Test Report issued under the responsibility of:

TEST REPORT

IEC 60950-1

Information technology equipment – Safety – Part 1: General requirements

Report Number. .....:	CB180905-01-A0
Date of issue .....:	2018-12-26
Total number of pages.....:	50
Applicant's name.....:	Radware Ltd.
Address .....:	22 Raoul Wallenberg St, Tel Aviv 6971917, Israel
Test specification:	
Standard.....:	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Test procedure .....:	CB Scheme
Non-standard test method .....:	N/A
Test Report Form No. .....:	IEC60950_1F
Test Report Form(s) Originator ....:	SGS Fimko Ltd
Master TRF.....:	Dated 2014-02

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	OnDemand Switch
Trade Mark	RADWARE
Manufacturer.....	Same as applicant.
Model/Type reference	ODS-HTQe
Ratings	1) 100-240VAC, 47-63Hz, 8A x 2 or 2) -42- -72Vdc, 15A x 2

Testing procedure and testing location:		
☒ **CB Testing Laboratory:**		
Testing location/ address .....:	Prodigy Technology Consultant Co., Ltd. / No.181, Sec. 2, Wunhua 1st Rd., Linkou District, New Taipei City 244, Taiwan CHINESE TAIPEI	
☐ **Associated CB Testing Laboratory:**		
Testing location/ address .....:		
Tested by (name + signature).....:	Frank Chang / Project Handler	
Approved by (name + signature).....:	Yama Cheng / 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).....:		
Witnessed by (name + signature) .....:		
Approved by (name + signature).....:		
Supervised by (name + signature) .....:		

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

National Differences (165 pages)
Enclosures (33 pages)

Summary of testing:

TESTS PERFORMED (NAME OF TEST AND TEST CLAUSE):	**Testing location:**
INPUT TEST: SINGLE-PHASE(1.6.2) DURABILITY OF MARKING TEST (1.7.11) LIMITED POWER SOURCE MEASUREMENTS (2.5) PROTECTIVE BONDING TEST I (2.6.3.4,2.6.1) PROTECTIVE BONDING TEST II (2.6.3.4,2.6.1) (FOR REFERENCE) HUMIDITY TEST (2.9.1, 2.9.2, 5.2.2) STABILITY TESTS (4.1) STEADY FORCE TESTS (4.2.1 - 4.2.4) IMPACT TEST (4.2.5, 4.2.1, PART 22 10.2) KNOB PULL/HANDLE LOADING TEST (4.3.2) LITHIUM BATTERY REVERSE CURRENT MEASUREMENT TEST (4.3.8) HEATING TEST(4.5.1, 1.4.12, 1.4.13) TOUCH CURRENT TEST (SINGLE-PHASE; TN/TT SYSTEM (5.1, ANNEX D) ELECTRIC STRENGTH TEST (5.2.2) ABNORMAL OPERATION TESTS(5.3.1 - 5.3.9) OVERLOAD OF OPERATOR ACCESSIBLE CONNECTOR TEST(5.3.7) (FOR REFERENCE)	Prodigy Technology Consultant Co., Ltd. / No.181, Sec. 2, Wunhua 1st Rd., Linkou District, New Taipei City 244, Taiwan CHINESE TAIPEI

Summary of compliance with National Differences:

List of countries addressed:

For IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Australia (AU), Austria (AT), Denmark (DK), Group (EU), Italy (IT), Japan (JP), Sweden (SE), United Kingdom (GB), Turkey (TR), United States of America (US), Canada (CA), New Zealand (NZ)

For IEC 60950-1:2005 (Second Edition); Am 1:2009
National Differences for Argentina(AR), Australia (AU), Canada (CA), Germany (DE), Denmark (DK), Group (EU), Finland (FI), United Kingdom (GB), Israel (IL), Japan (JP), Korea (KR), Norway (NO), Sweden (SE), Slovenia (SI), United States of America (US) , New Zealand (NZ)

For IEC 60950-1:2005 (2nd Edition)
National Differences for Austria (AT), Australia (AU), Canada (CA), Switzerland(CH), China (CN), Germany (DE), Denmark (DK), Spain(ES) , Group (EU), Finland (FI), France (FR), United Kingdom (GB), Ireland(IE), Italy (IT), Israel (IL), Japan (JP), Korea (KR), The Netherlands (NL), Norway (NO), Poland (PL), Sweden (SE), Slovenia (SI), United States of America (US), New Zealand (NZ) as listed in the CB Bulletin No. 112A (December 2006) are recorded.

☒ **The product fulfils the requirements of EN 60950-1:2006+A11:2009+A1:2010+A12:2011 +A2:2013, IEC 60950-1:2005 + Am 1:2009 + Am 2:2013 and AS/NZS 60950.1:2015**

Copy of marking plate:

The artwork below may be only a draft (See Enclosure/Marking Plate ID 13-01 for detail). The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Test item particulars..... :	
Equipment mobility.....:	[] movable [] hand-held [] transportable [X] stationary[] for building-in [] direct plug-in
Connection to the mains.....:	[X] pluggable equipment [X] type A [] type B [X] permanent connection (For DC) [X] detachable power supply cord (For AC) [] non-detachable power supply cord [] not directly connected to the mains
Operating condition.....:	[X] continuous [] rated operating / resting time
Access location .....:	[] operator accessible [X] restricted access location
Over voltage category (OVC) .....:	[] OVC I [X] OVC II [] OVC III [] OVC IV [] other:
Mains supply tolerance (%) or absolute mains supply values .....:	AC: +10%, -10% (Manufacturer declared) DC: N/A (Manufacturer declared)
Tested for IT power systems .....:	[] Yes [X] No
IT testing, phase-phase voltage (V) .....:	N/A
Class of equipment .....:	[X] Class I [] Class II [] Class III [] Not classified
Considered current rating of protective device as part of the building installation (A) .....:	16A or 20A for AC; 30A for DC
Pollution degree (PD) .....:	[] PD 1 [X] PD 2 [] PD 3
IP protection class .....:	IPX0
Altitude during operation (m) .....:	Up to 3100 m
Altitude of test laboratory (m) .....:	Up to 2000 m
Mass of equipment (kg) .....:	18.2 Max.

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.....:	2018-09-05
Date (s) of performance of tests .....:	2018-09-10 to 2018-10-03

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 IECEE 02:	
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) NEXCOM International Co., Ltd. 5F, 7F, 8F, 9F, 10F&12F, No.63, Sec.1, Sanmin Rd., Banqiao Dist., New Taipei City, Taiwan 2) NEXCOM International Co., Ltd. (Hua-Ya Factory) 2F., No.50, Huaya 3rd Rd., Guishan Dist., Taoyuan City 333, Taiwan

General product information:

Report Summary

All applicable tests according to the referenced standard(s) have been carried out.

Product Description

The EUT is configured as follow: Include Certified Internal Power Supply (redundant AC or DC), HDD or SSD and Main board with CPU, Electronic Components were mounted on PWB and then housed within a metal enclosure.

Model Differences

N/A

Additional Information

- The label is a 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.
- Additional investigation in accordance with EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013 and AS/NZS 60950.1:2015.
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 40 degree C
- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): All output ports, except for fiber ports.
- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual
- Marking labels are representatives of all models.
- The equipment to be evaluated in the end product for compliance with altitude up to 3100m above the sea level. The correction factors of clearance is 1.155 min., specified in table A.2 of IEC 60664-1 on Switching Power Supply.

Abbreviations used in the report:

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

Indicate used abbreviations (if any)

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

1	**GENERAL**		Pass

1.5	**Components**		Pass
1.5.1	General		Pass
	Comply with IEC 60950-1 or relevant component standard	(see appended table 1.5.1)	Pass
1.5.2	Evaluation and testing of components	Components certified to IEC harmonized standard and checked for correct application. Components, for which no relevant IEC-Standard exist, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950-1. Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950-1 and the relevant component Standard.	Pass
1.5.3	Thermal controls		N/A
1.5.4	Transformers	Evaluated as part of Power Supply.	N/A
1.5.5	Interconnecting cables	Interconnecting cables comply with the relevant requirements of this standard.	Pass
1.5.6	Capacitors bridging insulation	Evaluated as part of Power Supply.	N/A
1.5.7	Resistors bridging insulation	Evaluated as part of Power Supply.	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	Evaluated as part of Power Supply.	N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.5.9	Surge suppressors	Evaluated as part of Power Supply.	N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6	**Power interface**		Pass
1.6.1	AC power distribution systems	AC power distribution systems are classified as TN.	Pass
1.6.2	Input current	The steady state input current of the equipment did not exceed the RATED CURRENT by more than 10% under normal load See appended table 1.6.2 for details	Pass
1.6.3	Voltage limit of hand-held equipment	This is not hand-held equipment.	N/A
1.6.4	Neutral conductor	Neutral insulation is provided in the power supply.	Pass

1.7	**Marking and instructions**		Pass
1.7.1	Power rating and identification markings	See below	Pass
1.7.1.1	Power rating marking	Rating marking readily visible to operator	Pass
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V) .....:	1) 100-240VAC or 2) -42- -72Vdc	Pass
	Symbol for nature of supply, for d.c. only.....:	⎓ (60417-2-IEC-5031)	Pass
	Rated frequency or rated frequency range (Hz) ....:	1) 47-63Hz	Pass
	Rated current (mA or A) .....:	1) 8A x 2 or 2) 15A x 2	Pass
1.7.1.2	Identification markings	See below	Pass
	Manufacturer's name or trade-mark or identification mark .....:	Manufacturer: Radware Ltd. or Trademark: RADWARE	Pass
	Model identification or type reference .....:	ODS-HTQe	Pass
	Symbol for Class II equipment only .....:	Class I equipment	N/A
	Other markings and symbols .....:	Additional markings/symbols do not cause misunderstanding	N/A
1.7.1.3	Use of graphical symbols		N/A
1.7.2	Safety instructions and marking	Safety instructions in English. Other languages will be provided when submitted for national approval.	Pass
1.7.2.1	General		Pass
1.7.2.2	Disconnect devices	Appliance inlet used.	Pass
1.7.2.3	Overcurrent protective device		N/A
1.7.2.4	IT power distribution systems		N/A
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone		N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment .....:	Equipment is auto-ranging.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Methods and means of adjustment; reference to installation instructions .....:		N/A
1.7.5	Power outlets on the equipment .....:		N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....:	Evaluated as part of Power Supply.	N/A
1.7.7	Wiring terminals	Evaluated as part of Power Supply.	Pass
1.7.7.1	Protective earthing and bonding terminals .....:	Evaluated as part of Power Supply	Pass
1.7.7.2	Terminals for a.c. mains supply conductors	Appliance coupler used.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	Appliance coupler used.	N/A
1.7.8	Controls and indicators		Pass
1.7.8.1	Identification, location and marking .....:		N/A
1.7.8.2	Colours .....:	Only functional indicators use color. No indicators with color affect safety.	Pass
1.7.8.3	Symbols according to IEC 60417.....:	Optional, The secondary switch is marked with the symbols: "⏻" (IEC 60417-5009), only for functional.	Pass
1.7.8.4	Markings using figures .....:		N/A
1.7.9	Isolation of multiple power sources .....:		N/A
1.7.10	Thermostats and other regulating devices .....:	Neither thermostats nor other regulating devices provided.	N/A
1.7.11	Durability	All markings provided on UL Recognized Component labels suitable for surface they are applied upon and meet the durability test.	Pass
1.7.12	Removable parts		Pass
1.7.13	Replaceable batteries ..... :	- The lithium battery is not located in an Operator Access Area. The required warning is placed close to the battery or in the service manual.	Pass
	Language(s) ..... :	Reviewed only English markings/instructions. May be provided in other languages upon request from the manufacturer.	—
1.7.14	Equipment for restricted access locations..... :	Equipment not intended for installation in a Restricted Access Location	N/A

2	**PROTECTION FROM HAZARDS**		Pass
2.1	**Protection from electric shock and energy hazards**		Pass
2.1.1	Protection in operator access areas		Pass
2.1.1.1	Access to energized parts	See below.	Pass
	Test by inspection ..... :	All accessible circuits are SELV circuits.	Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Test with test finger (Figure 2A) .....:	The test finger was unable to contact bare hazardous parts, basic insulation or ELV circuits	Pass
	Test with test pin (Figure 2B) .....:	The test pin was unable to contact bare hazardous parts	Pass
	Test with test probe (Figure 2C) .....:	No TNV present.	N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible area.	N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	No internal wiring accessible to the user.	Pass
2.1.1.5	Energy hazards .....:	No hazardous energy in operator access area.	Pass
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment	Evaluated as part of Power Supply.	N/A
	Measured voltage (V); time-constant (s).....:		—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply ..:		N/A
	b) Internal battery connected to the d.c. mains supply :		N/A
2.1.1.9	Audio amplifiers .....:		N/A
2.1.2	Protection in service access areas	No bare parts contain HAZARDOUS VOLTAGE and/or HAZARDOUS ENERGY in service access area, All HAZARDOUS VOLTAGE and/or HAZARDOUS ENERGY are contained within enclosure.	N/A
2.1.3	Protection in restricted access locations	Equipment not intended for installation in a Restricted Access Location	N/A

2.2	**SELV circuits**		Pass
2.2.1	General requirements	See below	Pass
2.2.2	Voltages under normal conditions (V) .....:	All accessible voltage are less than 42.4Vp or 60Vdc and are classified as SELV.	Pass
2.2.3	Voltages under fault conditions (V) .....:	Investigated during separate certification of power supply.	N/A
2.2.4	Connection of SELV circuits to other circuits .....:	The SELV circuits are not connected to circuits other than protective earth and other SELV circuits.	Pass

2.3	**TNV circuits**		N/A
2.3.1	Limits	No TNV Circuit	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Type of TNV circuits ..... :		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions ..... :		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed ..... :		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed ..... :		—
2.3.5	Test for operating voltages generated externally		N/A
2.4	**Limited current circuits**		N/A
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A
	Frequency (Hz)..... :		—
	Measured current (mA) ..... :		—
	Measured voltage (V) ..... :		—
	Measured circuit capacitance (nF or µF)..... :		—
2.4.3	Connection of limited current circuits to other circuits		N/A
2.5	**Limited power sources**		Pass
	a) Inherently limited output	See appended table 2.5 for details.	Pass
	b) Impedance limited output	See appended table 2.5 for details.	Pass
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition		N/A
	Use of integrated circuit (IC) current limiters		N/A
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA) ..... :	See appended table 2.5 for details.	—
	Current rating of overcurrent protective device (A) .:		—
2.6	**Provisions for earthing and bonding**		Pass
2.6.1	Protective earthing	Accessible parts are earthed.	Pass
2.6.2	Functional earthing	Functional earth is separated from hazardous voltage by double or reinforced insulation.	Pass
	Use of symbol for functional earthing .....:		Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.3	Protective earthing and protective bonding conductors		Pass
2.6.3.1	General	See below.	Pass
2.6.3.2	Size of protective earthing conductors	Evaluated as parts of power supply, see appended table 1.5.1 for details	Pass
	Rated current (A), cross-sectional area (mm^2), AWG.....:	Evaluated as parts of power supply	—
2.6.3.3	Size of protective bonding conductors	Evaluated as parts of power supply	N/A
	Rated current (A), cross-sectional area (mm^2), AWG.....:		—
	Protective current rating (A), cross-sectional area (mm^2), AWG.....:		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min).....:	See Enclosure / Miscellaneous ID 7-02, appended table 2.6.3.4 for details.	Pass
2.6.3.5	Colour of insulation.....:	Evaluated as parts of power supply.	N/A
2.6.4	Terminals	Appliance coupler used.	Pass
2.6.4.1	General		Pass
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, nominal thread diameter (mm).....:		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	Evaluated as part of Power Supply.	N/A
2.6.5	Integrity of protective earthing	See below.	Pass
2.6.5.1	Interconnection of equipment	No interconnection of hazardous voltages	Pass
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switch or fuse in earthing conductor.	Pass
2.6.5.3	Disconnection of protective earth	It is not possible to disconnect protective earth without disconnecting mains; an appliance inlet is used as disconnected device.	Pass
2.6.5.4	Parts that can be removed by an operator	It is not possible to disconnect earth without disconnecting mains.	Pass
2.6.5.5	Parts removed during servicing	Connections to protective earthing cannot be removed unless hazardous voltage is removed from the part simultaneously	Pass
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

2.7	**Overcurrent and earth fault protection in primary circuits**		Pass
2.7.1	Basic requirements	Evaluated as part of power supply.	Pass
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		N/A
2.7.3	Short-circuit backup protection	The building installation is considered as providing short circuit backup protection.	Pass
2.7.4	Number and location of protective devices .....:	Evaluated as part of power supply.	Pass
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel.....:		N/A

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

2.9	**Electrical insulation**		Pass
2.9.1	Properties of insulating materials	Natural rubber, materials containing asbestos and hygroscopic materials are not used as insulation.	Pass
2.9.2	Humidity conditioning	120 Hours	Pass
	Relative humidity (%), temperature (°C) .....:	93%; 40 degree C	—
2.9.3	Grade of insulation	The adequate level of safety insulation is provided and maintained to comply with the requirements of this standard.	Pass
2.9.4	Separation from hazardous voltages	See below	Pass
	Method(s) used .....:	Method 1	—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10	**Clearances, creepage distances and distances through insulation**		Pass
2.10.1	General	See below	Pass
2.10.1.1	Frequency ..... :	Evaluated as part of power supply.	Pass
2.10.1.2	Pollution degrees ..... :	Pollution degree 2 applicable.	Pass
2.10.1.3	Reduced values for functional insulation	Subject to 5.3.4	Pass
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage	Evaluated as part of power supply.	N/A
2.10.2.1	General	Evaluated as part of power supply.	N/A
2.10.2.2	RMS working voltage		N/A
2.10.2.3	Peak working voltage		N/A
2.10.3	Clearances	Evaluated as part of Power Supply.	Pass
2.10.3.1	General		N/A
2.10.3.2	Mains transient voltages		N/A
	a) AC mains supply ..... :		N/A
	b) Earthed d.c. mains supplies ..... :		N/A
	c) Unearthed d.c. mains supplies ..... :		N/A
	d) Battery operation ..... :		N/A
2.10.3.3	Clearances in primary circuits	Evaluated as part of Power Supply.	N/A
2.10.3.4	Clearances in secondary circuits		Pass
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply ..... :	Evaluated as part of Power Supply.	N/A
2.10.3.7	Transients from d.c. mains supply ..... :		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems ..... :		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply ..... :		N/A
	For a d.c. mains supply ..... :		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances	Evaluated as part of Power Supply.	Pass
2.10.4.1	General		Pass
2.10.4.2	Material group and comparative tracking index		Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	CTI tests ..... :	Material group IIIb, 100≤CTI<175	—
2.10.4.3	Minimum creepage distances		N/A
2.10.5	Solid insulation		Pass
2.10.5.1	General	See below	N/A
2.10.5.2	Distances through insulation	Evaluated as part of Power Supply.	N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5.	Cemented joints		N/A
2.10.5.6	Thin sheet material – General	Evaluated as part of Power Supply.	N/A
2.10.5.7	Separable thin sheet material	Evaluated as part of Power Supply.	N/A
	Number of layers (pcs) ..... :		—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components	Evaluated as part of Power Supply.	N/A
	Working voltage ..... :		N/A
	a) Basic insulation not under stress ..... :		N/A
	b) Basic, supplementary, reinforced insulation ..... :		N/A
	c) Compliance with Annex U ..... :		N/A
	Two wires in contact inside wound component; angle between 45° and 90° ..... :		N/A
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components	Evaluated as part of Power Supply.	N/A
	Working voltage ..... :		N/A
	- Basic insulation not under stress ..... :		N/A
	- Supplementary, reinforced insulation ..... :		N/A
2.10.6	Construction of printed boards		Pass
2.10.6.1	Uncoated printed boards		Pass
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)..... :		N/A
2.10.7	Component external terminations	Evaluated as part of Power Supply.	N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling	Evaluated as part of Power Supply.	N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound	Evaluated as part of Power Supply.	N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts	Evaluated as part of Power Supply.	N/A
3	**WIRING, CONNECTIONS AND SUPPLY**		Pass
3.1	**General**		Pass
3.1.1	Current rating and overcurrent protection	The wires are well routed away from sharp edges , etc. and are adequately fixed to prevent excessive strain on wire and terminals.	Pass
3.1.2	Protection against mechanical damage	The wires are positioned in such a manner that prevents excessive strain, loosening of terminal connections and damage of conductor.	Pass
3.1.3	Securing of internal wiring	Insulation on internal conductors is considered to be of adequate quality and suitable for the application.	Pass
3.1.4	Insulation of conductors		Pass
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A
3.2	**Connection to a mains supply**		Pass

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.1	Means of connection	See below.	Pass
3.2.1.1	Connection to an a.c. mains supply	Appliance coupler used	Pass
3.2.1.2	Connection to a d.c. mains supply		Pass
3.2.2	Multiple supply connections		Pass
3.2.3	Permanently connected equipment	permanently connected for DC source	Pass
	Number of conductors, diameter of cable and conduits (mm) .....:		—
3.2.4	Appliance inlets	A certified appliance inlet is used. The power cord can be inserted without difficulties and does not support the unit.	Pass
3.2.5	Power supply cords	See below.	N/A
3.2.5.1	AC power supply cords	Power Supply Cord suitable for the application and subject to country's national code and regulations is to be provided by the manufacturer ; proper application to be determined by the country's local Certification Body.	N/A
	Type .....:		—
	Rated current (A), cross-sectional area (mm^2), AWG .....:		—
3.2.5.2	DC power supply cords	The power supply cord is not provided with this unit.	N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) .....:		—
	Longitudinal displacement (mm) .....:		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g) .....:		—
	Radius of curvature of cord (mm) .....:		—
3.2.9	Supply wiring space		N/A
3.3	**Wiring terminals for connection of external conductors**		N/A
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm^2) .....:		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) .....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	**Disconnection from the mains supply**		Pass
3.4.1	General requirement	The appliance inlet is considered to be the disconnect device.	Pass
3.4.2	Disconnect devices	Refer to 3.4.1	Pass
3.4.3	Permanently connected equipment	Provided sufficient information in instruction	Pass
3.4.4	Parts which remain energized	No parts remain energized when the disconnect device is removed.	N/A
3.4.5	Switches in flexible cords	No switches in flexible cords.	N/A
3.4.6	Number of poles - single-phase and d.c. equipment	For AC, Disconnect device disconnects both poles simultaneously; For DC, Provided sufficient information in instruction.	Pass
3.4.7	Number of poles - three-phase equipment	The unit is single-phase equipment.	N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices	The plug on the power cord is considered the disconnect device.	Pass
3.4.10	Interconnected equipment	No interconnection of hazardous voltages or energy levels.	N/A
3.4.11	Multiple power sources		Pass
3.5	**Interconnection of equipment**		Pass
3.5.1	General requirements		Pass
3.5.2	Types of interconnection circuits .....:	Interconnection circuits are SELV.	Pass
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment	(see appended table 2.5)	Pass
4	**PHYSICAL REQUIREMENTS**		Pass
4.1	**Stability**		Pass
	Angle of 10°	Unit does not overbalance at 10 degree	Pass
	Test force (N) .....:		N/A
4.2	**Mechanical strength**		Pass
4.2.1	General		Pass
	Rack-mounted equipment.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.2	Steady force test, 10 N		N/A
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N	No hazards as a result of the 250 N test	Pass
4.2.5	Impact test	No hazards as a result of the Impact test.	Pass
	Fall test	No hazards	Pass
	Swing test		N/A
4.2.6	Drop test; height (mm) .....:		N/A
4.2.7	Stress relief test	Metal enclosure provided.	N/A
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified .....:		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....:		N/A
4.3	**Design and construction**		Pass
4.3.1	Edges and corners	All edges and corners are judged to be sufficiently well rounded so as not to constitute a hazard.	Pass
4.3.2	Handles and manual controls; force (N).....:	Weight 18.2kg, 2 handles, force applied to each handle: 356.72N	Pass
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts	No loosening of parts impairing creepage distances or clearances over supplementary or reinforced insulation is likely to occur.	Pass
4.3.5	Connection by plugs and sockets		Pass
4.3.6	Direct plug-in equipment		N/A
	Torque .....:		—
	Compliance with the relevant mains plug standard .....:		N/A
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries	The UL recognized RTC battery is protected against charging current by multiple components. See Enclosure/ Miscellaneous ID 7-02 appended table 4.3.8 for details.	Pass
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids .....:		N/A
	Quantity of liquid (l) .....:		N/A
	Flash point (°C) .....:		N/A
4.3.13	Radiation		Pass
4.3.13.1	General		Pass
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) .....:		—
	Measured high-voltage (kV) .....:		—
	Measured focus voltage (kV) .....:		—
	CRT markings .....:		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification .....:		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....:		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	Visible indicator LEDs and fiber module	Pass
4.3.13.5.1	Lasers (including laser diodes)	fiber module	Pass
	Laser class .....:	1	—
4.3.13.5.2	Light emitting diodes (LEDs)	This product contains only visible indicator LEDs (Class 1).	Pass
4.3.13.6	Other types .....:		N/A

4.4	**Protection against hazardous moving parts**		Pass
4.4.1	General	See below.	Pass
4.4.2	Protection in operator access areas .....:	The fan was not accessible, Hazardous moving parts of equipment are adequately enclosed and guarded.	N/A
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations .....:		N/A
4.4.4	Protection in service access areas	Unintentional contact with hazardous moving parts by service personnel is unlikely.	N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a)……:		N/A
	Is considered to cause pain, not injury. b) ……..:		N/A
	Considered to cause injury. c) ……:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.4.5.2	Protection for users		N/A
	Use of symbol or warning ……..:		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning ……..:		N/A
4.5	**Thermal requirements**		Pass
4.5.1	General		Pass
4.5.2	Temperature tests	The equipment and its component parts did not attain excessive temperatures during normal operation. (See appended table 4.5 for details)	Pass
	Normal load condition per Annex L .....:	See appended table 4.5 for details	—
4.5.3	Temperature limits for materials	See appended table 4.5 for details	Pass
4.5.4	Touch temperature limits	See appended table 4.5 for details	Pass
4.5.5	Resistance to abnormal heat .....:		N/A
4.6	**Openings in enclosures**		Pass
4.6.1	Top and side openings	Top: No openings, Side: openings that do not exceed 5 mm in any dimension.	Pass
	Dimensions (mm) .....:	See Enclosure/Diagrams ID 4-01 for details.	—
4.6.2	Bottoms of fire enclosures	No openings	Pass
	Construction of the bottomm, dimensions (mm) ..:	See Enclosure/Diagrams ID 4-01 for details.	—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) .....:		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks).....:		—
4.7	**Resistance to fire**		Pass
4.7.1	Reducing the risk of ignition and spread of flame	Method 1: Selection and application of components and materials which minimize the possibility of ignition and spread of flame.	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
	Method 1, selection and application of components wiring and materials		Pass
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	A fire enclosure is required.	Pass
4.7.2.1	Parts requiring a fire enclosure	Fire enclosure covers all parts	Pass
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		Pass
4.7.3.1	General	See below.	Pass
4.7.3.2	Materials for fire enclosures	Metal enclosure.	Pass
4.7.3.3	Materials for components and other parts outside fire enclosures	Connectors are made of materials of class V-2 or better	Pass
4.7.3.4	Materials for components and other parts inside fire enclosures	All internal materials are rated V-2 or better or are mounted on a PWB rated V-1 or better. Internal wiring is UL Recognized, rated VW-1 or FT-1. (See appended table 1.5.1)	Pass
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		Pass
5.1	**Touch current and protective conductor current**		Pass
5.1.1	General	See below.	Pass
5.1.2	Configuration of equipment under test (EUT)		Pass
5.1.2.1	Single connection to an a.c. mains supply		Pass
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	Using figure 5A.	Pass
5.1.4	Application of measuring instrument	Using measuring instrument in annex D.	Pass
5.1.5	Test procedure	The touch current was measured from primary to metal enclosure.	Pass
5.1.6	Test measurements	See below	Pass
	Supply voltage (V) ..... :	264Vac	—
	Measured touch current (mA) ..... :	(See appended table 5.1.for details.)	—
	Max. allowed touch current (mA) ..... :	“e” – open:3.5mA, “e” – close:0.25mA	—
	Measured protective conductor current (mA) ..... :		—
	Max. allowed protective conductor current (mA)... :		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	General ..... :		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) ..... :		—
	Measured touch current (mA) ..... :		—
	Max. allowed touch current (mA) ..... :		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports ..... :		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A
5.2	**Electric strength**		Pass
5.2.1	General	See appended table 5.2 for details	Pass
5.2.2	Test procedure	No insulation breakdown detected during the test	Pass
5.3	**Abnormal operating and fault conditions**		Pass
5.3.1	Protection against overload and abnormal operation	See appended table 5.3 for details.	Pass
5.3.2	Motors		N/A
5.3.3	Transformers	Evaluated as a part of certified power supply.	N/A
5.3.4	Functional insulation..... :	Functional insulation complies with the requirements (a), (b) or (c)	Pass
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE ..... :		N/A
5.3.7	Simulation of faults	See appended table 5.3 for details.	Pass
5.3.8	Unattended equipment	The equipment does not have any thermostats, temperature limiters, or thermal cut-outs	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	No fire, emission of molten metal or deformation was noted during the tests. No insulation breakdown detected during the test	Pass
5.3.9.1	During the tests	No fire, emission of molten metal or deformation was noted during the tests. No insulation breakdown detected during the test	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.9.2	After the tests	Electric Strength tests performed after abnormal and fault tests	Pass
6	**CONNECTION TO TELECOMMUNICATION NETWORKS**		N/A
6.1	**Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment**		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements	Not direct connection to TELECOMMUNICATION NETWORK.	N/A
	Supply voltage (V) .....:		—
	Current in the test circuit (mA) .....:		—
6.1.2.2	Exclusions .....:		N/A
6.2	**Protection of equipment users from overvoltages on telecommunication networks**		N/A
6.2.1	Separation requirements	Not direct connection to TELECOMMUNICATION NETWORK.	N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A
6.3	**Protection of the telecommunication wiring system from overheating**		N/A
	Max. output current (A) .....:		—
	Current limiting method .....:		—
7	**CONNECTION TO CABLE DISTRIBUTION SYSTEMS**		N/A
7.1	**General**		N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
A	**ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
A.1	**Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)**		N/A
A.1.1	Samples .....:		—
	Wall thickness (mm).....:		—
A.1.2	Conditioning of samples; temperature (°C) .....:		N/A
A.1.3	Mounting of samples .....:		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D .....:		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.2	**Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)**		N/A
A.2.1	Samples, material.....:		—
	Wall thickness (mm).....:		—
A.2.2	Conditioning of samples; temperature (°C) .....:		N/A
A.2.3	Mounting of samples .....:		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C .....:		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.3	**Hot flaming oil test (see 4.6.2)**		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

B	**ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.1	**General requirements**	Certified fan used	N/A
	Position .....:		—
	Manufacturer .....:		—
	Type .....:		—
	Rated values .....:		—
B.2	**Test conditions**		N/A
B.3	**Maximum temperatures**		N/A
B.4	**Running overload test**		N/A
B.5	**Locked-rotor overload test**		N/A
	Test duration (days) .....:		—
	Electric strength test: test voltage (V) .....:		—
B.6	**Running overload test for d.c. motors in secondary circuits**		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V) .....:		N/A
B.7	**Locked-rotor overload test for d.c. motors in secondary circuits**		N/A
B.7.1	General	Certified fan used	N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) .....:		N/A
B.8	**Test for motors with capacitors**		N/A
B.9	**Test for three-phase motors**		N/A
B.10	**Test for series motors**		N/A
	Operating voltage (V) .....:		—

C	**ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)**		N/A
	Position .....:	Evaluated as part of power supply.	—
	Manufacturer .....:		—
	Type .....:		—
	Rated values .....:		—
	Method of protection.....:		—
C.1	**Overload test**	Evaluated as part of power supply.	N/A
C.2	**Insulation**	Evaluated as part of power supply.	N/A
	Protection from displacement of windings.....:	Evaluated as part of power supply.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

D	**ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)**		Pass
D.1	**Measuring instrument**	Measuring instrument D.1 used.	Pass
D.2	**Alternative measuring instrument**		N/A

E	**ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)**		N/A

F	**ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)**		Pass

G	**ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		N/A
G.1	**Clearances**		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	**Determination of mains transient voltage (V)**		N/A
G.2.1	AC mains supply .....:		N/A
G.2.2	Earthed d.c. mains supplies .....:		N/A
G.2.3	Unearthed d.c. mains supplies .....:		N/A
G.2.4	Battery operation .....:		N/A
G.3	**Determination of telecommunication network transient voltage (V) .....:**		N/A
G.4	**Determination of required withstand voltage (V)**		N/A
G.4.1	Mains transients and internal repetitive peaks .....:		N/A
G.4.2	Transients from telecommunication networks .....:		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	**Measurement of transient voltages (V)**		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	**Determination of minimum clearances .....:**		N/A

H	**ANNEX H, IONIZING RADIATION (see 4.3.13)**		N/A

J	**ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)**		Pass
	Metal(s) used .....:		—

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Clause	Requirement + Test	Result - Remark	Verdict

K	**ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)**		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) .....:		N/A
K.3	Thermostat endurance test; operating voltage (V) .....:		N/A
K.4	Temperature limiter endurance; operating voltage (V) .....:		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A

L	**ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)**		Pass
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		Pass

M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz) .....:		—
M.3.1.2	Voltage (V) .....:		—
M.3.1.3	Cadence; time (s), voltage (V) .....:		—
M.3.1.4	Single fault current (mA) .....:		—
M.3.2	Tripping device and monitoring voltage .....:		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) .....:		N/A

N	**ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)**		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

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P	**ANNEX P, NORMATIVE REFERENCES**		—

Q	**ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)**		N/A
	- Preferred climatic categories .....:	Evaluated as part of power supply.	N/A
	- Maximum continuous voltage .....:		N/A
	- Combination pulse current .....:		N/A
	Body of the VDR Test according to IEC60695-11-5.....:		N/A
	Body of the VDR. Flammability class of material (min V-1).....:		N/A

R	**ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES**		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A

S	**ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)**		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A

T	**ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)**		N/A
			—

U	**ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)**		N/A
		Investigated as an element of power supply certification	—

V	**ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)**		Pass
V.1	Introduction		Pass
V.2	TN power distribution systems		Pass

W	**ANNEX W, SUMMATION OF TOUCH CURRENTS**		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	**ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)**		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A
Y	**ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)**		N/A
Y.1	Test apparatus .....:		N/A
Y.2	Mounting of test samples .....:		N/A
Y.3	Carbon-arc light-exposure apparatus .....:		N/A
Y.4	Xenon-arc light exposure apparatus .....:		N/A
Z	**ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)**		Pass
AA	**ANNEX AA, MANDREL TEST (see 2.10.5.8)**		N/A
BB	**ANNEX BB, CHANGES IN THE SECOND EDITION**		—
CC	**ANNEX CC, Evaluation of integrated circuit (IC) current limiters**		N/A
CC.1	General		N/A
CC.2	Test program 1……..:		N/A
CC.3	Test program 2……..:		N/A
CC.4	Test program 3.....:		N/A
CC.5	Compliance.....:		N/A
DD	**ANNEX DD, Requirements for the mounting means of rack-mounted equipment**		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N……..:		N/A
DD.3	Mechanical strength test, 250N, including end stops……:		N/A
DD.4	Compliance……..:		N/A
EE	**ANNEX EE, Household and home/office document/media shredders**		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols……:		N/A

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	Information of user instructions, maintenance and/or servicing instructions……:		N/A
EE.3	Inadvertent reactivation test……:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols……:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A) ……:		N/A
	Test with wedge probe (Figure EE1 and EE2) ……:		N/A

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

1.5.1	TABLE: List of critical components				Pass
Object/part No.	Manufacturer/ trademark	Type/model	Object/part No.	Manufacturer/ trademark	Type/model
01. AC Power supply cord (Optional)	Interchangeable	Interchangeable	Type SVT or SJT or SPT-2, minimum 125V, 15 A, 14 AWG with NEMA 5-15P or 250 V, 15A, 14 AWG with NEMA 6-15P. Length minimum 1.5m, maximum 4.5m. Other end (with appliance coupler) (connected to unit)	UL817	UL
02. Switch Power Supply with two power module PSS-2A00V for AC powered unit	Zippy Technology Corp.	PSS2-5A00V3V	I/P: 100-240Vac, 47-63Hz, 15-7.5A, O/P: +5Vdc/0-22A, +3.3Vdc/0-22A, +12Vdc/83A, +5VSB/0-4A, -12Vdc/0-0.5A; Max. output power: +5Vdc and +3.3Vdc Max. = 150W, Total output power shall not exceed 1000 watts	EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013, IEC 60950-1: 2005+A1+A2, UL 60950-1	TUV, UL
02a. Alternate Switch Power Supply with two power module DPSS-2A00V for DC powered unit	Zippy Technology Corp.	DPSS2-5A00V3V	I/P: -42Vdc to -72Vdc, 30-17A, O/P: +5Vdc/0-22A; +12Vdc/83A, +3.3Vdc/0-22A, -12Vdc/0-0.5A, +5VSB/0-4A, +5Vdc and +3.3Vdc Max. = 150W, Total output power shall not exceed 1000 watts	EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013, IEC 60950-1: 2005+A1+A2, UL 60950-1	TUV, UL
03. Enclosure	Interchangeable	Interchangeable	SECC, thickness 1.0mm min., overall see Enclosure / Diagrams ID 4-01 for detail.	--	--
04. Ear sets (Optional) (two provided)	Interchangeable	Interchangeable	IRON, thickness 3.0mm min., see Enclosure / Diagrams ID 4-02 for details.	--	--
05. PWB	Interchangeable	Interchangeable	Rated V-1 minimum, 105 degree C minimum	UL 796	UL
06.Mainboard	--	--	See below	--	--
06-1. RTC Battery (BAT1)	Interchangeable	BR2032*, CR2032*, CR-2032*,	Maximum abnormal charging current 5mA minimum,	UL 1642	UL

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Clause	Requirement + Test	Result - Remark	Verdict

		CR2450*, CR-2450*	Non- rechargeable and protected by one diode and one resistor (1K ohm).		
06-2. CPU Cooler	--	--	See below	--	--
06-2-1. CPU Heat sink (two provided)	Interchangeable	Interchangeable	Aluminium, see Enclosure / Diagrams ID 4-03 for details	--	--
06-2-2. CPU Fan (two provided)	Everflow Precision Electronic (Dong Guan) Co., Ltd.	F126025BU	12Vdc, 0.26A max., 24.49CFM max.	UL 507, EN 60950-1	UL, TUV
06-3. Chipset heat sink 1 (one provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-04 for details.	--	--
06-4. Chipset heat sink 2 (two provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-05 for details.	--	--
06-5. Chipset heat sink 3 (two provided) (one provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-06 for details.	--	--
06-6. Polyswitch (UF1) for USB port	POLYTRONICS TECHNOLOGY CORP	SMD1206P150 TFT	8Vdc, Ih: 1.5A, CA: 3	UL 1434, EN 60730-1	UL, TUV
06-6a. Alternate Polyswitch (UF1) for USB port	Interchangeable	Interchangeable	8Vdc, Ih: 1.5A, CA: 3	UL 1434, EN 60730-1	UL, TUV
07. I/O Board (Netcop)	--	--	See below	--	--
07-1. Chipset heat sink 1 (one provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-07 for details.	--	--
07-2. Chipset heat sink 2 (one provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-08 for details.	--	--
07-3. Chipset heat sink 3 (one provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-09 for details.	--	--
07-4. Chipset heat sink 4 (four provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-10 for details.	--	--
07-5. Fiber Optical Transceivers (Optional)	Interchangeable	Interchangeable	3.3Vdc, max. 1W, Laser class 1 with metal enclosure	UL 60950-1, IEC 60950-1, IEC 60825-1, EN 60825-1	UL, TUV
08. I/O Board (Bypass-100)	--	--	See below	--	--
08-1. Chipset heat sink 1 (one	--	--	Aluminium. See Enclosure /	--	--

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

provided)			Diagrams ID 4-11 for details.		
08-2. Chipset heat sink 2 (four provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-10 for details.	--	--
08-3. Fiber Optical Transceivers (Optional)	Interchangeable	Interchangeable	3.3Vdc, max. 1W, Laser class 1 with metal enclosure	UL 60950-1, IEC 60950-1, IEC 60825-1, EN 60825-1	UL, TUV
09. System Fan (Five provided)	NMB Technologies Corporation	06038DA-12S-EUD-3	12Vdc, 2.0A max., 59.32 CFM (1.68m^3/min) minimum.	UL 507, EN 60950-1	UL, VDE
10. HDD (Optional)	Western Digital Technologies Inc.	WD5003ABYX	Generic 5V, 1.5A; 12V, 1.5A maximum; One provided maximum for 3.5”	UL 60950-1, EN 60950-1, IEC 60950-1	UL, TUV
10a. Alternate HDD (Optional)	Interchangeable	Interchangeable	Generic 5V, 1.5A; 12V, 1.5A maximum; One provided maximum for 3.5” or one provided maximum for 2.5”	UL 60950-1, EN 60950-1, IEC 60950-1	UL, TUV
10b. Alternate SSD (Optional)	Interchangeable	Interchangeable	Generic 5V, 1.5A; 12V, 1.5A maximum; one provided maximum	--	--
11. Mylar (Located on Power and Mainboard)	Interchangeable	Interchangeable	Plastic, V-2 min., see Enclosure / Diagrams ID 4-12 for detail	UL 94, UL 746C	UL

Supplementary information:

[1)] **Provided evidence ensures the agreed level of compliance. See OD-CB2039**.

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

1.5.1	TABLE: Opto Electronic Devices	N/A
Manufacturer.....:		
Type.....:		
Separately tested.....:		
Bridging insulation.....:		
External creepage distance .....:		
Internal creepage distance .....:		
Distance through insulation .....:		
Tested under the following conditions .....:		
Input.....:		
Output.....:		
supplementary information		

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Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: Electrical data (in normal conditions)						Pass
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
--	--	--	--	--	--	With Netcop I/O Board & AC Power (two power total-top)	
90V/47Hz	3.05	--	268	In SPS	3.05	Maximum normal load	
90V/63Hz	3.05	--	268	In SPS	3.05	Maximum normal load	
100V/47Hz	2.73	8	267	In SPS	2.73	Maximum normal load	
100V/63Hz	2.74	8	268	In SPS	2.74	Maximum normal load	
240V/47Hz	1.11	8	261	In SPS	1.11	Maximum normal load	
240V/63Hz	1.12	8	260	In SPS	1.12	Maximum normal load	
254V/47Hz	1.06	--	261	In SPS	1.06	Maximum normal load	
254V/63Hz	1.06	--	260	In SPS	1.06	Maximum normal load	
264V/47Hz	1.02	--	260	In SPS	1.03	Maximum normal load	
264V/63Hz	1.03	--	260	In SPS	1.02	Maximum normal load	
--	--	--	--	--	--	With Netcop I/O Board & AC Power (two power total-bottom)	
90V/47Hz	2.98	--	260	In SPS	2.99	Maximum normal load	
90V/63Hz	2.99	--	260	In SPS	2.98	Maximum normal load	
100V/47Hz	2.68	8	260	In SPS	2.68	Maximum normal load	
100V/63Hz	2.68	8	260	In SPS	2.68	Maximum normal load	
240V/47Hz	1.09	8	254	In SPS	1.09	Maximum normal load	
240V/63Hz	1.10	8	253	In SPS	1.10	Maximum normal load	
254V/47Hz	1.04	--	254	In SPS	1.04	Maximum normal load	
254V/63Hz	1.04	--	253	In SPS	1.04	Maximum normal load	
264V/47Hz	1.00	--	254	In SPS	1.00	Maximum normal load	
264V/63Hz	1.01	--	253	In SPS	1.01	Maximum normal load	
--	--	--	--	--	--	With Netcop I/O Board & AC Power (two power total)	
90V/47Hz	6.03	--	533	In SPS	6.03	Maximum normal load	
90V/63Hz	6.05	--	534	In SPS	6.05	Maximum normal load	
100V/47Hz	5.42	8	532	In SPS	5.42	Maximum normal load	
100V/63Hz	5.42	8	534	In SPS	5.42	Maximum normal load	
240V/47Hz	2.21	8	516	In SPS	2.21	Maximum normal load	
240V/63Hz	2.22	8	517	In SPS	2.22	Maximum normal load	
254V/47Hz	2.10	--	518	In SPS	2.10	Maximum normal load	
254V/63Hz	2.18	--	516	In SPS	2.18	Maximum normal load	
264V/47Hz	2.02	--	518	In SPS	2.02	Maximum normal load	
264V/63Hz	2.03	--	516	In SPS	2.03	Maximum normal load	
--	--	--	--	--	--	With Netcop I/O Board & AC Power (one power only -top)	
90V/47Hz	5.90	--	523	In SPS	5.90	Maximum normal load	
90V/63Hz	5.91	--	525	In SPS	5.91	Maximum normal load	
100V/47Hz	5.28	8	521	In SPS	5.28	Maximum normal load	
100V/63Hz	5.28	8	522	In SPS	5.28	Maximum normal load	
240V/47Hz	2.14	8	504	In SPS	2.14	Maximum normal load	
240V/63Hz	2.14	8	505	In SPS	2.14	Maximum normal load	
254V/47Hz	2.02	--	503	In SPS	2.02	Maximum normal load	
254V/63Hz	2.02	--	504	In SPS	2.02	Maximum normal load	
264V/47Hz	1.95	--	503	In SPS	1.95	Maximum normal load	

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264V/63Hz	1.95	--	503	In SPS	1.96	Maximum normal load
--	--	--	--	--	--	With Bypass-100 I/O Board & AC Power (two power total-top)
90V/47Hz	3.10	--	273	In SPS	3.10	Maximum normal load
90V/63Hz	3.11	--	274	In SPS	3.11	Maximum normal load
100V/47Hz	2.79	8	273	In SPS	2.79	Maximum normal load
100V/63Hz	2.79	8	273	In SPS	2.79	Maximum normal load
240V/47Hz	1.14	8	266	In SPS	1.14	Maximum normal load
240V/63Hz	1.14	8	267	In SPS	1.14	Maximum normal load
254V/47Hz	1.08	--	266	In SPS	1.08	Maximum normal load
254V/63Hz	1.08	--	267	In SPS	1.08	Maximum normal load
264V/47Hz	1.04	--	266	In SPS	1.04	Maximum normal load
264V/63Hz	1.04	--	266	In SPS	1.04	Maximum normal load
--	--	--	--	--	--	With Bypass-100 I/O Board & AC Power (two power total-bottom)
90V/47Hz	3.03	--	265	In SPS	3.03	Maximum normal load
90V/63Hz	3.04	--	266	In SPS	3.04	Maximum normal load
100V/47Hz	2.72	8	265	In SPS	2.72	Maximum normal load
100V/63Hz	2.73	8	265	In SPS	2.73	Maximum normal load
240V/47Hz	1.11	8	259	In SPS	1.11	Maximum normal load
240V/63Hz	1.12	8	260	In SPS	1.12	Maximum normal load
254V/47Hz	1.06	--	259	In SPS	1.06	Maximum normal load
254V/63Hz	1.06	--	260	In SPS	1.06	Maximum normal load
264V/47Hz	1.02	--	259	In SPS	1.02	Maximum normal load
264V/63Hz	1.02	--	259	In SPS	1.02	Maximum normal load
--	--	--	--	--	--	With Bypass-100 I/O Board & AC Power (two power total)
90V/47Hz	6.14	--	544	In SPS	6.14	Maximum normal load
90V/63Hz	6.15	--	545	In SPS	6.15	Maximum normal load
100V/47Hz	5.52	8	542	In SPS	5.52	Maximum normal load
100V/63Hz	5.52	8	542	In SPS	5.52	Maximum normal load
240V/47Hz	2.25	8	527	In SPS	2.25	Maximum normal load
240V/63Hz	2.26	8	528	In SPS	2.26	Maximum normal load
254V/47Hz	2.14	--	527	In SPS	2.14	Maximum normal load
254V/63Hz	2.14	--	528	In SPS	2.14	Maximum normal load
264V/47Hz	2.07	--	525	In SPS	2.07	Maximum normal load
264V/63Hz	2.07	--	527	In SPS	2.07	Maximum normal load
--	--	--	--	--	--	With Bypass-100 I/O Board & AC Power (one power only -top)
90V/47Hz	6.06	--	538	In SPS	6.06	Maximum normal load
90V/63Hz	6.06	--	539	In SPS	6.06	Maximum normal load
100V/47Hz	5.42	8	535	In SPS	5.42	Maximum normal load
100V/63Hz	5.42	8	536	In SPS	5.42	Maximum normal load
240V/47Hz	2.19	8	518	In SPS	2.19	Maximum normal load
240V/63Hz	2.20	8	518	In SPS	2.20	Maximum normal load
254V/47Hz	2.08	--	517	In SPS	2.08	Maximum normal load
254V/63Hz	2.08	--	518	In SPS	2.08	Maximum normal load
264V/47Hz	2.00	--	517	In SPS	2.00	Maximum normal load
264V/63Hz	2.00	--	518	In SPS	2.00	Maximum normal load
--	--	--	--	--	--	With Bypass-100 I/O Board & DC Power (two power total-top)

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-42Vdc	5.92	15	248.64	In SPS	5.92	Maximum normal load
-72Vdc	3.38	15	243.36	In SPS	3.38	Maximum normal load
--	--	--	--	--	--	With Bypass-100 I/O Board & DC Power (two power total-bottom)
-42Vdc	6.92	15	290.64	In SPS	6.92	Maximum normal load
-72Vdc	3.98	15	286.56	In SPS	3.98	Maximum normal load
--	--	--	--	--	--	With Bypass-100 I/O Board & DC Power (two power total)
-42Vdc	12.88	15	540.96	In SPS	12.88	Maximum normal load
-72Vdc	7.41	15	533.52	In SPS	7.41	Maximum normal load
--	--	--	--	--	--	With Bypass-100 I/O Board & DC Power (one power only -top)
-42Vdc	12.95	15	543.90	In SPS	12.95	Maximum normal load
-72Vdc	7.33	15	527.76	In SPS	7.33	Maximum normal load

Supplementary information:
"Maximum normal load" was defined as follows: Unit continuously crossed reading and writing data between HDD, connector network, Burn in program, each USB2.0 load 2.5W (total 2.5W), loaded with the internal AC & DC power supply's marked electrical output rating and working continuously

2.1.1.5 c) 1)	**TABLE: max. V, A, VA test**	N/A

Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)
--	--	--	--	--

supplementary information:

--

2.1.1.5 c) 2)	**TABLE: stored energy**	N/A

Capacitance C (μF)	Voltage U (V)	Energy E (J)
--	--	--

supplementary information:

--

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2.2	TABLE: evaluation of voltage limiting components in SELV circuits	N/A

Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
--	--	--	--

Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)
--	--
supplementary information:	
--	

2.5	TABLE: Limited power sources	Pass

Circuit output tested:

Note: Measured Uoc (V) with all load circuits disconnected:

Components	Test condition (Single fault)	Uoc (V)	I_{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
(Impedance limited)						
USB Pin1	Normal	5.05	2.60	8	11.39 (4.38Vx2.60A)	100
(Inherently limited)						
USB Pin2-4	Normal	1.83V	0	8	0	100
MNG1 (LAN) All Pins	Normal	0	0	8	0	100
MNG2 (LAN) All Pins	Normal	0V	0	8	0	100
Console (LAN) All Pins	Normal	0V	0	8	0	100

supplementary information:

Sc=Short circuit, Oc=Open circuit

2.10.2	Table: working voltage measurement	N/A

Location	RMS voltage (V)	Peak voltage (V)	Comments
--	--	--	--

supplementary information:

--

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Clause	Requirement + Test	Result - Remark	Verdict

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						Pass
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Functional:							
--	--	--	--	--	--	--	
Basic/supplementary:							
--	--	--	--	--	--	--	
Reinforced:							
--	--	--	--	--	--	--	
Supplementary information: All clearance and creepage are completely evaluated during the investigation of power supply which contain a full surrounded metal enclosure							

2.10.5	TABLE: Distance through insulation measurements				N/A
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
--	--	--	--	--	--
Supplementary information:--					

4.3.8	TABLE: Batteries								Pass
The tests of 4.3.8 are applicable only when appropriate battery data is not available						--			N/A
Is it possible to install the battery in a reverse polarity position?						--			N/A
	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.
For RTC Battery									
Max. current during normal condition	--	--	--	--	--	--	--	--	--
Max. current during fault condition	--	--	--	--	--	--	--	--	--
--									
Test results:						--			Verdict
- Chemical leaks						--			N/A
- Explosion of the battery						--			N/A

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Clause	Requirement + Test	Result - Remark	Verdict

- Emission of flame or expulsion of molten metal	--	N/A
- Electric strength tests of equipment after completion of tests	--	N/A
Supplementary information: See Enclosure/ Miscellaneous ID 7-02 for details		

4.3.8	TABLE: Batteries	Pass

Battery category.....:	Lithium (RTC battery)
Manufacturer.....:	See appended table 1.5.1 for details.
Type / model.....:	Same as above.
Voltage.....:	Same as above.
Capacity.....:	Same as above.
Tested and Certified by (incl. Ref. No.).....:	Same as above.
Circuit protection diagram:	--
--	

MARKINGS AND INSTRUCTIONS (1.7.13)	
Location of replaceable battery	RTC battery (BAT1)
Language(s) …….:	English
Close to the battery …….:	Yes
In the servicing instructions …….:	Yes
In the operating instructions ……..:	Yes

4.5	TABLE: Thermal requirements						Pass
	Supply voltage (V) .....:	See below	See below	See below	See below	—	—
	Ambient T_{min} (°C) .....:	--	--	--	--	—	—
	Ambient T_{max} (°C) .....:	--	--	--	--	—	—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T_{max} (°C)
With Bypass-100 I/O Board & AC Power (two power total-top)		Maximum Normal Load 90Vac / 63Hz	Maximum Normal Load Shift to Tma 40	Maximum normal load at 264Vac / 63Hz	Maximum normal load at 264Vac / 60Hz, shift to Tma 40	--	For UL Tmax regulation
01. Ambient		39.5	40.0	39.7	40.0	--	--
For Power Supply (Top Power)		--	--	--	--	--	--
02. Inlet body near pin		59.8	60.3	51.8	52.1	--	70
03. CX1 body		99.0	99.5	71.5	71.8	--	100
04. L3 coil		109.5	110.0	76.8	77.1	--	130
05. C4A body		84.5	85.0	69.8	70.1	--	85
06. T4 coil		74.7	75.2	69.0	69.3	--	110
07. T4 core		73.4	73.9	67.4	67.7	--	110

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Clause	Requirement + Test	Result - Remark	Verdict

08. T2 coil	93.4	93.9	89.5	89.8	--	110
09. T2 core	88.0	88.5	83.4	83.7	--	110
10. U11 body	70.6	71.1	66.5	66.8	--	100
11. CY5 body	82.6	83.1	78.7	79.0	--	125
12. PWB near TH1	109.0	109.5	77.2	77.5	--	130
For Main board	--	--	--	--	--	--
13. PWB near BU1	50.0	50.5	49.8	50.1	105	94.5
14. L93 coil	44.2	44.7	44.2	44.5	105	94.5
15. PWB near EU1	44.7	45.2	44.6	44.9	105	94.5
16. PWB near OU1	43.9	44.4	43.9	44.2	105	94.5
17. PWB near CPU-0	44.1	44.6	44.2	44.5	105	94.5
18. PWB near CPU-1	46.5	47.0	46.5	46.8	105	94.5
19. RTC body	42.7	43.2	42.8	43.1	100	90
For 100G SFP+ board	--	--	--	--	--	--
20. PWB near U85	46.2	46.7	46.2	46.5	105	94.5
21. L18 coil	45.5	46.0	45.5	45.8	105	94.5
22. PWB near U73	50.7	51.2	50.8	51.1	105	94.5
23. L5 coil	52.5	53.0	52.4	52.7	105	94.5
24. PWB near U160	46.9	47.4	46.9	47.2	105	94.5
25. Metal enclosure outside near Power Module	45.4	45.9	44.0	44.3	70	63
Test duration:	1.4hrs	1.4hrs	1.4hrs	1.4hrs	--	--
With Bypass-100 I/O Board & DC Power (two power total-top)	Maximum Normal Load -42Vdc	Maximum Normal Load -42Vdc, Shift to Tma 40	Maximum normal load at -72Vdc	Maximum normal load at -72Vdc, shift to Tma 40	--	For UL Tmax regulation
01. Ambient	22.9	40.0	23.0	40.0	--	--
For Power Supply (Top Power)	--	--	--	--	--	--
02. L1 coil	58.8	75.9	56.4	73.4	--	105
03. L2 coil	70.3	87.4	47.0	64.0	--	130
04. L4 coil	67.3	84.4	51.8	68.8	--	130
05. C4A body	56.0	73.1	46.9	63.9	--	105
06. T4 core	42.4	59.5	38.7	55.7	--	110
07. T4 coil	46.0	63.1	40.7	57.7	--	110
08. T2 coil	64.3	81.4	62.3	79.3	--	110
09. T2 core	60.4	77.5	58.4	75.4	--	110
10. U11 body	46.3	63.4	44.3	61.3	--	100
11. CY5 body	47.6	64.7	45.6	62.6	--	125
12. PWB near H3 of Q27	61.5	78.6	58.2	75.2	--	130
For Main board	--	--	--	--	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

13. PWB near BU1	32.3	49.4	31.0	48.0	105	94.5
14. L93 coil	27.1	44.2	25.9	42.9	105	94.5
15. PWB near EU1	27.9	45.0	26.6	43.6	105	94.5
16. PWB near OU1	27.3	44.4	25.8	42.8	105	94.5
17. PWB near CPU-0	27.8	44.9	26.3	43.3	105	94.5
18. PWB near CPU-1	29.5	46.6	28.1	45.1	105	94.5
19. RTC body	26.5	43.6	24.9	41.9	100	90
For 100G SFP+ board	--	--	--	--	--	--
20. PWB near U85	30.0	47.1	28.5	45.5	105	94.5
21. L18 coil	28.9	46.0	27.7	44.7	105	94.5
22. PWB near U73	34.0	51.1	32.5	49.5	105	94.5
23. L5 coil	35.4	52.5	34.0	51.0	105	94.5
24. PWB near U160	30.9	48.0	29.2	46.2	105	94.5
25. Metal enclosure outside near Power Module	25.3	42.4	24.1	41.1	70	63
Test duration:	1.4hrs	1.4hrs	1.3hrs	1.3hrs	--	--

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
--	--	--	--	--	--	--	--

Comments:

The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.1 at voltages as described in 1.4.5.
With a specified ambient temperature of 40 degree C, the max. temperature is calculated as follows:
Winding components:

- class B Tmax (degree C) = 120 degree C – 10 degree C = 110 degree C

Components with:
- max. absolute temp. of 100 degree C (RTC battery, Photo coupler)
- max. absolute temp. of 105 degree C (PWB, Choke)
- max. absolute temp. of 130 degree C (Choke)

User accessible area:
- material is metal (90 degree C)

Note, tested with power supply with 80 percent load

4.5.5	TABLE: Ball pressure test of thermoplastic parts		N/A
	Allowed impression diameter (mm) ..... :	≤ 2 mm	—

Part	Test temperature (°C)	Impression diameter (mm)
--	--	--

Supplementary information: --

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

4.7	TABLE: Resistance to fire					Pass
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
--	--	--	--	--	--	
Supplementary information: See Table 1.5.1 for details.						

5.1	TABLE: touch current measurement			Pass
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	
Earthed metal enclosure	2.08	3.5	“e” – O; P1 – N; Pri S. - On	
Earthed metal enclosure	2.09	3.5	“e” – O; P1 – R; Pri S. - On	
Output connector (USB)	2.05	3.5	“e” – O; P1 – N; Pri S. - On	
Output connector (USB)	2.06	3.5	“e” – O; P1 – R; Pri S. - On	
Output connector (LAN)	0.01	0.25	“e” – C; P1 – N; Pri S. - On	
Output connector (LAN)	0.01	0.25	“e” – C; P1 – R; Pri S. - On	
Supplementary information:				
Test Voltage: 264 Vac for AC two power source, conducted on SKY-8211B for represent.				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests		Pass
Test voltage applied between:	Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Functional:			
--	--	--	--
Basic/supplementary:			
With AC Power: Zippy / PSS2-5A00V3V	--	--	--
Mains Poles to Earthed metal enclosure	DC	2979	No
With DC Power: Zippy / DPSS2-5A00V3V	--	--	--
Input circuit to Earthed metal enclosure	DC	1294	No
Reinforced:			
With AC Power: Zippy / PSS2-5A00V3V	--	--	--
Mains Poles to Output connector	DC	4242	No
With DC Power: Zippy / DPSS2-5A00V3V	--	--	--
Input circuit to Output connector	DC	2069	No

5.3	TABLE: Fault condition tests						Pass
	Ambient temperature (°C) ..... :				See below		—
	Power source for EUT: Manufacturer, model/type, output rating ..... :				See appended table 1.5.1 for details.		—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	
--	--	--	--	--	--	5.3.1 - 5.3.9 - ABNORMAL OPERATION TESTS	
--	--	--	--	--	--	With AC Power: Zippy / PSS2-5A00V3V	

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

01.System Fan #1,3,5	Stalled	264V, 63Hz	2.3hrs	In SPS	3.44 → 3.13	NC, NT, CT, NB Unit normal operated Ambient: 21.0/40.0°C T4 coil: 41.4/60.4°C T4 core: 40.0/59.0°C T2 core: 53.7/72.7°C T2 coil: 53.8/72.8°C
02.System Fan #2,4	Stalled	264V, 63Hz	4.3hrs	In SPS	3.44 → 3.18	NC, NT, CT, NB Unit normal operated Ambient: 21.3/40.0°C T4 coil: 53.2/71.9°C T4 core: 51.4/70.1°C T2 core: 68.5/87.2°C T2 coil: 68.6/87.3°C
03.CPU Fan #CPU-0	Stalled	264V, 63Hz	3.4hrs	In SPS	3.44 → 3.34	NC, NT, CT, NB Unit normal operated Ambient: 21.6/40.0°C T4 coil: 67.7/86.1°C T4 core: 65.1/83.5°C T2 coil: 88.4/106.8°C T2 core: 88.3/106.7°C
04.CPU Fan #CPU-1	Stalled	264V, 63Hz	3.0hrs	In SPS	3.44 → 3.35	NC, NT, CT, NB Unit normal operated Ambient: 21.8/40.0°C T4 coil: 82.0/100.2°C T4 core: 78.8/97.0°C T2 coil: 108.8/127.0°C T2 core: 108.8/127.0°C
05.Power Fan	Stalled	264V, 63Hz	2.1hrs	In SPS	3.44 → 3.38	NC, NT, CT, NB Unit normal operated Ambient: 22.9/40.0°C T4 coil: 32.7/49.8°C T4 core: 31.9/49.0°C T2 coil: 45.2/62.3°C T2 core: 45.5/62.6°C
06.Ventilation Openings	Blocked	264V, 63Hz	13.8hrs	In SPS	3.44 → 0.11	NC, NT, NB Unit shutdown Ambient: 22.9/40.0°C T4 coil: 110.7/127.8°C

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

						T4 core: 108.7/125.8°C T2 coil: 165.9/183.0°C T2 core: 162.8/179.9°C
--	--	--	--	--	--	With DC Power: Zippy / DPSS2-5A00V3V
07.System Fan #1,3,5	Stalled	-72Vdc	3.8hrs	In SPS	13.62 → 11.83	NC, NT, CT, NB Unit normal operated Ambient: 22.7/40.0°C T4 core: 39.4/56.7°C T4 coil: 41.1/58.4°C T2 coil: 60.9/78.2°C T2 core: 57.3/74.6°C
08.System Fan #2,4	Stalled	-72Vdc	2.9hrs	In SPS	13.62 → 12.08	NC, NT, CT, NB Unit normal operated Ambient: 22.3/40.0°C T4 core: 38.6/56.3°C T4 coil: 40.3/58.0°C T2 coil: 60.3/78.0°C T2 core: 56.6/74.3°C
09.CPU Fan #CPU-0	Stalled	-72Vdc	3.7hrs	In SPS	13.62 → 11.91	NC, NT, CT, NB Unit normal operated Ambient: 22.5/40.0°C T4 core: 39.2/56.7°C T4 coil: 41.2/58.7°C T2 coil: 62.2/79.7°C T2 core: 58.4/75.9°C
10.CPU Fan #CPU-1	Stalled	-72Vdc	5.4hrs	In SPS	13.62 → 11.76	NC, NT, CT, NB Unit normal operated Ambient: 22.0/40.0°C T4 core: 37.8/55.8°C T4 coil: 39.7/57.7°C T2 coil: 61.0/79.0°C T2 core: 57.2/75.2°C
11.Power Fan	Stalled	-72Vdc	4.1hrs	In SPS	13.62 → 12.27	NC, NT, CT, NB Unit normal operated Ambient: 21.3/40.0°C T4 core: 44.7/63.4°C T4 coil: 45.7/64.4°C T2 coil: 69.5/88.2°C T2 core: 63.1/81.8°C

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

12.Ventilation Openings	Blocked	-72Vdc	8.5hrs	In SPS	13.62 → 0.098	NC, NT, NB Unit shutdown Ambient: 23.6/40.0°C T4 core: 85.6/102.0°C T4 coil: 87.2/103.6°C T2 coil: 119.1/135.5°C T2 core: 114.1/130.5°C
--	--	--	--	--	--	5.3.7 - OVERLOAD OF OPERATOR ACCESSIBLE CONNECTOR TEST
USB1 Pin1	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 5.05Vdc Overload: 2000mA
USB1 Pin2-4	Overload	264Vac/ 63Hz	--	--	--	B, open voltage: 0V
MNG1 (LAN) All Pins	Overload	264Vac/ 63Hz	--	--	--	B, open voltage: 0V
MNG2 (LAN) All Pins	Overload	264Vac/ 63Hz	--	--	--	B, open voltage: 0V
Console (LAN) All Pins	Overload	264Vac/ 63Hz	--	--	--	B, open voltage: 0V
SFP+ 1 Pin10	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.32Vdc Overload: 4200mA
SFP+ 1 Pin29	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.32Vdc Overload: 4200mA
SFP+ 1 Pin30	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.32Vdc Overload: 4200mA
SFP+ 1 Pin9,11,12,27	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.37Vdc Overload: 10mA
SFP+ 1 Pin 1-8,13-26,28, 31-38	Overload	264Vac/ 63Hz	--	--	--	B, open voltage: 0V
SFP+ 5 Pin10	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.32Vdc Overload: 4200mA
SFP+ 5 Pin29	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.32Vdc Overload: 4200mA
SFP+ 5 Pin30	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.32Vdc Overload: 4200mA
SFP+ 5 Pin9,11,12,27	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.37Vdc Overload: 10mA
SFP+ 5 Pin 1-8,13-26,28, 31-38	Overload	264Vac/ 63Hz	--	--	--	B, open voltage: 0V
SFP+ 9 Pin15	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.32Vdc Overload: 4200mA

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Clause	Requirement + Test	Result - Remark	Verdict

SFP+ 9 Pin16	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.32Vdc Overload: 4200mA
SFP+ 9 Pin2, 4-9	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.37Vdc Overload: 10mA
SFP+ 5 Pin 1,3,10-14, 17-20	Overload	264Vac/ 63Hz	--	--	--	B, open voltage: 0V
SFP+ 0 Pin10 (for Bypass-100 IO Board)	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.32Vdc Overload: 4000mA
SFP+ 0 Pin29 (for Bypass-100 IO Board)	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.32Vdc Overload: 4000mA
SFP+ 0 Pin30 (for Bypass-100 IO Board)	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.32Vdc Overload: 4000mA
SFP+ 0 Pin9,11,12,27 (for Bypass-100 IO Board)	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.37Vdc Overload: 10mA
SFP+ 0 Pin 1-8,13-26,28, 31-38 (for Bypass-100 IO Board)	Overload	264Vac/ 63Hz	--	--	--	B, open voltage: 0V
SFP+ 0 Pin10 (for Netcop IO Board)	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.32Vdc Overload: 4000mA
SFP+ 0 Pin29 (for Netcop IO Board)	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.32Vdc Overload: 4000mA
SFP+ 0 Pin30 (for Netcop IO Board)	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.32Vdc Overload: 4000mA
SFP+ 0 Pin9,11,12,27 (for Netcop IO Board)	Overload	264Vac/ 63Hz	1hr	--	--	NC, NT, NB Open circuit voltage : 3.37Vdc Overload: 10mA
SFP+ 0 Pin 1-8,13-26,28, 31-38 (for Netcop IO Board)	Overload	264Vac/ 63Hz	--	--	--	B, open voltage: 0V

Supplementary information:
Results Key:
CT = Constant temperatures were obtained
NB = No indication of dielectric breakdown
NC = Cheesecloth remained intact
NT = Tissue paper remained intact
B = Circuit measures 0 volts.

