

**Test Report on the Safety of Electrical Equipment**

**For**

**Polaris Industries, Inc.**

**On**

**Connectivity Control Unit, Model: CCU-2**

**Report No. POLR0054-R0**

**7 February 2020**

EMT form STRF60950-1G 2.0





Test Report issued under the responsibility of:



TEST REPORT
IEC 60950-1
Information technology equipment – Safety –
Part 1: General requirements

Report Number..... : POLR0054-R0
Date of issue..... : 2020-02-07
Total number of pages ..... : 112

Name of Testing Laboratory preparing the Report ..... : Element Materials Technology (Irvine)
41 Tesla, Irvine CA. 92618 United States of America

Applicant's name ..... : Polaris Industries, Inc.
Address..... : 1600 SE 18th Ave. Battle Ground, WA 98604
United States of America

Test specification:
Standard..... : IEC 60950-1:2005, AMD1:2009, AMD2:2013
Test procedure ..... : CB Scheme
Non-standard test method ..... : N/A

Test Report Form No. .... : IEC60950\_1G (EMT form STRF60950-1G)
Test Report Form(s) Originator .... : SGS Fimko Ltd
Master TRF..... : Dated 2019-07-02

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<b>Test item description</b> .....:	Connectivity Control Unit	
<b>Trade Mark</b> .....:		
<b>Manufacturer</b> .....	Polaris Industries, Inc. 1600 SE 18 <sup>th</sup> Ave. Battle Ground, WA 98604 United States of America	
<b>Model/Type reference</b> .....:	CCU-2	
<b>Ratings</b> .....:	14 Vdc, 1.1 A	
<b>Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):</b>		
<input checked="" type="checkbox"/>	<b>CB Testing Laboratory:</b>	Element Materials Technology (Irvine)
<b>Testing location/ address</b> .....	41 Tesla, Irvine CA. 92618 United States of America	
<b>Tested by (name, function, signature)</b> ..... :	Thomas Hunter Sr. Product Safety Test Engineer – Safety Division	
<b>Approved by (name, function, signature) .. :</b>	Duy Nguyen Product Safety Test Engineer – Safety Division	
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 1:</b>	-
<b>Testing location/ address</b> .....	-	
<b>Tested by (name, function, signature)</b> ..... :	-	-
<b>Approved by (name, function, signature) .. :</b>	-	-
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 2:</b>	-
<b>Testing location/ address</b> .....	-	
<b>Tested by (name + signature)</b> ..... :	-	-
<b>Witnessed by (name, function, signature) . :</b>	-	-
<b>Approved by (name, function, signature) .. :</b>	-	-
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 3:</b>	-
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 4:</b>	-
<b>Testing location/ address</b> .....	-	
<b>Tested by (name, function, signature)</b> ..... :	-	-
<b>Witnessed by (name, function, signature) . :</b>	-	-
<b>Approved by (name, function, signature) .. :</b>	-	-
<b>Supervised by (name, function, signature) :</b>	-	-

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

<b>Attachment</b>	<b>Description</b>	<b>Pages</b>
Attachment 1	Test equipment used	1
Attachment 2	EN National Differences	19
Attachment 3	US National Differences	6
Attachment 4	CA National Differences	6
Attachment 5	AU and NZ National Differences	9
Attachment 6	JP National Differences	17
Attachment 7	CN National Differences	5
Attachment 8	IL National Differences	3
Attachment 9	KR National Differences	1
Attachment 10	Items submitted for assessment	1
Attachment 11	Photographs of the equipment	3

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

- 1.6 Power interface
- 1.7.11 Markings and instructions
- 2.2.2 Voltages under normal conditions
- 4.2.3 Steady Force test
- 4.5.2 Temperature test

**Testing location:**

Element Materials Technology (Irvine)  
 41 Tesla  
 Irvine CA, 92618  
 United States of America

**Summary of compliance with National Differences (List of countries addressed):**

AU  CA  CN  IL  JP  KR  NZ

US

EU Group Differences (*note 1*)

EU Special National Conditions (SNC) for all countries

EU A-Deviations applied for all countries

EU Individual countries (SNC and A-Deviations) only (*note 2*):

AT  CH  DE  DK  ES  FI  GB

IE  IT  NO  SE  SI  TR

At the client's request, consideration was also given to National Differences for Saudi Arabia (SA), Malaysia (MY), Singapore (SG), Thailand (TH), Mexico (MX), Argentina (AR), United Arab Emirates (UA), however, there were no declared IECCE National Differences for these countries at the time of issue of this report.

By virtue of the national differences applied above, the product fulfils the full requirements of the following national standard:

EN 60950-1:2006+A11:2009+A1:2009+A12:2011+A2:2013 (*note 3*).

*Note 1 – All CENELEC Common Modifications (Group Differences) to the IEC standard have been applied. These are mandatory for compliance with the EN standard.*

*Note 2 – Only a limited set of declared national differences (SNC and A-Deviations) have been applied for individual CENELEC countries.*

*Note 3 – Includes CENELEC Common Modifications plus some or all of the EU SNC and A-Deviations as shown above.*

Copy of marking plate:

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

<b>FC</b> CONTAINS FCC ID: 2A0W7-K001 CONTAINS IC: 5966A-K001 CMIIT ID: XXXXXXXXX	<b>TRAIL TECH</b> Polaris Industries Inc. Connectivity Control Unit Model: CCU-2 Country of Origin: USA Input: 14V DC 1.1A	<b>EAC</b>  <b>CE</b> R-NZ
<b>ANATEL</b> HHHHH-AA-FFFFF	<b>MCMC</b> XXXX-XXXXXXXXXX	<b>TRA</b> <b>REGISTERED No:</b> ER00000 <b>DEALER No:</b> DA0000000
 CCXXxxYYyyyZzW	 XXXXXX RoHS	
<b>CNC</b> ID: X-XXXXX	 Complies with IMDA Standards [Dealer's License No.]	<b>ICASA</b> TA XXXX-YYYY APPROVED
 R XXX-ABCDEF	 X-XXX-XXX-XXXXX-X	
<b>NOM</b> Polaris Industries Unidad de control de comunicaciones Trail Tech CCU-2 INPUT: 14Vcc 1.1A USA	 XXX	<b>C</b> ertified for use in Hong Kong 經驗證可在香港使用 Certificate No. 證書號碼 ZZZZYYXXXXX
IFETEL: XXXXXXXXXX	AGREE PAR L'ANRT MAROC Numéro d'agrément: MRXXXX ANRT 2020 Date d'agrément: XX/XX/XXXXX	 通訊事務管理局 COMMUNICATIONS AUTHORITY

<b>Test item particulars</b> ..... :	
<b>Equipment mobility</b> ..... :	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input checked="" type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
<b>Connection to the mains</b> ..... :	<input type="checkbox"/> pluggable equipment <input type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input checked="" type="checkbox"/> not directly connected to the mains
<b>Operating condition</b> ..... :	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
<b>Access location</b> .....	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
<b>Over voltage category (OVC)</b> .....	<input type="checkbox"/> OVC I <input type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input checked="" type="checkbox"/> other: Class III device
<b>Mains supply tolerance (%) or absolute mains supply values</b> .....	N/A (Not connected to mains)
<b>Tested for IT power systems</b> ..... :	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>IT testing, phase-phase voltage (V)</b> .....	N/A
<b>Class of equipment</b> ..... :	<input type="checkbox"/> Class I <input type="checkbox"/> Class II <input checked="" type="checkbox"/> Class III <input type="checkbox"/> Not classified
<b>Considered current rating of protective device as part of the building installation (A)</b> ..... :	N/A
<b>Pollution degree (PD)</b> ..... :	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
<b>IP protection class</b> ..... :	IP68 declared but not for safety protection
<b>Altitude during operation (m)</b> ..... :	<2000
<b>Altitude of test laboratory (m)</b> ..... :	17.86
<b>Mass of equipment (kg)</b> ..... :	0.0907

<b>Possible test case verdicts:</b>	
- test case does not apply to the test object..... :	N/A
- test object does meet the requirement..... :	P (Pass)
- test object does not meet the requirement..... :	F (Fail)
<b>Testing</b> ..... :	
<b>Date of receipt of test item</b> .....	2019-12-09
<b>Date (s) of performance of tests</b> .....	2019 -12-16 to 2019 -12-27

<b>General remarks:</b>	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.  <b>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</b> Throughout this report the date format yyyy-mm-dd (year-month-day) is used.  The decision rule for compliance to this standard/specification is based on the recorded level by the lab, irrespective of the measurement instrument uncertainty (MIU) value.  CB Certificate Number.: GB-EMT 1531 Element Certification Reference: TRA-049687-00 (TS-POLR-0014)	
<b>Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950:</b>	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>Not applicable</b>
<b>When differences exist; they shall be identified in the General product information section.</b>	
<b>Name and address of factory (ies)..... :</b>	Polaris Industries Inc. 1600 SE 18 <sup>th</sup> Ave. Battle Ground, WA 98604 United States of America
<b>Abbreviations used in the report:</b>	
- normal conditions <b>N.C.</b> - functional insulation <b>OP</b> - double insulation <b>DI</b> - between parts of opposite polarity <b>BOP</b>	- single fault conditions <b>S.F.C</b> - basic insulation <b>BI</b> - supplementary insulation <b>SI</b> - reinforced insulation <b>RI</b>
<b>Indicate used abbreviations (if any)</b>	

**General product information:****Summary of assessment:**

The apparatus was fully compliant with IEC 60950-1:2005 (2nd Edition) + AMD1:2009 + AMD2:2013.

Compliance with individual national deviations is reported on page 4 of this report.

**Safety Strategy:**

The apparatus was assessed as a Class III DC powered device.

**General product information: (continued)****Remarks:**

1. The equipment tested was a Connectivity Control Unit (CCU) that serves as the connectivity unit between controllers on a motorcycle, a user-facing dashboard, diagnostics tools, external sensors, mobile devices/applications, and headsets for use on-road and off-road bikes. The Connectivity Control Unit (CCU) includes a WL1831 – WiFi / Bluetooth combination module.
2. Testing was performed on Model variant CCU-2. No model variants were accessed under this report.
3. The equipment was assessed using the following documentation references  
 Circuit diagrams: 8400 Main Block Diagram, Revision 9.3, 2019-11-06  
 PCB layouts: CCU-2 Trail Tech PCB Layouts, Rev. 9.3, 2019-11-06  
 Bill of Materials: 8400 Main, Rev. 3.0, 2019-11-06  
 User/installation guide: CCU-2 Trail Tech User Manual, Revision, 2020-02-03
4. The equipment was provided with the following interconnection ports

Port Identification	Safety Status	Principal Power Ratings	3.5.4 Compliance
Data Transmission Connector	SELV	Data only	Pass

5. The product is constructed of a plastic enclosure, 55 mm x 75 mm x 215 mm (including pigtails), 1.6 mm thick, with a 94-HB rating. The product is snapped together, and is completely sealed (no vent openings present).
6. Classification of some polymeric materials has been verified using data supplied by the client. In these cases no testing has been conducted under this project.
7. Where approval or product certification documentation has been used to verify suitability of safety critical components then limited testing only has been conducted under this project. Responsibility for compliance of such items remains with the issuing authority.
8. The operating temperature range of the apparatus was -10 C to +70 °C.

