QPS Evaluation Services Inc.

Testing, Certification and Field Evaluation Body
Accredited in Canada, the USA and Internationally

February 9, 2017

Nanoptix Inc.
699 Champlain Street
Dieppe, New Brunswick
E1A 1P6

Attention: Yvon Hache

Subject: Thermal Printer – Component & Desktop

Dear Yvon Hache,

We are pleased to enclose the Report for the *Thermal Printer – Component & Desktop, (*File No.: CB1123-1R1).

We have enclosed a Survey – QPS Customer Satisfaction Survey. Your feedback in regards to our services will help us to better assist you in the future.

May we take this opportunity to thank you for choosing QPS as your Safety Certification Agency and we look forward to assisting you in the future.

Best regards,

Laura Erzek
Customer Service
QPS Evaluation Services Inc.
Phone: (416) 241-8857 ext 257
Fax: (416) 241-0682
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www.qps.ca

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Tel: 416-241-8857 – Fax: 416-241-0682

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Toll free: 1-877-746-4777

CUSTOMER FILE HISTORY

File Number: LR1123

NANOPTIX INC.

Report/Application Number	Issue Date	Description
LR1123-1	November 3, 2011	Report Re-issued from LRE1123-1 Component type thermal printer. Rated DC 24V, 2.4A, Class III. Model name: - PayCheck Slim (103665) - PayCheck 3 (103563) - PayCheck 4 (950020) - Paycheck H/S Couponing (950011) Desktop thermal printer, model PayCheck DeskTop (950021). Rated DC 24V, 2.4A, Class III.
LR1123-2	November 3, 2011	Report Re-issued from LRE1123-2 Component type thermal printer. Rated DC 24V, 2.4A, Class III. Model name: - H/S Kiosk™ "C" (950007 or103544), - H/S Kiosk™ "V" (950000 or 103430) - HD-Kiosk™ "Thick Cutter" (950012) - HD-Kiosk™ "Thin Cutter" (950013) - EZ-Load™ (102317) - EZ-Load™ Stretch (950009)
LR1123-3	November 3, 2011	Report Re-issued from LRE1123-3 Desktop thermal printer, model Spill-Proof ™ (model number 100769). Class III. Rated 24Vdc, 2.5A. Water ingress protection IPX3. Desktop thermal printer, model Spill-Proof Cuts ™ (model number 102447). Class I. Rated 100-240Vac, 1.6A, 50-60Hz. Water ingress protection IPX1.
LR1123-2R1	November 21, 2011	Update to report LR1123-2. add model HSVL,(950100) EZ- Load (102317 or 950009). Also correction to Report to read H/S Kiosk "C" 950000 or 103544 and H/S Kiosk "V" 950007 or 103430 Component type thermal printer. Rated DC 24V, 2.4A, Class III H/S Kiosk™ "C" (950000 or103544), H/S Kiosk™ "V" (950007 or 103430) HD-Kiosk™ "Thick Cutter" (950012) HD-Kiosk™ "Thin Cutter" (950013)

CUSTOMER FILE HISTORY

File Number: LR1123

		EZ-Load™ (102317) EZ-Load™ Stretch (950009) HSVL (950100)
CB1123-1	Jan 10, 2012	Thermal Printer, Component; Model: 950100
CB1123-1R1	January 16, 2017	Re-issue CB1123-1 report to add two new Compnent Thermal Printers, Rated DC 24V, 2.4A, Class III. Model name: PayCheck NextGen (950050), PayCheck Desktop II (950051),
LR1123-1R1	January 16, 2017	Re-issue LR1123-1 report to add two new Compnent Thermal Printer, Rated DC 24V, 2.4A, Class III. Model name: PayCheck NextGen (950050), PayCheck Desktop II (950051),

Test Report issued under the responsibility of:

QPS Evaluation Services Inc.

TEST REPORT

IEC 60950-1

Information technology equipment – Safety – Part 1: General requirements

Report Number..... :	CB1123-1R1
Date of issue ..... :	January 16, 2017
Total number of pages	40
Applicant's name ..... :	Nanoptix Inc.
Address..... :	699 Champlain Street, Dieppe, New Brunswick E1A 1P6, Canada
Test specification:	
Standard ..... :	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Test procedure..... :	CB Scheme
Non-standard test method..... :	N/A
Test Report Form No. ..... :	IEC60950_1F
Test Report Form(s) Originator.... :	SGS Fimko Ltd
Master TRF ..... :	Dated 2014-02

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

General disclaimer:

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

Test item description ..... :	Thermal Printer - Component
Trade Mark ..... :	Nanoptix
Manufacturer ..... :	Nanoptix Inc.
Model/Type reference ..... :	HSVL, Model 950100; PayCheck®NextGen, Model 950050; and PayCheck®Desktop II, Model 950051
Ratings ..... :	24Vdc, 2.4 Amps

