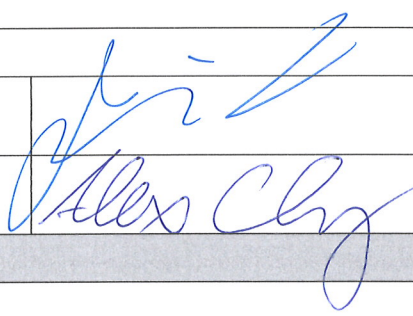




Test Report issued under the responsibility of:



TEST REPORT IEC 62368-1 Audio/video, information and communication technology equipment Part 1: Safety requirements	
Report Number	ATTCB107012
Date of issue	March 30, 2018
Total number of pages	71
Applicant's name	Compal Electronics , Inc.
Address	No.581 & 581-1, Ruiguang Rd., Neihu District, Taipei City 11492 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
Copyright © 2014 Worldwide System for Conformity Testing and Certification of Electrotechnical Equipment and Components (IECEE), Geneva, Switzerland. All rights reserved. This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context. If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed. 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.	

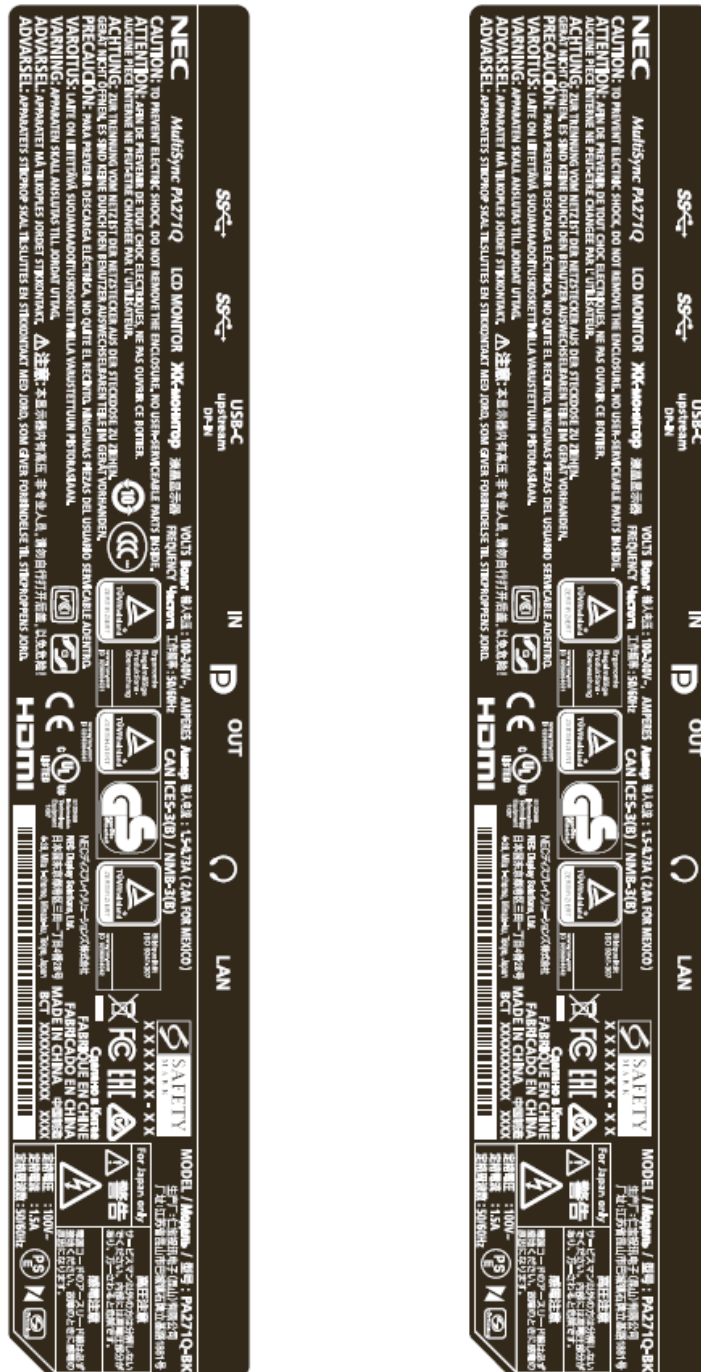
Test Item description	LCD Monitor	
Trade Mark	NEC	
Manufacturer	NEC Display Solutions, Ltd. 4-28, Mita 1-chome, Minato-ku, Tokyo, Japan	
Model/Type reference	PA271Q-BK	
Ratings	100-240V~, 50/60Hz, 1.5-0.73A (2,0A for Mexico)	
Testing procedure and testing location:		
☒ CB Testing Laboratory:	AUDIX TECHNOLOGY CORPORATION	
Testing location/ address	8TH FL., NO. 8, LANE 120, SEC. 1, NEI-HU ROAD, TAIPEI, CHINESE TAIPEI	
☐ Associated CB Testing Laboratory:		
Testing location/ address.....		
Tested by (name + signature).....	Jim Lee/ Handler	
Approved by (name + signature)	Alex Chang/ reviewer	
☐ Testing procedure: TMP/CTF Stage 1		
Testing location/ address.....		
Tested by (name + signature).....		
Approved by (name + signature)		
☐ Testing procedure: WMT/CTF Stage 2		
Testing location/ address.....		
Tested by (name + signature).....		
Witnessed by (name + signature).....		
Approved by (name + signature)		
☐ 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):	
EU group differences and national differences (11 pages) US & CA national differences (6 pages) Enclosures (26 pages)	
Summary of testing: - Maximum Normal load condition for this equipment is to operate at maximum backlight, brightness and contrast of LED backlight, and adjust to max. volume of speakers with 1KHz sine waveform, 5V/0.9A for each USB3.0 port; 5V/0.5A for USB2.0 port and USB type-C port provided with either 5V/3A; 9V/3A; 12V/2.1A; 15V/2A; 20V/1.5A.	
Tests performed (name of test and test clause): - Classification and limits of electrical energy sources (5.2) - Insulation materials and requirements (5.4) - Components as safeguards (5.5) - Protective conductor (5.6) - Prospective touch voltage, touch current and protective conductor current (5.7) - Safeguards against fire under normal operating conditions and abnormal operating conditions (6.3) - Stability of equipment (8.6) - Equipment mounted to a wall or ceiling (8.7) - Handles strength (8.8) - Thermal burn injury (9) - Normal operating conditions (B.2) - Simulated abnormal operating conditions (B.3) - Simulated single fault conditions (B.4) - Equipment markings (F.3) - Wound components (G.5) - Metalized coatings and adhesives securing parts (P.4) - For metalized coatings, clearances and creepage distance for pollution degree 3 shall be maintained instead of the tests of P.4.2 (P.5) - Limited power sources (Q.1) - Steady force test, 10N (T.2) - Steady force test, 250N (T.5) - Enclosure impact test (T.6) - Stress relief test (T.8)	Testing location: All tests as described in Test Case and Measurement Sections were performed at the laboratory described on page 2.
Summary of compliance with National Differences: List of countries addressed EU group differences, Canada and United States. CENELEC member countries (EU group differences): Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.	

☒ **The product fulfils the requirements of EN 62368-1:2014 + A11:2017**
The product fulfils the requirements of UL 62368-1, Second Edition.
The product fulfils the requirements of CAN/CSA C22.2 No. 62368-1-14.

Copy of marking plate:

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



Notes:

The above labels are draft of an artwork for marking plate pending approval by National Certification Bodies and it shall not be affixed to products prior to such an approval.

TEST ITEM PARTICULARS:	
Classification of use by	☒ Ordinary person ☐ Instructed person ☐ Skilled person ☒ Children likely to be present
Supply Connection	☒ AC Mains ☐ DC Mains ☐ External Circuit - not Mains connected - ☐ ES1 ☐ ES2 ☐ ES3
Supply % Tolerance	☒ +10%/-10% ☐ +20%/-15% ☐ + ____ %/ - ____ % ☐ None
Supply Connection – Type	☒ pluggable equipment type A - ☐ non-detachable supply cord ☒ appliance coupler ☐ direct plug-in ☐ mating connector ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☐ mating connector ☐ other:
Considered current rating of protective device as part of building or equipment installation	16A or 20A for building; 5A (for equipment) Installation location: ☒ building; ☒ equipment
Equipment mobility	☒ movable ☐ hand-held ☐ transportable ☐ stationary ☐ for building-in ☐ direct plug-in ☐ rack-mounting ☒ wall-mounted
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Class of equipment	☒ Class I ☐ Class II ☐ Class III
Access location	☐ restricted access location ☒ N/A
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified maximum operating ambient:	40 °C
IP protection class	☒ IPX0 ☐ IP____
Power Systems	☒ TN ☐ TT ☐ IT - ____ V _{L-L}
Altitude during operation (m)	☐ 2000 m or less ☒ Up to 5000 m
Altitude of test laboratory (m)	☒ 2000 m or less ☐ 200 m
Mass of equipment (kg)	☒ approx. 10.58 kg (include Stand base) Stand base: approx. 2.82 kg

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	2018-01-23
Date (s) of performance of tests	2018-01-23 to 2018-02-09
GENERAL REMARKS:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
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 :	☐ Yes ☒ Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies)	1) COMPAL DISPLAY ELECTRONICS (KUNSHAN) CO., LTD. No. 1881 Liji Road Shipai Bacheng Town, Kunshan, Jiangsu, P.R.China

GENERAL PRODUCT INFORMATION:**Product Description –**

The equipment models which see page 2 for details LCD Monitor intended for Audio/Video, information and communication technology equipment scope of this standard use.

The equipment consists of the following critical components:

- LCD panel (LED backlight type)
- Building-in type switching power supply (incorporated with LED driver circuit, evaluated within the equipment, refer to appended table 4.1.2 for the source details).
- LED driver board
- SELV boards (Main board)
- Metal enclosure
- Plastic enclosure
- Internal speaker

The Clearances and Creepage Distances have additionally been assessed for suitability up to 5,000 m elevation. The required clearance is multiplied by the altitude correction factor (1.48) as specified in Table A.2 of IEC 60664-1

The product was submitted and evaluated for use at the maximum ambient temperature (T_{ma}) permitted by the manufacturer's specification of: 40 °C

The LCD Monitor can be adjustment monitor's height and operated in landscape (0 °) to portrait mode (90 °) when main board downward.

Model Differences –

N/A

Additional application considerations – (Considerations used to test a component or sub-assembly) –

Some components are pre-certified, which have been evaluated according to the relevant requirements of IEC 62368-1, are employed in this product. Their suitability of use has been checked according to clauses 4.1.1 and 4.1.

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)
All circuits of power board except for output	ES3
X capacitor connected between L/N	ES3
All outputs of LED driver board	ES2
All outputs of power board	ES1
Accessible connectors and parts	ES1
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts):	
PS2	
Source of power or PIS	Corresponding classification (PS)
All circuits	PS3
All output connectors for main board	PS2
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	MS2
Sharp edge and corners	MS1
Wall mount	MS3
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)
All accessible parts	TS1
Internal parts	TS3

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)
LCD Panel	RS1
LED indicator	RS1

ENERGY SOURCE DIAGRAM

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

See next page

☐ 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	Supplementary	Reinforced (Enclosure)
Ordinary	ES3: The circuit connected to AC mains	N/A	N/A	Enclosure, see 5.4.2, 5.4.3, 5.5.3 and 5.5.4.
Ordinary	ES3: X capacitor connected between L/N	N/A	N/A	See 5.5.2.2
Ordinary	ES2: All outputs of LED driver board	N/A	N/A	See B.4
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
PCB	PS3	See 6.3	V-1 or better	N/A
Enclosure	PS3	See 6.3	Metal & V-1 or better	N/A
Internal Wirings	PS3	N/A	N/A	See 6.5
Other combustible components / material	PS3	See 6.3	See 6.4.5, 6.4.6	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	MS2: Equipment Mass	N/A	N/A	See 8.6
Ordinary	MS3: Wall mount	N/A	N/A	See 8.7
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Ordinary	TS3: Internal parts	N/A	N/A	Enclosure
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
Supplementary Information:				

- (1) See attached energy source diagram for additional details.
- (2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies		P
4.1.2	Use of components		P
4.1.3	Equipment design and construction		P
4.1.15	Markings and instructions.....:	See Annex F.	P
4.4.4	Safeguard robustness		P
4.4.4.2	Steady force tests.....:	(See Annex T.5)	P
4.4.4.3	Drop tests		N/A
4.4.4.4	Impact tests	(See Annex T.6)	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests.....:		N/A
4.4.4.6	Glass Impact tests		N/A
4.4.4.7	Thermoplastic material tests.....:	(See Annex T.8)	P
4.4.4.8	Air comprising a safeguard.....:	(See Annex T)	P
4.4.4.9	Accessibility and safeguard effectiveness		P
4.5	Explosion		P
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard		P
4.6.2	10 N force test applied to	(See appended table 5.4.2.2)	P
4.7	Equipment for direct insertion into mains socket - outlets		N/A
4.7.2	Mains plug part complies with the relevant standard.....:		N/A
4.7.3	Torque (Nm)		N/A
4.8	Products containing coin/button cell batteries		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.....:	(See Annex P)	P
5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications.....:	See Energy source identification and classification table.	P
5.2.2	ES1, ES2 and ES3 limits		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.2	Steady-state voltage and current..... :	See table 5.2	P
5.2.2.3	Capacitance limits :	See table 5.2	P
5.2.2.4	Single pulse limits :		N/A
5.2.2.5	Limits for repetitive pulses :		N/A
5.2.2.6	Ringing signals :		N/A
5.2.2.7	Audio signals :		N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.2.1	Accessibility to electrical energy sources and safeguards		P
5.3.2.2	Contact requirements		P
	a) Test with test probe from Annex V :	Figure V.1, V.2 can't contact any bare internal conductive part.	P
	b) Electric strength test potential (V) :		N/A
	c) Air gap (mm) :		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Humidity conditioning :	(See sub-clause 5.4.8)	P
5.4.1.4	Maximum operating temperature for insulating materials :	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6.)	P
5.4.1.5	Pollution degree :	2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage		P
5.4.1.9	Insulating surfaces		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P
5.4.1.10.2	Vicat softening temperature..... :		N/A
5.4.1.10.3	Ball pressure :	See table 5.4.1.10.3.	P
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage	(See appended table 5.4.2.2)	P
5.4.2.3	Determining clearance using required withstand voltage :	(See appended table 5.4.2.3)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	a) a.c. mains transient voltage	2500V _{peak} .	—
	b) d.c. mains transient voltage	N/A	—
	c) external circuit transient voltage	N/A	—
	d) transient voltage determined by measurement	N/A	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages	1.48	P
5.4.3	Creepage distances	(See appended table 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group	IIIa or IIIb.	—
5.4.4	Solid insulation		P
5.4.4.2	Minimum distance through insulation	(See appended table 5.4.4.2)	P
5.4.4.3	Insulation compound forming solid insulation	Certified optocouplers used.	P
5.4.4.4	Solid insulation in semiconductor devices		P
5.4.4.5	Cemented joints	Certified optocouplers used.	P
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material	(See appended Table 5.4.9)	P
	Number of layers (pcs)	2 layers min.	P
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		P
5.4.4.9	Solid insulation at frequencies >30 kHz	(See appended Table 5.4.4.9)	P
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ).....		—
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints	Certified optocouplers used.	P
5.4.8	Humidity conditioning		P
	Relative humidity (%).....	93	—
	Temperature (°C)	40	—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Duration (h)	120	—
5.4.9	Electric strength test	(See appended table 5.4.9) Electric strength tests were conducted after 5.4.8 humidity conditioning test for each manufacturer source in table 4.1.2.	P
5.4.9.1	Test procedure for a solid insulation type test		P
5.4.9.2	Test procedure for routine tests		P
5.4.10	Protection against transient voltages between external circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test		N/A
5.4.10.2.3	Steady-state test.....		N/A
5.4.11	Insulation between external circuits and earthed circuitry		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V).....		—
	Nominal voltage U_{peak} (V).....		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		
5.5.1	General		P
5.5.2	Capacitors and RC units		P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector.....	(See appended table 5.5.2.2)	P
5.5.3	Transformers		P
5.5.4	Optocouplers	(See sub-clause 5.4)	P
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPD's		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable.....:		N/A
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation		P
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm ²)		—
5.6.4	Requirement for protective bonding conductors		P
5.6.4.1	Protective bonding conductors	Protective bonding conductors evaluated based on Table G.5.	P
	Protective bonding conductor size (mm ²).:	18AWG, 0.75mm ²	—
	Protective current rating (A)	16 or 20A	—
5.6.4.3	Current limiting and overcurrent protective devices		P
5.6.5	Terminals for protective conductors		P
5.6.5.1	Requirement		P
	Conductor size (mm ²), nominal thread diameter (mm).:	3.5mm min.	P
5.6.5.2	Corrosion		P
5.6.6	Resistance of the protective system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method Resistance (Ω).....:	(See appended table 5.6.6.2)	P
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current	Instrument indicating peak voltage used.	P
5.7.2.2	Measurement of prospective touch voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections		P
	System of interconnected equipment (separate connections/single connection)	Single connection.	—
	Multiple connections to mains (one connection at a time/simultaneous connections)	N/A	—
5.7.4	Earthed conductive accessible parts.....:	(See appended table 5.7.2.2, 5.7.4)	P
5.7.5	Protective conductor current		P
	Supply Voltage (V).....:	240Vac.	—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Measured current (mA).....:	0.9mA	—
	Instructional Safeguard.....:		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		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	See Energy source identification and classification table.	P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault ... :	See 6.2.2.	N/A
6.2.2.3	Power measurement for worst-case power source fault.....:	See 6.2.2.	N/A
6.2.2.4	PS1		N/A
6.2.2.5	PS2	See 6.2.2.	P
6.2.2.6	PS3	See 6.2.2.	P
6.2.3	Classification of potential ignition sources	All conductors and devices are considered as PIS.	P
6.2.3.1	Arcing PIS	See above.	P
6.2.3.2	Resistive PIS	See above.	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials	See appended Table 5.4.1.4, 6.3.2, 9.0, B.2.6.	P
6.3.1 (b)	Combustible materials outside fire enclosure		P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Method of Control fire spread used.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A

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		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits		P
6.4.5.2	Supplementary safeguards :	Components other than PCB and wires are: - mounted on PCB rated V-1 or better, or - made of V-2/VTM-2 or better. (See appended tables 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuit		P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.1	General..... :		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.1	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure		P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) :	Openings didn't exceed 5 mm in any dimension or 1 mm in width regardless of length.	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) :	Openings didn't exceed 3 mm in any dimension or 1 mm in width regardless of length.	P
	Flammability tests for the bottom of a fire enclosure :		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c) :		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating..... :	Enclosure is metal and plastic.	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.5	Internal and external wiring		P
6.5.1	Requirements	VW-1 or FT-1 wires used, which considered to equivalent to IEC/TS 60695-11-21	P
6.5.2	Cross-sectional area (mm ²)	See above	—
6.5.3	Requirements for interconnection to building wiring		N/A
6.6	Safeguards against fire due to connection to additional equipment		P
	External port limited to PS2 or complies with Clause Q.1		P

