



QPS Evaluation Services Inc.

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

YOUR FULL SERVICE PARTNER IN GLOBAL CONFORMITY ASSESSMENT

TESTING - CERTIFICATION - FIELD EVALUATION
Energy Efficiency Verification - CB Scheme - IECEx Scheme
CE Marking - ATEX



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| | |
|---|---|
| Report No: LR1123-4 | Issue Date: November 24, 2020 |
| Issued By: George Shu  | Reviewed By: Joseph Petilla  |
| Customer Name: Nanoptix Inc. | Address: 699 Champlain Street, Dieppe, New Brunswick, Canada E1A 1P6 |
| Contents: Certificate of Conformity: 1 Page; Report: Pages 1 to 30 Photos: Pages 11-26 | |

SUBJECT

Component type thermal printer, P/N 950011, 950020, 103665, 950005, 950050, 950100, 950024, 950026, 950028, 950029, 950054, rated 24VDC, 2.4A.

Desktop thermal printer, P/N 100769, 950023 rated 24VDC, 2.4A, IPX3.

Desktop thermal printer, P/N 950051 rated 24VDC, 2.4A

APPLICABLE STANDARDS

UL 62368-1, Standard for Safety for Audio/video, information and communication technology equipment-
Part 1: Safety requirements, Second Edition;

CAN/CSA-C22.2 No. 62368-1-14, Audio/video, information and communication technology equipment-
Part 1: Safety requirements, Second Edition;

MARKINGS

On the Equipment Exterior:

Equipment is plainly marked in a permanent manner in a place where the details will be readily visible after the installation with the following:

1. Markings – The product is marked using lettering on a pressure-sensitive label as described in this report.

On the Equipment Exterior:

Equipment is plainly marked in a permanent manner in a place where the details will be readily visible after installation with the following:

The following markings are required:

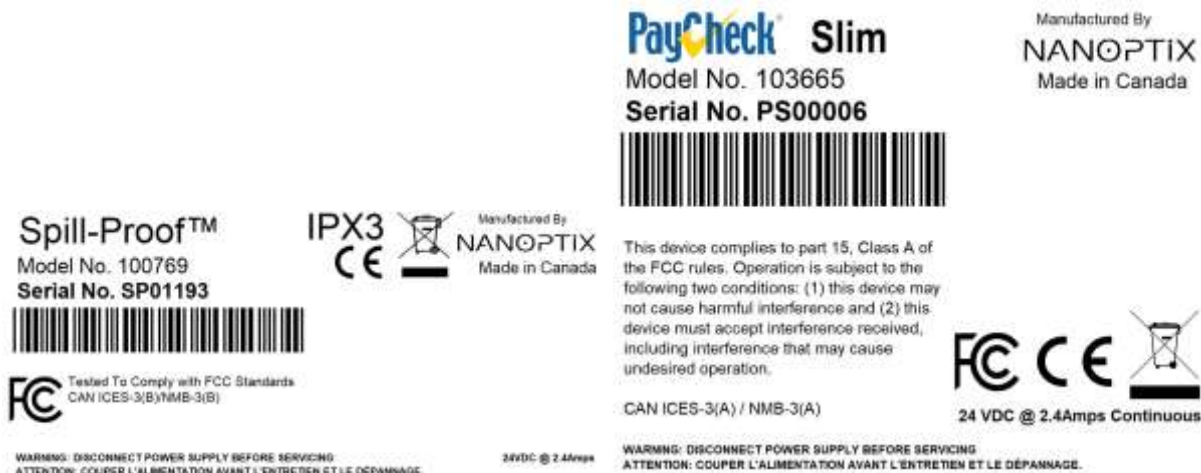
- The cQPSus Certification Mark; the letter “C” must appear in the 8 O’clock position and the letters “US” must appear in the 4 O’clock position adjacent to the QPS Certification Mark;
- The qualifying statement ”Electrical Safety” or the equipment standard number must appear directly below the Certification Mark;
- The QPS file reference “LR1123” appear below the Certification Mark.



- applicant's identification - company name, trademark
- Model designation;
- date code/serial number;
- complete electrical ratings – (V, A)
- Water ingress protection marking(IPX3) for 100769, 950023;

Installation, Operating and Safety Instructions – Safety instruction of this product is provided by the manufacturer as required by the standard.

Sample Nameplates



PayCheck Slim
Model No. 950005
Serial No. PS00006



This device complies to part 15, Class A of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept interference received, including interference that may cause undesired operation.

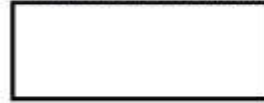
CAN ICES-3(A) / NMB-3(A)



WARNING: DISCONNECT POWER SUPPLY BEFORE SERVICING
ATTENTION: COUPER L'ALIMENTATION AVANT L'ENTRETIEN ET LE DÉPANNAGE.

Manufactured By
NANOPTIX
Made in Canada

PayCheck[®]
H/S Couponing
Model No. 950011
Serial No. XXXXXXXX



This device complies to part 15, Class A of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept interference received, including interference that may cause undesired operation.

CAN ICES-3(A) / NMB-3(A)

WARNING: DISCONNECT POWER SUPPLY BEFORE SERVICING
ATTENTION: COUPER L'ALIMENTATION AVANT L'ENTRETIEN ET LE DÉPANNAGE.

Manufactured By
NANOPTIX
Made in Canada



PayCheck⁴
PRINTER

Model No. 950020
Serial No. XXXXXXXX



Tested to comply with FCC standards for home or office use.