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

<b>1</b>	<b>GENERAL</b>		P
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<b>1.5</b>	<b>Components</b>		P
1.5.1	General	Components which were found to affect safety aspects comply with the requirements of this standard or within the safety aspects of the relevant IEC component standards.	P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components		P
1.5.3	Thermal controls	No thermal controls	N/A
1.5.4	Transformers	No transformers	N/A
1.5.5	Interconnecting cables	Approved cables provided for interconnection	P
1.5.6	Capacitors bridging insulation	No capacitors bridging insulation	N/A
1.5.7	Resistors bridging insulation	No resistors bridging insulation	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits	Not connected to a.c. mains	N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable	Not connected to a.c. mains	N/A
1.5.8	Components in equipment for IT power systems	Not for IT power systems	N/A
1.5.9	Surge suppressors	No surge suppressors used	N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs	No VDR's used	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

<b>1.6</b>	<b>Power interface</b>		P
1.6.1	AC power distribution systems	No AC power distribution systems present	N/A
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	Not hand-held equipment	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6.4	Neutral conductor	Not connected to mains supply	N/A
<b>1.7</b>	<b>Marking and instructions</b>		P
1.7.1	Power rating and identification markings		P
1.7.1.1	Power rating marking		P
	Multiple mains supply connections.....:	Not connected to mains supply	N/A
	Rated voltage(s) or voltage range(s) (V) .....	14 Vdc	P
	Symbol for nature of supply, for d.c. only .....	Letters "DC" used	N/A
	Rated frequency or rated frequency range (Hz) ... :	Class III equipment, DC powered	N/A
	Rated current (mA or A) .....	1.1 A	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark .....		P
	Model identification or type reference .....	CCU-2	P
	Symbol for Class II equipment only .....	Class III equipment	N/A
	Other markings and symbols .....	See marking	P
1.7.1.3	Use of graphical symbols		N/A
1.7.2	Safety instructions and marking	English version reviewed. Safety instructions and equipment markings are required to be provided in a language that is acceptable in the country of distribution	P
1.7.2.1	General	Ref: CCU-2 Trail Tech User Manual, Revision, 2020-02-03	P
1.7.2.2	Disconnect devices	Class III equipment; no disconnect device present	N/A
1.7.2.3	Overcurrent protective device	Not pluggable equipment type B nor permanently connected	N/A
1.7.2.4	IT power distribution systems	No IT power distribution systems present	N/A
1.7.2.5	Operator access with a tool	No operator access with a tool	N/A
1.7.2.6	Ozone	No ozone present	N/A
1.7.3	Short duty cycles	Continuously operated	N/A
1.7.4	Supply voltage adjustment .....	No supply voltage adjustment	N/A
	Methods and means of adjustment; reference to installation instructions .....		N/A
1.7.5	Power outlets on the equipment .....	No power outlets	N/A

<b>IEC 60950-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference):	No fuses	N/A
1.7.7	Wiring terminals	No wiring terminals	N/A
1.7.7.1	Protective earthing and bonding terminals .....:		N/A
1.7.7.2	Terminals for a.c. mains supply conductors	Not connected to a.c. mains	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	Not connected to d.c. mains	N/A
1.7.8	Controls and indicators	No controls or indicators	N/A
1.7.8.1	Identification, location and marking .....:		N/A
1.7.8.2	Colours .....:		N/A
1.7.8.3	Symbols according to IEC 60417.....:		N/A
1.7.8.4	Markings using figures .....		
1.7.9	Isolation of multiple power sources .....	Single power source used	N/A
1.7.10	Thermostats and other regulating devices .....	No thermostats or other regulating devices	N/A
1.7.11	Durability	Cloth soaked petroleum spirit for 15 s.	P
1.7.12	Removable parts	No removable parts	N/A
1.7.13	Replaceable batteries .....	No replaceable batteries	N/A
	Language(s) .....		—
1.7.14	Equipment for restricted access locations .....	Not for restricted access locations	N/A

<b>2</b>	<b>PROTECTION FROM HAZARDS</b>		P
<b>2.1</b>	<b>Protection from electric shock and energy hazards</b>		P
2.1.1	Protection in operator access areas	No risk of electric shock or energy hazard	P
2.1.1.1	Access to energized parts	Completely sealed unit	N/A
	Test by inspection .....		N/A
	Test with test finger (Figure 2A) .....		N/A
	Test with test pin (Figure 2B) .....		N/A
	Test with test probe (Figure 2C) .....		N/A
2.1.1.2	Battery compartments	No TNV circuits	N/A
2.1.1.3	Access to ELV wiring	No ELV circuits	N/A
	Working voltage ( $V_{peak}$ or $V_{rms}$ ); minimum distance through insulation (mm)		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.4	Access to hazardous voltage circuit wiring	No access to hazardous voltage wiring	N/A
2.1.1.5	Energy hazards .....		N/A
2.1.1.6	Manual controls	Not connected to hazardous voltages, ELV circuits or TNV circuits.	P
2.1.1.7	Discharge of capacitors in equipment	Class III equipment	N/A
	Measured voltage (V); time-constant (s) .....		—
2.1.1.8	Energy hazards – d.c. mains supply	No DC 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 .....	No audio amplifiers	N/A
2.1.2	Protection in service access areas	No service access areas	N/A
2.1.3	Protection in restricted access locations	Not for use in a restricted access location	N/A

<b>2.2</b>	<b>SELV circuits</b>		P
2.2.1	General requirements	(see appended table 2.2)	P
2.2.2	Voltages under normal conditions (V) .....	< 42.4 V peak	P
2.2.3	Voltages under fault conditions (V) .....	Class III equipment	P
2.2.4	Connection of SELV circuits to other circuits .....	Not connected to other circuits	N/A

<b>2.3</b>	<b>TNV circuits</b>		N/A
2.3.1	Limits	No TNV circuits present	N/A
	Type of TNV circuits .....		—
2.3.2	Separation from other circuits and from accessible parts	No TNV circuits present	N/A
2.3.2.1	General requirements	No TNV circuits present	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	No TNV circuits present	N/A
	Insulation employed .....		—
2.3.4	Connection of TNV circuits to other circuits	No TNV circuits present	N/A
	Insulation employed .....		—
2.3.5	Test for operating voltages generated externally	No TNV circuits present	N/A

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

<b>2.4</b>	<b>Limited current circuits</b>		N/A
2.4.1	General requirements	No limited current circuits	N/A
2.4.2	Limit values		N/A
	Frequency (Hz).....:		—
	Measured current (mA) .....		—
	Measured voltage (V).....:		—
	Measured circuit capacitance (nF or $\mu$ F).....:		—
2.4.3	Connection of limited current circuits to other circuits	No limited current circuits	N/A

<b>2.5</b>	<b>Limited power sources</b>		N/A
	a) Inherently limited output	No inherently limited output	N/A
	b) Impedance limited output	No impedance limited output sources	N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition	No regulating network used	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) .....		—
	Current rating of overcurrent protective device (A) .:		—

<b>2.6</b>	<b>Provisions for earthing and bonding</b>		N/A
2.6.1	Protective earthing	Class III. Not connected to mains supply	N/A
2.6.2	Functional earthing	No functional earthing	N/A
	Use of symbol for functional earthing:		N/A
2.6.3	Protective earthing and protective bonding conductors	Class III. Not connected to mains supply	N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area ( $\text{mm}^2$ ), AWG .....		—
2.6.3.3	Size of protective bonding conductors	Class III. Not connected to mains supply	N/A
	Rated current (A), cross-sectional area ( $\text{mm}^2$ ), AWG .....		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Protective current rating (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		
2.6.3.4	Resistance of earthing conductors and their terminations; resistance ( $\Omega$ ), voltage drop (V), test current (A), duration (min) .....		N/A
2.6.3.5	Colour of insulation.....		N/A
2.6.4	Terminals	Class III. Not connected to mains supply	N/A
2.6.4.1	General	Class III. Not connected to mains supply	N/A
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	Class III. Not connected to mains supply	N/A
2.6.5	Integrity of protective earthing	Class III. Not connected to mains supply	N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth	Not connected to mains supply	N/A
2.6.5.4	Parts that can be removed by an operator	Completely sealed unit	N/A
2.6.5.5	Parts removed during servicing	Completely sealed unit	N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding	No screws for protective bonding present.	N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system	No telecommunication network or cable distribution system	N/A

<b>2.7</b>	<b>Overcurrent and earth fault protection in primary circuits</b>		N/A
2.7.1	Basic requirements	Class III. Not connected to mains supply	N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7	Class III. Not connected to mains supply	N/A
2.7.3	Short-circuit backup protection		N/A
2.7.4	Number and location of protective devices .....		N/A
2.7.5	Protection by several devices	Class III. Not connected to mains supply	N/A

<b>IEC 60950-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.6	Warning to service personnel.....:		N/A
<b>2.8</b>	<b>Safety interlocks</b>		N/A
2.8.1	General principles	No safety interlocks present	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation	No safety interlocks present	N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts	No moving parts present	N/A
2.8.6	Overriding	No safety interlocks present	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	No safety interlocks present	N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators	No safety interlocks present	N/A
<b>2.9</b>	<b>Electrical insulation</b>		N/A
2.9.1	Properties of insulating materials	Class III equipment	N/A
2.9.2	Humidity conditioning	Class III equipment	N/A
	Relative humidity (%), temperature (°C) .....		—
2.9.3	Grade of insulation	Class III equipment	N/A
2.9.4	Separation from hazardous voltages	Class III equipment	N/A
	Method(s) used .....		—
<b>2.10</b>	<b>Clearances, creepage distances and distances through insulation</b>		P
2.10.1	General	Class III equipment	P
2.10.1.1	Frequency .....		N/A
2.10.1.2	Pollution degrees .....	II	P
2.10.1.3	Reduced values for functional insulation	Class III equipment	N/A
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	Class III equipment	N/A
2.10.2	Determination of working voltage		P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.2.1	General		P
2.10.2.2	RMS working voltage		N/A
2.10.2.3	Peak working voltage	DC connected equipment	P
2.10.3	Clearances	Class III equipment	N/A
2.10.3.1	General		N/A
2.10.3.2	Mains transient voltages	Not connected to mains supply	N/A
	a) AC mains supply .....	Not connected to a.c. mains supply	N/A
	b) Earthed d.c. mains supplies .....	Not connected to d.c. mains supply	N/A
	c) Unearthed d.c. mains supplies .....	Considered. No connection to d.c mains supply	N/A
	d) Battery operation .....		N/A
2.10.3.3	Clearances in primary circuits		N/A
2.10.3.4	Clearances in secondary circuits		N/A
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply .....	Not connected to a.c. mains supply	N/A
2.10.3.7	Transients from d.c. mains supply .....	Not connected to d.c. mains supply	N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems .....	Not connected to telecommunication network/cable distribution systems.	N/A
2.10.3.9	Measurement of transient voltage levels	Not connected to mains supply	N/A
	a) Transients from a mains supply	Not connected to a.c. mains supply	N/A
	For an a.c. mains supply .....	Not connected to d.c. mains supply	N/A
	For a d.c. mains supply .....	Not connected to telecommunication network/cable distribution systems.	N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances		N/A
2.10.4.1	General		N/A
2.10.4.2	Material group and comparative tracking index	Not connected to mains supply	N/A
	CTI tests .....	Material group IIIb is assumed to be used	—
2.10.4.3	Minimum creepage distances		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5	Solid insulation		N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		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		N/A
2.10.5.7	Separable thin sheet material		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	No wound components present	N/A
2.10.5.12	Wire in wound components	No wound components present	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	No wound components present	N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components	No wound components present	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		N/A
2.10.6.1	Uncoated printed boards	Complies to 94V-0 rating	P
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
2.10.6.4	Insulation between conductors on different layers of a printed board	Basic Insulation	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Distance through insulation		N/A
	Number of insulation layers (pcs).....: 1		P
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components	No coatings present	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		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound	PD II	N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A
<b>3</b>	<b>WIRING, CONNECTIONS AND SUPPLY</b>		P
<b>3.1</b>	<b>General</b>		P
3.1.1	Current rating and overcurrent protection	Class III equipment. Not connected to mains supply	N/A
3.1.2	Protection against mechanical damage	No external wire hazards noted	P
3.1.3	Securing of internal wiring	No internal wiring present	N/A
3.1.4	Insulation of conductors		N/A
3.1.5	Beads and ceramic insulators	No beads / ceramics insulators present	N/A
3.1.6	Screws for electrical contact pressure	No screws present	N/A
3.1.7	Insulating materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws	No self-tapping special thread screws present	N/A
3.1.9	Termination of conductors		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring	No sleeving present	N/A
<b>3.2</b>	<b>Connection to a mains supply</b>		N/A
3.2.1	Means of connection	No connection to mains supply	N/A
3.2.1.1	Connection to an a.c. mains supply	No connection to a.c. mains supply	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.2	Connection to a d.c. mains supply	No connection to d.c mains supply	N/A
3.2.2	Multiple supply connections	Single connection	N/A
3.2.3	Permanently connected equipment	Not permanently connected equipment	N/A
	Number of conductors, diameter of cable and conduits (mm) .....		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords	Not connected to mains supply	N/A
3.2.5.1	AC power supply cords		N/A
	Type .....		—
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		—
3.2.5.2	DC power supply cords	No DC mains supply	NA
3.2.6	Cord anchorages and strain relief	Not connected to mains supply	N/A
	Mass of equipment (kg), pull (N) .....		—
	Longitudinal displacement (mm) .....		—
3.2.7	Protection against mechanical damage	Not connected to mains supply	N/A
3.2.8	Cord guards	Not connected to mains supply	N/A
	Diameter or minor dimension D (mm); test mass (g) .....		—
	Radius of curvature of cord (mm) .....		—
3.2.9	Supply wiring space	Not connected to mains supply	N/A
<b>3.3</b>	<b>Wiring terminals for connection of external conductors</b>		N/A
3.3.1	Wiring terminals	No wiring terminals, detachable power supply cord	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals	No screw terminals present	N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm <sup>2</sup> ) .....		—
3.3.5	Wiring terminal sizes	No wiring terminals present	N/A
	Rated current (A), type, nominal thread diameter (mm) .....		—
3.3.6	Wiring terminal design	No wiring terminals present	N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire	No stranded wire present	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

