



Ref. Certif. No.

UP-CEC-100106

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST
CERTIFICATES FOR ELECTRICAL EQUIPMENT
(IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE
CERTIFICATS D'ESSAIS DES EQUIPEMENTS
ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE

CERTIFICAT D'ESSAI OC

Product
Produit

Switching Power Supply (Built-in type)

Name and address of the applicant
Nom et adresse du demandeur

Delta Electronics, Inc.
3 Tungyuan Road
Chungli Industrial Zone, Taoyuan County 32063 Taiwan

Name and address of the manufacturer
Nom et adresse du fabricant

Delta Electronics, Inc.
3 Tungyuan Road
Chungli Industrial Zone, Taoyuan County 32063 Taiwan

Name and address of the factory
Nom et adresse de l'usine

See additional page(s)

Rating and/or test standard
Valeurs nominales et caractéristiques principales

Input: AC 100-240V; 15.0-7.5A; 47-63Hz; Class I
Output: Refer to the test report.

Factory location
Veuillez indiquer la localité existante

DELTA ELECTRONICS, INC.(Lugan)

Type of measurement/testing laboratory used
Type de programme d'essai ou laboratoire

CET Stage 1

Model / Type Ref
Ref. du type

GPS-850HB XX, DFS-850AB-12 XX, DFS-850AB-13 XX,
DGA-850W/B01APA X
(X = 0 (A, Z) or blank)

Additional information (if necessary may also be
repeated on page 2)
Les informations complémentaires (si nécessaire
seront être indiquées sur la 2^{ème} page)

For model differences, refer to the test report.

A sample of the product was tested and found
to be in conformity with
Un échantillon du produit a été essayé et a été
considéré conforme à la

IEC 62366-1:2014
See Test Report for National Differences

As shown in the Test Report Ref. No. which forms part
of this Certificate
Comme indiqué dans le Rapport d'essais numéro de
référence qui constitue une partie de ce Certificat

50203943-001

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de Certification



TÜV Rheinland Japan Ltd.
Global Technology Assessment Center
4-25-2 Kōei Yamanashi, Isuzu-ku
Yokohama 224-0021 Japan
Phone: +81 45 914 3888
Fax: +81 45 914 3357
Mail: info@jpr.tue.com
Web: www.tue.com

Date: 02.03.2019

Signature:

Jiaojin Wang

1. Delta Electronics (Thailand)
Public Co., Ltd.
509 Soi 9 Mon 4, Bangpak Industrial
Estate (E.P.Z.), Pattana 1 Rd.
Tambol Phraksa, Amphur Muang, Samutprakarn 10280, Thailand

2. Delta Electronics Power
(Dongguan) Co., Ltd.
Deta Industrial Estate
Shila Town, Dongguan City
Guangdong Province 523008, P. R. China

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

Report Ref. No.: JFPMV040109

Date: 02/09/2019

Signature:

Alberto Wang





Test Report issued under the responsibility of:



TEST REPORT

IEC 62368-1

Audio/video, information and communication technology equipment

Part 1: Safety requirements

Report Number : 50285343 001

Date of issue : Aug. 29, 2019

Total number of pages : 88

Applicant's name : Delta Electronics, Inc.

Address..... : 3 Tungyuan Road, Chungli Industrial Zone, Taoyuan County 32063, Taiwan

Test specification:

Standard : IEC 62368-1:2014 (Second Edition)

Test procedure : CB Scheme

Non-standard test method..... : N/A

Test Report Form No. : IEC62368_1B

Test Report Form(s) Originator..... : UL(US)

Master TRF : 2014-03

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This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test Item description	Switching Power Supply (Built-in type)
Trade Mark	
Manufacturer	Same as applicant.
Model/Type reference	GPS-850HB XX, DPS-850AB-12 XX, DPS-850AB-13 XX, DSA-850W601APA X (X = 0-9, A-Z or blank)
Ratings	AC Input: 100-240Vac / 15.0-7.5A, 47-63Hz DC Output: See model list on page 9.

Testing procedure and testing location:		
<input type="checkbox"/>	CB Testing Laboratory:	TÜV Rheinland (Guangdong) Ltd.
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)..... :		
Approved by (name + signature)		
<input checked="" type="checkbox"/>	Testing procedure: TMP/CTF Stage 1	Delta Electronics Power (Dongguan) Co., Ltd.
Testing location/ address		Delta Industrial Estate, Shijie Town Dongguan City 523308 Guangdong Province China
Tested by (name + signature)..... :		Bica Chen Project Engineer
Approved by (name + signature)		Ben Zeng Reviewer
<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)		

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

- Appended table (3 pages)
- Attachment 1: Photo Documentation (7 pages)
- Attachment 2: National Differences (32 pages)
- Attachment 3: Technical Documentation (25 pages)

Summary of testing:
Tests performed (name of test and test clause):

All applicable tests as described in Test Case and Measurement Sections were performed.

5.2	Electrical energy source classifications
5.4.1.4, 6.3.2, 9.0, B.2.6	Maximum operating temperatures for materials, components and systems
5.4.1.8	Determination of working voltage
5.4.1.10.3	Ball pressure test
5.4.8	Humidity conditioning
5.4.9	Electric strength test
5.5.2.2	Discharge of Capacitors
5.6.6.2	Resistance of protective conductors
5.7	Prospective touch voltage and touch current measurement
5.7.5	Protective conductor current
6.2.2	Electrical power sources (PS) measurements for classification
B.2.5	Input tests
B.3	Simulated abnormal operating condition tests
B.4	Simulated single fault conditions
F.3.9	Durability, legibility and permanence of markings
G.5.3.2	Transformer insulation
G.5.3.3	Transformer overload
T.2	Steady force test, 10 N
T.4	Steady force test, 100N
T.5	Steady force test, 250N
T.6	Impact test

Remark:

- 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.
- Unless otherwise specified, throughout this report, the tests were performed on model GPS-850HB A at around +25°C on an open bench and installed which provides the lowest airflow according to table 4.1.2.

Testing location:

All tests as described in Test Case and Measurement Sections were performed at the laboratory described on page 2.

Load conditions:
For model GPS-850HB A
☒ Test Condition A

V1	A1	V2	A2	V3	A3	V4	A4	V5	A5	V6	A6
+3.3V	25A	+5V	9.5A	+12V1	8.45A	+12V2	50A	-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	50A	+12V2	10A	-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	50A	+12V2	20.84A	-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

Summary of compliance with National Differences:
List of countries addressed: (According to IEC 62368-1:2014 (Second Edition))


AU, CA, DK, FI, GB, IT, NO, SE, US, NZ, JP

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

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

Copy of marking plate(s):


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




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

MODEL NO.(型號/ 型号):
GPS-850HB A
REV(版本/ 版本): 00


S/N: XXXXXXXXXXXXXXXX



AC INPUT 交流輸入/交流輸入	DC OUTPUT 直流輸出 / 直流輸出					
100V-240V~ /15-7.5A 47Hz-63Hz	+3.3V 25A	+5V 25A	+12V1 50A	+12V2 50A	-12V 0.3A	+5VSB 3A
MAX. Continuous 最大輸出/最大輸出 850W	130W MAX.				3.6W	15W





SWITCHING POWER SUPPLY
交換式電源供應器 / 开关电源
MADE IN CHINA (DCGP)
製造地:中國 / 製造地:中国




Type Approved
Safety
Regular Production
Surveillance

www.tuv.com
ID: 2569600280







850W

AC INPUT 交流输入/交流輸入	100V-240V~ / 15A-7.5A , 47Hz-63Hz					
DC OUTPUT 直流輸出/直流輸出	+3.3V	+5V	+12V1	+12V2	-12V	+5VSB
MAX. LOAD 最大耗瓦/最大電流	25A	25A	50A	50A	0.3A	3A
MAX. CONTINUOUS 最大連續功率 最大連續功率	130W		50A		3.6W	15W
	850W					
EFFICIENCY 轉換效率/轉換效率	>92% @ TYPICAL LOAD (典型負載/典型負載)					


C850 G4

MODEL/型號/型號: DPS-850AB-12 A
REV/版本/版本: 00F Enterprise-Class

SWITCHING POWER SUPPLY/开关电源/交換式電源供應器

80 PLUS PLATINUM

Delta Professional Power Supply Service Solutions













SN/序列号/序列號:
XXXX1500
-000000


WARNING • 警告

HAZARDOUS VOLTAGE! Disconnect power before servicing.
有危險電壓! 在進行系統維護前必須確保切斷電源。
有危險電壓! 在進行系統維護前必須確保切斷電源。

DESIGN & MADE IN CHINA/中國設計和製造/中國設計和製造

DELTA ELECTRONICS, INC. • 台達電子工業股份有限公司 • 台達電子工業股份有限公司
www.deltaww.com



850W

AC INPUT 交流输入/交流輸入	100V-240V~ / 15A-7.5A , 47Hz-63Hz					
DC OUTPUT 直流輸出/直流輸出	+3.3V	+5V	+12V1	+12V2	-12V	+5VSB
MAX. LOAD 最大耗瓦/最大電流	25A	25A	50A	50A	0.3A	3A
MAX. CONTINUOUS 最大連續功率 最大連續功率	130W		50A		3.6W	15W
	850W					
EFFICIENCY 轉換效率/轉換效率	>92% @ TYPICAL LOAD (典型負載/典型負載)					


C850 G4s

MODEL/型號/型號: DPS-850AB-13 A
REV/版本/版本: 00F Enterprise-Class

SWITCHING POWER SUPPLY/开关电源/交換式電源供應器

80 PLUS PLATINUM

Delta Professional Power Supply Service Solutions













SN/序列号/序列號:
XXXX1500
-000000


WARNING • 警告

HAZARDOUS VOLTAGE! Disconnect power before servicing.
有危險電壓! 在進行系統維護前必須確保切斷電源。
有危險電壓! 在進行系統維護前必須確保切斷電源。


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




MODEL (型號/ 型号): DSA-850W601APA

REV(版本/ 版本): 00


S/N: MMMXYMD5555 C.C.:




AC INPUT 交流輸入 / 交流輸入	DC OUTPUT 直流輸出 / 直流輸出					
100V-240V~ / 15-7.5A 47Hz-63Hz	+3.3V 25A	+5V 25A	+12V1 50A	+12V2 50A	-12V 0.3A	+5VSB 3A
MAX. Continuous 額定功率 / 額定功率 850W	130W MAX.				3.6W	15W





SWITCHING POWER SUPPLY
交換式電源供應器 / 开关电源
MADE IN CHINA (DCGP)
製造地: 中國 / 製造地: 中国





Type Approved
Safety
Regular Production
Surveillance
www.tuv.com
ID: 0235004241





컴퓨터용전원공급장치
ZU10129-15031
MSIP-REM-DVP-GPS-850HBA
Mfr. Name: Delta Electronics Power
(Dongguan) Co., Ltd.
A/S Center: (82)2-515-5303

Note:



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

TEST ITEM PARTICULARS:	
Classification of use by	<input type="checkbox"/> Ordinary person <input checked="" type="checkbox"/> Instructed person <input type="checkbox"/> Skilled person <input type="checkbox"/> Children likely to be present
Supply Connection.....	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input type="checkbox"/> External Circuit - not Mains connected - <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> +____%/ -____% <input type="checkbox"/> None
Supply Connection – Type	<input checked="" type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input checked="" type="checkbox"/> appliance coupler <input type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input type="checkbox"/> other:
Considered current rating of protective device as part of building or equipment installation	16 A (20A for US and CA) Installation location: <input checked="" type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input checked="" type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other: _____
Class of equipment	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III
Access location	<input type="checkbox"/> restricted access location <input type="checkbox"/> N/A <input checked="" type="checkbox"/> The case does not apply to the test object
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified maximum operating ambient	40°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 - <u>230</u> V L-L
Altitude during operation (m)	<input type="checkbox"/> 2000 m or less <input checked="" type="checkbox"/> <u>5000</u> 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"/> 2.45kg





POSSIBLE TEST CASE VERDICTS:								
- test case does not apply to the test object	N/A							
- test object does meet the requirement	P (Pass)							
- test object does not meet the requirement.....	F (Fail)							
TESTING:								
Date of receipt of test item	Aug. 03, 2019							
Date (s) of performance of tests.....	Aug. 03, 2019 to Aug. 15, 2019							
GENERAL REMARKS:								
<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>								
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60068-2-1:								
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							
When differences exist; they shall be identified in the General product information section.								
Name and address of factory (ies)	<p>1) Delta Electronics Power (Dongguan) Co., Ltd. Delta Industrial Estate, Shijie Town, Dongguan City, Guangdong Province 523308, P.R. China</p> <p>2) Delta Electronics (Thailand) Public Co., Ltd. 909 Soi 9 Moo 4, Bangpoo Industrial Estate (E.P.Z.), Pattana 1 Rd., Tambol Phraksa, Amphur Muang, Samutprakarn 10280, Thailand</p>							
GENERAL PRODUCT INFORMATION:								
<p>The equipment under test (EUT), models shown as cover page are switching power supply intended for building-into information technology equipment in the scope of this standard.</p> <ul style="list-style-type: none"> The suitable and approved power supply cord will be provided, evaluated and used when national approval/market. 								
Model List:								
GPS-850HB XX, DPS-850AB-12 XX, DPS-850AB-13 XX, DSA-850W601APA X								
Input Rating	Outputs Rating (DC, A max)						Combined Power	
	+3.3V	+5V	+12V ₁	+12V ₂	-12V	+5V _{SB}	+3.3V, +5V Power max. (watt)	Total Power (watt)
100-240Vac / 15.0-7.5A, 47-63Hz	25	25	50	50	0.3	3.0	130	850
Note: X=0-9, A-Z or blank, Marketing purpose, no technical differences.								

Model difference:

1. The model DSA-850W601APA X is identical to model GPS-850HB XX except for type designation only.
2. The model DPS-850AB-12 XX, which is identical with model GPS-850HB XX, except that the model number and below table shown:

Item	GPS-850HB XX	DPS-850AB-12 XX	Remark
a			<ol style="list-style-type: none"> 1. DPS-850AB-12 XX add a location sink for label. 2. DPS-850AB-12 XX add a location sink for sub label 3. DPS-850AB-12 XX does not have SWITCH, add a diameter of 5mm power cord fixing hole.

3. The model DPS-850AB-13 XX, which is identical with model DPS-850AB-12 XX, except the model number and following differences.

Item	DPS-850AB-12 XX	DPS-850AB-13 XX	Remark
a			Remove the fan guard for DC fan of models DPS-850AB-13 XX.
b	 U type cable entry shape	 O type cable entry shape	The cable entry shape was changed from U type to O type of models DPS-850AB-13 XX.




Engineering Considerations:

- The product was submitted and tested for use at the maximum ambient temperature (T_{ma}) permitted by the manufacturer's specification:
 - Total continuous output power shall not exceed 850W at ambient 40°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 following **transformers** are provided:
 - Double/Reinforced insulation: T501, T503 and T901
 - Basic insulation: None
 - Supplementary insulation: None
 - Functional insulation: None.
- 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, CX4.
 - Functional insulation: other than above mentioned.
- The following **resistors** bridging insulation:
 - Double/Reinforced insulation: None
 - Basic insulation: None
 - Supplementary insulation: None
 - Across mains conductors: R1, R2, R3 (before fuse).
 - Functional insulation: other than above mentioned.
- The following **VDRs** are bridging insulation:
 - Basic insulation: None
- The following **solid insulation** are provided:
 - Reinforced insulation: Opto-couplers (IC502, IC602, IC603 and IC903).
 - Basic insulation: None
 - Supplementary Insulation: None
 - Functional insulation: other than above mentioned.
- The following parts consist of the protective earthing:
 - Protective earthing conductor: The earth pin of power supply cord.
 - Protective bonding conductor: The green-and-yellow protective bonding wires fixed in earthing tab of appliance inlet by hooking-in and soldering, and the other end terminated in a ring type crimp which is secured to metal chassis by screw and star washer.
- The following parts are **protective earthing terminals**: The earth pin of appliance inlet.
- The following parts are **protective bonding terminals**: Green/Yellow wire to metal case.
- The following enclosures are provided:
 - Fire enclosure: the compliance shall be investigated in end product.
 - Mechanical enclosure: Yes
 - Electrical enclosure: Yes.

Additional Information

- The product is a **component** intended for incorporation in information technology equipment, the overall compliance shall be investigated in the complete information technology equipment
- The equipment was evaluated for a maximum operating altitude of **5000** m. Therefore the requirements of IEC 60664-1 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:
F1: F16AH 250V
- The product also marked with:
 (IEC 60417-5017) for the wiring terminal of protective bonding conductor.
- Mains switch marking
 (IEC 60417-5007 (DB:2002-10)) for "ON" of mains switch.
 (IEC 60417-5008 (DB:2002-10)) for "OFF" of mains switch.

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 (declared)
Secondary output	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: 2.45kg < 7 kg	MS1
Smooth edges and corners of enclosure	MS1
Plastic 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 for accessible part

Radiation (Clause 10)

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

Example: DVD – Class 1 Laser Product

RS1

Type of radiation	Corresponding classification (RS)
N/A	N/A

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 and T901),
ES1 (on the right side of T501, T503 and T901 after rectifier),
Enclosure surface (AC inlet side) is TS1,
PS3 (All circuits are considered PS3), all areas contains PIS sources.

■ ES

■ PS

■ MS

■ TS

□ RS

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementar y	Reinforced (Enclosure)
		N/A.	N/A	Enclosure, See 5.4.2, 5.4.3, 5.5.3, and 5.5.4
		N/A	N/A	See 5.5.2.2
Ordinary	ES1: Primary circuits when disconnected to mains after 2s	N/A	N/A	N/A
Ordinary	ES1: Output connector	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementar y	Reinforced
		See 6.3.	Metal case	N/A
		See 6.3.	V-0	N/A
Enclosure	PS3: > 100 Watt circuit (Primary and secondary circuits)	See 6.3.	N/A	See 6.5.
PCB	PS3 circuit	N/A	See 6.4.5, 6.4.6	N/A
Internal/external wiring	PS3 circuit	Equipment safeguards	N/A	N/A
The other components/materials	PS3 circuit	Equipment safeguards	N/A	N/A
Output connector	PS3 (All circuits are considered PS3)	Equipment safeguards	N/A	N/A
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	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementar y	Reinforced (Enclosure)
		N/A	N/A	N/A
		N/A	N/A	N/A
Ordinary	MS1: Equipment mass – mass 2.45kg < 7 kg	N/A	N/A	N/A
Ordinary	MS1: Edges and corners	N/A	N/A	N/A
Ordinary	MS3: Plastic fan blade	N/A	N/A	Metal fan guard and fan housing

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified according to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
4.1.3	Equipment design and construction	No accessible parts which could cause injury. However, the equipment is a building-in type and evaluation is also to be made during the final system approval.	P
4.1.15	Markings and instructions	(See Annex F)	P
4.4.4	Safeguard robustness	See below.	P
4.4.4.2	Steady force tests	(See Annex T.2, T.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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.6.1	Fix conductors not to defeat a safeguard	All internal wires were connected by soldering and glue (on PCB), pluggable wire, connector or fixed by cable tie etc in a reliable manner. The wires are secured by or simaly double methold so that a loosening of the terminal connection is unlikely.	P
4.6.2	10 N force test applied to :	10 N applied to all components other than the parts serving as an enclosure (See appended table 5.4.2.2, 5.4.2.4 and 5.4.3).	P
4.7	Equipment for direct insertion into mains socket - outlets	Not direct plug-in equipment.	N/A
4.7.2	Mains plug part complies with the relevant standard :	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 re-evaluation is also to be made during the final system approval.	P

5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications :	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current :	(See appended table 5.2.2.2)	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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.6	Ringling signals	No such ringing signals with the equipment.	N/A
5.2.2.7	Audio signals	No such audio signals with the equipment.	N/A
5.3	Protection against electrical energy sources	(See appended table “ OVERVIEW OF EMPLOYED SAFEGUARDS ”)	P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons	See above.	P
5.3.2.1	Accessibility to electrical energy sources and safeguards	ES2 or ES3 source cannot access by ordinary persons and ES3 source cannot accessed by instructed persons. Double or reinforced safeguard is provided between ES2 or ES3 and ordinary persons or instructed persons. However, the equipment is a building-in type and evaluation is also to be made during the final system approval.	P
5.3.2.2	Contact requirements	Only considered the appliance inlet side. The equipment is a building-in type and evaluation is to be made during the final system approval.	P
	a) Test with test probe from Annex V		P
	b) Electric strength test potential (V).....		N/A
	c) Air gap (mm)		N/A
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	—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	Pollution degree 2 is applied.	N/A
5.4.1.5.3	Thermal cycling	See above	N/A
5.4.1.6	Insulation in transformers with varying dimensions	No such transformer.	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No such starting pulses.	N/A
5.4.1.8	Determination of working voltage	(See appended table 5.4.1.8)	P
5.4.1.9	Insulating surfaces	An accessible surface is considered to be covered by a thin metallic foil. The equipment is a building-in type and evaluation is to be made during the final system approval.	P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	See 5.4.1.10.3 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.....	1.48	P
5.4.3	Creepage distances	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group	IIIa & IIIb	—
5.4.4	Solid insulation	See below.	P
5.4.4.2	Minimum distance through insulation	(See appended table 5.4.4.2).	P
5.4.4.3	Insulation compound forming solid insulation		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.4	Solid insulation in semiconductor devices	See table 4.1.2 for detail for optical isolator details.	P
5.4.4.5	Cemented joints	(See appended table 5.4.4.2)	P
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements	See below.	P
5.4.4.6.2	Separable thin sheet material	Ref. G.5.3.	P
	Number of layers (pcs) :	(See appended table G.5.3)	P
5.4.4.6.3	Non-separable thin sheet material	No such insulation used within the equipment.	N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components	See G.5.3 and G.6.1 only.	P
5.4.4.9	Solid insulation at frequencies >30 kHz :	(See appended table 5.4.1.8 and table 5.4.9).	P
5.4.5	Antenna terminal insulation	No antenna terminal used.	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ) :		N/A
5.4.6	Insulation of internal wire as part of supplementary safeguard :	No such internal wire.	N/A
5.4.7	Tests for semiconductor components and for cemented joints	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		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