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

C.2	TABLE: transformers						N/A
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
--	--	--	--	--	--	--	--
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
--	--			--	--	--	--
supplementary information:							
Investigated as an element of power supply certification.							

C.2	TABLE: transformers	N/A
Transformer --		

Enclosure

National Differences

Attachment No. 1

For IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013, and

EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013

Australia / New Zealand

Austria*

Denmark

Group

Italy

Japan

Sweden*

Turkey*

United Kingdom*

USA / Canada

* No National Differences Declared
** Only Group Differences

Attachment No. 2

For IEC 60950-1:2005 (Second Edition); Am 1:2009, and EN 60950-1:2006/A11:2009/A1:2010/A12:2011

Argentina

Australia / New Zealand

Denmark**

Finland

Germany

Group

Japan

Israel

Korea

Norway**

Slovenia**

Sweden**

United Kingdom

USA / Canada

* No National Differences Declared
** Only Group Differences

Attachment No. 3

For IEC 60950-1:2005 (2nd Edition) and EN 60950-1:2006/A11:2009

Australia / New Zealand

Austria**

China

Denmark

Finland

France**

Germany

Group

Ireland

Israel

Italy**

Japan

Korea

Netherlands**

Norway

Poland**

Slovenia**

Spain

Sweden

Switzerland

USA / Canada

United Kingdom

* No National Differences Declared
** Only Group Differences

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
(AUSTRALIA/NEW ZEALAND) NATIONAL DIFFERENCES
(Information technology equipment-safety)

Differences according to .....: AS/NZS 60950.1:2015

Attachment Form No. .....: AU_NZ_ND_IEC60950_1F

Attachment Originator.....: JAS-ANZ

Master Attachment .....: 2017-06

	National Differences		
Appendix ZZ	Variations to IEC 60950-1, Ed 2.2 (2013) for Australia and New Zealand		N/A
1.2	**DEFINITIONS**		N/A
	After definition 'PERSON, SERVICE', insert the following new definition: POTENTIAL IGNITION SOURCE…….1.2.12.201		N/A
1.5	**COMPONENTS**		N/A
1.5.1	1. .....First paragraph, insert the following text after the words 'IEC component standard: or the relevant Australian/New Zealand Standard 2 .....In the Note, insert the following text after the word standard: or the relevant Australian/New Zealand Standard 3 .....Second paragraph, delete the words 'without further evaluation'		N/A
1.5.2	1 .....First paragraph, insert the following text after the word 'standard' or an Australian/New Zealand Standard 2 .....First paragraph, second dash item, second line, insert the following text after the word 'standard' or an Australian/New Zealand Standard 3 .....First paragraph, second dash item, last line, insert the following text after the word 'standard': or an Australian/New Zealand Standard		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7	**MARKINGS AND INSTRUCTIONS**		N/A
1.7.1.3	*Delete* existing text and *replace* with the following: Graphical symbols placed on the equipment as a requirement of this standard, shall be in accordance with IEC 60417 or ISO 3864-2 or ISO 7000, if available. In the absence of suitable symbols, the manufacturer may design specific graphical symbols. Symbols as required by this standard placed on the equipment shall be explained in the user manual		N/A
2.9	**ELECTRICAL INSULATION**		N/A
2.9.2	Variation Second paragraph, *delete* the word 'designated'		N/A
3.2.5	**POWER SUPPLY CORDS**		N/A
Table 3B	Variation 1. .....*Delete* the first four rows and replace with the following: Over 0.2 up to and including 3 | 0.5[a] | 18 [0.8] Over 3 up to and including 7.5 | 0.75 | 16 [1.3] Over 7.5 up to including 10 | (0.75)[b] 1.00 | 16 [1.3] Over 10 up to including 16 | (1.0)[c] 1.5 | 14 [2]		N/A
	2. .....*Delete* NOTE 1 and renumber existing NOTE 2 as 'NOTE'		N/A
	3. .....*Delete* Footnote [a] and replace with the following: [a] This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the to the plug does not exceed 2 m (0,5 mm2 three-core supply flexible cords are not permitted; see AS/NZS 3191)		N/A
4.3	**DESIGN AND CONSTRUCTION**		N/A
4.3.6	Variation *Delete* the third paragraph and *replace* with the following:		N/A
	Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.8	Addition Eighth paragraph, *insert* the following new note after the first dash item:		N/A
	NOTE 6.201 In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A
4.3.13.5.1	Variation *Delete* the first paragraph and *replace* with the following: Except as permitted below, equipment shall be classified and labelled according to IEC 60825-1 or AS/NZS 60825.1, IEC 60825-2 or AS/NZS 60825.2 and IEC 60825-12, as applicable		N/A
	Third paragraph, first sentence, after 'IEC 60825-1', *insert* the following text: or AS/NZS 60825.1		N/A
	Fourth paragraph, after 'IEC 60825-1', *insert* the following text: or AS/NZS 60825.1		N/A
4.7	**RESISTANCE TO FIRE**		N/A
4.7	Addition At the end of Clause 4.7, *insert* the following text: For alternate tests refer to Clause 4.7.201		N/A
6	**CONNECTION TO TELECOMMUNICATIONS NETWORKS**		N/A
6.2.2	Variation For Australia only, *delete* the first paragraph and Note, and *replace* with the following: In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2		N/A
6.2.2.1	Variation For Australia only, *delete* the first paragraph including the Notes, and *replace* with the following: In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator Reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, Uc, is: (i) ..... for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and (ii) ..... For 6.2.1 b) and 6.2.1 c): 1.5kV		N/A
	NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines		N/A
	NOTE 202 The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.2	Variation For Australia only, delete the second paragraph including the Note, and replace with the following: In Australia only, the a.c. test voltage is (i) .....for 6.2.1 a): 3kV; and (ii) .....for 6.2.1b) and 6.2.1c): 1.5kV		N/A
	NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.		N/A
	NOTE 202 The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A
7	**CONNECTION TO CABLE DISTRIBUTION NETWORK**		N/A
7.3	Addition *Add* the following before the first paragraph: Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes		N/A
Annex P	Addition *Add* the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets		N/A

	Special national conditions (if any)		N/A
1.2.12	**FLAMMABILITY**		N/A
1.2.12.15	Addition After Clause 1.2.12.15, *insert* the following new clause:		N/A
1.2.12.201	**POTENTIAL IGNITION SOURCE** Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA		N/A
	Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS		N/A
	NOTE 1 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	NOTE 2 This definition is from AS/NZS 60065:2012, Clause 2.8.11.		N/A
4	**PHYSICAL REQUIREMENTS**		N/A
4.1	Addition After Clause 4.1, *insert* new Clause 4.1.201 as follows:		N/A
4.1.201	**Display devices used for television purposes** Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065		N/A
4.3	**DESIGN AND CONSTRUCTION**		N/A
4.3.8	Addition After Clause 4.3.8, *add* the following new clause as follows		N/A
4.3.8.201	**Products containing coin/button cell batteries and batteries designated R1** The requirements of AS/NZS 60065:2012 Amendment 1:2015, Clause 14.10.201 apply for this Clause.		N/A
4.7	**RESISTANCE TO FIRE**		N/A
4.7.3.6	Addition After Clause 4.7.3.6, *add* new clauses as follows:		N/A
4.7.201	**Resistance to fire—Alternative tests**		N/A
4.7.201.1	**General** Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following: a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length.		N/A
	b) The following parts which would contribute negligible fuel to a fire: – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1,750 mm3, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	NOTE In considering how to minimize propagation of fire and what 'small parts are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another		N/A
	Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5		N/A
	For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5		N/A
	The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring		N/A
4.7.201.2	**Testing of non-metallic materials** Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.201.3	**Testing of insulating materials** Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE Contacts in components such as switch contacts are considered to be connections. For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:		N/A

Clause of AS/NZS 60695.11.5	**Change**
9 Test procedure	
9.2 Application of Needle-flame	*Delete* the first and second paragraphs and *replace* with the following: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner. The duration of application of the test flame shall be 30 s ± 1 s
9.3 Number of test specimens	*Delete* existing text and *replace* with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.
11 Evaluation of test results	*Delete* existing text and *replace* with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15s

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.201.4	**Testing in the event of non-extinguishing material** If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3 by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.		N/A
	NOTE 1 If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.		N/A
	NOTE 2 If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing		N/A
	NOTE 3 Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.		N/A
4.7.201.5	**Testing of printed boards** The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 with A1:2009 and A2:2013
CANADA NATIONAL DIFFERENCES
Information technology equipment – Safety – Part 1: General requirements

Differences according to .....:	CAN/CSA-C22.2 No. 60950-1-07, Amd 1:2011, Amd 2:2014
Attachment Form No. .....:	CA_ND_IEC60950_1F
Attachment Originator.....:	CSA
Master Attachment .....:	Date (2015-05)

1.1.1	All equipment is to be designed to allow installation in accordance with 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, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.		Pass
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A:		Pass
1.5.5	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 CEC/NEC. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC/NEC are required to have special construction features and identification markings.	EUT in compliance with requirements of IEC 60950-1. Overall acceptance shall be evaluated during national approval.	N/A
1.7.1	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. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC shall be marked with the voltage rating and "Class 2" or equivalent. Marking shall be located adjacent to the terminals and shall be visible during wiring.		N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.		N/A
2.6	Equipment with isolated ground (earthing) receptacles are required to comply with NEC 250.146(D) and CEC 10-112 and 10-906(8).		N/A
2.7.1	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. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.		N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		Pass
3.2.1.2	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, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
3.2.3	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
3.2.5	Power supply cords are required to be no longer than 4.5 m in length. 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. 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
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm2).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for US/Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).		N/A
3.3.5	First column of Table 3E revised to require “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration.”		N/A
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A
4.3.13.5.1	Equipment with lasers is required to meet the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m3 (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m2 (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Non-metallic enclosures of equipment for use in spaces used for environmental air (plenums) are required to comply with UL 2043.		N/A
Annex H	Equipment that produces ionizing radiation is required to comply with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
OTHER DIFFERENCES The following key national differences are based on requirements other than national regulatory requirements.			
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.	See safety component list	Pass
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage shall include consideration of the battery charging “float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment.		—
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vpeak or 60 Vd.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
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.2	Equipment with functional earthing is required to be marked with the functional earthing symbol (IEC 60417-6092).		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.		N/A
4.3.2	Equipment with handles is required to comply with special loading tests.	See clause 4.3.2 for details.	Pass
4.3.8	Battery packs for both portable and stationary applications are required to comply with special component requirements.		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.		N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded. During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.	See appended table 5.3 for details.	Pass
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		N/A
Annex EE	UL articulated accessibility probe (Fig EE.3) required for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		N/A
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Denmark - Differences to DS/EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013			
1.2.4.1	In **Denmark**, certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.7.5	In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a. For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.		N/A
3.2.1.1	In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. 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 poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Information technology equipment – Safety –

Part 1: General requirements

Differences according to .....: EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013

Attachment Form No. .....: EU_GD_IEC60950_1F
Attachment Originator.....: SGS Fimko Ltd
Master Attachment .....: Date 2014-02

EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 – CENELEC COMMON MODIFICATIONS

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z”		Pass
Contents (A2:2013)	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZD (informative) IEC and CENELEC code designations for flexible cords		Pass
General	Delete all the “country” notes in the reference document (IEC 60950-1:2005) according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1 Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2		Pass
General (A1:2010)	Delete all the “country” notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list: 1.5.7.1 Note 6.1.2.1 Note 2 6.2.2.1 Note 2 EE.3 Note		Pass
General (A2:2013)	Delete all the “country” notes in the reference document (IEC 60950-1:2005/A2:2013) according to the following list: 2.7.1 Note * 2.10.3.1 Note 2 6.2.2. Note * Note of secretary: Text of Common Modification remains unchanged.		Pass

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following: equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed "programme simulation noise" as described in EN 50332-1; and a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" as described in EN 50332-1. NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx. All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off. d) have a warning as specified in Zx.3; and e) not exceed the following: 1) equipment provided as a package (player with Its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed “programme simulation noise” described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” described in EN 50332-1. For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song. NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: the symbol of Figure 1 with a minimum height of 5 mm; and the following wording, or similar: "To prevent possible hearing damage, do not listen at high volume levels for long periods."  **Figure 1 – Warning label (IEC 60417-6044)** Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.		N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed "programme simulation noise" described in EN 50332-2 shall be ≥ 75 mV. This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.		N/A
	Zx.4.2 Wired listening devices with digital input With any playing device playing the fixed "programme simulation noise" described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.). NOTE An example of a wired listening device with digital input is a USB headphone.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.4.3 Wireless listening devices In wireless mode: with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.		N/A
	Zx.5 Measurement methods Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s. NOTE Test method for wireless equipment provided without listening device should be defined.		N/A
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; 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;		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		N/A
2.7.2	This subclause has been declared 'void'.		N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: Up to and including 6 | 0,75 [a)] | Over 6 up to and including 10| (0,75) [b)] 1,0 | Over 10 up to and including 16| (1,0) [c)] 1,5 | In the conditions applicable to Table 3B delete the words "in some countries" in condition [a)]. In NOTE 1, applicable to Table 3B, delete the second sentence.		N/A
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N/A
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 | 1,5 to 2,5 | 1,5 to 4 | Delete the fifth line: conductor sizes for 13 to 16 A		N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artifical optical radiation).		N/A
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		N/A
Bibliography	Additional EN standards.		—

ZA	**NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS**	—

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In **Denmark**, certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.2.13.14 (A11:2009)	In **Norway** and **Sweden**, for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1 (A11:2009)	In **Finland, Norway** and **Sweden**, resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.8	In **Norway**, due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
1.5.9.4	In **Finland**, **Norway** and **Sweden**, the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	In **Finland**, **Norway** and **Sweden**, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: 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
1.7.2.1 (A11:2009)	In **Norway** and **Sweden**, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. 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: “Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11).”		

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In **Switzerland**, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998:Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A		N/A
3.2.1.1	In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. 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 poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1 (A2:2013)	In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1. 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. Justification the Heavy Current Regulations, 6c		N/A
3.2.1.1	In **Spain**, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N/A
3.2.1.1	In the **United Kingdom**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. 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
3.2.1.1	In **Ireland**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.4	In **Switzerland**, for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the **United Kingdom**, a power supply cord with conductor of 1,25 mm2 is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the **United Kingdom**, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm^2 to 1,5 mm^2 nominal cross-sectional area.		N/A
4.3.6	In the **United Kingdom**, the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
4.3.6	In **Ireland**, DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A
5.1.7.1	In **Finland**, **Norway** and **Sweden** TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1 (A1:2010)	In **Finland**, **Norway** and **Sweden**, add the following text between the first and second paragraph of the compliance clause: 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. Alternatively for components, there is no distance through insulation requirements for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.		N/A
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). 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 EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.2	In **Finland**, **Norway** and **Sweden**, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A
7.2	In **Finland**, **Norway** and **Sweden**, for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3 (A11:2009)	In **Norway** and **Sweden**, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A

Annex ZD
(informative)

IEC and CENELEC code designations for flexible cords

Type of flexible cord	Code designations	
	IEC	CENELEC
PVC insulated cords		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60277 IEC 53	H05VV-F H05VVH2-F
Rubber insulated cords		
Braided cord	60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
Cords having high flexibility		
Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Italy - Differences to EN 60950-1:2006/A2:2013			
ZB ANNEX (normative) **SPECIAL NATIONAL CONDITIONS (EN)**			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	In **Denmark**, **Finland, Norway** and **Sweden**, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: 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
1.7.5	In **Denmark**, socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011. For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a. Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b. *Justification* the Heavy Current Regulations, 6c		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Italy - Differences to EN 60950-1:2006/A2:2013			
ZB ANNEX (normative) **SPECIAL NATIONAL CONDITIONS (EN)**			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1	In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1. 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. *Justification* the Heavy Current Regulations, 6c		N/A
ZD ANNEX (normative) **IEC and CENELEC code designations for flexible cords**			

Type of flexible cord	Code designations	
	IEC	CENELEC
PVC insulated cords		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60277 IEC 53	H05VV-F H05VVH2-F
Rubber insulated cords		
Braided cord	60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
Cords having high flexibility		
Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT

IEC 60950-1 with A1: 2009 and A2:2013
JAPAN NATIONAL DIFFERENCES
Information technology equipment – Safety – Part 1: General requirements

Differences according to ..... : J60950-1 (H29)

Attachment Form No..... : JP_ND_IEC60950_1F

Attachment Originator ..... : JQA

Master Attachment..... : 2017-11

	National Differences		
1.2.4.1	Add the following new notes. Note: Even if the equipment is designed as Class I, the equipment is regarded as CLASS 0I EQUIPMENT (see 1.2.4.3A) when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.		Pass
1.2.4.3A	Add the following new clause. 1.2.4.3A CLASS 0I EQUIPMENT Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by: - using BASIC INSULATION, and - providing either of the following a) or b) in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring. a) Provision of 2-pin plug with earthing lead including the condition of that 2-pin adaptor with earthing lead wire is provided or recommended. b) Provision of an independent earthing terminal, when 2-core mains cord (without earthing conductor) is used. Note – CLASS 0I EQUIPMENT may have a part constructed with Double Insulation or Reinforced Insulation.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.3.2	Add the following notes after the first paragraph: Note 1 Transportable or similar equipment that are relocated frequently for intended usage should not be designed as Class I or CLASS 0I EQUIPMENT unless it is intended to be installed by service personnel. Note 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or CLASS 0I EQUIPMENT unless it is intended to be installed by service personnel.		N/A
1.5.1	Replace the first paragraph with the follows: Where safety is involved, components shall comply either with the requirements of this standard, with the safety aspects of the relevant JIS component standard, or IEC component standards, or components shall have equivalent to or better properties than these. Replace Note 1 with the following: Note 1 Components complying with the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance. Note 2 JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope. Add the following after the last paragraph: For an appliance connector that is able to fit with appliance inlet compatible with the standard sheet of IEC 60320-1 or JIS C 8283-1, the size of the connector shall comply with relevant standard sheet of IEC 60320-1 or JIS C 8283-1. A power supply cord set complying with JIS C 8286 is regarded to comply with this requirement. Note 3 A power supply cord set provided with appliance connector that is able to fit with appliance inlet compatible with the standard sheet of IEC 60320-1 or JIS C 8283-1 should comply with JIS C 8286.		N/A
1.5.2	Add the following Note 2 after the 4th dashed paragraph: Note 2 See 1.7.5A when Type C.14 appliance coupler rated 10 A per JIS C 8283-1 is used with an equipment rated not more than 125 V and rated more than 10 A.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.5	Add the following Note after the last paragraph: NOTE An interconnection cord sets provided with interconnecting coupler for mains supply complying with JIS C 8283-2-2 should comply with JIS C 8286.		N/A
1.5.9.1	Add the following in the last of NOTE 1. Gas discharge tube connected in series with VDR may be used.		N/A
1.7	Replace EE.2 and EE.4 with the following: JA.1 Shredder warning JA.3 Shredder power disconnection		N/A
1.7.1.2	Replace first and second dashed paragraphs with the followings: - manufacturer's or responsible company's name or trade-mark or identification mark; - manufacturer's or responsible company's model identification or type reference;		N/A
1.7.2.1	Add the following after the second paragraph. Instruction or equipment marking regarding safety shall be written in Japanese unless otherwise permitted in this standard.		N/A
1.7.2.5	Replace the last sentence with the following: An acceptable marking for an electric shock hazard is  (6.2.4 of JIS S 0101).		N/A
1.7.5	Replace the second paragraph with the following. Socket-outlets conforming to JISC8282-1 are examples of standard power supply outlets.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5A	Add the following new clause after 1.7.5. 1.7.5A Power supply cord set If appliance coupler according to IEC60320-1, C.14(rated current: 10A) is used in equipment whose rated voltage is less than 125V and rated current is over 10A, the following instruction or equivalent shall be described in the operating instruction. “ Use only designated cord set attached in this equipment” *Example in Japanese:* “この機器に同こん(梱)した指定の電源コードセットだけを使用して下さい。” If appliance coupler is used for connection to the mains and if the cord set is not provided within the package for the equipment, suitable information regarding to the cord set shall be described in the operating instruction Note Since the combination of appliance inlet with earthing pin and two-core cord set (without earthing conductor) is special, the cord set should be attached in the equipment and the operating *instruction should provide the information that the cord set is exclusively used with the equipment and not allowed to use with other equipment.*		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.14A	Add the following new clause after 1.7.14. 1.7.14A Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following or equivalent instructions shall be marked. - the following instruction shall be marked on the mains plug or on the visible place of the main body “Provide an earthing connection” *Example in Japanese:* “必ず接地接続を行ってください。” - the following instruction shall be marked on the visible place of the main body or written in the operating instructions: “Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.” *Example in Japanese:* 接地接続は必ず，電源プラグを電源につなぐ前に行ってください。 また，接地接続を外す場合は，必ず電源プラグを電源から切り離してから行ってください。		N/A
1.7.14B	Add the following new clause after 1.7.14A 1.7.14B Protective earthing conductor used for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided within the package for the equipment, the suitable information for the protective earthing connection shall be provided in the operating instruction. (See 2.6.3.2)		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.1	Replace item b) of 2.1.1.1with the following. b) A test with the test finger, Figure 2A, which shall not contact parts described above when applied to openings in the ENCLOSURES after removal of parts that can be detached by an OPERATOR, including fuseholders, and with OPERATOR access doors and covers open. It is permitted to leave lamps in place for this test. Connectors that can be separated by an OPERATOR, other than those complying with JIS C 8303 or JIS C 8285 or IEC 60309 series or JIS C 8283 series or IEC 60320 series, shall also be tested during disconnection. But even if the connector does not comply with these standards, the one having equivalent to or better performance need not be tested during disconnection. Note 4 Connectors complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.		N/A
2.5	Replace “IEC 60730-1” with “JIS C 9730-1” (in item b)).		N/A
2.6.2	Delete the following line. • the symbol  ,IEC 60417-5018 (2011-07);		N/A
2.6.3.2	Add the following after the first paragraph. However where the single core conductor is used for protective earthing lead or earthing cord for CLASS 0I EQUIPMENT, either of the following condition shall be met. - Use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having equivalent to or more strength and thickness. - Single core cord or single core cab tire cable with 1.25 mm^2 or more cross-sectional area		N/A
2.6.3.5	Add the following after the first paragraph. However this requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.4.2	Replace the first paragraph with the following. Equipment required to have protective earthing shall have a main protective earthing terminal. For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal. However, for CLASS 0I EQUIPMENT provided with the separate main protective earthing terminal other than appliance inlet, the separate main protective earthing terminal may be treated as mains protective earthing terminal.		N/A
2.6.5.4	Replace the first sentence with the following. Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following: Add the following after last paragraph: Note For CLASS 0I EQUIPMENT,1.7.14A is applied instead of this requirement.		N/A
2.6.5.8A	Add the following new clause after 2.6.5.8 2.6.5.8A Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible.		N/A
2.7.6	Replace “ISO 3864, No. 5036” with “6.2.4 of JIS S 0101”.		N/A
2.10.3.1	Replace the 8th paragraph with the following The above minimum CLEARANCE for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series of standards, JIS C 8283 series of standards, IEC60320 series of standards, JIS C 8303, or even if it does not comply with the above standards but the one having equivalent to or better performance and dimension which comply with JIS C 8283 series of standards, JIS C 8303 or IEC 60309-2. Note Connectors complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.		N/A
2.10.3.2 Table 2J	In Japan, the value of the main power supply transient voltage for the nominal ac main power supply voltage of 100 V is determined by applying the row of AC main power supply voltage 150 V.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.4.3	Replace the 6th paragraph with the following The above minimum CREEPAGE DISTANCE for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series of standards, JIS C 8283 series of standards, IEC60320 series of standards, JIS C 8303, or even if it does not comply with the above standards but the one having equivalent to or better performance and dimension which comply with JIS C 8283 series of standards, JIS C 8303 or IEC 60309-2. Note Connectors complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.		N/A
2.10.9	Replace “1.4.5” in the third paragraph with “1.4.12”.		N/A
3.2.3	Add the following after the third paragraph. Table 3A applies when cables complying JIS C 3662 series of standards or JIS C 3663 series of standards are used. In case of other cables, cable entries shall be so designed that the cable could be fitted in a conduit.		N/A
3.2.4	Add the following as 4th dashed paragraph. - be so constructed that mechanical stress shall not transmit to the soldering part of inlet terminal during insertion or removal of the connector except that the body of the inlet is secured and is secured not only soldering.		N/A
3.2.5.1	Add the following after Note 3: Note 4 In Japan, mains cords having equivalent to or better electro-mechanical and fire safety performance as above and complying with Appendix 1 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance can be used. Replace the paragraph after Note 3 with the following. For equipment required to have protective earthing, a PROTECTIVE EARTHING CONDUCTOR shall be included in the MAINS SUPPLY cord except for CLASS 0I EQUIPMENT having separate protective earthing conductor from mains cord. Add the following after the second paragraph after Note 3: Note 5 For the cross-sectional area of mains cord described in Note 4, relevant Japanese wiring regulation can be applied.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5A	Add the following new clause after 3.2.5 3.2.5A AC mains plug Mains plug for PLUGGABLE EQUIPMENT TYPE A shall comply with JIS C 8282-1 or equivalent to or better performance. Power supply cord set complying with JIS C 8286 is regarded to meet the requirements. Mains plug with fuse link for PLUGGABLE EQUIPMENT TYPE A shall comply with JIS C 8282-2-1 or equivalent to or better performance. Note Mains plug complying with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better performance.		N/A
3.3.4 Table 3D	Add the following note to Table 3D: Note For cables other than those complying with JIS C 3662 series of standards or JIS C 3663 series of standards, the terminals shall be suitable for the size of the intended cables.		N/A
3.3.7	Add the following after the first sentence: This requirement is not applicable to the external earthing terminal of CLASS 0I EQUIPMENT.		N/A
4.2.8	Add the following after the first paragraph: Note Intrinsically protected picture tube is required to comply with JIS C 6965 in clause 18 of JIS C 6065. No intrinsically protected picture tube which is out of scope of JIS C 6965 is required to test according to sub-clause 18.2 of JIS C 6065.		N/A
4.3.4	Add the following after the first sentence: This requirement also applies to those connections in CLASS 0I EQUIPMENT, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.		N/A
4.3.5	Replace the first dashed paragraph with the following. Within a manufacturer's unit or system, plugs and sockets likely to be used by the OPERATOR or by a SERVICE PERSON shall not be employed in a manner likely to create a hazard due to misconnection. In particular, connectors complying with IEC 60320/JIS C 8283 series of standards or JIS C 8303 or JIS C 8358 shall not be used for SELV CIRCUITS or TNV CIRCUITS. Keying, location or, in the case of connectors accessible only to a SERVICE PERSON, clear markings are permitted to meet the requirement.		N/A
4.3.6	Replace the 1st paragraph with the following DIRECT PLUG-IN EQUIPMENT shall not impose undue stress on the socket-outlet. The mains plug part shall comply with the standard for the relevant mains plug. (see 3.2.5A)		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.4.2	Replace the paragraph with the following: HOUSEHOLD AND HOME/OFFICE DOCUMENT/MEDIA SHREDDERS shall also comply with Annex JA.		N/A
4.5.3	Add the following note to footnote b) of Table 4B: NOTE In case no data for the material is available, Appendix 4, 1. (1). b. 3 of the Interpretation on the Ministerial Ordinance stipulating Technical Specifications for Electrical Appliances is regarded as maximum temperature limit of the material.		N/A
5.1.3	Add a note after the first paragraph as follows: Note – Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, test is conducted using the test circuit from IEC 60990, figure 13.		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

5.1.6 — Replace Table 5A. as follows — N/A

Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. [a]	Maximum PROTECTIVE CONDUCTOR CURRENT
ALL equipment	Accessible parts and circuits not connected to protective earth [b]	0,25	-
HAND-HELD	Main protective earthing terminal of CLASS I EQUIPMENT	0,75	-
	Main protective earthing terminal of CLASS 0 I EQUIPMENT	0,5	-
MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT)	Main protective earthing terminal of CLASS I EQUIPMENT	3,5	-
	Main protective earthing terminal of CLASS 0 I EQUIPMENT	1.0	-
STATIONARY, PLUGGABLE TYPE A	Main protective earthing terminal of CLASS I EQUIPMENT	3,5	-
	Main protective earthing terminal of CLASS 0 I EQUIPMENT	1,0	-
ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7	Main protective earthing terminal of CLASS I EQUIPMENT	3.5 -	- 5 % of input current
	Main protective earthing terminal of CLASS 0 I EQUIPMENT	1.0 -	- -

a If peak values of TOUCH CURRENT are measured, the maximum values are obtained by multiplying the r.m.s.values in the table by 1,414.
b Some unearthed accessible parts are covered in 1.5.6 and 1.5.7 and the requirements of 2.4 apply. These may be different from those in 5.1.6.

Annex G — Replace the paragraph before Table G.2 with the following — N/A

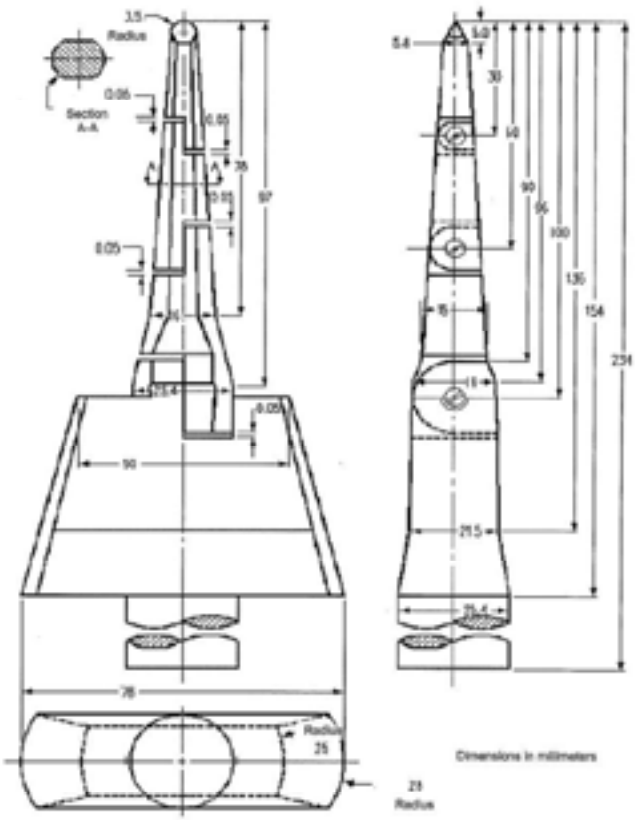
The above minimum CLEARANCE for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series of standards, JIS C 8283 series of standards, IEC60320 series of standards, JIS C 8303, and 1.5.1 of this standard in which dimension is comply with JIS C 8283 series, JIS C 8303 or IEC 60309-2.

Annex V V.1 — Replace “3.1.2”in the first line of V.1 with “312” in the first line. — N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex W W.1	Replace the third sentence in the first paragraph with the following: Floating circuits can exist in CLASS I EQUIPMENT, CLASS 0I EQUIPMENT and earthed circuits can exist in CLASS II EQUIPMENT.		N/A
Annex BB	This annex is not applicable.		N/A
Annex CC CC.2	Replace the third dashed paragraph with the following: *- 10 000 cycles of turning enable on and off with the input connected to a capacitor rated* *425 uF ± 10 uF and shorting the output;*		N/A
CC.3	Add note at end of CC.3: Note: The fast blow fuse should be the one complying with JIS C 6575-2.		N/A
CC.4	Replace the 2nd dashed paragraph with the following: - 10 000 cycles of turning enable on and off with a 100 Ω± 5 Ω resistor and a 425 uF ± 10 uF capacitor in parallel with the output; Replace the 4th dashed paragraph with the following: - 10 000 cycles of turning enable on and off with the input connected to a capacitor rated 425 uF ± 10 uF and shorting the output; Replace the 5th dashed paragraph with the following: −10 000 cycles of turning the input pin on and off with a capacitor rated 425 uF ± 10 uF connected to the input supply while keeping enable active and shorting the output; Replace the 6th dashed paragraph with the following: −10 000 cycles of turning the input pin on and off with an ferrite-core inductor having 350 mH ± 10 mH inductance at 1 kHz and less than 1 Ω d.c. resistance connected to the input supply and return while keeping enable active and shorting the output; Replace the 10th dashed paragraph with the following: −3 cycles of exposing the device (not energized) to 70 °C ± 2 °C for 24 h; followed by at least 1 h at room ambient; followed by at least 3 h at -30 °C ± 2 °C; followed by 3 h at room ambient; Replace the 11th dashed paragraph with the following:		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	–10 cycles of exposing the device (while energized) to 50 °C ± 2 °C for 10 min; followed by 10 min at 0 °C ± 2 °C with a 5 min period of transition from one state to the other;		
Annex EE	Replace Annex EE with the following Annex JA. Annex JA (normative) Document shredding machines HOUSEHOLD AND HOME/OFFICE DOCUMENT/MEDIA SHREDDERS shall additionally comply with the requirements of this annex. **JA.1 Markings and instructions** The symbol ⚠ (JIS S 0101:2000, 6.2.1) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible; 子供が使用することによって，傷害などの危害が発生するおそれがある。; (that use by infants/children may cause a hazard of injury etc.) 文書投入口に手を触れることによって，細断機構に引き込まれるおそれがある。; (that a hand can be drawn into the mechanical section for shredding when touching the document-slot) 文書投入口に衣類が触れることによって，細断機構に引き込まれるおそれがある。; (that clothing can be drawn into the mechanical section for shredding when touching the document-slot) 文書投入口に髪の毛が触れることによって，細断機構に引き込まれるおそれがある。; (that hairs can be drawn into the mechanical section for shredding when touching the document-slot) - in case of equipment incorporating a commutator motor, 可燃性ガスを噴射することによって引火又は爆発するおそれがある。 (that equipment may catch fire or explode by spraying of flammable gas.)		N/A

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	JA.2 Inadvertent reactivation Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard. Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1. **JA.3 Disconnection from the mains supply** Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used. If two-position switch, the positions for “ON” and “OFF” shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for “OFF” shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols. Compliance is checked by inspection.		
	JA.4 Protection against hazardous moving parts Any warning shall not be used instead of the structure for preventing access to hazardous moving parts. Document shredding machines shall comply with the following requirements. Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended. Before testing with the test finger, remove the parts detachable without a tool. Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.		

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
			

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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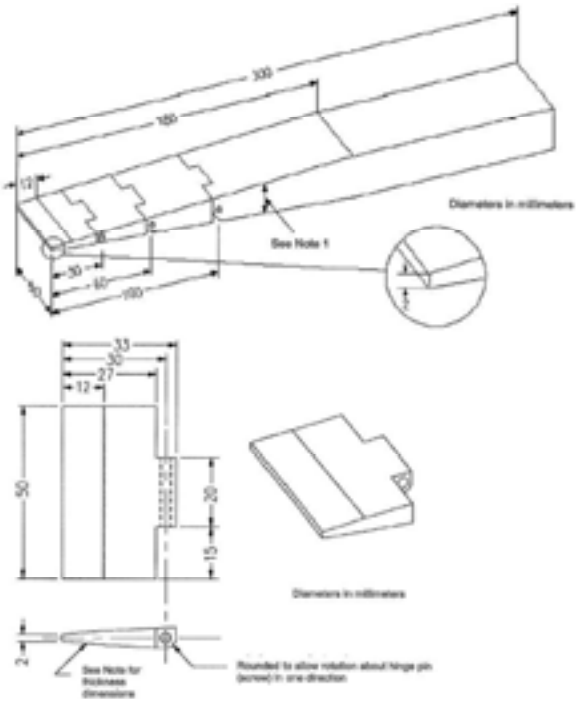

Distance from the tip (mm)	Thickness of probe (mm)
0	2
12	4
180	24

Note 1 - The thickness of the probe varies linearly, with slope changes at the respective points shown in the table.

Note 2 –The allowable dimensional tolerance of the probe is;

for ≤ 25 mm: +/- 0.13 mm

for > 25 mm: +/- 0.3 mm.

Figure JA.2 Wedge-probe

IEC60950_1F - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 with A1: 2009 and A2:2013 U.S.A. NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to.....:	UL 60950-1-07(Second Edition) + A1: 2011 + A2: 2014
Attachment Form No. .....:	US_ND_IEC60950_1F
Attachment Originator.....:	UL
Master Attachment.....:	Date 2014-07
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	Special national conditions		
1.1.1	All equipment is designed as to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and if applicable, the National Electrical Safety Code, IEEE C2		Pass
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75		N/A
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors		N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A		Pass
1.5.5	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
1.5.5	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC are required to have special construction features and identification markings		Pass
1.7.1	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		N/A
1.7.1	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and		N/A
1.7.1	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions"		N/A

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1.7.1	Likewise, a voltage rating is not to be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions"		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with NEC or CEC Part 1 or NEC are marked with the voltage rating and “Class 2” or equivalent - Marking is located adjacent to the terminals - Marking is visible during wiring		N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable		N/A
2.6	Equipment with isolated ground (earthing) receptacles is in compliance with NEC 250.146(D) and CEC 10-112 and 10-906(8)		N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided 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
2.7.1	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC		N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment		Pass
3.2.1.2	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 comply with special earthing, wiring, marking and installation instruction requirements		N/A
3.2.3	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
3.2.5	Power supply cords are no longer than 4.5 m in length		Pass
3.2.5	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement		N/A
3.2.5	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.9	Permanently connected equipment has a suitable wiring compartment and wire bending space		N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0		N/A
3.3.3	Wire binding screws are not attached with conductors larger than 10 AWG (5.3 mm2)		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are - rated 125 per cent of the equipment rating, and - are specially marked when specified (1.7.7)		N/A
3.3.5	Revise first column of Table 3E to “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration”		N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,		N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position		N/A
3.4.11	For computer 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 computer room remote power-off circuit		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30		N/A
4.3.13.5.1	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
4.7	For computer 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
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9m^2 (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less		N/A
4.7.3.1	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.1	Non-metallic enclosures of equipment for use in spaces used for environmental air (plenums) are required to comply with UL 2043		N/A
Annex H	Equipment that produces ionizing radiation complies with U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370)		N/A
	Other National Differences		
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery backup systems, battery packs, cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cut-offs, thermostats, (multi-layer) transformer winding wire, surge protective devices, tubing, vehicle battery adapters, wire connectors, and wire and cables		Pass
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply		N/A
	This maximum operating voltage includes consideration of the battery charging “float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V_{peak} or 60 Vd.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
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts		N/A
2.6.2	Equipment with functional earthing marked with the functional earthing symbol (IEC 60417-6092)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT		N/A
4.3.2	Equipment with handles complies with special loading tests	See clause 4.3.2 for details.	Pass
4.3.8	Battery packs for both portable and stationary applications comply with special component requirements		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests		N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded		N/A
5.3.7	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test is repeated twice (three tests total) using new components as necessary	See appended table 5.3 for details.	Pass
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC		N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger		N/A
Annex M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements		N/A

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USA - Differences to UL 60950-1, Edition 2, Amendment 2 (IEC 60950-1, Ed 2, Am2)			
1.1.1	All equipment is to be designed to allow installation in accordance with 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, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.		Pass
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		Pass
1.5.5	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. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC are required to have special construction features and identification markings.	EUT in compliance with requirements of IEC 60950-1. Overall acceptance shall be evaluated during national approval.	Pass
1.6.1.2	Equipment intended for connection to a d.c. power (mains) distribution system is subject to special circuit classification requirements (e.g., TNV-2)		N/A
1.6.1.2	Earthing of d.c. powered equipment provided.		N/A
1.7.1	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. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions.		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with the NEC or CEC Part 1 shall be marked with the voltage rating and “Class 2” or equivalent. The marking shall be located adjacent to the terminals and shall be visible during wiring.		N/A
2.5	Where a fuse is used to provide Class 2, Limited		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Power Source, or TNV current limiting, it shall not be operatoraccessible unless it is not interchangeable.		
2.6	Equipment with isolated ground (earthing) receptacles are required to comply with NEC 250.146(D) and CEC 10-112 and 10-906(8).		N/A
2.7	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. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.		N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		Pass
3.2.1.2	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, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
3.2.3	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
3.2.5	Power supply cords are required to be no longer than 4.5 m in length. 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. Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 & 12 of the CEC.		N/A
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm^2).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).		N/A
3.3.5	First column of Table 3E revised to require		N/A

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	"Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."		
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A
4.3.13.5.1	Equipment with lasers is required to meet the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m^3 (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m2 (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
4.7.3.1	Non-metallic enclosures of equipment for use in spaces used for environmental air (plenums) are required to comply with UL 2043.		N/A
H	Equipment that produces ionizing radiation is required to comply with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
OTHER NATIONAL DIFFERENCES			
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These components include: attachment plugs, battery backup systems, battery packs, cathode ray tubes, circuit breakers,		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, surge protective devices, tubing, vehicle battery adapters, wire connectors, and wire and cables.		
1.6.2	A circuit for connection to the DC Mains Supply is classified as a SELV Circuit, a TNV-2 Circuit or a Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage shall include consideration of the battery charging “float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vpeak or 60 Vd.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
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.		N/A
2.6.2	Equipment with functional earthing is required to be marked with the functional earthing symbol (IEC 60417-6092).		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.		N/A
4.3.2	Equipment with handles is required to comply with special loading tests.	See clause 4.3.2 for details.	Pass
4.3.8	Battery packs for both portable and stationary applications are required to comply with special component requirements		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded. During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		N/A
Annex EE	UL articulated accessibility probe (Fig EE.3) required for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		N/A
Annex M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

United Kingdom - Differences to IEC 60950-1, 2nd edition (2005) +A1 (2009) + A2 (2013)			
2.6.3.3	In the **United Kingdom**, the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A
2.7.1	In the **United Kingdom**, to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A
3.2.1.1	In the **United Kingdom**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. 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
3.2.5.1	In the **United Kingdom**, a power supply cord with		N/A

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	conductor of 1,25 mm^2 is allowed for equipment with a rated current over 10 A and up to and including 13 A.		
3.3.4	In the **United Kingdom**, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm^2 to 1,5 mm^2 nominal cross-sectional area.		N/A
4.3.6	In the **United Kingdom**, the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1: 1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply. **UK Application Note**: BS 1363-1:1995+A4:2012 has now superseded the previous version (incorporating Amendments 1:1997, 2:2003 and 3:2007) which has been withdrawn. Our recommendation is for users to always identify and follow the latest version of a standard to which a dated reference is made. This is also applicable in the case of BS EN 60950-1 and users would need to refer to the latest version of BS 1363-1:1995+A4:2012 when applying BS EN 60950-1.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

Argentina - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009			
General	Argentina has national differences declared to 60950-1:2005 + A1:2009.		Pass
1.5.2	Certified plug according to IRAM 2063 (two prong) or IRAM 2073 (three prong) are used in accordance with their ratings		N/A
1.7.2	Operating/safety instructions made available to the user in Spanish. Product information appears on the product.		N/A
3.2	Plugs shall be in conformity with IRAM 2063 Standard for Class II and IRAM 2073 Standard for Class I appliances (Resolution 524/98)		N/A
4.3.6	Adapters/Transformers provided with integrated plugs shall be provided with blades which shall meet the geometry of IRAM 2063 standard for Class II appliances or IRAM 2073 standard for Class I appliances (Resolution 524/98)		N/A
General	Household power supply sources are 220 V a.c., 50 Hz		N/A

Australia / New Zealand - Differences to IEC 60950-1:2005, Second Edition including A1			
1.2.12.201	Addition: POTENTIAL IGNITION SOURCE Possible fault which can starts a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in conductive patterns on printed boards. Note 201: An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE. Note 202: This definition is from AS/NZS 60065:2003		Pass
1.5.1	Add to the end of the first paragraph and in note 1 after the word “standard;: "or the relevant Australian / New Zealand Standard".		Pass
1.5.2	Add to the first and third dashed items after the words "IEC Component Standard": "or the relevant Australian / New Zealand Standard".		Pass

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3.2.5.1	Replace the first four rows for Table 3B with the following: Sizes of Conductors ---------- Rated Current of Equipment (A) — Nominal cross-sectional area (mm²) ---------- 0.2 <= 3 — 0.5 1) 3 <= 7.5 — 0.75 7.5 <= 10 — (0.75) 2) 1.00 10 <= 16 — (1,0) 3) 1.5 ---------- Replace footnote 1) with the following: 1) This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord or cord guard, enters the appliance, and the entry to the plug, does not exceed 2 m (0.5 mm² three-core supply flexible cords are not permitted; see S/NZS 3191). Delete Note 1.		N/A
4.1.201	Addition: Display devices used for television purposes Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television received, specified in AS/NZS 60065.		N/A
4.3.6	Replace the third paragraph: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112, shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		N/A
4.3.13.5.1	Add the following after each reference to 'IEC 60825-1': 'or AS/NZS 60825.1' Add the following after 'IEC 60825-2' in line two of the first paragraph: 'or AS/NZS 60825.2'		N/A
4.7	Add after the clause: For alternative resistance to fire tests, refer to Clause 4.7.201		N/A
4.7.201	Additional after the clause 4.7.3.6: Resistance to fire - Alternative tests		N/A
4.7.201.1	Addition: General Parts of non-metallic material shall be resistant to		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames originating from inside the apparatus, or the following: (a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length. (b) The following parts which would contribute negligible fuel to a fire: - small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1 750 mm3, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category FV-1, or better, according to AS/NZS 60695.11.10. NOTE In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another. Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5. The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring.		
4.7.201.2	Addition: Testing of non-metallic materials Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.		N/A
4.7.201.3	Addition: Testing of insulating materials		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3mm of the connection. NOTE Contacts in components such as switch contacts are considered to be connections. For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications: Clause of AS/NZS 60695.11.5 Change 9 Test procedure 9.2 Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. Replace the second paragraph with: The duration of application of the test flame shall be 30s ± 1s. 9.3 Replace with: The test shall be made on one specimen. If the specimen does not withswtand the test, the test may be repeated on two further specimens, both of which shall then withstand the test. 11 Evaluation of test results Replace with: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s. The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part.		
4.7.201.4	Addition: Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	glow-wire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested. NOTE 1 - If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing. NOTE 2 - If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing. NOTE 3 - Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.		
4.7.201.5	Addition: Testing of printed boards The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE. The test is not carried out if the - Printed board does not carry any POTENTIAL IGNITION SOURCE; - Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category FV-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category FV-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or - Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	supporting spark gaps which provides protection against overvoltages, is of flammability category FV-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. Compliance shall be determined using the smallest thickness of the material. NOTE – Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 min when the circuit supplied is disconnected.		
6.2.2	For Australia only, delete the first paragraph and Note, and replace with the following: In Australia (not in New Zealand) only, compliance with 6.2.2 is checked by the tests of both 6.2.2.1 and 6.2.2.2.		N/A
6.2.2.1	For Australia only, delete the first paragraph including the note and replace with the following: In Australia only(not in New Zealand), the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator of Annex N for 10/700µs impulses. The interval between successive impulses is 60 s and the initial voltage, Uc is: (i) for 6.2.1a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment and (ii) for 6.2.1b) and 6.2.1c): 1.5 kV. NOTE 201 - The 7 kV impulse is to simulate lightning surges on typical rural and semi-rural network lines. NOTE 202 - The value of 2.5 kV for 6.2.1a) was chosen to ensure adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		N/A
6.2.2.2	For Australia only, delete the second paragraph including the Note and replace with the following: In Australia (not New Zealand), the a.c. test voltage is: (i) for 6.2.1a) 3 kV; and (ii) for 6.2.1b) and 6.2.1c) 1.5 kV NOTE 201 - Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 - The 3 kV and 1.5 kV values have been determined considering the low frequency		N/A

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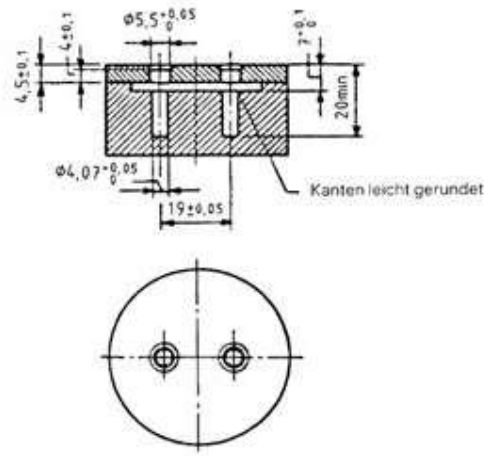
Clause	Requirement + Test	Result - Remark	Verdict
	induced voltages from the power supply distribution system.		
7.3	Add the following before the first paragraph: Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunication purposes.		N/A
Annex P	Add the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets		N/A
Index	replace the reference to AS/NZS 2211.1 with references to AS/NZS 60825.1 and AS/NZS 60825.2: AS/NZS 60825.1..... 4.3.13.5.1 AS/NZS 60825.2 ..... 4.3.13.5.1		N/A

Finland - Differences to IEC 60950-1:2005 (2nd Edition); Am 1:2009			
1.5.7.1	Resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.9.4	The third dashed sentence is applicable only to equipment as defined by this annex, 6.1.2.2		N/A
1.7.2.1	Class I Pluggable Equipment Type A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text shall be: "Laite on liitettävä suojakosketinpistorasiaan"	Should be evaluated in national approval.	N/A
2.3.2	There are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.10.5.13	There are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
5.1.7.1	Touch current measurement results exceeding 3,5 mA r.m.s are permitted only for the following equipment: - Stationary pluggable equipment Type A that: (1) is intended to be used in a Restricted Access Location where equipotential bonding has been applied, for example, in a telecommunication centre; and (2) has provision for a permanently connected protective earthing conductor; and (3)		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	is provided with instructions for the installation of that conductor by a service person; - Stationary pluggable equipment Type B - Stationary permanently connected equipment		
6.1.2.1	Add the following text between the first and second paragraph of the compliance clause: 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. Alternatively for components, 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 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). 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 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14:2005, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14:2005 - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14:2005, in the sequence of tests as described in EN		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	60384-14:2005.		
6.1.2.2	The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A
7.2	For requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A

Germany - Differences to IEC 60950-1:2005 (2nd Edition); Am 1:2009			
1.5	Bei Steckernetzteilen wird der angeformte Stecker als Komponente betrachtet und in Deutschland generell nach DIN VDE 0620-1:2010 bzw. DIN VDE 0620-1:2013 und DIN VDE 0620-2-1:2013 beurteilt. Nach der Prüfung gemäß DIN VDE 0620-2-1:2013, Abschnitt 24.2 muss der Stecker noch die Prüfung entsprechend DIN VDE 0620-101:1992 Abschnitt 7 Bild 2 „ Lehre für die Auswechselbarkeit” bestehen. Es muss möglich sein, die Stecker in die Lehre ohne übermäßige Kraft so einzuführen, dass ihre Stirnfläche die Oberfläche der Lehre berührt. The moulded plug of plug-in power supplies will be considered as component and will be generally evaluated in Germany according to DIN VDE 0620-1:2010 respectively DIN VDE 0620-1:2013 and DIN VDE 0620-2-1:2013 After the test according to DIN VDE 0620-2-1:2013, sub-clause 24.2, the plug be shall still pass the test according to DIN VDE 0620-101:1992 clause 7, figure 2 “Gauge for interchangeability” It should be possible to insert the plug without applying an excessive force such that the end surface touches the surface of the gauge		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
			
Annex ZC, 1.7.2.1	According to ProdSG, section 2, clause 4: If certain rules on the use, supplementation or maintenance of an item of technical work equipment or ready-to-use commodity must be observed in order to guarantee safety and health, instructions for use in German must be supplied when it is brought into circulation.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES
Information technology equipment – Safety –
Part 1: General requirements

Differences according to .....: EN 60950-1:2006/A11:2009/A1:2010/A12:2011

Attachment Form No. .....: EU_GD_IEC60950_1C_II
Attachment Originator.....: SGS Fimko Ltd
Master Attachment .....: Date 2011-08

EN 60950-1:2006/A11:2009/A1:2010/A12:2011 – CENELEC COMMON MODIFICATIONS

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions		Pass
General	Delete all the "country" notes in the reference document (IEC 60950-1:2005) according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1 Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2		Pass
General (A1:2010)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list: 1.5.7.1 Note 6.1.2.1 Note 2 6.2.2.1 Note 2 EE.3 Note		Pass

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.1 General This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players. A personal music player is a portable equipment for personal use, that: is designed to allow the user to listen to recorded or broadcast sound or video; and primarily uses headphones or earphones that can be worn in or on or around the ears; and allows the user to walk around while in use. NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment. A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause. The requirements in this sub-clause are valid for music or video mode only. The requirements do not apply: while the personal music player is connected to an external amplifier; or while the headphones or earphones are not used. NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player. The requirements do not apply to: hearing aid equipment and professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015. NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.		
	Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following: equipment provided as a package (personal music player with its listening device), where the acoustic output LAeq,T is ≤ 85 dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1. NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level LAeq,T is meant. See also Zx.5 and Annex Zx. All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off. d) have a warning as specified in Zx.3; and e) not exceed the following: 1) equipment provided as a package (player with Its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed “programme simulation noise” described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” described in EN 50332-1. For music where the average sound pressure (long term LAeq,T) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song. NOTE 4 Classical music typically has an average sound pressure (long term LAeq,T) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: the symbol of Figure 1 with a minimum height of 5 mm; and the following wording, or similar: "To prevent possible hearing damage, do not listen at high volume levels for long periods."  **Figure 1 – Warning label (IEC 60417-6044)** Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.		N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output LAeq,T, the input voltage of the fixed "programme simulation noise" described in EN 50332-2 shall be ≥ 75 mV. This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.4.2 Wired listening devices with digital input With any playing device playing the fixed "programme simulation noise" described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output LAeq,T of the listening device shall be ≤ 100 dBA. This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.). NOTE An example of a wired listening device with digital input is a USB headphone.		N/A
	Zx.4.3 Wireless listening devices In wireless mode: with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output LAeq,T of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.		N/A
	Zx.5 Measurement methods Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s. NOTE Test method for wireless equipment provided without listening device should be defined.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; 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.		N/A
2.7.2	This subclause has been declared 'void'.		N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: Up to and including 6 | 0,75 [a)] | Over 6 up to and including 10| (0,75) [b)] 1,0 | Over 10 up to and including 16| (1,0) [c)] 1,5 | In the conditions applicable to Table 3B delete the words "in some countries" in condition [a)]. In NOTE 1, applicable to Table 3B, delete the second sentence.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 | 1,5 to 2,5 | 1,5 to 4 | Delete the fifth line: conductor sizes for 13 to 16 A		N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artifical optical radiation). Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		N/A
Bibliography	Additional EN standards.		—

ZA	**NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS**	—

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In **Denmark**, certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.2.13.14	In **Norway** and **Sweden**, for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1	In **Finland, Norway** and **Sweden**, resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.8	In **Norway**, due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
1.5.9.4	In **Finland**, **Norway** and **Sweden**, the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	In **Finland**, **Norway** and **Sweden**, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: “Apparatet må tilkoples jordet stikkontakt” In Sweden: “Apparaten skall anslutas till jordat uttag” In **Norway** and **Sweden**, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. 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: “Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11).”		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.” Translation to Swedish: ”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”		N/A
1.7.5	In **Denmark**, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a. For **CLASS II EQUIPMENT** the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.		N/A
2.2.4	In **Norway**, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In **Finland**, **Norway** and **Sweden** there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.4	In **Norway**, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.6.3.3	In the **United Kingdom**, the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A
2.7.1	In the **United Kingdom**, to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.13	In **Finland**, **Norway** and **Sweden**, there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A
3.2.1.1	In **Switzerland**, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998:Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A		N/A
3.2.1.1	In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. 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 poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In **Spain**, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N/A
3.2.1.1	In the **United Kingdom**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. 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
3.2.1.1	In **Ireland**, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
3.2.4	In **Switzerland**, for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the **United Kingdom**, a power supply cord with conductor of 1,25 mm2 is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.4	In the **United Kingdom**, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm^2 to 1,5 mm^2 nominal cross-sectional area.		N/A
4.3.6	In the **United Kingdom**, the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
4.3.6	In **Ireland**, DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A
5.1.7.1	In **Finland**, **Norway** and **Sweden** TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1 (A1:2010)	In **Finland**, **Norway** and **Sweden**, add the following text between the first and second paragraph of the compliance clause: 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. Alternatively for components, there is no distance through insulation requirements for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.		N/A
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). 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 EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.2	In **Finland**, **Norway** and **Sweden**, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A
7.2	In **Finland**, **Norway** and **Sweden**, for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3	In **Norway** and **Sweden**, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A
7.3	In **Norway**, for installation conditions see EN 60728-11:2005.		N/A

Japan - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009			
1.2.4.1	Addition of the following note: Note: Even if the equipment is designed as Class I, the equipment is regarded as Class 0I equipment when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.		N/A
1.2.4.3A	Addition of new clause 1.2.4.3A CLASS 0I EQUIPMENT Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by: - using BASIC INSULATION, and - providing either of the following a) or b) in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring. a) Provision of 2-pin plug with earthing lead including the condition of that 2-pin adaptor with earthing lead wire is provided or recommended. b) Provision of an independent earthing terminal, when 2-core mains cord (without earthing conductor) is used. Note – Class 0I equipment may have a part constructed with Double Insulation or Reinforced		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Insulation.		
1.3.2	Add after the first paragraph: Note 1 Transportable or similar equipment that are relocated frequently for intended usage should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel. Note 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.		N/A
1.5.1	Replace the first paragraph with the follows: Where safety is involved, components shall comply either with the requirements of this standard, with the safety aspects of the relevant JIS component standard, or IEC component standards in case there is no applicable JIS component standard is available. However, a component that falls within the scope of METI Ministerial ordinance No. 85 is properly used in accordance with its marked ratings, requirements of 1.5.4, 2.8.7 and 3.2.5 apply, and in addition, a cord connector of power supply cord set mating with appliance inlet complying with the standard sheet of IEC 60320-1 or JIS C 8283-1, shall comply with relevant standard sheet of IEC 60320-1 or JIS C 8283-1. Replace Note 1 with the following: Note 1 JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.		N/A
1.5.2	Replace the first sentence in the first dashed paragraph with the following: A component that has been demonstrated to comply with a JIS component standard harmonized with the relevant IEC component standard, or where such JIS component standard is not available, a component that has been demonstrated to comply with the relevant IEC component standard shall be checked for correct application and use in accordance with its rating.		N/A
1.5.2	Replace the first sentence in the first dashed paragraph with the following: - a component that has been demonstrated to comply with a JIS component standard harmonized with the relevant IEC component standard, or where such JIS component standard is not available, a component that has been demonstrated to comply with the relevant IEC		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	component standard shall be checked for correct application and use in accordance with its rating. Replace the first sentence in the third dashed paragraph as follows: - where no relevant IEC component standard or JIS component standard harmonized with the relevant IEC component standard exists, or where components are used in circuits not in accordance with their specified rating, the components shall be tested under the conditions occurring in the equipment. Add the following Note 2 after the third dashed paragraph as follows: Note 2 See 1.7.5A when Type C.14 appliance coupler rated 10 A per JIS C 8283-1 is used with an equipment rated not more than 125 V and rated more than 10 A.		
1.5.9.1	Add the following in the last of NOTE 1. Gas discharge tube connected in series with VDR may be used.		N/A
1.5.9.4	Add following paragraph after the NOTE: Gas discharge tube that complies with the requirements of functional insulation may be connected in series with VDR for bridging basic insulation.		N/A
1.7.1.1	Replace the last paragraph with the following: Where symbols are used, they shall conform to JIS S 0101, ISO 7000 or IEC 60417 where appropriate symbols exist.		N/A
1.7.1.2	Replace first and second dashed paragraphs with the followings: - manufacturer’s or responsible company’s name or trade-mark or identification mark; - manufacturer's or responsible company’s model identification or type reference;		N/A
1.7.2.1	Add the following after 2nd paragraph. Instruction or equipment marking regarding safety shall be written in Japanese unless otherwise permitted in this standard.		N/A
1.7.2.5	Replace the last sentence with the following: An acceptable marking for an electric shock		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	hazard is  (6.2.4 of JIS S 0101).		
1.7.5	Replace 2nd paragraph with the following. Socket-outlets conforming to JISC8303 are examples of standard power supply outlets.		N/A
1.7.5A	Add the following new clause. after 1.7.5 1.7.5A Appliance Coupler If appliance coupler according to IEC60320-1, C.14(rated current: 10A) is used in equipment whose rated voltage is less than 125V and rated current is over 10A, the following instruction or equivalent shall be described in the user instruction. “ Use only designated cord set attached in this equipment” *Example in Japanese:* “この機器に同こん(梱)した指定の電源コードセットだけを使用して下さい。” If appliance coupler is used for connection to the mains and if the cord set is not provided within the package for the equipment, suitable information regarding to the cord set shall be described in the user instruction *Note Since the combination of appliance inlet with earthing pin and two-core cord set(without earthing conductor) is special, the cord set should be attached in the equipment and the use instruction should provide the information that the cord set is exclusively used with the equipment and not allowed to use with other equipments.*		N/A
1.7.14A	Add the following new clause. after 1.7.14 1.7.14A Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following or equivalent instructions shall be marked. - the following instruction shall be marked on the mains plug or on the visible place of the main body “Provide an earthing connection” *Example in Japanese:* “必ず接地接続を行ってください。” - the following marking shall be marked on the visible place of the main body or written in the operating instructions: “Provide an earthing connection before the mains		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains." *Example in Japanese:* 接地接続は必ず，電源プラグを電源につなぐ前に行ってください。 また，接地接続を外す場合は，必ず電源プラグを電源から切り離してから行ってください。		
1.7.14B	Add the following new clause after 1.7.14A 1.7.14B Protective earthing conductor used for CLASS 0I equipment For CLASS 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided within the package for the equipment, the suitable information for the protective earthing connection shall be provided in the instruction manual. (See 2.6.3.2)		N/A
2.1.1.1	Replace item b) of 2.1.1.1with the following. b) A test with the test finger, Figure 2A, which shall not contact parts described above when applied to openings in the ENCLOSURES after removal of parts that can be detached by an OPERATOR, including fuseholders, and with OPERATOR access doors and covers open. It is permitted to leave lamps in place for this test. Connectors that can be separated by an OPERATOR, other than those complying with JIS C 8303 or Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance or JIS C 8285 or IEC 60309 series or JIS C 8283 series or IEC 60320 series, shall also be tested during disconnection.		N/A
2.5	Replacement: "IEC 60730-1" replaced with "JIS C 9730-1".		N/A
2.6.3.2	Add the following after 1st paragraph. However where the single core conductor is used for protective earthing lead or earthing cord for CLASS 0I equipment, either of the following condition shall be met. - Use of annealed copper wire with1 .6mm diameter or corrosion-inhibiting metal wire equivalent or higher in term of strength and thickness.. - Single core cord or single core cabtire cable with 1.25mm^2 or more cross-sectional area		N/A
2.6.3.5	Add the following after 1st paragraph.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	However this requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is the formed together with mains plug and appliance connector.		
2.6.4.2	Replace 1st paragraph with the following. Equipment required to have protective earthing shall have a main protective earthing terminal. For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal. However, for CLASS 0I EQUIPMENT provided with the separate main protective earthing terminal other than appliance inlet, the separate main protective earthing terminal may be treated as mains protective earthing terminal.		N/A
2.6.5.4	Replace 1st sentence with the following. Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:		N/A
2.6.5.8A	Add the following new clause. after 2.6.5.8 2.6.5.8A Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible.		N/A
2.7.6	Replace “ISO 3864, No. 5036” with “6.2.4 of JIS S 0101”.		N/A
2.9.3 Table 2H	Replace the following columns in Table 2H. The right column for BASIC, TNV-2, -earthed TNV-1 circuit is replaced with “B13 [d), f)]” The right column for SUPPLEMENTARY, TNV CIRCUIT, -basic-insulated conductive part earthed circuit is replaced with “S2”		N/A
2.10.3.1	Replace 8th paragraph with the following The above minimum CREEPAGE DISTANCES for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series, JIS C 8283 series, IEC60320 series, JIS C 8303, and Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance in which dimension is comply with JIS C 8283 series, JIS C 8303 or IEC 60309-2.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.4.3	Replace 6th paragraph with the following The above minimum CREEPAGE DISTANCE for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series, JIS C 8283 series, IEC60320 series, JIS C 8303, and Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance in which dimension is comply with JIS C 8283 series, JIS C 8303 or IEC 60309-2.		N/A
2.10.9	Replace “1.4.5” in 3rd paragraph with “1.4.12”.		N/A
3.2.3	Add the following after 3rd paragraph. Table 3A applies when cables complying JIS C 3662 or JIS C 3663 are used. In case of other cables, cable entries shall be so designed that a conduit suitable for the cable used can be fitted.		N/A
3.2.4	Add the following as fourth dash. - be so constructed that mechanical stress shall not transmit to the soldering part of inlet terminal during insertion or removal of the connector except that the body of the inlet is secured and is secured not only soldering.		N/A
3.2.5.1	Add the following to the last of first dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance. Add the following to the last of second dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance. Replace 3rd dashed paragraph with the following. – include, for equipment required to have protective earthing, a PROTECTIVE EARTHING CONDUCTOR having green-and-yellow insulation. However this requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is the formed together with mains plug and appliance connector. For CLASS 0I EQUIPMENT provided with the separate main protective earthing terminal, the protective conductor may not need to provide in mains cord. ; and Replace 4th dashed paragraph with the following.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	– The cord complying with JIS C 3662-5 or JIS C 3663-4 has conductors with cross-sectional areas not less than those specified in Table 3B. Other cord shall comply with relevant wiring regulation.		
3.3.4 Table 3D	Add the following note to Table 3D: Note For cables other than those complying with JIS C 3662 or JIS C 3663, terminals shall be suitable for the size of the intended cables.		N/A
3.3.7	Add the following after the first sentence: This requirement is not applicable to the external earthing terminal of Class 0I equipment.		N/A
4.3.4	Add the following after the first sentence: This requirement also applies to those connections in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.		N/A
4.3.5	Replace 1st dashed paragraph with the following. Within a manufacturer's unit or system, plugs and sockets likely to be used by the OPERATOR or by a SERVICE PERSON shall not be employed in a manner likely to create a hazard due to misconnection. In particular, connectors complying with IEC 60320/JIS C 8283 series or JIS C 8303 or JIS C 8358 shall not be used for SELV CIRCUITS or TNV CIRCUITS. Keying, location or, in the case of connectors accessible only to a SERVICE PERSON, clear markings are permitted to meet the requirement.		N/A
4.4.2	Replace the paragraph with the following: HOUSEHOLD AND HOME/OFFICE DOCUMENT/MEDIA SHREDDERS shall also comply with Annex JA.		N/A
4.5.3	Add the following note to footnote b) of Table 4B: NOTE: In case no data for the material is available, Appendix 4, 4. (1). b. 3 of the Interpretation on the Ministerial Ordinance stipulating Technical Specifications for Electrical Appliances (Commerce and Distribution Policy Group No. 3:2008/04/19) may apply.		N/A
5.1.3	Add a note after the first paragraph as follows: Note – Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, test is conducted using the test circuit from IEC 60990, figure 13.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.6	Replace Table 5A. as follows		N/A

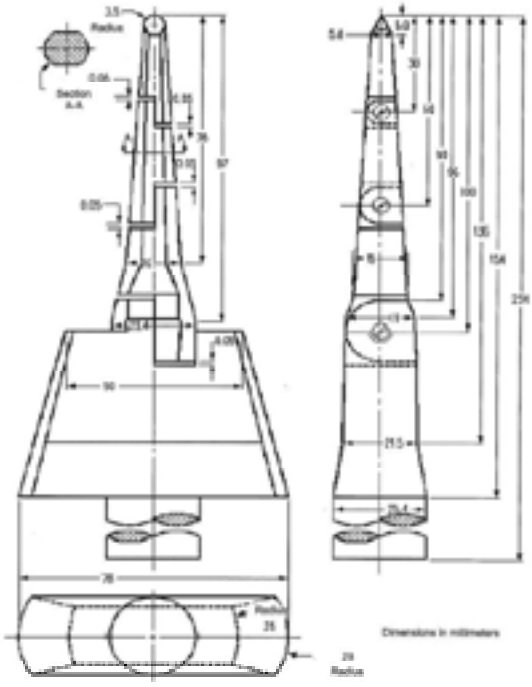
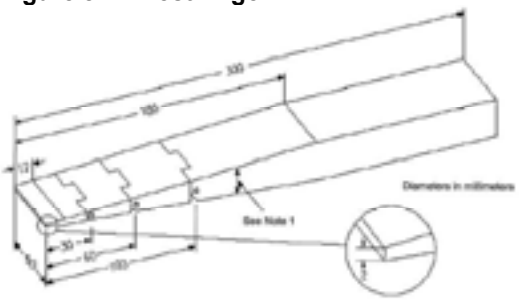
Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. [a]	Maximum PROTECTIVE CONDUCTOR CURRENT
ALL equipment	Accessible parts and circuits not connected to protective earth [b]	0,25	-
HAND-HELD	Main protective earthing terminal of CLASS I EQUIPMENT	0,75	-
	Main protective earthing terminal of CLASS 0 I EQUIPMENT	0,5	-
MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT)	Main protective earthing terminal of CLASS I EQUIPMENT	3,5	-
	Main protective earthing terminal of CLASS 0 I EQUIPMENT	1.0	-
STATIONARY, PLUGGABLE TYPE A	Main protective earthing terminal of CLASS I EQUIPMENT	3,5	-
	Main protective earthing terminal of CLASS 0 I EQUIPMENT	1,0	-
ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7	Main protective earthing terminal of CLASS I EQUIPMENT	3.5 -	- 5 % of input current
	Main protective earthing terminal of CLASS 0 I EQUIPMENT	1.0 -	- -

a If peak values of TOUCH CURRENT are measured, the maximum values are obtained by multiplying the r.m.s.values in the table by 1,414.
b Some unearthed accessible parts are covered in 1.5.6 and 1.5.7 and the requirements of 2.4 apply. These may be different from those in 5.1.6.

