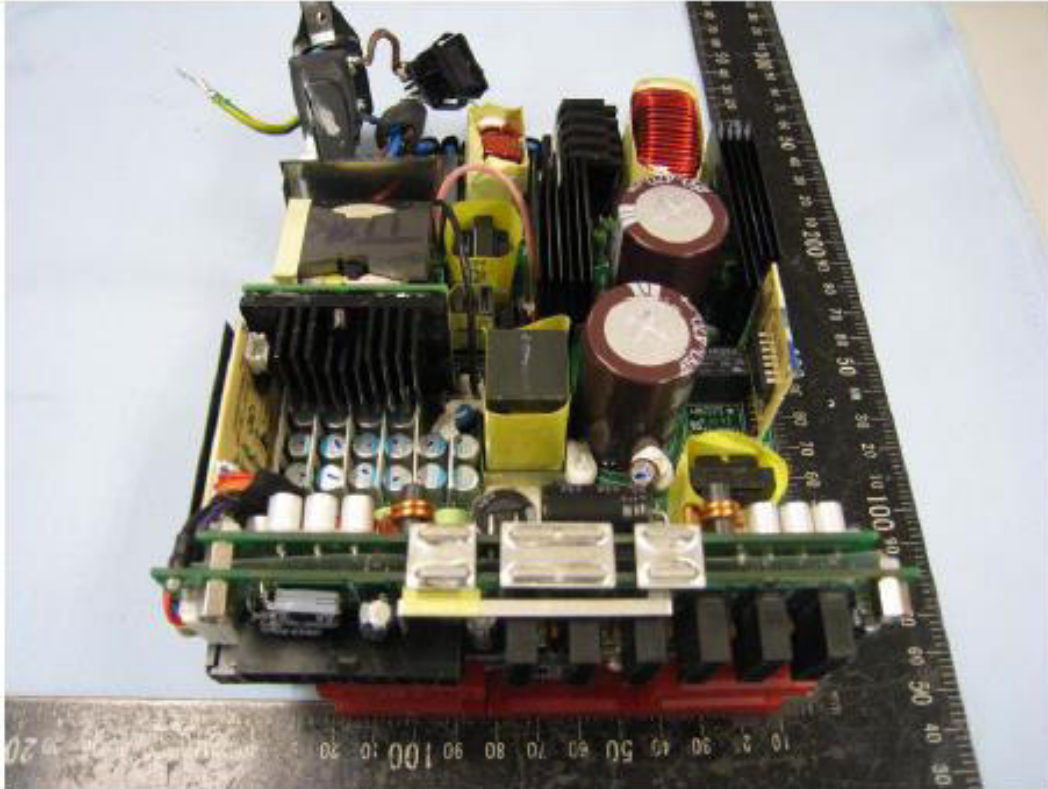


Picture 9 GPS-1000DB XX

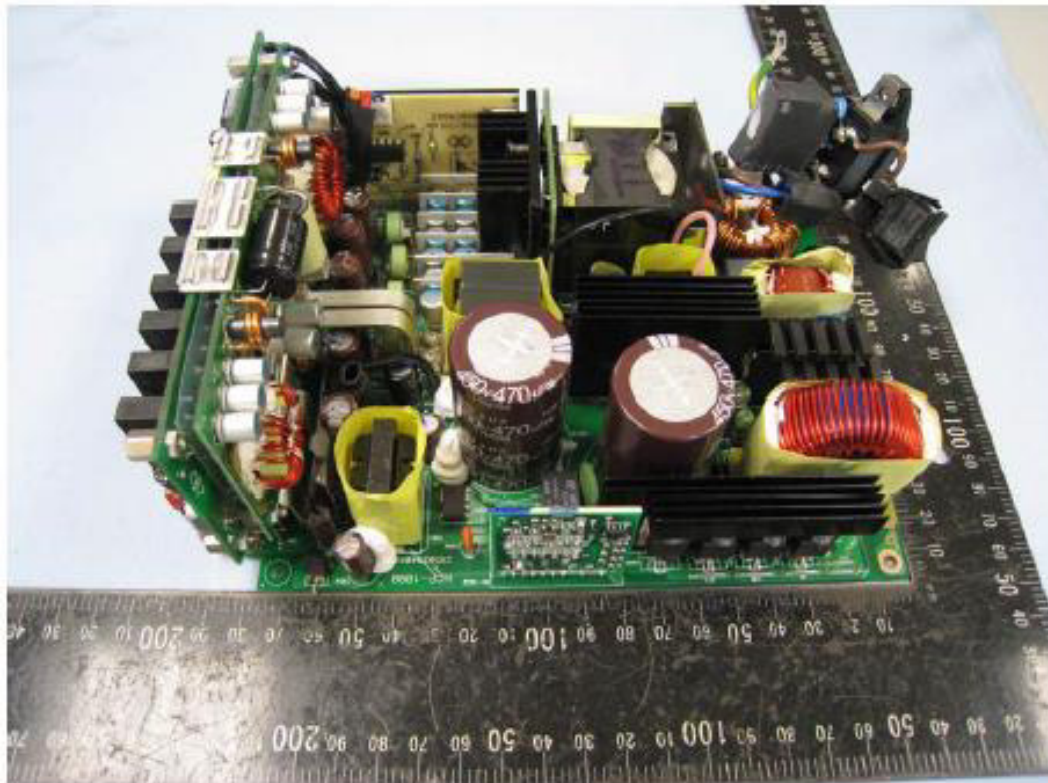


Picture 10 GPS-1000DB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

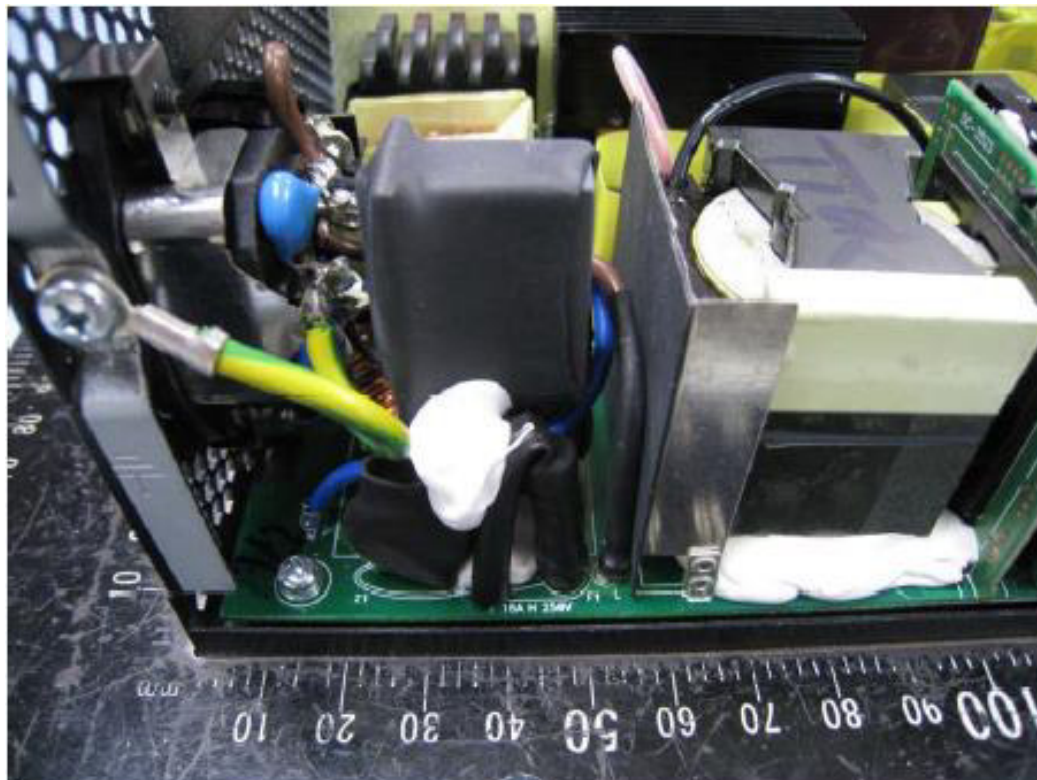


Picture 11 GPS-1000DB XX

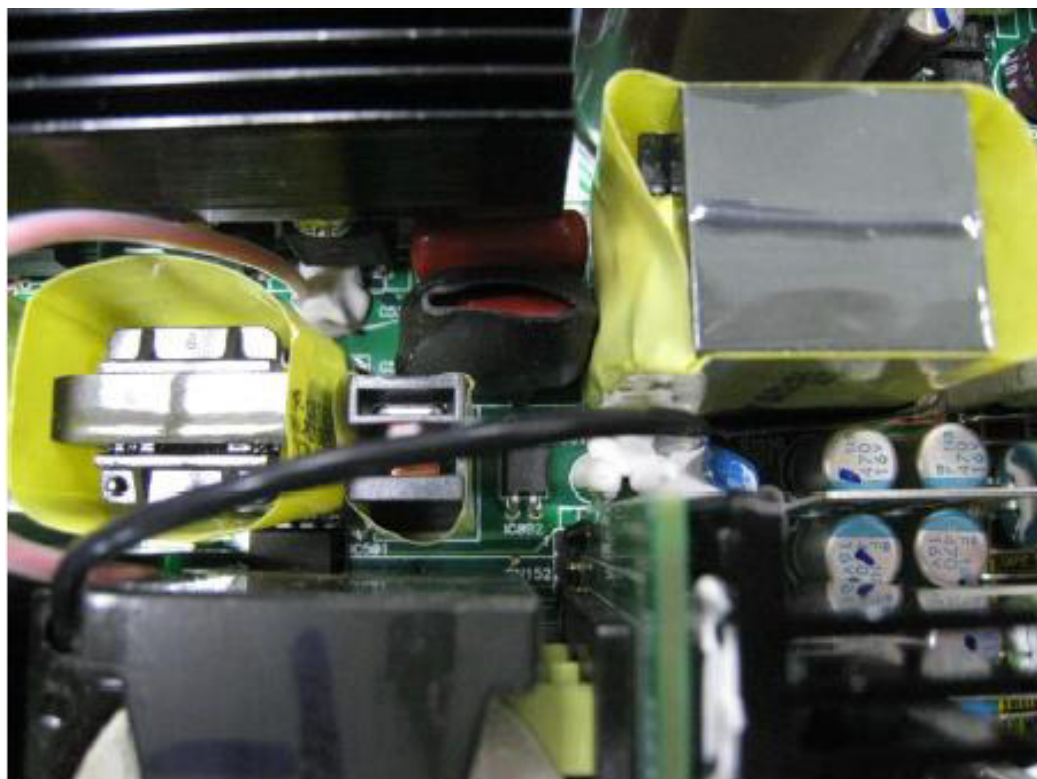


Picture 12 GPS-1000DB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)



Picture 13 GPS-1000DB XX

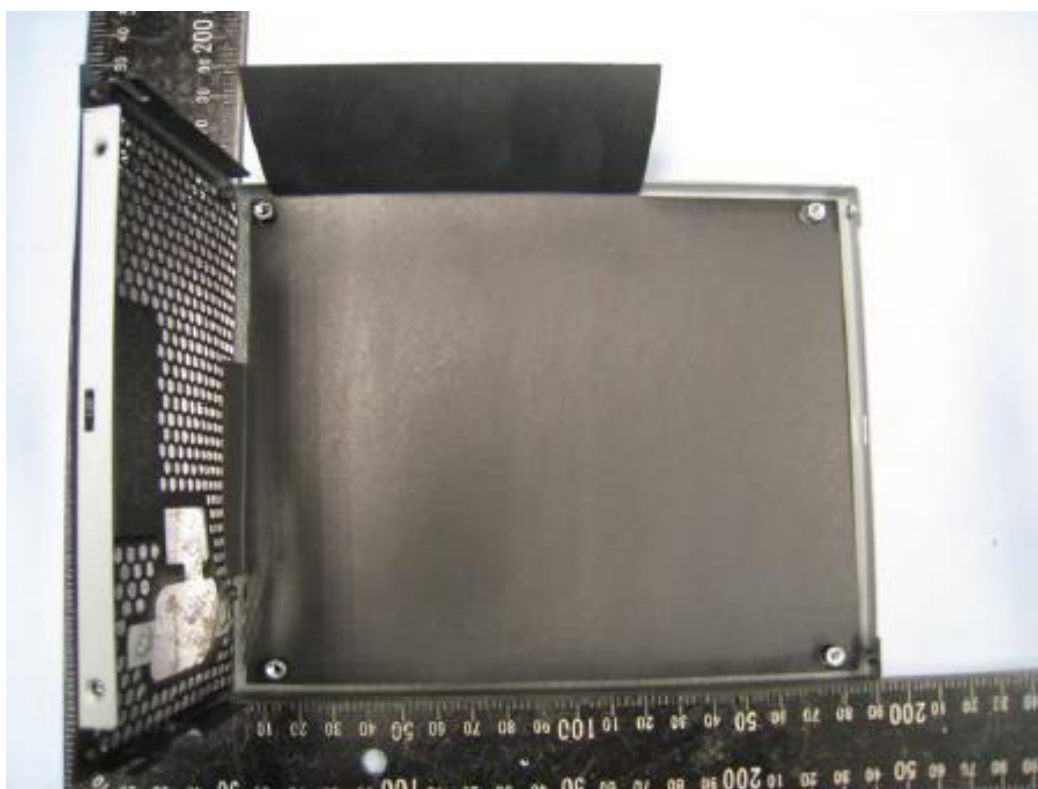


Picture 14 GPS-1000DB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)



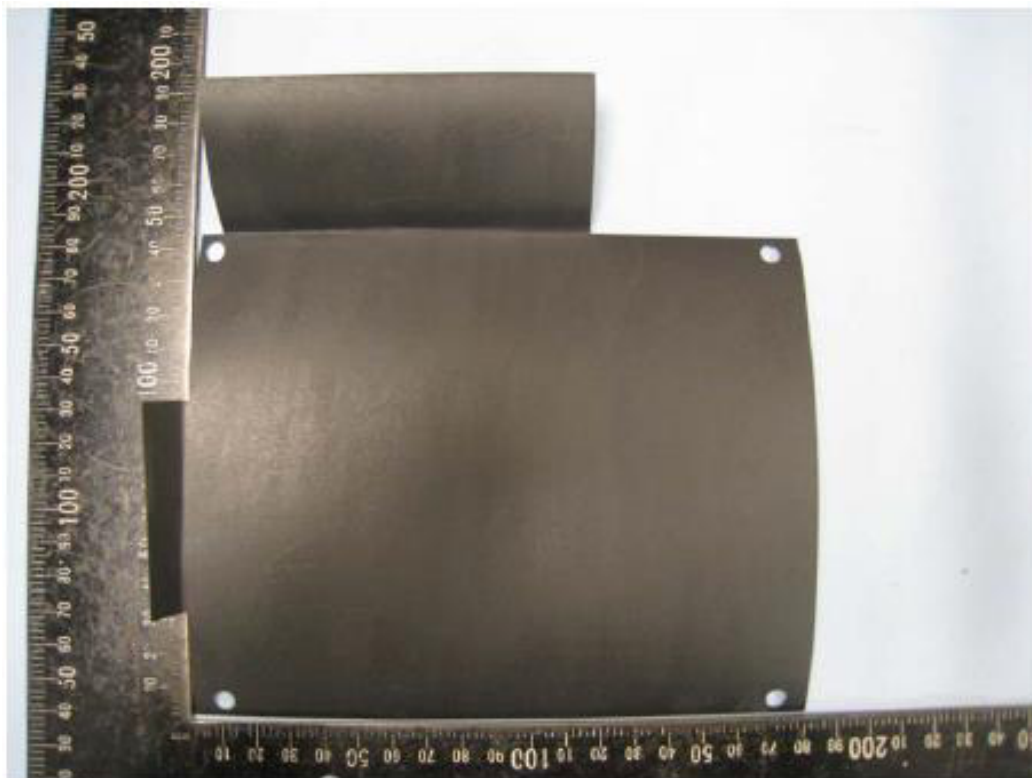
Picture 15 GPS-1000DB XX





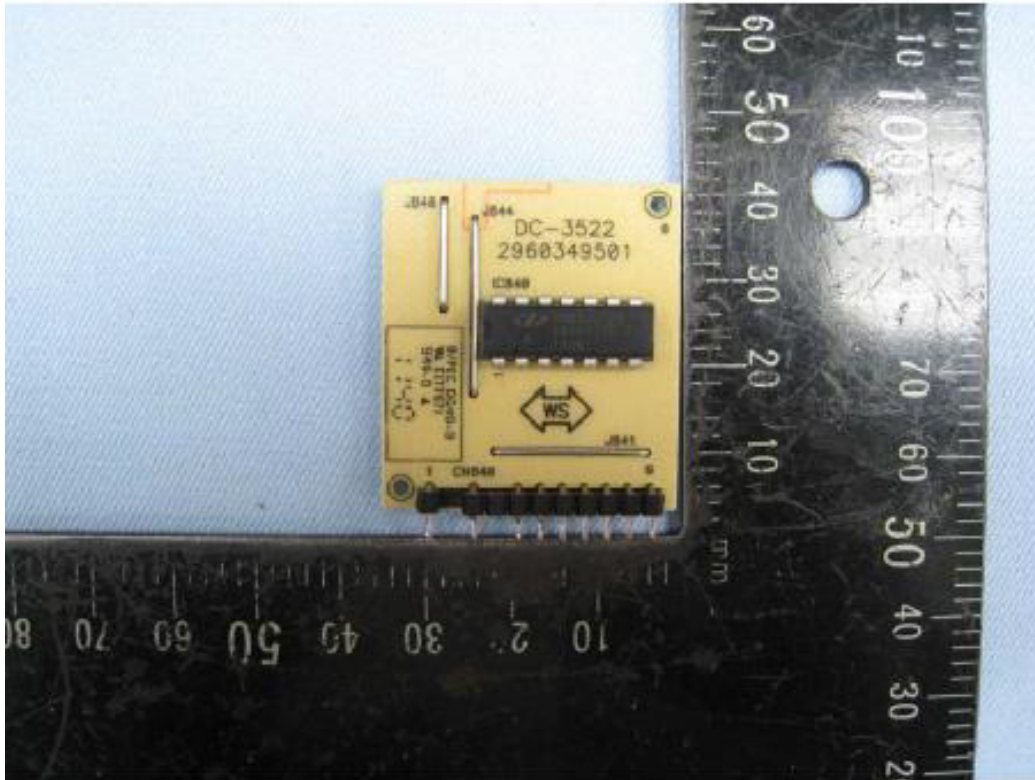
Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

Picture 16 GPS-1000DB XX

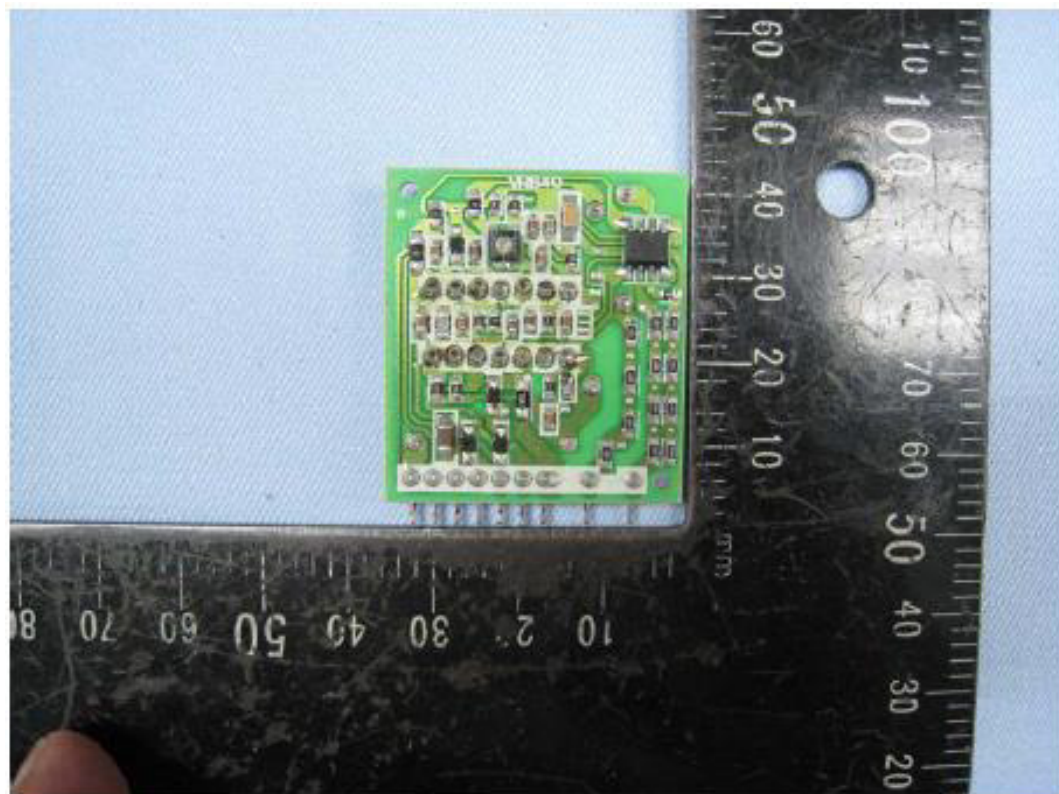


Picture 17 GPS-1000DB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

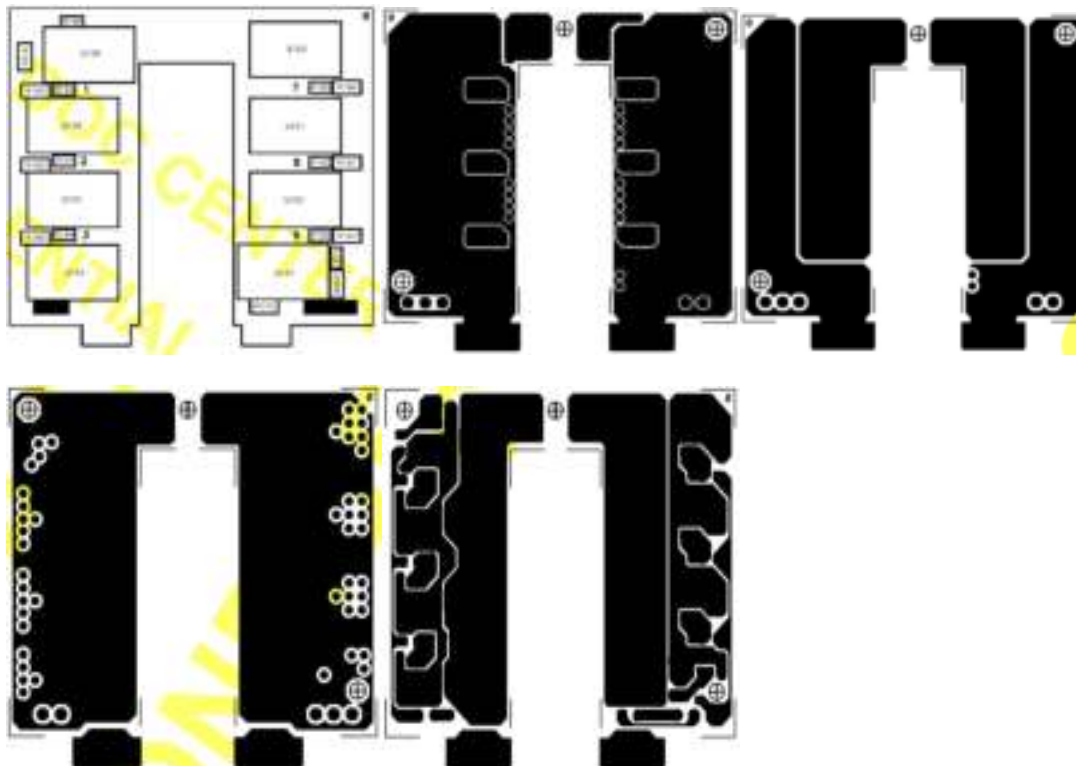


Picture 18 PCB type DC-4971 (GPS-1000DB XX)