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

8	MECHANICALLY-CAUSED INJURY		P
8.1	General		P
8.2	Mechanical energy source classifications	See Energy source identification and classification table.	P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners		N/A
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts		N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard.....		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard.....:		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N)		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test.....:		N/A
8.6	Stability		P
8.6.1	Product classification	MS2	P
	Instructional Safeguard.....:		—
8.6.2	Static stability		P
8.6.2.2	Static stability test		P
	Applied Force	The equipment is tipped at any angle up to and including 10° from the vertical.	—
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		P
8.6.5	Horizontal force test (Applied Force).....:	13.5 N	P
	Position of feet or movable parts.....:	N/A	—
8.7	Equipment mounted to wall or ceiling		P
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)	Length 10mm of screws, Wall	P
8.7.2	Direction and applied force.....:	Test 1 : N/A Test 2 : applied 77 N Test 3: 1.2 N.m. (Metal screw : Ø3.9mm)	P
8.8	Handles strength		P
8.8.1	Classification	MS2	P
8.8.2	Applied Force	31.74kg	P
8.9	Wheels or casters attachment requirements		N/A
8.9.1	Classification		N/A
8.9.2	Applied force		—
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard.....:		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)		—
8.10.6	Thermoplastic temperature stability (°C)		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i>		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas		N/A
	Button/Ball diameter (mm)		—

9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications	See Energy source identification and classification table.	P
9.3	Safeguard against thermal energy sources		P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard		P
9.4.2	Instructional safeguard		N/A

10	RADIATION		P
10.2	Radiation energy source classification	See Energy source identification and classification table.	P
10.2.1	General classification		P
10.3	Protection against laser radiation		N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault.....		N/A
	Instructional safeguard		—
	Tool.....		—
10.4	Protection against visible, infrared, and UV radiation		N/A
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons		N/A
10.4.1.b)	RS3 accessible to a skilled person.....		N/A
	Personal safeguard (PPE) instructional		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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		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		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)..... :		N/A
	Output voltage, unweighted r.m.s..... :		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards :		N/A
	Equipment safeguard prevent ordinary person to RS2..... :		—
	Means to actively inform user of increase sound pressure..... :		—
	Equipment safeguard prevent ordinary person to RS2..... :		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output..... :		—
10.6.5.2	Corded listening devices with digital input		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Maximum dB(A)..... :		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)..... :		—

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements..... :	See Test Item Particulars and appended test tables.	P
	Audio Amplifiers and equipment with audio amplifiers		N/A
B.2.3	Supply voltage and tolerances		P
B.2.5	Input test..... :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements..... :	(See appended table B.3)	P
B.3.2	Covering of ventilation openings		P
B.3.3	D.C. mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals	(See appended table B.3)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions		P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited		N/A
B.4.3	Motor tests		N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature		N/A
B.4.4	Short circuit of functional insulation		P
B.4.4.1	Short circuit of clearances for functional insulation		P
B.4.4.2	Short circuit of creepage distances for functional insulation		P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors		P
B.4.6	Short circuit or disconnect of passive components		P
B.4.7	Continuous operation of components		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	See table B.4	P
B.4.9	Battery charging under single fault conditions ... :		N/A

C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A

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

E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V) :		—
	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		P
	Instructions – Language :	English.	—
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		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations		P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification :	See copy of marking plate.	—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.2.2	Model identification	See copy of marking plate.	—
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage.....	See copy of marking plate.	—
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		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings		N/A
F.3.5.2	Switch position identification marking		N/A
F.3.5.3	Replacement fuse identification and rating markings		N/A
F.3.5.4	Replacement battery identification marking		N/A
F.3.5.5	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I Equipment		P
F.3.6.1.1	Protective earthing conductor terminal		P
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		P
F.3.6.2	Class II equipment (IEC60417-5172)		N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking	IPX0	—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings		P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present – marking		N/A
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard		P
	g) Protective earthing conductor current exceeding ES 2 limits		N/A
	h) Symbols used on equipment		N/A
	i) Permanently connected equipment not provided with all-pole mains switch		N/A
	j) Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards		P
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction		P

G	COMPONENTS		P
G.1	Switches		P
G.1.1	General requirements	Certified source used. See table 4.1.2	P
G.1.2	Ratings, endurance, spacing, maximum load		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		N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691		N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H) :		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Single Fault Condition		—
	Test Voltage (V) and Insulation Resistance (Ω) ..		—
G.3.3	PTC Thermistors		N/A
G.3.4	Overcurrent protection devices		P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions.....		N/A
G.4	Connectors		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration	IEC 60230 connector used.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		P
G.5	Wound Components		P
G.5.1	Wire insulation in wound components.....	Triple insulation wiring are used as reinforced insulation.	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Mechanical stress relief achieved by tube.	P
G.5.1.2 b)	Construction subject to routine testing		P
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).....	See G.5.3.2 and G.5.3.3.	P
	Position.....	See appended table 4.1.2.	—
	Method of protection	Over current protection by circuit design.	—
G.5.3.2	Insulation		P
	Protection from displacement of windings.....	Insulation tape and tubing used.	—
G.5.3.3	Overload test	(See appended table B.3)	P
G.5.3.3.1	Test conditions		P
G.5.3.3.2	Winding Temperatures testing in the unit		P
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	Motors		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.1	General requirements		N/A
	Position		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V)		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V)		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		P
G.6.1	General		P
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements	No such components provided.	N/A
	Type.....		—
	Rated current (A)		—
	Cross-sectional area (mm ²), (AWG).....		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Strain relief test force (N)		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)....		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g)		—
	Diameter (m)		—
	Temperature (°C)		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		P
G.8.1	General requirements		P
G.8.2	Safeguard against shock		P
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test		N/A
G.8.3.3	Temporary overvoltage		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.		N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA		—
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		N/A
G.10.1	General requirements		N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.11	Capacitor and RC units		P
G.11.1	General requirements	X and Y-Capacitor used as safeguard and complied with IEC/EN 60384-14 (See table 4.1.2)	P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		P
G.12	Optocouplers		N/A
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results)		N/A
	Type test voltage Vini		—
	Routine test voltage, Vini,b		—
G.13	Printed boards		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction)		—
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
G.15	Liquid filled components		N/A
G.15.1	General requirements		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours		N/A
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance		—
D3)	Resistance		—

H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):.....		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)		—

J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		P
	General requirements	Certified triple insulation wire used.	P

K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		P
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		N/A

M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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.4.2.2 a)	Charging voltage, current and temperature		—
M.4.2.2 b)	Single faults in charging circuitry		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume V_z (m ³ /s)..... :		—
M.8.2.3	Correction factors..... :		—
M.8.2.4	Calculation of distance d (mm) :		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing) :		N/A

N	ELECTROCHEMICAL POTENTIALS		P
	Metal(s) used :	Metal alloy utilized and electrochemical potential is less than 0.6V.	—

O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Figures O.1 to O.20 of this Annex applied..... :	Pollution degree considered.	—

P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		P
P.1	General requirements		P
P.2.2	Safeguards against entry of foreign object		P
	Location and Dimensions (mm) :	Openings didn't exceed 5 mm in any dimension or 1 mm in width regardless of length.	—
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		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		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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		P
P.4.2 a)	Conditioning testing	Adhesive: 3M / 9448A Feet pad material: Rubber Material for bottom plate: Plastic (PC+ABS)	P
	Tc (°C)..... :	100 (100+0=100)	—
	Tr (°C)..... :	100	—
	Ta (°C)..... :	50.2 (Reference plastic enclosure inside temp.)	—
P.4.2 b)	Abrasion testing		N/A
P.4.2 c)	Mechanical strength testing	No part fall off or partly fall off or partly dislodge	P

Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources		P
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		P
	- Regulating network limited output under normal operating and simulated single fault condition		P
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		P
Q.2	Test for external circuits – paired conductor cable		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		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Wall thickness (mm).....:		—
	Conditioning (°C).....:		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material		—
	Wall thickness (mm).....:		—
	Conditioning (°C).....:		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material		—
	Wall thickness (mm).....:		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		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		P
T.2	Steady force test, 10 N	(See appended table 5.4.2.2, 5.4.2.4 and 5.4.3)	P
T.3	Steady force test, 30 N		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
T.4	Steady force test, 100 N		N/A
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	(See appended table T.8)	P
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J)		—
	Height (m)		—
T.10	Glass fragmentation test		N/A
T.11	Test for telescoping or rod antennas		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		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	Following the probes test specified in this annex Figure V.1, V.2 are suitable.	P
V.2	Accessible part criterion	No live parts can be accessible.	P

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

4.1.2	TABLE: List of critical components					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹	
LCD Panel	Panasonic	VVX27T160H00	27" TFT-LCD	--	--	
PCB	--	--	V-1 min., 105°C min.	UL 796	UL	
Plastic enclosure	TEIJIN CHEMICALS PLASTIC COMPOUNDS SHANGHAI LTD	TN-7500(c)	V-1 min., thick: 1.2mm min	UL 94	UL	
	Teijin Limited Resin and Plastic	TN-7500(c)	V-1 min., thick: 1.2mm min	UL 94	UL	
Metal enclosure	--	--	0.81 mm thickness min	--	--	
Base stand	Interchangeable	Interchangeable	HB min., cover with metal. Weight approx 2.82kg.	UL 94	UL	
-Adhesive (for base stand feet pad)	3M	9448A	70°C	UL 510	UL	
Speaker (two provided)	--	--	4 ohm min. 3W max.	--	--	
AC Inlet	Zhangjigang Huajie Electronic Co., Ltd.	SA-4S	10A, 250V	IEC/EN 60320-1, UL 498	VDE, CSA, UL	
Power switch	SOLTEAM ELECTRONICS CO LTD	MR-22 series	12(4)A, 250Vac	IEC/EN 61058-1, ANSI/UL 1054	ENEC, UL	
Power board : Shenzhen Huntkey Electric Co., Ltd., P/N: HKM150SL32-3A						
Primary connector (P801)	SHENZHEN YONG FENG YING ELECTRONIC CO LTD	CS-1120R series	Min. 250VAC, min 4A, min. 85°C	UL1977	UL	
Fuse (F101)	WALTER ELECTRONIC CO LTD	TSC	T5AH, min. AC 250V	UL248-1, UL248-14, IEC60127-1 IEC60127-2	VDE, UL	
	LITTELFUSE INC	215-Serie(s)	T5AH, min. AC 250V	UL248-1, UL248-14, IEC60127-1 IEC60127-2	VDE, UL	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Y-Cap (CY101, CY102) (Y1 type) (optional)	TDK Corporation	CD, CD (miniature series)	CY101=CY102= 100pF max., 250V min., 85°C min.	IEC/EN 60384- 14: 2014, UL 60384-14	VDE, UL
	Murata Mfg Co., Ltd.	KX	CY101=CY102= 100pF max., 250V min., 85°C min.	IEC/EN 60384- 14: 2014, UL 60384-14	VDE, UL
Bridging-Cap (CY103, CY105) (Y1 type) (optional)	TDK Corporation	CD, CD (miniature series)	CY103=CY105= 470pF max., 250V min., 85°C min.	IEC/EN 60384- 14: 2014, UL 60384-14	VDE, UL
	Murata Mfg Co., Ltd.	KX	CY103=CY105= 470pF max., 250V min., 85°C min.	IEC/EN 60384- 14: 2014, UL 60384-14	VDE, UL
Varistor (RV101) (optional)	THINKING ELECTRONIC INDUSTRIAL CO LTD	TVR14561-V, TVR14561	Type 3 SPD, Maximum continuous operation voltage 350Vac, Coating V- 0 min	UL1449, IEC 60950-1, IEC61051-2, IEC61051-2-2	VDE, UL
	THINKING ELECTRONIC INDUSTRIAL CO LTD	TVR14561-D	Type 3 SPD, Maximum continuous operation voltage 350Vac, Coating V- 0 min	UL1449, IEC 60950-1, IEC61051-2, IEC61051-2-2	VDE, UL
	JOYIN CO LTD	14N561K 14S561K	Type 3 SPD, Maximum continuous operation voltage 350Vac, Coating V- 0 min	UL1449, IEC 60950-1, IEC61051-2, IEC61051-2-2	VDE, UL
	EPCOS (ZHUHAI FTZ) CO LTD	S(NF)14K350, S(NF)14K350E2 K1, S14K350	Type 3 SPD, Maximum continuous operation voltage 350Vac, Coating V- 0 min	UL1449, IEC 60950-1, IEC61051-2, IEC61051-2-2	VDE, UL
X-Capacitor (CX101, CX102) (optional)	SHENZHEN JINGHAO CAPACITOR CO LTD	CBB62B	CX101=CX102= 0.33μF max., 275V min., 85°C min.	IEC/EN 60384- 14: 2014, UL 60384-14	VDE, UL
	KEMET ELECTRONICS ITALIA SRL	Serie R.46	CX101=CX102= 0.33μF max., 275V min., 85°C min.	IEC/EN 60384- 14: 2014, UL 60384-14	ENEC, UL
	YIMANFENG SCIENCE AND TECHNOLOGY CO.LCD	MPX/MKP	CX101=CX102= 0.33μF max., 275V min., 85°C min.	IEC/EN 60384- 14: 2014, UL 60384-14	VDE, UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
	EPCOS ELECTRONIC COMPONENTS S A	B3292#	CX101=CX102= 0.33μF max., 275V min., 85°C min.	IEC/EN 60384- 14: 2014, UL 60384-14	VDE, UL
Bleeder Resistors (R122, R122A, R123, R123A)	--	--	Each max. 2.2MΩ, 1/4 W	--	--
Thermistor (RT101, RT102)	--	--	Min. 1.3Ω at 25 °C	--	--
Bridge diode (BD101)	--	--	800V min., 10A min.	--	--
Storage Capacitor (C101)	--	--	150μF max., 450V min., 105°C min.	--	--
Transistor (Q101,Q103)	--	--	Min. 7.5A, min. 600V	--	--
Transistor (Q106)	--	--	Min. 5.2A, min. 800V	--	--
Transistor (Q102)	--	--	Min. 20A, min. 600V	--	--
Line Choke (LF101, LF102)	Huntkey	HKL-0322223	130 °C	--	--
Line Choke (L101)	Huntkey	HKP-6432001	130 °C		
Line Choke (L102)	Huntkey	HKP-3116003	130 °C		
Photo Coupler (U102, U104, U105, U106, U107)	Lite-On Technology Corporation	LTV-817 series	Rated 5000 Vac, isolation, Dti = 0.8 mm, Int. cr = thermal cycling test passed, Ext. cr = 7.8 mm, minimum 100°C.	DIN EN 60747-5- 2:2003, IEC/EN 60950-1, UL 1577	VDE, UL
	Everlight Electronics Co., Ltd	EL817	Rated 5000 Vac, isolation, Dti = 0.5 mm, Int. cr = thermal cycling test passed, Ext. cr = 7.7 mm, minimum 100°C.	DIN EN 60747-5- 2:2003, IEC/EN 60950-1, UL 1577	VDE, UL
Transformer (T101)	SHENZHEN HUNTKEY ELECTRIC CO LTD	HKT-4528003	Class 130 material (B)	Applicable parts of IEC 60950-1 and according to IEC 60085	--
-bobbin	Sumitomo Bakelite Co., Ltd.	PM-9820, PM-9630	130 °C	UL94	UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
	Chang Chun Plastic Co., Ltd.	T375J	130 °C	UL94	UL
-Insulation tape	3M Company Electrical Markets Div (EMD)	1350F-1(b), 1350-2(c), 1350T-1(b), 1350T-3(b)	130 °C	UL510A	UL
	Jingjiang Yahua Electronic Technology Co., Ltd.	CT*(c)(g), CT*(b)(g), PZ*(b)	130 °C	UL510A	UL
Transformer (T102)	SHENZHEN HUNTKEY ELECTRIC CO LTD	HKT-3219003	Class 130 material (B)	Applicable parts of IEC 60950-1 and according to IEC 60085	--
-Triple insulation wire	Ta Ya Electric Wire & Cable Co Ltd	TILW-B, TILW-E, TILW-F	Rated min. 130 °C.	IEC 60950-1, UL 2353	VDE, UL
	Furukawa Electric Co Ltd	TEX-E, TEX-B	Rated min. 130 °C.	IEC 60950-1, UL 2353	VDE, UL
	SHEN ZHUN DARUN SCIENCE AND TECHNOLOGY CO.,LTD.	DRTIW-F	Rated min. 130 °C.	IEC 60950-1, UL 2353	VDE, UL
-bobbin	Sumitomo Bakelite Co., Ltd.	PM-9820, PM-9630	130 °C	UL94	UL
	Chang Chun Plastic Co., Ltd.	T375J	130 °C	UL94	UL
-Insulation tape	3M Company Electrical Markets Div (EMD)	1350F-1(b), 1350-2(c), 1350T-1(b), 1350T-3(b)	130 °C	UL510A	UL
	Jingjiang Yahua Electronic Technology Co., Ltd.	CT*(c)(g), CT*(b)(g), PZ*(b)	130 °C	UL510A	UL
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) Description line content is optional. Main line description needs to clearly detail the component used for testing.					

IEC 62368-1			
Clause	Requirement + Test		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)
4.8.4.3	TABLE: Battery replacement test		—
	Battery part no.:		—
	Battery Installation/withdrawal	Battery Installation/Removal Cycle	Comments
		1	
		2	
		3	
		4	
		5	
		6	
		8	
		9	
		10	
4.8.4.4	TABLE: Drop test		—
	Impact Area	Drop Distance	Drop No.
			1
			2
			3
4.8.4.5	TABLE: Impact		—
	Impacts per surface	Surface tested	Impact energy (Nm)
4.8.4.6	TABLE: Crush test		—
	Test position	Surface tested	Crushing Force (N)
			Duration force applied (s)
Supplementary information:			

4.8.5	TABLE: Lithium coin/button cell batteries mechanical test result	N/A
-------	--	-----

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Test position	Surface tested	Force (N)	Duration force applied (s)
Supplementary information:			

5.2		Table: Classification of electrical energy sources					P
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
For power board							
1	264Vac	P802 pin 1 – GND (earth)	Normal	5.2Vrms	--	--	ES1
			Abnormal - Output short	0	--	--	
			Abnormal - Output overload	5.2Vrms	--	--	
			Abnormal - opening block	5.2Vrms	--	--	
			Single fault - Fuse open	0	--	--	
			Single fault - Unit shutdown	0	--	--	
			Single fault - normal	5.2Vrms	--	--	
			Transformer overload	5.2Vrms	--	--	
2	264Vac	P802 pin 3 – GND (earth)	Normal	23.8Vrms	--	--	ES1
			Abnormal - Output short	0	--	--	
			Abnormal - Output overload	23.8Vrms	--	--	
			Abnormal - opening block	23.8Vrms	--	--	
			Single fault - Fuse open	0	--	--	
			Single fault - Unit shutdown	0	--	--	
			Single fault - normal	23.8Vrms	--	--	
			Transformer overload	23.8Vrms	--	--	

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
3	264Vac	P803 pin 8, 9 – GND (earth)	Normal	23.8Vrms	--	--	ES1
			Abnormal - Output short	0	--	--	
			Abnormal - Output overload	23.8Vrms	--	--	
			Abnormal - opening block	23.8Vrms	--	--	
			Single fault - Fuse open	0	--	--	
			Single fault - Unit shutdown	0	--	--	
			Single fault - normal	23.8Vrms	--	--	
			Transformer overload	23.8Vrms	--	--	
4	264Vac	T101 pin 7, 8 - earth	Normal	32.8Vrms.	--	--	ES1
5	264Vac	T101 pin 11, 12 - earth	Normal	32.8Vrms.	--	--	ES1
6	264Vac	T102 pin 9 - earth	Normal	35.6Vrms.	--	--	ES1
LED driver board							
7	264Vac	P902 pin 1 – earth	Normal	64.4Vrms	--	--	ES2
8	264Vac	P903 pin 1 – earth	Normal	64.4Vrms	--	--	ES2
5.2.2.3 - Capacitance Limits							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class	
				Capacitance, nF	Upk (V)		
1	264Vac	CX101, CX102	Normal	330 (±20%)	375.0	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	--	--	--	

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

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:

Supplementary information: SC=Short Circuit, OC=Short Circuit, OL=Overload

Unless otherwise indicated, all test data in this table are the maximum measured value of the test conditions.

