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**Additional information (if necessary)**

Report Ref. No. : 50353029 001

Date: 2020-09-16

Signature:

  
Martin 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) .....		Change Ye Project Engineer
Approved by (name + signature) .....		Ben Zeng 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> <ul style="list-style-type: none"> <li>- Appended table (3 pages)</li> <li>- Attachment 1: Photo Documentation (5 pages)</li> <li>- Attachment 2: National Differences (36 pages)</li> <li>- Attachment 3: Other National Special Requirement Documentation (13 pages)</li> <li>- Attachment 4: Technical Documentation (36 pages)</li> </ul>																																							
<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>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, 10N</td></tr> <tr><td>T.3</td><td>Steady force test, 30N</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	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, 10N	T.3	Steady force test, 30N	T.4	Steady force test, 100N	T.5	Steady force test, 250N	T.6	Impact test	
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Remark: <ol style="list-style-type: none"> <li>1. The enclosure of AC inlet side is considered to user accessible areas only for this equipment and the others should be evaluated in final system.</li> <li>2. These models GPS-750FB A, GPS-650LB A, GPS-550NB A are selected for above tests. Unless otherwise specified, throughout this report, the tests were performed on model GPS-750FB A at around +25°C on an open bench and installed which provides the lowest airflow according to table 4.1.2.</li> </ol>																																							

**Load condition:**
**For model GPS-750FB A**
 Test Condition A

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6
+3.3V	25A	+5V	9.5A	+12V1	5.2A	+12V2	45A	-12V	0.3A	+5VSB	3A

 Test Condition B

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6
+3.3V	1.52A	+5V	25A	+12V1	45A	+12V2	6.7A	-12V	0A	+5VSB	0A

 Test Condition C

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6
+3.3V	0A	+5V	0A	+12V1	45A	+12V2	17.5A	-12V	0A	+5VSB	0A

 Test Condition D (standby)

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6
+3.3V	0A	+5V	0A	+12V1	0A	+12V2	0A	-12V	0A	+5VSB	3A

**For model GPS-650LB A**
 Test Condition A

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6
+3.3V	25A	+5V	7.5A	+12V1	2.7A	+12V2	40A	-12V	0.3A	+5VSB	3A

 Test Condition B

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6
+3.3V	6.1A	+5V	20A	+12V1	40A	+12V2	4.2A	-12V	0A	+5VSB	0A

 Test Condition C

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6
+3.3V	0A	+5V	0A	+12V1	40A	+12V2	14.2A	-12V	0A	+5VSB	0A

**For model GPS-550NB A,**
 Test Condition A

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6
+3.3V	25A	+5V	7.5A	+12V1	0A	+12V2	34.3A	-12V	0.3A	+5VSB	3A

 Test Condition B

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6
+3.3V	6.1A	+5V	20A	+12V1	35A	+12V2	0.9A	-12V	0A	+5VSB	0A

Test Condition C

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6
+3.3V	0A	+5V	0A	+12V1	35A	+12V2	10.9A	-12V	0A	+5VSB	0A

**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.

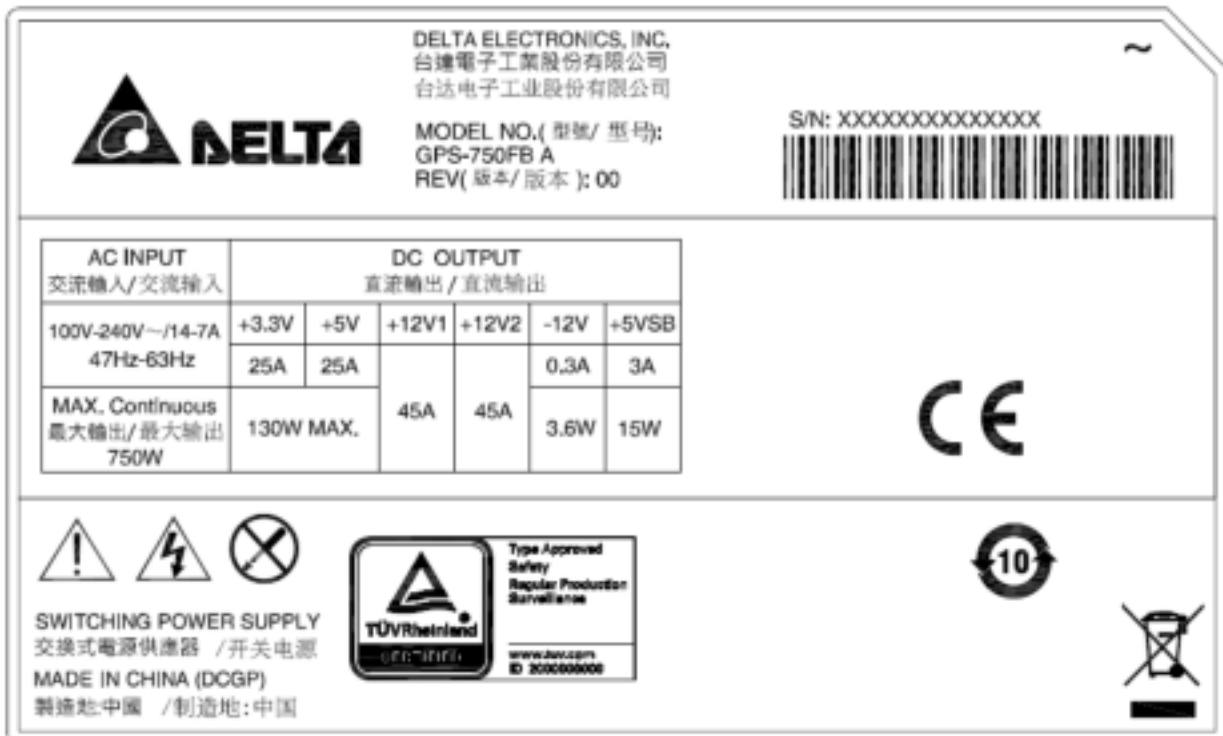
**Special national requirement: CA**

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.



Note:

This is representative label; the others are identical to it except for the model number, and input rating, output rating, detail see model list.

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 .....	50°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"/> 2.5 kg for GPS-750FB XX, <input checked="" type="checkbox"/> 2.3 kg for GPS-650LB XX, <input checked="" type="checkbox"/> 2.2 kg for GPS-550NB XX, DSA-550W601APG X



<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..... :	Apr. 03, 2020, Aug. 25, 2020
Date (s) of performance of tests..... :	Apr. 14, 2020 to Apr. 27, 2020; Aug. 25, 2020 to Aug. 28, 2020
<b>GENERAL REMARKS:</b>	
<p>"(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.</p>	
<b>Manufacturer's Declaration per sub-clause 4.2.5 of IEC62368-1:</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>	<b>1) Delta Electronics Power (Dongguan) Co., Ltd.</b> Delta Industrial Estate, Xincheng District, Shijie Town, Dongguan, Guangdong 523308, P.R. China  <b>2) 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
<b>GENERAL PRODUCT INFORMATION:</b>	
<p>The equipment under test (EUT), models shown as cover page are switching power supply intended for building-in into information technology equipment in the scope of this standard.</p> <p>The suitable and approved power supply cord will be provided, evaluated and used when national approval/market.</p>	

**Model List:**

Model	Input Rating	Outputs Rating (DC, A max)						Combined Power	
		+3.3V	+5V	+12V <sub>1</sub>	+12V <sub>2</sub>	-12V	+5V <sub>SB</sub>	+3.3V, +5V Power max. (watt)	Total Power (watt)
GPS-750FB XX	100-240Vac / 14.0-7.0A, 47- 63Hz	25	25	45	45	0.3	3.0	130	750
GPS-650LB XX	100-240Vac / 12.0-6.0A, 47- 63Hz	25	20	40	40	0.3	3.0	120	650
GPS-550NB XX, DSA- 550W601APG X	100-240Vac / 10.0-5.0A, 47- 63Hz	25	20	35	35	0.3	3.0	120	550

**Note:**

X=0-9, A-Z or blank, Marketing purpose, no technical differences.

**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 as below:
  - For model GPS-750FB XX: Total continuous output power shall not exceed 750W at ambient 50°C.
  - For model GPS-650LB XX: Total continuous output power shall not exceed 650W at ambient 50°C.
  - For model GPS-550NB XX and DSA-550W601APG X: Total continuous output power shall not exceed 550W at ambient 50°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: T501, T503 and T901
  - Basic insulation: None
  - Supplementary insulation: None
  - Functional insulation: other than above mentioned.
- The following **capacitors** bridging insulation:
  - Double/Reinforced insulation: None
  - Basic insulation: CY1, CY2, CY3, CY4 and CY5.
  - Supplementary insulation: None
  - Across mains conductors: CX1, 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: R1A, R1B, R1C.
  - Functional insulation: other than above mentioned.

- The following **VDRs** are bridging insulation:
  - o Basic insulation: None
- The following **solid insulation** are provided:
  - o Reinforced insulation: Opto-coupler (IC502, IC602, IC603 and IC903), Heat shrinkable tubing, Insulation sheet.
  - o Basic insulation: Insulation sheet
  - o Supplementary insulation: None
  - o Functional insulation: other than above mentioned.
- The following parts consist of the protective earthing:
  - o Protective earthing conductor: The earth pin of power supply cord.
  - o 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:
  - o Fire enclosure: The compliance shall be investigated in end product.
  - o Mechanical enclosure: Yes
  - o 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 **5000** m. 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:

- Fuse Identification (see subclau F.3.5.3):
  - F1: F16AH 250V (for models GPS-750FB XX, GPS-650LB XX)
  - F1: F10AH 250V (for models GPS-550NB XX, DSA-550W601APG X)
- 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.



(IEC 60417-5007 (DB:2002-10)) for "ON" of mains switch.



(IEC 60417-5008 (DB:2002-10)) for "OFF" of mains switch.

**Models differences:**

Item	GPS-750FB XX	GPS-650LB XX	GPS-550NB XX, DSA-550W601APG X
I/O	See model list.	See model list.	See model list.
FL1	HFH-CN11328	HFH-CN11328	HFH-DTD15014
L153	CPH-DTD15015	CPV-DTD15013	No use
F1	F16AH 250Vac	F16AH 250Vac	F10AH 250Vac
L801	PFCV-DTD15002	PFCV-DTD15002	PFCV-DTD15019

**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)

**ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:**

(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.)

(Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.

**Electrically-caused injury (Clause 5):**

(Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification)

Example: +5 V dc input

ES1

**Source of electrical energy**
**Corresponding classification (ES)**

Primary circuit

ES3

Secondary output connector

ES1

**Electrically-caused fire (Clause 6):**

(Note: List sub-assembly or circuit designation and corresponding energy source classification)

Example: Battery pack (maximum 85 watts):

PS2

**Source of power or PIS**
**Corresponding classification (PS)**

Primary circuit

PS3

Secondary output

PS3 (declared)

**Injury caused by hazardous substances (Clause 7)**

(Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.)

Example: Liquid in filled component

Glycol

**Source of hazardous substances**
**Corresponding chemical**

N/A

N/A

**Mechanically-caused injury (Clause 8)**

(Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.)

Example: Wall mount unit

MS2

**Source of kinetic/mechanical energy**
**Corresponding classification (MS)**

Equipment mass < 7kg

MS1

Smooth edges and corners of enclosure

MS1

DC fan blade

MS3 (declared)

**Thermal burn injury (Clause 9)**

(Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.)

Example: Hand-held scanner – thermoplastic enclosure

TS1

**Source of thermal energy**
**Corresponding classification (TS)**

External enclosure surfaces (AC inlet side)

TS1

**Radiation (Clause 10)**

(Note: List the types of radiation present in the product and the corresponding energy source classification.)

Example: DVD – Class 1 Laser Product

RS1

**Type of radiation**
**Corresponding classification (RS)**

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**ENERGY SOURCE DIAGRAM**

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

**ES3 (on the left side of T501,T503, T901),  
ES1 (on the right side of T501,T503, 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 < 7kg	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
N/A	N/A	N/A	N/A	N/A

**Supplementary Information:**

(1) See attached energy source diagram for additional details.

(2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault



<b>IEC 62368-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>4</b>	<b>GENERAL REQUIREMENTS</b>		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified to 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 part 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 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
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	P

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Clause	Requirement + Test	Result - Remark	Verdict
		loosening of the terminal connection is unlikely.	
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.....	See above	N/A
4.7.3	Torque (Nm) .....	See above	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 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
5.2.2.6	Ringling signals .....	No such ringling 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 "OVERVIEW OF EMPLOYED SAFEGUARDS")	P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See above.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.2.1	Accessibility to electrical energy sources and safeguards	ES2 or ES3 source cannot access by ordinary persons and ES3 source cannot be 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	—
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

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Clause	Requirement + Test	Result - Remark	Verdict
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 only 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 for the test results.	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 Engineering Considerations - "Additional Information" 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) The min. 0.4mm DTI for opto-coupler requirement.	P
5.4.4.3	Insulation compound forming solid insulation		P
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	(See appended table 5.4.4.2)	N/A
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.6.2	Separable thin sheet material	Reinforced insulation consisting of two layers of tape, each layer shall pass the electric strength test for reinforced insulation. Basic insulation consisting of one layers of tape, pass the electric strength test for basic insulation.	P
	Number of layers (pcs) .....	Min. 2 layers for reinforced insulation	P
5.4.4.6.3	Non-separable thin sheet material	No such insulation used within the EUT.	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 5.4.4.9)	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	No test necessary, see only 5.4.4.4.	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	(See appended table 5.4.9)	P
5.4.9.2	Test procedure for routine tests	Should be considered and conducted during product at factory.	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 .....	(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		N/A
5.5.6	Resistors	Approval bleeder resistors are used. Bleeder resistors are served as safeguard, no energy hazards between access terminal and ordinary person, see clause 5.2.2.3.	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
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

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm <sup>2</sup> ). ..... :	Min. 16 AWG (cross-sectional area 1.25mm <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. 1.25mm <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 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	Clause 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
5.7.5	Protective conductor current	Not exceed the ES2 limits.	P
	Supply Voltage (V) ..... :	264V/63Hz	—
	Measured current (mA) ..... :	1.33	—
	Instructional Safeguard ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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>		<b>P</b>
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		<b>P</b>
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.	<b>P</b>
6.2.2.1	General	See the following details.	<b>P</b>
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	<b>P</b>
6.2.2.3	Power measurement for worst-case power source fault .....		<b>P</b>
6.2.2.4	PS1 .....		<b>N/A</b>
6.2.2.5	PS2 .....		<b>N/A</b>
6.2.2.6	PS3 .....	(See appended table 6.2.2)	<b>P</b>
6.2.3	Classification of potential ignition sources		<b>P</b>
6.2.3.1	Arcing PIS .....	(See appended table 6.2.3.1)	<b>P</b>
6.2.3.2	Resistive PIS .....	(See appended table 6.2.3.2)	<b>P</b>
6.3	Safeguards against fire under normal operating and abnormal operating conditions		<b>P</b>
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 5.4.1.5) No ignition and no such temperature attained within the equipment.	<b>P</b>
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.	<b>N/A</b>
6.4	Safeguards against fire under single fault conditions		<b>P</b>



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Clause	Requirement + Test	Result - Remark	Verdict
6.4.1	Safeguard Method	Method by reduce the likelihood of ignition, detail see sub-clauses 6.4.2 and 6.4.3. Method by control of fire spread applied, detail see sub-clauses 6.4.4, 6.4.5 and 6.4.6.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits	PS3 circuits inside.	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.	P
6.4.3.1	General		P
6.4.3.2	Supplementary Safeguards		P
	Special conditions if conductors on printed boards are opened or peeled	Min. V-1 for PCB	N/A
6.4.3.3	Single Fault Conditions ..... :	(See appended table B.4)	P
	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 ..... :		N/A
6.4.6	Control of fire spread in PS3 circuit	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. – Fire enclosure provided. (See appended tables 4.1.2 and Annex G).	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	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. Add see clause 6.4.8.3.3.	P
6.4.7.3	Separation by a fire barrier	No specific barrier provided.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8	Fire enclosures and fire barriers	See below.	P
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		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) .....	The open size of inlet: max. 3.1mm <5mm in any dimension. For other side of EUT, method by control of fire spread applied, detail see sub-clauses 6.4.4, 6.4.5 and 6.4.6. The equipment is a building-in type and re-evaluation is to be made during the final system approval.	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 .....		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c).....		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating.....	Metal enclosure used.	P
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 below and 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

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Clause	Requirement + Test	Result - Remark	Verdict
	External port limited to PS2 or complies with Clause Q.1	See above.	N/A

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		N/A
7.2	Reduction of exposure to hazardous substances	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

8	MECHANICALLY-CAUSED INJURY		P
8.1	General	See the following details.	P
8.2	Mechanical energy source classifications	Sharp edges and corners, classified as MS1. Equipment mass < 7kg, 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 are classified as MS1.	P
8.4.1	Safeguards	See above.	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
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
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

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Clause	Requirement + Test	Result - Remark	Verdict
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
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>		<b>P</b>
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		P

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Clause	Requirement + Test	Result - Remark	Verdict
9.4.1	Equipment safeguard	The enclosure is equipment safeguard, ordinary person can't access to internal the TS2 or TS3 parts. The equipment is a building-in type and evaluation is also to be made during the final system approval.	P
9.4.2	Instructional safeguard .....		N/A

<b>10</b>	<b>RADIATION</b>		N/A
10.2	Radiation energy source classification		N/A
10.2.1	General classification		N/A
10.3	Protection against laser radiation	No such radiation generated from the equipment.	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	No such radiation generated from the equipment.	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

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Clause	Requirement + Test	Result - Remark	Verdict
	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
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> " 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 EUT	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	Not such equipment.	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effective.	P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited .....	(See appended table B.4)	P
B.4.3	Motor tests		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 EUT 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

<b>IEC 62368-1</b>			
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 direct connected to AC mains, see F.3.3.3 to 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 outlet used.	N/A
F.3.5.2	Switch position identification marking .....		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
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A

<b>IEC 62368-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
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

<b>IEC 62368-1</b>			
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		P
G.1.2	Ratings, endurance, spacing, maximum load		N/A
<b>G.2</b>	<b>Relays</b>		N/A
G.2.1	General requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
<b>G.3</b>	<b>Protection Devices</b>		P
G.3.1	Thermal cut-offs	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 PTC thermistor used.	N/A
G.3.4	Overcurrent protection devices	Current fuse complying with IEC 60127 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

<b>IEC 62368-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>G.5</b>	<b>Wound Components</b>		P
G.5.1	Wire insulation in wound components .....	Approved source of triple insulated wire (TIW) used in mains transformer.	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	—
	Method of protection .....	By protection circuit design.	—
G.5.3.2	Insulation	Primary windings and secondary windings are separated by reinforced 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	Tested in the complete equipment.	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) .....		—

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h) .....		N/A
	Electric strength test (V) .....		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature .....		N/A
	Electric strength test (V) .....		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h) .....		N/A
	Electric strength test (V) .....		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage .....		—
<b>G.6</b>	<b>Wire Insulation</b>		P
G.6.1	General	Triple insulated wires winding used in the isolating transformer that has separately complied with Annex J.	P
G.6.2	Solvent-based enamel wiring insulation	Solvent-based enamel is not considered to provide basic insulation, supplementary insulation or reinforced insulation.	P
<b>G.7</b>	<b>Mains supply cords</b>		N/A
G.7.1	General requirements		N/A
	Type.....		—
	Rated current (A) .....		—
	Cross-sectional area (mm <sup>2</sup> ), (AWG) .....		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N) .....		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm) .....		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry .....		N/A
G.7.5	Non-detachable cord bend protection		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g) .....		—
	Diameter (m) .....		—
	Temperature (°C) .....		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire	No such wire.	N/A
G.7.6.2.1	Test with 8 mm strand		N/A
<b>G.8</b>	<b>Varistors</b>		N/A
G.8.1	General requirements		N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test .....		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	Approval bleeder resistors are used. Bleeder resistors are served as safeguard, 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

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Clause	Requirement + Test	Result - Remark	Verdict
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
<b>G.11</b>	<b>Capacitor and RC units</b>		P
G.11.1	General requirements	Capacitors used in accordance with their rating and complied with subclasses of IEC 60384-14.	P
G.11.2	Conditioning of capacitors and RC units	At least 21 days at $40 \pm 2$ °C and $93 \pm 3$ % 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)..... :	(See appended table 4.1.2) The optocoupler complied with standard IEC/EN 60747-5-5.	P
	Type test voltage $V_{ini}$ .....		—
	Routine test voltage, $V_{ini,b}$ .....		—
<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 .....	No coating on component terminals considered to affect creepage or clearances.	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 Discharge IC (IC1)	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	Triple insulated wires winding used as reinforced safeguard in the isolating transformer. See Table 4.1.2.	P

<b>K</b>	<b>SAFETY INTERLOCKS</b>		N/A
K.1	General requirements	No safety interlock provided.	N/A
K.2	Components of safety interlock safeguard mechanism .....		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance .....		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method .....		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location) .....		N/A
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 is considered as disconnect device.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized	When the equipment is disconnected from mains, no remaining parts at hazardous voltage in the equipment.	P
L.4	Single phase equipment	The disconnect device disconnects both poles simultaneously.	P

<b>IEC 62368-1</b>			
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
M.5	Risk of burn due to short circuit during carrying		N/A

<b>IEC 62368-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
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>P</b>	<b>SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS</b>		P
P.1	General requirements	See the following details.	P

<b>IEC 62368-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
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>		N/A
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
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A

<b>IEC 62368-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
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 .....		—

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

<b>S</b>	<b>TESTS FOR RESISTANCE TO HEAT AND FIRE</b>		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) .....		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials	See Table 4.1.2 only.	P

<b>IEC 62368-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
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

<b>T</b>	<b>MECHANICAL STRENGTH TESTS</b>		<b>P</b>
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 .....	(See appended table T.2, T.3, T.4, T.5)	P
T.4	Steady force test, 100 N .....	See above.	P
T.5	Steady force test, 250 N .....	See above.	P
T.6	Enclosure impact test	(See appended table T.6, T.9)	P
	Fall test		P
	Swing test		N/A
T.7	Drop test .....		N/A
T.8	Stress relief test .....		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
T.11	Test for telescoping or rod antennas	No such antennas provided within the equipment.	N/A
	Torque value (Nm) .....		—

<b>IEC 62368-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict

<b>U</b>	<b>MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION</b>		N/A
U.1	General requirements	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



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

4.1.2	TABLE: List of critical components					P
Object / part No.	Manufacturer / Trademark	Type / model	Technical data	Standard	Mark(s) of conformity <sup>1)</sup>	
Metal Chassis and Cover	Interchangeable	Interchangeable	Metallic, Min. thickness 0.6mm.	IEC/EN 62368-1	Tested with appliance	
Appliance Inlet	Rong Feng Industrial Co., Ltd. Rong Feng Electrical (Shenzhen) Co., Ltd. (for CCC)	SS-120, SS-120B	AC 250V, 10A (for VDE, CCC), 15A (for UL), AC 250V, 10A, 70°C	IEC/EN 60320-1, UL 498, GB17465.1	VDE, UL, CCC	
(Alt.)	Rong Feng Industrial Co., Ltd. Rong Feng Electrical (Shenzhen) Co., Ltd. (for CCC)	SS-7B	AC 250V, 10A (for VDE and CCC), 15A (for UL), 70°C	IEC/EN 60320-1, UL 498, GB17465.1	VDE, UL, CCC	
(Alt.)	Solteam Electronics Co., Ltd.	ST-01 (for CCC, VDE) ST-01 Series (for UL)	AC 250V, 10A (for ENEC, CCC), 15A (for UL), 70°C	IEC/EN 60320-1, UL 498, GB17465.1	ENEC, UL, CCC, VPC, VDE	
(Alt.)	Canal Electronic Co., Ltd.	KS-301 (for CCC, UL) KS-3 (for VDE)	AC 250V min., 10A (for VDE, CQC), 15A (for UL), 70°C	IEC/EN 60320-1, UL 498, GB17465.1	VDE, CQC, UL	
Power switch	Rong Feng Industrial Co., Ltd.	RF-1003B	AC 125/250V, 16A/10A, 1E4	IEC/EN 61058, UL 1054	TUV, UL	
(Alt.)	Rong Feng Industrial Co., Ltd.	RF-1003C	AC 250V, 12A, 1E4	IEC/EN 61058, UL 1054	VDE, UL	
L/N Lead Wires	Interchangeable	Interchangeable	FT-1 or VW-1, 300V, 105°C, 18 AWG min.	UL 758	UL	
Protective Bonding Conductor	Interchangeable	Interchangeable	16 AWG minimum, insulated with green/yellow color. The green /yellow wire is hooked-in, and soldered to the ground pin of the appliance inlet and, the other side is bonding to metal chassis by a machine screw with a flat and a spring washer.	UL 758	UL	
DC Fan	Yate Loon Electronics Corp Ltd	D12SH-12-M/GP5	DC 12V, 0.30A, min 65CFM,	UL 507, IEC/EN 60950-1	UL, TÜV	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alt.)	Protechnic Electric Co., Ltd	MGA12012MF-A25	DC 12V, 0.38A, min 63.09CFM,	UL 507, IEC/EN 60950-1	UL,TÜV-SUD
(Alt.)	ADDA Corp	AD1212MX-A70GL	DC 12V, 0.34A , 61.34CFM min,	UL 507, IEC/EN 60950-1	UL,VDE
Fuse (F1) (for models GPS-750FB XX, GPS-650LB XX )	Littelfuse Inc (for UL), Suzhou Littelfuse OVS Ltd. (for VDE and CQC)	216.xxx (for VDE), 216 (for UL), 21612.5 (for CQC)	F16AH, AC 250V	IEC/EN 60127-1, IEC/EN 60127-2, UL 248-1, UL 248-14, CSA-C22.2 No. 248-1-00, CSA-C22.2 No. 248-14-00, GB9364.1, GB9364.2	VDE, UL, CQC
(Alt.)	Conquer Electronics Co., Ltd.	UBM-A	F16AH, AC 250V	IEC/EN 60127-1, IEC/EN 60127-2, UL 248-1, UL 248-14, CSA-C22.2 No. 248-1-00, CSA-C22.2 No. 248-14-00	TÜV, UL
(Alt.)	Hollyland Co., Ltd.	50CF	F16AH, AC 250V	IEC/EN 60127-1, IEC/EN 60127-2, UL 248-1, UL 248-14, CSA-C22.2 No. 248-1-00, CSA-C22.2 No. 248-14-00	SEMKO, UL/cUL
Fuse (F1) (for models GPS-550NB XX, DSA-550W601APG X)	Littelfuse Inc (for UL), Suzhou Littelfuse OVS Ltd. (for VDE and CQC)	216.xxx (for VDE), 216 (for UL), 21612.5 (for CQC)	F10AH, AC 250V	IEC/EN 60127-1, IEC/EN 60127-2, UL 248-1, UL 248-14, CSA-C22.2 No. 248-1-00, CSA-C22.2 No. 248-14-00, GB9364.1, GB9364.2	VDE, UL, CQC
(Alt.)	Conquer Electronics Co., Ltd.	UBM-A	F10AH, AC 250V	IEC/EN 60127-1, IEC/EN 60127-2, UL 248-1, UL 248-14, CSA-C22.2 No. 248-1-00, CSA-C22.2 No. 248-14-00	TÜV, UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alt.)	Hollyland Co., Ltd.	50CF	F10AH, AC 250V	IEC/EN 60127-1, IEC/EN 60127-2, UL 248-1, UL 248-14, CSA-C22.2 No. 248-1-00, CSA-C22.2 No. 248-14-00	SEMKO, UL/cUL
X-Capacitors (CX1, CX2) (X2 type min.) CX1=1 $\mu$ F max, CX2=0.47 $\mu$ F max.	Kemet Electronics Italia Srl (For UL), Kemet Electronics Corporation (For IMQ)	R.46, F862, F863	250Vac min., 100°C min.	IEC/EN 60384- 14, UL 60384-14, GB/T14472	ENEC 03, UL, CQC
(Alt.)	Okaya Electric Industries Co., Ltd.	RE Series (for UL, FI, VDE), RE+ (for UL), RE ++ (for UL), RE12001, RE120033, RE1201, RE1202 (for CQC)	250Vac min, 100°C min.	IEC/EN 60384- 14, UL 60384-14, GB/T14472	VDE, UL, FI
(Alt.)	Okaya Electric Industries Co., Ltd.	LE(-*) (for ENEC), LE+++ (for UL), LE Series (for UL), LE (for CQC)	250Vac min., 100°C min.	IEC/EN 60384- 14, UL 60384-14, GB/T14472	ENEC 14, UL
(Alt.)	Hua Jung Components Co., Ltd.	MKP	250Vac min., 100°C min.	IEC/EN 60384- 14, UL 60384-14, GB/T14472	UL, CQC, ENEC 14
(Alt.)	Strong Components Co., Ltd.	MPX Seies (for UL), MPX (VDE, CQC)	250Vac min., 100°C min.	IEC/EN 60384- 14, UL 60384-14, GB/T14472	VDE, UL, CQC
(Alt.)	Panasonic Corporation	ECQUL, ECQ-UL	250Vac min, 100°C min.	IEC/EN 60384- 14, UL 60384-14, GB/T14472	VDE, UL, CQC
(Alt.)	Europtronic (SuZhou) Co., Ltd. (for ENEC, VDE) Europtronic Industrial Corp (for UL)	MPX2	250Vac min., 110°C min.	IEC/EN 60384- 14, UL 60384-14, GB/T14472	VDE, UL, CQC
(Alt.)	Pilkor Electronics Co., Ltd	PCX2 339	250Vac min., 110°C min.	IEC/EN 60384- 14, UL 60384-14, GB/T14472	VDE, UL, CQC