Testing procedure and testing location:			
☒	**CB Testing Laboratory:**	QPS Evaluation Services Inc.	
Testing location/ address.....:		81 Kelfield Street, Unit 8, Toronto, Ontario, Canada M9W 5A3	
☐	**Associated CB Testing Laboratory:**		
Testing location/ address.....:			
Tested by (name + signature) .....:		Shiping Zhu/ Shawn Noble	
Approved by (name + signature).....:		Zhanmin Yang	
☐	**Testing procedure: TMP/CTF Stage 1:**		
Testing location/ address.....:			
Tested by (name + signature) .....:			
Approved by (name + signature).....:			
☐	**Testing procedure: WMT/CTF Stage 2:**		
Testing location/ address.....:			
Tested by (name + signature) .....:			
Witnessed by (name + signature).....:			
Approved by (name + signature).....:			
☐	**Testing procedure: SMT/CTF Stage 3 or 4:**		
Testing location/ address.....:			
Tested by (name + signature) .....:			
Witnessed by (name + signature).....:			
Approved by (name + signature).....:			
Supervised by (name + signature) .....:			

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

Description	Content
Attachment 1 – USA National Differences	5 Pages
Attachment 2 – CAN National Differences	6 Pages
Attachment 3 – EU Group Differences and National Differences	19 Pages
Attachment 4 – Photos	3 Pages
Attachment 5 – Manual	38 Pages
Attachment 6 – Certification	1 Page

Summary of testing:

Following tests were conducted in original report CB1123-1

Tests performed (name of test and test clause):	**Testing location:**
1.6.2 Input Test 1.7.13 Durability of Marking Test 4.5.1 Temperature Rise Measurement 5.3 Abnormal Test	QPS Evaluation Services 81 Kelfield Street, Unit 8 Toronto, Ontario Canada M9W 5A3

The following tests were conducted in re-issued report CB1123-1R1:

1.6.2 Input Test 4.5.1 Temperature Rise Measurement 5.3 Abnormal Test 4.2.5 Impact Test	**Testing location:** QPS Evaluation Services 81 Kelfield Street, Unit 8 Toronto, Ontario Canada M9W 5A3

Summary of compliance with National Differences:

List of countries addressed

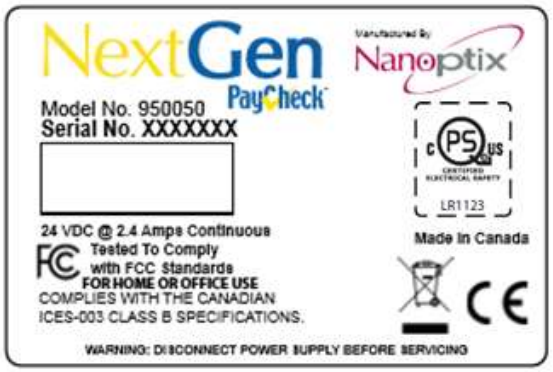
CA, US , EU group differences - CENELEC, and EU national differences including Denmark, Italy, Sweden, United Kingdom, etc.

☒ **The product fulfils the requirements of** IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013

Copy of marking plate:

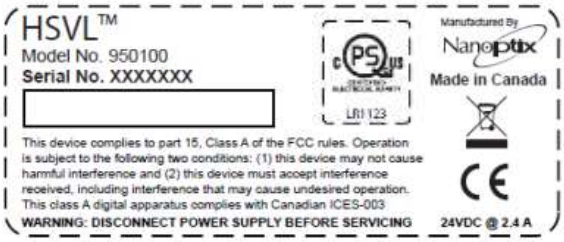
The artwork below may be only a draft for Model 950050 (similar draft artwork for Model 950051) and a draft for Model 950100. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Note 1: The box is to be replaced with a serialized barcode matching the serial number XXXXXXX.



Note 2: The serial number XXXXXXX is printed in Arial Narrow, All Caps, Bold, 10pt. Print actual numbers indicated on purchase order.

Note 1: This box to be replaced with a serialized barcode matching the serial number XXXXXXX.



Note 2: The serial number XXXXXXX is printed in Arial, All Caps, Bold 8pt. Print actual numbers indicated on purchase order.

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

Test item particulars.....:	Thermal Printer - Component
Equipment mobility.....:	[x] movable [] hand-held [] transportable [] stationary [x] for building-in [] direct plug-in
Connection to the mains.....:	[] pluggable equipment [] type A [] type B [] permanent connection [] detachable power supply cord [] non-detachable power supply cord [x] not directly connected to the mains
Operating condition.....:	[x] continuous [] rated operating / resting time:
Access location .....:	[] operator accessible [x] restricted access location
Over voltage category (OVC) .....:	[] OVC I [] OVC II [] OVC III [] OVC IV [x] other: Not directly connected to mains.
Mains supply tolerance (%) or absolute mains supply values .....:	
Tested for IT power systems .....:	[] Yes [x] No
IT testing, phase-phase voltage (V) .....:	
Class of equipment .....:	[] Class I [] Class II [x] Class III [] Not classified
Considered current rating of protective device as part of the building installation (A) .....:	
Pollution degree (PD) .....:	[] PD 1 [x] PD 2 [] PD 3
IP protection class .....:	IPX0
Altitude during operation (m) .....:	0-2000
Altitude of test laboratory (m) .....:	173
Mass of equipment (kg) .....:	Model No. 950050 – 0.7kg Model No. 950051 – 1.1kg Model No. 950100 – 0.8kg