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements				P
	Supply voltage (V)	See below	See below	See below	—
	Ambient T _{min} (°C)	--	--	--	—
	Ambient T _{max} (°C)	--	--	--	—
	Tma (°C)	--	--	--	—
Maximum measured temperature T of part/at:		T (°C)			Allowed T _{max} (°C)
Supply voltage (V/Hz)		90/60	90/60	264/60	--
Test Orientation		Horizontal	Vertical	Vertical	--
AC inlet near L pin		45.7	56.3	56.0	70
RV101 body		55.1	67.1	64.8	85
CX102 body		67.5	77.2	68.0	85
LF101 coil		63.3	73.8	65.2	105
PCB near Q106		61.0	73.8	73.9	105
PCB near RT101		82.3	86.6	53.2	105
LF102 coil		69.8	74.4	66.9	105
PCB near BD101		73.5	81.7	71.1	105
L101 coil		73.5	77.2	72.9	105
C101 body		60.4	70.1	69.2	105
PCB near D102 & Q102		64.8	73.6	73.8	105
PCB near Q101 & Q103		66.9	72.6	72.7	105
L102 coil		72.4	76.9	77.2	105
T101 coil		80.9	81.1	81.3	110

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
T101 core	78.2	79.4	80.3	110
U107 body	69.4	69.0	68.9	105
CY103 body	62.0	64.8	64.8	85
PCB near D201 & D202	68.8	69.7	70.0	105
T102 coil	75.5	89.2	89.7	110
T102 core	75.5	85.3	86.2	110
PCB near D203	60.1	72.2	73.0	105
L803 coil (LED driver board)	75.7	70.0	70.6	105
L801 coil (LED driver board)	82.1	73.2	73.0	105
PCB near U13 (main board)	74.6	68.8	69.0	105
Plastic enclosure inside near T101	46.2	50.2	50.2	60
Ambient (actual temp.)	40.0 (22.2)	40.0 (21.5)	40.0 (21.9)	--
P801 near L	54.4	68.0	66.9	70
Ambient (actual temp.)	40.0 (22.6)	40.0 (21.9)	40.0 (21.3)	--
Plastic enclosure outside near L601	28.5	33.1	33.1	48
Panel	33.1	33.9	33.1	48
Ambient (actual temp.)	25.0 (22.2)	25.0 (21.5)	25.0 (21.9)	--
Power switch body	29.5	38.3	37.8	48
Ambient (actual temp.)	25.0 (22.6)	25.0 (21.9)	25.0 (21.3)	--
Supply voltage (V/Hz)	264/60	--	--	--
Abnormal condition	Openings blocked	--	--	--
AC inlet near L pin	59.5	--	--	300
RV101 body	69.1	--	--	300
CX102 body	73.1	--	--	300
LF101 coil	69.6	--	--	300
PCB near Q106	79.7	--	--	300
PCB near RT101	77.9	--	--	300
LF102 coil	71.3	--	--	300
PCB near BD101	74.9	--	--	300
L101 coil	77.6	--	--	300
C101 body	75.1	--	--	300
PCB near D102 & Q102	80.0	--	--	300

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	
PCB near Q101 & Q103	79.5	--	--	300
L102 coil	83.0	--	--	300
T101 coil	86.6	--	--	300
T101 core	85.5	--	--	300
U107 body	74.9	--	--	300
CY103 body	69.7	--	--	300
PCB near D201 & D202	75.0	--	--	300
T102 coil	94.6	--	--	300
T102 core	90.7	--	--	300
PCB near D203	79.1	--	--	300
L803 coil (LED driver board)	77.4	--	--	300
L801 coil (LED driver board)	81.0	--	--	300
PCB near U13 (main board)	72.6	--	--	300
Plastic enclosure inside near T101	52.4	--	--	300
Ambient (actual temp.)	40.0 (22.3)	--	--	--
P801 near L	73.4	--	--	300
Ambient (actual temp.)	40.0 (21.8)	--	--	--
Plastic enclosure outside near T101	34.2	--	--	48
Panel	35.5	--	--	48
Ambient (actual temp.)	25.0 (22.3)	--	--	--
Power switch body	38.5	--	--	48
Ambient (actual temp.)	25.0 (21.8)	--	--	--
Supply voltage (V/Hz)	264/60	264/60	264/60	--
Abnormal condition	USB3.0 overload ⁴⁾	USB2.0 overload	Display overload	--
AC inlet near L	55.2	55.0	54.3	300
RV101 body	64.3	63.7	62.9	300
CX102 body	67.3	67.0	66.3	300
LF101 coil	64.7	64.4	63.7	300
PCB near Q106	73.5	73.0	73.6	300
PCB near RT101	72.3	71.7	70.8	300
LF102 coil	66.4	65.8	65.1	300
PCB near BD101	70.5	70.0	69.2	300

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
L101 coil	72.5	71.8	70.9	300
C101 body	68.6	68.3	67.5	300
PCB near D102 & Q102	73.1	72.8	72.1	300
PCB near Q101 & Q103	72.1	71.8	70.9	300
L102 coil	76.5	76.2	75.2	300
T101 coil	80.9	80.4	79.6	300
T101 core	80.0	79.3	78.4	300
U107 body	68.3	68.2	67.0	300
CY103 body	64.4	64.1	62.9	300
PCB near D201 & D202	69.5	69.2	68.2	300
T102 coil	89.4	88.3	91.1	300
T102 core	85.5	84.7	86.5	300
PCB near D203	72.5	72.0	72.5	300
L803 coil (LED driver board)	71.0	69.9	69.7	300
L801 coil (LED driver board)	73.3	72.8	72.0	300
PCB near U13 (main board)	69.2	68.3	66.5	300
Plastic enclosure inside near T101	49.7	49.6	48.8	--
Ambient (actual temp.)	40(22.6)	40.0(22.5)	40.0(21.2)	--
P801 near L	66.6	66.6	66.6	300
PCB near U704	55.0	54.1	52.4	300
PCB near U706	63.6	65.7	54.7	300
PCB near U159	71.5	71.3	75.7	300
PCB near U155	57.1	55.5	53.7	300
Ambient (actual temp.)	40(22.9)	40.0(22.8)	40(21.4)	--
Plastic enclosure outside near T101	32.3	32.2	31.2	48
Panel	33.8	33.7	32.7	48
Ambient (actual temp.)	25.0(22.6)	25.0(22.5)	25.0(21.2)	--
Switch body	36.9	36.8	36.2	48
Plastic enclosure outside near U706	--	31.8	--	48
Plastic enclosure outside near U704	31.7	--	--	48
Plastic enclosure outside near U159	--	--	30.8	48
Ambient (actual temp.)	25.0(22.9)	25.0(22.8)	25.0(21.4)	--
Supply voltage (V/Hz)	264/60	264/60	264/60	--

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
Abnormal condition	Mini Display overload	USB type c overload (20V)	--	--
AC inlet near L	54.6	55.2	--	300
RV101 body	63.5	64.3	--	300
CX102 body	66.4	67.5	--	300
LF101 coil	63.5	64.2	--	300
PCB near Q106	71.6	71.2	--	300
PCB near RT101	70.5	71.2	--	300
LF102 coil	65.0	65.2	--	300
PCB near BD101	69.2	70.4	--	300
L101 coil	71.1	72.8	--	300
C101 body	68.1	68.9	--	300
PCB near D102 & Q102	72.5	73.2	--	300
PCB near Q101 & Q103	71.2	72.3	--	300
L102 coil	75.1	75.6	--	300
T101 coil	80.6	81.1	--	300
T101 core	79.7	79.4	--	300
U107 body	68.1	70.6	--	300
CY103 body	64.4	65.2	--	300
PCB near D201 & D202	68.8	70.6	--	300
T102 coil	86.6	86.0	--	300
T102 core	83.6	82.5	--	300
PCB near D203	71.6	71.8	--	300
L803 coil (LED driver board)	70.1	70.4	--	300
L801 coil (LED driver board)	72.3	71.9	--	300
PCB near U13 (main board)	66.9	63.4	--	300
Ambient (actual temp.)	40.0(20.6)	40.0(23.4)	--	--
P801 near L	66.9	66.7	--	300
PCB near U704	55.8	--	--	300
PCB near U706	56.1	--	--	300
PCB near U158	88.7	--	--	300
PCB near U159	53.3	--	--	300
PCB near U25	--	71.3	--	300

IEC 62368-1								
Clause	Requirement + Test			Result - Remark			Verdict	
Plastic enclosure inside near T101								
		48.8	50.8	--		--		
Ambient (actual temp.)								
		40.0(20.9)	40.0(23.4)	--		--		
Plastic enclosure outside near T101								
		30.7	32.2	--		48		
Panel								
		32.6	34.1	--		48		
Ambient (actual temp.)								
		25.0(20.6)	25.0(23.7)	--		--		
Switch body								
		36.6	31.7	--		48		
Plastic enclosure outside near U158								
		30.3	--	--		48		
Plastic enclosure outside near U25								
		--	30.9	--		--		
Ambient (actual temp.)								
		25.0(20.9)	25.0(23.7)	--		--		
Supply voltage (V/Hz)								
		264/60	264/60	264/60		--		
Abnormal condition								
		+24V output overload	VLED output overload	+5.2V output overload		--		
PCB near RT101								
		95.8	95.9	75.7		300		
T101 coil								
		107.1	108.6	89.4		300		
T102 coil								
		77.8	78.6	108.1		300		
L801 coil (LED driver board)								
		66.1	67.3	66.1		300		
Ambient (actual temp.)								
		40.0 (23.2)	40.0 (22.2)	40.0 (22.3)		--		
Plastic enclosure outside near T101								
		33.3	34.8	34.8		48		
Ambient (actual temp.)								
		25.0 (23.2)	25.0 (22.2)	25.0 (22.3)		--		
Supplementary information:								
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:								
Note 1: Tma should be considered as directed by applicable requirement								
Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)								
Note 3: The temperatures were measured under the worse case normal mode defined in the table B.2.5.								
Note 4: All USB 3.0 output circuit with same design therefore consider with same test result.								

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10.3	TABLE: Ball pressure test of thermoplastics		P
Allowed impression diameter (mm) : ≤ 2 mm			—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)
Primary connector / Plastic	See appended table 4.1.2	125	1.4
Supplementary information:			

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz) ¹	Required cl (mm)	cl (mm) ²	Required ³ cr (mm)	cr (mm)
Functional							
Line trace to Neutral trace before fuse	420	250	--	2.3 ¹	6.3	2.5	6.3
Under Fuse (F101)			--		22.5		22.5
Basic/supplementary							
Primary component (with 10N) or trace to earthed component (with 10N) or trace	420	250	--	2.3 ¹	See below	2.5	See below
Under CY101, CY102			--		6.4		6.4
HS1 body to metal chassis			--		6.6		6.6
Reinforced:							
Primary trace to secondary component or trace	420	250	--	4.5 ¹	See below	5.0	See below
Under CY103			--		7.8		7.8
Under CY105			--		7.6		7.6
Under U105, U106			--		7.6		7.6
Under U102, U107			--		7.8		7.8
Under U104			--		7.6		7.6
Under T101	470	250	66	4.5 ¹	19.3	5.0	19.3
Under T102	610	338	68	4.5 ¹	9.4	6.8	9.4
Supplementary information:							
Note 1: Only for frequency above 30 kHz							
Note 2: See table 5.4.2.4 if this is based on electric strength test							
Note 3: Provide Material Group							
1. The required clearances multiplied by 1.48 considering that EUT operates up to 5000 m.							
2. For clearance and creepage did not describe above are far larger than limit above.							
3. All internal wires are located by mechanical fixings to keep distance.							
4. Glued component: C101							

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)
1)		2500	4.5 (3.0*1.48)
			Measured cl (mm)
1)			1)
Supplementary information:			
1) See table 5.4.2.2, 5.4.2.4 and 5.4.3 for measurements.			

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:				

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements					P
Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)	
Optocouplers (U102, U104, U105, U106, U107) (reinforced insulation)	420	--	See appended table 4.1.2	0.4	0.4	
Insulation tape (For Transformer) (reinforced insulation)	610	68	See appended table 4.1.2	2 layers	2 layers	
Bobbin (For Transformer) (reinforced insulation)	610	68	See appended table 4.1.2	0.4	0.4	
Supplementary information:						
1) See table 4.1.2						
2) According to clause 5.4.4.9:						
For <u>Insulation tape</u> , alternate method is used:						
Kr=0.46, Vpw=610Vp. Required electric strength test voltage: $1.2 \times 2 \times 610 / 0.46 = 3183 \text{Vpeak}$						
For <u>Bobbin</u> , alternate method is used:						
Kr=0.35, Vpw=610Vp. Required electric strength test voltage: $1.2 \times 2 \times 610 / 0.35 = 4183 \text{Vpeak}$						
For <u>Optocouplers</u> , alternate method is used:						
Kr=0.35, Vpw=420Vp. Required electric strength test voltage: $1.2 \times 2 \times 420 / 0.35 = 2880 \text{Vpeak}$						

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No

IEC 62368-1				
Clause	Requirement + Test		Result - Remark	Verdict
5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Functional:				
--		--	--	--
Basic/supplementary:				
Unit: primary to earth		DC	2500	No
T101: primary to core		DC	2500	No
T101: Secondary to core		DC	2500	No
Bobbin (thickness 0.4mm)		AC	4183Vpk	No
Reinforced:				
Unit: primary and secondary		DC	4000	No
T101: primary to secondary		DC	4000	No
T102: primary to secondary		DC	4000	No
T102: secondary to core		DC	4000	No
Insulation tape		DC	4000	No
Routine Tests:				
--		--	--	--
Supplementary information:				
1. By applying an d.c. voltage in one polarity and then repeat it in reverse polarity.				
2. See supplementary information of appended table 5.4.4.9.				
3. All testing including after Humidity required of clause 5.4.8, there are including unit, transformer and material of transformer, see appended table 4.1.2.				
4. the sources which were performed in this test are refer to appended table 4.1.2				

5.5.2.2	TABLE: Stored discharge on capacitors					P
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification	
264, 60	Phase to Neutral	N	--	4.166	ES1	
264, 60	Phase to Neutral	S (R122 open)	--	12.5	ES1	
264, 60	Phase to Neutral	S (R122A open)	--	12.5	ES1	

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Supplementary information: X-capacitors installed for testing are: CX101=CX102=0.33μF ☒ bleeding resistor rating: 1) R122=R122A=R123=R123A=2.2MΩ ☐ ICX: Notes: A. Test Location: Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth B. Operating condition abbreviations: N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition			

5.6.6.2	TABLE: Resistance of protective conductors and terminations				P
Accessible part	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
AC inlet earth pin to Metal enclosure	32	2	0.160	0.005	
AC inlet earth pin to Metal enclosure	40	2	0.160	0.004	
Trace (earth screw) to CY101 earth	32	2	0.256	0.008	
Trace (earth screw) to CY101 earth	40	2	0.280	0.007	
Trace (earth screw) to CY102 earth	32	2	0.192	0.006	
Trace (earth screw) to CY102 earth	40	2	0.200	0.005	
Supplementary information:					

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		P
Supply voltage		—	
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)	
Earthed accessible part to earth	1	Max. 0.40	
	2*	--	
	3	--	
	4	--	
	5	--	
	6	--	
	8	--	
Supplementary Information:			
Notes:			
[1] Supply voltage is the anticipated maximum Touch Voltage			

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

- [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.

6.2.2	Table: Electrical power sources (PS) measurements for classification				N/A
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s ^{*)}	PS Classification
A		Power (W) :			
		V _A (V) :			
		I _A (A) :			
B		Power (W) :			
		V _A (V) :			
		I _A (A) :			
C		Power (W) :			
		V _A (V) :			
		I _A (A) :			
D		Power (W) :			
		V _A (V) :			
		I _A (A) :			

Supplementary Information:

(*) Measurement taken only when limits at 3 seconds exceed PS1 limits

All circuits within the equipment are considered as PS3. For all output of power board see appended table Q.1.

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)			N/A
Location	Open circuit voltage After 3 s (V _p)	Measured r.m.s current (I _{rms})	Calculated value (V _p × I _{rms})	Arcing PIS? Yes / No

Supplementary information:

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.

All components in the equipment are considered as arcing PIS.

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)			N/A
---------	--	--	--	-----

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
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: A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter. If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification. A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.					

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

B.2.5	TABLE: Input test						P
U (V/Hz)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
Type-C mode							
90/50	0.79	--	70.4	--	F101	0.79	1)
90/60	0.79	--	70.4	--	F101	0.79	1)
100/50	0.71	1.5	69.9	--	F101	0.71	1)
100/60	0.71	1.5	69.9	--	F101	0.71	1)
240/50	0.32	0.73	68.8	--	F101	0.32	1)
240/60	0.32	0.73	68.8	--	F101	0.32	1)

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
264/50	0.30	--	68.6	--	F101	0.30	1)
264/60	0.30	--	68.6	--	F101	0.30	1)
Type-C load 5V/3A							
HDMI Mode							
90/50	1.03	--	92.4	--	F101	1.03	1)
90/60	1.03	--	92.4	--	F101	1.03	1)
100/50	0.92	1.5	91.5	--	F101	0.92	1)
100/60	0.92	1.5	91.5	--	F101	0.92	1)
240/50	0.40	0.73	88.6	--	F101	0.40	1)
240/60	0.40	0.73	88.6	--	F101	0.40	1)
264/50	0.37	--	88.5	--	F101	0.37	1)
264/60	0.37	--	88.5	--	F101	0.37	1)
Type-C load 9V/3A							
HDMI Mode							
90/50	1.08	--	96.8	--	F101	1.08	1)
90/60	1.08	--	96.8	--	F101	1.08	1)
100/50	0.97	1.5	96.3	--	F101	0.97	1)
100/60	0.97	1.5	96.3	--	F101	0.97	1)
240/50	0.43	0.73	96.0	--	F101	0.43	1)
240/60	0.43	0.73	96.0	--	F101	0.43	1)
264/50	0.39	--	95.6	--	F101	0.39	1)
264/60	0.39	--	95.6	--	F101	0.39	1)
Type-C load 12V/2.1A							
HDMI Mode							
90/50	1.04	--	93.4	--	F101	1.04	1)
90/60	1.04	--	93.4	--	F101	1.04	1)
100/50	0.93	1.5	92.8	--	F101	0.93	1)
100/60	0.93	1.5	92.8	--	F101	0.93	1)
240/50	0.41	0.73	92.3	--	F101	0.41	1)
240/60	0.41	0.73	92.3	--	F101	0.41	1)
264/50	0.38	--	92.1	--	F101	0.38	1)
264/60	0.38	--	92.1	--	F101	0.38	1)
Type-C load 15V/2A							
HDMI Mode							
90/50	1.18	--	105.3	--	F101	1.18	1)

IEC 62368-1							
Clause	Requirement + Test				Result - Remark		Verdict
90/60	1.18	--	105.3	--	F101	1.18	1)
100/50	1.06	1.5	104.9	--	F101	1.06	1)
100/60	1.06	1.5	104.9	--	F101	1.06	1)
240/50	0.46	0.73	104.1	--	F101	0.46	1)
240/60	0.46	0.73	104.1	--	F101	0.46	1)
264/50	0.42	--	103.8	--	F101	0.42	1)
264/60	0.42	--	103.8	--	F101	0.42	1)
Type-C load 20V/1.5A							
HDMI Mode							
90/50	1.18	--	105.5	--	F101	1.18	1)
90/60	1.18	--	105.5	--	F101	1.18	1)
100/50	1.06	1.5	105.1	--	F101	1.06	1)
100/60	1.06	1.5	105.1	--	F101	1.06	1)
240/50	0.46	0.73	104.3	--	F101	0.46	1)
240/60	0.46	0.73	104.3	--	F101	0.46	1)
264/50	0.42	--	104.1	--	F101	0.42	1)
264/60	0.42	--	104.1	--	F101	0.42	1)
Mini Display Mode							
90/50	1.15	--	103.1	--	F101	1.15	1)
90/60	1.15	--	103.1	--	F101	1.15	1)
100/50	1.04	1.5	102.5	--	F101	1.04	1)
100/60	1.04	1.5	102.5	--	F101	1.04	1)
240/50	0.44	0.73	101.8	--	F101	0.44	1)
240/60	0.44	0.73	101.8	--	F101	0.44	1)
264/50	0.41	--	101.4	--	F101	0.41	1)
264/60	0.41	--	101.4	--	F101	0.41	1)
Display Mode							
90/50	0.77	--	68.8	--	F101	0.77	1)
90/60	0.77	--	68.8	--	F101	0.77	1)
100/50	0.70	1.5	68.4	--	F101	0.70	1)
100/60	0.70	1.5	68.4	--	F101	0.70	1)
240/50	0.32	0.73	67.4	--	F101	0.32	1)
240/60	0.32	0.73	67.4	--	F101	0.32	1)
264/50	0.30	--	67.2	--	F101	0.30	1)
264/60	0.30	--	67.2	--	F101	0.30	1)

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

Supplementary information:

1) See summary of testing in the test report for the detail maximum normal load.