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alt.)	Epcos Electronic Components S.A	B3292# (for VDE, CQC) B3292x-x2xxx* (for UL), B3292x-x3xxx* (for UL)	250Vac min., 110°C min.	IEC/EN 60384-14, UL 60384-14, GB/T14472	VDE, UL, CQC
(Alt.)	Vishay Capacitors Belgium N V	MKP-338 2 series (for UL), 338 2 (for ENEC)	250Vac min, 110°C min.	IEC/EN 60384-14, UL 60384-14, GB/T14472	ENEC, UL
(Alt.)	Vishay Capacitors Belgium N V	339 Series (for UL), 339 (for ENEC)	250Vac min, 110°C min.	IEC/EN 60384-14, UL 60384-14, GB/T14472	ENEC, UL
(Alt.)	Iskra Mis D D	KNB1560	250Vac min, 110°C min.	IEC/EN 60384-14, UL 60384-14, GB/T14472	VDE, UL
(Alt.)	Xiamen Faratronic Co., Ltd. (For UL), Xianmen Faratronic Co., Ltd. (For VDE)	MKP62	250Vac min., 110°C min.	IEC/EN 60384-14, UL 60384-14, GB/T14472	ENEC 10, VDE, UL, CQC
(Alt.)	Xiamen Faratronic Co., Ltd. (for UL), Xianmen Faratronic Co., Ltd. (for VDE)	MKP64	250Vac min, 110°C min.	IEC/EN 60384-14, UL 60384-14, GB/T14472	ENEC 10, VDE, UL, CQC
(Alt.)	ZhuHai Sung Ho Electronics Co. Ltd.	CMPP	250Vac min., 110°C min.	IEC/EN 60384-14, UL 60384-14, GB/T14472	VDE, UL, CQC
(Alt.)	Strong Components Co., Ltd.	MPX	250Vac min, 100°C min.	IEC/EN 60384-14, UL 60384-14, GB/T14472	VDE, UL
Bleeder Resistor (R1A, R1B, R1C)	Ta-I Technology Co., Ltd.	RH12	178 Kohm max, 1/4W.	IEC/EN 62368-1	UL Ref. Certif. No. DK-68356-M1-UL UL Ref. Rep. No. E494441-4788023982-1 am1
(Alt.)	Kamaya Electric Co., Ltd.	RVC32	178 Kohm max, 1/4W.	IEC/EN 62368-1	UL Ref. Certif. No. JP-14825-UL UL Ref. Rep. No. E499156-A6001-CB-1

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alt.)	Prosperity Dielectrics Co., Ltd.	FVS06	178 Kohm max, 1/4W.	EN 62368-1, UL 62368-1	UL Ref. Certif. No. 20170316-E358325 UL Ref. Rep. No. E358325-20170310
(Alt.)	Yageo Corporation	2322 791xxxxx, RV1206	178 Kohm max, 1/4W.	(1) IEC/EN 60065, cl 14.1 a) and b) (2) IEC/EN 60950-1, cl. 1.5.7.2	(1) Type tested by Intertek, Ref. No. TP09040105-ETS (2) Type tested by Intertek, Ref. No. TP09080028-ETS
Discharge IC (IC1)	Power Integrations, Inc.	SC1143DG-TL	230V(Test at 100-265V)	IEC 62368-1	Nemko
(Alt.)	Champion Microelectronic Corp.	CM02XISTR	100-250V~, 47-63Hz	IEC 62368-1	CB Certificate by UL (DK-48114-UL)
Y-Capacitors (CY1, CY2, CY3, CY4, CY5) (CY1, CY2 solder on inlet) CY1 = CY2 = 1000pF max. CY3 = CY4 = 3300pF max. CY5 = 1500pF max.	Murata Mfg. Co., Ltd.	KX	250Vac min., 125°C min., Y1 type	IEC/EN 60384-14, UL 60384-14, GB/T14472	VDE, UL, CQC
(Alt.)	Murata Mfg. Co., Ltd.	KL	250Vac min., 125°C min., Y1 type	IEC/EN 60384-14, UL 60384-14, GB/T14472	VDE, UL, CQC
(Alt.)	Murata Mfg. Co., Ltd.	RA-Series	250Vac min., 125°C min., Y1 type	IEC/EN 60384-14, UL 60384-14, GB/T14472	VDE, UL, CQC
(Alt.)	Walsin Technology Corp.	AH	250Vac min., 125°C min., Y1 type	IEC/EN 60384-14, UL 60384-14, GB/T14472	VDE, UL, CQC

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alt.)	Tdk-Epc Corporation	CD	250Vac min., 125°C min., Y1 type	IEC/EN 60384-14, UL 60384-14, GB/T14472	VDE, UL, CQC
(Alt.)	Walsin Technology Corp.	AC	250Vac min., 125°C min., Y2 type, AC 2600V	IEC/EN 60384-14, UL 60384-14, GB/T14472, IEC/EN 62368-1	VDE, UL, CQC
(Alt.)	Kunshan Wansheng Electronics Co., Ltd.	CT7 (for UL, FI, VDE, S, CQC), CT7-Series (for N, D)	250Vac min., 125°C min., Y1 or Y2 type, DC 2500V for Y2 type	IEC/EN 60384-14, UL 60384-14, GB/T14472, IEC/EN 62368-1	VDE, UL, CQC, Tested with appliance
(Alt.)	Murata Mfg. Co., Ltd.	KH	250Vac min., 125°C min., Y2 type, DC 2500V	IEC/EN 60384-14, UL 60384-14, GB/T14472, IEC/EN 62368-1	VDE, UL, CQC, Tested with appliance
(Alt.)	Tdk-Epc Corporation	CS	250Vac min., 125°C min., Y2 type, DC 2500V	IEC/EN 60384-14, UL 60384-14, GB/T14472, IEC/EN 62368-1	VDE, UL, CQC, Tested with appliance
Line Filter (FL1) (for models GPS-750FB XX, GPS-650LB XX)	Delta Electronics, Inc.	HFH-CN11328	130°C	IEC/EN 62368-1	Tested with appliance
Line Filter (FL1) (for models GPS-550NB XX, DSA-550W601APG X)	Delta Electronics, Inc.	HFH-DTD15014	130°C	IEC/EN 62368-1	Tested with appliance
Line Filter (FL2)	Delta Electronics, Inc.	HFV-PCD10012	130°C	IEC/EN 62368-1	Tested with appliance
PFC Choke (L801) (for models GPS-750FB XX, GPS-650LB XX)	Delta Electronics, Inc.	PFCV-DTD15002	130°C	IEC/EN 62368-1	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
PFC Choke (L801) (for model GPS-550NB XX, DSA-550W601APG X)	Delta Electronics, Inc.	PFCV-DTD15019	130°C	IEC/EN 62368-1	Tested with appliance
Chock (L153) For model GPS-750FB XX	Delta Electronics, Inc	CPH-DTD15015	130°C	IEC/EN 62368-1	Tested with appliance
Chock (L153) For model GPS-650LB XX	Delta Electronics, Inc	CPV-DTD15013	130°C	IEC/EN 62368-1	Tested with appliance
Driver transformer (T502)	Delta Electronics, Inc. * See Note 3)	DV-DTD13010	130°C	IEC/EN 62368-1	Tested with appliance
Isolating Transformer (T501)	Delta Electronics, Inc. * See Note 3)	MH-DTD15025	Class B	Acc.to IEC/EN 62368-1, IEC/EN 60085	Test within appliance
Isolating Transformer (T503)	Delta Electronics, Inc. * See Note 3)	DV-DTD15006	Class B	Acc.to IEC/EN 62368-1, IEC/EN 60085	Test within appliance
Isolating Transformer (T901)	Delta Electronics, Inc. * See Note 3)	AV-DTD15009	Class B	Acc.to IEC/EN 62368-1, IEC/EN 60085	Test within appliance
Bridge Rectifier (BD1)	Interchangeable	Interchangeable	600V min., 15A min.	IEC/EN 62368-1	Tested with appliance
MOSFET (Q501, Q502)	Interchangeable	Interchangeable	600V min, 15A min	IEC/EN 62368-1	Tested with appliance
Electrolytic Capacitor (C801)	Interchangeable	Interchangeable	560µF or 390µF, 330µF, 450V min., 85°C min.	IEC/EN 62368-1	Tested with appliance
Thermistor (NTC151)	Interchangeable	Interchangeable	10KΩ at 25°C	UL 1434	UL
Optocoupler (IC602, IC603, IC903, IC502)	Everlight Electronics Co., Ltd (For UL), Everlight Electronics Co., Ltd (for VDE,FI)	EL816 (for UL and CQC) EL816 V (for VDE) EL816.(."=A-Z or blank or number ) (for N)	diti.>0.5mm, ext. cr. ≧ 7.6mm, int. cr. ≧ 6.0mm, thermal cycling test ,110°C, isolation: AC 4800V min. humidity test 120h	IEC/EN 60950-1, IEC/EN 60747-5-5, UL 1577	VDE, UL

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
(Alt.)	Renesas Electronics Corporation (For UL), Renesas Electronics Corporation (for VDE,S)	PS2381-1, PS2381-1XX (for CQC)	dti.>0.4 mm, ext. cr.>8mm, int. cr.>4.6 mm, thermal cycling test , humidify 120h, 115°C, isolation AC 5000V min	IEC/EN 60950-1, IEC/EN 60747-5-5, UL 1577	VDE, UL
(Alt.)	Renesas Electronics Corporation (for UL,VDE,S), Renesas Electronics Corporation (for CQC)	PS2561AL-1, PS2561AL-1xx (for CCC)	dti.>0.4 mm, ext. cr. $\geq$ 7.0 mm, thermal cycling test, isolation: AC 4800V min, 100°C, humidify 120h.	IEC/EN 60950-1, IEC/EN 60747-5-5, UL 1577	VDE, UL
(Alt.)	Renesas Electronics Corporation (for UL,VDE,S)	PS2561AL2-1, PS2561AL2-1xx (for CCC)	dti.>0.4 mm, ext. cr. $\geq$ 7.0 mm, thermal cycling test, isolation: AC 4800V min, 100°C, humidify 120h.	IEC/EN 60747-5-5, IEC/EN 60950-1, UL 1577, GB4943.1, GB8898	VDE, UL, CQC
(Alt.)	Renesas Electronics Corporation (for UL, VDE, S)	PS2561B-1, PS2561B-1xx (for CCC)	dti.>0.4 mm, ext. cr.>7 mm, int. cr.>4.0mm, thermal cycling test, 110°C, isolation: AC 4800V min. humidify 120h.	IEC/EN 60747-5-5, IEC/EN 60950-1, UL 1577, GB4943.1, GB8898	VDE, UL, CQC
(Alt.)	Renesas Electronics Corporation (for UL, VDE, S)	PS2561DL-1, PS2561DL-1xx (for CCC)	dti.>0.4 mm, ext. cr.>7.0mm, min. Int. cr.>4.0mm, thermal cycling test, 110°C, isolation: AC 4800V min. humidity 120h.	IEC/EN 60747-5-5, IEC/EN 60950-1, UL 1577, GB4943.1, GB8898	VDE, UL, CQC
(Alt.)	Renesas Electronics Corporation (for UL,VDE,S)	PS2581AL1 , PS2581AL1xx (for CCC)	dti.>0.4 mm, ext. cr.>8.0 mm, Int.cr.>4.0mm thermal cycling test, isolation: AC 4800V min.100°C. humidify 120h.	IEC/EN 60747-5-5, IEC/EN 60950-1, UL 1577, GB4943.1, GB8898	VDE, UL, CQC



IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alt.)	Renesas Electronics Corporation (for UL, VDE, S)	PS2561BL-1, PS2561BL-1xx (for CCC)	dti.>0.4 mm, ext. cr.>7 mm, int. cr.>4.0mm, thermal cycling test, 110°C, isolation: AC 4800V min. humidify 120h.	IEC/EN 60747-5-5, IEC/EN 60950-1, UL 1577, GB4943.1, GB8898	VDE, UL, CQC
(Alt.)	Renesas Electronics Corporation (for UL, VDE, S)	PS2561BL1-1, PS2561BL1-1xx (for CCC)	dti.>0.4 mm, ext. cr.>7 mm, int. cr.>4.0mm, thermal cycling test, 110°C, isolation: AC 4800V min. humidify 120h.	IEC/EN 60747-5-5, IEC/EN 60950-1, UL 1577, GB4943.1, GB8898	VDE, UL, CQC
(Alt.)	Renesas Electronics Corporation (for UL, VDE, S)	PS2561DL1-1 , PS2561DL1-1xx (for CCC)	dti.>0.4 mm, ext. cr.>7.0mm, Int. cr.>4.0mm, thermal cycling test, 110°C, isolation: AC 4800V min. humidify 120h.	IEC/EN 60747-5-5, IEC/EN 60950-1, UL 1577, GB4943.1, GB8898	VDE, UL, CQC
(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. humidify 120h.	IEC/EN 60747-5-5, IEC/EN 60950-1, UL 1577, GB4943.1, GB8898	VDE, UL, CQC
(Alt.)	Sharp Corp Electronic Components And Devices Group (for UL ) Sharp Corporation (for VDE, D)	PC3L57	dti.>0.4mm, ext. cr.>8.0mm , thermal cycling tested, isolation: AC 4800V, 110°C	IEC/EN 60747-5-5, IEC/EN 60950-1, UL 1577, GB4943.1, GB8898	VDE, UL, CQC
(Alt.)	TOSHIBA CORP, SEMICONDUCTOR CO DISCRETE SEMICONDUCTOR DIV (for UL) Toshiba Corporation Semiconductor &Storage Products Company (for S and VDE)	TLP385	dti.>0.4mm, ext. cr.>8.0mm , thermal cycling tested, isolation: AC 4800V, 110°C	IEC/EN 60747-5-5, IEC/EN 60950-1, UL 1577, GB4943.1, GB8898	VDE, UL, CQC

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
(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.>7.0mm, int. cr.>4.0mm, thermal cycling test, isolation: AC 4800V min, 115°C, humidify 120h.	IEC/EN 60747-5-5, IEC/EN 60950-1, UL 1577, GB4943.1, GB8898	VDE, UL, CQC
(Alt.)	Vishay Semiconductor Gmbh (for UL, VDE , FI)	VOL617A-X (X=2,3,4), (CQC), VOL617A (F1, UL), VOL617A-X001 (VDE)	dti>0.4 mm, ext. cr.>8.0 mm, int cr.=thermal cycling tested, isolation: min. AC 4800V min. 100°C	IEC/EN 60747-5-5, IEC/EN 60950-1, UL 1577, GB4943.1, GB8898	VDE, UL, CQC
(Alt.)	Llte-On Technology Corp	LTV-100X (X=0-9) (for UL, CQC, VDE), LTV-10XX (X=0-9) (for N, D)	dti>0.4 mm, ext. cr.>8.0mm, thermal cycling tested, isolation: min. AC 4800V, 115°C	IEC/EN 60747-5-5, IEC/EN 60950-1, UL 1577, GB4943.1, GB8898	VDE, UL, CQC
Insulator (used under mainboard)	FORMEX, DIV OF IL TOOL WORKS INC, FRMRLY FASTEX, DIV OF IL TOOL WORKS INC	FORMEX-10, FORMEX GK-10, FORMEX GK-17, FORMEX-18	Min V-2, min 95°C min 0.23mm thickness	UL 94, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	ITW Electronics Components/ Products (Shanghai) Co., Ltd.	FORMEX-10, FORMEX GK-10, FORMEX GK-17 FORMEX-18	Min V-2, min 95°C min 0.23mm thickness	UL 94, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Sabic	FR700 FR25A	V-0, 130°C Min 0.23mm thickness	UL 94, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	TORAY	Lumirror S10	Min. VTM-2, min. 0.188 mm thickness Min 105°C	UL 94, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Bornsun	BN-ZD16 BN-HF16	Min. 0.25 mm thickness, V-0 or VTM-0, min 115°C.	UL 94, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	sun delta	VS120, VS520	Min. 0.188 thickness, V-0 or VTM-0, 130°C.	UL 94, IEC/EN 62368-1	UL, Tested with appliance

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
(Alt.)	sumitomo	PHF150MAB, PHF150MA	Min. VTM-0, 130°C, min. 0.21 mm thickness	UL 94, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Sabic	FR1	Minimum 0.25mm thickness VTM-0, 125°C min.	UL 94, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Sabic Innovative Plastics Japan L L C	EFR95	V-0, 115°C, Min. 0.43mm thickness Color: BK	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Sichuan Dongfang Insulating Material Co Ltd	DFR117ECO	V-0, 130°C, 0.43 mm, Min. thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
Insulator (Used between HS3 and T501 core)	Sabic Innovative Plastics	FR25A	V-0, 125°C, Min. 0.4 mm thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Sabic Innovative Plastics	FR1	VTM-0, 125°C, Min. 0.4mm thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Sabic Innovative Plastics	FR700	V-0, 130°C, Min. 0.4 mm thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	SABIC INNOVATIVE PLASTICS	EFR95	V-0, 115°C, Min. 0.43mm thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Formex, Div of Il Tool Works Inc., Frmrly Fastex, Div. of Il Tool Works Inc.	FORMEX-16	V-0, 95°C, Min. 0.43mm thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Formex, Div of Il Tool Works Inc., Frmrly Fastex, Div. of Il Tool Works Inc.	FORMEX GK-10	V-0, 115°C, Min. 0.4mm thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Formex, Div of Il Tool Works Inc., Frmrly Fastex, Div. of Il Tool Works Inc.	FORMEX GK-17	V-0, 115°C, Min. 0.41 mm thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alt.)	Formex, Div of Il Tool Works Inc., Frmrly Fastex, Div. of Il Tool Works Inc.	FORMEX-18	V-0, 95°C, min. 0.4mm thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Sun Delta Corp	VS120	V-0, 130°C, Min. 0.40 mm thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Sun Delta Corp	VS520	V-0, 130°C, Min. 0.40 mm thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Sumitomo Bakelite Co Ltd	PHF150MAB	Min. VTM-0, 130°C, Min. 0.40 mm thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Sumitomo Bakelite Co Ltd	PHF150MA	Min. VTM-0, 130°C, Min. 0.40 mm thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Shenzhen Bornsun Industrial Co Ltd	BN-ZD16	V-0, 115°C, Min. 0.41mm thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Sichuan Dongfang Insulating Material Co Ltd	DFR117ECO	V-0, 130°C, 0.43 mm, Min. thickness	UL 94, UL 746C, IEC/EN 62368-1	UL, Tested with appliance
Heat Shrinkable Tubing (used for DC fan)	Sumitomo Electric Fine Polymer Inc	Sumitube F32	125°C, VW-1, min. 0.40mm thickness, AC 3000V	UL 224, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Sumitomo Electric Fine Polymer Inc	Sumitube NHR2	125°C, VW-1, min. 0.40mm thickness, AC 3000V	UL 224, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Chang Yuan	CB-TT-L, CB-TT-S, CB-TT-T	125°C, VW-1, min. 0.40mm thickness, AC 3000V	UL 224, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Fureda Plastic Co., Ltd.	LW	125°C, VW-1, min. 0.40mm thickness, AC 3000V	UL 224, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Greating Holding	TFL, TFT, TFS	125°C, VW-1, min. 0.40mm thickness, AC 3000V	UL 224, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Markel	TFE-200C-150V, TFE-200C-600V, TFE-200C-300V	125°C, VW-1, min. 0.40mm thickness, AC 3000V	UL 224, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Dongguan Salipt Co., Ltd.	SALIPT S-901-600	125°C, VW-1, min. 0.40mm thickness, AC 3000V	UL 224, IEC/EN 62368-1	UL, Tested with appliance

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
(Alt.)	Dongguan Salipt Co., Ltd.	SALIPT S-901-300	125°C, VW-1, min. 0.40mm thickness, AC 3000V	UL 224, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Tyco Electronics Corp (Raychem)	Versafit	125°C, VW-1, min. 0.40mm thickness, AC 3000V	UL 224, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Tyco Electronics Corp (Raychem)	Versafit V2	125°C, VW-1, min. 0.40mm thickness, AC 3000V	UL 224, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Dongguan Salipt Co., Ltd.	S-901-600	125°C, VW-1, min. 0.40mm thickness, AC 3000V	UL 224, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Versafit	F32	125°C, VW-1, min. 0.40mm thickness, AC 3000V	UL 224, IEC/EN 62368-1	UL, Tested with appliance
(Alt.)	Tyco / Amp Products	VERSAFIT	125°C, VW-1, min. 0.40mm thickness, AC 3000V	UL 224, IEC/EN 62368-1	UL, Tested with appliance
Insulation tape	3M	1350F-1	130°C	UL 510	UL
(Alt.)	Yahua	CT-280	130°C	UL 510	UL
PWB	Interchangeable	Interchangeable	V-0 min, 130°C	UL 796, UL 94	UL
<p>Supplementary Information:</p> <p>Note:</p> <p>1) Provided Evidence Ensures The Agreed Level Of Compliance. See OD-CB2039.</p> <p>2) In Optocoupler Technical Data Column, Where "Dti." Means Distance Through Insulation, "Int." Means Internal Creepage Distance, "Ext." Means External Creepage Distance.</p> <p>3) * Transformer manufacturing plants of Delta Electronics, Inc.:</p> <ul style="list-style-type: none"> <li>O Delta Electronics, Inc.</li> <li>O Delta Electronics (Wuhu) Ltd.</li> <li>O Delta Electronics (Chen Zhou) Co., Ltd.</li> <li>O Delta Electronics (Thailand) Public Co., Ltd.</li> <li>O Delta Electronics (Jiangsu) Co., Ltd.</li> </ul>					

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
<b>(The following mechanical tests are conducted in the sequence noted.)</b>			
4.8.4.2	<b>TABLE: Stress Relief test</b>		—
<b>Part</b>	<b>Material</b>	<b>Oven Temperature (°C)</b>	<b>Comments</b>
--	--	--	--
4.8.4.3	<b>TABLE: Battery replacement test</b>		—
Battery part no. ....:			—
<b>Battery Installation/withdrawal</b>		<b>Battery Installation/Removal Cycle</b>	<b>Comments</b>
		1	--
		2	--
		3	--
		4	--
		5	--
		6	--
		8	--
		9	--
		10	--
4.8.4.4	<b>TABLE: Drop test</b>		—
<b>Impact Area</b>	<b>Drop Distance</b>	<b>Drop No.</b>	<b>Observations</b>
--	--	1	--
--	--	2	--
--	--	3	--
4.8.4.5	<b>TABLE: Impact</b>		—
<b>Impacts per surface</b>	<b>Surface tested</b>	<b>Impact energy (Nm)</b>	<b>Comments</b>
--	--	--	--
4.8.4.6	<b>TABLE: Crush test</b>		—
<b>Test position</b>	<b>Surface tested</b>	<b>Crushing Force (N)</b>	<b>Duration force applied (s)</b>
--	--	--	--
Supplementary information: <b>Not Lithium coin/button cell batteries</b>			

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

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

5.2		Table: Classification of electrical energy sources					P
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions <sup>1)</sup>	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
1	264Va.c, 63Hz	+3.3V output	Normal	3.38 Vdc	--	--	ES1
			Abormal (See appended table B.3)	3.38 Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	3.38 Vdc	--	--	
2	264Va.c, 63Hz	+5V output	Normal	5.12 Vdc	--	--	ES1
			Abormal (See appended table B.3)	5.12 Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	5.12 Vdc	--	--	
3	264Va.c, 63Hz	+12V1 output	Normal	12.14 Vdc	--	--	ES1
			Abormal (See appended table B.3)	12.14 Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	12.14 Vdc	--	--	
4	264Va.c, 63Hz	+12V2 output	Normal	12.14 Vdc	--	--	ES1
			Abormal (See appended table B.3)	12.14 Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	12.14 Vdc	--	--	
5	264Va.c, 63Hz	-12V output	Normal	-11.79 Vdc	--	--	ES1
			Abormal (See appended table B.3)	-11.79 Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	-11.78 Vdc	--	--	

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
6	264Va.c, 63Hz	+5Vsb output	Normal	5.00 Vdc	--	--	ES1
			Abormal (See appended table B.3)	5.00 Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	5.04 Vdc	--	--	
7	264Va.c, 63Hz	Secondary RTN to GND	Normal	--	0.01mApk	--	ES1
			Abormal (See appended table B.3)	--	0.01mApk	--	
			Single fault – SC/OC (See appended table B.4)	--	0.01mApk	--	
Note: Input voltage: 264Vac, 63Hz							

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. 63Hz	L to N	Normal	CX1=1 $\mu$ F, CX2=0.47 $\mu$ F	372	ES3
			Abnormal	--	--	--
			Single fault – SC/OC	--	--	--



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

5.2.2.4 - Single Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	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

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P
Supply voltage (V) .....	See below	See below	See below	See below	See below	—
Ambient T <sub>min</sub> (°C) .....	--	--	--	--	--	—
Ambient T <sub>max</sub> (°C) .....	--	--	--	--	--	—
T <sub>ma</sub> (°C) .....	See below	See below	See below	See below	See below	—
Maximum measured temperature T of part/at:	T (°C)					Allowed T <sub>max</sub> (°C)
<b>Model: GPS-750FB A</b>						
Supply voltage	90V/63Hz	90V/63Hz	90V/63Hz	264V/47Hz		--
Test condition	A	B	C	B		--
Ambient	50.2	49.5	50.2	50.2		--
T501 secondary coil	89.1	91.1	90.4	90.1		110
T501 core	82.1	83.8	82.9	82.8		110
T901coil	74.4	58.4	58.3	57.8		110

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
T901 core	66.6	56.7	57.0	56.1	110
T503 coil	73.1	74.4	72.3	74.1	110
T503 core	69.4	70.6	68.8	70.1	110
L Pin of Socket	58.6	58.4	58.4	53.8	70
L301 coil	71.0	61.5	58.1	61.6	85
CX2 (near FL1)	58.7	57.4	57.5	54.8	100
FL2 coil	76.8	77.3	75.4	60.1	130
L801 coil	65.0	65.4	64.3	54.6	130
L153 coil	61.6	62.1	61.3	61.5	130
T502 coil	69.3	70.1	68.9	68.4	130
C801 body (near HS1)	57.5	57.3	57.3	55.2	85
FL1 coil	71.9	70.3	70.1	55.2	130
PWB(near BD1)	83.4	83.1	81.7	67.3	130
IC502 body	55.2	54.0	53.9	53.5	100
DC Fan	12.1	12.3	12.3	12.3	--
Supply voltage	264V/47Hz	90V/63Hz	90V/63Hz	264V/47Hz	--
Test condition	B	B	D	B	--
Ambient	50.3	35.1	49.3	25.0	--
T501 secondary coil	90.9	73.6	53.3	59.6	110
T501 core	83.6	66.8	53.0	--	110
T901 coil	58.2	42.8	91.4	32.4	110
T901 core	56.7	41.5	81.7	--	110
T503 coil	74.2	56.8	55.7	45.9	110
T503 core	70.3	53.4	55.3	--	110
L Pin of Socket	53.9	42.7	51.9	--	70
L301 coil	61.7	45.2	51.5	--	85
CX2 (near FL1)	55.1	41.7	56.6	--	100
FL2 coil	60.4	59.0	54.4	--	130
L801 coil	55.1	48.9	50.5	--	130
L153 coil	61.8	46.2	50.6	--	130
T502 coil	68.6	53.1	53.8	--	130
C801 body (near HS1)	55.9	41.7	51.0	--	85
FL1 coil	55.5	53.8	58.7	--	130

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Clause	Requirement + Test		Result - Remark		Verdict
PWB(near BD1)	67.4	65.6	53.8	--	130
IC502 body	54.0	38.6	60.4	--	100
DC Fan	12.3	12.3	--	--	--
Switch	--	--	--	26.3	77
Case (inlet side)	--	--	--	26.0	60
Model	<b>GPS-650LB A</b>		<b>GPS-550NB A</b>		
Supply voltage	90V/63Hz		90V/63Hz		--
Test condition	I		I		--
Ambient	50.4		49.9		--
T501 secondary coil	83.8		74.5		110
T501 core	74.9		70.9		110
FL1 coil	63.7		68.2		130
L801 coil	63.5		73.6		130
L153 coil	58.6		--		130

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:  $T + (T_{ma} - T_{amb})$ , 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

Test condition: See load condition of “Summary of testing” for details.