Possible test case verdicts:	
- test case does not apply to the test object .....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement .....:	F (Fail)
Testing.....:	
Date of receipt of test item.....:	28 October 2016
Date (s) of performance of tests .....:	3 December 2016 to 16 January 2017
General remarks:	

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

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... :	☐ **Yes** ☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) .....: Nanoptix Inc.
699 Champlain Street, Dieppe,
New Brunswick E1A 1P6, Canada

General product information:

HSVL Model: 950100 is a component-type Thermal Printer powered by an approved external SELV Class 2/LPS Power Supply - cULus (E170507) certified Class 2 GlobTek Power Adapter, Model: GT-21126-6024 or equivalent.

CB1123-1R1:

Added two new product PayCheck Desktop II Model 950051 and PayCheck®NextGen Model 950050.

PayCheck®NextGen Model 950050 is identical to PayCheck Desktop II Model 950051 in electrical part, but provides no enclosure. This product is a component-type Thermal Printer powered by an approved external SELV Class 2/LPS Power Supply—certified (cULus file number E190414) ITE Power Adaptor, Model FSP060-RTAAN2 by FSP Group Inc. or equivalent.

Conditions of Acceptability

The final acceptance of these component-type Thermal Printers shall be verified along with the end-use product as part of its national approval procedure.

Abbreviations used in the report:

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

Indicate used abbreviations (if any)

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

1	**GENERAL**		P

1.5	**Components**		P
1.5.1	General		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	Not used	N/A
1.5.4	Transformers	Not used	N/A
1.5.5	Interconnecting cables	Not used	N/A
1.5.6	Capacitors bridging insulation	Not used	N/A
1.5.7	Resistors bridging insulation	Not used	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		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems	Not directly connected to mains	N/A
1.5.9	Surge suppressors	Not used	N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

1.6	**Power interface**		P
1.6.1	AC power distribution systems	24Vdc	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	N/A
1.6.4	Neutral conductor	DC supply	N/A

1.7	**Marking and instructions**		P
1.7.1	Power rating and identification markings		P
1.7.1.1	Power rating marking	2.4A	N/A
	Multiple mains supply connections.....:	No mains connections	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Rated voltage(s) or voltage range(s) (V) .....:	24Vdc	P
	Symbol for nature of supply, for d.c. only.....:	DC	P
	Rated frequency or rated frequency range (Hz) ....:	DC only	N/A
	Rated current (mA or A) .....:	2.4A	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark .....:		P
	Model identification or type reference .....:	PayCheck DESKTOPII Model 950051 PayCheck NextGen Model 950050 HSVL Model 950100	P
	Symbol for Class II equipment only .....:	Class III equipment	N/A
	Other markings and symbols .....:	Operate condition and WARNING	P
1.7.1.3	Use of graphical symbols	Not used	N/A
1.7.2	Safety instructions and marking		P
1.7.2.1	General		N/A
1.7.2.2	Disconnect devices	Not used	N/A
1.7.2.3	Overcurrent protective device	Not used	N/A
1.7.2.4	IT power distribution systems	Not AC mains connected	N/A
1.7.2.5	Operator access with a tool	Component type	N/A
1.7.2.6	Ozone	No ozone produced	N/A
1.7.3	Short duty cycles	Continuous	N/A
1.7.4	Supply voltage adjustment .....:	24VDC, no voltage adjustment	N/A
	Methods and means of adjustment; reference to installation instructions .....:		N/A
1.7.5	Power outlets on the equipment .....:	No used	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference).....:	No used	N/A
1.7.7	Wiring terminals	Not powered by mains	N/A
1.7.7.1	Protective earthing and bonding terminals ....:		N/A
1.7.7.2	Terminals for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators	Not used	N/A
1.7.8.1	Identification, location and marking ....:		N/A
1.7.8.2	Colours		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	....:		
1.7.8.3	Symbols according to IEC 60417.....:		N/A
1.7.8.4	Markings using figures .....:		N/A
1.7.9	Isolation of multiple power sources .....:	Single 24Vdc	N/A
1.7.10	Thermostats and other regulating devices .....:	Not used	N/A
1.7.11	Durability		P
1.7.12	Removable parts	Not used	N/A
1.7.13	Replaceable batteries .....:	Not used	N/A
	Language(s) .....:		—
1.7.14	Equipment for restricted access locations.....:	Not intended for install in a RESTRICTED ACCESS LOATION	N/A
2	**PROTECTION FROM HAZARDS**		P
2.1	**Protection from electric shock and energy hazards**		P
2.1.1	Protection in operator access areas		P
2.1.1.1	Access to energized parts	No hazardous parts can be access for model 950051; other component type models will be evaluated in end product	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	Not used	N/A
2.1.1.3	Access to ELV wiring	as noted 2.1.1.1	N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)	SELV powered – 24Vdc	—
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage	N/A
2.1.1.5	Energy hazards .....:	No energy hazards	N/A
2.1.1.6	Manual controls	No manual controls	N/A
2.1.1.7	Discharge of capacitors in equipment	Not mains connect	N/A
	Measured voltage (V); time-constant (s) .....:		—
2.1.1.8	Energy hazards – d.c. mains supply	No connection to DC mains	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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.9	Audio amplifiers .....:	Not used	N/A
2.1.2	Protection in service access areas	Protected in end installation.	N/A
2.1.3	Protection in restricted access locations		N/A
2.2	**SELV circuits**		P
2.2.1	General requirements	Powered by approved LPS power supply.	P
2.2.2	Voltages under normal conditions (V) ..... :	24Vdc	P
2.2.3	Voltages under fault conditions (V) ..... :	24Vdc max.	P
2.2.4	Connection of SELV circuits to other circuits .....:	RS-232, RJ45, USB, HDMI interface provided for Model 950050 and 950051	P
2.3	**TNV circuits**		N/A
2.3.1	Limits		N/A
	Type of TNV circuits ..... :	Not for mains connect	—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions ..... :		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed..... :		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed..... :		—
2.3.5	Test for operating voltages generated externally		N/A
2.4	**Limited current circuits**		N/A
2.4.1	General requirements	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 µF).....:		—
2.4.3	Connection of limited current circuits to other circuits		N/A