IEC 62368-1			
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 ΔU_{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	Refer to G.2.	N/A
5.5.6	Resistors	Approval bleeder resistors are used. Bleeder resistors are served as safeguard but not across basic, supplementary or reinforced insulations, 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.	N/A
	Protective earthing conductor size (mm ²)	See above.	—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.4	Requirement for protective bonding conductors		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm ²). :	Min. 16 AWG (cross-sectional area 1.3mm ²) used.	—
	Protective current rating (A) :	Protective current rating 20A	—
5.6.4.3	Current limiting and overcurrent protective devices	No current limiting and overcurrent protective devices in parallel with any other components.	P
5.6.5	Terminals for protective conductors	AC inlet pin provided as protective earthing terminal.	P
5.6.5.1	Requirement	See above	P
	Conductor size (mm ²), nominal thread diameter (mm)..... :	AC inlet used. Conductor: 1.3mm ² Normal thread diameter: 3.5 mm.	P
5.6.5.2	Corrosion	No combination above the line in Annex N is used.	P
5.6.6	Resistance of the protective system	See below.	P
5.6.6.1	Requirements	Compliance checked.	P
5.6.6.2	Test Method Resistance (Ω)..... :	(See appended table 5.6.6.2)	P
5.6.7	Reliable earthing	The equipment is not permanently connected equipment.	N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks	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/60Hz	—
	Measured current (mA)..... :	2.79mA	—
	Instructional Safeguard..... :		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits	No external circuits.	N/A

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

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	PS (power source) classification determined by measuring the maximum power in Figure 34 and Figure 35 for load and power source circuits.	P
6.2.2.1	General	See the following details.	P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault	Client declare all circuit as PS3.	P
6.2.2.4	PS1		N/A
6.2.2.5	PS2		N/A
6.2.2.6	PS3	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources	See below.	P
6.2.3.1	Arcing PIS	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials	(See appended table 5.4.1.4) No ignition and no such temperature attained within the equipment.	P
6.3.1 (b)	Combustible materials outside fire enclosure	The equipment is a building-in type and evaluation is to be made during the final system approval.	N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Control of fire spread.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	See sub-clauses 6.4.4, 6.4.5 and 6.4.6.	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions :		N/A
	Special conditions for temperature limited by fuse	No such consideration.	N/A
6.4.4	Control of fire spread in PS1 circuits	PS3 circuits inside.	N/A
6.4.5	Control of fire spread in PS2 circuits	PS3 circuits inside.	N/A
6.4.5.2	Supplementary safeguards :	Compliance detailed as follows: <ul style="list-style-type: none"> – 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. 	P
6.4.6	Control of fire spread in PS3 circuit	Compliance detailed as follows: <ul style="list-style-type: none"> – Parts as in 6.4.5 above – Fire enclosure provided. 	P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.1	General :		N/A
6.4.7.2	Separation by distance	Built in equipment, should be reconsidered at the end product.	N/A
6.4.7.3	Separation by a fire barrier	No specific barrier provided.	N/A
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 requirement. Built in equipment, should be reconsidered at the end product.	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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm)	The side of appliance inlet was evaluated according to client requirement. <i>Max opening size. 4.9mm<5 mm in any dimension</i>	P
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm)	No bottom opening.	P
	Flammability tests for the bottom of a fire enclosure	See above.	N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c).....	The equipment is a building-in type and evaluation is to be made during the final system approval.	N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating	Built in equipment, should be reconsidered at the end product.	N/A
6.5	Internal and external wiring		P
6.5.1	Requirements	The material of VW-1 on internal wiring were considered compliance equal to equivalent to IEC/TS 60695-11-21 relevant standards.	P
6.5.2	Cross-sectional area (mm ²)	See table 4.1.2.	—
6.5.3	Requirements for interconnection to building wiring	No such interconnection to building wiring.	N/A
6.6	Safeguards against fire due to connection to additional equipment	No such connection to additional equipment. The equipment is a building-in type and evaluation is also to be made during the final system approval.	N/A
	External port limited to PS2 or complies with Clause Q.1	See above.	N/A

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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. 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.	N/A
8.4.1	Safeguards	See above.	N/A
8.5	Safeguards against moving parts	The equipment is a building-in type and evaluation is also to be made during the final system approval. Fan blade is protected by metal fan guard and fan housing.	N/A
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test		N/A
8.6	Stability	The equipment is a building-in type and evaluation is to be made during the final system approval.	N/A
8.6.1	Product classification		N/A
	Instructional Safeguard		—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force)		N/A
	Position of feet or movable parts.....		—
8.7	Equipment mounted to wall or ceiling	The equipment is for building-in type and not mounted to wall or ceiling.	N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)		N/A
8.7.2	Direction and applied force		N/A
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force		N/A
8.9	Wheels or casters attachment requirements	The equipment is for building-in type and no such wheels or casters within the equipment.	N/A
8.9.1	Classification	See above.	N/A
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

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

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

10	RADIATION		N/A
10.2	Radiation energy source classification	No such radiation generated from the equipment.	N/A
10.2.1	General classification	See the following details.	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

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

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements	See "Summary of testing" on page 3 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	Approved DC motor used.	P
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature	(See appended table B.3)	P
B.4.4	Short circuit of functional insulation	See the following details.	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards	No coated printed boards used.	N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4 for faults on semiconductor components)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components	The EUT is continuous operating type and no such components intended for short time operation or intermittent operation	N/A

IEC 62368-1			
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

C	UV RADIATION		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

D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A

E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Audio amplifier normal operating conditions	Not such equipment.	N/A
	Audio signal voltage (V)		—
	Rated load impedance (Ω)		—
E.2	Audio amplifier abnormal operating conditions		N/A

F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		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

IEC 62368-1			
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.	N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings	No mains outlet used.	N/A
F.3.5.2	Switch position identification marking.....	See General product information - Markings and Instructions.	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 or 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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking :	IPX0	—
F.3.8	External power supply output marking	See copy of marking plate.	P
F.3.9	Durability, legibility and permanence of marking	Marking is considered to be legible and easily discernible. See also the following details.	P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge. After each test, the marking remained legible.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking	Built-in equipment and should be considered at the end system.	N/A
	b) Instructions given for installation or initial use	User manual is available	P
	c) Equipment intended to be fastened in place	Not such equipment.	N/A
	d) Equipment intended for use only in restricted access area	Not such equipment.	N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1	No such terminals provided.	N/A
	f) Protective earthing employed as safeguard	Considered in the user manual.	P
	g) Protective earthing conductor current exceeding ES2 limits		N/A
	h) Symbols used on equipment	Considered in the user manual.	P
	i) Permanently connected equipment not provided with all-pole mains switch	Not such connection	N/A
	j) Replaceable components or modules providing safeguard function	No replaceable components or modules.	N/A
F.5	Instructional safeguards		N/A
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G	COMPONENTS		P
G.1	Switches		P
G.1.1	General requirements	The mains switches does not as disconnect devices.	P
G.1.2	Ratings, endurance, spacing, maximum load	The VDE approved mains switch used, detail see table 4.1.2.	P
G.2	Relays		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
G.3	Protection Devices		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 (Ω) ...:		—
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
G.4	Connectors		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 mismating of connectors, plugs or sockets possible.	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5	Wound Components		P
G.5.1	Wire insulation in wound components.....:	Approved triple insulated wire (TIW) used in mains transformer. Refer to Annex J.	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Insulation tape or tube used.	P
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s).....:		—
	Temperature (°C).....:		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	Transformers		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 / core 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
G.5.4	Motors		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)		—

IEC 62368-1			
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		—
G.6	Wire Insulation		P
G.6.1	General		P
G.6.2	Solvent-based enamel wiring insulation	Insulation does not rely on solvent-based enamel.	N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements		N/A
	Type.....		—
	Rated current (A)		—
	Cross-sectional area (mm ²), (AWG).....		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N).....		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g)		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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
G.8	Varistors		N/A
G.8.1	General requirements	No VDR used.	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
G.9	Integrated Circuit (IC) Current Limiters		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
G.10	Resistors		P
G.10.1	General requirements		P
G.10.2	Resistor test	Approval bleeder resistors are used. Bleeder resistors are served as safeguard but not across basic, supplementary or reinforced insulations, no energy hazards between access terminal and ordinary person, see table 4.1.2.	P
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A

IEC 62368-1			
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
G.11	Capacitor and RC units		P
G.11.1	General requirements	Capacitors used in accordance with their rating and complied with subclasses of IEC 60384-14.	P
G.11.2	Conditioning of capacitors and RC units	At least 21 days at 40°C and 93% R.H.	P
G.11.3	Rules for selecting capacitors	The selection followed with tables G.9 and G.12.	P
G.12	Optocouplers		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}		—
G.13	Printed boards		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
G.14	Coating on components terminals		N/A
G.14.1	Requirements		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.15	Liquid filled components		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
G.16	IC including capacitor discharge function (ICX)		P
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours	Approved discharged IC used.	P
b)	Impulse test using circuit 2 with U_c = to transient voltage		P
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		P
C2)	Test voltage		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		P
D2)	Capacitance		—
D3)	Resistance		—

H	CRITERIA FOR TELEPHONE RINGING SIGNALS		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V) :		—

J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		P
	General requirements	Approved TIW used.	P

K	SAFETY INTERLOCKS		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

L	DISCONNECT DEVICES		P
L.1	General requirements	The appliance inlet was considered as disconnect device.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized	When the equipment 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

IEC 62368-1			
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

M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method)		N/A
M.6.2	Leakage current (mA)		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume V_z (m³/s).....		—
M.8.2.3	Correction factors		—
M.8.2.4	Calculation of distance d (mm)		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing)		N/A

N	ELECTROCHEMICAL POTENTIALS		P
	Metal(s) used	Complied.	—

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		P
P.1	General requirements	See the following details.	P
P.2.2	Safeguards against entry of foreign object	The 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		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	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

Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable	No such circuit within the equipment.	N/A
	Maximum output current (A)		—
	Current limiting method		—

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

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials	See table 4.1.2 only.	P
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (test condition), (°C)		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A

T	MECHANICAL STRENGTH TESTS		P
T.1	General requirements	The equipment is building-in type and evaluation is also to be made during the final system approval. See the following details.	P
T.2	Steady force test, 10 N	10 N applied to all components other than the parts serving as an enclosure.	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N	(See appended table T.4)	P
T.5	Steady force test, 250 N	(See appended table T.5)	P
T.6	Enclosure impact test	(See appended table T.6)	P
	Fall test		P
	Swing test		N/A
T.7	Drop test		N/A
T.8	Stress relief test		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

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

T.11	Test for telescoping or rod antennas	No such antennas provided within the equipment.	N/A
	Torque value (Nm)		—

U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		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

V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		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 (Edition / year)	Mark(s) of conformity ¹⁾	
Appliance Inlet	Rong Feng Industrial Co., Ltd. Rong Feng Electrical (Shenzhen) Co., Ltd. (for CCC)	SS-120	AC 250V, 10A (for VDE, CCC), 15A (for UL), AC 250V, 10A / AC 125V, 15A (for VPC), 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-101 (for CCC, UL) KS-1 (for VDE)	AC 250V, 10A (for CCC, VDE), 15A (for UL), 70°C	IEC/EN 60320-1, UL 498, GB17465.1	VDE, CCC, UL	
Power switch (Optional) for models GPS-850HB XX	Rong Feng Industrial Co., Ltd.	RF-1003B	AC 125/250V, 16A/10A	IEC/EN 61058-1, UL 1054	TUV, UL	
(Alt.)	Rong Feng Industrial Co., Ltd.	RF-1003C	AC 250V, 12A	IEC/EN 61058-1, UL 1054	TUV, UL	
Bleeder Resistors (R1, R2, R3) (before fuse)	Ta-I Technology Co., Ltd.	RH12	100 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	100 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
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alt.)	Prosperity Dielectrics Co., Ltd.	FVS06	100 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	100 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 (IC2)	Power Integrations	SC1143DG-TL	230V(Test at 100-265V)	IEC/EN 60950-1	Nemko
(Alt.)	Champion Microelectronic Corp.	CMD02XISTR	100-250V~ 47- 63 Hz	IEC/EN 60950-1	Nemko
Chassis	Interchangeable	Interchangeable	Metallic, Min. thickness 0.6mm.	--	--
DC Fan	Yate Loon Electronics Corp Ltd	D12SH-12(F) GP	DC 12V, 0.30A, min 72.2CFM,	UL 507, IEC/EN 60950-1	UL,TÜV
(Alt.)	Protechnic Electric Co.,Ltd	MGA12012HF- O25	DC 12V, 0.45A, min 70.02CFM,	UL 507, IEC/EN 60950-1	UL,TÜV-SUD
(Alt.)	ADDA Corp	AD1212HX- A70GL	DC 12V, 0.44A , 68.083CFM min,	UL 507, IEC/EN 60950-1	UL,VDE
(Alt.)	PROTECHNIC ELECTRIC CO., LTD	MGA12012HR- A25	DC 12V, 0.45A, min. 73.41CFM	UL 507, IEC/EN 60950-1	UL,TÜV-SUD
(Alt.)	YATE LOON ELECTRIC	D12SH-12(F)	DC 12V, 0.30A , 72.2CFM min,	UL 507, IEC/EN 60950-1	UL,TÜV
(Alt.)	YATE LOON ELECTRIC	D12SH- 12(F)(GP)(M- GP3)	DC 12V, 0.30A , 72.2CFM min,	UL 507, IEC/EN 60950-1	UL,TÜV
(Alt.)	YATE LOON ELECTRIC	D12SH-12M-GP2	DC 12V, 0.30A , 81CFM min,	UL 507, IEC/EN 60950-1	UL,TÜV
(Alt.)	YATE LOON ELECTRIC	D12SH-12M-GP4	DC 12V, 0.60A , 73CFM min,	UL 507, IEC/EN 60950-1	UL,TÜV

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alt.)	YATE LOON ELECTRIC	D12SH-12	DC 12V, 0.30A , 73CFM min,	UL 507, IEC/EN 60950-1	UL,TÜV
(Alt.)	YATE LOON ELECTRIC	D12BH-12	DC 12V, 0.60A , 96CFM min,	UL 507, IEC/EN 60950-1	UL,TÜV
(Alt.)	PROTECHNIC ELECTRIC CO.,LTD	MGA12012HB- A25	DC 12V, 0.45A , 73.41CFM min,	UL 507, IEC/EN 60950-1	UL,TÜV
(Alt.)	DELTA	AFB1212HHE- R00	DC 12V, 0.70A , 110.53CFM min,	UL 507, IEC/EN 60950-1	UL,TÜV
(Alt.)	SUNON	EFC0251B1- Q020-A99	DC 12V, 0.35A , 91.8CFM min,	UL 507, IEC/EN 60950-1	UL,TÜV
(Alt.)	DELTA	AFB1212HH- FM00	DC 12V, 0.50A , 85.64CFM min,	UL 507, IEC/EN 60950-1	UL,TÜV
(Alt.)	DELTA	AUB1212H-PE01	DC 12V, 0.39A , 79.62CFM min,	UL 507, IEC/EN 60950-1	UL,TÜV
(Alt.)	PROTECHNIC ELECTRIC	MGA12012HB- O25	DC 12V, 0.45A,76.3CFM min,	UL 507, IEC/EN 60950-1	UL,TÜV
Electrolytic Capacitor (C801)	Interchangeable	Interchangeable	680µF, 450V min., 85°C min.	--	--
Fuse (F1)	Littelfuse Inc (for UL) Suzhou Littelfuse OVS Ltd. (for VDE and CQC)	216	F16AH, AC 250V	IEC/EN 60127-1, IEC/EN 60127-2, UL 248-1, UL 248-14, GB9364.1, GB9364.2	UL, VDE, 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, GB9364.1, GB9364.2	UL, VDE, CQC
(Alt.)	Hollyland Co Ltd	50CF	F16AH, AC 250V	IEC/EN 60127-1, IEC/EN 60127-2, UL 248-1, UL 248-14, GB9364.1, GB9364.2	UL, VDE, CQC
PWB	Interchangeable	Interchangeable	V-0 min, 130°C	UL 796, UL 94	UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
Bridge Rectifier (BD1)	Interchangeable	Interchangeable	600V min., 25A min.	--	--
MOSFET (Q501, Q502)	Interchangeable	Interchangeable	600V min, 20A min	--	--
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)	dti.>0.5mm, ext. cr.≥7.6mm, int. cr.≥6.0mm, thermal cycling test , 110°C, isolation: AC 4800V min. humidity test 120h	IEC/EN60747-5-5, IEC/EN60950-1, UL 1577, GB4943.1 GB8898	VDE, UL, CQC
(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 60747-5- 5, IEC/EN 60950-1, UL 1577, GB4943.1 GB8898	VDE, UL, CQC
(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.≥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)	PS2561AL2-1, PS2561AL2- 1xx(for CCC)	dti.>0.4 mm, ext. cr.≥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

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(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
(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

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(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	UL,VDE, FI, CQC,N
(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	UL,VDE, FI, CQC,N
(Alt.)	TOSHIBA CORP, SEMICONDUCT OR CO DISCRETE SEMICONDUCT OR 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	UL/CUL, VDE, CQC

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(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	FI, 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, FI, 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
Y-Capacitors (CY1, CY2, CY3, CY4, CY5) (Y2 type min.) (CY1, CY2 solder on inlet) CY1 = CY2 = 1000pF max. CY3 = CY4 = 3300pF max. CY5 = 1500pF max.	Murata Mfg. Co., Ltd.	KX/KH	250Vac min., 125°C min	IEC/EN 60384 - 14, UL 1414, GB/T14472	VDE, UL, CQC
(Alt.)	Walsin Technology Corp.	AC/AH	250Vac min., 125°C min	IEC/EN 60384 - 14, UL 1414, GB/T14472	VDE, UL, CQC
(Alt.)	Tdk-Epc Corporation	CD/CS	250Vac min., 125°C min	IEC/EN 60384 - 14, UL 1414, GB/T14472	VDE, UL, CQC

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alt.)	Kunshan Wansheng Electronics Co.,Ltd	CT7 (for UL, FI, VDE, S, CQC,) CT7-Series (for N,D)	250Vac min., 125°C min	IEC/EN 60384 - 14, UL 1414, GB/T14472	VDE, UL, CQC
X-Capacitor (CX1, CX2, CX4) (X2 type min.) CX1 =0.68µF max CX2 =0.47µF max CX4 =1.0µF max	Kemet Electronics Italia Srl (For UL), Kemet Electronics Corporation (For Imq)	R.46	250Vac min, 100°C min.	IEC/EN 60384 - 14, UL 1414, 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 1414, GB/T14472	UL, VDE, 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 1414, GB/T14472	ENEC 14, UL
(Alt.)	Hua Jung Components Co., Ltd	MKP	250Vac min, 100°C min.	IEC/EN 60384 - 14, UL 1414, GB/T14472	UL, CQC, ENEC 14
(Alt.)	Europtronic (Taiwan) Ind. Corp.	MPX Seies (for UL), MPX(VDE ,CQC)	250Vac min, 100°C min.	IEC/EN 60384 - 14, UL 1414, GB/T14472	VDE, UL, CQC
(Alt.)	Panasonic Corporation	ECQUL, ECQ-UL	250Vac min, 100°C min.	IEC/EN 60384 - 14, UL 1414, GB/T14472	VDE, UL, CQC
(Alt.)	Europtronic Ind. Corp. (for ENEC, VDE) Europtronic Industrial Corp (for UL)	MPX2	250Vac min, 110°C min.	IEC/EN 60384 - 14, UL 1414, GB/T14472	VDE, UL, CQC

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alt.)	Pilkor Electronics Co., Ltd	PCX2 339	250Vac min, 110°C min.	IEC/EN 60384 - 14, UL 1414, GB/T14472	VDE, UL, CQC
(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 1414, GB/T14472	VDE, UL, CQC
(Alt.)	Vishay Capacitors Belgium N V	MKP-338 2 series(for UL), 338 2(ENEC)	250Vac min, 110°C min.	IEC/EN 60384 - 14, UL 1414, GB/T14472	UL, ENEC
(Alt.)	Vishay Capacitors Belgium N V	339 Series(for UL), 339 (for ENEC)	250Vac min, 110°C min.	IEC/EN 60384 - 14, UL 1414, GB/T14472	UL
(Alt.)	Iskra Mis D D	KNB1560	250Vac min, 110°C min.	IEC/EN 60384 - 14, UL 1414, GB/T14472	UL,VDE
(Alt.)	Xiamen Faratronic Co., Ltd (For UL), Xianmen Faratronic Co., Ltd.(For VDE)	MKP62	250Vac min, 110°C min.	IEC/EN 60384 - 14, UL 1414, 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 1414, 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 1414, GB/T14472	UL, VDE, CQC
Thermistor (NTC151)	Interchangeable	Interchangeable	10KΩ at 25°C	--	Test within appliance
Line Filter (FL1)	Delta Electronics, Inc.	HFH-CN11328	130°C	--	Test within appliance
Line Filter (FL2)	Delta Electronics, Inc.	HFV-DTD13018	130°C	--	Test within appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
PFC Choke (L801)	Delta Electronics, Inc.	PFCV-DTD15002	130°C	--	Test within appliance
Chock(L153)	Delta Electronics, Inc	CPH-DTD14068	130°C	--	Test within appliance
Driver transformer (T502)	Delta Electronics, Inc. * See Note 3)	DV-DTD13010	130°C	--	Test within appliance
Isolating Transformer (T501)	Delta Electronics, Inc. * See Note 3)	MH-DTD14073	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
Protective Bonding Conductor	Interchangeable	Interchangeable	16 AWG minimum, insulated with green/yellow color, one end mechanically connected to the earthing terminal of appliance Inlet by solder, the other end connected with double crimp-on copper starring terminal and secured to Chassis by a screw.	UL 758	UL
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	UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(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 thick,	UL 94	UL
(Alt.)	Sabic	FR700 FR25A	V-0, 130°C Min 0.23mm thick,	UL 94	UL
(Alt.)	TORAY	Lumirror S10	Min. VTM-2, min. 0.188 mm thick, Min 105°C	UL 94	UL
(Alt.)	Bornsun	BN-ZD16 BN-HF16	Min. 0.25 mm thickness, V-0 or VTM-0, min 115°C.	UL 94	UL
(Alt.)	sun delta	VS120, VS520	Min. 0.188 thickness, V-0 or VTM-0, 130°C.	UL 94	UL
(Alt.)	sumitomo	PHF150MAB, PHF150MA	Min. VTM-0, 130°C, min. 0.21 mm thick,	UL 94	UL
(Alt.)	Sabic	FR1	Minimum 0.25mm thick, VTM-0, 125°C min.	UL 94	UL
(Alt.)	Sabic Innovative Plastics Japan L L C	EFR95	V-0, 115°C, Min. 0.43mm thick,Color:BK	UL 94, UL 746C	UL
(Alt.)	Sichuan Dongfang Insulating Material Co Ltd	DFR117ECO	V-0, 130°C, 0.43 mm, Min. thick,	UL 94, UL 746C	UL
Insulator (Used between HS3 and T501 core)	Sabic Innovative Plastics	FR25A	V-0, 125°C, Min. 0.4 mm thick,	UL 94, UL 746C	UL
(Alt.)	Sabic Innovative Plastics	FR1	VTM-0, 125°C,Min. 0.4mm thick,	UL 94, UL 746C	UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alt.)	Sabic Innovative Plastics	FR700	V-0, 130°C, Min. 0.4 mm thick,	UL 94, UL 746C	UL
(Alt.)	SABIC INNOVATIVE PLASTICS	EFR95	V-0, 115°C, Min. 0.43mm thick,	UL 94, UL 746C	UL
(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 thick,	UL 94, UL 746C	UL
(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 thick,	UL 94, UL 746C	UL
(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 thick,	UL 94, UL 746C	UL
(Alt.)	Formex, Div of Il Tool Works Inc., Frmrly Fastex, Div. of Il Tool Works Inc.	FORMEX-18	V-0, 95°C, min. 0.4mm thick,	UL 94, UL 746C	UL
(Alt.)	Sun Delta Corp	VS120	V-0, 130°C, Min. 0.40 mm thick,	UL 94, UL 746C	UL
(Alt.)	Sun Delta Corp	VS520	V-0, 130°C, Min. 0.40 mm thick,	UL 94, UL 746C	UL
(Alt.)	Sumitomo Bakelite Co Ltd	PHF150MAB	Min. VTM-0, 130°C, Min. 0.40 mm thick,	UL 94, UL 746C	UL
(Alt.)	Sumitomo Bakelite Co Ltd	PHF150MA	Min. VTM-0, 130°C, Min. 0.40 mm thick,	UL 94, UL 746C	UL
(Alt.)	Shenzhen Bornsun Industrial Co Ltd	BN-ZD16	V-0, 115°C, Min. 0.41mm thick,	UL 94, UL 746C	UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alt.)	Sichuan Dongfang Insulating Material Co Ltd	DFR117ECO	V-0, 130°C, 0.43 mm, Min. thick,	UL 94, UL 746C	UL
Heat Shrinkable Tubing (Cover on DC FAN wire)	Sumitomo Electric Fine Polymer Inc	Sumitube F32	Rating 125°C, VW-1, isolation: AC 3000V, min. 0.40 mm thickness	UL 224	UL
(Alt.)	SUMITOMO ELECTRIC FINE POLYMER INC	Sumitube NHR2	Rating 125°C, VW-1, isolation: AC 3000V, min. 0.43 mm thickness	UL 224	UL
(Alt.)	DONGGUAN SALIPT CO LTD	SALIPT S-901- 600	Rating 125°C, VW-1, isolation: AC 3000V, min. 0.40 mm thickness	UL 224	UL
(Alt.)	DONGGUAN SALIPT CO LTD	SALIPT S-901- 300	Rating 125°C, VW-1, isolation: AC 3000V, min. 0.40 mm thickness	UL 224	UL
(Alt.)	Tyco Electronics Corp (RAYCHEM)	Versafit	Rating 125°C, VW-1, isolation: AC 3000V, min. 0.40 mm thickness	UL 224	UL
(Alt.)	Tyco Electronics Corp (RAYCHEM)	Versafit V2	Rating 125°C, VW-1, isolation: AC 3000V, min. 0.40 mm thickness	UL 224	UL
(Alt.)	Tyco Electronics Corp (RAYCHEM)	ZH2	Rating 125°C, VW-1, isolation: AC 3000V, min. 0.40 mm thickness	UL 224	UL