<b>3.4</b>	<b>Disconnection from the mains supply</b>		N/A
3.4.1	General requirement	Not connected to mains supply	N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment	Not permanently connected	N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords	No switches present	N/A
3.4.6	Number of poles - single-phase and d.c. equipment		N/A
3.4.7	Number of poles - three-phase equipment	Not three-phase equipment	N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources	No multiple power sources present	N/A

<b>3.5</b>	<b>Interconnection of equipment</b>		P
3.5.1	General requirements		P
3.5.2	Types of interconnection circuits .....	SELV connections only	P
3.5.3	ELV circuits as interconnection circuits	No ELV circuits	P
3.5.4	Data ports for additional equipment	None provided	N/A

<b>4</b>	<b>PHYSICAL REQUIREMENTS</b>		P
<b>4.1</b>	<b>Stability</b>		P
	Angle of 10°	< 7 kg	N/A
	Test force (N) .....	Not floor standing equipment	N/A

<b>4.2</b>	<b>Mechanical strength</b>		P
4.2.1	General	No risk of electric shock or energy hazard	P
	Rack-mounted equipment.	Not rack mounted equipment	N/A
4.2.2	Steady force test, 10 N	No hazardous voltages present. Test deemed unnecessary	N/A
4.2.3	Steady force test, 30 N	30 N +/- 3 N for 5 s applied	P
4.2.4	Steady force test, 250 N	No hazardous voltages present. Test deemed unnecessary	N/A
4.2.5	Impact test	No hazardous voltages present. Test deemed unnecessary	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Fall test	See above	N/A
	Swing test	See above	N/A
4.2.6	Drop test; height (mm) .....		N/A
4.2.7	Stress relief test	No hazardous parts present	N/A
4.2.8	Cathode ray tubes	No cathode ray tubes	N/A
	Picture tube separately certified .....		N/A
4.2.9	High pressure lamps	No high pressure lamps	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....		N/A

<b>4.3</b>	<b>Design and construction</b>		P
4.3.1	Edges and corners	Smooth edges and corners	P
4.3.2	Handles and manual controls; force (N) .....		N/A
4.3.3	Adjustable controls	No adjustable controls present	N/A
4.3.4	Securing of parts	Completely sealed unit.	P
4.3.5	Connection by plugs and sockets	Keyed connection	P
4.3.6	Direct plug-in equipment	Not direct plug-in equipment	N/A
	Torque .....		—
	Compliance with the relevant mains plug standard .....		N/A
4.3.7	Heating elements in earthed equipment	No heating elements	N/A
4.3.8	Batteries	No batteries installed	N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease	No oil or grease	N/A
4.3.10	Dust, powders, liquids and gases	No dust, powders, liquids and gases	N/A
4.3.11	Containers for liquids or gases	No liquids or gases contained in the equipment	N/A
4.3.12	Flammable liquids .....	No flammable liquids present	N/A
	Quantity of liquid (l) .....		N/A
	Flash point (°C) .....		N/A
4.3.13	Radiation	No radiation present	N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation	No sources of ionizing radiation	N/A

<b>IEC 60950-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	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	No sources of UV radiation	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	No Lasers present. Low power LEDs for indication only, not considered an optical hazard	N/A
4.3.13.5.1	Lasers (including laser diodes)	No sources of Laser radiation	N/A
	Laser class .....		—
4.3.13.5.2	Light emitting diodes (LEDs)	Low power LEDs for indication only.	
4.3.13.6	Other types .....	Bluetooth RF within acceptable levels. Ref: EMC Report POLR0053.1	P

<b>4.4</b>	<b>Protection against hazardous moving parts</b>		N/A
4.4.1	General	No moving parts present	N/A
4.4.2	Protection in operator access areas .....		N/A
	Household and home/office document/media shredders	Not a shredder	N/A
4.4.3	Protection in restricted access locations .....		N/A
4.4.4	Protection in service access areas	No moving parts present	N/A
4.4.5	Protection against moving fan blades	No moving fan blades present	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
4.4.5.2	Protection for users	No moving parts present	N/A
	Use of symbol or warning .....		N/A
4.4.5.3	Protection for service persons	No moving parts present	N/A
	Use of symbol or warning .....		N/A

<b>4.5</b>	<b>Thermal requirements</b>		P
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Clause	Requirement + Test	Result - Remark	Verdict
4.5.1	General	The unit did not attain excessive temperatures during normal operation	P
4.5.2	Temperature tests	See appended table 4.5	P
	Normal load condition per Annex L .....		—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat .....	No hazardous voltages on thermoplastic parts	N/A

<b>4.6</b>	<b>Openings in enclosures</b>		N/A
4.6.1	Top and side openings	Completely sealed unit	N/A
	Dimensions (mm) .....		—
4.6.2	Bottoms of fire enclosures	Completely sealed unit	N/A
	Construction of the bottom, dimensions (mm) .....		—
4.6.3	Doors or covers in fire enclosures	No doors or covers	N/A
4.6.4	Openings in transportable equipment	Completely sealed unit	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	No adhesives used	N/A
	Conditioning temperature (°C), time (weeks) .....		—

<b>4.7</b>	<b>Resistance to fire</b>		P
4.7.1	Reducing the risk of ignition and spread of flame		P
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests	Method 1 used	N/A
4.7.2	Conditions for a fire enclosure	PWB rated 94V-0. Class III device. Fire enclosure not required	N/A
4.7.2.1	Parts requiring a fire enclosure	No hazardous voltages, SELV circuit. Fire enclosure not required	N/A
4.7.2.2	Parts not requiring a fire enclosure	All components	P
4.7.3	Materials		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.1	General	SELV only. Materials used to minimize propagation of fire.	N/A
4.7.3.2	Materials for fire enclosures		N/A
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	PWB rated 94V-0. No fire enclosure required	N/A
4.7.3.5	Materials for air filter assemblies	No air filters present	N/A
4.7.3.6	Materials used in high-voltage components	No high voltage components present	N/A

<b>5</b>	<b>ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS</b>		P
<b>5.1</b>	<b>Touch current and protective conductor current</b>		N/A
5.1.1	General	Class III SELV product. No shock hazard present	N/A
5.1.2	Configuration of equipment under test (EUT)		N/A
5.1.2.1	Single connection to an a.c. mains supply	Not connected to a.c. mains supply	N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply	Not connected to a.c. mains supply	N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply	Not connected to a.c. mains supply	N/A
5.1.3	Test circuit	Not connected to TH or TT power distribution systems	N/A
5.1.4	Application of measuring instrument	Not connected to mains supply	N/A
5.1.5	Test procedure	Not connected to mains supply	N/A
5.1.6	Test measurements	Not connected to mains supply	N/A
	Supply voltage (V) .....		—
	Measured touch current (mA) .....		—
	Max. allowed touch current (mA) .....		—
	Measured protective conductor current (mA) .....		—
	Max. allowed protective conductor current (mA) ..		—
5.1.7	Equipment with touch current exceeding 3,5 mA	Not connected to mains supply	N/A
5.1.7.1	General .....		N/A
5.1.7.2	Simultaneous multiple connections to the supply	Not connected to mains supply	N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	No telecommunication networks / cable distribution systems present	N/A

<b>IEC 60950-1</b>			
<b>Clause</b>	<b>Requirement + Test</b>	<b>Result - Remark</b>	<b>Verdict</b>
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system	No telecommunications networks / cable distribution systems present	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	Not connected to telecommunications network	N/A
	a) EUT with earthed telecommunication ports ..... :		N/A
	b) EUT whose telecommunication ports have no reference to protective earth	Not connected to telecommunications network	N/A
<b>5.2</b>	<b>Electric strength</b>		N/A
5.2.1	General		N/A
5.2.2	Test procedure	No safety insulation considered	N/A
<b>5.3</b>	<b>Abnormal operating and fault conditions</b>		P
5.3.1	Protection against overload and abnormal operation	Class III SELV product. No shock hazard present. No further testing necessary.	N/A
5.3.2	Motors	No motors present	N/A
5.3.3	Transformers	No transformers present	N/A
5.3.4	Functional insulation ..... :	Complies with requirements. 94V-0 rating.	P
5.3.5	Electromechanical components	No electromechanical components present	N/A
5.3.6	Audio amplifiers in ITE ..... :	No Audio amplifiers	N/A
5.3.7	Simulation of faults		N/A
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		N/A
5.3.9.1	During the tests		N/A
5.3.9.2	After the tests		N/A
<b>6</b>	<b>CONNECTION TO TELECOMMUNICATION NETWORKS</b>		N/A
<b>6.1</b>	<b>Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment</b>		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1	Requirements	No telecommunication networks	N/A
	Supply voltage (V) .....		—
	Current in the test circuit (mA) .....		—
6.1.2.2	Exclusions .....		N/A
<b>6.2</b>	<b>Protection of equipment users from overvoltages on telecommunication networks</b>		N/A
6.2.1	Separation requirements	No telecommunication networks	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
<b>6.3</b>	<b>Protection of the telecommunication wiring system from overheating</b>		N/A
	Max. output current (A) .....		—
	Current limiting method .....		—
<b>7</b>	<b>CONNECTION TO CABLE DISTRIBUTION SYSTEMS</b>		N/A
<b>7.1</b>	<b>General</b>	No cable distribution systems	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	No cable distribution systems	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	No 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
<b>A</b>	<b>ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE</b>		N/A
<b>A.1</b>	<b>Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)</b>	Approved UL flammability rated plastics	N/A
A.1.1	Samples .....		—
	Wall thickness (mm).....		—
A.1.2	Conditioning of samples; temperature (°C) .....		N/A

<b>IEC 60950-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
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).....		—
<b>A.2</b>	<b>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)</b>		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).....		—
<b>A.3</b>	<b>Hot flaming oil test (see 4.6.2)</b>		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>B</b>	<b>ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)</b>		N/A
<b>B.1</b>	<b>General requirements</b>	No motors requiring investigation	N/A
	Position .....		—

<b>IEC 60950-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	Manufacturer .....		—
	Type .....		—
	Rated values .....		—
<b>B.2</b>	<b>Test conditions</b>	No motors requiring investigation	N/A
<b>B.3</b>	<b>Maximum temperatures</b>		N/A
<b>B.4</b>	<b>Running overload test</b>		N/A
<b>B.5</b>	<b>Locked-rotor overload test</b>	No motors requiring investigation	N/A
	Test duration (days) .....		—
	Electric strength test: test voltage (V) .....		—
<b>B.6</b>	<b>Running overload test for d.c. motors in secondary circuits</b>	No motors requiring investigation	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>B.7</b>	<b>Locked-rotor overload test for d.c. motors in secondary circuits</b>	No motors requiring investigation	N/A
B.7.1	General		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>B.8</b>	<b>Test for motors with capacitors</b>	No motors with capacitors requiring investigation	N/A
<b>B.9</b>	<b>Test for three-phase motors</b>	No three-phase motors requiring investigation	N/A
<b>B.10</b>	<b>Test for series motors</b>	No series motors requiring investigation	N/A
	Operating voltage (V) .....		—
<b>C</b>	<b>ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)</b>		N/A
	Position .....	No transformers present	—
	Manufacturer .....		—
	Type .....		—
	Rated values .....		—
	Method of protection .....		—