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

2.5	**Limited power sources**		P
	a) Inherently limited output	Powered by approved LPS power supply which is not part of this evaluation	P
	b) Impedance limited output		N/A
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition		N/A
	Use of integrated circuit (IC) current limiters		N/A
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)..... :		—
	Current rating of overcurrent protective device (A) .:		—

2.6	**Provisions for earthing and bonding**		N/A
2.6.1	Protective earthing	No mains connect	N/A
2.6.2	Functional earthing		N/A
	Use of symbol for functional earthing .....:		N/A
2.6.3	Protective earthing and protective bonding conductors		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 (mm^2), AWG ..... :		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
	Protective current rating (A), cross-sectional area (mm^2), AWG ..... :		
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min) ..... :		N/A
2.6.3.5	Colour of insulation..... :		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, nominal thread diameter (mm) ..... :		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		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		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A
2.7	**Overcurrent and earth fault protection in primary circuits**		N/A
2.7.1	Basic requirements	No mains connect	N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		N/A
2.7.3	Short-circuit backup protection		N/A
2.7.4	Number and location of protective devices ..... :		N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel ..... :		N/A
2.8	**Safety interlocks**		N/A
2.8.1	General principles	Not used	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) .....:		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A
2.9	**Electrical insulation**		P
2.9.1	Properties of insulating materials	Functional insulation only	P
2.9.2	Humidity conditioning	See above.	N/A
	Relative humidity (%), temperature (°C) ..... :		—
2.9.3	Grade of insulation	Functional.	P
2.9.4	Separation from hazardous voltages	No hazardous voltages.	N/A
	Method(s) used ..... :		—
2.10	**Clearances, creepage distances and distances through insulation**		P
2.10.1	General		P
2.10.1.1	Frequency .....:	DC	P
2.10.1.2	Pollution degrees .....:	Pollution degree 2	P
2.10.1.3	Reduced values for functional insulation	Functional insulation only and comply clause 5.3.4 c)	P
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage	24Vdc.	P
2.10.2.1	General		P
2.10.2.2	RMS working voltage		N/A
2.10.2.3	Peak working voltage		N/A
2.10.3	Clearances	As noted above	P
2.10.3.1	General		P
2.10.3.2	Mains transient voltages		N/A
	a) AC mains supply .....:		N/A
	b) Earthed d.c. mains supplies .....:		N/A
	c) Unearthed d.c. mains supplies .....:		N/A
	d) Battery operation .....:		N/A
2.10.3.3	Clearances in primary circuits	No primary circuits	N/A
2.10.3.4	Clearances in secondary circuits	Functional insulation, see 5.3.4	P
2.10.3.5	Clearances in circuits having starting pulses	No starting pulses	N/A
2.10.3.6	Transients from a.c. mains supply .....:	No AC connection	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.7	Transients from d.c. mains supply .....:	No DC mains	N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems .....:	No TNV connection	N/A
2.10.3.9	Measurement of transient voltage levels	No trainsients	N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply .....:		N/A
	For a d.c. mains supply .....:		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances	Functional insulation, see 5.3.4	P
2.10.4.1	General	Function insulation only and comply with clause 5.3.4 c)	P
2.10.4.2	Material group and comparative tracking index	IIIb	P
	CTI tests .....:		—
2.10.4.3	Minimum creepage distances	As noted above	P
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		N/A
2.10.5.12	Wire in wound components		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

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		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	Powered by LPS power supply	P
2.10.6.1	Uncoated printed boards	Functional insulation, see 5.3.4	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		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs).....:		N/A
2.10.7	Component external terminations	SELV only	N/A
2.10.8	Tests on coated printed boards and coated components	SELV only	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		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