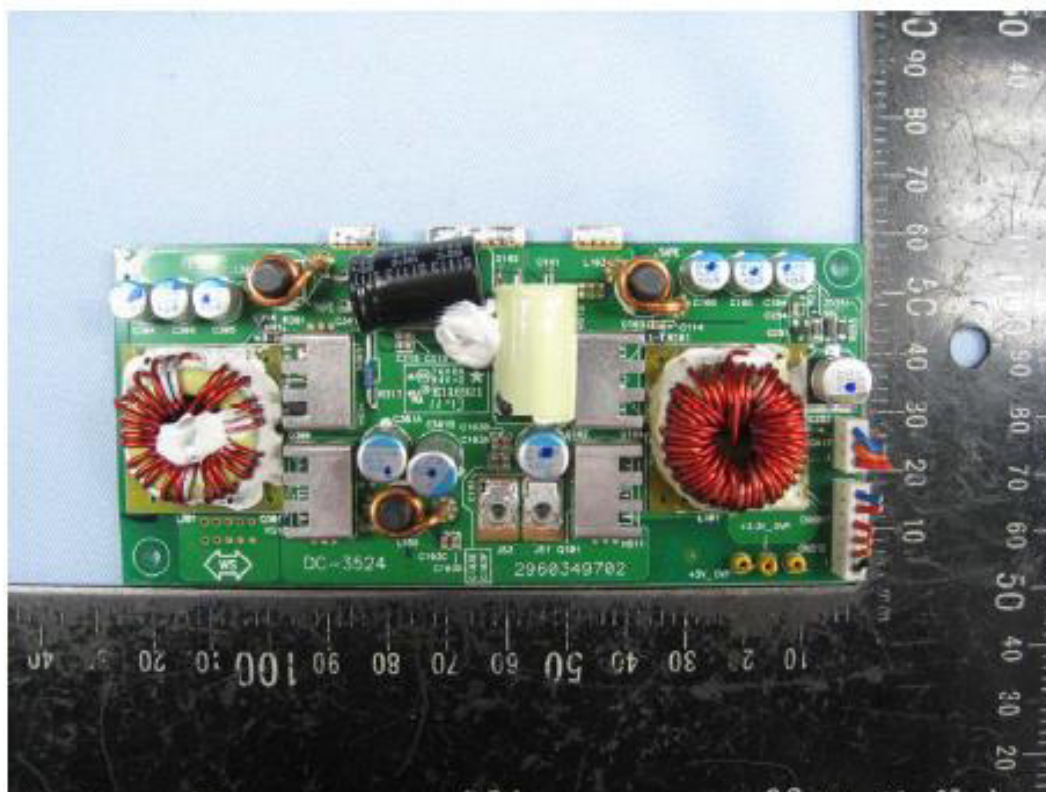


Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

Picture 19 PCB type DC-4971 (GPS-1000DB XX)

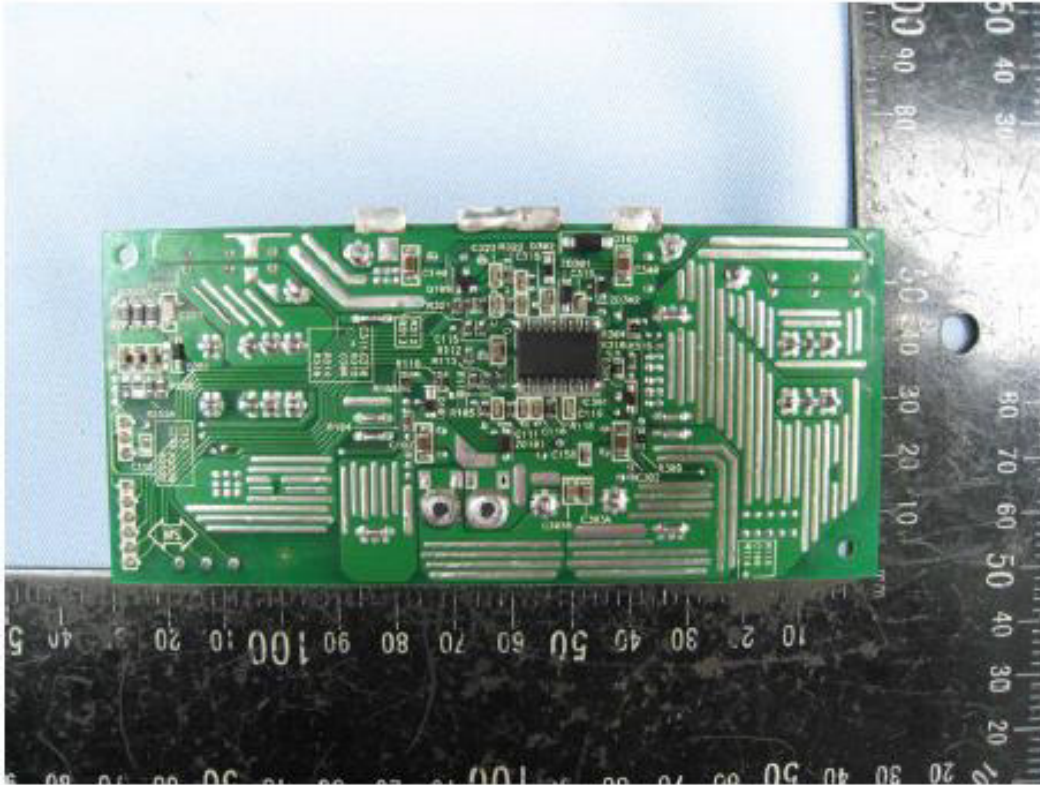


Picture 20 PCB type DC-4972 (GPS-1000DB XX)

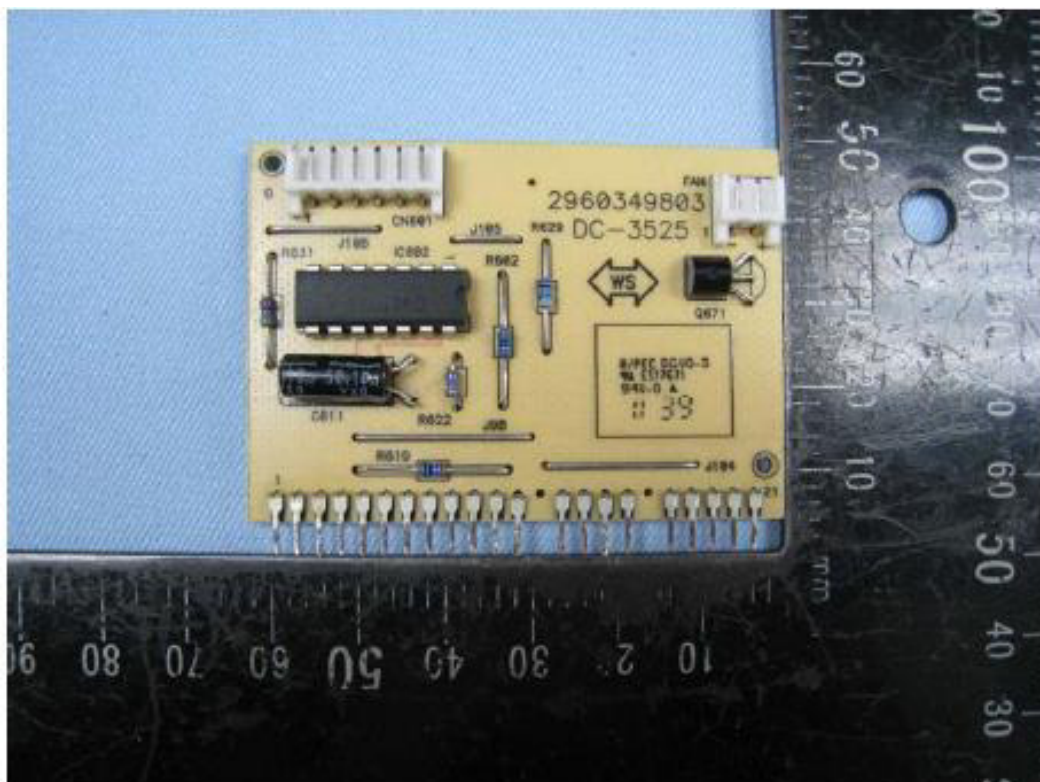


Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

Picture 21 PCB type DC-4973 (GPS-1000DB XX)

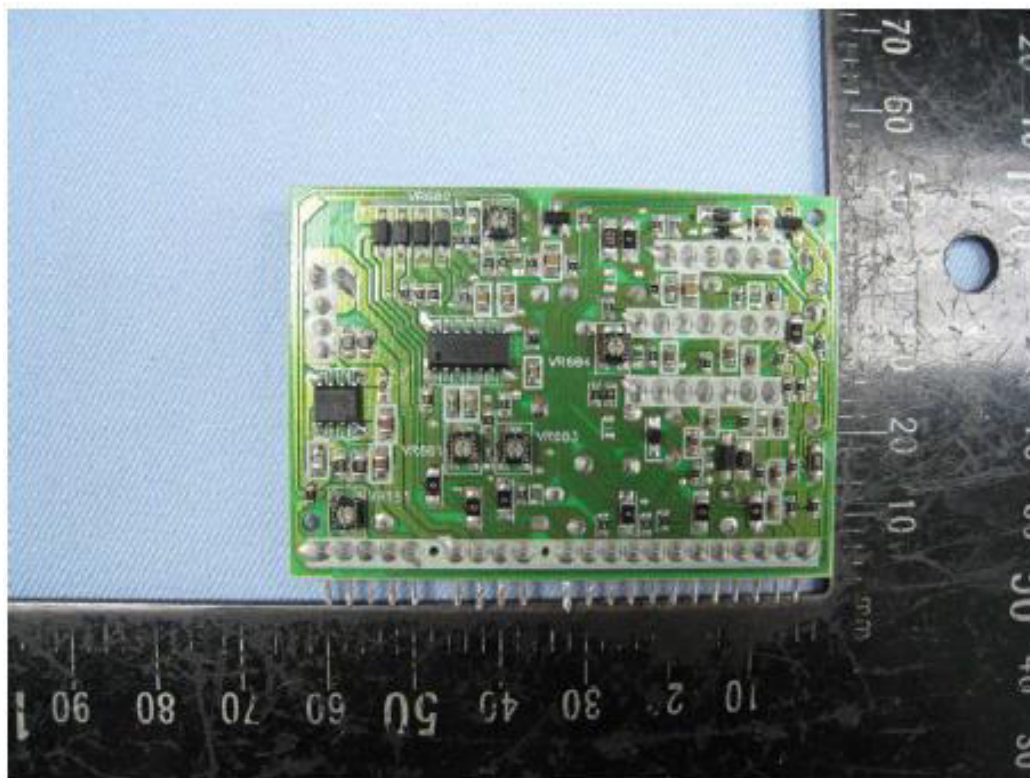


Picture 22 PCB type DC-4973



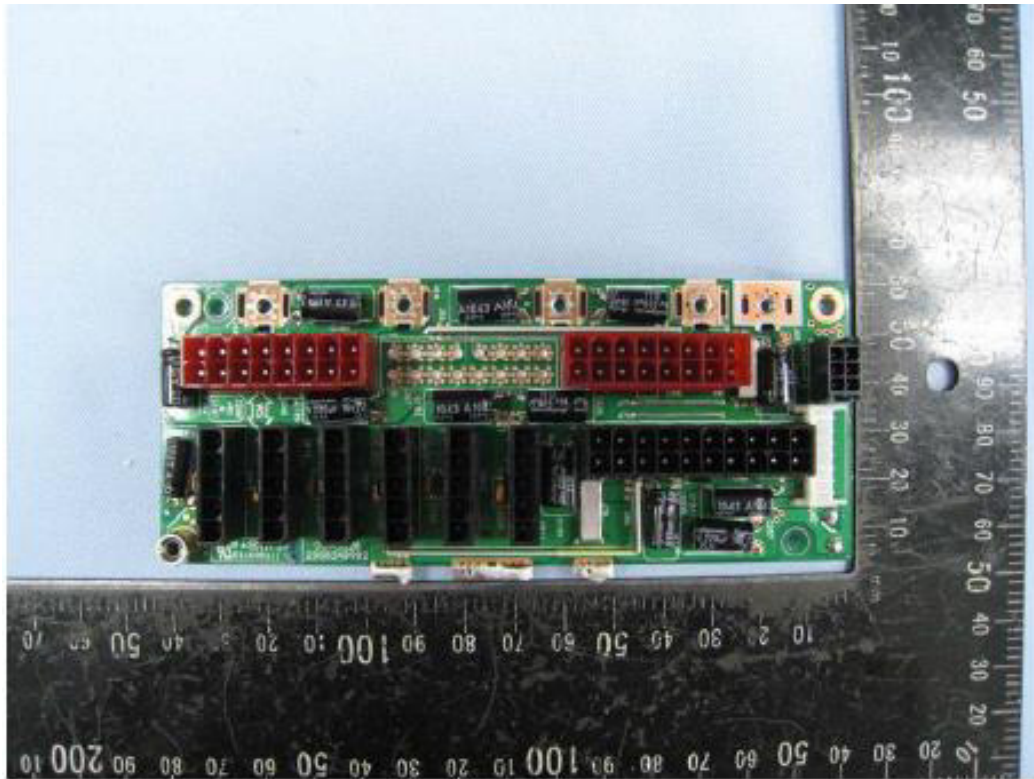
Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

Picture 23 PCB type DC-4974 (GPS-1000DB XX)

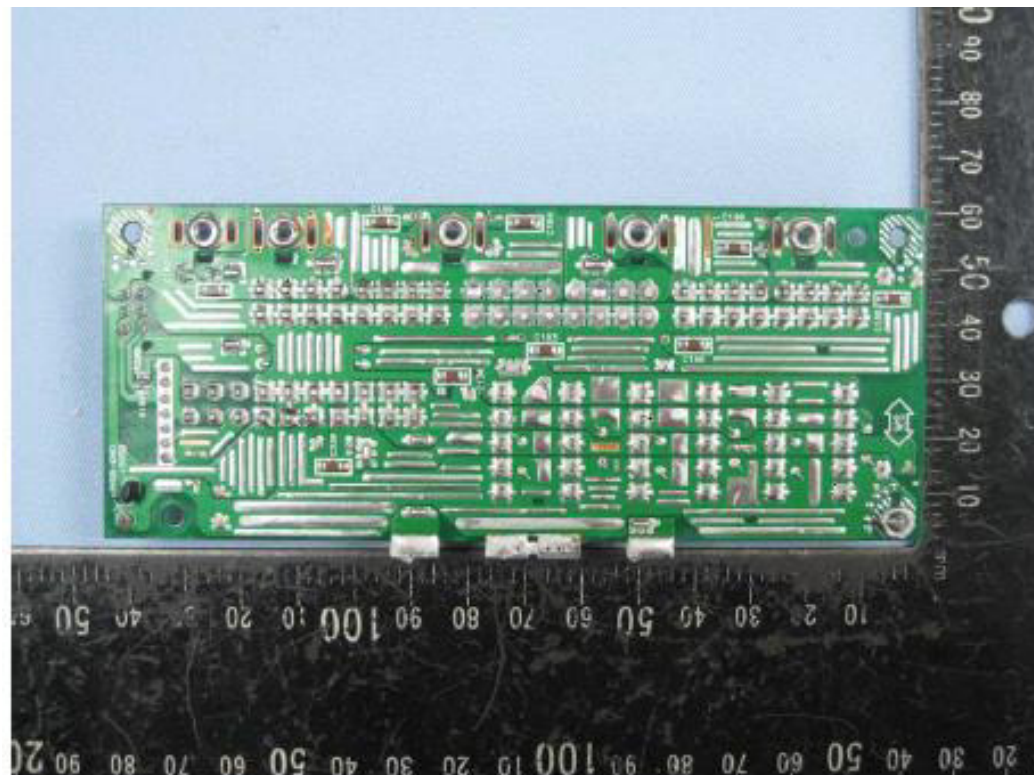


Picture 24 PCB type DC-4974 (GPS-1000DB XX)

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

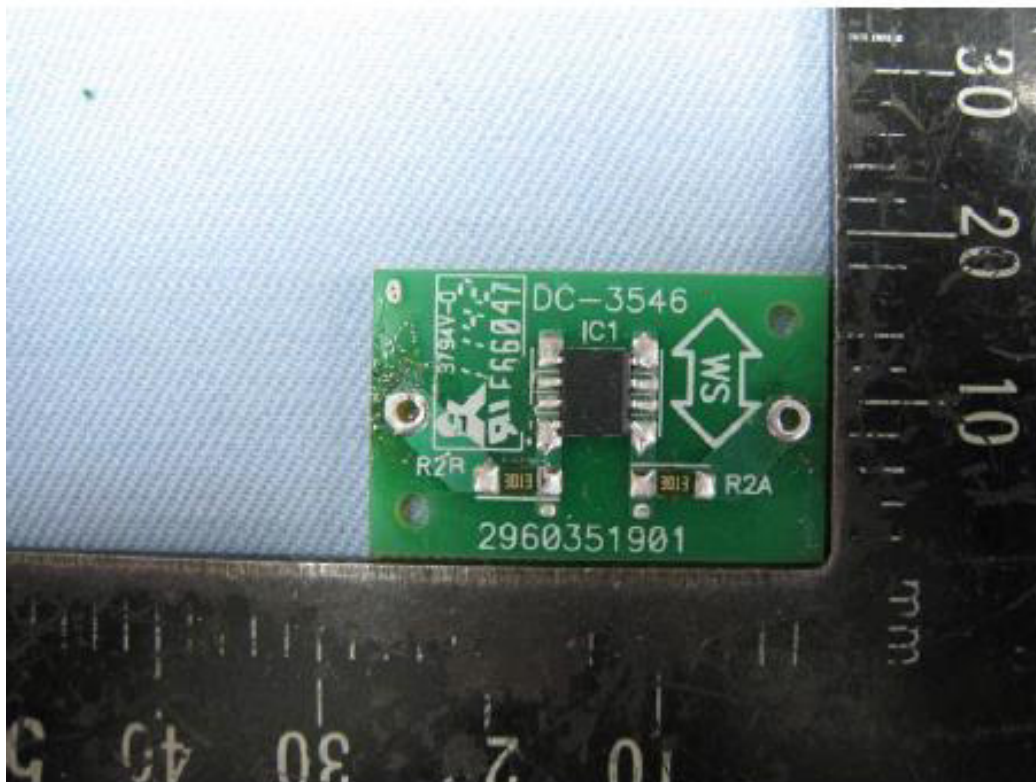


Picture 25 PCB type DC-4975 (GPS-1000DB XX)

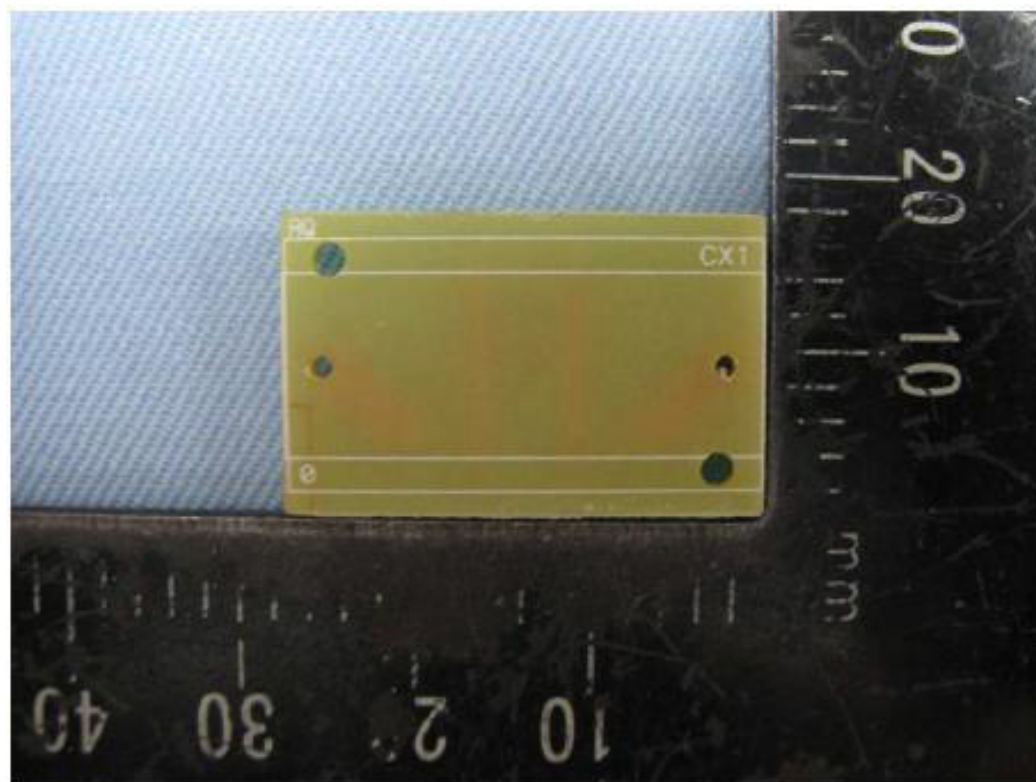


Picture 26 PCB type DC-4975 (GPS-1000DB XX)

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

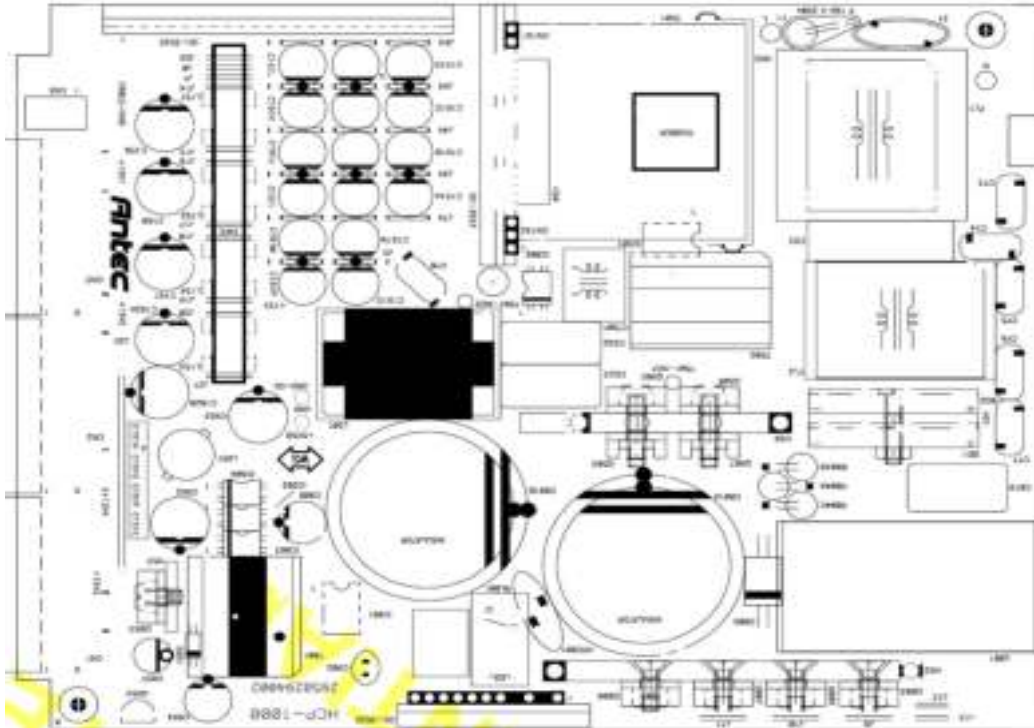


Picture 27 PCB type DC-4914 (GPS-1000DB XX)

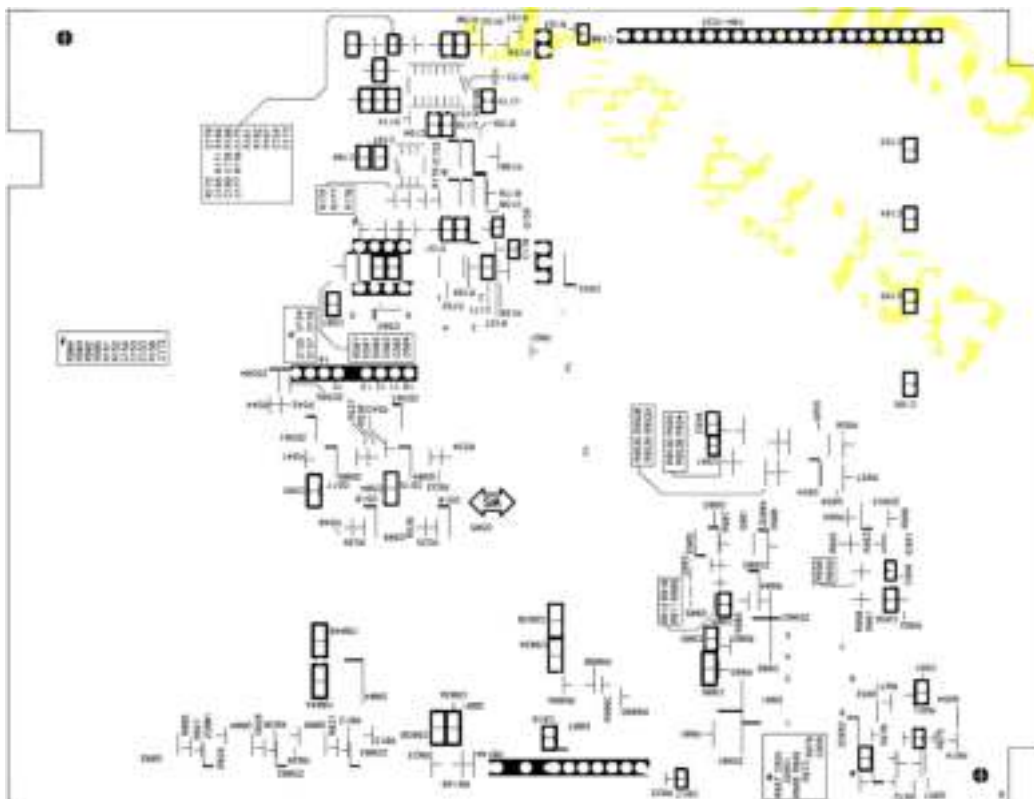


Picture 28 PCB type DC-4914 (GPS-1000DB XX)