Annex G	Replace the paragraph before Table G.2 with the following The above minimum CREEPAGE DISTANCES for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series, JIS C 8283 series, IEC60320 series, JIS C 8303, and Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance in which dimension is comply with JIS C 8283 series, JIS C 8303 or IEC		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	60309-2.		
Annex P	Delete the issued date of IEC61051-2.		N/A
Annex Q	Replace the terms in b) as follows: From “Maximum continuous voltage” to “Maximum continuously applied voltage” From “The maximum continuous a.c. voltage” to “The maximum continuously applied a.c. voltage”		N/A
Annex U U.2.4	Add the following new note after NOTE: NOTE 2 Considering environmental issue, "(for example 1,1,1 -trichloroethane)" was deleted from the above paragraph.		N/A
Annex V V.1	Replace “3.1.2”in the first line of V.1 with “312” in first line.		N/A
Annex W W.1	Replace third sentence in the first paragraph with the following: Floating circuits can exist in CLASS I EQUIPMENT, CLASS 0I EQUIPMENT and earthed circuits can exist in CLASS II EQUIPMENT.		N/A
Annex CC CC.2	Replace second dashed paragraph with the following: - 10 000 cycles of turning enable on and off with a ferrite-core inductor having (0.35 ± 0.1) mH inductance at 1 kHz and a d.c. resistance not exceeding 1 Ω connected in the output circuit; Replace fifth dashed paragraph with the following: – 10 000 cycles of turning the input pin on and off with a ferrite-core inductor having (0.35 ± 0.1) mH inductance at 1 kHz and a d.c. resistance not exceeding 1Ω connected to the input supply and return while keeping enable active and shorting the output;		N/A
CC.3	Add note at end of CC.3: Note: The fast blow fuse should be the one complying with IEC 60127-2.		N/A
Annex EE	Replace Annex EE with the following Annex JA. Annex JA (normative) Document shredding machines HOUSEHOLD AND HOME/OFFICE DOCUMENT/MEDIA SHREDDERS shall additionally comply with the requirements of this annex.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	JA.1 Markings and instructions The symbol ⚠ (JIS S 0101:2000, 6.2.1) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible; - that use by an infants/children may cause a hazard of injury etc.; - that a hand can be drawn into the mechanical section for shredding when touching the document-slot; - that clothing can be drawn into the mechanical section for shredding when touching the document-slot; - that hairs can be drawn into the mechanical section for shredding when touching the document-slot; - in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas. **JA.2 Inadvertent reactivation** Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard. Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1. **JA.3 Disconnection from the mains supply** Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used. If two-position switch, the positions for “ON” and “OFF” shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for “OFF” shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols. Compliance is checked by inspection. **JA.4 Protection against hazardous moving parts** Any warning shall not be used instead of the structure for preventing access to hazardous moving parts. Document shredding machines shall comply with the following requirements.		

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended. Before testing with the test finger, remove the parts detachable without a tool. Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.  **Figure JA.1 Test finger** 		

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

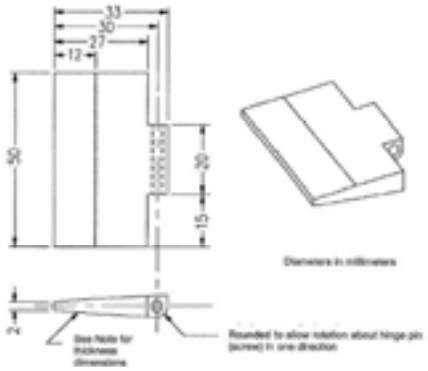


Figure JA.2 Wedge-probe
(Details of the tip of wedge)

Distance from the tip (mm)	Thickness of probe (mm)
0	2
12	4
180	24

Note 1 - The thickness of the probe varies linearly, with slope changes at the respective points shown in the table.
Note 2 –The allowable dimensional tolerance of the probe is +/- 0.127 mm.

Israel - National standard to SI 60950 Part 1 (2012)			
Clause	Requirement + Test	Result - Remark	Verdict
1.2	Definition 1.2.13.18 - Shredder - was added Table 1C - Capacitor ratings according to IEC 60384-14 Rules 3, 4 and 7 were replaced.		N/A
1.5.9	The clause allows use of GDT		N/A
1.7	References to new clauses: 4.4.5.2, 4.4.5.3, DD.2. EE.2 and EE.4		N/A
2.6	Reduction of the requirements only for accessible conducting parts.		N/A
2.9.2	The maximum relative humidity was raised to 96 %.		N/A
2.10	Clarifications and error correction (in 2M); the specific reference to PCB was cancelled. Table2Q** Significant reduction of requirements was added (** Pay attention since the modification in this clause is significant.)		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Israel - National standard to SI 60950 Part 1 (2012)			
Clause	Requirement + Test	Result - Remark	Verdict
4.2 4.2.1	Reference to a new clause and a new annex was Added and clarification was added.		N/A
4.2.5	Reduction of requirements.		N/A
4.2.6	Reduction of requirements.		N/A
4.2.7	Possibility to test according to IEC 60695-10-3 was added.		N/A
4.2.11	**New test**		N/A
4.3.13, 4.3.13.5	A specific subclause for LED was added. A new reference to the Standard for lighting equipment safety. IEC 62471 was added.		N/A
4.4	A reference to moving fan blades was added **(added as a new clause 4.1.5).**		N/A
Annex P	Documents were added and removed from the list: **Added: IEC 62471: 2006 – Photobiological safety of lamps and lamp systems – an important Standard for testing the radiation spectrum (wavelength and intensity) of non-laser illumination**.** (** Pay attention since the modification in this clause is significant.)		N/A
Annex Y	Minimal time for testing was added. The possibility of testing under a water spray was added to the Standard. Annex CC - Evaluation of integrated circuit (1C) current limiters, was added - a complex and long test**. Annex DD - Requirements for the mounting means of rack-mounted equipment, was added. **The clause requires marking of the maximum load for an open rack (the permitted load beyond the regular established load of the rack)**** Annex EE - Household and home/office document/media shredders, was added. **There is a requirement for a specific wedge probe for shredders**.** (** Pay attention since the modification in this clause is significant.)		N/A
Details of the national modifications and additions to the clauses of the International Standard			

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Israel - National standard to SI 60950 Part 1 (2012)			
Clause	Requirement + Test	Result - Remark	Verdict
1.6	**Power interface** The clause is applicable with the following addition		N/A
1.6.1	**AC Power distribution systems** - At the end of the clause, the following note shall be added: Note: In Israel the clause is subject to the Electricity Law. 1954, its Regulations and updates		N/A
1.7	**Marking and instructions** The clause is applicable with the following addition		N/A
1.7.1	**Power rating** - Subclause 1.7.201 shall be added after the clause, as follows		N/A
1.7.201	**Marking in the Hebrew language** The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983. In addition to the marking required by clause 1.7.1, the following items shall be marked in the Hebrew language: 1. Name of the apparatus and his commercial designation; 2. Manufacturer's name and his address; if the equipment is imported, the importer's name and his address; 3. Manufacturer's registered trademark, if any; 4. Name of the model and serial number, if any; 5. Country of manufacture. The items shall be marked on the apparatus or on its packaging, or on a label well attached to the apparatus or its packaging, by bonding or sewing, such that the label cannot be easily removed.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Israel - National standard to SI 60950 Part 1 (2012)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2 1.7.2.1	**Safety instructions and marking** **General** - The following shall be added at the end of the clause: All the instruction and all the warnings related to safety shall also be written in the Hebrew language. - At the end of clause 1, clause 1.201 shall be added as follows		N/A
1.201	**Power consumption in standby mode** The equipment shall comply with the requirements of the Energy Sources Regulations (Maximum electrical power in standby mode for domestic and office electrical appliances), 201.1, with a permitted deviation of up to 10%.		N/A
2	**Protection from hazards** The clause is applicable with the following additions		N/A
2.9.4	**Separation from hazardous voltages** - The following shall be added at the beginning of the clause: According to the Electricity Law, 1954, and the Electricity Regulations (Earthing and protection means from electricity at voltages up to 1,000 V), 1991, in Israel, seven means of protection from electricity are permitted, as follows: 1) Network system earthing - (TN-C-S, TN-S); 2) Network system earthing - (TT); 3) Network Insulation Terre - (IT); 4) Isolated transformer; 5) Safety extra low voltage; 6) Residual current circuit breaker; 7) Reinforced insulation; Double insulation - Clause 2.201 shall be added at the end of clause 2, as follows		N/A
2.201	**Prevention of electromagnetic interference** The device shall meet the requirements of the relevant part of the Israeli Standard series, SI 961. If the device contains components for prevention of electromagnetic interference, the devices shall not lower the safety level of the device, as required by this Standard.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Israel - National standard to SI 60950 Part 1 (2012)			
Clause	Requirement + Test	Result - Remark	Verdict
3	**Wiring, connections and supply** The clause is applicable With the following additions		N/A
3.2	**Connection to a mains supply**		N/A
3.2.1	**Means of connection**		N/A
3.2.1.1	**Connection to an a.c. mains supply** After the Note, the fo4owing note shall be added: Note: In Israel the supply plug shall comply with the requirements in Israel Standard. SI 32 Part 1.1		N/A
3.2.1.2	**Connection to a d.c. mains supply** After the first paragraph, the following note shall be added: Note: As of the date of publication of this Standard, there is no Israel Standard for connection accessories to d.c.		N/A

Korea - Differences to IEC 60950-1:2005 (2nd Edition); Am 1:2009			
1.5.101	Plugs for the connection of the apparatus to the mains supply shall comply with the Korean requirement (KSC 8305)	Should be evaluated in national approval.	N/A
8	EMC - The apparatus shall comply with the relevant CISPR standards		N/A

United Kingdom - Differences to IEC 60950-1:2005 (2nd Edition); Am 1:2009			
2.6.3.3	The current rating of the circuit shall be taken as 13 A, not 16 A.		N/A
2.7.1	To protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A
3.2.1.1	Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a "standard plug" in accordance with Statutory Instrument 1786: 1994		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE: "Standard plug" is defined in SI 1786: 1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		
3.2.5.1	A power supply cord with conductor of 1.25 mm² is allowed for equipment with a rated current over 10A and up to and including 13A.		N/A
3.3.4	The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current of over 10 A up to and including 13 A is 1.25 mm² to 1.5 mm² nominal cross-sectional area.		N/A
4.3.6	The torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A

USA / Canada - Differences to IEC 60950-1 Second Edition Am1			
1.1.1	All equipment is to be designed to allow installation in accordance with 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, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.		Pass
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		Pass
1.5.5	Interconnecting cables acceptable for the application regarding voltage, current, temperature, flammability, mechanical serviceability and the like.		N/A
1.5.5	For 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 CEC/NEC. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	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. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC shall be marked with the voltage rating and “Class 2” or equivalent. Marking shall be located adjacent to the terminals and shall be visible during wiring.		N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.		N/A
2.6.3.3	The first column on Table 2D modified to require, “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration.”		N/A
2.7.1	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. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.		N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		Pass
3.2.1.2	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, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
3.2.3	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

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5	Power supply cords are required to be no longer than 4.5 m in length. 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. 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
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm^2).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for Canadian/US wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).		N/A
3.3.5	First column of Table 3E revised to require “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration.”		N/A
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with ANSI/NFPA 30(Table NAE.6).		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A
4.3.13.5	Equipment with lasers is required to meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.		N/A
4.7	For computer room applications, automated		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	information storage systems with combustible media greater than 0.76 m^3 (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		
4.7.3.1	For computer 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) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
Annex H	Equipment that produces ionizing radiation is required to comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.		N/A
OTHER DIFFERENCES The following key national differences are based on requirements other than national regulatory requirements			
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.		N/A
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage shall include consideration of the battery charging “float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	ringing signals and with voltages exceeding 42.4 Vpeak or 60 Vd.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.		
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.		N/A
4.3.2	Equipment with handles is required to comply with special loading tests.	See clause 4.3.2 for details.	Pass
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.		N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded. During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		N/A
Annex EE	Articulated accessibility probe (Fig EE.3) required for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		N/A
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950 - 1, ed2, amd1
ISRAEL NATIONAL DIFFERENCES
(**INFORMATION TECHNOLOGY EQUIPMENT – SAFETY: GENERAL REQUIREMENTS**)

Differences according to..... :	National standard SI 60950 - 1, ed2, amd1.
Attachment Form No..... :	IL_ND_IEC60950_1C
Attachment Originator..... :	Standards Institution of Israel
Master Attachment..... :	Date 2015-12

	National Differences		
1.6	**Power interface** The clause is applicable with the following addition:		N/A
1.6.1	**AC Power distribution systems**		N/A
	- At the end of the clause, the following note shall be added: **Note**: In Israel, the clause is subject to the Electricity Law, 1954, its Regulations and updates.		N/A
1.7	**Marking and instructions** The clause is applicable with the following additions:		N/A
1.7.1	**Power rating**		N/A
	- Subclause 1.7.201 shall be added after the clause, as follows:		N/A
1.7.201	**Marking in the Hebrew language**		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983. In addition to the marking required by clause 1.7.1, the following items shall be marked in the Hebrew language: 1. Name of the apparatus and its commercial designation; 2. Manufacturer's name and his address; if the equipment is imported, the importer's name and his address; 3. Manufacturer's registered trademark, if any; 4. Name of the model and serial number, if any; 5. Country of manufacture. The items shall be marked on the apparatus or on its packaging, or on a label well attached to the apparatus or its packaging, by bonding or sewing, such that the label cannot be easily removed.		N/A
1.7.2	**Safety instructions and marking**		N/A
1.7.2.1	**General** - The following shall be added at the end of the clause: All the instruction and all the warnings related to safety shall also be written in the Hebrew language.		N/A
-	At the end of clause 1, clause 1.201 shall be added as follows:		
1.201	**Power consumption in standby mode** The equipment shall comply with the requirements of the Energy Sources Regulations (Maximum electrical power in standby mode for domestic and office electrical appliances), 2011, with a permitted deviation of up to 10 %.		N/A
2	**Protection from hazards** The clause is applicable with the following additions:		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.4	**Separation from hazardous voltages** The following shall be added at the beginning of the clause: According to the Electricity Law, 1954, and the Electricity Regulations (Earthing and protection means from electricity at voltages up to 1,000 V), 1991, in Israel, seven means of protection from electricity are permitted, as follows: 1)Network system earthing - (TN-C-S, TN-S); 2)Network system earthing - (TT); 3)Network Insulation Terre - (IT); 4)Isolated transformer; 5)Safety extra low voltage; 6)Residual current circuit breaker; 7)Reinforced insulation; Double insulation		N/A
-	Clause 2.201 shall be added at the end of clause 2, as follows:		
2.201	**Prevention of electromagnetic interference** The device shall meet the requirements of the relevant part of the Israeli Standard series, SI 961. If the device contains components for prevention of electromagnetic interference, the devices shall not lower the safety level of the device, as required by this Standard.		N/A
3	**Wiring, connections and supply** The clause is applicable with the following additions:		N/A
3.2	**Connection to a mains supply**		N/A
3.2.1	**Means of connection**		N/A
3.2.1.1	**Connection to an a.c. mains supply** After the Note, the following note shall be added: **Note**: In Israel, the supply plug shall comply with the requirements in Israeli Standard, SI 32 Part 1.1.		N/A
3.2.1.2	**Connection to a d.c. mains supply** After the first paragraph, the following note shall be added: **Note**: As of the date of publication of this Standard, there is no Israeli Standard for connection accessories to d.c.		N/A

	Special national conditions (if any)		N/A
	ANNEX P **Normative references**		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	The annex is applicable with the following modifications and additions: In place of some of the International Standards cited in the Standard and noted in this annex, the following Israeli Standards shall apply:		N/A

The referenced International Standard	The substituted Israeli Standard	Comments
IEC 60317 (all parts) [b]	SI 1067 Part 1 – Enamelled[a] round copper wires with high mechanical properties	The Israeli Standard is identical to the International Electrotechnical Commission Standard, IEC 317-1: 1980-02
	SI 1067 Part 2 – Self-fluxing enamelled[a] round copper wires	The Israeli Standard is identical to the International Electrotechnical Commission Standard, IEC 307-4: 1980-02
	SI 1067 Part 3 – Enamelled[a] round copper wires with a temperature index of 180 °C	The Israeli Standard is identical to the International Electrotechnical Commission Standard, IEC 317-8: 1980-02
IEC 60320 (all parts)[b]	SI 60320 Part 1 – Appliance couplers for household and similar general purposes: General requirements	The Israeli Standard, excluding national modifications and additions noted, is identical to the International Electrotechnical Commission Standard, IEC 60320-1: Second edition: 2001-06
	SI 60320 Part 2.1 – Appliance couplers for household and similar general purposes: Sewing machine couplers	The Israeli Standard, excluding national modifications and additions noted, is identical to the International Electrotechnical Commission Standard, IEC 60320-2-1: Second edition: 2000-07
	SI 60320 Part 2.2 – Appliance couplers for household and similar general purposes: Interconnection couplers for household and similar equipment	The Israeli Standard, excluding national modifications and additions noted, is identical to the International Electrotechnical Commission Standard, IEC 60320-2-2: Second edition: 1998-08
	SI 60320 Part 2.3 – Appliance couplers for household and similar general purposes: appliance coupler with a degree of protection higher than IPX0	The Israeli Standard, excluding national modifications and additions noted, is identical to the International Electrotechnical Commission Standard, IEC 60320-2-3: First edition: 1998-09
IEC 60364-1: 2001	Electricity Law, 1954, with its Regulations and updates	—
IEC 60730-1: 1999 Amendment 1 (2003)	SI 60730 Part 1 – Automatic electrical controls for household and similar use: General requirements	The Israeli Standard, excluding national modifications and additions noted, is identical to the International Electrotechnical Commission Standard, IEC 60730-1: Edition 3.2: 2007-03

Attachment No. 2

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

The referenced International Standard	The substituted Israeli Standard	Comments
IEC 60825-1	SI 60825 Part 1 – Safety of products: Equipment classification and requirements	The Israeli Standard, excluding national modifications and additions noted, is identical to the International Electrotechnical Commission Standard, IEC 60825-1: Second edition: 2007-03.
IEC 60947-1: 2004	SI 60947 Part 1 – Low-voltage switchgear and controlgear: General rules	The Israeli Standard, excluding national modifications and additions noted, is identical to the International Electrotechnical Commission Standard, IEC 60947-1: Edition 5.0: 2007-06.
IEC 61058-1: 2000	SI 61058 Part 1 – Switches for appliances: General requirements	The Israeli Standard, excluding national modifications and additions noted, is identical to the International Electrotechnical Commission Standard, IEC 61058-1: Edition 3.1: 2001.
ISO 3864 (all parts)[b][c]	SI 3864 Part 1[a] – Graphic symbols	The Israeli Standard, excluding national modifications and additions noted, is identical to the International Organization for Standardization Standard, ISO 3864-1: First edition: 2002-05-15.

Notes:

(a) The Standard is being revised.

(b) In the International Standard series, there are parts not yet adopted as Israeli Standards. This table notes the relevant Israeli Standards, and in the Comments column, the corresponding parts of the International Standard series.

(c) Not relevant to the translation.

The following shall be added to the annex:	
	Israeli Standards SI 961 (all parts) – Electromagnetic compatibility Israeli Laws, Regulations and documents Electricity Law, 1954, with its Regulations and updates Consumer Protection Order (Marking of goods), 1983, Kovetz HaTakanot 4465 dated 1983-02-24 Energy Sources Regulations (Maximum electrical power in standby mode for domestic and office electrical appliances), 2011

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

AUSTRALIA AND NEW ZEALAND - Differences to IEC 60950-1:2005, Second Edition			
1.2	Insert the following between 'person, service' and 'range, rated frequency': POTENTIAL IGNITION SOURCE 1.2.12		N/A
1.2.12.201	Insert a new Clause 1.2.12.201 after Clause 1.2.12.15 as follows: 1.2.12.201 POTENTIAL IGNITION SOURCE Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS. NOTE 201 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE. NOTE 202 This definition is from AS/NZS 60065:2003		N/A
1.5.1	1. Add the following to the end of the first paragraph: 'or the relevant Australian/New Zealand Standard.' 2. In NOTE 1, add the following after the word 'standard': 'or an Australian/New Zealand Standard'		Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.2	Add the following to the end of the first and third dash items: 'or the relevant Australian/New Zealand Standard' 1. Delete the first four rows and replace with the following: RATED CURRENT of equipment A — Minimum conductor sizes: Nominal cross-sectional area mm^2 — AWG or kcmil [cross-sectional area in mm^2] see Note 2 Over 0.2 up to and including 3 — 0,5[a] — 18 [0,8] Over 3 up to and including 7.5 — 0,75 — 16 [1,3] Over 7.5 up to and including 10 — (0,75)[b] 1,00 — 16 [1,3] Over 10 up to and including 16 — (1,0)[c] 1,5 — 14 [2] 2. Delete NOTE 1. 3. Delete Footnote[a] and replace with the following: a This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0,5 mm^2 three-core supply flexible cords are not permitted; see AS/NZS 3191).		N/A
4.1.201	Insert a new Clause 4.1.201 after Clause 4.1 as follows: 4.1.201 Display devices used for television purposes Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.		N/A
4.3.6	Delete the third paragraph and replace with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		N/A
4.3.13.5	Add the following to the end of the first paragraph: ', or AS/NZS 2211.1'		N/A
4.7	Add the following new paragraph to the end of the clause: 'For alternate tests refer to Clause 4.7.201.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.201	Resistance to fire – Alternative tests Insert a new Clause 4.7.201 after Clause 4.7.3.6 as follows:		N/A
4.7.201.1	General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following: (a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1mm in width regardless of length. (b) The following parts which would contribute negligible fuel to a fire: - small mechanical parts, the mass of which does not exceed 4g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1,750 mm^3, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. NOTE In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts djacent to each other for the possible effect of propagating the fire from one part to another. Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5. The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use These tests are not carried out on internal wiring.		N/A
4.7.201.2	Testing of non-metallic materials Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.201.3	Testing of insulating materials Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE Contacts in components such as switch contacts are considered to be connections. For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:		N/A

Clause of AS/NZS 60695.11.5	Change
9 Test procedure	
9.2 Application of needle-flame	Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner Replace the second paragraph with: The duration of application of the test flame shall be 30s±1s.
9.3 Number of test specimens	Replace with: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.
11 Evaluation of test results	Replace with: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15s.

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part.		
4.7.201.4	Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested. NOTE 1 If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing. NOTE 2 If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing. NOTE 3 Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.		N/A
4.7.201.5	Testing of printed boards The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE. The test is not carried out if the — - Printed board does not carry any POTENTIAL IGNITION SOURCE; - Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	completely; or - Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. Compliance shall be determined using the smallest thickness of the material. NOTE Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 min when the circuit supplied is disconnected		
6.2.2	For Australia only, delete the first paragraph and Note, and replace with the following: In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2		N/A
6.2.2.1	For Australia only, delete the first paragraph including the Notes, and replace with the following: In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, Uc , is: (i) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and (ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV. NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		N/A
6.2.2.2	For Australia only, delete the second paragraph including the Note, and replace with the following: In Australia only, the a.c. test voltage is: (i) for 6.2.1 a): 3 kV; and (ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV. NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.3	Add the following before the first paragraph: Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.		N/A
Annex P	Add the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets		Pass
Index	1. Insert the following between 'asbestos, not to be used as insulation' and 'attitude see orientation': AS/NZS 2211.1.....4.3.13.5 AS/NZS 3112.....4.3.6 AS/NZS 3191 ..... 3.2.5.1 (Table 3B) AS/NZS 60064 .....4.1.201 AS/NZS 60695.2.11..... 4.7.201.2, 4.7.201.3 AS/NZS 60695.11.10.....4.7.201.1, 4.7.201.5 AS/NZS 60695.11.5.....4.7.201.3 2. Insert the following between 'positive temperature coefficient (PTC) device' and 'powder': potential ignition source 1.2.201, 4.7.201.3, 4.7.201.5		Pass

China - Differences to IEC 60950-1:2005, Second Edition			
1.1.2	GB 4943.1-2011 applies to equipment for use at altitudes not exceeding 5000m above sea level, primarily in regions with moderate or tropical climates. Amend the third dashed paragraph of 1.1.2 as: ——equipment intended to be used in vehicles, on board ships or aircraft, at altitudes greater than 5000m;		N/A
1.4.5	After the third paragraph, add a paragraph: If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10%,-10% unless a wider tolerance is declared by the manufacturer. The first dash paragraph "-the RATED VOLTAGE is 230V single -phase or 400V three-phase, in which case the tolerance shall be taken as +10% and -10%" of IEC 60950-1:2005 is deleted in GB 4943.1-2011		N/A
1.4.12.1	Tma in clause 1.4.12.1 amended as: Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Add note 1: For equipment not to be operated at tropical climatic conditions, Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater. Add note 2: For equipment is to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration.		
1.5. 2	Add a note behind the first break off section in Clause 1.5.2: A component used shall comply with related requirements corresponding altitude of 5000m.		N/A
1.7	Add one paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.		N/A
1.7.1	Based on the AC mains supply of China, the RATED VOLTAGE should be 220V (single phase) or 380V (three-phases) for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220V or 380V (three-phases), for multiple RATED VOLTAGES, one of them should be 220V or 380V (three-phases) and set on 220V or 380V (three-phases) when manufactured. And the RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or include 50Hz.		N/A
1.7.2.1	Add requirements of warning for equipment intended to be used at altitudes not exceeding 2000m or at non-tropical climate regions: For equipment intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place. "Only used at altitude not exceeding 2000m."  For equipment intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place. "Only used in not-tropical climate regions."  If only the symbol used, the explanation of the symbol shall be contained in the instruction manual. The above statements shall be given in a language		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	acceptable to the regions where the apparatus is intended to be used.		
2.7.1	Amended the first paragraph as: Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except special provisions. And the protective device shall meet the requirement of Clause 5.3. Delete note of Clause 2.7.1.		N/A
2.9.2	First section of Clause 2.9.2 amended as two sections: Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature 40±2℃ and a relative humidity of (93±3)%. During this conditioning the component or subassembly is not energized. For equipment not to be operated at tropical climatic conditions, Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of (93±3) %. The temperature of the air, at all places where samples can be located, is maintained within 2 °C of any convenient value between 20 °C and 30 °C such that condensation does not occur. Due to pretreatment of equipment operated at high altitude area is humidity conditioning withstand hot shock, specific requirements are to be considered. Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered.		N/A
2.10.3.1	Amend the third paragraph of Clause 2.10.3.1 to be: These requirements apply for equipment to be operated up to 2000 m above sea level. For equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of IEC 60664-1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.		N/A
2.10.3.3 & 2.10.3.4	Add "(applicable for altitude up to 2000m)" in header of Table 2K、2L and 2M.		N/A
2.10.3.4	Add a new section above Table 2K and in Clause		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	2.10.3.4: Minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1（IEC 60664-1）. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T16935.1.		
3.2.1.1	Add a paragraph before the last paragraph: Plugs connected to AC mains supply shall comply with GB 1002 or GB 1003 or GB/T 11918 as applicable.		N/A
4.2.8	Clause 4.2.8 cathode ray tubes quoted Clause 18 of GB8898-2011. Delete note of Clause 4.2.8.		N/A
Annex E	Last section of Annex E amended as: For comparison of winding temperatures determined by the resistance method of this annex with the temperature limits of Table 4B, 35 °C shall be added to the calculated temperature rise. And add note: for equipment not to be operated at tropical climatic conditions, 25 °C shall be added to the calculated temperature rise to compare with the temperature of Table 4B.	See Additional Information for detail.	N/A
Annex G.6	Change the second section of Clause G.6 to be: For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.		N/A
Annex BB (informative)	Amended as : The differences between Chinese national standards GB 4943.1-2011 and GB 4943-2001.		N/A
Annex DD (normative)	Added annex DD: Instructions for the new safety warning labels. DD.1 Altitude warning label  Meaning of the label: Evaluation for apparatus only		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	based on altitude not exceeding 2000m, there for it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used at altitude above 2000m . DD.2 Climate warning label  Meaning of the label: Evaluation for apparatus only based on temperate climate condition, there for it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used in tropical climate region.		
Annex EE (informative)	Added annex EE: Illustration relative to safety explanation in normative Chinese、Tibetan、Mongolian、Zhuang Language and Uighu.	Relevant instruction was provided in English Version of other languages will be provided when national approval.	N/A
Other amendments	In accordance with the relevant CTL decisions and the amendments of IEC 60950-1, the specific requirements or mistakes in IEC standard are corrected or editorially modified in this part, Including clause 1.7, 2.1.1.7, 2.9.2, Table 2H, Figure 2H, F.8, F.9, M.3 and Annex U.		N/A
Quoting standards and reference documents	The principles of quoting and referring to other standards in Annex P and reference documents of IEC 60950-1 are as follows: If the date of the reference document is given, only that edition applies, excluding any subsequent corrigenda and amendments. However, parties to agreements based on this part are encouraged to investigate the possibility of applying the most recent editions of the reference documents. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendments. For the usage of international standards in Chinese national standards and industry standards is various, in the aim of achieving easy operation and based on the requirements of GB/T 1.1 and GB/T 20000.2, when quoting an entire international standard in the normative quoting files and reference documents of Annex P of this part, the principles of quotation are as follows: - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted; - If the date of the national standard or industry standard is not given, the latest edition of the standard applies;		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- The national standard or industry standard number, corresponding international standard number and the consistency level code should be identified in parentheses behind the listed national standard or industry standard. When quoting several chapters or clauses of the international standard, the principles of quotation are as follows: - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted. Meanwhile, in order to retain the relevant information on international standards, informative annex CC is increased, which gives the table about the comparison of the normative quoting files and reference documents in IEC 60950-1: 2005 and GB 4943.1-2011.		

Denmark - Differences to IEC 60950-1:2005, Second Edition			
1.2.4.1	Certain types of Class I appliances (see sub-clause 3.2.1.1) may be provided with plug not establishing earthing continuity when inserted into Danish socket-outlets.		N/A
1.7.2.1	Supply cords of Class I equipment, which is delivered without a plug, must be provided with a visible tag with the following text: "Vigtigt ! Lederen med gron/gul isolation ma kun tilsluttes en klemme market (IEC 417, No. 5019) eller (IEC 417, No. 5017)." If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: "For tilslutning af de ovrige ledere, se medfolgende installationsvejledning".		N/A
1.7.5	Socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For stationary equipment, the socket0outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.		N/A
1.7.5	With the exception of CLASS II EQUIPMENT provided with a socket outlet in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-4a, CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	Supply cord of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. Class I equipment provided with socket-outlets with earth contact 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 poly-phase equipment and single-phase equipment having a rated current exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.		N/A
5.1.7.1	TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B.		N/A

Finland - Differences to IEC 60950-1:2005, Second Edition			
1.5.7.1	Resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2.		N/A
1.5.9.4	The third dashed sentence is applicable only to equipment as defined by this annex, 6.1.2.2		N/A
1.7.2.1	Class I Pluggable Equipment Type A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text shall be: "Laite on liitettava suojamaadoitus-koskettimilla varustettuun pistorasiaan"		N/A
2.3.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.10.5.13	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
5.1.7.1	Touch current measurement results exceeding 3,5 mA r.m.s are permitted only for the following equipment: - Stationary pluggable equipment Type A that: (1) is intended to be used in a Restricted Access Location where equipotential bonding has been applied, for example, in a telecommunication centre; and (2) has provision for a permanently connected protective earthing conductor; and (3) is provided with instructions for the installation of that conductor by a service person; - Stationary pluggable equipment Type B		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- Stationary permanently connected equipment		
6.1.2.1	Add the following text between the first and second paragraph of the compliance clause: 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 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		N/A
6.1.2.2	The exclusions are applicable for permanently connected equipment and pluggable equipment type B and equipment intended to be used in a restricted access location where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected protective earthing conductor and is provided with instructions for the installation of that conductor by a service person.		N/A
7.2	Requirements according to this annex, 6.1.2.1 and		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	6.1.2.2 apply with the term telecommunication network in 6.1.2 being replaced by the term cable distribution system.		
Germany - Differences to IEC 60950-1:2005, Second Edition			
1.7.2.1	If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market. Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.		N/A
Group - Differences to IEC 60950-1:2005, Second Edition			
1.3.Z1	Exposure to excessive sound pressure - The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for ¡§one package equipment¡¨, and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.		N/A
1.5.1	Add the following NOTE Z1: The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC		N/A
1.7.2.1	Add the following NOTE Z1: In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss.		N/A
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in primary circuits, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	of 5.3 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.		
2.7.2	Void		N/A
3.2.3	Delete the NOTE and conduit sizes in parentheses in Table 3A		N/A
3.2.5.1	Replace: "60245 IEC 53" by "H05 RR-F" "60227 IEC 52" by "H03 VV-F or H03 VVH2-F" "60227 IEC 53" by "H05 VV-F or H05 VVH2-F" In table 3B, replace the first four lines by the following: Up to and including 6 0.75 a) Over 6 up to and including 10 0.75 b) 1.0 Over 10 up to and including 16 1.0 c) 1.5 In the conditions applicable to table 3B, delete the words "in some countries" in condition a). In Note 1, applicable Table 3B, to delete the second sentence.		N/A
3.3.4	In table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: "Over 10 up to and including 16 1.5 to 2.5 1.5 to by 4" Delete the fifth line: conductor sizes for 13 to 16A.		N/A
4.3.13.6	Add the following NOTE Z1: Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the operator access area, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see note). Account is taken of the background level. Replace the notes as follows:		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	NOTE - These values appear in Directive 96/29/Euratom. Delete Note 2.		
Ireland - Differences to IEC 60950-1:2005, Second Edition			
3.2.1.1	Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
4.3.6	DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A

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

Israel - National standard reference….: SI 60950 Part 1 (2009)		
		—

The referenced International Standard	The substituted Israel Standard	Comments
IEC 61058-1: 2000	SI 61058 Part 1 – Switches for appliances: General requirements	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 61058-1 (2001)
ISO 3864 (all parts)	SI 3864 Part 1 –Graphical symbols – Safety colours and safety signs: Design principles for safety signs in workplaces and public areas	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission IEC 3864-1 (2002)

Notes
(A) This Standard will be replaced by SI 60065 - Audio, video and similar electronic apparatus – safety requirements - that excluding the national deviations indicated is identical to the Standard of the International Electrotechnical Commission IEC 60065 (2003).
(B) Not relevant to the translation.

B. Add the following to the clause:

Israel Standards

SI 32 Part 1.1 - Plugs and socket-outlets for household and similar purposes: Plugs and socket-outlets for single phase up to 16 A – General Requirements

SI 961, all parts - Electromagnetic compatibility

Israel documents

Electricity Law, 1654, its regulations and revisions

Kovetz Takanot 4465 dated 1983-02-24, Consumer Protection Order (Marking of goods), 1983

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

The referenced International Standard	The substituted Israel Standard	Comments
IEC 60320 (all parts)	SI 60320 Part 2.2 – Appliance couplers for household and similar general purposes: Interconnection couplers for household and similar equipment	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 60320-2.2 (1998)
	SI 60320 Part 2.3 –Appliance couplers for household and similar general purposes: Interconnection couplers for household and similar equipment Appliance coupler for household and similar general purposes: Appliance coupler with a degree of protection higher than IPX0	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 60320-2.3 (1998)
IEC 60730-1: 1999	SI 60730 Part 1 – Automatic electrical controls for household and similar use: General requirements	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 60730-1 (1999)
IEC 60825-1	SI 60825 Part 1 – Safety of laser products: Equipment classification, requirements and user's guide	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 60825-1 (2001).
IEC 60947-1: 2004	SI 60947 Part 1 –Low-voltage switchgear and controlgear: General rules	The Israel Standard, excluding national deviations in it, is identical to Standard of the International Electrotechnical Commission, IEC 60947-1 (1999)

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

The referenced International Standard	The substituted Israel Standard	Comments
IEC 60317 (all parts)	SI 1067 Part 1 – Self-fluxing enamelled[(R)] round copper wires with high mechanical properties	The Israel Standard is identical to the Standard of the International Electrotechnical Commission IEC 317-1 (1980)
	SI 1067 Part 2 – Self-fluxing enamelled[(R)] round copper wires	The Israel Standard is identical to the Standard of the International Electrotechnical Commission IEC 317-4 (1980)
	SI 1067 Part 3 – Self-fluxing enamelled[(R)] round copper wires with a temperature index of 180°	The Israel Standard is identical to the Standard of the International Electrotechnical Commission IEC 317-8 (1980)
IEC 60320 (all parts)	SI 60320 Part 1 – Appliance couplers for household and similar general purposes: General requirements	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 60320-1 (2001)
	SI 60320 Part 2.1 – Appliance couplers for household and similar general purposes: Sewing machine couplers	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 60320-2.1 (2000)

(Table continued on next page)

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

Annex P — Pass

Normative Reference

The annex is applicable with the following national deviations:

- The following Israel Standards have been inserted in place of some of the International Standards specified in this annex of the Standard, as follows:

The referenced International Standard	The substituted Israel Standard	Comments
IEC 60065: 2001	SI 250[A] – Safety requirements for mains operated electronic and related apparatus for household and similar general use	The Israel Standard, excluding national deviations in it, is identical to the Standard of the International Electrotechnical Commission, IEC 65:1985, including its amendments
IEC 60227 (all parts)	SI 473, all parts – Cables, cords and insulated conductors for nominal voltage up to 1000 volt	–
IEC 60309 (all parts)	SI 1109, all parts – Plugs, socket-outlets and couplers for industrial purposes	SI 1109, part 1 and part 2, excluding national deviations in them, are identical to the Standards of the International Electrotechnical Commission IEC 60309-1-1999 and IEC 60309-2-1999, respectively.

(Table continued on next page)

6) Residual current circuit breaker (30 ma = I Δ);

7) Reinforced insulation; Double insulation (class II)

2.201 — N/A

- Clause 2.201 shall be added at the end of the clause, as follows:

2.201 Prevention of electromagnetic interference

- Prior to carrying out the tests in accordance with the clauses of the Standard, the compliance of the apparatus with the relevant requirements specified in the appropriate part of the Standard series, SI 961, shall be checked.

  The apparatus shall meet the requirements in the appropriate part of the Standard series SI 961.

- If there are components in the apparatus for the prevention of electromagnetic interference these components shall not reduce the safety level of the apparatus as required by this Standard.

3 — N/A

Wiring, connections and supply

The clause is applicable with the following additions:

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2 3.2.1 3.2.1.1	**Connection to a mains supply** **Means of connection** **Connection to an a.c. mains supply** After the note, the following note shall be added: **Note:** In Israel, the feed plus shall comply with the requirements of Israel Standard SI 32 Part1.1		N/A
3.2.1.2	**Connection to a d.c. mains supply** At the end of the first paragraph, the following note shall be added: **Note:** At the time of issue of this Standard, there is no Israel Standard for connection accessories to d.c. **Note:** In Israel, this clause is applicable subject to the Electricity Law, 1954, its regulations and revisions.		N/A
1.7	**Marking and instructions** The clause is applicable with the following additions:		N/A
1.7.201	Subclause 1.7.201 shall be added at the beginning of the clause as follows: **Marking in the Hebrew language** The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983. In addition to the marking required by clause 1.7.1, the following details shall be marked in the Hebrew language. The details shall be marked on the apparatus or on its package, or on a label properly attached to the apparatus or on the package, by bonding or sewing, in a manner that the label cannot be easily removed. 1. Name of the apparatus and it commercial designation; 2. Manufacturer's name and address. If the apparatus is imported, the importer's name and address; 3. Manufacturer's registered trademark, if any; 4. Name of model and serial number, if any; 5. Country of manufacture.		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2 1.7.2.1	**Safety instructions and marking** **General** The following shall be added to the clause: All the instructions and warnings related to safety shall be written in the Hebrew language.		N/A
2	Protection from hazards The clause is applicable with the following additions:		N/A
2.9.4	Separation from hazardous voltages The following shall be added at the beginning of the clause: In Israel, according to the Electricity Law, 1954, and the Electricity Regulations (Earthing and means of protection against electricity of voltages up to 1,000V) 1991, seven means of protection against electrocution are permitted, as follows: 1) TN-S ─ Network system earthing; TN-C-S ─ Network system earthing; 2) TT ─ Network system earthing; 3) IT─ Network Insulation Terre; 4) Isolated transformer; 5) Safety extra low voltage (SELV or ELV); Note 3: The requirements of Israel Standard SI 60065[(c)] may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. The list if equipment (brought in the above table) is not intended to be comprehensive and exhaustive and equipment that is not listed is not necessarily excluded from the Scope. Equipment complying with the relevant requirements in the Standard is considered suitable for use with process control equipment; automatic test equipment and similar systems requiring information processing facilities. However, this Standard does not include requirements for performance or functional characteristics of equipment. [(c)] In preparation		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.1.2	Additional requirements Requirements additional to those specified in this Standard may be necessary for: - Equipment intended for operation in special environments (for example, extremes of temperature; very high concentration of dust, moisture or vibration; flammable gases; and corrosive or explosive atmospheres); - Electromedical applications with physical connections to the patients; - Equipment intended to be used in vehicles, on board ships or aircraft, in tropical countries, or at altitudes greater than 2,000m. - Equipment intended for use where ingress of water may be possible. For guidance on such requirements and on relevant testing, see Annex T. **Note:** Attention is drawn to the fact that government authorities of some countries impose additional requirements.		N/A
1.1.3	Exclusions This Standard does not apply to the following: - Power supply systems which are not an integral part of the requirement, such as motor-generator sets, battery backup systems and transformers; - Building installation wiring; - Devices requiring no electric power.		N/A

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

National deviations to the clauses of the International Standard		
1.6	**Power interface** The clause is applicable with the following addition:	N/A
1.6.1	**AC Power distribution systems** A note shall be added to the clause as follows: Note 1： Examples of aspects with which uninstalled components and subassemblies may not comply include the marking of the power rating and access to hazardous parts. Note 2: This Standard may be applied to the electronic parts of equipment even if that equipment does not wholly fall within its Scope, such as large-scale air conditioning systems, fire detection systems and fire extinguishing systems. Different requirements may be necessary for some applications. This Standard specifies requirements intended-to reduce risks of fire ignition, electric shock or bodily injury for the operator and layman who may come into contact with the equipment and, where specifically stated, for a service person. This Standard is intended to reduce such risks with respect to installed equipment, whether it consists of a system or interconnected units or independent units, subject to installing, operating and maintaining the equipment in the manner prescribed by the manufacturer. Examples of equipment that is in the scope of this Standard are the following:	N/A

Generic product type	Specific examples of generic type
Banking equipment	Monetary processing machines (counting, dispensing, etc.) for bills and coins, including automated teller machines (ATM)
Data and text processing machines and associated equipment	Data preparation equipment, data processing equipment, data storage equipment, personal computers, plotters, printers, scanners, text processing equipment and visual display units
Data network equipment	Bridges, data circuit terminating equipment, data terminal equipment and routers
Electrical and electronic retail equipment	Cash registers, point of sale terminals including associated electronic scales
Electrical and electronic office machines	Calculators, copying machines[A], dictation equipment, document shredding machines, duplicators, erasers, micrographic office equipment, motor-operated files, paper trimmers (punchers, cutting machines, separators), paper jogging machines, pencil sharpeners, staplers and typewriters
Other information technology equipment	Photoprinting equipment, public information terminals and multimedia equipment
Postage equipment	Mail processing machines and postage machines
Telecommunication network infrastructure equipment	Billing equipment, multiplexers, network powering equipment, network terminating equipment, radio base stations, repeaters, transmission equipment and telecommunication switching equipment
Telecommunication terminal equipment	Facsimile equipment, key telephone systems, modems, PABXs[B], pagers, telephone answering machines and telephone sets (wired and wireless)

[A] Commonly known as "copiers".

[B] PABX – Private Automatic Branch Exchange.

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Japan - Differences to IEC 60950-1:2005 (Second Edition)			
1.2.4.1	Add the following new notes. Note: Even if the equipment is designed as Class I, the equipment is regarded as Class 0I equipment when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.		Pass
1.2.4.3A	Add the following new clause. 1.2.4.3A CLASS 0I EQUIPMENT Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by: - using BASIC INSULATION, and - providing either of the following a) or b) in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring. a) Provision of 2-pin plug with earthing lead including the condition of that 2-pin adaptor with earthing lead wire is provided or recommended. b) Provision of an independent earting terminal, when 2-core mains cord (without earthing conductor) is used. NOTE – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation.		N/A
1.3.2	Add the following notes after first paragraph: Note 1 Transportable or similar equipment that are relocated frequently for intended usage should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel. Note 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.		N/A
1.5.1	Replace the first paragraph with the follows: Where safety is involved, components shall comply either with the requirements of this standard, with the safety aspects of the relevant JIS component standard, or IEC component standards in case there is no applicable JIS component standard is available. However, a component that falls within the scope of METI Ministerial ordinance No. 85 is properly used in		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	accordance with its marked ratings, requirements of 1.5.4, 2.8.7 and 3.2.5 apply, and in addition, a cord connector of power supply cord set mating with appliance inlet complying with the standard sheet of IEC 60320-1 or JIS C 8283-1, shall comply with relevant standard sheet of IEC 60320-1 or JIS C 8283-1. Replace Note 1 with the following: Note 1 JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.		
1.5.2	Replace first sentence in the first dashed paragraph with the following: - a component that has been demonstrated to comply with a JIS component standard harmonized with the relevant IEC component standard, or where such JIS component standard is not available, a component that has been demonstrated to comply with the relevant IEC component standard shall be checked for correct application and use in accordance with its rating. Replace first sentence in the third dashed paragraph as follows: - where no relevant IEC component standard or JIS component standard harmonized with the relevant IEC component standard exists, or where components are used in circuits not in accordance with their specified rating, the components shall be tested under the conditions occurring in the equipment. Add a note after the first dashed paragraph as follows: Note 2 See 1.7.5A when Type C.14 appliance coupler rated 10 A per JIS C 8283-1 is used with an equipment rated not more than 125 V and rated more than 10 A.		N/A
1.5.9.1	Add the following in the last of NOTE 1. Gas discharge connected in series with VDR may be used.		N/A
1.5.9.4	Add following paragraph after the NOTE: Gas discharge tube that complies with the requirements of functional insulation may be		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	connected in series with VDR for bridging basic insulation..		
1.7.1	Replace fifth and sixth dashed paragraphs with the followings: - manufacturer's or responsible company's name or trade-mark or identification mark; - manufacturer's or responsible company's model identification or type reference; Replace the last paragraph with the following: Where symbols are used, they shall conform to JIS S 0101, ISO 7000 or IEC 60417 where appropriate symbols exist.		N/A
1.7.2.1	Add the following after 2nd paragraph. Instruction or equipment marking regarding safety shall be written in Japanese unless otherwise permitted in this standard.		N/A
1.7.2.5	Replace the last sentence with the following: An acceptable marking for an electric shock hazard is  (6.2.4 of JIS S 0101).		N/A
1.7.5	Replace 2nd paragraph with the following. Socket-outlets conforming to JISC8303 are examples of standard power supply outlets.		N/A
1.7.5A	Add the following new clause. after 1.7.5 1.7.5A Appliance Coupler If appliance coupler according to IEC60320-1, C.14(rated current: 10A)is used in equipment whose rated voltage is less than 125V and rated current is over 10A, the following instruction or equivalent shall be described in the user instruction. " Use only designated cord set attached in this equipment" *Example in Japanese:* "この機器に同こん(梱)した指定の電源コードセットだけを使用して下さい。" If appliance coupler is used for connection to the mains and if the cord set is not provided within the package for the equipment, suitable information regarding to the cord set shall be described in the user instruction *Note Since the combination of appliance inlet with earting pin and two-core cord set(without earthing conductor) is special, the cord set should be attached in the equipment and the use instruction should provide the information*		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	that the cord set is exclusively used with the equipment and not allowed to use with other equipments.		
1.7.14A	Add the following new clause. after 1.7.14 1.7.14A Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following or equivalent instructions shall be marked. - the following instruction shall be marked on the mains plug or on the visible place of the main body “Provide an earthing connection” *Example in Japanese:* “必ず接地接続を行ってください。” - the following marking shall be marked on the visible place of the main body or written in the operating instructions: “Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.” *Example in Japanese:* 接地接続は必ず、電源プラグを電源につなぐ前に行ってください。 また、接地接続を外す場合は、必ず電源プラグを電源から切り離してから行ってください。		N/A
1.7.14B	Add the following new clause. after 1.7.14A 1.7.14B Protective earthing conductor used for CLASS 0I equipment For CLASS 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided within the package for the equipment, the suitable information for the protective earthing connection shall be provided in the instruction manual. (See 2.6.3.2)		N/A
2.1.1.1	Replace item b) of 2.1.1.1with the following. b) A test with the test finger, Figure 2A, which shall not contact parts described above when applied to openings in the ENCLOSURES after removal of parts that can be detached by an OPERATOR, including fuseholders, and with OPERATOR access doors and covers open. It is permitted to leave lamps in place for this test. Connectors that can be separated by an OPERATOR, other than those complying with JIS C 8303 or Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance or JIS C		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	8285 or IEC 60309 series or JIS C 8283 series or IEC 60320 series, shall also be tested during disconnection.		
2.5	Replacement: “IEC 60730-1” replaced with “JIS C 9730”.		N/A
2.6.3.2	Add the following after 1st paragraph. However where the single core conductor is used for protective earthing lead or earthing cord for CLASS 0I equipment, either of the following condition shall be met. - Use of annealed copper wire with1 .6mm diameter or corrosion-inhibiting metal wire equivalent or higher in term of strength and thickness.. - Single core cord or single core cabtire cable with 1.25mm^2 or more cross-sectional area		N/A
2.6.3.5	Add the following after 1st paragraph. However this requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is the formed together with mains plug and appliance connector.		N/A
2.6.4.2	Replace 1st paragraph with the following. Equipment required to have protective earthing shall have a main protective earthing terminal. For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal. However, for CLASS 0I EQUIPMENT provided with the separate main protective earthing terminal other than appliance inlet, the separate main protective earthing terminal may be treated as mains protective earthing terminal.		N/A
2.6.5.4	Replace 1st sentence with the following. Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:		N/A
2.6.5.6	Replace 1st sentence with the following: Conductive parts in contact at protective earthing terminals, protective bonding terminals and connections shall not be subject to significant corrosion due to electrochemical action in any working, storage or transport environment conditions as specified in the instructions supplied with the equipment.		N/A
2.6.5.8A	Add the following new clause. after 2.6.5.8		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	2.6.5.8A Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible.		
2.7.6	Replace “ISO 3864, No. 5036” with “6.2.4 of JIS S 0101”.		N/A
2.9.3 Table 2H	Replace the following columns in Table 2H. The right column for BASIC, TNV-2, -earthed TNV-1 circuit is replaced with “B13 d), f)” The right column for SUPPLEMENTARY, TNV CIRCUIT, -basic-insulated conductive part earthed circuit is replaced with “S2”		N/A
2.10.3.1	Replace 8th paragraph with the following The above minimum CREEPAGE DISTANCES for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series, JIS C 8283 series, IEC60320 series, JIS C 8303,and Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance in which dimension is comply with JIS C 8283 series, JIS C 8303 or IEC 60309-2.		N/A
2.10.3.3 Table 2L	Add the following footnote in table 2L: For voltage values within the PEAK WORKING voltage values given in the table, linear interpolation is permitted between the nearest two points, the calculated minimum additional CLEARANCE being rounded up to the next higher 0,1 mm increment.		N/A
2.10.4.3	Replace 6th paragraph with the following The above minimum CREEPAGE DISTANCE for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series, JIS C 8283 series, IEC60320 series, JIS C 8303, and Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance in which dimension is comply with JIS C 8283 series, JIS C 8303 or IEC 60309-2.		N/A
2.10.9	Replace “1.4.5” in 3rd paragraph with “1.4.12”.		N/A
3.2.3	Add the following after 3rd paragraph. Table 3A applies when cables complying JIS C 3662 or JIS C 3663 are used. In case of other		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	cables, cable entries shall be so designed that a conduit suitable for the cable used can be fitted.		
3.2.4	Add the following as fourth dash. - be so constructed that mechanical stress shall not transmit to the soldering part of inlet terminal during insertion or removal of the connector except that the body of the inlet is secured and is secured not only soldering.		N/A
3.2.5.1	Add the following to the last of first dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance. Add the following to the last of second dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance. Replace 3rd dashed paragraph with the following. – include, for equipment required to have protective earthing, a PROTECTIVE EARTHING CONDUCTOR having green-and-yellow insulation. However this requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is the formed together with mains plug and appliance connector. For CLASS 0I EQUIPMENT provided with the separate main protective earthing terminal, the protective conductor may not need to provide in mains cord. ; and Replace 4th dashed paragraph with the following. – The cord complying with JIS C 3662-5 or JIS C 3663-4 has conductors with cross-sectional areas not less than those specified in Table 3B. Other cord shall comply with relevant wiring regulation.		N/A
3.3.4 Table 3D	Add the following note to Table 3D: Note For cables other than those complying with JIS C 3662 or JIS C 3663, terminals shall be suitable for the size of the intended cables.		N/A
3.3.7	Add the following after the first sentence: This requirement is not applicable to the external earting terminal of Class 0I equipment.		N/A
4.3.4	Add the following after the first sentence:		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	This requirement also applies to those connections in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.		
4.3.5	Replace 1st dashed paragraph with the following. Within a manufacturer's unit or system, plugs and sockets likely to be used by the OPERATOR or by a SERVICE PERSON shall not be employed in a manner likely to create a hazard due to misconnection. In particular, connectors complying with IEC 60320/JIS C 8283 series or JIS C 8303 or JIS C 8358 shall not be used for SELV CIRCUITS or TNV CIRCUITS. Keying, location or, in the case of connectors accessible only to a SERVICE PERSON, clear markings are permitted to meet the requirement.		N/A
4.5.3	Add the following note to footnote b) of Table 4B: NOTE: In case no data for the material is available, Appendix 4, 4. (1). b. 3 of the Interpretation on the Ministerial Ordinance stipulating Technical Specifications for Electrical Appliances (Commerce and Distribution Policy Group No. 3:2008/04/19) may apply.		N/A
5.1.3	Add a note after the first paragraph as follows: Note – Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, test is conducted using the test circuit from IEC 60990, figure 13.		N/A
5.1.6	Replace Table 5A. as follows [illegible]		N/A
Annex G	Replace the paragraph before Table G.2 with the following The above minimum CREEPAGE DISTANCES for connectors do not apply to connectors that		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	comply with JIS C 8285, IEC60309 series, JIS C 8283 series, IEC60320 series, JIS C 8303, and Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance in which dimension is comply with JIS C 8283 series, JIS C 8303 or IEC 60309-2.		
Annex P	Delete the issued date of IEC61051-2.		N/A
Annex Q	Replace the terms in b) as follows: From “Maximum continuous voltage” to “Maximum continuously applied voltage” From “The maximum continuous a.c. voltage” to “The maximum continuously applied a.c. voltage”		N/A
Annex U U.2.4	Add the following new note after NOTE: NOTE 2 Considering environmental issue, "(for example 1,1,1 -trichloroethane)" was deleted from the above paragraph.		N/A
Annex V V.1	Replace “3.1.2”in the first line of V.1 with “312” in first line.		N/A
Annex W W.1	Replace third sentence in the first paragraph with the following: Floating circuits can exist in CLASS I EQUIPMENT, CLASS 0I EQUIPMENT and earthed circuits can exist in CLASS II EQUIPMENT.		N/A
Annex JA	Add a new annex JA with the following contents. Annex JA (normative) Document shredding machines Document shredding machines shall also comply with the requirements of this annex except those of STATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more. **JA.1 Markings and instructions** The symbol ⚠ (JIS S 0101:2000, 6.2.1) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible; - that use by an infants/children may cause a hazard of injury etc.; - that a hand can be drawn into the mechanical section for shredding when touching the document-slot; - that clothing can be drawn into the mechanical section for shredding when touching the		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	document-slot; - that hairs can be drawn into the mechanical section for shredding when touching the document-slot; - in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas. **JA.2 Inadvertent reactivation** Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard. Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1 **JA.3 Disconnection from the mains supply** Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used. If two-position switch, the positions for “ON” and “OFF” shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for “OFF” shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols. Compliance is checked by inspection **JA.4 Protection against hazardous moving parts** Any warning shall not be used instead of the structure for preventing access to hazardous moving parts. Document shredding machines shall comply with the following requirements.		
	Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended. Before testing with the test finger, remove the parts detachable without a tool. Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be		N/A

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

factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.

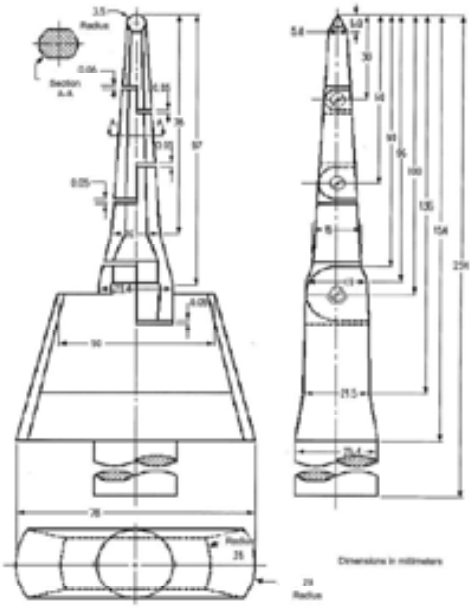
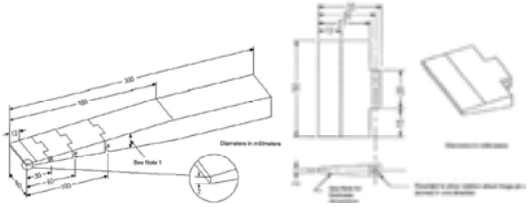


Figure JA.1 Test finger



(Details of the tip of wedge)

Distance from the tip (mm)	Thickness of probe (mm)
0	2
12	4
180	24

Note 1 - The thickness of the probe varies linearly, with slope changes at the respective points shown in the table.
Note 2 –The allowable dimensional tolerance of the probe is +/- 0.127 mm.