B.3		TABLE: Abnormal operating condition tests						P
Ambient temperature (°C)					40 °C, Max. operated temp.			—
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
T101 after D201,D202	Overload	240	5.3hrs	F101	0.94	--	T101 coil =92.3°C, T101 core =80.4°C, T102 coil =73.6°C, T102 core =69.1°C, ambient=22.5°C	Temperature is stabled at output overload condition 5.5 A, then unit shutdown when increase to 5.7 A. No damage, NB, NC, NT, ASRE.
T102 after D203	Overload	240	2.6hrs	F101	0.46	--	T101 coil =62.8°C, T101 core =62.4°C, T102 coil =92.8°C, T102 core =85.4°C, ambient=21.6°C	Temperature is stabled at output overload condition 2.0 A, then unit shutdown when increase to 2.1 A. No damage, NB, NC, NT, ASRE.
Openings	Blocked	240	1.5hrs	F101	0.37	--	3)	Unit normal operation, NB, NC, NT, ASRE.
24V output	short	240	10 min	F101	0.06	--	--	Unit shutdown, no damage, NB, NC, NT, ASRE.
5.2V output	short	240	10 min	F101	0.06	--	--	Unit shutdown, no damage, NB, NC, NT, ASRE.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
VLED output	short	240	10 min	F101	0.06	--	--	Unit shutdown, no damage, NB, NC, NT, ASRE.
24V output	Overload	240	4.0hrs	F101	0.91	--	--	Temperature is stabled at output overload condition 5.5 A, then unit shutdown when increase to 5.7 A. No damage, NB, NC, NT, ASRE.
VLED output	Overload	240	4.0hrs	F101	0.91	--	--	Temperature is stabled at output overload condition 5.5 A, then unit shutdown when increase to 5.7 A. No damage, NB, NC, NT, ASRE.
5.2V output	Overload	240	3.6hrs	F101	0.44	--	--	Temperature is stabled at output overload condition 1.9 A, then unit shutdown when increase to 2.0 A. No damage, NB, NC, NT, ASRE.
USB 3.0	Overload	240	2.6hrs	F101	0.38	--	--	Temperature is stabled at output overload condition 1.3 A, then unit shutdown when increase to 1.4 A. No damage, NB, NC, NT, ASRE.

IEC 62368-1								
Clause	Requirement + Test					Result - Remark		Verdict
USB 2.0	Overload	240	3.3hrs	F101	0.35	--	--	Temperature is stabled at output overload condition 0.7 A, then unit shutdown when increase to 0.8 A. No damage, NB, NC, NT, ASRE.
Display port	Overload	240	2.9hrs	F101	0.37	--	--	Temperature is stabled at output overload condition 0.8 A, then unit shutdown when increase to 0.9 A. No damage, NB, NC, NT, ASRE.
Mini Display port	Overload	240	2.6hrs	F101	0.36	--	--	Temperature is stabled at output overload condition 0.5 A, then unit shutdown when increase to 0.6 A. No damage, NB, NC, NT, ASRE.
USB type C port (20V)	Overload	240	2.6hrs	F101	0.36	--	--	Temperature is stabled at output overload condition 1.8 A, then unit shutdown when increase to 1.9 A. No damage, NB, NC, NT, ASRE.

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

Supplementary information:

- 1) 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.
- 2) Results Key:
 IP = Internal protection operated (Component indicated); CT = Constant temperatures were obtained;
 TW = Transformer winding opened; CD = Components damaged (damaged components indicated);
 NB = No indication of dielectric breakdown; YB = Dielectric breakdown (time and location indicated);
 NC = Cheesecloth remained intact; YC = Cheesecloth charred or flamed;
 NT = Tissue paper remained intact; YT = Tissue paper charred or flamed.
 TC = Touch Current measured; ASRE = All safeguards remained effectively.
- 3) All temperature measurement refer to appended table 5.4.1.4
- 4) All ES measurement refer to table 5.2

B.4		TABLE: Fault condition tests							P
Ambient temperature (°C)					25 °C, if nothing else specified.				—
Power source for EUT: Manufacturer, model/type, output rating .:					--				—
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation	
For power board									
BD101 Pin 1-4	Short	240Vac	1Sec	F101	--	--	--	F101 opened immediately, NB, NC, NT, ASRE.	
C101	Short	240Vac	1Sec	F101	--	--	--	F101 opened immediately, NB, NC, NT, ASRE.	
U101 Pin 15-18	Short	240Vac	10mins	F101	0.06	--	--	Unit shutdown, NB, NC, NT, ASRE.	
Q102 Pin G-S	Short	240Vac	10mins	F101	0.06	--	--	Unit shutdown, NB, NC, NT, ASRE.	
Q102 Pin G-D	Short	240Vac	1Sec	F101	--	--	--	F101 opened immediately, NB, NC, NT, ASRE.	
Q102 Pin D-S	Short	240Vac	1Sec	F101	--	--	--	F101 opened immediately, NB, NC, NT, ASRE.	
Q101 Pin G-S	Short	240Vac	10mins	F101	0.06	--	--	Unit shutdown, NB, NC, NT, ASRE.	

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Q101 Pin G-D	Short	240Vac	1Sec	F101	--	--	--	F101 opened immediately, NB, NC, NT, ASRE.
Q101 Pin D-S	Short	240Vac	1Sec	F101	--	--	--	F101 opened immediately, NB, NC, NT, ASRE.
Q103 Pin G-S	Short	240Vac	10mins	F101	0.06	--	--	Unit shutdown, NB, NC, NT, ASRE.
Q103 Pin G-D	Short	240Vac	1Sec	F101	--	--	--	F101 opened immediately, NB, NC, NT, ASRE.
Q103 Pin D-S	Short	240Vac	1Sec	F101	--	--	--	F101 opened immediately, NB, NC, NT, ASRE.
U103 Pin 2-8	Short	240Vac	1Sec	F101	--	--	--	F101 opened immediately, CD (U103), NB, NC, NT, ASRE.
Q106 Pin G-S	Short	240Vac	10mins	F101	0.06	--	--	Unit shutdown, NB, NC, NT, ASRE.
Q106 Pin G-D	Short	240Vac	1Sec	F101	--	--	--	F101 opened immediately, NB, NC, NT, ASRE.
Q106 Pin D-S	Short	240Vac	1Sec	F101	--	--	--	F101 opened immediately, NB, NC, NT, ASRE.
U102 Pin 1-2	Short	240Vac	10mins	F101	0.09	--	--	Unit shutdown, NB, NC, NT, ASRE.
U102 Pin 3-4	Short	240Vac	10mins	F101	0.09	--	--	Unit shutdown, NB, NC, NT, ASRE.
U102 Pin 1	Open	240Vac	10mins	F101	0.09	--	--	Unit shutdown, NB, NC, NT, ASRE.
U104 Pin 1-2	Short	240Vac	10mins	F101	0.09	--	--	Unit shutdown, NB, NC, NT, ASRE.
U104 Pin 3-4	Short	240Vac	10mins	F101	1.03	--	--	Unit normal operation, NB, NC, NT, ASRE.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
U104 Pin 1	Open	240Vac	10mins	F101	0.09	--	--	Unit shutdown, NB, NC, NT, ASRE.
U105 Pin 1-2	Short	240Vac	10mins	F101	0.06	--	--	Unit shutdown, NB, NC, NT, ASRE.
U105 Pin 3-4	Short	240Vac	10mins	F101	0.06	--	--	Unit shutdown, NB, NC, NT, ASRE.
U105 Pin 1	Open	240Vac	10mins	F101	0.06	--	--	Unit shutdown, NB, NC, NT, ASRE.
U106 Pin 1-2	Short	240Vac	10mins	F101	1.03	--	--	Unit normal operation, NB, NC, NT, ASRE.
U106 Pin 3-4	Short	240Vac	10mins	F101	0.06	--	--	Unit shutdown, NB, NC, NT, ASRE.
U106 Pin 1	Open	240Vac	10mins	F101	1.03	--	--	Unit normal operation, NB, NC, NT, ASRE.
U107 Pin 1-2	Short	240Vac	10mins	F101	1.03	--	--	Unit normal operation, NB, NC, NT, ASRE.
U107 Pin 3-4	Short	240Vac	10mins	F101	0.06	--	--	Unit shutdown, NB, NC, NT, ASRE.
U107 Pin 1	Open	240Vac	10mins	F101	1.03	--	--	Unit normal operation, NB, NC, NT, ASRE.
T101 Pin 1, 2-4, 5	Short	240Vac	10mins	F101	0.08	--	--	Unit shutdown, NB, NC, NT, ASRE.
T101 Pin 7, 8-9, 10	Short	240Vac	10mins	F101	0.08	--	--	Unit shutdown, NB, NC, NT, ASRE.
T101 Pin 9, 10- 11, 12	Short	240Vac	10mins	F101	0.08	--	--	Unit shutdown, NB, NC, NT, ASRE.
T102 Pin 2-3	Short	240Vac	10mins	F101	0.06	--	--	Unit shutdown, NB, NC, NT, ASRE.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
T102 Pin 6-9	Short	240Vac	10mins	F101	0.06	--	--	Unit shutdown, NB, NC, NT, ASRE.
D201	Short	240Vac	10mins	F101	0.08	--	--	Unit shutdown, NB, NC, NT, ASRE.
D202	Short	240Vac	10mins	F101	0.08	--	--	Unit shutdown, NB, NC, NT, ASRE.
For LED driver board								
P902 pin 1 - metal chassis	Short	240Vac	10mins	F101	0.08	--	--	Unit shutdown, NB, NC, NT, ASRE.
P903 pin 1 - secondary connector	Short	240Vac	10mins	F101	0.08	--	--	Unit shutdown, NB, NC, NT, ASRE.
Supplementary information:								
1) Results Key: IP = Internal protection operated (Component indicated); CT = Constant temperatures were obtained; TW = Transformer winding opened; CD = Components damaged (damaged components indicated); NB = No indication of dielectric breakdown; YB = Dielectric breakdown (time and location indicated); NC = Cheesecloth remained intact; YC = Cheesecloth charred or flamed; NT = Tissue paper remained intact; YT = Tissue paper charred or flamed. TV = Touch voltage measured; ASRE = All safeguards remained effectively. 2) All temperature measurement refer to appended table 5.4.1.4 3) All ES measurement refer to table 5.2								

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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
- Explosion of the battery			
- Emission of flame or expulsion of molten metal			
- Electric strength tests of equipment after completion of tests			
Supplementary information:			

Annex M.4	Table: Additional safeguards for equipment containing secondary lithium batteries				N/A
Battery/Cell No.	Test conditions	Measurements			Observation
		U	I (A)	Temp (C)	
	Normal				
	Abnormal				
	Single fault –SC/OC				
	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)					P
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
According to table 2B, for HDMI(CN501)						
Pin 3, 4, 6, 7, 9, 10,12	Normal	3.25	0	8.0	0	100
Pin 12	Normal	2.85	0	8.0	0	100
Pin 15,16	Normal	4.58	0	8.0	0	100
Other Pins	Normal	0	--	8.0	--	100
According to table 2B, for HDMI(CN502)						
Pin 3, 4, 6, 7, 9, 10,12	Normal	3.26	0	8.0	0	100
Pin 12	Normal	2.88	0	8.0	0	100

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
Pin 15,16	Normal	4.59	0	8.0	0	100
Other Pins	Normal	0	--	8.0	--	100
According to table 2B, for USB2.0(DN1)						
Pin 1	Normal	5.12	0.8	8.0	3.57	100
Pin 1	U706 Pin 1-5 Sc	5.12	3.0	8.0	11.2	100
Other Pins	Normal	0	--	8.0	--	100
According to table 2B, for USB3.0(CN7004)						
Pin 1	Normal	5.08	1.3	8.0	5.60	100
Pin 1	U704 Pin 1-5 Sc	5.08	7.0	8.0	13.4	100
Other Pins	Normal	0	--	8.0	--	100
According to table 2B, for USB3.0(CN7005)						
Pin 1	Normal	5.08	1.3	8.0	5.53	100
Pin 1	U7744 Pin1-5 Sc	5.03	7.0	8.0	13.4	100
Other Pins	Normal	0	--	8.0	--	100
According to table 2B, for USB3.0(CN7006)						
Pin 1	Normal	5.08	1.3	8.0	5.58	100
Pin 1	U7743 Pin1-5 Sc	5.03	7.0	8.0	13.4	100
Other Pins	Normal	0	--	8.0	--	100
According to table 2B, for Display port output (P311)						
Pin 17	Normal	2.47	--	8.0	--	100
Pin 20	Normal	3.26	0.8	8.0	2.11	100
Pin 20	U159 Pin1-5 Sc	0	--	8.0	--	100
Other Pins	Normal	0	--	8.0	--	100
According to table 2B, for Display port input (CN506)						
Pin 1, 4, 6, 7, 9, 12, 17, 18	Normal	2.21	--	8.0	--	100
Pin 3,15	Normal	3.1	--	8.0	--	100
Other Pins	Normal	0	--	8.0	--	100
According to table 2B, for Mini Display port input (CN507)						
Pin 18	Normal	2.89	--	8.0	--	100
Pin 20	Normal	3.16	0.5	8.0	1.64	100
Pin 20	U158 Pin 1-5 Sc	0	--	8.0	--	100
Other Pins	Normal	0	--	8.0	--	100
According to table 2B, for RJ-45 (JP504)						
All Pins	Normal	0	--	8.0	--	100

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
According to table 2B, for Type-B (CN7702)						
All Pins	Normal	0	--	8.0	--	100
According to table 2B, for Type-B (CN7701)						
All Pins	Normal	0	--	8.0	--	100
According to table 2B, for Type- C(CN1) 5V/3A						
Pin A4, A9, B4, B9	Normal	5.31	3.3	8.0	12.18	100
Pin A4, A9, B4, B9	Q2 Pin S1-S2 Sc	5.34	3.3	8.0	14.40	100
Other Pins	Normal	0	--	8.0	--	100
According to table 2B, for Type- C(CN1) 9V/3A						
Pin A4, A9, B4, B9	Normal	9.21	3.4	8.0	26.86	100
Pin A4, A9, B4, B9	Q2 Pin S1-S2 Sc	9.32	3.4	8.0	28.12	100
Other Pins	Normal	0	--	8.0	--	100
According to table 2B, for Type- C(CN1) 12V/2.1A						
Pin A4, A9, B4, B9	Normal	12.22	2.3	8.0	24.27	100
Pin A4, A9, B4, B9	Q2 Pin S1-S2 SC	12.29	3.3	8.0	37.34	100
Other Pins	Normal	0	--	8.0	--	100
According to table 2B, for Type- C(CN1) 15V/2A						
Pin A4, A9, B4, B9	Normal	15.03	2.2	8.0	31.35	100
Pin A4, A9, B4, B9	Q2 Pin S1-S2 SC	15.13	3.0	8.0	41.38	100
Other Pins	Normal	0	--	8.0	--	100
According to table 2B, for Type- C(CN1) 20V/1.5A						
Pin A4, A9, B4, B9	Normal	20.38	1.8	8.0	35.34	100
Pin A4, A9, B4, B9	Q2 Pin S1-S2 SC	20.41	3.0	8.0	58.40	100
Other Pins	Normal	0	--	8.0	--	100
Supplementary Information: SC=Short circuit, OC=Open circuit						

T.2, T.3, T.4, T.5	TABLE: Steady force test					P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Enclosure / Top	See appended table 4.1.2	See appended table 4.1.2	250N	5	¹⁾
Enclosure / Side	See appended table 4.1.2	See appended table 4.1.2	250N	5	¹⁾
Enclosure / Bottom	See appended table 4.1.2	See appended table 4.1.2	250N	5	¹⁾
Supplementary information:					
1) No cracking, class 3 energy sources did not become accessible and all safeguards remain effective, No indication of dielectric breakdown					

T.6, T.9	TABLE: Impact tests				P
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
Enclosure / Rear	See appended table 4.1.2	See appended table 4.1.2	1300	¹⁾	
Supplementary information:					
1) No cracking, class 3 energy sources did not become accessible and all safeguards remain effective, No indication of dielectric breakdown					

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

T.8	TABLE: Stress relief test				P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Unit	See appended table 4.1.2	See appended table 4.1.2	70	7	¹⁾
Supplementary information:					
1) No shrinkage, warpage, or other distortion, class 3 energy sources did not become accessible. All safeguards remain effective.					

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Manufacturer Testing Laboratory according to TMP/CTF stage 1 or WMT/CTF stage 2 procedure has been used.

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date

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																																									
Copyright © 2017 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.																																									
	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 border="1" style="width: 100%; border-collapse: collapse;"> <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																																				

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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
4.Z1	Add the following new subclause after 4.9: 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): 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; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for pluggable equipment type B or permanently connected equipment , to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.	Added.	N/A
5.4.2.3.2.4	Add the following to the end of this subclause: The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.	Added.	N/A
10.2.1	Add the following to ^{c)} and ^{d)} in table 39: For additional requirements, see 10.5.1.	Added.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	Add the following after the first paragraph: <i>For RS 1 compliance is checked by measurement under the following conditions:</i> <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> NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. <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> <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> <i>For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.</i> NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.	Added.	N/A
10.6.1	Add the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.	Added.	N/A
10.Z1	Add the following new subclause after 10.6.5. 10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566	Added.	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	Add the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.	Added.	N/A
Bibliography	Add the following standards: Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. 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.		P
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.1.15	Denmark, Finland, Norway and Sweden To the end of the subclause the following is added: Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord." In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"		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		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 the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.11.1 and Annex G	Finland and Sweden To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		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).		N/A
5.5.6	Finland, Norway and Sweden To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.		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.		N/A
5.7.5	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.1	Norway and Sweden To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.” Translation to Swedish: “Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”		N/A

Disclaimer: This document is controlled and has been released electronically.
Only the version on the IEC website is the current document version

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.2	Denmark To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A
B.3.1 and B.4	Ireland and United Kingdom The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met		N/A
G.4.2	Denmark To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a <i>Justification:</i> Heavy Current Regulations, Section 6c		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	United Kingdom To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
G.7.1	United Kingdom To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
G.7.1	Ireland 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		N/A
G.7.2	Ireland and United Kingdom To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm ² is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		P
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> German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de	No cathode ray tube is provided.	N/A

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
Copyright © 2015 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.	