<b>IEC 60950-1</b>			
<b>Clause</b>	<b>Requirement + Test</b>	<b>Result - Remark</b>	<b>Verdict</b>
<b>C.1</b>	<b>Overload test</b>	No transformers present	N/A
<b>C.2</b>	<b>Insulation</b>	No transformers present	N/A
	Protection from displacement of windings .....		N/A
<b>D</b>	<b>ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)</b>		N/A
<b>D.1</b>	<b>Measuring instrument</b>	Class III equipment	N/A
<b>D.2</b>	<b>Alternative measuring instrument</b>		N/A
<b>E</b>	<b>ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)</b>		N/A
<b>F</b>	<b>ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)</b>		N/A
<b>G</b>	<b>ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES</b>		N/A
<b>G.1</b>	<b>Clearances</b>	Alternative method not used	N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
<b>G.2</b>	<b>Determination of mains transient voltage (V)</b>		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
<b>G.3</b>	<b>Determination of telecommunication network transient voltage (V) .....</b>		N/A
<b>G.4</b>	<b>Determination of required withstand voltage (V)</b>		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
<b>G.5</b>	<b>Measurement of transient voltages (V)</b>		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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
<b>G.6</b>	<b>Determination of minimum clearances .....</b> :		N/A
<b>H</b>	<b>ANNEX H, IONIZING RADIATION (see 4.3.13)</b>		N/A
<b>J</b>	<b>ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)</b>		N/A
	Metal(s) used .....		—
<b>K</b>	<b>ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)</b>		N/A
K.1	Making and breaking capacity	No thermal controls	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
<b>L</b>	<b>ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)</b>		N/A
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		N/A
<b>M</b>	<b>ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)</b>		N/A
M.1	Introduction	No telephone ringing signals	N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringling 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) .....		—

<b>IEC 60950-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
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
<b>N</b>	<b>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)</b>		N/A
N.1	ITU-T impulse test generators	No impulse test required	N/A
N.2	IEC 60065 impulse test generator		N/A
<b>P</b>	<b>ANNEX P, NORMATIVE REFERENCES</b>		—
<b>Q</b>	<b>ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)</b>		N/A
	- Preferred climatic categories .....	No VDR's used	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
<b>R</b>	<b>ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES</b>		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
<b>S</b>	<b>ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)</b>		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
<b>T</b>	<b>ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)</b>		P
		IP68 declared but no for safety protection. Class III SELV device.	—

<b>IEC 60950-1</b>			
<b>Clause</b>	<b>Requirement + Test</b>	<b>Result - Remark</b>	<b>Verdict</b>
<b>U</b>	<b>ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)</b>		N/A
			—
<b>V</b>	<b>ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)</b>		N/A
V.1	Introduction	No AC power distribution systems present	N/A
V.2	TN power distribution systems	No TN power distribution systems present	N/A
<b>W</b>	<b>ANNEX W, SUMMATION OF TOUCH CURRENTS</b>		N/A
W.1	Touch current from electronic circuits	No summation of touch currents required	N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipment		N/A
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
<b>X</b>	<b>ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)</b>		N/A
X.1	Determination of maximum input current	No transformers present	N/A
X.2	Overload test procedure		N/A
<b>Y</b>	<b>ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)</b>		N/A
Y.1	Test apparatus .....	No UV lighting conditioning	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
<b>Z</b>	<b>ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)</b>		N/A
<b>AA</b>	<b>ANNEX AA, MANDREL TEST (see 2.10.5.8)</b>		N/A
<b>BB</b>	<b>ANNEX BB, CHANGES IN THE SECOND EDITION</b>		—

<b>IEC 60950-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>CC</b>	<b>ANNEX CC, Evaluation of integrated circuit (IC) current limiters</b>		N/A
CC.1	General	No IC current limiters	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
<b>DD</b>	<b>ANNEX DD, Requirements for the mounting means of rack-mounted equipment</b>		N/A
DD.1	General	Not rack mounted equipment	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
<b>EE</b>	<b>ANNEX EE, Household and home/office document/media shredders</b>		N/A
EE.1	General	Not a shredder	N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols.....:		N/A
	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					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity <sup>1)</sup>	
PCB	Suntak Multilayer PCB Co. LTD	STM-5	UL94V-0 130 °C Single layer 1.57 mm	UL 796	UL File E207844	
Enclosure	Formosa Chemicals & Fibre Corp	Tairiloy AC230(+)	UL94-HB Polycarbonate enclosure 1.65 mm	ANSI/UL 94	UL File E162823	
WiFi / BT combination module	Johanson	WL1831	BT – 10 dbm WiFi – 10 dbm	IEC 60950-1	Assed in appliance per 4.3.13.6	
<b>Supplementary information:</b>						
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.						

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		
No optoelectronic devices present		

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

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	I <sub>rated</sub> (A)	P (W)	Fuse #	I <sub>fuse</sub> (A)	Condition/status
14.0 VDC	0.162	1.1	2.27	N/A	N/A	Pass
Supplementary information: Class III device, SELV						

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:					
Class III device. No hazardous voltages present					

2.1.1.5 c) 2)	TABLE: stored energy		N/A
Capacitance C (µF)	Voltage U (V)	Energy E (J)	
supplementary information:			
No hazardous energies present			

2.2	TABLE: evaluation of voltage limiting components in SELV circuits			P
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components	
	V peak	V d.c.		
+14.0 VDC source and connector	--	14.0		
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)			
--	--			
supplementary information:				
Class III device, < 42.4 V peak				

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

<b>2.5</b>	<b>TABLE: Limited power sources</b>		N/A
------------	-------------------------------------	--	-----

Circuit output tested:

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

Components	Test condition (Single fault)	Uoc (V)	Isc (A)		VA	
			Meas.	Limit	Meas.	Limit

Supplementary information: No inherently limited output

Sc=Short circuit, Oc=Open circuit

<b>2.10.2</b>	<b>Table: working voltage measurement</b>		P
---------------	---	--	---

Location	RMS voltage (V)	Peak voltage (V)	Comments
Voltage input to unit	--	14.0	Pass

supplementary information:

<b>2.10.3 and 2.10.4</b>	<b>TABLE: Clearance and creepage distance measurements</b>		N/A
------------------------------	--	--	-----

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: Class III product. No safety relevant insulation considered.

<b>2.10.5</b>	<b>TABLE: Distance through insulation measurements</b>		N/A
---------------	--	--	-----

Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
--	--	--	--	--	--

Supplementary information: No safety relevant insulation considered in this product

IEC 60950-1										
Clause	Requirement + Test			Result - Remark				Verdict		
<b>4.3.8</b>	<b>TABLE: Batteries</b>								N/A	
The tests of 4.3.8 are applicable only when appropriate battery data is not available				No batteries present				N/A		
Is it possible to install the battery in a reverse polarity position?				No batteries present				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.	
Max. current during normal condition										
Max. current during fault condition										
Test results:										
- Chemical leaks								N/A		
- Explosion of the battery								N/A		
- Emission of flame or expulsion of molten metal								N/A		
- Electric strength tests of equipment after completion of tests								N/A		
Supplementary information: No batteries installed										

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

<b>4.3.8</b>	<b>TABLE: Batteries</b>		N/A
--------------	-------------------------	--	-----

Battery category .....	No Batteries installed
Manufacturer.....	
Type / model .....	
Voltage.....	
Capacity.....	
Tested and Certified by (incl. Ref. No.) .....	
Circuit protection diagram:	

MARKINGS AND INSTRUCTIONS (1.7.13)	
Location of replaceable battery	No Batteries installed
Language(s) .....	No Batteries installed
Close to the battery .....	No Batteries installed
In the servicing instructions .....	No Batteries installed
In the operating instructions .....	No Batteries installed

<b>4.5</b>	<b>TABLE: Thermal requirements</b>						P
	Supply voltage (V) .....	14.0 Vdc	--	--	--	--	—
	Ambient T <sub>min</sub> (°C) .....	23.8	--	--	--	--	—
	Ambient T <sub>max</sub> (°C) .....	24.0	--	--	--	--	—
	Maximum measured temperature T of part/at.....	T (°C)					Allowed T <sub>max</sub> (°C)
	Enclosure	37.8 (83.9)	--	--	--	--	95.0
	PCB	48.7 (94.8)	--	--	--	--	130.0

Supplementary information:

The values between parenthesis above have been corrected to a maximum operational ambient of 70 °C

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

Supplementary information: No transformers present

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

<b>4.5.5</b>	<b>TABLE: Ball pressure test of thermoplastic parts</b>		N/A
	Allowed impression diameter (mm) .....	≤ 2 mm	—
Part		Test temperature (°C)	Impression diameter (mm)
Supplementary information: Acceptable per UL E File E162823			

<b>4.7</b>	<b>TABLE: Resistance to fire</b>					P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
PCB	Suntak Multilayer PCB Co. LTD	STM-5	1.57	94V-0	UL File E207884	
Enclosure	Formosa Chemicals & Fibre Corp	Tairiloy AC230(+)	1.65	94-HB	UL File E162823	
Supplementary information:						

<b>5.1</b>	<b>TABLE: touch current measurement</b>			N/A
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	
supplementary information:				
All SELV Circuits				

<b>5.2</b>	<b>TABLE: Electric strength tests, impulse tests and voltage surge tests</b>			N/A
Test voltage applied between:	Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No	
Functional:				
Basic/supplementary:				
Reinforced:				
Supplementary information: No safety insulation considered				

IEC 60950-1							
Clause	Requirement + Test					Result - Remark	Verdict
<b>5.3</b>	<b>TABLE: Fault condition tests</b>						N/A
	Ambient temperature (°C) .....						—
	Power source for EUT: Manufacturer, model/type, output rating .....						—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	
--	--	--	--	--	--	--	
Supplementary information: Fault condition test deemed unnecessary due to SELV circuit. Insulation complies with requirement 94V-0							

<b>C.2</b>	<b>TABLE: transformers</b>							N/A
Loc.	Tested insulation		Working voltage peak / V	Working voltage rms / V	Required electric strength	Required clearance / mm	Required creepage distance / mm	Required distance thr. insul.
			(2.10.2)	(2.10.2)	(5.2)	(2.10.3)	(2.10.4)	(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:								
No transformers present								

<b>C.2</b>	<b>TABLE: transformers</b>							N/A
None present								

## Attachment 1 – Test Equipment Used

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration due date
1.6	Power Interface	Gossen M249A DMM	SMR	2020-06-13
1.7.11	Durability	Hexane	--	N/A
1.7.11	Durability	Control Company 1051 Stopwatch	SMM	2020-07-08
2.2.2	Voltages under normal conditions	Gossen M249A DMM	SMQ	2020-05-08
4.2.3	Steady Force	ED&D AFI-500N Force Gauge	SLS	2020-08-16
4.5.2	Temperature	Extech SD700 Data Logger	SLE	2020-10-15
4.5.2	Temperature	Graphtec GL240 Chart Recorder	SLG	2020-05-13

Note: Equipment used was within calibration date at time of testing and has since been calibrated where shown as elapsed.

Attachment 2 – EN National Differences			
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\_1G

**Attachment Originator** .....: SGS Fimko Ltd

**Master Attachment** .....: Date 2014-02

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**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"		P
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		P
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		P
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		P

<b>IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
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.		P
1.1.1 (A1:2010)	<b>Replace</b> 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.		P
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.	No audio circuits	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	Deleted	P
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 *	Noted	P
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.	Not a portable sound system	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.	Not a portable sound system	N/A
	<b>Zx Protection against excessive sound pressure from personal music players</b>		N/A

<b>IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)</b>			
<b>Clause</b>	<b>Requirement + Test</b>	<b>Result - Remark</b>	<b>Verdict</b>
	<p><b>Zx.1 General</b></p> <p>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.</p> <p>A personal music player is a portable equipment <input type="checkbox"/> for personal use, that:</p> <ul style="list-style-type: none"> <li>– is designed to allow the user to listen to recorded or broadcast sound or video; and</li> <li>– primarily uses headphones or earphones that can be worn in or on or around the ears; and</li> <li>– allows the user to walk around while in use.</li> </ul> <p>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.</p> <p>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.</p> <p>The requirements in this sub-clause are valid for music or video mode only.</p> <p>The requirements do not apply:</p> <ul style="list-style-type: none"> <li>– while the personal music player is connected to an external amplifier; or</li> <li>– while the headphones or earphones are not used.</li> </ul> <p>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.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> <li>– hearing aid equipment and professional equipment;</li> </ul> <p>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.</p>	Not a personal music player	N/A

<b>IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)</b>			
<b>Clause</b>	<b>Requirement + Test</b>	<b>Result - Remark</b>	<b>Verdict</b>
	<p>– 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.</p> <p>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.</p> <p>For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.</p>	Not a personal music player	N/A
	<p><b>Zx.2 Equipment requirements</b></p> <p>No safety provision is required for equipment that complies with the following:</p> <p>– equipment provided as a package (personal music player with its listening device), where the acoustic output <math>L_{Aeq,T}</math> is <math>\leq 85</math> dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and</p> <p>– a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is <math>\leq 27</math> mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1.</p> <p>NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level <math>L_{Aeq,T}</math> is meant. See also Zx.5 and Annex Zx.</p> <p>All other equipment shall:</p> <p>a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and</p> <p>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</p>	Not a personal music player	N/A