Figure JA.2 Wedge-probe

Korea - Differences to IEC 60950-1:2005, Second Edition			
1.5.101	Plugs for the connection of the apparatus to the mains supply shall comply withe the Korean requirement (KSC 8305)		N/A
8	EMC - The apparatus shall comply with the relevant CISPR standards		N/A

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

Norway - Differences to IEC 60950-1:2005, Second Edition			
1.5.7.1	Resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2.		N/A
1.5.8	Due to the IT power system used (see annex V, figure V.7), capacitors are required to be rated for the applicable phase-to-phase voltage (230 V).		N/A
1.5.9.4	The third dashed sentence is applicable only to equipment as defined by this annex, 6.1.2.2		N/A
1.7.2.1	Class I Pluggable Equipment Type A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text shall be: "Apparatet ma tilkoples jordet stikkontakt"		N/A
2.2.4	Requirements according to this annex, 1.7.2.1, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.3.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.3.4	Requirements according to this annex, 1.7.2.1, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.10.5.13	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
5.1.7.1	Touch current measurement results exceeding 3,5 mA r.m.s are permitted only for the following equipment: - Stationary pluggable equipment Type A that: (1) is intended to be used in a Restricted Access Location where equipotential bonding has been applied, for example, in a telecommunication centre; and (2) has provision for a permanently connected protective earthing conductor; and (3) is provided with instructions for the installation of that conductor by a service person; - Stationary pluggable equipment Type B - Stationary permanently connected equipment		N/A
6.1.2.1	Add the following text between the first and second paragraph of the compliance clause: 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		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		
6.1.2.2	The exclusions are applicable for permanently connected equipment and pluggable equipment type B and equipment intended to be used in a restricted access location where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected protective earthing conductor and is provided with instructions for the installation of that conductor by a service person.		N/A
7.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply with the term telecommunication network in 6.1.2 being replaced by the term cable distribution system.		N/A
7.3	There are many buildings where the screen of the coaxial cable is not normally connected to the earth in the building installation		N/A
7.3	Refer to EN 60728-11:2005 for installation conditions		N/A

Spain - Differences to IEC 60950-1:2005, Second Edition	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N/A

Sweden - Differences to IEC 60950-1:2005, Second Edition			
1.5.1	(Ordinance (1990:944)) Add NOTE: Switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.5.7.1	Resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2.		N/A
1.5.9.4	The third dashed sentence is applicable only to equipment as defined by this annex, 6.1.2.2		N/A
1.7.2.1	Class I Pluggable Equipment Type A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text shall be: "Apparaten skall anslutas till jordat uttag"		N/A
2.3.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.10.5.13	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
5.1.7.1	Touch current measurement results exceeding 3,5 mA r.m.s are permitted only for the following equipment: - Stationary pluggable equipment Type A that: (1) is intended to be used in a Restricted Access Location where equipotential bonding has been applied, for example, in a telecommunication centre; and (2) has provision for a permanently connected protective earthing conductor; and (3) is provided with instructions for the installation of that conductor by a service person; - Stationary pluggable equipment Type B - Stationary permanently connected equipment		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1	"Add the following text between the first and second paragraph of the compliance clause: 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 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400."		N/A
6.1.2.2	The exclusions are applicable for permanently connected equipment and pluggable equipment type B and equipment intended to be used in a restricted access location where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected protective earthing conductor and is provided with instructions for the installation of that conductor by a service person.		N/A
7.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply with the term telecommunication network in 6.1.2 being		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	replaced by the term cable distribution system.		
7.3	There are many buildings where the screen of the coaxial cable is not normally connected to the earth in the building installation		N/A

	Switzerland - Differences to IEC 60950-1:2005, Second Edition		
1.5.1	Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury. Switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.7.13	Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries Annex 2.15 of SR 814.81 applies for batteries containing cadmium and mercury. Note: Ordinance relating to environmentally hazardous substances, SR 814.013 of 1986-06-09 is not longer in force and superseded by SR 814.81 of 2009-02-01 (ChemRRV).		N/A
3.2	Supply cords of portable electrical appliances having a rated current not exceeding 10 A shall be provided with a plug complying with IEC 60884-1(3.ed.) + am1, SEV 1011 and one of the following dimension sheets: - SEV 6533-2:2009 Plug type 11, L + N, 250V 10A - SEV 6534-2:2009 Plug type 12, L + N + PE, 250V 10A - SEV 6532-2:2009 Plug type 15, 3L + N + PE, 250/400V 10A Supply cords of portable electrical appliances having a rated current not exceeding 16 A shall be provided with a plug complying with IEC 60884-1(3.ed.) + am1, SEV 1011 and one of the following dimension sheets: - SEV 5933-2:2009 Plug type 21 L + N, 250 V, 16A - SEV 5934-2:2009 Plug type 23 L + N + PE, 250 V, 16A - SEV 5932-2:2009 Plug type 25 3L + N + PE, 250/400V 16A NOTE 16 A plugs are not often used in Swiss domestic installation system. See TRF template regulatory requirements Switzerland on IECEE Website R.R. TRF templates.		N/A

	USA / Canada - Differences to IEC 60950-1:2005, Second Edition		
1.1	Equipment able to be installed in accordance with		Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	the National Electrical Code ANSI/NFPA 70 and the Canadian Electrical Code, Part1, and when applicable, the National Electrical Safety Code, IEEE C2.		
1.1.1	Equipment able to be installed in accordance with ANSI/NFPA 75 and NEC Art. 645 unless intended for use outside of computer room and provided with such instructions.		Pass
1.1.2	Equipment in wire-line communication facilities serving high-voltage electric power stations operating at greater than 1kV are excluded.		N/A
1.1.2	Special requirements apply to equipment intended for use outdoors.		N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20 A.		Pass
1.5.1	All IEC standards for components identified in Annex P.1 replaced by the relevant requirements of CSA and UL component standards in Annex P.1.		Pass
1.5.1	All IEC standards for components identified in Annex P.2 alternatively satisfied by the relevant requirements of CSA and UL component standards in Annex P.2.		Pass
1.5.5	Interconnecting cables acceptable for the application regarding voltage, current, temperature, flammability, mechanical serviceability and the like.		N/A
1.5.5	For other than limited power and TNV circuits, the type of output circuit identified for output connector.		N/A
1.5.5	External cable assemblies that exceed 3.05 m in length to be types specified in the NEC and CEC.		N/A
1.5.5	Detachable external interconnecting cables 3.05 m or less in length and provided with equipment marked to identify the responsible organization and the designation for the cable.	EUT in compliance with requirements of IEC 60950-1. Overall acceptance shall be evaluated during national approval.	N/A
1.5.5	Building wiring and cable for use in ducts, plenums and other air handling space subject to special requirements and excluded from scope.		N/A
1.5.5	Telephone line and extension cords and the like comply with UL 1863 and CSA C22.2 No. 233.		N/A
1.6.1.2	Equipment intended for connection to a d.c. power (mains) distribution system is subject to special circuit classification requirements (e.g., TNV-2)		N/A
1.6.1.2	Earthing of d.c. powered equipment provided.		N/A
1.7	Lamp replacement information indicated on lampholder in operator access area.		N/A
1.7.1	Special marking format for equipment intended for use on a supply system with an earthed neutral		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	and more than one phase conductor.		
1.7.1	Equipment voltage rating not higher than rating of the plug except under special conditions.		Pass
1.7.6	Special fuse replacement marking for operator accessible fuses.		N/A
1.7.7	Identification of terminal connection of the equipment earthing conductor.		N/A
1.7.7	Connectors and field wiring terminals for external Class 2 or Class 3 circuits provided with marking indicating minimum Class of wiring to be used.		N/A
1.7.7	Marking located adjacent to terminals and visible during wiring.		N/A
2.1.1.1	Bare TNV conductive parts in the interior of equipment normally protected against contact by a cover intended for occasional removal are exempt provided instructions include directions for disconnection of TNV prior to removal of the cover.		N/A
2.3.1.b	Other telecommunication signaling systems (e.g., message waiting) than described in 2.3.1(b) are subject to M.4.		N/A
2.3.1.b	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vp or 60 V d.c., the maximum current limit through a 2000 Ohm or greater resistor with loads disconnected is 7.1 mA peak or 30 mA d.c. under normal conditions.		N/A
2.3.1.b	Limits for measurements across 5000 ohm resistor in the event of a single fault are replaced after 200 ms with the limits of M.3.1.4.		N/A
2.3.2.1	In the event of a single fault, the limits of 2.2.3 apply to SELV circuits and accessible conductive parts.		N/A
2.3.2.4	Enamel coating on signal transformer winding wire allowed as an alternative to Basic insulation in specific telecommunication applications when subjected to special construction requirements and routine testing.		N/A
2.5	Overcurrent protection device required for Class 2 and Class 3 limiting in accordance with the NEC, or for a Limited Power Source, not interchangeable with devices of higher ratings if operator replaceable.		N/A
2.6	Equipment having receptacles for output a.c. power connectors generated from an internal separately derived source have the earthed (grounded) circuit conductor suitably bonded to earth.		N/A
2.6.3.3	For Pluggable Equipment Type A, if a) b) or c) are not applicable, the current rating of the circuit is taken as 20 A	Investigated as an element of power supply certification verified via 2.6.3.4. See Enclosures/	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
		Miscellaneous ID 7-02 appended table 2.6.3.4 for details.	
2.6.3.4	Capacity of connection between earthing terminal and parts required to be earthed subject to special conditions based on the current rating of the circuit.		N/A
2.6.3.4	Protective bonding conductors and their terminals of non-standard constructions (e.g. PWB traces) evaluated to limited short-circuit test of CSA C22.2 No.0.4.		N/A
2.6.4.1	Field wiring terminals for earthing conductors suitable for wire sizes (gauge) used in US and Canada.		N/A
2.7.1	Data for selection of special external branch circuit overcurrent devices marked on the equipment.		N/A
2.7.1	Standard supply outlets protected by overcurrent device in accordance with the NEC, and CEC, Part 1.		N/A
2.7.1	Overcurrent protection for individual transformers that distribute power to other units over branch circuit wiring.		N/A
2.7.1	Additional requirements for overcurrent protection apply to equipment provided with panelboards.		N/A
2.7.1	Non-motor-operated equipment requiring special overcurrent protective device marked with device rating.		N/A
2.10.5.12	Multi-layer winding wire subject to UL component wire requirements in addition to 2.10.5.12 and Annex U.		N/A
3.1.1	Permissible combinations of internal wiring/external cable sizes for overcurrent and short circuit protection.		N/A
3.1.1	All interconnecting cables protected against overcurrent and short circuit.		N/A
3.2	Wiring methods permit connection of equipment to primary power supply in accordance with the NEC and CEC, Part 1.		N/A
3.2.1	Permitted use for flexible cords and plugs.		N/A
3.2.1	Flexible cords provided with attachment plug rated 125% of equipment current rating.		Pass
3.2.1	Any Class II equipment provided with 15 or 20 A standard supply outlets, Edison-base lampholders or single pole disconnect device provided with a polarized type attachment plug.		N/A
3.2.1.2	Equipment intended for connection to DC mains supply power systems complies with special wiring requirements (e.g., no permanent connection to supply by flexible cord).		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.2	Equipment with one pole of the DC mains supply connected to both the equipment mains input terminal and the main protective earthing terminal provided with special instructions and construction provisions for earthing		N/A
3.2.1.2	Equipment with means for connecting supply to earthing electrode conductor has no switches or protective devices between supply connection and earthing electrode connection.		N/A
3.2.1.2	Special markings and instructions for equipment with provisions to connect earthed conductor of a DC supply circuit to earthing conductor at the equipment.		N/A
3.2.1.2	Special markings and instructions for equipment with earthed conductor of a DC supply circuit connected to the earthing conductor at the equipment.		N/A
3.2.1.2	Terminals and leads provided for permanent connection of DC powered equipment to supply marked to indicate polarity if reverse polarity may result in a hazard.		N/A
3.2.3	Permanently connected equipment has provision for connecting and securing a field wiring system (i.e. conduit, or leads etc.) per the NEC and CEC, Part 1.		N/A
3.2.3	Permanently connected equipment may have terminals or leads not smaller than No. 18 AWG (0.82 mm2) and not less than 150 mm in length for connection of field installed wiring.		N/A
3.2.3	If supply wires exceed 60 ℃, marking indicates use of 75 ℃ or 90 ℃ wiring for supply connection as appropriate.		N/A
3.2.3	Equipment compatible with suitable trade sizes of conduits and cables.		N/A
3.2.5	Length of power supply cord limited to between 1.5 and 4.5 m unless shorter length used when intended for a special installation.		Pass
3.2.5	Conductors in power supply cords sized according to NEC and CEC, Part I.		N/A
3.2.5	Power supply cords and cord sets incorporate flexible cords suitable for the particular application.		N/A
3.2.6	Strain relief provided for non-detachable interconnecting cables not supplied by a limited power source.		N/A
3.2.9	Adequate wire bending space and volume of field wiring compartment required to properly make the field connections.		N/A
3.2.9	Equipment intended solely for installation in Restricted Access Locations using low voltage d.c. systems may not need provision for		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	connecting and securing a field wiring system. A method of securing wiring or instructions provided to ensure the wiring is protected from abuse.		
3.3	Field wiring terminals provided for interconnection of units for other then LPS or Class 2 circuits also comply with 3.3.		N/A
3.3	Interconnection of units by LPS or Class 2 conductors may have field wiring connectors other than those specified in 3.3 if wiring is reliably separated.		N/A
3.3.1	Terminals for the connection of neutral conductor identified by a distinctive white marking or other equally effective means.		N/A
3.3.3	Wire binding screw terminal permitted for connection of No. 10 AWG (5.3 mm2) or smaller conductor if provided with upturned lugs, cupped washer or equivalent retention.		N/A
3.3.4	Terminals accept wire sizes (gauge) used in the U.S. and Canada.		N/A
3.3.4	Terminals accept current-carrying conductors rated 125% of the equipment current rating.		N/A
3.3.6	Field wiring terminals marked to indicate the material(s) of the conductor appropriate for the terminals used.		N/A
3.3.6	Connection of an aluminum conductor not permitted to terminal for equipment earthing conductor.		N/A
3.3.6	Field wiring connections made through the use of suitable pressure connectors (including set screw type), solder lugs or splices to flexible leads.		N/A
3.4.2	Separate motor control device(s) required for cord-connected equipment rated more than 12 A, or with motor rated more than 1/3 hp or more than 120 V.		N/A
3.4.8	Vertically mounted disconnect devices oriented so up position of handle is "on".		N/A
3.4.11	For computer-room applications, equipment with battery systems capable of supplying 750 VA for 5 min require battery disconnect means.		N/A
4.2.8.1	Special opening restrictions for enclosures around CRTs with face dimension of 160 mm or more.		N/A
4.2.9	Compartment housing high-pressure lamp marked to indicate risk of explosion.		N/A
4.2.11	For equipment intended for mounting on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation, service and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails.		N/A
4.3.2	Loading test for equipment with handle(s) used to	See clause 4.3.2 for details.	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
	support more than 9 kg tested at four times the weight of the unit.		
4.3.6	In addition to the IEC requirements, Direct Plug-in Equipment complies with UL 1310 or CSA 223 mechanical assembly requirements.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with ANSI/NFPA 30(Table NAE.6).		N/A
4.3.12	Equipment using replenishable liquids marked to indicate type of liquid to be used.		N/A
4.3.13.2	Equipment that produces x-radiation and does not comply with 4.3.12 under all conditions of servicing marked to indicate the presence of radiation where readily visible.		N/A
4.3.13.5	Requirements contained in the applicable national codes and regulations apply to lasers (21 CFR 1040 and REDR C1370).		N/A
4.7	Automated information storage equipment intended to contain more than 0.76 m3 of combustible media requires provision for automatic sprinklers or a gaseous agent extinguishing system.		N/A
4.7.3.1	Equipment for use in environmental air space other than ducts or plenums provided with metal enclosure or with non-metallic enclosure having adequate fire-resistance and low smoke producing characteristics. Low smoke-producing characteristics evaluated according to UL 2043. Equipment for installation in space used for environmental air as described in Sec. 300-22(c) of the NEC provided with instructions indicating suitability for installation in such locations.		N/A
4.7.3.1	Flame spread rating for external surface of combustible material with exposed area greater than 0.93 m2 or a single dimension greater than 1.8 m; 50 or less for computer room applications or 200 or less for other applications.		N/A
4.7.3.4	Wire marked "VW-1" or "FT-1" considered equivalent.		Pass
5.1.8.2	Special earthing provisions and instructions for equipment with high touch current due to telecommunication network connections.		N/A
5.1.8.3	Touch current due to ringing voltage for equipment containing telecommunication network leads.		N/A
5.3.7	Overloading of SELV connectors and printed wiring board receptacles accessible to the operator.	Refer to appended table 5.3.	Pass
5.3.7	Tests interrupted by opening of a component repeated two additional times.		N/A
5.3.9.1	Test interrupted by opening of wire or trace subject to certain conditions.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6	Specialized instructions provided for telephones that may be connected to a telecommunications network.		N/A
6	Marking identifying function of telecommunication type connectors not used for connection to a telecommunication network.		N/A
6.3	Equipment remotely powered over telecommunication wiring systems provided with specialized markings adjacent to the connection.		N/A
6.3	Overcurrent protection incorporated into equipment to provide power over telecommunication wiring system not interchangeable with devices of higher ratings if operator replaceable.		N/A
6.4	Additional requirements for equipment intended for connection to a telecommunication network using cable subject to overvoltage from power line failures (Fig. 6C).		N/A
6.4	Where 26 AWG line cord required by Fig. 6C, either the cord is provided with the equipment or described in the safety instructions.		N/A
7	Equipment associated with the cable distribution system may need to be subjected to applicable parts of Chapter 8 of the NEC.		N/A
H	Ionizing radiation measurements made under single fault conditions in accordance with the requirements of the Code of Federal Regulations 21 CFR 1020 and the Canadian Radiation Emitting Devices Act, REDR C1370.		N/A
M.2	Continuous ringing signals evaluated to Method A subjected to special accessibility considerations.		N/A
M.4	Special requirements for message waiting and similar telecommunications signals.		N/A
NAC	Equipment intended for use with a generic secondary protector marked with suitable instructions.		N/A
NAC	Equipment intended for use with a specific primary or secondary protector marked with suitable instructions.		N/A
NAD	Acoustic pressure from an ear piece less than 136 dBA for short duration disturbances, and less than 125 dBA for handsets, 118 dBA for headsets, and 121 dBA for insert earphones, for long duration disturbances.		N/A
NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A
NAF	Household/Home Office Document Shredders		N/A
NAF.1.7	Markings and instructions alert the user to key		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	safety considerations related to use of shredders, including not intended to be used by children, avoid touching document feed opening, avoid clothes and hair entanglement, and avoid aerosol products.		
NAF.2.8.3	Safety interlock cannot be inadvertently activated by the articulated accessibility probe (figure NAF.1).		N/A
NAF.3.4	Provided with an isolating switch complying with 3.4.2, including 3 mm contact gap, with appropriate markings associated with the switch.		N/A
NAF.4.4	Hazardous moving parts are not accessible, as determined using the articulated accessibility probe (figure NAF.1) and the accessibility probe/wedge (figures NAF.2/NAF.3).		N/A

United Kingdom - Differences to IEC 60950-1:2005, Second Edition			
2.6.3.3	The current rating of the circuit shall be taken as 13 A, not 16 A.		N/A
2.7.1	To protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A
3.2.1.1	Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a "standard plug" in accordance with Statutory Instrument 1786: 1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE: "Standard plug" is defined in SI 1786: 1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.5.1	A power supply cord with conductor of 1.25 mm2 is allowed for equipment with a rated current over 10A and up to and including 13A.		N/A
3.3.4	The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current of over 10 A up to and including 13 A is 1.25 mm2 to 1.5 mm2 nominal cross-sectional area.		N/A
4.3.6	The torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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 ℃. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		

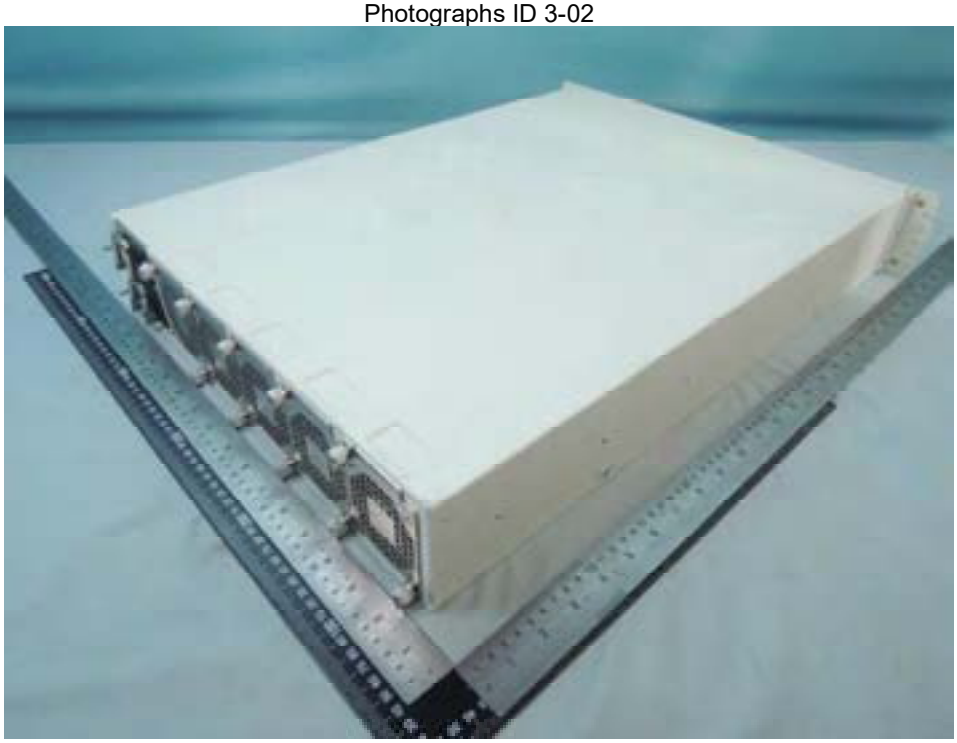
Enclosures

Type	Supplement Id	Description
Marking Plate	13-01	Labels
Photographs	3-01	Overall View-1
Photographs	3-02	Overall View-2
Photographs	3-03	Connector View-1
Photographs	3-04	Connector View-2 with IO Board Netcop
Photographs	3-05	Connector View-3 with IO Board Bypass-100
Photographs	3-06	Connector View-4 with AC Power
Photographs	3-07	Connector View-5 with DC Power
Photographs	3-08	Internal View-1
Photographs	3-09	Internal View-2
Photographs	3-10	Internal View-3 with IO Board Netcop
Photographs	3-11	Internal View-4 with IO Board Netcop
Photographs	3-12	Internal View-5 with IO Board Bypass-100
Photographs	3-13	Internal View-6 with IO Board Bypass-100
Photographs	3-14	Mainboard top side View-1
Photographs	3-15	Mainboard top side View-2
Photographs	3-16	Mainboard bottom side View
Photographs	3-17	IO Board Netcop top side View
Photographs	3-18	IO Board Netcop bottom side View
Photographs	3-19	IO Board Bypass-100 top side View
Photographs	3-20	IO Board Bypass-100 bottom side View
Diagrams	4-01	Enclosure Drawing
Diagrams	4-02	Ear sets Drawing
Diagrams	4-03	Mainboard CPU heat sink Drawing
Diagrams	4-04	Mainboard Chipset heat sink 1 Drawing
Diagrams	4-05	Mainboard Chipset heat sink 2 Drawing
Diagrams	4-06	Mainboard Chipset heat sink 3 Drawing
Diagrams	4-07	I/O Board (Netcop) Chipset heat sink 1 Drawing
Diagrams	4-08	I/O Board (Netcop) Chipset heat sink 2 Drawing
Diagrams	4-09	I/O Board (Netcop) Chipset heat sink 3 Drawing
Diagrams	4-10	I/O Board (Netcop) Chipset heat sink 4 & I/O Board (Bypass-100) Chipset heat sink 2 Drawing
Diagrams	4-11	I/O Board (Bypass-100) Chipset heat sink Drawing
Diagrams	4-12	Mylar Drawing
Schematics + PWB		
Manuals	6-01	Manual
Miscellaneous	7-01	CB Declaration Letter
Miscellaneous	7-02	Additional Tables
License	8-01	AC Power CB Certificate
License	8-02	DC Power CB Certificate

Marking Plate ID 13-01

Photographs ID 3-01

Photographs ID 3-02



Photographs ID 3-03

Photographs ID 3-04

Photographs ID 3-05

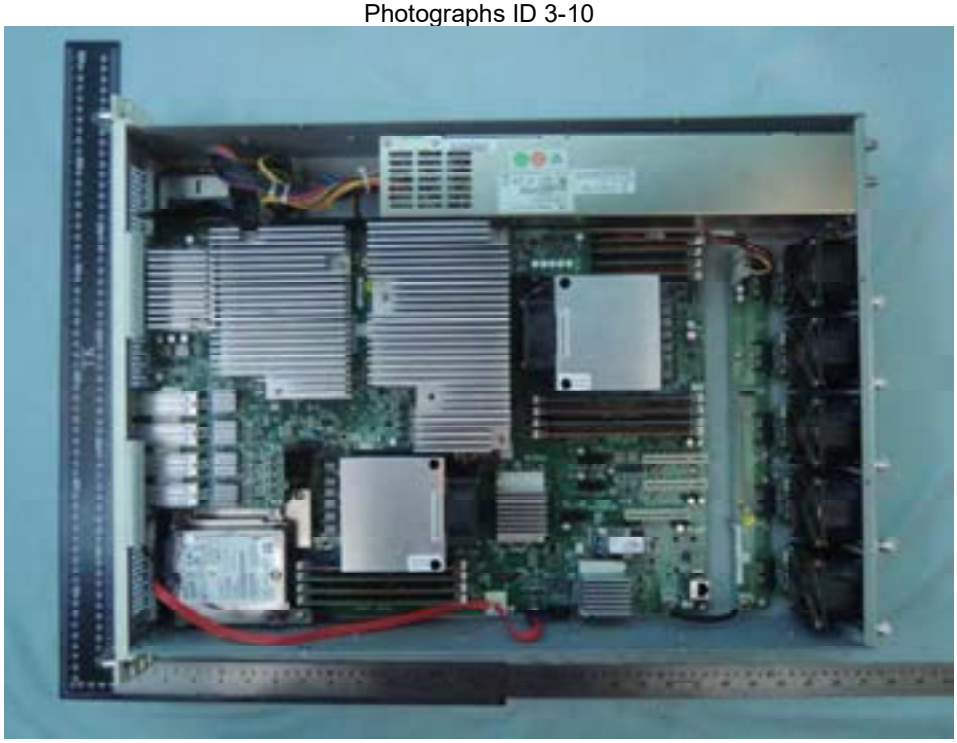
Photographs ID 3-06

Photographs ID 3-07

Photographs ID 3-08

Photographs ID 3-09

Photographs ID 3-10



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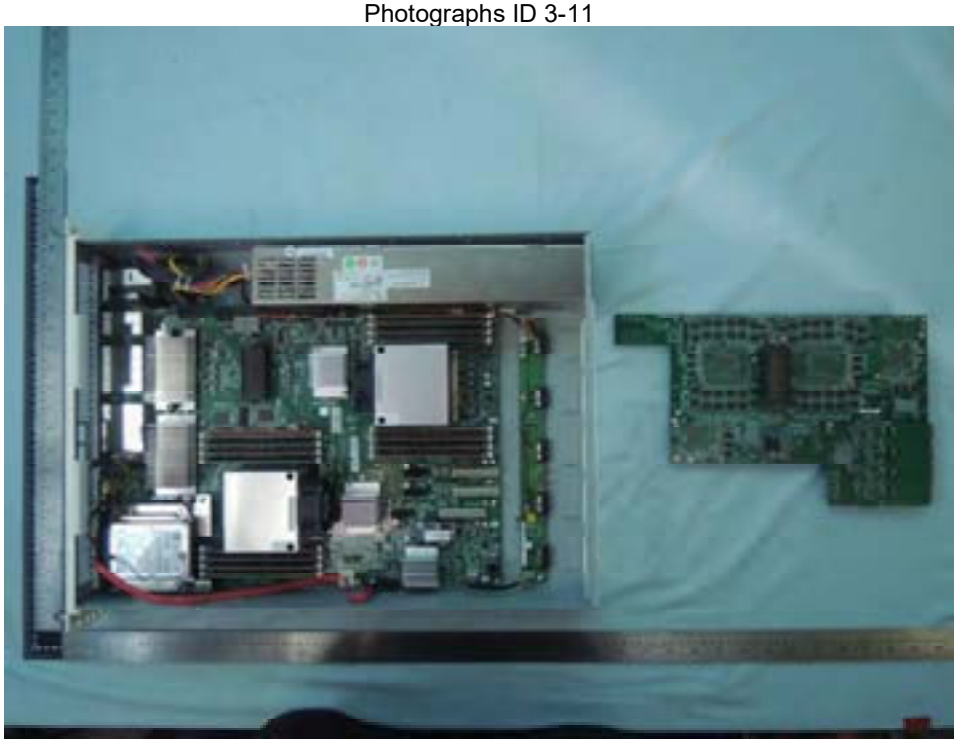

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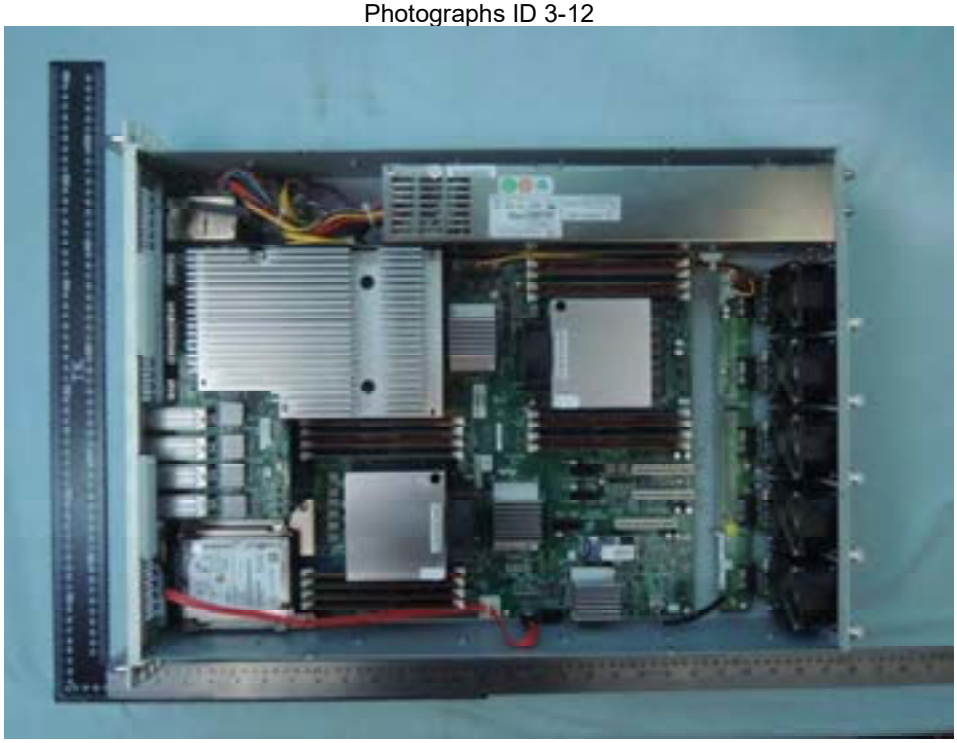
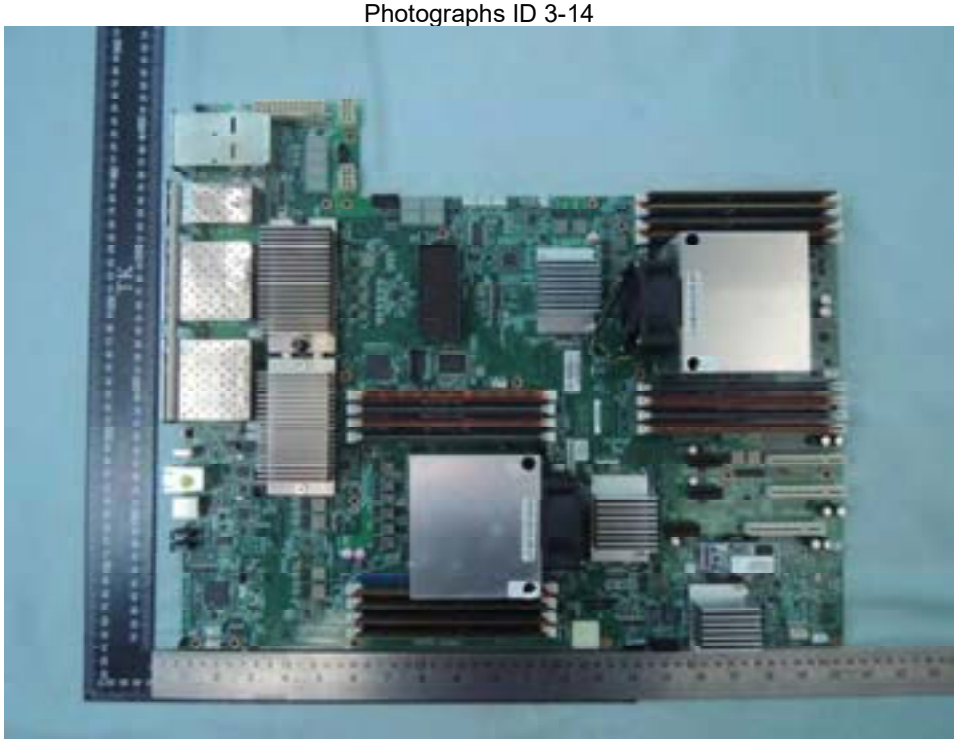


Photographs ID 3-13

Photographs ID 3-14



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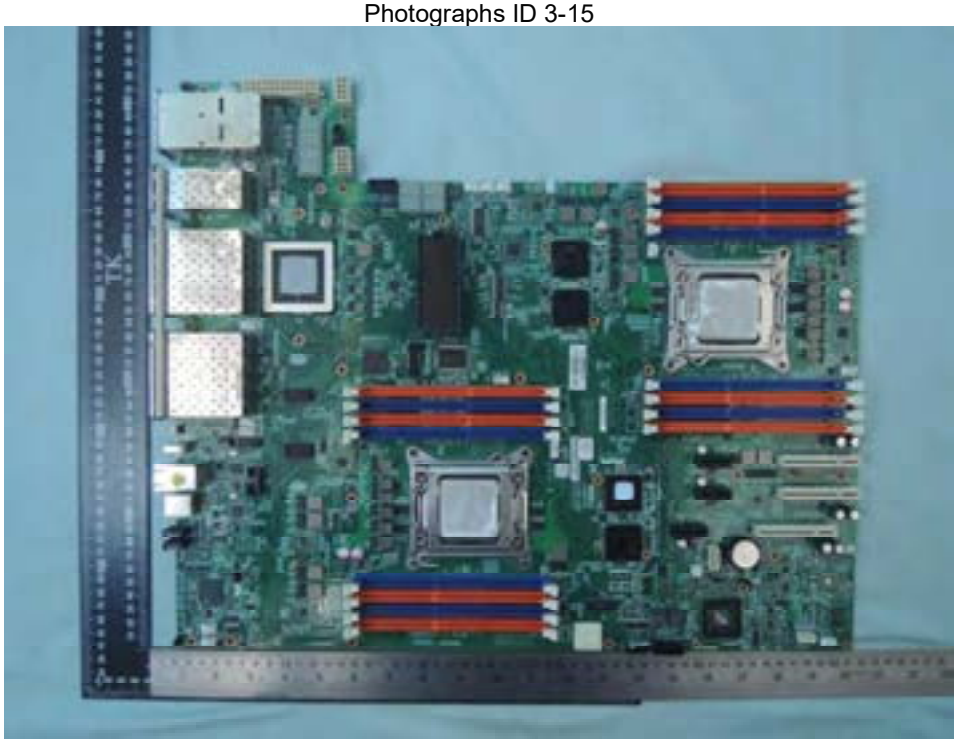

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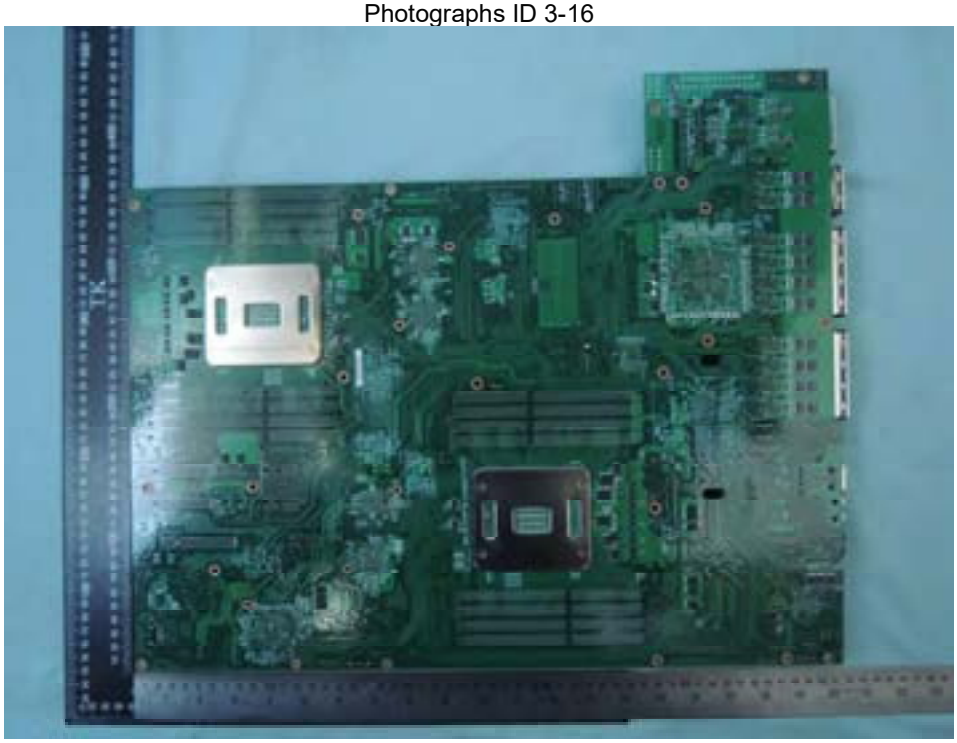

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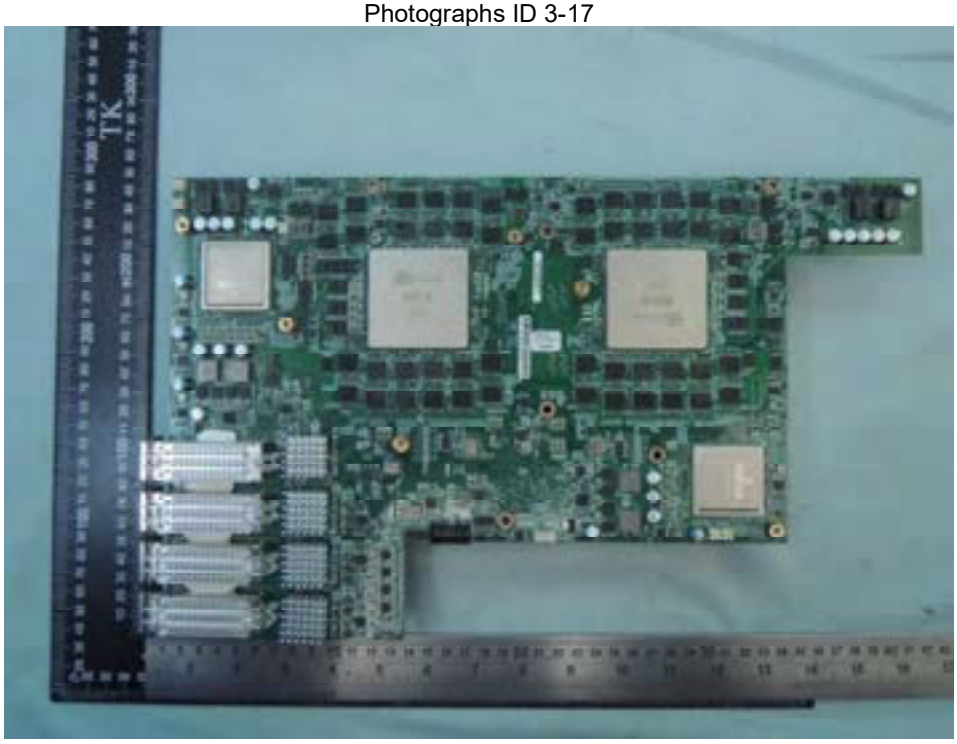

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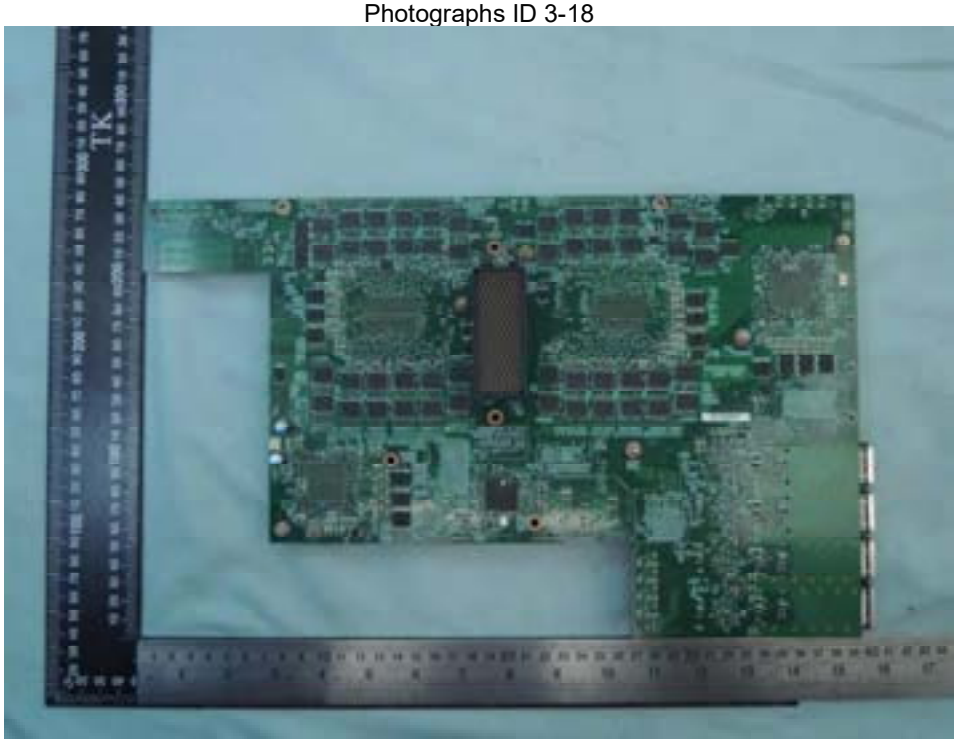
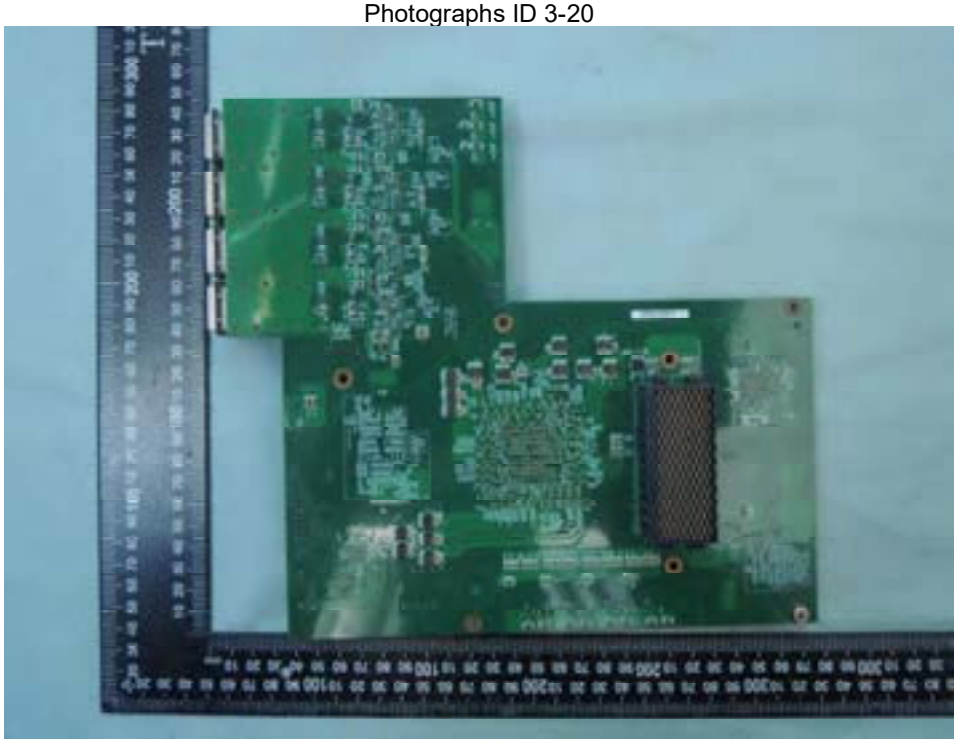
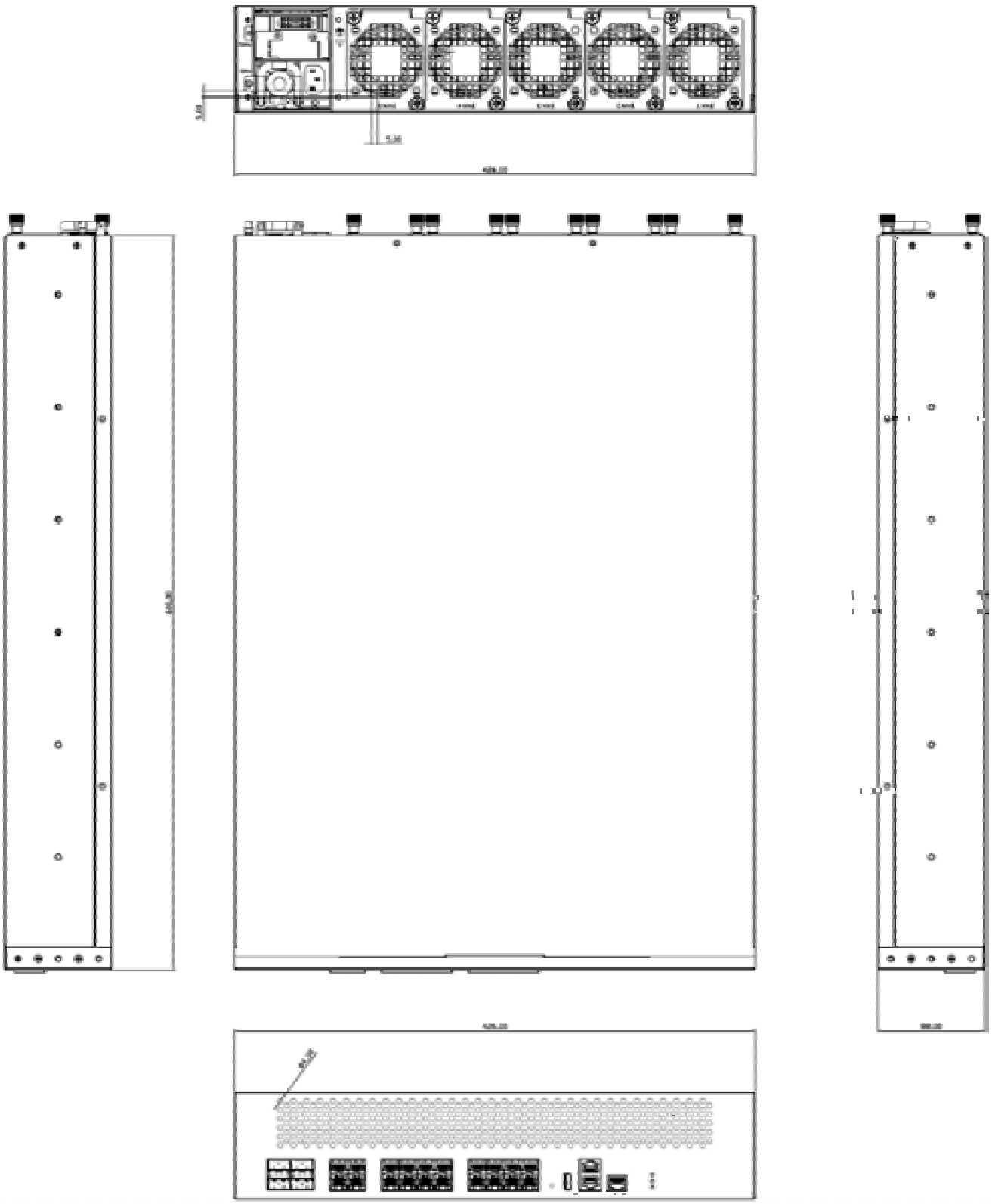


Photographs ID 3-19

Photographs ID 3-20



Diagrams ID 4-01



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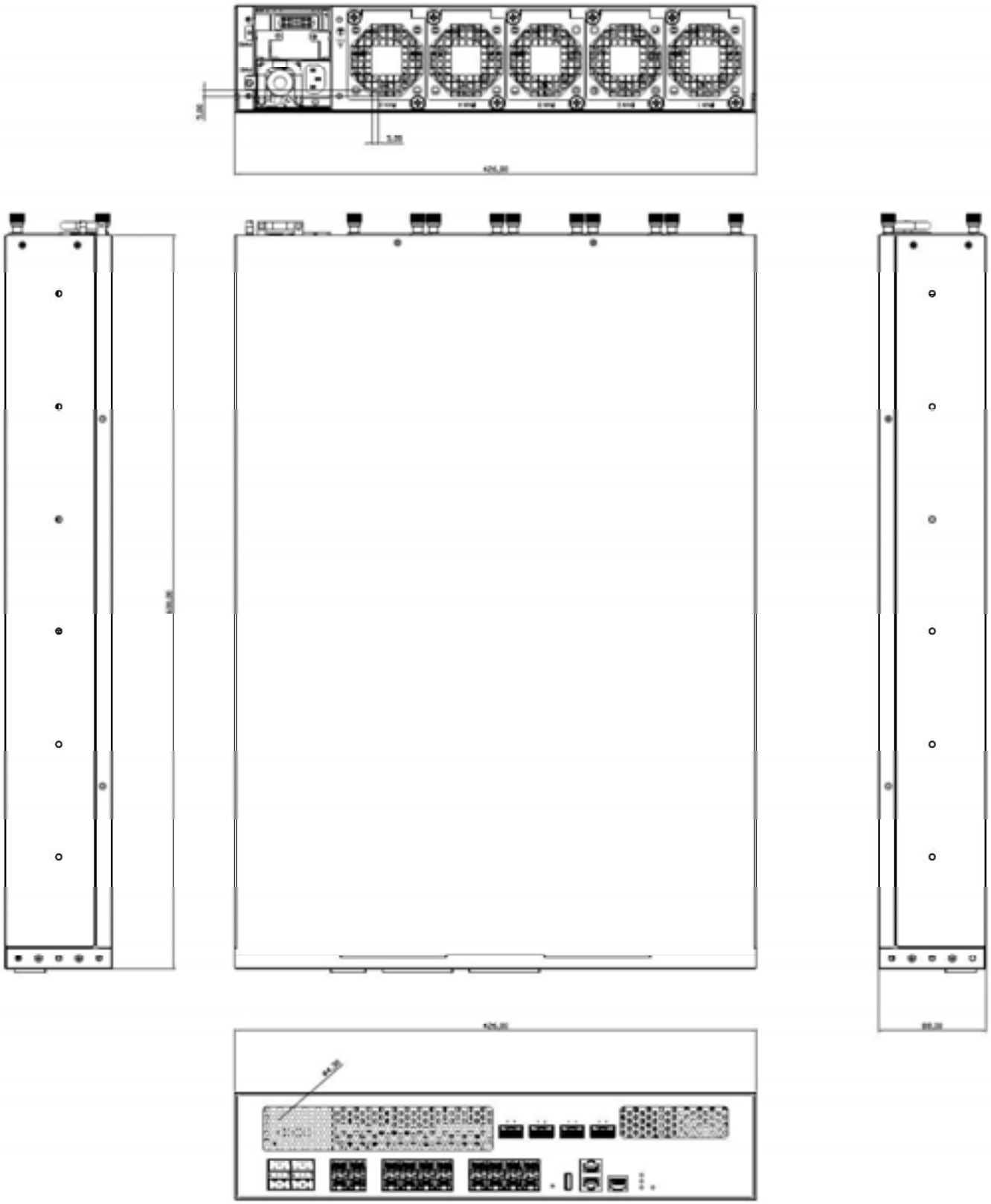

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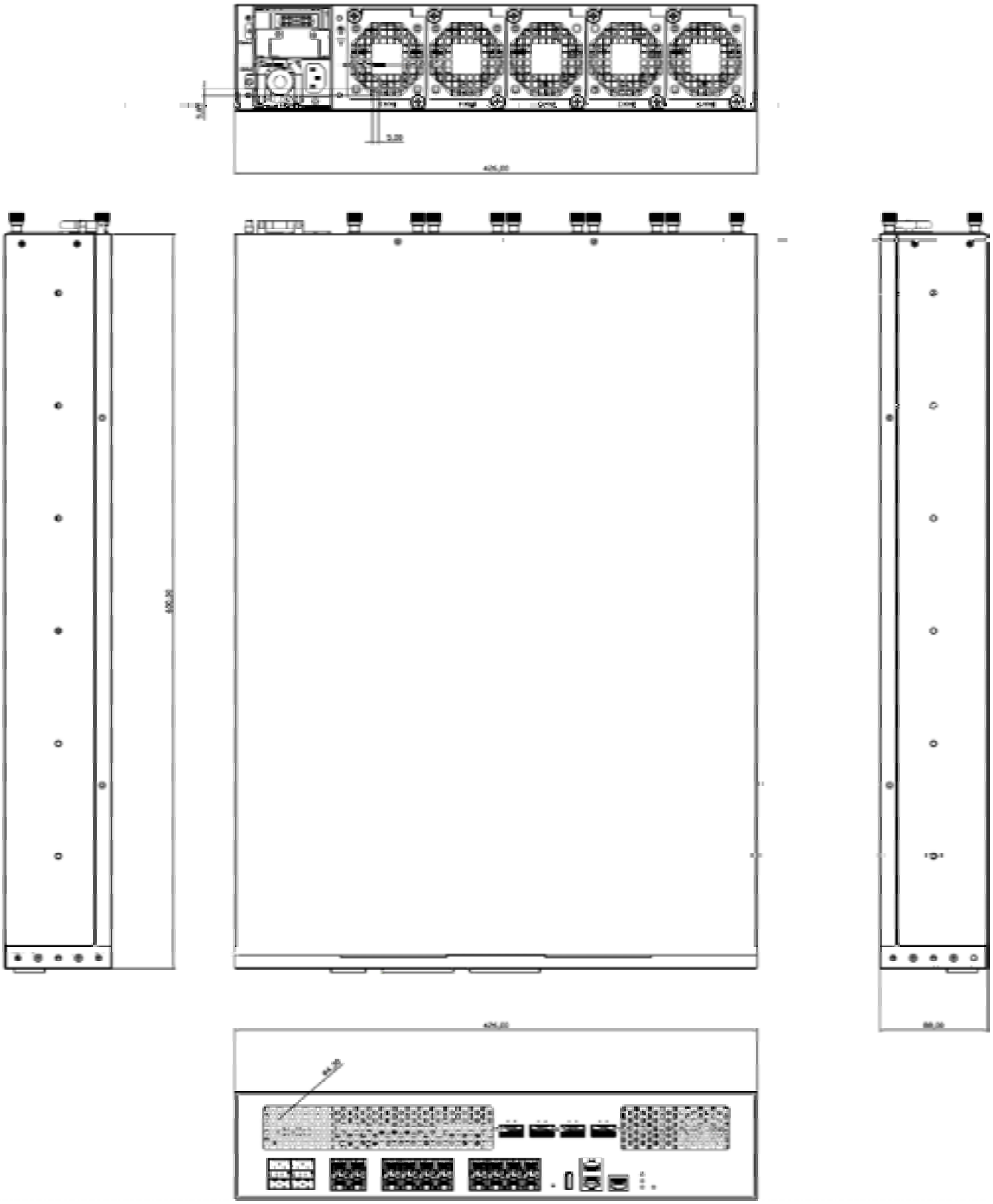

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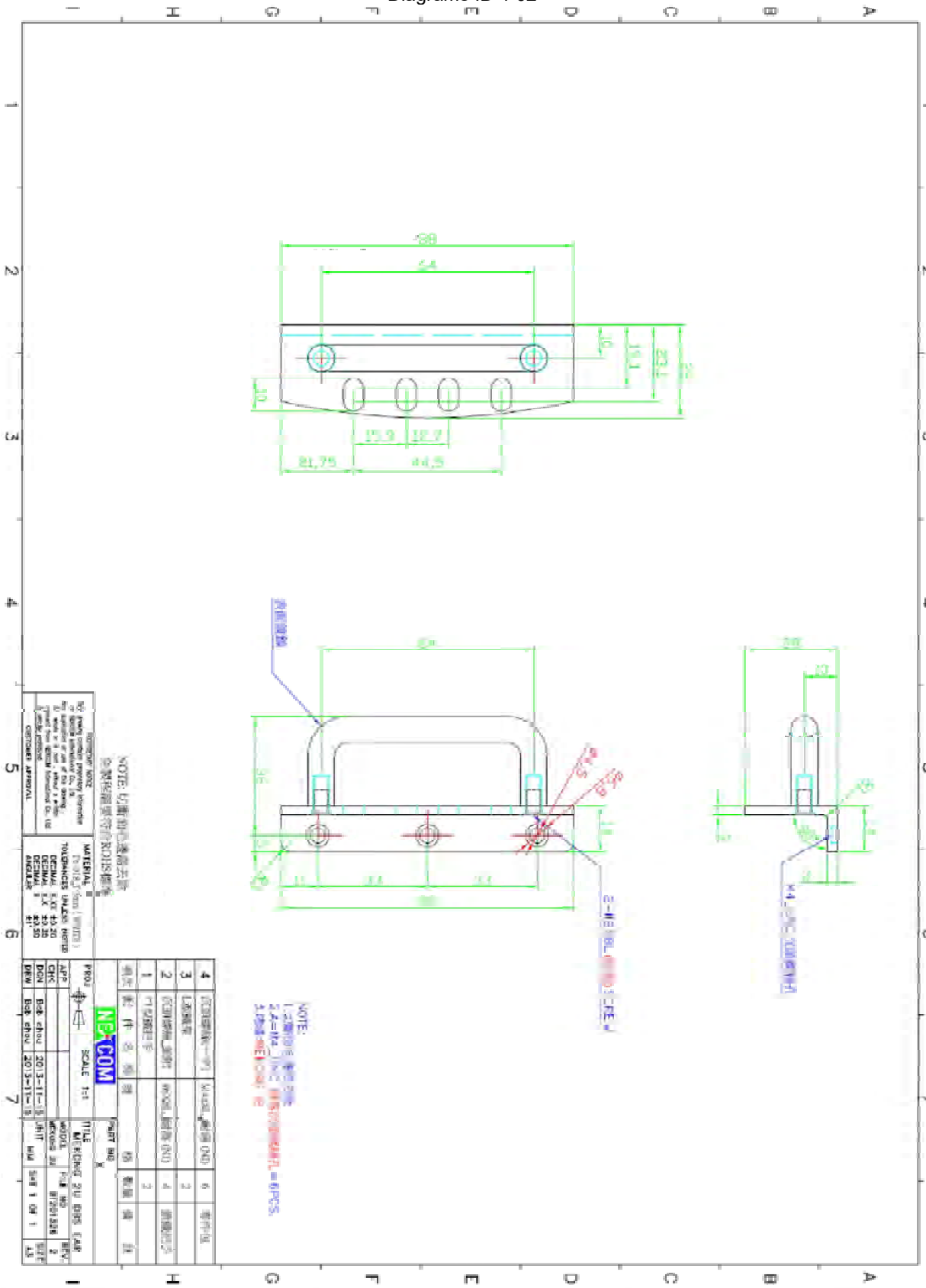

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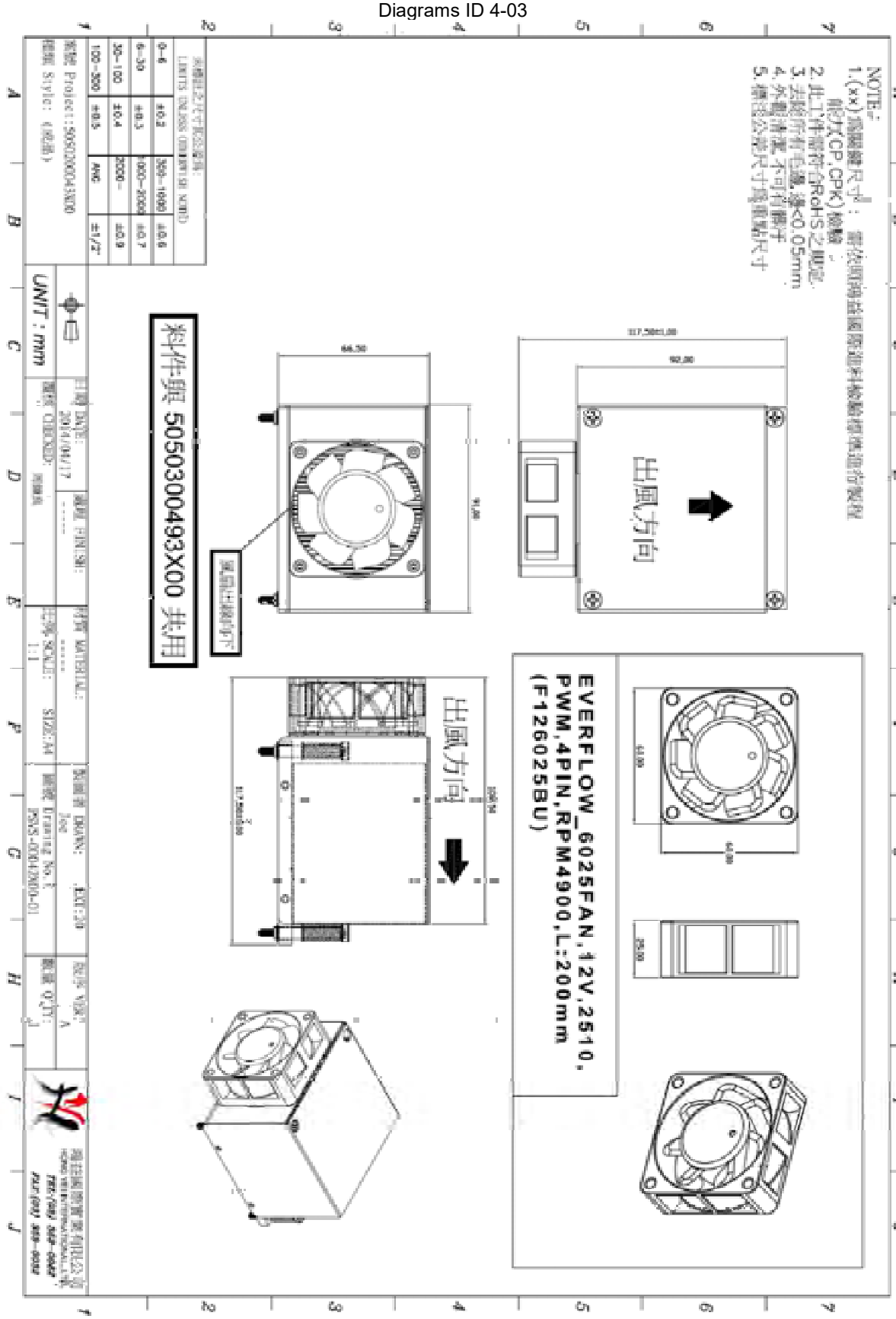

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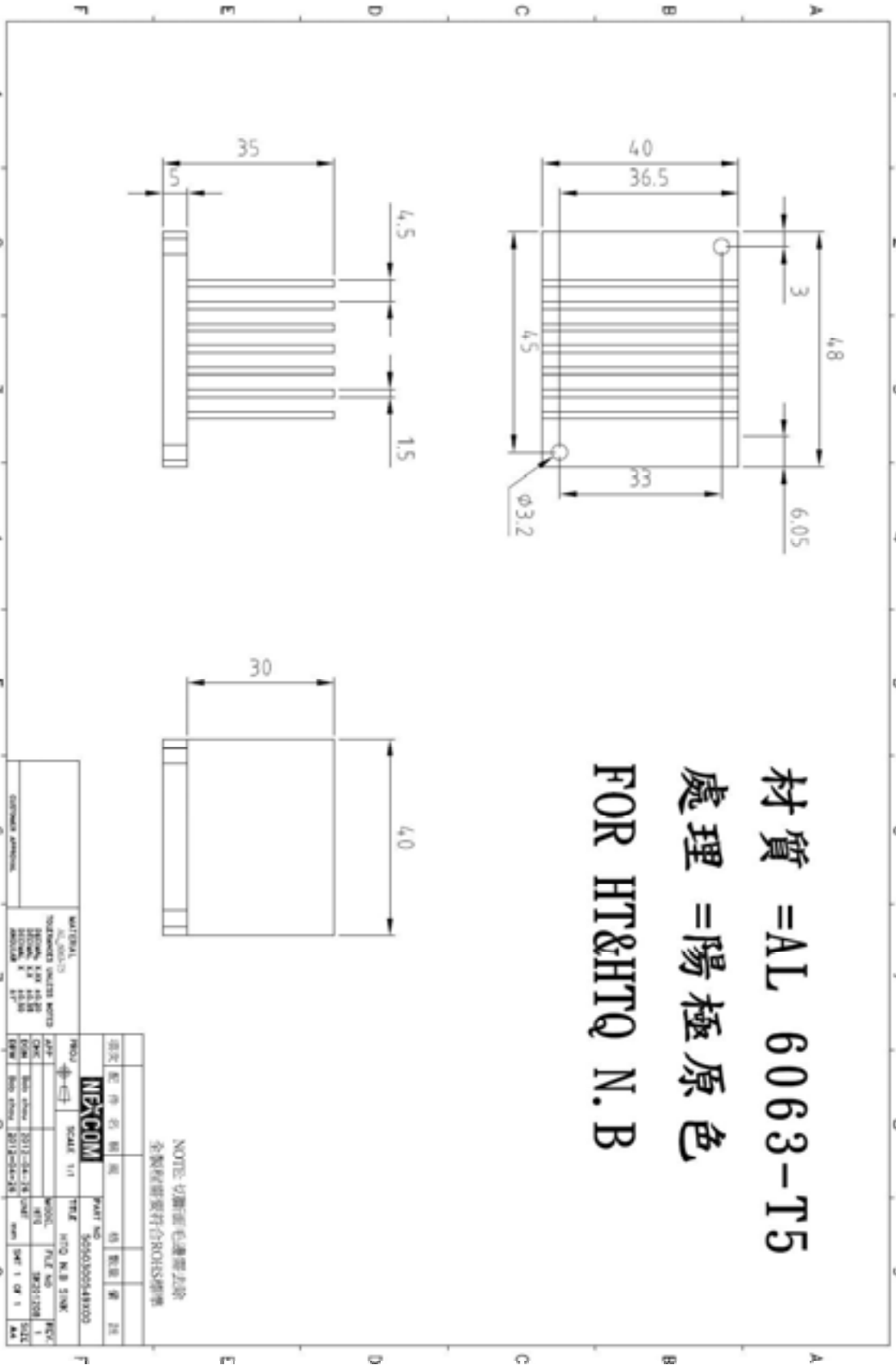