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

Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
(Alt.)	Changyuan Electronics (Shenzhen) Co Ltd	CB-HFT	Rating 125°C, VW-1, isolation: AC 3000V, min. 0.44 mm thickness	UL 224	UL
(Alt.)	Changyuan Electronics (Shenzhen) Co Ltd	CB-300	Rating 105°C, VW-1, isolation: AC 4000V, min. 0.42 mm thickness	UL 224	UL
(Alt.)	Changyuan Electronics (Shenzhen) Co Ltd	CB-600	Rating 105°C, VW-1, isolation: AC 4000V, min. 0.45 mm thickness	UL 224	UL
(Alt.)	Well One Co Ltd	GT-2	Rating 125°C, VW-1, isolation: AC 3000V, min. 0.44 mm thickness	UL 224	UL

Supplementary Information:

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

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

4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests			N/A
(The following mechanical tests are conducted in the sequence noted.)				
4.8.4.2	TABLE: Stress Relief test			—
Part		Material	Oven Temperature (°C)	Comments
--		--	--	--
4.8.4.3	TABLE: Battery replacement test			—
Battery part no. :				—
Battery Installation/withdrawal			Battery Installation/Removal Cycle	Comments
			1	--
			2	--
			3	--
			4	--
			5	--
			6	--
			8	--
			9	--
4.8.4.4	TABLE: Drop test			—
Impact Area		Drop Distance	Drop No.	Observations
--		--	1	--
--		--	2	--
--		--	3	--
4.8.4.5	TABLE: Impact			—
Impacts per surface		Surface tested	Impact energy (Nm)	Comments
--		--	--	--
4.8.4.6	TABLE: Crush test			—
Test position		Surface tested	Crushing Force (N)	Duration force applied (s)
--		--	--	--
Supplementary information: Not Lithium coin/button cell batteries				

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

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 1)	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
1	264Va.c, 60Hz	+3.3V	Normal	3.36Vdc	--	--	ES1
			Abormal (See appended table B.3)	3.36Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	3.36Vdc	--	--	
2	264Va.c, 60Hz	+5V	Normal	5.13Vdc	--	--	ES1
			Abormal (See appended table B.3)	5.13Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	5.13Vdc	--	--	
3	264Va.c, 60Hz	+12V1	Normal	12.26Vdc	--	--	ES1
			Abormal (See appended table B.3)	12.26Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	12.26Vdc	--	--	
4	264Va.c, 60Hz	-12V	Normal	5.04Vdc	--	--	ES1
			Abormal (See appended table B.3)	5.04Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	5.04Vdc	--	--	
5	264Va.c, 60Hz	+5VSB	Normal	-12.24Vdc	--	--	ES1
			Abormal (See appended table B.3)	-12.24Vdc	--	--	
			Single fault – SC/OC (See appended table B.4)	-12.24Vdc	--	--	

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

5.2	Table: Classification of electrical energy sources						P
6	264Va.c, 60Hz	Secondary to GND	Normal	--	0.012	--	ES1
			Abnormal (See appended table B.3)	--	0.012	--	
			Single fault – SC/OC (See appended table B.4)	--	0.011	--	

Note: Input voltage: 264Vac, 60Hz

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
1	264Va.c. 60Hz	L to N	Normal	CX1=0.68 μ F; CX2=0.47 μ F; CX4=1 μ F	370	ES3
			Abnormal	--	--	--
			Single fault – SC/OC	--	--	--

5.2.2.4 - Single Pulses

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

5.2.2.5 - Repetitive Pulses

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

Test Conditions:

Normal – Full load and no load.

Abnormal – Overload output

Supplementary information: SC=Short Circuit, OC=Open Circuit

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements							P
	Supply voltage (V) ...	90	90	90	264	90	90	—
	Supply frequency (Hz)	63	63	63	47	63	63	—
	Test condition	A	B	C	A	D	B	—
	Test position	I	I	I	I	I	I	—
	Tma (°C)	See below.						—
Maximum measured temperature T of part/at:		T (°C)						Allowed T _{max} (°C)
For model GPS-850HB A								
Ambient		26.9	28.1	26.9	26.7	39.9	40.8	--
T501 primary coil		61.9	64.8	62.3	59.3	45.0	76.1	110
T501secondary coil		80.3	83.5	80.2	77.8	47.1	95.4	110
T501 core		47.0	49.0	47.0	45.0	44.3	60.2	110
T901coil		50.4	37.3	36.4	48.8	78.7	48.0	110
T901 core		51.7	37.5	36.6	49.9	79.1	48.3	110
T503 coil		46.9	49.0	46.3	44.7	49.1	60.2	110
T503 core		46.4	48.6	45.8	44.2	49.2	59.7	110
L Pin of Socket		38.7	39.5	38.5	35.7	42.8	50.1	70
FL1 coil		62.3	62.4	60.4	34.3	47.1	75.0	130
CX2(near FL1)		50.2	50.3	48.1	39.6	51.6	61.5	100
FL2 coil		68.9	68.8	66.4	42.3	51.7	81.2	130
L801 coil		49.5	50.9	49.1	33.8	47.5	62.8	130
L153 coil		41.6	44.5	41.7	38.6	42.0	53.8	130
T502 coil		48.3	50.5	48.2	44.7	51.2	61.4	130
C801 body		39.5	56.6	36.8	37.6	47.2	66.8	85
L101 coil		37.6	39.3	37.6	31.7	41.6	48.6	130
L301 coil		45.5	37.1	34.9	44.4	43.9	48.0	85
PWB (near BD1)		66.0	67.1	64.9	45.3	49.0	78.7	130
PWB (near Q501)		47.0	49.6	46.8	42.6	48.6	60.5	130
IC502 body		32.7	33.2	32.3	31.4	42.4	44.0	100
DC Fan		12.1	12.1	12.1	12.3	3.7	12.3	--
Ambient		23.9	--	--	--	--	--	--

IEC 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
Metal case	26.6	--	--	--	--	--	70
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Supplementary information: Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (T _{ma}). 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 _{amb} 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 _{max} = 120°C - 10°C = 110°C Position: I <input checked="" type="checkbox"/> On test bench, component side upward							

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

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics			P
Allowed impression diameter (mm): ≤ 2 mm				—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)	
Bobbin, FR530	E I Dupont	125	1.0	
Bobbin, E4008	Sumitomo	125	1.2	
Supplementary information: The phenolic materials used for the bobbin of transformer, which are accepted without the further testing.				

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance							P
Clearance (cl) and creepage distance (cr) at/of/between:		Up (V)	U r.m.s. (V)	Frequency (kHz)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
For model GPS-850HB A								
Primary traces before fuse F1 (FI) (on board DC-4273)		420	250	--	2.3	4.5	2.5	4.5
Primary traces before fuse F1 (FI) (on mains board)		420	250	--	2.3	5.0	2.5	5.0

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
Primary traces under fuse F1 (FI)	420	250	--	2.3	2.9	2.5	2.9
Primary components or traces to protective bonding conductors (BI/SI)	420	250	--	2.3	See below	2.5	See below
- Current fuse (L) trace to earth trace	420	250	--	2.3	3.1	2.5	3.1
- Under trace of Y-cap. CY3	420	250	--	2.3	5.0	2.5	5.0
- Under trace of Y-cap. CY4	420	250	--	2.3	5.0	2.5	5.0
- Under trace of Y-cap. CY5	420	250	--	2.3	3.2	2.5	3.2
Primary components (with 10N) to secondary components (with 10N) (RI/DI)	420	250	--	4.5	See below	5.0	See below
- Core of L153 to sec. component	420	250	--	4.5	9.0	5.0	9.0
- Under opto-couplers (IC502, IC602, IC603, IC903)	420	250	--	4.5	7.0	5.0	7.0
- Secondary trace to Primary trace on PCB under T503	420	250	--	4.5	6.1	5.0	6.1
- Primary HS3 to sec. core of T501	465	263	--	4.5	6.4	5.4	6.4
- Secondary trace to Primary trace on PCB under T901	610	394	--	4.5	8.8	8.0	8.8
Supplementary information: 1) This equipment operate altitude considers to 5000m and the required cl need to multiply factor 1.48 . 2) The Y capacitors (CY1, CY2) are soldered on appliance inlet. 3) Tube component: FL3, current fuse body, DC fan lead wire. 4) At least two layers insulation tape wrapped the around body of L153. 5) There is a piece of insulation sheet used under the main power board. 6) 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. 7) T501, T503 core was considered as secondary circuit, T901 core were considered as primary circuit. detail see tables G.5.3. 8) The distance didn't be described above are much larger than limitation. 9) For others, please refer to photo documentation. 10) Insulation definition: FI: functional insulation DI/RI: double/reinforced insulation BI: basic insulation SI: supplementary insulation							

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage		P
	Overvoltage Category (OV):		II
	Pollution Degree:		2
Clearance distanced between:		Required withstand voltage	Required cl (mm)
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
Tubing used on DC fan wire (SI)		420	--	See appended table 4.1.2	*2) 0.4mm	See appended table 4.1.2
Supplementary information:						
1. See also sub-clause 5.4.4.9.						
2. If opto-coupler is complied with IEC/EN 60747-5-5, no dti requirement.						

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (Vpeak)	Breakdown Yes / No
Primary to secondary (RI)		DC	4242	No
Primary to earth (metal chassis/enclosure) (BI)		DC	2636	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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
T901, Secondary to core (RI)	DC	4242	No
Insulation tube	DC	4242	No
one layer insulation tape (all sources)	DC	4242	No
Insulation sheet (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 for all sources of mains transformer.			
3. T501, T503 core was considered as secondary circuit, T901 core were considered as primary circuit.			

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, 60Hz	L to N	N	Fuse In	40	ES1	
264Vac, 60Hz	L to N	N	Fuse out	24	ES1	
264Vac, 60Hz	L to N	S (BD1)	Fuse In	-40	ES1	

Supplementary information:

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

X-capacitors installed for testing are: 264Vac, 60Hz

Switch on:

Overall capacity: CX1=0.68μF; CX2=0.47μF; CX4=1μF

Discharge resistor: R1=R2=R3=100Kohm

Switch off:

Overall capacity: CX1=0.68μF

Discharge resistor: R1=R2=R3=100Kohm

Notes:

A. Test Location:

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

B. Operating condition abbreviations:

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

S – Single fault condition.

5.6.6.2	TABLE: Resistance of protective conductors and terminations				P
Accessible part		Test current (A)	Duration (s)	Voltage drop (V)	Resistance (Ω)
Between ground pin and farthest point on metal chassis		32	120	0.32	0.010
Between ground pin and farthest point on metal chassis		40	120	0.48	0.012
Supplementary Information: Limit is 0.1Ω.					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		P
Supply voltage..... :	264Vac, 60Hz	—	
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)	
Metal enclosure	1 (e open, normal and reverse polarity p)	1.10	
Output terminal	2* (netural open (switch n), earth intact and normal polarity, again in veverse polarity (switch p)	N/A ⁵⁾	
Output terminal	3 (for IT system, each phase conductor faulted to earth, one at a time (swtich g)	N/A ^{a)}	
Output terminal	4 (for three-phase, each phase conductor open, one at a time switches l)	N/A ^{b)}	
Output terminal	5 (IT power system or three phase delta system)	N/A ^{c)}	
Output terminal	6 (three-phase for use on centre-earthed dalta supply system)	N/A ^{d)}	
Output terminal	8 (incidental electrically connected to other parts)	N/A ^{e)}	

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 dalta supply system.

e) Not such parts.

Overall capacity:

CY1 = CY2 = 1000pF, CY3 = CY4= 3300pF, CY5 = 1500pF

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

6.2.2	Table: Electrical power sources (PS) measurements for classification					P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s ^{*)}	PS Classification	
Output	Normal / Abnormal operation, Single Fault (Component short circuited)	Power (W) :	--	--	PS3*	
		V _A (V) :	--	--		
		I _A (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 _p)	Measured r.m.s current (I _{rms})	Calculated value (V _p x I _{rms})	Arcing PIS? Yes / No	
Primary circuit and secondary circuit	--	--	--	--	
Supplementary information: The components primary components are considered as arcing PIS. An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V _p) and normal operating condition rms current (I _{rms}) is greater than 15.					

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)				P
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
--	--	--	--	--	--
Supplementary Information: All primary and secondary circuit are considered as resistive PIS A combination of voltmeter, V _A and ammeter I _A may be used instead of a wattmeter. If a separate voltmeter and ammeter are used, the product of (V _A x I _A) 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.					

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

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

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
For model GPS-850HB A							
90	11.2	--	1003	--	F1	11.2	Rated load at 47Hz on condition A
100	9.99	15.00	990	--	F1	9.99	Rated load at 47Hz on condition A
240	4.00	7.50	953	--	F1	4.00	Rated load at 47Hz on condition A
254.4	3.78	--	951	--	F1	3.78	Rated load at 47Hz on condition A
264	3.65	--	951	--	F1	3.65	Rated load at 47Hz on condition A
90	11.2	--	1004	--	F1	11.2	Rated load at 63Hz on condition A
100	9.98	15.00	993	--	F1	9.98	Rated load at 63Hz on condition A
240	4.01	7.50	952	--	F1	4.01	Rated load at 63Hz on condition A
254.4	3.79	--	952	--	F1	3.79	Rated load at 63Hz on condition A
264	3.65	--	951	--	F1	3.65	Rated load at 63Hz on condition A
90	11.1	--	995	--	F1	11.1	Rated load at 47Hz on condition B
100	9.92	15.00	987	--	F1	9.92	Rated load at 47Hz on condition B
240	3.99	7.50	950	--	F1	3.99	Rated load at 47Hz on condition B
254.4	3.76	--	945	--	F1	3.76	Rated load at 47Hz on condition B
264	3.64	--	946	--	F1	3.64	Rated load at 47Hz on condition B
90	11.2	--	996	--	F1	11.2	Rated load at 63Hz on condition B
100	9.92	15.00	986	--	F1	9.92	Rated load at 63Hz on condition B
240	3.99	7.50	946	--	F1	3.99	Rated load at 63Hz on condition B
254.4	3.77	--	947	--	F1	3.77	Rated load at 63Hz on condition B

IEC 62368-1			
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
264	3.64	--	947	--	F1	3.64	Rated load at 63Hz on condition B
90	11.0	--	984	--	F1	11.0	Rated load at 47Hz on condition C
100	9.80	15.00	974	--	F1	9.80	Rated load at 47Hz on condition C
240	3.93	7.50	935	--	F1	3.93	Rated load at 47Hz on condition C
254.4	3.72	--	936	--	F1	3.72	Rated load at 47Hz on condition C
264	3.59	--	935	--	F1	3.59	Rated load at 47Hz on condition C
90	11.0	--	973	--	F1	11.0	Rated load at 63Hz on condition C
100	9.79	15.00	935	--	F1	9.79	Rated load at 63Hz on condition C
240	3.94	7.50	935	--	F1	3.94	Rated load at 63Hz on condition C
254.4	3.72	--	935	--	F1	3.72	Rated load at 63Hz on condition C
264	3.59	--	934	--	F1	3.59	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 on page 4.							

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C)					25°C, if not specified			—
Power source for EUT: Manufacturer, model/type, output rating ...:					--			—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
For model GPS-850HB A								
+12V1 to Gnd.	s-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
+3.3V to Gnd.	s-c	264	5min	F1	0.41	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
+5V to Gnd.	s-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
-12V to Gnd.	s-c	264	5min	F1	3.75	Type T	--	NB, NC, NT, all output normally

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
+5Vsb to Gnd.	s-c	264	5min	F1	0.37	Type T	--	NB, NC, NT, all output shutdown.
+12V1 to +5V.	s-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
+12V1 to +3.3V.	s-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
+12V1 to -12V.	s-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
+12V1 to +5Vsb.	s-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, all output shutdown
+5V to +3.3V	s-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
+5V to -12V	s-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
+5V to +5Vsb	s-c	264	5min	F1	3.70	Type T	--	NB, NC, NT, all output normally
-12V to +5Vsb	s-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, all output shutdown
-12V to +3.3V	s-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
+5Vsb to +3.3V	s-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, all output shutdown

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
+3.3V	o-l	264	14.44hrs	F1	3.74→0.3 1	Type T	Max. Temperature at T501: 75.5°C, T901: 88.7°C, T503: 51.8°C	Overload to 41A before all output foldback; ambient: 28.2°C, NB, NC, NT. Load condition: A
+5V	o-l	264	15.42hrs	F1	3.75→0.2 2	Type T	Max. Temperature at T501: 74.4°C, T901: 36.9°C, ambient: 28.7°C,	Overload to 31.0A before all output foldback, NB, NC, NT. Load condition: B
+12V1	o-l	264	11.08hrs	F1	4.09→0.2 2	Type T	Max. Temperature at T501: 79.0°C, T901: 35.7°C, ambient: 26.2°C,	Overload to 60A before all output foldback, NB, NC, NT. Load condition: C
-12V	o-l	264	17.83hrs	F1	3.90→0.3 1	Type T	Max. Temperature at T501: 76.2°C, T901: 86.7°C, T503: 53.3°C; ambient: 27.5°C,	Overload to 5.29A before all output oscillate, NB, NC, NT. Load condition: A
+5Vsb	o-l	264	4.66hrs	F1	0.47→0.2 2	Type T	Max. Temperature at T501: 33.3°C, T901: 101.3°C, T503: 36.1°C; ambient: 25.7°C	Overload to 6A before all output oscillate, NB, NC, NT. Load condition: D

IEC 62368-1								
Clause	Requirement + Test				Result - Remark		Verdict	
DC Fan	stalled	264	2.74hrs	F1	3.64→0.3 1	Type T	Max. Temperature at T501: 84.6°C, T901: 88.1°C; ambient: 26.8°C	All output normal. NB, NC, NT. Load condition: A
Ventilation opening	blocked	264	3.07hrs	F1	3.64→0.3 1	Type T	Max. Temperature at T501: 86.2°C, T901: 85.4°C; ambient: 26.0°C	All output normal., NB, NC, NT. Load condition: A
+3.3V	o-l	264	5.86hrs	F1	3.92→0.3 2	Type T	Max. Temperature at Case: 28.2°C, ambient: 24.3°C	Overload to 40A before all output foldback, NB, NC, NT. Load condition: A
Ventilation opening	blocked	264	2.19hrs	F1	3.67→0.3 2	Type T	Max. Temperature at case 32.6°C; ambient: 23.7°C	+5Vsb output normal. Other oscillate, NB, NC, NT. Load condition: A
DC Fan	stalled	264	2.78hrs	F1	3.67→0.3 2	Type T	Max. Temperature at case 27.1°C; ambient: 23.8°C	+5Vsb output normal. Other oscillate, NB, NC, NT. 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-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: 175-10=165°C</p> <p>Winding Limit for Class A: 150-10=140°C</p>								