<b>IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)</b>			
<b>Clause</b>	<b>Requirement + Test</b>	<b>Result - Remark</b>	<b>Verdict</b>
	<p>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</p> <p>NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.</p> <p>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.</p> <p>d) have a warning as specified in Zx.3; and</p> <p>e) not exceed the following:</p> <ol style="list-style-type: none"> <li>1) equipment provided as a package (player with its listening device), the acoustic output shall be <math>\leq 100</math> dBA measured while playing the fixed "programme simulation noise" described in EN 50332-1; and</li> <li>2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be <math>\leq 150</math> mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" described in EN 50332-1.</li> </ol> <p>For music where the average sound pressure (long term <math>L_{Aeq,T}</math>) 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.</p> <p>NOTE 4 Classical music typically has an average sound pressure (long term <math>L_{Aeq,T}</math>) 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.</p> <p>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.</p>		N/A

<b>IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)</b>			
<b>Clause</b>	<b>Requirement + Test</b>	<b>Result - Remark</b>	<b>Verdict</b>
	<p><b>Zx.3 Warning</b></p> <p>The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:</p> <ul style="list-style-type: none"> <li>– the symbol of Figure 1 with a minimum height of 5 mm; and</li> <li>– the following wording, or similar:</li> </ul> <p>“To prevent possible hearing damage, do not listen at high volume levels for long periods.”</p> <div style="text-align: center;">  </div> <p><b>Figure 1 – Warning label (IEC 60417-6044)</b></p> <p>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.</p>	Not a personal music player	N/A
	<p><b>Zx.4 Requirements for listening devices (headphones and earphones)</b></p>		N/A
	<p><b>Zx.4.1 Wired listening devices with analogue input</b></p> <p>With 94 dBA sound pressure output <math>L_{Aeq,T}</math>, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be <math>\geq 75</math> mV.</p> <p>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).</p> <p>NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.</p>	Not a listening device	N/A

<b>IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	<p><b>Zx.4.2 Wired listening devices with digital input</b></p> <p>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 <math>L_{Aeq,T}</math> of the listening device shall be <math>\leq 100</math> dBA.</p> <p>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.).</p> <p>NOTE An example of a wired listening device with digital input is a USB headphone.</p>	Not a listening device	N/A
	<p><b>Zx.4.3 Wireless listening devices</b></p> <p>In wireless mode:</p> <ul style="list-style-type: none"> <li>– with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and</li> <li>– respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and</li> <li>– 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 <math>L_{Aeq,T}</math> of the listening device shall be <math>\leq 100</math> dBA.</li> </ul> <p>NOTE An example of a wireless listening device is a Bluetooth headphone.</p>	Not a wireless listening device	N/A
	<p><b>Zx.5 Measurement methods</b></p> <p>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.</p> <p>NOTE Test method for wireless equipment provided without listening device should be defined.</p>	No audio circuits	N/A

<b>IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>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):</p> <p>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;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p>	No mains circuits	N/A
	<p>c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>	Class III product	N/A
2.7.2	This subclause has been declared 'void'.	Voided	N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	Deleted, Class III product	N/A
3.2.5.1	<p>Replace "60245 IEC 53" by "H05 RR-F";</p> <p>"60227 IEC 52" by "H03 VV-F or H03 VVH2-F";</p> <p>"60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".</p> <p>In Table 3B, replace the first four lines by the following:</p> <p>Up to and including 6   0,75 <sup>a)</sup>   Over 6  up to and including 10   (0,75) <sup>b)</sup> 1,0   Over 10  up to and including 16   (1,0) <sup>c)</sup> 1,5  </p> <p>In the conditions applicable to Table 3B delete the words "in some countries" in condition <sup>a)</sup>.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Replaced, Class III product	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

<b>IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)</b>			
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	Class III product	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 (artificial optical radiation).	WiFi / BT combination module measured output power: 6.682 dbm Ref: 2.4 Ghz Bluetooth Radio Report # POLR0053.1	P
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.	No ionizing radiation	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.		—

<b>ZA</b>	<b>NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS</b>	—
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<b>ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In <b>Denmark</b> , 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.	Class III product	N/A
1.2.13.14 (A11:2009)	In <b>Norway</b> and <b>Sweden</b> , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1 (A11:2009)	In <b>Finland</b> , <b>Norway</b> and <b>Sweden</b> , 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.	Class III product	N/A

<b>ZB ANNEX (normative)</b>			
<b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.8	In <b>Norway</b> , 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).	Not for IT power systems	N/A
1.5.9.4	In <b>Finland, Norway and Sweden</b> , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A

<b>ZB ANNEX (normative)</b>			
<b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	<p>In <b>Finland, Norway and Sweden</b>, 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.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In <b>Finland</b>: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In <b>Norway</b>: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In <b>Sweden</b>: "Apparaten skall anslutas till jordat uttag"</p>	Class III product	N/A
1.7.2.1 (A11:2009)	<p>In <b>Norway and Sweden</b>, 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.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>"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)."</p>		

<b>ZB ANNEX (normative)</b> <b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>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.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplede utstyr – og er tilkoplede et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkoplede av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.”</p> <p>Translation to Swedish:</p> <p>”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.”</p>		N/A
1.7.2.1 (A2:2013)	<p>In <b>Denmark</b>, 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.</p> <p>The marking text in <b>Denmark</b> shall be as follows: In <b>Denmark</b>: “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.”</p>	Class III product	N/A
1.7.5  1.7.5 (A11:2009)	<p>In <b>Denmark</b>, 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.</p> <p>For <b>CLASS II EQUIPMENT</b> the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>	No socket outlets	N/A

<b>ZB ANNEX (normative)</b> <b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5 (A2:2013)	<p>In <b>Denmark</b>, socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011.</p> <p>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.</p> <p>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.</p> <p>Justification the Heavy Current Regulations, 6c</p>	No socket outlets	N/A
2.2.4	In <b>Norway</b> , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	Not for connection to telecommunication network	N/A
2.3.2	In <b>Finland, Norway and Sweden</b> there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	Not for connection to telecommunication network	N/A
2.3.4	In <b>Norway</b> , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	Not for connection to telecommunication network	N/A
2.6.3.3	In the <b>United Kingdom</b> , the current rating of the circuit shall be taken as 13 A, not 16 A.	Noted. Not connected to mains supply	N/A
2.7.1	In the <b>United Kingdom</b> , 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.	Noted. Not connected to mains supply	N/A
2.10.5.13	In <b>Finland, Norway and Sweden</b> , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	Not connected to telecommunications network	N/A
3.2.1.1	<p>In <b>Switzerland</b>, 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:</p> <p>SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A</p>	Class III product.	N/A

<b>ZB ANNEX (normative)</b> <b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A</p> <p>SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A</p> <p>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:</p> <p>SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A</p> <p>SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A</p> <p>SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A</p>		N/A
3.2.1.1	<p>In <b>Denmark</b>, supply cords 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.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If 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.</p>	Class III product	N/A

<b>ZB ANNEX (normative)</b> <b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1 (A2:2013)	<p>In <b>Denmark</b>, 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.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.</p> <p>Justification the Heavy Current Regulations, 6c</p>	Class III product. No connected to mains supply	N/A
3.2.1.1	<p>In <b>Spain</b>, 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.</p> <p>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.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>	Class III product	N/A
3.2.1.1	<p>In the <b>United Kingdom</b>, 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.</p> <p>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>	Class III product	N/A

<b>ZB ANNEX (normative)</b> <b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In <b>Ireland</b> , 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.	Class III product	N/A
3.2.4	In <b>Switzerland</b> , for requirements see 3.2.1.1 of this annex.	Class III product	N/A
3.2.5.1	In the <b>United Kingdom</b> , a power supply cord with conductor of 1,25 mm <sup>2</sup> is allowed for equipment with a rated current over 10 A and up to and including 13 A.	Class III product	N/A
3.3.4	In the <b>United Kingdom</b> , 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 <sup>2</sup> to 1,5 mm <sup>2</sup> nominal cross-sectional area.	Class III product	N/A
4.3.6	In the <b>United Kingdom</b> , 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.	Not a direct plug in type of equipment	N/A
4.3.6	In <b>Ireland</b> , 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.	Not a direct plug in type of equipment	N/A

<b>ZB ANNEX (normative)</b>			
<b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	<p>In <b>Finland, Norway and Sweden</b> TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:</p> <ul style="list-style-type: none"> <li>• STATIONARY PLUGGABLE EQUIPMENT TYPE A that <ul style="list-style-type: none"> <li>is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and</li> <li>has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and</li> <li>is provided with instructions for the installation of that conductor by a SERVICE PERSON;</li> </ul> </li> <li>• STATIONARY PLUGGABLE EQUIPMENT TYPE B;</li> <li>• STATIONARY PERMANENTLY CONNECTED EQUIPMENT.</li> </ul>	Class III product	N/A
6.1.2.1 (A1:2010)	<p>In <b>Finland, Norway and Sweden</b>, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> <li>- two layers of thin sheet material, each of which shall pass the electric strength test below, or</li> <li>- one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.</li> </ul> <p>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</p> <ul style="list-style-type: none"> <li>- 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</li> <li>- is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.</li> </ul>	Connection to SELV only, no connection to earth	N/A

<b>ZB ANNEX (normative)</b> <b>SPECIAL NATIONAL CONDITIONS (EN)</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> <li>- the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1;</li> <li>- the additional testing shall be performed on all the test specimens as described in EN 60384-14:</li> <li>- the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.</li> </ul>	No optocoupler provided	N/A
6.1.2.2	In <b>Finland, Norway and Sweden</b> , 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.	Class III product. Not permanently connected equipment	N/A
7.2	In <b>Finland, Norway and Sweden</b> , 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.	Not for connection to cable distribution system or telecommunications network	N/A
7.3 (A11:2009)	In <b>Norway and Sweden</b> , 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
<b>PVC insulated cords</b>		
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
<b>Rubber insulated cords</b>		
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
<b>Cords having high flexibility</b>		
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

Attachment 3 – US National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ATTACHMENT TO TEST REPORT IEC 60950-1 with A1: 2009 and A2:2013</b> <b>U.S.A. NATIONAL DIFFERENCES</b> 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_1G
Attachment Originator.....	UL
Master Attachment .....	Date 2014-07
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	Special national conditions		N/A
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	Not connected to mains supply	N/A
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75	Not connected to computer data processing equipment	N/A
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors	Not a baby monitor	N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A	Not connected to AC mains supply	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 /NEC	No interconnecting cable present	N/A
	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	No mains cord used	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	Not connected to AC mains supply	N/A

	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	Not connected to AC mains supply	N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions"		N/A
	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"	No mains supply connection	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	No class 2 output	N/A
	- Marking is located adjacent to the terminals		N/A
	- 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	No fuses used to provide Class 2 output, limited power or TNV	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)	No isolated ground receptacles	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.	No standard supply outlets, receptacles or such transformers	N/A
	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	Not connected to AC mains supply	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	Not connected to AC mains supply	N/A
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	No such connection to a centralized DC power System	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	No such permanent connection employed	N/A
3.2.5	Power supply cords are no longer than 4.5 m in length	No mains cord used	N/A

	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
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC		N/A
3.2.9	Permanently connected equipment has a suitable wiring compartment and wire bending space	Not considered permanently connected equipment	N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0	No mains connection	N/A
3.3.3	Wire binding screws are not attached with conductors larger than 10 AWG (5.3 mm <sup>2</sup> )	Not considered permanently connected equipment	N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are	Not considered permanently connected equipment	N/A
	- rated 125 per cent of the equipment rating, and		N/A
	- 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"	Revised	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,	No motor control device present	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	No such switch or breaker requiring orientation	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	No such battery system capability	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30	No flammable liquid present	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).	No lasers present	N/A

4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m <sup>3</sup> (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge	Not for computer room application	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9m <sup>2</sup> (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less		N/A
	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	Not intended for use in such environments	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)	Does not produce ionizing radiation	N/A
	<b>Other National Differences</b>		P
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	See safety component list	P
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	Not connected to DC mains 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 <sub>peak</sub> 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	No TNV-2 and TNV-3	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	No TNV circuits	N/A
2.6.2	Equipment with functional earthing marked with the functional earthing symbol (IEC 60417-6092)	None	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	Class III equipment. No such conductor	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	No such enclosures	N/A
4.3.2	Equipment with handles complies with special loading tests	No handles present	N/A
4.3.8	Battery packs for both portable and stationary applications comply with special component requirements	No batteries present	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests	Not intended to receive telecommunication ringing signals	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	There are no user-serviceable parts. Device completely sealed	N/A
	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		N/A
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	No direct connection to telecommunication circuit	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	Not a document shredder	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	No direct connection to telecommunication circuit	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	No such connection to these networks nor earphone provided	N/A