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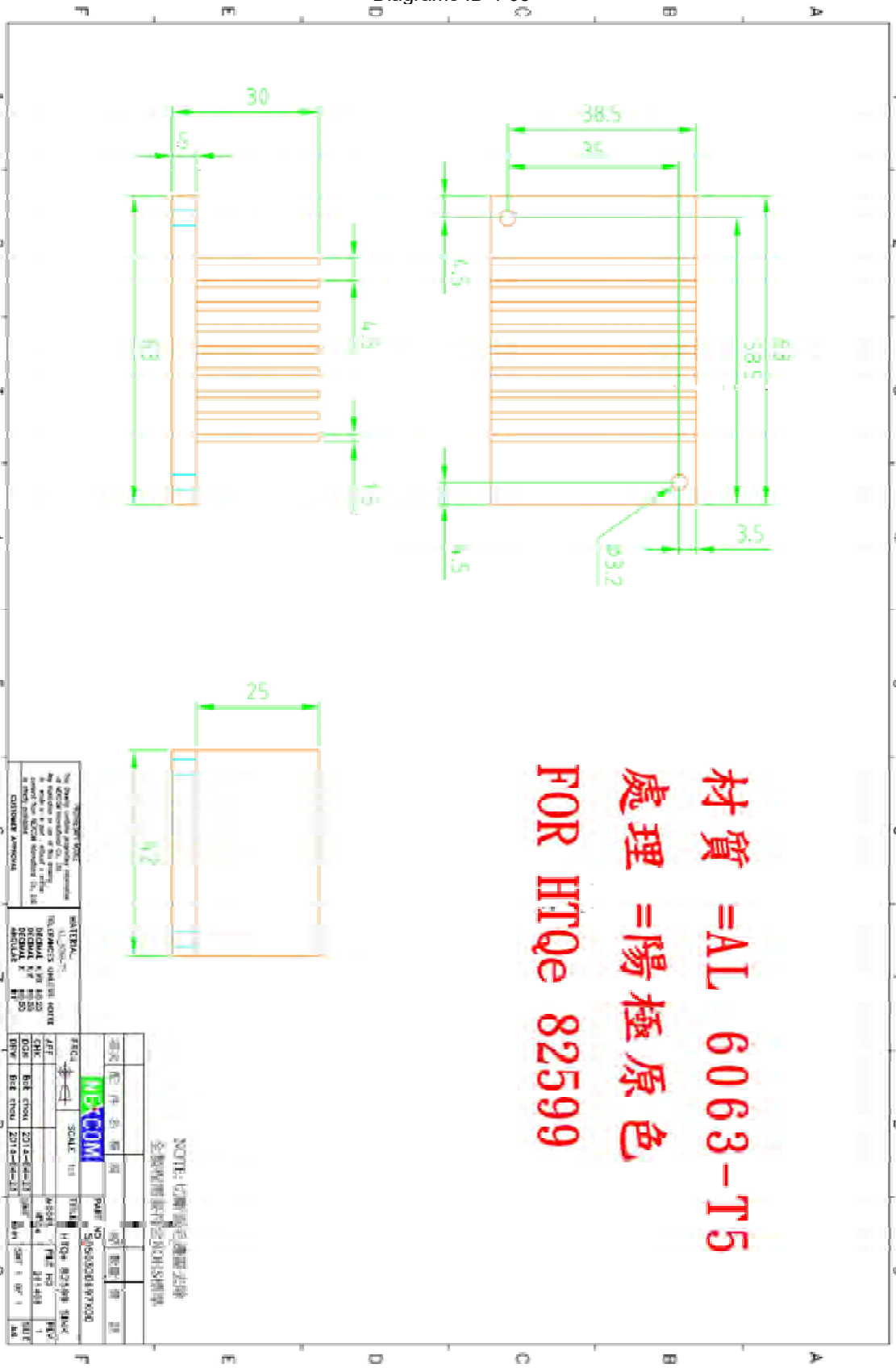

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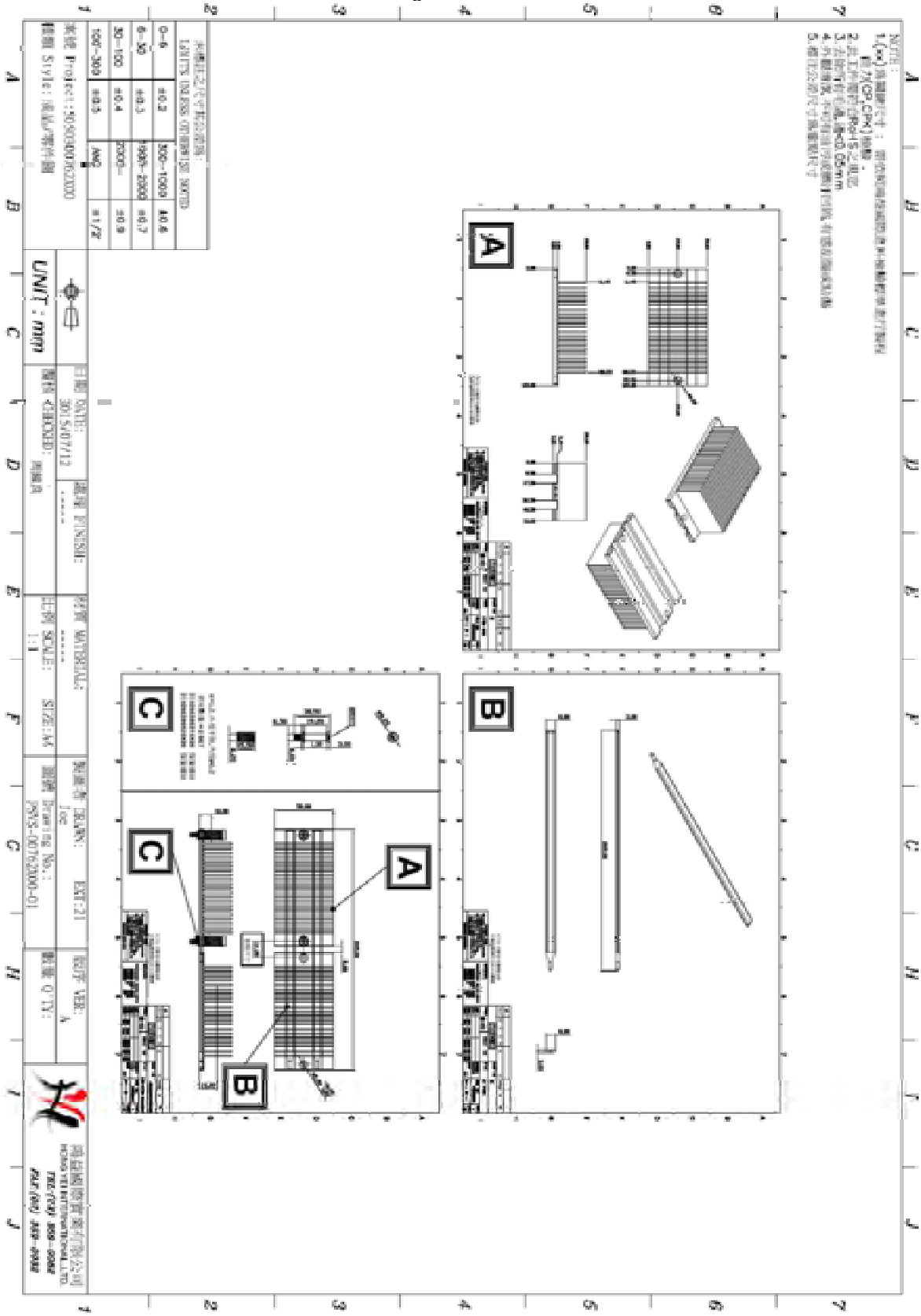

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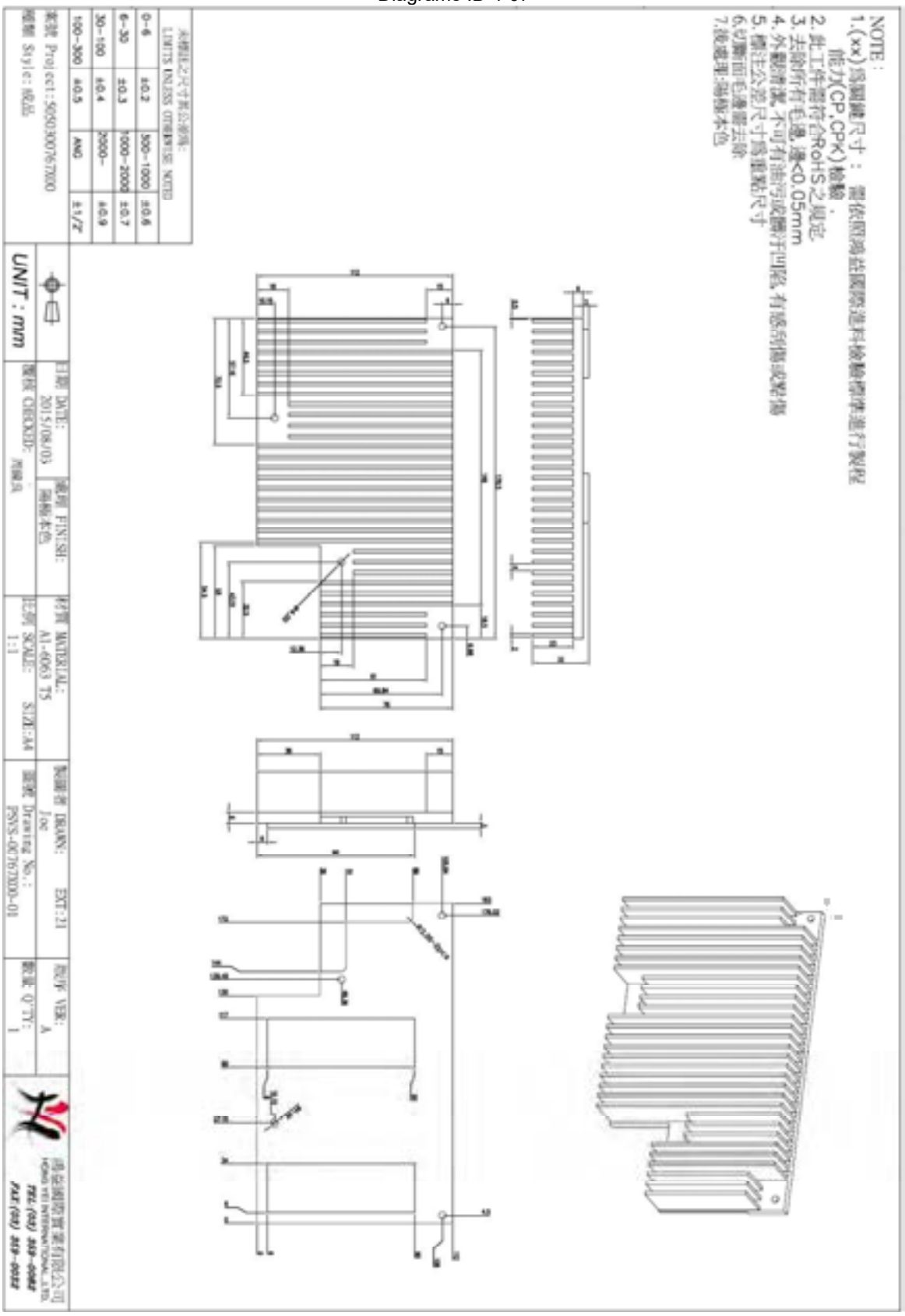

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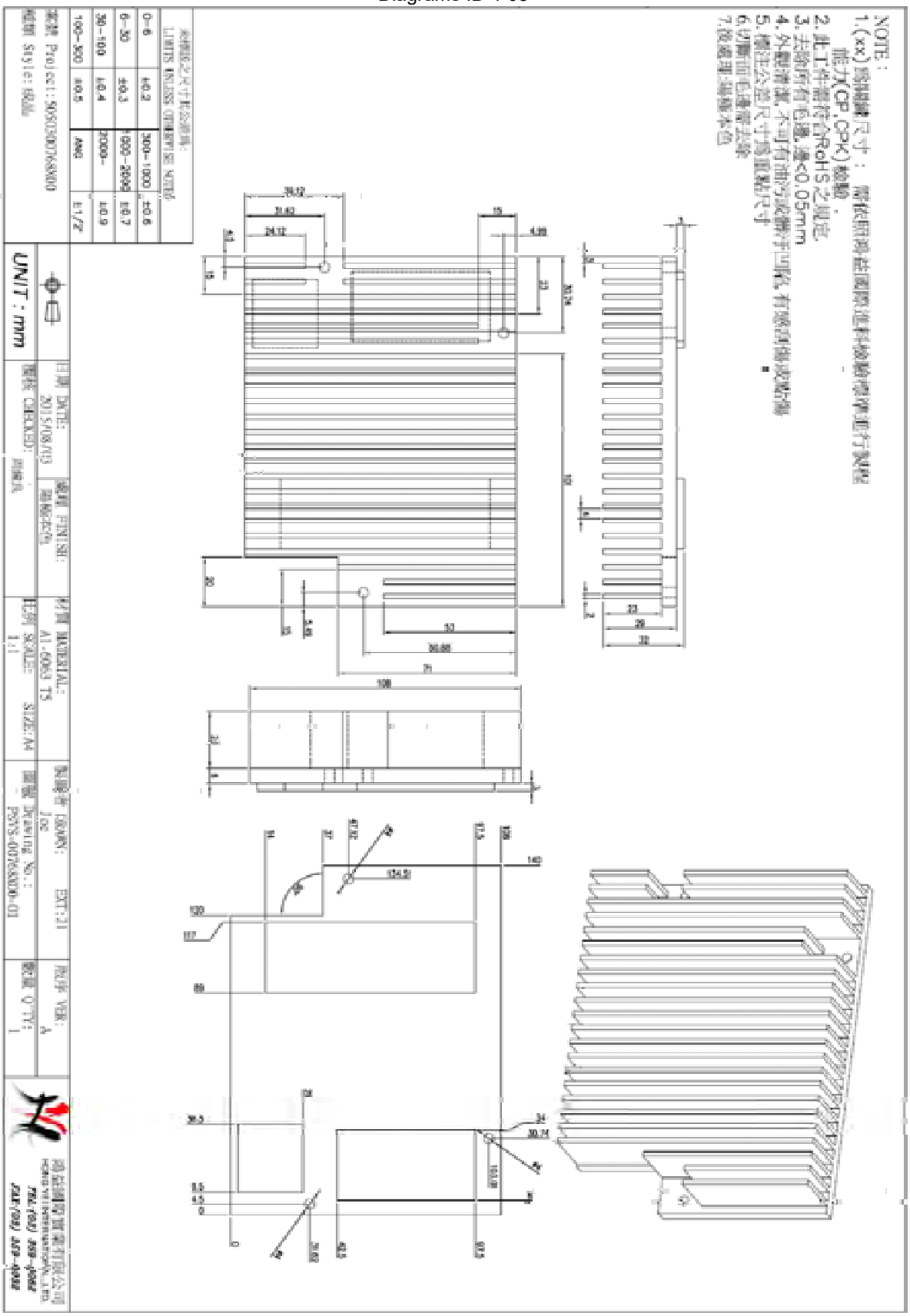
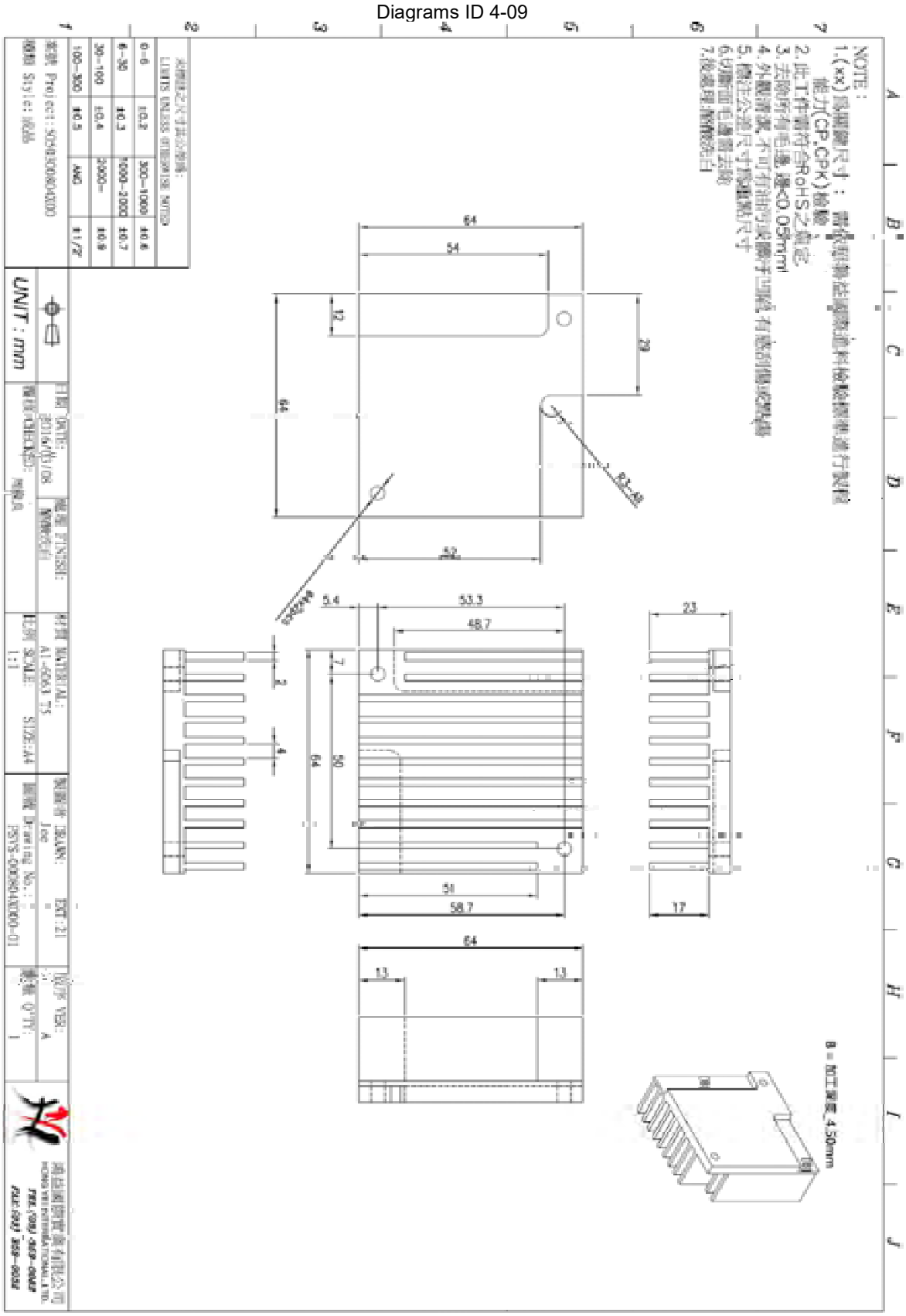
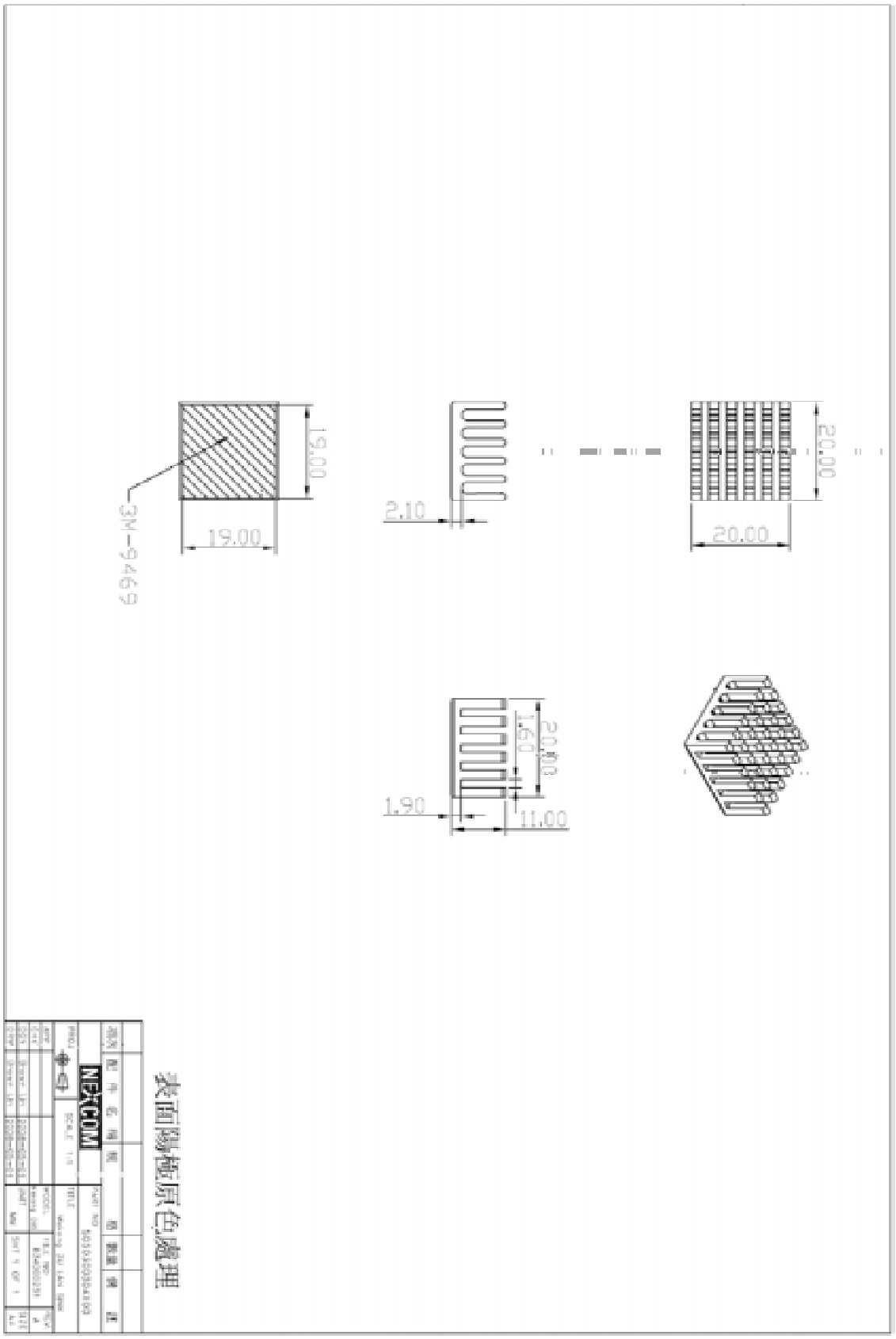


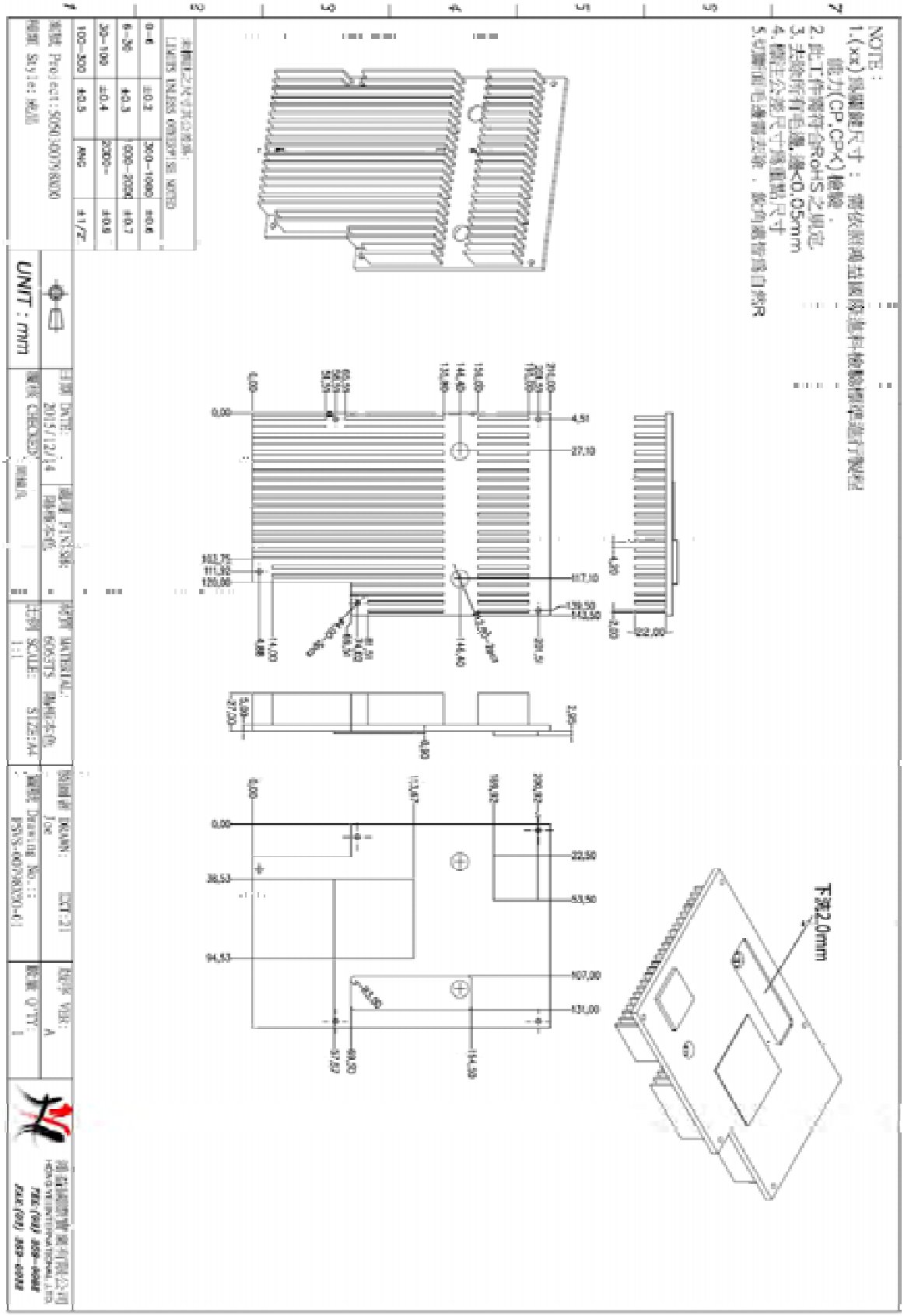
Diagrams ID 4-09



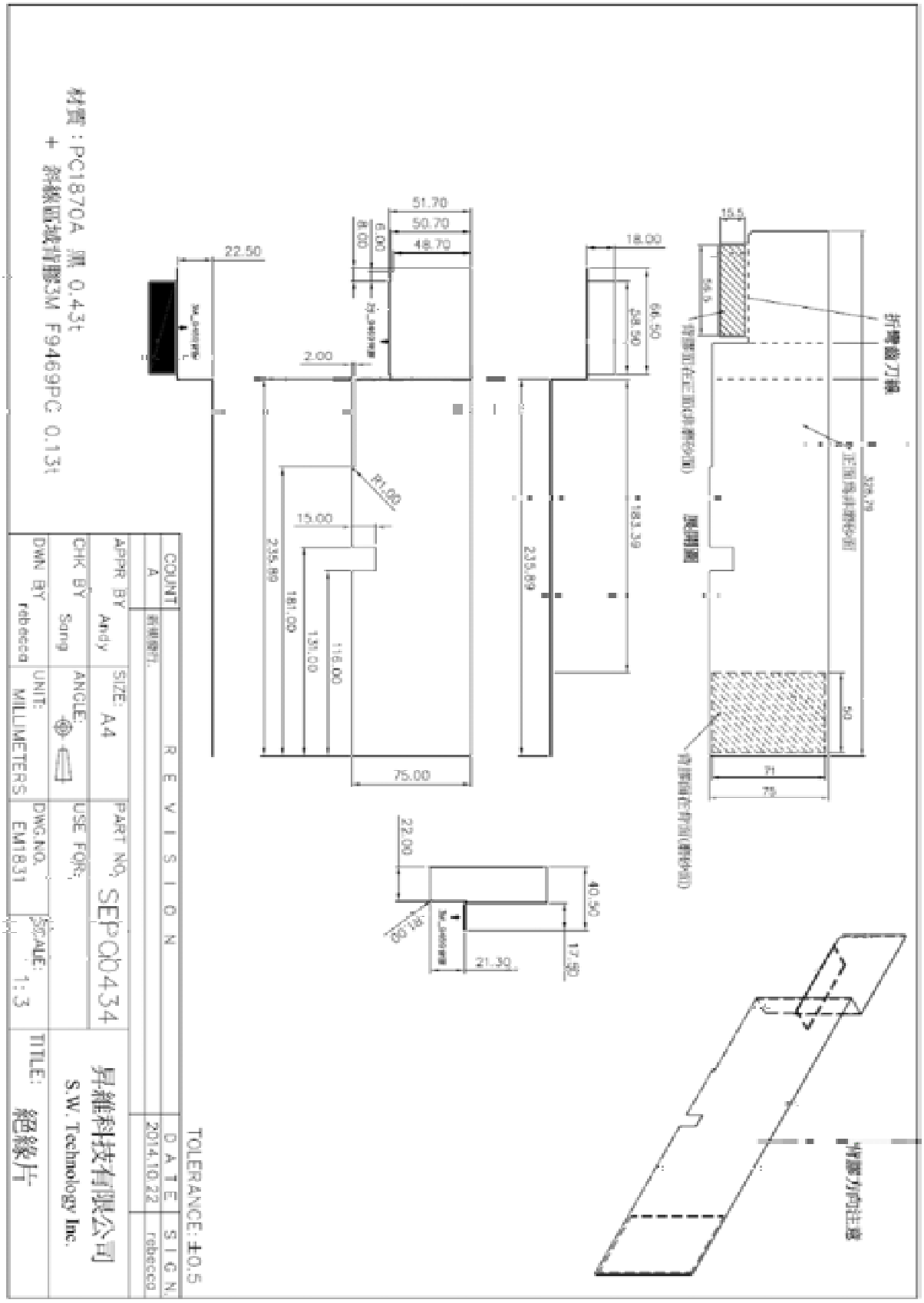
Diagrams ID 4-10



Diagrams ID 4-11



Diagrams ID 4-12



Safety Instructions

The following safety instructions are presented in English, French, and German.

Safety Instructions

CAUTION

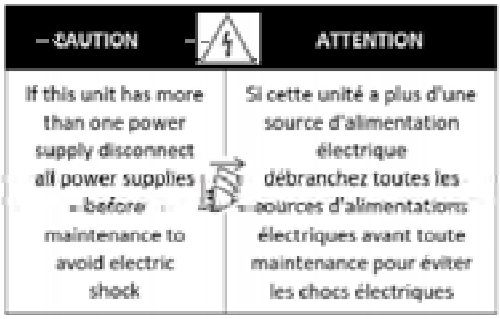
A readily accessible disconnect device shall be incorporated in the building installation wiring.

Due to the risks of electrical shock, and energy, mechanical, and fire hazards, any procedures that must be performed by qualified service/skill person or personal who is well-trained or instructed or supervised by qualified service/skill person only.

To reduce the risk of fire and electrical shock, disconnect the device from the power line before removing cover or panels.

The following figure shows the caution label that is attached to Radware platforms with dual power supplies.

Figure 1: Electrical Shock Hazard Label



DUAL-POWER-SUPPLY-SYSTEM SAFETY WARNING IN CHINESE

The following figure is the warning for Radware platforms with dual power supplies.

Figure 2: Dual-Power-Supply-System Safety Warning in Chinese

本设备有两个电源供电，未避免电击危险，操作时需要加倍小心。
只有当这两个电源完全断开时才可以安全操作

Translation of Dual-Power-Supply-System Safety Warning in Chinese:

This unit has more than one power supply. Disconnect all power supplies before maintenance to avoid electric shock.

SERVICING

Do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. There are no serviceable parts inside the unit.

HIGH VOLTAGE

Any adjustment, maintenance, and repair of the opened instrument under voltage must be avoided as much as possible and, when inevitable, must be carried out only by a skilled person who is aware of the hazard involved.

Capacitors inside the instrument may still be charged even if the instrument has been disconnected from its source of supply.

GROUNDING

Before connecting this device to the power line, the protective earth terminal screws of this device must be connected to the protective earth in the building installation.

Ensure to connect the power cord to a socket-outlet with earthing connection.

LASER

This equipment is a contain 3.3Vdc, Class 1 Laser Product in accordance with IEC60825 - 1: 1993 + A1:1997 + A2:2001 Standard.

FUSES

Make sure that only fuses with the required rated current and of the specified type are used for replacement. The use of repaired fuses and the short-circuiting of fuse holders must be avoided. Whenever it is likely that the protection offered by fuses has been impaired, the instrument must be made inoperative and be secured against any unintended operation.

LINE VOLTAGE

Before connecting this instrument to the power line, make sure the voltage of the power source matches the requirements of the instrument. Refer to the Specifications for information about the correct power rating for the device.

48V DC-powered platforms have an input tolerance of 36-72V DC.

SPECIFICATION CHANGES

Specifications are subject to change without notice.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15B of the FCC Rules and EN55022 Class A, EN 55024; EN 61000-3-2; EN 61000-3-3; IEC 61000 4-2 to 4-6, IEC 61000 4-8 and IEC 61000-4-11For CE MARK Compliance. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user is required to correct the interference at his own expense.

SPECIAL NOTICE FOR NORTH AMERICAN USERS

For North American power connection, select a power supply cord that is UL Listed and CSA Certified 3 - conductor, [18 AWG], terminated in a molded on plug cap rated 125 V, [10 A], with a minimum length of 1.5m [six feet] but no longer than 4.5m...For European connection, select a power supply cord that is internationally harmonized and marked "<HAR>", 3 - conductor, 0,75 mm2 minimum mm2 wire, rated 300 V, with a PVC insulated jacket. The cord must have a molded on plug cap rated 250 V, 3 A.

Suitable for installation in Information Technology Rooms in accordance with Article 645 of the National Electrical Code and NFPA 75.

RESTRICT AREA ACCESS

The equipment should only be installed in a Restricted Access Area. INSTALLATION CODES

This device must be installed according to country national electrical codes. For North America, equipment must be installed in accordance with the US National Electrical Code, Articles 110 - 16, 110 -17, and 110 -18 and the Canadian Electrical Code, Section 12.

INTERCONNECTION OF UNITS

Cables for connecting to the unit RS232 and Ethernet Interfaces must be UL certified type DP-1 or DP-2. (Note- when residing in non LPS circuit)

OVERCURRENT PROTECTION

A readily accessible listed branch-circuit over current protective device rated 15 A must be incorporated in the building wiring for each power input.

REPLACEABLE BATTERIES

If equipment is provided with a replaceable battery, and is replaced by an incorrect battery type, then an explosion may occur. This is the case for some Lithium batteries and the following is applicable:

- If the battery is placed in an **Operator Access Area**, there is a marking close to the battery or a statement in both the operating and service instructions.
- If the battery is placed elsewhere in the equipment, there is a marking close to the battery or a statement in the service instructions.

This marking or statement includes the following text warning:

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT BATTERY TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Caution – To Reduce the Risk of Electrical Shock and Fire

1. This equipment is not suitable for use in locations where children are likely to be present.
2. This equipment is designed to permit connection between the earthed conductor of the DC supply circuit and the earthing conductor equipment. See Installation Instructions.
3. Never open the equipment. For safety reasons , all servicing must be undertaken only by qualified skilled personnel. There are not user serviceable parts inside the unit.
4. DO NOT plug in, turn on or attempt to operate an obviously damaged unit.
5. Ensure that the chassis ventilation openings in the unit are NOT BLOCKED.
6. Replace a blown fuse ONLY with the same type and rating as is marked on the safety label adjacent to the power inlet, housing the fuse.
7. Do not operate the device in a location where the maximum ambient temperature exceeds 40°C/104°F.
8. Be sure to unplug the power supply cord from the wall socket BEFORE attempting to remove and/or check the main power fuse.
   CLASS 1 LASER PRODUCT AND REFERENCE TO THE MOST RECENT LASER STANDARDS IEC 60 825-1:1993 + A1:1997 + A2:2001 AND EN 60825-1:1994+A1:1996+ A2:2001

AC units for Denmark, Finland, Norway, Sweden (marked on product):

- Denmark - "Unit is class I - unit to be used with an AC cord set suitable with Denmark deviations. The cord includes an earthing conductor. The Unit is to be plugged into a wall socket outlet which is connected to a protective earth. Socket outlets which are not connected to earth are not to be used!"
- Finland - (Marking label and in manual) - "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan"
- Norway (Marking label and in manual) - "Apparatet må tilkoples jordet stikkontakt"
- Unit is intended for connection to IT power systems for Norway only.
- Sweden (Marking label and in manual) - "Apparaten skall anslutas till jordat uttag."

To connect the power connection:

1. Connect the power cable to the main socket, located on the rear panel of the device.
2. Connect the power cable to the grounded AC outlet.

CAUTION

Risk of electric shock and energy hazard. Disconnecting one power supply disconnects only one power supply module. To isolate the unit completely, disconnect all power supplies.

Instructions de sécurité

AVERTISSEMENT

Un dispositif de déconnexion facilement accessible sera incorporé au câblage du bâtiment.

Miscellaneous ID 7-01

radware

Radware Ltd.

Declaration Letter

We, (Radware Ltd. / 22 Raoul Wallenberg St, Tel Aviv 6971917, Israel), confirm that the samples submitted for evaluation are representative of products from each factories as listed below.

1. NEXCOM International Co., Ltd.
   5F, 7F, 8F, 9F,10F&12F, No.63, Sec.1, Sanmin Rd., Banqiao Dist., New Taipei City, Taiwan

2. NEXCOM International Co., Ltd. (Hua-Ya Factory)
   2F., No.50, Huaya 3rd Rd., Guishan Dist., Taoyuan City 333, Taiwan

Best regards,

RADWARE LTD.
22 RAOUL WALLENBERG ST.
TEL AVIV 69710, ISRAEL
Company# 520044371

(Legally binding signature and company stamp)

Alex Kramp
Director of Quality & Engineering

Date: 2018-9-17

Miscellaneous ID 7-02

F.3.10 DURABILITY OF MARKING

TEST CONDITIONS:						
Use of Marking	Nameplate/electrical ratings					
Material	1. WAI GHA INDUSTRIAL CO LTD / WG-7818-MS, 2. AVERY (CHINA) CO LTD / 50 micron Matte Silver PET TC/S333	1. WAI GHA INDUSTRIAL CO LTD / WG-7818-MS, 2. AVERY (CHINA) CO LTD / 50 micron Matte Silver PET TC/S333	--	--	--	--
Held by	--	--	--	--	--	--
Applied Surface Material	SECC	SECC	--	--	--	--

OBSERVATIONS:		
	Water	Hexane [ ] a [X]b
Any Damage?	NO	NO
Legible?	YES	YES
Curled?	NO	NO
Edge Lifted?	NO	NO
Easily Removed Intact?	NO	NO

License ID 8-01

IEC IECEE CB SCHEME

Ref. Certif. No.

JPTUV-059459

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

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

CB TEST CERTIFICATE

CERTIFICAT D'ESSAI OC

Product Produit	Redundant Power Supply and Power Module
Name and address of the applicant Nom et adresse du demandeur	Zippy Technology Corp. 10F., No. 50, Min Chyuan Rd. Shin Tien District, New Taipei City, 231 Taiwan
Name and address of the manufacturer Nom et adresse du fabricant	Zippy Technology Corp. 10F., No. 50, Min Chyuan Rd. Shin Tien District, New Taipei City, 231 Taiwan
Name and address of the factory Nom et adresse de l'usine	Zippy Technology Corp. 2F, No. 123, Lane 235 Pao-Chiao Rd., Shin Tien District, New Taipei City, 231 Taiwan
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	Input : AC 100-240V or 110-240V, 15-7.5A or 15-7A, 47-63Hz Class I; for details, refer to the test report Output: refer to the test report
Trademark (if any) Marque de fabrique (si elle existe)	EMACS
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	N/A
Model / Type Ref. Ref. de type	SPH2-5A00V4H, SPH2-5C00V4H, PSG2-5A00V3H(S), SPG2-5A00V3H, PSG2-5C00V3H(S), SPG2-5C00V3H, PSS2-5A00V3H, PSS2-5C00V3H, PSG2-5B07V4H, SPH-2A00V, SPH-2C00V, PSG-2A00V(S), PSG-2C00V(S) , for other models, refer to the test report. For model differences, refer to the test report.
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiqués sur la 2ème page)	
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60950-1:2005+A1+A2 National differences see test report
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	11038050 001

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

TÜVRheinland®

TÜV Rheinland Japan Ltd.
Global Technology Assessment Center
4-25-2 Kita-Yamata, Tsuzuki-ku
Yokohama 224-0021 Japan
Phone + 81 45 914-3888
Fax + 81 45 914-3354
Mail: info@jpn.tuv.com
Web: www.tuv.com

Date: 28.08.2014

Signature: Dipl.-Ing.

License ID 8-02

IEC IECEE CB SCHEME

Ref. Certif. No.

JPTUV-056953

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

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

CB TEST CERTIFICATE

CERTIFICAT D'ESSAI OC

Product Produit	Redundant Power Supply and Power Module
Name and address of the applicant Nom et adresse du demandeur	Zippy Technology Corp. 10F., No. 50, Min Chyuan Rd. Shin Tien District, New Taipei City, 231 Taiwan
Name and address of the manufacturer Nom et adresse du fabricant	Zippy Technology Corp. 10F., No. 50, Min Chyuan Rd. Shin Tien District, New Taipei City, 231 Taiwan
Name and address of the factory Nom et adresse de l'usine	Zippy Technology Corp. 2F, No. 123, Lane 235 Pao-Chiao Rd., Shin Tien District, New Taipei City, 231 Taiwan
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	Input: DC -42V - -72V; 30-17A; Class I Output: refer to the test report
Trademark (if any) Marque de fabrique (si elle existe)	EMACS
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	N/A
Model / Type Ref. Réf. de type	DPSG-2A00V, DSPG-2A00V, DPSS-2A00V, DPSG2-5A00V3H, DSPG2-5A00V3H, DPSS2-5A00V3H, DPSS2-5A00V3V
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiqués sur la 2ème page)	For model differences, refer to the test report.
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60950-1:2005+A1+A2 National differences see test report
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	11036996 001

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

TÜVRheinland®

TÜV Rheinland Japan Ltd.
Global Technology Assessment Center
4-25-2 Kita-Yamata, Tsuzuki-ku
Yokohama 224-0021 Japan
Phone + 81 45 914-3888
Fax + 81 45 914-3354
Mail: info@jpn.tuv.com
Web: www.tuv.com

Date: 11.06.2014

Signature: Dipl.-Ing. P. Stoelzel

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 ..... :	CB180905-03-A0
Date of issue ..... :	2018-12-26
Total number of pages ..... :	84
Applicant's name ..... :	Radware Ltd.
Address ..... :	22 Raoul Wallenberg St, Tel Aviv 6971917, Israel
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

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 ..... :	OnDemand Switch	
Trade Mark ..... :	RADWARE	
Manufacturer ..... :	Same as applicant.	
Model/Type reference ..... :	ODS-HTQe	
Ratings ..... :	1) 100-240VAC 47-63Hz, 8A x 2 or 2) -42- -72Vdc, 15A x 2	
Testing procedure and testing location:		
☒ CB Testing Laboratory:	Prodigy Technology Consultant Co., Ltd.	
Testing location/ address .....:	No.181, Sec. 2, Wunhua 1st Rd., Linkou District, New Taipei City 244, Taiwan CHINESE TAIPEI	
☐ Associated CB Testing Laboratory:		
Testing location/ address .....:		
Tested by (name + signature) .....:	Frank Chang / Project Handler	
Approved by (name + signature).....:	Yama Cheng / 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):

National Differences (53 pages)

Enclosures (34 pages)

Summary of testing:

- Maximum Normal load:
  Approval AC or DC power supply provided EUT power source, the unit connecting to network, continuously crossed transmit data through fiber and LAN ports, each USB2.0 port loaded 2.5W(total 2.5W), burn-in program, AC, DC power fan and system fan flow direction were outward, and working continuously.
- Test samples are pre-production samples without serial numbers.

Tests performed (name of test and test clause):	**Testing location:**
5.2.2.2 Steady-state voltage and current limits (ES classification) 5.4.1.4, 6.3.2, 9.0, B.2.6 Temperature measurement 5.4.8 Humidity Conditioning 5.4.9.1 Electric Strength 5.6.6.2 Resistance of protective conductors and terminations 5.7.2.2, 5.7.4 Earthed accessible conductive part 5.7.5 Protective conductor current 6.2.2 Power source circuit classifications 8.8 Handle strength Annex B.2.5 Input test Annex B.3 Simulated abnormal operating conditions Annex B.4 Simulated single fault conditions Annex F.3.10 Test for the permanence of markings. Annex M.3 Battery test Annex Q.1 Limited power source Annex T.5 Steady force test, 250N Annex T.6 Impact test	Prodigy Technology Consultant Co., Ltd. / No.181, Sec. 2, Wunhua 1st Rd., Linkou District, New Taipei City 244, Taiwan CHINESE TAIPEI

Summary of compliance with National Differences:

List of countries addressed

Australia (AU) / New Zealand (NZ), Denmark (DK), Finland (FI), EU group differences, Italy(IT), Japan (JP), Sweden (SE), Canada (CA) and United States (US)

CENELEC member countries (EU group differences): Austria (AT), Belgium (BE), Bulgaria (BG), Croatia (HR), Cyprus (CY), the Czech Republic (CZ), Denmark (DK), Estonia (EE), Finland (FI), Former Yugoslav Republic of Macedonia (MK), France (FR), Germany (DE), Greece (GR), Hungary (HU), Iceland (IS), Ireland (IE), Italy (IT), Japan (JP), Latvia (LV), Lithuania (LT), Luxembourg (LU), Malta (MT), the Netherlands (NL), Norway (NO), Poland (PL),Portugal (PT), Romania (RO), Slovakia (SK), Slovenia (SI), Spain (ES), Sweden (SE), Switzerland (CH), Turkey (TR) and the United Kingdom (GB).

☒ **The product fulfils the requirements of CAN/CSA C22.2 No. 62368-1-14.**

☒ **The product fulfils the requirements of EN 62368-1:2014+A11:2017, AS/NZS 62368.1:2018**

☒ **The product fulfils the requirements of UL 62368-1, Second Edition.**

Copy of marking plate:

The artwork below may be only a draft (See Enclosure/Marking Plate ID 13-01 for detail). The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

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% for AC Mains ☐ +20%/-15% ☐ +____%/ -_____% ☒ None for DC Mains for client declare
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 for DC mains ☐ mating connector ☐ other: _____
Considered current rating of protective device as part of building or equipment installation .....:	16A or 20A for building; 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: Not direct connect to mains
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 maxium operating ambient :	40°C
IP protection class .....:	☒ IPX0 ☐ IP___
Power Systems .....:	☒ TN ☐ TT ☐ IT - ____ V_{L-L}
Altitude during operation (m) .....:	☒ 3100 m or less or ☐ _____m
Altitude of test laboratory (m) .....:	☒ 2000 m or less ☐ _____ m
Mass of equipment (kg) .....:	☒ 18.2 Max.
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 ..... :	2018-09-05
Date (s) of performance of tests ..... :	2018-09-10 to 2018-10-03

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 IECEE 02:

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) NEXCOM International Co., Ltd. 5F, 7F, 8F, 9F, 10F&12F, No.63, Sec.1, Sanmin Rd., Banqiao Dist., New Taipei City, Taiwan 2) NEXCOM International Co., Ltd. (Hua-Ya Factory) 2F., No.50, Huaya 3rd Rd., Guishan Dist., Taoyuan City 333, Taiwan

GENERAL PRODUCT INFORMATION:

Product Description

- The equipment is a Class I OnDemand Switch which is intended to use with Audio/Video, information and communication technology equipment.
- The EUT is configured as follow: Include Certified Internal Power Supply(redundant AC or DC), HDD or SSD and Main board with CPU, Electronic Components were mounted on PWB and then housed within a metal enclosure.
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 40°C.
- The EUT is intended to be supplied by Internal AC or DC power supply which output is complied with ES1, maximum ambient temperature: 40°C.
- Additional investigation in accordance with EN 62368-1:2014+A11:2017 and AS/NZS 62368.1:2018 on the CB certificate.
- The label is a 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.
- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): All output ports, except for fiber ports.
- The following secondary output circuits are ES1: All output ports
- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual
- The equipment to be evaluated in the end product for compliance with altitude up to 3100m above the sea level. The correction factors of clearance is 1.155 min., specified in table A.2 of IEC 60664-1 on Switching Power Supply.

Model Differences

N/A

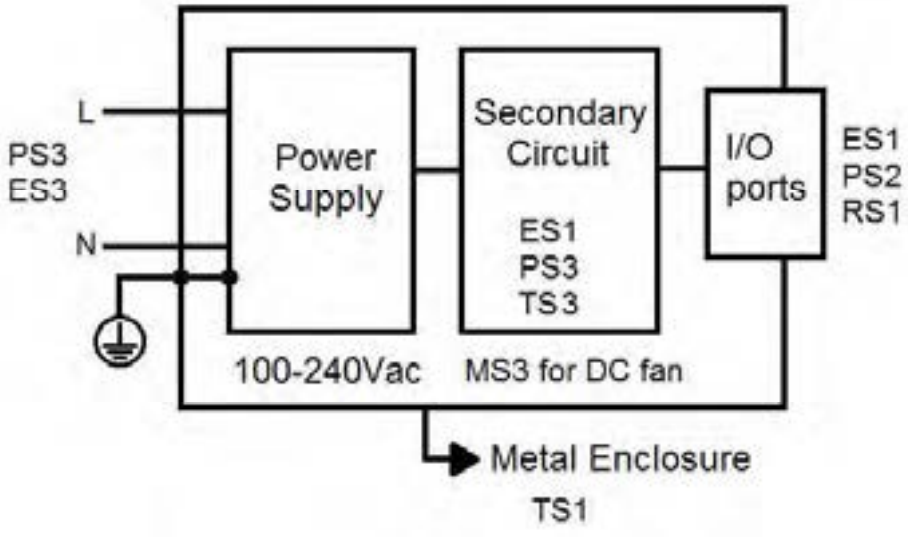
Additional application considerations – (Considerations used to test a component or sub-assembly)
N/A

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)**
Input and internal circuits of approved PSU (100-240Vac)	ES3
Output of approved PSU	ES1
Input power source (-72Vdc)	ES2
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 except for output circuits	PS3
Output circuits (connectors)	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**
RTC Battery	See annex M
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
DC fan	MS3
Equipment edges and corner	MS1
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)**
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)**
LED Indicator	RS1

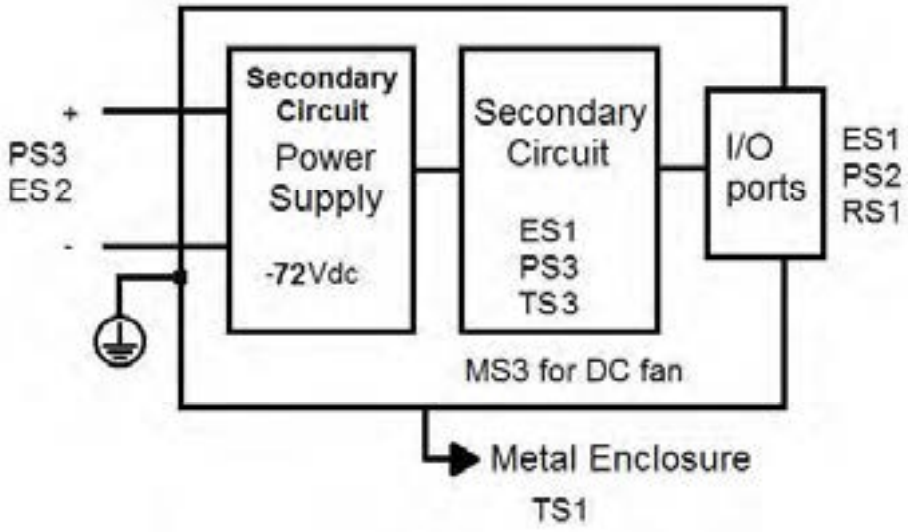
ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
Optical fiber transceiver	RS1

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

For AC power source



For DC power source



See above ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE

☒ **ES3** ☒ **PS3-** ☒ **MS3** ☒ **TS3** ☐ **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)
Instructed	ES3: Input and internal primary circuits of approved AC SPS	N/A	N/A	Enclosure, see 5.5.3, 5.5.4
Instructed	ES2: Input circuits of approved DC SPS	N/A	N/A	Enclosure, see 5.5.3, 5.5.4
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
PCB	PS3 circuit	See 6.3	V-1 or better.	N/A
Metal enclosure	PS3 circuit	See 6.3	Metal	N/A
The other components/materials	PS3 circuit	See 6.3	See 6.4.5, 6.4.6	N/A
Internal wiring materials	PS3 circuit	N/A	N/A	See 6.5
External wiring materials	PS2 circuit	N/A	N/A	See 6.5
Output connector	PS2 circuit	See 6.3	See 6.4.5	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	--	--	--	--
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Instructed	MS3: Plastic fan blade (DC fan)	N/A	N/A	Enclosure
Instructed	MS2: Equipment mass	See 8.6, 8.8	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Internal parts	TS3	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	--	--	--	--

Supplementary Information:
(1) See attached energy source diagram for additional details.
(2) “N” – Normal Condition; “A” – Abnormal Condition; “S” Single Fault

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Clause	Requirement + Test	Result - Remark	Verdict

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.....:		N/A
4.4.4.8	Air comprising a safeguard.....:		N/A
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 .....:		N/A
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	EUT is not likely to be accessible to children.	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

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Clause	Requirement + Test	Result - Remark	Verdict
5	**ELECTRICALLY-CAUSED INJURY**		P
5.2.1	Electrical energy source classifications..... :	See ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE for details.	P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current..... :	(See appended table 5.2)	P
5.2.2.3	Capacitance limits ..... :		N/A
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.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 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		N/A
5.4.1.9	Insulating surfaces		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat softening temperature..... :		N/A
5.4.1.10.3	Ball pressure ..... :		N/A
5.4.2	Clearances		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.2.2	Determining clearance using peak working voltage		N/A
5.4.2.3	Determining clearance using required withstand voltage ..... :		N/A
	a) a.c. mains transient voltage ..... :		—
	b) d.c. mains transient voltage ..... :		—
	c) external circuit transient voltage ..... :		—
	d) transient voltage determined by measurement ..... :		—
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 ..... :		N/A
5.4.3	Creepage distances ..... :		N/A
5.4.3.1	General		N/A
5.4.3.3	Material Group ..... :		—
5.4.4	Solid insulation		N/A
5.4.4.2	Minimum distance through insulation ..... :		N/A
5.4.4.3	Insulation compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs) ..... :		N/A
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		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz ..... :		N/A
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		N/A
5.4.8	Humidity conditioning		P
	Relative humidity (%)..... :	93%	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Temperature (°C) .....:	40°C	—
	Duration (h) .....:	120h	—
5.4.9	Electric strength test .....:	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for a solid insulation type test		P
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit		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		N/A
5.5.2	Capacitors and RC units		N/A
5.5.2.1	General requirement		N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector.....:		N/A
5.5.3	Transformers		N/A
5.5.4	Optocouplers		N/A
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
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable.....:		N/A
5.6	Protective conductor		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.2	Requirement for protective conductors		P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors	Suitable approval power supply cord may provide with equipment, see appended table 4.1.2 for details.	P
	Protective earthing conductor size (mm^2) .....:	See appended table 4.1.2 for details	—
5.6.4	Requirement for protective bonding conductors		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm^2). .....:	Evaluated as part of Power Supply unit.	—
	Protective current rating (A) ..... :	Evaluated as part of Power Supply unit.	—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		P
5.6.5.1	Requirement		P
	Conductor size (mm^2), nominal thread diameter (mm). .....:	Screw type, max. 16A, 4.0mm 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) .....:	N/A	—
	Multiple connections to mains (one connection at a time/simultaneous connections) .....:	One connection at a time	—
5.7.4	Earthed conductive accessible parts.....:	(See appended Table 5.7.4)	P
5.7.5	Protective conductor current		P
	Supply Voltage (V).....:	264V for AC source	—
	Measured current (mA).....:	4.69mArms for AC source	—
	Instructional Safeguard.....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.6	Prospective touch voltage and touch current due to external circuits		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	All circuits are considered PS3 and the circuits of output connector complied with Annex Q.1; power button and reset button are considered as PS1 circuit	P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault ..... :	(See appended table 6.2.2)	P
6.2.2.4	PS1 ..... :	See 6.2.2	P
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 except for power button and reset button	P
6.2.3.1	Arcing PIS ..... :	See 6.2.3	P
6.2.3.2	Resistive PIS ..... :	See 6.2.3	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	For rating label and front marking plate.	P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Control of fire spread used for system; reduction of the likelihood of ignition under single fault conditions used for power supply fan guard	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		P
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	For power fan openings, had no components will cause ignition of fire during 37mm and components fault had considered in approval power supply.	P
6.4.3.1	General		P
6.4.3.2	Supplementary Safeguards		P
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions..... :	For power fan openings, had no components will cause ignition of fire during 37mm and components fault had considered in approval power supply.	P
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		P
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		P
6.4.7.1	General.....:	The minimum separation requirements between a PIS and COMBUSTIBLE MATERIALS are separation by distance and fire enclosure	P
6.4.7.2	Separation by distance		P
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

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) .....:	Openings do not exceed 5 mm in any dimension or 1 mm in width except for system and power fan's openings; System fan's openings, had distance over 37mm from any PIS, ignore openings size; Power fan openings, had no components will cause ignition of fire during 37mm and components fault had consider in approval power supply. See Enclosure Diagrams ID 4-01 for details	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 do not exceed 3 mm in any dimension or 1 mm in width., See Enclosure Diagrams ID 4-01 for details	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.	P
6.5	Internal and external wiring		P
6.5.1	Requirements	VW-1 wiring used, test method was considered equivalent to IEC/TS 60695-11-21	P
6.5.2	Cross-sectional area (mm^2) .....:	N/A	—
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**		P
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.....:	See annex M	P

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Clause	Requirement + Test	Result - Remark	Verdict
8	**MECHANICALLY-CAUSED INJURY**		P
8.1	General		P
8.2	Mechanical energy source classifications		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		P
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment	The blades of the DC fan are not accessible with test finger Figure V.2.	P
8.5.2	Instructional Safeguard ..... :	N/A	—
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
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	No test required for fixed equipment	P
	Instructional Safeguard .....:	N/A	—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force .....:		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt.....:		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force).....:		N/A
	Position of feet or movable parts.....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
8.7	Equipment mounted to wall or ceiling		N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface) .....:		N/A
8.7.2	Direction and applied force.....:		N/A
8.8	Handles strength		P
8.8.1	Classification	MS2	P
8.8.2	Applied Force .....:	Applied an exerts force is three times of equipment weight (55Kg) on one handle (total 2 handles)	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.....:		—
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 *N* .....:		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 for details.	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

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Clause	Requirement + Test	Result - Remark	Verdict
10	**RADIATION**		P
10.2	Radiation energy source classification		P
10.2.1	General classification	See ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE for details.	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 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

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

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	Not accessible to an ordinary person	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

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effectively.	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		P
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature ..... :	(see appended table B.4)	P
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
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		P
B.4.9	Battery charging under single fault conditions ... :		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

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Clause	Requirement + Test	Result - Remark	Verdict
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 .....:	Manufacturer: Radware Ltd. or Trademark: RADWARE	—
F.3.2.2	Model identification .....:	ODS-HTQe	—
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		P
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..... :	Evaluated in approved PSU.	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking .....:	IPX0	—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking	Marking is durable and legible. The marking plate has no curling and is not able to be removed easily.	P
F.3.10	Test for permanence of markings	See Enclosure/ Miscellaneous ID 7-02 additional table for details	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking	The equipment intended for use only in restricted access area.	P
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place		P
	d) Equipment intended for use only in restricted access area	See manual for instruction.	P
	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		P
	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**		N/A
G.1.1	General requirements		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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) ..... :		—
	Single Fault Condition ..... :		—
	Test Voltage (V) and Insulation Resistance (Ω). :		—
G.3.3	PTC Thermistors		P
G.3.4	Overcurrent protection devices		N/A
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 .....:		P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely	Evaluated in approved SPS..	P
G.5	**Wound Components**		N/A
G.5.1	Wire insulation in wound components.....		N/A
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°		N/A
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s) .....:		—
	Temperature (°C) .....:		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	**Transformers**		N/A
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1).....:	Evaluated in approved SPS.	N/A
	Position.....:		—
	Method of protection .....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.3.2	Insulation		N/A
	Protection from displacement of windings.....:		—
G.5.3.3	Overload test ..... :		N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding Temperatures testing in the unit		N/A
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	**Motors**		P
G.5.4.1	General requirements		P
	Position .....:	Approved DC fan used.	—
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**		N/A
G.6.1	General		N/A
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	**Mains supply cords**		P
G.7.1	General requirements	Suitable approval power supply cord may provide with equipment, see appended table 4.1.2 for details	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Type.....:	See appended table 4.1.2 for details	—
	Rated current (A).....:	See appended table 4.1.2 for details	—
	Cross-sectional area (mm^2), (AWG)..... :	See appended table 4.1.2 for details	—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N) .....:		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)....:		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry ..... :		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g) ..... :		—
	Diameter (m) .....:		—
	Temperature (°C) .....:		—
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**		N/A
G.8.1	General requirements	Evaluated in approved SPS.	N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test .....:		N/A
G.8.3.3	Temporary overvoltage .....:		N/A
G.9	**Integrated Circuit (IC) Current Limiters**		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.		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

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Clause	Requirement + Test	Result - Remark	Verdict
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
G.11	**Capacitor and RC units**		N/A
G.11.1	General requirements		N/A
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	**Optocouplers**		N/A
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results).....:	Evaluated in approved SPS..	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

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Clause	Requirement + Test	Result - Remark	Verdict
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
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 Uc = 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**		N/A
	General requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
K	**SAFETY INTERLOCKS**		N/A
K.1	General requirements		N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance .....:		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method .....:		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location) .....:		N/A
K.7.2	Overload test, Current (A).....:		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test .....:		N/A
L	**DISCONNECT DEVICES**		P
L.1	General requirements	Appliance coupler is considered as disconnected device.	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		P
M	**EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS**		P
M.1	General requirements		P
M.2	Safety of batteries and their cells		P
M.2.1	Requirements		P
M.2.2	Compliance and test method (identify method) .. :	See appended table 4.1.2 for RTC battery.	P
M.3	Protection circuits		P
M.3.1	Requirements		P
M.3.2	Tests	RTC Battery is protected against charging current by multiple components.	P
	- Overcharging of a rechargeable battery		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- Unintentional charging of a non-rechargeable battery		P
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
M.3.3	Compliance .....:	(See appended Tables annex M)	P
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature .....:		—
M.4.2.2 b)	Single faults in charging circuitry .....:		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume *V*z (m^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) ..... :	Complied by inspection and data review	P
N	**ELECTROCHEMICAL POTENTIALS**		P
	Metal(s) used ..... :	The combined electrochemical potential is below 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		N/A
	Location and Dimensions (mm) ..... :	Openings do not exceed 5 mm in any dimension or 1 mm in width except for system and power fan's openings; System fan and power fan guard openings, comply with P.2.3 See Enclosure Diagrams ID 4-01 for details	—
P.2.3	Safeguard against the consequences of entry of foreign object		P
P.2.3.1	Safeguards against the entry of a foreign object	Side openings used for internal wiring securement: Within the projected volume as depicted in Figure P.3, there were no PIS, nor bare conductive parts at ES3 or PS3.	P
	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

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Clause	Requirement + Test	Result - Remark	Verdict
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C) ..... :		—
	Tr (°C) ..... :		—
	Ta (°C) ..... :		—
P.4.2 b)	Abrasion testing ..... :		N/A
P.4.2 c)	Mechanical strength testing ..... :		N/A
Q	**CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING**		P
Q.1	Limited power sources	(See appended table Q.1)	P
Q.1.1 a)	Inherently limited output	(See appended table Q.1)	P
Q.1.1 b)	Impedance limited output	(See appended table Q.1)	P
	- Regulating network limited output under normal operating and simulated single fault condition		N/A
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
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 ..... :		—
	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

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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 .....:		N/A
T.3	Steady force test, 30 N .....:		N/A
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		P
	Fall test	(See appended table T.6)	P
	Swing test		N/A
T.7	Drop test .....:		N/A
T.8	Stress relief test .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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 EFECTS 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		P
V.2	Accessible part criterion		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]
01. AC Power supply cord (Optional)	Interchangeable	Interchangeable	Type SVT or SJT or SPT-2, minimum 125V, 15 A, 14 AWG with NEMA 5-15P or 250 V, 15A, 14 AWG with NEMA 6-15P.. Length minimum 1.5m, maximum 4.5m. Other end (with appliance coupler) (connected to unit)	UL817	UL
02. Switch Power Supply with two power module PSS-2A00V for AC powered unit	Zippy Technology Corp.	PSS2-5A00V3V	I/P: 100-240Vac, 47-63Hz, 15-7.5A, O/P: +5Vdc/0-22A, +3.3Vdc/0-22A, +12Vdc/83A, +5VSB/0-4A, -12Vdc/0-0.5A; Max. output power: +5Vdc and +3.3Vdc Max. = 150W, Total output power shall not exceed 1000 watts	EN 60950-1:2006+A11:2009 +A1:2010+A12:2011+A2:2013, IEC 60950-1: 2005+A1+A2, UL 60950-1	TUV, UL
02a. Alternate Switch Power Supply with two power module DPSS-2A00V for DC powered unit	Zippy Technology Corp.	DPSS2-5A00V3V	I/P: -42Vdc to -72Vdc, 30-17A, O/P: +5Vdc/0-22A; +12Vdc/83A, +3.3Vdc/0-22A, -12Vdc/0-0.5A, +5VSB/0-4A, +5Vdc and +3.3Vdc Max. = 150W, Total output power shall not exceed 1000 watts	EN 60950-1:2006+A11:2009 +A1:2010+A12:2011+A2:2013, IEC 60950-1: 2005+A1+A2, UL 60950-1	TUV, UL
03. Enclosure	Interchangeable	Interchangeable	SECC, thickness 1.0mm min., overall see Enclosure / Diagrams ID 4-01 for detail.	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