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

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics		P
Allowed impression diameter (mm) .....	≤ 2 mm		—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)

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Clause	Requirement + Test	Result - Remark	Verdict
Bobbin Material (Type: FR530)	E I Dupont De Nemours & Co Inc	125	1.50
Bobbin Material (Type: E4008)	Sumitomo Chemical Co., Ltd.	125	1.00
Supplementary information: The phenolic materials used for the base/bobbin, which are accepted without the further testing.			

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Clause	Requirement + Test	Result - Remark	Verdict

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)
Primary traces of different polarity before fuse F1 (BI)	420	250	--	2.3	6.7	2.5	6.7
Primary traces under fuse F1 (BI)	420	250	--	2.3	3.5	2.5	3.5
Trace under CY5 (BI)	420	250	--	2.3	4.6	2.5	4.6
Trace under CY3 (BI)	420	250	--	2.3	3.7	2.5	3.7
Trace under CY4 (BI)	420	250	--	2.3	3.6	2.5	3.6
N trace to earth trace (BI)	420	250	--	2.3	3.3	2.5	3.3
Core of L153 to sec. component (RI)	420	250	--	4.5	8.0	5.0	8.0
Under opto-couplers (IC502, IC602, IC603, IC903) (RI)	420	250	--	4.5	6.7	5.0	6.7
Primary HS3 to sec. core of T501 (RI)	420	256	72.45	4.5	6.4	5.2	6.4
Secondary trace to Primary trace on PCB under T503 (RI)	420	250	0.06	4.5	6.5	5.0	6.5
Secondary trace to Primary trace on PCB under T901 (RI)	650	395	70.4	4.5	8.1	8.0	8.1

**Supplementary information:**

- 1) This equipment operate altitude considers to **5000m** and the required cl need to multiply factor **1.48**.
- 2) Tube component: FL3, current fuse body, DC fan lead wire.
- 3) At least two layers insulation tape wrapped the around body of L153.
- 4) There is a piece of insulation sheet used under the main power board.
- 5) There is a piece of insulation sheet (min. thickness 0.4mm) inserted between secondary core of T501 and primary components (HS3), the sheet is fixed by glue.
- 6) T501, T503 core was considered as secondary circuit, T901 core were considered as primary circuit. detail see tables C.2.
- 7) The distance didn't be described above are much larger than limitation.
- 8) For others, please refer to photo documentation.
- 9) Insulation definition:  
 FI: functional insulation  
 BI: basic insulation  
 DI/RI: double/reinforced insulation  
 SI: supplementary insulation

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage		P
	<b>Overvoltage Category (OV):</b>		II
	<b>Pollution Degree:</b>		2

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Clause	Requirement + Test	Result - Remark	Verdict
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).			

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

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements					P
Distance through insulation di at/of:	Peak voltage (V)	Frequency (Hz)	Material	Required DTI (mm)	DTI (mm)	
Opto-coupler (RI)	420	--	Epoxy	*2) 0.4mm	See appended table 4.1.2	
Heat-shrinkable tube (RI)	420	--	--	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.						

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (Vpeak)	Breakdown Yes / No	
Y2 capacitor (BI)	DC	2500	No	
Primary to earth (metal chassis/enclosure) (BI)	DC	2500	No	
Insulation Sheet (used under mainboard) (BI)	DC	2500	No	
T501, Primary to secondary (RI)	DC	4242	No	
T501, Primary to core (RI)	DC	4242	No	
T503, Primary to secondary (RI)	DC	4242	No	
T503, Primary to core (RI)	DC	4242	No	
T901, Primary to secondary (RI)	DC	4242	No	
T901, Secondary to core (RI)	DC	4242	No	
Insulation tube (RI)	DC	4242	No	
one layer insulation tape (all sources)	DC	4242	No	
Insulation sheet (Used between HS3 and T501 core) (all sources)	DC	4242	No	

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.
3. Core of transformer T501, T503 was considered as secondary conductor. Core of transformer T901 was considered as primary conductor,

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	
264Vac, 63Hz	L to N	N	off	20V	ES1	
264Vac, 63Hz	L to N	N	on	50V	ES1	
264Vac, 63Hz	L to N	S (BD1 opend)	on	62V	ES2	

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Clause	Requirement + Test	Result - Remark	Verdict

**Supplementary information:**

The end system may be pluggable equipment type A. Limit of ES1 under normal conditional and ES2 under Single Fault Conditions

Overall capacity: Fuse in: CX1=1 $\mu$ F CX2=0.47 $\mu$ F;

Discharge resistor: R1A=R1B=R1C=178K $\Omega$  max.; Discharge IC (IC1): See table 4.1.2

**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 (min)	Voltage drop (V)	Resistance ( $\Omega$ )	
Between ground pin and farthest point on metal chassis	32	2	--	0.009	
Between ground pin and farthest point on metal chassis	40	2	--	0.010	

Supplementary Information: Limit is 0.1 $\Omega$ .

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		P
Supply voltage.....:	264Vac, 63Hz		—
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)		Max. 1.61
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>



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Clause	Requirement + Test	Result - Remark	Verdict

## 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.

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	--	--	--	Yes	

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.

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

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)				P
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
--	--	--	--	--	Yes
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, <u>or</u> (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.					

8.5.5	TABLE: High Pressure Lamp			N/A
Description	Values		Energy Source Classification	
Lamp type .....			—	
Manufacturer .....			—	
Cat no. ....			—	
Pressure (cold) (MPa).....			MS_	
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
<b>For model GPS-750FB A</b>							
90	9.82	--	877	--	F1	9.82	Rated load at 47Hz on condition A
100	8.73	14.0	867	--	F1	8.73	Rated load at 47Hz on condition A
240	3.48	7.0	829	--	F1	3.48	Rated load at 47Hz on condition A

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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	
254.4	3.28	--	828	--	F1	3.28	Rated load at 47Hz on condition A	
264	3.16	--	827	--	F1	3.16	Rated load at 47Hz on condition A	
90	9.85	--	878	--	F1	9.85	Rated load at 63Hz on condition A	
100	8.75	14.0	868	--	F1	8.75	Rated load at 63Hz on condition A	
240	3.49	7.0	830	--	F1	3.49	Rated load at 63Hz on condition A	
254.4	3.29	--	829	--	F1	3.29	Rated load at 63Hz on condition A	
264	3.17	--	829	--	F1	3.17	Rated load at 63Hz on condition A	
90	10.2	--	905	--	F1	10.2	Rated load at 47Hz on condition B	
100	9.04	14.0	895	--	F1	9.04	Rated load at 47Hz on condition B	
240	3.59	7.0	853	--	F1	3.59	Rated load at 47Hz on condition B	
254.4	3.39	--	852	--	F1	3.39	Rated load at 47Hz on condition B	
264	3.26	--	852	--	F1	3.26	Rated load at 47Hz on condition B	
90	10.2	--	906	--	F1	10.2	Rated load at 63Hz on condition B	
100	9.03	14.0	896	--	F1	9.03	Rated load at 63Hz on condition B	
240	3.60	7.0	854	--	F1	3.60	Rated load at 63Hz on condition B	
254.4	3.39	--	853	--	F1	3.39	Rated load at 63Hz on condition B	
264	3.27	--	852	--	F1	3.27	Rated load at 63Hz on condition B	
90	10.1	--	900	--	F1	10.1	Rated load at 47Hz on condition C	
100	8.95	14.0	888	--	F1	8.95	Rated load at 47Hz on condition C	
240	3.57	7.0	847	--	F1	3.57	Rated load at 47Hz on condition C	
254.4	3.36	--	846	--	F1	3.36	Rated load at 47Hz on condition C	
264	3.24	--	845	--	F1	3.24	Rated load at 47Hz on condition C	
90	10.1	--	900	--	F1	10.1	Rated load at 63Hz on condition C	
100	8.95	14.0	886	--	F1	8.95	Rated load at 63Hz on condition C	
240	3.57	7.0	847	--	F1	3.57	Rated load at 63Hz on condition C	
254.4	3.36	--	845	--	F1	3.36	Rated load at 63Hz on condition C	
264	3.24	--	845	--	F1	3.24	Rated load at 63Hz on condition C	
<b>For model GPS-650LB A</b>								
90	8.54	--	763	--	F1	8.54	Rated load at 47Hz on condition A	
100	7.60	12.0	755	--	F1	7.60	Rated load at 47Hz on condition A	
240	3.03	6.0	722	--	F1	3.03	Rated load at 47Hz on condition A	

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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	
254.4	2.86	--	722	--	F1	2.86	Rated load at 47Hz on condition A	
264	2.75	--	721	--	F1	2.75	Rated load at 47Hz on condition A	
90	8.58	--	766	--	F1	8.58	Rated load at 63Hz on condition A	
100	7.62	12.0	757	--	F1	7.62	Rated load at 63Hz on condition A	
240	3.04	6.0	723	--	F1	3.04	Rated load at 63Hz on condition A	
254.4	2.87	--	722	--	F1	2.87	Rated load at 63Hz on condition A	
264	2.76	--	722	--	F1	2.76	Rated load at 63Hz on condition A	
90	8.75	--	782	--	F1	8.75	Rated load at 47Hz on condition B	
100	7.77	12.0	772	--	F1	7.77	Rated load at 47Hz on condition B	
240	3.10	6.0	738	--	F1	3.10	Rated load at 47Hz on condition B	
254.4	2.92	--	736	--	F1	2.92	Rated load at 47Hz on condition B	
264	2.81	--	736	--	F1	2.81	Rated load at 47Hz on condition B	
90	8.78	--	783	--	F1	8.78	Rated load at 63Hz on condition B	
100	7.79	12.0	773	--	F1	7.79	Rated load at 63Hz on condition B	
240	3.10	6.0	738	--	F1	3.10	Rated load at 63Hz on condition B	
254.4	2.92	--	737	--	F1	2.92	Rated load at 63Hz on condition B	
264	2.82	--	736	--	F1	2.82	Rated load at 63Hz on condition B	
90	8.65	--	772	--	F1	8.65	Rated load at 47Hz on condition C	
100	7.67	12.0	762	--	F1	7.67	Rated load at 47Hz on condition C	
240	3.07	6.0	730	--	F1	3.07	Rated load at 47Hz on condition C	
254.4	2.89	--	729	--	F1	2.89	Rated load at 47Hz on condition C	
264	2.78	--	728	--	F1	2.78	Rated load at 47Hz on condition C	
90	8.65	--	773	--	F1	8.65	Rated load at 63Hz on condition C	
100	7.68	12.0	763	--	F1	7.68	Rated load at 63Hz on condition C	
240	3.07	6.0	730	--	F1	3.07	Rated load at 63Hz on condition C	
254.4	2.89	--	729	--	F1	2.89	Rated load at 63Hz on condition C	
264	2.78	--	728	--	F1	2.78	Rated load at 63Hz on condition C	
<b>For model GPS-550NB A</b>								
90	7.24	--	647	--	F1	9.82	Rated load at 47Hz on condition A	
100	6.44	10.0	640	--	F1	8.73	Rated load at 47Hz on condition A	
240	2.55	5.0	609	--	F1	3.48	Rated load at 47Hz on condition A	

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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
254.4	2.41	--	608	--	F1	3.28	Rated load at 47Hz on condition A
264	2.32	--	608	--	F1	3.16	Rated load at 47Hz on condition A
90	7.32	--	654	--	F1	9.85	Rated load at 63Hz on condition A
100	6.47	10.0	643	--	F1	8.75	Rated load at 63Hz on condition A
240	2.56	5.0	610	--	F1	3.49	Rated load at 63Hz on condition A
254.4	2.42	--	609	--	F1	3.29	Rated load at 63Hz on condition A
264	2.33	--	608	--	F1	3.17	Rated load at 63Hz on condition A
90	7.40	--	661	--	F1	10.2	Rated load at 47Hz on condition B
100	6.56	10.0	652	--	F1	9.04	Rated load at 47Hz on condition B
240	2.59	5.0	617	--	F1	3.59	Rated load at 47Hz on condition B
254.4	2.44	--	616	--	F1	3.39	Rated load at 47Hz on condition B
264	2.35	--	616	--	F1	3.26	Rated load at 47Hz on condition B
90	7.42	--	664	--	F1	10.2	Rated load at 63Hz on condition B
100	6.55	10.0	651	--	F1	9.03	Rated load at 63Hz on condition B
240	2.59	5.0	617	--	F1	3.60	Rated load at 63Hz on condition B
254.4	2.44	--	616	--	F1	3.39	Rated load at 63Hz on condition B
264	2.36	--	616	--	F1	3.27	Rated load at 63Hz on condition B
90	7.33	--	655	--	F1	10.1	Rated load at 47Hz on condition C
100	6.48	10.0	644	--	F1	8.95	Rated load at 47Hz on condition C
240	2.56	5.0	610	--	F1	3.57	Rated load at 47Hz on condition C
254.4	2.41	--	609	--	F1	3.36	Rated load at 47Hz on condition C
264	2.32	--	609	--	F1	3.24	Rated load at 47Hz on condition C
90	7.33	--	655	--	F1	10.1	Rated load at 63Hz on condition C
100	6.48	10.0	645	--	F1	8.95	Rated load at 63Hz on condition C
240	2.56	5.0	610	--	F1	3.57	Rated load at 63Hz on condition C
254.4	2.42	--	609	--	F1	3.36	Rated load at 63Hz on condition C
264	2.33	--	608	--	F1	3.24	Rated load at 63Hz on 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.

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Clause	Requirement + Test					Result - Remark		Verdict
<b>B.3</b>	<b>TABLE: Abnormal operating condition tests</b>							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
<b>For model GPS-750FB A</b>								
+12V1 to Gnd.	s-c	264	5min	F1	0.31	--	--	+5Vsb normal operation, other outputs shut down. NH, NC, NT, NB.
+3.3V to Gnd.	s-c	264	5min	F1	0.31	--	--	+5Vsb normal operation, other outputs shut down. NH, NC, NT, NB.
+5V to Gnd.	s-c	264	5min	F1	0.31	--	--	+5Vsb normal operation, other outputs shut down. NH, NC, NT, NB.
-12V to Gnd.	s-c	264	5min	F1	0.31	--	--	+5Vsb normal operation, other outputs shut down. NH, NC, NT, NB.
+5Vsb to Gnd.	s-c	264	5min	F1	0.21	--	--	All outputs shut down. NH, NC, NT, NB.
+12V1 to +5V	s-c	264	5min	F1	0.31	--	--	+5Vsb normal operation, other outputs shut down. NH, NC, NT, NB.
+12V1 to +3.3V.	s-c	264	5min	F1	0.31	--	--	+5Vsb normal operation, other outputs shut down. NH, NC, NT, NB.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
+12V1 to -12V.	s-c	264	5min	F1	0.31	--	--	+5Vsb normal operation, other outputs shut down. NH, NC, NT, NB.
+12V1 to +5Vsb.	s-c	264	5min	F1	0.21	--	--	All outputs shut down. NH, NC, NT, NB.
+5V to +3.3V	s-c	264	5min	F1	0.31	--	--	+5Vsb normal operation, other outputs shut down. NH, NC, NT, NB.
+5V to -12V	s-c	264	5min	F1	0.31	--	--	+5Vsb normal operation, other outputs shut down. NH, NC, NT, NB.
+5V to +5Vsb	s-c	264	5min	F1	3.17	--	--	All outputs shut down. NH, NC, NT, NB.
-12V to +5Vsb	s-c	264	5min	F1	0.21	--	--	All outputs shut down. NH, NC, NT, NB.
-12V to +3.3V	s-c	264	5min	F1	0.31	--	--	+5Vsb normal operation, other outputs shut down. NH, NC, NT, NB..
+5Vsb to +3.3V	s-c	264	5min	F1	0.21	--	--	All outputs shut down. NH, NC, NT, NB.
DC Fan	stalled	264	1.63hrs	F1	3.18→ 0.27	Type K	Max. temperature at T501 coil: 115°C, T901 coil: 83.2°C, Ambient: 29.1°C.	+5Vsb normal operation, other outputs shut down after 3mins. . NB, NC, NT. Load

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
							Switch: 28.8°C, Case(inlet side): 31.3°C Ambient: 25°C.	condition: A
Ventilation opening	blocked	264	10.78hrs	F1	3.16→ 0.20	Type K	Max. temperature at T501 coil: 104.1°C, T901 coil: 86.3°C, T503 coil: 62.2°C, Switch: 33.2°C, Case(inlet side): 40.5°C Ambient: 25°C.	+5Vsb normal operation, other outputs shut down after 14mins. NH, NC, NT, NB.Load condition: A
T501 (Pin 2,5 to Gnd.	o-l	90	10.3hrs	F1	14.52→ 0.05	Type K	Max. temperature at T501 coil: 136°C, T901 coil: 51.5°C, Ambient: 35.6°C.	Overload to 25A all outputs shut down. NH, NC, NT, NB. Load condition B
+3.3V	o-l	264	11.70hrs	F1	3.26→ 0.26	Type K	Max. temperature at T501 coil: 81.4°C, T901 coil: 80.5°C, T503 coil: 53.9°C Ambient: 30.6°C.	+3.3V output overloaded to 35A before all outputs shut down. NH, NC, NT, NB. Load condition A
+5V	o-l	264	10.31hrs	F1	3.45→ 0.14	Type K	Max. temperature at T501 coil: 95.3°C, T901 coil: 44.6°C, T503 coil: 62.1°C Ambient: 32.6°C.	+5V output overloaded to 36A before all outputs shut down. NH, NC, NT, NB. Load condition B



IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
+12V1	o-l	264	10.17hrs	F1	3.59→ 0.14	Type K	Max. temperature at T501 coil: 97.9°C, T901 coil: 44.2°C, Ambient: 32.8°C.  Switch: 37.6°C, Case(inlet side): 40.1°C Ambient: 25°C.	+12V1 output overloaded to 57A before all outputs shut down. NH, NC, NT, NB.  Load condition C.
-12V	o-l	264	16.0hrs	F1	3.45→ 0.26	Type K	Max. temperature at T501 coil: 80.2°C, T901 coil: 82.6°C, T503 coil: 59.8°C Ambient: 30°C.	-12V output overloaded to 7.3A before all outputs shut down. NH, NC, NT, NB.  Load condition A
+5Vsb	o-l	264	9.96hrs	F1	3.48→ 0.26	Type K	Max. temperature at T501 coil: 42.9°C, T901 coil: 113°C, T503 coil: 45.2°C Ambient: 32.3°C.	+5Vsb overloaded to 6A before all oscillate. NH, NC, NT, NB. Load condition D

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:  $175-10=165^{\circ}\text{C}$

5) 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

B.4		TABLE: Fault condition tests						P
Ambient temperature (°C) .....					25°C, if not specified			—
Power source for EUT: Manufacturer, model/type, output rating ...:					--			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
<b>For model GPS-750FB A</b>								
FL1 (L-N)	s-c	264	<1s	F1	--	--	--	F1 opened immediately. NH, NC, NT, NB.
FL2 (L-N)	s-c	264	<1s	F1	--	--	--	F1 opened immediately. NH, NC, NT, NB.
BD1 (AC to +)	s-c	264	<1s	F1	--	--	--	F1 opened immediately. NH, NC, NT, NB.
BD1 (AC to -)	s-c	264	<1s	F1	--	--	--	F1 opened immediately. NH, NC, NT, NB.
C801	s-c	264	<1s	F1	--	--	--	F1 opened immediately. NH, NC, NT, NB.
T502 (Pin 9 – Pin 8)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T502 (Pin 1 – Pin 2)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T502 (Pin 5 – Pin 4)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T501 (Pin 1, 6 – Pin 2, 5)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T501 (Pin 3, 4 – Pin 2, 5)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T501 (Pin A – Pin B)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T501 (Pin C – Pin D)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
T501 (Pin W – Pin X)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
L153	s-c	264	5min	F1	2.80	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
Q501 (Pin G- Pin S)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
Q501 (Pin D-Pin S)	s-c	264	<1s	F1	--	--	--	F1 opened immediately. NH, NC, NT, NB, CD (Q502, Q503, Q504)
Q501 (Pin D-Pin G)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
Q502 (Pin G- Pin S)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
Q502 (Pin D-Pin S)	s-c	264	<1s	F1	--	--	--	F1 opened immediately. NH, NC, NT, NB, CD (Q502, Q503, Q504)
Q502 (Pin D-Pin G)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T503 (Pin 7 – Pin 8)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T503 (Pin 1 – Pin 2)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T503 (Pin 4– Pin 5)	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T901 (Pin 3 – Pin 1)	s-c	264	5min	F1	0.22	--	--	NB, NC, NT, all output shutdown.
T901 (Pin 7 – Pin 9)	s-c	264	5min	F1	0.22	--	--	NB, NC, NT, all output shutdown.
T901 (Pin 4 – Pin 5)	s-c	264	5min	F1	0.22	--	--	NB, NC, NT, all output shutdown.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
IC901 Pin 4 – Pin 1	s-c	264	5min	F1	0.21	--	--	NH, NC, NT, NB, CD (R901, IC901, ZD907). Repeat two times (total three times), same test result.
IC901 Pin 4 – Pin 2	s-c	264	5min	F1	0.21	--	--	NH, NC, NT, NB, CD (R901, IC901, ZD907). Repeat two times (total three times), same test result.
IC603 Pin 1 – Pin 2	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
IC603 Pin 3 – Pin 4	s-c	264	5min	F1	3.17	--	--	NB, NC, NT, all output normally.
IC603 Pin 4	o-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
IC903 Pin 1 – Pin 2	s-c	264	5min	F1	0.21	--	--	NB, NC, NT, all output shutdown.
IC903 Pin 3 – Pin 4	s-c	264	5min	F1	0.21	--	--	NB, NC, NT, all output shutdown.
IC903 Pin 3	o-c	264	5min	F1	1.12↔ 0.21	--	--	NB, NC, NT, All output oscillate..
IC602 Pin 1 – Pin 2	s-c	264	5min	F1	3.17	--	--	NB, NC, NT, all output normally.
IC602 Pin 3 – Pin 4	s-c	264	5min	F1	3.17	--	--	NB, NC, NT, all output normally
IC602 Pin 2	o-c	264	5min	F1	3.24	--	--	NB, NC, NT, all output normally.
IC801 Pin 11 – Pin 6	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
IC502 Pin 1 – Pin 2	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
IC502 Pin 3 – Pin 4	s-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.
IC502 Pin 3	o-c	264	5min	F1	0.31	--	--	NB, NC, NT, +5Vsb normal, other output shutdown.