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
For model GPS-850HB A								
FL1 (L-N)	s-c	264	<1s	F1	--	Type T	--	F1 opened immediately. NH, NC, NT, NB.
FL2 (L-N)	s-c	264	<1s	F1	--	Type T	--	F1 opened immediately. NH, NC, NT, NB.
BD1 (AC to +)	s-c	264	<1s	F1	--	Type T	--	F1 opened immediately. NH, NC, NT, NB.
BD1 (AC to -)	s-c	264	<1s	F1	--	Type T	--	F1 opened immediately. NH, NC, NT, NB.
Q801 (Pin G-Pin D)	s-c	264	<1s	F1	--	Type T	--	F1 opened immediately. NH, NC, NT, NB.
Q803 (Pin G-Pin S)	s-c	264	5min	F1	3.78	Type T	--	NB, NC, NT, all output normally.
C801	s-c	264	<1s	F1	--	Type T	--	F1 opened immediately. NH, NC, NT, NB.
T502 (Pin 9 – Pin 8)	s-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T502 (Pin 1 – Pin 2)	s-c	264	5min	F1	0.44	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T502 (Pin 5 – Pin 4)	s-c	264	5min	F1	0.44	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
T501 (Pin 1, 6 – Pin 2, 5)	s-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T501 (Pin 3, 4 – Pin 2, 5)	s-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T501 (Pin A – Pin B)	s-c	264	5min	F1	3.75	Type T	--	NB, NC, NT, all output normally.
T501 (Pin W – Pin X)	s-c	264	5min	F1	0.44	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
L153	s-c	264	5min	F1	3.62	Type T	--	NB, NC, NT, all output normally.
Q501 (Pin G- Pin S)	s-c	264	5min	F1	0.36	Type T	--	NB, NC, NT, all output shutdowns.
Q501 (Pin D-Pin S)	s-c	264	<1s	F1	--	Type T	--	F1 opened immediately. NH, NC, NT, NB.
Q501 (Pin D-Pin G)	s-c	264	5min	F1	0.41	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
Q502 (Pin G- Pin S)	s-c	264	5min	F1	0.41	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
Q502 (Pin D-Pin S)	s-c	264	5min	F1	0.41	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
Q502 (Pin D-Pin G)	s-c	264	5min	F1	0.41	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T503 (Pin 7 – Pin 8)	s-c	264	5min	F1	0.45	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
T503 (Pin 1 – Pin 2)	s-c	264	5min	F1	0.45	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T503 (Pin 4– Pin 5)	s-c	264	5min	F1	0.45	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T901 (Pin 3 – Pin 1)	s-c	264	5min	F1	0.40	Type T	--	NB, NC, NT, all output shutdown.
T901 (Pin 7 – Pin 9)	s-c	264	5min	F1	0.40	Type T	--	NB, NC, NT, all output shutdown.
T901 (Pin 4 – Pin 5)	s-c	264	5min	F1	0.39	Type T	--	NB, NC, NT, all output shutdown.
IC901 Pin 4 – Pin 1	s-c	264	<1s	F1	--	Type T	--	F1 opened immediately. NH, NC, NT, NB.
IC901 Pin 4 – Pin 2	s-c	264	5min	F1	0.35	Type T	--	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	0.43	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
IC603 Pin 3 – Pin 4	s-c	264	5min	F1	3.72	Type T	--	NB, NC, NT, all output normally.
IC603 Pin 4	o-c	264	5min	F1	0.43	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
IC903 Pin 1 – Pin 2	s-c	264	5min	F1	0.40	Type T	--	NB, NC, NT, all output shutdown.
IC903 Pin 3 – Pin 4	s-c	264	5min	F1	0.38	Type T	--	NB, NC, NT, all output shutdown.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
IC903 Pin 4	o-c	264	5min	F1	1.12↔0.35	Type T	--	NB, NC, NT, All output oscillate..
IC602 Pin 1 – Pin 2	s-c	264	5min	F1	3.76	Type T	--	NB, NC, NT, all output normally.
IC602 Pin 3 – Pin 4	s-c	264	5min	F1	3.71	Type T	--	NB, NC, NT, all output normally
IC602 Pin 3	o-c	264	5min	F1	3.66	Type T	--	NB, NC, NT, all output normally.
IC801 Pin 11 – Pin 6	s-c	264	5min	F1	0.40	Type T	--	NB, NC, NT, all output shutdown.
IC502 Pin 1 – Pin 2	s-c	264	5min	F1	0.44	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
IC502 Pin 3 – Pin 4	s-c	264	5min	F1	0.44	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
IC502 Pin 4	o-c	264	5min	F1	0.41	Type T	--	NB, NC, NT, +5Vsb normal, other output shutdown.
T501 (Pin 1, 6 to Pin 2,5) At L155	o-l	90	14.55hrs	F1	14.65→0.43	Type T	--	Overload to 20A, until Max. Temperature at T501: 123.0°C, T901: 84.5°C; ambient: 30°C. Load condition: A

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

Supplementary information:

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

1) S-C: Short-circuited; O-C: Open-circuited; O-L: Overloaded.

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

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

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

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

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

II For fuse opened condition, same result came out for each source of fuse used.

II When 16A breaker opens, used the 20A breaker repeat three times the tests.

II For component damaged but current fuse not open condition, same result came out after repeating three times.

II If not otherwise specified, all tests were conducted on load condition A, Refer to table B.2.5.

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	--	--	--	--
Supplementary Information:					
Battery identification	Charging at T_{lowest} (°C)	Observation	Charging at $T_{highest}$ (°C)	Observation	
--	--	--	--	--	
--	--	--	--	--	
Supplementary Information:					

Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)					N/A
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
Test model: --						
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 enclosure near appliance inlet side (according to T.4)	1)	1)	100	5	No hazard.	

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
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	Metal	0.6	1300	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	
Supplementary information:					

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

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

List of test equipment used:

NO.	Instr I.D.	Use Range	Instr Type	Make and Model	Calibration Date	
					Last	Due
1	E07-P346	0-60V 0-8mS 0-200MHz	Digital Phosphor Oscilloscope	DPO4054B	2019/3/27	2020/3/26
2	E08-P077	0-60min	Stop Watch	TF, PC396	2018/9/21	2019/9/20
3	E09-P041	(A) 500V/20A (B) 500V/3A (C) 500V/0.3A 3000W	Digital Power Meter	ZENTECH, 2100	2019/5/6	2020/5/5
4	E09-P050	(A) 500V/20A (B) 500V/3A (C) 500V/0.3A 3000W	Digital Power Meter	ZENTECH, 2100	2019/5/6	2020/5/5
5	E09-P051	(A) 500V/20A (B) 500V/3A (C) 500V/0.3A 3000W	Digital Power Meter	ZENTECH, 2100	2019/5/6	2020/5/5
6	E09-P152	(A) 500V/20A (B) 500V/3A (C) 500V/0.3A 3000W	Digital Power Meter	ZENTECH, 2100	2019/5/6	2020/5/5
7	E09-P153	(A) 500V/20A (B) 500V/3A (C) 500V/0.3A 3000W	Digital Power Meter	ZENTECH, 2100	2019/5/6	2020/5/5
8	E10-P3386	0-1000Vdc 0-750Vac 0-10Adc.0-10Aac 0-10MΩ.0-100KHZ	Digital Multimeter	VICTOR, VC9806	2019/5/6	2020/5/5
11	E10-P2449	0-1000Vdc 0-700Vac 0-20Adc,0-20Aac 0-10Mohm	Auto Range Digital Multimeter	ZENTECH, 2041	2019/5/6	2020/5/5
12	E11-P868	30V/3A	Laboratory Dc Power Supply	JATEN, MPS-3003L-3	2019/5/6	2020/5/5
13	E11-P850	0-300V 0-20A 0-400Hz	Series Ac Power Source	EXTECH, 6460	2019/5/6	2020/5/5
14	E11-P984	0-300V, 0-140A 0-1000Hz 0-3000W	Programmable Ac Source	CHROMA, 6430	2019/6/24	2020/6/23
15	E11-P188	0-300V, 30A 0-1000Hz 0-3000W	Programmable Ac Source	CHROMA, 6560	2018/11/26	2019/11/25

16	E11-P1119	0-300V, 0-140A 0-1000Hz 0-3000W	Programmable Ac Source	CHROMA, 6590	2019/5/6	2020/5/5
17	E12-P120	0-40A 0-100mohm 0-120S	Ground Bond Tester	EXTECH, 7316	2018/11/5	2019/11/4
18	E11-P1360	0-300V, 0-125A 0-250Hz 0-3000W	Ac Power Source	IDRC, CIF-1530AP1P	2019/5/20	2020/5/19
20	E29-P611	0-300Vdc -100-300°C	Data Acquisition/ Switch Unit	AGILENT, 34970A	2019/1/3	2020/1/2
21	E17-P030	-200-400°C	Hybrid Recorder	YOKOGAWA, DR130	2019/5/6	2020/5/5
23	E17-P033	-200-400°C	Hybrid Recorder	YOKOGAWA, DR130	2019/5/6	2020/5/5
25	E24-P1895	-40~+150°C 40~95%RH	Chamber	KTHD-715TBS	2018/10/11	2019/10/10
26	E18-N93	60A, 80V	Smart Electronic Load	CHROMA, 6334	2018/11/26	2019/11/25
28	E10-H923	0-1000Vdc 0-700Vac 0-10Adc.0-10Aac 0-10MΩ	Digit Precision Multimeter	FLUKE, 8845A	2019/6/24	2020/6/23
29	E18-P1275	60A, 64V	Smart Electronic Load	CHROMA, 6304	2019/4/17	2020/4/16
30	E18-P1964	60A, 64V	Smart Electronic Load	CHROMA, 6304	2019/4/17	2020/4/16
35	E18-P1966	60A, 64V	Smart Electronic Load	CHROMA, 6301	2019/4/17	2020/4/16
37	E18-P2406	60A, 64V	Smart Electronic Load	CHROMA, 6304	2019/4/17	2020/4/16
39	E18-P2407	60A, 64V	Smart Electronic Load	CHROMA, 6304	2019/4/17	2020/4/16
40	E18-P2408	60A, 64V	Smart Electronic Load	CHROMA, 6304	2019/4/17	2020/4/16
41	E18-P2410	10A,500V	Dc Electronic Load	CHROMA, 6312	2019/4/17	2020/4/16
43	E19-P074	0-10KV,1000X 100Mohm 3.0PF	High Voltage Probe	TEKTRONIX, P6015A	2018/12/6	2019/12/5
44	E20-P109	150 Kohm - 11Mohm	The Resistance Box For Electrical Safety Compliance Analyzer	NONE, 150K-300K-11M	2018/11/29	2019/11/28
46	E20-P081	1/1000	High Voltage Probe	FLUKE, 80K-15	2019/6/24	2020/6/23
47	E21-P098	0~30N	Push-Pull Scale	AIKON,ANF-30	2019/4/17	2020/4/16

48	E21-P181	0~300N	Push-Pull Gauge	ALGOL, NK-300	2019/4/17	2020/4/16
49	E19-P083	±130V,1/50 ±1300V,1/500	High Voltage Differential Probe	P5205A	2019/3/27	2020/3/26
50	E21-P172	0-30kg	Electronic Balance	DINGJIAN, ES-30KCB	2019/5/20	2020/5/19
51	E18-P3181	60A, 80V	Smart Electronic Load	CHROMA, 6334	2018/11/26	2019/11/25
52	E18-P3179	60A, 80V	Smart Electronic Load	CHROMA, 6334	2019/5/20	2020/5/19
53	E24-P030	Ambient ~ 70 °C	Temperature Chamber	ONGWIN LW-9022	2019/5/20	2020/5/19
54	E24-P1077	35°C~200°C	Oven	MENTEK MTK-HG600	2019/5/20	2020/5/19
55	E24-P1863	10~60°C 40~95%RH	Tempera/Humidity Recorder	DICKSON, TM320	2018/10/11	2019/10/10
56	E12-P294	0-5mA 20-1MHz	Touch Current Tester	EXTECH, 7630	2019/5/28	2019/11/27
59	E24-H530	Ambient ~ 70 °C	Temperature Chamber	ONGWIN LW-9022	2019/2/20	2020/2/19
60	E29-P560	20N, 2.5mm (IEC60950-1)	Ball Prssure Test Equipment	BPT-01	2017/7/20	2020/7/19
61	E29-P561	1300mm	Tube For Impact Test	HOMEMADE	2017/7/20	2020/7/19
62	E18-P3470	60A, 60V	High Speed Dc Load	CHROMA, 6314A	2019/4/17	2020/4/16
63	E18-P3471	60A, 60V	High Speed Dc Load	CHROMA, 6314A	2019/4/17	2020/4/16
64		IEC60950-1	Discharge Test Fixture	HOMEMADE	2019/3/9	2020/3/08
65		IEC60065	Touch Current Test Fixture	HOMEMADE	2019/3/9	2020/3/08
66		IEC60950-1	Touch Current Test Fixture	HOMEMADE	2019/3/9	2020/3/08
68	E09-N146	500V 20A 500W	Digital Power Meter	CHROMA, 66202	2018/10/11	2019/10/10
69	E10-P068	0-300Vdc -100-300°C	Data Acquisition/ Switch Unit	AGILENT, 34970A	2019/4/17	2020/4/16
70	E29-P577	IEC60950-1 Figure 2B	Test Pin	HANYANG, FZ-1101-C	2018/10/22	2019/10/21
73	E29-P578	UL60950-1 500±25g Φ50mm	Steel Ball	HANYANG, FZ-1112B	2018/10/22	2019/10/21
74	E29-P583	IEC61032 Standard Test Probe 11	Test Finger(Unjointed)	HANYANG, FZ-1111	2017/2/23	2020/2/22

78	E29-P570	5m	Tape Measure	HONG ZHENG (HONG KONG)	2017/12/6	2020/12/5
83		Hardwood: least 13mm; plywood: 19~20 mm *2	Drop Test Fixture	DA CHENG (DONG GUAN)	2018/11/3	2019/11/2
84	E09-P228	0-600W,0-10A THD:0-1 40-70HZ,0-6KW	Power Analyser	CHROMA, 6630	2018/10/31	2019/10/30
85	E29-P604	IEC60950-1	Test Finger	ZLT-102	2017/7/20	2020/7/19
88	E12-N20	0-6000Vac 0-6000Vdc 0-100mAac 0-10mAdc 1-9999MΩ 0-1000S	Electrical Safety Compliance Analyzer	EXTECH, 7452	2019/6/2	2019/12/1
89	E18-P3455	60A, 80V	High Speed Dc Load	CHROMA, 6334A	2019/4/17	2020/4/16
93	E18-P3180	60A, 80V	High Speed Dc Load	CHROMA, 6334	2018/11/26	2019/11/25
94	E22-P390	0~200mm	Digital Caliper	MITUTOYO, CD-8" CSX	2019/6/24	2020/6/23
96	E19-P095	±130V,1/50 ±1300V,1/500	High Voltage Differential Probe	P5205A	2019/3/18	2020/3/17
100	E11-P956	0-300V, 30A 0-1000Hz 0-3000W	Programmable Ac Source	CHROMA, 6560	2019/5/20	2020/5/19
101	E10-H1254	0-300Vdc -100-300°C	Data Acquisition/ Switch Unit	AGILENT, 34970A	2019/5/20	2020/5/19
102	E09-P321	500V 20A 500W	Digital Power Meter	CHROMA, 66202	2019/8/09	2020/8/08
104	E09-N145	500V 20A 500W	Digital Power Meter	CHROMA, 66202	2018/10/11	2019/10/10
105	E29-H394	IEC62368-1 Figure 29	Electronic Strength Test Instrument	ZLT-KQ	2018/11/1	2019/10/31
106	E29-H395	IEC62368-1 Figure V.1	Unjointed Test Finger	ZLT-U01A	2018/11/1	2019/10/31
107	E18-P3178	60A, 60V	High Speed Dc Load	CHROMA, 6334	2018/12/5	2019/12/4

5.4.1.8	Table: working voltage measurement					--
Location From (Pri.) To (Sec.)		RMS voltage (V) 100V 240V		Peak voltage (V) 100V 240V		Comments
Transformer: T501 (condition C)						
Pin X	Pin 1, 6	--	156	--	345	--
Pin X	Pin 2, 5	--	154	--	325	--
Pin X	Pin 3, 4	--	153	--	315	--
Pin X	Pin A	--	162	--	345	--
Pin X	Pin B, C	--	161	--	345	--
Pin X	Pin D	--	160	--	325	--
Pin X	Sec. Gnd	--	160	--	345	--
Pin W	Pin 1, 6	--	237	--	425	--
Pin W	Pin 2, 5	--	246	--	435	--
Pin W	Pin 3, 4	--	256	--	445	--
Pin W	Pin A	--	241	--	435	--
Pin W	Pin B, C	--	250	--	445	--
Pin W	Pin D	263	260	465	465	Max. Vpeak, Max. Vrms, 70.2KHz
Pin W	Sec. Gnd	--	250	--	455	--
Transformer: T901 (condition A)						
Pin 1	Pin 7	--	318	--	485	--
Pin 1	Sec. Gnd	--	318	--	465	--
Pin 3	Pin 7	--	354	--	575	--
Pin 3	Sec. Gnd	394	354	610	570	Max. Vpeak, Max. Vrms, 44KHz
Pin 4	Pin 7	--	168	--	-445	--
Pin 4	Sec. Gnd	--	169	--	-455	--
Pin 5	Pin 7	--	167	--	-385	--
Pin 5	Sec. Gnd	--	167	--	-385	--
Transformer: T503 (condition A)						
Pin 7	Pin 1	--	166	--	-386	--
Pin 7	Sec. Gnd	--	165	--	-386	--
Pin 7	Pin 5	--	165	--	-386	--
Pin 8	Pin 1	--	165	--	-386	--
Pin 8	Sec. Gnd	--	165	--	-386	--
Pin 8	Pin 5	-63.9	166	-185	-390	Max. Vpeak, Max. Vrms, 72KHz
Supplementary information: Load condition A						

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)	465	263	DC4242	4.5	5.4	Two layers insulation tape	
T501	Primary to core (RI)	465	263	DC4242	4.5	5.4	Two layers insulation tape	
T503	Primary to secondary (RI)	420	250	DC4242	4.5	5.0	Two layers insulation tape	
T503	Primary to core (RI)	420	250	DC4242	4.5	5.0	Two layers insulation tape	
T901	Primary to secondary (RI)	610	394	DC4242	4.5	8.0	Two layers insulation tape	
T901	Secondary to core (RI)	610	394	DC4242	4.5	8.0	Two layers insulation tape	
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers	
T501	Primary to secondary (RI)			3000V	8.0	8.0	TIW	
T501	Primary to core (RI)			3000V	8.0	8.0	TIW	
T503	Primary to secondary (RI)			3000V	7.0	7.0	TIW	
T503	Primary to core (RI)			3000V	7.0	7.0	TIW	
T901	Primary to secondary (RI)			3000V	8.4	8.4	TIW	
T901	Secondary to core (RI)			3000V	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 3.								

TABLE: evaluation of voltage limiting components in SELV circuits				--
Component (measured between)		max. voltage (V) (normal operation) V peak V d.c.		Voltage Limiting Components
For model GPS-850HB A				
T501 Pin 1, 6	Sec. Gnd	28.6	--	--
T501 Pin 2, 5	Sec. Gnd	--	12.6	--
T501 Pin 3, 4	Sec. Gnd	30.2	--	--
T501 Pin A	Sec. Gnd	-15.8	--	--
T501 Pin D	Sec. Gnd	15.4	--	--
T503 Pin 1	Sec. Gnd	11.2	--	--
T503 Pin 5	Sec. Gnd	-11.8	--	--
T901 Pin 7	Sec. Gnd	-23.8	--	--
Fault test performed on voltage limiting components			Voltage measured (V) in SELV circuits (V peak or V d.c.)	
--			--	
Supplementary information: 1. Test voltage: 240Vac, 60Hz 2. S-C short-circuit.				

-END-

Product: Switching Power Supply (Built-in type)

Type Designation: GPS-850HB XX, DPS-850AB-12 XX, DPS-850AB-13 XX, DSA-850W601APA X



Picture 1



Picture 2

Product: Switching Power Supply (Built-in type)

Type Designation: GPS-850HB XX, DPS-850AB-12 XX, DPS-850AB-13 XX, DSA-850W601APA X



Picture 3



Picture 4

Product: Switching Power Supply (Built-in type)

Type Designation: GPS-850HB XX, DPS-850AB-12 XX, DPS-850AB-13 XX, DSA-850W601APA X



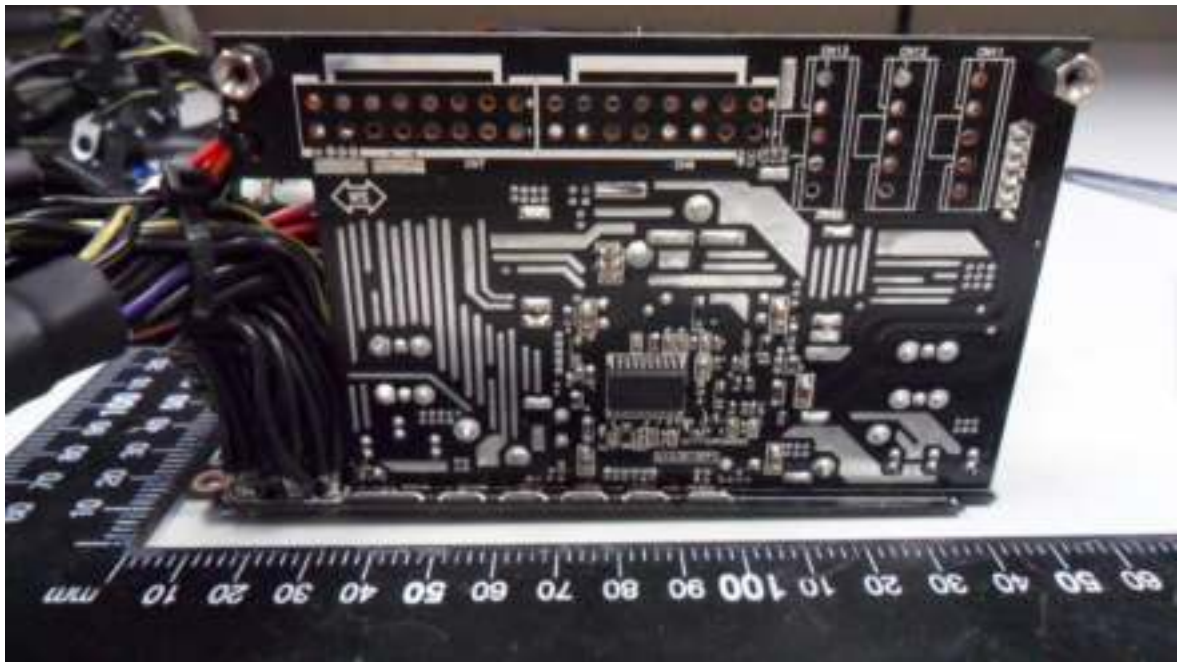
Picture 5



Picture 6

Product: Switching Power Supply (Built-in type)

Type Designation: GPS-850HB XX, DPS-850AB-12 XX, DPS-850AB-13 XX, DSA-850W601APA X



Picture 7



Picture 8

Product: Switching Power Supply (Built-in type)

Type Designation: GPS-850HB XX, DPS-850AB-12 XX, DPS-850AB-13 XX, DSA-850W601APA X