04. Ear sets (Optional) (two provided)	Interchangeable	Interchangeable	IRON, thickness 3.0mm min., see Enclosure / Diagrams ID 4-02 for details.	--	--
05. PWB	Interchangeable	Interchangeable	Rated V-1 minimum, 105 degree C minimum	UL 796	UL
06.Mainboard	--	--	See below	--	--
06-1. RTC Battery (BAT1)	Interchangeable	BR2032*, CR2032*, CR-2032*, CR2450*, CR-2450*	Maximum abnormal charging current 5mA minimum, Non- rechargeable and protected by one diode and one resistor (1K ohm).	UL 1642	UL
06-2. CPU Cooler	--	--	See below	--	--
06-2-1. CPU Heat sink (two provided)	Interchangeable	Interchangeable	Aluminium, see Enclosure / Diagrams ID 4-03 for details	--	--
06-2-2. CPU Fan (two provided)	Everflow Precision Electronic (Dong Guan) Co., Ltd.	F126025BU	12Vdc, 0.26A max., 24.49CFM max.	UL 507, EN 60950-1	UL, TUV
06-3. Chipset heat sink 1 (one provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-04 for details.	--	--
06-4. Chipset heat sink 2 (two provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-05 for details.	--	--
06-5. Chipset heat sink 3 (two provided) (one provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-06 for details.	--	--
06-6. Polyswitch (UF1) for USB port	POLYTRONICS TECHNOLOGY CORP	SMD1206P150T FT	8Vdc, Ih: 1.5A, CA: 3	UL 1434, EN 60730-1	UL, TUV
06-6a. Alternate Polyswitch (UF1) for USB port	Interchangeable	Interchangeable	8Vdc, Ih: 1.5A, CA: 3	UL 1434, EN 60730-1	UL, TUV
07. I/O Board (Netcop)	--	--	See below	--	--
07-1. Chipset heat sink 1 (one provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-07 for details.	--	--
07-2. Chipset heat sink 2 (one provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-08 for details.	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

07-3. Chipset heat sink 3 (one provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-09 for details.	--	--
07-4. Chipset heat sink 4 (four provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-10 for details.	--	--
07-5. Fiber Optical Transceivers (Optional)	Interchangeable	Interchangeable	3.3Vdc, max. 1W, Laser class 1 with metal enclosure	UL 60950-1, IEC 60950-1, IEC 60825-1, EN 60825-1	UL, TUV
08. I/O Board (Bypass-100)	--	--	See below	--	--
08-1. Chipset heat sink 1 (one provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-11 for details.	--	--
08-2. Chipset heat sink 2 (four provided)	--	--	Aluminium. See Enclosure / Diagrams ID 4-10 for details.	--	--
08-3. Fiber Optical Transceivers (Optional)	Interchangeable	Interchangeable	3.3Vdc, max. 1W, Laser class 1 with metal enclosure	UL 60950-1, IEC 60950-1, IEC 60825-1, EN 60825-1	UL, TUV
09. System Fan (Five provided)	NMB Technologies Corporation	06038DA-12S-EUD-3	12Vdc, 2.0A max., 59.32 CFM (1.68m^3/min) minimum.	UL 507, EN 60950-1	UL, VDE
10. HDD (Optional)	Western Digital Technologies Inc.	WD5003ABYX	Generic 5V, 1.5A; 12V, 1.5A maximum; One provided maximum for 3.5”	UL 60950-1, EN 60950-1, IEC 60950-1	UL, TUV
10a. Alternate HDD (Optional)	Interchangeable	Interchangeable	Generic 5V, 1.5A; 12V, 1.5A maximum; One provided maximum for 3.5” or one provided maximum for 2.5”	UL 60950-1, EN 60950-1, IEC 60950-1	UL, TUV
10b. Alternate SSD (Optional)	Interchangeable	Interchangeable	Generic 5V, 1.5A; 12V, 1.5A maximum; one provided maximum	--	--
11. Mylar (Located on Power and Mainboard)	Interchangeable	Interchangeable	Plastic, V-2 min., see Enclosure / Diagrams ID 4-12 for detail	UL 94, UL 746C	UL

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Clause	Requirement + Test	Result - Remark	Verdict

12. Internal Wiring	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1 or FT-1, min. 300V, min. 80 degree C for primary wiring; 30V, min. 60 degree C for secondary wiring.	UL 758, IEC60332-1-2, IEC60332-1-3, IEC60332-2-2, IEC/TS60695-11-21	UL, CB scheme
13. Interconnecting Cable (Optional)	Interchangeable	Interchangeable	Minimum 60 degree C, 30V minimum, maximum 3.05 m long, VW-1 or FT-1 or better	UL 758, , IEC60332-1-2, IEC60332-1-3, IEC60332-2-2, IEC/TS60695-11-21	UL, CB scheme

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

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Clause	Requirement + Test	Result - Remark	Verdict

4.8.4, 4.8.5	**TABLE: Lithium coin/button cell batteries mechanical tests**		**N/A**
(The following mechanical tests are conducted in the sequence noted.)			
4.8.4.2	**TABLE: Stress Relief test**		—
Part	**Material**	**Oven Temperature (°C)**	**Comments**
--	--	--	--
4.8.4.3	**TABLE: Battery replacement test**		—
Battery part no. .....:		--	—
Battery Installation/withdrawal		Battery Installation/Removal Cycle	Comments
--		1	--
		2	--
		3	--
		4	--
		5	--
		6	--
		8	--
		9	--
		10	--
4.8.4.4	**TABLE: Drop test**		—
Impact Area	Drop Distance	Drop No.	Observations
--	--	1	--
--	--	2	--
--	--	3	--
4.8.4.5	**TABLE: Impact**		—
Impacts per surface	**Surface tested**	**Impact energy (Nm)**	**Comments**
--	--	--	--
--	--	--	--
--	--	--	--
4.8.4.6	**TABLE: Crush test**		—
Test position	**Surface tested**	**Crushing Force (N)**	**Duration force applied (s)**
--	--	--	--
--	--	--	--
Supplementary information: --			

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Clause	Requirement + Test	Result - Remark	Verdict

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

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	
With AC Power: Zippy Technology Corp / PSS2-5A00V3,							
1	264Vac / 60Hz	Output connector (for USB port)	Normal	5.05Vdc	--	--	ES1
			Abnormal – Ventilation Openings Blocked	0Vdc	--	--	
			Abnormal – USB port output overload	4.41Vdc	--	--	
			Single fault – Power Fan Stalled	5.05Vdc	--	--	
With DC Power: Zippy Technology Corp. / DPSS2-5A00V3V ,							
2	-72Vdc	Output connector (for USB port)	Normal	5.05Vdc	--	--	ES1
			Abnormal – Ventilation Openings Blocked	0Vdc	--	--	
			Abnormal – USB port output overload	4.41Vdc			
			Single fault – Power Fan Stalled	5.05Vdc	--	--	

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Clause	Requirement + Test	Result - Remark	Verdict

5.2.2.3 - Capacitance Limits						
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
--	--	--	Normal	--	--	--
			Abnormal	--	--	
			Single fault – SC/OC	--	--	

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

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

Test Conditions:

Normal –

Abnormal -

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

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					**P**
	Supply voltage (V) ..... :	See below	See below	See below	--	—
	Ambient T_{min} (°C) ..... :	See below	See below	See below	--	—
	Ambient T_{max} (°C) ..... :	--	--	--	--	—
	Tma (°C) ..... :	--	--	--	--	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
B.2.6 / NORMAL OPERATING TEMPERATURE MEASUREMENT Test item : Normal Heating With Bypass-100 I/O Board 90V, 60Hz (@one power supply with 80 percent load)		Maximum Normal Load at 90V, 60Hz	Maximum Normal Load at 90V, 60Hz, Shift to Tma 25[1)]	--	--	Tmax for Tma 25*
01. Ambient		22.4	25.0	--	--	--
For Power Supply (Top Power)		--	--	--	--	--
02. Inlet body near pin		48.2	50.8	--	--	94
03. CX1 body		88.9	91.5	--	--	--
04. L3 coil		121.1	123.7	--	--	--
05. C4A body		102.7	105.3	--	--	--
06. T4 coil		90.5	93.1	--	--	--
07. T4 core		88.2	90.8	--	--	--
08. T2 coil		110.6	113.2	--	--	--
09. T2 core		110.2	112.8	--	--	--
10. U11 body		83.0	85.6	--	--	--
11. CY5 body		102.3	104.9	--	--	--
12. PWB near TH1		124.8	127.4	--	--	--
For Main board		--	--	--	--	--
13. PWB near BU1		42.3	44.9	--	--	--
14. L93 coil		30.8	33.4	--	--	--
15. PWB near EU1		30.9	33.5	--	--	--
16. PWB near OU1		28.8	31.4	--	--	--
17. PWB near CPU-0		31.4	34.0	--	--	--
18. PWB near CPU-1		30.6	33.2	--	--	--
19. RTC body		28.0	30.6	--	--	--
For 100G SFP+ board		--	--	--	--	--
20. PWB near U85		30.3	32.9	--	--	--
21. L18 coil		32.7	35.3	--	--	--

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Clause	Requirement + Test	Result - Remark			Verdict
22. PWB near U73	37.8	40.4	--	--	--
23. L5 coil	36.8	39.4	--	--	--
24. PWB near U160	33.5	36.1	--	--	--
For Internal Parts	--	--	--	--	--
25. Power Module (Metal)	55.8	58.4	--	--	--
26. Heatsink surface on U85 and U73 for 100G SFP+ board	28.6	31.2	--	--	--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	29.7	32.3	--	--	--
28. Heatsink surface on U160 for 100G SFP+ board	29.1	31.7	--	--	--
For Overall Touch Parts	--	--	--	--	--
29. Metal enclosure outside near Power Module	28.2	30.8	--	--	70
30. AC Inlet surface	39.3	41.9	--	--	94
31. Power Handle	54.8	57.4	--	--	70
32. Standby Power Switch	24.6	27.2	--	--	77
Test duration:	2.1hrs	2.1hrs	--	--	--
B.2.6 / NORMAL OPERATING TEMPERATURE MEASUREMENT Test item : Normal Heating With Bypass-100 I/O Board 90V, 60Hz (@one power supply with 80 percent load, at 40 degrees chamber)	Maximum Normal Load at 90V, 60Hz	Maximum Normal Load at 90V, 60Hz, shift tp Tma 40	--	--	Tmax for Tma 40#
01. Ambient	39.5	40.0	--	--	--
For Power Supply (Top Power)	--	--	--	--	--
02. Inlet body near pin	59.8	60.3	--	--	70
03. CX1 body	99.0	99.5	--	--	100
04. L3 coil	109.5	110.0	--	--	130
05. C4A body	84.5	85.0	--	--	85
06. T4 coil	74.7	75.2	--	--	110
07. T4 core	73.4	73.9	--	--	110
08. T2 coil	93.4	93.9	--	--	110
09. T2 core	88.0	88.5	--	--	110
10. U11 body	70.6	71.1	--	--	100
11. CY5 body	82.6	83.1	--	--	125
12. PWB near TH1	109.0	109.5	--	--	130
For Main board	--	--	--	--	--
13. PWB near BU1	50.0	50.5	--	--	94.5
14. L93 coil	44.2	44.7	--	--	94.5
15. PWB near EU1	44.7	45.2	--	--	94.5
16. PWB near OU1	43.9	44.4	--	--	94.5

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Clause	Requirement + Test	Result - Remark			Verdict
17. PWB near CPU-0	44.1	44.6	--	--	94.5
18. PWB near CPU-1	46.5	47.0	--	--	94.5
19. RTC body	42.7	43.2	--	--	90
For 100G SFP+ board	--	--	--	--	--
20. PWB near U85	46.2	46.7	--	--	94.5
21. L18 coil	45.5	46.0	--	--	94.5
22. PWB near U73	50.7	51.2	--	--	94.5
23. L5 coil	52.5	53.0	--	--	94.5
24. PWB near U160	46.9	47.4	--	--	94.5
For Internal Parts	--	--	--	--	--
25. Power Module (Metal)	62.0	62.5	--	--	--
26. Heatsink surface on U85 and U73 for 100G SFP+ board	43.1	43.6	--	--	--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	44.6	45.1	--	--	--
28. Heatsink surface on U160 for 100G SFP+ board	43.7	44.2	--	--	--
For Overall Touch Parts	--	--	--	--	--
29. Metal enclosure outside near Power Module	45.4	45.9	--	--	--
30. AC Inlet surface	57.0	57.5	--	--	--
31. Power Handle	65.6	66.1	--	--	--
32. Standby Power Switch	44.2	44.7	--	--	--
Test duration:	1.4hrs	1.4hrs	--	--	--
B.2.6 / NORMAL OPERATING TEMPERATURE MEASUREMENT Test item : Normal Heating With Bypass-100 I/O Board 264V, 60Hz (@one power supply with 80 percent load)	Maximum Normal Load at 264V, 60Hz	Maximum Normal Load at 264V, 60Hz, Shift to Tma 25[1)]	--	--	Tmax for Tma 25*
01. Ambient	22.5	25.0	--	--	--
For Power Supply (Top Power)	--	--	--	--	--
02. Inlet body near pin	37.4	39.9	--	--	94
03. CX1 body	57.0	59.5	--	--	--
04. L3 coil	71.4	73.9	--	--	--
05. C4A body	69.2	71.7	--	--	--
06. T4 coil	72.0	74.5	--	--	--
07. T4 core	69.3	71.8	--	--	--
08. T2 coil	93.2	95.7	--	--	--
09. T2 core	92.6	95.1	--	--	--
10. U11 body	68.7	71.2	--	--	--
11. CY5 body	88.8	91.3	--	--	--
12. PWB near TH1	73.5	76.0	--	--	--

IEC 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
For Main board	--	--	--	--	--
13. PWB near BU1	41.8	44.3	--	--	--
14. L93 coil	30.4	32.9	--	--	--
15. PWB near EU1	30.5	33.0	--	--	--
16. PWB near OU1	28.4	30.9	--	--	--
17. PWB near CPU-0	31.1	33.6	--	--	--
18. PWB near CPU-1	30.1	32.6	--	--	--
19. RTC body	27.8	30.3	--	--	--
For 100G SFP+ board	--	--	--	--	--
20. PWB near U85	30.1	32.6	--	--	--
21. L18 coil	32.3	34.8	--	--	--
22. PWB near U73	37.5	40.0	--	--	--
23. L5 coil	36.4	38.9	--	--	--
24. PWB near U160	33.2	35.7	--	--	--
For Internal Parts	--	--	--	--	--
25. Power Module (Metal)	41.7	44.2	--	--	--
26. Heatsink surface on U85 and U73 for 100G SFP+ board	28.4	30.9	--	--	--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	29.4	31.9	--	--	--
28. Heatsink surface on U160 for 100G SFP+ board	29.0	31.5	--	--	--
For Overall Touch Parts	--	--	--	--	--
29. Metal enclosure outside near Power Module	26.4	28.9	--	--	70
30. AC Inlet surface	33.7	36.2	--	--	94
31. Power Handle	42.6	45.1	--	--	70
32. Standby Power Switch	24.7	27.2	--	--	77
Test duration:	1.8hrs	1.8hrs	--	--	--
B.2.6 / NORMAL OPERATING TEMPERATURE MEASUREMENT Test item : Normal Heating With Bypass-100 I/O Board 264V, 60Hz (@one power supply with 80 percent load, at 40 degrees chamber)	Maximum Normal Load at 264V, 60Hz	Maximum Normal Load at 264V, 60Hz, shift to Tma 40	--	--	Tmax for Tma 40#
01. Ambient	39.7	40.0	--	--	--
For Power Supply (Top Power)	--	--	--	--	--
02. Inlet body near pin	51.8	52.1	--	--	70
03. CX1 body	71.5	71.8	--	--	100
04. L3 coil	76.8	77.1	--	--	130
05. C4A body	69.8	70.1	--	--	85
06. T4 coil	69.0	69.3	--	--	110

IEC 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
07. T4 core	67.4	67.7	--	--	110
08. T2 coil	89.5	89.8	--	--	110
09. T2 core	83.4	83.7	--	--	110
10. U11 body	66.5	66.8	--	--	100
11. CY5 body	78.7	79.0	--	--	125
12. PWB near TH1	77.2	77.5	--	--	130
For Main board	--	--	--	--	--
13. PWB near BU1	49.8	50.1	--	--	94.5
14. L93 coil	44.2	44.5	--	--	94.5
15. PWB near EU1	44.6	44.9	--	--	94.5
16. PWB near OU1	43.9	44.2	--	--	94.5
17. PWB near CPU-0	44.2	44.5	--	--	94.5
18. PWB near CPU-1	46.5	46.8	--	--	94.5
19. RTC body	42.8	43.1	--	--	90
For 100G SFP+ board	--	--	--	--	--
20. PWB near U85	46.2	46.5	--	--	94.5
21. L18 coil	45.5	45.8	--	--	94.5
22. PWB near U73	50.8	51.1	--	--	94.5
23. L5 coil	52.4	52.7	--	--	94.5
24. PWB near U160	46.9	47.2	--	--	94.5
For Internal Parts	--	--	--	--	--
25. Power Module (Metal)	54.8	55.1	--	--	--
26. Heatsink surface on U85 and U73 for 100G SFP+ board	43.2	43.5	--	--	--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	44.6	44.9	--	--	--
28. Heatsink surface on U160 for 100G SFP+ board	43.7	44.0	--	--	--
For Overall Touch Parts	--	--	--	--	--
29. Metal enclosure outside near Power Module	44.0	44.3	--	--	--
30. AC Inlet surface	50.8	51.1	--	--	--
31. Power Handle	56.2	56.5	--	--	--
32. Standby Power Switch	43.2	43.5	--	--	--
Test duration:	1.4 hrs	1.4 hrs	--	--	--
B.2.6 / NORMAL OPERATING TEMPERATURE MEASUREMENT Test item : Normal Heating With Bypass-100 I/O Board -42Vdc (@one power supply with 80 percent load)	Maximum Normal Load at -42Vdc	Maximum Normal Load at -42Vdc, Shift to Tma 40	Maximum Normal Load at -42Vdc, Shift to Tma 25[1)]	--	Tmax for Tma 40#/25*
01. Ambient	22.9	40.0	25.0	--	--
For Power Supply (Top Power)	--	--	--	--	--

IEC 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
02. L1 coil	58.8	75.9	60.9	--	105/--
03. L2 coil	70.3	87.4	72.4	--	130/--
04. L4 coil	67.3	84.4	69.4	--	130/--
05. C4A body	56.0	73.1	58.1	--	105/--
06. T4 core	42.4	59.5	44.5	--	110/--
07. T4 coil	46.0	63.1	48.1	--	110/--
08. T2 coil	64.3	81.4	66.4	--	110/--
09. T2 core	60.4	77.5	62.5	--	110/--
10. U11 body	46.3	63.4	48.4	--	100/--
11. CY5 body	47.6	64.7	49.7	--	125/--
12. PWB near H3 of Q27	61.5	78.6	63.6	--	130/--
For Main board	--	--	--	--	--
13. PWB near BU1	32.3	49.4	34.4	--	94.5/--
14. L93 coil	27.1	44.2	29.2	--	94.5/--
15. PWB near EU1	27.9	45.0	30.0	--	94.5/--
16. PWB near OU1	27.3	44.4	29.4	--	94.5/--
17. PWB near CPU-0	27.8	44.9	29.9	--	94.5/--
18. PWB near CPU-1	29.5	46.6	31.6	--	94.5/--
19. RTC body	26.5	43.6	28.6	--	90/--
For 100G SFP+ board	--	--	--	--	--
20. PWB near U85	30.0	47.1	32.1	--	94.5/--
21. L18 coil	28.9	46.0	31.0	--	94.5/--
22. PWB near U73	34.0	51.1	36.1	--	94.5/--
23. L5 coil	35.4	52.5	37.5	--	94.5/--
24. PWB near U160	30.9	48.0	33.0	--	94.5/--
For Internal Parts	--	--	--	--	--
25. Power Module (Metal)	31.8	48.9	33.9	--	--/--
26. Heatsink surface on U85 and U73 for 100G SFP+ board	26.8	43.9	28.9	--	--/--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	28.4	45.5	30.5	--	--/--
28. Heatsink surface on U160 for 100G SFP+ board	27.2	44.3	29.3	--	--/--
For Overall Touch Parts	--	--	--	--	--
29. Metal enclosure outside near Power Module	25.3	42.4	27.4	--	--/70
30. Terminal block surface	28.1	45.2	30.2	--	--/94
31. Power Handle	36.7	53.8	38.8	--	--/70
32. Standby Power Switch	25.2	42.3	27.3	--	--/77
Test duration:	1.4hrs	1.4hrs	1.4hrs	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.6 / NORMAL OPERATING TEMPERATURE MEASUREMENT Test item : Normal Heating With Bypass-100 I/O Board -72Vdc (@one power supply with 80 percent load)	Maximum Normal Load at -72Vdc	Maximum Normal Load at -72Vdc, Shift to Tma 40	Maximum Normal Load at -72Vdc, Shift to Tma 25[1)]	--	Tmax for Tma 40#/25*
01. Ambient	23.0	40.0	25.0	--	--
For Power Supply (Top Power)	--	--	--	--	--
02. L1 coil	56.4	73.4	58.4	--	105/--
03. L2 coil	47.0	64.0	49.0	--	130/--
04. L4 coil	51.8	68.8	53.8	--	130/--
05. C4A body	46.9	63.9	48.9	--	105/--
06. T4 core	38.7	55.7	40.7	--	110/--
07. T4 coil	40.7	57.7	42.7	--	110/--
08. T2 coil	62.3	79.3	64.3	--	110/--
09. T2 core	58.4	75.4	60.4	--	110/--
10. U11 body	44.3	61.3	46.3	--	100/--
11. CY5 body	45.6	62.6	47.6	--	125/--
12. PWB near H3 of Q27	58.2	75.2	60.2	--	130/--
For Main board	--	--	--	--	--
13. PWB near BU1	31.0	48.0	33.0	--	94.5/--
14. L93 coil	25.9	42.9	27.9	--	94.5/--
15. PWB near EU1	26.6	43.6	28.6	--	94.5/--
16. PWB near OU1	25.8	42.8	27.8	--	94.5/--
17. PWB near CPU-0	26.3	43.3	28.3	--	94.5/--
18. PWB near CPU-1	28.1	45.1	30.1	--	94.5/--
19. RTC body	24.9	41.9	26.9	--	90/--
For 100G SFP+ board	--	--	--	--	--
20. PWB near U85	28.5	45.5	30.5	--	94.5/--
21. L18 coil	27.7	44.7	29.7	--	94.5/--
22. PWB near U73	32.5	49.5	34.5	--	94.5/--
23. L5 coil	34.0	51.0	36.0	--	94.5/--
24. PWB near U160	29.2	46.2	31.2	--	94.5/--
For Internal Parts	--	--	--	--	--
25. Power Module (Metal)	29.0	46.0	31.0	--	--/--
26. Heatsink surface on U85 and U73 for 100G SFP+ board	25.4	42.4	27.4	--	--/--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	27.0	44.0	29.0	--	--/--
28. Heatsink surface on U160 for 100G SFP+ board	25.7	42.7	27.7	--	--/--
For Overall Touch Parts	--	--	--	--	--

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Clause	Requirement + Test	Result - Remark			Verdict

29. Metal enclosure outside near Power Module	24.1	41.1	26.1	--	--/70
30. Terminal block surface	25.2	42.2	27.2	--	--/94
31. Power Handle	31.2	48.2	33.2	--	--/70
32. Standby Power Switch	24.1	41.1	26.1	--	--/77
Test duration:	1.3hrs	1.3hrs	1.3hrs	--	--
B.3 / SIMULATED ABNORMAL OPERATING CONDITIONS Test item : Ventilation Openings Blocked With Bypass-100 I/O Board (@one power supply with 80 percent load)	Maximum Normal Load at 264V, 60Hz	Maximum Normal Load at 264V,, 60Hz, Shift to Tma 40	Maximum Normal Load at 264V, 60Hz, Shift to Tma 25[1)]	--	Tmax for Tma 40/25*
01. Ambient	22.9	40.0	25.0	--	--/--
For Power Supply (Top Power)	--	--	--	--	--/--
02. Inlet body near pin	67.2	84.3	69.3	--	300/104
03. CX1 body	79.6	96.7	81.7	--	300/--
04. L3 coil	88.6	105.7	90.7	--	300/--
05. C4A body	92.8	109.9	94.9	--	300/--
06. T4 coil	110.7	127.8	112.8	--	300/--
07. T4 core	108.7	125.8	110.8	--	300/--
08. T2 coil	165.9	183.0	168.0	--	300/--
09. T2 core	162.8	179.9	164.9	--	300/--
10. U11 body	109.8	126.9	111.9	--	300/--
11. CY5 body	133.3	150.4	135.4	--	300/--
12. PWB near TH1	86.6	103.7	88.7	--	300/--
For Main board	--	--	--	--	--/--
13. PWB near BU1	84.0	101.1	86.1	--	300/--
14. L93 coil	76.6	93.7	78.7	--	300/--
15. PWB near EU1	69.2	86.3	71.3	--	300/--
16. PWB near OU1	69.2	86.3	71.3	--	300/--
17. PWB near CPU-0	62.8	79.9	64.9	--	300/--
18. PWB near CPU-1	67.6	84.7	69.7	--	300/--
19. RTC body	60.2	77.3	62.3	--	300/--
For 100G SFP+ board	--	--	--	--	--/--
20. PWB near U85	65.2	82.3	67.3	--	300/--
21. L18 coil	72.4	89.5	74.5	--	300/--
22. PWB near U73	81.3	98.4	83.4	--	300/--
23. L5 coil	89.0	106.1	91.1	--	300/--
24. PWB near U160	64.9	82.0	67.0	--	300/--
For Internal Parts	--	--	--	--	--/--
25. Power Module (Metal)	82.1	99.2	84.2	--	300/--

IEC 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
26. Heatsink surface on U85 and U73 for 100G SFP+ board	65.7	82.8	67.8	--	300/--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	71.6	88.7	73.7	--	300/--
28. Heatsink surface on U160 for 100G SFP+ board	63.3	80.4	65.4	--	300/--
For Overall Touch Parts	--	--	--	--	--/--
29. Metal enclosure outside near Power Module	67.3	84.4	69.4	--	--/80
30. AC Inlet surface	67.9	85.0	70.0	--	--/104
31. Power Handle	69.4	86.5	71.5	--	--/80
32. Standby Power Switch	66.8	83.9	68.9	--	--/87
Test duration:	13.8hrs	13.8hrs	13.8hrs	--	--/--
B.3 / SIMULATED ABNORMAL OPERATING CONDITIONS Test item : Output Terminal Overload (USB)	Maximum Normal Load at 264V, 60Hz	Maximum Normal Load at 264V, 60Hz, Shift to Tma 40	Maximum Normal Load at 264V, 60Hz, Shift to Tma 25[1)]	--	Tmax for Tma 40/25*
01. Ambient	20.3	40.0	25.0	--	--/--
For Power Supply (Top Power)	--	--	--	--	--/--
02. T4 coil	46.0	65.7	50.7	--	300/--
03. T4 core	44.3	64.0	49.0	--	300/--
04. T2 coil	54.9	74.6	59.6	--	300/--
05. T2 core	49.1	68.8	53.8	--	300/--
For Internal Parts	--	--	--	--	--/--
06. PWB near UF1	39.4	59.1	44.1	--	--/--
07. Power Module (Metal)	30.6	50.3	35.3	--	--/--
08. Heatsink surface on U85 and U73 for 100G SFP+ board	40.1	59.8	44.8	--	--/--
09. Heatsink surface on U14 and U24 for 100G SFP+ board	30.7	50.4	35.4	--	--/--
10. Heatsink surface on U160 for 100G SFP+ board	30.3	50.0	35.0	--	--/--
For Overall Touch Parts	--	--	--	--	--/--
11. Metal enclosure outside near Power Module	29.2	48.9	33.9	--	--/80
12. AC Inlet surface	37.5	57.2	42.2	--	--/104
13. Power Handle	42.3	62.0	47.0	--	--/80
14. Standby Power Switch	32.5	52.2	37.2	--	300/87
15. USB(UU2) connector surface	22.9	42.6	27.6	--	300/70
Test duration:	1.5hrs	1.5hrs	1.5hrs	--	--/--

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Clause	Requirement + Test	Result - Remark	Verdict

B.3 / SIMULATED ABNORMAL OPERATING CONDITIONS Test item : Ventilation Openings Blocked With Bypass-100 I/O Board (@one power supply with 80 percent load)	Maximum Normal Load at -72Vdc	Maximum Normal Load at -72Vdc, Shift to Tma 40	Maximum Normal Load at -72Vdc, Shift to Tma 25[1)]	--	Tmax for Tma 40/25*
01. Ambient	23.6	40.0	25.0	--	--/--
For Power Supply (Top Power)	--	--	--	--	--/--
02. L1 coil	130.6	147.0	132.0	--	300/--
03. L2 coil	63.1	79.5	64.5	--	300/--
04. L4 coil	74.2	90.6	75.6	--	300/--
05. C4A body	86.7	103.1	88.1	--	300/--
06. T4 core	85.6	102.0	87.0	--	300/--
07. T4 coil	87.2	103.6	88.6	--	300/--
08. T2 coil	119.1	135.5	120.5	--	300/--
09. T2 core	114.1	130.5	115.5	--	300/--
10. U11 body	94.3	110.7	95.7	--	300/--
11. CY5 body	108.2	124.6	109.6	--	300/--
12. PWB near H3 of Q27	135.4	151.8	136.8	--	300/--
For Main board	--	--	--	--	--/--
13. PWB near BU1	49.3	65.7	50.7	--	300/--
14. L93 coil	47.6	64.0	49.0	--	300/--
15. PWB near EU1	42.7	59.1	44.1	--	300/--
16. PWB near OU1	44.7	61.1	46.1	--	300/--
17. PWB near CPU-0	39.1	55.5	40.5	--	300/--
18. PWB near CPU-1	45.4	61.8	46.8	--	300/--
19. RTC body	39.1	55.5	40.5	--	300/--
For 100G SFP+ board	--	--	--	--	--/--
20. PWB near U85	49.6	66.0	51.0	--	300/--
21. L18 coil	50.1	66.5	51.5	--	300/--
22. PWB near U73	53.6	70.0	55.0	--	300/--
23. L5 coil	67.0	83.4	68.4	--	300/--
24. PWB near U160	45.7	62.1	47.1	--	300/--
For Internal Parts	--	--	--	--	--/--
25. Power Module (Metal)	60.9	77.3	62.3	--	--/--
26. Heatsink surface on U85 and U73 for 100G SFP+ board	44.6	61.0	46.0	--	--/--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	48.2	64.6	49.6	--	--/--
28. Heatsink surface on U160 for 100G SFP+ board	44.0	60.4	45.4	--	--/--
For Overall Touch Parts	--	--	--	--	--/--

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Clause	Requirement + Test	Result - Remark			Verdict

29. Metal enclosure outside near Power Module	47.0	63.4	48.4	--	--/80
30. Terminal block surface	49.9	66.3	51.3	--	--/104
31. Power Handle	55.7	72.1	57.1	--	--/80
32. Standby Power Switch	46.5	62.9	47.9	--	--/87
Test duration:	8.5hrs	8.5hrs	8.5hrs	--	--
B.4 / SIMULATED SINGLE FAULT CONDITIONS Test item : System Fan Stalled #1,3,5 With Bypass-100 I/O Board (@one power supply with 80 percent load)	Maximum Normal Load at 264V, 60Hz	Maximum Normal Load at 264V, 60Hz, Shift to Tma 40	Maximum Normal Load at 264V, 60Hz, Shift to Tma 25[1)]	--	Tmax for Tma 40/25*
01. Ambient	21.0	40.0	25.0	--	--/--
For Power Supply (Top Power)	--	--	--	--	--/--
02. Inlet body near pin	28.3	47.3	32.3	--	--/104
03. CX1 body	43.7	62.7	47.7	--	--/--
04. L3 coil	47.4	66.4	51.4	--	--/--
05. C4A body	42.6	61.6	46.6	--	--/--
06. T4 coil	41.4	60.4	45.4	--	--/--
07. T4 core	40.0	59.0	44.0	--	--/--
08. T2 coil	53.7	72.7	57.7	--	--/--
09. T2 core	53.8	72.8	57.8	--	--/--
10. U11 body	39.9	58.9	43.9	--	--/--
11. CY5 body	48.2	67.2	52.2	--	--/--
12. PWB near TH1	48.0	67.0	52.0	--	--/--
For Main board	--	--	--	--	--/--
13. PWB near BU1	52.8	71.8	56.8	--	--/--
14. L93 coil	37.8	56.8	41.8	--	--/--
15. PWB near EU1	37.1	56.1	41.1	--	--/--
16. PWB near OU1	33.1	52.1	37.1	--	--/--
17. PWB near CPU-0	34.3	53.3	38.3	--	--/--
18. PWB near CPU-1	35.3	54.3	39.3	--	--/--
19. RTC body	29.9	48.9	33.9	--	--/--
For 100G SFP+ board	--	--	--	--	--/--
20. PWB near U85	34.7	53.7	38.7	--	--/--
21. L18 coil	37.9	56.9	41.9	--	--/--
22. PWB near U73	44.5	63.5	48.5	--	--/--
23. L5 coil	54.2	73.2	58.2	--	--/--
24. PWB near U160	39.4	58.4	43.4	--	--/--
For Internal Parts	--	--	--	--	--/--
25. Power Module (Metal)	31.3	50.3	35.3	--	--/--

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Clause	Requirement + Test	Result - Remark			Verdict

26. Heatsink surface on U85 and U73 for 100G SFP+ board	32.6	51.6	36.6	--	--/--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	36.0	55.0	40.0	--	--/--
28. Heatsink surface on U160 for 100G SFP+ board	33.3	52.3	37.3	--	--/--
For Overall Touch Parts	--	--	--	--	--/--
29. Metal enclosure outside near Power Module	23.4	42.4	27.4	--	--/80
30. AC Inlet surface	26.0	45.0	30.0	--	--/104
31. Power Handle	32.1	51.1	36.1	--	--/80
32. Standby Power Switch	23.4	42.4	27.4	--	--/87
Test duration:	2.3hrs	2.3hrs	2.3hrs	--	--/--
B.4 / SIMULATED SINGLE FAULT CONDITIONS Test item : System Fan Stalled #2,4 With Bypass-100 I/O Board (@one power supply with 80 percent load)	Maximum Normal Load at 264V, 60Hz	Maximum Normal Load at 264V, 60Hz, Shift to Tma 40	Maximum Normal Load at 264V, 60Hz, Shift to Tma 25[1)]	--	Tmax for Tma 40/25*
01. Ambient	21.3	40.0	25.0	--	--/--
For Power Supply (Top Power)	--	--	--	--	--/--
02. Inlet body near pin	33.6	52.3	37.3	--	--/104
03. CX1 body	54.4	73.1	58.1	--	--/--
04. L3 coil	60.4	79.1	64.1	--	--/--
05. C4A body	54.1	72.8	57.8	--	--/--
06. T4 coil	53.2	71.9	56.9	--	--/--
07. T4 core	51.4	70.1	55.1	--	--/--
08. T2 coil	68.5	87.2	72.2	--	--/--
09. T2 core	68.6	87.3	72.3	--	--/--
10. U11 body	51.4	70.1	55.1	--	--/--
11. CY5 body	63.4	82.1	67.1	--	--/--
12. PWB near TH1	61.6	80.3	65.3	--	--/--
For Main board	--	--	--	--	--/--
13. PWB near BU1	48.1	66.8	51.8	--	--/--
14. L93 coil	33.9	52.6	37.6	--	--/--
15. PWB near EU1	33.8	52.5	37.5	--	--/--
16. PWB near OU1	30.8	49.5	34.5	--	--/--
17. PWB near CPU-0	31.2	49.9	34.9	--	--/--
18. PWB near CPU-1	32.2	50.9	35.9	--	--/--
19. RTC body	28.1	46.8	31.8	--	--/--
For 100G SFP+ board	--	--	--	--	--/--
20. PWB near U85	32.1	50.8	35.8	--	--/--

IEC 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
21. L18 coil	33.6	52.3	37.3	--	--/--
22. PWB near U73	40.3	59.0	44.0	--	--/--
23. L5 coil	44.0	62.7	47.7	--	--/--
24. PWB near U160	34.4	53.1	38.1	--	--/--
For Internal Parts	--	--	--	--	--/--
25. Power Module (Metal)	36.6	55.3	40.3	--	--/--
26. Heatsink surface on U85 and U73 for 100G SFP+ board	29.0	47.7	32.7	--	--/--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	31.5	50.2	35.2	--	--/--
28. Heatsink surface on U160 for 100G SFP+ board	28.9	47.6	32.6	--	--/--
For Overall Touch Parts	--	--	--	--	--/--
29. Metal enclosure outside near Power Module	24.1	42.8	27.8	--	--/80
30. AC Inlet surface	32.2	50.9	35.9	--	--/104
31. Power Handle	37.5	56.2	41.2	--	--/80
32. Standby Power Switch	24.1	42.8	27.8	--	--/87
Test duration:	4.3hrs	4.3hrs	4.3hrs	--	--/--
B.4 / SIMULATED SINGLE FAULT CONDITIONS Test item : CPU Fan Stalled #CPU-0 With Bypass-100 I/O Board (@one power supply with 80 percent load)	Maximum Normal Load at 264V, 60Hz	Maximum Normal Load at 264V, 60Hz, Shift to Tma 40	Maximum Normal Load at 264V, 60Hz, Shift to Tma 25[1)]	--	Tmax for Tma 40/25*
01. Ambient	21.6	40.0	25.0	--	--/--
For Power Supply (Top Power)	--	--	--	--	--/--
02. Inlet body near pin	33.1	51.5	36.5	--	--/104
03. CX1 body	54.6	73.0	58.0	--	--/--
04. L3 coil	68.7	87.1	72.1	--	--/--
05. C4A body	66.3	84.7	69.7	--	--/--
06. T4 coil	67.7	86.1	71.1	--	--/--
07. T4 core	65.1	83.5	68.5	--	--/--
08. T2 coil	88.4	106.8	91.8	--	--/--
09. T2 core	88.3	106.7	91.7	--	--/--
10. U11 body	65.2	83.6	68.6	--	--/--
11. CY5 body	84.2	102.6	87.6	--	--/--
12. PWB near TH1	70.3	88.7	73.7	--	--/--
For Main board	--	--	--	--	--/--
13. PWB near BU1	37.8	56.2	41.2	--	--/--
14. L93 coil	27.6	46.0	31.0	--	--/--
15. PWB near EU1	27.6	46.0	31.0	--	--/--

IEC 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
16. PWB near OU1	25.4	43.8	28.8	--	--/--
17. PWB near CPU-0	28.1	46.5	31.5	--	--/--
18. PWB near CPU-1	27.2	45.6	30.6	--	--/--
19. RTC body	25.0	43.4	28.4	--	--/--
For 100G SFP+ board	--	--	--	--	--/--
20. PWB near U85	27.4	45.8	30.8	--	--/--
21. L18 coil	29.7	48.1	33.1	--	--/--
22. PWB near U73	34.3	52.7	37.7	--	--/--
23. L5 coil	33.0	51.4	36.4	--	--/--
24. PWB near U160	30.0	48.4	33.4	--	--/--
For Internal Parts	--	--	--	--	--/--
25. Power Module (Metal)	40.9	59.3	44.3	--	--/--
26. Heatsink surface on U85 and U73 for 100G SFP+ board	24.6	43.0	28.0	--	--/--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	26.4	44.8	29.8	--	--/--
28. Heatsink surface on U160 for 100G SFP+ board	26.5	44.9	29.9	--	--/--
For Overall Touch Parts	--	--	--	--	--/--
29. Metal enclosure outside near Power Module	26.6	45.0	30.0	--	--/80
30. AC Inlet surface	29.9	48.3	33.3	--	--/104
31. Power Handle	38.8	57.2	42.2	--	--/80
32. Standby Power Switch	25.5	43.9	28.9	--	--/87
Test duration:	3.4hrs	3.4hrs	3.4hrs	--	--/--
B.4 / SIMULATED SINGLE FAULT CONDITIONS Test item : CPU Fan Stalled #CPU-1 With Bypass-100 I/O Board (@one power supply with 80 percent load)	Maximum Normal Load at 264V, 60Hz	Maximum Normal Load at 264V, 60Hz, Shift to Tma 40	Maximum Normal Load at 264V, 60Hz, Shift to Tma 25[1)]	--	Tmax for Tma 40/25*
01. Ambient	21.8	40.0	25.0	--	--/--
For Power Supply (Top Power)	--	--	--	--	--/--
02. Inlet body near pin	33.1	51.3	36.3	--	--/104
03. CX1 body	55.1	73.3	58.3	--	--/--
04. L3 coil	71.0	89.2	74.2	--	--/--
05. C4A body	74.3	92.5	77.5	--	--/--
06. T4 coil	82.0	100.2	85.2	--	--/--
07. T4 core	78.8	97.0	82.0	--	--/--
08. T2 coil	108.8	127.0	112.0	--	--/--
09. T2 core	108.8	127.0	112.0	--	--/--
10. U11 body	78.9	97.1	82.1	--	--/--

IEC 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
11. CY5 body	102.0	120.2	105.2	--	--/--
12. PWB near TH1	73.1	91.3	76.3	--	--/--
For Main board	--	--	--	--	--/--
13. PWB near BU1	38.2	56.4	41.4	--	--/--
14. L93 coil	27.8	46.0	31.0	--	--/--
15. PWB near EU1	27.4	45.6	30.6	--	--/--
16. PWB near OU1	25.5	43.7	28.7	--	--/--
17. PWB near CPU-0	28.5	46.7	31.7	--	--/--
18. PWB near CPU-1	28.3	46.5	31.5	--	--/--
19. RTC body	25.7	43.9	28.9	--	--/--
For 100G SFP+ board	--	--	--	--	--/--
20. PWB near U85	27.4	45.6	30.6	--	--/--
21. L18 coil	29.3	47.5	32.5	--	--/--
22. PWB near U73	34.3	52.5	37.5	--	--/--
23. L5 coil	32.8	51.0	36.0	--	--/--
24. PWB near U160	30.3	48.5	33.5	--	--/--
For Internal Parts	--	--	--	--	--/--
25. Power Module (Metal)	41.1	59.3	44.3	--	--/--
26. Heatsink surface on U85 and U73 for 100G SFP+ board	25.4	43.6	28.6	--	--/--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	27.8	46.0	31.0	--	--/--
28. Heatsink surface on U160 for 100G SFP+ board	25.8	44.0	29.0	--	--/--
For Overall Touch Parts	--	--	--	--	--/--
29. Metal enclosure outside near Power Module	24.1	42.3	27.3	--	--/80
30. AC Inlet surface	29.3	47.5	32.5	--	--/104
31. Power Handle	42.0	60.2	45.2	--	--/80
32. Standby Power Switch	23.5	41.7	26.7	--	--/87
Test duration:	3.0hrs	3.0hrs	3.0hrs	--	--/--
B.4 / SIMULATED SINGLE FAULT CONDITIONS Test item : Power Fan Stalled With Bypass-100 I/O Board (@one power supply with 80 percent load)	Maximum Normal Load at 264V, 60Hz	Maximum Normal Load at 264V, 60Hz, Shift to Tma 40	Maximum Normal Load at 264V, 60Hz, Shift to Tma 25[1)]	--	Tmax for Tma 4025*
01. Ambient	22.9	40.0	25.0	--	--/--
For Power Supply (Top Power)	--	--	--	--	--/--
02. Inlet body near pin	22.6	39.7	24.7	--	--/104
03. CX1 body	22.9	40.0	25.0	--	--/--
04. L3 coil	25.7	42.8	27.8	--	--/--

IEC 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
05. C4A body	28.1	45.2	30.2	--	--/--
06. T4 coil	32.7	49.8	34.8	--	--/--
07. T4 core	31.9	49.0	34.0	--	--/--
08. T2 coil	45.2	62.3	47.3	--	--/--
09. T2 core	45.5	62.6	47.6	--	--/--
10. U11 body	33.9	51.0	36.0	--	--/--
11. CY5 body	36.9	54.0	39.0	--	--/--
12. PWB near TH1	24.1	41.2	26.2	--	--/--
For Main board	--	--	--	--	--/--
13. PWB near BU1	39.8	56.9	41.9	--	--/--
14. L93 coil	28.7	45.8	30.8	--	--/--
15. PWB near EU1	29.5	46.6	31.6	--	--/--
16. PWB near OU1	27.5	44.6	29.6	--	--/--
17. PWB near CPU-0	30.0	47.1	32.1	--	--/--
18. PWB near CPU-1	29.4	46.5	31.5	--	--/--
19. RTC body	27.1	44.2	29.2	--	--/--
For 100G SFP+ board	--	--	--	--	--/--
20. PWB near U85	28.5	45.6	30.6	--	--/--
21. L18 coil	30.5	47.6	32.6	--	--/--
22. PWB near U73	36.1	53.2	38.2	--	--/--
23. L5 coil	34.7	51.8	36.8	--	--/--
24. PWB near U160	31.5	48.6	33.6	--	--/--
For Internal Parts	--	--	--	--	--/--
25. Power Module (Metal)	24.7	41.8	26.8	--	--/--
26. Heatsink surface on U85 and U73 for 100G SFP+ board	26.7	43.8	28.8	--	--/--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	28.4	45.5	30.5	--	--/--
28. Heatsink surface on U160 for 100G SFP+ board	26.9	44.0	29.0	--	--/--
For Overall Touch Parts	--	--	--	--	--/--
29. Metal enclosure outside near Power Module	23.6	40.7	25.7	--	--/80
30. AC Inlet surface	22.4	39.5	24.5	--	--/104
31. Power Handle	22.2	39.3	24.3	--	--/80
32. Standby Power Switch	23.6	40.7	25.7	--	--/87
Test duration:	2.1hrs	2.1hrs	2.1hrs	--	--/--
B.4 / SIMULATED SINGLE FAULT CONDITIONS Test item : System Fan Stalled #1,3,5 With Bypass-100 I/O Board (@one power supply with 80 percent load)	Maximum Normal Load at -72Vdc	Maximum Normal Load at -72Vdc, Shift to Tma 40	Maximum Normal Load at -72Vdc, Shift to Tma 25[1)]	--	Tmax for Tma 40/25*

IEC 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
01. Ambient		22.7	40.0	25.0	--	--
For Power Supply (Top Power)		--	--	--	--	--
02. L1 coil		54.7	72.0	57.0	--	--/--
03. L2 coil		48.2	65.5	50.5	--	--/--
04. L4 coil		50.9	68.2	53.2	--	--/--
05. C4A body		46.2	63.5	48.5	--	--/--
06. T4 core		39.4	56.7	41.7	--	--/--
07. T4 coil		41.1	58.4	43.4	--	--/--
08. T2 coil		60.9	78.2	63.2	--	--/--
09. T2 core		57.3	74.6	59.6	--	--/--
10. U11 body		44.4	61.7	46.7	--	--/--
11. CY5 body		45.1	62.4	47.4	--	--/--
12. PWB near H3 of Q27		55.4	72.7	57.7	--	--/--
For Main board		--	--	--	--	--/--
13. PWB near BU1		35.7	53.0	38.0	--	--/--
14. L93 coil		29.0	46.3	31.3	--	--/--
15. PWB near EU1		30.2	47.5	32.5	--	--/--
16. PWB near OU1		29.3	46.6	31.6	--	--/--
17. PWB near CPU-0		28.8	46.1	31.1	--	--/--
18. PWB near CPU-1		32.0	49.3	34.3	--	--/--
19. RTC body		26.7	44.0	29.0	--	--/--
For 100G SFP+ board		--	--	--	--	--/--
20. PWB near U85		32.5	49.8	34.8	--	--/--
21. L18 coil		33.0	50.3	35.3	--	--/--
22. PWB near U73		37.3	54.6	39.6	--	--/--
23. L5 coil		43.9	61.2	46.2	--	--/--
24. PWB near U160		33.5	50.8	35.8	--	--/--
For Internal Parts		--	--	--	--	--/--
25. Power Module (Metal)		30.8	48.1	33.1	--	--/--
26. Heatsink surface on U85 and U73 for 100G SFP+ board		28.6	45.9	30.9	--	--/--
27. Heatsink surface on U14 and U24 for 100G SFP+ board		31.8	49.1	34.1	--	--/--
28. Heatsink surface on U160 for 100G SFP+ board		29.7	47.0	32.0	--	--/--
For Overall Touch Parts		--	--	--	--	--
29. Metal enclosure outside near Power Module		26.2	43.5	28.5	--	--/80
30. Terminal block surface		28.2	45.5	30.5	--	--/104
31. Power Handle		32.9	50.2	35.2	--	--/80
32. Standby Power Switch		26.3	43.6	28.6	--	--/87
Test duration:		3.8hrs	3.8hrs	3.8hrs	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

B.4 / SIMULATED SINGLE FAULT CONDITIONS Test item : System Fan Stalled #2,4 With Bypass-100 I/O Board (@one power supply with 80 percent load)	Maximum Normal Load at -72Vdc	Maximum Normal Load at -72Vdc, Shift to Tma 40	Maximum Normal Load at -72Vdc, Shift to Tma 25[1)]	--	Tmax for Tma 40/25*
01. Ambient	22.3	25.0	40.0	--	--
For Power Supply (Top Power)	--	--	--	--	--
02. L1 coil	54.2	56.9	71.9	--	--/--
03. L2 coil	47.5	50.2	65.2	--	--/--
04. L4 coil	50.2	52.9	67.9	--	--/--
05. C4A body	45.6	48.3	63.3	--	--/--
06. T4 core	38.6	41.3	56.3	--	--/--
07. T4 coil	40.3	43.0	58.0	--	--/--
08. T2 coil	60.3	63.0	78.0	--	--/--
09. T2 core	56.6	59.3	74.3	--	--/--
10. U11 body	43.7	46.4	61.4	--	--/--
11. CY5 body	44.5	47.2	62.2	--	--/--
12. PWB near H3 of Q27	54.9	57.6	72.6	--	--/--
For Main board	--	--	--	--	--/--
13. PWB near BU1	35.0	37.7	52.7	--	--/--
14. L93 coil	29.2	31.9	46.9	--	--/--
15. PWB near EU1	29.6	32.3	47.3	--	--/--
16. PWB near OU1	28.7	31.4	46.4	--	--/--
17. PWB near CPU-0	28.2	30.9	45.9	--	--/--
18. PWB near CPU-1	31.7	34.4	49.4	--	--/--
19. RTC body	25.6	28.3	43.3	--	--/--
For 100G SFP+ board	--	--	--	--	--/--
20. PWB near U85	31.5	34.2	49.2	--	--/--
21. L18 coil	31.1	33.8	48.8	--	--/--
22. PWB near U73	36.5	39.2	54.2	--	--/--
23. L5 coil	41.7	44.4	59.4	--	--/--
24. PWB near U160	33.1	35.8	50.8	--	--/--
For Internal Parts	--	--	--	--	--/--
25. Power Module (Metal)	30.7	33.4	48.4	--	--/--
26. Heatsink surface on U85 and U73 for 100G SFP+ board	27.8	30.5	45.5	--	--/--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	31.0	33.7	48.7	--	--/--
28. Heatsink surface on U160 for 100G SFP+ board	28.1	30.8	45.8	--	--/--
For Overall Touch Parts	--	--	--	--	--

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

29. Metal enclosure outside near Power Module	25.9	28.6	43.6	--	--/80
30. Terminal block surface	24.9	27.6	42.6	--	--/104
31. Power Handle	32.0	34.7	49.7	--	--/80
32. Standby Power Switch	26.0	28.7	43.7	--	--/87
Test duration:	2.9hrs	2.9hrs	2.9hrs	--	--
B.4 / SIMULATED SINGLE FAULT CONDITIONS Test item : CPU Fan Stalled #CPU-0 With Bypass-100 I/O Board (@one power supply with 80 percent load)	Maximum Normal Load at -72Vdc	Maximum Normal Load at -72Vdc, Shift to Tma 40	Maximum Normal Load at -72Vdc, Shift to Tma 25[1)]	--	Tmax for Tma 40/25*
01. Ambient	22.5	40.0	25.0	--	--
For Power Supply (Top Power)	--	--	--	--	--
02. L1 coil	56.0	73.5	58.5	--	--/--
03. L2 coil	47.1	64.6	49.6	--	--/--
04. L4 coil	52.0	69.5	54.5	--	--/--
05. C4A body	47.0	64.5	49.5	--	--/--
06. T4 core	39.2	56.7	41.7	--	--/--
07. T4 coil	41.2	58.7	43.7	--	--/--
08. T2 coil	62.2	79.7	64.7	--	--/--
09. T2 core	58.4	75.9	60.9	--	--/--
10. U11 body	44.5	62.0	47.0	--	--/--
11. CY5 body	45.4	62.9	47.9	--	--/--
12. PWB near H3 of Q27	57.8	75.3	60.3	--	--/--
For Main board	--	--	--	--	--/--
13. PWB near BU1	30.6	48.1	33.1	--	--/--
14. L93 coil	25.3	42.8	27.8	--	--/--
15. PWB near EU1	26.2	43.7	28.7	--	--/--
16. PWB near OU1	25.2	42.7	27.7	--	--/--
17. PWB near CPU-0	25.7	43.2	28.2	--	--/--
18. PWB near CPU-1	27.5	45.0	30.0	--	--/--
19. RTC body	23.7	41.2	26.2	--	--/--
For 100G SFP+ board	--	--	--	--	--/--
20. PWB near U85	27.9	45.4	30.4	--	--/--
21. L18 coil	27.0	44.5	29.5	--	--/--
22. PWB near U73	31.9	49.4	34.4	--	--/--
23. L5 coil	32.9	50.4	35.4	--	--/--
24. PWB near U160	28.7	46.2	31.2	--	--/--
For Internal Parts	--	--	--	--	--/--
25. Power Module (Metal)	28.9	46.4	31.4	--	--/--

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

26. Heatsink surface on U85 and U73 for 100G SFP+ board	24.9	42.4	27.4	--	--/--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	26.5	44.0	29.0	--	--/--
28. Heatsink surface on U160 for 100G SFP+ board	25.3	42.8	27.8	--	--/--
For Overall Touch Parts	--	--	--	--	--
29. Metal enclosure outside near Power Module	24.3	41.8	26.8	--	--/80
30. Terminal block surface	25.2	42.7	27.7	--	--/104
31. Power Handle	31.4	48.9	33.9	--	--/80
32. Standby Power Switch	24.4	41.9	26.9	--	--/87
Test duration:	3.7hrs	3.7hrs	3.7hrs	--	--
B.4 / SIMULATED SINGLE FAULT CONDITIONS Test item : CPU Fan Stalled #CPU-1 With Bypass-100 I/O Board (@one power supply with 80 percent load)	Maximum Normal Load at -72Vdc	Maximum Normal Load at -72Vdc, Shift to Tma 40	Maximum Normal Load at -72Vdc, Shift to Tma 25[1)]	--	Tmax for Tma 40/25*
01. Ambient	22.0	40.0	25.0	--	--
For Power Supply (Top Power)	--	--	--	--	--
02. L1 coil	53.9	71.9	56.9	--	--/--
03. L2 coil	46.3	64.3	49.3	--	--/--
04. L4 coil	50.7	68.7	53.7	--	--/--
05. C4A body	46.8	64.8	49.8	--	--/--
06. T4 core	37.8	55.8	40.8	--	--/--
07. T4 coil	39.7	57.7	42.7	--	--/--
08. T2 coil	61.0	79.0	64.0	--	--/--
09. T2 core	57.2	75.2	60.2	--	--/--
10. U11 body	43.3	61.3	46.3	--	--/--
11. CY5 body	44.6	62.6	47.6	--	--/--
12. PWB near H3 of Q27	57.3	75.3	60.3	--	--/--
For Main board	--	--	--	--	--/--
13. PWB near BU1	32.1	50.1	35.1	--	--/--
14. L93 coil	27.9	45.9	30.9	--	--/--
15. PWB near EU1	26.1	44.1	29.1	--	--/--
16. PWB near OU1	26.3	44.3	29.3	--	--/--
17. PWB near CPU-0	25.6	43.6	28.6	--	--/--
18. PWB near CPU-1	27.5	45.5	30.5	--	--/--
19. RTC body	24.6	42.6	27.6	--	--/--
For 100G SFP+ board	--	--	--	--	--/--
20. PWB near U85	29.0	47.0	32.0	--	--/--
21. L18 coil	29.0	47.0	32.0	--	--/--

IEC 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
22. PWB near U73	31.8	49.8	34.8	--	--/--
23. L5 coil	35.4	53.4	38.4	--	--/--
24. PWB near U160	29.5	47.5	32.5	--	--/--
For Internal Parts	--	--	--	--	--/--
25. Power Module (Metal)	28.1	46.1	31.1	--	--/--
26. Heatsink surface on U85 and U73 for 100G SFP+ board	26.6	44.6	29.6	--	--/--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	27.6	45.6	30.6	--	--/--
28. Heatsink surface on U160 for 100G SFP+ board	26.9	44.9	29.9	--	--/--
For Overall Touch Parts	--	--	--	--	--
29. Metal enclosure outside near Power Module	23.5	41.5	26.5	--	--/80
30. Terminal block surface	27.2	45.2	30.2	--	--/104
31. Power Handle	33.1	51.1	36.1	--	--/80
32. Standby Power Switch	23.3	41.3	26.3	--	--/87
Test duration:	5.4hrs	5.4hrs	5.4hrs	--	--
B.4 / SIMULATED SINGLE FAULT CONDITIONS Test item : Power Fan Stalled With Bypass-100 I/O Board (@one power supply with 80 percent load)	Maximum Normal Load at -72Vdc	Maximum Normal Load at -72Vdc, Shift to Tma 40	Maximum Normal Load at -72Vdc, Shift to Tma 25[1)]	--	Tmax for Tma 40/25*
01. Ambient	21.3	40.0	25.0	--	--
For Power Supply (Top Power)	--	--	--	--	--
02. L1 coil	71.8	90.5	75.5	--	--/--
03. L2 coil	45.7	64.4	49.4	--	--/--
04. L4 coil	50.0	68.7	53.7	--	--/--
05. C4A body	46.3	65.0	50.0	--	--/--
06. T4 core	44.7	63.4	48.4	--	--/--
07. T4 coil	45.7	64.4	49.4	--	--/--
08. T2 coil	69.5	88.2	73.2	--	--/--
09. T2 core	63.1	81.8	66.8	--	--/--
10. U11 body	50.7	69.4	54.4	--	--/--
11. CY5 body	61.6	80.3	65.3	--	--/--
12. PWB near H3 of Q27	60.8	79.5	64.5	--	--/--
For Main board	--	--	--	--	--/--
13. PWB near BU1	32.9	51.6	36.6	--	--/--
14. L93 coil	27.8	46.5	31.5	--	--/--
15. PWB near EU1	28.9	47.6	32.6	--	--/--
16. PWB near OU1	27.5	46.2	31.2	--	--/--
17. PWB near CPU-0	27.3	46.0	31.0	--	--/--

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Clause	Requirement + Test	Result - Remark	Verdict

18. PWB near CPU-1	30.0	48.7	33.7	--	--/--
19. RTC body	25.0	43.7	28.7	--	--/--
For 100G SFP+ board	--	--	--	--	--/--
20. PWB near U85	28.5	47.2	32.2	--	--/--
21. L18 coil	27.6	46.3	31.3	--	--/--
22. PWB near U73	33.4	52.1	37.1	--	--/--
23. L5 coil	37.6	56.3	41.3	--	--/--
24. PWB near U160	29.2	47.9	32.9	--	--/--
For Internal Parts	--	--	--	--	--/--
25. Power Module (Metal)	27.5	46.2	31.2	--	--/--
26. Heatsink surface on U85 and U73 for 100G SFP+ board	26.4	45.1	30.1	--	--/--
27. Heatsink surface on U14 and U24 for 100G SFP+ board	29.2	47.9	32.9	--	--/--
28. Heatsink surface on U160 for 100G SFP+ board	25.9	44.6	29.6	--	--/--
For Overall Touch Parts	--	--	--	--	--
29. Metal enclosure outside near Power Module	22.3	41.0	26.0	--	--/80
30. Terminal block surface	25.4	44.1	29.1	--	--/104
31. Power Handle	31.4	50.1	35.1	--	--/80
32. Standby Power Switch	22.6	41.3	26.3	--	--/87
Test duration:	4.1hrs	4.1hrs	4.1hrs	--	--

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 appliable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

Note 3: Fan flow direction was outward.

Note 4: Fan speed control function disable.

* = Tmax for component limitation/accessible limitation.

= For power supply 80% loaded, the Tmax will 10% below the limitation

@= the test conducted under power supply with 80 percent load, due to client request.

[1)] According to instruction manual, this appliance does not contain any user-serviceable parts. Do not remove any covers or attempt to gain access to the inside of the product. All of the Internal Components over TS limit. It was measured for reference.

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Clause	Requirement + Test	Result - Remark	Verdict

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

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

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						N/A
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:	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Basic/supplementary:	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Reinforced:	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

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.

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage		N/A
	Overvoltage Category (OV):		II
	Pollution Degree:		2
Clearance distanced between:	Required withstand voltage	Required cl (mm)	Measured cl (mm)
--	--	--	--
--	--	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage			N/A
	Overvoltage Category (OV):			II
	Pollution Degree:			2
Clearance distanced between:	Required withstand voltage	Required cl (mm)	Measured cl (mm)	
Supplementary information: 1) See appended 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: Class III equipment, functional insulation required.				

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements				N/A
Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)
--	--	--	--	--	--
--	--	--	--	--	--
Supplementary information:-- .					

5.4.9	TABLE: Electric strength tests		P
Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
For AC power source			
Functional:	--	--	--
--	--	--	--
Basic/supplementary:	--	--	--
Mains poles to earth metal enclosure (normal & reverse)	DC	2500	No
Reinforced:	--	--	--
Mains poles to output connector (normal & reverse)	DC	4000	No
For DC power source			
Functional:	--	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

--	--	--	--
Basic/supplementary:	--	--	--
Input poles to earth metal enclosure (normal & reverse)	DC	2000	No
Reinforced:	--	--	--
Input poles to output connector (normal & reverse)	DC	2000	No
Supplementary information: --			

5.5.2.2	TABLE: Stored discharge on capacitors				N/A
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification
--	--	--	--	--	--
--	--	--	--	--	--
Supplementary information: --					

5.6.6.2	TABLE: Resistance of protective conductors and terminations			P
Accessible part	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
For AC power source				
AC inlet earth pin to earthed metal enclosure	32	2	0.383	0.012
AC inlet earth pin to earthed metal enclosure	40	2	0.485	0.012
For DC power source				
PE conductor to earthed metal enclosure	32	2	0.015	0.001
PE conductor to earthed metal enclosure	40	2	0.068	0.001
Supplementary information: --				

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part	P
Supply voltage .....:	264Vac	—
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 metal enclosure	1	2..09mArms
	2*	--
	3	--
	4	--

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Clause	Requirement + Test	Result - Remark	Verdict

	5	--
	6	--
	8	--

Supplementary Information:
- Test conducted on AC power source(two power) for representative

Notes:
[1] Supply voltage is the anticipated maximum Touch Voltage
[2] Earthed neutral conductor [Voltage differences less than 1% or more]
[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3
[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.
[5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.

6.2.2	Table: Electrical power sources (PS) measurements for classification				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification
Power Button h	Worst-case fault	Power (W) :	0.008	--	PS1
		V_A (V) :	0.913	--	
		I_A (A) :	0.008	--	
Power Button	Worst-case power source fault (R1308 short)	Power (W) :	0.013	--	PS1
		V_A (V) :	0.023	--	
		I_A (A) :	0.523	--	
Reset Button	Worst-case fault	Power (W) :	0.005	--	PS1
		V_A (V) :	0.877	--	
		I_A (A) :	0.005	--	
Reset Button	Worst-case power source fault (R777 short)	Power (W) :	0.008	--	PS1
		V_A (V) :	0.015	--	
		I_A (A) :	0.518	--	

Supplementary Information:
(*) Measurement taken only when limits at 3 seconds exceed PS1 limits
SC=Short circuit, OC=Open circuit

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)			N/A
Location	Open circuit voltage After 3 s (Vp)	Measured r.m.s current (Irms)	Calculated value (V_p x I_{rms})	Arcing PIS? Yes / No
--	--	--	--	--
--	--	--	--	--

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

Supplementary information:
All conductors and devices were considered as PIS.

An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15.

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)				N/A
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
--	--	--	--	--	--
--	--	--	--	--	--

Supplementary Information:
All conductors and devices were considered as PIS.