CAN ICES-3(B) / NMB-3(B)

WARNING: DISCONNECT POWER SUPPLY BEFORE SERVICING
ATTENTION: COUPER L'ALIMENTATION AVANT L'ENTRETIEN ET LE DÉPANNAGE.



Manufactured By
NANOPTIX
Made in Canada

Spill-Proof[™]
Model No. 950023
Serial No. SP01193



Tested To Comply with FCC Standards
CAN ICES-3(B)/NMB-3(B)

WARNING: DISCONNECT POWER SUPPLY BEFORE SERVICING
ATTENTION: COUPER L'ALIMENTATION AVANT L'ENTRETIEN ET LE DÉPANNAGE.

IPX3
CE Manufactured By
NANOPTIX
Made in Canada

24VDC @ 2.4Amps

HSV L PLUS[™]
Model No. 950024
Serial No. HP01542



Tested to comply with FCC standards for home or office use.
CAN ICES-3(B) / NMB-3(B)

WARNING: DISCONNECT POWER SUPPLY BEFORE SERVICING
ATTENTION: COUPER L'ALIMENTATION AVANT L'ENTRETIEN ET LE DÉPANNAGE.

Manufactured By
NANOPTIX
Made in Canada



HSV L Plus FS
Model No. 950026
Serial No. HFXXXXX



Tested to comply with FCC standards for home or office use.

CAN ICES-3 (B) / NMB-3(B)

WARNING: DISCONNECT POWER SUPPLY BEFORE SERVICING
ATTENTION: COUPER L'ALIMENTATION AVANT L'ENTRETIEN ET LE DÉPANNAGE.

Manufactured By
NANOPTIX
Made in Canada



24 VDC @ 2.4Amps Continuous

HSV L Advanced

Model No. 950028

Serial No. HC00591



Manufactured By
NANOPTIX
Made in Canada

Tested To Comply with FCC Standards
for home or office use.

CAN ICES-3(B)/NMB-3(B)



24VDC @ 2.4A

WARNING: DISCONNECT POWER SUPPLY BEFORE SERVICING
ATTENTION: COUPER L'ALIMENTATION AVANT L'ENTRETIEN ET LE DÉPANNAGE.

HSV L Plus L

Model No. 950029

Serial No. HL00111



Manufactured By:
NANOPTIX

Made in Canada



24 VDC @ 2.4A

Tested To Comply with FCC Standards for HOME OR OFFICE USE
CAN ICES-3(B)/NMB-3(B)

WARNING: DISCONNECT POWER SUPPLY BEFORE SERVICING
ATTENTION: COUPER L'ALIMENTATION AVANT L'ENTRETIEN ET LE DÉPANNAGE.

NextGen™
PayCheck®

Model No. 950050
Serial No. XXXXXXX

This device complies to part 15, Class A of the FCC rules.
Operation is subject to the following two conditions:
(1) this device may not cause harmful interference and
(2) this device must accept interference received, including
interference that may cause undesired operation.
CAN ICES-3(A) / NMB-3(A)

Manufactured By
NANOPTIX
Made in Canada

WARNING: DISCONNECT POWER SUPPLY BEFORE SERVICING
ATTENTION: COUPER L'ALIMENTATION AVANT L'ENTRETIEN ET LE DÉPANNAGE.

24 VDC @ 2.4Amps Continuous

FCC CE

PayCheck Desktop 2™

Model No. 950051

Serial No. ND00761



Manufactured By:
NANOPTIX



24 VDC @ 2.4Amps Continuous

This device complies to part 15, Class A of the FCC rules.
Operation is subject to the following two conditions:
(1) this device may not cause harmful interference and
(2) this device must accept interference received, including
interference that may cause undesired operation.
CAN ICES-3 (A)/NMB-3(A)

WARNING: DISCONNECT POWER SUPPLY BEFORE SERVICING
ATTENTION: COUPER L'ALIMENTATION AVANT L'ENTRETIEN ET LE DÉPANNAGE.

ORIZON NEXTGEN

Manufactured By:
NANOPTIX

Model No. 950054

Serial No. ON00081



This device complies to part 15, Class A of the FCC rules.
Operation is subject to the following two conditions:
(1) this device may not cause harmful interference and
(2) this device must accept interference received,
including interference that may cause undesired operation.
CAN ICES-3(A) / NMB-3(A)

Made in Canada



24 VDC @ 2.4A

WARNING: DISCONNECT POWER SUPPLY BEFORE SERVICING
ATTENTION: COUPER L'ALIMENTATION AVANT L'ENTRETIEN ET LE DÉPANNAGE.

HSV L™
Model No. 950100
Serial No. XXXXXXX

This device complies to part 15, Class A of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept interference received, including interference that may cause undesired operation.
CAN ICES-3(A) / NMB-3(A)

Manufactured By
NANOPTIX
Made in Canada

WARNING: DISCONNECT POWER SUPPLY BEFORE SERVICING
ATTENTION: COUPER L'ALIMENTATION AVANT L'ENTRETIEN ET LE DÉPANNAGE.

24 VDC @ 2.4Amps Continuous

FCC CE

CONDITIONS OF ACCEPTABILITY

1. The thermal printers have been evaluated to be supplied by a Limited Power Source (LPS) or a Class 2 Power supply. Further investigation may be required if to be supplied by other than LPS.
2. Component type thermal printers shall be installed in a suitable enclosure as determined by the end product standard in the end application;

DESCRIPTION

Thermal printers, powered by an approved external SELV Class 2/LPS Power Supply - (cULus file number E190414) ITE Power Adaptor, Model FSP060-RTAAN2 by FSP Group Inc. or equivalent.