**For model GPS-650LB A**

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
L153	s-c	264	5min	F1	2.7	--	--	NB, NC, NT, all output normally. Load condition: A.
<p>Supplementary information:</p> <p>Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column "Abnormal/Fault." Specify if test condition by indicating "Abnormal" then the condition for a Clause B.3 test or "Single Fault" then the condition for Clause B.4.</p> <p>1) s-c: Short-circuited; o-c: Open-circuited; o-l: Overloaded.</p> <p>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.</p> <p>3) The test result showed no Class 1 or 2 energy source become Class 3 level during and after single fault condition.</p> <p>4) The overloaded condition is applied according to annex G.5.3.3.</p> <p>Winding Limit for Class B: <math>175-10=165^{\circ}\text{C}</math></p> <ul style="list-style-type: none"> <li>For fuse opened condition, same result came out for each source of fuse used.</li> <li>When 16A breaker opens, used the 20A breaker repeat three times the tests.</li> <li>For component damaged but current fuse not open condition, same result came out after repeating three times.</li> <li>If not otherwise specified, all tests were conducted on load condition A, Refer to table <b>B.2.5</b>.</li> </ul>								

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

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

Annex M.4		Table: Additional safeguards for equipment containing secondary lithium batteries				N/A
Battery/Cell No.	Test conditions	Measurements			Observation	
		U	I (A)	Temp (°C)		
--	Normal	--	--	--	--	
--	Abnormal	--	--	--	--	
--	Single fault –SC/OC	--	--	--	--	
--	Normal	--	--	--	--	
--	Abnormal	--	--	--	--	
--	Single fault – SC/OC	--	--	--	--	

Supplementary Information:

Battery identification	Charging at T <sub>lowest</sub> (°C)	Observation	Charging at T <sub>highest</sub> (°C)	Observation
--	--	--	--	--
--	--	--	--	--

Supplementary Information:

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

T.2, T.3, T.4, T.5		TABLE: Steady force test				P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Internal components (according to T.2)	--	--	10	5	No hazard.	
External or internal enclosure (according to T.3)	--	--	30	5	No hazard.	

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Clause	Requirement + Test			Result - Remark	Verdict
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.					

T.6, T.9	TABLE: Impact tests				P
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
AC inlet side	1)	1)	1300	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Supplementary information: 1) Details see table 4.1.2.					

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Clause	Requirement + Test	Result - Remark	Verdict

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				P
Location From (Pri.) To (Sec.)		RMS voltage (V) 100V 240V		Peak voltage (V) 100V 240V		Comments
Transformer: T501						
Pin X	Pin 1, 6	--	168	--	352	--
Pin X	Pin 2, 5	--	167	--	348	--
Pin X	Pin 3, 4	--	165	--	356	--
Pin X	Pin A	--	175	--	368	--
Pin X	Sec. Gnd	--	173	--	364	--
Pin W	Pin 1, 6	--	239	--	396	--
Pin W	Pin 2, 5	--	249	--	404	--
Pin W	Pin 3, 4	--	<b>256</b>	--	416	Max. Vrms, 72.45kHz
Pin W	Pin A	--	243	--	408	--
Pin W	Sec. Gnd	--	254	--	<b>420</b>	Max. Vpeak
Transformer: T503						
Pin 7	Pin 1	--	167	--	356	--
Pin 7	Sec. Gnd	--	167	--	352	--
Pin 7	Pin 5	--	166	--	348	--
Pin 8	Pin 1	--	166	--	352	--
Pin 8	Sec. Gnd	--	167	--	348	--
Pin 8	Pin 5	--	<b>167</b>	--	<b>356</b>	Max. Vpeak, Max. Vrms, 60.14Hz
Transformer: T901						
Pin 1	Pin 7	--	324	--	448	
Pin 1	Sec. Gnd	--	324	--	424	
Pin 3	Pin 7	--	353	--	640	
Pin 3	Sec. Gnd	<b>395</b>	358	640	<b>650</b>	Max. Vpeak, Max. Vrms, 70.4KHz
Pin 4	Pin 7	--	171	--	430	
Pin 4	Sec. Gnd	--	171	--	440	
Pin 5	Pin 7	--	169	--	360	--
Pin 5	Sec. Gnd	--	169	--	350	--
supplementary information:						
1. Load condition A.						
2. Other trace to trace voltages are considered not more than 240Vrms and 420Vpeak.						

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.	
T501	Primary to secondary (RI)	420	256	DC 4242V	4.5	5.2	0.4mm / min. 2 layers	
T501	Primary to core (RI)	420	256	DC 4242V	4.5	5.2	0.4mm / min. 2 layers	
T503	Primary to secondary (RI)	420	250	DC 4242V	2.3	5.0	0.4mm / min. 2 layers	
T503	Primary to core (RI)	420	250	DC 4242V	2.3	5.0	0.4mm / min. 2 layers	
T901	Primary to secondary (RI)	650	395	DC 4242V	4.5	8.0	0.4mm / min. 2 layers	
T901	Secondary to core (RI)	650	395	DC 4242V	4.5	8.0	0.4mm / min. 2 layers	
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers	
T501	Primary to secondary (RI)			DC 4242V	8.0	8.0	TIW	
T501	Primary to core (RI)			DC 4242V	8.0	8.0	TIW	
T503	Primary to secondary (RI)			DC 4242V	7.0	7.0	TIW	
T503	Primary to core (RI)			DC 4242V	7.0	7.0	TIW	
T901	Primary to secondary (RI)			DC 4242V	8.4	8.4	TIW	
T901	Secondary to core (RI)			DC 4242V	8.4	8.4	TIW	
Supplementary information:								
1. T501, T503 core was considered as secondary circuit, T901 core were considered as primary circuit.								
2. For transformer specification, see attachment 4.								

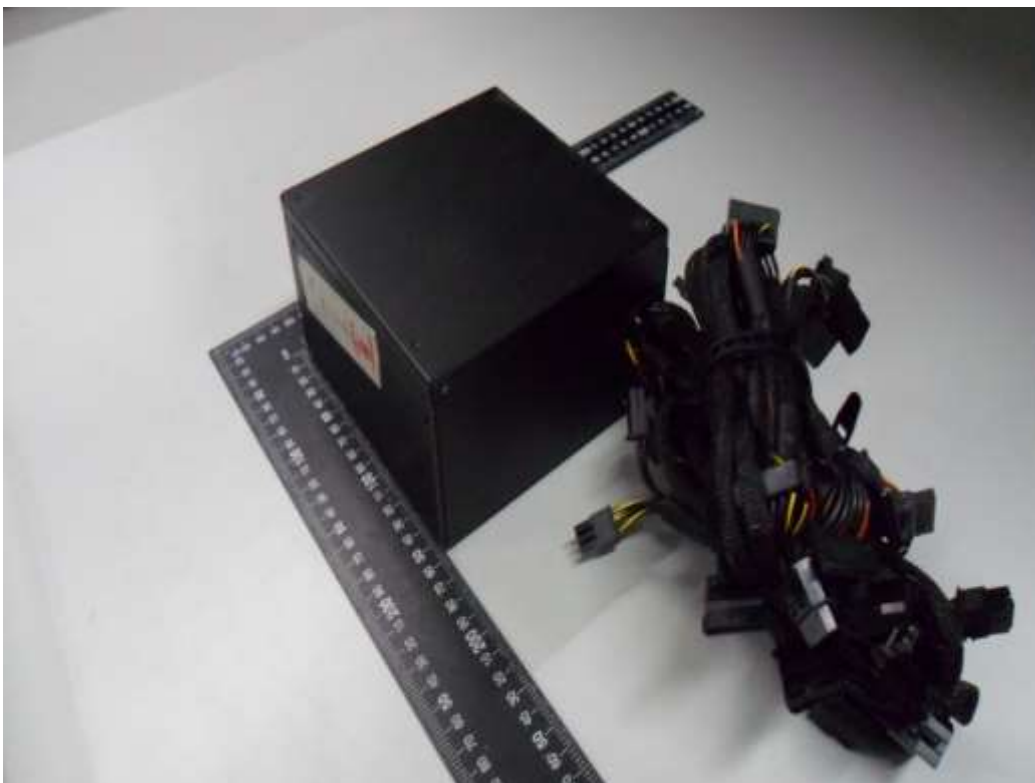
TABLE: evaluation of voltage limiting components in SELV circuits			--
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
T501 Pin 1, 6 to Sec. Gnd	31.6	--	--
T501 Pin 2, 5 to Sec. Gnd	--	12.5	--
T501 Pin 3, 4 to Sec. Gnd	31.2	--	--
T501 Pin A to Sec. Gnd	20.0	--	--
T501 Pin D to Sec. Gnd	20.0	--	--
T503 Pin 1 to Sec. Gnd	16.0	--	--
T503 Pin 5 to Sec. Gnd	-16.0	--	--
T901 Pin 7 to Sec. Gnd	-27.2	--	--
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		
--	--		
<b>Supplementary information:</b> Test voltage 240V, 63Hz s-c: short-circuit.			

-END-

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-750FB XX, GPS-550NB XX, DSA-550W601APG X,  
GPS-650LB XX (X = 0-9, A-Z or blank)



Picture 1



Picture 2

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-750FB XX, GPS-550NB XX, DSA-550W601APG X,  
GPS-650LB XX (X = 0-9, A-Z or blank)



Picture 3

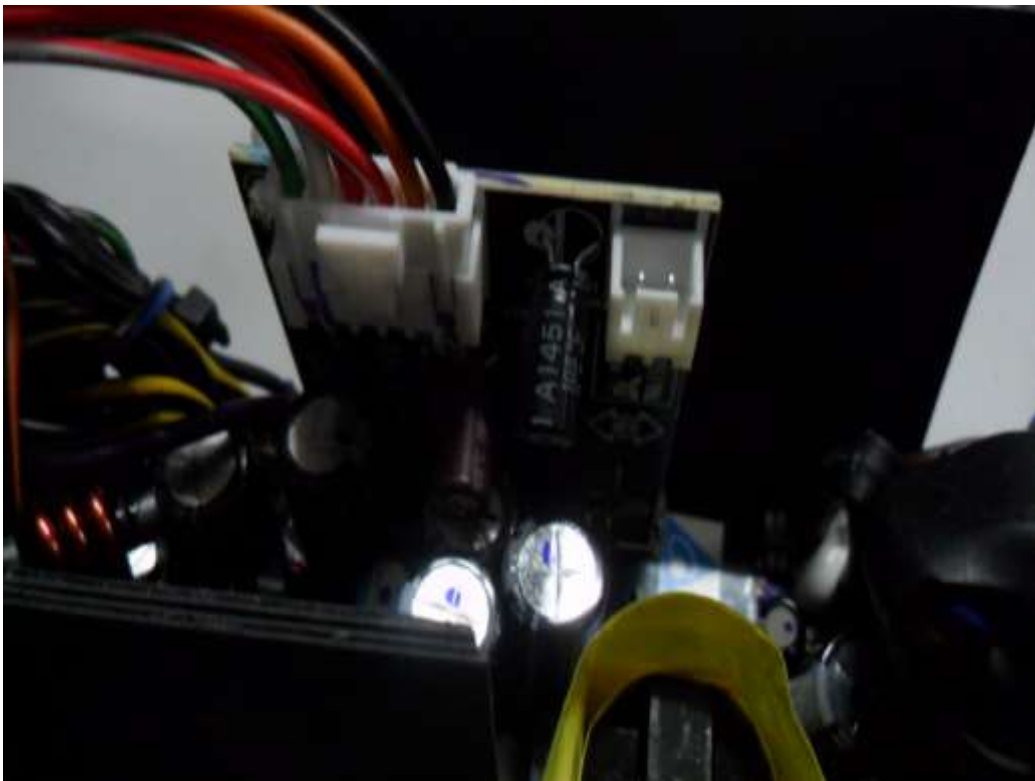


Picture 4

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-750FB XX, GPS-550NB XX, DSA-550W601APG X,  
GPS-650LB XX (X = 0-9, A-Z or blank)

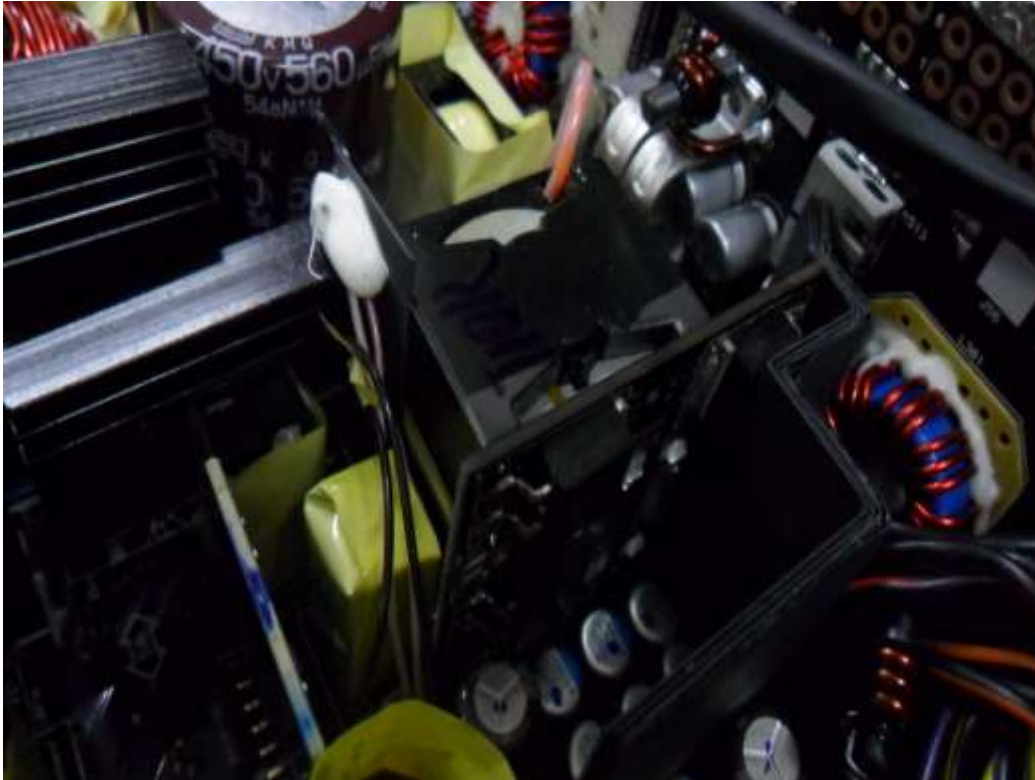


Picture 5

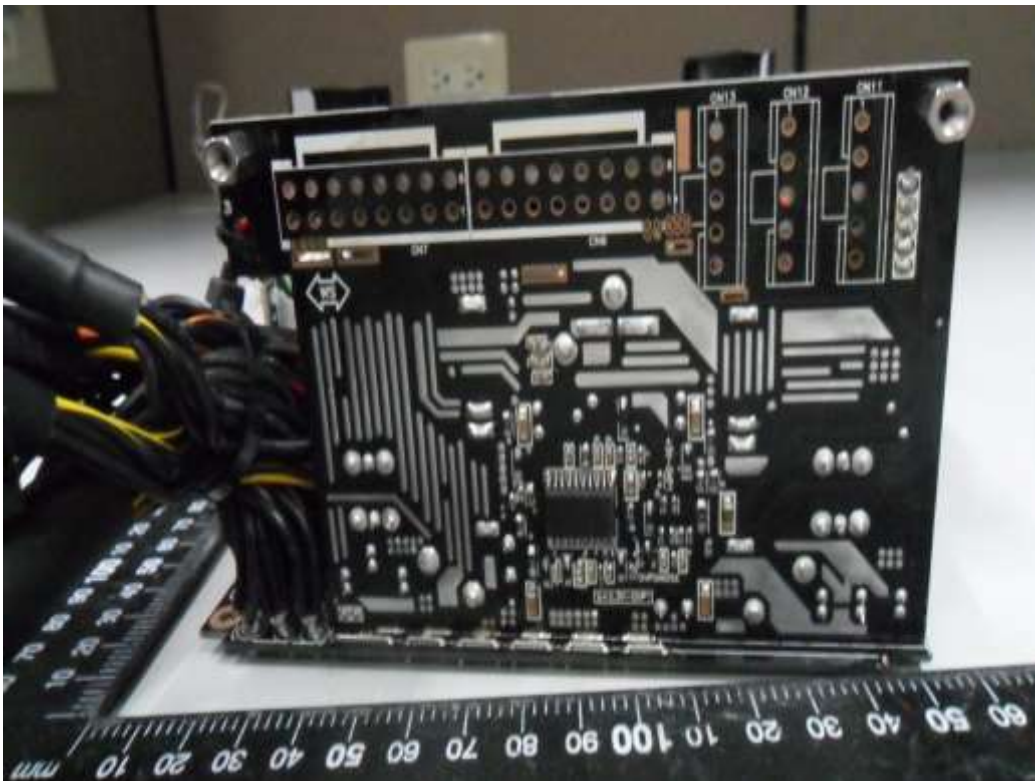


Picture 6

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-750FB XX, GPS-550NB XX, DSA-550W601APG X,  
GPS-650LB XX (X = 0-9, A-Z or blank)

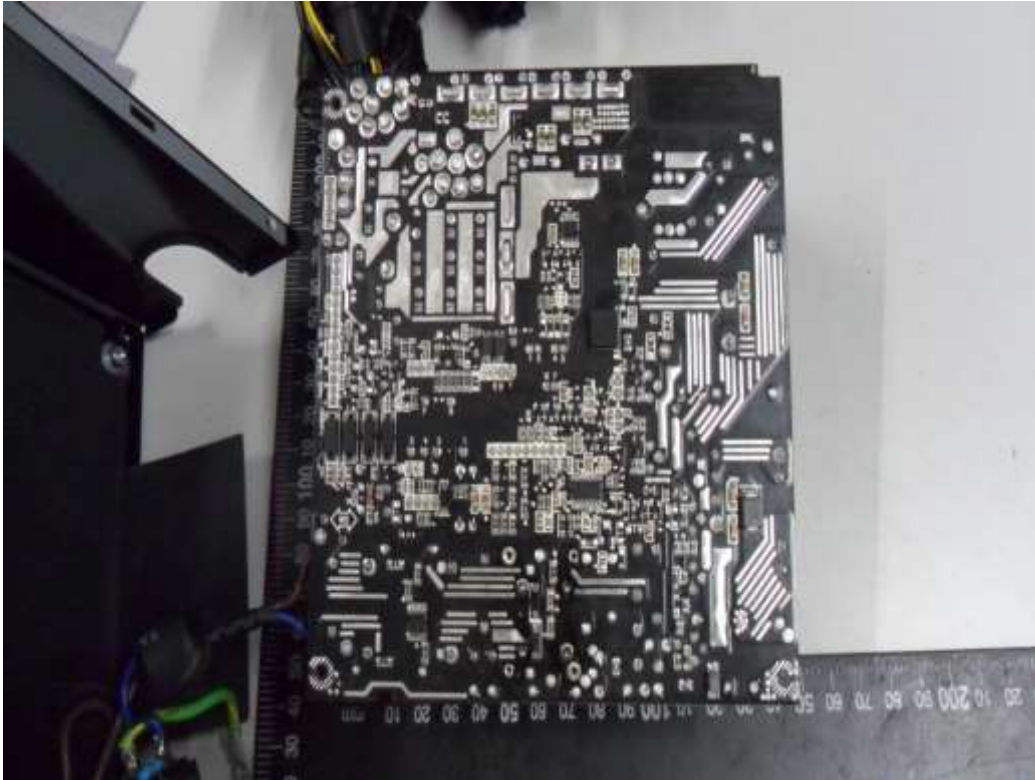


Picture 7



Picture 8

Product: Switching Power Supply (Built-in type)  
Type Designation: GPS-750FB XX, GPS-550NB XX, DSA-550W601APG X,  
GPS-650LB XX (X = 0-9, A-Z or blank)



Picture 9





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>	
<b>Differences according to.....:</b>	EN 62368-1:2014+A11:2017
<b>Attachment Form No.....:</b>	EU_GD_IEC62368_1B_II
<b>Attachment Originator.....:</b>	Nemko AS
<b>Master Attachment.....:</b>	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: <table border="1"> <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> </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	P
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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																																				

IEC62368_1B - ATTACHMENT			
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 jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.”</p> <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



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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>			
Differences according to.....: DS/EN 62368-1:2014			
Attachment Form No.....: DK_ND_IEC62368_1B			
Attachment Originator .....: UL (Demko)			
Master Attachment.....: 2014-10			
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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



IEC62368_1B - ATTACHMENT			
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

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

**Differences according to**.....: AS/NZS 62368.1:2018  
**Attachment Form No.**.....: AU\_NZ\_ND\_IEC62368\_1B  
**Attachment Originator** .....: JAS-ANZ  
**Master Attachment**.....: 2019-02-04

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	<b>National Differences</b>	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
<b>8.5.4.1</b>	<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
<b>8.6</b>	<b>Stability of equipment</b>		N/A
<b>8.6.1 and Table 36</b>	<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
<b>8.6.1</b>	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
<b>Annex F Paragraph F.3.5.1</b>	<b>Mains appliance outlet and socket-outlet markings</b> <i>Replace</i> 'IEC 60320-2-2' with 'AS/NZS 60320.2.2'.		N/A
<b>Annex G Paragraph G.4.2</b>	<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>												

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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> <ul style="list-style-type: none"> <li>– 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.</li> </ul> <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>		
<b>6.202.6</b>	<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
<b>8.6.1.201</b>	<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





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Clause	Requirement + Test	Result - Remark	Verdict

<b>ATTACHMENT TO TEST REPORT</b> <b>IEC 62368-1</b> <b>(JAPAN) NATIONAL DIFFERENCES</b> (Audio/video, information and communication technology equipment – Part 1: Safety requirements)			
<b>Differences according to</b> .....: J62368-1 (H30)			
<b>Attachment Form No.</b> .....: JP_ND_IEC62368_1B			
<b>Attachment Originator</b> .....: UL (JP)			
<b>Master Attachment</b> .....: 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
F.3.5.1	Instructional safeguard of class 0I equipment in accordance with Clause F.5 when a mains	Added.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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.		
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

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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



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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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	National Differences		P
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

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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

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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



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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 <math>2,5\text{ N} \pm 0,25\text{ N}</math>.</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 Aux. Transformer (T901), type: AV-DTD15009

TEST TERMINAL	TEST CONDITION	L (μH)	L-K (μH)	L-K (μH)	DCR (mΩ)	TURN RATIO (mV)	TURNS	WIRE GAUGE	HI-POT TEST 60HZ, 1 SEC
3-2-1	40KHz, 1V	900.0±10%	32.0 MAX	33.0 MAX	805.1±121.1	20KHz, 1V	33±33	2UEW	PRI SHORT CORE TO SEC, 3000V/60s
3-2			SEC SHORT	4.5 SHORT	498±2%	498±2%	33	#0.32	PRI TO CORE, 5000V/60s
7-9					9.5±4.8	60.7±12.5%	4	#0.50#2	TEX-E OR TW-2 PRI TO PRI, 500V/60s
4-5					156.0±31.2	2.30±3.35%	15	#0.32	INDUCED VOLTAGE
2-1							33	#0.32	INDUCED VOLTAGE
									L(3-2-1) : 1.0KV <sub>AC</sub> -p MAX/1s
									ARcing CURRENT <=10.0mA
									LEAKAGE CURRENT <=1.0mA

**1. MECHANICAL DIMENSIONS :**

UNIT : mm  
 A = 36.5 MAX  
 B = 35±0.5/-0.3  
 C = 11±0.3  
 D = 3.4 MAX(ØF)  
 D' = 3.0 MAX(FP8)  
 E = 4.0±0.3  
 F = 25.0 MAX (ØE)  
 F' = 24.0 MAX (PB)  
 G = 4.9 MAX (ØG)  
 G' = 4.6 MAX (PB)  
 H = 5.0 MIN  
 I = 5.1 MIN

MARKING: Q [X] P [X]

STEP 3: T31 TAPE 2PCS ITS OR IPCE 2ITS (THE FINISH OF TAPE MUST EXCEED THE START 10.0mm MIN.)

STEP 2: T12±0.001±0.01 ITS

AFTER VARNISH STEP 1: T8 #12 OR #1205 TAPE 1PCSE

WINDING DIRECTION

**2. SCHEMATIC:**

SHIELD TO PIN 5

==> PIN 7,9 ADD TEFLON TUBE(TW)

**3. PACKAGE MUST BE IN COMPLIANCE WITH**  
 SPEC NO: 3526979000 CARTON NO: 3513506200  
 17.2 g/PC 9.64kg/CARTON 432PCS/CARTON  
 ΔΔ A. CORE GAP: 0.22mm(REF) ON THE CENTER LEG OF E CORE.  
 5. MARKING POSITION: ON THE PIN-10 SIDE OF TAPE  
 MP-130 (01) ΔΔ Δ BLACK INK  
 AV-DTD15009 E115982 XX: REV. NO  
 XXXX(XX) \*\*

\*\* : WORKING TEAM  
 DET : DELTA THAILAND PLANT  
 DCWM : DELTA WUJIANG PLANT  
 DCCM : DELTA WUHU PLANT  
 DCCM : DELTA CHENZHOU PLANT  
 OK LABEL MUST STAMPED UL MARK.