Attachment 4 – CA National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ATTACHMENT TO TEST REPORT IEC 60950-1 with A1:2009 and A2:2013</b> <b>CANADA NATIONAL DIFFERENCES</b> Information technology equipment – Safety – Part 1: General requirements			
<b>Differences according to</b> .....: CAN/CSA-C22.2 No. 60950-1-07, Amd 1:2011, Amd 2:2014			
<b>Attachment Form No.</b> ....: CA_ND_IEC60950_1g			
<b>Attachment Originator</b> .....: CSA			
<b>Master Attachment</b> .....: Date (2015-05)			
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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.	Not connected to mains supply	N/A
1.1.2	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.	Not a baby monitor	N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A:	Not connected to AC mains supply	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/NEC are required to have special construction features and identification markings.	No mains cord used	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."	Not connected to AC mains supply	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.	None used	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.	No fuses used to provide class 2 output, limited power or TNV	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).	No isolated ground receptacles	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.	No such outlets/receptacles provided in the product	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.	Not connected to AC mains supply	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.	No mains cords used	N/A
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.	Not connected to a centralized DC power system	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.	No such permanent connection employed	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.	No mains power cord used	N/A
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	Not permanently connected equipment	N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0	No such terminals	N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm <sup>2</sup> ).	No mains binding screws present	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).	Not permanently connected equipment	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."	Class III equipment	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).	No motor control devices present	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.	No such switch or breaker requiring orientation	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.	Not used in a computer room application	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.	No such flammable liquid present	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).	No lasers present	N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m <sup>3</sup> (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.	Not used in a computer room application.	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m <sup>2</sup> (10 sq ft) or a single dimension greater than 1.8 m (6 ft) 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.	Not used in a computer room application	N/A
	Non-metallic enclosures of equipment for use in spaces used for environmental air (plenums) are required to comply with UL 2043.	Not intended for use in such environments	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).	Equipment does not produce ionizing radiation	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	P
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.	Not connected to DC mains supply	N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V <sub>peak</sub> or 60 V <sub>d.c.</sub> , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No TNV circuitry	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.	No TNV circuitry	N/A
2.6.2	Equipment with functional earthing is required to be marked with the functional earthing symbol (IEC 60417-6092).	No functional earthing	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.	No such bonding means with traces employed where dependent upon for safety	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.	No CRT's	N/A
4.3.2	Equipment with handles is required to comply with special loading tests.	No handles present	N/A
4.3.8	Battery packs for both portable and stationary applications are required to comply with special component requirements.	No battery packs present	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	No TNV connection	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.	No user serviceable parts. Device completely sealed	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.	No connection to telecommunication network	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.	Not a document/media shredder	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.	No TNV circuitry	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.	No connection to a telecommunication or cable networks, no earphone present.	N/A

Attachment 5 – AU and NZ National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ATTACHMENT TO TEST REPORT IEC 60950-1 (AUSTRALIA/NEW ZEALAND) NATIONAL DIFFERENCES</b> (Information technology equipment-safety)			
<b>Differences according to</b> .....: AS/NZS 60950.1:2015			
<b>Attachment Form No.</b> ....: AU_NZ_ND_IEC60950_1G			
<b>Attachment Originator</b> .....: JAS-ANZ			
<b>Master Attachment</b> .....: 2017-06			
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	National Differences		--
<b>Appendix ZZ</b>	Variations to IEC 60950-1, Ed 2.2 (2013) for Australia and New Zealand		--
<b>1.2</b>	<b>DEFINITIONS</b>		--
	After definition 'PERSON, SERVICE', insert the following new definition: POTENTIAL IGNITION SOURCE.....1.2.12.201	Inserted	P
<b>1.5</b>	<b>COMPONENTS</b>		--
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'	Inserted	P
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	Inserted	P
<b>1.7</b>	<b>MARKINGS AND INSTRUCTIONS</b>		--

1.7.1.3	<i>Delete</i> existing text and <i>replace</i> 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	Replaced	P												
<b>2.9</b>	<b>ELECTRICAL INSULATION</b>		--												
2.9.2	Variation Second paragraph, <i>delete</i> the word 'designated'	Deleted	N/A												
<b>3.2.5</b>	<b>POWER SUPPLY CORDS</b>		N/A												
Table 3B	Variation 1. ... <i>Delete</i> the first four rows and replace with the following: <table border="1" data-bbox="341 815 954 1131"> <tr> <td>Over 0.2 up to and including 3</td> <td>0.5<sup>a</sup></td> <td>18 [0.8]</td> </tr> <tr> <td>Over 3 up to and including 7.5</td> <td>0.75</td> <td>16 [1.3]</td> </tr> <tr> <td>Over 7.5 up to including 10</td> <td>(0.75)<sup>b</sup> 1.00</td> <td>16 [1.3]</td> </tr> <tr> <td>Over 10 up to including 16</td> <td>(1.0)<sup>c</sup> 1.5</td> <td>14 [2]</td> </tr> </table>	Over 0.2 up to and including 3	0.5 <sup>a</sup>	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) <sup>b</sup> 1.00	16 [1.3]	Over 10 up to including 16	(1.0) <sup>c</sup> 1.5	14 [2]	No mains power supply cord present	N/A
Over 0.2 up to and including 3	0.5 <sup>a</sup>	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) <sup>b</sup> 1.00	16 [1.3]													
Over 10 up to including 16	(1.0) <sup>c</sup> 1.5	14 [2]													
	2. ... <i>Delete</i> NOTE 1 and renumber existing NOTE 2 as 'NOTE'		N/A												
	3. ... <i>Delete</i> Footnote <sup>a</sup> and replace with the following: <sup>a</sup> This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the to the plug does not exceed 2 m (0,5 mm <sup>2</sup> three-core supply flexible cords are not permitted; see AS/NZS 3191)		N/A												
<b>4.3</b>	<b>DESIGN AND CONSTRUCTION</b>		--												
4.3.6	Variation <i>Delete</i> the third paragraph and <i>replace</i> with the following:	Deleted	N/A												
	<i>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</i>	Not connected to mains supply	N/A												
4.3.8	Addition Eighth paragraph, <i>insert</i> 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.	Not connected to mains supply	N/A
4.3.13.5.1	Variation <i>Delete</i> the first paragraph and <i>replace</i> 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	No laser present	N/A
	Third paragraph, first sentence, after 'IEC 60825-1', <i>insert</i> the following text: or AS/NZS 60825.1		N/A
	Fourth paragraph, after 'IEC 60825-1', <i>insert</i> the following text: or AS/NZS 60825.1		N/A
<b>4.7</b>	<b>RESISTANCE TO FIRE</b>		--
4.7	Addition At the end of Clause 4.7, <i>insert</i> the following text: For alternate tests refer to Clause 4.7.201	Added	N/A
<b>6</b>	<b>CONNECTION TO TELECOMMUNICATIONS NETWORKS</b>		--
6.2.2	Variation For Australia only, <i>delete</i> the first paragraph and Note, and <i>replace</i> 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	No TNV circuits present	N/A
6.2.2.1	Variation For Australia only, <i>delete</i> the first paragraph including the Notes, and <i>replace</i> 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, $U_c$ , 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	No TNV circuits present	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

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
<b>7</b>	<b>CONNECTION TO CABLE DISTRIBUTION NETWORK</b>		--
7.3	Addition <i>Add</i> 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	No cable distribution system present	N/A
Annex P	Addition <i>Add</i> the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets	No cable distribution system present	N/A

	<b>Special national conditions (if any)</b>		--
<b>1.2.12</b>	<b>FLAMMABILITY</b>		--
1.2.12.15	Addition After Clause 1.2.12.15, <i>insert</i> the following new clause:	Added	N/A
<b>1.2.12.201</b>	<b>POTENTIAL IGNITION SOURCE</b> 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

	NOTE 2 This definition is from AS/NZS 60065:2012, Clause 2.8.11.		N/A
<b>4</b>	<b>PHYSICAL REQUIREMENTS</b>		--
4.1	Addition After Clause 4.1, <i>insert</i> new Clause 4.1.201 as follows:	Added	N/A
<b>4.1.201</b>	<b>Display devices used for television purposes</b> 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	Not a display device	N/A
<b>4.3</b>	<b>DESIGN AND CONSTRUCTION</b>		--
4.3.8	Addition After Clause 4.3.8, <i>add</i> the following new clause as follows	Added	N/A
<b>4.3.8.201</b>	<b>Products containing coin/button cell batteries and batteries designated R1</b> The requirements of AS/NZS 60065:2012 Amendment 1:2015, Clause 14.10.201 apply for this Clause.	No batteries present	N/A
<b>4.7</b>	<b>RESISTANCE TO FIRE</b>		--
4.7.3.6	Addition After Clause 4.7.3.6, <i>add</i> new clauses as follows:	Added. No high voltage components	N/A
<b>4.7.201</b>	<b>Resistance to fire—Alternative tests</b>		--
<b>4.7.201.1</b>	<b>General</b> 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.	Added, All materials have suitable flame class	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 mm <sup>3</sup> , integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10		N/A

	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
	<i>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</i>		N/A
	<i>For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5</i>		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
<b>4.7.201.2</b>	<p><b>Testing of non-metallic materials</b></p> <p>Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C</p> <p>Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.</p>	All materials have suitable flame class	N/A
<b>4.7.201.3</b>	<p><b>Testing of insulating materials</b></p> <p>Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C.</p> <p>The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection.</p> <p>NOTE Contacts in components such as switch contacts are considered to be connections.</p> <p>For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested.</p> <p>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:</p>	All materials have suitable flame class	N/A

	<b>Clause of AS/NZS 60695.11.5</b>	<b>Change</b>	All materials have suitable flame class	N/A
	<b>9 Test procedure</b>			
	<b>9.2 Application of Needle-flame</b>	<i>Delete</i> the first and second paragraphs and <i>replace</i> 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		
	<b>9.3 Number of test specimens</b>	<i>Delete</i> existing text and <i>replace</i> 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.		
	<b>11 Evaluation of test results</b>	<i>Delete</i> existing text and <i>replace</i> with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15s		
	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		All materials have suitable flame class	N/A

<b>4.7.201.4</b>	<p><b>Testing in the event of non-extinguishing material</b></p> <p>If parts, other than enclosures, do not withstand the glow wire tests of 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.</p>	All materials have suitable flame class	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
<b>4.7.201.5</b>	<p><b>Testing of printed boards</b></p> <p>The base material of printed boards shall be subjected to the needle-flame test of Clause 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.</p>	Printed board is V-0 flame rated. Testing of printed board not required	N/A

	<p>The test is not carried out if the</p> <ul style="list-style-type: none"> <li>– Printed board does not carry any POTENTIAL IGNITION SOURCE;</li> <li>– 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</li> <li>– 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</li> </ul> <p><i>Compliance shall be determined using the smallest thickness of the material.</i></p>		N/A
	<p>NOTE Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 m when the circuit supplied is disconnected.</p>	Not connected to mains supply	N/A

Attachment 6 – JP National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
<b>ATTACHMENT TO TEST REPORT</b> <b>IEC 60950-1 with A1: 2009 and A2:2013</b> <b>JAPAN NATIONAL DIFFERENCES</b> <b>Information technology equipment – Safety – Part 1: General requirements</b>			
<b>Differences according to</b> ..... : J60950-1 (H29)			
<b>Attachment Form No.</b> ..... : JP_ND_IEC60950_1G			
<b>Attachment Originator</b> ..... : JQA			
<b>Master Attachment</b> ..... : 2017-11			
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	<b>National Differences</b>		--
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.	Added. The product is Class III	N/A
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: <ul style="list-style-type: none"> <li>- using BASIC INSULATION, and</li> <li>- 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.               <ul style="list-style-type: none"> <li>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.</li> <li>b) Provision of an independent earthing terminal, when 2-core mains cord (without earthing conductor) is used.</li> </ul> </li> </ul> Note – CLASS 0I EQUIPMENT may have a part constructed with Double Insulation or Reinforced Insulation.	Added. The product is Class III	N/A