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

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

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status

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

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
--	--	--	--	--	--	--	With Netcop I/O Board & AC Power normal loaded Top Power Supply (Top + Bottom Power Supply)
90V/47Hz	3.05	--	268	--	In SPS	3.05	Maximum normal load
90V/60Hz	3.05	--	268	--	In SPS	3.05	Maximum normal load
100V/47Hz	2.73	8	267	--	In SPS	2.73	Maximum normal load
100V/60Hz	2.74	8	268	--	In SPS	2.74	Maximum normal load
240V/47Hz	1.11	8	261	--	In SPS	1.11	Maximum normal load
240V/60Hz	1.12	8	260	--	In SPS	1.12	Maximum normal load
264V/47Hz	1.02	--	260	--	In SPS	1.02	Maximum normal load
264V/60Hz	1.03	--	260	--	In SPS	1.03	Maximum normal load
--	--	--	--	--	--	--	With Netcop I/O Board & AC Power normal loaded Bottom Power Supply (Top + Bottom Power Supply)
90V/47Hz	2.98	--	260	--	In SPS	2.98	Maximum normal load
90V/60Hz	2.99	--	260	--	In SPS	2.99	Maximum normal load
100V/47Hz	2.68	8	260	--	In SPS	2.68	Maximum normal load
100V/60Hz	2.68	8	260	--	In SPS	2.68	Maximum normal load
240V/47Hz	1.09	8	254	--	In SPS	1.09	Maximum normal load
240V/60Hz	1.10	8	253	--	In SPS	1.10	Maximum normal load
264V/47Hz	1.00	--	254	--	In SPS	1.00	Maximum normal load
264V/60Hz	1.01	--	253	--	In SPS	1.01	Maximum normal load
--	--	--	--	--	--	--	With Netcop I/O Board & AC Power normal loaded Total Power Supply (Top + Bottom Power Supply)
90V/47Hz	6.03	--	533	--	In SPS	6.03	Maximum normal load
90V/60Hz	6.05	--	534	--	In SPS	6.05	Maximum normal load
100V/47Hz	5.42	8	532	--	In SPS	5.42	Maximum normal load

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
100V/60Hz	5.42	8	534	--	In SPS	5.42	Maximum normal load
240V/47Hz	2.21	8	516	--	In SPS	2.21	Maximum normal load
240V/60Hz	2.22	8	517	--	In SPS	2.22	Maximum normal load
264V/47Hz	2.02	--	518	--	In SPS	2.02	Maximum normal load
264V/60Hz	2.03	--	516	--	In SPS	2.03	Maximum normal load
--	--	--	--	--	--	--	With Netcop I/O Board & AC Power normal loaded Top Power Supply Only
90V/47Hz	5.90	--	523	--	In SPS	5.90	Maximum normal load
90V/60Hz	5.91	--	525	--	In SPS	5.91	Maximum normal load
100V/47Hz	5.28	8	521	--	In SPS	5.28	Maximum normal load
100V/60Hz	5.28	8	522	--	In SPS	5.28	Maximum normal load
240V/47Hz	2.14	8	504	--	In SPS	2.14	Maximum normal load
240V/60Hz	2.14	8	505	--	In SPS	2.14	Maximum normal load
264V/47Hz	1.95	--	503	--	In SPS	1.95	Maximum normal load
264V/60Hz	1.95	--	503	--	In SPS	1.95	Maximum normal load
--	--	--	--	--	--	--	With Bypass-100 I/O Board & AC Power normal loaded Top Power Supply (Top + Bottom Power Supply)
90V/47Hz	3.10	--	273	--	In SPS	3.10	Maximum normal load
90V/60Hz	3.11	--	274	--	In SPS	3.11	Maximum normal load
100V/47Hz	2.79	8	273	--	In SPS	2.79	Maximum normal load
100V/60Hz	2.79	8	273	--	In SPS	2.79	Maximum normal load
240V/47Hz	1.14	8	266	--	In SPS	1.14	Maximum normal load
240V/60Hz	1.14	8	267	--	In SPS	1.14	Maximum normal load
264V/47Hz	1.04	--	266	--	In SPS	1.04	Maximum normal load
264V/60Hz	1.04	--	266	--	In SPS	1.04	Maximum normal load

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
--	--	--	--	--	--	--	With Bypass-100 I/O Board & AC Power normal loaded Bottom Power Supply (Top + Bottom Power Supply)
90V/47Hz	3.03	--	265	--	In SPS	3.03	Maximum normal load
90V/60Hz	3.04	--	266	--	In SPS	3.04	Maximum normal load
100V/47Hz	2.72	8	265	--	In SPS	2.72	Maximum normal load
100V/60Hz	2.73	8	265	--	In SPS	2.73	Maximum normal load
240V/47Hz	1.11	8	259	--	In SPS	1.11	Maximum normal load
240V/60Hz	1.12	8	260	--	In SPS	1.12	Maximum normal load
264V/47Hz	1.02	--	259	--	In SPS	1.02	Maximum normal load
264V/60Hz	1.02	--	259	--	In SPS	1.02	Maximum normal load
--	--	--	--	--	--	--	With Bypass-100 I/O Board & AC Power normal loaded Total Power Supply (Top + Bottom Power Supply)
90V/47Hz	6.14	--	544	--	In SPS	6.14	Maximum normal load
90V/60Hz	6.15	--	545	--	In SPS	6.15	Maximum normal load
100V/47Hz	5.52	8	542	--	In SPS	5.52	Maximum normal load
100V/60Hz	5.52	8	542	--	In SPS	5.52	Maximum normal load
240V/47Hz	2.25	8	527	--	In SPS	2.25	Maximum normal load
240V/60Hz	2.26	8	528	--	In SPS	2.26	Maximum normal load
264V/47Hz	2.07	--	525	--	In SPS	2.07	Maximum normal load
264V/60Hz	2.07	--	527	--	In SPS	2.07	Maximum normal load
--	--	--	--	--	--	--	With Bypass-100 I/O Board & AC Power normal loaded Top Power Supply Only
90V/47Hz	6.06	--	538	--	In SPS	6.06	Maximum normal load
90V/60Hz	6.06	--	539	--	In SPS	6.06	Maximum normal load
100V/47Hz	5.42	8	535	--	In SPS	5.42	Maximum normal load
100V/60Hz	5.42	8	536	--	In SPS	5.42	Maximum normal load

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
240V/47Hz	2.19	8	518	--	In SPS	2.19	Maximum normal load
240V/60Hz	2.20	8	518	--	In SPS	2.20	Maximum normal load
264V/47Hz	2.00	--	517	--	In SPS	2.00	Maximum normal load
264V/60Hz	2.00	--	518	--	In SPS	2.00	Maximum normal load
--	--	--	--	--	--	--	With Bypass-100 I/O Board & DC Power normal loaded Top Power Supply (Top + Bottom Power Supply)
-42Vdc	5.92	15	248.64	--	In SPS	5.92	Maximum normal load
-72Vdc	3.38	15	243.36	--	In SPS	3.38	Maximum normal load
--	--	--	--	--	--	--	With Bypass-100 I/O Board & DC Power normal loaded Bottom Power Supply (Top + Bottom Power Supply)
-42Vdc	6.92	15	290.64	--	In SPS	6.92	Maximum normal load
-72Vdc	3.98	15	286.56	--	In SPS	3.98	Maximum normal load
--	--	--	--	--	--	--	With Bypass-100 I/O Board & DC Power normal loaded Total Power Supply (Top + Bottom Power Supply)
-42Vdc	12.88	15	540.96	--	In SPS	12.88	Maximum normal load
-72Vdc	7.41	15	533.52	--	In SPS	7.41	Maximum normal load
--	--	--	--	--	--	--	With Bypass-100 I/O Board & DC Power normal loaded Top Power Supply Only
-42Vdc	12.95	15	543.90	--	In SPS	12.95	Maximum normal load
-72Vdc	7.33	15	527.76	--	In SPS	7.33	Maximum normal load

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Clause	Requirement + Test	Result - Remark	Verdict

B.2.5	TABLE: Input test							P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	

hSupplementary information:

Equipment may be have rated current or rated power or both. Both should be measured

“Maximum normal load” was defined as follows:
Approval AC or DC power supply provided EUT power source, the unit connecting to network, continuously crossed transmit data through fiber and LAN ports, each USB2.0 port loaded 2.5W (total 2.5W), burn-in program, system fan flow direction was outward, and working continuously

B.3	TABLE: Abnormal operating condition tests	P
Ambient temperature (°C) .....:	See below	—
Power source for EUT: Manufacturer, model/type, output rating.... :	See table 4.1.2 for details	—

Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Ventilation Openings	Covering	264Vac	13.8 hrs	In SPS	3.44 to 0.11	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	Unit shutdown No damage, no hazard. NC, NT, NB. ASRE.
Ventilation Openings	Covering	-72Vdc	8.5 hrs	In SPS	13.62 to 0.098	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	Unit shutdown No damage, no hazard. NC, NT, NB. ASRE.

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Clause	Requirement + Test	Result - Remark	Verdict

B.3	TABLE: Abnormal operating condition tests								P
Ambient temperature (°C) .....:					See below				—
Power source for EUT: Manufacturer, model/type, output rating.... :					See table 4.1.2 for details				—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation	
USB port Pin1	Overload	264Vac	1.5 hrs	In SPS	-3.44	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	Unit normal operaton, No hazard No damage NC, NT, NB, CT, ASRE Open circuit voltage : 5.05Vdc Overload: 2000mA	

Supplementary information:

All ES measurement refer to Table 5.2.

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.

NB - No indication of dielectric breakdown.
NC - Cheesecloth remained intact.
NT - Tissue paper remained intact.
CT - Constant temperatures were obtained
ASRE - All safeguards remained effectively.

B.4	TABLE: Fault condition tests								P
Ambient temperature (°C) .....:					--				—
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	
System Fan #1,3,5 （With Bypass-100 I/O Board (@one power supply with 80 percent load)	B.4.3.1/ Stalled	264Vac	2.3hrs	In SPS	3.44 to 3.13	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	Unit Normal Operation, No flame, no hazard, NC, NT, NB, CT, ASRE	

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Clause	Requirement + Test	Result - Remark	Verdict

System Fan #2,4 （With Bypass-100 I/O Board (@one power supply with 80 percent load)	B.4.3.1/ Stalled	264Vac	4.3hrs	In SPS	3.44 to 3.18	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	Unit Normal Operation, No flame, no hazard, NC, NT, NB, CT, ASRE
CPU Fan #CPU-0 （With Bypass-100 I/O Board (@one power supply with 80 percent load)	B.4.3.1/ Stalled	264Vac	3.4hrs	In SPS	3.44 to 3.34	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	Unit Normal Operation, No flame, no hazard, NC, NT, NB, CT, ASRE
CPU Fan #CPU-1 （With Bypass-100 I/O Board (@one power supply with 80 percent load)	B.4.3.1/ Stalled	264Vac	3.0hrs	In SPS	3.44 to 3.35	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	Unit Normal Operation, No flame, no hazard, NC, NT, NB, CT, ASRE
Power Fan （With Bypass-100 I/O Board (@one power supply with 80 percent load)	B.4.3.1/ Stalled	264Vac	2.1hrs	In SPS	3.44 to 3.38	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	Unit Normal Operation, No flame, no hazard, NC, NT, NB, CT, ASRE

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

System Fan #1,3,5 （With Bypass-100 I/O Board (@one power supply with 80 percent load)	B.4.3.1/ Stalled	-72Vdc	3.8hrs	In SPS	13.62 to 11.83	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	Unit Normal Operation, No flame, no hazard, NC, NT, NB, CT, ASRE
System Fan #2,4 （With Bypass-100 I/O Board (@one power supply with 80 percent load)	B.4.3.1/ Stalled	-72Vdc	2.9hrs	In SPS	13.62 to 12.08	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	Unit Normal Operation, No flame, no hazard, NC, NT, NB, CT, ASRE
CPU Fan #CPU-0 （With Bypass-100 I/O Board (@one power supply with 80 percent load)	B.4.3.1/ Stalled	-72Vdc	3.7hrs	In SPS	13.62 to 11.91	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	Unit Normal Operation, No flame, no hazard, NC, NT, NB, CT, ASRE
CPU Fan #CPU-1 （With Bypass-100 I/O Board (@one power supply with 80 percent load)	B.4.3.1/ Stalled	-72Vdc	5.4hrs	In SPS	13.62 to 11.76	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	Unit Normal Operation, No flame, no hazard, NC, NT, NB, CT, ASRE

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

Power Fan （With Bypass-100 I/O Board (@one power supply with 80 percent load)	B.4.3.1/ Stalled	-72	4.1hrs	In SPS	13.62 to 12.27	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6 for temperature measurements.	Unit Normal Operation, No flame, no hazard, NC, NT, NB, CT, ASRE

Supplementary information: All ES measurement refer to Table 5.2.
NB - No indication of dielectric breakdown.
NC - Cheesecloth remained intact.
NT - Tissue paper remained intact.
CT - Constant temperatures were obtained
ASRE - All safeguards remained effectively.

Annex M	**TABLE: Batteries**	**P**
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?..... :	No	—

	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.
For RTC Battery									
Max. current during normal condition	--	--	0 mA	--	--	--	--	--	--
Max. current during fault condition (SD1 Pin2 to Pin1 short)	--	--	3.15 mA	--	--	--	--	--	--
Max. current during fault condition (SR46 short)	--	--	0 mA	--	--	--	--	--	--

Test results:	--	Verdict
- Chemical leaks	--	P
- Explosion of the battery	--	P
- Emission of flame or expulsion of molten metal	--	P

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

- Electric strength tests of equipment after completion of tests	--	N/A
Supplementary information: - Maximum abnormal charging current 5 mA, SR46=1 K Ω - Waived Non-rechargeable batteries discharge test, due to the recognized RTC battery is used.		

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
Inherently limited	--	--	--	--	--	--
USB1	Pin2-4 (Normal condition)	0V	0	8	0	100
MNG1 (RJ45)	All Pins (Normal condition)	0V	0	8	0	100
MNG2 (RJ45)	All Pins (Normal condition)	0V	0	8	0	100
Console	All Pins (Normal condition)	0V	0	8	0	100
Impedance limited	--	--	--	--	--	--
USB1	Pin1 (Normal condition)	5.05V	2.60	8	11.39	100

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

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	
Metal enclosure/ Top side(near power supply)	Metal	1.0	250	5	1)	
Metal enclosure/ Side side (near power supply)	Metal	1.0	250	5	1)	
Metal enclosure/ Front side (On power supply)	Metal	1.0	250	5	1)	
Metal enclosure/ Top side(near power fan)	Metal	1.0	250	5	1)	
Metal enclosure/ Side side (near power fan)	Metal	1.0	250	5	1)	
Metal enclosure/ Front side (On power fan)	Metal	1.0	250	5	1)	
Metal enclosure/ Top side(near System fan)	Metal	1.0	250	5	1)	
Metal enclosure/ Side side (near System fan)	Metal	1.0	250	5	1)	
Metal enclosure/ Rear side (on system fan)	Metal	1.0	250	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
- Test conducted on EUT with AC power source for representative

T.6, T.9	TABLE: Impact tests				P
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	

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

Metal enclosure/ Top side(near power supply)	Metal	1.0	1300	1)
Metal enclosure/ Side side (near power supply)	Metal	1.0	1300	1)
Metal enclosure/ Front side (On power supply)	Metal	1.0	1300	1)
Metal enclosure/ Top side(near power fan)	Metal	1.0	1300	1)
Metal enclosure/ Side side (near power fan)	Metal	1.0	1300	1)
Metal enclosure/ Front side (On power fan)	Metal	1.0	1300	1)
Metal enclosure/ Top side(near System fan)	Metal	1.0	1300	1)
Metal enclosure/ Side side (near System fan)	Metal	1.0	1300	1)
Metal enclosure/ Rear side (on system fan)	Metal	1.0	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
- Test conducted on EUT withj AC power source for representative

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

Supplementary information: --

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

T.8	**TABLE: Stress relief test**					**N/A**
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	
--	--	--	--	--	--	
Supplementary information: A sample of the complete equipment, Material:--						

Enclosure

National Differences

Australia / New Zealand
Austria*
Belgium*
Bulgaria*
Croatia*
Cyprus*
Czech Republic*
Denmark
Estonia*
Finland
Former Yugoslav Republic of Macedonia*
France*
Germany*
Greece*
Group
Hungary*
Iceland*
Ireland*
Italy
Japan
Latvia*
Lithuania*
Luxembourg*
Malta*
Netherlands*
Norway*
Poland*
Portugal*
Romania*
Slovakia*
Slovenia*
Spain*
Sweden
Switzerland*
Turkey*
United Kingdom*
USA / Canada

* No National Differences Declared
** Only Group Differences

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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

Differences according to ..... : AS/NZS 62368.1:2018

Attachment Form No. ..... : AU_NZ_ND_IEC62368_1B

Attachment Originator..... : JAS-ANZ

Master Attachment..... : 2018-02

	National Differences		
Appendix ZZ	Variations to IEC 62368-1:2014 (ED. 2.0) for Australia and New Zealand		P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2014 (ED. 2.0)		P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:		P
2	*Add* the following to the list of normative references: The following normative documents are referenced in Appendix ZZ: -AS/NZS 3112, *Approval and test specification—Plugs and socket-outlets* -AS/NZS 3123, *Approval and test specification—Plugs, socket-outlets and couplers for general industrial application* -AS/NZS 3191, *Electric flexible cords* -AS/NZS 60065, *Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)* -AS/NZS 60320.1, *Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)* -AS/NZS 60320.2.2, *Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)* -AS/NZS 60695.2.11, *Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products* -AS/NZS 60695.11.5, *Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance*		P

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	guidance -AS/NZS 60695.11.10, *Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods* -AS/NZS 60884.1, *Plugs and socket-outlets for household and similar purposes, Part 1: General requirements* -AS/NZS 60950.1:2015, *Information technology equipment—Safety*, Part 1: *General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)* IEC 61032:1997, *Protection of persons and equipment by enclosures—Probes for verification* -AS/NZS 61558.1:2008 (including Amendment 2:2015), *Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 2.1, MOD)* -AS/NZS 61558.2.16, *Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.*		
4.1.1	**Application of requirements and acceptance of materials, components and subassemblies** 1 *Replace* the text 'IEC 60950-1' with 'AS/NZS 60950.1:2015'. 2 *Replace* the text 'IEC 60065' with 'AS/NZS 60065'.		P
4.7	**Equipment for direct insertion into mains socket-outlets**		N/A
4.7.2	**Requirements** *Delete* the text of the second paragraph and *replace* with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		N/A
4.7.3	**Compliance Criteria** *Delete* the first paragraph and Note 1 and Note 2 and *replace* with the following: *Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.*		N/A
4.8	*Delete* existing clause title and *replace* with the following: **4.8 Products containing coin/button cell batteries**		N/A

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

Parts	Impulse test		Steady state test	
	New Zealand	Australia	New Zealand	Australia
Parts indicated in Clause 5.4.10.1 a) [a]	2.5 kV 10/700 µs	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment. 10/700 µs	1.5 kV	3 kV
Parts in icated in Clause 5.4.10.1 b) and c) [b]	1.5 kV 10/700 µs [c]		1.0 kV	1.5 kV

[a] Surge suppressors ha l not be removed.
[b] Surge sup ressors may be removed, provided hat such devices pass the impulse test of Clause 5.4.10.2.2 when tested as componen s outside the equipment.
[c] During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.10.2.2	After the first paragraph, *insert* new Notes 201 and 202 as follows: NOTE 201 For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		N/A
5.4.10.2.3	After the first paragraph, *insert* new Notes 201 and 202 as follows: NOTE 201 For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A
6	**Electrically-caused fire**		N/A
6.1	**General** After the first paragraph, *insert* the following new paragraph: Alternatively, the requirements of Clauses 6.2 to 6.5.2 are considered to be fulfilled if the equipment complies with the requirements of Clause 6.202		N/A
6.6	After Clause 6.6, *add* the new Clauses 6.201 and 6.202 as follows: **6.201 External power supplies, docking stations and other similar devices** and **6.202 Resistance to fire—Alternative tests** (see special national conditions)		N/A
8.5.4	**Special categories of equipment comprising moving parts**		N/A
8.5.4.1	**Large data storage equipment** In the first dashed row and the second dashed rows *replace* 'IEC 60950-1:2005' with 'AS/NZS 60950.1:2015'.		N/A
8.6	**Stability of equipment**		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.1 and Table 36	**Requirements** 1. Table 36, *insert* Footnote c at the end of the 'Glass slide' heading, and *add* a new Footnote c after the text of Footnote b in the last row of Table 36 as follows: [c] The glass slide test is not applicable to floor standing equipment, even though the equipment may have controls or a display. 2. Table 36, fifth row, *insert* '201' at the end of 'No stability requirements' 3. Table 36, ninth row, *insert* '201' at the end of 'No stability requirements' 4. Table 36, *add* the following new footnote: 201 MS2 and MS3 television sets and display devices, designed only for fixing to a wall, ceiling or equipment rack, are not subjected to stability requirements only if the instructional safeguard of Clause 8.6.1.201 is provided. Otherwise, the glass slide requirements of Clause 8.6.4 and horizontal force requirements of Clause 8.6.5 apply. 5. Second paragraph beneath Table 36, *delete* the words 'MS2 and MS3 television sets' and *replace* with 'MS2 and MS3 television sets and display devices'		N/A
8.6.1	After Clause 8.6.1 *add* the following new clauses: **8.6.1.201 Instructional safeguard for fixed-mount television sets** (see special national conditions)		N/A
Annex F Paragraph F.3.5.1	**Mains appliance outlet and socket-outlet markings** *Replace* 'IEC 60320-2-2' with 'AS/NZS 60320.2.2'.		N/A
Annex G Paragraph G.4.2	**Mains connectors** 1 In the second line *insert* 'or AS/NZS 3123' after 'IEC 60906-1'. 2 In the second line *insert* 'or AS/NZS 60320 series' after 'IEC 60320 series' 3 *Add* the following new paragraph: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.		N/A
Paragraph G.5.3.1	**Transformers, General** 1 In the third dashed point *replace* 'IEC 61558-1 and the relevant parts of IEC 61558-2' with 'AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2' 2 In the fourth dashed point *replace* 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.		N/A
Paragraph G.7.1	**Mains supply cords, General** In the fourth dashed paragraph, *replace* 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Table G.5	**Sizes of conductors** 1 In the second row, first column, *delete* ‘6’ and *replace* with ‘7.5’ 2 In the second row, second column, *delete* ‘0,75’ and *replace* with ‘0.75[b] 3 *Delete* Note 1. 4 *Replace* ‘NOTE 2’ with ‘NOTE:’. 5 *Delete* the text of ‘Footnote b’ and *replace* with the following: [b] This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm2 three-core supply flexible cords are not permitted; see AS/NZS 3191). 6 In Footnote c *replace* ‘IEC 60320-1’ with ‘AS/NZS 60320.1’ 7 In Footnote d *replace* ‘IEC 60320-1’ with ‘AS/NZS 60320.1’		N/A
Annex M **Paragraph M.3.2**	**Protection circuits for batteries provided within the equipment, Test method** After the first dashed point *add* the following Note: NOTE 201: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A
	Special national conditions (if any)		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.201	**External power supplies, docking stations and other similar devices** For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage— – at all ES1 outlets or connectors shall not increase by more than 10% of its rated output voltage under normal operating condition; and – of a USB outlet or connector shall not increase by more than 3 V or 10% of its rated output voltage under normal operating conditions, whichever is higher. For equipment with multiple rated output voltages, the requirements apply with the equipment configured for each rated output voltage in turn. NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries. *Compliance shall be checked by measurement, taking into account the abnormal* *operating conditions of Annex B.3 and the simulated single-fault conditions of Annex B.4*		N/A
6.202	**Resistance to fire—Alternative tests**		N/A
6.202.1	**General** Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the equipment, or the following: a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length. b) The following parts which would contribute negligible fuel to a fire: – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1 750 mm3, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Compliance shall be checked by the tests of Clauses 6.202.2, 6.202.3 and 6.202.4. For the base material of printed boards, compliance shall be checked by the test of Clause 6.202.5. The tests shall be carried out on parts of non-metallic material which have been removed from the equipment. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring.		
6.202.2	**Testing of non-metallic materials** Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the relevant part is not thinner than the sample tested.		N/A
6.202.3	**Testing of insulating materials** Parts of insulating material supporting Potential Ignition Sources shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE: Contacts in components such as switch contacts are considered to be connections		N/A
	For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test need not be tested		N/A
	The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications: **Clause of AS/NZS 60695.11.5** — Change **9 Test procedure** **9.2 Application of needle-flame** — *Delete* the first and second paragraphs and *replace* with the following: The specimen shall be arranged so that the flame can be		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner. The duration of application of the test flame shall be 30 s 1 s.		
	9.3 Number of test specimens — *Replace* with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.		
	11 Evaluation of test results — *Replace* with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.		
	The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the relevant part is not thinner than the sample tested.		
6.202.4	**Testing in the event of non-extinguishing material** If parts, other than enclosures, do not withstand the glow wire tests of Clause 6.202.3, by failure to extinguish within 30 s after the removal of the glowwire tip, the needle-flame test detailed in Clause 6.202.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of Clause 6.202.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested. NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing. NOTE 2: If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	have failed to meet the requirements of Clause 6.202 without the need for consequential testing. NOTE 3: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.		
6.202.5	**Testing of printed boards** The base material of printed boards shall be subjected to the needle-flame test of Clause 6.202.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a potential ignition source. The test is not carried out if— – the printed board does not carry any potential ignition source; – the base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or – the base material of printed boards, on which the available equipment power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. *Conformance shall be determined using the smallest thickness of the material.* NOTE: Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximize the apparent power for more than 2 min when the circuit supplied is disconnected.		N/A
6.202.6	**For open circuit voltages greater than 4 kV** Potential ignition sources with open circuit voltages exceeding 4 kV (peak) a.c. or d.c. under normal operating conditions shall be contained in a FIRE ENCLOSURE which shall comply with flammability category V-1 or better according to AS/NZS 60695.11.10.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.1.201	**8.6.1.201 Instructional safeguard for fixed-mount television sets** MS2 and MS3 television sets and display devices designed only for fixed mounting to a wall of ceiling or equipment rack shall, where required in Table 36, footnote 201, have an instructional safeguard in accordance with Clause F.5 which may be on the equipment or included in the installation instructions or equivalent document accompanying the equipment. The elements of the instructional safeguard shall be as follows: – element 1a: not available; – element 2: 'Stability Hazard' or equivalent wording; – element 3: 'The television set may fall, causing serious personal injury or death' or equivalent text; – element 4: the following or equivalent text: To prevent injury, this television set must be securely attached to the floor/wall in accordance with the installation instructions		N/A
8.6.1.202	**Restraining device** MS2 and MS3 television sets and display devices that are not solely fixed-mounted should be provided with a restraining device such as a fixing point to facilitate restraining the equipment from toppling forward. The restraining device shall be capable of withstanding a pull of 100 N in all directions without damage. Where a restraining device is provided, instructions shall be provided in the instructions for installation or instructions for use to ensure correct and safe installation.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1
DENMARK NATIONAL DIFFERENCES

Audio/video, information and communication technology equipment –
Part 1: Safety requirements

Differences according to ..... : DS/EN 62368-1:2014

Attachment Form No..... : DK_ND_IEC62368_1B
Attachment Originator ..... : UL (Demko)
Master Attachment ..... : 2014-10

	National Differences		
4.1.15	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: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.”		N/A
5.2.2.2	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
5.6.1	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. Justification: In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
5.7.5	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
5.7.6.2	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
G.4.2	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 Justification: Heavy Current Regulations, Section 6c		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Finland Differences to IEC 62368-1:2014	
	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 according to the following list:	N/A

0.2.1	Note	1	Note 3	4.1.15	Note
4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c
5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note
5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3
5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4
10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3

	For special national conditions, see Annex ZB.	P
1	**Add** the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.	N/A
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	N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		
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.		N/A
10.2.1	**Add** the following to c) and d) in Table 39: For additional requirements, see 10.5.1.		N/A
10.5.1	**Add** the following after the first paragraph: *For RS 1 compliance is checked by measurement under the following conditions*: *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.* NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. *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.* *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.* *For RS1, the dose-rate shall not exceed 1 μSv/h taking account of the background level.* NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		N/A
10.6.2.1	**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.		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		N/A
G.7.1	**Add** the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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

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

	CENELEC COMMON MODIFICATIONS (EN)	
	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:	P

0.2.1	Note	1	Note 3	4.1.15	Note
4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c
5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note
5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3
5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4
10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3

	For special national conditions, see Annex ZB.	P
1	**Add** the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.	P

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.Z1	**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.		P
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.		N/A
10.2.1	Add the following to c) and d) in table 39: For additional requirements, see 10.5.1.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	**Add** the following after the first paragraph: *For RS 1 compliance is checked by measurement under the following conditions:* *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.* NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. *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.* *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.* *For RS1, the dose-rate shall not exceed 1 μSv/h taking account of the background level.* NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		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.		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		N/A
G.7.1	**Add** the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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)**		N/A
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

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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
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. *Justification:* In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
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.		N/A
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

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 *Justification:* 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)*		N/A
10.5.2	**Germany** The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. *Justification:* 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		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Italy Differences to IEC 62368-1:2014			
F.1	**Italy** The following requirements shall be fulfilled: • The power consumption in Watts (W) shall be indicated on TV receivers and in their instruction for use (Measurement according to EN 60555-2). Note/Nota *EN 60555-2 has since been replaced by IEC 60107-1:1997.* • TV receivers shall be provided with an instruction for use, schematic diagrams and adjustments procedure in Italian language. • Marking for controls and terminals shall be in Italian language. Abbreviation and international symbols are allowed provided that they are explained in the instruction for use. • The ECC manufacturers are bound to issue a conformity declaration according to the above requirements in the instruction manual. The correct statement for conformity to be written in the instruction manual, shall be: *Questo apparecchio è fabbricato nella CEE nel rispetto delle disposizioni del* *D.M. marzo 1992 ed è in particolare conforme alle prescrizioni dell'art. 1 dello* *stesso D.M.* • The first importers of TV receivers manufactured outside EEC are bound to submit the TV receivers for previous conformity certification to the Italian Post Ministry (PP.TT). The TV receivers shall have on the backcover the certification number in the following form: D.M. 26/03/1992 xxxxx/xxxxx/S or T or pT S for stereo T for Teletext pT for retrofitable teletext *Justification:* Ministerial Decree of 26 March 1992 : National rules for television receivers trade. NOTE/NOTA: *Ministerial decree above contains additional, but not safety relevant requirements*		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Sweden Differences to IEC 62368-1:2014			
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
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.		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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 1,5 kV. 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.		
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

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.”		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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.”.		

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Clause	Requirement + Test	Result - Remark	Verdict

Japan Differences to IEC 62368-1:2014 (Ed. 2.0)			
3.3.15.1	Add the following new note after Note 2 to entry. Note 3 to entry: See 3.3.15.4A for class I equipment, when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.		N/A
3.3.15.4A	Add the following new clause after 3.3.15.4. 3.3.15.4A Class 0I equipment Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by using basic insulation and providing the protective earthing terminal or earthing lead wire in order to connect accessible conductive parts to the protective earthing conductor in the building wiring as supplementary safeguard. The above includes the equipment provided with, or recommend user to use the accessory of 2-pin plug adaptor with protective earthing lead wire that adapts class I (earthed) plug into 2-pin plug or power supply cord set having 2-pin plug with earthing lead wire. Note 1 to entry: Class 0I equipment may have a part constructed with Class II.		N/A
4.1.2	Modify the first paragraph as follows: Where the component, or a characteristic of a component, is a safeguard or a part of a safeguard, components shall comply with the requirements of this standard or, where specified in a requirements clause, with the safety aspects of the relevant JIS component standards or IEC component standards, or components shall have properties equivalent to or better than these. Add the following Note before Note 1 NOTE 0A Components complying with the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent to or better properties.		P
4.1.3	Add the following Note before the compliance statement: NOTE Considering the wiring circumstance in		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Japan, transportable or similar type of equipment that is frequently moved for intended usage, or equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as class I or class 0I equipment unless it is intended to be installed by skilled persons or instructed persons.		
5.4.1.4.3	Add the following as a note to Table 10: NOTE In case no data for the material is available, Appendix 4, 1.(1).b. 3 of the Interpretation on the Ministerial Ordinance stipulating Technical Specifications for Electrical Appliances is regarded as maximum temperature limit of the material.		N/A
5.4.9.2	Add the following text to the NOTE: Alternatively, routine test in production-line may be in accordance with 5.2 (electric strength test) of IEC 62911.		N/A
5.6.1	Add the following: Mains socket-outlet and appliance outlet shall comply with Clause G.4.2A if they are incorporated as part of the equipment.		N/A
5.6.2.1	Add the following to the third paragraph: Mains connection of class 0I equipment provided with instructional safeguard in accordance with Clause F.3.6.1A is considered to meet this requirement. Add the following at the end of the subclause: Mains plug having a lead wire for protective earthing connection of class 0I equipment shall comply with all of the following: – Not to be used for equipment having a rated voltage of 150 V or more – The lead wire for earthing is not connected to the earth by means of clip – The lead wire for earthing is at least 10 cm long If class 0I equipment provides an independent main protective earthing terminal and is intended to be installed by ordinary person, earthing wire shall be provided within the package for the equipment.		N/A
5.6.2.2	Add the following after the first sentence. However, this requirement does not apply to		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	internal conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector.		
5.6.3	Add the following after NOTE 2. In addition, for class 0I equipment using power supply cord having two conductors (no earthing conductor), the conductor of protective earthing lead wire shall also comply with either of the following: – use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having size and strength that are equivalent to or more than the above copper wire – single core cord or single core cab tire cable with 1.25 mm^2 or more cross-sectional area Replace NOTE 3 with the following NOTE 3 Heavy duty is defined in IEC 62440.		N/A
5.6.4.2.1	Add NOTE 4 as follows: NOTE 4 In Japan, 20 A is widely used as protective current rating for mains circuit in case of mains outlet rated 20 A or less.		N/A
5.7.3	Change present NOTE to NOTE 1, and add the following paragraph after the NOTE 1: For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS C 8282 series or JIS C 8303, or otherwise being considered to comply with relevant regulations, or that is provided with mains appliance outlet as specified in JIS C 8283-2-2 for the purpose of interconnection, the measurement is conducted on the system of the interconnected equipment having a single connection to the mains. NOTE 2 Limits for class 0I equipment is specified in 5.7.4 NOTE 3 It is regarded as being in compliance with the relevant regulations if a connector complies with Appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliances.		N/A
5.7.4	Add the following paragraph at the end of the first paragraph: In case of class 0I equipment, touch current shall		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	not exceed 1.41 mA peak or for sinusoidal wave, 1.0 mA r.m.s. when measured using the network specified in Figure 4 of IEC 60990.		
6.4.3.3	Replace the first dash paragraph with following: – a fuse complying with JIC C 6575 series or a fuse having equivalent characteristics shall open within 1 s; or NOTE 3 A fuse is considered to have equivalent characteristics to those complying with JIS C 6575 series if it complies with appendix 3 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance and Material. Add the following before the last paragraph: A fuse having time/current characteristics other than those specified in IEC 60127 shall be tested with the characteristics taken into account. In case of Class A fuse of JIS C 6575, replace “2.1 times” by “1.35 times” and in case of Class B fuse of JIS C 6575, replace “2.1 times” by “1.6 times”. NOTE 4 The above replacements apply also to fuses having equivalent characteristics to those specified in JIS C 6575 series.		N/A
8.5.4.2.1	Add the following before NOTE 2: However, only stationary equipment that is directly connected to the three-phase supply rated more than 200 V ac can be considered for use in locations where children are not likely to be present, when complying with Clause F.4.		N/A
8.5.4.2.2	Replace the first paragraph with the following: For equipment installed where children may be present, an instructional safeguard shall be provided by easily understandable wording in accordance with Clause F.5, except that element 3 is optional. Replace the first dash with the following: – element 1a and element 2:  IEC 60417-6057 (2011-05) or  (JIS S 0101:2000, 6.2.1) and the following precautions		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	• “The use by infants/children may cause a hazard of injury.” or equivalent Example in Japanese: 子供が使用することによって，傷害などの危害が発生するおそれがある。 • “A hand can be drawn into the mechanical section for shredding when touching the document-slot.” or equivalent Example in Japanese: 文書投入口に手を触れることによって，細断機構に引き込まれるおそれがある。 • “Clothing can be drawn into the mechanical section for shredding when touching the document-slot.” or equivalent Example in Japanese: 文書投入口に衣類が触れることによって，細断機構に引き込まれるおそれがある。 • “Hairs can be drawn into the mechanical section for shredding when touching the document-slot.” or equivalent Example in Japanese: 文書投入口に髪の毛が触れることによって，細断機構に引き込まれるおそれがある。 In case of equipment incorporating a commutator motor: • “The equipment may catch fire or explode by spraying of flammable gas.” or equivalent Example in Japanese: 可燃性ガスを噴射することによって引火又は爆発するおそれがある。 Delete the second dash.		
8.5.4.2.4	Replace the first statement with the following: The media destruction device is tested according to Clause V.1.2 with applicable jointed test probes to the opening. And then, tested with the wedge probe of Figure V.4 applied in any direction relative to the opening:		N/A
8.5.4.2.5	Replace the second sentence in the first paragraph with the following: The wedge probe of Figure V.4 and applicable jointed test probes specified in Clause V.1.2 shall not contact any moving part. Add the following after the second paragraph: Instructional safeguard shall not substitute an		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	equipment safeguard for preventing access to hazardous moving parts.		
9.2.6, Table 38	Replace the top row of TS2 in column of "Accessible parts" with the following: Handles, Knobs, grips, etc. and external surfaces either held, touched or worn against the body in normal use (> 1 min) [b,c]		N/A
Annex F F.3.5.1	Add the following after the second paragraph. Class 0I equipment shall be provided with an instructional safeguard in accordance with Clause F.5 when a mains socket-outlet as specified in JIS C 8282 series, JIS C 8303 or relevant regulation to which class I equipment can be connected is provided in accordance with Clause G.4.2A except for the cases where the socket-outlet is accessible only to skilled persons. NOTE Appendix 4 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is an example of the relevant regulation. The elements of the instructional safeguard shall be as follows: – element 1a: not applicable – element 2: "Only for (equipment name)" or equivalent text Example in Japanese: (equipment name)専用コンセント – element 4: "This socket-outlet is for use only with (manufacturer's name), (model number or series), (equipment name)" or equivalent text Example in Japanese: このコンセントは、(manufacturer's name), (model number or series), (equipment name)だけが接続することを意図しています。 – element 3: "Use with other equipment may result in electric shock" or equivalent text Example in Japanese: その他の機器を接続すると感電の危険があります。 The elements shall be in the order 2, 4, and 3. The element 2 shall be marked adjacent to the mains socket-outlet. The rated voltage and assigned current or power		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	of a mains socket-outlet need not be marked on the equipment provided with this instructional safeguard.		
Annex F F.3.5.3	Replace the third dashed paragraph with the following. – if the fuse is necessary for the safeguard function, the symbols indicating pre-arcing time-current characteristic. Example F: Fast blow T: Time-delay Ⓐ: Class A Ⓑ: Class B		N/A
Annex F F.3.6.1A	Add the following new clause after F.3.6.1.3. F.3.6.1A Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.3 also apply to class 0I equipment. For class 0I equipment, the following or equivalent instructions shall be marked on the mains plug or on the visible place of the main body. “Provide an earthing connection” Example in Japanese: “必ず接地接続を行ってください。” In addition to the above, for class 0I equipment, the following instructional safeguard shall be marked on the visible place of the main body or shall be in the text of an accompanying document. “Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.” Example in Japanese: 接地接続は必ず，電源プラグを電源につなぐ前に行ってください。 また，接地接続を外す場合は，必ず電源プラグを電源から切り離してから行ってください。		N/A
Annex F F.3.6.2.1	Replace the third paragraph with the following: The above symbols shall not be used for class I equipment or class 0I equipment.		N/A
Annex F F.4	Replace the fourth dashed paragraph with the following: – For audio equipment with terminals classified as ES3 in accordance		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	with Table E.1, and for other equipment with terminals marked in accordance with F.3.6.1 and F.3.6.1A, the instructions shall require that the external wiring connected to these terminals shall be installed by a skilled person, or shall be connected by means of ready-made leads or cords that are constructed in a way that would prevent contact with any ES3 circuit. Add the following after the ninth dashed paragraph. – For class 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided within the package for the equipment, if the protective earthing connection is made by instructed person or skilled person, the suitable installation instruction for the protective earthing connection shall be provided.		
Annex G G.3.2.1	Replace the paragraph a) with the following. a) The thermal link when tested as a separate component, shall comply with the requirements of JIS C 6691 or have properties equivalent to or better than that. NOTE Thermal links complying with appendix 3 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance and Material are considered to have equivalent or better properties.		N/A
Annex G G.3.4	Replace the first paragraph by the following. Except for devices covered by Clause G.3.5, overcurrent protective devices used as a safeguard shall comply with the relevant JIS harmonizing with IEC standard, or shall have equivalent or better properties. If there are no applicable JIS, they shall comply with relevant IEC standard. NOTE Fuses complying with appendix 3, or circuit breakers or residual current circuit breakers complying with appendix 4 of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance and Material are considered to have equivalent or better properties.		N/A
Annex G G.4.1	Add the following sentence at the end of this clause. This requirement is not applicable to Clauses		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	G.4.2 and G.4.2A.		
Annex G G.4.2	Replace with the following. G.4.2 Mains connectors (including mains plug and socket-outlet) Mains connector shall comply with JIS C 8282 series, JIS C 8283 series, JIS C 8285, JIS C 8303 or IEC 60309 series. Mains plugs and socket-outlets shall comply with JIS C 8282 series, JIS C 8303, IEC 60309 series, or have equivalent or better properties. NOTE Mains plug complying with appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance is regarded to have equivalent or better properties. A power supply cord set provided with appliance connector that can fit appliance inlet complying with JIS C 8283-1 shall comply with JIS C 8286. Equipment shall be constructed so that mechanical stress does not transmit to the soldering part of inlet terminal during insertion or removal of the connector. Construction that the body of the inlet is secured and the securement not relied on soldering only is considered to comply. When an equipment is rated not more than 125 V and complies with all the following requirements, Type C14 and C18 appliance coupler complying with JIS C 8283 series can be considered as rated 15 A – The temperature of appliance coupler does not exceed the value specified in JIS C 8283-1 under the most unfavorable normal operating condition. – " Use only designated cord set attached in this equipment " or equivalent text is described in the operating instruction. If the cord set is not provided within the package for the equipment, suitable information regarding to the cord set is described in the operating instruction. Example in Japanese: “この機器に同こん(梱)した指定の電源コードセットだけを使用して下さい。”		N/A
Annex G G.4.2A	Add the following new clause after G.4.2. G.4.2A Mains socket-outlet and interconnection coupler provided with the equipment The equipment provided with mains socket-outlet		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	configured in accordance with JIS C 8282 series, JIS C 8303 or relevant standards or with interconnection coupler configured in accordance with JIS C 8283-2-2 shall comply with the following: – Socket-outlet and interconnection coupler provided in class II equipment can connect other class II equipment only. – Socket-outlet and interconnection coupler provided in class I equipment can connect other class II equipment only, or is provided with protective earthing pole that is reliably connected to protective earthing terminal or point of the equipment. –Interconnection coupler provided in class 0I equipment can connect other class II equipment only. If the all the followings are met, class I equipment can be connected. • The interconnection coupler is provided with a protective earthing pole that is reliably connected to the protective earthing point or terminal of the equipment. • Touch current measured according to 5.7.3 as a system of interconnected equipment with one connection to the mains does not exceed the limit for class 0I equipment specified in 5.7.4. – Socket-outlet provided in class 0I equipment can connect other class II equipment only. If the socket-outlet is provided for interconnection and the all the followings are met, class I equipment can be connected. • Socket-outlet is provided with protective earthing pole that is reliably connected to protective earthing point or terminal of the equipment. • Except for socket-outlet which only skilled person can access, instructional safeguard specified in Clause F.3.5.1 is provided so that only equipment intended by the manufacturer is connected. • Touch current measured according to 5.7.3 as a system of interconnected equipment with one connection to the mains does not exceed the limited for class 0I equipment specified in 5.7.4. – Cord set for interconnection provided within the package for the equipment providing the interconnection coupler complying with JIS C 8283-2-2 complies with JIS C 8286. NOTE 1 Considering the wiring circumstance in Japan, transportable or similar type of equipment that is frequently moved for intended usage, class 0I equipment should not be provided with		

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	mains socket-outlet configured in accordance with JIS C 8282 series, JIS C 8303 or relevant regulation unless it is intended to be installed by skilled person. NOTE 2 Acceptable configuration of relevant regulation refers to appendix 4 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance.		
Annex G G.4.3	Add following NOTE after EXAMPLE. NOTE The statement, “An example of a connector not meeting the requirements of this subclause is the so called “banana” plug” is deleted from above EXAMPLE.		N/A
Annex G G.7.1	Replace the third dashed paragraph with the following. – other types of cords may be used if they have equivalent electro-mechanical and fire safety properties as above. Add the following after NOTE 3. NOTE 3A Sheathed mains cords complying with appendix 1 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance are considered to have equivalent or better electro-mechanical and fire safety properties. Add the following after the first sentence in the paragraph after present NOTE 3: However, a mains supply cord need not include the protective earthing conductor for class 0I equipment provided with independent protective earthing conductor.		N/A
Annex G G.7.2	Add the following new NOTE 0A after the first sentence. NOTE 0A The cross-sectional area of mains cords may comply with relevant Japanese wiring regulation if it complies with appendix 1 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance that is referenced in Clause G.7.1 as having equivalent or better electro-mechanical and safety		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	properties.		
Annex G G.7.6.1	Add the following new NOTE 0A to end of this sub-clause. NOTE 0A The cross-sectional area of mains cords may comply with relevant Japanese wiring regulation if it complies with appendix 1 of the interpretation of Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance that is referenced in Clause G.7.1 as having equivalent or better electro-mechanical and safety properties.		N/A
Annex G G.8.3.3	Replace the first dotted paragraph in the first dashed paragraph with the following: • withstand 1,71 × 1.1 × U_0 for 5 s. Replace the NOTE 2 with the following. NOTE 2 For different power distribution systems, the temporary overvoltages are defined in Table B.3 of JIS C 5381-11 (TOV test parameters for Japanese systems)		N/A

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

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

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

Attachment Form No. ..... : JP_ND_IEC62368_1B

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

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

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

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.3	For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS C 8282 series or JIS C 8303, or otherwise being considered to comply with relevant regulations, or that is provided with mains appliance outlet as specified in JIS C 8283-2-2 for the purpose of interconnection, the measurement is conducted on the system of the interconnected equipment having a single connection to the mains.		N/A
5.7.4	In case of class 0I equipment, touch current shall not exceed 1.41 mA peak or for sinusoidal wave, 1.0 mA r.m.s. when measured using the network specified in Figure 4 of IEC 60990.		N/A
6.4.3.3	A fuse complying with JIC C 6575 series or a fuse having equivalent characteristics shall open within 1 s. For Class A fuse of JIS C 6575, replace “2.1 times” by “1.35 times” and in case of Class B fuse of JIS C 6575, replace “2.1 times” by “1.6 times”. A fuse not complying with JIS C 6575 series shall be tested with the breaking capacity taken into account.		N/A
8.5.4.2.1	Only three-phase stationary equipment rated more than 200 V ac can be considered as being for use in locations where children are not likely to be present, when complying with Clause F.4.		N/A
8.5.4.2.2	For equipment installed where children may be present, an instructional safeguard shall be provided by easily understandable wording in accordance with Clause F.5, except that element 3 is optional.		N/A
8.5.4.2.4	The media destruction device is tested according to Clause V.1.2 with applicable jointed test probes to the opening. And then the wedge probe per Figure V.4 shall not contact any moving part.		N/A
8.5.4.2.5	The wedge probe of Figure V.4 and applicable jointed test probes specified in Clause V.1.2 shall not contact any moving part. Instructional safeguard shall not be used instead of equipment safeguard for preventing access to hazardous moving parts.		N/A
9.2.6, Table 38	Handles, Knobs, grips, etc. and external surfaces either held, touched or worn against the body in normal use (> 1 min) [b,c]		N/A

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

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

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 2th Ed.
U.S.A. NATIONAL DIFFERENCES
Audio/video, information and communication technology equipment – Part 1: Safety requirements

Differences according to.....: CSA/UL 62368-1:2014

Attachment Form No. .....: US&CA_ND_IEC623681B
Attachment Originator .....: UL(US)
Master Attachment .....: Date 2015-06

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.		P
1.4	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.		N/A
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.		P
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		P

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.7	Equipment intended to receive telecommunication ringing signals complies with a special touch current measurement tests.		N/A
6.5.1	PS3 wiring outside a fire enclosure complies with single fault testing in B.4, or be current limited per one of the permitted methods.		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.		P
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		P
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.		P
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

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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
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

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
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 1are 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
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.		P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.		N/A

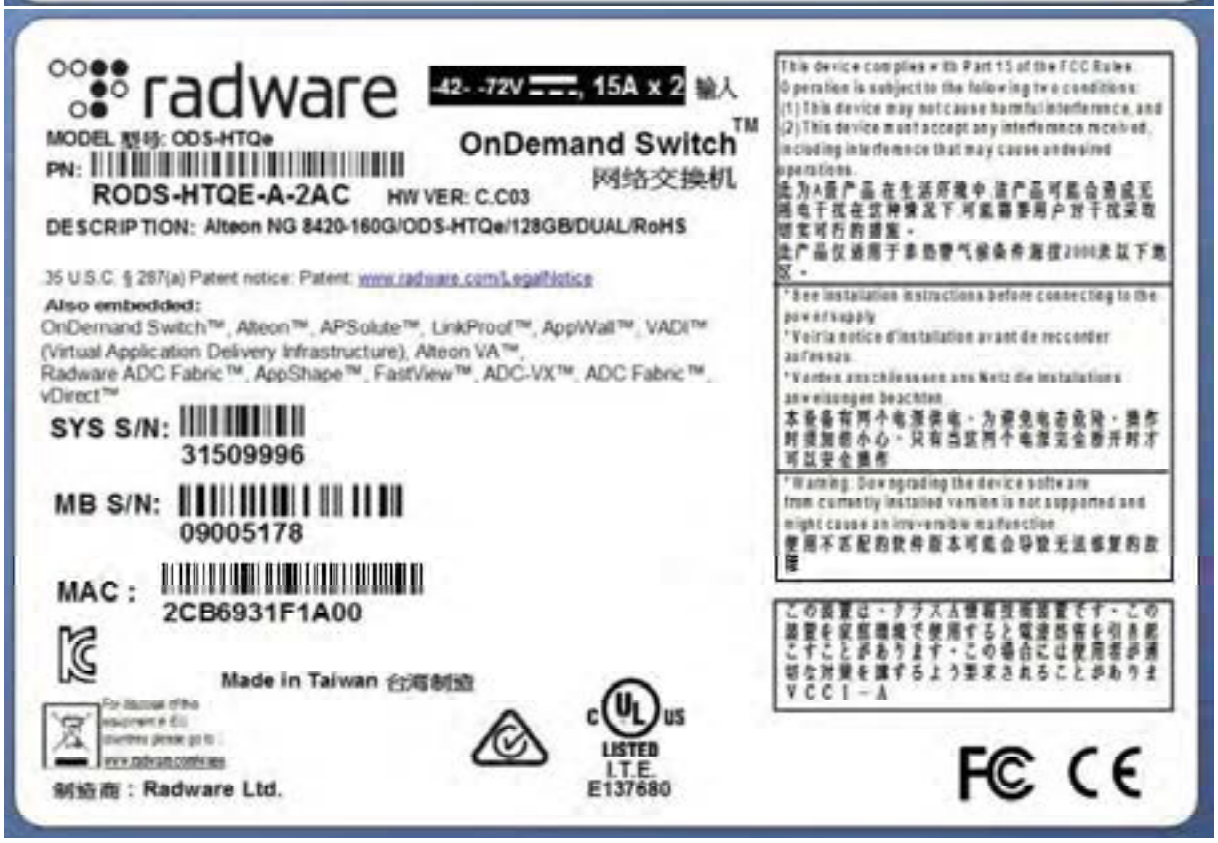
IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are in accordance with the NEC/CEC.		N/A
Annex DVH (DVH.3.2)	Terminals for permanent wiring, including protective 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
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

Enclosures

Type	Supplement Id	Description
Marking Plate	13-01	Labels
Photographs	3-01	Overall View-1
Photographs	3-02	Overall View-2
Photographs	3-03	Connector View-1
Photographs	3-04	Connector View-2 with IO Board Netcop
Photographs	3-05	Connector View-3 with IO Board Bypass-100
Photographs	3-06	Connector View-4 with AC Power
Photographs	3-07	Connector View-5 with DC Power
Photographs	3-08	Internal View-1
Photographs	3-09	Internal View-2
Photographs	3-10	Internal View-3 with IO Board Netcop
Photographs	3-11	Internal View-4 with IO Board Netcop
Photographs	3-12	Internal View-5 with IO Board Bypass-100
Photographs	3-13	Internal View-6 with IO Board Bypass-100
Photographs	3-14	Mainboard top side View-1
Photographs	3-15	Mainboard top side View-2
Photographs	3-16	Mainboard bottom side View
Photographs	3-17	IO Board Netcop top side View
Photographs	3-18	IO Board Netcop bottom side View
Photographs	3-19	IO Board Bypass-100 top side View
Photographs	3-20	IO Board Bypass-100 bottom side View
Diagrams	4-01	Enclosure Drawing
Diagrams	4-02	Ear sets Drawing
Diagrams	4-03	Mainboard CPU heat sink Drawing
Diagrams	4-04	Mainboard Chipset heat sink 1 Drawing
Diagrams	4-05	Mainboard Chipset heat sink 2 Drawing
Diagrams	4-06	Mainboard Chipset heat sink 3 Drawing
Diagrams	4-07	I/O Board (Netcop) Chipset heat sink 1 Drawing
Diagrams	4-08	I/O Board (Netcop) Chipset heat sink 2 Drawing
Diagrams	4-09	I/O Board (Netcop) Chipset heat sink 3 Drawing
Diagrams	4-10	I/O Board (Netcop) Chipset heat sink 4 & I/O Board (Bypass-100) Chipset heat sink 2 Drawing
Diagrams	4-11	I/O Board (Bypass-100) Chipset heat sink Drawing
Diagrams	4-12	Mylar Drawing
Schematics + PWB		
Manuals	6-01	Manual
Miscellaneous	7-01	CB Declaration Letter
Miscellaneous	7-02	Additional Tables
License	8-01	AC Power CB Certificate

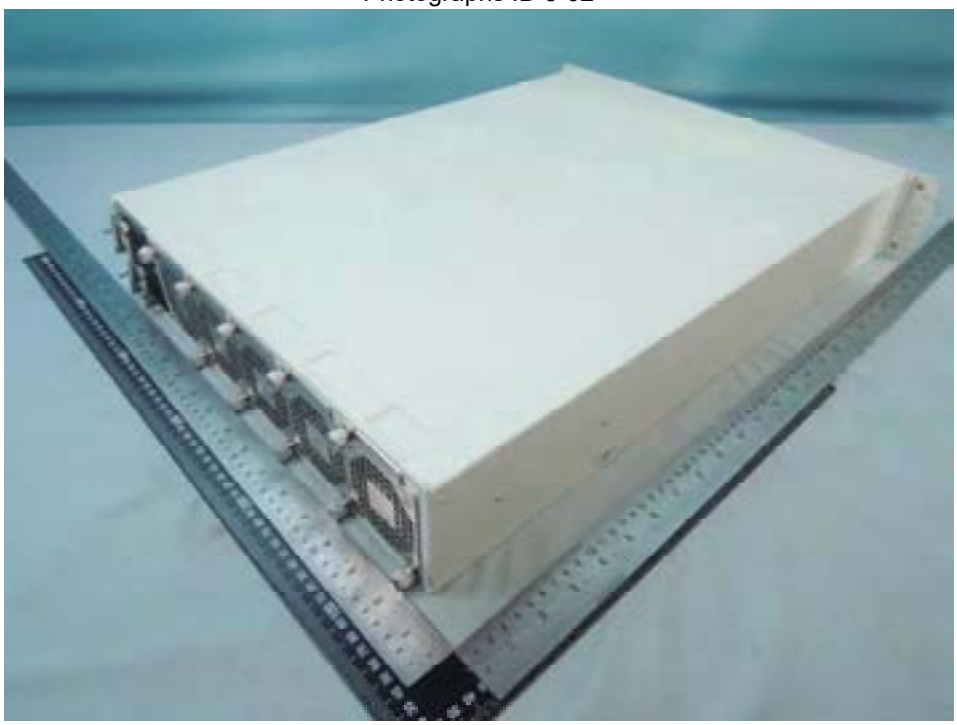
License	8-02	DC Power CB Certificate

Marking Plate ID 13-01



Photographs ID 3-01

Photographs ID 3-02



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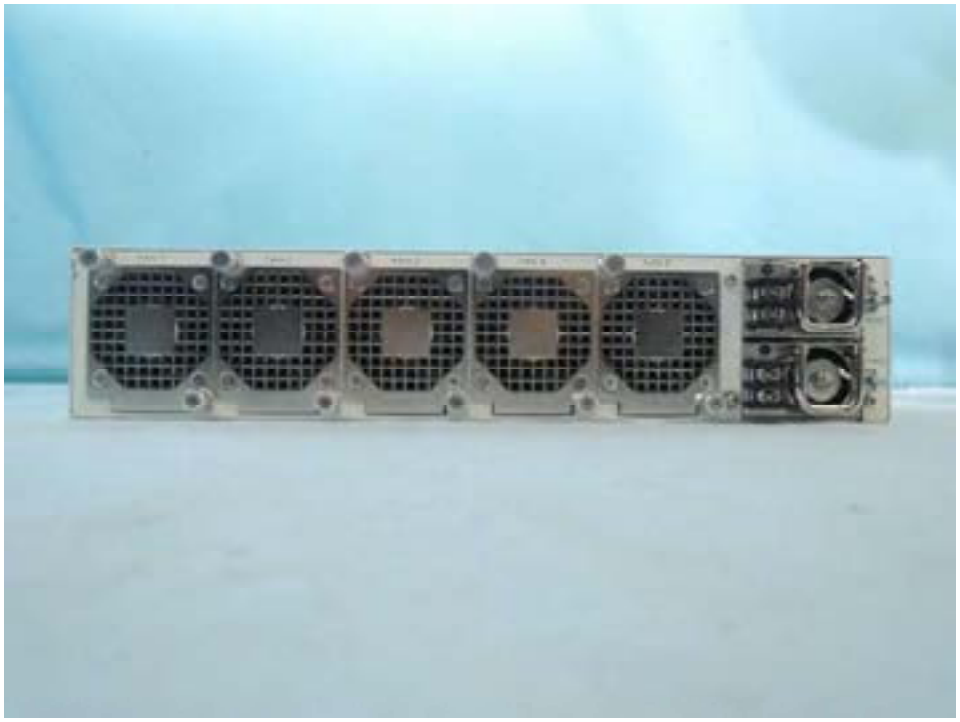
Photographs ID 3-04

Photographs ID 3-05

Photographs ID 3-06

Photographs ID 3-07



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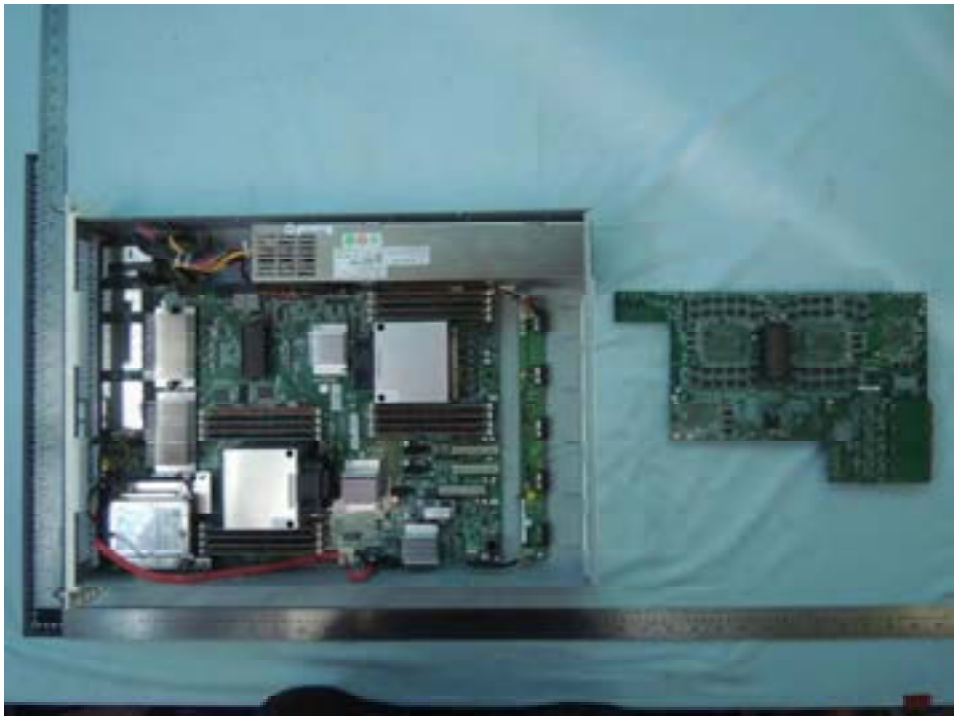
Photographs ID 3-11



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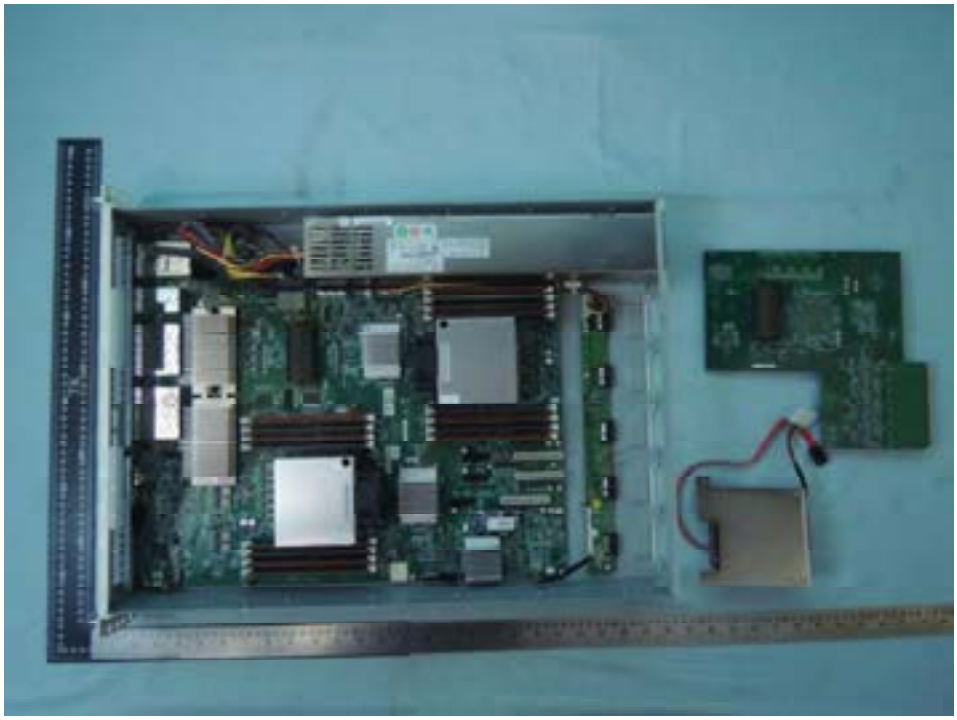
Photographs ID 3-13



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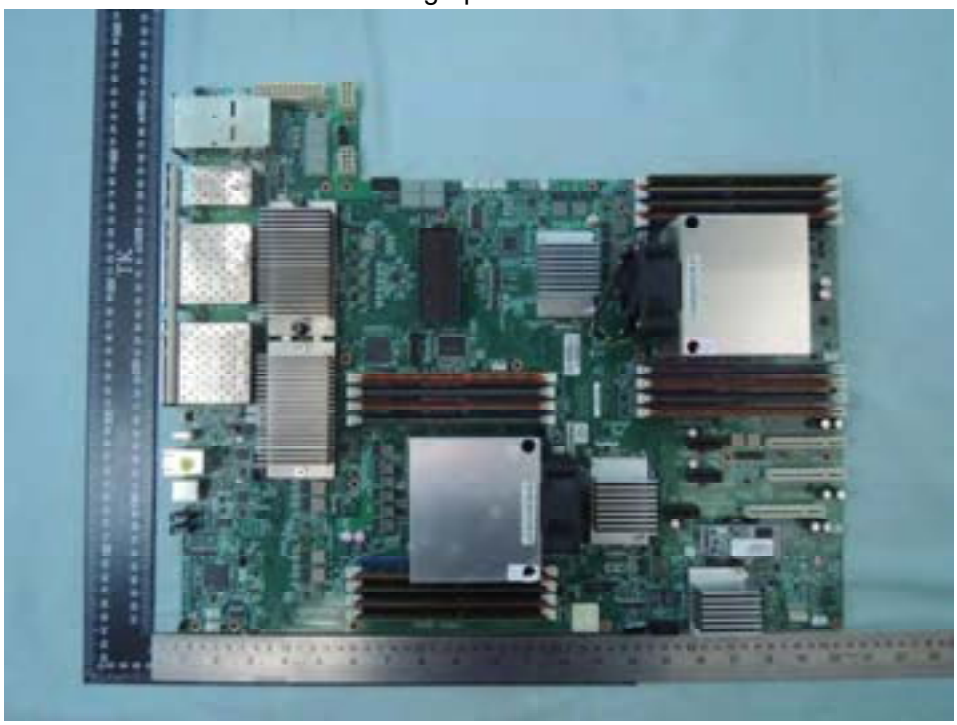

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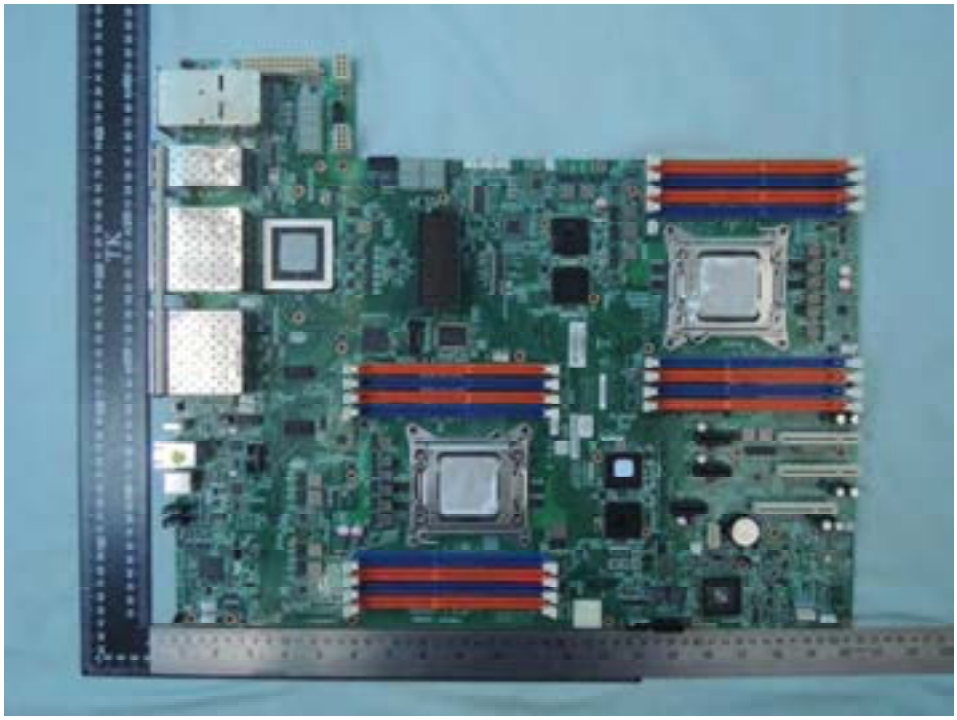
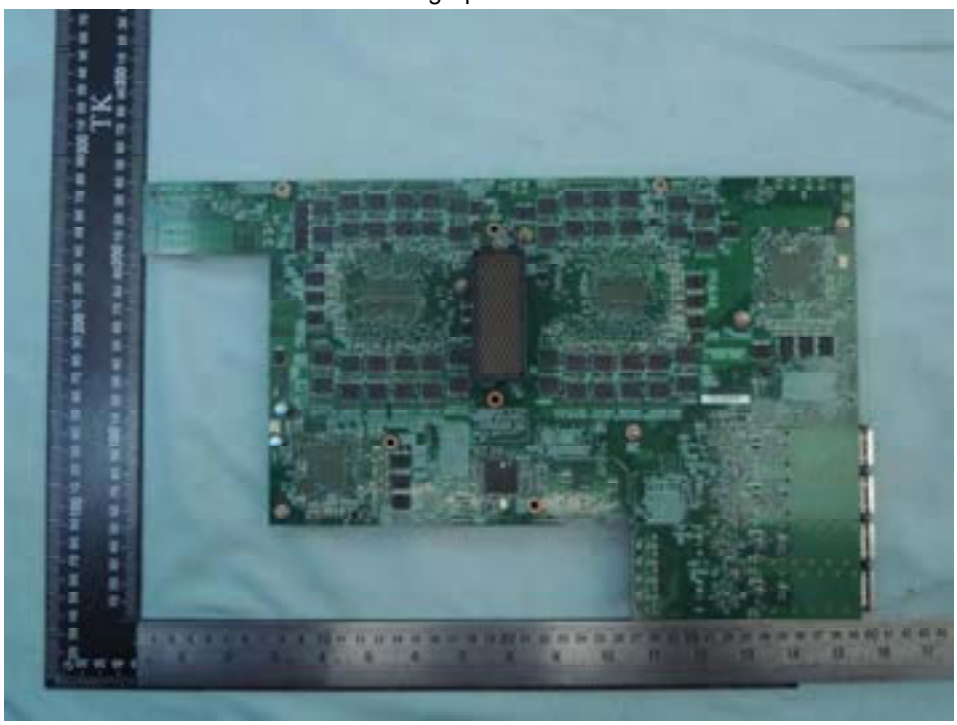