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

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.	Considered.	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.		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.		N/A
4.8	Lithium coin / button cell batteries have modified special construction and performance requirements.		N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.5, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment		N/A
5.7.7	Equipment intended to receive telecommunication ringing signals complies with a special touch current measurement tests.		N/A

Disclaimer: This document is controlled and has been released electronically.
Only the version on the IECEE Website is the current document version

Clause	Requirement + Test	Result - Remark	Verdict
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.		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.		N/A
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.		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.		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.		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.		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.		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.		N/A
Annex M	Battery packs for stationary applications comply with special component requirements.		N/A
Annex DVA (1)	Equipment intended for use in spaces used for environmental air are subjected to special flammability requirements for heat and visible smoke release.		N/A
	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.		N/A

Clause	Requirement + Test	Result - Remark	Verdict
	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.		N/A
	Baby monitors additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
Annex DVA (5.6.3)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.		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.		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).		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).		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."		N/A
Annex DVA (F.3.3.5)	Equipment identified for ITE (computer) room installation is marked with the rated current		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		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.		N/A

Clause	Requirement + Test	Result - Remark	Verdict
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).		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.		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.		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).		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.		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.		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.		N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.		N/A

Clause	Requirement + Test	Result - Remark	Verdict
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. Components required to comply include: appliance couplers, attachment plugs, battery back-up systems, battery packs, circuit breakers, communication circuit accessories, connectors (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.	All components identified are either comply with IEC standards or relevant requirements of CSA and UL component standards.	P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.		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.		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.		N/A
Annex DVH (DVH.3.2)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		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.		N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.		N/A

Clause	Requirement + Test	Result - Remark	Verdict
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.		N/A

Enclosure

Type	Supplement ID	Description
Photographs	3-01	Overall front view
Photographs	3-02	Overall rear view
Photographs	3-03	Overall rear view (main board downward)
Photographs	3-04	Connector side view-1
Photographs	3-05	Connector side view-2
Photographs	3-06	Internal view -1
Photographs	3-07	Internal view -2
Photographs	3-08	Internal view -3
Photographs	3-09	Internal view -4
Photographs	3-10	Top view of power board
Photographs	3-11	Bottom view of power board
Photographs	3-12	Top view of main board
Photographs	3-13	Bottom view of main board
Photographs	3-14	Top view of LED driver board
Photographs	3-15	Bottom view of LED driver board
Photographs	3-16	stand base
Diagrams	4-01	Front bezel dimension
Diagrams	4-02	Rear enclosure dimension
Diagrams	4-03	Metal enclosure dimension
Diagrams	4-04	Feet pad dimension
Miscellaneous	6-01	Additional Table