**6. VARNISH: BC-346-A(VACUUM) (CONSISTENCE 14±1%)**  
**7. SAFETY DISTANCE DESIGN : PRI TO SEC 8.4mm MIN**  
 SEC TO CORE 8.4mm MIN

**8. NOT FULL ONE LAYER MUST USE LOOSE WINDING (EXCEPT 4-5)**  
**9. ALL MATERIALS MUST MEET WITH "DELTA" SPEC : 10000-0162**  
**10. THE COAT OF TW-2 OR TEX-E MUST BE PEEL BY PEELING EQUIPMENT**

**RAI** AND "06U72"

Vendor P/N:		DESCRIPTION:	
AV-DTD15009	THIRD ANGLE PROJECTION	AUX TRANSFORMER	REV. 02
Drawn: 朱佑璋 07/18/15	Part No.:	2873151101	
Design: 李蘭 07/18/15	Sheet:	2 OF 5	

DIMENSIONAL TOLERANCES	
ASD ±0.25	DECIMALS
XB-00 ±0.25	Y ±0.1
XB-00 ±0.3	X ±0.2
AW-3M ±0.4	XX ±0.1
HOLES ±0.05	ANGLES ±0.5

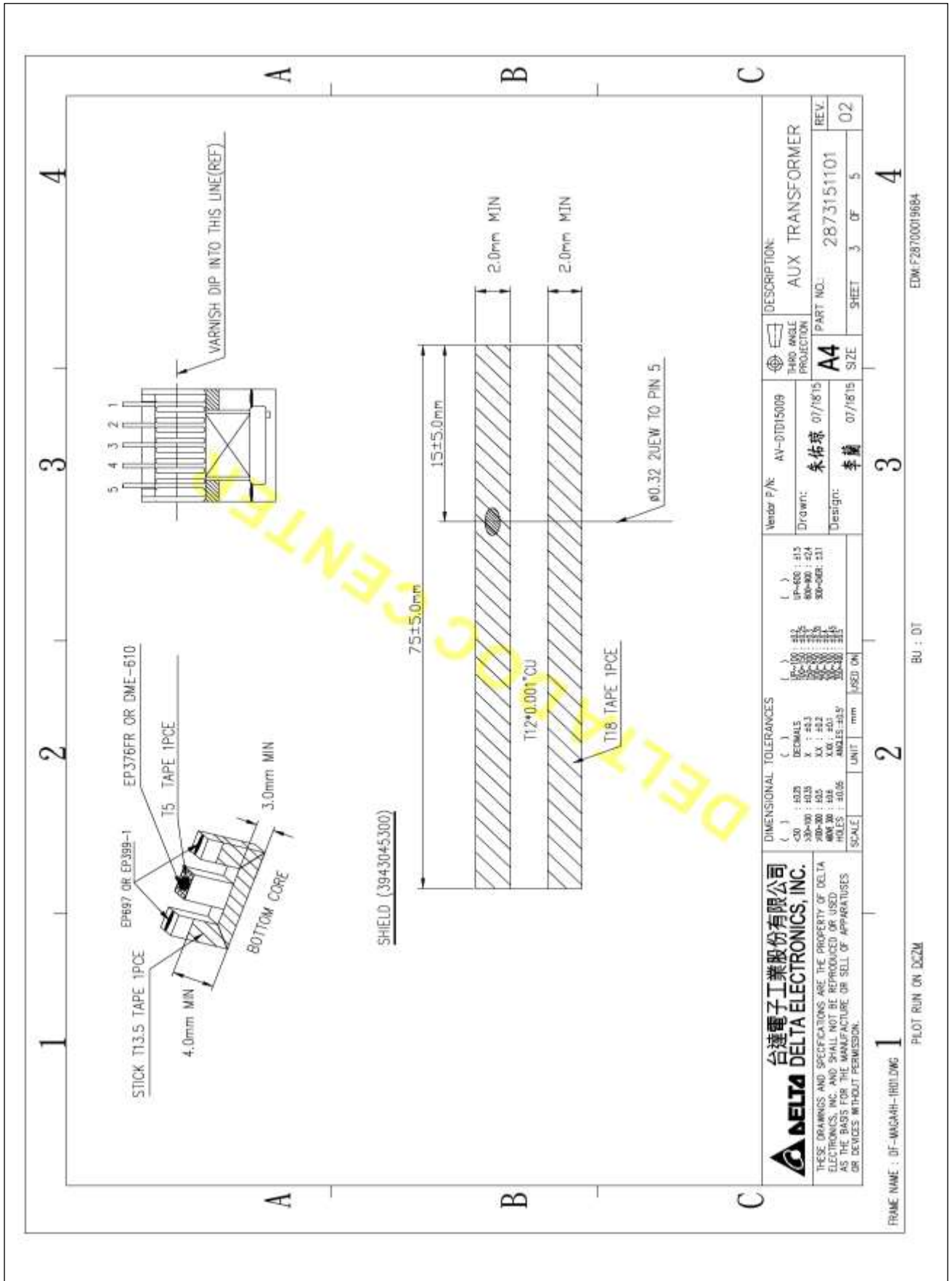
  

台達電子工業股份有限公司  
**DELTA** DELTA ELECTRONICS, INC.  
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Vendor P/N: AV-DTD15009  
 Drawn: 朱佑璋 07/18/15  
 Design: 李蘭 07/18/15  
 Part No.: 2873151101  
 Sheet: 2 OF 5  
 REV. 02

FRAME NAME : DF-MAGARIH-IRULING I  
 PLOT RUN ON DCCM  
 BU : DT  
 EDM: F28700019684

Description.....: Specification of Aux. Transformer (T901), type: AV-DTD15009



Description.....: Specification of Aux. Transformer (T901), type: AV-DTD15009

MATERIAL LIST :		1	2	3	4				
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.				
1	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	130°C MW2B , 130°C MW75 155°C MW79 , 155°C MW80 180°C MW-82 ,180°C MW-83	UL RECOGNIZED				
		FURUKAWA ELECTRIC CO LTD	130°C NO:TEK-E (WIRE NO:006735)	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE	E206440				
		TOTOKU ELECTRIC CO LTD	130°C NO:TEX-ELZ (TUV NO:9251520)	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE	E166483				
		TOTOKU ELECTRIC CO LTD	155°C NO:TW-3 FOR VDE TW-3X FOR UL TW-3LX FOR UL TW-3LZ FOR VDE	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE	E166483				
		TOTOKU ELECTRIC CO LTD	130°C NO:TW-2 FOR VDE TW-2X FOR UL TW-2Y FOR UL TW-2Z FOR VDE TW-2SX FOR UL TW-2S FOR VDE	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE	E166483				
		E I DUPONT DE NEMOURS & CO INC	155°C 94V-0 TR530 (0.4mm MIN BOBBIN WALL)	POLYETHYLENE TEREPHTHALATE (PET),GLASS REINFORCED, FLAME RETARDANT,"RYNITE",FURNISHED AS PELLETS	E41938				
		SUMITOMO BAKELITE CO LTD	150°C 94V-0 PM-8375 (0.4mm MIN BOBBIN WALL) 150°C 94V-0 PM-9630 (0.4mm MIN BOBBIN WALL) 150°C 94V-0 PM-9820 (0.4mm MIN BOBBIN WALL)	PHENOLIC (PF), "SUNKON", FURNISHED AS PELLETS, GRANULAR MATERIAL	E41929				
		3M COMPANY ELECTRICAL MARKETS DIV(EMD)	130°C MATERIAL GROUP I NO.1351-1 130°C MATERIAL GROUP I NO.1350F-1 130°C MATERIAL GROUP II NO.1350T-3 130°C MATERIAL GROUP II NO.1350F-2 150°C NO.1205 180°C NO.92	FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E17385				
		SYMBIO INC	130°C MATERIAL GROUP (FOR UL), GROUP (FOR TUV) NO.35660Y	POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E50292				
		JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD	200°C NO.5605 #3 200°C NO.5605 #5	POLYETHYLENE TEREPHTHALATE FILM TAPE FLAME RETARDANT ARAWD PAPER TAPE, ACRYLIC ADHESIVE	E165111 E56086				
2	BOBBIN	3M COMPANY ELECTRICAL MARKETS DIV(EMD)	130°C MATERIAL GROUP I NO.44 ,44-A,44-1-A	POLYESTER FILM/NONWOVEN COMPOSITE INSULATINGTAPES	E17385				
		SYMBIO INC	130°C MATERIAL GROUP I NO.35661	POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E50292				
		JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD	130°C MATERIAL GROUP I NO.WF	NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE	E165111				
3	TAPE	3M COMPANY ELECTRICAL MARKETS DIV(EMD)	130°C MATERIAL GROUP I NO.44 ,44-A,44-1-A	POLYESTER FILM/NONWOVEN COMPOSITE INSULATINGTAPES	E17385				
		SYMBIO INC	130°C MATERIAL GROUP I NO.35661	POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E50292				
		JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD	130°C MATERIAL GROUP I NO.WF	NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE	E165111				
4	MARGIN TAPE	3M COMPANY ELECTRICAL MARKETS DIV(EMD)	130°C MATERIAL GROUP I NO.44 ,44-A,44-1-A	POLYESTER FILM/NONWOVEN COMPOSITE INSULATINGTAPES	E17385				
		SYMBIO INC	130°C MATERIAL GROUP I NO.35661	POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E50292				
				<p>Vendor P/N: AV-DTD15009</p> <p>Drawn: 朱佑璋 07/18/15</p> <p>Design: 李麗 07/18/15</p> <p>DESCRIPTION: AUX TRANSFORMER</p> <p>THRU ANGLE PROJECTION</p> <p>REV. 02</p> <p>PART NO.: 2873151101</p> <p>SIZE SHEET 4 OF 5</p>					
<p>台達電子工業股份有限公司 DELTA ELECTRONICS, INC.</p> <p>THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSION.</p>		<p>MANUFACTURER</p> <p>UL RECOGNIZED</p> <p>FURUKAWA ELECTRIC CO LTD</p> <p>TOTOKU ELECTRIC CO LTD</p> <p>TOTOKU ELECTRIC CO LTD</p> <p>E I DUPONT DE NEMOURS &amp; CO INC</p> <p>SUMITOMO BAKELITE CO LTD</p> <p>3M COMPANY ELECTRICAL MARKETS DIV(EMD)</p> <p>SYMBIO INC</p> <p>JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD</p>		<p>MANUFACTURER PARTS NO.</p> <p>UL RECOGNIZED</p> <p>130°C NO:TEK-E (WIRE NO:006735)</p> <p>130°C NO:TEX-ELZ (TUV NO:9251520)</p> <p>155°C NO:TW-3 FOR VDE TW-3X FOR UL TW-3LX FOR UL TW-3LZ FOR VDE</p> <p>130°C NO:TW-2 FOR VDE TW-2X FOR UL TW-2Y FOR UL TW-2Z FOR VDE TW-2SX FOR UL TW-2S FOR VDE</p> <p>155°C 94V-0 TR530 (0.4mm MIN BOBBIN WALL)</p> <p>150°C 94V-0 PM-8375 (0.4mm MIN BOBBIN WALL) 150°C 94V-0 PM-9630 (0.4mm MIN BOBBIN WALL) 150°C 94V-0 PM-9820 (0.4mm MIN BOBBIN WALL)</p> <p>130°C MATERIAL GROUP I NO.1351-1 130°C MATERIAL GROUP I NO.1350F-1 130°C MATERIAL GROUP II NO.1350T-3 130°C MATERIAL GROUP II NO.1350F-2 150°C NO.1205 180°C NO.92</p> <p>130°C MATERIAL GROUP (FOR UL), GROUP (FOR TUV) NO.35660Y</p> <p>200°C NO.5605 #3 200°C NO.5605 #5</p> <p>130°C MATERIAL GROUP I NO.44 ,44-A,44-1-A</p> <p>130°C MATERIAL GROUP I NO.35661</p> <p>130°C MATERIAL GROUP I NO.WF</p>		<p>DESCRIPTION</p> <p>SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE</p> <p>SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE</p> <p>SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE</p> <p>POLYETHYLENE TEREPHTHALATE (PET),GLASS REINFORCED, FLAME RETARDANT,"RYNITE",FURNISHED AS PELLETS</p> <p>PHENOLIC (PF), "SUNKON", FURNISHED AS PELLETS, GRANULAR MATERIAL</p> <p>FLAME RETARDANT POLYESTER FILM INSULATING TAPE</p> <p>POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE</p> <p>POLYETHYLENE TEREPHTHALATE FILM TAPE FLAME RETARDANT ARAWD PAPER TAPE, ACRYLIC ADHESIVE</p> <p>POLYESTER FILM/NONWOVEN COMPOSITE INSULATINGTAPES</p> <p>POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE</p> <p>NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE</p>		<p>UL FILE NO.</p> <p>UL RECOGNIZED</p> <p>E206440</p> <p>E166483</p> <p>E166483</p> <p>E41938</p> <p>E41929</p> <p>E17385</p> <p>E50292</p> <p>E165111</p> <p>E56086</p> <p>E17385</p> <p>E50292</p> <p>E165111</p>	
<p>台達電子工業股份有限公司 DELTA ELECTRONICS, INC.</p> <p>THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSION.</p>		<p>MANUFACTURER</p> <p>UL RECOGNIZED</p> <p>FURUKAWA ELECTRIC CO LTD</p> <p>TOTOKU ELECTRIC CO LTD</p> <p>TOTOKU ELECTRIC CO LTD</p> <p>E I DUPONT DE NEMOURS &amp; CO INC</p> <p>SUMITOMO BAKELITE CO LTD</p> <p>3M COMPANY ELECTRICAL MARKETS DIV(EMD)</p> <p>SYMBIO INC</p> <p>JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD</p>		<p>MANUFACTURER PARTS NO.</p> <p>UL RECOGNIZED</p> <p>130°C NO:TEK-E (WIRE NO:006735)</p> <p>130°C NO:TEX-ELZ (TUV NO:9251520)</p> <p>155°C NO:TW-3 FOR VDE TW-3X FOR UL TW-3LX FOR UL TW-3LZ FOR VDE</p> <p>130°C NO:TW-2 FOR VDE TW-2X FOR UL TW-2Y FOR UL TW-2Z FOR VDE TW-2SX FOR UL TW-2S FOR VDE</p> <p>155°C 94V-0 TR530 (0.4mm MIN BOBBIN WALL)</p> <p>150°C 94V-0 PM-8375 (0.4mm MIN BOBBIN WALL) 150°C 94V-0 PM-9630 (0.4mm MIN BOBBIN WALL) 150°C 94V-0 PM-9820 (0.4mm MIN BOBBIN WALL)</p> <p>130°C MATERIAL GROUP I NO.1351-1 130°C MATERIAL GROUP I NO.1350F-1 130°C MATERIAL GROUP II NO.1350T-3 130°C MATERIAL GROUP II NO.1350F-2 150°C NO.1205 180°C NO.92</p> <p>130°C MATERIAL GROUP (FOR UL), GROUP (FOR TUV) NO.35660Y</p> <p>200°C NO.5605 #3 200°C NO.5605 #5</p> <p>130°C MATERIAL GROUP I NO.44 ,44-A,44-1-A</p> <p>130°C MATERIAL GROUP I NO.35661</p> <p>130°C MATERIAL GROUP I NO.WF</p>		<p>DESCRIPTION</p> <p>SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE</p> <p>SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE</p> <p>SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE</p> <p>POLYETHYLENE TEREPHTHALATE (PET),GLASS REINFORCED, FLAME RETARDANT,"RYNITE",FURNISHED AS PELLETS</p> <p>PHENOLIC (PF), "SUNKON", FURNISHED AS PELLETS, GRANULAR MATERIAL</p> <p>FLAME RETARDANT POLYESTER FILM INSULATING TAPE</p> <p>POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE</p> <p>POLYETHYLENE TEREPHTHALATE FILM TAPE FLAME RETARDANT ARAWD PAPER TAPE, ACRYLIC ADHESIVE</p> <p>POLYESTER FILM/NONWOVEN COMPOSITE INSULATINGTAPES</p> <p>POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE</p> <p>NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE</p>		<p>UL FILE NO.</p> <p>UL RECOGNIZED</p> <p>E206440</p> <p>E166483</p> <p>E166483</p> <p>E41938</p> <p>E41929</p> <p>E17385</p> <p>E50292</p> <p>E165111</p> <p>E56086</p> <p>E17385</p> <p>E50292</p> <p>E165111</p>	
<p>FRAME NAME : DF-WAGAH-1R01.DWG</p> <p>PLOT RUN ON DQ2M</p>		<p>BU : DT</p>		<p>EDW:F28700019684</p>					



Description.....: Specification of Mains Transformer (T501), type: MH-DTD15025

TEST TERMINAL	TEST CONDITION	L(μH)	DCR(mΩ)	TURN RATIO(mV)	TURNS	WIRE GAUGE	HI-POT TEST 60Hz/1s (SEC SHORT CORE) TO PRI 3000Vac (A-B) TO (C-D) 5000Vac (A-B)(C-D) TO (6-5-4) 5000Vac
6-5-4					2+2		
6-5				58.8±15%	2	COPPER	
5-4				58.8±15%	2	COPPER	
W-X	49KHz,1V	330±5%	87.8±17.6	20KHz,1V	35	Ø0.1*70C T1W-2LZ	
1-2-3	(SEC SHORT)	25.2 MAX			2+2		
1-2				56.3±15%	2	COPPER	INDUCED VOLTAGE
2-3				56.3±15%	2	COPPER	L(W-X) : 1.0KVg-p MAX/1s
A-B	BIFILAR		73.5±14.7	56.3±15%	2		ARCING CURRENT ≤ 16.0mA
C-D			73.3±14.7	56.3±15%	2		LEAKAGE CURRENT ≤ 1.0mA

1. MECHANICAL DIMENSIONS :

2. SCHEMATIC :

3. PACKAGE MUST BE IN COMPLIANCE WITH PACKING SPEC NO.: 3526986100 CARTON NO.:3510050400 110.1g/PC 15.90kg/CARTON 128PCS/CARTON 4. MARKING : ON THE CENTER OF PIN 4~6 SIDE NO.7 BLACK INK

MP-1301 (00)  
 MH-DTD15025 E115982  
 XXXX(XX) \*\*

XX : REV CODE  
 XXXX : DATE CODE  
 \*\* : WORKING TEAM  
 : FACTORY CODE  
 DET : DELTA THAILAND PLANT  
 DCMM : DELTA WUJIANG PLANT  
 DCUM : DELTA WUHU PLANT  
 DCZM : DELTA CHENZHOU PLANT  
 DK LABEL MUST STAMPED UL MARK

UNIT : mm  
 A = 37.0 MAX  
 B = 3.0+0.5/-0.3  
 C = 65.0±4.5  
 D = 39.7 MAX  
 E = 0.8 MAX  
 F = 37.0 MAX  
 G = 10.0±3.0  
 I = 115.0±4.5 (漆管拉直的长度)  
 J = 95.0±4.5 (漆管拉直的长度)

BOBBIN P/N : 3132078100  
 BASE P/N : 3170257901  
 CORE SIZE : PQ35/35  
 HOLE DIMENSION : Ø2.2 (FOR PIN W-X)  
 TERMINAL1 P/N: 3040253048  
 HOUSING P/N: 3051226000  
 TERMINAL2 P/N: 3040312448

DETAILED DIMENSIONAL TOLERANCES:

SCALE	UNIT	mm	USED ON
1:1	FORMS	Ø37	Ø37
		330-100	±0.15
		308-80	±0.15
		308-80	±0.15
		308-80	±0.15
		308-80	±0.15
		308-80	±0.15
		308-80	±0.15
		308-80	±0.15
		308-80	±0.15
		308-80	±0.15
		308-80	±0.15

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DESCRIPTION: MAIN TRANSFORMER  
 PART NO.: 2870467600  
 REV.: 00

Vendor P/N: MH-DTD15025  
 Drawn: 丘美珍 04/21/15  
 Design: 李蘭 04/21/15

FRAME NAME : DF-MAG24H-1R01.0WG  
 PLOT RUN ON JDC2M

EDM: F28700019683  
 BU: PL02BU-DT

Description.....: Specification of Mains Transformer (T501), type: MH-DTD15025

5. GAP : 0.8mm(REF)(ON THE CENTER LEG OF PIN 1~3 SIDE CORE)  
 6. VARNISH : BC-346-A.(VACUUM) (CONSISTENCY 14+/-1SEC)  
 7. NOT FULL ONE LAYER MUST USE LOOSE WINDING.  
 8. SAFETY DISTANCE DESIGN : SEC TO PRI 8.0mm MIN  
 CORE TO PRI 8.0mm MIN  
 (THE CORE BELONG TO SECONDARY)  
 9. THE LENGTH OF W.X TUBE NEEDS TO BE OVER THE CORNER OF LEAD WIRE  
 2.0mm IN THE INSIDE WINDING  
 10. ALL MATERIALS MUST MEET WITH "DELTA" SPEC : 10000-0162  
 11. ADD T5 TAPE TO FIX THE BOBBIN AND WINDING AFTER FINISHING WINDING

(PIN 4~6 SIDE)  
 EP399-1 OR EP697

NO.	ITEM
1	CORE(P035/35)
2	COPPER(3353637400)
3	COPPER(3353637300)
4	BOBBIN(3132078100)
5	BOBBIN(3132078201)

Vendor P/N	MH-DTD15025	DESCRIPTION:	MAIN TRANSFORMER
Drawn:	丘美珍 04/21/15	THIRD ANGLE PROJECTION	
Design:	李蘭 04/21/15	A4	PART NO.: 2870467600
		SIZE	REV. 00
		SHEET 3	OF 6

SCALE: UNIT: mm USED ON: 2

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FRAME NAME : DF-MAC24H-1R01.DWG  
 PLOT RUN ON : JCG2M

BUJL02BUJ-DT  
 EDM: F28700019683

Description.....: Specification of Mains Transformer (T501), type: MH-DTD15025

1		2		3		4	
MATERIAL LIST :	NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.	
A	1	MAGNET WIRE	FUJIKAWA ELECTRIC CO LTD	130°C NO. TEX-E (VOLT NO.006735)	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE	E206440	
				130°C NO. TEX-ELZ (VOLT NO.9251520)			
				155°C NO. TW-3 FOR VDE			
				TW-3X FOR UL			
				TW-3LX FOR UL			
				TW-3T FOR VDE			
				130°C NO. TW-2 FOR VDE			
				TW-2X FOR UL			
				TW-2LX FOR UL			
				TW-2T FOR VDE			
TW-2Sx FOR UL							
TW-2S FOR VDE							
B	2	BOBBIN	E I DUPONT DE NEMOURS & CO INC	155°C 94V-0 FR530 (0.4mm MIN BOBBIN WALL)		E41938	
				130°C 94V-0 E4008 (0.4mm MIN BOBBIN WALL)		E54705	
				150°C 94V-0 PM-8375 (0.49mm MIN BOBBIN WALL)		E44429	
				150°C 94V-0 PM-9630 (0.4mm MIN BOBBIN WALL)			
				150°C 94V-0 PM-9820 (0.4mm MIN BOBBIN WALL)			
				130°C MATERIAL GROUP I NO.1351-1			
				130°C MATERIAL GROUP I NO.1358F-1			
				130°C MATERIAL GROUP II NO.1350T-3			
				130°C MATERIAL GROUP II NO.1350F-2			
				155°C NO.1205			
180°C NO.92							
C	3	TAPE	SYMBIO INC	130°C MATERIAL GROUP (FOR UL), GROUP II(FOR TV) NO.35660Y	FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E17385	
				130°C MATERIAL GROUP I NO. CF			
				200°C NO.5605 #3			
				200°C NO.5605 #5			
				200°C NO.XA180			
<b>台達電子工業股份有限公司</b> <b>DELTA ELECTRONICS, INC.</b>				DIMENSIONAL TOLERANCES ( ) ( ) ( ) ( ) ( ) ( ) <3> ±0.25 0.25± 0.15 0.15± 0.10 0.10± 0.08 0.08± 0.05 0.05± 0.04 HOLES : 40.00 ± 0.05 ANGLES : 40:57 SCALE UNIT mm USED ON			
				THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUS OR DEVICES WITHOUT PERMISSION.			

FRAME NAME : DF-MAG24H-1601.DWG  
 PLOT RUN ON : 2026  
 BUL2L0BU-DT  
 EDW:F28700019683




Description.....: Specification of Mains Transformer (T501), type: MH-DTD15025

1	2	3	4
MATERIAL LIST :			
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.
4	MARGIN TAPE	3M COMPANY ELECTRICAL MARKETS (DIVEND) SYMBIO INC JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD	130°C MATERIAL GROUP   NO.44 ,44-A,44B-A,44T-A 130°C MATERIAL GROUP   NO.35661 130°C MATERIAL GROUP   NO.WF
5	VARNISH	JOHN C DOLPH CO. ELANTAS ELECTRICAL INSULATION ELANTAS PIG INC	200°C NO.BC-346-A 130°C V130FC
6	TUBING	ZEUS INDUSTRIAL PRODUCTS INC GREAT HOLDING INDUSTRIAL CO LTD CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	200°C TFE-LW-150 200°C TFE-LW-300 200°C TFE-LW-1 200°C TFE-LW-1 200°C CB-TT-L VW-1 200°C CB-TT-L VW-1
			UL FILE NO.
			DESCRIPTION
			POLYESTER FILM/NONWOVEN COMPOSITE INSULATING TAPES
			POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE
			NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE
			E17385
			E50292
			E165111
			E317427
			E75225
			E64007
			E156256
			E180908

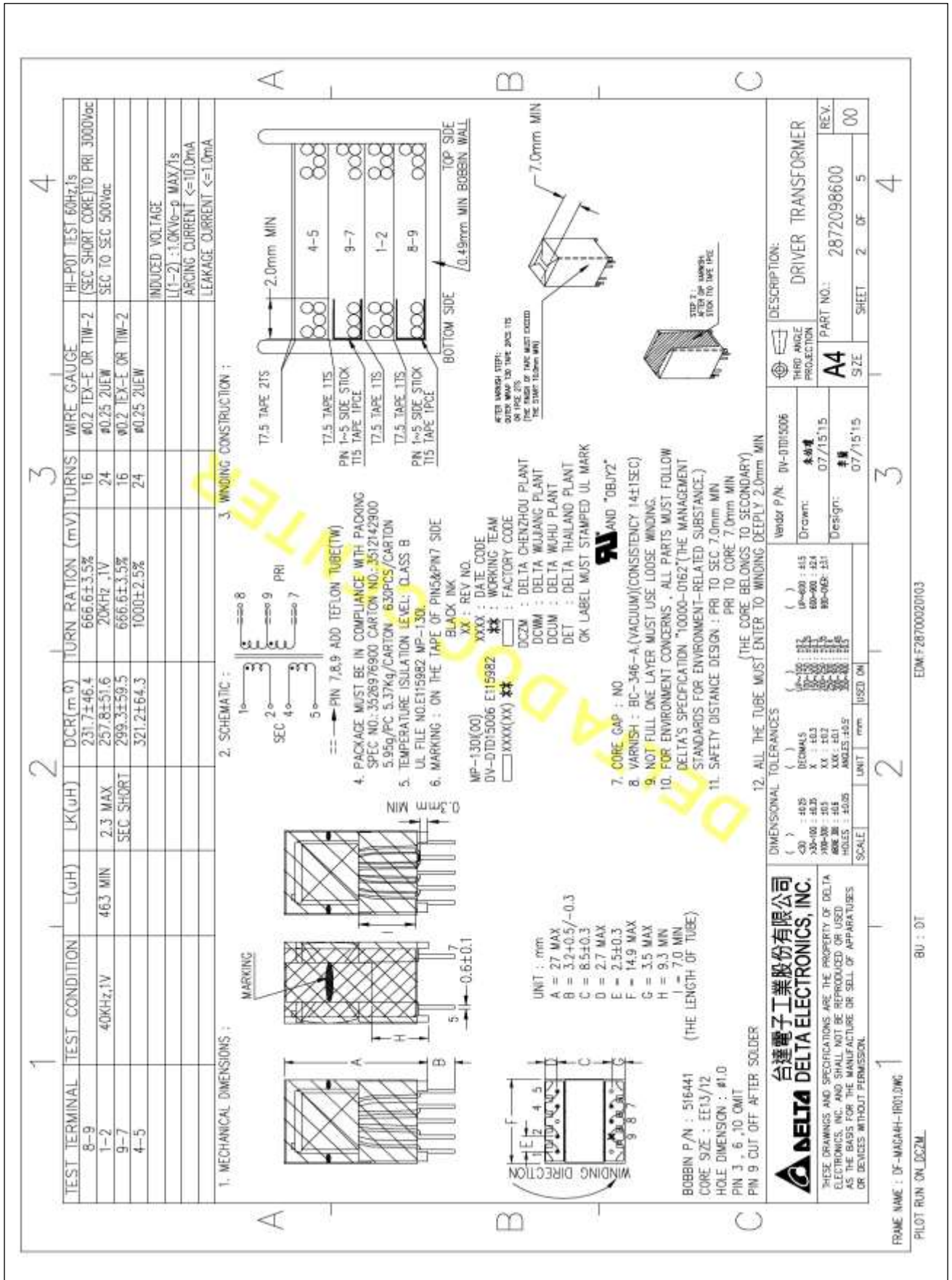
  

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		Vendor P/N: MH-DTD15025 Drawn: 丘美珍 04/21/15 Design: 李蘭 04/21/15	THIRD ANGLE PROJECTION DESCRIPTION: MAIN TRANSFORMER PART NO.: 2870467600 REV.: 00 SHEET 5 OF 6