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)



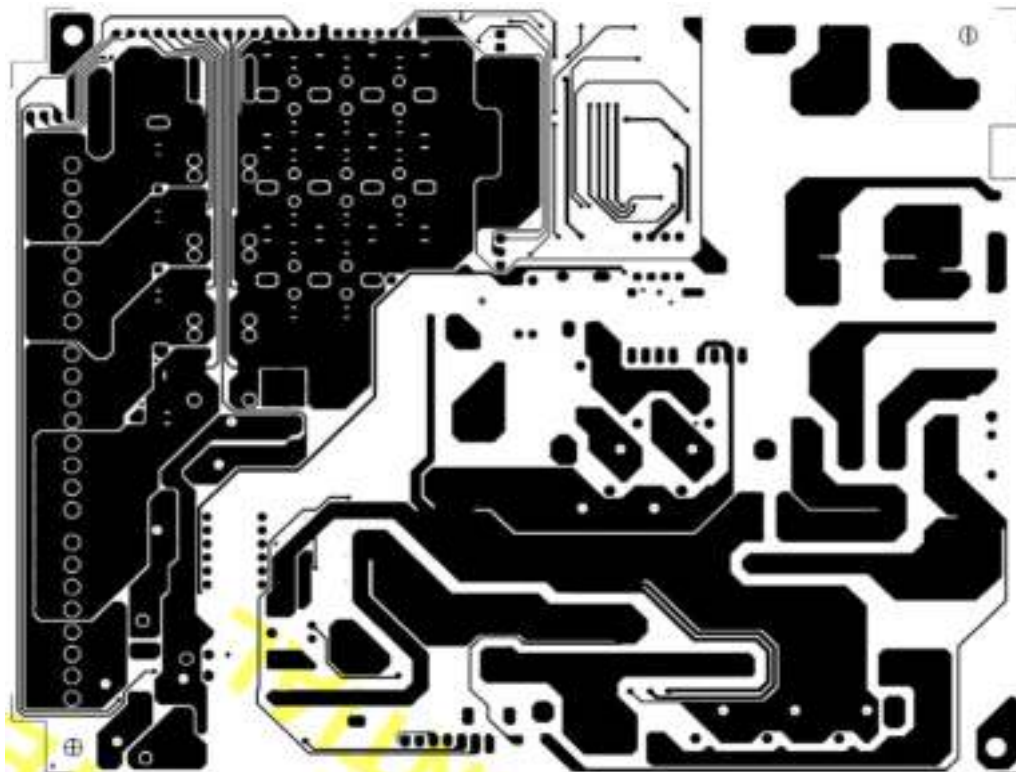
Picture 29 PCB type GPS-1000DP (GPS-1000DB XX)



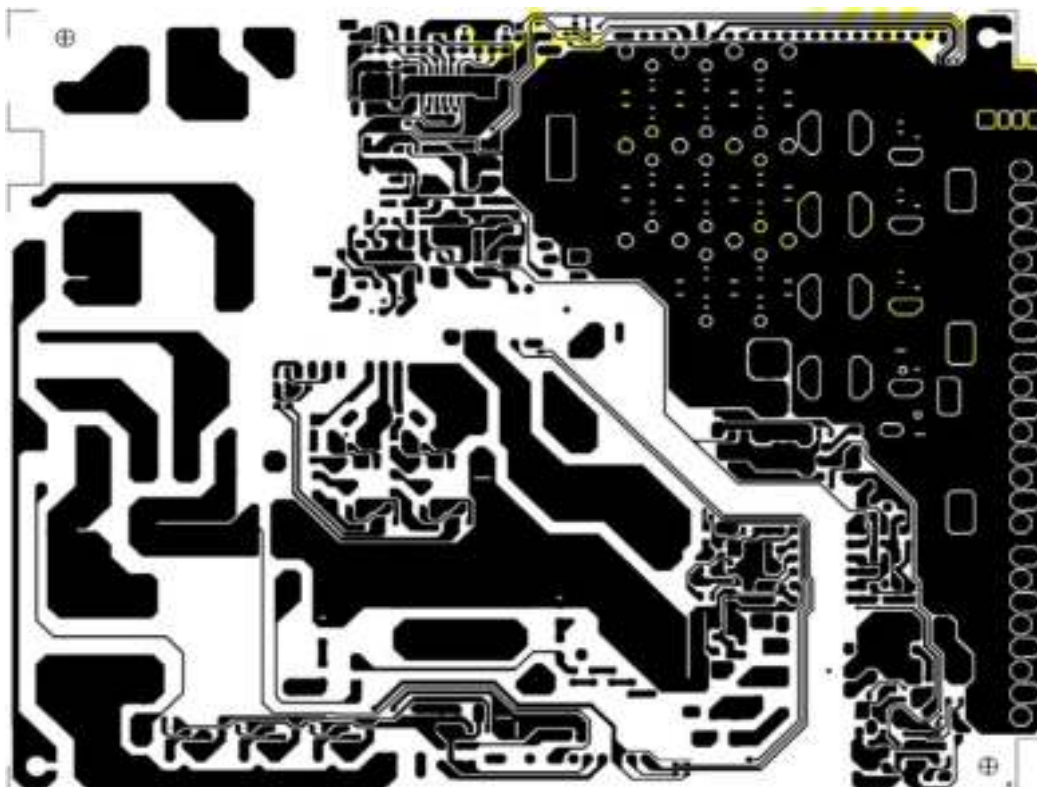
Picture 30 PCB type GPS-1000DP (GPS-1000DB XX)



Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

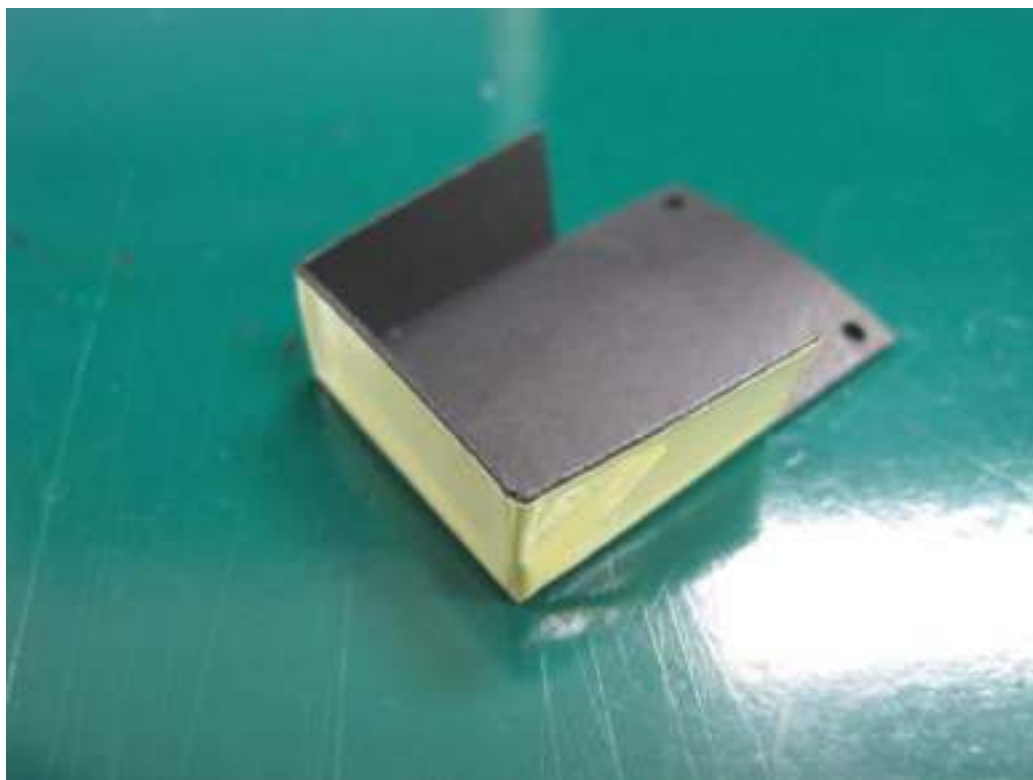


Picture 31 PCB type GPS-1000DP (GPS-1000DB XX)



Picture 32 PCB type GPS-1000DP (GPS-1000DB XX)

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)



Picture 33 Insulator provided under L501 (GPS-1000DB XX)



Picture 34 Insulator provided under L501 (GPS-1000DB XX)

Product:

Switching Power Supply (Built-in type)

Type Designation:

GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

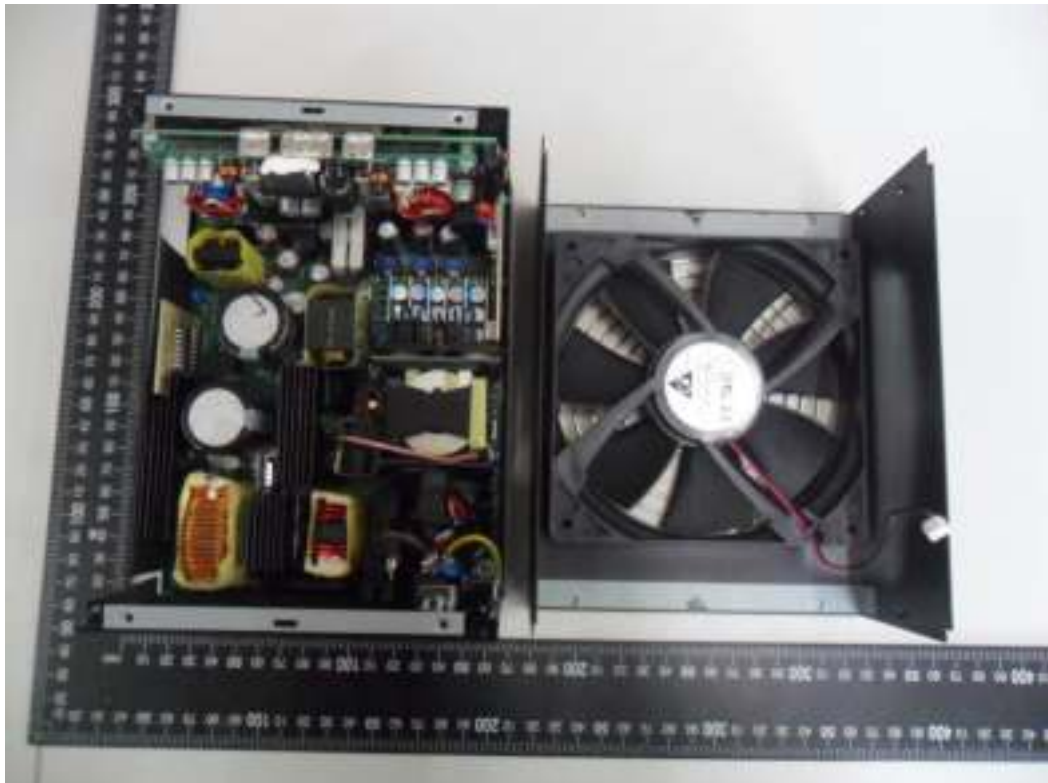


Picture 35 for model GPS-850KB XX

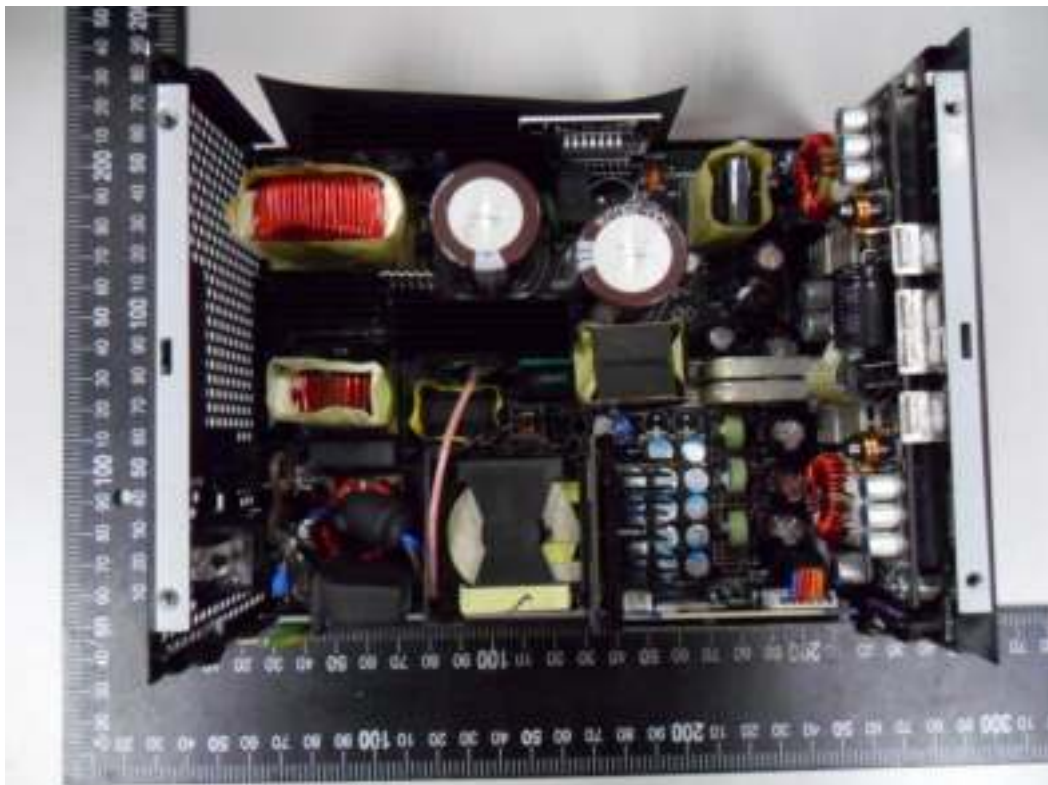


Picture 36 for model GPS-850KB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

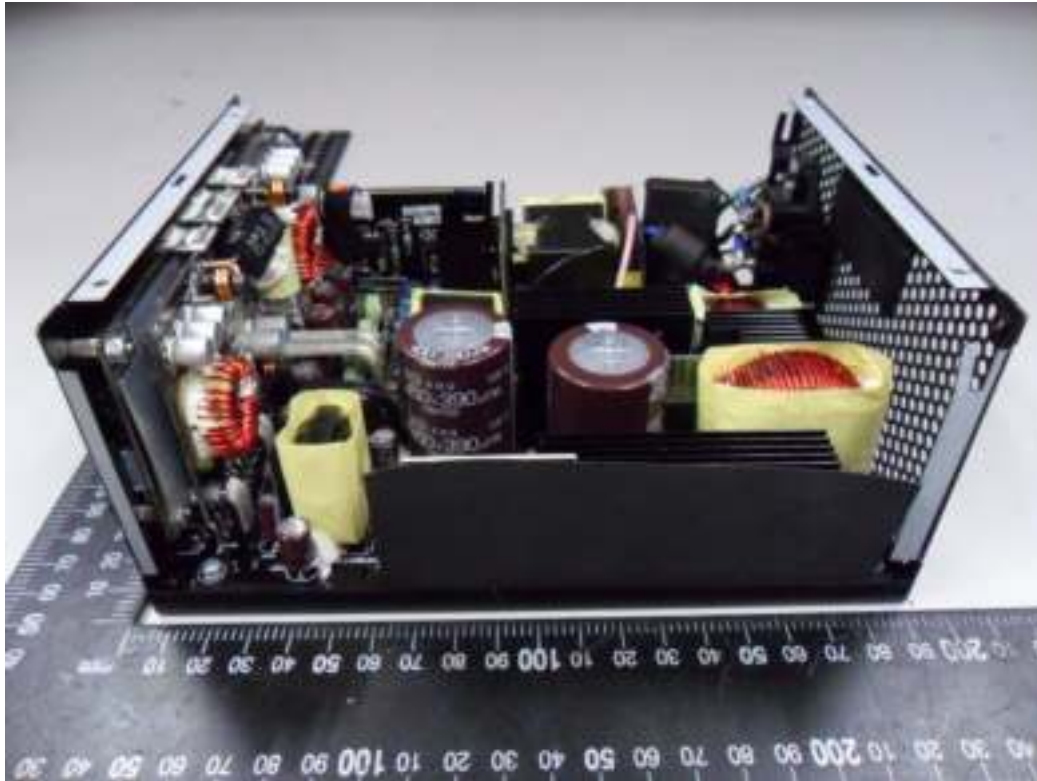


Picture 37 for model GPS-850KB XX



Picture 38 for model GPS-850KB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

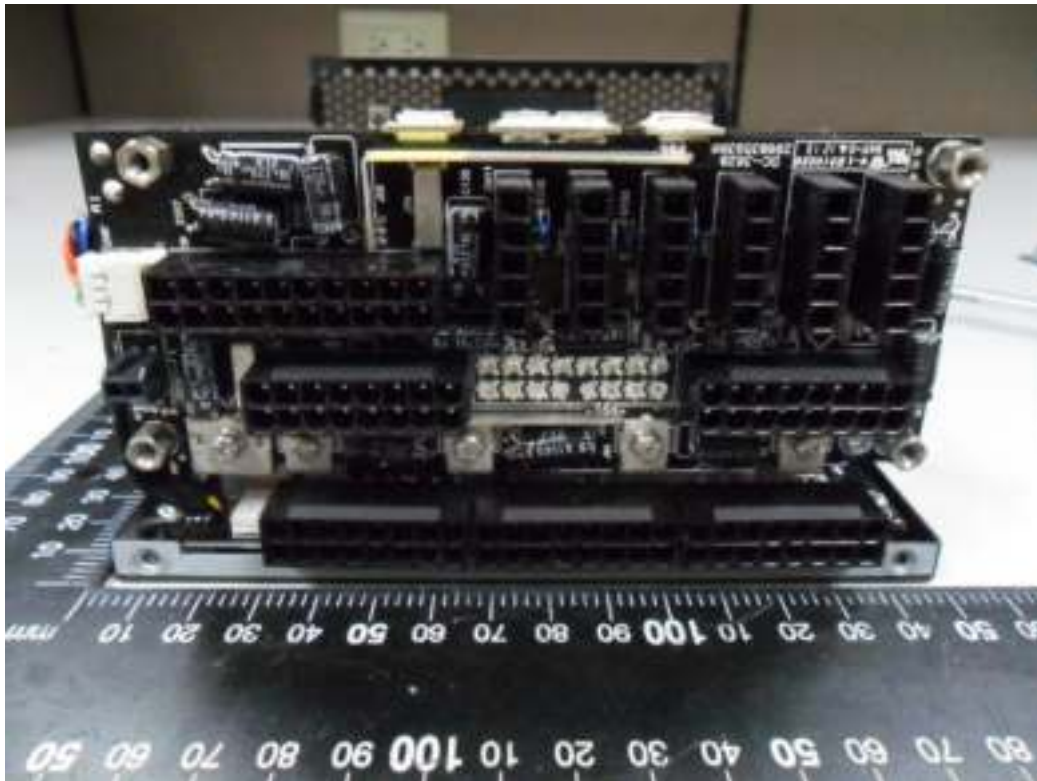


Picture 39 for model GPS-850KB XX

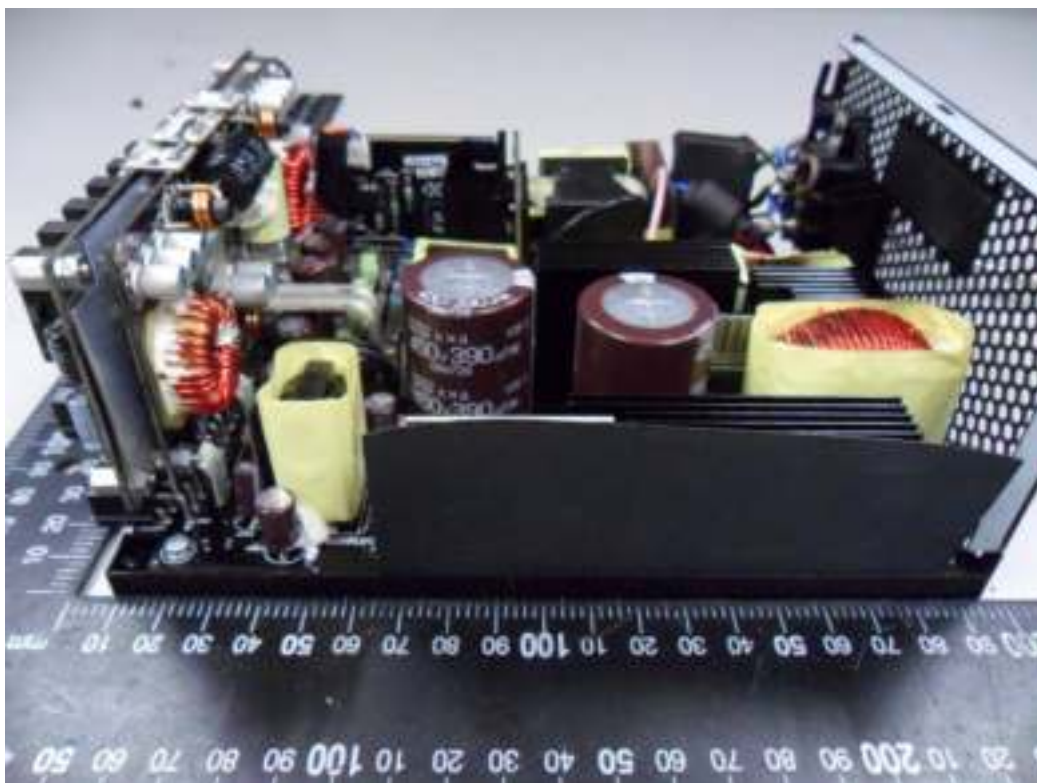


Picture 40 for model GPS-850KB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)



Picture 41 for model GPS-850KB XX

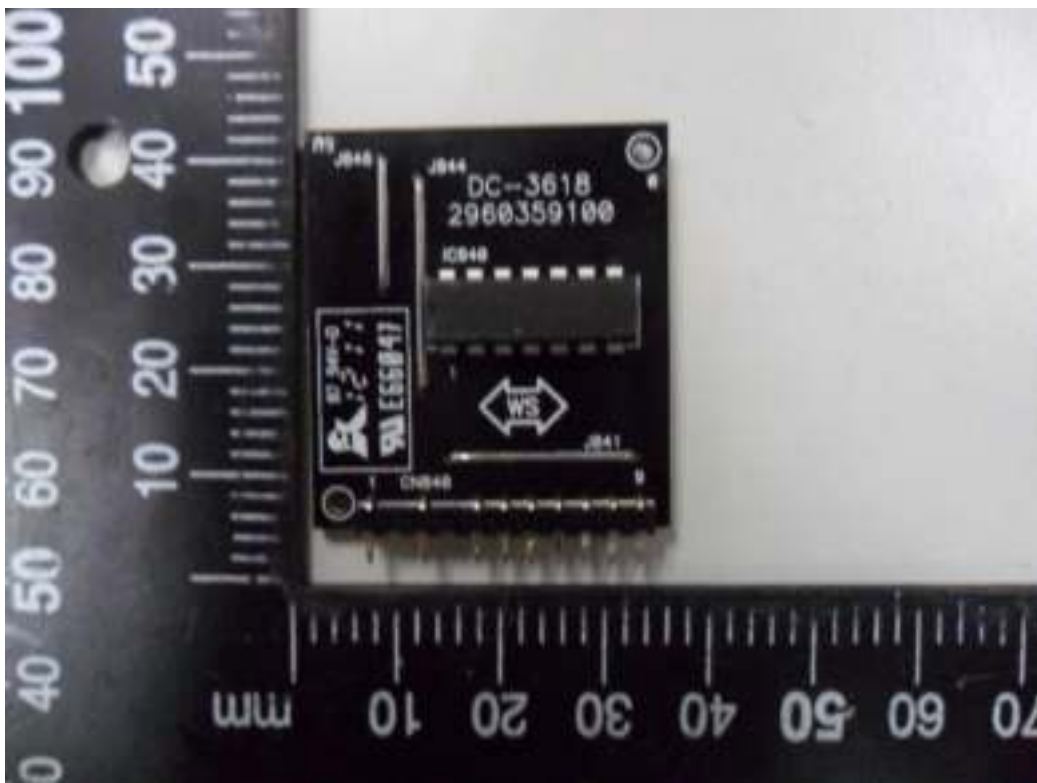


Picture 42 for model GPS-850KB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)



Picture 43 for model GPS-850KB XX



Picture 44 for model GPS-850KB XX



Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)



Picture 45 for model GPS-850KB XX



Picture 46 for model GPS-850KB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