Photographs 3-01



Photographs 3-02



Photographs 3-03



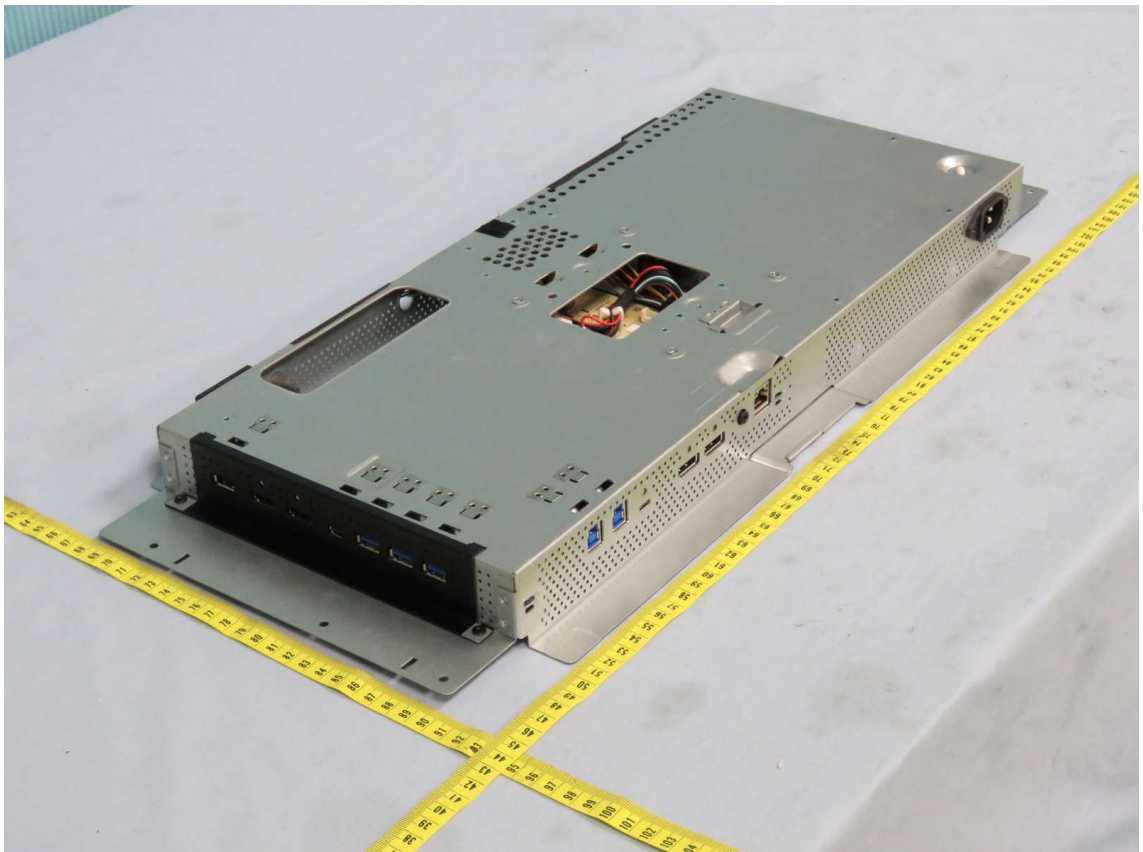
Photographs 3-04



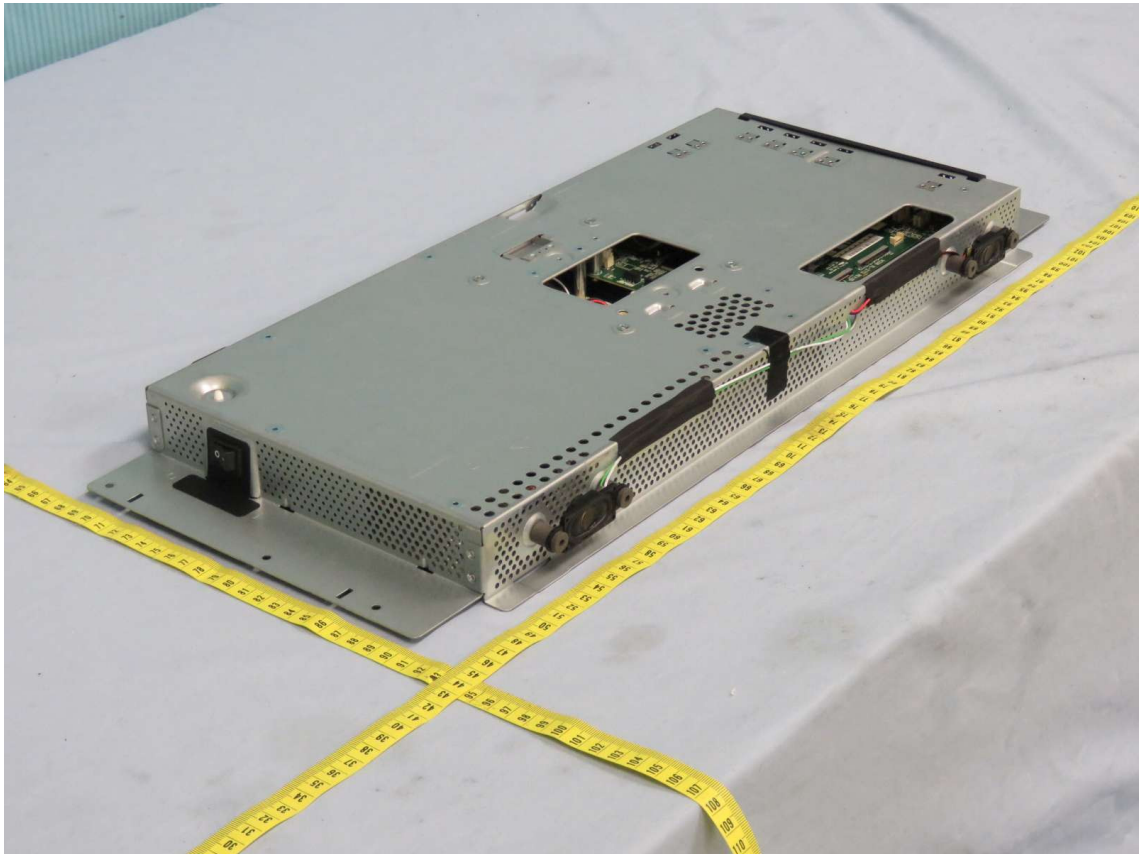
Photographs 3-05



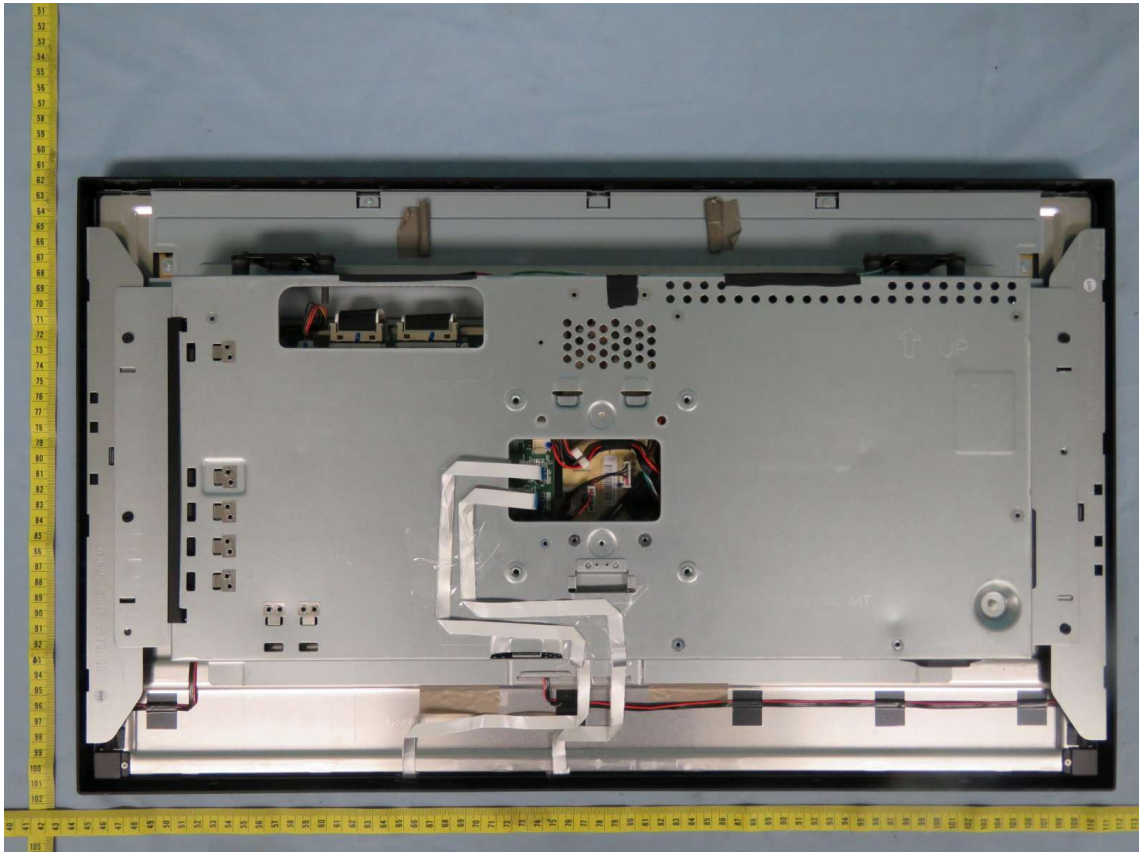
Photographs 3-06



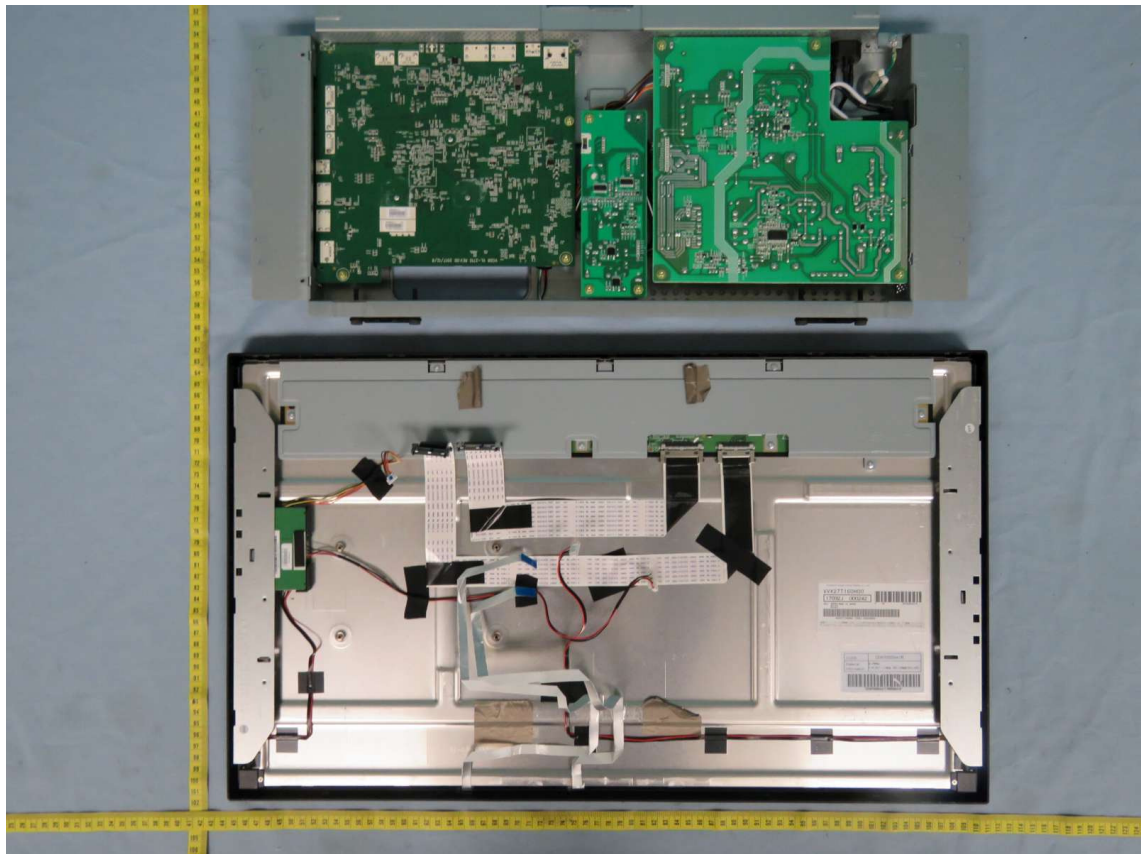
Photographs 3-07



Photographs 3-08



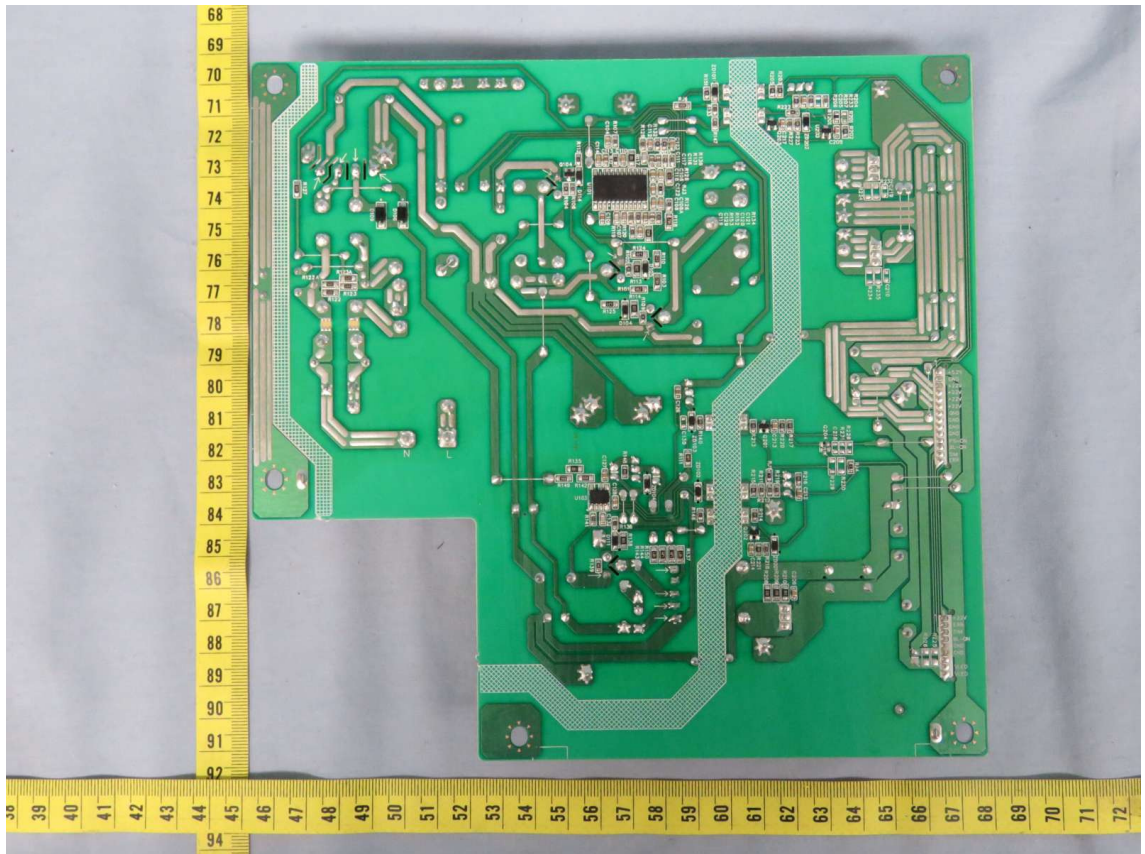
Photographs 3-09



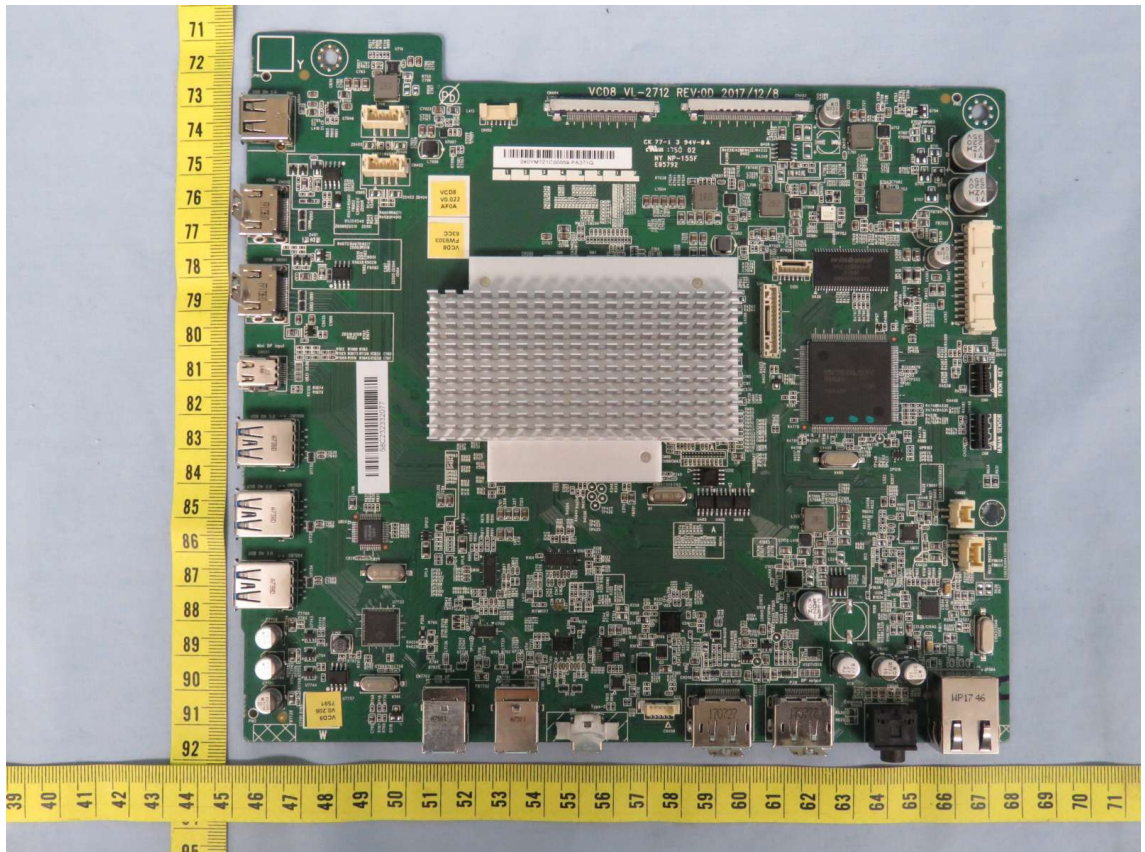
Photographs 3-10



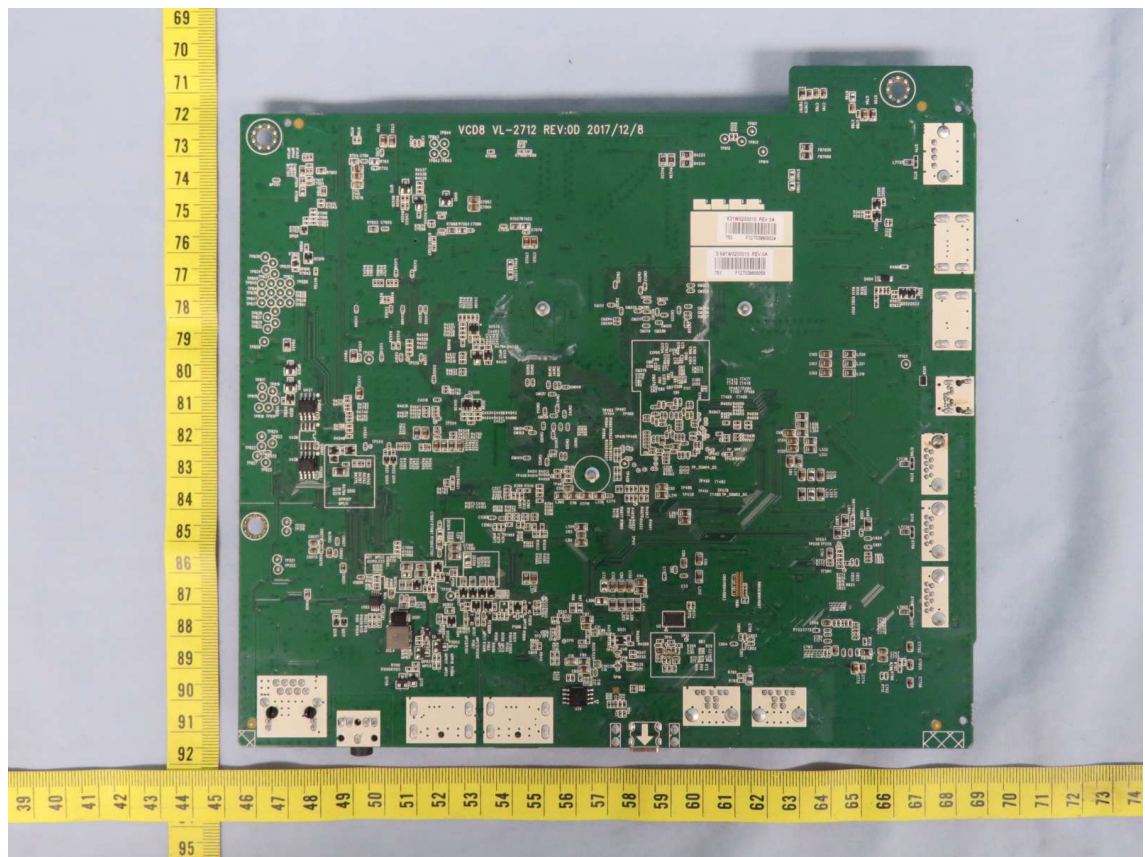
Photographs 3-11



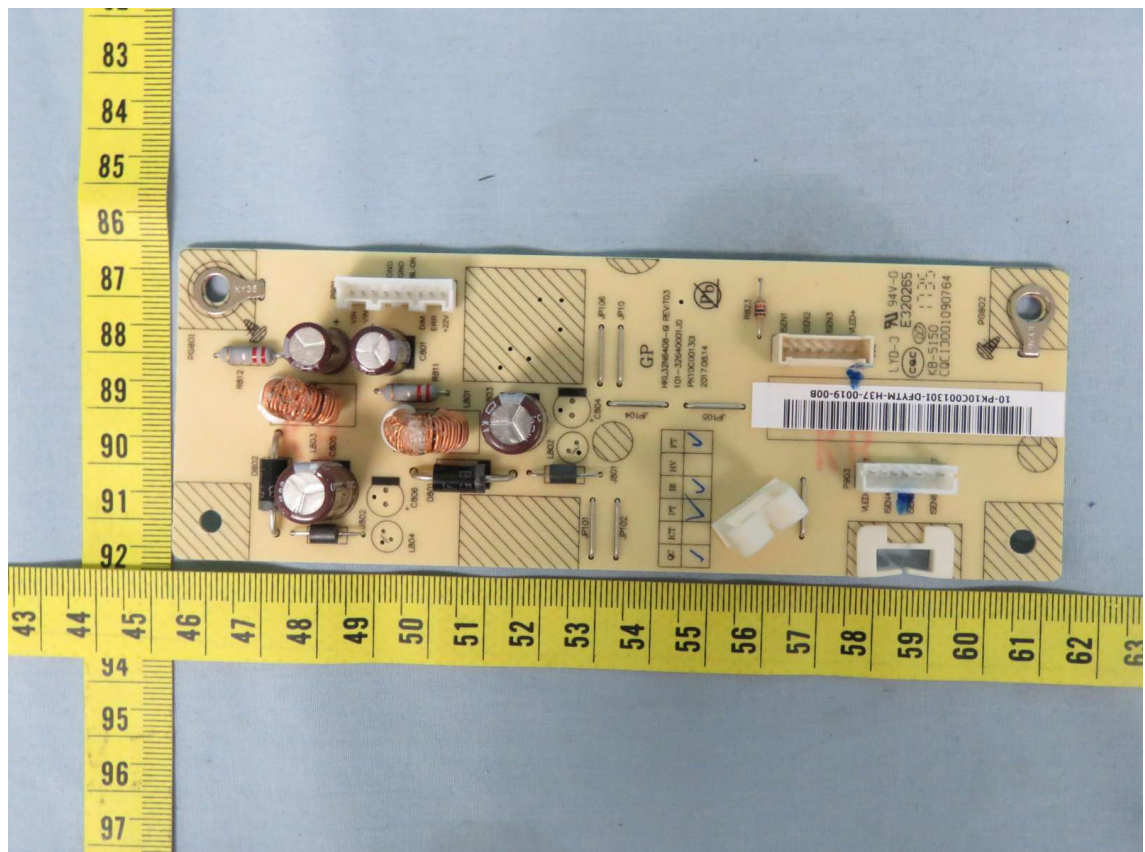
Photographs 3-12



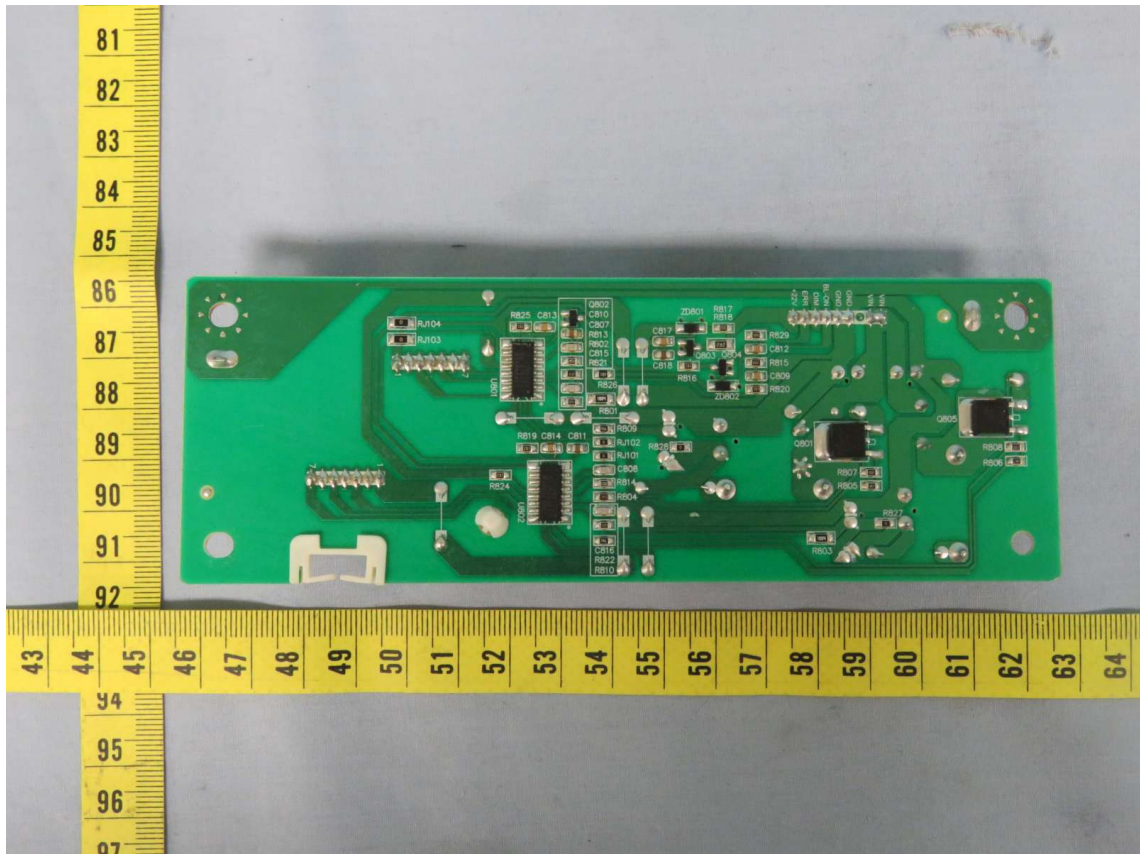
Photographs 3-13



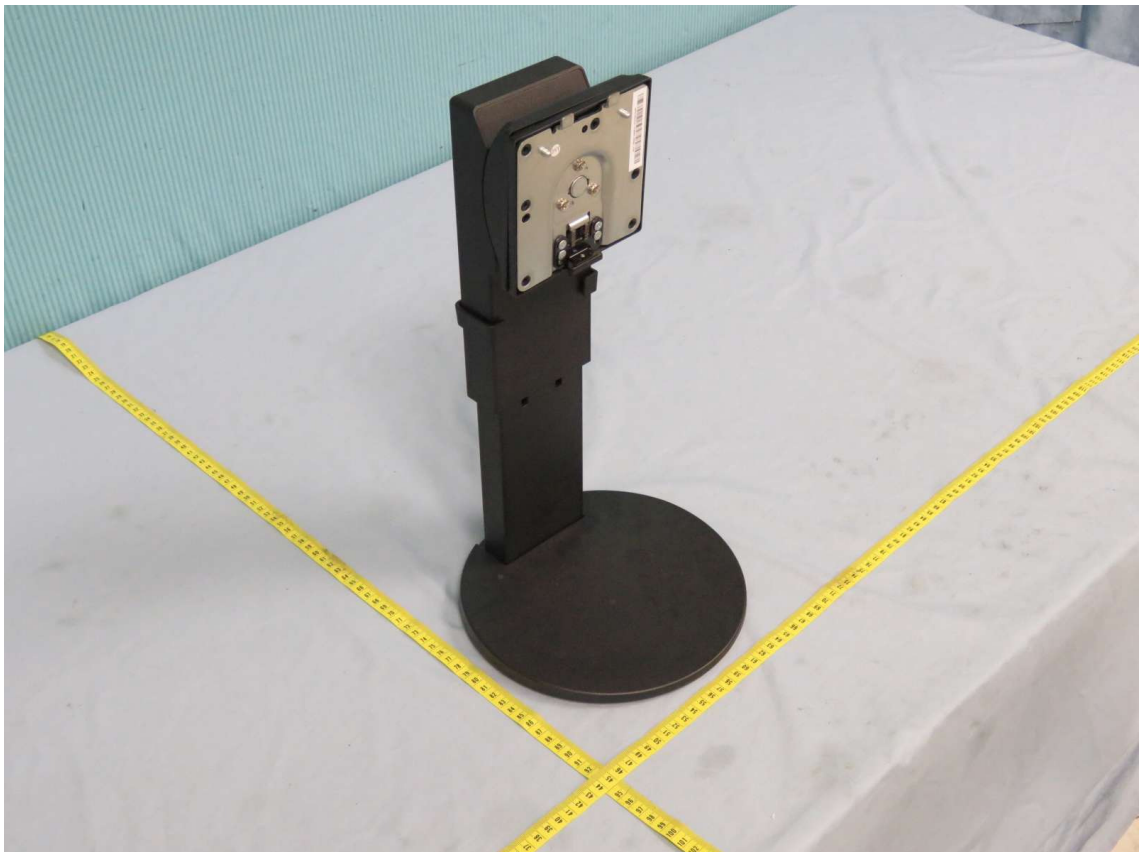
Photographs 3-14



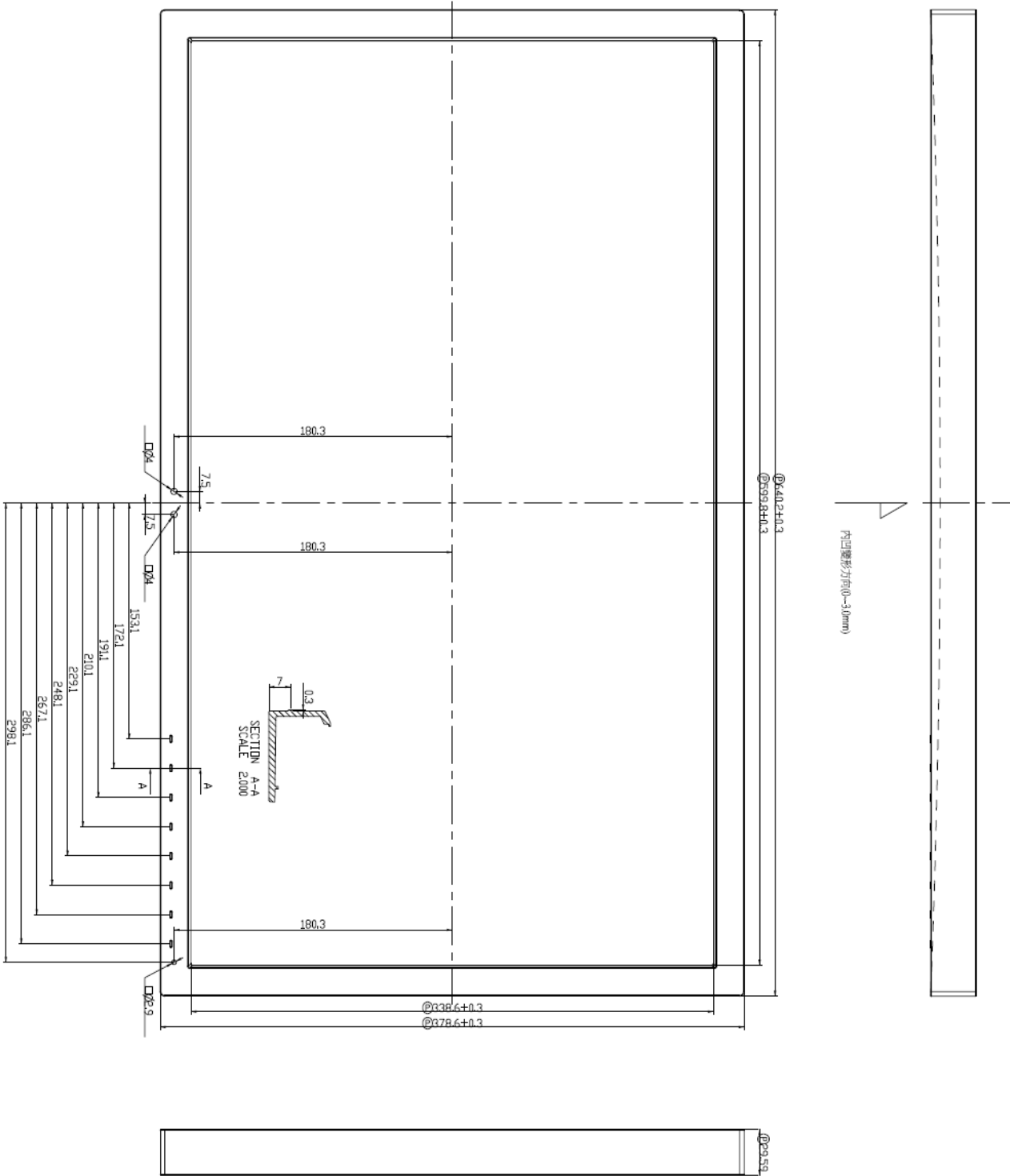
Photographs 3-15



Photographs 3-16



Diagrams 4-01



SECTION A-A

POSITION 7 positions for a one store building

SECTION B-B

POSITION 7 positions for a one store building

SECTION C-C

POSITION 7 positions for a one store building

SECTION D-D

POSITION 7 positions for a one store building

SECTION E-E

POSITION 7 positions for a one store building

SECTION F-F

POSITION 7 positions for a one store building

SECTION G-G

POSITION 7 positions for a one store building

SECTION H-H

POSITION 7 positions for a one store building

SECTION I-I

POSITION 7 positions for a one store building

SECTION J-J

POSITION 7 positions for a one store building

SECTION K-K

POSITION 7 positions for a one store building

SECTION L-L

POSITION 7 positions for a one store building

SECTION M-M

POSITION 7 positions for a one store building

SECTION N-N

POSITION 7 positions for a one store building

SECTION O-O

POSITION 7 positions for a one store building

SECTION P-P

POSITION 7 positions for a one store building

SECTION Q-Q

POSITION 7 positions for a one store building

SECTION R-R

POSITION 7 positions for a one store building

SECTION S-S

POSITION 7 positions for a one store building

SECTION T-T