Description.....: Specification of Mains Transformer (T501), type: MH-DTD15025

OUTTER MATERIAL LIST :		MANUFACTURER PARTS NO.		DESCRIPTION	UL FILE NO.	
1	PART	MANUFACTURER				
		SUMITOMO ELECTRIC FINE POLYMER INC	125°C SUMITUBE T32	IRRADIATED FLEXIBLE HEAT SHRINKABLE POLYOLEFIN	E48762	
		CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	125°C CB-HFT, VW-1	HEAT SHRINKABLE POLYOLEFIN TUBING	E180908	
		DONGGUAN SALPT CO LTD	125°C SALPT S-901-600	HEAT SHRINKABLE POLYOLEFIN TUBING	E209436	
			125°C SALPT S-901-300			
			125°C SALPT S-901-150			
		TYCO ELECTRONICS CORP	125°C 2#2 VW-1	HEAT SHRINKABLE POLYOLEFIN TUBING	E35586	
		MELL ONE CO LTD	125°C VERSHART V2	IRRADIATED FLEXIBLE HEAT SHRINKABLE POLYOLEFIN TUBING	E257529	
			125°C GT-2 600V VW-2	FLEXIBLE HEAT SHRINKABLE POLYOLEFIN TUBING		
		E I DUPONT DE NEMOURS & CO INC	130°C FR7025N0F(+ ) UL 94 V-0	POLYAMIDE 66 (PA66),FLAME RETARDANT , "ZYTEL", FURNISHED AS PELLETS.	E41938	
2	HOUSING	E I DUPONT DE NEMOURS & CO INC	130°C FR7025V0F(2) UL 94 V-0	POLYAMIDE 66 (PA66), "ZYTEL", FURNISHED AS PELLETS.	E41938	
		E I DUPONT DE NEMOURS & CO INC	130°C FR50 (0.75mm MIN BOBBIN WALL)	POLYAMIDE 66 (PA66),FLAME RETARDANT ,GLASS REINFORCED, "ZYTEL", FURNISHED	E41938	
DELTA DOC CENTER						
 <b>台達電子工業股份有限公司</b> <b>DELTA ELECTRONICS, INC.</b>		DIMENSIONAL TOLERANCES ( ) ( ) ( ) ( ) ( ) ( ) <30 : ±0.25    30-100 : ±0.5    100-150 : ±0.75    150-200 : ±1.0    200-300 : ±1.5 300-400 : ±2.0    400-500 : ±2.5    500-600 : ±3.0    600-800 : ±4.0    800-1000 : ±5.0 Holes : ±0.05    ANGLE : ±0.5° SCALE : UNIT : mm USED ON :		Vendor P/N: MH-DTD15025 Drawn: 丘美珍 04/21/15 Design: 李蘭 04/21/15 DESCRIPTION: MAIN TRANSFORMER PART NO.: 2870467600 SHEET 6 OF 6		REV. 00
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Description.....: Specification of Driver Transformer (T503), type: DV-DTD15006





Description.....: Specification of Driver Transformer (T503), type: DV-DTD15006

MATERIAL LIST :		1	2	3	4
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.
1	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	130°C MW2B , 130°C MW75 155°C MW79 , 155°C MW80 180°C MW-82 ,180°C MW-83	UL RECOGNIZED
		FURUKAWA ELECTRIC CO LTD	130°C NO:TEX-E (VDE NO:006735) 130°C NO:TEX-ELZ (TUV NO:9251520)	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE	E206440
		TOTOKU ELECTRIC CO LTD	155°C NO:TW-3 FOR VDE TW-3M FOR UL TW-3UX FOR UL TW-3UZ FOR VDE	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE	E166483
		TOTOKU ELECTRIC CO LTD	130°C NO:TW-2 FOR VDE TW-2M FOR UL TW-2UX FOR VDE TW-2SX FOR UL TW-2S FOR VDE	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE	E166483
		E I DUPONT DE NEMOURS & CO INC	155°C 94V-0 FR530 (0.4mm MIN BOBBIN WALL)	POLYETHYLENE TEREPHTHALATE (PET),GLASS REINFORCED, FLAME RETARDANT,"RYNIE",FURNISHED AS PELLETS	E41938
		SUMITOMO BAKELITE CO LTD	150°C 94V-0 PM-8375 (0.49mm MIN BOBBIN WALL) 150°C 94V-0 PM-9630 (0.4mm MIN BOBBIN WALL) 150°C 94V-0 PM-9620 (0.4mm MIN BOBBIN WALL)	PHENOLIC (PF), "SUMIKON", FURNISHED AS PELLETS, GRANULAR MATERIAL	E41429
		3M COMPANY ELECTRICAL MARKETS DIV(EMD)	130°C MATERIAL GROUP I NO.1351-1 130°C MATERIAL GROUP II NO.1351F-1 130°C MATERIAL GROUP II NO.1351F-3 130°C MATERIAL GROUP IIP NO.1351F-2 155°C NO.1205 180°C NO.92	FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E17385
		SYMBO INC	130°C MATERIAL GROUP I(FOR UL), GROUP II(FOR TUV) NO.55660Y	POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E50292
		JINGJIANG YAHUA PRESSURE GLUE CO.,LTD	130°C MATERIAL GROUP I NO. CT	POLYETHYLENE TEREPHTHALATE FILM TAPE	E165111
		TERAKOMA SEISAKUSHO CO LTD	200°C NO.5605 #3 200°C NO.5605 #5	FLAME RETARANT ARAMID PAPER TAPE, ACRYLIC ADHESIVE	E560086
3	TAPE	3M COMPANY ELECTRICAL MARKETS DIV(EMD)	130°C MATERIAL GROUP 1 NO.44 , 44-A,44B-A,44T-A	POLYESTER FILM/NONWOVEN COMPOSITE INSULATINGTAPES	E17385
		SYMBO INC	130°C MATERIAL GROUP I NO.35661	POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E50292
4	MARGIN TAPE	3M COMPANY ELECTRICAL MARKETS DIV(EMD)	130°C MATERIAL GROUP I NO.IME	NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE	E165111
		SYMBO INC	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD	Vendor P/N: DV-07015006 THIRD ANGLE PROJECTION Drawn: 本廠 Design: 07/15/15 07/15/15	DESCRIPTION: DRIVER TRANSFORMER PART NO.: 2872098600 REV. 00

FRAME NAME : DF-MAC4H-IR01.DWG  
PILOT RUN OK.DCZM


BU : 01

SCALE : UNIT mm USED ON

EIM:F2870002D103

Description.....: Specification of Driver Transformer (T503), type: DV-DTD15006

MATERIAL LIST :		MANUFACTURER PARTS NO.		DESCRIPTION		UL FILE NO.
NO	PART	MANUFACTURER				
5	VARNISH	JOHN C DOLPH CO.	200°C NO.BC-346-A			E317427
		ELANTAS ELECTRICAL INSULATION	130°C VI380FC			E75225
		ELANTAS PFG INC.				
6	TUBING	ZEUS INDUSTRIAL PRODUCTS INC.	200°C TE-LW-150	POLY(TetraFluoroEthylene (P(TE)		E64007
			200°C TE-LW-300	NOT HEAT-SHRINKABLE POLY(TetraFluoroEthylene		E156256
		GREAT HOLDING INDUSTRIAL CO LTD.	200°C TFL VM-1	(P(TE) TUBING.		
		CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	200°C CB-TT-L VM-1	TEFLON(P(TE) NON-HEAT-SHRINKABLE TUBING		E180908
			200°C CB-TT-T VM-1			



DESCRIPTION: DRIVER TRANSFORMER

Vendor P/N: DV-0TD15006

Drawn: 本廠繪 07/15'15

Design: 07/15'15

Part No.: 2872098600

REV. 00

SIZE A4 SHEET 5 OF 5

DIMENSIONAL TOLERANCES		SCALE	
( )	( )	mm	mm
CD : ±0.05	CD : ±0.05		
CS : ±0.05	CS : ±0.05		
DA : ±0.05	DA : ±0.05		
DB : ±0.05	DB : ±0.05		
DC : ±0.05	DC : ±0.05		
DD : ±0.05	DD : ±0.05		
DE : ±0.05	DE : ±0.05		
DF : ±0.05	DF : ±0.05		
DG : ±0.05	DG : ±0.05		
DH : ±0.05	DH : ±0.05		
DI : ±0.05	DI : ±0.05		
DJ : ±0.05	DJ : ±0.05		
DK : ±0.05	DK : ±0.05		
DL : ±0.05	DL : ±0.05		
DM : ±0.05	DM : ±0.05		
DN : ±0.05	DN : ±0.05		
DO : ±0.05	DO : ±0.05		
DP : ±0.05	DP : ±0.05		
DQ : ±0.05	DQ : ±0.05		
DR : ±0.05	DR : ±0.05		
DS : ±0.05	DS : ±0.05		
DT : ±0.05	DT : ±0.05		
DU : ±0.05	DU : ±0.05		
DV : ±0.05	DV : ±0.05		
DW : ±0.05	DW : ±0.05		
DX : ±0.05	DX : ±0.05		
DY : ±0.05	DY : ±0.05		
DZ : ±0.05	DZ : ±0.05		
EA : ±0.05	EA : ±0.05		
EB : ±0.05	EB : ±0.05		
EC : ±0.05	EC : ±0.05		
ED : ±0.05	ED : ±0.05		
EE : ±0.05	EE : ±0.05		
EF : ±0.05	EF : ±0.05		
EG : ±0.05	EG : ±0.05		
EH : ±0.05	EH : ±0.05		
EI : ±0.05	EI : ±0.05		
EJ : ±0.05	EJ : ±0.05		
EK : ±0.05	EK : ±0.05		
EL : ±0.05	EL : ±0.05		
EM : ±0.05	EM : ±0.05		
EN : ±0.05	EN : ±0.05		
EO : ±0.05	EO : ±0.05		
EP : ±0.05	EP : ±0.05		
EQ : ±0.05	EQ : ±0.05		
ER : ±0.05	ER : ±0.05		
ES : ±0.05	ES : ±0.05		
ET : ±0.05	ET : ±0.05		
EU : ±0.05	EU : ±0.05		
EV : ±0.05	EV : ±0.05		
EW : ±0.05	EW : ±0.05		
EX : ±0.05	EX : ±0.05		
EY : ±0.05	EY : ±0.05		
EZ : ±0.05	EZ : ±0.05		

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SCALE

FRAME NAME : DF-MAC94H-IR01.DWG

PILOT RUN ON\_LDC2M

BU : 01

EWM: F2870002D103

Description.....: Specification of Driver Transformer (T502), type: DV-DTD13010

TEST TERMINAL	TEST CONDITION	L(uH)	LX(uH)	DCR (mΩ)	TURN RATIO(mV)	TURNS	WIRE GAUGE	HI-POT TEST 60Hz,1s (PRI SHORT CORE) TO SEC
9-7-B				540.8±108.1				3000Vac
9-7					500±3.5%	16		500Vac
1-2	40Hz,1V	768.0 MIN	3.8 MAX	329.5±65.9	20Hz,1V	32	Φ0.25 TEX-E (OR TIW-2)	500Vac
5-4			SEC. SHORT	371.2±74.2	1000±2%	32	Φ0.25 2LEWIN	
7-8					500±3.5%	16	Φ0.2 TEX-E (OR TIW-2)	ARCING CURRENT <=10.0mA LEAKAGE CURRENT <=1.0mA

**1. MECHANICAL DIMENSIONS :**

UNIT : mm  
 A = 26.5 MAX  
 B = 3.2±0.3  
 C = 8.5±0.2  
 D = 3.0 MAX  
 E = 2.5±0.2  
 F = 14.5 MAX  
 G = 4.0 MAX  
 H = -8.0 MIN

BOBBIN P/N: 5164410301  
 PIN 3,6,10 OMIT  
 PIN 7,8,9 ADD TEFLON TUBE  
 CORE SIZE: EE13\*2\*6.5  
 HOLE DIMENSION: ϕ1.0

**2. SCHEMATIC :**

MP-130(DC)  
 DV-DTD13010 DELTA  
 XXXX(XX)\*\*

NO.7 BLACK INK  
 XXXX: DATE CODE  
 XX: REV NO  
 □: FACTORY CODE  
 \*\* : WORKING TEAM  
 DCWM : DELTA THAIANG PLANT  
 DCUM : DELTA WUJIANG PLANT  
 DCZM : DELTA CHENGHOU PLANT  
 OK LABEL MUST STAMPED UL MARK

AI AND "OBV12"

**3. PACKAGE MUST BE IN COMPLIANCE WITH PACKING**  
 SPEC. NO.: 35289910000 CARTON NO.: 3510200310  
 5.9kg/PC 3.68kg/CARTON 394PCS/CARTON

**4. MARKING : ON THE PIN 1&10 SØE**

**5. GAP : NO**

**6. NOT FULL ONE LAYER USE LOOSE WINDING**

**7. VARNISH:NO.**

**8. SAFETY DISTANCE DISIGN:PRI TO SEC8.0mm MIN  
CORE TO SEC 8.0mm MIN  
(OUTSIDE TUBE 8.0mm MIN,INSIDE 2.0mm MIN)**

**9. ALL MATERIALS MUST MEET WITH "DELTA" SPEC : 10000-0162**

**TOP CORE**  
 DMF-620 OR EP390-1

**TOP**  
 TAPES: T7.5 TIS, T7.5 TIS, T7.5 TIS, T7.5 TIS  
 PIN 1-5 SØE, STOCK T13 TAPE IPCE, PIN 1-5 SØE, STOCK T13 TAPE IPCE

**BOTTOM**

**1. MECHANICAL DIMENSIONS :**

T24 TAPE 1PCS TIS(THE FINISH OF TAPE MUST EXCEED THE START 10.0mmMIN)

G757 OR EP378FR

MARKING

DIMENSIONAL TOLERANCES		SCALE	UNIT	mm	USED ON
CS	±0.25	1:1	mm	USED ON	
SR	±0.25				
DR	±0.25				
OR	±0.25				
HR	±0.25				

<b>Vendor P/N:</b> DV-DTD13010	<b>DESCRIPTION:</b> DRIVER TRANSFORMER	<b>REV.</b>		
<b>Drawn:</b> 邱美珍 12/14/13	<b>Part No:</b> 2872088400	<b>SHEET</b>	<b>2</b>	<b>OF</b>
<b>Design:</b> 張貴青 12/14/13	<b>SIZE</b>	<b>3</b>	<b>4</b>	

FRAME NAME : DF-MAG4H-1R01.DWG

PLOT RUN ON:DC2M

BU:PL0BU-01

EDM:F28700017306

1

2

3

4

Description.....: Specification of Driver Transformer (T502), type: DV-DTD13010

1	2	3	4
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO
	UL RECOGNIZED	UL RECOGNIZED	UL FILE NO.
	UL RECOGNIZED	UL RECOGNIZED	UL RECOGNIZED
	FURUKAWA ELECTRIC CO LTD	130°C NO: TEK-E (VDE NO: 006735)	130°C MW28 130°C MW75
	TOTOKU ELECTRIC CO LTD	155°C NO: TW-3 FOR VDE	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE
	TOTOKU ELECTRIC CO LTD	130°C NO: TW-2 FOR VDE	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE
	TOTOKU ELECTRIC CO LTD	150°C 94V-0 PW-8375(0.49mm MIN BOBBIN WALL)	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE
	SUMITOMO BAKELITE CO LTD	150°C 94V-0 PW-9630(0.4mm MIN BOBBIN WALL)	PHENOLIC (PF), "SUMIKON", FURNISHED AS PELLETS, GRANULAR MATERIAL.
	3M COMPANY ELECTRICAL MARKETS DIV(EMD)	130°C MATERIAL GROUP I NO.135I-1	E41429
	SYMBO INC	130°C MATERIAL GROUP I/II NO.1350F-1	E17385
	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO,LTD	130°C MATERIAL GROUP I/II NO.1350F-2	E50292
	ZEUS INDUSTRIAL PRODUCTS INC.	130°C MATERIAL GROUP I NO. CT	E165111
	GREAT HOLDING INDUSTRIAL CO LTD	200°C TE-LW-150	E64007
	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	200°C TE-TW-300	E156256
		200°C TF-VW-1	E180908
		200°C CB-IT-L VW-1	
		200°C CB-TT-T VW-1	

A	B	C
1	2	3
MAGNET WIRE	BOBBIN	TAPE
TUBING		

A	B	C
1	2	3
MAGNET WIRE	BOBBIN	TAPE
TUBING		

A	B	C
1	2	3
MAGNET WIRE	BOBBIN	TAPE
TUBING		

A	B	C
1	2	3
MAGNET WIRE	BOBBIN	TAPE
TUBING		

A	B	C
1	2	3
MAGNET WIRE	BOBBIN	TAPE
TUBING		

A	B	C
1	2	3
MAGNET WIRE	BOBBIN	TAPE
TUBING		

A	B	C
1	2	3
MAGNET WIRE	BOBBIN	TAPE
TUBING		

A	B	C
1	2	3
MAGNET WIRE	BOBBIN	TAPE
TUBING		

A	B	C
1	2	3
MAGNET WIRE	BOBBIN	TAPE
TUBING		

EDM:F28700017308

BU:PLD8U-01

FRAME NAME : DF-MAGAH-BUILDING 1  
PLOT RUN ON:DCZM



Description.....: Specification of Line Filter (FL2), type: HFV-PCD10012

TEST TERMINAL	TEST CONDITION	L(mH)	ΔL1-L2/ (μH)	DCR(mΩ)	TURNS	WIRE GAUGE	HI-POT TEST 60Hz,1s
1-6	18KHz,0.3V	4.0 MIN	150 MAX	19.5±5.9	30	φ1.15 04EWNRΔ	L1 TO L2 1500Vdc
3-4	18KHz,0.3V	4.0 MIN		19.5±5.9	30	φ1.15 04EWNRΔ	
1-6	100KHz,1V	2.4 MIN					
3-4	100KHz,1V	2.4 MIN					
1-4 (3,6 SHORT)	18KHz,0.3V	12.0 MIN					

LEAKAGE CURRENT ≤ 1.0mA

1. MECHANICAL DIMENSIONS :

BASE P/N : 3175076700  
HOLE DIMENSION : φ1.4 (FOR PIN 1,4)  
                                  φ1.5 (FOR PIN 3,6)

2. SCHEMATIC :

UNIT : mm  
A = 31.0 MAX  
B = 3.5±0.5  
C = 13.0±0.4  
D = 3.0 MAX  
E = 14.0±0.4  
F = 20.2 MAX  
G = 5.9 MAX

3. PACKAGE MUST BE IN COMPLIANCE WITH PACKING SPEC. NO. : 3522161500  
34.15g/PC 15.84kg/CARTON 420PCS/CARTON

4. CORE SIZE : TOR25x15x9 U10K

5. MARKING : ON THE BASE OF BOTTOM SIDE  
NO.6 BLACK INK  
HFV-PCD10012  
XXXX(X) \*\*  
\*\* : WORKING TEAM

6. INSULATOR & CORE MUST BE FIXED BY SC608MVZ2 OR TSS02AH&BH

7. L1 & L2 OF ALL WINDINGS MUST BE FIXED BY SC608MVZ2 OR TSS02AH&BH

8. L1 & L2 MUST USE BANK WINDING.

9. LAYER SHORT TEST(L1-6) & L(3-4) :  
2.5KΩ(JUST ALLOW ±10% DIFFERENT AREA WITH THE TEST WAVEFORM OF GOLDEN SAMPLE).

10. NO ABRASION AND SCRATCH ON THE WIRE.

11. WINDING DIRECTION:

12. MATERIAL MUST BE MEET WITH "DELTA" SPEC : 10000-0162

13. ACCORDING TO TS16949, THE VALUE OF INDUCTANCE SHOULD BE RECORDED AS IMPORTANT CHARACTER MARKED WITH "★"  
THE HI-POT TEST SHOULD BE RECORDED AS SPECIFIC CHARACTER MARKED WITH "▲" MUST BE SHOW IN O/A/PMEA AND CONTROL PLAN.

DELTA ELECTRONICS

Vendor P/N:	HFV-PCD10012	Description:	LINE FILTER
Drawn:	劉先梅 10/06/14	Part No.:	2875170000
Design:	伍文 10/06/14	SIZE	A4
SHEET 2 OF 3		REV. 04	

SCALE: 1:1

UNIT: mm

USED ON: 1

DIMENSIONAL TOLERANCES (mm)

0-16	±0.25
16-25	±0.30
25-50	±0.40
50-100	±0.50
100-150	±0.63
150-200	±0.80
200-250	±1.00
250-300	±1.25
300-400	±1.60
400-500	±2.00

HOLE: ±0.10

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Description.....: Specification of Line Filter (FL2), type: HFV-PCD10012

NO	PART	MANUFACTURER	VENDOR P/N	DESCRIPTION	UL FILE NO.
1	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	155°C MW60,155°C MW79,180°C MW82 130°C MW28,130°C MW75	UL RECOGNIZED
2	BASE	UL RECOGNIZED NAN YA PLASTICS CORP CCL DEPT ELECTRONIC MATERIAL DIV	130°C FR-4-86	INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.	E98983
			130°C FR-4 NY(NPG-R) UL 94V-0	INDUSTRIAL LAMINATES,FURNISHED AS SHEETS,RODS OR TUBES.	E109769
			130°C FR-4 NY(NP-180TL) UL 94 V-0	INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.	E123995
			130°C FR-4 STL(S1155) UL 94 V-0	INDUSTRIAL LAMINATES,FURNISHED AS SHEETS,RODS OR TUBES.	E103670
			130°C FR-4 KB-6150,KB-6150C UL 94 V-0	INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.	E98983
3	INSULATOR	UL RECOGNIZED NAN YA PLASTICS CORP CCL DEPT ELECTRONIC MATERIAL DIV	130°C FR-4 DS-7408 UL 94 V-0	INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.	E109769
			130°C FR-4 NY(NPG-R) UL 94V-0	INDUSTRIAL LAMINATES,FURNISHED AS SHEETS,RODS OR TUBES.	E123995
			130°C FR-4 NY(NP-180TL) UL 94 V-0	INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.	E103670
			130°C FR-4 STL(S1155) UL 94 V-0	INDUSTRIAL LAMINATES,FURNISHED AS SHEETS,RODS OR TUBES.	E103670
			130°C FR-4 KB-6150,KB-6150C UL 94 V-0	INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.	E103670
4	TAPE	UL RECOGNIZED E I DUPONT DE NEMOURS & CO INC E I DUPONT DE NEMOURS & CO INC E I DUPONT DE NEMOURS & CO INC 3M COMPANY ELECTRICAL MARKETS DIV(EMD) SYMBIO INC JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD	130°C FR7025V0F(+ ) UL 94 V-0	POLYAMIDE 66 (PA66),FLAME RETARDANT ,"ZYTEL", FURNISHED AS PELLETS.	E41938
			130°C FR7026V0F(2) UL 94 V-0	POLYAMIDE 66 (PA66), "ZYTEL", FURNISHED AS PELLETS.	E41938
			130°C FR50 (0.75mm MIN BOBBIN WALL)	POLYAMIDE 66 (PA66),FLAME RETARDANT .GLASS REINFORCED, "ZYTEL", FURNISHED	E41938
			130°C MATERIAL GROUP I NO.135I-1	FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E17385
			130°C MATERIAL GROUP II NO.135IIF-1	POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E50292
		<p>130°C MATERIAL GROUP IIIa NO.135IIF-2</p> <p>180°C NO.92</p> <p>130°C MATERIAL GROUP II(FOR UL), GROUP II(FOR TUV) NO.35660Y</p> <p>130°C MATERIAL GROUP I NO. CT</p>		E165111	
<p>Vendor P/N: HFV-PCD10012 Description: LINE FILTER</p> <p>Drawn: 劉先梅 10/06/14 Part No.: 2875170000 REV. 04</p> <p>Design: 伍文 10/06/14 SIZE SHEET 3 OF 4</p>					

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NAME NAME : DF-MACA4H-000.DWG

Description.....: Specification of Inductor (L153), type: CPV-DTD15013

1	TEST TERMINAL	TEST CONDITION	L (μH)	DCR (mΩ)	TURNS	WIRE GAUGE	HI-POT TEST 60Hz, 1s
	2-4	40kHz, 1V	Δ 3±20%	12±3.6	9.5	Φ0.1x0.02 UEMW	WINDING TO CORE 500Vdc PIN3 TO PIN4 500Vdc

2	MECHANICAL DIMENSIONS :	AFTER VARNISH: STICK T32 TAPE 2PCE 1TS OR 1PCE 2TS (THE FINISH OF TAPE MUST EXCEED THE START 10.0mm MIN)	MARRING	PIN 2.4 ADD TEFLON TUBE
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3	SCHEMATIC	WINDING CONSTRUCTION:
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4	PACKAGING	MARKING
---	-----------	---------

5	LEAKAGE CURRENT ≤ 1.0mA
---	-------------------------

BOBBIN P/N: 516414  
 CORE SIZE : PQ20/20  
 HOLE DIMENSION : Φ1.2  
 PIN 1 OMIT

UNIT : mm  
 A = 38.5 MAX  
 B = 3.5+0.5/-0.3  
 C = 19.0±0.3  
 D = 3.0 MAX  
 E = 8.0±0.3 (FOR LAYOUT)  
 F = 23.3 MAX  
 G = 7.0±0.3  
 H = Φ0.8±0.1  
 ΔI = 8.0 MIN

ΔΔ6. CORE GAP : 3.15mm±2(REF)  
 (ON THE CENTER LEG OF TOP CORE & BOTTOM CORE)  
 7. VARNISH : BC-346-A(VACUUM)(CONSISTENCY 14±1SEC)  
 8. NOT FULL ONE LAYER MUST USE LOOSE WINDING  
 9. FOR ENVIRONMENT CONCERNS , ALL PARTS MUST FOLLOW DELTA'S SPECIFICATION "10000-0162"(THE MANAGEMENT STANDARDS FOR ENVIRONMENT-RELATED SUBSTANCE.)  
 10. Φ0.1x0.02 WIRE TWIST : 60±7 (TURNS/M)  
 11. TURN MUST BE TESTED

ΔΔ6. CORE GAP : 3.15mm±2(REF)  
 (ON THE CENTER LEG OF TOP CORE & BOTTOM CORE)  
 7. VARNISH : BC-346-A(VACUUM)(CONSISTENCY 14±1SEC)  
 8. NOT FULL ONE LAYER MUST USE LOOSE WINDING  
 9. FOR ENVIRONMENT CONCERNS , ALL PARTS MUST FOLLOW DELTA'S SPECIFICATION "10000-0162"(THE MANAGEMENT STANDARDS FOR ENVIRONMENT-RELATED SUBSTANCE.)  
 10. Φ0.1x0.02 WIRE TWIST : 60±7 (TURNS/M)  
 11. TURN MUST BE TESTED

4. PACKAGE MUST BE IN COMPLIANCE WITH PACKING SPEC NO.: 3526986200 CARTON NO.: 3510050400 20.2g/PC 5.857kg/CARTON 200PCS/CARTON  
 5. MARKING : ON THE TAPE OF PIN 2-3 SIDE NO.7 BLACK INK  
 XX : REV NO.  
 XXXX : DATE CODE  
 \*\* : WORKING TEAM  
 : : FACTORY CODE  
 DET : DELTA THAILAND PLANT  
 DCWM : DELTA WUJIANG PLANT  
 DCUM : DELTA WUHU PLANT  
 DCZM : DELTA CHENZHOU PLANT