3	**WIRING, CONNECTIONS AND SUPPLY**		P
3.1	**General**		P
3.1.1	Current rating and overcurrent protection	Rated 2.4A and powered by approved LPS power supply	P
3.1.2	Protection against mechanical damage	Enclosure provided for model 950051; other models are component type and will be evaluated in end product	P

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.3	Securing of internal wiring		P
3.1.4	Insulation of conductors	All SELV wiring.	N/A
3.1.5	Beads and ceramic insulators	No such parts	N/A
3.1.6	Screws for electrical contact pressure	No such parts.	N/A
3.1.7	Insulating materials in electrical connections		P
3.1.8	Self-tapping and spaced thread screws	Not used	N/A
3.1.9	Termination of conductors		P
	10 N pull test		P
3.1.10	Sleeving on wiring	No sleeving used	N/A
3.2	**Connection to a mains supply**		N/A
3.2.1	Means of connection	No connection to mains	N/A
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	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		N/A
3.2.5.1	AC power supply cords		N/A
	Type ..... :		—
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) ..... :		—
	Longitudinal displacement (mm) ..... :		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g) ..... :		—
	Radius of curvature of cord (mm)..... :		—
3.2.9	Supply wiring space		N/A
3.3	**Wiring terminals for connection of external conductors**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.3.1	Wiring terminals	No wiring terminals	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm^2) ..... :		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) ..... :		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	**Disconnection from the mains supply**		N/A
3.4.1	General requirement	No connection to mains	N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		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		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		N/A
3.5	**Interconnection of equipment**		N/A
3.5.1	General requirements	Thermal printer only	N/A
3.5.2	Types of interconnection circuits ..... :		N/A
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment		N/A
4	**PHYSICAL REQUIREMENTS**		N/A
4.1	**Stability**		N/A
	Angle of 10°	Less than 7Kg.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Test force (N) .....:		N/A

4.2	**Mechanical strength**		P
4.2.1	General	No hazardous parts internal to the printers.	N/A
	Rack-mounted equipment.		N/A
4.2.2	Steady force test, 10 N		N/A
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N		N/A
4.2.5	Impact test	No hazard found after impact test on desktop model 950051	P
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm) .....:		N/A
4.2.7	Stress relief test		N/A
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified .....:		—
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....:		N/A

4.3	**Design and construction**		P
4.3.1	Edges and corners		P
4.3.2	Handles and manual controls; force (N)..... :	Not used	N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts		P
4.3.5	Connection by plugs and sockets	Approved connectors used	P
4.3.6	Direct plug-in equipment	Not direct plug in	N/A
	Torque .....:		—
	Compliance with the relevant mains plug standard .....:	No mains plugs.	N/A
4.3.7	Heating elements in earthed equipment	No heating elements	N/A
4.3.8	Batteries	No batteries	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

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.9	Oil and grease	No exposure to oil or grease	N/A
4.3.10	Dust, powders, liquids and gases	Not associated with such materials	N/A
4.3.11	Containers for liquids or gases	No containers for liquids or gases	N/A
4.3.12	Flammable liquids .....:		N/A
	Quantity of liquid (l) .....:		N/A
	Flash point (°C) .....:		N/A
4.3.13	Radiation	No such radiation	N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) .....:		—
	Measured high-voltage (kV) .....:		—
	Measured focus voltage (kV) .....:		—
	CRT markings .....:		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification .....:		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....:		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs		N/A
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class .....:		—
4.3.13.5.2	Light emitting diodes (LEDs)		N/A
4.3.13.6	Other types .....:		N/A

4.4	**Protection against hazardous moving parts**		P
4.4.1	General	DC motor was enclosed inside the printer and not accessible	P
4.4.2	Protection in operator access areas ..... :	As noted above, in the same time the enclosure provided for model 950051	P
	Household and home/office document/media shredders	Not this type of equipment	N/A
4.4.3	Protection in restricted access locations ..... :		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades	No fans	N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a)……:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Is considered to cause pain, not injury. b) ……..:		N/A
	Considered to cause injury. c) ……:		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning ……..:		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning ……..:		N/A

4.5	**Thermal requirements**		P
4.5.1	General		P
4.5.2	Temperature tests		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 ..... :	(see appended table 4.5.5)	P

4.6	**Openings in enclosures**		N/A
4.6.1	Top and side openings	No opening on enclosure of model 950051; for other component type printer will be evaluated in end product	N/A
	Dimensions (mm) ..... :		—
4.6.2	Bottoms of fire enclosures	No fire enclosure required.	N/A
	Construction of the bottomm, dimensions (mm) .. :		—
4.6.3	Doors or covers in fire enclosures	See above.	N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) ..... :		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes	No adhesives used.	N/A
	Conditioning temperature (°C), time (weeks) ..... :		—