Picture 9 power switch used



Picture 10 power switch not used

Product: Switching Power Supply (Built-in type)

Type Designation: GPS-850HB XX, DPS-850AB-12 XX, DPS-850AB-13 XX, DSA-850W601APA X



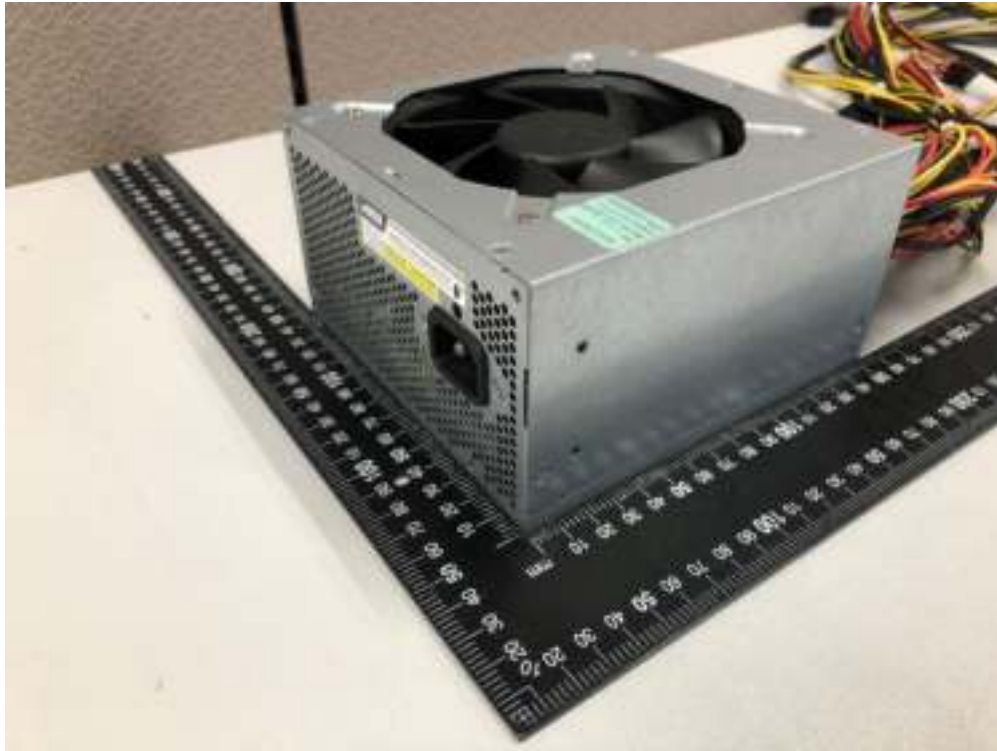
Picture 11 (model DPS-850AB-12 XX)



Picture 12 (model DPS-850AB-12 XX)

Product: Switching Power Supply (Built-in type)

Type Designation: GPS-850HB XX, DPS-850AB-12 XX, DPS-850AB-13 XX, DSA-850W601APA X



Picture 13 (model DPS-850AB-13 XX)



Picture 14 (model DPS-850AB-13 XX)

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment Part 1: Safety requirements)	
Differences according to.....:	EN 62368-1:2014+A11:2017
Attachment Form No.....:	EU_GD_IEC62368_1B_II
Attachment Originator	Nemko AS
Master Attachment	Date 2017-09-22
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	CENELEC COMMON MODIFICATIONS (EN)					P																																				
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed “Z”.					P																																				
CONTENTS	Add 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																																				
	Delete all the “country” notes in the reference document (IEC 62368-1:2014) according to the following list: <table><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
0.2.1	Note	1	Note 3	4.1.15	Note																																					
4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c																																					
5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note																																					
5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3																																					
5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4																																					
10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3																																					
	For special national conditions, see Annex ZB.					P																																				
1	Add 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>Add 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. mains, 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 pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>	<p>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>Add the following to the end of this subclause:</p> <p>The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.</p>	No external circuits.	N/A
10.2.1	<p>Add 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>Add 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</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>adequate locking.</p> <p><i>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.</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>Add 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>Add the following new subclause after 10.6.5.</p> <p>10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz</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>Add the following note:</p> <p>NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.</p>		P
Bibliography	<p>Add the following standards:</p> <p>Add 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

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
4.1.15	Denmark, Finland, Norway and Sweden To the end of the subclause the following is added: Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Denmark : "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord." In Finland : "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway : "Apparatet må tilkoples jordet stikkontakt" In Sweden : "Apparaten skall anslutas till jordat uttag"	Class I equipment. The marking text must be provided when marketed in applicable countries.	N/A
4.7.3	United Kingdom To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex	The equipment is not direct plug-in equipment.	N/A
5.2.2.2	Denmark After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds	No high touch current.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	the limits of 3,5 mA a.c. or 10 mA d.c.		
5.4.11.1 and Annex G	<p>Finland and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>For separation of the telecommunication network from earth the following is applicable:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14. 	No TNV circuits.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.2.1	Norway 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).	Considered.	P
5.5.6	Finland, Norway and Sweden To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.	No such resistors.	N/A
5.6.1	Denmark Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.	Considered.	P
5.6.4.2.1	Ireland and United Kingdom After the indent for pluggable equipment type A , the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.	Considered.	P
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.	See above.	N/A
5.7.5	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.	No high protective conductor current.	N/A
5.7.6.1	Norway and Sweden To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding	Not such system.	N/A

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IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>“Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)”</p> <p>NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet 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>Denmark</p> <p>To the end of the subclause the following is added:</p>	No external circuits.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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 .		
B.3.1 and B.4	<p>Ireland and United Kingdom</p> <p>The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met</p>	The equipment is not direct plug-in equipment.	N/A
G.4.2	<p>Denmark</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>United Kingdom</p> <p>To the end of the subclause the following is added:</p>	The equipment is not direct plug-in equipment.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		
G.7.1	United Kingdom To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	The power supply cord has not been checked, see GENERAL PRODUCT INFORMATION.	N/A
G.7.1	Ireland 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	The power supply cord has not been checked, see GENERAL PRODUCT INFORMATION.	N/A
G.7.2	Ireland and United Kingdom To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm ² is allowed for equipment which is rated over 10 A and up to and including 13 A.	The power supply cord has not been checked, see GENERAL PRODUCT INFORMATION.	N/A
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
10.5.2	Germany The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. <i>Justification:</i>	No CRT within the equipment.	N/A



Attachment 2 to Report No.: 50285343 001

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM.</p> <p>NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de</p>		



IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 2th Ed. U.S.A. NATIONAL DIFFERENCES Audio/video, information and communication technology equipment – Part 1: Safety requirements	
Differences according to.....:	CSA/UL 62368-1:2014
Attachment Form No.....:	US&CA_ND_IEC623681B
Attachment Originator	UL(US)
Master Attachment	Date 2015-06
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IEC 62368-1 - US and Canadian National Differences Special National Conditions based on Regulations and Other National Differences			
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	An appliance inlet provided that is connected by an approved appliance coupler serves as main protective	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	connected equipment	earthing terminal. No power supply cord provided.	
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.	DC output connector is provided. 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.	The power supply cord has not been checked, 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 _{peak} 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	The equipment not intended to be used within such	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	flammability requirements for heat and visible smoke release.	environments.	
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m ³ (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 ² (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

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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
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	Some equipment, components, sub-assemblies	UL approved components	P

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IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
(4.1.1)	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 (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.	used. Refer to table 4.1.2 of IEC 62368-1 test report for details.	
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 ²).	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	No TNV circuits within the equipment.	N/A



Attachment 2 to Report No.: 50285343 001

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	power line crosses.		
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: 2018-02			
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	National Differences		P
Appendix ZZ	Variations to IEC 62368-1:2014 (ED. 2.0) for Australia and New Zealand		P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2014 (ED. 2.0)		P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:		P
2	Add the following to the list of normative references: The following normative documents are referenced in Appendix ZZ: -AS/NZS 3112, <i>Approval and test specification—Plugs and socket-outlets</i> -AS/NZS 3123, <i>Approval and test specification—Plugs, socket-outlets and couplers for general industrial application</i> -AS/NZS 3191, <i>Electric flexible cords</i> -AS/NZS 60065, <i>Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)</i> -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> -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>		P

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>-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></p> <p>-AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—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>Application of requirements and acceptance of materials, components and subassemblies</p> <p>1 Replace the text 'IEC 60950-1' with 'AS/NZS 60950.1:2015'.</p> <p>2 Replace the text 'IEC 60065' with 'AS/NZS 60065'.</p>		P
4.7	Equipment for direct insertion into mains socket-outlets		N/A
4.7.2	<p>Requirements</p> <p>Delete the text of the second paragraph and replace with the following:</p> <p>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		
4.7.3	Compliance Criteria Delete the first paragraph and Note 1 and Note 2 and <i>replace</i> with the following: <i>Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.</i>		N/A
4.8	Delete existing clause title and <i>replace</i> with the following: 4.8 Products containing coin/button cell batteries		N/A
4.8.1	General 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
4.8.2	Instructional Safeguard First line, <i>delete</i> the word 'lithium'.		N/A
4.8.3	Construction First line, after the word 'Equipment' <i>insert</i> the words 'containing one or more coin/button batteries and'		N/A
4.8.5	Compliance criteria Delete 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
5.4.10.2	Test methods		N/A
5.4.10.2.1	General Delete 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		N/A

IEC62368_1B - ATTACHMENT				
Clause	Requirement + Test		Result - Remark	Verdict
	checked by the test of either Clause 5.4.10.2.2 or Clause 5.4.10.2.3.			
Table 29	Replace the table with the following:			N/A
Parts	Impulse test		Steady state test	
	New Zealand	Australia	New Zealand	Australia
Parts indicated in Clause 5.4.10.1 a) ^a	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) ^b	1.5 kV 10/700 μs ^c		1.0 kV	1.5 kV
^a Surge suppressors shall not be removed.				
^b 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.				
^c During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.				
5.4.10.2.2	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
5.4.10.2.3	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
6	Electrically-caused fire			N/A
6.1	General 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

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.6	After Clause 6.6, <i>add</i> the new Clauses 6.201 and 6.202 as follows: 6.201 External power supplies, docking stations and other similar devices and 6.202 Resistance to fire—Alternative tests (see special national conditions)		N/A
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment In the first dashed row and the second dashed rows <i>replace</i> 'IEC 60950-1:2005' with 'AS/NZS 60950.1:2015'.		N/A
8.6	Stability of equipment		N/A
8.6.1 and Table 36	Requirements 1. Table 36, <i>insert</i> Footnote c at the end of the 'Glass slide' heading, and <i>add</i> a new Footnote c after the text of Footnote b in the last row of Table 36 as follows: ° The glass slide test is not applicable to floor standing equipment, even though the equipment may have controls or a display. 2. Table 36, fifth row, <i>insert</i> '201' at the end of 'No stability requirements' 3. Table 36, ninth row, <i>insert</i> '201' at the end of 'No stability requirements' 4. Table 36, <i>add</i> the following new footnote: 201 MS2 and MS3 television sets and display devices, designed only for fixing to a wall, ceiling or equipment rack, are not subjected to stability requirements only if the instructional safeguard of Clause 8.6.1.201 is provided. Otherwise, the glass slide requirements of Clause 8.6.4 and horizontal force requirements of Clause 8.6.5 apply. 5. Second paragraph beneath Table 36, <i>delete</i> the words 'MS2 and MS3 television sets' and <i>replace</i> with 'MS2 and MS3 television sets and display devices'		N/A
8.6.1	After Clause 8.6.1 <i>add</i> the following new clauses: 8.6.1.201 Instructional safeguard for fixed-mount television sets (see special national conditions)		N/A
Annex F Paragraph F.3.5.1	Mains appliance outlet and socket-outlet markings <i>Replace</i> 'IEC 60320-2-2' with 'AS/NZS 60320.2.2'.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex G Paragraph G.4.2	Mains connectors 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
Paragraph G.5.3.1	Transformers, General 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' 2 In the fourth dashed point <i>replace</i> 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.		N/A
Paragraph G.7.1	Mains supply cords, General In the fourth dashed paragraph, <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Table G.5	Sizes of conductors 1 In the second row, first column, <i>delete</i> '6' and <i>replace</i> with '7.5' 2 In the second row, second column, <i>delete</i> '0,75' and <i>replace</i> with '0.75 ^b ' 3 <i>Delete</i> Note 1. 4 <i>Replace</i> 'NOTE 2' with 'NOTE:'. 5 <i>Delete</i> the text of 'Footnote b' and <i>replace</i> with the following: ^b 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 ² three-core supply flexible cords are not permitted; see AS/NZS 3191). 6 In Footnote c <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1' 7 In Footnote d <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex M Paragraph M.3.2	Protection circuits for batteries provided within the equipment, Test method After the first dashed point <i>add</i> the following Note: 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.		N/A
	Special national conditions (if any)		N/A
6.201	External power supplies, docking stations and other similar devices For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage— – at all ES1 outlets or connectors shall not increase by more than 10% of its rated output voltage under normal operating condition; and – 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. For equipment with multiple rated output voltages, the requirements apply with the equipment configured for each rated output voltage in turn. NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries. <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>		N/A
6.202	Resistance to fire—Alternative tests	Approved UL material	N/A
6.202.1	General Parts of non-metallic material shall be resistant to		N/A

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IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>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> <p>a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length.</p> <p>b) The following parts which would contribute negligible fuel to a fire:</p> <ul style="list-style-type: none"> – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1 750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. <p>NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating 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>Testing of non-metallic materials</p> <p>Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C.</p> <p>Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO</p>		N/A

IEC62368_1B - ATTACHMENT									
Clause	Requirement + Test	Result - Remark	Verdict						
	9772 provided that the relevant part is not thinner than the sample tested.								
6.202.3	<p>Testing of insulating materials</p> <p>Parts of insulating material supporting Potential Ignition Sources shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C.</p> <p>The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection.</p> <p>NOTE: Contacts in components such as switch contacts are considered to be connections</p>		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.</p> <p>However, parts shielded by a barrier which meets the needle-flame test need not be tested</p>		N/A						
	<p>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:</p> <table><tr><td>Clause of AS/NZS 60695.11.5</td><td>Change</td></tr><tr><td>9 Test procedure</td><td></td></tr><tr><td>9.2 Application of needle-flame</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></table>	Clause of AS/NZS 60695.11.5	Change	9 Test procedure		9.2 Application of needle-flame	<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>		N/A
Clause of AS/NZS 60695.11.5	Change								
9 Test procedure									
9.2 Application of needle-flame	<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>								

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test		Verdict
	<p>9.3 Number of test specimens</p> <p><i>Replace with the following:</i> 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>		
	<p>11 Evaluation of test results</p> <p><i>Replace with the following:</i> The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p>		
	<p>The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the relevant part is not thinner than the sample tested.</p>		
6.202.4	<p>Testing in the event of non-extinguishing material</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</p>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.		
6.202.5	<p>Testing of printed boards</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"> – the printed board does not carry any potential ignition source; – 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 completely; or – the base material of printed boards, on which the available equipment power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. <p><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>		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.202.6	For open circuit voltages greater than 4 kV 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.		N/A
8.6.1.201	8.6.1.201 Instructional safeguard for fixed-mount television sets 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. The elements of the instructional safeguard shall be as follows: – element 1a: not available; – element 2: 'Stability Hazard' or equivalent wording; – element 3: 'The television set may fall, causing serious personal injury or death' or equivalent text; – 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		N/A
8.6.1.202	Restraining device 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. 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.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 (JAPAN) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment – Part 1: Safety requirements)			
Differences according to: J62368-1 (H30)			
Attachment Form No.: JP_ND_IEC62368_1B			
Attachment Originator: UL (JP)			
Master Attachment: Date 2018-11-22			
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	National Differences		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 ² or more	Added. The equipment is "Class I".	N/A

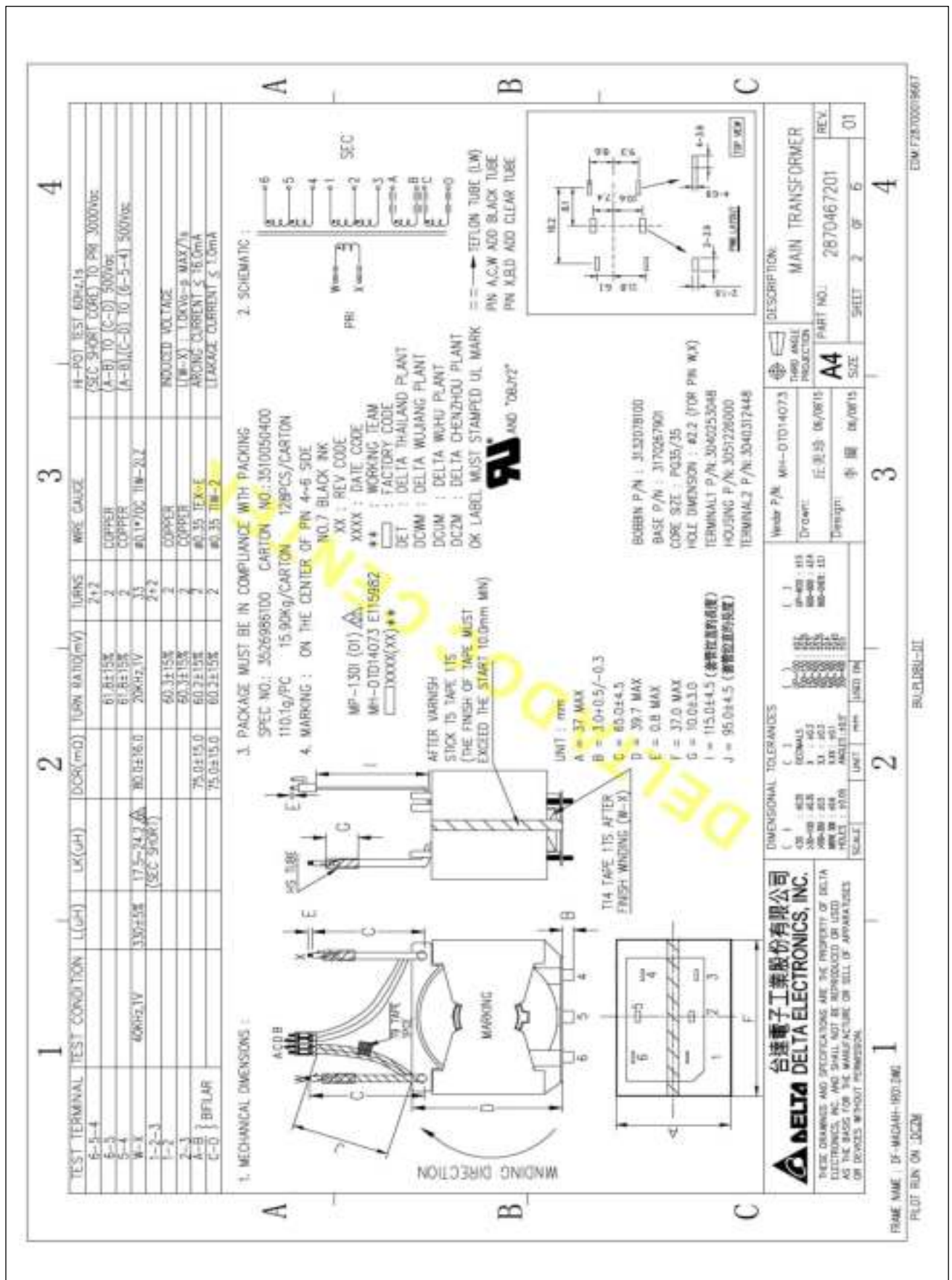
IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	cross-sectional area		
5.7.3	For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS C 8282 series or JIS C 8303, or otherwise being considered to comply with relevant regulations, 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

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

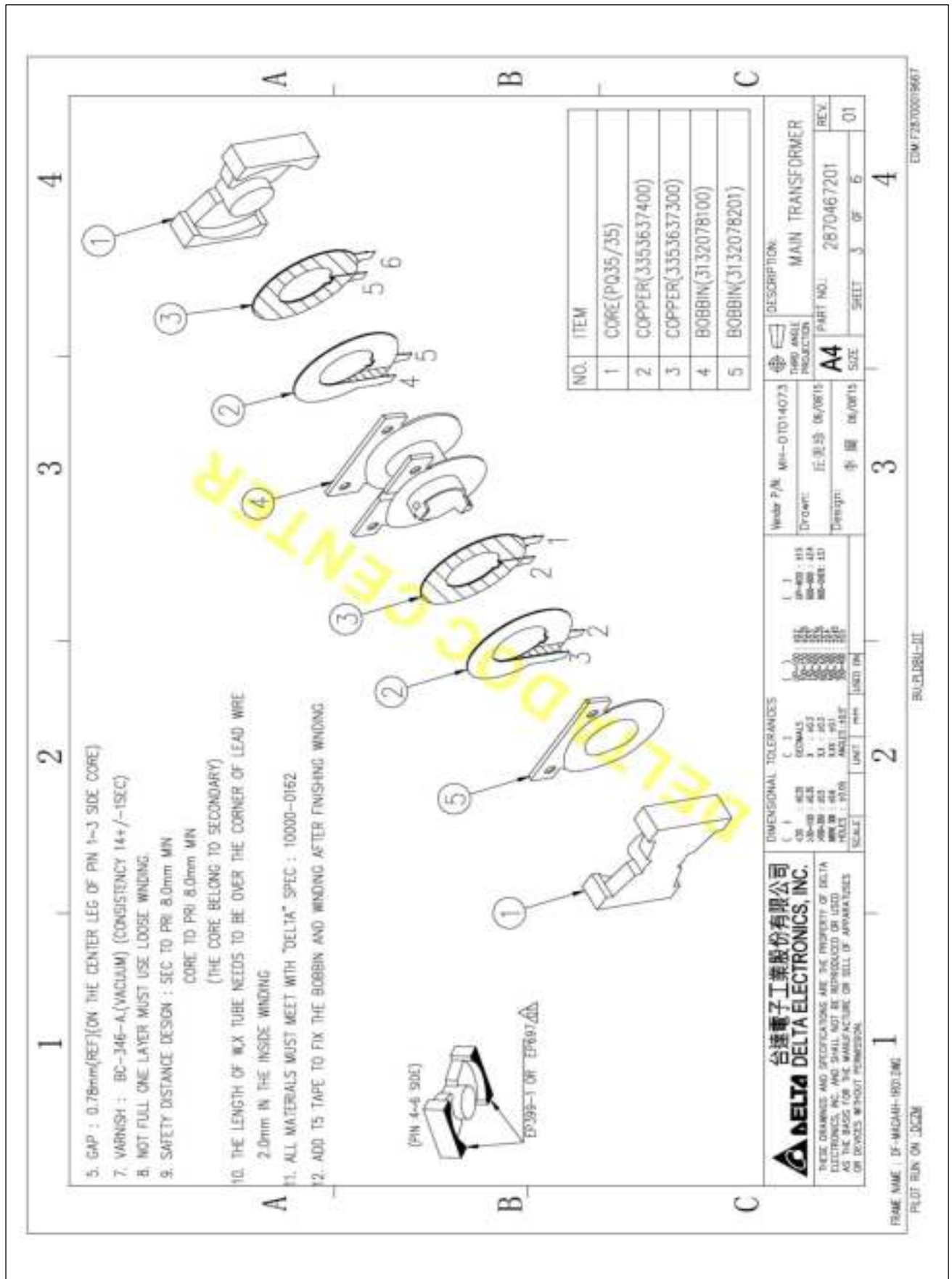
IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	safeguard shall comply with their applicable IEC standards.		
G.4.1	This requirement is not applicable to Clauses G.4.2 and G.4.2A.	Added.	N/A
G.4.2	Mains connector shall comply with JIS C 8282 series, JIS C 8283 series, JIS C 8285, JIS C 8303 or IEC 60309 series. Mains plugs and socket-outlets shall comply with JIS C 8282 series, JIS C 8303, IEC 60309 series, or have equivalent or better performance. 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. Construction preventing mechanical stress not to transmit to the soldering part of inlet terminal. Consideration for an equipment rated not more than 125 V provided with Type C14 and C18 appliance coupler complying with JIS C 8283 series.	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