Vendor P/N: CPV-DTD15013  
 Drawn: 宋林峰  
 Design: 宋林峰  
 Date: 05/07/15

DIMENSIONAL TOLERANCES  
 CS : ±0.2  
 DECIMALS : ±0.1  
 ANGLES : ±0.5  
 HOLES : ±0.1  
 ANGLES : ±0.5

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DESCRIPTION: INDUCTOR  
 PART NO.: 2877628600  
 SHEET 2 OF 3

REV. 01

FRAME NAME : EF-MAG4H-180LDWG  
 PLOT RUN ON DCZM  
 BU : DT  
 EDM : F26700019609

Description.....: Specification of Inductor (L153), type: CPV-DTD15013

MATERIAL LIST :		MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.
1	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	130C MW28 , 130C MW75 155C MW79 , 155C MW80 180C MW-82 ,180C MW-83	UL RECOGNIZED
		E I DUPONT DE NEWMOURS & CO INC	155C 94V-0 FR530 (0.4mm MIN BOBBIN WALL)	POLYETHYLENE TEREPHTHALATE (PET),GLASS REINFORCED, FLAME RETARDANT, RYNITE ,FURNISHED AS PELLETS	E41938
2	BOBBIN	SUMITOMO BAKULITE CO LTD	150C 94V-0 PM-8375 (0.49mm MIN BOBBIN WALL) 150C 94V-0 PM-9630 (0.4mm MIN BOBBIN WALL) 150C 94V-0 PM-9820 (0.4mm MIN BOBBIN WALL)	PHENOLIC (PF), "SUMIKON", FURNISHED AS PELLETS, GRANULAR MATERIAL	E41429
		3M COMPANY ELECTRICAL MARKETS DIV(EMO)	130C MATERIAL GROUP I NO.1351-1 130C MATERIAL GROUP II NO.1359F-1 130C MATERIAL GROUP II NO.1350F-3 130C MATERIAL GROUP II NO.1350F-2 155C NO.1205 180C NO.92	FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E17385
		SYMBO INC	130C MATERIAL GROUP (FOR UL) GROUP (FOR TUV) NO.35660Y	POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E50292
		JINJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD	130C MATERIAL GROUP I NO. CT	POLYETHYLENE TEREPHTHALATE FILM TAPE	E165111
		TERAKA SESAKUSHO CO LTD	200C NO.5805 #3 200C NO.5805 #5	FLAME RETARDANT ARAMID PAPER TAPE, ACRYLIC ADHESIVE	E56086
3	TAPE	JOHN C DOLPH CO.	200C NO.BC-346-A		E317427
		ELANTAS ELECTRICAL INSULATION ELANTAS PIG INC	130C V1308FC		E75225
4	VARNISH	ZEUS INDUSTRIAL PRODUCTS INC.	200C TE-LW-150 200C TE-LW-300	POLYTETRAFLUOROETHYLENE (PTFE)	E64007
		GREAT HOLDING INDUSTRIAL CO LTD	200C TE-VW-1 200C TE-VW-1	NOT HEAT-SHRINKABLE POLYTETRAFLUOROETHYLENE (PTFE) TUBING.	E156256
		CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	200C CB-TT-L VW-1 200C CB-TT-T VW-1	TEFLON(PTFE) NON-HEAT-SHRINKABLE TUBING	E180908
		3M COMPANY ELECTRICAL MARKETS DIV(EMO)	130C MATERIAL GROUP I NO.44 ,44-A,44D-A,44F-A	POLYESTER FILM/NONWOVEN COMPOSITE INSULATINGTAPES	E17385
		SYMBO INC	130C MATERIAL GROUP I NO.35661	POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E50292
5	TUBING	JINJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD	130C MATERIAL GROUP I NO.WF	NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE	E165111
		<p><b>台達電子工業股份有限公司</b> <b>DELTA ELECTRONICS, INC.</b></p> <p>THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUS OR DEVICES WITHOUT PERMISSION.</p>			
6	MAGNET TAPE	<p><b>台達電子工業股份有限公司</b> <b>DELTA ELECTRONICS, INC.</b></p> <p>THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUS OR DEVICES WITHOUT PERMISSION.</p>			<p>Vendor P/N: CPV-DTD15013</p> <p>Drawn: 05/07/15</p> <p>Design: 05/07/15</p> <p>DESCRIPTION: INDUCTOR</p> <p>PART NO.: 2877628600</p> <p>SIZE: A4</p> <p>SHEET: 3 OF 3</p>
		<p>FRAME NAME : DF-WG44H-180LDWG</p> <p>PILOT RUN ON DC2M</p>			<p>EDM : F28700019689</p>

Description.....: Specification of Inductor (L153), type: CPH-DTD15015

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
TEST TERMINAL 3,4-6,7	TEST CONDITION 40MHz, 1V	L (µH) 8±3%	DGR (mΩ) 18.9±5.7
		WIRE GAUGE #0.1*80C 2/E/AN	HI-POT TEST 50Hz/1s WINDING TO CORE 500Vdc
			INDUCED VOLTAGE L(3,4-6,7) 10KVdc-P MAX/1S LEAKAGE CURRENT ≤1.0mA

**1. MECHANICAL DIMENSIONS :**

WINDING DIRECTION

AFTER VARNISH:  
STICK T32 TAPE IPCE 2TS OR 2PCS 1TS  
THE FINISH OF TAPE MUST EXCEED THE  
START 10.0mm (MIN)

MARKING

UNIT : mm  
 A = 38.0 MAX  
 B = 3.2+0.5/-0.3  
 C = 1.35±0.3  
 D = 4.25 MAX  
 E = 5.5±0.3  
 F = 28.0 MAX  
 G = Ø0.8±0.1  
 H = 8.0 MIN

**2. SCHEMATIC :**

--- PIN 3,4,6,7 ADD TEFLON TUBE (LW)

19.5 TAPE 2TS  
PIN1~4      PIN5~8

**3. WINDING CONSTRUCTION :**

NO. 7 BLACK INK  
 CPH-DTD15015  
 XX : REV. NO.  
 XXXX : DATE CODE  
 \*\* : WORKING TEAM  
 □ : PLANT CODE  
 DET : DELTA THAILAND PLANT  
 DCWM : DELTA WUJIANG PLANT  
 DCUM : DELTA WUHU PLANT  
 DCZM : DELTA CHENZHOU PLANT

**4. PACKAGE MUST BE IN COMPLIANCE WITH PACKING**  
 SPEC NO.: 3526986200 , CARTON NO.: 3510050400  
 37.8g/PC 9.377kg/CARTON 200PCS/CARTON

**5. MARKING : ON THE TAPE OF PIN 3-4 SIDE**

**6. CORE GAP : 1.9±2mm (ON THE CENTER OF BOTH CORE)**  
**7. VARNISH : BC-346-A(VACUUM)(CONSISTENCY 14±1SEC)**  
**8. FOR ENVIRONMENT CONCERNS , ALL PARTS MUST FOLLOW DELTA'S SPECIFICATION "10000-0162"(THE MANAGEMENT STANDARDS FOR ENVIRONMENT-RELATED SUBSTANCE.)**  
**9. #0.1-60C WIRE 60±7TURNS**  
**10. TURNS MUST TO BE TEST**

**1. MECHANICAL DIMENSIONS :**

WINDING DIRECTION

AFTER VARNISH:  
STICK T32 TAPE IPCE 2TS OR 2PCS 1TS  
THE FINISH OF TAPE MUST EXCEED THE  
START 10.0mm (MIN)

MARKING

UNIT : mm  
 A = 38.0 MAX  
 B = 3.2+0.5/-0.3  
 C = 1.35±0.3  
 D = 4.25 MAX  
 E = 5.5±0.3  
 F = 28.0 MAX  
 G = Ø0.8±0.1  
 H = 8.0 MIN

**2. SCHEMATIC :**

--- PIN 3,4,6,7 ADD TEFLON TUBE (LW)

19.5 TAPE 2TS  
PIN1~4      PIN5~8

**3. WINDING CONSTRUCTION :**

NO. 7 BLACK INK  
 CPH-DTD15015  
 XX : REV. NO.  
 XXXX : DATE CODE  
 \*\* : WORKING TEAM  
 □ : PLANT CODE  
 DET : DELTA THAILAND PLANT  
 DCWM : DELTA WUJIANG PLANT  
 DCUM : DELTA WUHU PLANT  
 DCZM : DELTA CHENZHOU PLANT

**4. PACKAGE MUST BE IN COMPLIANCE WITH PACKING**  
 SPEC NO.: 3526986200 , CARTON NO.: 3510050400  
 37.8g/PC 9.377kg/CARTON 200PCS/CARTON

**5. MARKING : ON THE TAPE OF PIN 3-4 SIDE**

**6. CORE GAP : 1.9±2mm (ON THE CENTER OF BOTH CORE)**  
**7. VARNISH : BC-346-A(VACUUM)(CONSISTENCY 14±1SEC)**  
**8. FOR ENVIRONMENT CONCERNS , ALL PARTS MUST FOLLOW DELTA'S SPECIFICATION "10000-0162"(THE MANAGEMENT STANDARDS FOR ENVIRONMENT-RELATED SUBSTANCE.)**  
**9. #0.1-60C WIRE 60±7TURNS**  
**10. TURNS MUST TO BE TEST**

Vendor P/N: CPH-01D15015

Drawn: 廖美珍 05/27/15

Design: 李麗 05/27/15

DESCRIPTION: INDUCTOR

PART NO.: 2877628700

REV: 01

SIZE: SHEET 2 OF 3

FRAME NAME : DF-MAG4H-1001.DWG

PLOT RUN ON : DC2M

EDM NO. : F28700019690

PL08U-DT

Description.....: Specification of Inductor (L153), type: CPH-DTD15015

1		2		3		4	
MATERIAL LIST :	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.			
NO	PART	UL RECOGNIZED	UL RECOGNIZED	UL RECOGNIZED			
A	1	MAGNET WIRE	E I DUPONT DE NEMOURS & CO INC	130C MW28 130C MW75 155C MW79 155C MW80 180C MW-82 180C MW-83	UL RECOGNIZED		
	2	BOBBIN	SUMITOMO BAKELITE CO LTD	155C 94V-0 FR530 (0.4mm MIN BOBBIN WALL) 150C 94V-0 PW-8375 (0.49mm MIN BOBBIN WALL) 150C 94V-0 PW-9630 (0.4mm MIN BOBBIN WALL) 150C 94V-0 PW-9820 (0.4mm MIN BOBBIN WALL)	E41938 E41429		
B	3	TAPE	3M COMPANY ELECTRICAL MARKETS DIV(EMD)	130C MATERIAL GROUP I NO.1351-1 130C MATERIAL GROUP I NO.1350F-1 130C MATERIAL GROUP II NO.1350T-3 130C MATERIAL GROUP I No.1350F-2 155C NO.1205 180C NO.92	E17385		
	4	VARNISH	JOHN C DOLPH CO. ELANTAS ELECTRICAL INSULATION ELANTAS PDC INC	130C MATERIAL GROUP (FOR UL), GROUP (FOR TUV) NO.55660Y	E50292		
C	5	TUBING	JINGJIANG YAHUIA PRESSURE SENSITIVE GLUE CO.,LTD TERAKA SESAKUSHO CO LTD	200C NO.5805 #3 200C NO.5805 #5 200C NO.8C-346-A 130C V1380FC	E165111 E56086		
	6	MARGIN TAPE	ZEUS INDUSTRIAL PRODUCTS INC. GREAT HOLDING INDUSTRIAL CO LTD CHANGJIAN ELECTRONICS (SHENZHEN) CO LTD 3M COMPANY ELECTRICAL MARKETS DIV(EMD)	200C TTE-1W-150 200C TTE-1W-300 200C TFE-VW-1 200C TFE-VW-1 200C CB-TT-L VW-1 200C CB-TT-T VW-1	E64007 E156256 E180908		
				POLYESTER FILM/NONWOVEN COMPOSITE INSULATING TAPES POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE	E17385 E50292 E165111		
				Vendor P/N: CPH-01015015 Drawn: 廖美珍 Design: 李豐	DESCRIPTION: INDUCTOR		
				THRU ANGLE PRODUCTION PART NO.: 2877628700 SIZE: A4 REV: 01	SHEET 3 OF 3		
				Dimensional Tolerances: SCALE: 3:000 UNIT: mm USED ON:	3		
				台達電子工業股份有限公司 DELTA ELECTRONICS, INC. THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUS OR DEVICES WITHOUT PERMISSION.	4		
				FRAME NAME : DF-MAGRAH-1801.DWG PLOT RUN ON : ICG2M	EDM NO. : F28700019690		

Description.....: Specification of Inductor (L801), type: PFCV-DTD15002

TEST TERMINAL	TEST CONDITION	L (µH)	L15A DC (µH)	DCR (mΩ)	TURNS	WIRE GAUGE	HI-POT TEST 60Hz,1s
3,4-7,8				26±5.2	44	Ø1.0*2 OJEWNR	L1 TO L2 500Vdc
5,6-11,12				26±5.2	44	Ø1.0*2 OJEWNR	LEAKAGE CURRENT ≤1.0mA
3,4-11,12(SHORT)	16kHz,0.3V	627.26±17%, -12%	130.0 MIN				

**1. MECHANICAL DIMENSIONS :**

STEP1: AFTER VARNISH  
T25±0.002\*OU ITS

**STEP2:**  
T43 TAPE IPCE ITS

**2. SCHEMATIC :**

**3. PACKAGE MUST BE IN COMPLIANCE WITH PACKING**  
SPEC NO.: 3526980300 CARTON NO.: 3510050400  
105.58g/PC 15.30kg/CARTON 128PCS/CARTON

**4. MARKING :** ON THE CENTER OF BOTTOM BASE  
NO.7 BLACK INK  
PFCV-DTD15002  
XX : REV NO.  
XXXX : DATE CODE  
\*\* : WORKING TEAM

**5. CORE SIZE :** T41\*23\*15 KOOL MU µ=60

**6. CORE SOURCE :** MS-157060-2  
CS400060 S157081A

**7. VARNISH:BC-346-A(CONSISTENCE 14±1S)(VACUUM)**

**8. TURNS MUST BE TESTED**

**9. L1&L2 MUST USE BANK WINDING**

**10. WINDING & BASE& CORE MUST BE FINED BY ADHESIVE**

**11. LAYER TEST:2.5KV(JUST ALLOW ±10% DIFFERENT AREA WITH THE TEST WAVEFORM OF GOLDEN SAMPLE )**

**12. NO ABRASION AND SCRATCH ON THE WIRE.**

**13. ALL MATERIALS MUST MEET WITH "DELTA" SPEC : 10000-0162**

**14. WINDING DIRECTION DIAGRAM :**

**UNIT: mm**

A = 48.5 MAX  
B = 3.2±0.3  
C = 19.0±0.3  
D = 0.9 MAX  
E = 5.0±0.3  
F = 7.9 MAX  
G = 24.2 MAX  
H = 34.2 MAX

T26 IL WAGON TAPE IPCE (FOR COPPER FIL. SOLDER PLATE)

129±0.027\*OU  
130.0±5.0mm

**BASE P/N:** 3175189800  
**HOLE DIMENSION:** Ø1.2 FOR PIN 3,7  
Ø1.4 FOR PIN 4,5,6,8,11,12

**Vendor P/N:** PFCV-DTD15002  
**Drawn:** 丘美珍 04/2015  
**Design:** 陆宗剑 04/2015

**DESCRIPTION:** INDUCTOR

**PART NO.:** 2878351400

**REV.:** 00

**SIZE:** A4  
**SIZE:** SHEET 2 OF 4

**台達電子工業股份有限公司**  
**DELTA ELECTRONICS, INC.**

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**FRAME NAME :** 0F-MAGAH-IROLDWG **1**

**PILOT RUN ON:** DCCM

**BU:** PLD8U-DI



**EDM:** F28700019685

Description.....: Specification of Inductor (L801), type: PFCV-DTD15002

MATERIAL LIST :		2		3		4	
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.		
1	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	130°C MW28 , 130°C MW75 155°C MW6 , 155°C MW19 , 155°C MW80 180°C MW-82 , 180°C MW-83	UL RECOGNIZED		
		MAN YA PLASTICS CORP COL DEPT ELECTRONIC MATERIAL DIV	130°C FR-4 NPG-R UL 94V-0 130°C FR-4 NPG-150N UL 94 V-0 130°C FR-4-86 UL 94 V-0	INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.	E98983		
		SHENGYI TECHNOLOGY CO LTD	130°C FR-4 5150G UL 94 V-0	INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.	E109769		
		KINGBOARD LAMINATES HOLDINGS LTD	130°C FR-4 KB-6150 UL 94 V-0 130°C CEM-1 KB-5150 UL 94 V-0	INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.	E123995		
		3M TAIWAN LTD	130°C MO1S-300	3 LAYERS PET FILM INSULATING TAPE,NO OUTSIDE ADHESIVE	E305006		
		3M TAIWAN LTD	130°C MO1S-250-a	3 LAYERS PET FILM INSULATING TAPE WITH OUTER PU COATING ON EACH SIDE,NO OUTSIDE ADHESIVE	E305006		
2	BASE & INSULATOR	E   DUPONT DE NEMOURS & CO INC	155°C 94V-0 FR530 (0.4mm MIN BOBBIN WALL)	POLYETHYLENE TEREPHTHALATE (PET), GLASS REINFORCED, FLAME RETARDANT, "RYNITE",FURNISHED AS PELLETS.	E41938		
		SUMITOMO BAKELITE CO LTD	150°C 94V-0 PM-8375 (0.49mm MIN BOBBIN WALL) 150°C 94V-0 PM-9630 (0.4mm MIN BOBBIN WALL) 150°C 94V-0 PM-9820 (0.4mm MIN BOBBIN WALL)	PHENOLIC (PF), "SUMKON", FURNISHED AS PELLETS, GRANULAR MATERIAL	E41429		
		SAMTOMO CHEMICAL CO LTD	130°C 94V-0 E4008 (0.4mm MIN BOBBIN WALL)	LIQUID CRYSTAL POLYMER(LCP), "SUMKASUPER", FURNISHED AS PELLETS.	E54705		
		HITACH CHEMICAL CO LTD	150°C 94V-0 CP-J-8700 (0.4mm MIN BOBBIN WALL) 150°C 94V-0 CP-J-8800 (0.4mm MIN BOBBIN WALL)	PHENOLIC (PF), FURNISHED AS GRANULAR MATERIAL, FINISHED PARTS.	E42956		
		CHANG CHIN PLASTICS CO LTD	150°C 94V-0 T-355J (0.82mm MIN BOBBIN WALL) 150°C 94V-0 T375J (0.45mm MIN BOBBIN WALL)	PHENOLIC MOLDED COMPOUND (PMC), "LONGLITE", FURNISHED AS PELLETS.	E59481		
		JOHN C DOULPH CO	200°C NO.8C-346-A		E317427		
3	VARNISH	ELANTAS ELECTRICAL INSULATION ELANTAS PFG INC	130°C V1380FC	POLYESTER FILM/NONWOVN COMPOSITE INSULATINGTAPES	E75225		
		3M COMPANY ELECTRICAL MARKETS DIV(EMO)	130°C MATERIAL GROUP   NO.44 ,44-A,44D-A,44T-A	POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE.	E17385		
		SYMBO INC	130°C MATERIAL GROUP   NO.35661	POLYESTER FILM/NONWOVN COMPOSITE INSULATINGTAPES	E50292		
		JINGANG YAHUA PRESSURE SENSITIVE GUE CO.,LTD	130°C MATERIAL GROUP   NO.MF	NONWOVN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE	E160111		
		台達電子工業股份有限公司 DELTA ELECTRONICS, INC.	DIMENSIONAL TOLERANCES ( ) : ±0.25     DECIMALS ( ) : ±0.10     FRACTIONS ( ) : ±0.05     FRACTIONS HOLES : DIA     ANGLES:45° SCALE     UNIT     mm     USED ON		Vendor P/N: PFCV-DTD15002 Drawn: 丘美珍 04/2015 Design: 陸宗訓 04/2015 Description: INDUCTOR Part No.: 2878351400 REV. 00		
FRAME NAME : 0F-MAG44H-1R01.DWG		PILOT RUN ON: QIC2M		EDM: F28700019685			



Description.....: Specification of Inductor (L801), type: PFCV-DTD15002

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
MATERIAL LIST :			
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.
5	TAPE	JM COMPANY ELECTRICAL MARKETS DIV(EMD)	130°C MATERIAL GROUP I NO.1351-1 130°C MATERIAL GROUP II NO.1350F-1 130°C MATERIAL GROUP II NO.1350T-3 130°C MATERIAL GROUP Ito NO.1350F-2 155°C NO.1205 180°C NO.92 180°C NO.1218 130°C MATERIAL GROUP I(FOR UL), GROUP II(FOR TUV) NO.35660Y 200°C NO.KA180 JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD TERAOKA SESKUSHO CO LTD 200°C NO.5605 #3 200°C NO.5605 #5
		DESCRIPTION	UL FILE NO.
		FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E17385
		POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E50292
		POLYIMIDE INSULATING TAPE WITH SILICONE BASE ADHESIVE	E50292
		POLYETHYLENE TEREPHTHALATE FILM TAPE	E165111
		FLAME RETARDANT ARAMID PAPER TAPE, ACRYLIC ADHESIVE	E56086
			
		Vendor P/N: PFCV-DTD15002	DESCRIPTION: INDUCTOR
		Drawn: 丘美珍 04/2015	THIRD ANGLE PROJECTION
		Design: 陸宗劍 04/2015	PART NO.: 2878351400
		SCALE: UNIT mm	REV. 00
		DIMENSIONAL TOLERANCES (<math>\phi</math>) ±0.2 (<math>L</math>) ±0.2 (<math>W</math>) ±0.1 (<math>H</math>) ±0.3 (<math>R</math>) ±0.2 HOLES : ±0.05 ANGLE±14.5° USED ON:	SIZE A4
		 台達電子工業股份有限公司 DELTA ELECTRONICS, INC. THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED IN ANY MANNER FOR THE MANUFACTURE OR SELL OF APPARATUS OR DEVICES WITHOUT PERMISSION.	
		SHEET 4 OF 4	REV. 00
		<b>3</b>	<b>4</b>
FRAME NAME : OF-MAG44H-1801.DWG PILOT RUN ON: DZGM BU: PLOBRU-DT EDM: F28700019685			

Description.....: Specification of Inductor (L801), type: PFCH-DTD15015

TEST TERMINAL	TEST CONDITION	L( $\mu$ H)	DCR(m $\Omega$ )	TURNS	WIRE GAUGE	HI-POT TEST 60Hz,1s WINDING TO CORE 500 Vac
S-F	40KHz IV	650 $\pm$ 5%	125 $\pm$ 25	34	$\phi$ 0.1x70C 2UEWM	

**1. MECHANICAL DIMENSIONS :**

WINDING DIRECTION

MARKING

UNIT : mm  
 A = 31.5 MAX  
 $\Delta$ A/B = 3.2+0.5/-0.3  
 C = 16.9 $\pm$ 1.0  
 D = 51.5 $\pm$ 1.0  
 E = 47.8 MAX (FOR CORE SPEC)  
 H = 26.0 MAX  
 J = 55.0 $\pm$ 3.0  
 K = 20.0 $\pm$ 3.0  
 $\Delta$ L = 0.8 MAX  
 M = 0.7 MAX (FOR EP07)  
 N = 10.0 $\pm$ 3.0

BOBBIN P/N: 516-642  
 CORE SIZE: ED23  
 HOLE DIMENSION:  $\phi$ 1.6 (FOR PIN 2~4)  
 $\Delta$  $\phi$ 2.2 (FOR PIN S,F) PIN 1 OMIT

**2. SCHEMATIC :**

WINDING CONSTRUCTION :

LEAKAGE CURRENT <math>\leq 1.0\text{mA}</math>

12. NOT FULL ONE LAYER MUST USE LOOSE WINDING

FP398-1 OR FP68Z

**3. WINDING CONSTRUCTION :**

T12.5 TAPE 2TS  
 T12.5 TAPE 1TS

NO.7 BLACK INK  
 XX : REV NO.  
 XXXX : DATE CODE  
 \*\* : WORKING TEAM  
 PFCH-DTD15015 (01)  
 XXXX(XX)\*\*

DET : DELTA THAILAND PLANT  
 DCWM : DELTA WUJIANG PLANT  
 DCJM : DELTA WAHU PLANT  
 DCZM : DELTA CHENZHOU PLANT

7. CORE GAP : 0.52 $\pm$ 0.2mm(ON THE CENTER OF TWO CORE)  
 8. VARNISH : BC-346-A(VACUUM) (CONSISTENCY 14 $\pm$ 1SEC)  
 9. FOR ENVIRONMENT CONCERNS, ALL PARTS MUST FOLLOW DELTA'S SPECIFICATION "10000-0162"(THE MANAGEMENT STANDARDS FOR ENVIRONMENT-RELATED SUBSTANCE.)  
 10. #0.1x70C WIRE TWIST : 60+7 (TURNS/M)  
 11. THE TURNS MUST BE TESTED.  
 12. MUST WIPE OFF THE REDUNDANT ADHESIVE IN CORES JOINTS.