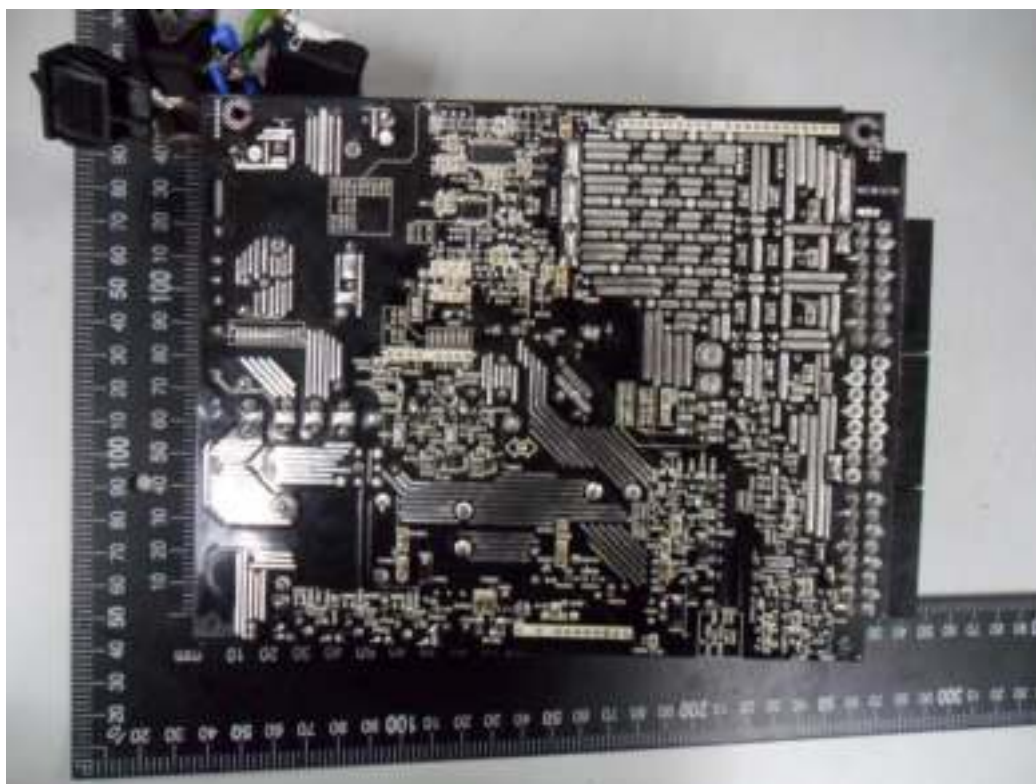


Picture 47 for model GPS-850KB XX

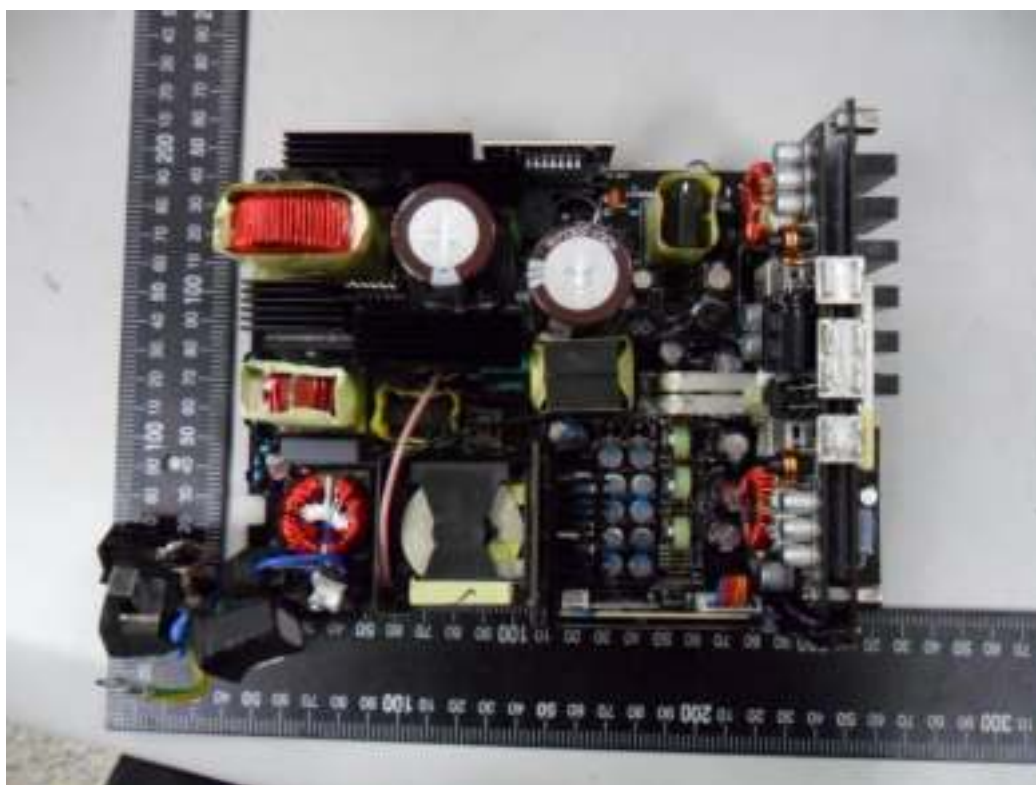


Picture 48 for model GPS-850KB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)



Picture 49 for model GPS-850KB XX

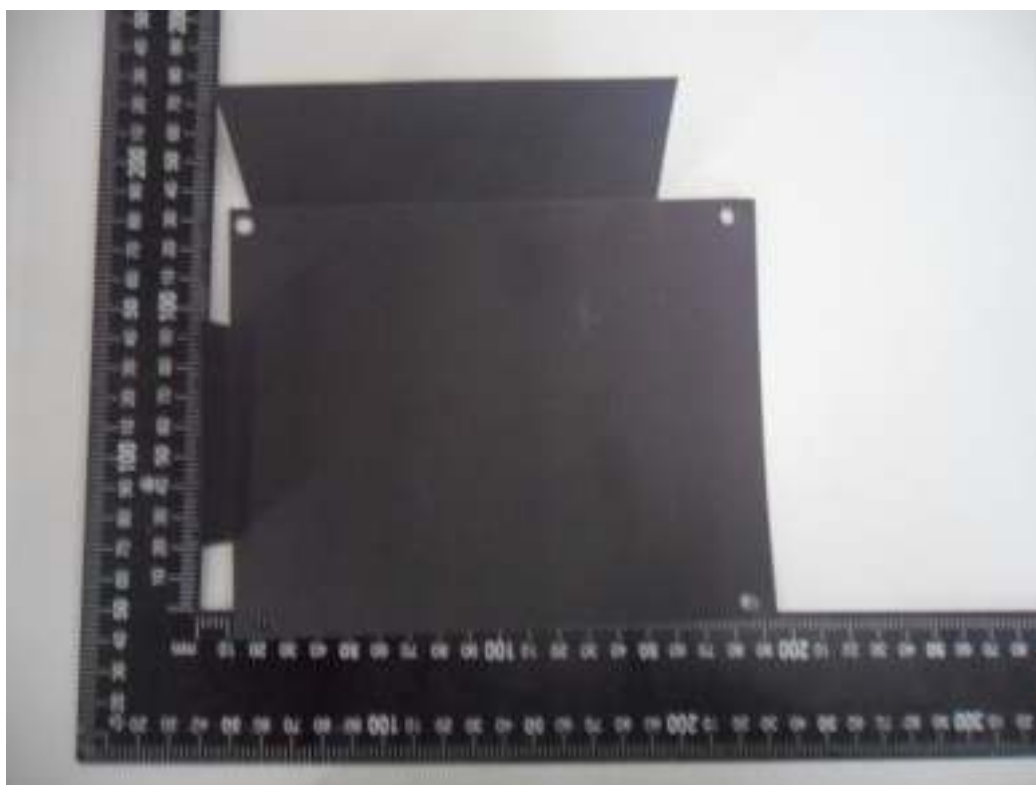


Picture 50 for model GPS-850KB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

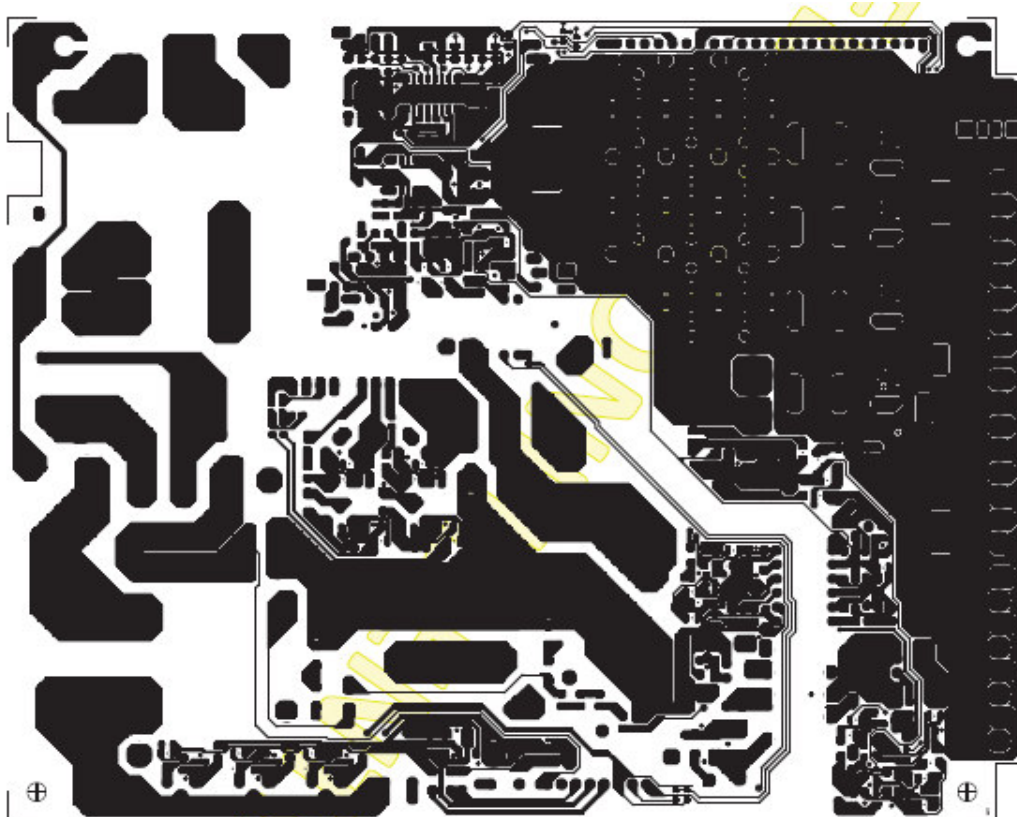


Picture 51 for model GPS-850KB XX

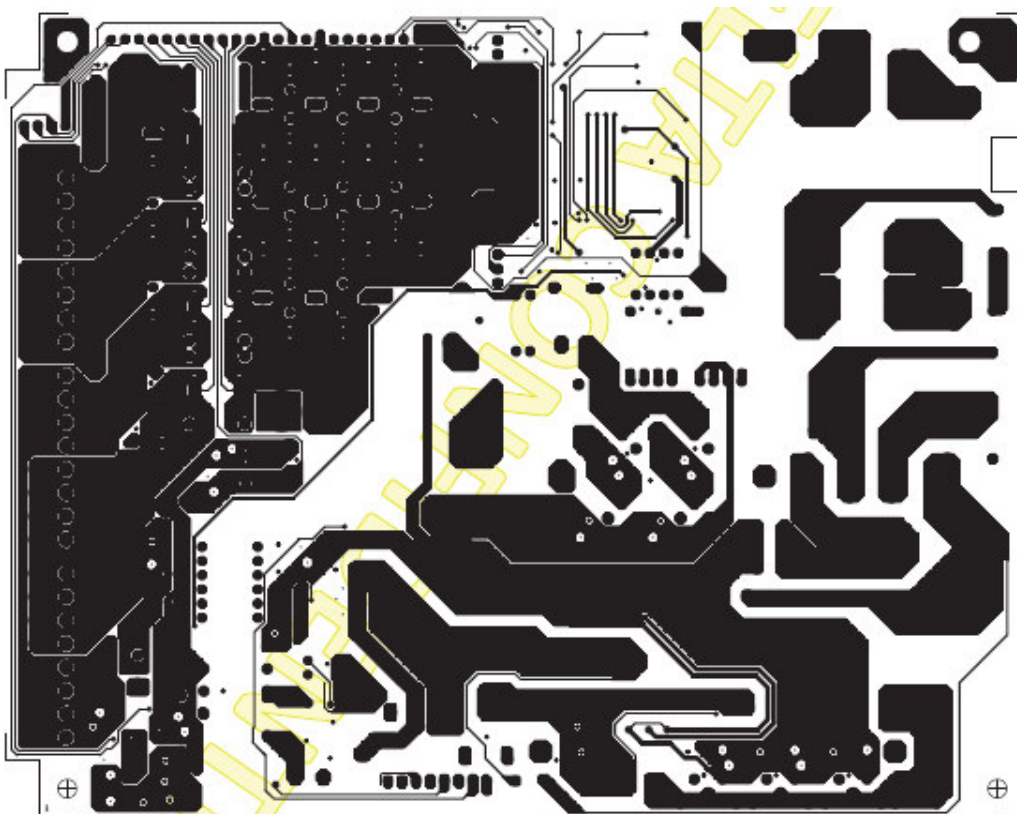


Picture 52 for model GPS-850KB XX

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

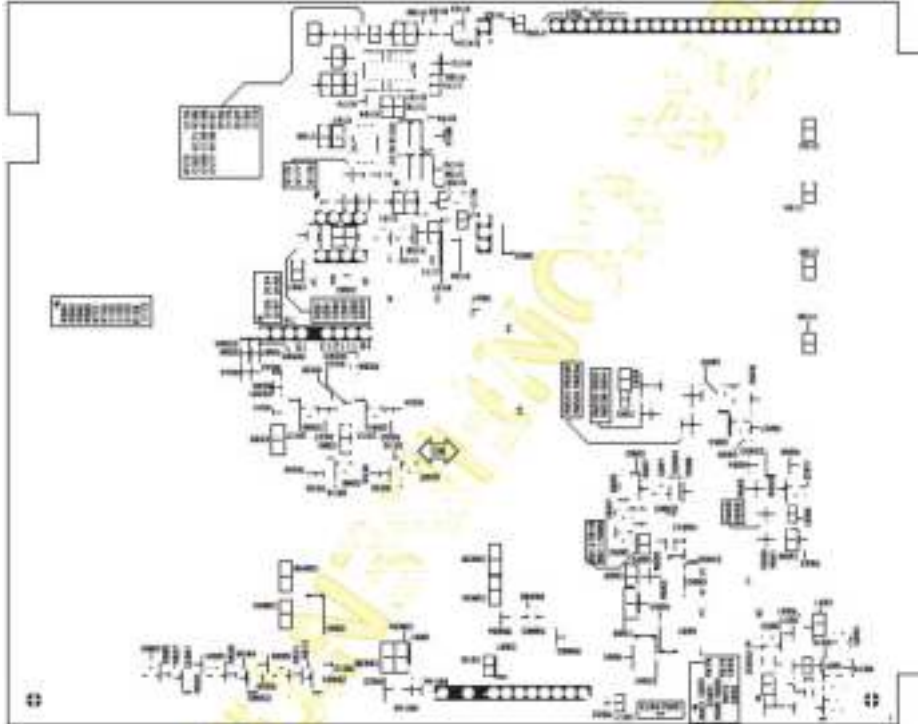


Picture 53 PCB type GPS-850KB XX

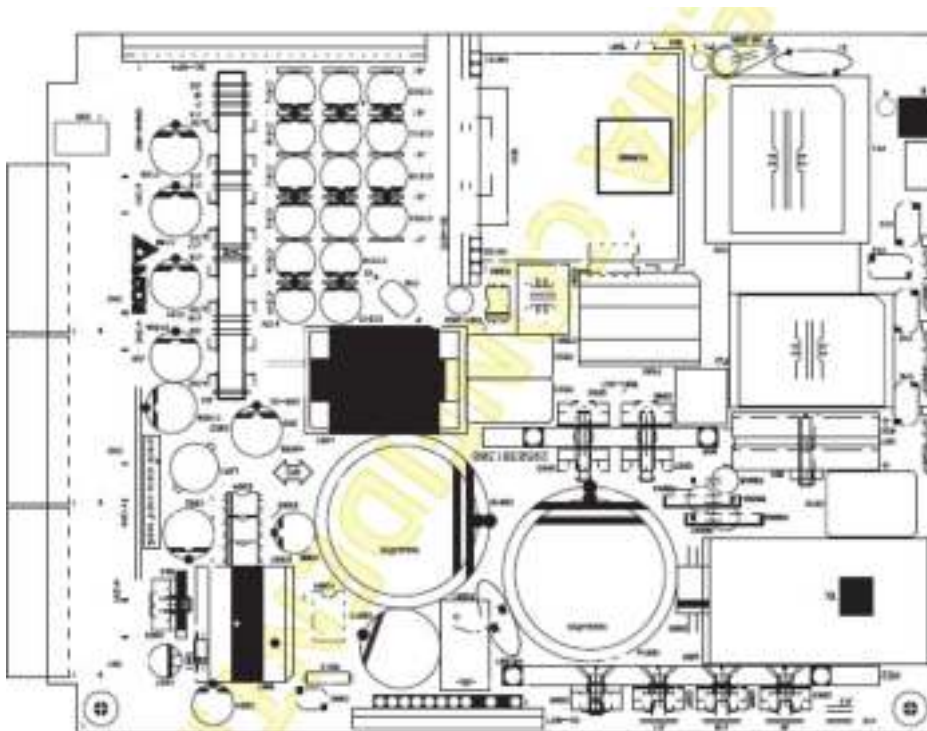


Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-1000DB XX, GPS-850KB XX, DSA-1K0W801APD X  
DSA-850W801APB X (X = 0-9, A-Z or blank)

Picture 54 PCB type GPS-850KB XX



Picture 55 PCB type GPS-850KB XX



Picture 56 PCB type GPS-850KB XX



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ATTACHMENT TO TEST REPORT IEC 62368-1</b> <b>EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES</b> <b>(Audio/video, information and communication technology equipment Part 1: Safety requirements)</b>	
Differences according to.....:	EN 62368-1:2014+A11:2017
Attachment Form No.....:	EU_GD_IEC62368_1B_II
Attachment Originator.....:	Nemko AS
Master Attachment.....:	Date 2017-09-22
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	<b>CENELEC COMMON MODIFICATIONS (EN)</b>	P																																				
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed "Z".	P																																				
CONTENTS	<b>Add</b> the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords	P																																				
	<b>Delete</b> all the "country" notes in the reference document (IEC 62368-1:2014) according to the following list:	P																																				
	<table border="1"> <tbody> <tr> <td>0.2.1</td> <td>Note</td> <td>1</td> <td>Note 3</td> <td>4.1.15</td> <td>Note</td> </tr> <tr> <td>4.7.3</td> <td>Note 1 and 2</td> <td>5.2.2.2</td> <td>Note</td> <td>5.4.2.3.2.2 Table 13</td> <td>Note c</td> </tr> <tr> <td>5.4.2.3.2.4</td> <td>Note 1 and 3</td> <td>5.4.2.5</td> <td>Note 2</td> <td>5.4.5.1</td> <td>Note</td> </tr> <tr> <td>5.5.2.1</td> <td>Note</td> <td>5.5.6</td> <td>Note</td> <td>5.6.4.2.1</td> <td>Note 2 and 3</td> </tr> <tr> <td>5.7.5</td> <td>Note</td> <td>5.7.6.1</td> <td>Note 1 and 2</td> <td>10.2.1 Table 39</td> <td>Note 2, 3 and 4</td> </tr> <tr> <td>10.5.3</td> <td>Note 2</td> <td>10.6.2.1</td> <td>Note 3</td> <td>F.3.3.6</td> <td>Note 3</td> </tr> </tbody> </table>	0.2.1	Note	1	Note 3	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	
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	For special national conditions, see Annex ZB.	P																																				
1	<b>Add</b> the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.	P																																				

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Clause	Requirement + Test	Result - Remark	Verdict
4.Z1	<p><b>Add</b> the following new subclause after 4.9:</p> <p>To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. <b>mains</b>, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <p>c) it is permitted for <b>pluggable equipment type B</b> or <b>permanently connected equipment</b>, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for <b>pluggable equipment type A</b> the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>	<p>Considered.</p> <p>Complied with item a) for internal fuse used and for parts as described in b) reliance on the protection in the building installation.</p>	P
5.4.2.3.2.4	<p><b>Add</b> the following to the end of this subclause:</p> <p>The requirement for interconnection with <b>external circuit</b> is in addition given in EN 50491-3:2009.</p>	No external circuits.	N/A
10.2.1	<p><b>Add</b> the following to c) and d) in table 39:</p> <p>For additional requirements, see 10.5.1.</p>	No such radiation from the equipment.	N/A
10.5.1	<p><b>Add</b> the following after the first paragraph:</p> <p><i>For RS 1 compliance is checked by measurement under the following conditions:</i></p> <p><i>In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</i></p> <p>NOTE Z1 Soldered joints and paint lockings are examples of adequate locking.</p> <p><i>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm<sup>2</sup>,</i></p>		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	<p><i>at any point 10 cm from the outer surface of the apparatus.</i></p> <p><i>Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.</i></p> <p><i>For RS1, the dose-rate shall not exceed 1 μSv/h taking account of the background level.</i></p> <p>NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.</p>		
10.6.1	<p><b>Add</b> the following paragraph to the end of the subclause:</p> <p>EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.</p>	No such X-radiation generated from the equipment.	N/A
10.Z1	<p><b>Add</b> the following new subclause after 10.6.5.</p> <p><b>10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz</b></p> <p>The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz).</p> <p>For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566</p>	No such consideration for the purpose of personal music players.	N/A
G.7.1	<p><b>Add</b> the following note:</p> <p>NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.</p>		P



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Bibliography	<p><b>Add</b> the following standards:</p> <p><b>Add</b> the following notes for the standards indicated:</p> <p>IEC 60130-9 NOTE Harmonized as EN 60130-9.</p> <p>IEC 60269-2 NOTE Harmonized as HD 60269-2.</p> <p>IEC 60309-1 NOTE Harmonized as EN 60309-1.</p> <p>IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series.</p> <p>IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4.</p> <p>IEC 60664-5 NOTE Harmonized as EN 60664-5.</p> <p>IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified).</p> <p>IEC 61508-1 NOTE Harmonized as EN 61508-1.</p> <p>IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1.</p> <p>IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4.</p> <p>IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6.</p> <p>IEC 61643-1 NOTE Harmonized as EN 61643-1.</p> <p>IEC 61643-21 NOTE Harmonized as EN 61643-21.</p> <p>IEC 61643-311 NOTE Harmonized as EN 61643-311.</p> <p>IEC 61643-321 NOTE Harmonized as EN 61643-321.</p> <p>IEC 61643-331 NOTE Harmonized as EN 61643-331.</p>		P

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Clause	Requirement + Test	Result - Remark	Verdict
<b>ZB</b>	<b>ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)</b>		<b>P</b>
4.1.15	<p><b>Denmark, Finland, Norway and Sweden</b></p> <p>To the end of the subclause the following is added:  <b>Class I pluggable equipment type A</b> intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and <b>accessible</b> parts, have a marking stating that the equipment shall be connected to an earthed <b>mains</b> socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In <b>Denmark</b>: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord."                      In <b>Finland</b>: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"                      In <b>Norway</b>: "Apparatet må tilkoples jordet stikkontakt"                      In <b>Sweden</b>: "Apparaten skall anslutas till jordat uttag"</p>	Class I equipment. The marking text must be provided when marketed in applicable countries.	N/A
4.7.3	<p><b>United Kingdom</b></p> <p>To the end of the subclause the following is added:                      The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex</p>	The equipment is not direct plug-in equipment.	N/A
5.2.2.2	<p><b>Denmark</b></p> <p>After the 2nd paragraph add the following:                      A warning (marking <b>safeguard</b>) for high <b>touch current</b> is required if the <b>touch current</b> exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>	No high touch current.	N/A
5.4.11.1 and Annex G	<p><b>Finland and Sweden</b></p> <p>To the end of the subclause the following is added:                      For separation of the telecommunication network from earth the following is applicable:                      If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> <li>• two layers of thin sheet material, each of which shall pass the electric strength test below, or</li> <li>• one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.</li> </ul> <p>If this insulation forms part of a semiconductor</p>	No TNV circuits.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> <li>• passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and</li> <li>• is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV.</li> </ul> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</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"> <li>• the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11;</li> <li>• the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.</li> </ul>		
5.5.2.1	<p><b>Norway</b></p> <p>After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).</p>	Considered.	P
5.5.6	<p><b>Finland, Norway and Sweden</b></p> <p>To the end of the subclause the following is added: Resistors used as <b>basic safeguard</b> or bridging <b>basic insulation in class I pluggable equipment type A</b> shall comply with G.10.1 and the test of G.10.2.</p>	No such resistors.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.1	<p><b>Denmark</b>  <b>Add</b> to the end of the subclause                      Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment.  <i>Justification:</i>                      In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.</p>	Considered.	P
5.6.4.2.1	<p><b>Ireland and United Kingdom</b>                      After the indent for <b>pluggable equipment type A</b>, the following is added:                      – the <b>protective current rating</b> is taken to be 13 A, this being the largest rating of fuse used in the <b>mains</b> plug.</p>	Considered.	P
5.6.5.1	<p>To the second paragraph the following is added:                      The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is:                      1,25 mm<sup>2</sup> to 1,5 mm<sup>2</sup> in cross-sectional area.</p>	No such high rated current.	N/A
5.7.5	<p><b>Denmark</b>                      To the end of the subclause the following is added:                      The installation instruction shall be affixed to the equipment if the <b>protective conductor current</b> exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>	No high protective conductor current.	N/A
5.7.6.1	<p><b>Norway and Sweden</b>                      To the end of the subclause the following is added:                      The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system.                      It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example.                      The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:                      “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a</p>	Not such system.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)”</p> <p>NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkøp utstyr – og er tilkøp et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkøp av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.”</p> <p>Translation to Swedish:</p> <p>”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.</p>		
5.7.6.2	<p><b>Denmark</b></p> <p>To the end of the subclause the following is added:</p> <p>The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .</p>	No external circuits.	N/A
B.3.1 and B.4	<p><b>Ireland and United Kingdom</b></p> <p>The following is applicable:</p> <p>To protect against excessive currents and short-circuits in the primary circuit of <b>direct plug-in equipment</b>, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the <b>direct plug-in equipment</b>, until the requirements of Annexes B.3.1 and B.4 are met</p>	The equipment is not direct plug-in equipment.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	<p><b>Denmark</b></p> <p>To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a <i>Justification:</i> Heavy Current Regulations, Section 6c</p>		N/A
G.4.2	<p><b>United Kingdom</b></p> <p>To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.</p>	The equipment is not direct plug-in equipment.	N/A



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





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Clause	Requirement + Test	Result - Remark	Verdict
<b>ZC</b>	<b>ANNEX ZC, NATIONAL DEVIATIONS (EN)</b>		N/A
10.5.2	<p><b>Germany</b></p> <p>The following requirement applies:            For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking.</p> <p><i>Justification:</i>            German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM.</p> <p><b>NOTE</b> Contact address:            Physikalisch-Technische Bundesanstalt, Bundesallee 100,            D-38116 Braunschweig,            Tel.: Int +49-531-592-6320,            Internet: <a href="http://www.ptb.de">http://www.ptb.de</a></p>	No CRT within the equipment.	