-END-

Description.....: Specification of Main Transformer (T501), type: MH-DTD14073



Description.....: Specification of Main Transformer (T501), type: MH-DTD14073



Description.....: Specification of Main Transformer (T501), type: MH-DTD14073

1		2		3		4	
MATERIAL LIST :		MANUFACTURER PARTS NO.		DESCRIPTION		UL FILE NO.	
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.		
1	MACHINE WIRE	FURUKAWA ELECTRIC CO. LTD	130°C NO. TEA-E (VDE NO. 046735)	SINGLE- AND MULTI-LAYER INSULATED WINDING WIRE	E206440		
			130°C NO. EX-ELT (IUV NO. 9251500)				
			130°C NO. TM-3 FOR VDE				
			TM-3A FOR IEC				
			TM-3X FOR UL				
			TM-3Z FOR VDE				
			130°C NO. TB-2 FOR VDE				
			TB-2A FOR IEC				
			TB-2X FOR UL				
			TB-2Z FOR VDE				
2	BOBBIN	E. I. DUPONT DE NEMOURS & CO INC	155°C 94V-0 175/50 (0.4mm MIN BOBBIN WALL)	POLYETHYLENE TEREPHTHALATE (PET) CLASS REINFORCED, FLAME RETARDANT, "FYN E", FURNISHED AS PELLETS, LIQUID CRYSTAL POLYMER (LCP) "SUMIKASUPER", FURNISHED AS PELLETS, PHENOLIC (PF), "SUMIKON", FURNISHED AS PELLETS, GRANULAR MATERIAL	E166483		
			130°C 94V-0 175/50 (0.4mm MIN BOBBIN WALL)				
			150°C 94V-0 175/50 (0.4mm MIN BOBBIN WALL)				
			150°C 94V-0 175/50 (0.4mm MIN BOBBIN WALL)				
			150°C 94V-0 175/50 (0.4mm MIN BOBBIN WALL)				
			150°C 94V-0 175/50 (0.4mm MIN BOBBIN WALL)				
			150°C 94V-0 175/50 (0.4mm MIN BOBBIN WALL)				
			150°C 94V-0 175/50 (0.4mm MIN BOBBIN WALL)				
			150°C 94V-0 175/50 (0.4mm MIN BOBBIN WALL)				
			150°C 94V-0 175/50 (0.4mm MIN BOBBIN WALL)				
3	TAPE	3M COMPANY ELECTRICAL MARKETS (JINWEI)	130°C MATERIAL GROUP 1 NO.1351-1	FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E17385		
			130°C MATERIAL GROUP 2 NO.1500-1				
			130°C MATERIAL GROUP 3 NO.1500-2				
			130°C MATERIAL GROUP 4 NO.1500-3				
			150°C NO.1705				
			180°C NO.92				
			130°C MATERIAL GROUP (FOR ALL GROUP (IFER 3UV) NO.56607				
			130°C MATERIAL GROUP 1 NO. CT				
			200°C NO.5005 A3				
			200°C NO.5005 B5				
4	ADHESIVE	DINABRO INC	200°C NO. K4150	POLYIMIDE INSULATING TAPE WITH SILICONE BASE ADHESIVE	E50382		
			180°C NO. PB-415F				
			CHYUN YH TAPE CO. LTD				
			CHYUN YH TAPE CO. LTD				
			CHYUN YH TAPE CO. LTD				
			CHYUN YH TAPE CO. LTD				
			CHYUN YH TAPE CO. LTD				
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			CHYUN YH TAPE CO. LTD				
			CHYUN YH TAPE CO. LTD				
台達電子工業股份有限公司 DELTA ELECTRONICS, INC.		THIRD ANGLE PROJECTION		DESCRIPTION: MAIN TRANSFORMER			
台達電子工業股份有限公司 DELTA ELECTRONICS, INC.		THIRD ANGLE PROJECTION		PART NO.: 2870467201			
台達電子工業股份有限公司 DELTA ELECTRONICS, INC.		THIRD ANGLE PROJECTION		REV. 01			
台達電子工業股份有限公司 DELTA ELECTRONICS, INC.		THIRD ANGLE PROJECTION		SHEET 4 OF 6			
台達電子工業股份有限公司 DELTA ELECTRONICS, INC.		THIRD ANGLE PROJECTION		01			

FRAME NAME : DF-MIDAH-180.DWG

PLOT RUN ON : 2023/01/11

BU: 21081-01

ECN: F28700019667


Description.....: Specification of Main Transformer (T501), type: MH-DTD14073

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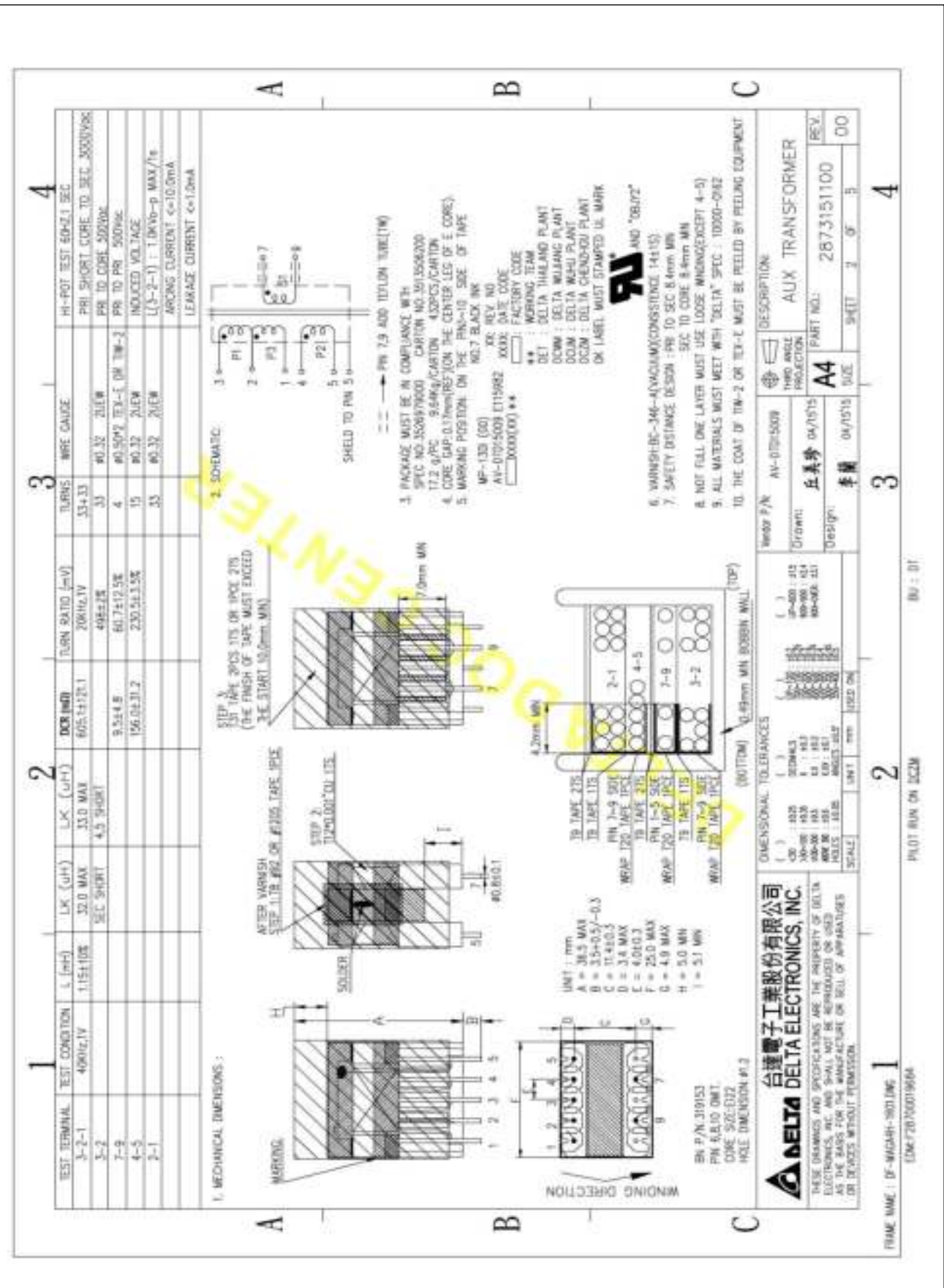
4

MATERIAL LIST :		MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.
4	MARKIN TAPE	3M COMPANY ELECTRICAL MARKETS DIV(BND) SYMBIO INC	130°C MATERIAL GROUP I NO.44 ,44-A,44D-A,44T-A 130°C MATERIAL GROUP I NO.55661	POLYESTER FILM/NONWOVEN COMPOSITE INSULATINGTAPES POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E17385 E50292
5	VARNISH	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO.,LTD JOHN C DOLPH CO. ELANTAS ELECTRICAL INSULATION ELANTAS PDC INC	130°C MATERIAL GROUP I NO.44 200°C NO.BC-346-A 130°C V1380FC	NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE	E165111
6	TUBING	ZEDS INDUSTRIAL PRODUCTS INC. GREAT HOLDING INDUSTRIAL CO LTD CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	200°C IFE-LW-150 200°C IFE-TW-300 200°C IFT VM-1 200°C IFT VM-1 200°C OS-TT-H VM-1 200°C OS-TT-T VM-1	POLYTETRAFLUOROETHYLENE (PTFE) NOT HEAT-SHRINKABLE POLYTETRAFLUOROETHYLENE (PTFE) TUBING TEFLON(PTFE) NON-HEAT-SHRINKABLE TUBING	E64007 E156256 E180908
<div> <div>  台達電子工業股份有限公司 DELTA ELECTRONICS, INC. </div> <div> 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. </div> </div>					
		DIMENSIONAL TOLERANCES () () () <30 : ±0.25 30-100 : ±0.35 100-300 : ±0.5 300-500 : ±0.6 500-800 : ±0.8 800-1000 : ±1.0 1000-1500 : ±1.2 1500-2000 : ±1.5 2000-3000 : ±1.8 3000-4000 : ±2.0 4000-5000 : ±2.5 5000-6000 : ±3.0 6000-8000 : ±3.5 8000-10000 : ±4.0 10000-15000 : ±5.0 15000-20000 : ±6.0 20000-30000 : ±7.0 30000-40000 : ±8.0 40000-50000 : ±9.0 50000-60000 : ±10.0 60000-80000 : ±12.0 80000-100000 : ±15.0 100000-150000 : ±18.0 150000-200000 : ±20.0 200000-300000 : ±25.0 300000-400000 : ±30.0 400000-500000 : ±35.0 500000-600000 : ±40.0 600000-800000 : ±45.0 800000-1000000 : ±50.0 1000000-1500000 : ±60.0 1500000-2000000 : ±70.0 2000000-3000000 : ±80.0 3000000-4000000 : ±90.0 4000000-5000000 : ±100.0 5000000-6000000 : ±110.0 6000000-8000000 : ±120.0 8000000-10000000 : ±130.0 10000000-15000000 : ±150.0 15000000-20000000 : ±180.0 20000000-30000000 : ±200.0 30000000-40000000 : ±220.0 40000000-50000000 : ±250.0 50000000-60000000 : ±280.0 60000000-80000000 : ±300.0 80000000-100000000 : ±320.0 100000000-150000000 : ±350.0 150000000-200000000 : ±380.0 200000000-300000000 : ±400.0 300000000-400000000 : ±420.0 400000000-500000000 : ±450.0 500000000-600000000 : ±480.0 600000000-800000000 : ±500.0 800000000-1000000000 : ±520.0 1000000000-1500000000 : ±550.0 1500000000-2000000000 : ±580.0 2000000000-3000000000 : ±600.0 3000000000-4000000000 : ±620.0 4000000000-5000000000 : ±650.0 5000000000-6000000000 : ±680.0 6000000000-8000000000 : ±700.0 8000000000-10000000000 : ±720.0 10000000000-15000000000 : ±750.0 15000000000-20000000000 : ±780.0 20000000000-30000000000 : ±800.0 30000000000-40000000000 : ±820.0 40000000000-50000000000 : ±850.0 50000000000-60000000000 : ±880.0 60000000000-80000000000 : ±900.0 80000000000-100000000000 : ±920.0 100000000000-150000000000 : ±950.0 150000000000-200000000000 : ±980.0 200000000000-300000000000 : ±1000.0 300000000000-400000000000 : ±1020.0 400000000000-500000000000 : ±1050.0 500000000000-600000000000 : ±1080.0 600000000000-800000000000 : 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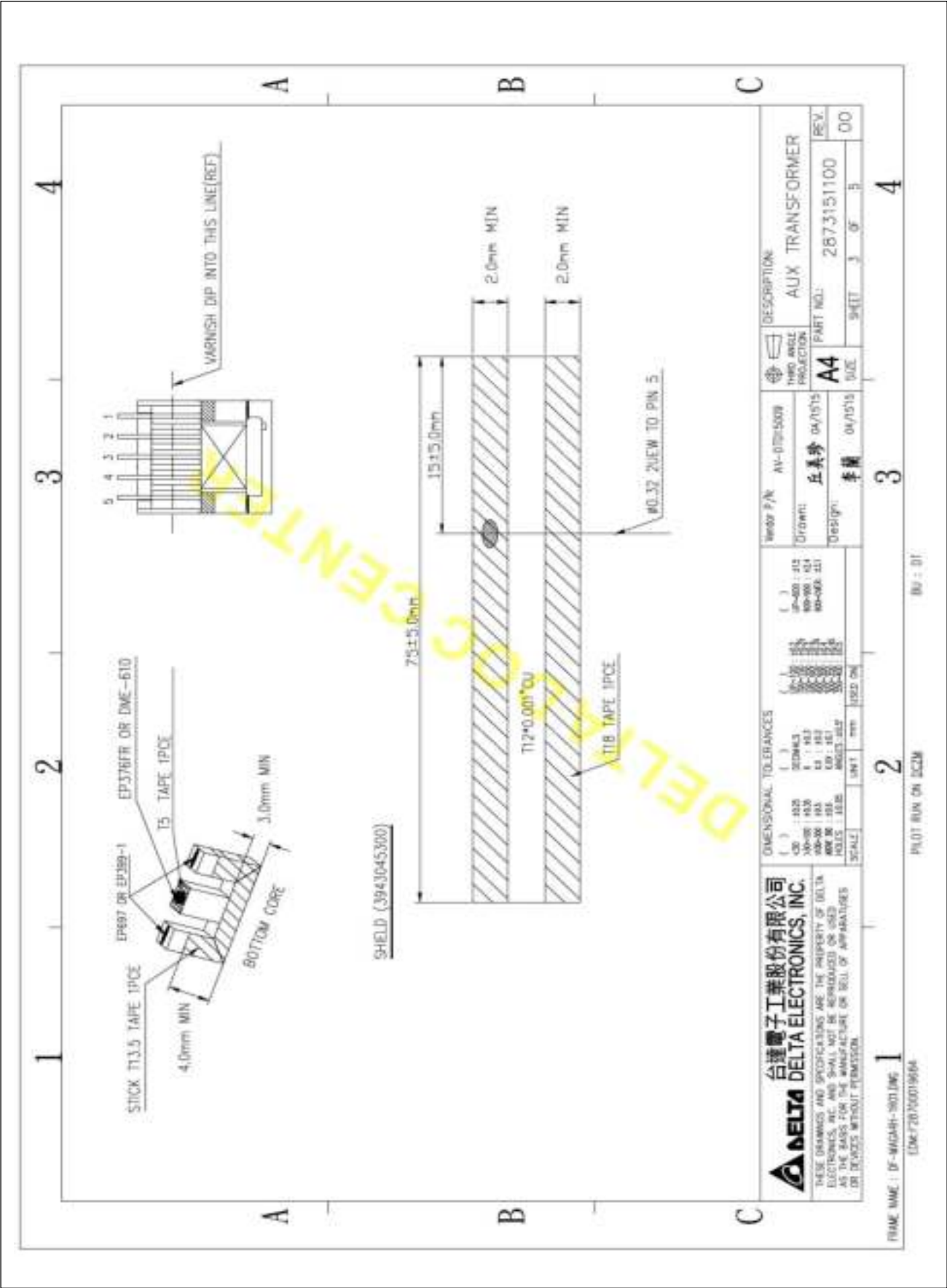
Description.....: Specification of Main Transformer (T501), type: MH-DTD14073

1		2		3		4		
OUTTER MATERIAL LIST :								
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.			
1	HS TUBING	SANITOMO ELECTRIC FINE POLYMER INC	125C SIMTUBE F32	IRRADIATED FLEXIBLE HEAT SHRINKABLE POLYOLEFIN	E48762	A		
		CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	125C QS-HPT/VW-1	HEAT SHRINKABLE POLYOLEFIN TUBING FLEXIBLE HEAT SHRINKABLE POLYOLEFIN TUBING	E180008			
		DONGLIAN SAUPT CO LTD	125C SAUPT S-300-500	HEAT SHRINKABLE POLYOLEFIN TUBING	E209436			
			125C SAUPT S-300-300					
			125C SAUPT S-300-150					
2	HOUSING	TYCO ELECTRONICS CORP	125C 202 VW-1	HEAT SHRINKABLE POLYOLEFIN TUBING	E35588	B		
		WELL OMC CO LTD	125C VERSAFIT V2	IRRADIATED FLEXIBLE HEAT SHRINKABLE POLYOLEFIN TUBING	E207529			
		E I DUPONT DE NEMOURS & CO INC	130C 01-2 600V VW-2	FLEXIBLE HEAT SHRINKABLE POLYOLEFIN TUBING				
		E I DUPONT DE NEMOURS & CO INC	130C FRIZOSHOFF(+) UL 94 V-0	POLYMER 66 (P66)/FLAME RETARDANT "ZYTEL", FURNISHED AS PELLETS	E41938			
		E I DUPONT DE NEMOURS & CO INC	130C FRIZOSHOFF(+) UL 94 V-0	POLYMER 66 (P66), "ZYTEL", FURNISHED AS PELLETS	E41938			
3	HOUSING	E I DUPONT DE NEMOURS & CO INC	130C FRIZOSHOFF(+) UL 94 V-0	POLYMER 66 (P66)/FLAME RETARDANT GLASS REINFORCED, "ZYTEL", FURNISHED	E41938	C		
台達電子工業股份有限公司 DELTA ELECTRONICS, INC.		台達電子工業股份有限公司 DELTA ELECTRONICS, INC.		台達電子工業股份有限公司 DELTA ELECTRONICS, INC.		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 AT THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.		THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AT THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.		THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AT THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.		THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AT THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.		
FRAME NAME : OF-WA0401-105.DWG		FRAME NAME : OF-WA0401-105.DWG		FRAME NAME : OF-WA0401-105.DWG		FRAME NAME : OF-WA0401-105.DWG		
PLOT RUN ON : JCG20		PLOT RUN ON : JCG20		PLOT RUN ON : JCG20		PLOT RUN ON : JCG20		
EDM-F28700019667		EDM-F28700019667		EDM-F28700019667		EDM-F28700019667		

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



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



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

1		2		3		4	
MATERIAL LIST :							
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	UL RECOGNIZED	DESCRIPTION	UL FILE NO.	
1	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	130C MWT5	130C MWT5	UL RECOGNIZED	
				150C MWT5	150C MWT5		
				150C MWT5	150C MWT5		
				150C MWT5	150C MWT5		
				150C MWT5	150C MWT5		
2	BOBBIN	UL RECOGNIZED	UL RECOGNIZED	130C NO. 13-1 (VGE NO.000150)	SINGLE-AND MULT-LAYER INSULATED WINDING WIRE	E166483	
				130C NO. 13-1 (VGE NO.000150)	SINGLE-AND MULT-LAYER INSULATED WINDING WIRE		
				130C NO. 13-1 (VGE NO.000150)	SINGLE-AND MULT-LAYER INSULATED WINDING WIRE		
				130C NO. 13-1 (VGE NO.000150)	SINGLE-AND MULT-LAYER INSULATED WINDING WIRE		
				130C NO. 13-1 (VGE NO.000150)	SINGLE-AND MULT-LAYER INSULATED WINDING WIRE		
3	TAPE	UL RECOGNIZED	UL RECOGNIZED	130C NO. 13-1 (VGE NO.000150)	FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E17305	
				130C NO. 13-1 (VGE NO.000150)	FLAME RETARDANT POLYESTER FILM INSULATING TAPE		
				130C NO. 13-1 (VGE NO.000150)	FLAME RETARDANT POLYESTER FILM INSULATING TAPE		
				130C NO. 13-1 (VGE NO.000150)	FLAME RETARDANT POLYESTER FILM INSULATING TAPE		
				130C NO. 13-1 (VGE NO.000150)	FLAME RETARDANT POLYESTER FILM INSULATING TAPE		
4	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	130C NO. 13-1 (VGE NO.000150)	FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E17305	
				130C NO. 13-1 (VGE NO.000150)	FLAME RETARDANT POLYESTER FILM INSULATING TAPE		
				130C NO. 13-1 (VGE NO.000150)	FLAME RETARDANT POLYESTER FILM INSULATING TAPE		
				130C NO. 13-1 (VGE NO.000150)	FLAME RETARDANT POLYESTER FILM INSULATING TAPE		
				130C NO. 13-1 (VGE NO.000150)	FLAME RETARDANT POLYESTER FILM INSULATING TAPE		