P/N 950011, 950020, 103665, 950005, 950050, 950100, 950024, 950026, 950028, 950029, 950054 are component-type Thermal Printers to be used in an application where end product enclosure is provided

P/N 100769, 950023, 950051 provided with an enclosure can be used in the end application with or without an enclosure.

Model Differences

All thermal printers have similar electrical design with a printer mechanism and control circuit board, moreover, P/N 950020, 103665, 950005 has same printer mechanism and control circuit board but with different mechanical arrangement.

P/N 950011 is similar to P/N 103665 except printer mechanism, chassis and additional enclosure.

P/N 950050 is similar to P/N 950020 in mechanical design but with different printer mechanism

P/N 950051 is identical to P/N 950050 except with an enclosure

P/N 950024, 950026, 950028, 950029, use same printer mechanism and control circuit board but with different mechanical arrangement

P/N 950054 use same printer mechanism but a different control circuit board as in P/N 950024, 950026, 950028, 950029

P/N 103665 is identical to P/N 950005, the only difference is the P/N for marketing purpose only

P/N 100769 is identical to P/N 950023, the only difference is the P/N for marketing purpose only

Rated Ambient temperature

P/N 950011, 950020, 103665, 950005, 950051, 950100, 950023, 950024, 950026, 950028, 950029, 950054, 100769 is rated 50°C

P/N 950050 is rated 60°C

POWER CONNECTIONS

All printers supplied by approved external /LPS Power Supply -ITE Power Adaptor, Model FSP060-RTAAN2 by FSP Group Inc. or equivalent power supply marked “LPS” or “Class 2 Power Supply”.

INTERNAL WIRING

All internal wiring is certified and is reliably routed and secured away from sharp edges having a radius less than 1.5mm.

FACTORY TESTS: N/A

No manufacturing or production line tests are required because the model Spill-Proof is powered through an approved SELV Power Supply.

Tests

P/N 950011, 950020, 103665, 950005, 950050, 950051, 950100, 100769, 950023 were evaluated in QPS as per file LR1123-1R1, CB1123-1R1, CB1123-1 and LR1123-3 to the requirements of UL/CSA 60950-1, second edition. Upon review, no additional tests were deemed necessary.

P/N 950024, 950026, 950028, 950029, 950054 were evaluated at QPS to the requirements of UL 62368-1, Standard for Safety for Audio/video, information and communication technology equipment- Part 1: Safety requirements, Second Edition;
CAN/CSA-C22.2 No. 62368-1-14, Audio/video, information and communication technology equipment- Part 1: Safety requirements, Second Edition;
Upon review, the following tests were selected and performed with satisfactory results

Test results relate only to the items tested.

| STANDARD | INFORMATION |
|----------|---|
| B.2.5 | INPUT TEST |
| 6.3, 9.2 | HEATING TEST |
| B.3 | SIMULATED ABNORMAL OPERATING CONDITIONS |
| B.4 | SINGLE FAULT CONDITION |
| 6.2.2 | PS MEASUREMENT FOR CLASSIFICATION |

The test methods and results of the above tests have been reviewed and found to be in compliance with the applicable requirements of the applicable standards/codes indicated above.

Critical Components Table

| Object / part No. | Manufacturer/ trademark | Type / model | Technical data | Standard | Mark(s) of conformity1 |
|------------------------------------|-----------------------------------|-------------------|--|--|---------------------------|
| P/N 950011 | | | | | |
| Printer Assembly | Fujitsu | FTP-639MCL354 | DC 24 V | -- | Tested with the equipment |
| PCB | Various | Various | V-0, 105°C | UL 796 | UR |
| P/N 950020, 103665, 950005 | | | | | |
| Printer Assembly | Axiohm | MHTAGS24/C | DC 24 V | -- | Tested with the equipment |
| PCB | Various | Various | V-0, 105°C | UL 796 | UR |
| Polymeric Drawer | Various | Various | V-0 | UL 746 | cURus |
| P/N 950050 | | | | | |
| 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) |
| P/N 950051 | | | | | |
| Printer Assembly | TXCOM | AXIOHM MHTNGD24 | 25mm motor, thermal print head | UL 60950-1:2007 R12.11 CAN/CSA-C22.2 No.60950-1-07+A1:2011 | TUV (CU72141773) |
| Plastic enclosure for model 950051 | Polymer Technology & Services LLC | ABS- FR3800-V | Acrylonitrile Butadiene Styrene (ABS), V-0 | CSA-C22.2 No. 0.17 UL 746C | cURus (E155285) |
| P/N 950100 | | | | | |
| Printer Assembly | Seiko | CAP9347E-S640-E | 24Vdc, 1.25A | IEC 60950-1 | Tested with the equipment |
| DC Sepper Motor | Seiko | B420A | 24Vdc, 0.50A | IE 60950-1 | Tested with the equipment |
| P/N 950023, 100769 | | | | | |
| Cover | Covestro Deutschland AG | Makrolon 2405+(z) | V-2 | UL 746C | cURus(E41613) |