4.7	**Resistance to fire**		P
4.7.1	Reducing the risk of ignition and spread of flame	Powered by approved LPS power supply	P
	Method 1, selection and application of components wiring and materials	All components were approved and suitable for application	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Method 2, application of all of simulated fault condition tests	As noted above	N/A
4.7.2	Conditions for a fire enclosure	No fire enclosure required	N/A
4.7.2.1	Parts requiring a fire enclosure		N/A
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General	Approved components	P
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		N/A
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		N/A
5.1	**Touch current and protective conductor current**		N/A
5.1.1	General	Powered by approved LPS power supply	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		N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit		N/A
5.1.4	Application of measuring instrument		N/A
5.1.5	Test procedure		N/A
5.1.6	Test measurements		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		N/A
5.1.7.1	General .....:		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) .....:		—
	Measured touch current (mA) .....:		—
	Max. allowed touch current (mA) .....:		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports .....:		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A
5.2	**Electric strength**		N/A
5.2.1	General	LPS powered.	N/A
5.2.2	Test procedure		N/A
5.3	**Abnormal operating and fault conditions**		P
5.3.1	Protection against overload and abnormal operation	See appended table 5.3	P
5.3.2	Motors	See annex B.7	P
5.3.3	Transformers		N/A
5.3.4	Functional insulation.....:	Method c), seeTable 5.3	P
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE .....:		N/A
5.3.7	Simulation of faults	Locked rotor	P
5.3.8	Unattended equipment		P
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests		P
5.3.9.2	After the tests		P
6	**CONNECTION TO TELECOMMUNICATION NETWORKS**		N/A
6.1	**Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment**		N/A
6.1.1	Protection from hazardous voltages		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements	No TNV connection	N/A
	Supply voltage (V) .....:		—
	Current in the test circuit (mA) .....:		—
6.1.2.2	Exclusions .....:		N/A
6.2	**Protection of equipment users from overvoltages on telecommunication networks**		N/A
6.2.1	Separation requirements	No TNV connection	N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A
6.3	**Protection of the telecommunication wiring system from overheating**		N/A
	Max. output current (A) .....:		—
	Current limiting method .....:		—
7	**CONNECTION TO CABLE DISTRIBUTION SYSTEMS**		N/A
7.1	**General**	No cable connection	N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A
A	**ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
A.1	**Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)**		N/A
A.1.1	Samples.....:		—

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

B	**ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)**		P
B.1	**General requirements**		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Position .....:	Normal	—
	Manufacturer .....:	Seiko	—
	Type .....:	B420A	—
	Rated values .....:	24Vdc, 0.5A	—
B.2	**Test conditions**		P
B.3	**Maximum temperatures**		P
B.4	**Running overload test**	tested in condition of printer was jammed	P
B.5	**Locked-rotor overload test**		P
	Test duration (days) .....:	Until steady state condition	—
	Electric strength test: test voltage (V) .....:		—
B.6	**Running overload test for d.c. motors in secondary circuits**	As noted above	N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V) .....:		N/A
B.7	**Locked-rotor overload test for d.c. motors in secondary circuits**		P
B.7.1	General		P
B.7.2	Test procedure		P
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) .....:	Motor operates at 24Vdc	N/A
B.8	**Test for motors with capacitors**		N/A
B.9	**Test for three-phase motors**		N/A
B.10	**Test for series motors**		N/A
	Operating voltage (V) .....:	24Vdc	—

C	**ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)**		N/A
	Position .....:	No transformers	—
	Manufacturer .....:		—
	Type .....:		—
	Rated values .....:		—
	Method of protection..... :		—
C.1	**Overload test**		N/A
C.2	**Insulation**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Protection from displacement of windings..... :		N/A
D	**ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)**		N/A
D.1	**Measuring instrument**		N/A
D.2	**Alternative measuring instrument**		N/A
E	**ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)**		N/A
F	**ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)**		P
G	**ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		N/A
G.1	**Clearances**	see clause 2.10	N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	**Determination of mains transient voltage (V)**		N/A
G.2.1	AC mains supply .....:		N/A
G.2.2	Earthed d.c. mains supplies .....:		N/A
G.2.3	Unearthed d.c. mains supplies .....:		N/A
G.2.4	Battery operation .....:		N/A
G.3	**Determination of telecommunication network transient voltage (V) ..... :**		N/A
G.4	**Determination of required withstand voltage (V)**		N/A
G.4.1	Mains transients and internal repetitive peaks .....:		N/A
G.4.2	Transients from telecommunication networks .....:		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	**Measurement of transient voltages (V)**		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	**Determination of minimum clearances ..... :**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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

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

K	**ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)**		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

L	**ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)**		P
L.1	Typewriters	EUT is not a typewriter	N/A
L.2	Adding machines and cash registers	EUT is not an adding m/c	N/A
L.3	Erasers	EUT is not an eraser	N/A
L.4	Pencil sharpeners	EUT is not a pencil sharpener	N/A
L.5	Duplicators and copy machines	EUT is not a duplicator	N/A
L.6	Motor-operated files	EUT is not a motor-operated file	N/A
L.7	Other business equipment	Ticket printer operated with motor locked.	P