1.3.2	<p>Add the following notes after the first paragraph:</p> <p>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.</p> <p>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.</p>	Added. Not transportable equipment	N/A
1.5.1	<p>Replace the first paragraph with the follows:</p> <p>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.</p> <p>Replace Note 1 with the following:</p> <p>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.</p> <p>Note 2 JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.</p> <p>Add the following after the last paragraph:</p> <p>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.</p> <p>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.</p>	Class III product. No supply cord set provided	N/A
1.5.2	<p>Add the following Note 2 after the 4th dashed paragraph:</p> <p>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.</p>	Same as Above	N/A

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.	No cord set provided	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.	No gas discharge tube	N/A
1.7	Replace EE.2 and EE.4 with the following:  JA.1 Shredder warning JA.3 Shredder power disconnection	Not a document/media shredder	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;		P
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.	The client provided a written declaration that all the warnings related to safety shall also be written in the Japanese language when sold in country.	P
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).	Class III product. Such marking not required	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.	Class III product. No mains socket outlet.	N/A

1.7.5A	<p>Add the following new clause after 1.7.5.</p> <p>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”</p> <p><i>Example in Japanese:</i> “この機器に同梱(梱)した指定の電源コードセットだけを使用して”</p> <p>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</p> <p>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 <i>instruction should provide the information that the cord set is exclusively used with the equipment and not allowed to use with other equipment.</i></p>	Class III product. No power supply cord set provided	N/A
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1.7.14A	<p>Add the following new clause after 1.7.14.</p> <p>1.7.14A Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following or equivalent instructions shall be marked.</p> <p>- the following instruction shall be marked on the mains plug or on the visible place of the main body</p> <p>“Provide an earthing connection”</p> <p><i>Example in Japanese:</i> “必ず接地接続を行ってください。”</p> <p>- the following instruction shall be marked on the visible place of the main body or written in the operating instructions:</p> <p>“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.”</p> <p><i>Example in Japanese:</i> 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</p>	Class III product	N/A
1.7.14B	<p>Add the following new clause after 1.7.14A</p> <p>1.7.14B Protective earthing conductor used for CLASS 0I EQUIPMENT</p> <p>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)</p>	Class III equipment	N/A

2.1.1.1	<p>Replace item b) of 2.1.1.1 with the following.</p> <p>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.</p> <p>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.</p>	Class III product. No fuseholder, no operator access doors and covers	N/A
2.5	Replace "IEC 60730-1" with "JIS C 9730-1" (in item b)).		N/A
2.6.2	<p>Delete the following line.</p> <p>• the symbol , IEC 60417-5018 (2011-07);</p>		N/A
2.6.3.2	<p>Add the following after the first paragraph.</p> <p>However where the single core conductor is used for protective earthing lead or earthing cord for CLASS 01 EQUIPMENT, either of the following condition shall be met.</p> <ul style="list-style-type: none"> <li>- Use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having equivalent to or more strength and thickness.</li> <li>- Single core cord or single core cable with 1.25 mm<sup>2</sup> or more cross-sectional area</li> </ul>	Class III product. No supply cord provided	N/A
2.6.3.5	<p>Add the following after the first paragraph.</p> <p>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.</p>	Class III product. No supply cord provided	N/A

2.6.4.2	<p>Replace the first paragraph with the following.</p> <p>Equipment required to have protective earthing shall have a main protective earthing terminal.</p> <p>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.</p>	Class III product. No supply cord provided	N/A
2.6.5.4	<p>Replace the first sentence with the following.</p> <p>Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:</p> <p>Add the following after last paragraph:</p> <p>Note For CLASS 0I EQUIPMENT, 1.7.14A is applied instead of this requirement.</p>	Class III product	N/A
2.6.5.8A	<p>Add the following new clause after 2.6.5.8</p> <p>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.</p>	Class III product	N/A
2.7.6	Replace "ISO 3864, No. 5036" with "6.2.4 of JIS S 0101".	Replaced	N/A
2.10.3.1	<p>Replace the 8th paragraph with the following</p> <p>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.</p>	Replaced	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.	Noted. No connection to mains supply	N/A
2.10.4.3	<p>Replace the 6th paragraph with the following</p> <p>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.</p> <p>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.</p>		N/A
2.10.9	Replace "1.4.5" in the third paragraph with "1.4.12".		N/A
3.2.3	<p>Add the following after the third paragraph.</p> <p>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.</p>		N/A
3.2.4	<p>Add the following as 4th dashed paragraph.</p> <p>- 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.</p>	Class III product	N/A

3.2.5.1	<p>Add the following after Note 3:</p> <p>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.</p> <p>Replace the paragraph after Note 3 with the following.</p> <p>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.</p> <p>Add the following after the second paragraph after Note 3:</p> <p>Note 5 For the cross-sectional area of mains cord described in Note 4, relevant Japanese wiring regulation can be applied.</p>	Class III product. No mains cords provided	N/A
3.2.5A	<p>Add the following new clause after 3.2.5</p> <p>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.</p>	No connection to mains supply	N/A
3.3.4 Table 3D	<p>Add the following note to Table 3D:</p> <p>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.</p>		N/A
3.3.7	<p>Add the following after the first sentence:</p> <p>This requirement is not applicable to the external earthing terminal of CLASS 0I EQUIPMENT.</p>	Class III product	N/A

4.2.8	<p>Add the following after the first paragraph:</p> <p>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.</p>	No intrinsically protected picture tube present	N/A
4.3.4	<p>Add the following after the first sentence:</p> <p>This requirement also applies to those connections in CLASS 01 EQUIPMENT, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.</p>	Class III product	N/A
4.3.5	<p>Replace the first dashed paragraph with the following.</p> <p>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.</p>		N/A
4.3.6	<p>Replace the 1st paragraph with the following</p> <p>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)</p>	Not direct plug in equipment	N/A
4.4.2	<p>Replace the paragraph with the following:</p> <p>HOUSEHOLD AND HOME/OFFICE DOCUMENT/MEDIA SHREDDERS shall also comply with Annex JA.</p>	Not household and home/office document/media shredder	N/A
4.5.3	<p>Add the following note to footnote b) of Table 4B:</p> <p>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.</p>	Noted	P

5.1.3	<p>Add a note after the first paragraph as follows:</p> <p>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.</p>	Class III product	N/A																																				
5.1.6	<p>Replace Table 5A. as follows</p> <table border="1" data-bbox="335 537 978 1630"> <thead> <tr> <th>Type of equipment</th> <th>Terminal A of measuring instrument connected to:</th> <th>Maximum TOUCH CURRENT mA r.m.s.<sup>a</sup></th> <th>Maximum PROTECTIVE CONDUCTOR CURRENT</th> </tr> </thead> <tbody> <tr> <td>ALL equipment</td> <td>Accessible parts and circuits not connected to protective earth<sup>b</sup></td> <td>0,25</td> <td>-</td> </tr> <tr> <td rowspan="2">HAND-HELD</td> <td>Main protective earthing terminal of CLASS I EQUIPMENT</td> <td>0,75</td> <td>-</td> </tr> <tr> <td>Main protective earthing terminal of CLASS 0 I EQUIPMENT</td> <td>0,5</td> <td>-</td> </tr> <tr> <td rowspan="2">MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT)</td> <td>Main protective earthing terminal of CLASS I EQUIPMENT</td> <td>3,5</td> <td>-</td> </tr> <tr> <td>Main protective earthing terminal of CLASS 0 I EQUIPMENT</td> <td>1,0</td> <td>-</td> </tr> <tr> <td rowspan="2">STATIONARY, PLUGGABLE TYPE A</td> <td>Main protective earthing terminal of CLASS I EQUIPMENT</td> <td>3,5</td> <td>-</td> </tr> <tr> <td>Main protective earthing terminal of CLASS 0 I EQUIPMENT</td> <td>1,0</td> <td>-</td> </tr> <tr> <td rowspan="2">ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7</td> <td>Main protective earthing terminal of CLASS I EQUIPMENT</td> <td>3.5 -</td> <td>- 5 % of input current</td> </tr> <tr> <td>Main protective earthing terminal of CLASS 0 I EQUIPMENT</td> <td>1.0 -</td> <td>- -</td> </tr> </tbody> </table> <p>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.</p> <p>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.</p>	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. <sup>a</sup>	Maximum PROTECTIVE CONDUCTOR CURRENT	ALL equipment	Accessible parts and circuits not connected to protective earth <sup>b</sup>	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 -	- -	Class III product	N/A
Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. <sup>a</sup>	Maximum PROTECTIVE CONDUCTOR CURRENT																																				
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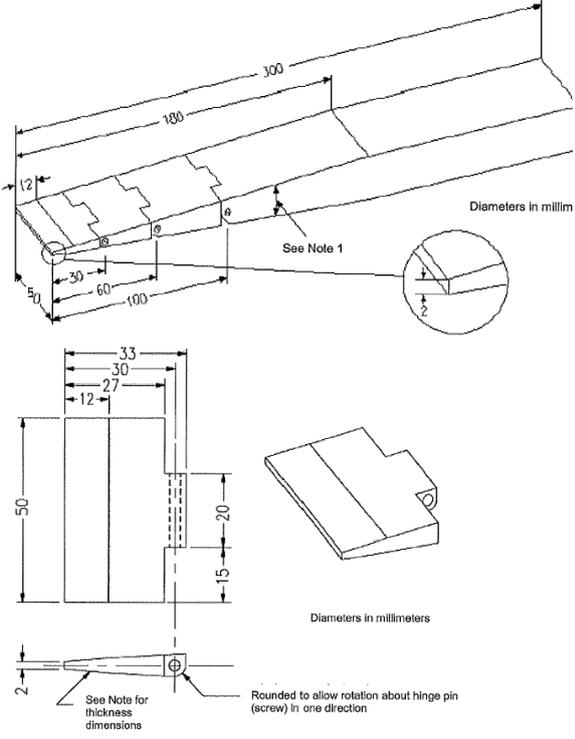
Annex G	<p>Replace the paragraph before Table G.2 with the following</p> <p>The above minimum CLEARANCE for connectors do not apply to connectors that comply with JIS C 8285, IEC60309 series of standards, JIS C 8283 series of standards, IEC60320 series of standards, JIS C 8303, and 1.5.1 of this standard in which dimension is comply with JIS C 8283 series, JIS C 8303 or IEC 60309-2.</p>		N/A
Annex V V.1	Replace "3.1.2" in the first line of V.1 with "312" in the first line.	Replaced	N/A
Annex W W.1	<p>Replace the third sentence in the first paragraph with the following:</p> <p>Floating circuits can exist in CLASS I EQUIPMENT, CLASS 0I EQUIPMENT and earthed circuits can exist in CLASS II EQUIPMENT.</p>	Replaced. Class III product	N/A
Annex BB	This annex is not applicable.		N/A
Annex CC CC.2	<p>Replace the third dashed paragraph with the following:</p> <p><i>- 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;</i></p>	No capacitor present	N/A
CC.3	<p>Add note at end of CC.3:</p> <p>Note: The fast blow fuse should be the one complying with JIS C 6575-2.</p>		N/A
CC.4	<p>Replace the 2nd dashed paragraph with the following:</p> <p>- 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;</p> <p>Replace the 4th dashed paragraph with the following:</p> <p>- 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;</p> <p>Replace the 5th dashed paragraph with the following:</p> <p>-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;</p> <p>Replace the 6th dashed paragraph with the following:</p> <p>-10 000 cycles of turning the input pin on and off with</p>	No such resistor present	N/A

	<p>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;</p> <p>Replace the 10th dashed paragraph with the following:</p> <p>–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;</p> <p>Replace the 11th dashed paragraph with the following:</p> <p>–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;</p>		
Annex EE	<p>Replace Annex EE with the following Annex JA.</p> <p style="text-align: center;">Annex JA (normative) Document shredding machines</p> <p>HOUSEHOLD AND HOME/OFFICE DOCUMENT/MEDIA SHREDDERS shall additionally comply with the requirements of this annex.</p> <p><b>JA.1 Markings and instructions</b></p> <p>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;</p> <p>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.)</p> <p>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)</p> <p>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 ;</p>	Not household and home/office document/media shredder	N/A