| Object / part No. | Manufacturer/ trademark | Type / model | Technical data | Standard | Mark(s) of conformity1 |
|--|--|--------------------|---|----------|--------------------------------------|
| Shell(top, bottom) | Teijin Limited Resin and Plastic | TN-7500M(#) | V-1 minimum | UL 746C | cURus(E9852 9) |
| Printer Assembly | Axiohm | MHTPGS24H | DC 24 V | -- | Tested with the equipment |
| DC stepping motor | Minebea Electronic Co Ltd. (NMB) | PM20L-020- AXH2 | DC 24V, 100MΩ, 120°C | -- | Tested with the equipment |
| PCB | Various | Various | V-0, 105°C | UL796 | UR |
| PN 950024, 950026, 950028, 950029 | | | | | |
| Enclosure material for P/N 950028 | E I DUPONT DE NEMOURS & CO INC | FR50 | V-0 | UL 746C | UR(E41938) |
| Cover, mount material for P/N 950028 | TRINSEO (HONG KONG) LTD | Celec 5200HF | V-0 | UL 746C | UR(E132010) |
| Printer Assembly | Seiko | CAPM347 | Thermal printer mechanism 24VDC, 4.9A(peak)/144 dots; 9.9A(peak)/288 dots; 21.9A(peak)/640 dots Print speed 300mm/s | -- | Tested with the equipment |
| <i>Thermal Head</i> | -- | -- | <i>Heat element matrix consist of 640 dots</i> | -- | <i>Tested with the equipment</i> |
| <i>Paper feed motor</i> | -- | <i>J05F9ZY2BC</i> | <i>PM type stepper motor, 3.7Ω/phase, Vp:21.6-26.4V 600mA/phase</i> | -- | <i>Tested with the equipment</i> |
| <i>Paper motor</i> | -- | <i>J09C9ZE2BC</i> | <i>PM type stepper motor, 8.5Ω/phase, Vp:21.6-26.4V 820mA/phase(at 1 phase)</i> | -- | <i>Tested with the equipment</i> |

| Object / part No. | Manufacturer/ trademark | Type / model | Technical data | Standard | Mark(s) of conformity1 |
|--|---|-----------------|---|----------|------------------------------|
| PCB(control board 209008) | Various | Various | V-0, 105°C | UL796 | UR |
| Internal Wiring | Interchangeable | Interchangeable | VW-1, 105°C | UL 758 | UR |
| PN 950054 | | | | | |
| Enclosure for presenter | COVESTRO DEUTSCHLAND AG [PC RESINS] | FR3000 | V-0 | UL 746C | UR(E41613) |
| Enclosure for main frame | CHI MEI CORPORATION | PA-757 | HB | UL 746C | UR(E56070) |
| Printer Assembly | Seiko | CAPM347 | Thermal printer mechanism 24VDC, 4.9A(peak)/144 dots; 9.9A(peak)/288 dots; 21.9A(peak)/640 dots Print speed 300mm/s | -- | Tested with the equipment |
| PCB for control board 209014 and presenter | Various | Various | V-0, 105°C | UL796 | UR |
| Internal Wiring | Interchangeable | Interchangeable | VW-1, 105°C | UL 758 | UR |
| * In the component (Manufacturer) column indicates a Safety Agency Approved/Certified component whose manufacturer can be interchanged without consideration of re-testing, all interchangeable components must have equivalent electrical and temperature ratings or better for the intended application. | | | | | |