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Clause	Requirement + Test	Result - Remark	Verdict

<p><b>ATTACHMENT TO TEST REPORT IEC 62368-1</b>  <b>DENMARK NATIONAL DIFFERENCES</b>                  Audio/video, information and communication technology equipment –                  Part 1: Safety requirements</p>			
<p><b>Differences according to</b>.....: DS/EN 62368-1:2014</p>			
<p><b>Attachment Form No.</b>.....: DK_ND_IEC62368_1B</p>			
<p><b>Attachment Originator</b> .....: UL (Demko)</p>			
<p><b>Master Attachment</b>.....: 2014-10</p>			
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	National Differences		
4.1.15	<p>To the end of the subclause the following is added:</p> <p>Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>“Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.”</p>		N/A
5.2.2.2	<p>After the 2nd paragraph add the following:</p> <p>A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>		N/A
5.6.1	<p>Add to the end of the subclause:</p> <p>Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment.</p> <p>Justification:</p> <p>In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.5	<p>To the end of the subclause the following is added:</p> <p>The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>		N/A
5.7.6.2	<p>To the end of the subclause the following is added:</p> <p>The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA.</p>		N/A
G.4.2	<p>To the end of the subclause the following is added:</p> <p>Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.</p> <p>Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a.</p> <p>Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c.</p> <p>Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a</p> <p>Justification: Heavy Current Regulations, Section 6c</p>		N/A



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Clause	Requirement + Test	Result - Remark	Verdict

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

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

**Attachment Form No.**.....: IT\_ND\_IEC62368\_1B

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

**Master Attachment**.....: Date 2020-01-31

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



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p><i>Justification:</i> Ministerial Decree of 26 March 1992 : National rules for television receivers trade.</p> <p>NOTE/: Ministerial decree above contains additional, but not safety relevant requirements</p>	No such equipment.	N/A



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ATTACHMENT TO TEST REPORT IEC 62368-1 2<sup>th</sup> Ed.</b> <b>U.S.A. NATIONAL DIFFERENCES</b> Audio/video, information and communication technology equipment – Part 1: Safety requirements	
<b>Differences according to.....:</b>	CSA/UL 62368-1:2014
<b>Attachment Form No.....:</b>	US&CA_ND_IEC623681B
<b>Attachment Originator .....</b>	UL(US)
<b>Master Attachment .....</b>	Date 2015-06
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<b>IEC 62368-1 - US and Canadian National Differences</b> <b>Special National Conditions based on Regulations and Other National Differences</b>			
1.1	All equipment is to be designed to allow installation according to the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, for such equipment marked or otherwise identified, installation is allowed per the Standard for the Protection of Information Technology Equipment, ANSI/NFPA 75.	In accordance with the National Electrical Code (NEC) and the Canadian Electrical Code (CEC) part 1 CAN/CSA C22.1, ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	P
1.4	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.	Considered.	P
4.1.17	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the NEC.	Evaluation shall be made during the final system approval.	N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.	See above.	N/A
4.8	Lithium coin / button cell batteries have modified special construction and performance requirements.	No such batteries.	N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.5, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment	An appliance inlet provided that is connected by an approved appliance coupler serves as main protective earthing terminal. No power supply cord provided.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.7	Equipment intended to receive telecommunication ringing signals complies with a special touch current measurement tests.	No TNV circuits within the equipment.	N/A
6.5.1	PS3 wiring outside a fire enclosure complies with single fault testing in B.4, or be current limited per one of the permitted methods.	No such parts.	N/A
Annex F (F.3.3.8)	Output terminals provided for supply of other equipment, except mains, supply are marked with a maximum rating or references to which equipment it is permitted to be connected.	See copy of marking plate.	P
Annex G (G.7.1)	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	The equipment is not permanent connection equipment.	N/A
Annex G (G.7.3)	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	No power supply cord provided, see GENERAL PRODUCT INFORMATION.	N/A
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.	See above.	N/A
Annex G (G.7.5)	Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Power supply cords are required to be no longer than 4.5 m in length if used in ITE Rooms.	See above.	N/A
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No TNV circuits within the equipment.	N/A
Annex H.4	For circuits with other than ringing signals and with voltages exceeding 42.4 V <sub>peak</sub> or 60 V d.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No TNV circuits within the equipment.	N/A
Annex M	Battery packs for stationary applications comply with special component requirements.	No such parts.	N/A
Annex DVA (1)	Equipment intended for use in spaces used for environmental air are subjected to special flammability requirements for heat and visible smoke release.	The equipment not intended to be used within such environments.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m <sup>3</sup> (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	Not such equipment.	N/A
	Consumer products designed or intended primarily for children 12 years of age or younger are subject to additional requirements in accordance with U.S. & Canadian Regulations.	The equipment is not for children used.	N/A
	Baby monitors additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.	Not a baby monitors.	N/A
Annex DVA (5.6.3)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered.	P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.	No flammable liquids within the equipment.	N/A
Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m <sup>2</sup> (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less. For equipment with the same dimensions for other applications, an external surface that is not a fire enclosure requires a min. flammability classification of V-1.	No such application.	N/A
Annex DVA (10.3.1)	Equipment with lasers meets the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No such parts.	N/A
Annex DVA (10.5.1)	Equipment that produces ionizing radiation complies with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No such parts.	N/A
Annex DVA (F.3.3.3)	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. Additional considerations apply for voltage ratings that exceed the attachment cap rating or are lower than the "Normal Operating Condition" in Table 2 of CAN/CSA C22.2 No. 235."	Single phase only.	N/A
Annex DVA (F.3.3.5)	Equipment identified for ITE (computer) room installation is marked with the rated current	Not such application.	N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position	No such parts.	N/A



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (G.3.4)	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.	No standard supply outlets, receptacles, medium-base or smaller lamp holders provided.	N/A
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles complies with NEC 250.146(D) and CEC 10-112 and 10-906(8).	No such parts.	N/A
Annex DVA (G.4.3)	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non- interchangeable.	No such parts.	N/A
Annex DVA (G.5.3)	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.	No such parts.	N/A
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).	No such parts.	N/A
Annex DVA (Annex M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the ITE room remote power-off circuit.	Not such application.	N/A
Annex DVA (Q)	Wiring terminals intended to supply Class 2 outputs according to the NEC or CEC Part 1 are marked with the voltage rating and "Class 2" or equivalent; marking is located adjacent to the terminals and visible during wiring.	Not applicable for the equipment.	N/A
Annex DVB (1)	Additional requirements apply for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities.	Not such application.	N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.	Not such application.	N/A
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. Components required to comply include: appliance couplers, attachment plugs, battery back-up systems, battery packs, circuit breakers, communication circuit accessories, connectors	UL approved components used. Refer to table 4.1.2 of IEC 62368-1 test report for details.	P

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	(used for current interruption of non-LPS circuits), power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultra-capacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, data storage equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.		
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.	The equipment is not permanently connected equipment.	N/A
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are in accordance with the NEC/CEC.	Pluggable equipment type A.	N/A
Annex DVH (DVH.3.2)	Terminals for permanent wiring, including protective earthing terminals, are suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and are specially marked when specified.	No terminals for permanent wiring.	N/A
Annex DVH (DVH.3.2)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm <sup>2</sup> ).	No wire binding screws.	N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	The equipment is not permanently connected equipment.	N/A
Annex DVH (DVH 5.5)	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, complies with special earthing, wiring, marking and installation instruction requirements.	The equipment not connected to a centralized d.c. power system.	N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.	No TNV circuits within the equipment.	N/A
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.	No TNV circuits within the equipment.	N/A



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

<p><b>ATTACHMENT TO TEST REPORT</b> IEC 62368-1 (AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment)</p>
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<p><b>Differences according to</b>.....: AS/NZS 62368.1:2018</p> <p><b>Attachment Form No.</b>.....: AU_NZ_ND_IEC62368_1B</p> <p><b>Attachment Originator</b> .....: JAS-ANZ</p> <p><b>Master Attachment</b>.....: 2018-02</p>
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	National Differences	P
<b>Appendix ZZ</b>	Variations to IEC 62368-1:2014 (ED. 2.0) for Australia and New Zealand	P
<b>ZZ1 Scope</b>	This Appendix lists the normative variations to IEC 62368-1:2014 (ED. 2.0)	P
<b>ZZ2 Variations</b>	The following modifications are required for Australian/New Zealand conditions:	P
<b>2</b>	<p>Add the following to the list of normative references:</p> <p>The following normative documents are referenced in Appendix ZZ:</p> <ul style="list-style-type: none"> <li>-AS/NZS 3112, <i>Approval and test specification—Plugs and socket-outlets</i></li> <li>-AS/NZS 3123, <i>Approval and test specification—Plugs, socket-outlets and couplers for general industrial application</i></li> <li>-AS/NZS 3191, <i>Electric flexible cords</i></li> <li>-AS/NZS 60065, <i>Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)</i></li> <li>-AS/NZS 60320.1, <i>Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)</i></li> <li>-AS/NZS 60320.2.2, <i>Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)</i></li> <li>-AS/NZS 60695.2.11, <i>Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products</i></li> <li>-AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—</i></li> </ul>	P

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p><i>Apparatus, confirmatory test arrangement and guidance</i></p> <p>-AS/NZS 60695.11.10, <i>Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods</i></p> <p>-AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i></p> <p>-AS/NZS 60950.1:2015, <i>Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i></p> <p>IEC 61032:1997, <i>Protection of persons and equipment by enclosures—Probes for verification</i></p> <p>-AS/NZS 61558.1:2008 (including Amendment 2:2015), <i>Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 2.1, MOD)</i></p> <p>-AS/NZS 61558.2.16, <i>Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.</i></p>		
4.1.1	<p><b>Application of requirements and acceptance of materials, components and subassemblies</b></p> <p>1 <i>Replace the text 'IEC 60950-1' with 'AS/NZS 60950.1:2015'.</i></p> <p>2 <i>Replace the text 'IEC 60065' with 'AS/NZS 60065'.</i></p>		P
4.7	<b>Equipment for direct insertion into mains socket-outlets</b>		N/A
4.7.2	<p><b>Requirements</b></p> <p><i>Delete the text of the second paragraph and replace with the following:</i></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
4.7.3	<p><b>Compliance Criteria</b></p> <p><i>Delete the first paragraph and Note 1 and Note 2 and replace with the following:</i></p> <p><i>Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.</i></p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
<b>4.8</b>	<i>Delete</i> existing clause title and <i>replace</i> with the following: <b>4.8 Products containing coin/button cell batteries</b>		N/A
<b>4.8.1</b>	<b>General</b> 1 Second dashed point, <i>delete</i> the text and <i>replace</i> with the following: – include coin/button cell batteries with a diameter of 32 mm or less. 2 After the second dashed point, <i>insert</i> the following Note: NOTE 1: Batteries are specified in IEC 60086-2. 3 After the third dashed point, <i>renumber</i> the existing Note as 'NOTE 2'. 4 Fifth dashed point, <i>delete</i> the word 'lithium'.		N/A
<b>4.8.2</b>	<b>Instructional Safeguard</b> First line, <i>delete</i> the word 'lithium'.		N/A
<b>4.8.3</b>	<b>Construction</b> First line, after the word 'Equipment' <i>insert</i> the words 'containing one or more coin/button batteries and'		N/A
<b>4.8.5</b>	<b>Compliance criteria</b> <i>Delete</i> the first paragraph and <i>replace</i> with the following: <i>Compliance is checked by applying a force of 30 N +/- 1 N for 10 s to the battery compartment door/cover by a rigid test finger according to test probe 11 of IEC 61032:1997 at the most unfavourable place and in the most unfavourable direction. The force shall be applied in one direction at a time.</i>		N/A
<b>5.4.10.2</b>	<b>Test methods</b>		N/A
<b>5.4.10.2.1</b>	<b>General</b> <i>Delete</i> the first paragraph and <i>replace</i> with the following: In Australia only, the separation is checked by the test of both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test of either Clause 5.4.10.2.2 or Clause 5.4.10.2.3.		N/A
<b>Table 29</b>	<i>Replace</i> the table with the following:		N/A

IEC62368_1B - ATTACHMENT				
Clause	Requirement + Test		Result - Remark	Verdict
Parts	Impulse test		Steady state test	
	New Zealand	Australia	New Zealand	Australia
Parts indicated in Clause 5.4.10.1 a) <sup>a</sup>	2.5 kV 10/700 μs	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment. 10/700 μs	1.5 kV	3 kV
Parts indicated in Clause 5.4.10.1 b) and c) <sup>b</sup>	1.5 kV 10/700 μs <sup>c</sup>		1.0 kV	1.5 kV
<sup>a</sup> Surge suppressors shall not be removed. <sup>b</sup> Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment. <sup>c</sup> During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.				
<b>5.4.10.2.2</b>	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.			N/A
<b>5.4.10.2.3</b>	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.			N/A
<b>6</b>	<b>Electrically-caused fire</b>			N/A
<b>6.1</b>	<b>General</b> After the first paragraph, <i>insert</i> the following new paragraph: Alternatively, the requirements of Clauses 6.2 to 6.5.2 are considered to be fulfilled if the equipment complies with the requirements of Clause 6.202			N/A
<b>6.6</b>	After Clause 6.6, <i>add</i> the new Clauses 6.201 and 6.202 as follows: <b>6.201 External power supplies, docking stations and other similar devices</b> and <b>6.202 Resistance to fire—Alternative tests</b> (see special national conditions)			N/A
<b>8.5.4</b>	<b>Special categories of equipment comprising moving parts</b>			N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.1	<b>Large data storage equipment</b> In the first dashed row and the second dashed rows <i>replace</i> 'IEC 60950-1:2005' with 'AS/NZS 60950.1:2015'.		N/A
8.6	<b>Stability of equipment</b>		N/A
8.6.1 and Table 36	<b>Requirements</b> 1. Table 36, <i>insert</i> Footnote c at the end of the 'Glass slide' heading, and <i>add</i> a new Footnote c after the text of Footnote b in the last row of Table 36 as follows: ° The glass slide test is not applicable to floor standing equipment, even though the equipment may have controls or a display. 2. Table 36, fifth row, <i>insert</i> '201' at the end of 'No stability requirements' 3. Table 36, ninth row, <i>insert</i> '201' at the end of 'No stability requirements' 4. Table 36, <i>add</i> the following new footnote: 201 MS2 and MS3 television sets and display devices, designed only for fixing to a wall, ceiling or equipment rack, are not subjected to stability requirements only if the instructional safeguard of Clause 8.6.1.201 is provided. Otherwise, the glass slide requirements of Clause 8.6.4 and horizontal force requirements of Clause 8.6.5 apply. 5. Second paragraph beneath Table 36, <i>delete</i> the words 'MS2 and MS3 television sets' and <i>replace</i> with 'MS2 and MS3 television sets and display devices'		N/A
8.6.1	After Clause 8.6.1 <i>add</i> the following new clauses: <b>8.6.1.201 Instructional safeguard for fixed-mount television sets</b> (see special national conditions)		N/A
Annex F Paragraph F.3.5.1	<b>Mains appliance outlet and socket-outlet markings</b> <i>Replace</i> 'IEC 60320-2-2' with 'AS/NZS 60320.2.2'.		N/A
Annex G Paragraph G.4.2	<b>Mains connectors</b> 1 In the second line <i>insert</i> 'or AS/NZS 3123' after 'IEC 60906-1'. 2 In the second line <i>insert</i> 'or AS/NZS 60320 series' after 'IEC 60320 series' 3 <i>Add</i> the following new paragraph: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.		N/A



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
<b>Paragraph G.5.3.1</b>	<p><b>Transformers, General</b></p> <p>1 In the third dashed point <i>replace</i> 'IEC 61558-1 and the relevant parts of IEC 61558-2' with 'AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2'</p> <p>2 In the fourth dashed point <i>replace</i> 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.</p>		N/A
<b>Paragraph G.7.1</b>	<p><b>Mains supply cords, General</b></p> <p>In the fourth dashed paragraph, <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'</p>		N/A
<b>Table G.5</b>	<p><b>Sizes of conductors</b></p> <p>1 In the second row, first column, <i>delete</i> '6' and <i>replace</i> with '7.5'</p> <p>2 In the second row, second column, <i>delete</i> '0,75' and <i>replace</i> with '0.75<sup>b</sup>'</p> <p>3 <i>Delete</i> Note 1.</p> <p>4 <i>Replace</i> 'NOTE 2' with 'NOTE:'.</p> <p>5 <i>Delete</i> the text of 'Footnote b' and <i>replace</i> with the following:</p> <p><sup>b</sup> This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm<sup>2</sup> three-core supply flexible cords are not permitted; see AS/NZS 3191).</p> <p>6 In Footnote c <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'</p> <p>7 In Footnote d <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'</p>		N/A
<b>Annex M Paragraph M.3.2</b>	<p><b>Protection circuits for batteries provided within the equipment, Test method</b></p> <p>After the first dashed point <i>add</i> the following Note:</p> <p>NOTE 201: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.</p>		N/A



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<b>Special national conditions (if any)</b>		N/A
<b>6.201</b>	<p><b>External power supplies, docking stations and other similar devices</b></p> <p>For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage—</p> <ul style="list-style-type: none"> <li>– at all ES1 outlets or connectors shall not increase by more than 10% of its rated output voltage under normal operating condition; and</li> <li>– of a USB outlet or connector shall not increase by more than 3 V or 10% of its rated output voltage under normal operating conditions, whichever is higher.</li> </ul> <p>For equipment with multiple rated output voltages, the requirements apply with the equipment configured for each rated output voltage in turn.</p> <p>NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries.</p> <p><i>Compliance shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single-fault conditions of Annex B.4</i></p>		N/A
<b>6.202</b>	<b>Resistance to fire—Alternative tests</b>	Approved UL material	N/A
<b>6.202.1</b>	<p><b>General</b></p> <p>Parts of non-metallic material shall be resistant to ignition and spread of fire.</p> <p>This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the equipment, or the following:</p> <ul style="list-style-type: none"> <li>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.</li> <li>b) The following parts which would contribute negligible fuel to a fire: <ul style="list-style-type: none"> <li>– small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings;</li> <li>– small electrical components, such as capacitors</li> </ul> </li> </ul>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>with a volume not exceeding 1 750 mm<sup>3</sup>, 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> <p>NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another.</p>		
	<p><i>Compliance shall be checked by the tests of Clauses 6.202.2, 6.202.3 and 6.202.4.</i></p> <p>For the base material of printed boards, compliance shall be checked by the test of Clause 6.202.5.</p> <p>The tests shall be carried out on parts of non-metallic material which have been removed from the equipment. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use.</p> <p>These tests are not carried out on internal wiring.</p>		N/A
6.202.2	<p><b>Testing of non-metallic materials</b></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 relevant part is not thinner than the sample tested.</p>		N/A
6.202.3	<p><b>Testing of insulating materials</b></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>		N/A
	<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 need not be tested</p>		N/A



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Clause	Requirement + Test	Result - Remark	Verdict										
	<p>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:</p> <table border="1"> <tr> <td><b>Clause of AS/NZS 60695.11.5</b></td> <td>Change</td> </tr> <tr> <td><b>9 Test procedure</b></td> <td></td> </tr> <tr> <td><b>9.2 Application of needle-flame</b></td> <td> <p><i>Delete</i> the first and second paragraphs and <i>replace</i> with the following:</p> <p>The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner.</p> <p>The duration of application of the test flame shall be 30 s ± 1 s.</p> </td> </tr> <tr> <td><b>9.3 Number of test specimens</b></td> <td> <p><i>Replace</i> with the following:</p> <p>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> </td> </tr> <tr> <td><b>11 Evaluation of test results</b></td> <td> <p><i>Replace</i> with the following:</p> <p>The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p> </td> </tr> </table> <p>The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the relevant part is not thinner than the sample tested.</p>	<b>Clause of AS/NZS 60695.11.5</b>	Change	<b>9 Test procedure</b>		<b>9.2 Application of needle-flame</b>	<p><i>Delete</i> the first and second paragraphs and <i>replace</i> with the following:</p> <p>The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner.</p> <p>The duration of application of the test flame shall be 30 s ± 1 s.</p>	<b>9.3 Number of test specimens</b>	<p><i>Replace</i> with the following:</p> <p>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>	<b>11 Evaluation of test results</b>	<p><i>Replace</i> with the following:</p> <p>The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p>		N/A
<b>Clause of AS/NZS 60695.11.5</b>	Change												
<b>9 Test procedure</b>													
<b>9.2 Application of needle-flame</b>	<p><i>Delete</i> the first and second paragraphs and <i>replace</i> with the following:</p> <p>The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner.</p> <p>The duration of application of the test flame shall be 30 s ± 1 s.</p>												
<b>9.3 Number of test specimens</b>	<p><i>Replace</i> with the following:</p> <p>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>												
<b>11 Evaluation of test results</b>	<p><i>Replace</i> with the following:</p> <p>The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p>												