POSITION 7 positions for a one store building

SECTION U-U

POSITION 7 positions for a one store building

SECTION V-V

POSITION 7 positions for a one store building

SECTION W-W

POSITION 7 positions for a one store building

SECTION X-X

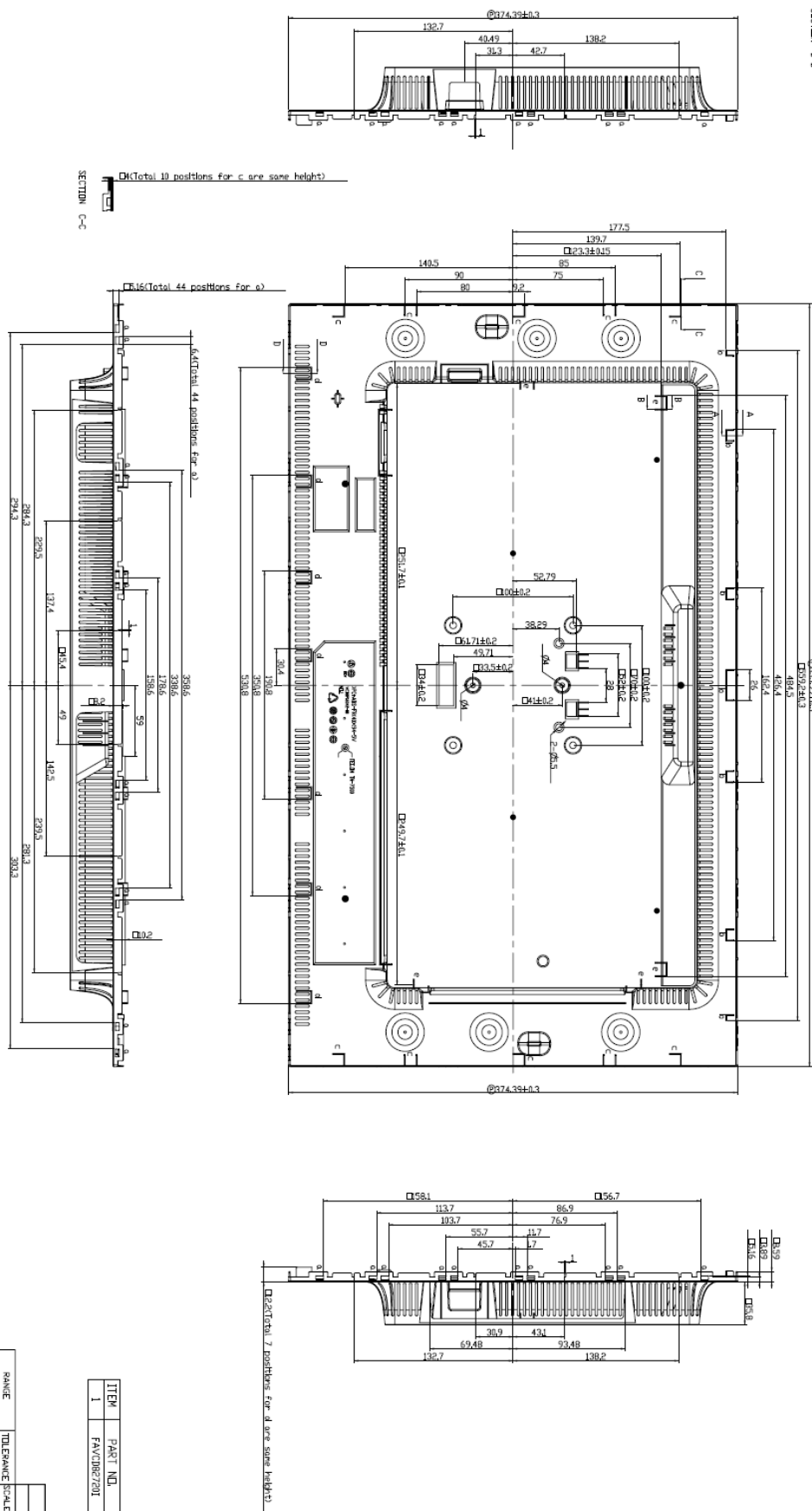
POSITION 7 positions for a one store building

SECTION Y-Y

POSITION 7 positions for a one store building

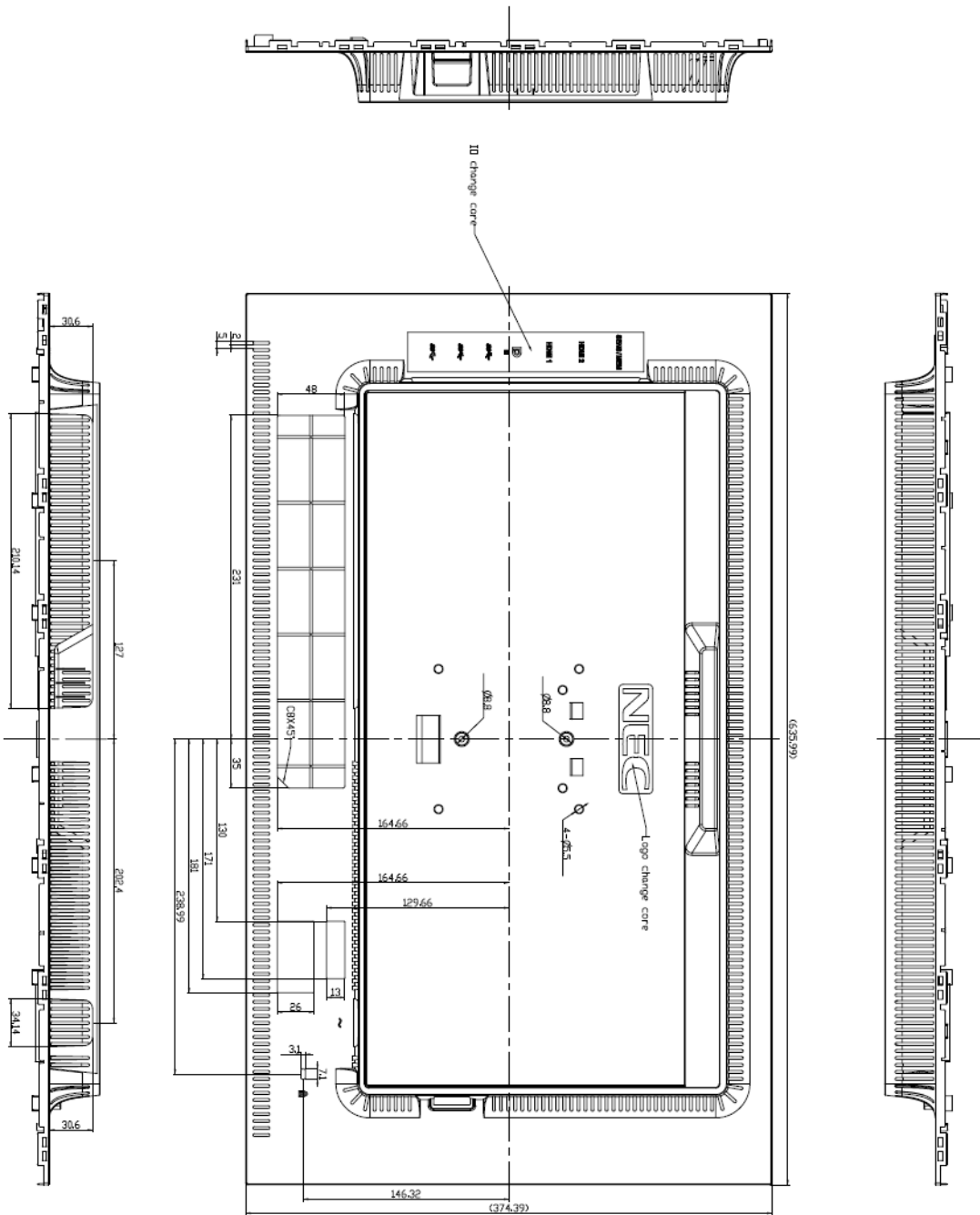
SECTION Z-Z

POSITION 7 positions for a one store building



	Color No.	ΔL	Δa	Δb	ΔE
BK	Pure Black				
	MB052	± 0.75	± 0.5	± 0.5	1.0

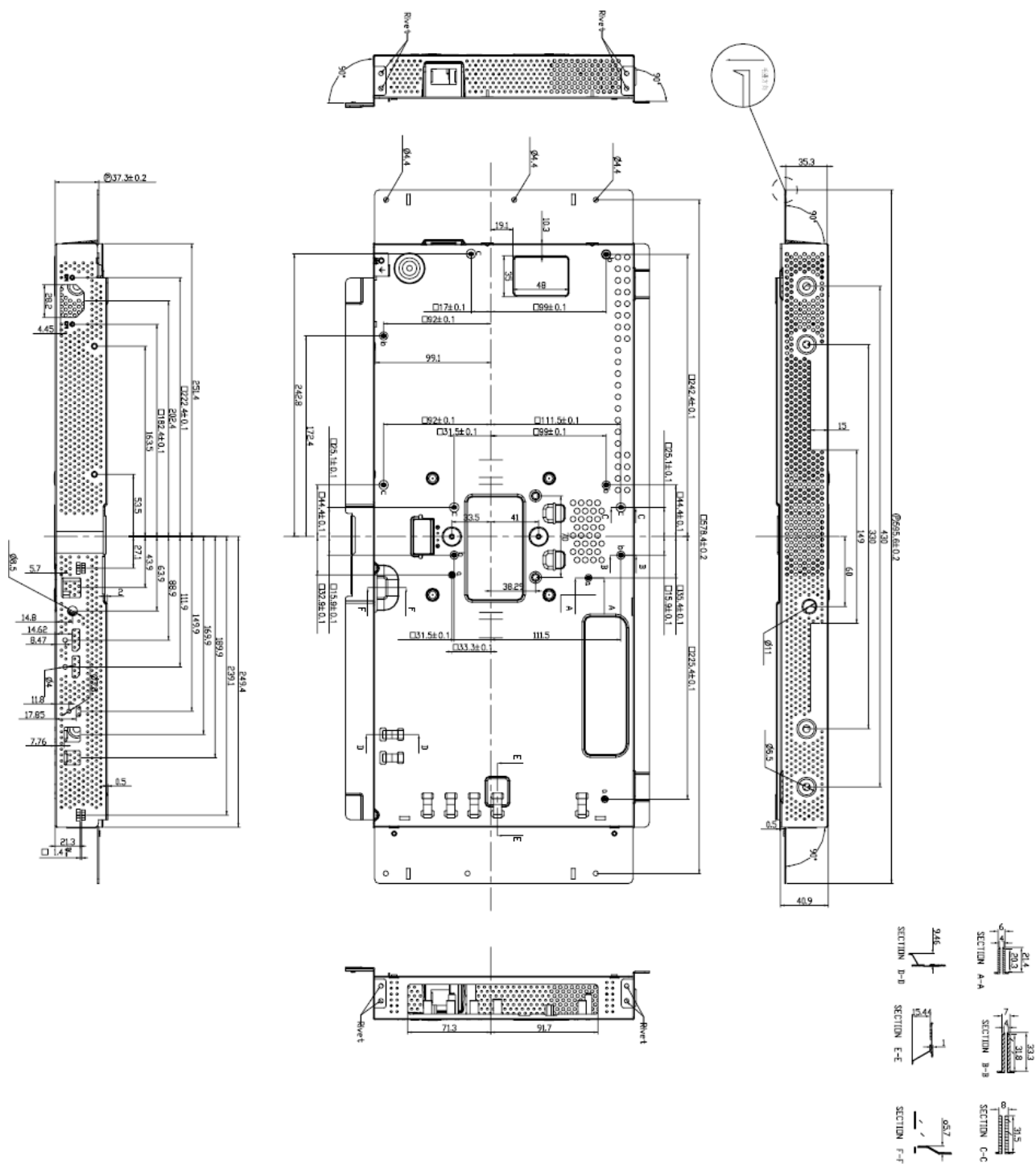
Diagrams 4-02



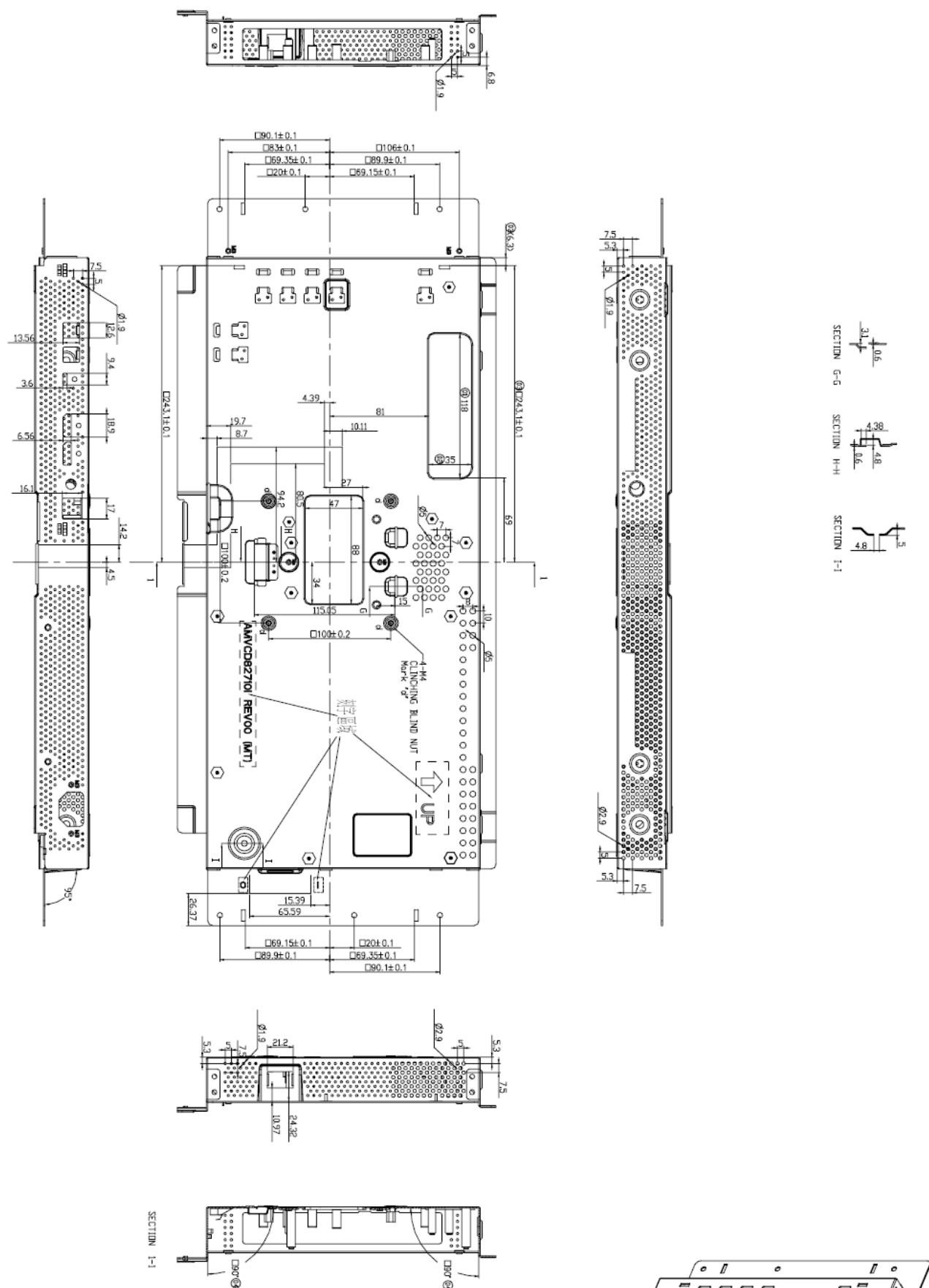
色差值及:

ITEM	PART N
1	FAVCRB2

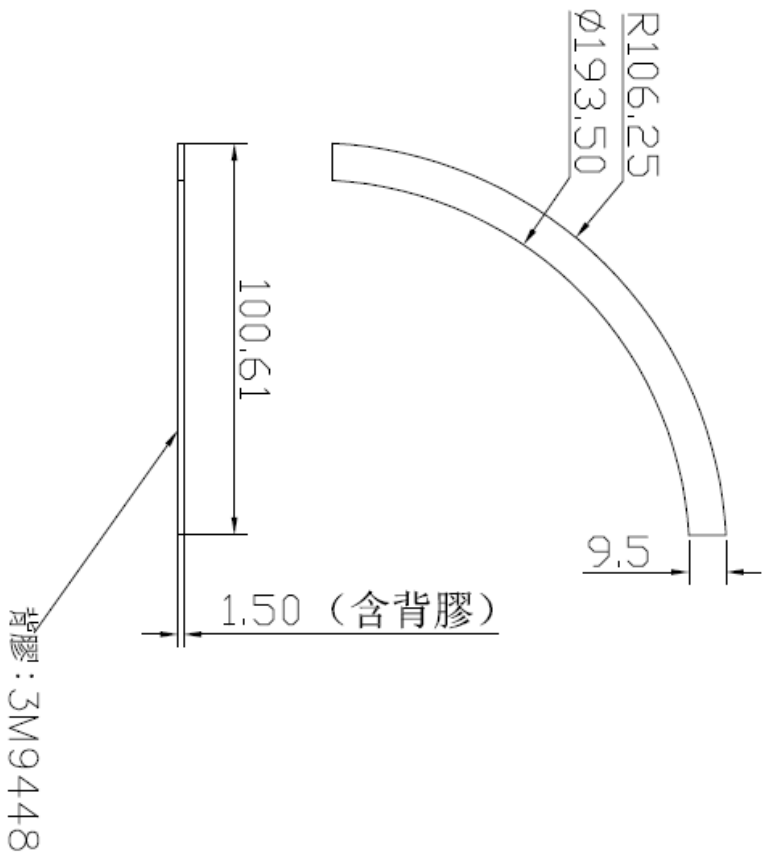
Diagrams 4-03



Diagrams 4-03



Diagrams 4-04



Miscellaneous 6-01

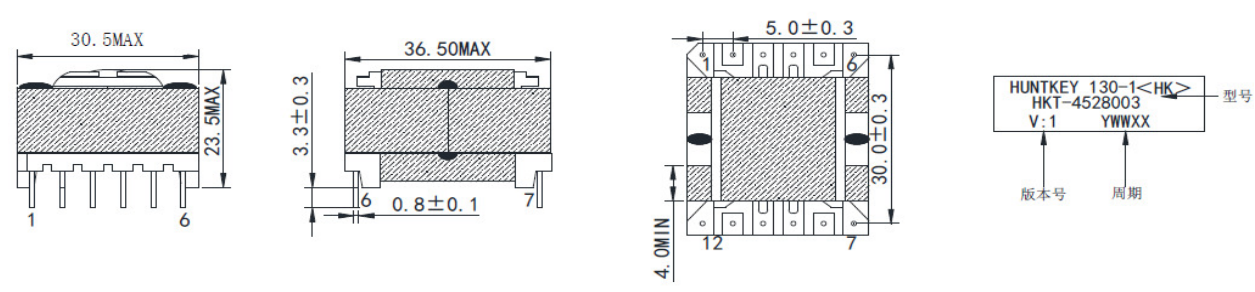
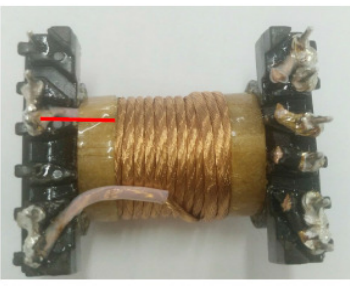
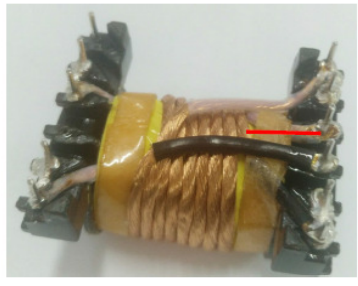
5.4.1.8	TABLE: Determination of working voltage			P
Test voltage / Frequency.....:		240Vac / 60Hz		
Location	Measured voltage/frequency			Comments
	RMS voltage (V)	Peak Voltage (V)	Hz	
T101 Pin 1,2 - 7,8	158	260	--	
T101 Pin 1,2 - 9,10	159	274	--	
T101 Pin 1,2 - 11,12	162	279	--	
T101 Pin 4,5 - 7,8	210	470	66K	Maximum voltage for T101
T101 Pin 4,5 - 9,10	202	450	--	
T101 Pin 4,5 - 11,12	193	430		
T102 Pin 1 - 6	167	340	--	
T102 Pin 1 - 9	168	348	--	
T102 Pin 2 - 6	314	420	--	
T102 Pin 2 - 9	314	442	--	
T102 Pin 3 - 6	338	610	68K	Maximum voltage for T102
T102 Pin 3 - 9	336	605		
T102 Pin 4 - 6	171	480		
T102 Pin 4 - 9	169	450		
T102 Pin 5 - 6	168	405		
T102 Pin 5 - 9	168	375		
U102 Pin 1 - 3	154	325		
U102 Pin 1 - 4	153	325		
U102 Pin 2 - 3	154	325		
U102 Pin 2 - 4	153	325		
U104 Pin 1 - 3	154	325		
U104 Pin 1 - 4	153	325		
U104 Pin 2 - 3	154	325		
U104 Pin 2 - 4	153	325		
U105 Pin 1 - 3	154	325		
U105 Pin 1 - 4	153	325		
U105 Pin 2 - 3	154	325		
U105 Pin 2 - 4	153	325		
U107 Pin 1 - 3	154	325		
U107 Pin 1 - 4	153	325		