Photographs ID 3-16

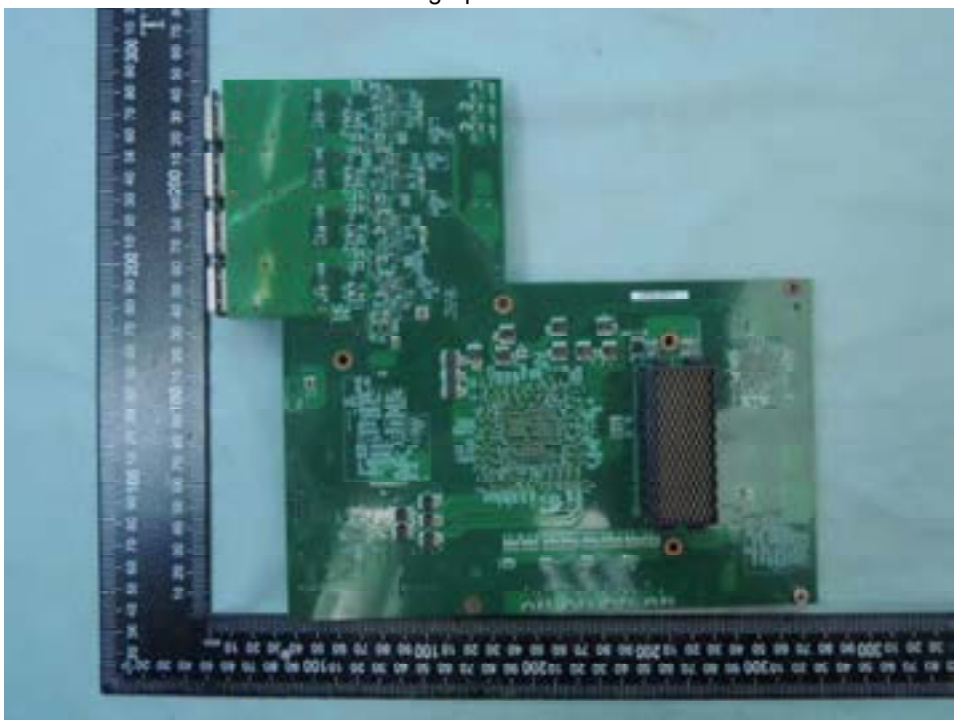
Photographs ID 3-17

Photographs ID 3-18

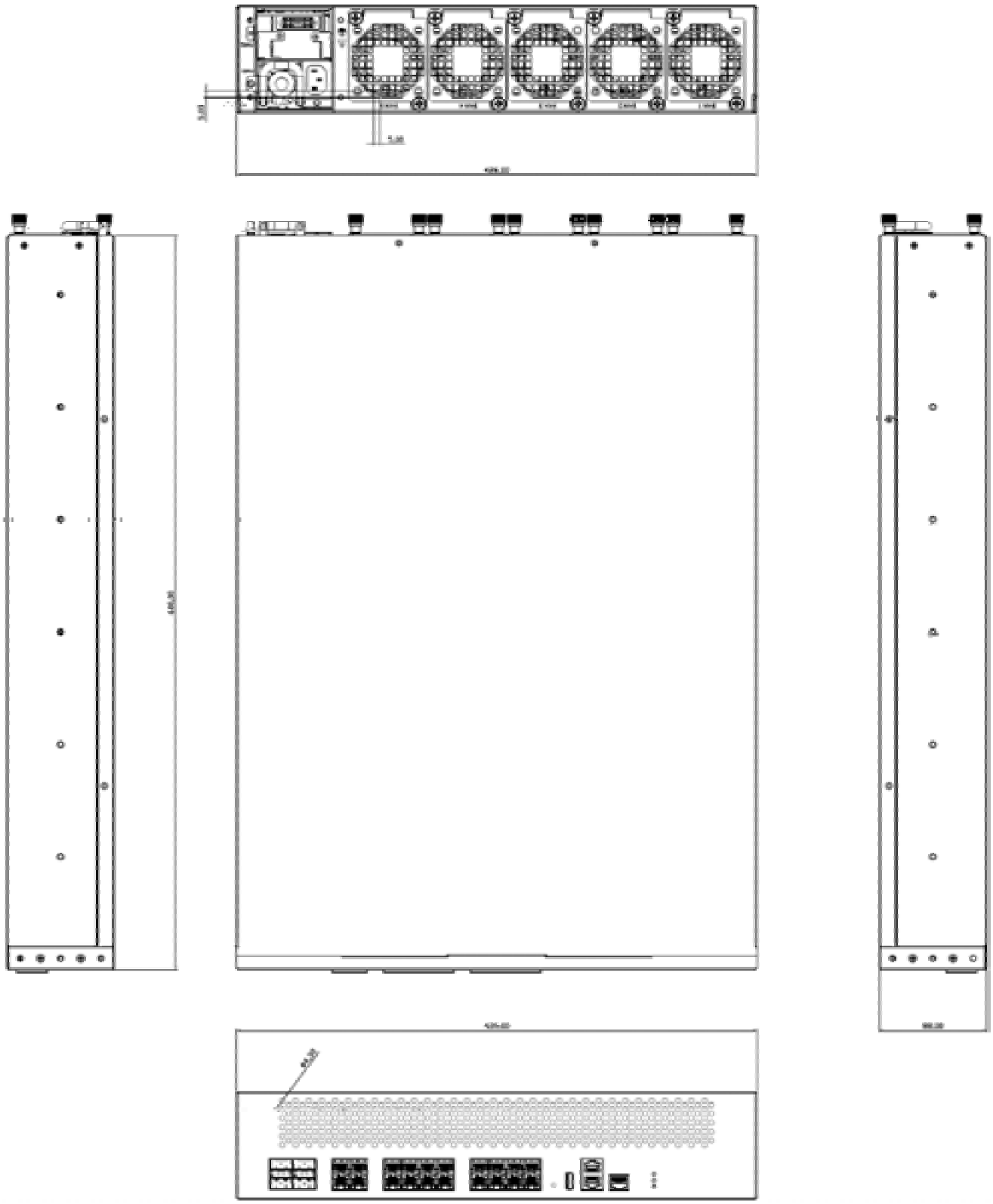


Photographs ID 3-19

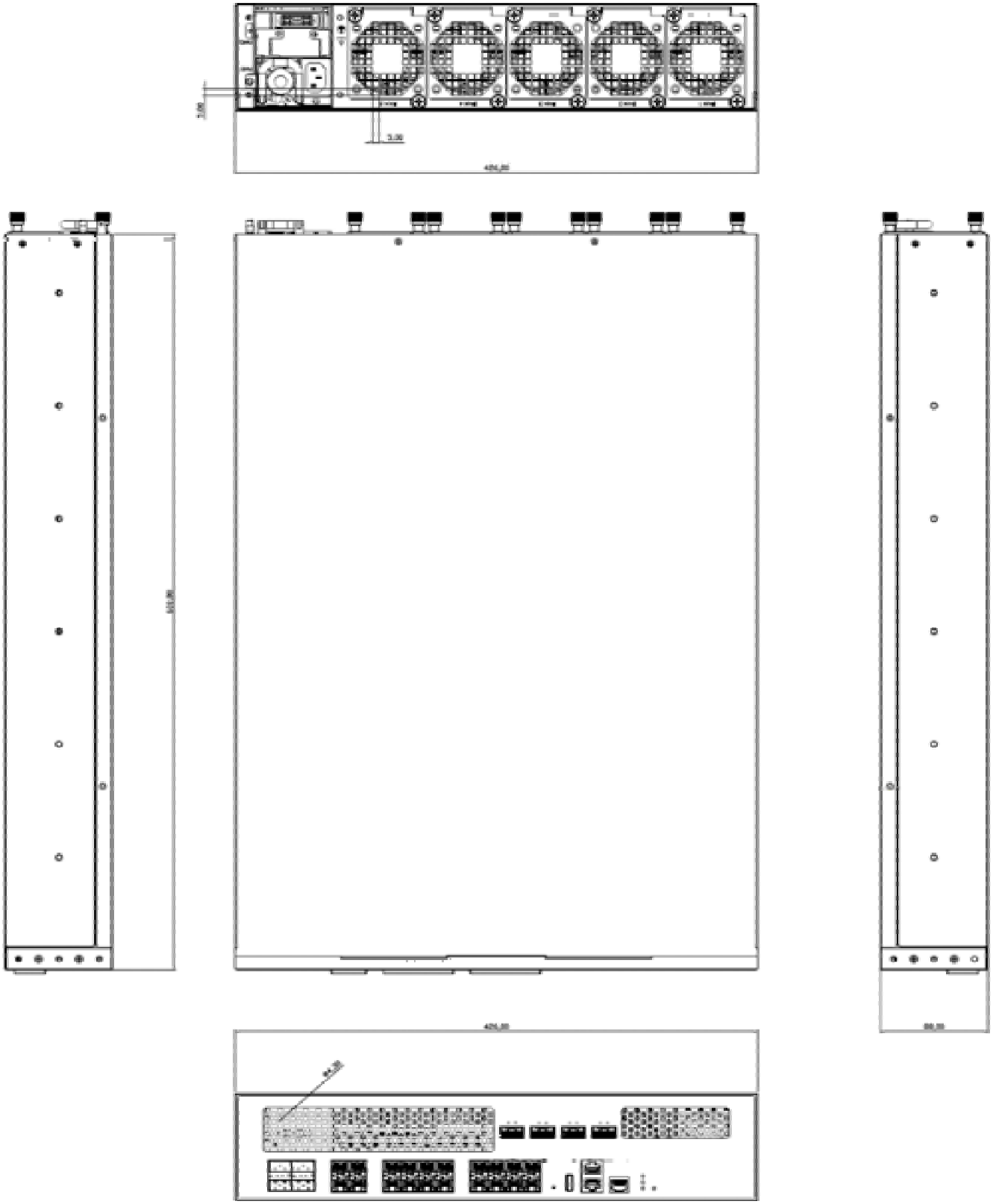
Photographs ID 3-20



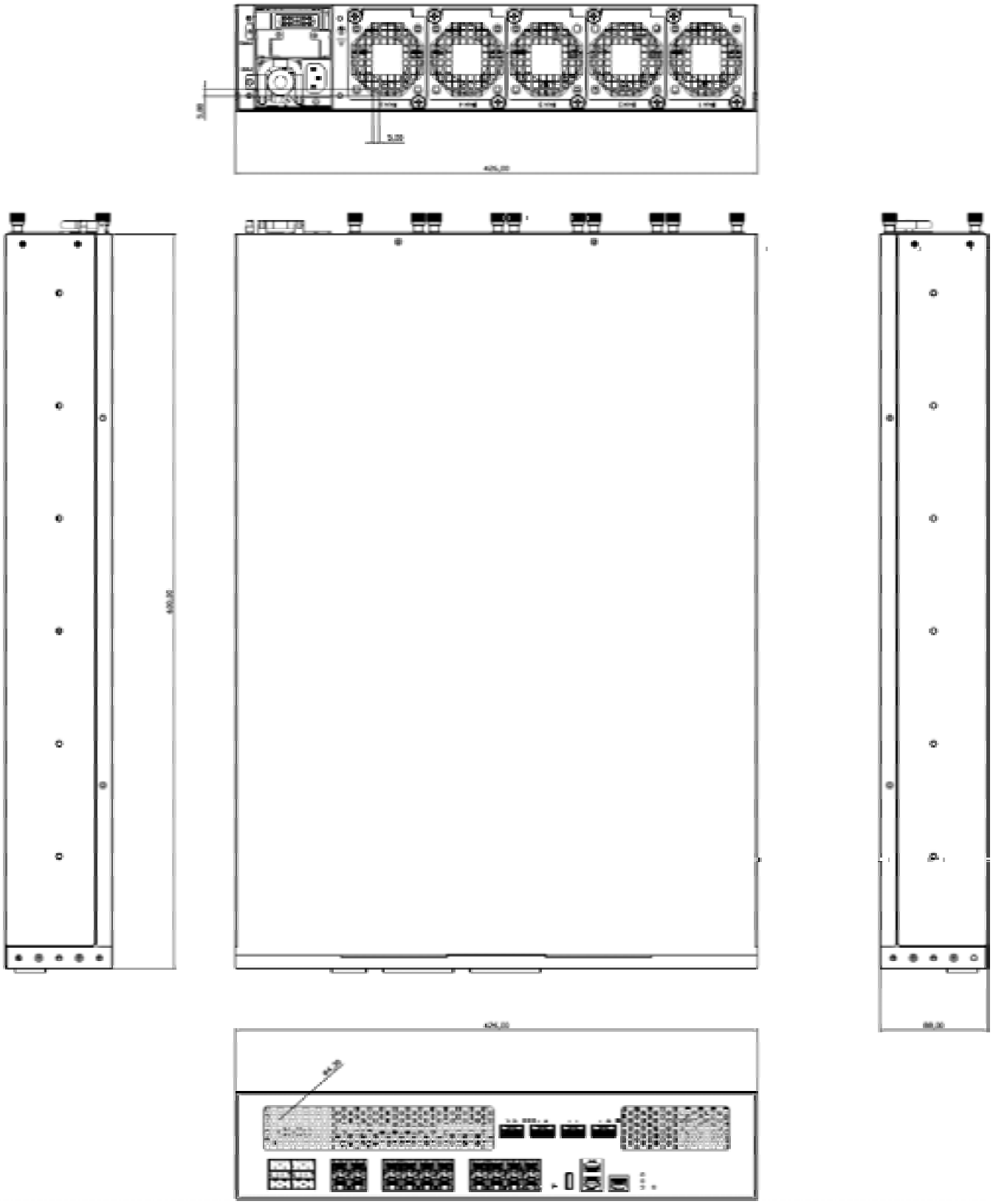
Diagrams ID 4-01



Diagrams ID 4-01



Diagrams ID 4-01



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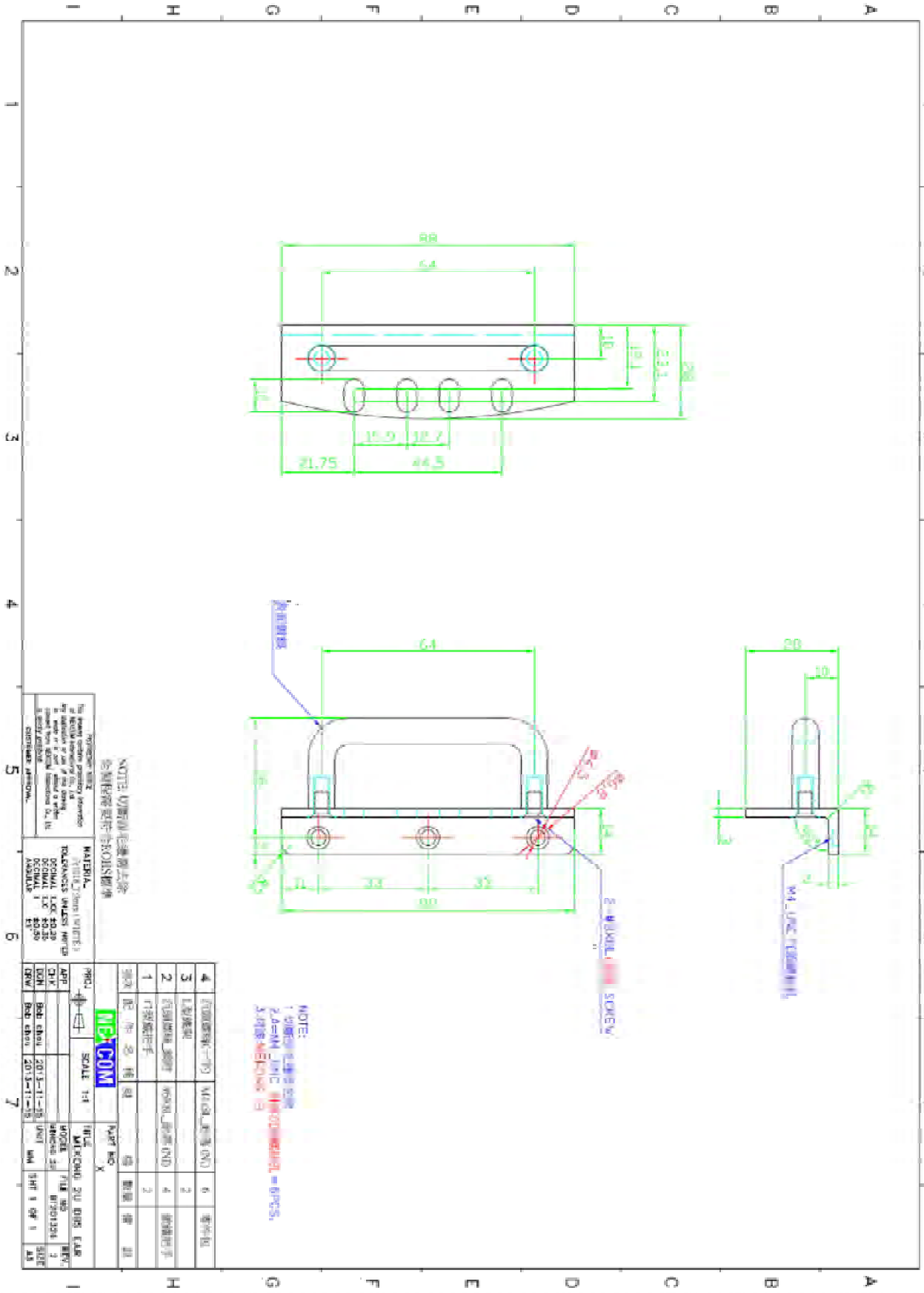

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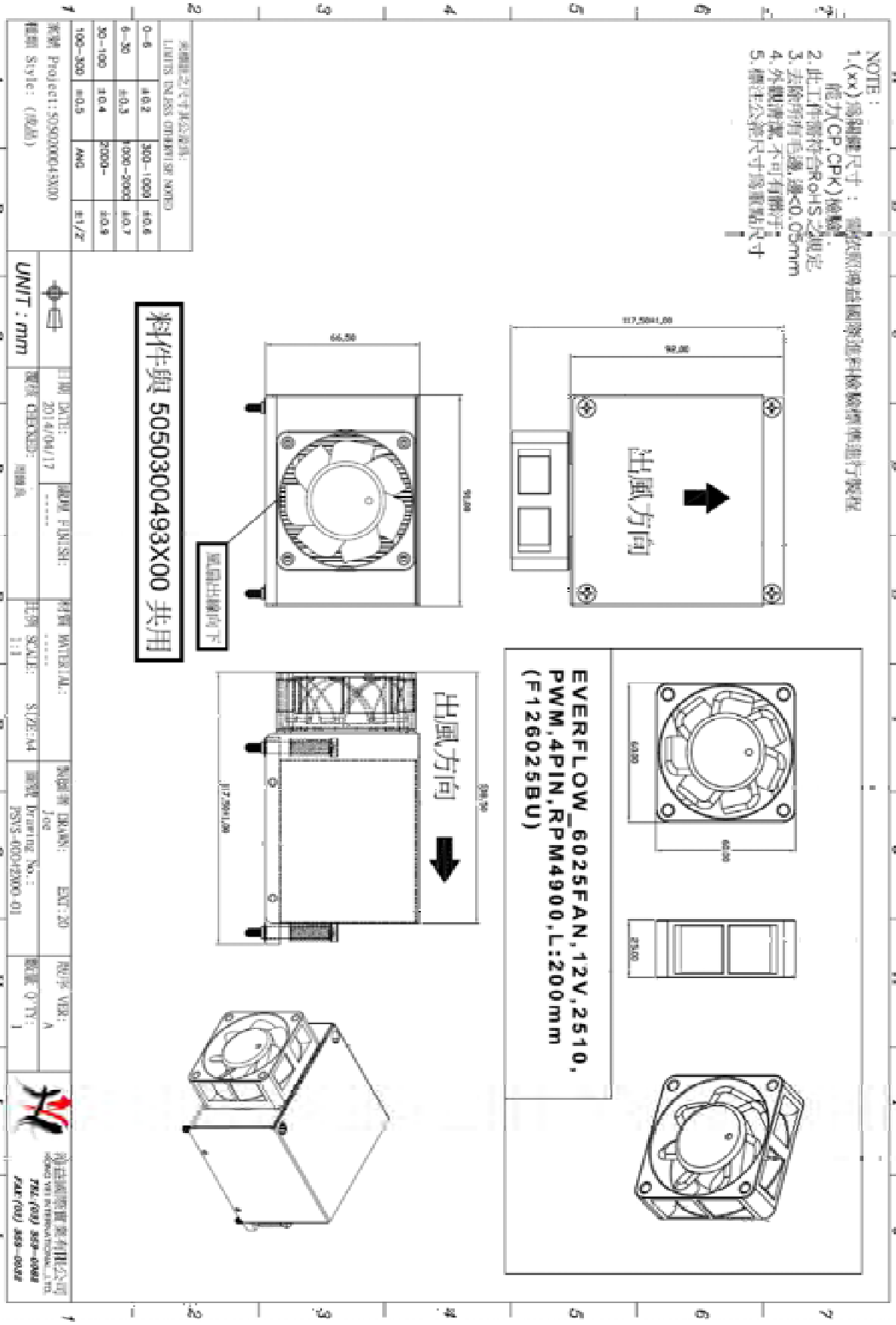

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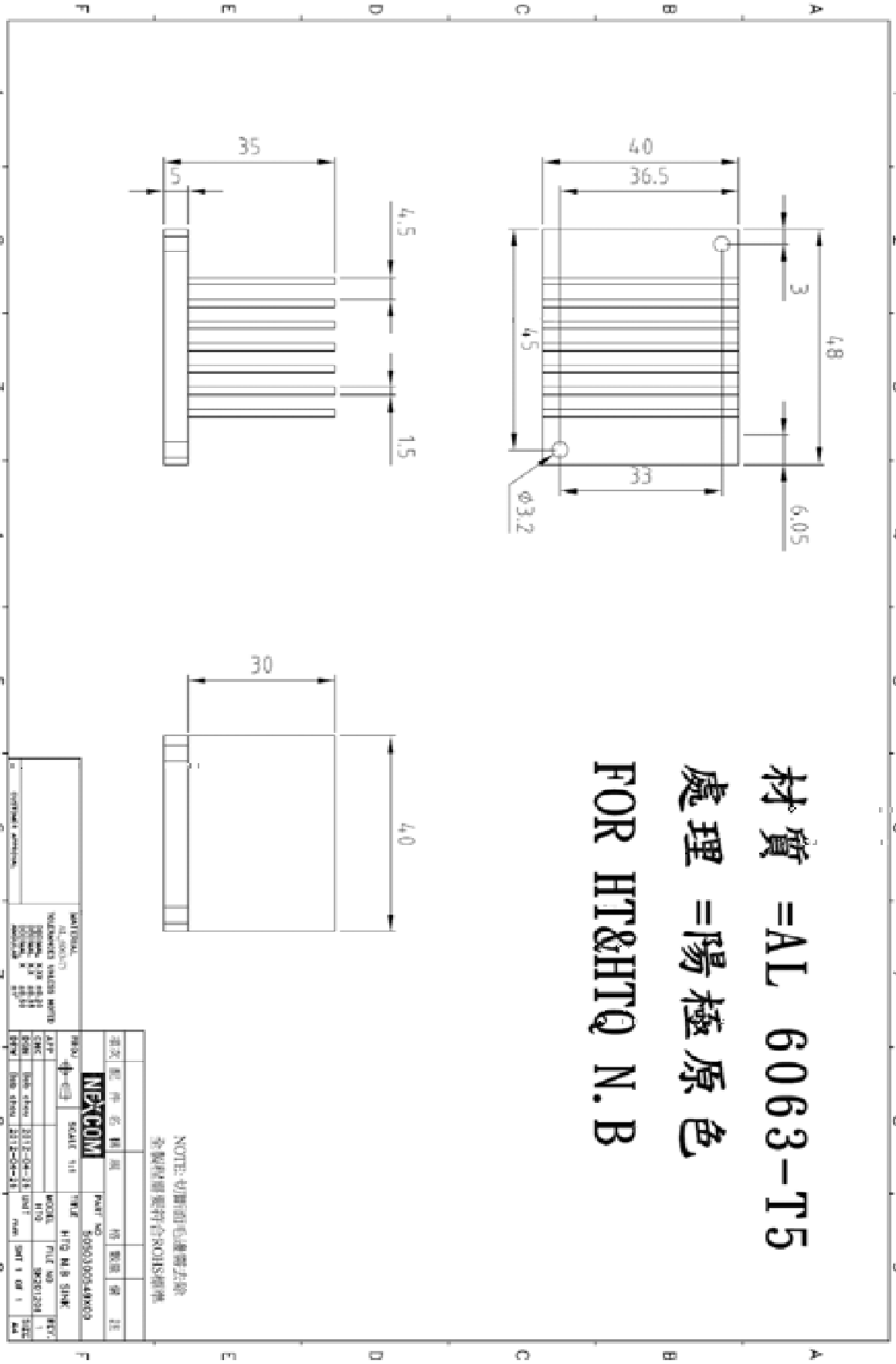

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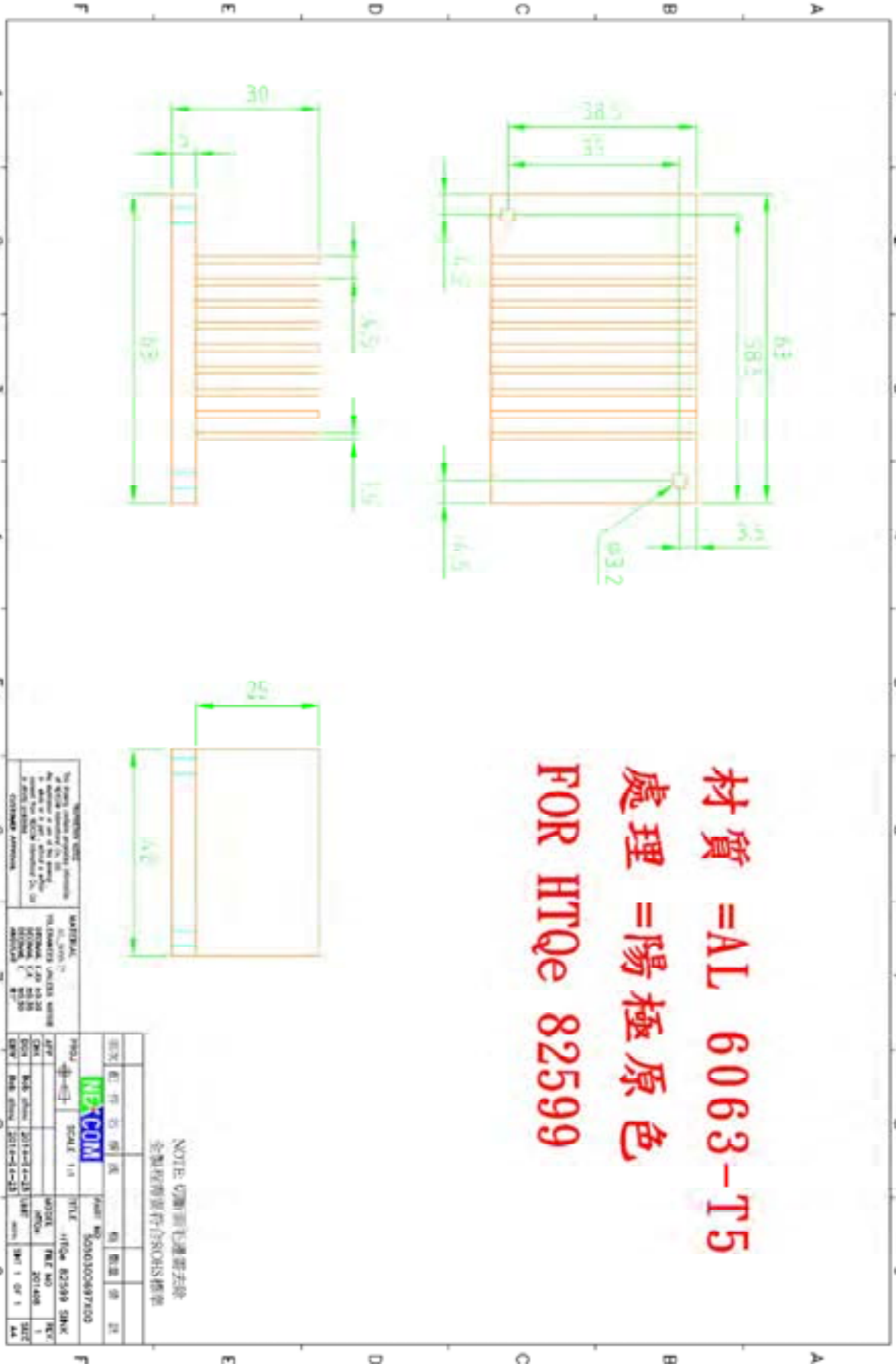

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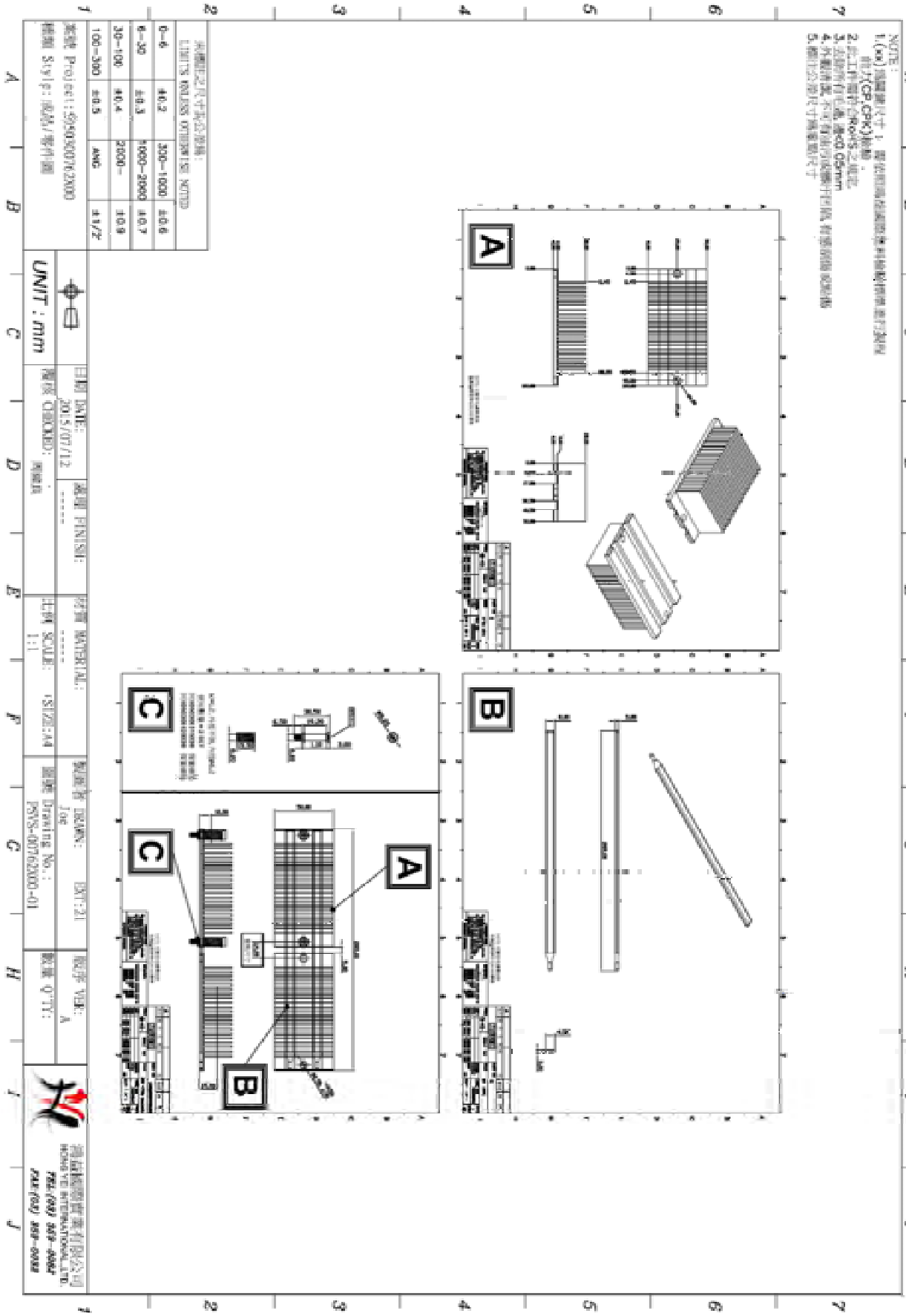

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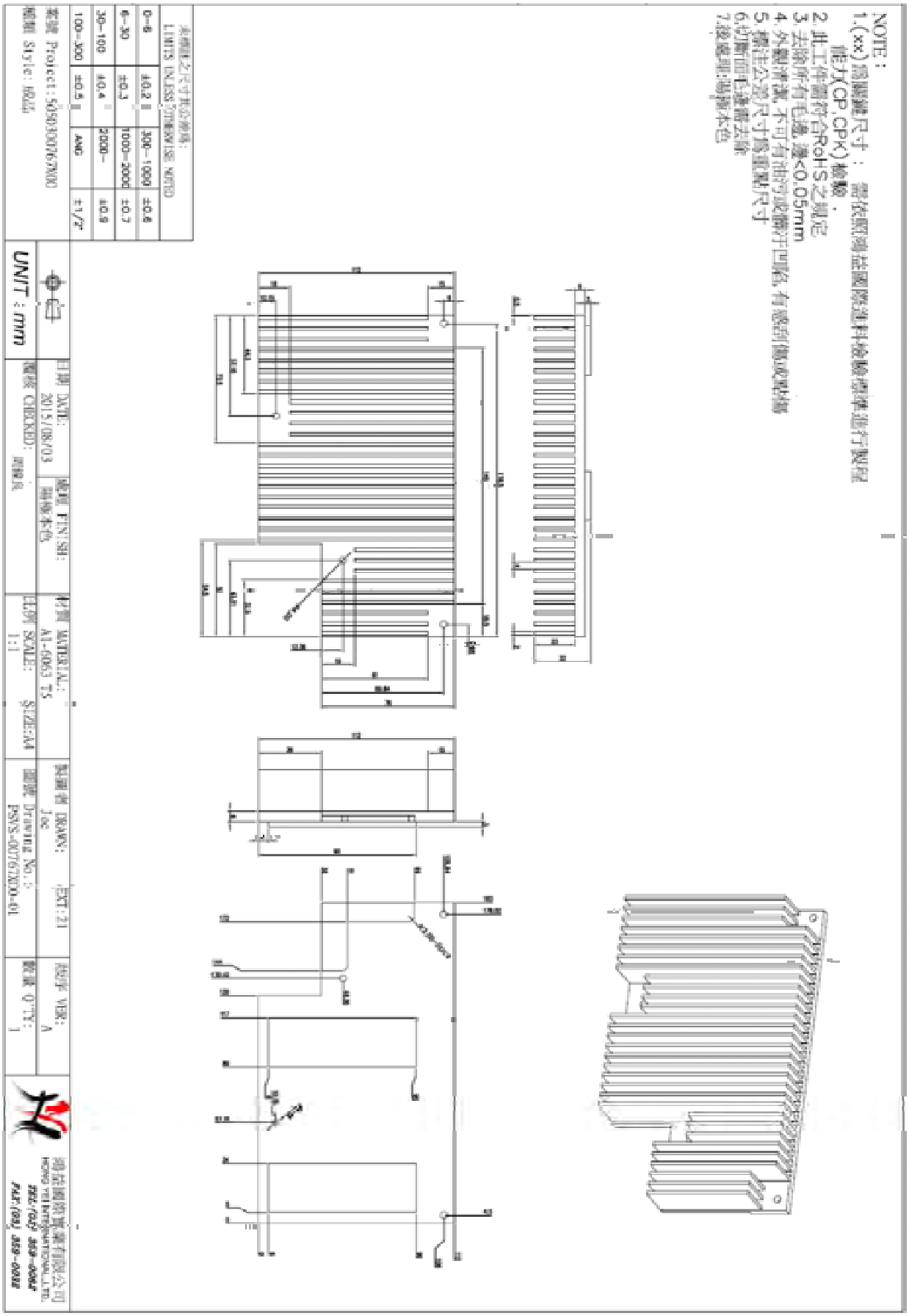

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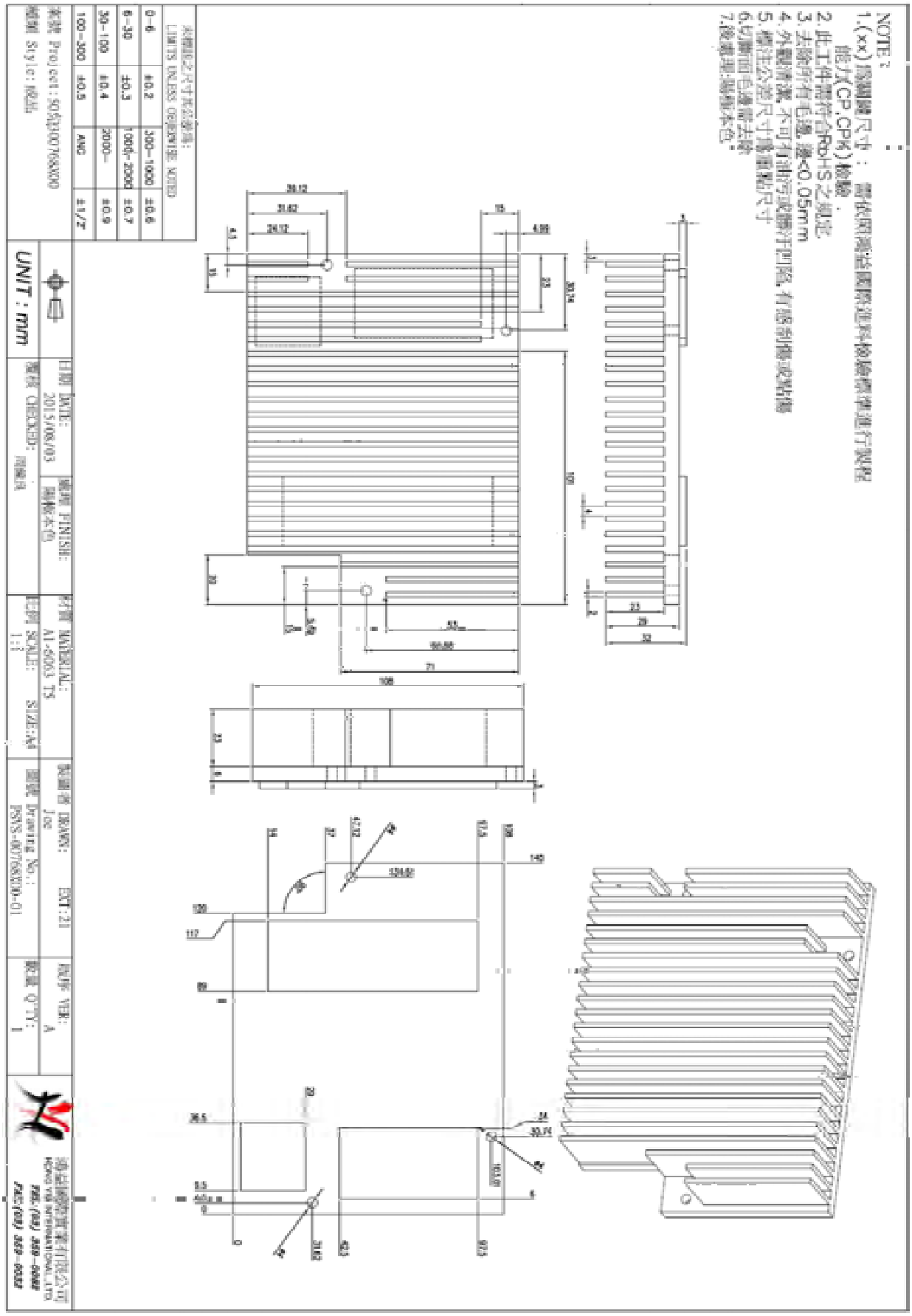

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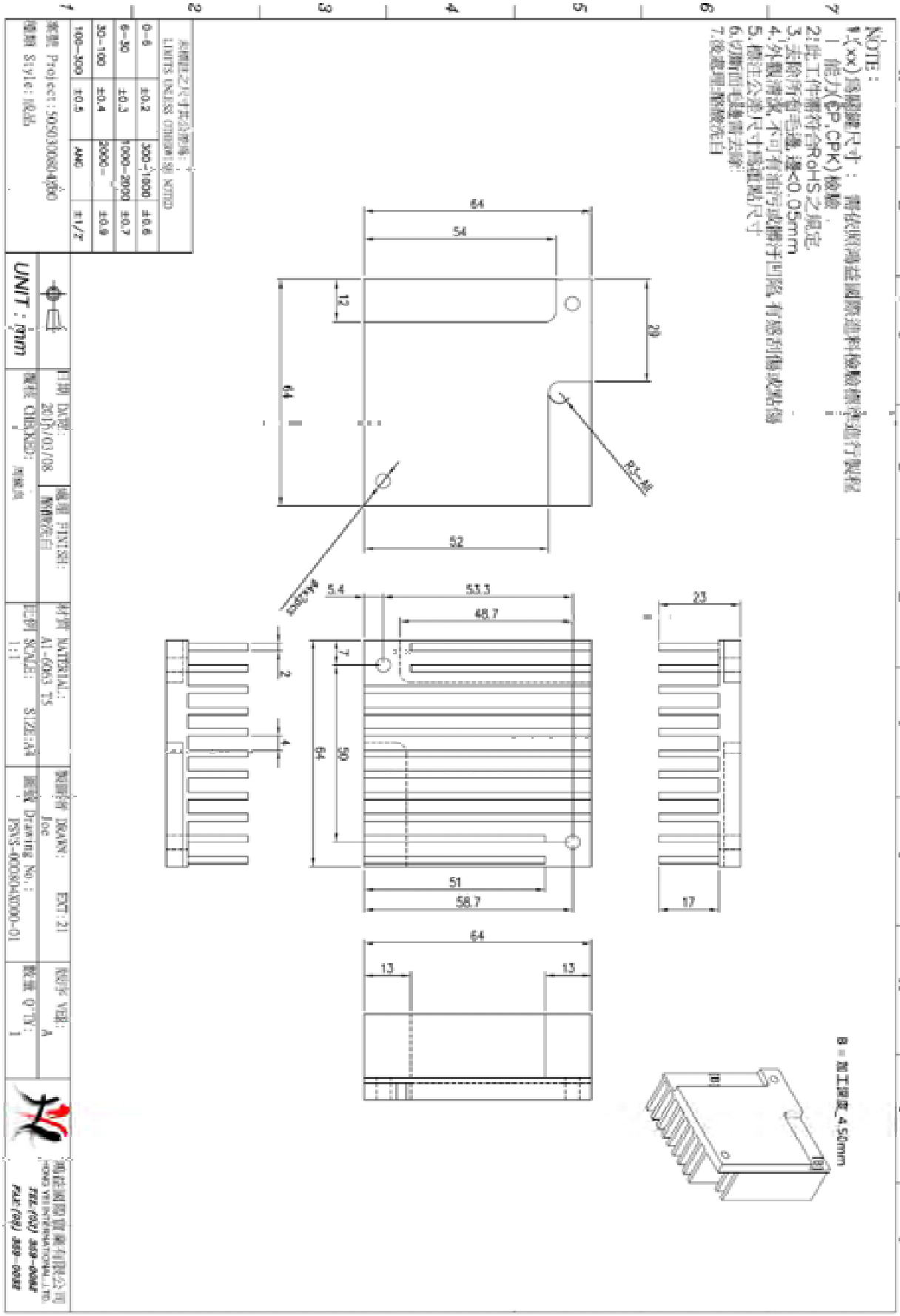

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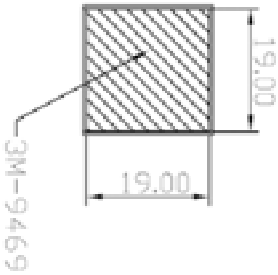
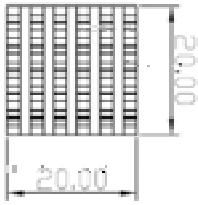
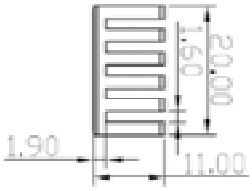
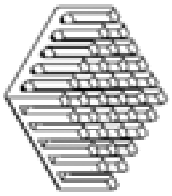




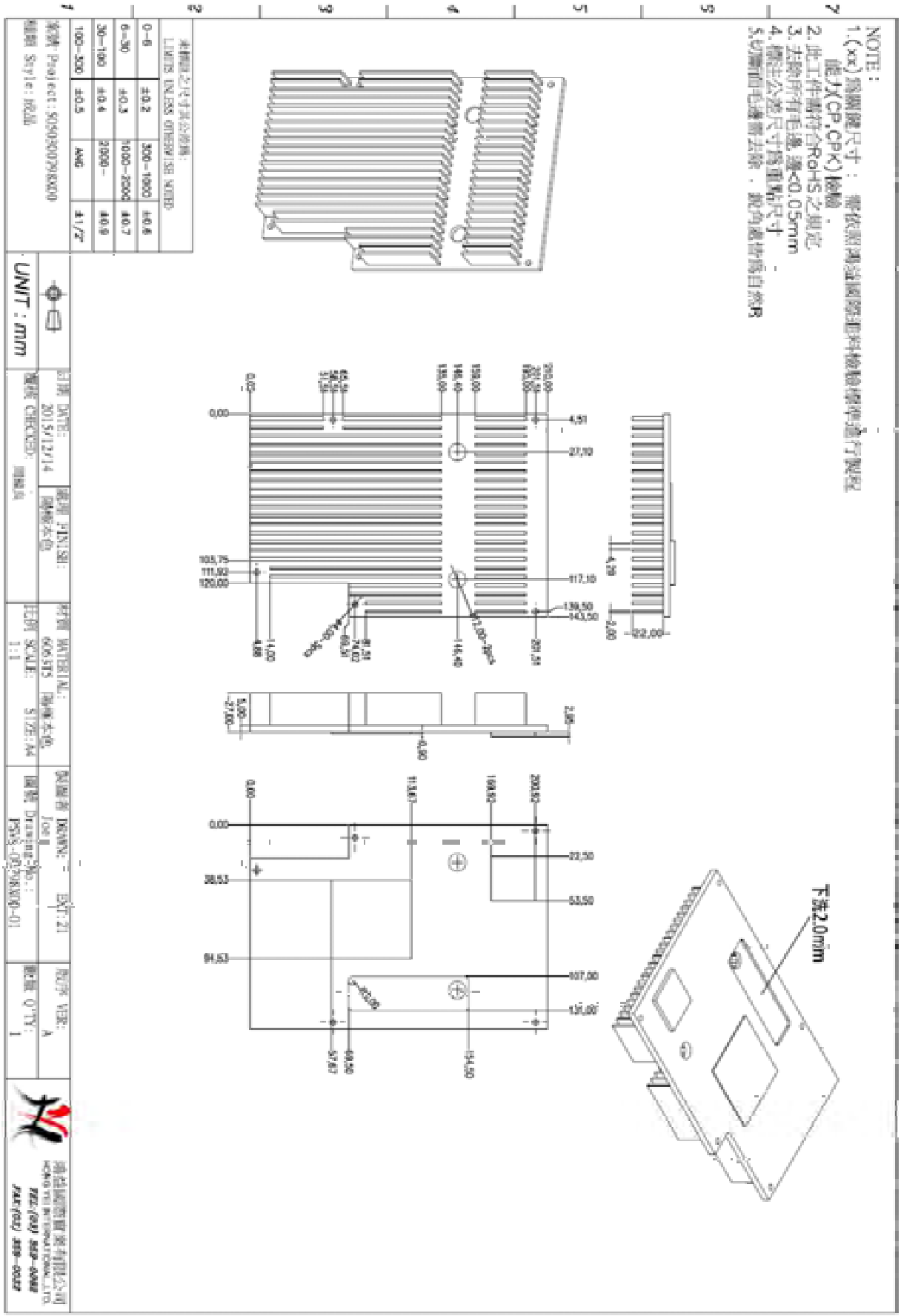




表面陽極原色處理

決定	配件名稱	規格	材質	數量	備註				
NEXCOM									
PROJ.	SCALE 1:1	TITLE		PROJ. NO	50X50X50X04X100				
APP		SCALE		FILE NO		REV			
CHK	-								
DWN	2018-09-20								
DSN	2018-09-20								
CHK	2018-09-20								

Diagrams ID 4-11



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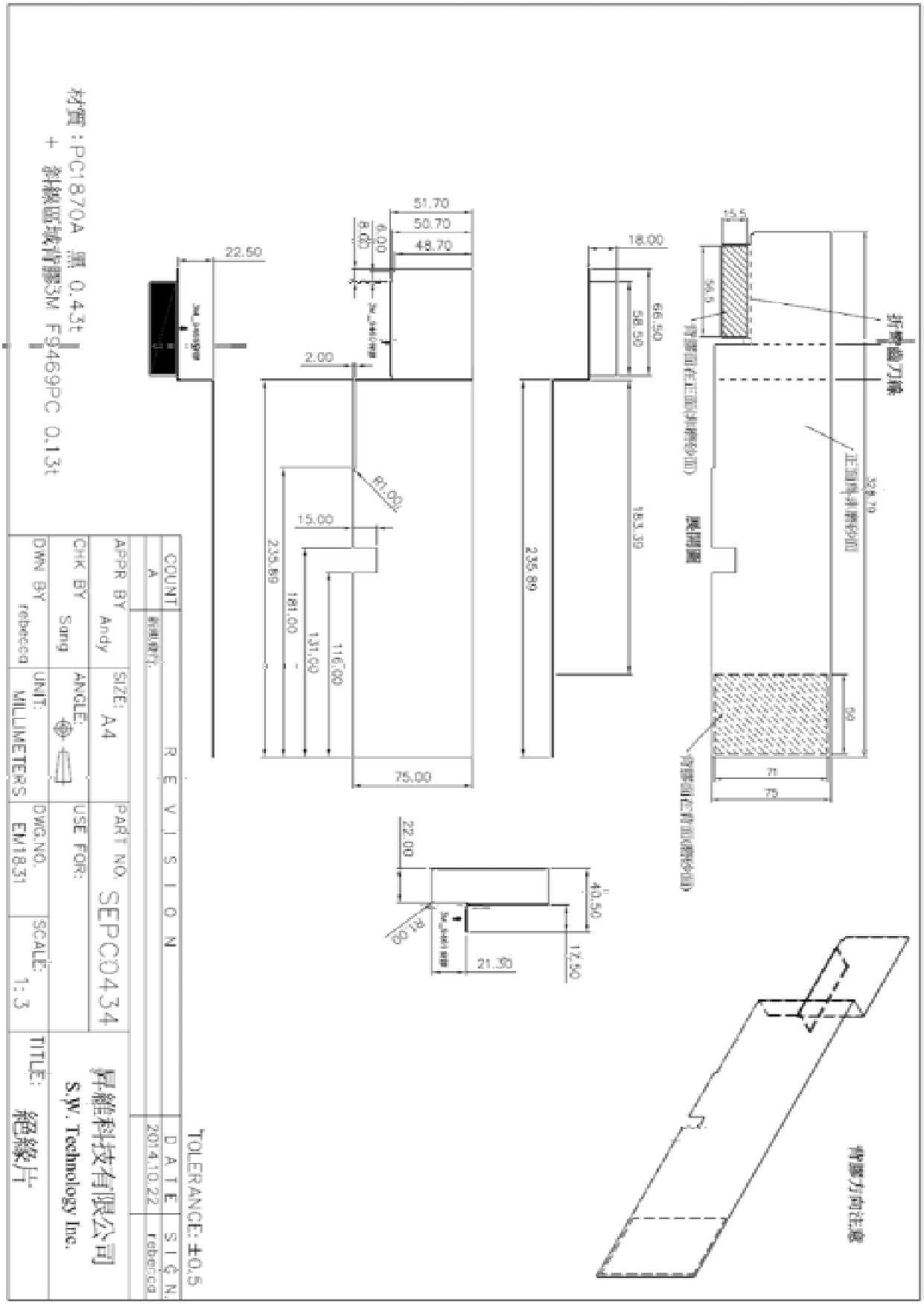


Safety Instructions

The following safety instructions are presented in English, French, and German.

Safety Instructions

CAUTION

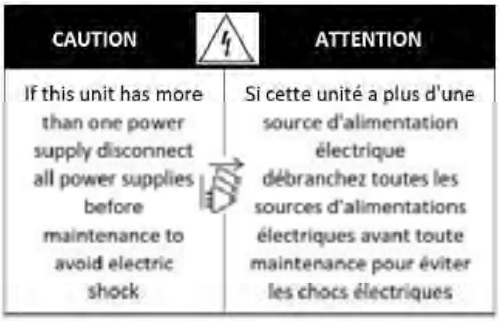
A readily accessible disconnect device shall be incorporated in the building installation wiring.

Due to the risks of electrical shock, and energy, mechanical, and fire hazards, any procedures that must be performed by qualified service/skill person or personal who is well-trained or instructed or supervised by qualified service/skill person only.

To reduce the risk of fire and electrical shock, disconnect the device from the power line before removing cover or panels.

The following figure shows the caution label that is attached to Radware platforms with dual power supplies.

Figure 1: Electrical Shock Hazard Label



DUAL-POWER-SUPPLY-SYSTEM SAFETY WARNING IN CHINESE

The following figure is the warning for Radware platforms with dual power supplies.

Figure 2: Dual-Power-Supply-System Safety Warning in Chinese

本设备有两个电源供电，未避免电击危险，操作时需要加倍小心。
只有当这两个电源完全断开时才可以安全操作

Translation of Dual-Power-Supply-System Safety Warning in Chinese:

This unit has more than one power supply. Disconnect all power supplies before maintenance to avoid electric shock.

SERVICING

Do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. There are no serviceable parts inside the unit.

HIGH VOLTAGE

Any adjustment, maintenance, and repair of the opened instrument under voltage must be avoided as much as possible and, when inevitable, must be carried out only by a skilled person who is aware of the hazard involved.

Capacitors inside the instrument may still be charged even if the instrument has been disconnected from its source of supply.

GROUNDING

Before connecting this device to the power line, the protective earth terminal screws of this device must be connected to the protective earth in the building installation.

Ensure to connect the power cord to a socket-outlet with earthing connection.

LASER

This equipment is a contain 3.3Vdc, Class 1 Laser Product in accordance with IEC60825 - 1: 1993 + A1:1997 + A2:2001 Standard.

FUSES

Make sure that only fuses with the required rated current and of the specified type are used for replacement. The use of repaired fuses and the short-circuiting of fuse holders must be avoided. Whenever it is likely that the protection offered by fuses has been impaired, the instrument must be made inoperative and be secured against any unintended operation.

LINE VOLTAGE

Before connecting this instrument to the power line, make sure the voltage of the power source matches the requirements of the instrument. Refer to the Specifications for information about the correct power rating for the device.

48V DC-powered platforms have an input tolerance of 36-72V DC.

SPECIFICATION CHANGES

Specifications are subject to change without notice.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15B of the FCC Rules and EN55022 Class A, EN 55024; EN 61000-3-2; EN 61000-3-3; IEC 61000 4-2 to 4-6, IEC 61000 4-8 and IEC 61000-4-11For CE MARK Compliance. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user is required to correct the interference at his own expense.

SPECIAL NOTICE FOR NORTH AMERICAN USERS

For North American power connection, select a power supply cord that is UL Listed and CSA Certified 3 - conductor, [18 AWG], terminated in a molded on plug cap rated 125 V, [10 A], with a minimum length of 1.5m [six feet] but no longer than 4.5m...For European connection, select a power supply cord that is internationally harmonized and marked "<HAR>", 3 - conductor, 0,75 mm2 minimum mm2 wire, rated 300 V, with a PVC insulated jacket. The cord must have a molded on plug cap rated 250 V, 3 A.

Suitable for installation in Information Technology Rooms in accordance with Article 645 of the National Electrical Code and NFPA 75.

RESTRICT AREA ACCESS

The equipment should only be installed in a Restricted Access Area. INSTALLATION CODES

This device must be installed according to country national electrical codes. For North America, equipment must be installed in accordance with the US National Electrical Code, Articles 110 - 16, 110 -17, and 110 -18 and the Canadian Electrical Code, Section 12.

INTERCONNECTION OF UNITS

Cables for connecting to the unit RS232 and Ethernet Interfaces must be UL certified type DP-1 or DP-2. (Note- when residing in non LPS circuit)

OVERCURRENT PROTECTION

A readily accessible listed branch-circuit over current protective device rated 15 A must be incorporated in the building wiring for each power input.

REPLACEABLE BATTERIES

If equipment is provided with a replaceable battery, and is replaced by an incorrect battery type, then an explosion may occur. This is the case for some Lithium batteries and the following is applicable:

- If the battery is placed in an **Operator Access Area**, there is a marking close to the battery or a statement in both the operating and service instructions.
- If the battery is placed elsewhere in the equipment, there is a marking close to the battery or a statement in the service instructions.

This marking or statement includes the following text warning:

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT BATTERY TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Caution – To Reduce the Risk of Electrical Shock and Fire

1. This equipment is not suitable for use in locations where children are likely to be present.
2. This equipment is designed to permit connection between the earthed conductor of the DC supply circuit and the earthing conductor equipment. See Installation Instructions.
3. Never open the equipment. For safety reasons , all servicing must be undertaken only by qualified skilled personnel. There are not user serviceable parts inside the unit.
4. DO NOT plug in, turn on or attempt to operate an obviously damaged unit.
5. Ensure that the chassis ventilation openings in the unit are NOT BLOCKED.
6. Replace a blown fuse ONLY with the same type and rating as is marked on the safety label adjacent to the power inlet, housing the fuse.
7. Do not operate the device in a location where the maximum ambient temperature exceeds 40°C/104°F.
8. Be sure to unplug the power supply cord from the wall socket BEFORE attempting to remove and/or check the main power fuse.
   CLASS 1 LASER PRODUCT AND REFERENCE TO THE MOST RECENT LASER STANDARDS IEC 60 825-1:1993 + A1:1997 + A2:2001 AND EN 60825-1:1994+A1:1996+ A2:2001

AC units for Denmark, Finland, Norway, Sweden (marked on product):

- Denmark – "Unit is class I – unit to be used with an AC cord set suitable with Denmark deviations. The cord includes an earthing conductor. The Unit is to be plugged into a wall socket outlet which is connected to a protective earth. Socket outlets which are not connected to earth are not to be used!"
- Finland - (Marking label and in manual) - "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan"
- Norway (Marking label and in manual) - "Apparatet må tilkoples jordet stikkontakt"
- Unit is intended for connection to IT power systems for Norway only.
- Sweden (Marking label and in manual) - "Apparaten skall anslutas till jordat uttag."

To connect the power connection:

1. Connect the power cable to the main socket, located on the rear panel of the device.
2. Connect the power cable to the grounded AC outlet.

CAUTION

Risk of electric shock and energy hazard. Disconnecting one power supply disconnects only one power supply module. To isolate the unit completely, disconnect all power supplies.

Instructions de sécurité

AVERTISSEMENT

Un dispositif de déconnexion facilement accessible sera incorporé au câblage du bâtiment.

Miscellaneous ID 7-01

radware

Radware Ltd.

Declaration Letter

We, (Radware Ltd. / 22 Raoul Wallenberg St, Tel Aviv 6971917, Israel), confirm that the samples submitted for evaluation are representative of products from each factories as listed below.

1. NEXCOM International Co., Ltd.
   5F, 7F, 8F, 9F,10F&12F, No.63, Sec.1, Sanmin Rd., Banqiao Dist., New Taipei City, Taiwan

2. NEXCOM International Co., Ltd. (Hua-Ya Factory)
   2F., No.50, Huaya 3rd Rd., Guishan Dist., Taoyuan City 333, Taiwan

Best regards,

(Legally binding signature and company stamp)

RADWARE LTD.
22 RAOUL WALLENBERG ST.
TEL AVIV 69710, ISRAEL
Company# 520044371

Alex Kramp
Director of Quality & Engineering

Date: 2018-9-17

Miscellaneous ID 7-02

F.3.10 DURABILITY OF MARKING

TEST CONDITIONS:						
Use of Marking	Nameplate/electrical ratings					
Material	1. WAI GHA INDUSTRIAL CO LTD / WG-7818-MS, 2. AVERY (CHINA) CO LTD / 50 micron Matte Silver PET TC/S333	1. WAI GHA INDUSTRIAL CO LTD / WG-7818-MS, 2. AVERY (CHINA) CO LTD / 50 micron Matte Silver PET TC/S333	--	--	--	--
Held by	--	--	--	--	--	--
Applied Surface Material	SECC	SECC	--	--	--	--

OBSERVATIONS:		
	Water	Hexane [ ] a [X]b
Any Damage?	NO	NO
Legible?	YES	YES
Curled?	NO	NO
Edge Lifted?	NO	NO
Easily Removed Intact?	NO	NO

License ID 8-01

IEC IECEE CB SCHEME

Ref. Certif. No.

JPTUV-058459

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

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

CB TEST CERTIFICATE

CERTIFICAT D'ESSAI OC

Product Produit	Redundant Power Supply and Power Module
Name and address of the applicant Nom et adresse du demandeur	Zippy Technology Corp. 10F., No. 50, Min Chyuan Rd. Shin Tien District, New Taipei City, 231 Taiwan
Name and address of the manufacturer Nom et adresse du fabricant	Zippy Technology Corp. 10F., No. 50, Min Chyuan Rd. Shin Tien District, New Taipei City, 231 Taiwan
Name and address of the factory Nom et adresse de l'usine	Zippy Technology Corp. 2F, No. 123, Lane 235 Pao-Chiao Rd., Shin Tien District, New Taipei City, 231 Taiwan
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	Input : AC 100-240V or 110-240V; 15-7.5A or 15-7A; 47-63Hz Class I; for details, refer to the test report Output: refer to the test report
Trademark (if any) Marque de fabrique (si elle existe)	EMACS
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	N/A
Model / Type Ref. Réf. de type	SPH2-5A00V4H, SPH2-5C00V4H, PSG2-5A00V3H(S), SPG2-5A00V3H, PSG2-5C00V3H(S), SPG2-5C00V3H, PSS2-5A00V3H, PSS2-5C00V3H, PSG2-5B07V4H, SPH-2A00V, SPH-2C00V, PSG-2A00V(S), PSG-2C00V(S) , for other models, refer to the test report. For model differences, refer to the test report.
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiqués sur la 2ème page)	
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60950-1:2005+A1+A2 National differences see test report
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	11038050 001

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

TÜVRheinland®

TÜV Rheinland Japan Ltd.
Global Technology Assessment Center
4-25-2 Kita-Yamata, Tsuzuki-ku
Yokohama 224-0021 Japan
Phone + 81 45 914-3888
Fax + 81 45 914-3354
Mail: info@jpn.tuv.com
Web: www.tuv.com

Date: 28.08.2014

Signature: Dipl.-Ing. R. Stoerzel

License ID 8-02

IEC IECEE CB SCHEME

Ref. Certif. No.

JPTUV-056953

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

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

CB TEST CERTIFICATE

CERTIFICAT D'ESSAI OC

Product Produit	Redundant Power Supply and Power Module
Name and address of the applicant Nom et adresse du demandeur	Zippy Technology Corp. 10F., No. 50, Min Chyuan Rd. Shin Tien District, New Taipei City, 231 Taiwan
Name and address of the manufacturer Nom et adresse du fabricant	Zippy Technology Corp. 10F., No. 50, Min Chyuan Rd. Shin Tien District, New Taipei City, 231 Taiwan
Name and address of the factory Nom et adresse de l'usine	Zippy Technology Corp. 2F, No. 123, Lane 235 Pao-Chiao Rd., Shin Tien District, New Taipei City, 231 Taiwan
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	Input: DC -42V - -72V; 30-17A; Class I Output: refer to the test report
Trademark (if any) Marque de fabrique (si elle existe)	EMACS
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	N/A
Model / Type Ref. Ref. de type	DPSG-2A00V, DSPG-2A00V, DPSS-2A00V, DPSG2-5A00V3H, DSPG2-5A00V3H, DPSS2-5A00V3H, DPSS2-5A00V3V
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiqués sur la 2ème page)	For model differences, refer to the test report.
A sample of the product was tested and found to be in conformity with Un echantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60950-1:2005+A1+A2 National differences see test report
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat:	11036996 001

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

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Mail: info@jpn.tuv.com
Web: www.tuv.com

Date: 11.06.2014

Signature: Dipl.-Ing. F. Seselzel