Photo 1 – Front view of thermal printer, P/N 950011

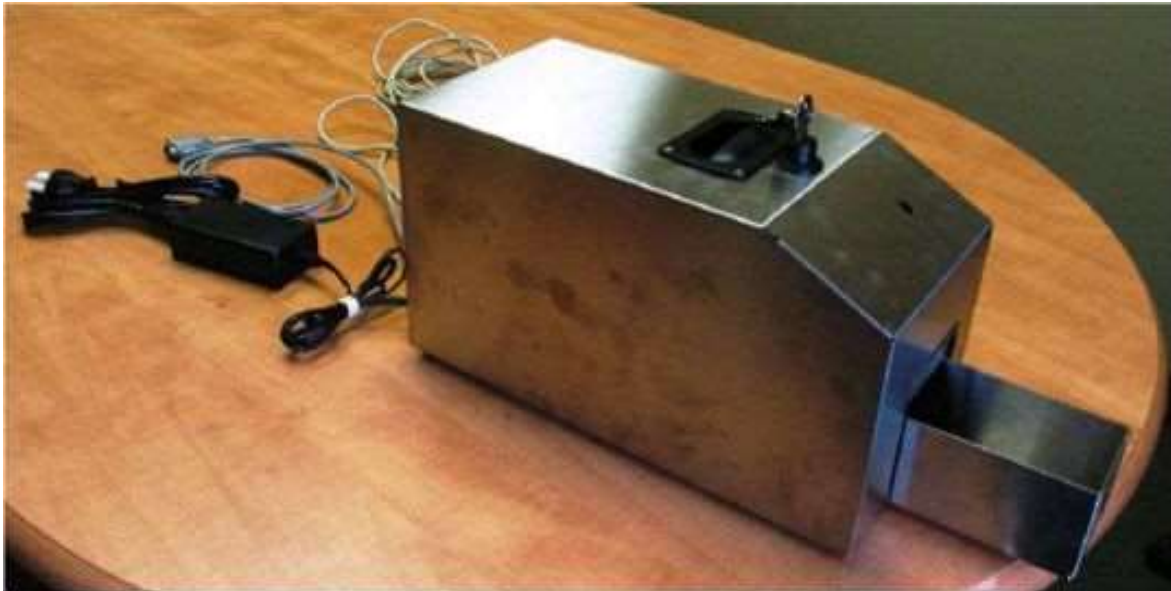


Photo 2 – Back and inside view of thermal printer, P/N 950011



Photo 3 – Inside view of thermal printer, P/N 950011



Photo 4 – Overall view of thermal printer, P/N 950020



Photo 5 – Overall view of thermal printer, P/N 103665



Photo 6 – Main board of thermal printer, P/N 103665



Photo 7 – Top view of thermal printer, P/N 950050



Photo 8 – Bottom view of thermal printer, P/N 950050



Photo 9 – Overall view of thermal printer, P/N 950051



Photo 10 – Internal view of thermal printer, P/N 950051



Photo 11 – Top view of thermal printer, P/N 950100