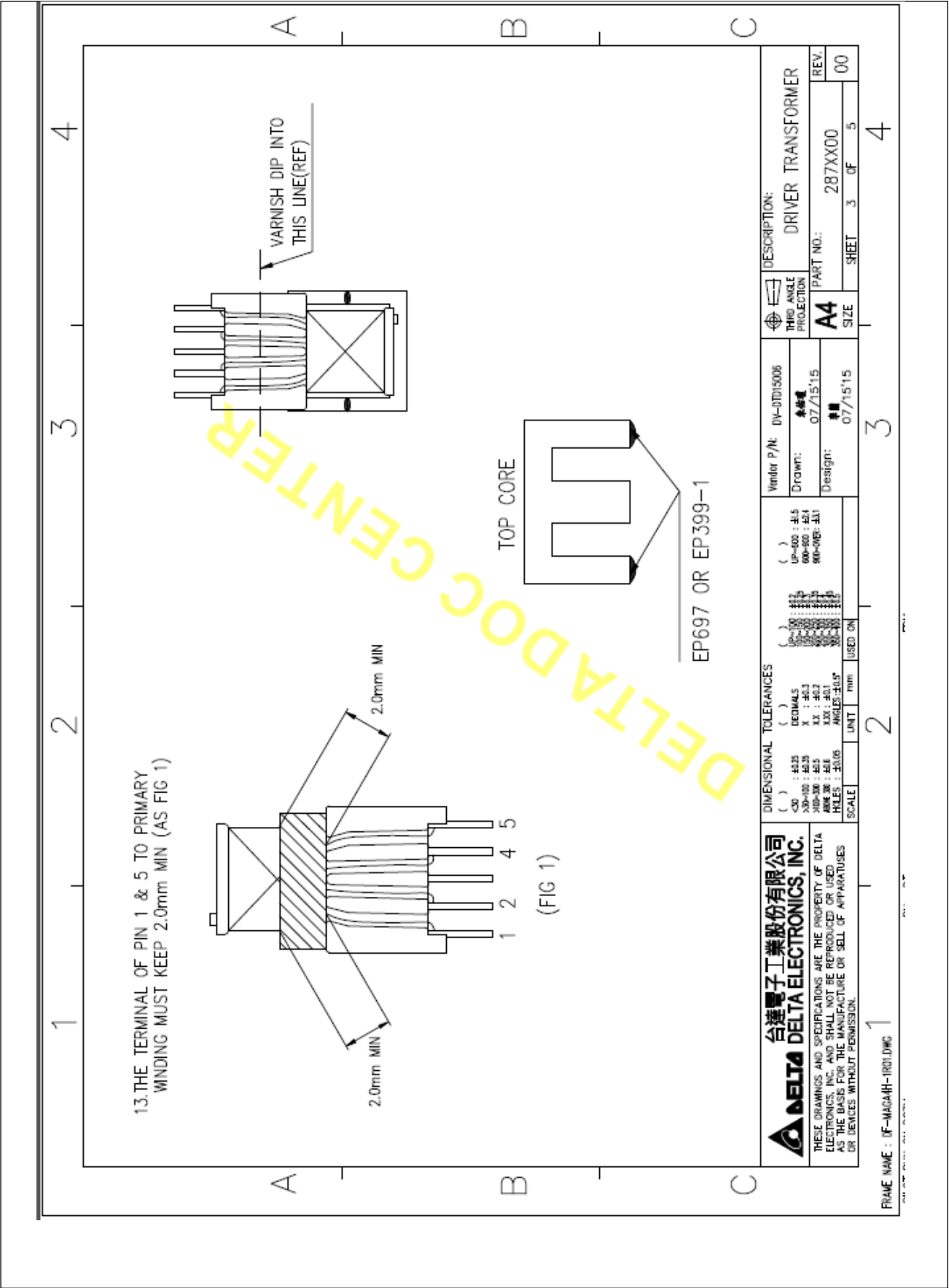
Description.....: Specification of Aux. Transformer (T901), type: AV-DTD15009

[illegible]



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

[illegible]

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



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

1				2				3				4			
MATERIAL LIST :															
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	UL RECOGNIZED	DESCRIPTION	UL FILE NO.									
1	MAGNET WIRE	UL RECOGNIZED		150TC WIRE	150TC WIRE	UL RECOGNIZED									
				155TC WIRE	155TC WIRE										
				155TC WIRE	155TC WIRE										
				155TC WIRE	155TC WIRE										
				155TC WIRE	155TC WIRE										
	FURUKAWA ELECTRIC CO LTD			150TC NO.125-E (VIE NO.08720)	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE	E206440									
				150TC NO.125-BL (VIE NO.0251520)											
				155TC NO.125-1 FOR VIE											
				155TC NO.125-2 FOR VIE											
				155TC NO.125-3 FOR VIE											
	TOTOKU ELECTRIC CO LTD			150TC NO.125-1 FOR VIE	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE	E164483									
				150TC NO.125-2 FOR VIE											
				150TC NO.125-3 FOR VIE											
				150TC NO.125-4 FOR VIE											
				150TC NO.125-5 FOR VIE											
	TOTOKU ELECTRIC CO LTD			150TC NO.125-6 FOR VIE	SINGLE-AND MULTI-LAYER INSULATED WINDING WIRE	E164483									
				150TC NO.125-7 FOR VIE											
				150TC NO.125-8 FOR VIE											
				150TC NO.125-9 FOR VIE											
				150TC NO.125-10 FOR VIE											
2	ROBBIN	C I DUPONT DE NEMOURS & CO INC		155TC 949-0 FIBRO (0.4mm MIN ROBBIN WALL)	POLYETHYLENE TEREPHTHALATE (PET) GLASS REINFORCED, FLAME RETARDANT, "FIBRO", FURNISHED AS PELLETS	E19308									
				150TC 949-0 PM-8375 (0.4mm MIN ROBBIN WALL)											
				150TC 949-0 PM-8630 (0.4mm MIN ROBBIN WALL)											
				150TC 949-0 PM-8820 (0.4mm MIN ROBBIN WALL)											
				150TC 949-0 PM-8820 (0.4mm MIN ROBBIN WALL)											
3	TAPE	SAMSUNG ELECTRONICAL MATERIALS CO LTD		150TC MATERIAL GROUP 1 NO.120-1	FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E17385									
				150TC MATERIAL GROUP 1 NO.120-2											
				150TC MATERIAL GROUP 1 NO.120-3											
				150TC MATERIAL GROUP 1 NO.120-4											
				150TC MATERIAL GROUP 1 NO.120-5											
	SYNRO INC			150TC MATERIAL GROUP 1 NO.120-6	POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E50292									
				150TC MATERIAL GROUP 1 NO.120-7											
				150TC MATERIAL GROUP 1 NO.120-8											
				150TC MATERIAL GROUP 1 NO.120-9											
				150TC MATERIAL GROUP 1 NO.120-10											
	JINGJIANG YANBA PRESSURE SENSITIVE GLUE CO LTD			150TC MATERIAL GROUP 1 NO.120-11	POLYETHYLENE TEREPHTHALATE FILM TAPE	E165011									
				150TC MATERIAL GROUP 1 NO.120-12											
				150TC MATERIAL GROUP 1 NO.120-13											
				150TC MATERIAL GROUP 1 NO.120-14											
				150TC MATERIAL GROUP 1 NO.120-15											
	TEIACHINA SENSAR-500 CO LTD			150TC NO.5025-A	FLAME RETARDANT ACRYLIC ADHESIVE	E56086									
				150TC NO.5025-B											
				150TC NO.5025-C											
				150TC NO.5025-D											
				150TC NO.5025-E											
4	MAGNET TAPE	3M COMPANY ELECTRICAL MATERIALS DIV(EMD)		150TC MATERIAL GROUP 1 NO.44-A	POLYESTER FILM/NONWOVEN COMPOSITE INSULATING TAPES	E17385									
				150TC MATERIAL GROUP 1 NO.44-A											
				150TC MATERIAL GROUP 1 NO.44-A											
				150TC MATERIAL GROUP 1 NO.44-A											
				150TC MATERIAL GROUP 1 NO.44-A											
	JINGJIANG YANBA PRESSURE SENSITIVE GLUE CO LTD			150TC MATERIAL GROUP 1 NO.35661	POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E50292									
				150TC MATERIAL GROUP 1 NO.35661											
				150TC MATERIAL GROUP 1 NO.35661											
				150TC MATERIAL GROUP 1 NO.35661											
				150TC MATERIAL GROUP 1 NO.35661											
	JINGJIANG YANBA PRESSURE SENSITIVE GLUE CO LTD			150TC MATERIAL GROUP 1 NO.35661	POLYETHYLENE TEREPHTHALATE FILM TAPE	E165011									
				150TC MATERIAL GROUP 1 NO.35661											
				150TC MATERIAL GROUP 1 NO.35661											
				150TC MATERIAL GROUP 1 NO.35661											
				150TC MATERIAL GROUP 1 NO.35661											
 台達電子工業股份有限公司 DELTA ELECTRONICS, INC.				 DESCRIPTION DRIVER TRANSFORMER											
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.				Vendor P/N: EM-005008 Drawing: A4 Design: 07/15/15 Size: 287X400 Sheet: 4 of 5											
FRAME NAME : IF-MAG48-100.DWG				SHEET 4 OF 5											

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

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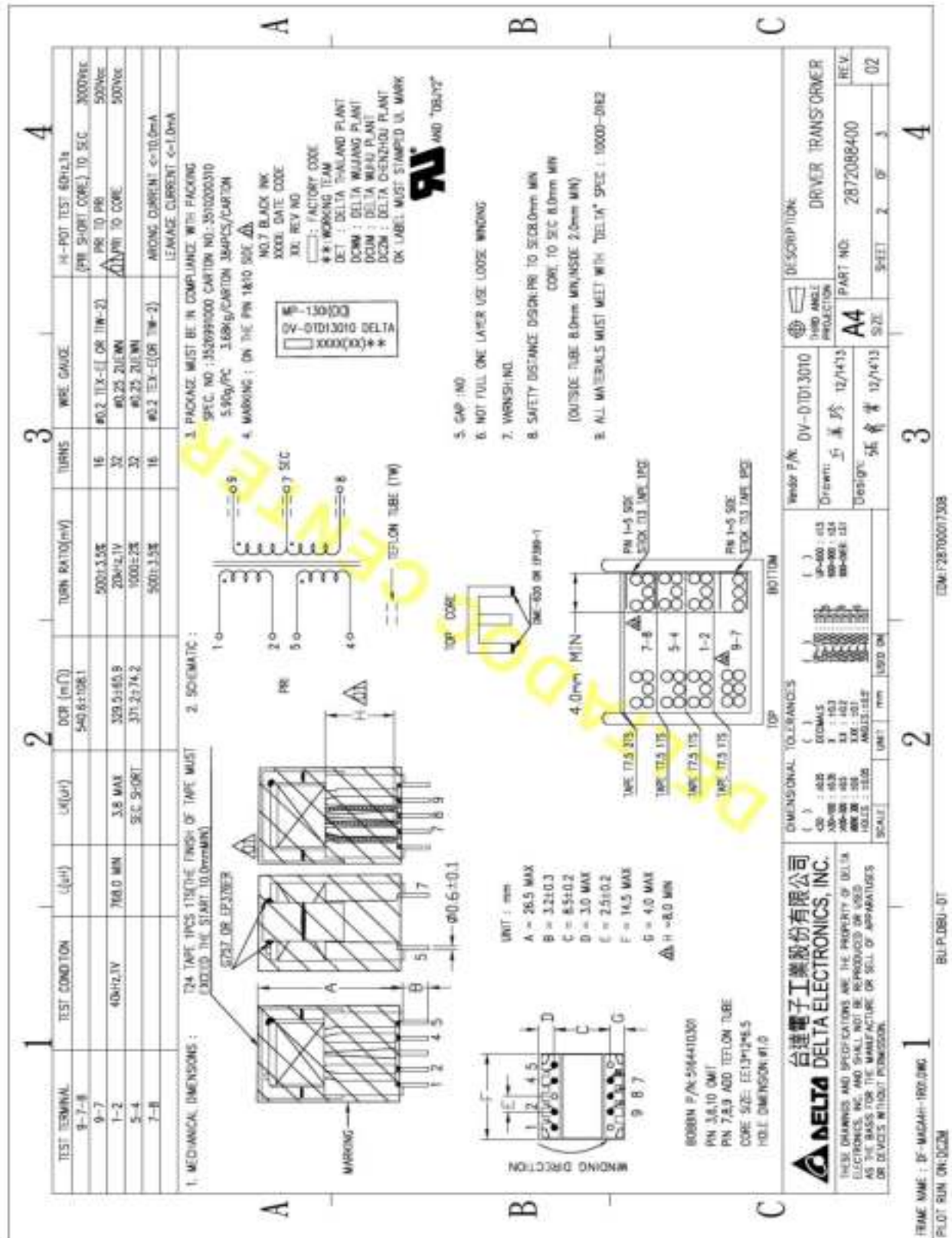
2

3

4

MATERIAL LIST :													
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.								
5	VARNISH	JOHN C DOLPH CO. ELANTAS ELECTRICAL INSULATION ELANTAS PDC INC	200°C NO.8C-346-A 130°C V1380FC		E317427 E75225								
6	TUBING	ZELUS INDUSTRIAL PRODUCTS INC. GREAT HOLDING INDUSTRIAL CO LTD CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	200°C TFE-LW-150 200°C TFE-TW-300 200°C TFE-TW-1 200°C TFE-TW-1 200°C CB-IT-L VW-1 200°C CB-IT-T VW-1	POLYTETRAFLUOROETHYLENE (PTFE) NOT HEAT-SHRINKABLE POLYTETRAFLUOROETHYLENE (PTFE) TUBING TEFLON(PTFE) NON-HEAT-SHRINKABLE TUBING	E64007 E156256 E180908								

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



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

1		2		3		4	
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO	DESCRIPTION	UL FILE NO.		
1	MAGNET WIRE	UL RECOGNIZED	UL RECOGNIZED	130C MW2 130C MW5	UL RECOGNIZED		
		FURUKAWA ELECTRIC CO LTD	130TC NO TEX-E (VDE NO:006735)	SINGLE- AND MULTI-LAYER INSULATED WINDING WIRE	E206440		
		TOTOBUKI ELECTRIC CO LTD	155TC NO-TM-3 FOR VDE	SINGLE- AND MULTI-LAYER INSULATED WINDING WIRE	E166483		
			TW-3X FOR UL				
			TW-3.2X FOR UL				
			TW-3.2 FOR VDE				
		TOTOBUKI ELECTRIC CO LTD	130TC NO-TM-2 FOR VDE				
			TW-2X FOR UL				
			TW-2.2X FOR UL				
			TW-2.2 FOR VDE				
		TOTOBUKI ELECTRIC CO LTD	TW-2.5X FOR UL				
			TW-2.5 FOR VDE				
2	BOBBIN	SUMITOMO BAKULITE CO LTD	150TC 94V-0 PM-8375(0.49mm MIN BOBBIN WALL) 150TC 94V-0 PM-9630(0.4mm MIN BOBBIN WALL) 150TC 94V-0 PM-9620(0.4mm MIN BOBBIN WALL)	PHENOLIC (PF), "SMACKON", FURNISHED AS PELLETS, GRANULAR MATERIAL	E41429		
		3M COMPANY ELECTRICAL MARKETS DIV(MD)	130TC MATERIAL GROUP 1 NO.130F-1 130TC MATERIAL GROUP 1 NO.130F-1 130TC MATERIAL GROUP 2a NO.130F-2	FLAME RETARDANT POLYESTER FILM INSULATING TAPE	E17385		
		SYNGRO INC	130TC MATERIAL GROUP 1(FOR UL) GROUP 1(FOR TUV) NO.36660Y	POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE	E50292		
3	TAPE	JINGJIANG YANHUA PRESSURE SENSITIVE GLUE CO.,LTD	130TC MATERIAL GROUP 1 NO. C1	POLYETHYLENE TEREPHTHALATE FILM TAPE	E16511		
		ZELUS INDUSTRIAL PRODUCTS INC.	200TC TEE-LW-150 200TC TEE-TW-300	POLYTETRAFLUOROETHYLENE (PTFE)	E64007		
		GREAT HOLDING INDUSTRIAL CO LTD	200TC TEL VW-1	NOT HEAT-SHRINKABLE POLYTETRAFLUOROETHYLENE (PTFE) TUBING	E156256		
		CHANGQUAN ELECTRONICS (SHENZHEN) CO LTD	200TC TFI VW-1 200TC CB-TT-L VW-1 200TC CB-TT-L VW-1	TEFLON(PTFE) NON-HEAT-SHRINKABLE TUBING	E180908		
C		台達電子工業股份有限公司 DELTA ELECTRONICS, INC.		Under P/N: DV-DTD13010 Drawn: 王 嘉 鈞 12/7/13 Design: 王 嘉 鈞 12/7/13		DESCRIPTION: THIRD ANGLE PROJECTION A4 PART NO: 2872088400 REV: 02	
		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.		DIMENSIONAL TOLERANCES () () () CO ±0.25 X0.06 ±0.13 X0.08 ±0.13 X0.10 ±0.13 X0.12 ±0.13 X0.15 ±0.13 X0.20 ±0.13 X0.25 ±0.13 X0.30 ±0.13 X0.35 ±0.13 X0.40 ±0.13 X0.45 ±0.13 X0.50 ±0.13 X0.55 ±0.13 X0.60 ±0.13 X0.65 ±0.13 X0.70 ±0.13 X0.75 ±0.13 X0.80 ±0.13 X0.85 ±0.13 X0.90 ±0.13 X0.95 ±0.13 X1.00 ±0.13 X1.05 ±0.13 X1.10 ±0.13 X1.15 ±0.13 X1.20 ±0.13 X1.25 ±0.13 X1.30 ±0.13 X1.35 ±0.13 X1.40 ±0.13 X1.45 ±0.13 X1.50 ±0.13 X1.55 ±0.13 X1.60 ±0.13 X1.65 ±0.13 X1.70 ±0.13 X1.75 ±0.13 X1.80 ±0.13 X1.85 ±0.13 X1.90 ±0.13 X1.95 ±0.13 X2.00 ±0.13 X2.05 ±0.13 X2.10 ±0.13 X2.15 ±0.13 X2.20 ±0.13 X2.25 ±0.13 X2.30 ±0.13 X2.35 ±0.13 X2.40 ±0.13 X2.45 ±0.13 X2.50 ±0.13 X2.55 ±0.13 X2.60 ±0.13 X2.65 ±0.13 X2.70 ±0.13 X2.75 ±0.13 X2.80 ±0.13 X2.85 ±0.13 X2.90 ±0.13 X2.95 ±0.13 X3.00 ±0.13 X3.05 ±0.13 X3.10 ±0.13 X3.15 ±0.13 X3.20 ±0.13 X3.25 ±0.13 X3.30 ±0.13 X3.35 ±0.13 X3.40 ±0.13 X3.45 ±0.13 X3.50 ±0.13 X3.55 ±0.13 X3.60 ±0.13 X3.65 ±0.13 X3.70 ±0.13 X3.75 ±0.13 X3.80 ±0.13 X3.85 ±0.13 X3.90 ±0.13 X3.95 ±0.13 X4.00 ±0.13 X4.05 ±0.13 X4.10 ±0.13 X4.15 ±0.13 X4.20 ±0.13 X4.25 ±0.13 X4.30 ±0.13 X4.35 ±0.13 X4.40 ±0.13 X4.45 ±0.13 X4.50 ±0.13 X4.55 ±0.13 X4.60 ±0.13 X4.65 ±0.13 X4.70 ±0.13 X4.75 ±0.13 X4.80 ±0.13 X4.85 ±0.13 X4.90 ±0.13 X4.95 ±0.13 X5.00 ±0.13 X5.05 ±0.13 X5.10 ±0.13 X5.15 ±0.13 X5.20 ±0.13 X5.25 ±0.13 X5.30 ±0.13 X5.35 ±0.13 X5.40 ±0.13 X5.45 ±0.13 X5.50 ±0.13 X5.55 ±0.13 X5.60 ±0.13 X5.65 ±0.13 X5.70 ±0.13 X5.75 ±0.13 X5.80 ±0.13 X5.85 ±0.13 X5.90 ±0.13 X5.95 ±0.13 X6.00 ±0.13 X6.05 ±0.13 X6.10 ±0.13 X6.15 ±0.13 X6.20 ±0.13 X6.25 ±0.13 X6.30 ±0.13 X6.35 ±0.13 X6.40 ±0.13 X6.45 ±0.13 X6.50 ±0.13 X6.55 ±0.13 X6.60 ±0.13 X6.65 ±0.13 X6.70 ±0.13 X6.75 ±0.13 X6.80 ±0.13 X6.85 ±0.13 X6.90 ±0.13 X6.95 ±0.13 X7.00 ±0.13 X7.05 ±0.13 X7.10 ±0.13 X7.15 ±0.13 X7.20 ±0.13 X7.25 ±0.13 X7.30 ±0.13 X7.35 ±0.13 X7.40 ±0.13 X7.45 ±0.13 X7.50 ±0.13 X7.55 ±0.13 X7.60 ±0.13 X7.65 ±0.13 X7.70 ±0.13 X7.75 ±0.13 X7.80 ±0.13 X7.85 ±0.13 X7.90 ±0.13 X7.95 ±0.13 X8.00 ±0.13 X8.05 ±0.13 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Description.....: Specification of Liner Filter (FL1), type: HFH-CN11328

TEST TERMINAL	TEST CONDITION	L (mH)	Q @ 100 kHz	ΔL/L (%)	WIRE GAUGE	HI-POT TEST 60HZ/1 SEC
2-3	16KHZ/0.3V	12.0 MIN	14.7±4.4	120.0 MAX	#129 OUEWNR	1.1 TO 1.2 1500VDC
1-4	16KHZ/0.3V	12.0 MIN	14.7±4.4		#129 OUEWNR	
2-3	600KHZ/1V	0.1 MIN				
1-4	600KHZ/1V	0.1 MIN				
2-4(3) SHORT	16KHZ/0.3V	35.0 MIN				LEAKAGE CURRENT <= 1.0mA

1. MECHANICAL DIMENSIONS :

2. SCHEMATIC :

3. MARKING :

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 GIVEN SAMPLE)

8. NO ABRASION AND SCRATCH ON THE WIRE

9. AFTER FINISH WINDINGS, THE PRODUCT MUST BAKE TEN MINUTES (TEMPERATURE 120±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

Δ Δ A = 21.4 MAX Δ Δ
 B = 3.2±0.3
 C = 19.0±0.4
 D = 2.0 MAX
 E = 25.0±0.4
 F = 5.5 MAX
 G = 1.29±0.1
 H = 23.2 MAX
 I = 30.2 MAX