M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		N/A
M.1	Introduction	No ringing signals	N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz) .....:		—
M.3.1.2	Voltage (V) .....:		—
M.3.1.3	Cadence; time (s), voltage (V) .....:		—
M.3.1.4	Single fault current (mA) .....:		—
M.3.2	Tripping device and monitoring voltage .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) .....:		N/A
N	**ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)**		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	**ANNEX P, NORMATIVE REFERENCES**		—
Q	**ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)**		N/A
	- Preferred climatic categories .....:	No VDRS	N/A
	- Maximum continuous voltage .....:		N/A
	- Combination pulse current .....:		N/A
	Body of the VDR Test according to IEC60695-11-5.....:		N/A
	Body of the VDR. Flammability class of material (min V-1).....:		N/A
R	**ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES**		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	**ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)**		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	**ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)**		N/A
		Indoor use only	—

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Clause	Requirement + Test	Result - Remark	Verdict

U	**ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)**		N/A
		No transformers	—

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

W	**ANNEX W, SUMMATION OF TOUCH CURRENTS**		N/A
W.1	Touch current from electronic circuits	No mains connection	N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		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
X	**ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)**		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A

Y	**ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)**		N/A
Y.1	Test apparatus ..... :	No UV exposure or produced	N/A
Y.2	Mounting of test samples ..... :		N/A
Y.3	Carbon-arc light-exposure apparatus ..... :		N/A
Y.4	Xenon-arc light exposure apparatus ..... :		N/A

Z	**ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)**		N/A

AA	**ANNEX AA, MANDREL TEST (see 2.10.5.8)**		N/A

BB	**ANNEX BB, CHANGES IN THE SECOND EDITION**		—

CC	**ANNEX CC, Evaluation of integrated circuit (IC) current limiters**		N/A
CC.1	General	No such limiters.	N/A
CC.2	Test program 1……:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

CC.3	Test program 2……:		N/A
CC.4	Test program 3.....:		N/A
CC.5	Compliance.....:		N/A

DD	**ANNEX DD, Requirements for the mounting means of rack-mounted equipment**		N/A
DD.1	General	Not rack mounted	N/A
DD.2	Mechanical strength test, variable N……..:		N/A
DD.3	Mechanical strength test, 250N, including end stops……:		N/A
DD.4	Compliance……:		N/A

EE	**ANNEX EE, Household and home/office document/media shredders**		N/A
EE.1	General	Not this type of equipment	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

1.5.1	**TABLE: List of critical components of thermal printer Model 950100**					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity[1])	
Printer Assembly	Seiko	CAP9347E-S640-E	24Vdc, 1.25A	IEC 60950-1	Evaluated along with the EUT	
DC Sepper Motor	Seiko	B420A	24Vdc, 0.50A	IE 60950-1	Evaluated along with the EUT	
Supplementary information: [1)] **Provided evidence ensures the agreed level of compliance. See OD-CB2039**.						

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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[1])
Thermal Print models 950050 and 950051					
Printer	TXCOM	AXIOHM MHTNGD24	25mm motor, thermal print head Rated Voltage: 24Vdc	UL 60950-1:2007 R12.11 CAN/CSA-C22.2 No.60950-1-07+A1:2011	TUV (CU72141773)
For model 950051 only					
Bezel	Bayer Material Science	Makrolon 2405	Polycarbonate (PC)	CSA-C22.2 No. 0.17 UL 746C	cURus (E41613)
Hatch	Polymer Technology and Services LLC	Trilac FR3800-V	Made of ABS, rated V-0 (ABS)	CSA-C22.2 No. 0.17 UL 746C	cURus (E155285)
Window	Polymer Technology and Services LLC	Tristar PC-10FR-(18) MF	Polycarbonate (PC)	UL 94	Flammability rating V-1
Cover Enclosure	Polymer Technology and Services LLC	Trilac FR3800-V	Made of ABS, rated V-0	CSA-C22.2 No. 0.17 UL 746C	cURus (E155285)
Tray Base	Polymer Technology and Services LLC	Trilac FR3800-V	Made of ABS, rated V-0	CSA-C22.2 No. 0.17 UL 746C	cURus (E155285)
Door Access	Polymer Technology and Services LLC	Trilac FR3800-V	Made of ABS, rated V-0	CSA-C22.2 No. 0.17 UL 746C	cURus (E155285)
Supplementary information: [1]) **Provided evidence ensures the agreed level of compliance. See OD-CB2039**.					

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Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: Opto Electronic Devices	N/A

Manufacturer .....:
Type .....:
Separately tested .....:
Bridging insulation.....:
External creepage distance .....:

Internal creepage distance .....:

Distance through insulation .....:

Tested under the following conditions .....:

Input .....:
Output .....:

supplementary information

1.6.2	TABLE: Electrical data (in normal conditions, for Model No. 950100)					P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
24.0	2.4	2.4	---	---	---	Normal operation

Supplementary information:

1.6.2	TABLE: Electrical data (in normal conditions, for Model No. 950050 and 950051)					P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
24.3	2.2	2.4	---	---	---	Normal operation

Supplementary information:

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:

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Clause	Requirement + Test	Result - Remark	Verdict

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

Capacitance C (µF)	Voltage U (V)	Energy E (J)
supplementary information:		

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

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

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

2.5	TABLE: Limited power sources	N/A

Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Test condition (Single fault)	Uoc (V)	I_{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
supplementary information:						
Sc=Short circuit, Oc=Open circuit						