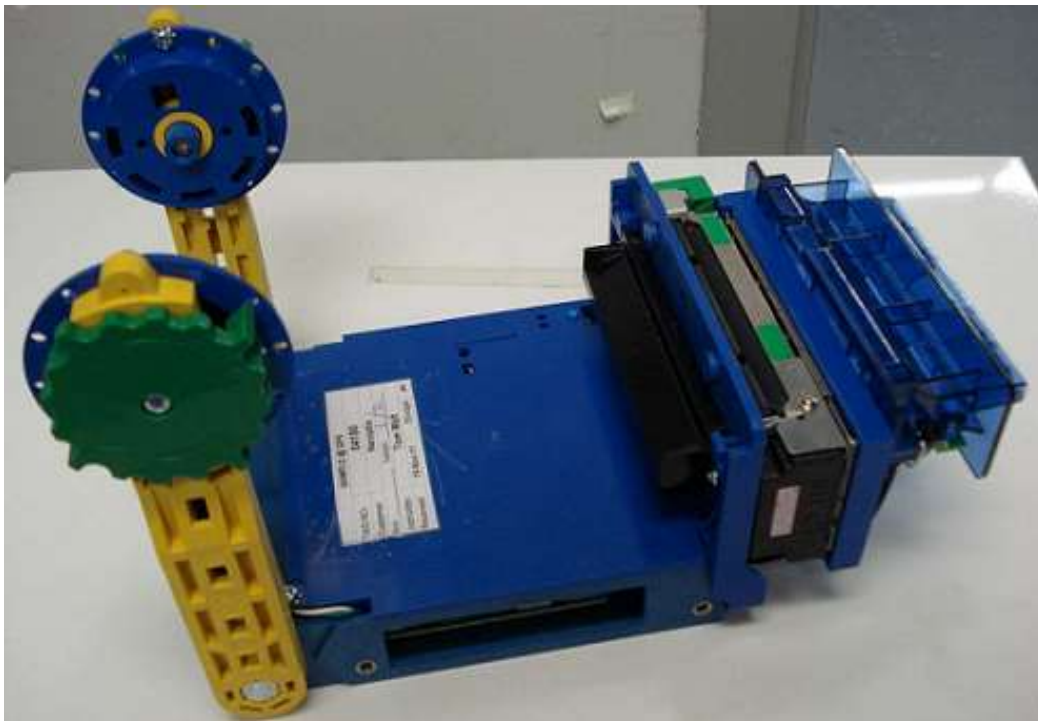


Photo 12 – Bottom view of thermal printer, P/N 950100



Photo 13 – Overall view of thermal printer, P/N 100769



Photo 14 – Internal view of thermal printer, P/N 100769



Photo 15 – Overall view of thermal printer, P/N 950024

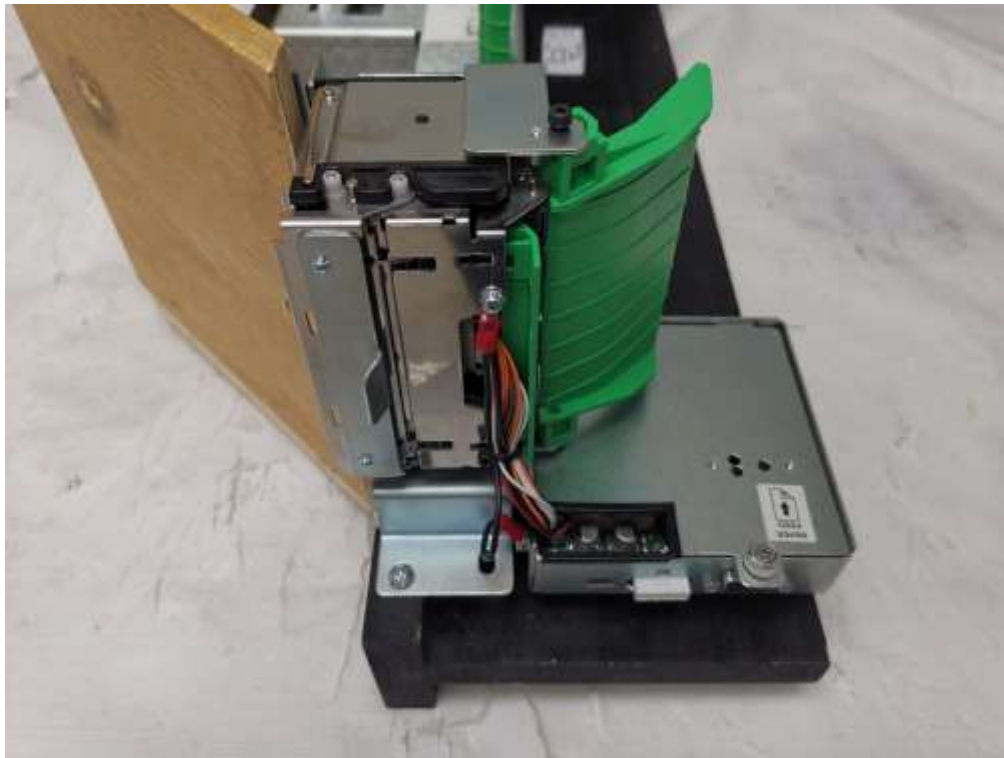


Photo 16 – Internal view of thermal printer, P/N 950024

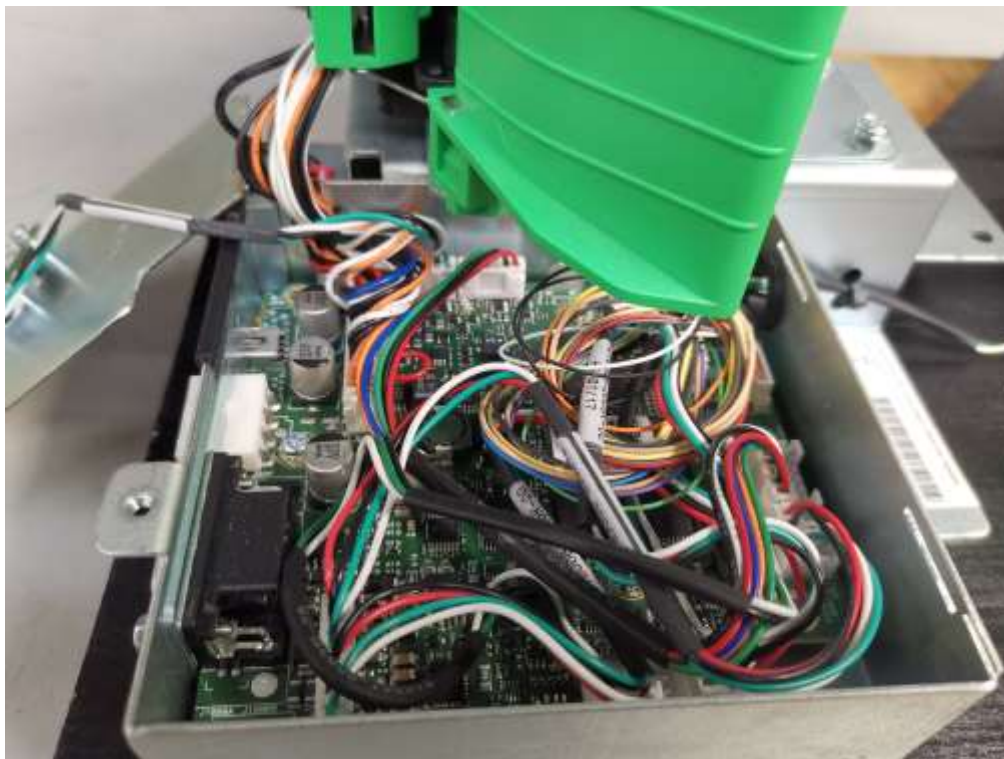


Photo 17 – Top view of the main circuit board of thermal printer, P/N 950024



Photo 18 – Bottom view of the main circuit board of thermal printer, P/N 950024

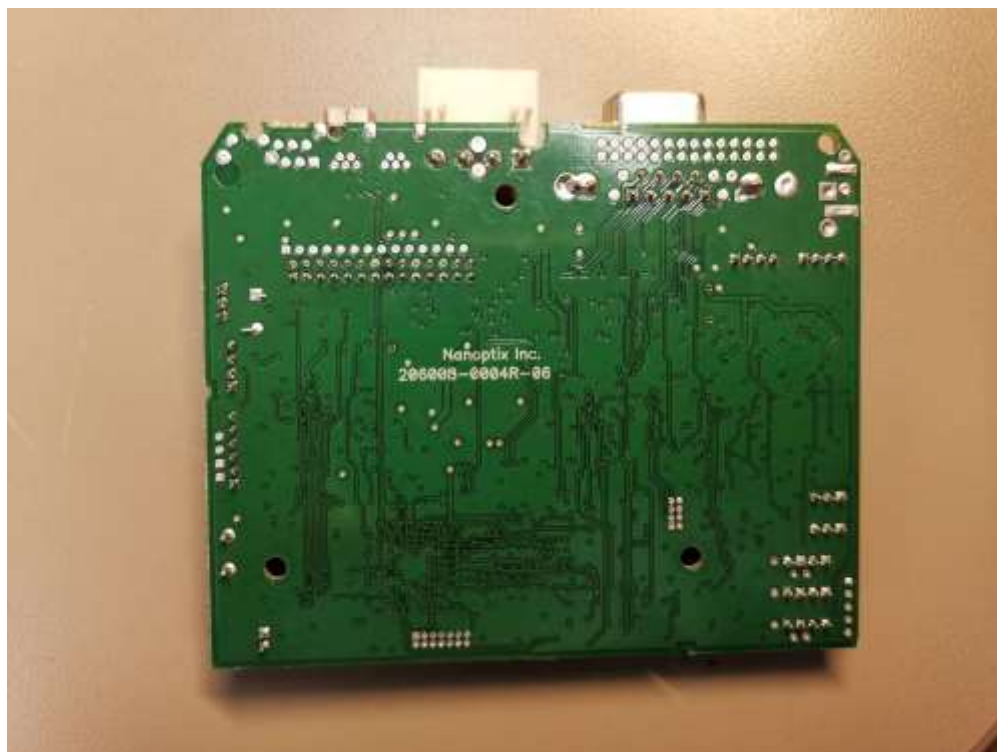