**4. PACKAGE MUST BE IN COMPLIANCE WITH PACKING**  
 SPEC NO. 3526980400 CARTON NO.3512142900  
 131.5g/PC 14.21Kg/CARTON 98PCS/CARTON

**5. MARKING :** ON THE CENTER OF TAPE PIN 1~2 SIDE

VECTOR P/N: PFCH-DTD15015  
 DESCRIPTION: INDUCTOR  
 TUBO ANGLE PROJECTION  
 Part No.: 2878351701  
 REV: 02

DATE: 06/29/15  
 DESIGN: 06/29/15  
 SIZE: A4  
 SHEET 2 OF 4

SCALE	UNIT	mm	USED ON
( )	DECIMALS		
<math>\phi</math>	DECIMALS		
X	XX		
XX	XXX		
XXX	XXXX		
XXXX	ANGLES: 10:5		

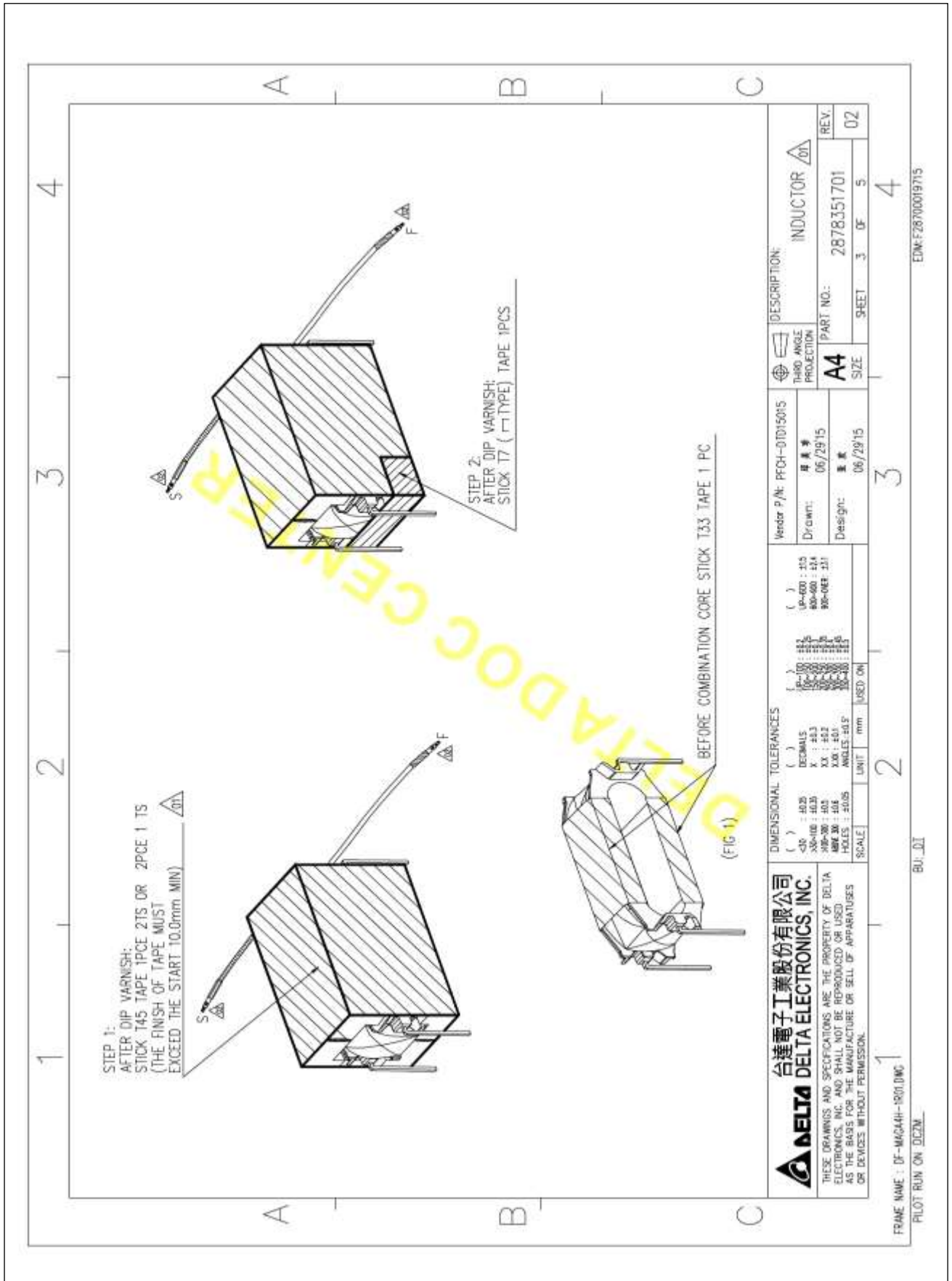
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FRAME NAME : DF-WG24H-R01.DWG  
 PILOT RUN ON DCZM

BU: DJI

EDM: F28700019715

Description.....: Specification of Inductor (L801), type: PFCH-DTD15015



Description.....: Specification of Inductor (L801), type: PFCH-DTD15015

MATERIAL LIST :					
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.
1	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	130°C MW28	130°C MW75
				155°C MW79	155°C MW80
				180°C MW-82	180°C MW-83
2	BOBBIN	E I DUPONT DE NEMOURS & CO INC	155°C 94V-0 FR530 (0.4mm MIN BOBBIN WALL)	POLYETHYLENE TEREPHTHALATE (PET) GLASS REINFORCED, FLAME RETARDANT, RYNYTE, FURNISHED AS PELLETS	E41938
			130°C 94V-0 E4008 (0.4mm MIN BOBBIN WALL)	LIQUID CRYSTAL POLYMER (LCP), SUMIKASUPER, FURNISHED AS PELLETS.	E54705
			150°C 94V-0 PM-8375 (0.49mm MIN BOBBIN WALL)	PHENOLIC (PF), "SUMIKON", FURNISHED AS PELLETS, GRANULAR MATERIAL.	E41429
			150°C 94V-0 PM-9630 (0.4mm MIN BOBBIN WALL)		
			150°C 94V-0 PM-9820 (0.4mm MIN BOBBIN WALL)		
3	TAPE	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD	130°C MATERIAL GROUP I NO.1351-1	FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E17385
			130°C MATERIAL GROUP II NO.1350F-1		
			130°C MATERIAL GROUP II NO.1350T-1		
			130°C MATERIAL GROUP II NO.1350F-2		
			150°C NO.1205		
4	VARNISH	ELANTAS ELECTRICAL INSULATION ELANTAS POC INC	200°C NO.5805 #3	POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E50282
			200°C NO.5805 #5	POLYETHYLENE TEREPHTHALATE FILM TAPE	E165111
			200°C NO.KA180	FLAME RETARDANT ARMOID PAPER TAPE, ACRYLIC ADHESIVE	E56086
			180°C NO.PB-416F	POLYIMIDE INSULATING TAPE WITH SILICONE BASE ADHESIVE	E50292
			200°C NO.BC-346-A	POLYIMIDE INSULATING TAPE WITH SILICONE ADHESIVE	E81174
5	TUBING	ZELUS INDUSTRIAL PRODUCTS INC	130°C VI380FC	POLYTETRAFLUOROETHYLENE (PTFE) HOT HEAT-SHRINKABLE POLYTETRAFLUOROETHYLENE	E156256
			200°C TE-TW-150		
			200°C TE-TW-300		
			200°C TE-TW-1		
			200°C TT-W-1		
C		CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	200°C CB-TT-L VW-1	TEFLON(PTFE) NON-HEAT-SHRINKABLE TUBING	E180908
			200°C CB-TT-T VW-1		

Vendor P/N: PFCH-01D15015	INDUCTOR
Drawn: 06/29/15	REV. 02
Design: 06/29/15	PART NO.: 2878351701
SIZE: A4	SHEET: 4 OF 5

SCALE	UNIT	mm	USED ON
( )	( )	( )	( )
1:1	mm	100	100
2:1	mm	50	50
5:1	mm	20	20
10:1	mm	10	10
20:1	mm	5	5
50:1	mm	2	2
100:1	mm	1	1

DIMENSIONAL TOLERANCES	
( )	( )
0.25	0.15
0.50	0.30
1.00	0.60
1.50	0.90
2.00	1.20
3.00	1.80
4.00	2.40
6.00	3.60
8.00	4.80
10.00	6.00
15.00	9.00
20.00	12.00
30.00	18.00
40.00	24.00
50.00	30.00
60.00	36.00
80.00	48.00
100.00	60.00
150.00	90.00
200.00	120.00
300.00	180.00
400.00	240.00
500.00	300.00
600.00	360.00
800.00	480.00
1000.00	600.00

Description.....: Specification of Inductor (L801), type: PFCH-DTD15015

OUTTER MATERIAL LIST :		1		2		3		4		
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.					
1	HS TUBING	SUMITOMO ELECTRIC FINE POLYMER INC	125°C SUMITURE F32	IRRADIATED FLEXIBLE HEAT SHRINKABLE POLYOLEFIN	E48762					
		CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	125°C CB-HFT,VM-1	HEAT SHRINKABLE POLYOLEFIN TUBING FLEXIBLE HEAT SHRINKABLE POLYOLEFIN TUBING	E180908					
		DONGGUAN SALIPT CO LTD	125°C SALIPT S-901-600	HEAT SHRINKABLE POLYOLEFIN TUBING	E208436					
			125°C SALIPT S-901-300							
		125°C SALIPT S-901-150								
		TYCO ELECTRONICS CORP	125°C ZH2, VM-1	HEAT SHRINKABLE POLYOLEFIN TUBING	E35586					
2	HOUSING	WELL ONE CO LTD	125°C VETSAPT V2	IRRADIATED FLEXIBLE HEAT SHRINKABLE POLYOLEFIN TUBING FLEXIBLE HEAT SHRINKABLE POLYOLEFIN TUBING	E257529					
		E I DUPONT DE NEMOURS & CO INC	130°C FR7025VDF(+ ) UL 94 V-0	POLYAMIDE 66 (PA66),FLAME RETARDANT , "ZYTEL", FURNISHED AS PELLETS.	E41938					
		E I DUPONT DE NEMOURS & CO INC	130°C FR7026VDF(+ ) UL 94 V-0	POLYAMIDE 66 (PA66), "ZYTEL", FURNISHED AS PELLETS.	E41938					
		E I DUPONT DE NEMOURS & CO INC	130°C FR60 (0.75mm MIN BORE/WALL)	POLYAMIDE 66 (PA66),FLAME RETARDANT ,GLASS REINFORCED, "ZYTEL", FURNISHED	E41938					
<b>台達電子工業股份有限公司</b> <b>DELTA ELECTRONICS, INC.</b>		DIMENSIONAL TOLERANCES ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) <30 : ±0.2    DECIMALS 30-100 : ±0.3    X : ±0.3 100-300 : ±0.5    X : ±0.5 300-500 : ±0.8    X : ±0.8 500-1000 : ±1.0    X : ±1.0 HOLES : ±0.05    ANGLES:±0.5		Vendor P/N: PFCH-01D15015 Drawn: 06/29/15 Design: 06/29/15		DESCRIPTION: TUBO ANGLE PROJECTION INDUCTOR		PART NO.: 2878351701 SHEET 5 OF 5		REV. 02
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EDM-F26700019715

BU: DJ

FRAME NAME : DF-MAG24H-R01.DWG  
PILOT RUN ON DC2M

Description.....: Specification of Inductor (L801), type: PFCV-DTD15019

TEST TERMINAL	TEST CONDITION	L (mH)	L15A DC (µH)	DCR (mΩ)	TURNS	WIRE GAUGE	HI-POT TEST 60Hz,1s
3-7			60±12	60±12	65	Ø1.15 OUEWNR	L1 TO L2 500Vdc
6-12			60±12		65	Ø1.15 OUEWNR	
3-12(SHORT 6,7)	16KHz,0.3V	1.37±17%/-12%	130.0 MIN				LEAKAGE CURRENT ≤=1.0mA

**1. MECHANICAL DIMENSIONS:**  
STEP1: AFTER VARNISH  
.125\*0.002 CU ITS

**STEP2:**  
T4.3 TAPE IPICE ITS

**2. SCHEMATIC:**

**3. PACKAGE MUST BE IN COMPLIANCE WITH PACKING**  
SPEC NO.: 3526980.100 CARTON NO.: 3510050400  
103.18g/PC 14.99kg/CARTON 128PCS/CARTON

**4. MARKING:** ON THE CENTER OF BOTTOM BASE  
PFCV-DTD15019  
NO.7 BLACK INK  
XX : REV NO  
XXXX : DATE CODE  
\*\* : WORKING TEAM

**5. CORE SIZE:** T41\*23\*15 KOOL MU ul=60

**6. VARNISH:BC-346-A(CONSISTENCE 14E1S)(VACUUM)**

**7. TURNS MUST BE TESTED**

**8. L1&L2 MUST USE BANK WINDING**

**9. WINDING & BASE& CORE MUST BE FIXED BY ADHESIVE**

**10. LAYER TEST:2.5KV(JUST ALLOW ±10% DIFFERENT AREA WITH THE TEST WAVEFORM OF GOLDEN SAMPLE )**

**11. NO ABRASION AND SCRATCH ON THE WIRE.**

**12. ALL MATERIALS MUST MEET WITH**

**13. WINDING DIRECTION DIAGRAM :** "DELTA" SPEC : 10000-0162

**UNIT: mm**

A = 48.5 MAX  
B = 3.2±0.3  
C = 19.0±0.3  
D = 0.9 MAX  
E = 5.0±0.3  
F = 7.9 MAX  
G = 24.2 MAX  
H = 34.2 MAX

T3E TL MARKIN TAPE IPICE (FOR COPPER FOL SOLDER FLAZE)

BASE P/N: 3175189800  
HOLE DIMENSION: Ø1.6 FOR PIN 3,7  
Ø1.4 FOR PIN 6,12

**3. DIMENSIONAL TOLERANCES**

SCALE	UNIT	mm	USED ON
( )	DECIMALS		
( )	UP-90°	±0.25	±15
( )	90-180°	±0.20	±14
( )	180-270°	±0.15	±13
( )	270-360°	±0.10	±12
( )	360-450°	±0.05	±11
( )	450-540°	±0.05	±10
( )	540-630°	±0.05	±9
( )	630-720°	±0.05	±8
( )	720-810°	±0.05	±7
( )	810-900°	±0.05	±6

**Vendor P/N:** PFCV-DTD15019  
**Drawn:** 丘美珍 04/21'15  
**Design:** 陸宗鈞 04/21'15

**DESCRIPTION:** INDUCTOR

**THIRD ANGLE PROJECTION**

**A4** PART NO.: 2878351600  
REV: 00

SHEET 2 OF 4

FRAME NAME : 0F-MAG4H-TRU.DWG 1  
PILOT RUN ON: DCCM  
BU: PLDBU-DT 2  
EDM: F28700019705 4

Description.....: Specification of Inductor (L801), type: PFCV-DTD15019

MATERIAL LIST :		1		2		3		4	
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.				
1	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	130°C MW2B , 130°C MW75	UL RECOGNIZED				
				155°C MW5 , 155°C MW79 , 155°C MW80					
				180°C MW-82 , 180°C MW-83					
				INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.					
				INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.					
				INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.					
				INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.					
				3 LAYERS PET FILM INSULATING TAPE,NO OUTSIDE ADHESIVE					
				3 LAYERS PET FILM INSULATING TAPE,WITH OUTER PU COATING ON EACH SIDE,NO OUTSIDE ADHESIVE					
				3 LAYERS PET FILM INSULATING TAPE, GLASS REINFORCED, FLAME RETARDANT, "RYNITE",FURNISHED AS PELLETS.					
2	BASE & INSULATOR	UL RECOGNIZED	UL RECOGNIZED	130°C FR-4 NPG-R UL 94V-0	UL RECOGNIZED				
				130°C FR-4 NPG-150N UL 94 V-0					
				130°C FR-4-86 UL 94 V-0					
				130°C FR-4 S11506 UL 94 V-0					
				130°C FR-4 KB-6150 UL 94 V-0					
				130°C CEM-1 KB-5150 UL 94 V-0					
				130°C NDI15-300					
				130°C NDI15-250-q					
				155°C 94V-0 FR530 (0.4mm MIN BOBBIN WALL)					
				150°C 94V-0 PM-8375 (0.49mm MIN BOBBIN WALL)					
150°C 94V-0 PM-9630 (0.4mm MIN BOBBIN WALL)									
150°C 94V-0 PM-9820 (0.4mm MIN BOBBIN WALL)									
130°C 94V-0 E4008 (0.4mm MIN BOBBIN WALL)									
150°C 94V-0 CP-J-8700 (0.4mm MIN BOBBIN WALL)									
150°C 94V-0 CP-J-8800 (0.4mm MIN BOBBIN WALL)									
150°C 94V-0 T-355J (0.62mm MIN BOBBIN WALL)									
150°C 94V-0 T375J (0.45mm MIN BOBBIN WALL)									
3	VARNISH	UL RECOGNIZED	UL RECOGNIZED	200°C ND.BC-346-A	UL RECOGNIZED				
				130°C V1380FC					
				130°C MATERIAL GROUP I NO.44 ,44-A,440-A,44T-A					
				130°C MATERIAL GROUP I NO.35661					
				130°C MATERIAL GROUP I NO.MF					
				JOHN C DOLPH CO.					
				ELANTAS ELECTRICAL INSULATION					
				ELANTAS P03G INC					
				3M COMPANY ELECTRICAL MARKETS (DMC60)					
				SYMBIO INC					
4	MARGIN TAPE	UL RECOGNIZED	UL RECOGNIZED	200°C ND.BC-346-A	UL RECOGNIZED				
				130°C V1380FC					
				130°C MATERIAL GROUP I NO.44 ,44-A,440-A,44T-A					
				130°C MATERIAL GROUP I NO.35661					
				130°C MATERIAL GROUP I NO.MF					
				JOHN C DOLPH CO.					
				ELANTAS ELECTRICAL INSULATION					
				ELANTAS P03G INC					
				3M COMPANY ELECTRICAL MARKETS (DMC60)					
				SYMBIO INC					
C	MARGIN TAPE	UL RECOGNIZED	UL RECOGNIZED	200°C ND.BC-346-A	UL RECOGNIZED				
				130°C V1380FC					
				130°C MATERIAL GROUP I NO.44 ,44-A,440-A,44T-A					
				130°C MATERIAL GROUP I NO.35661					
				130°C MATERIAL GROUP I NO.MF					
				JOHN C DOLPH CO.					
				ELANTAS ELECTRICAL INSULATION					
				ELANTAS P03G INC					
				3M COMPANY ELECTRICAL MARKETS (DMC60)					
				SYMBIO INC					

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Vendor P/N: PFCV-DTD15019  
 Drawn: 丘美珍 04/21/15  
 Design: 蘇宗訓 04/21/15

THIRD ANGLE PROJECTION  
**A4** SIZE  
 PART NO.: 2878351600  
 SHEET 3 OF 4  
 REV. 00

Description.....: Specification of Inductor (L801), type: PFCV-DTD15019

1	2	3	4
MATERIAL LIST :			
A	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
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C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
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A	B	C	A
C	B	C	A
A	B	C	A
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C	B	C	A
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C	B	C	A
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C	B	C	A
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C	B	C	A
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C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
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C	B	C	A
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A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
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C	B	C	A
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C	B	C	A
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A	B	C	A
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A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
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C	B	C	A
A	B	C	A
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A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A	B	C	A
C	B	C	A
A			



Description.....: Specification of Line Filter (FL1), type: HFH-DTD15014

TEST TERMINAL	TEST CONDITION	L(mH)	/L1-L2/ (uH)	DCR(mΩ)	WIRE GAUGE	TURNS	HI-POT TEST 60Hz,1s L1 TO L2 1500Vdc
1-4	16KHz,0.3V	4.9 MIN	165 MAX	18.8±5.64	#1.15 OUEWN	30	
2-3	16KHz,0.3V	4.9 MIN		18.8±5.64	#1.15 OUEWN	30	
1-4	400KHz,0.3V	0.1 MIN					
2-3	400KHz,0.3V	0.1 MIN					
1-3 (2,4 SHORT)	16KHz,0.3V	14.7 MIN					LEAKAGE CURRENT ≤ 1.0mA

1. MECHANICAL DIMENSIONS :

2. SCHEMATIC :

3. PACKAGE MUST BE IN COMPLIANCE WITH PACKING  
 SPEC. NO. : 3526980900 CARTON NO. : 3510050100  
 35.8g/PC 12.34kg/CARTON 300PCS/CARTON  
 4. CORE SIZE : TOR25x15x9 U=10000  
 5. MARKING : ON THE CENTER OF BASE  
 HFH-DTD15014 NO.7 BLACK INK  
 XXXX(X) \*\* XX : REV CODE  
 \*\* : WORKING TEAM  
 6. INSULATOR & CORE MUST BE FIXED BY ADHESIVE  
 7. WINDING & BASE MUST BE FIXED BY ADHESIVE  
 8. L1 & L2 MUST USE BANK WINDING.  
 9. LAYER SHORT TEST(1-4) & L(2-3) :  
 2.5KV(JUST ALLOW ±10% DIFFERENT AREA  
 WITH THE TEST WAVEFORM OF GOLDEN SAMPLE).  
 10. NO ABRASION AND SCRATCH ON THE WIRE.  
 11. MATERIAL MUST BE MEET WITH "DELTA" SPEC : 10000-0162  
 12. WHEN THE PRODUCTION THE CORE NEED TO VARNISH BEFORE WINDING  
 13. TURNS MUST BE TESTED  
 14. VARNISH: NO.

UNIT : mm  
 A = 19.0 MAX  
 B = 3.2±0.3  
 C = 19.0±0.3  
 D = 23.2 MAX  
 E = 22.0±0.3  
 F = 26.2 MAX  
 G = 3.5 MAX  
 H = 1.6 MAX

BASE P/N: 3175233300  
 HOLE DIMENSION: Ø1.4 FOR PIN 2,4  
 Ø1.6 FOR PIN 1,3

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WINDING P/N: HFH-DTD15014  
 DRAWN: 丘榮珍 04/2015  
 DESIGN: 蔡鳳陽 04/2015


DESCRIPTION: LINE FILTER  
 Part No.: 2875353500  
 REV. 00

SCALE: UNIT: SHEET 2 OF 4

FRAME NAME : DF-WG2AH-BODDING  
 EDM: F28700019702  
 PLOT RUN ON DCDM  
 BU: DL



Description.....: Specification of Line Filter (FL1), type: HFH-DTD15014

MATERIAL LIST :		1		2		3		4	
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.				
1	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	130C MW28 , 130C MW75	UL RECOGNIZED	<div style="display: flex; justify-content: space-between;"> <span>UL RECOGNIZED</span> <span>UL RECOGNIZED</span> </div>			
				155C MW5 , 155C MW79 , 155C MW80					
				180C MW-82 , 180C MW-83					
				INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.					
				INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.					
				INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.					
				INDUSTRIAL LAMINATES,FURNISHED AS SHEETS.					
				3 LAYERS PET FILM INSULATING TAPE,NO OUTSIDE ADHESIVE					
				3 LAYERS PET FILM INSULATING TAPE,WITH OUTER PU COATING ON EACH SIDE,NO OUTSIDE ADHESIVE					
				3 LAYERS PET FILM INSULATING TAPE,WITH OUTER PU COATING ON EACH SIDE,NO OUTSIDE ADHESIVE					
2	BASE & INSULATOR	UL RECOGNIZED	UL RECOGNIZED	130C FR-4 NPG-R UL 94V-0	E39983	<div style="display: flex; justify-content: space-between;"> <span>E39983</span> <span>E109769</span> </div>			
				130C FR-4 NPG-150N UL 94 V-0					
				130C FR-4-66 UL 94 V-0					
				130C FR-4 S1150G UL 94 V-0					
				130C FR-4 KB-6150 UL 94 V-0					
				130C CEM-1 KB-5150 UL 94 V-0					
				130C NO1S-300					
				130C NO1S-250-a					
				155C 94V-0 FR530 (0.4mm MIN BOBBIN WALL)					
				150C 94V-0 PM-8375 (0.45mm MIN BOBBIN WALL)					
3	VARNISH	ELANTAS ELECTRICAL INSULATION ELANTAS PRG INC	200C NO.3C-346-A	130C FR7025VF(+ ) UL 94 V-0	E41938	<div style="display: flex; justify-content: space-between;"> <span>E41938</span> <span>E41938</span> </div>			
				130C FR7025VF(2) UL 94 V-0					
				130C FR7025VF(1) UL 94 V-0					
				130C FR7025VF(2) UL 94 V-0					
				130C FR7025VF(1) UL 94 V-0					
				130C FR7025VF(2) UL 94 V-0					
				130C FR7025VF(1) UL 94 V-0					
				130C FR7025VF(2) UL 94 V-0					
				130C FR7025VF(1) UL 94 V-0					
				130C FR7025VF(2) UL 94 V-0					
		 <p>台達電子工業股份有限公司 DELTA ELECTRONICS, INC.</p> <p>THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF DELTA ELECTRONICS, INC.</p>		<p>Vendor P/N: HFH-DTD15014</p> <p>Drawn: 丘美珍 04/20/15</p> <p>Design: 張鳳陽 04/20/15</p> <p>Part No.: 2875353500</p> <p>REV. 00</p>					

Description.....: Specification of Line Filter (FL1), type: HFH-CN11328

TEST TERMINAL	TEST CONDITION	L (mm)	DCR (mΩ)	ΔL-L2 (μH)	TURNS	WIRE GAUGE	HI-POT TSET 60HZ,1 SEC L1 TO L2 1500Vac
2-3	16KHZ,0.3V	12.0 MIN	14.7±4.4	120.0 MAX	25	φ1.29 OUEWNR	
1-4	16KHZ,0.3V	12.0 MIN	14.7±4.4		25	φ1.29 OUEWNR	
2-3	600KHZ,1V	0.1 MIN					
1-4	600KHZ,1V	0.1 MIN					
2-4(3.1 SHORT)	16KHZ,0.3V	36.0 MIN					LEAKAGE CURRENT ≤ 1.0mA

**1. MECHANICAL DIMENSIONS :**

**2. SCHEMATIC:**

**3. MARKING :**

NO.7 BLACK INK  
 XXXX: DATE CODE  
 XX: REV CODE  
 \*\* : WORKING TEAM

HFH-CN11328  
 XXXX(XX)\*\*

4. CORE SIZE: T27.6x17.4x12.8

5. WINDING & INSULATOR & BASE MUST BE FIXED BY EPOXY

6. L1 & L2 MUST USE BANK WINDING.

7. L(2-3)&L(1-4) LAYER SHORT TEST:2.5KV (JUST ALLOW ±10% DIFFERENT AREA WITH THE TEST WAVEFORM OF THE GOLDEN SAMPLE)

8. NO ABRASION AND SCRATCH ON THE WIRE.

9. AFTER FINISH WINDINGS, THE PRODUCT MUST BAKE TEN MINUTES (TEMPERATURE 120°C±5°C), THEN TEST IT WHEN COOL DOWN \*

10. FOR ENVIRONMENT CONCERNS , ALL PARTS MUST FOLLOW DELTA'S SPECIFICATION "10000-0162"(THE MANAGEMENT STANDARDS FOR ENVIRONMENT-RELATED SUBSTANCE.)

11. WINDING DIRECTION:

UNIT : mm

△△ A = 21.4 MAX △△  
 B = 3.2±0.3  
 C = 19.0±0.4  
 D = 2.0 MAX  
 E = 25.0±0.4  
 F = 5.5 MAX  
 G = φ1.29±0.1  
 H = 23.2 MAX  
 I = 30.2 MAX

BASE P/N : 3175242900 △△  
 HOLE DIMENSION : φ1.7 (FOR PIN 2,4)  
 φ1.5 (FOR PIN 1,3)

Vendor P/N: HFH-CN11328  
 Drawn: 丘美珍 07/24/14  
 Design: 張鳳晴 07/24/14

DESCRIPTION: LINE FILTER

PART NO.: 2875241400  
 SHEET 2 OF 3

**台達電子工業股份有限公司**  
**DELTA ELECTRONICS, INC.**

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SCALE: UNIT mm USED ON

SCALE	UNIT	mm	USED ON
( )	mm	1:1	
( )	mm	2:1	
( )	mm	3:1	
( )	mm	4:1	
( )	mm	5:1	
( )	mm	6:1	
( )	mm	8:1	
( )	mm	10:1	
( )	mm	12:1	
( )	mm	15:1	
( )	mm	20:1	
( )	mm	25:1	
( )	mm	30:1	
( )	mm	40:1	
( )	mm	50:1	
( )	mm	60:1	
( )	mm	80:1	
( )	mm	100:1	

DIMENSIONAL TOLERANCES ( )

( )	mm	DECIMALS
0-40	±0.25	
40-60	±0.30	
60-80	±0.35	
80-100	±0.40	
100-125	±0.45	
125-150	±0.50	
150-200	±0.60	
200-250	±0.70	
250-300	±0.80	
300-400	±1.00	
400-500	±1.20	
500-600	±1.50	
600-800	±2.00	
800-1000	±2.50	

FRAME NAME : 01-MAG4H-1R01.DWG 1  
 PLOT RUN ON \_D03P\_ BU : 01

EDM: F28700013988