BASE P/N : 3175242900 Δ Δ
 HOLE DIMENSION : Ø1.7 (FOR PIN 2,4)
 Ø1.5 (FOR PIN 1,3)

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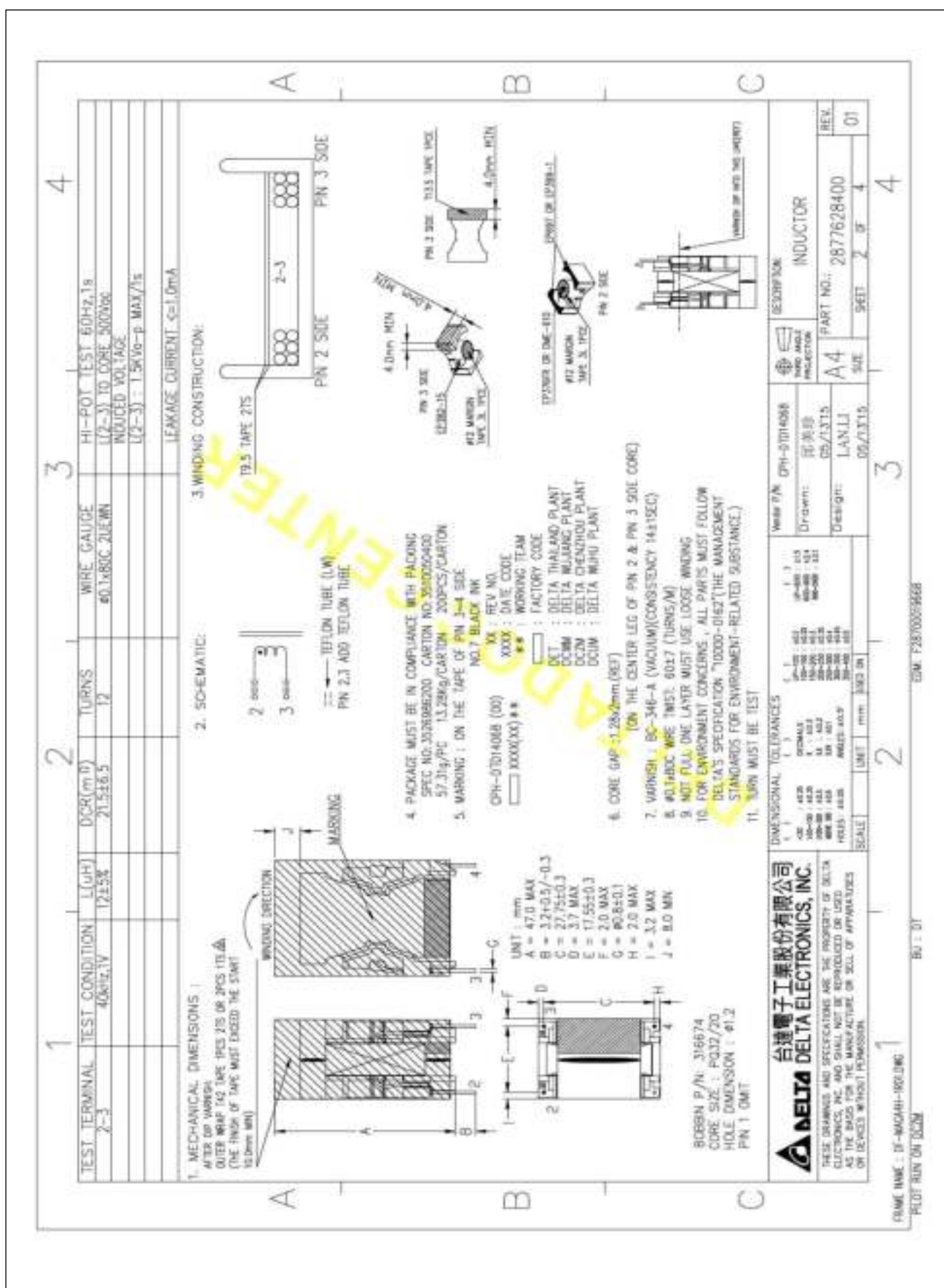
FRAME NAME : ST-MAGNET-INDUCING 1
 PILOT RUN ON : 0000 BU : 01

CDM : F25700013888

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

1		2		3		4	
12. MATERIAL LIST :							
NO.	PART	MANUFACTURER	MANUFACTURER PART 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	UL RECOGNIZED		
2	VARNISH (option)	JOHN C DOLPH CO ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC	200°C NO.BC-346-A 130°C V1380FC		E317427 E75225		
3	BASE	NAN YA PLASTICS CORP COOL DEPT ELECTRONIC MATERIAL DIV GUANGDONG SHENGYI SOI TECH CO LTD KINGBOARD LAMINATES HOLDINGS LTD KINGBOARD LAMINATES HOLDINGS LTD	130°C FR-4 NPG-R UL 94V-0 130°C FR-4 NPG-TL UL 94 V-0 130°C FR-4-B5 UL 94 V-0 130°C FR-4 51155 UL 94 V-0 130°C FR-4 KB-6150 UL 94 V-0	INDUSTRIAL LAMINATES, FURNISHED AS SHEETS. INDUSTRIAL LAMINATES, FURNISHED AS SHEETS. INDUSTRIAL LAMINATES, FURNISHED AS SHEETS. INDUSTRIAL LAMINATES, FURNISHED AS SHEETS.	EH8983 E109769 E123995		
4	INSULATOR	NAN YA PLASTICS CORP COOL DEPT ELECTRONIC MATERIAL DIV GUANGDONG SHENGYI SOI TECH CO LTD KINGBOARD LAMINATES HOLDINGS LTD KINGBOARD LAMINATES HOLDINGS LTD	130°C FR-4 NPG-R UL 94V-0 130°C FR-4 NPG-TL UL 94 V-0 130°C FR-4-B5 UL 94 V-0 130°C FR-4 51155 UL 94 V-0 130°C FR-4 KB-6150 UL 94 V-0 130°C CEM-1 KB-5150 UL 94 V-0	INDUSTRIAL LAMINATES, FURNISHED AS SHEETS. INDUSTRIAL LAMINATES, FURNISHED AS SHEETS. INDUSTRIAL LAMINATES, FURNISHED AS SHEETS. INDUSTRIAL LAMINATES, FURNISHED AS SHEETS.	EH8983 E109769 E123995 E123995		
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A		B					

Description.....: Specification of Chock (L153), type: CPH-DTD14068



Description.....: Specification of Chock (L153), type: CPH-DTD14068

1		2		3		4	
MATERIAL LIST :							
NO	PART	MANUFACTURER	UL RECOGNIZED	MANUFACTURER PARTS NO.	UL RECOGNIZED	DESCRIPTION	UL FILE NO.
1	MAGNET WIRE	FUJIKAWA ELECTRIC CO LTD	UL RECOGNIZED	130C NO.13-E (1.02mm MIN BOBBIN WALL)	130C NO.13-E (1.02mm MIN BOBBIN WALL)	130C MAGNET WIRE	E166483
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
2	BOBBIN	E I DUPONT DE MEMPHIS & CO INC	UL RECOGNIZED	130C NO.13-E (1.02mm MIN BOBBIN WALL)	130C NO.13-E (1.02mm MIN BOBBIN WALL)	130C MAGNET WIRE	E166483
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
3	TAPE	SUMITOMO CHEMICAL CO LTD	UL RECOGNIZED	130C NO.13-E (1.02mm MIN BOBBIN WALL)	130C NO.13-E (1.02mm MIN BOBBIN WALL)	130C MAGNET WIRE	E166483
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
4	MAGNET TAPE	SUMITOMO CHEMICAL CO LTD	UL RECOGNIZED	130C NO.13-E (1.02mm MIN BOBBIN WALL)	130C NO.13-E (1.02mm MIN BOBBIN WALL)	130C MAGNET WIRE	E166483
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
						130C MAGNET WIRE	
台達電子工業股份有限公司 DELTA ELECTRONICS, INC.		DIMENSIONAL TOLERANCES		CPH-07014506		INDUCTOR	
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		SCALE: 1:1		DESIGN: LANLI		REV. 01	

FRAME NAME : DF-MAGNET-IND.DWG
PLOT RUN ON 02/26

BU : 01
CDM: F2870059668

Description.....: Specification of Chock (L153), type: CPH-DTD14068

1		2		3		4		
MATERIAL LIST								
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION	UL FILE NO.			
5	VARNISH	ZOWI C DOLPH CO.	2007C NO BC-34E-A		E317417			
		ELANTAS ELECTRICAL INSULATION	1307C VU360FC		E75225			
		ELANTAS PFG INC.						
6	TUBING	ZIGU INDUSTRIAL PRODUCTS INC.	2007C TE-1W-150	POLYETHYLENE TEREPHTHALENE (PET)	EB4007			
			2007C TE-1W-330	NOT HEAT-SHRINKABLE POLYETHYLENE TEREPHTHALENE (PET) TUBING	E150296			
		QIEAT HOLDING INDUSTRIAL CO LTD	2007C TE-1W-1					
		QIANGJIAN ELECTRONICS (SHENZHEN) CO LTD	2007C CB-T1-L VM-1	TEFLON(PTEE) NON-HEAT-SHRINKABLE TUBING	E180938			
			2007C CB-T1-L VM-1					

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

1

TEST TERMINAL	TEST CONDITION	L (μ H)	LTSA DC (μ H)	DQR (m Ω)	TURNS	WIRE GAUGE	HI-POT TEST 60Hz/1s
3,4-7,8				26 \pm 5.2	44	#1.0*2 0.1EWR	L1 TO L2 500Vdc
5,6-11,12				26 \pm 5.2	44	#1.0*2 0.1EWR	
3,4-11,12(SHORT 5,6,7,8)	16KHz,0.3V	627.26 \pm 17%/+12%	130.0 MIN				LEAKAGE CURRENT <=1.0mA

2

STEP1:
STEPS AFTER VARNISH
T25 \pm 0.002 CO ITS

SOLDER

ADHESIVE

STEP2:
143 TAPE 1PCS 1TS

2. SCHEMATIC:

UNIT: mm

A = 48.5 MAX
B = 3.240.3
C = 19.0 \pm 0.3
D = 0.9 MAX
E = 5.0 \pm 0.3
F = 7.9 MAX
G = 24.2 MAX
H = 34.2 MAX

FOR THE WINDING TAPE PACE FOR COVER FOR SOLDER PLUGS

3

3. PACKAGE MUST BE IN COMPLIANCE WITH PACKING SPEC NO.: 3526980300 CARTON NO.: 3510050400 105.56g/PCS 15.30kg/CARTON 128PCS/CARTON

4. MARKING ON THE CENTER OF BOTTOM BASE

N0.7 BLACK INK
PCCV-DT015002
XX : REV NO.
XXXX : DATE CODE
** : WORKING TEAM

5. CORE SIZE : T41*2.3*15 KOD MU ϕ =60

6. CORE SOURCE : MS-157060-2 CS400060 SI57060A

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

8. TURNS MUST BE TESTED

9. LTA2 MUST USE BANK WINDING

10. WINDING & BASED CORE MUST BE FIXED BY ADHESIVE

11. LAYER TEST:2.5KV(JUST ALLOW \pm 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 : 10000-016Z

14. WINDING DIRECTION DIAGRAM :

FINISH 21TS START 22TS
MIN 2.0mm MIN 2.0mm

130.0 \pm 5.0mm

120 TAPE PACE

125 \times 100 \times 70

4

BASE P/N: 3175189800
HOLE DIMENSION: #1.2 FOR PIN 3,7
#1.4 FOR PIN 4,5,6,8,11,12

DELTA ELECTRONICS, INC.
台達電子工業股份有限公司

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DESIGN: 邱美珍 04/2015
Design: 陸宗訓 04/2015

PART NO.: 2878351400

REV: 00

SHEET 2 OF 4

FRAME NAME : DF-MAGAH-1031.DWG
PILOT RUN ON: QCTM
BU: FLORRU-IT
EDM: F28700019650

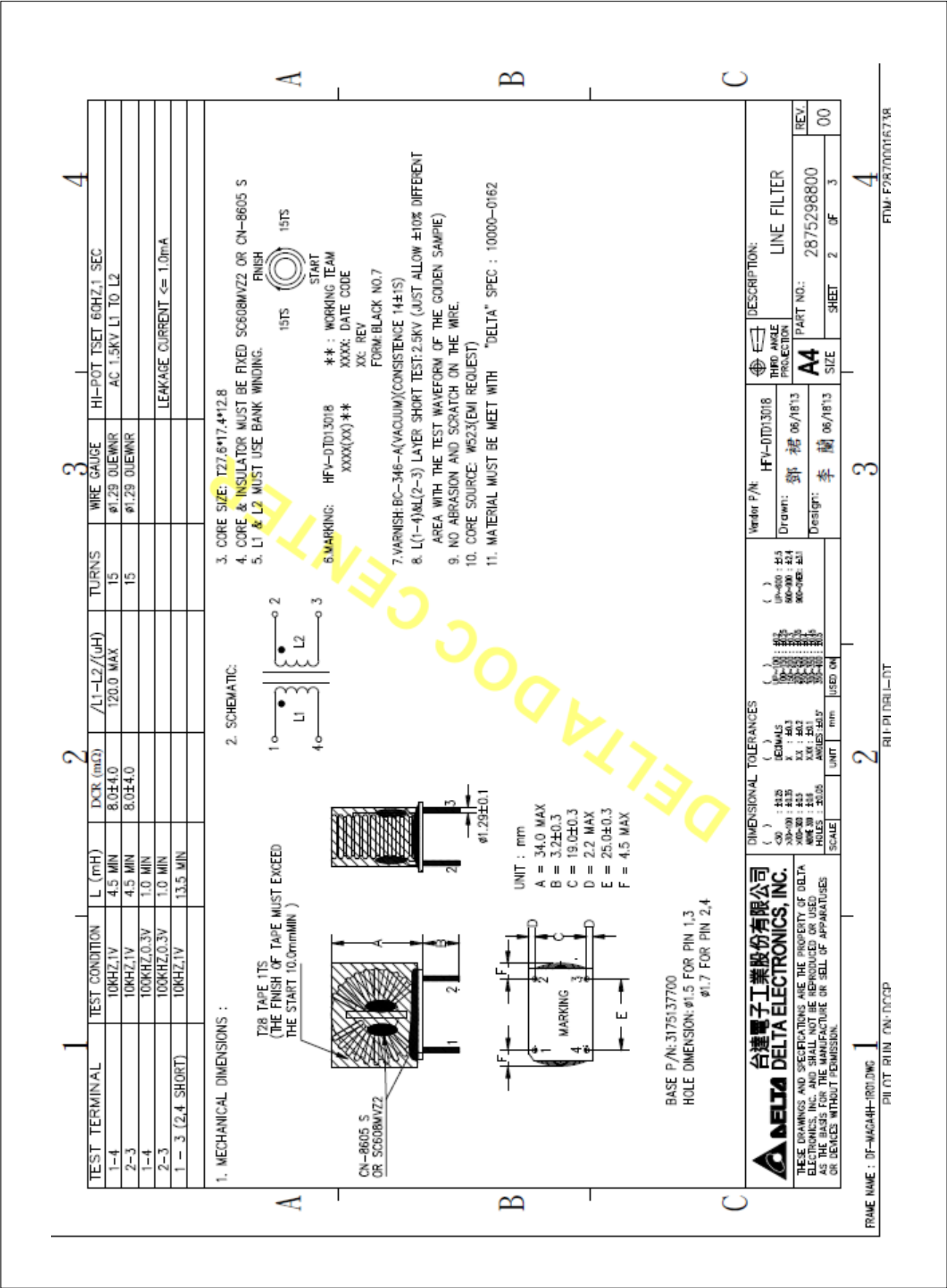
Description.....: Specification of Choke (L801), type: PFCV-DTD15002

1		2		3		4	
MATERIAL LIST :							
NO	PART	MANUFACTURER	MANUFACTURER PARTS NO.	DESCRIPTION		UL FILE NO.	
1	WINDNET WIRE	UL RECOMMENDED	UL RECOMMENDED	130°C W678 , 130°C W475		UL RECOMMENDED	
				150°C W40 , 150°C W475 , 150°C W483			
				150°C W4-B2 , 150°C W4-B3			
				INDUSTRIAL LAMINATES/FURNISHED AS SHEETS		E98883	
2	BASE & INSULATOR	UL RECOMMENDED	UL RECOMMENDED	130°C FR-4 MFG-R UL 94V-0			
				130°C FR-4 MFG-150N UL 94 V-0			
				130°C FR-4-86 UL 94 V-0			
				130°C FR-4-51500 UL 94 V-0		E109709	
3	WINDSH	UL RECOMMENDED	UL RECOMMENDED	130°C FR-4 KB-8150 UL 94 V-0			
				130°C CEM-1 KB-2150 UL 94 V-0		E123965	
				130°C NO.5-100		E30006	
				130°C NO.5-250-4		E30006	
4	MARGIN TAPE	UL RECOMMENDED	UL RECOMMENDED	150°C 94V-0 FR530 (0.4mm MIN BOBBIN WALL)		E41938	
				150°C 94V-0 FM-8375 (0.09mm MIN BOBBIN WALL)			
				150°C 94V-0 FM-3830 (0.4mm MIN BOBBIN WALL)		E44429	
				150°C 94V-0 FM-3820 (0.4mm MIN BOBBIN WALL)			
5	WINDSH	UL RECOMMENDED	UL RECOMMENDED	130°C 94V-0 (4.0mm MIN BOBBIN WALL)		E54705	
				150°C 94V-0 CP-3-8300 (0.4mm MIN BOBBIN WALL)			
				150°C 94V-0 CP-2-8800 (0.4mm MIN BOBBIN WALL)		E42956	
				150°C 94V-0 T-305J (0.62mm MIN BOBBIN WALL)			
6	MARGIN TAPE	UL RECOMMENDED	UL RECOMMENDED	150°C 94V-0 T375J (0.45mm MIN BOBBIN WALL)		E59481	
				200°C NO.8C-346-4		E317427	
				130°C V1305°C		E73225	
				130°C MATERIAL GROUP I NO.84 , 44-A,40-A,44T-A		E17305	
7	MARGIN TAPE	UL RECOMMENDED	UL RECOMMENDED	130°C MATERIAL GROUP I NO.5661		E58292	
				130°C MATERIAL GROUP I NO.8F		E165111	
				NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE			
				POLYESTER FILM/NONWOVEN COMPOSITE INSULATING TAPES			
8	MARGIN TAPE	UL RECOMMENDED	UL RECOMMENDED	POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
				NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE			
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42	MARGIN TAPE	UL RECOMMENDED	UL RECOMMENDED	POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
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48	MARGIN TAPE	UL RECOMMENDED	UL RECOMMENDED	POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
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				POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
53	MARGIN TAPE	UL RECOMMENDED	UL RECOMMENDED	POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
				NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE			
				POLYESTER FILM/NONWOVEN COMPOSITE INSULATING TAPES			
				POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
54	MARGIN TAPE	UL RECOMMENDED	UL RECOMMENDED	POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
				NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE			
				POLYESTER FILM/NONWOVEN COMPOSITE INSULATING TAPES			
				POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
55	MARGIN TAPE	UL RECOMMENDED	UL RECOMMENDED	POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
				NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE			
				POLYESTER FILM/NONWOVEN COMPOSITE INSULATING TAPES			
				POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
56	MARGIN TAPE	UL RECOMMENDED	UL RECOMMENDED	POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
				NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE			
				POLYESTER FILM/NONWOVEN COMPOSITE INSULATING TAPES			
				POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
57	MARGIN TAPE	UL RECOMMENDED	UL RECOMMENDED	POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
				NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE			
				POLYESTER FILM/NONWOVEN COMPOSITE INSULATING TAPES			
				POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
58	MARGIN TAPE	UL RECOMMENDED	UL RECOMMENDED	POLYETHYLENE TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE			
				NONWOVEN CLOTH/POLYETHYLENE TEREPHTHALATE FILM TAPE			
				POLYESTER FILM/NONWOVEN COMPOSITE INSULATING TAPES			
				POLYETHYLE			

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

[illegible]

Description.....: Specification of Line Filter (FL2), type: HFV-DTD13018



Description.....: Specification of Line Filter (FL2), type: HFV-DTD13018

1

2

3

4

MATERIAL LIST :		MANUFACTURER PARTS NO.		DESCRIPTION	UL FILE NO.
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	UL RECOGNIZED
2	BASE & INSULATOR	NAN YA PLASTICS CORP CO. DEPT ELECTRONIC MATERIAL DIV SHENYI TECHNOLOGY CO LTD 3M TAIWAN LTD 3M TAIWAN LTD 3M COMPANY ELECTRICAL MARKETS DIV(EMD) SYMBIO INC	130°C FR-4 NPC-R UL 94V-0 130°C FR-4 NPC-TL UL 94 V-0 130°C FR-4 S155 UL 94 V-0 130°C N0J5-300 130°C N0J5-250-a 130°C MATERIAL GROUP I NO.44 ,44-A,44B-A,44T-A 130°C MATERIAL GROUP I NO.35661 130°C MATERIAL GROUP I NO.1351-I 130°C MATERIAL GROUP II NO.1351F-I 130°C MATERIAL GROUP II NO.1351F-3 130°C MATERIAL GROUP III NO.1351F-2 155°C NO.1205 180°C NO.92 130°C MATERIAL GROUP I (FOR UL), GROUP II (FOR TV) NO.35660Y 130°C MATERIAL GROUP I NO. CT 200°C NO.5605 #3 200°C NO.5605 #5 130°C NO.1P602	INDUSTRIAL LAMINATES,FURNISHED AS SHEETS. INDUSTRIAL LAMINATES,FURNISHED AS SHEETS. 3 LAYERS PET FILM INSULATING TAPE, 3 LAYERS PET FILM INSULATING TAPE, POLYESTER FILM/NONWOVEN COMPOSITE INSULATINGTAPES POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE FLAME RETARDANT POLYESTER FILM INSULATING TAPE POLYETHYLENE-TEREPHTHALATE FILM INSULATING TAPE WITH ACRYLIC ADHESIVE POLYETHYLENE TEREPHTHALATE FILM TAPE FLAME RETARDANT ARAMID PAPER TAPE, ACRYLIC ADHESIVE POLYETHYLENE TEREPHTHALATE (PET) INSULATING TAPE WITH ACRYLIC ADHESIVE	E98083 E109769 E305006 E305006 E17385 E50292 E17385 E50292 E165111 E56086 E126174
3	MARGIN TAPE				
4	TAPE				