Photo 19 – Overall view of thermal printer, P/N 950026



Photo 20 – Overall view of thermal printer, P/N 950028

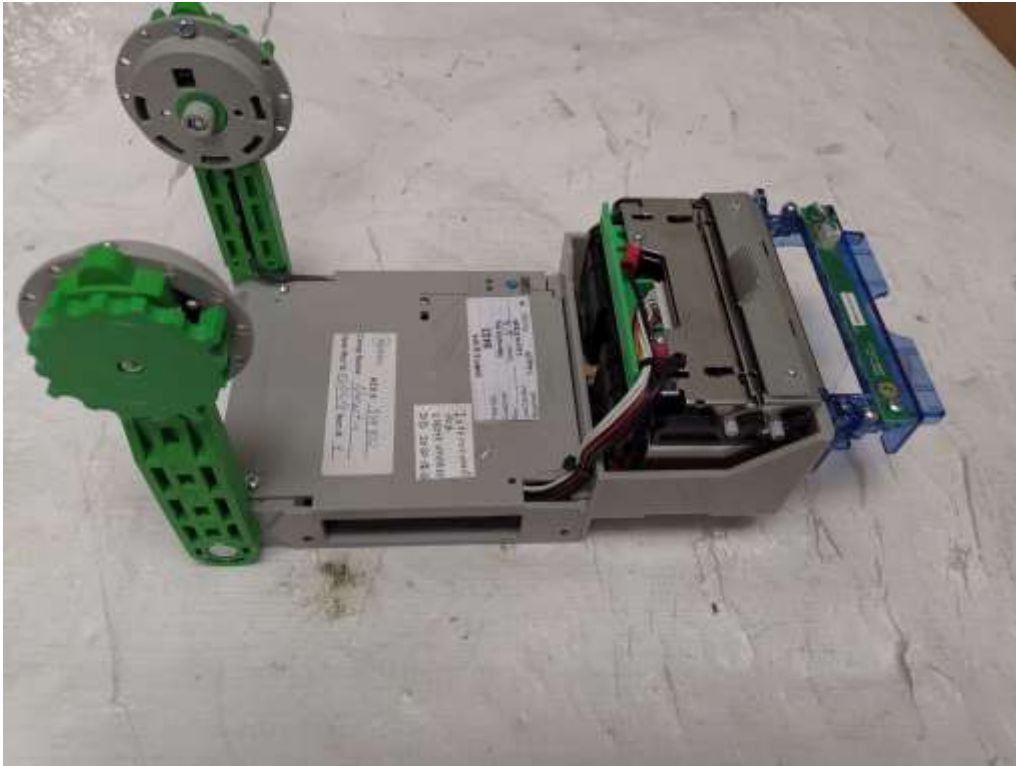


Photo 21 – Bottom view of thermal printer, P/N 950028



Photo 22 – Overall view of thermal printer, P/N 950028



Photo 23 – Overall view of thermal printer, P/N 950054

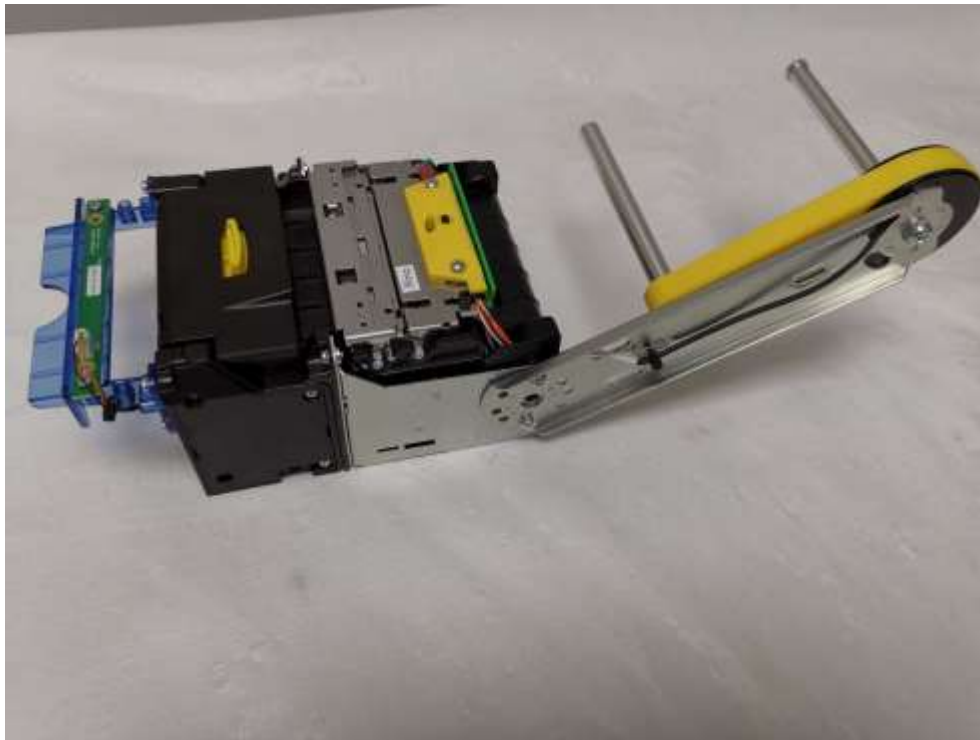


Photo 24 – Bottom view of thermal printer, P/N 950054



Photo 25 – Top view of the main circuit board of thermal printer, P/N 950054



Photo 26 – Bottom view of the main circuit board of thermal printer, P/N 950054



Photo 27 – Internal view of the presenter of thermal printer, P/N 950054