	<p>(that clothing can be drawn into the mechanical section for shredding when touching the document-slot)</p> <p>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</p> <p>；</p> <p>(that hairs can be drawn into the mechanical section for shredding when touching the document-slot)</p> <p>- in case of equipment incorporating a commutator motor,</p> <p>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</p> <p>(that equipment may catch fire or explode by spraying of flammable gas.)</p> <p><b>JA.2 Inadvertent reactivation</b></p> <p>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.</p> <p>Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1.</p> <p><b>JA.3 Disconnection from the mains supply</b></p> <p>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.</p> <p>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.</p> <p>Compliance is checked by inspection.</p>		
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	<p><b>JA.4 Protection against hazardous moving parts</b></p> <p>Any warning shall not be used instead of the structure for preventing access to hazardous moving parts.</p> <p>Document shredding machines shall comply with the following requirements.</p> <p>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.</p> <p>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.</p>	No moving parts	N/A
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	<p>Figure JA.1 Test finger</p>	<p>The use of the test probe not needed for this product</p>	<p>N/A</p>
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	 <p>(De)</p> <p>See Note 1</p> <p>See Note for thickness dimensions</p> <p>Rounded to allow rotation about hinge pin (screw) in one direction</p> <p>Diameters in millimeters</p> <table border="1" data-bbox="335 1176 973 1400"> <thead> <tr> <th>Distance from the tip (mm)</th> <th>Thickness of probe (mm)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>2</td> </tr> <tr> <td>12</td> <td>4</td> </tr> <tr> <td>180</td> <td>24</td> </tr> </tbody> </table> <p>Note 1 - The thickness of the probe varies linearly, with slope changes at the respective points shown in the table.</p> <p>Note 2 -The allowable dimensional tolerance of the probe is;</p> <p>for <math>\leq 25</math> mm: <math>\pm 0.13</math> mm</p> <p>for <math>&gt; 25</math> mm: <math>\pm 0.3</math> mm.</p> <p>Figure JA.2 Wedge-probe</p>	Distance from the tip (mm)	Thickness of probe (mm)	0	2	12	4	180	24	<p>The use of wedge probe was not needed for this product</p>	<p>N/A</p>
Distance from the tip (mm)	Thickness of probe (mm)										
0	2										
12	4										
180	24										

Attachment 7 – CN National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ATTACHMENT TO TEST REPORT IEC 60950-1</b> <b>CHINA NATIONAL DIFFERENCES</b> Information technology equipment Safety – Part 1: General requirements			
<b>Differences according to</b> .....	GB 4943.1--2011		
<b>Attachment Form No.</b> .....	CN_ND_IEC60950_1A		
<b>Attachment Originator</b> .....	CQC-TIRT		
<b>Master Attachment</b> .....	Date 2012-11		
<b>Copyright © 2012 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.</b>			

	<b>China National Differences</b>		--
1.5.2	Add a note behind the first dashed paragraph. Note: A component used shall comply with related requirements corresponding altitude of 5000m.	Noted: the product not operated at 2000 m or less	N/A
1.7	Add a paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.	The client provided a written declaration that all the warnings related to safety shall also be written in the Chinese language.	P
1.7.1	Amend dashed paragraph at the fifth paragraph : 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.	Not connected to mains supply	N/A

1.7.2.1	<p>Add requirements of warning for equipment intended to be used at altitude 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." </p> <p>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." </p> <p>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 acceptable to the regions where the apparatus is intended to be used.</p>	The equipment was designed and tested for use for altitudes less than 2000 m and a warning statement provided	P
2.7.1	<p>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.</p>	No mains circuit	N/A
2.9.2	<p>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 <math>40\pm 2^{\circ}\text{C}</math> and a relative humidity of <math>(93\pm 3)\%</math>. 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 <math>(93\pm 3)\%</math>. The temperature of the air, at all places where samples can be located, is maintained within <math>2^{\circ}\text{C}</math> of any convenient value between <math>20^{\circ}\text{C}</math> and <math>30^{\circ}\text{C}</math> 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.</p>	Class III equipment. No natural rubber, hygroscopic materials and materials containing asbestos used as insulation, approved printed wiring boards used. All parts of the equipment are considered sage to touch. Humidity conditioning test deemed unnecessary.	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 2.10.3.4: Minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment 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.		N/A
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.	Not connected to AC mains supply	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.	No CRT's present	N/A
Annex E	Amend last section: 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. 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.	No mains transformers present	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.	Class III equipment	N/A
Annex DD (normative)	<p>Added annex DD: Instructions for the new safety warning labels.</p> <p>DD.1 Altitude warning label </p> <p>Meaning of the label: Evaluation for apparatus only based on altitude not exceeding 2000m, therefore 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.</p> <p>DD.2 Climate warning label </p> <p>Meaning of the label: Evaluation for apparatus only based on temperate climate condition, therefore 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.</p>	Not rack mounted equipment	N/A
Annex EE (informative)	Added annex EE: Illustration relative to safety explanation in normative Chinese、Tibetan、Mongolian、Zhuang Language and Uighur.		P

<b>Special national conditions</b>			--
1.1.2	<p>GB4943.1-2011 applies to equipment used at altitudes not exceeding 5000m above sea level, primarily in regions with moderate or tropical climates.</p> <p>Revise 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;</p>	Equipment not intended to operate above 2000 m.	N/A
1.4.5	Amend the second paragraph by the following: If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10% and -10%.	Not connected to AC Mains supply	N/A

1.4.12.1	<p>Tma: The maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater.</p> <p>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.</p> <p>Add note 2: For equipment to be operated at 2000m-5000m above sea level, its temperature test conditions and temperature limits are under consideration.</p>	-10 C to +70 °C	P
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Attachment 8 – IL National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ATTACHMENT TO TEST REPORT IEC 60950 - 1, ed2, amd1</b> <b>ISRAEL NATIONAL DIFFERENCES</b> <b>(INFORMATION TECHNOLOGY EQUIPMENT – SAFETY:</b> <b>GENERAL REQUIREMENTS)</b>			
<b>Differences according to</b> .....		National standard SI 60950 - 1, ed2, amd1.	
<b>Attachment Form No.</b> .....		IL_ND_IEC60950_1C	
<b>Attachment Originator</b> .....		Standards Institution of Israel	
<b>Master Attachment</b> .....			
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	<b>National Differences</b>		--
1.6	<b>Power interface</b> The clause is applicable with the following addition:		--
1.6.1	<b>AC Power distribution systems</b>	Not connected to AC mains power	N/A
	At the end of the clause, the following note shall be added: <b>Note:</b> In Israel, the clause is subject to the Electricity Law, 1954, its Regulations and updates.		N/A
1.7	<b>Marking and instructions</b> The clause is applicable with the following additions:		--
1.7.1	<b>Power rating</b>	Not connected to mains supply	--
	Subclause 1.7.201 shall be added after the clause, as follows:		--
1.7.201	<b>Marking in the Hebrew language</b>		--
	Marking in the Hebrew language	The client provided a written declaration that all the warnings related to safety shall also be written in the Hebrew language.	P

1.7.2	<p>The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983.</p> <p>In addition to the marking required by clause 1.7.1, the following items shall be marked in the Hebrew language:</p> <ol style="list-style-type: none"> <li>1. Name of the apparatus and its commercial designation;</li> <li>2. Manufacturer's name and his address; if the equipment is imported, the importer's name and his address;</li> <li>3. Manufacturer's registered trademark, if any;</li> <li>4. Name of the model and serial number, if any;</li> <li>5. Country of manufacture.</li> </ol> <p>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.</p>	The client provided a written declaration that all these markings would be provided on the equipment / packaging / on a separate label, in the Hebrew language.	P
1.7.2.1	<p><b>General</b></p> <p>- The following shall be added at the end of the clause:</p> <p>All the instruction and all the warnings related to safety shall also be written in the Hebrew language.</p>	The client provided a written declaration that all the warnings related to safety shall also be written in the Hebrew language.	P
At the end of clause 1, clause 1.201 shall be added as follows:			
1.201	<p><b>Power consumption in standby mode</b></p> <p>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 %.</p>	Class III equipment. Not connected to mains supply	N/A
2	<p><b>Protection from hazards</b></p> <p>The clause is applicable with the following additions:</p>		--
2.9.4	<p><b>Separation from hazardous voltages</b></p> <p>The following shall be added at the beginning of the clause:</p> <p>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:</p> <ol style="list-style-type: none"> <li>1) Network system earthing - (TN-C-S, TN-S);</li> <li>2) Network system earthing - (TT);</li> <li>3) Network Insulation Terre - (IT);</li> <li>4) Isolated transformer;</li> <li>5) Safety extra low voltage;</li> <li>6) Residual current circuit breaker;</li> <li>7) Reinforced insulation; Double insulation</li> </ol>	Class III equipment. No hazardous voltages	N/A
- Clause 2.201 shall be added at the end of clause 2, as follows:			

2.201	<b>Prevention of electromagnetic interference</b> 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	<b>Wiring, connections and supply</b> The clause is applicable with the following additions:		N/A
3.2	<b>Connection to a mains supply</b>	Not connected to mains supply	N/A
3.2.1	<b>Means of connection</b>		N/A
3.2.1.1	<b>Connection to an a.c. mains supply</b> After the Note, the following note shall be added: <b>Note:</b> In Israel, the supply plug shall comply with the requirements in Israeli Standard, SI 32 Part 1.1.	Not connected to AC mains supply	N/A
3.2.1.2	<b>Connection to a d.c. mains supply</b> After the first paragraph, the following note shall be added: <b>Note:</b> As of the date of publication of this Standard, there is no Israeli Standard for connection accessories to d.c.	Not connected to DC mains supply	N/A

	<b>Special national conditions (if any)</b>		--
	ANNEX P <b>Normative references</b>		--
	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

Attachment 9 – KR National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ATTACHMENT TO TEST REPORT IEC 60950 - 1, ed2, amd1          REPUBLIC OF KOREA NATIONAL DIFFERENCES          (INFORMATION TECHNOLOGY EQUIPMENT – SAFETY:          GENERAL REQUIREMENTS)</b>			
<b>Differences according to</b> .....: National standard K 60950-1, ed2, amd1.			
<b>Attachment Form No.</b> .....: KR_ND_IEC60950_1C			
<b>Attachment Originator</b> .....: Standards Institution of Korea			
<b>Master Attachment</b> .....:			
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	National Differences		
1.5.101	1.5.101: Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	The client provided a written declaration that the equipment would be provided with a suitable plug.	P
8	<b>EMC</b>		
	The apparatus shall comply with the relevant CISPR standards.	The client provided evidence of compliance with a relevant EMC standard. Ref: Report POLR0053.1	P

## Attachment 10 – Items Submitted for assessment

The following test items were submitted for assessment: -

Sample Number	Test Item	Serial number	Date of receipt of test item
1	Connectivity Control Unit	CCU-2	2019-12-04

Attachment 11 – Photographs of the equipment

CCU Front View



CCU Rear View

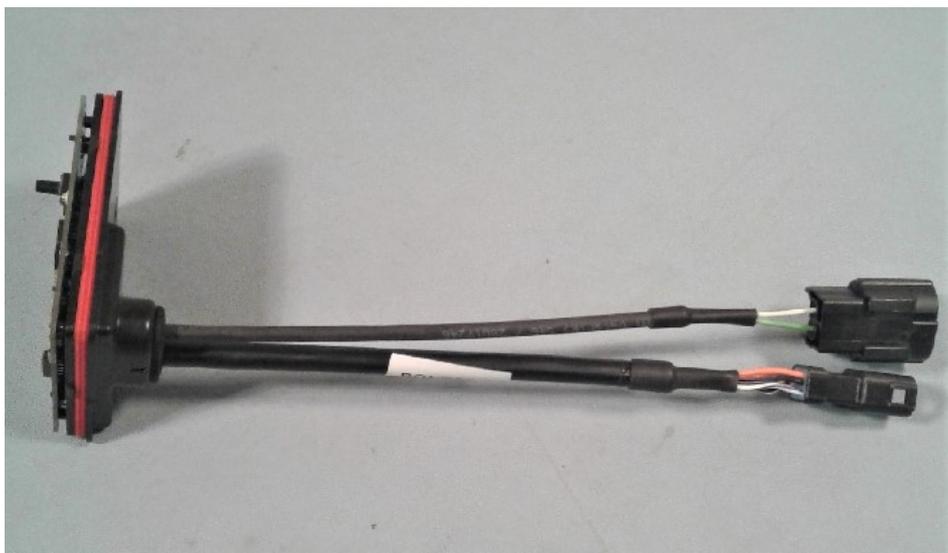


Attachment 11 – Photographs of the equipment

CCU Front Cover Removed View



CCU Front Cover Removed Side View



Attachment 11 – Photographs of the equipment (continued)

CCU PCB View