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.202.4	<p><b>Testing in the event of non-extinguishing material</b></p> <p>If parts, other than enclosures, do not withstand the glow wire tests of Clause 6.202.3, by failure to extinguish within 30 s after the removal of the glow wire tip, the needle-flame test detailed in Clause 6.202.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of Clause 6.202.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.</p> <p>NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing.</p> <p>NOTE 2: If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing.</p> <p>NOTE 3: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.</p>		N/A
6.202.5	<p><b>Testing of printed boards</b></p> <p>The base material of printed boards shall be subjected to the needle-flame test of Clause 6.202.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a potential ignition source.</p> <p>The test is not carried out if—</p> <ul style="list-style-type: none"> <li>– the printed board does not carry any potential ignition source;</li> <li>– the base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings</li> </ul>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>completely; or</p> <p>– the base material of printed boards, on which the available equipment power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely.</p> <p><i>Conformance shall be determined using the smallest thickness of the material.</i></p> <p>NOTE: Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximize the apparent power for more than 2 min when the circuit supplied is disconnected.</p>		
6.202.6	<p><b>For open circuit voltages greater than 4 kV</b></p> <p>Potential ignition sources with open circuit voltages exceeding 4 kV (peak) a.c. or d.c. under normal operating conditions shall be contained in a FIRE ENCLOSURE which shall comply with flammability category V-1 or better according to AS/NZS 60695.11.10.</p>		N/A
8.6.1.201	<p><b>8.6.1.201 Instructional safeguard for fixed-mount television sets</b></p> <p>MS2 and MS3 television sets and display devices designed only for fixed mounting to a wall of ceiling or equipment rack shall, where required in Table 36, footnote 201, have an instructional safeguard in accordance with Clause F.5 which may be on the equipment or included in the installation instructions or equivalent document accompanying the equipment.</p> <p>The elements of the instructional safeguard shall be as follows:</p> <ul style="list-style-type: none"> <li>– element 1a: not available;</li> <li>– element 2: 'Stability Hazard' or equivalent wording;</li> <li>– element 3: 'The television set may fall, causing serious personal injury or death' or equivalent text;</li> <li>– element 4: the following or equivalent text: To prevent injury, this television set must be securely attached to the floor/wall in accordance with the installation instructions</li> </ul>		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
8.6.1.202	<p><b>Restraining device</b></p> <p>MS2 and MS3 television sets and display devices that are not solely fixed-mounted should be provided with a restraining device such as a fixing point to facilitate restraining the equipment from toppling forward. The restraining device shall be capable of withstanding a pull of 100 N in all directions without damage.</p> <p>Where a restraining device is provided, instructions shall be provided in the instructions for installation or instructions for use to ensure correct and safe installation.</p>		N/A



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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

**Differences according to**.....: J62368-1 (H30)

**Attachment Form No.**.....: JP\_ND\_IEC62368\_1B

**Attachment Originator** .....: UL (JP)

**Master Attachment**.....: Date 2018-11-22

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	<b>National Differences</b>		P
4.1.2	Where the component, or a characteristic of a component, is a safeguard or a part of a safeguard, components shall comply with the requirements of this standard or, where specified in a requirements clause, with the safety aspects of the relevant JIS component standards or IEC component standards, or components shall have properties equivalent to or better than these.	Replaced.	P
5.6.1	Mains socket-outlet and appliance outlet shall comply with Clause G.4.2A if they are incorporated as part of the equipment.	Added. The equipment is "Class I".	N/A
5.6.2.1	Mains connection of class 0I equipment: Instructional safeguard in accordance with Clause F.3.6.1A; Mains plug having a lead wire for protective earthing connection of class 0I equipment; Independent main protective earthing terminal installed by ordinary person.	Added. The equipment is "Class I".	N/A
5.6.2.2	This requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector.	Added. The equipment is "Class I".	N/A
5.6.3	In case of class 0I equipment using power supply cord having two conductors (no earthing conductor), the conductor of protective earthing lead wire shall comply with either of the following: – use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having size and strength that are equivalent to or more than the above copper wire – single core cord or single core cable with 1.25 mm <sup>2</sup> or more cross-sectional area	Added. The equipment is "Class I".	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.3	For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS C 8282 series or JIS C 8303, or otherwise being considered to comply with relevant regulations, or that is provided with mains appliance outlet as specified in JIS C 8283-2-2 for the purpose of interconnection, the measurement is conducted on the system of the interconnected equipment having a single connection to the mains.	Added. The equipment is "Class I".	N/A
5.7.4	In case of class 0I equipment, touch current shall not exceed 1.41 mA peak or for sinusoidal wave, 1.0 mA r.m.s. when measured using the network specified in Figure 4 of IEC 60990.	Added. The equipment is "Class I".	N/A
6.4.3.3	A fuse complying with JIS C 6575 series or a fuse having equivalent characteristics shall open within 1 s. For Class A fuse of JIS C 6575, replace "2.1 times" by "1.35 times" and in case of Class B fuse of JIS C 6575, replace "2.1 times" by "1.6 times". A fuse not complying with JIS C 6575 series shall be tested with the breaking capacity taken into account.	Replaced.	N/A
8.5.4.2.1	Only three-phase stationary equipment rated more than 200 V ac can be considered as being for use in locations where children are not likely to be present, when complying with Clause F.4.	Replaced.	N/A
8.5.4.2.2	For equipment installed where children may be present, an instructional safeguard shall be provided by easily understandable wording in accordance with Clause F.5, except that element 3 is optional.	Replaced.	N/A
8.5.4.2.4	The media destruction device is tested according to Clause V.1.2 with applicable jointed test probes to the opening. And then the wedge probe per Figure V.4 shall not contact any moving part.	Replaced.	N/A
8.5.4.2.5	The wedge probe of Figure V.4 and applicable jointed test probes specified in Clause V.1.2 shall not contact any moving part. Instructional safeguard shall not be used instead of equipment safeguard for preventing access to hazardous moving parts.	Replaced.	N/A
9.2.6, Table 38	Handles, Knobs, grips, etc. and external surfaces either held, touched or worn against the body in normal use (> 1 min) <sup>b,c</sup>	Added.	P



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.5.1	Instructional safeguard of class 0I equipment in accordance with Clause F.5 when a mains socketoutlet as specified in JIS C 8282 series, JIS C 8303 or relevant regulation to which class I equipment can be connected is provided in accordance with Clause G.4.2A except for the cases where the socket-outlet is accessible only to skilled persons.	Added.	N/A
F.3.5.3	If the fuse is necessary for the safeguard function, the symbols indicating pre-arcing time-current characteristic.	Added.	P
F.3.6.1A	Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.3 shall be applied to class 0I equipment. For class 0I equipment, a marking of instructions and instructional safeguard shall be provided regarding the earthing connection.	Added. The equipment is "Class I".	N/A
F.3.6.2.1	Symbols, IEC 60417-5172 (2003-02) or IEC 60417-6092 (2011-10), shall not be used for class I equipment or class 0I equipment.	Added. The equipment is "Class I".	N/A
F.4	Instruction for audio equipment with terminals classified as ES3 in accordance with Table E.1, and for other equipment with terminals marked in accordance with F.3.6.1 and F.3.6.1A. Installation instruction for the protective earthing connection for class 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided within the package for the equipment.	Replaced.	N/A
G.3.2.1	The thermal link when tested as a separate component, shall comply with the requirements of JIS C 6691 or have properties equivalent to or better than that.	Replaced.	N/A
G.3.4	Except for devices covered by Clause G.3.5, overcurrent protective devices used as a safeguard shall comply with the relevant part of JIS C 6575 (corresponding to IEC60127) or shall have equivalent characteristics. If there are no applicable IEC standards, overcurrent protective devices used as a safeguard shall comply with their applicable IEC standards.	Replaced.	P
G.4.1	This requirement is not applicable to Clauses G.4.2 and G.4.2A.	Added.	N/A



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	<p>Mains connector shall comply with JIS C 8282 series, JIS C 8283 series, JIS C 8285, JIS C 8303 or IEC 60309 series.</p> <p>Mains plugs and socket-outlets shall comply with JIS C 8282 series, JIS C 8303, IEC 60309 series, or have equivalent or better performance.</p> <p>A power supply cord set provided with appliance connector that can fit appliance inlet complying with JIS C 8283-1 shall comply with JIS C 8286.</p> <p>Construction preventing mechanical stress not to transmit to the soldering part of inlet terminal.</p> <p>Consideration for an equipment rated not more than 125 V provided with Type C14 and C18 appliance coupler complying with JIS C 8283 series.</p>	Replaced.	N/A
G.4.2A	Mains socket-outlet and interconnection coupler provided with the class II, class I and class 0I equipment respectively.	Added.	N/A
G.7.1	A mains supply cord need not include the protective earthing conductor for class 0I equipment provided with independent protective earthing conductor.	Replaced.	N/A
G.8.3.3	Withstand $1,71 \times 1.1 \times U_0$ for 5 s.	Replaced.	N/A



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

**ATTACHMENT TO TEST REPORT**  
**IEC 62368-1**  
**Canada NATIONAL DIFFERENCES**  
(Audio/video, information and communication technology equipment)

**Differences according to** ..... : CAN/CSA C22.2 No. 62368-1-14

**Attachment Form No.** ..... : CA\_ND\_IEC62368\_1B

**Attachment Originator** ..... : TUV Rheinland

**Master Attachment**..... : Date: 2019-11

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	<b>National Differences</b>		<b>P</b>
1DV.1	Battery backup systems that are not an integral part of stationary equipment, such as provided in separate cabinets, are subject to the appropriate standard for battery backup systems, such as UL 1973, Batteries for Use in Light Electric Rail (LER) Applications and Stationary Applications	Not such equipment.	N/A
1DV.2	For equipment intended for outdoor installation, additional requirements for Information and communication technology equipment are covered by CSA/UL 60950-22 and for Audio/video equipment are covered by the relevant requirements in CSA C22.2 No. 60065 or UL 60065.	Not for outdoor	N/A
1DV.3.1	Standard is applicable to equipment signed to be installed in accordance with the Canadian Electrical Code, Part I, C22.1-12; Canadian Electrical Code, Part II, General Requirements, CAN/CSA C22.2 No. 0-10; the National Electrical Code, NFPA 70-2014; and the National Electrical Safety Code, IEEE C2-2012.		N/A
1DV.3.2	For equipment signed to be installed in accordance with Article 645 of the National Electrical Code, NFPA 70- 2014, and the Standard for the Protection of Information Technology Equipment, NFPA 75-2013, identification by a marking or instruction [see Annex DVK (Annex DVA, Clause 1)] is required.		N/A
1DV.3.3	Additional regulatory requirements that apply to this equipment per Annex DVA, as applicable.		N/A
1DV.4.1	Additional requirements for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities per Annex DVB.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1DV.4.2	This standard includes additional requirements for equipment intended for mounting under kitchen cabinets. See Annex DVC.		N/A
1DV.4.3	This standard does not apply to equipment having Remote Feeding Telecommunication (RFT) circuits. Equipment having RFT circuits is covered by CSA 60950-21.		N/A
1DV.4.4	Additional requirements may apply to large data storage equipment. Refer to CSA 60950-23.		N/A
1DV.4.5	Does not cover Modular Data Centres (MDCs) but only the information and communication technology equipment contained within.		N/A
1DV.5.1	Power Distribution Equipment and Sub-Assemblies		N/A
1DV.5.1.1	Power distribution sub-assemblies connected to a mains used to distribute power entirely within a system of equipment, such as power distribution units (PDUs), cord-connected power strips, shelves with multiple power outlets (receptacles) etc., and intended to be installed in system racks, cabinets, home entertainment centres, etc. are covered by this standard		N/A
1DV.5.1.2	For equipment covered by this standard that incorporates components and sub-assemblies that perform a power distribution and control function covered by other standards, such as panel boards, load transfer equipment, or uninterruptible power systems utilized in power conditioners and computer power centres, this standard only may be used for investigation of safety for those aspects not covered by the other standards.		N/A
1DV.5.1.3	This standard also does not apply to stand-alone equipment used for distribution of mains power that is covered by individual power distribution equipment standards.		N/A
1DV.5.1.4	Based on the specific function, the following requirements are applicable to the stand-alone distribution equipment, or apply additionally to power distribution sub-assemblies and components of equipment covered by this standard, ascribed in 1DV.5.1.2 and 1DV.5.1.3.		N/A
	– For Industrial Control Equipment, see CSA C22.2 No. 14 and UL 508.		N/A
	– For Panelboards, see CSA C22.2 No. 29 and UL 67.		N/A



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	– For Switchboards, see CSA C22.2 No 244 and UL 891.		N/A
	– For Transfer Switch Equipment, see CSA C22.2 No 178.1 and UL 1008.		N/A
	– For Uninterruptible Power Systems, see CSA C22.2 No. 107.3 and UL 1778.		N/A
	– For Power Distribution Centers for Communications Equipment, see UL Subject 1801.		N/A
	<p>– Other forms of power distribution units for general applications, such as,</p> <ul style="list-style-type: none"> <li>• Relocatable Power Taps, CSA-C22.2 No. 21, Cord Sets and Power Supply Cords, and UL 1363, Relocatable Power Taps.</li> <li>• Cord connected Surge Protective Devices, CSA Technical Information Letter No. A-24, Interim Certification Requirements for AC Line Connected Wiring Devices with Varistors, and UL 1449, Surge Protective Devices.</li> <li>• Furniture Power Distribution Units, CSA-C22.2 No. 21, Cord Sets and Power Supply Cords and UL 962A, Furniture Power Distribution Units.</li> </ul>		N/A
3.3.1.2DV	For additional information regarding low voltage d.c. mains (centralized d.c. power systems) equipment, refer to Annex DVD. This standard covers high voltage d.c. mains up to 600 Vdc.		N/A
3.3.1.3DV.1	<p>New definition: telecommunication network – metallicly terminated transmission medium intended for communication between equipment that may be located in separate buildings, excluding:</p> <ul style="list-style-type: none"> <li>- The mains system for supply, transmission and distribution of electrical power, if used as a telecommunication transmission medium;</li> <li>- Cable distribution systems;</li> <li>- ES1 circuits connecting units of audio/video, information and communication technology equipment.</li> </ul>		N/A



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.1.1DV.1.D2	In the U.S. and Canada, components and subassemblies that comply with the standards referenced in Annex DVE are required in addition to or as a replacement for the requirements in this standard. Components complying with these standards are considered acceptable as part of equipment covered by this standard without further evaluation other than to give consideration to the appropriate use of the component or subassembly in the end product.		P
4.1.1DV.2.DC	In the U.S. and Canada, components and subassemblies that comply with the standards referenced in Annex DVG are acceptable as an alternative to requirements as part of equipment covered by this standard without further evaluation other than to give consideration to the appropriate use of the component or subassembly in the end product.		P
4.1.2DV.DC	In the U.S. and Canada, some UL/CSA component standards may be used as alternatives to referenced IEC standards for the purposes of North America certifications or surveillance programs. Components and subassemblies that comply with the standards referenced in Annex DVF are acceptable as part of equipment covered by this standard without further evaluation other than to give consideration to the appropriate use of the component or subassembly in the end product.		P
4.1.16DV.1	Mains connections		P
4.1.16DV.1.1 DE, 4.1.16DV.1.2 DR	Requirements for Mains Supply Cords for Pluggable (Cord Connected) Equipment (Canadian and U.S. regulatory-based requirements) - Annex G.7 and G.7ADV		N/A
4.1.16DV.1.3 D2, 4.1.16DV.1.4 DR	Requirements for Permanently Connected Equipment. (Canadian and U.S. regulatory-based requirements) – Annex DVH		N/A
4.1.17DV.1	External interconnecting cable and wiring		N/A
4.1.17DV.1.1	General External interconnecting cable and wiring are investigated to the requirements of 6.5 and either 4.1.17DV.1.2 or 4.1.17DV.1.3, as appropriate.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- External interconnecting cable and wiring 3,05 m or less may be investigated as part of the equipment (system) to the requirements of this standard. See 4.1.17DV.1.2.		N/A
	- External interconnect cable and wiring longer than 3,05 m are regulated by the Canadian Electrical Code, C22.1, and the National Electrical Code, NFPA 70, and are subject to associated requirements. See 4.1.17DV.1.3.		N/A
	External interconnect cable longer than 3,05 m designed to carry audio and/or video signals only, and that is not specified by the manufacturer to be routed inside the building structure (e.g., walls, ceilings, etc.), is subject to the applicable requirements of 4.1.17DV.1.2. For purposes of 4.1.17DV.1.2, it is assumed such cables are connected to PS1 circuits.		N/A
	Alternatively, detachable external interconnecting cable and wiring (with terminations) may be excluded from the equipment evaluation if specified by the manufacturer.		N/A
4.1.17DV.1.2	<p>Equipment (system) interconnecting cable and wiring.</p> <p>The following requirements apply to detachable and nondetachable external interconnecting cable and wiring investigated as part of the equipment (system).</p> <ul style="list-style-type: none"> <li>- The length of the external interconnecting cable or wiring shall not exceed 3,05 m;</li> <li>- For external interconnecting cable and wiring connected to PS2 and PS3 circuits, see 6.5 for fire (flammability) considerations;</li> <li>- There are no fire (flammability) considerations for external interconnecting cable and wiring specified by the manufacturer for connection to circuits that are PS1.</li> <li>- External interconnecting cable and wiring intended to be connected to an ES3 or PS3 circuit require a jacket for mechanical protection in accordance with Table G.7ADV.2, or equivalent;</li> </ul>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.1.17DV.1.2	<p>- Detachable external interconnecting cable and wiring (with terminations) intended to be connected to a PS2, PS3, ES2 or ES3 circuit and furnished as part of the equipment shall be either marked, or similarly identified in the installation instructions with (a) the name, trademark or trade name of the organization that is responsible for the equipment, and (b) the organization's identifying number or equivalent designation for the cable. See Annex DVK.</p> <ul style="list-style-type: none"> <li>o The marking may be applied on the cable and wiring at any location.</li> <li>o This marking is not required to comply with the test for permanence of markings, F.3.9</li> </ul> <p>Optical fibre interconnecting cables 3,05 m or less are not subject to the above requirements</p>		N/A
4.1.17DV.1.3	<p>External interconnecting cable and wiring considered part of the building installation.</p> <p>External interconnecting cables and wiring longer than 3,05 m are regulated by the Canadian Electrical Code, C22.1, and the National Electrical Code, NFPA 70. See Annex DVA (Annex Q entry).</p>		N/A
4.6.2DV D2	<p>Additional examples of compliance:</p> <ul style="list-style-type: none"> <li>- Wire-wrap terminals used for the connection of ES1 and ES2 that are: <ul style="list-style-type: none"> <li>o provided on equipment that forms part of the telecommunication network, up to and including the marcation point, and are located in service access areas only. (This equipment is generally considered Central Office Equipment, although it may deployed elsewhere in similarly controlled environments.) and</li> <li>o provided with a guard or cover that prevents unintentional contact during normal operation. Are tested with a steady force of 2,5 N ± 0,25 N.</li> </ul> </li> </ul>		N/A
4.8.3DV D2	<p>If screws or similar fasteners are used to secure the door/cover providing access to the battery compartment, the fasteners shall be captive to ensure that they remain with the door/cover. This does not apply to side panel doors on larger vices which are necessary for the functioning of the equipment and which are not likely to be discarded or left off the equipment</p>		N/A
4.8.4.5DV D2	<p>0,5 J impact test is deleted.</p>		N/A



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.5DV.1 D2	Replace 30 N battery compartment door/cover test with 45 N		N/A
4.8.5DV.2 D2	Replace the first and second dashed paragraphs with the following: - the battery compartment door/cover shall not open; and - the battery shall not become accessible.		N/A
5.4.4.1DV D1	For printed boards, see Clause G.13 For antenna terminals, see Clause 5.4.5 For solid insulation on internal and external wiring, see Clause G.6. Additionally, for internal wiring accessible to an ordinary person, see Clause 5.4.6.		N/A
5.6.3DV.1 to 5.6.3DV.3	Protective earthing conductors shall comply with the minimum conductor sizes in Table G.5, except as required by -Table G.7ADV.1 for cord connected equipment; or - Annex DVH for permanently connected equipment.		N/A
5.6.4.1DV	Minimum conductor size alternative compliance to Table G.5 or Table G.7ADV.1 as applicable, or Table 31 Minimum protective bonding conductor size of copper conductors		N/A
5.6.4.4DV	Protective bonding conductor sizes alternative compliance to Table G.7ADV.1 in addition to Table 31 or Table G.5		N/A
Table 32 DV	Include alternative conductor size compliance with Table G.7ADV.1 in the first column heading for protective conductor terminals.		N/A
5.6.6.1 DV	Protective bonding conductors that meet the minimum conductor sizes in Table G.5 or Table G.7ADV.1 as applicable, throughout their length and whose terminals all meet the minimum sizes in Table 32 are considered to comply without test.		N/A
5.7.6.2DV	Clause title modified to read "Prospective touch voltage and touch current to external circuits"		N/A
5.7.7DV.1	Clause 5.7.7 to apply to stationary pluggable equipment type A or pluggable equipment type B		N/A
5.7.7DV.2	Summation of touch currents not exceeding the limits of ES2 exception per Clause 5.7.7(a)(1)		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.7DV.3	<p>Clause 5.7.7(a)(2) replaced with: Such equipment shall comply with Clause 5.7.5. The value of S(I1) shall be added to the measured protective conductor current to termine compliance with the 5% input current limit per phase specified in Clause 5.7.5.</p>		N/A
5.7.7.1DV	<p>Limitation of touch current due to ringing signals Equipment containing input telecommunication network leads over which ringing voltages are applied to the equipment shall be tested using the circuit of Figure 5.7.7.1DV.1 for mains-connected equipment or Figure 5.7.7.1DV.2 for other equipment. For any position of the selector switches, the total touch current including consideration of 5.7.7 shall not exceed the relevant limits for ES2 specified in Table 4, unless the equipment complies with 5.7.7(a) with the protective conductor current due to ringing signal taken into account. An EUT that receives ringing voltages on up to three telecommunication network connection ports shall have simulated ringing applied to each network connection. For four or more ports receiving ringing, simulated ringing shall be applied to three ports and an additional 3% (rounding down) of the remaining ports. Compliance is checked by the following tests, which are conducted using the measuring network described in IEC 60990, Figure 4. Simulated ringing at 120 V, 50 to 60 Hz, shall be applied to ringing input telecommunication network leads, either one lead at a time or connected together. Other telecommunication network leads shall be left disconnected. Equipment shall be evaluated in each operating state, including ground start. The general test methods of 5.7 shall apply, checking touch current for all positions of switches S1, S2, and S3 in Figure 5.7.7.1DV.1. In case the total touch current exceeds the ES2 limits, the protective conductor current is measured using the test set up of Figure 5.7.7.1DV.1 or Figure 5.7.7.1DV.2 with the measuring instrument replaced with an ammeter having negligible impedance.</p>		N/A
6.5.1DV.1	<p>Add the following text to the end of the second, third and fourth paragraphs: or the insulation of the conductor or cable assembly shall be rated VW-1 or FT-1.</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.5.1DV.2	<p>Add the following after the third paragraph: PS3 wiring outside a fire enclosure shall comply with single fault testing in B.4. Alternatively, the following constructions are considered to comply:</p> <ul style="list-style-type: none"> <li>- conductors provided with overcurrent protection in accordance with Article 240 of the National Electrical Code, NFPA 70, and the Canadian Electrical Code, Part I, C22.1, Section 14;</li> <li>- internal conductors supplied by a power source that is limited to the output voltage and current values specified in Table Q.1 or is limited to the output voltage values and provided with an overcurrent protective vice with a rated current value as specified in Table Q.2;</li> <li>- interconnecting cables supplied by a limited power source (see Q.1);</li> <li>- a 20-A protective vice used with any size wire in the primary.</li> </ul>		N/A
6.7DV.1	<p>Safeguards against electrically-caused fire due to overvoltage from power line crosses Equipment with external circuits intended for connection to a telecommunication network that uses outside cable subject to overvoltage from power line failures shall comply with Annex DVI.</p>		N/A
10.6.1DV	For telecommunication-network connected equipment, see Annex DVJ.		N/A
F.1DV	F.1DV.1 See Annex DVK for U.S. and Canadian markings and instructions.		N/A
F.3.3.9DV.1	<p>Equipment with output terminals Output terminals provided for supply of other equipment except mains supply shall be marked with the nominal output voltage and frequency, and, in addition, the maximum output current or power, unless the terminals are marked with the type references of the equipment which are permitted to be connected. When intended to be installed or interconnected in the field by a skilled person, the Class of wiring shall be marked adjacent to the terminals.</p>		N/A
G.4.3DV	Delete the 2nd sentence reference to “banana plug” of the EXAMPLE.		N/A
G.7.2DV	In the second paragraph, replace the reference to Table G.4 with a reference to Table G.7ADV.1.		N/A
G.7ADV	Additional requirements: Power supply cords – tachable and non-detachable		N/A



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.7ADV.1	<p>General</p> <p>Flexible cords and plugs are permitted for movable equipment, hand-held equipment, stationary equipment and transportable equipment, and for fixed equipment where the fastening means and mechanical connections of the equipment are signed to permit removal for maintenance and repair.</p>		N/A
G.7ADV.2	<p>Methods of connection</p> <p>Flexible cords shall be provided with an attachment plug for connection to the branch circuit.</p>		N/A
G.7ADV.3	<p>Sizing and ratings</p> <p>The attachment plug configuration shall be one that is rated not less than 125 percent of the current rating of the equipment.</p> <p>Power supply cords shall have conductors with cross-sectional areas sufficient for the rated current of the equipment. Conductors shall be sized based on the requirements in the National Electrical Code (NEC), NFPA 70, and the Canadian Electrical Code, Part I, C22.1.</p> <p>Table G.7ADV.1 provides allowable ampacity for flexible cords and cables based on Table 400.5(a)(1) of the NEC. See Table 400.5(a)(2) of the NEC for ampacity information on portable power cables.</p> <p>For equipment with a rated current up to and including 2 A, 20 AWG is acceptable provided that the mains plug is provided with a 2 A fuse maximum and the equipment is not provided with a socket outlet.</p>		N/A
G.7ADV.4	<p>Serviceability</p> <p>Power supply cords and cord sets shall incorporate flexible cords suitable for the particular application or shall be of a type at least as serviceable for the particular application.</p> <p>Table G.7ADV.2 lists common applications and associated suitable cord types.</p>		N/A