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Clause	Requirement + Test	Result - Remark	Verdict

2.10.2	Table: working voltage measurement			N/A
Location	RMS voltage (V)	Peak voltage (V)	Comments	
supplementary information:				

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements					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: See clause 2.10						

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

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Clause	Requirement + Test	Result - Remark	Verdict

4.3.8	TABLE: Batteries								N/A
The tests of 4.3.8 are applicable only when appropriate battery data is not available									
Is it possible to install the battery in a reverse polarity position?									
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition									
Max. current during fault condition									
Test results:									Verdict
- Chemical leaks									
- Explosion of the battery									
- Emission of flame or expulsion of molten metal									
- Electric strength tests of equipment after completion of tests									
Supplementary information: Not used									

4.3.8	TABLE: Batteries	N/A
Battery category.....: (Lithium, NiMh, NiCad, Lithium Ion …) Manufacturer.....: Type / model .....: Voltage.....: Capacity .....: mAh Tested and Certified by (incl. Ref. No.).....: Circuit protection diagram:		

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Clause	Requirement + Test	Result - Remark	Verdict

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

4.5	TABLE: Thermal requirements (for Model No. 950100)						P
	Supply voltage (V) ..... :	24Vdc					—
	Ambient T_{min} (°C) ..... :	23					—
	Ambient T_{max} (°C) ..... :	24					—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T_{max} (°C)
Motor enclosure, near pulley		56.9					90
Motor enclosure, at rear		51.3					90
Printer, rear enclosure		38.7					90
Supplementary information: continuously printing (every 10 seconds), re-inserting the paper if jammed							

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
Supplementary information: see Table 5.3							

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Clause	Requirement + Test	Result - Remark	Verdict

4.5	TABLE: Thermal requirements (for Models 950050)						P
	Supply voltage (V) ..... :	24Vdc					—
	Ambient T_{min} (°C) ..... :	60					—
	Ambient T_{max} (°C) ..... :	60					—
Maximum measured temperature T of part/at.....:		T (°C)					Allowed T_{max} (°C)
Motor		93					105
PCB		80					105
DC Input Connector		68					85
Paper Outlet, blue plastic		61					85
Supplementary information: continuously printing (every 10 seconds), re-inserting the paper if jammed							

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class

Supplementary information:

1) Paper feeding motor belongs to Class E
2) Maximum ambient temperature is 60ºC
3) The temperature test was conducted in an oven setting temperature at 60ºC, the stabililized high temperature of feeding motor surface is 93ºC during normal printing. When the printer head was jammed (keep printing on the same place), the temperature of feeding motor could reach as high as 115ºC.
4) The duty cycle is printing a ticket every 10 seconds.
5) When testing at ambient temperature 25ºC, the motor surface temperature could reach 93ºC when printing head was jammed.
6) When testing at ambient temperature 25º, the enclosure (next to printer head) could reach 41ºC

4.5.5	TABLE: Ball pressure test of thermoplastic parts		N/A
	Allowed impression diameter (mm) ..... :	≤ 2 mm	—
Part		Test temperature (°C)	Impression diameter (mm)
Supplementary information:			

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Clause	Requirement + Test	Result - Remark	Verdict

4.7	TABLE: Resistance to fire				N/A
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
Supplementary information:					

5.1	TABLE: touch current measurement		N/A
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions
supplementary information:			

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

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Clause	Requirement + Test	Result - Remark	Verdict

5.3	TABLE: Fault condition tests (for Model No. 950100)		P
	Ambient temperature (°C) .....:	23	—
	Power source for EUT: Manufacturer, model/type, output rating .....:	24Vdc thru certified Class 2 Power Supply	—

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Motor enclosure	Locked-rotor overload test	24Vdc	5 min	---	----	No overheating or component failure; equipment continued to function normally after the test
Printer	Locked-rotor overload test	24Vdc	5 h	---	----	No overheating or component failure; equipment continued to function normally after the test
Supplementary information: The motor was wrapped with a tissue paper between 12 g/m² and 30 g/m² covered softwood surface and covered with a single layer of cheesecloth of bleached cotton cloth approximately 40 g/m²; Unit continues to operate normally						

5.3	TABLE: Fault condition tests (for Model No. 950050)		P
	Ambient temperature (°C) .....:	23	—
	Power source for EUT: Manufacturer, model/type, output rating .....:	24Vdc thru certified Class 2 Power Supply	—

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Printer	Locked-rotor overload test	24Vdc	6 h	---	----	No overheating or component failure; equipment continued to function normally after the test
Capacitor C310 (330µF/35V)	Short Circuit	24Vdc	-	-	-	Product stop operation, no hazard, no damage.
Capacitor C1002 (330µF/35V)	Short Circuit	24Vdc	-	-	-	Product stop operation, no hazard, no damage.
Supplementary information: Cheesecloth remained intact						

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Clause	Requirement + Test	Result - Remark	Verdict

C.2	TABLE: transformers	N/A

Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)

Loc.	Tested insulation	Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
supplementary information:					

C.2	TABLE: transformers	N/A
Transformer		