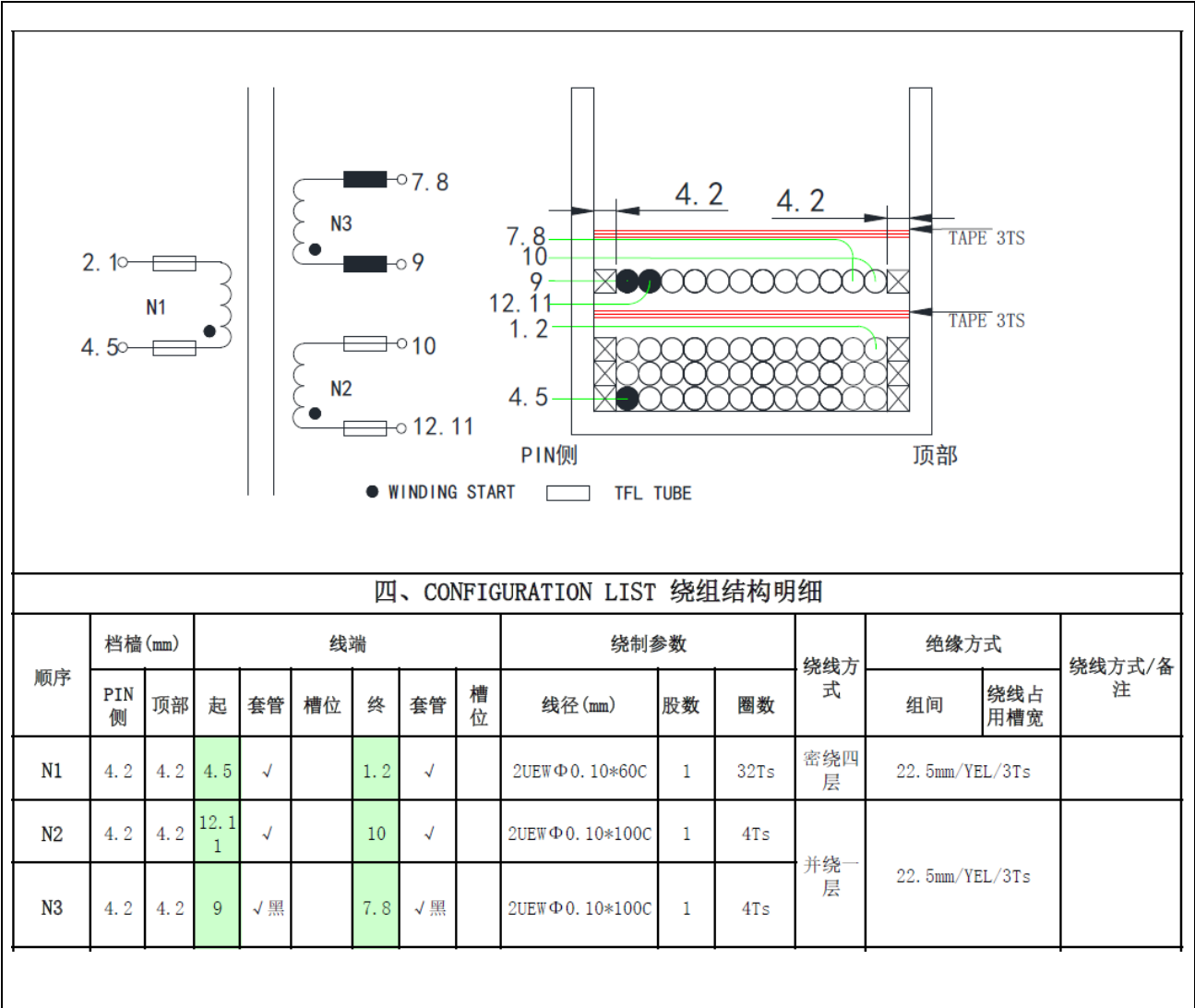
U107 Pin 2 - 3	154	325		
U107 Pin 2 - 4	153	325		
CY101 primary to secondary	5.8	25		
CY102 primary to secondary	5.8	25		
CY103 primary to secondary	167	350		
CY105 primary to secondary	168	345		
Supplementary information:				

G.5.3.2	TABLE: transformers							P
Loc.	Tested insulation	Working voltage peak / V (5.4.1.8)	Working voltage rms / V (5.4.1.8)	Required electric strength (5.4.9)	Required clearance / mm (5.4.2)	Required creepage distance / mm (5.4.3)	Required distance thr. insul. (5.4.4)	
T101	Primary / input winding and secondary / output winding (internal) (DI)	470	250	DC 4000	4.5	5.0	Min. 2 layers or min. 0.4 mm thickness	
T101	Primary / input winding and core (internal)	470	250	DC 2500	2.3	2.5	Min. 2 layers or min. 0.4 mm thickness	
T101	Secondary / output winding and core (internal)	470	250	DC 2500	2.3	2.5	Min. 2 layers or min. 0.4 mm thickness	
T101	Primary / input part and secondary / output part (external) (DI)	470	250	DC 4000	4.5	5.0	--	
T101	Primary / input part and secondary / output winding (external) (DI)	470	250	DC 4000	4.5	5.0	--	
T101	Primary / input part and core (external)	470	250	DC 2500	2.3	2.5	--	
T101	Secondary / output part and core (external)	470	250	DC 2500	2.3	2.5	--	
T101	Secondary / output part and primary / input winding (external) (DI)	470	250	DC 4000	4.5	5.0	--	
T102	Primary / input winding and secondary / output winding (internal) (DI)	610	338	DC 4000	4.5	6.8	Min. 2 layers or min. 0.4 mm thickness	
T102	Primary / input winding and core (internal)	610	338	--	--	--	--	
T102	Secondary / output winding and core (internal)	610	338	DC 4000	4.5	6.8	Min. 2 layers or min. 0.4 mm thickness	

T102	Primary / input part and secondary / output part (external) (DI)	610	338	DC 4000	4.5	6.8	Min. 2 layers or min. 0.4 mm thickness
T102	Primary / input part and secondary / output winding (external) (DI)	610	338	DC 4000	4.5	6.8	Min. 2 layers or min. 0.4 mm thickness
T102	Primary / input part and core (external)	610	338	--	--	--	--
T102	Secondary / output part and core (external)	610	338	DC 4000	4.5	6.8	Min. 2 layers or min. 0.4 mm thickness
T102	Secondary / output part and primary / input winding (external) (DI)	610	338	DC 4000	4.5	6.8	Min. 2 layers or min. 0.4 mm thickness

Loc.	Tested insulation	Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
T101	Primary / input winding and secondary / output winding (internal) (DI)	DC 4000	8.4	8.4	2 layers
T101	Primary / input winding and core (internal)	DC 2500	4.2	4.2	--
T101	Secondary / output winding and core (internal) (BI)	DC 2500	4.2	4.2	--
T101	Primary / input part and secondary / output part (external) (DI)	DC 4000	30.0	30.0	--
T101	Primary / input part and secondary / output winding (external) (DI)	DC 4000	7.0	7.0	--
T101	Primary / input part and core (external)	DC 2500	5.0	5.0	--
T101	Secondary / output part and core (external) (BI)	DC 2500	5.0	5.0	--
T101	Secondary / output part and primary / input winding (external) (DI)	DC 4000	7.0	7.0	See below
T102	Primary / input winding and secondary / output winding (internal) (DI)	DC 4000	Triple insulation wire used	Triple insulation wire used	See below
T102	Primary / input winding and core (internal)	--	--	--	--
T102	Secondary / output winding and core (internal) (DI)	DC 4000	Triple insulation wire used	Triple insulation wire used	See below
T102	Primary / input part and secondary / output part (external) (DI)	DC 4000	30.0	30.0	See below
T102	Primary / input part and secondary / output winding (external) (DI)	DC 4000	Triple insulation wire used	Triple insulation wire used	See below
T102	Primary / input part and core (external)	--	--	--	--
T102	Secondary / output part and core (external) (DI)	DC 4000	9.0	9.0	See below
T102	Secondary / output part and primary / input winding (external) (DI)	DC 4000	7.7	7.7	See below
supplementary information:					
The Clearances and Creepage Distances have additionally been assessed for suitability up to 5000 m elevation. The required clearance is multiplied by the altitude correction factor (1.48) as specified in Table A.2 of IEC 60664-1.					
Same construction for all source.					

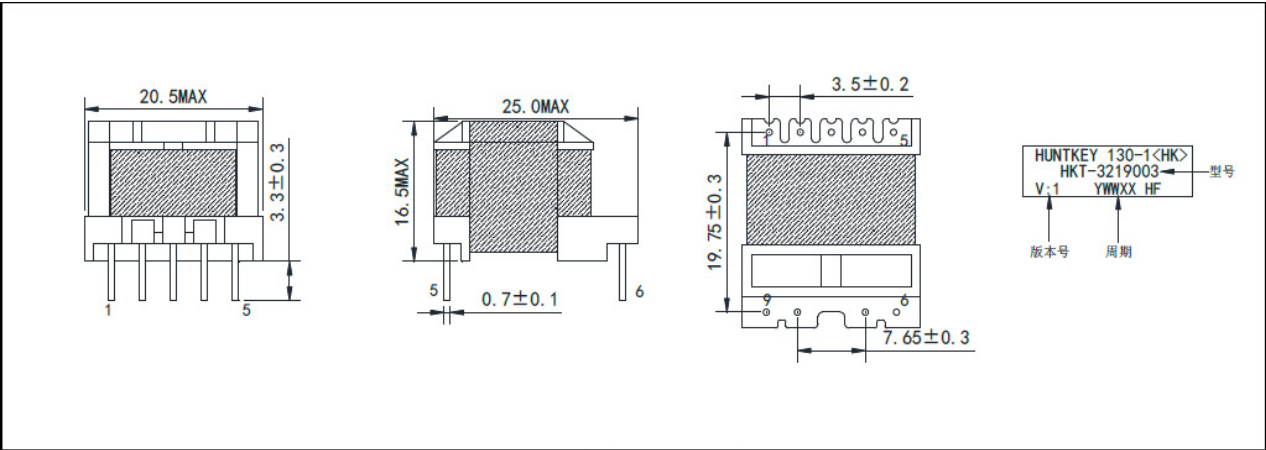
G.5.3.2	TABLE: transformers	P
Transformer T101: The detailed information see below: 		
二、安规尺寸要求		
次级PIN脚到磁芯:	初级线圈到次级Pin	初次级交叉45到90度角隔离
		
红色线条尺寸7.0mm以上;	红色线条尺寸7.0mm以上;	红色线条尺寸7.0mm以上;
三层绝缘线熔损要求:		磁芯背胶示意图:
		
红色线条尺寸3.0mm以上;	内部结构图	



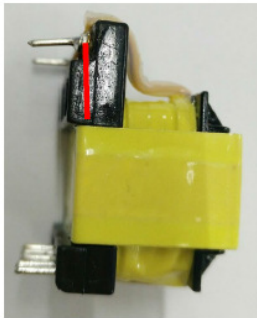
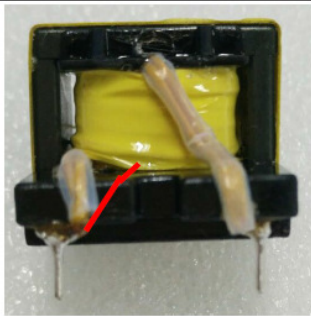
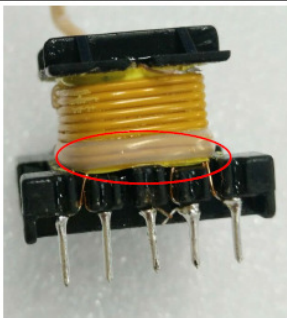
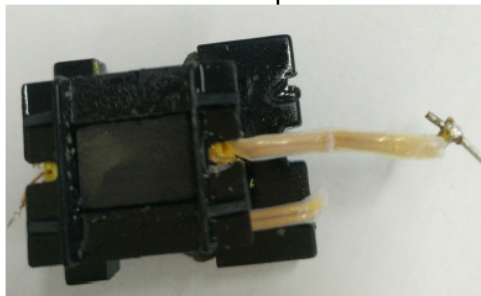
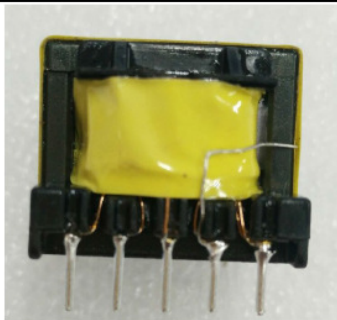
八、MATERIAL LIST 材料明细表:

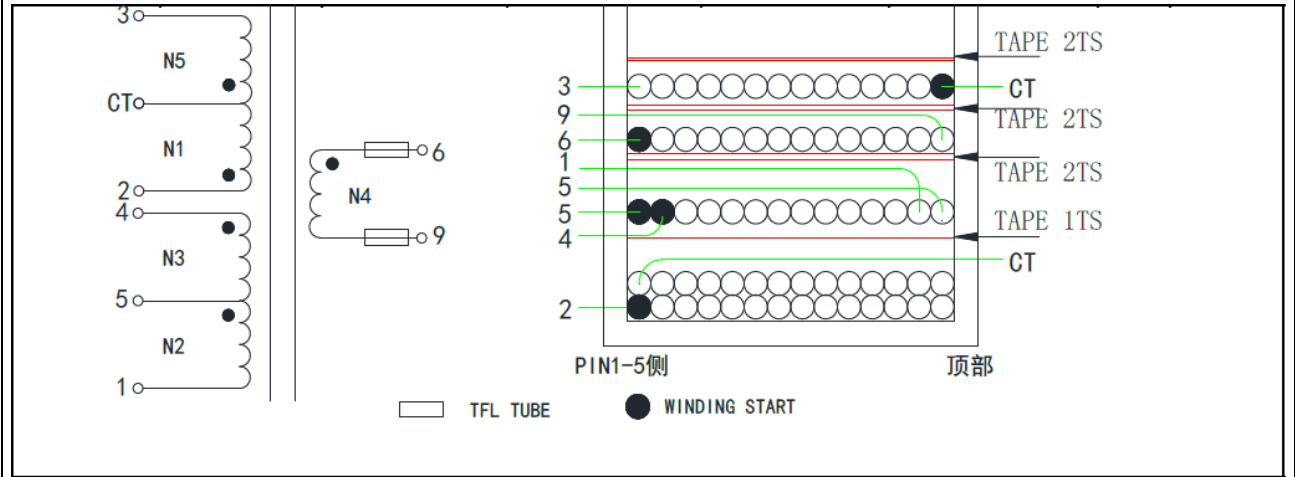
NO.	NAME	DESCRIPTION	MATERIAL	SUPPLIER 供应商	SAFE FILE
序号	物料名称	规格/型号	材质		安规档案号
1	CORE	ERL-2834	ACP40/DMR40	ACG(银捷)/东磁	
2	BOBBIN	ER-2826	PM-9630	SUMITOMO BAKELITE Co., LTD(捷达成, 豪达, 鑫宇佳)	E41429
3	COPPER WIRE	CLASS B	UEWN/U@	PACIFIC ELECTRIC WIRE & CABLE (SHEN ZHEN) CO LTD	E227475
			UEW 130℃	TAI-1 COPPER (GUANGZHOU) CO., LTD.	E85640
4	TUBE	200℃/600V	200℃ TFS	GREAT HOLDING INDUSTRIAL CO LTD	E156256
			2T-TFS-xx.x(a)	P LEO & CO LTD	E176865
5	INSULATION TAPE	THICHNESS 0.016mm	CT* (c) (g) CT* (b) (g) PZ* (b)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO., LTD.	E165111
6	MARGIN TAPE	THICHNESS 0.28mm	WF* (c) (h)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO., LTD.	E165111
7	SOLDER	Pb-free	Sn-cu	SHENZHEN BOSHIDA SOLDER MATERIAL CO., LTD.	
8	VARNISH	130℃	468-2 (d)	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC	E75225
			BC-346A	JOHN C DOLPH CO., LTD.	E317427

Transformer T102:
The detailed information see below:



二、安规尺寸要求

次级PIN脚到磁芯:	线圈到次级Pin	初次级交叉45到90度角隔离
		
A-B 长度至少6.8mm以上;	A-B 至少5.5mm以上;B-C至少2.0mm	红色区域套管必须大于初次级交叉面的宽度,保障胶带作机械隔离.
三层绝缘线熔损要求:		初级PIN脚入线图
		



四、CONFIGURATION LIST 绕组结构明细

顺序	档槽 (mm)		线端						绕制参数			绕线方式	绝缘方式		备注
	PIN 侧	顶部	起	套管	槽位	终	套管	槽位	线径 (mm)	股数	圈数		组间	绕线占用	
N1			2			CT			2UEW $\Phi 0.25$	1	51Ts	密绕两层	7.5mm/YEL/1Ts	7.02	
N2			5			1			2UEW $\Phi 0.30$	1	10Ts	同层并绕逆绕	7.5mm/YEL/2Ts	6.40	
N3			4			5			2UEW $\Phi 0.30$	1	9TS				
N4			6	√		9	√		TILW-B $\Phi 0.50$	2	4TS	密绕一层	8.5mm/YEL/2Ts	6.48	
★N5			CT			3			2UEW $\Phi 0.25$	1	20Ts	密绕一层	7.5mm/YEL/2Ts	5.94	
骨架槽宽:		7.30	骨架槽深:		3.00	绕线槽宽:						绕组占用槽深:		2.41	

八、MATERIAL LIST 材料明细表:

NO.	NAME	DESCRIPTION	MATERIAL	SUPPLIER 供应商	SAFE FILE NO.
序号	物料名称	规格/型号	材质		安规档案号
1	CORE	EI-19	DMR40/ACP40	东磁/安磁 (ACG)	
2	BOBBIN	EI-1902	PM9820	SUMITOMO BAKELITE Co., LTD (鑫宇佳, 捷达成, 豪达)	E41429
			T375J	CHANG CHUN PLASTICS CO LTD	E59481
3	COPPER WIRE	CLASS B	UEWN/U@	PACIFIC ELECTRIC WIRE & CABLE (SHEN ZHEN) CO LTD	E201757
			UEW 130℃	TAI-1 COPPER (GUANGZHOU) CO., LTD.	E85640
4	TRIPLE INSULATION	CLASS B	TILW-B	TA YA ELECTRIC WIRE & CABLE CO LTD	E225803
5	INSULATION TAPE	THICHNESS 0.025mm	CT* (c) (g) CT* (b) (g) PZ* (b)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO., LTD.	E165111
6	TEFLON TUBE	200℃/600V	200° C TFS	GREAT HOLDING INDUSTRIAL CO LTD	E156256
			2T-TFS. xx. x (a)	P LEO & CO (B C) LTD	E176865
7	SOLDER	Pb-free	Sn-cu	SHENZHEN BOSHIDA SOLDER MATERIAL CO., LTD.	
8	VARNISH	130℃	WP-2952F-2G	HITACHI CHEMICAL CO LTD	E72979
			468-2 (d)	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC	E75225