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.7ADV.5.1	<p>Minimum length</p> <p>The minimum length of a power supply cord shall be 1,5 m unless it is intended for a special installation, such as a dedicated equipment intended to be mounted near a mains socket-outlet.</p> <p>For equipment provided with an external power supply, the minimum length of the power supply cord shall be 0,5 m, provided that the total length of the conductive path from the receptacle to the equipment is 1,5 m or greater.</p>		N/A
G.7ADV.5.2	<p>Maximum length</p> <p>For equipment intended for installation in ITE Rooms, the length of a power supply cord shall not exceed 4,5 m.</p> <p>For other intended installations, see Table G.7ADV.2.</p>		N/A
H.2DV	<p>Modify H.2 by adding the following text after the second dashed paragraph in a):</p> <p>Continuous ringing signals shall:</p> <ul style="list-style-type: none"> <li>- be located only in areas where a skilled person has access during servicing;</li> <li>- be so located and guarded that unintentional contact with such parts is unlikely during servicing by a skilled person, or be provided with a marking to warn a skilled person of the presence of continuous ringing signals</li> <li>- and not become accessible to an ordinary person under single fault conditions.</li> </ul>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
H.4DV.1	<p>Other telecommunication signals: Telecommunication signalling systems (e.g., some message waiting systems) using voltages or current, or both, greater than those specified in 5.2.1.1 and 5.2.1.2 shall be permitted if they comply with the following:</p> <ul style="list-style-type: none"> <li>- continuous signal: For a signal of duration greater than 5 s, the current through the relevant measuring instrument scribed in IEC 60990:1999, Figure 4, shall be not greater than 7.1 mA peak a.c., or 30 mA d.c., or the limit shown in Figure H.4DV.1 for combinations of a.c. and d.c., when measured in accordance with 5.7.</li> <li>- intermittent signal: For a signal of duration less than 5 s, the current through the relevant measuring instrument scribed in IEC 60990:1999, Figure 4, shall be not greater than the limit specified in Figure H.4DV.2. The signal shall be followed by a quiet interval of at least 1 s before the next intermittent signal. During the quiet interval, either the voltage is less than 56,6 V d.c., or the current measured is less than 0,5 mA.</li> </ul>		N/A
M.2.1DV	<p>Battery packs with sealed secondary cells and batteries (other than button) containing alkaline or other non-acid electrolyte and used in stationary equipment shall comply with either IEC 62133, UL 2054 or UL 1973.</p> <p>Additionally, such battery packs that rely on solid-state circuits and software controls as safeguards shall comply with either the requirements in UL 1973 for System Safety Analysis (5.7) and Protective Circuit and Controls (5.8), or similar requirements in an appropriate standard for electronic safety-related controls that are suitable for investigation of such protection of secondary cells and batteries.</p>		N/A
P.4.1DV DE	<p>Additional text added to correct for editing error: For metalized coatings, clearances and creepage distances for pollution degree 3 shall be maintained instead of the tests of P.4.2DV.1.</p>		N/A
P.4.2DV DE	<p>Added test requirements text from Clause P.5 as new Clause P.4.2DV DE to correct for editing error.</p>		N/A
P.5DV DE	<p>Clause P.5 relocated to P.4.1 and P.4.2</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
U.1DV D1	Added the following text: The outer enclosure housing a CRT shall have no opening that exceeds 130 mm <sup>2</sup> unless the minor dimension of the opening is 10 mm or less.		N/A
Table W.3DV DE	Modify Table W.3 by replacing the entry for 1.2.8.14 in the first column with the following to correct a typographical error: TNV-3 CIRCUIT TNV CIRCUIT – whose normal operating voltages exceed the limits for an SELV circuit under normal operating conditions and – on which overvoltages from telecommunication networks and cable distribution systems are possible		N/A
Annex DVA	(normative) Canadian and U.S. regulatory-based requirements		N/A
Annex DVB	(normative) Equipment used in health care facilities		N/A
Annex DVC	(normative) Under kitchen cabinet equipment.		N/A
Annex DVD	(informative) D.C. powered equipment and centralized d.c. power systems (DC mains)		N/A
Annex DVE	(normative) UL and CSA component requirements (mandatory).		N/A
Annex DVF	(normative) UL and CSA component requirements (alternative to IEC standards)		N/A
Annex DVG	(normative) UL and CSA component requirements (alternative)		N/A
Annex DVH	(normative) Permanently connected equipment – mains connections		N/A
Annex DVI	(normative) Safeguards against electrically-caused fire due to overvoltage from power line crosses.		N/A
Annex DVJ	(normative) Acoustic tests for telecommunications equipment		N/A
Annex DVK	(normative) Canadian and U.S. marking and instructions		N/A

Description.....: Specification of Main Transformer (CT501)

WET TERMINAL	WET CONDITION	LDH	LDH-2	TREEL RATIO(M/S)	TEMP	WIRE GAUGE	HI-POT TEST ESHL(S)
1-4	48hr, IV	YES MIN	0.0 MAX K17.5RANCE	1004/05 25Hz, IV	1 100	#1.0 OF APPLIC. 2.5MM	1000 SHORT CURE TO PUL 2000V- SEC TO CORE 500PUL
							LEAKAGE CURRENT <math>\leq 1.0mA</math>

<b>1. MECHANICAL DIMENSIONS :</b> 		<b>2. SCHEMATIC :</b> 	
<b>3. PACKAGE MUST BE IN COMPLIANCE WITH PACKING SPEC. NO. 3529429500 CARTON NO. 3510050100</b> 3.5kg/pc 4.0kg/CARTON 23PCS/CARTON		<b>4. MARKING :</b> IN THE CENTER OF TAPE (ON PH 2 & 3 SIDE) XX : REV CODE NLF BLACK INK ON LABEL MUST STAMPED 14 MARK	
<b>5. CORE-DIP : NO</b> <b>6. VARNISH : NO</b> <b>7. THE DIRECTION OF PH 1 WINDING TOWARD OUTSIDE</b> <b>8. FOR ENVIRONMENT CONCERN , ALL PARTS MUST FOLLOW DELTA'S SPECIFICATION "10000-3PUL/THE MANAGEMENT STANDARD FOR ENVIRONMENT-RELATED SUBSTANCE."</b> <b>9. SAFETY DISTANCE DESIGN : PH TO SEC 7.0mm MIN</b> PH TO CORE 7.0mm MIN <b>10. ALL PARTS MUST FOLLOW DELTA'S HALOGEN-FREE GUIDELINE "10000-3003"</b>		<b>11. IS-POT TEST 50Hz,60s</b> (INC. SHORT CURE) TO PUL 3000Vsec SEC TO CORE 500Vsec (FOR 2PQC.PQC & TQA CHECK)	
DIMENSION P/N: 210508 CORE SIZE : 2E1C2V1C HOLE DIMENSION : #1.0 FOR PH 1 & 2 #1.4 FOR PH 3 & 4		<b>12. TEMPERATURE INSULATOR LEVEL : CLASS B 14. PUL NO.100000 MP-133</b> 	

台達電子工業股份有限公司 DELTA ELECTRONICS, INC.		DIMENSIONAL TOLERANCES UNIT : mm 1 2 3 4 5 6 7 8 9 10 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 10 10 10 10 10 10 10 10 10 10 15 15 15 15 15 15 15 15 15 15 20 20 20 20 20 20 20 20 20 20 30 30 30 30 30 30 30 30 30 30 40 40 40 40 40 40 40 40 40 40 50 50 50 50 50 50 50 50 50 50 60 60 60 60 60 60 60 60 60 60 80 80 80 80 80 80 80 80 80 80 100 100 100 100 100 100 100 100 100 100	Order P/N: 2E-PC0012 Drawn: Sun Cheng Date: 07/04/13 Design: WWR Date: 07/04/13	DELTA logo TRANSFORMER (HF) PART NO.: 2878013000 REV: 05
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NO	PART	MANUFACTURER	MANUFACTURER PART NO.	DESCRIPTION	UL FILE NO.
1	MAGNET WIRE	TAI-I ELECTRIC WIRE & CABLE CO LTD	130T MN-28C 1E9E 130T MW75C 1E9A	POLYURETHANE	E25640
		WUX JAYENG COMPOUND WIRE CO LTD	130T MW28 1E9N 130T MW75 1E9A	POLYURETHANE	E20680
		HN LONG MAGNET WIRE CO LTD	130T MW28 1E9N 130T MW75 1E9A	POLYURETHANE	E17180
		JING SHING WIRE CO LTD	130T MW28-C 1E9E 130T MW75C 1E9A-F	POLYURETHANE	E17483
		FISHAN CITY NELLREY ELECTRIC MATERIAL CO LTD	130T MW28 1E9N 130T MW75 1E9A	POLYURETHANE	E27138
		PACIFIC-THAI ELECTRIC WIRE & CABLE CO LTD	130T MN-28C 1E9A-1F 130T MW-75C 1E9A-1	POLYURETHANE	E16210
		HTACH CABLE (XINH) SON PHO	130T MW28 1E9 1E9-5 130T MW75 1E9A OF 1E9A-PT	POLYURETHANE	E27034
		SIAM ELECTRIC INDUSTRIES CO LTD	130T MW28-C 1E9E 130T MW75 1E9A	POLYURETHANE	E34303
		TA YA ELECTRIC WIRE FACTORY	130T MW28-C THFN-27N 130T MW75 THFN-173	POLYURETHANE	E18768
		2	SCHEEN	SUNTOMO SAKELITE CO LTD	150T 94V-0 PM-9E3 (0.4 mm MIN 8000V WALL) Δ
SUNTOMO SAKELITE CO LTD	30T 94V-0 E4308 (0.4 mm MIN 8000V WALL) Δ			LIQUID CRYSTAL POLYIMIDES "SUNKALPET", FORMERLY 43 PELLETS	E34705
3	VARNISH (OPTION)	HTACH CHEMICAL CO LTD	130T MP-2852F-3C		E72078

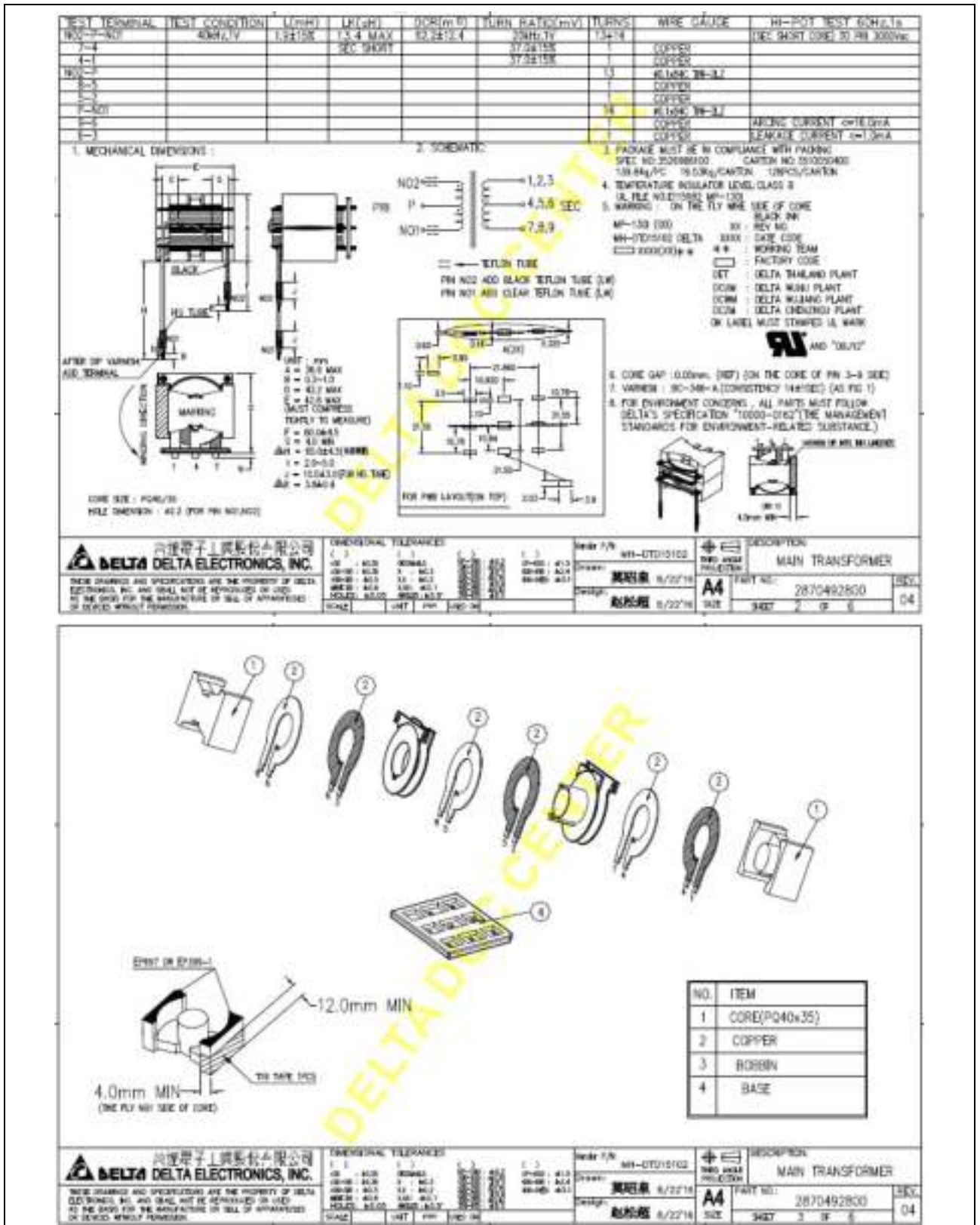
台達電子工業股份有限公司 DELTA ELECTRONICS, INC.		DIMENSIONAL TOLERANCES UNIT : mm 1 2 3 4 5 6 7 8 9 10 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 10 10 10 10 10 10 10 10 10 10 15 15 15 15 15 15 15 15 15 15 20 20 20 20 20 20 20 20 20 20 30 30 30 30 30 30 30 30 30 30 40 40 40 40 40 40 40 40 40 40 50 50 50 50 50 50 50 50 50 50 60 60 60 60 60 60 60 60 60 60 80 80 80 80 80 80 80 80 80 80 100 100 100 100 100 100 100 100 100 100	Order P/N: 2E-PC0012 Drawn: Sun Cheng Date: 07/04/13 Design: WWR Date: 07/04/13	DELTA logo TRANSFORMER (HF) PART NO.: 2878013000 REV: 05
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Description.....: Specification of Main Transformer (CT501)

EX. MATERIAL LIST:						
NO.	PART	MANUFACTURER	MANUFACTURER PART NO.	DESCRIPTION		
4	TAPE	3M COMPANY ELECTRICAL MARKETS DIV (EMT)	150°C NO.1225	FLAME RETARDANT POLYMER FILM INSULATING TAPES	E11385	
		3M COMPANY ELECTRICAL MARKETS DIV (EMT)	180°C NO.121E	FLAME RETARDANT POLYMER FILM	E11385	
		3M TAPES LTD	150°C MATERIAL SPEC. NO.13885-1	POLYESTER FILM INSULATING TAPE WITH ACRYLIC	E132506	
		SYMKO INC	200°C NO.4X182	POLYMER FILM INSULATING TAPE WITH SILICONE BASE	E13272	
 台達電子工業股份有限公司 DELTA ELECTRONICS, INC.		<b>DIMENSIONAL TOLERANCES</b> L, W, H: 0.25 R: 0.125 HOLE: ±0.02 TAP: ±0.05 PITCH: ±0.02 DRILL: ±0.02		Model No. DA-DC0012 Drawing No. 01/04/11 Design No. 01/04/11	TRANSFORMER (HF) PART NO. ZB78013600 SHEET 4 OF 4	

Description.....: Specification of Main Transformer (T501)



Description.....: Specification of Main Transformer (T501)

MATERIAL LIST :					
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.
1	WOUND	E I DUPONT DE NEMOURS & CO INC	150C 34V-0 P1500 (0.4mm MN SCREEN WALL)	POLYETHYLENE TEREPHTHALATE (PET, GLASS REINFORCED, FLAME RETARDANT, "WIND" FINISHED) AS PELLETS	D4430
		SUNTING BAKELITE CO LTD	150C 34V-0 P14-9020 (0.4mm MN SCREEN WALL)	PHENOLIC (PF) "SUNBON", FINISHED AS PELLETS, SIMILAR MATERIAL	D4430
			150C 34V-0 P14-9022 (0.4mm MN SCREEN WALL)		
2	BASE	E I DUPONT DE NEMOURS & CO INC	150C 34V-0 P1500 (0.4mm MN SCREEN WALL)	POLYETHYLENE TEREPHTHALATE (PET, GLASS REINFORCED, FLAME RETARDANT, "WIND" FINISHED) AS PELLETS	D4430
		SUNTING BAKELITE CO LTD	150C 34V-0 P14-9020 (0.4mm MN SCREEN WALL)	PHENOLIC (PF) "SUNBON", FINISHED AS PELLETS, SIMILAR MATERIAL	D4430
			150C 34V-0 P14-9022 (0.4mm MN SCREEN WALL)		
5	WOUND TAPE	3M COMPANY (ELECTRICAL MATERIALS DIVISION)	130C W8080L GROUP 1 NO.44 (H-4,HD-4,HT-4)	POLYESTER RESIN/NOXONEN COMPOSITE INSULATING TAPE	E1190
		TYNOR INC	130C W8080L GROUP 1 NO.1040	POLYESTER-EPIDYNE/ALUMINUM FIBER REINFORCING TAPE WITH ADHESIVE JOINTS	E5020
		JINDANG YANBA PRODUCE SERVICE CO.,LTD	130C W8080L GROUP 1 NO.0F	NOXONEN GLASS/POLYETHYLENE TEREPHTHALATE FILM TAPE	E10211
4	TUBING	3M INDUSTRIAL PRODUCTS INC.	330C 25-100-100	POLYETHYLENE TEREPHTHALATE (PET)	E14057
		GREAT HOLDING INDUSTRIAL CO LTD	330C 25-100-100	HOT HEAT-SHRINKABLE POLYETHYLENE TEREPHTHALATE (PET) TUBING	E14028
			330C 25-100-100		
			330C 25-100-100		
			330C 25-100-100		
ORION ELECTRONICS (SHENZHEN) CO LTD	330C 25-100-100	ETYLENE/PTC NON-HEAT-SHRINKABLE TUBING	E10008		
3	MAGNET WIRE	FUJIKAWA ELECTRIC CO LTD	130C NO.78-E (TYPE NO.08100)	SINGLE-AND MULT-LAYER INSULATED MAGNET WIRE	E20440
			130C NO.78-E (TYPE NO.08100)		
			130C NO.78-E (TYPE NO.08100)		
		TOTOKI ELECTRIC CO LTD	130C NO.78-E (TYPE NO.08100)	SINGLE-AND MULT-LAYER INSULATED MAGNET WIRE	E14440
			130C NO.78-E (TYPE NO.08100)		
			130C NO.78-E (TYPE NO.08100)		
			130C NO.78-E (TYPE NO.08100)		
JOHN C DOLPH CO	ELANTAS ELECTRICAL INSULATION ELANTAS PDS INC	330C NO.80C-340-A		E117427	
		130C V-130FC		E15029	

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PROFESSIONAL TELEGRAMS

NO.	1	2	3	4	5	6	7	8	9	10
NO.	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020

REVISION

NO.	DATE	DESCRIPTION
1	8/22/16	INITIAL DESIGN
2	8/22/16	REVISED

Description.....: Specification of Main Transformer (T502, type DV-DTD15010)

TEST TERMINAL	TEST CONDITION	U <sub>1</sub> (V)	I <sub>1</sub> (A)	POWER(W)	TURN RATIO(V)	TURNS	WIRE GAUGE	H-FOT TEST 60Hz:1s
5-7-9	400Hz IV	500 VAC	2.5 MAX	2144±2.5	2000/10	10±10	#0.3 TO-2 OR TW-2	ONE WINDY CORE TO SEC 300Wac
10-11					5000/20	20	#0.2 TO-2 OR TW-2	PH TO PH 500Wac
12-13					10000/20	20	#0.2 TO-2 OR TW-2	PH TO CORE 500Wac
14-15					10000/20	20	#0.2 TO-2 OR TW-2	
16-17					10000/20	20	#0.2 TO-2 OR TW-2	
18-19					10000/20	20	#0.2 TO-2 OR TW-2	
7-9					5000/20	20	#0.3 TO-2 OR TW-2	ARCING CURRENT <=100mA LEAKAGE CURRENT <=10mA

**1. MECHANICAL DIMENSION:**

UNIT: mm  
 A = 31.0 MAX  
 B = 12.4±0.5/-0.3  
 C = 12.5±0.3  
 D = 2.5 MAX  
 E = 2.8±0.3  
 F = 25.0 MAX  
 G = 4.2 MAX  
 H = 4.0 MIN

**2. SCHEMATIC:**

REFLOW TUBE(TK)  
 PIN 5,7,9 ADD REFLON TUBE

**3. WINDING CONNECTION:**

4. PACKAGE MUST BE IN COMPLIANCE WITH PACKING SPEC: NO. 0328979000 CARTON NO. 1313582010 13.47g/PC 87MMx5/CARTON 453PCS/CARTON

5. TEMPERATURE INSULATION LEVEL: CLASS B  
 UL FRI NO. E155882 W0-133

6. WARNING: ON THE CENTER OF TAPE IN THE PIN 5-13 SEE

7. CORE GAP: NO  
 8. WINDING: SC-345-4 (WALLS) (CONDUCTIVITY 142SEC)  
 9. FOR ENVIRONMENT CONCERN, ALL PARTS MUST FOLLOW DELTA'S SPECIFICATION "1000-012" (THE MANAGEMENT STANDARDS FOR ENVIRONMENT-RELATED SUBSTANCE).  
 10. NOT FUEL ONE LAYER MUST LOOSE WINDING.  
 11. SAFETY DISTANCE (CORE): PH TO SEC 8.0mm MIN (THE CORE BELONGS TO PRIMARY)

BLACK INK  
 30 : REV NO  
 XXX : DATE CODE  
 \*\* : WORKING TEAM  
 ○ : FACTORY CODE  
 ○DL : DELTA DINGLID PLANT  
 ○DM : DELTA DONGGUO PLANT  
 ○DUN : DELTA DUNGUO PLANT  
 ○LASE : MUST STAMPED IN MARK

**12. THE TERMINAL OF PIN 5 & 9 TO PRIMARY WINDINGS MUST KEEP 4.0mm MIN (AS FIG 1)**

(FIG 1)

**11. THE TERMINAL OF PIN 10 & 18 TO SECONDARY WINDINGS MUST KEEP 1.0mm MIN (AS FIG 2)**

(FIG 2)

台達電子工業股份有限公司 <b>DELTA ELECTRONICS, INC.</b>		DIMENSIONAL TOLERANCES UNLESS SPECIFIED OTHERWISE DIMENSIONS ARE IN MILLIMETERS DECIMALS: 0.1mm FRACTIONS: 1/16"	REV. NO. 01/2018 DATE CODE 01/2018 WORKING TEAM A4	PART NO. 2872101000 REV. 01
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# ATTACHMENT 4 Technical Documentation



Description.....: Specification of Main Transformer (T502, type DV-DTD15010)

14. MATERIAL LIST					
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	U.L. FILE NO.
1	WINDING	E I DUPONT DE NEMOURS & CO INC	150C 840-0 0500 (0.4mm WR 0000H WALL)	POLYETHYLENE TEREPHTHALATE (PET), GLASS REINFORCED, FLAME RETARDANT, "NONTE", FURNISHED AS PELLETS	D4038
		SHANTUNG BAKELITE CO LTD	150C 840-0 FM-900 (0.4mm WR 0000H WALL)	PHENOLIC (P), "DUMON", FURNISHED AS PELLETS, SIMILAR MATERIAL	D4420
		SHANTUNG BAKELITE CO LTD	150C 840-0 FM-902 (0.4mm WR 0000H WALL)	PHENOLIC (P), "DUMON", FURNISHED AS PELLETS, SIMILAR MATERIAL	D4420
2	WINDING TAPE	3M COMPANY ELECTRICAL MATERIALS DIVISION	130C MATERIAL GROUP I NO.4T 3P-A,HD-A,HT-A	POLYESTER FILM/NOVOLAC COMPOSITE INSULATING TAPE	E1780
		TYNCO INC	130C MATERIAL GROUP I NO.50M1	POLYESTER-EPICHAKE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E2020
		JINGJIANG YINFA PRESSURE SENSITIVE GLUE CO LTD	130C MATERIAL GROUP I NO.4P	NOVOLAC/EPICHAKE TEREPHTHALATE FILM TAPE	E30111
3	TUBING	DELTA INDUSTRIAL PRODUCTS INC	230C PE-40-150	POLYETHYLENE TEREPHTHALATE (PET)	E24007
			230C PE-70-150	POLYETHYLENE TEREPHTHALATE (PET)	E24007
		ORIENTAL INDUSTRIAL CO LTD	230C PE-70-1	NOT HEAT-SHRINKABLE POLYETHYLENE TEREPHTHALATE (PET) TUBING	E19438
		CHANGSHAN ELECTRONICS (SHENZHEN) CO LTD	230C CP-71-L 16-1	TEFLON (PTFE) NON-HEAT-SHRINKABLE TUBING	E19809
			230C CP-71-T 16-1		
4	MAGNET WIRE	IL RECONSIDERED	IL RECONSIDERED	130C MW02 , 130C MW01 130C MW03 , 130C MW00 130C MW-02 130C MW-03	IL RECONSIDERED
		FUKUKAWA ELECTRIC CO LTD	130C NO.32-E (TYPE NO.000120)	SINGLE-AND MULT-LAYER INSULATED MAGNET WIRE	D28440
			130C NO.32-ELT (TYPE NO.000500)	SINGLE-AND MULT-LAYER INSULATED MAGNET WIRE	D28440
			130C NO.32-EL (TYPE NO.001000)	SINGLE-AND MULT-LAYER INSULATED MAGNET WIRE	D28440
		TYOKU ELECTRIC CO LTD	130C MW-01 130C MW-02 130C MW-03 130C MW-04 130C MW-05 130C MW-06 130C MW-07 130C MW-08 130C MW-09 130C MW-10	SINGLE-AND MULT-LAYER INSULATED MAGNET WIRE	E18440
			130C MW-11 130C MW-12 130C MW-13 130C MW-14 130C MW-15 130C MW-16 130C MW-17 130C MW-18 130C MW-19 130C MW-20	SINGLE-AND MULT-LAYER INSULATED MAGNET WIRE	E18440
			130C MW-21 130C MW-22 130C MW-23 130C MW-24 130C MW-25 130C MW-26 130C MW-27 130C MW-28 130C MW-29 130C MW-30	SINGLE-AND MULT-LAYER INSULATED MAGNET WIRE	E18440
			130C MW-31 130C MW-32 130C MW-33 130C MW-34 130C MW-35 130C MW-36 130C MW-37 130C MW-38 130C MW-39 130C MW-40	SINGLE-AND MULT-LAYER INSULATED MAGNET WIRE	E18440
			130C MW-41 130C MW-42 130C MW-43 130C MW-44 130C MW-45 130C MW-46 130C MW-47 130C MW-48 130C MW-49 130C MW-50	SINGLE-AND MULT-LAYER INSULATED MAGNET WIRE	E18440
			130C MW-51 130C MW-52 130C MW-53 130C MW-54 130C MW-55 130C MW-56 130C MW-57 130C MW-58 130C MW-59 130C MW-60	SINGLE-AND MULT-LAYER INSULATED MAGNET WIRE	E18440
			130C MW-61 130C MW-62 130C MW-63 130C MW-64 130C MW-65 130C MW-66 130C MW-67 130C MW-68 130C MW-69 130C MW-70	SINGLE-AND MULT-LAYER INSULATED MAGNET WIRE	E18440
<p>DELTA ELECTRONICS INC. DIMENSIONAL TOLERANCES: (mm) 0.05, 0.1, 0.15, 0.2, 0.3, 0.4, 0.5, 0.6, 0.8, 1.0, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0, 15.0, 20.0, 30.0, 40.0, 50.0, 60.0, 80.0, 100.0. (inch) 0.002, 0.005, 0.008, 0.010, 0.015, 0.020, 0.030, 0.040, 0.050, 0.060, 0.080, 0.100, 0.125, 0.150, 0.200, 0.250, 0.300, 0.375, 0.500, 0.625, 0.750, 0.875, 1.000, 1.250, 1.500, 2.000, 2.500, 3.000, 3.750, 4.500, 5.000, 6.000, 7.500, 10.000.</p> <p>Part No. DV-03D15010 Description TRANSFORMER          Drawing: 01/2016 Part No. 2872101000          Date: 01/2016 Scale: 1:1</p>					

14. MATERIAL LIST					
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	U.L. FILE NO.
1	TAPE	3M COMPANY ELECTRICAL MATERIALS DIVISION	130C MATERIAL GROUP I NO.10A-1	FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E1780
			130C MATERIAL GROUP I NO.10B-1		
			130C MATERIAL GROUP I NO.10C-1		
		TYNCO INC	130C MATERIAL GROUP I NO.10B-1	POLYESTER-EPICHAKE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E2020
			130C MATERIAL GROUP I NO.10B-1		
		JINGJIANG YINFA PRESSURE SENSITIVE GLUE CO LTD	130C MATERIAL GROUP I NO.10	POLYESTER-EPICHAKE FILM TAPE	E18011
			130C MATERIAL GROUP I NO.10		
		ORIENTAL INDUSTRIAL CO LTD	230C NO.3001 3E	FLAME RETARDANT ACRYLIC ADHESIVE	E3008
			230C NO.3002 3E		
		3M COMPANY ELECTRICAL MATERIALS DIVISION	130C MATERIAL GROUP I NO.10B1-1	FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E1780
			130C MATERIAL GROUP I NO.10B1-1		
		TYNCO INC	130C MATERIAL GROUP I NO.10B1-1	POLYESTER-EPICHAKE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E2020
			130C MATERIAL GROUP I NO.10B1-1		
E I DUPONT DE NEMOURS & CO INC	230C 40	ARMBE INSULATING TAPE, "NONTE", FURNISHED AS SHEETS	E4139		
	230C 40				
TYNCO INC	230C NO.3001	POLYESTER INSULATING TAPE WITH ACRYLIC ADHESIVE	E3008		
	230C NO.3002				
ORIENTAL INDUSTRIAL CO LTD	130C NO.10B1-1	POLYESTER INSULATING TAPE WITH ACRYLIC ADHESIVE	E2020		
	130C NO.10B1-1				
4	WINDING	JOHN C. SMITH CO.	230C NO.30-30-4		E21821
		DELTA ELECTRICAL MATERIALS DIVISION	130C V300FC		E7620
<p>DELTA ELECTRONICS INC. DIMENSIONAL TOLERANCES: (mm) 0.05, 0.1, 0.15, 0.2, 0.3, 0.4, 0.5, 0.6, 0.8, 1.0, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0, 15.0, 20.0, 30.0, 40.0, 50.0, 60.0, 80.0, 100.0. (inch) 0.002, 0.005, 0.008, 0.010, 0.015, 0.020, 0.030, 0.040, 0.050, 0.060, 0.080, 0.100, 0.125, 0.150, 0.200, 0.250, 0.300, 0.375, 0.500, 0.625, 0.750, 0.875, 1.000, 1.250, 1.500, 2.000, 2.500, 3.000, 3.750, 4.500, 5.000, 6.000, 7.500, 10.000.</p> <p>Part No. DV-03D15010 Description TRANSFORMER          Drawing: 01/2016 Part No. 2872101000          Date: 01/2016 Scale: 1:1</p>					

Description.....: Specification of Main Transformer (T901)

TEST TERMINAL	TEST CONDITION	LIMIT	DOWN	DOWN(mV)	TURNS RATIO(mV)	TURNS	WIRE GAUGE	HI-POUT TEST COND. (s)
1-2-3-4	400V AC	0.05% max	17.52 MAX	14284285.3	20PHG TV	34	#22 SWG	PH TO SEC 3000VAC
			SEC SHORT	3.441.7	7.524.00	5	#18 SWG	SEC TO CORE 1000VAC
				20641.7	2.042.00	16	#22 SWG	PH TO PH 1000VAC
3-2-1		0.0 MAX	0.0014-0.5	22246.6	1784.00	12	#22 SWG	INDUCED VOLTAGE
								U.S.-11 : 1.0V/1000 WATT/s
								MINIMUM CURRENT 1000mA
								LEAKAGE CURRENT 1000mA

**1. MECHANICAL DIMENSIONS:**

UNIT : mm  
 A = 37.0 MAX  
 B = 37.0±0.5/-0.3  
 C = 11.4±0.3  
 D = 3.8 MAX  
 E = 6.0±0.5  
 F = 23.0 MAX  
 G = 5.0 MAX  
 H = 40.84±0.1

**2. SCHEDULE:**

REL NO. :  
 DATE CODE :  
 WORKING TEAM :  
 FACTORY CODE :  
 DELTA THAILAND PLANT :  
 DELTA HONGKONG PLANT :  
 DELTA HUNGARY PLANT :  
 DELTA CHINA PLANT :  
 DELTA CHENKONG PLANT :  
 OR LABEL MUST STAMPED IL MARK

**3. WINDING CONSTRUCTION:**

8.0mm MIN

7. CORE GAP : 0.3mm (REF FROM THE CENTER LED OF TOP CORE)  
 8. WARMER : 0C-145-A (VACUUM) (CONDUCTIVITY 148112C)  
 9. NOT FULL ONE LAYER MUST USE LOOSE WINDING  
 10. FOR ENVIRONMENT CONCERN - ALL PARTS MUST FOLLOW DELTA'S SPECIFICATION "1000-012" (THE MANAGEMENT STANDARDS FOR ENVIRONMENT-RELATED SUBSTANCE)  
 11. SAFETY DISTANCE DESIGN : PH TO SEC 5.0mm MIN  
 PH TO CORE 4.0mm MIN  
 SEC TO CORE 4.0mm MIN

4. PACKAGE MUST BE IN COMPLIANCE WITH PACKING SPEC NO. 2008/0003 CARTON NO. 201306000  
 25.5kg/PC 12.2kg/CARTON 4.0kg/PC/CARTON  
 5. TEMPERATURE INSULATOR LEVEL CLASS B  
 6. MARKING : ON THE CENTER OF TOP CORE (BLACK INK)  
 7000 : DATE CODE  
 #4 : WORKING TEAM  
 # : FACTORY CODE  
 DET : DELTA THAILAND PLANT  
 DOW : DELTA HONGKONG PLANT  
 DCH : DELTA HUNGARY PLANT  
 DCN : DELTA CHINA PLANT  
 DCC : DELTA CHENKONG PLANT  
 OR LABEL MUST STAMPED IL MARK

SOBEN P/N : 517018 PIN 3,10 OMIT  
 CORE SIZE : E22/20G PIN 2,8 LEAD ON BOTTOM  
 HOLE DIMENSION : #1.2 PIN 2 CUT OFF AFTER SOLDERING

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**DIMENSIONAL TOLERANCES**

SIZE	UNIT	MIN	MAX	UNIT	MIN	MAX
0.15	mm	0.02	0.05	0.15	0.02	0.05
0.30	mm	0.03	0.08	0.30	0.03	0.08
0.60	mm	0.05	0.12	0.60	0.05	0.12
1.20	mm	0.10	0.15	1.20	0.10	0.15
1.50	mm	0.12	0.18	1.50	0.12	0.18
3.00	mm	0.15	0.20	3.00	0.15	0.20
6.00	mm	0.20	0.25	6.00	0.20	0.25
12.00	mm	0.25	0.30	12.00	0.25	0.30
24.00	mm	0.30	0.35	24.00	0.30	0.35
48.00	mm	0.40	0.45	48.00	0.40	0.45
96.00	mm	0.50	0.55	96.00	0.50	0.55

Model P/N: AV-0121001  
 Drawn: 02/0218  
 Design: 02/0218

DESCRIPTION: AUX TRANSFORMER  
 Part No.: 2873159800  
 SHEET 2 OF 4

L(8-7)(3943057500)

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**DIMENSIONAL TOLERANCES**

SIZE	UNIT	MIN	MAX	UNIT	MIN	MAX
0.15	mm	0.02	0.05	0.15	0.02	0.05
0.30	mm	0.03	0.08	0.30	0.03	0.08
0.60	mm	0.05	0.12	0.60	0.05	0.12
1.20	mm	0.10	0.15	1.20	0.10	0.15
1.50	mm	0.12	0.18	1.50	0.12	0.18
3.00	mm	0.15	0.20	3.00	0.15	0.20
6.00	mm	0.20	0.25	6.00	0.20	0.25
12.00	mm	0.25	0.30	12.00	0.25	0.30
24.00	mm	0.30	0.35	24.00	0.30	0.35
48.00	mm	0.40	0.45	48.00	0.40	0.45
96.00	mm	0.50	0.55	96.00	0.50	0.55

Model P/N: AV-0121001  
 Drawn: 02/0218  
 Design: 02/0218

DESCRIPTION: AUX TRANSFORMER  
 Part No.: 2873159800  
 SHEET 2 OF 4

Description.....: Specification of Main Transformer (T901)

12. MATERIAL LIST					
NO	PART	MANUFACTURER	MANUFACTURER PART NO.	DESCRIPTION	UL FILE NO.
1	WAGNET WRE	UL RECOMMENDED	UL RECOMMENDED	150C WRE-1 150C WRE-2 150C WRE-3 150C WRE-4 150C WRE-5 150C WRE-6	UL RECOMMENDED
2	ROBIN	C I DUPONT DE NEMOURS & CO INC	150C RW-0 PRO3 (3.4mm WR 0000W WALL)	POLYETHYLENE TEREPHTHALATE (PET)GLASS REINFORCED, FLAME RETARDANT, WHITE FURNISHED AS PELLETS	D4438
		SHANGHAI SANGUIE CO LTD	150C RW-0 PW-BE03 (3.4mm WR 0000W WALL) 150C RW-0 PW-BE02 (3.4mm WR 0000W WALL)	PHENOLIC (PF), "TUMBER", FURNISHED AS PELLETS, GRAINLESS MATERIAL	D4743
3	TAPE	3M COMPANY ELECTRICAL MARKET DIVISION	150C MATERIAL GROUP 1 NO.110-1	FLAME RESISTANT POLYESTER FILM INSULATING TAPE	E11385
			150C MATERIAL GROUP 1 NO.110-1		
			150C MATERIAL GROUP 1 NO.110-1		
			150C MATERIAL GROUP 1 NO.110-1		
			150C MATERIAL GROUP 1 NO.110-1		
		150C WRE-0	150C MATERIAL GROUP 200T ALL GROUP WITH 30V NO.2000Y1	POLYESTER-ETHYLENE FILM INSULATING TAPE WITH ACETIC ADHESIVE	D3002
SHANGHAI YANBA PRESSURE SENSITIVE GLUE CO LTD	150C MATERIAL GROUP 1 NO. CT	POLYETHYLENE TEREPHTHALATE FILM TAPE	D18511		
SHANGHAI YANBA PRESSURE SENSITIVE GLUE CO LTD	300C WRE005 #1 200C WRE005 #1	FLAME RESISTANT ARamid PAPER TAPE, ACETIC ADHESIVE	D3008		
4	WAPAR TAPE	3M COMPANY ELECTRICAL MARKET DIVISION	150C MATERIAL GROUP 1 NO.44, 44-1,40-1,44T-1	POURED FILM/BONDING COMPOSITE INSULATINGWRES	E11385
		TYMEX INC	150C MATERIAL GROUP 1 NO.5000	POLYESTER-ETHYLENE FILM INSULATING TAPE WITH ACETIC ADHESIVE	E26282
		SHANGHAI YANBA PRESSURE SENSITIVE GLUE CO LTD	150C MATERIAL GROUP 1 NO.01	NONWOVN GLASS/POLYETHYLENE TEREPHTHALATE FILM TAPE	D18511
5	VARNISH	JOHN C DOLPH CO	150C VARNISH-300-A		D37487
		DAVITA ELECTRICAL INSULATOR DAVITA INS INC	150C VARNISH		D7025
6	TUBING	DELTA INDUSTRIAL PRODUCTS INC.	150C TC-1A-15	POLYETHYLENEGLYCOL/ETHYLENE (PEE)	D14007
		GREAT HOLDING INDUSTRIAL CO LTD	150C TC-1B-15	NET HEAT-SHRINKAGE POLYETHYLENEGLYCOL/ETHYLENE (PEE) TUBING	D15626
		SHANGHAI ELECTRONICS SHENGDING CO LTD	150C TC-1E-15	KRYLOFLON® NON-HEAT-SHRINKABLE TUBING	D18106
		150C TC-1F-15			

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TAIWAN

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**DIMENSIONAL TOLERANCES**

UNIT	1	2	3
mm	±0.25	±0.15	±0.10
mm	±0.10	±0.05	±0.03
mm	±0.05	±0.02	±0.01

SCALE: 1:1

MARK P/N: AV-07D15001

Drawn: 02/02/18

DESIGN: 02/02/18

DESCRIPTION: AUX TRANSFORMER

Part No.: 2873159800

SIZE: A4

REV: 01

Description.....: Specification of Main Transformer (T502, type DV-PC17024)

TEST TERMINAL	TEST CONDITION	UNIT	MIN	MAX	TESTED	TEST RESULT	WIRE GAUGE	HI-POT TEST RESULTS
1	1000V AC	SEC MIN	10	15	100%	100%	AWG 30	1000V AC 1000mA 1000000V
2	1000V AC	SEC MIN	10	15	100%	100%	AWG 30	1000V AC 1000mA 1000000V
3	1000V AC	SEC MIN	10	15	100%	100%	AWG 30	1000V AC 1000mA 1000000V
4	1000V AC	SEC MIN	10	15	100%	100%	AWG 30	1000V AC 1000mA 1000000V
5	1000V AC	SEC MIN	10	15	100%	100%	AWG 30	1000V AC 1000mA 1000000V
6	1000V AC	SEC MIN	10	15	100%	100%	AWG 30	1000V AC 1000mA 1000000V
7	1000V AC	SEC MIN	10	15	100%	100%	AWG 30	1000V AC 1000mA 1000000V
8	1000V AC	SEC MIN	10	15	100%	100%	AWG 30	1000V AC 1000mA 1000000V
9	1000V AC	SEC MIN	10	15	100%	100%	AWG 30	1000V AC 1000mA 1000000V
10	1000V AC	SEC MIN	10	15	100%	100%	AWG 30	1000V AC 1000mA 1000000V
11	1000V AC	SEC MIN	10	15	100%	100%	AWG 30	1000V AC 1000mA 1000000V
12	1000V AC	SEC MIN	10	15	100%	100%	AWG 30	1000V AC 1000mA 1000000V
13	1000V AC	SEC MIN	10	15	100%	100%	AWG 30	1000V AC 1000mA 1000000V
14	1000V AC	SEC MIN	10	15	100%	100%	AWG 30	1000V AC 1000mA 1000000V

**1. MECHANICAL DIMENSIONS**

UNIT : mm  
 A = 31.0 MAX  
 C = 3.2±0.3/-0.3  
 D = 12.5±0.3  
 E = 2.5 MAX  
 F = 2.5±0.3  
 G = 4.2 MAX  
 H = 4.0 MIN  
 I = 3.0 MIN (FROM TO CORE)  
 J = 0.3 MIN (THE LENGTH OF SOBBIN)  
 K = 10.0±0.1  
 L = 0.3 MIN (COLLER TO SOBBIN)

**2. SCHEDULE**

15  
14  
13  
12  
11  
10  
9  
8  
7  
6  
5  
4  
3  
2  
1

**3. WINDING CONSTRUCTION**

3.0mm MIN  
 1. TO 100% OF THE  
 2. TO 100% OF THE  
 3. TO 100% OF THE  
 4. TO 100% OF THE  
 5. TO 100% OF THE  
 6. TO 100% OF THE  
 7. TO 100% OF THE  
 8. TO 100% OF THE  
 9. TO 100% OF THE  
 10. TO 100% OF THE  
 11. TO 100% OF THE  
 12. TO 100% OF THE  
 13. TO 100% OF THE  
 14. TO 100% OF THE  
 15. TO 100% OF THE

**4. PACKAGE MUST BE IN COMPLIANCE WITH PACKING SPEC NO. 20087000 CARTON NO. 20087000 13.3g/PC 7.68MMx4.43MMx1.43MM**

**5. TEMPERATURE INSULATION LEVEL CLASS II**

**6. MARKING** IN THE CENTER OF TAPE BY THE PIN 9-10 SIDE

MP-1000 E10000 (P-PC17024) (00)

**7. CORE GAP** NO

**8. WINDING** 2C-3W-4 (WINDING CONSISTENCY 145°C)

**9. FOR ENVIRONMENT CONCERN**, ALL PARTS MUST FOLLOW DELTA'S SPECIFICATION 10000-DIST (THE MANAGEMENT STANDARDS FOR ENVIRONMENT-RELATED SUBSTANCE)

**10. NOT FULL ONE LAYER MUST LOOSE WINDING**

**11. SAFETY DISTANCE DESIGN** PIN TO SEC 6.0mm MIN (SEC TO CORE 6.0mm MIN) (THE CORE BELONGS TO PRIMARY)

**12. THE LENGTH OF PIN ALL TAPE NEEDS TO BE OVER THE CORNER OF LEAD WIRE 2.0mm MIN IN THE INSIDE WINDING**

**WINDING DIRECTION**

**WINDING DIRECTION**

WINDING DIRECTION

**13. THE TERMINAL OF PIN 5 & 9 TO PRIMARY WINDINGS MUST KEEP 3.0mm MIN (AS FIG 1)**

(FIG 1)

**14. THE TERMINAL OF PIN 11 & 17 TO SECONDARY WINDINGS MUST KEEP 1.0mm MIN (AS FIG 2)**

(FIG 2)

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 DELTA ELECTRONICS, INC.

NOTE: DIMENSIONS AND TOLERANCES ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OF ALL OF APPROPRIATE OR IDENTICAL PARTS.

**CONFIDENTIAL TRANSFORMER**

REV	DATE	DESCRIPTION
01	08/28/17	INITIAL DESIGN
02	09/05/17	REVISED
03	09/05/17	REVISED
04	09/05/17	REVISED
05	09/05/17	REVISED
06	09/05/17	REVISED
07	09/05/17	REVISED
08	09/05/17	REVISED
09	09/05/17	REVISED
10	09/05/17	REVISED
11	09/05/17	REVISED
12	09/05/17	REVISED
13	09/05/17	REVISED
14	09/05/17	REVISED
15	09/05/17	REVISED
16	09/05/17	REVISED
17	09/05/17	REVISED
18	09/05/17	REVISED
19	09/05/17	REVISED
20	09/05/17	REVISED

Table # DV-PC17024

Drawn: JESSICA LI 08/28/17

Checked: WEN 09/05/17

DATE NO: 2872112400

REV: 1 2 3





Description.....: Specification of Main Transformer (T502, type DV-PC17024)

15. MATERIAL LIST :					
NO.	PART	MANUFACTURER	MANUFACTURER PART NO.	DESCRIPTION	UL FILE NO.
3	TUBING	GREAT HOLDING INDUSTRIAL CO LTD	200C TL VM-1 200C TF VM-1	NOT HEAT-SHRINKABLE POLYETHYLENE/CHLORIDE (PVC) TUBING	E194258
		CHANGYUAN ELECTRONIC GROUP CO LTD	200C CD-TL-VB-1 200C CD-TT-T VB-1	NOT-HEAT-SHRINKABLE POLYETHYLENE/CHLORIDE (PVC) TUBING	E198908
		FUREDA PLASTIC CO LTD	200C FIC-TL-VB-1 200C FIC-TT-T VB-1 200C FIC-TT-S VB-1	NOT HEAT-SHRINKABLE POLYETHYLENE/CHLORIDE (PVC) TUBING	E254113
4	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	130C MW25 130C MW75 150C MW75 150C MW80 180C MW-82 180C MW-83 200C MW-85 200C MW-87	UL RECOGNIZED
		TOTOKU ELECTRIC CO LTD	130C NO. TW-2X FOR UL TW-2 FOR VCE TW-2LX FOR UL TW-2L FOR VCE TW-2SB FOR VCE	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE	E198483
		FURUKAWA ELECTRIC CO LTD	130C NO. TEX-6 (VCE NO.006735) 130C NO. TEX-ELZ (TUV NO.9251520) 130C NO. TEX-GEW3 (TUV NO.9251520)	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE	E208440
5	VARNISH	JOHN C DOLPH CO	200C NO BC-346-A		E317427
		ELANTAS ELECTRICAL INSULATION ELANTAS PDC INC	132C V1389FC		E15029

台達電子工業股份有限公司 DELTA ELECTRONICS, INC.	OPERATIONAL PARAMETERS 1 1 25 25 25 25 25 25 50 50 50 50 50 50 75 75 75 75 75 75 100 100 100 100 100 100 125 125 125 125 125 125 150 150 150 150 150 150 175 175 175 175 175 175 200 200 200 200 200 200	Delta P/N: DV-PC17024	TÜV RHEINLAND TRANSFORMER
		Drawn: JESSICA LI 08/08/20	

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