Photo 28 – Overall view of the printer assembly, CAPM347

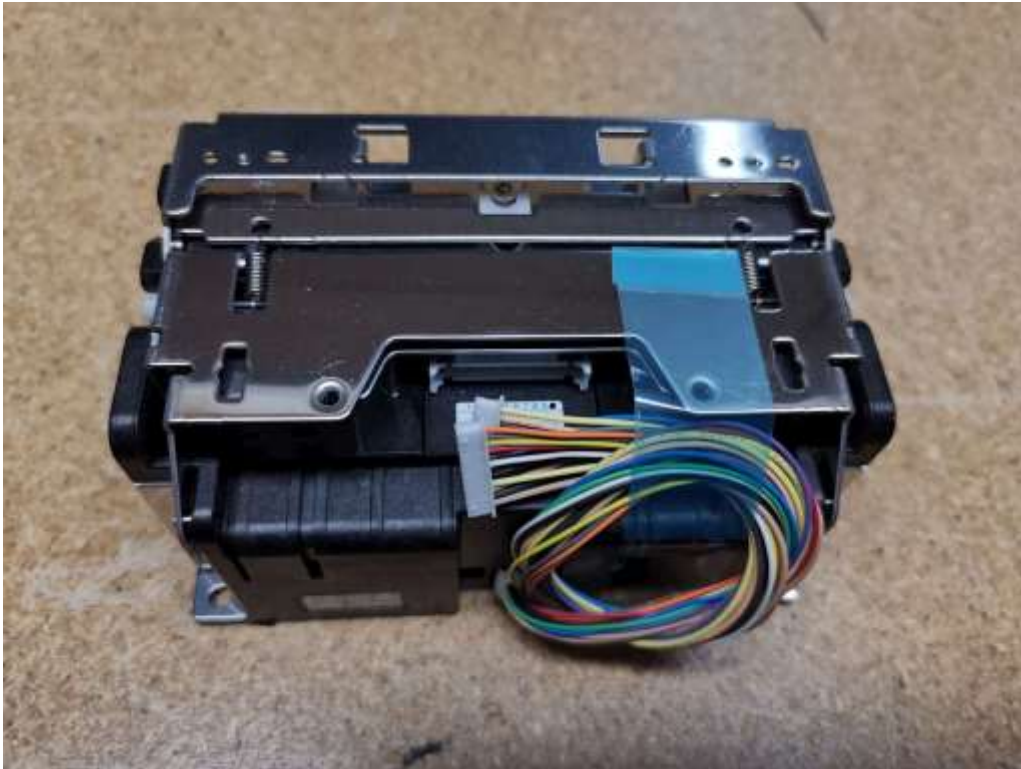


Photo 29 – Internal view of the printer assembly, step motors, CAPM347

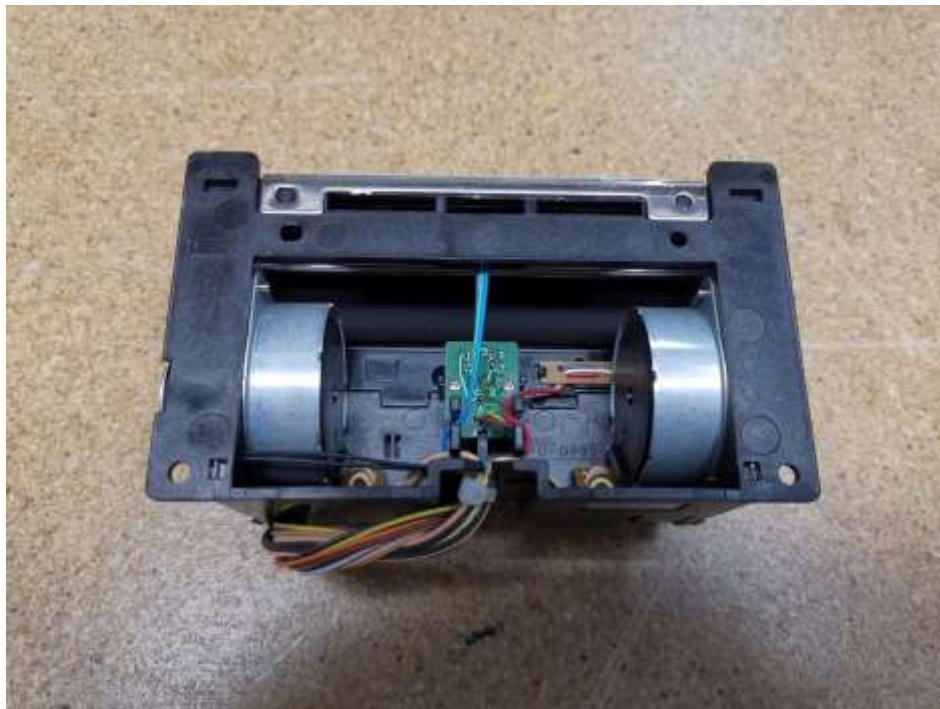


Photo 30 – Internal circuit board of the printer assembly, CAPM347



Evaluation of Unlisted Components

Because unlisted components are uncontrolled, and they do not fall under a third party follow up program, QPS may require these components to be tested and/or evaluated at least once annually, more often for certain components, as part of the independent certification process. The unlisted components in the table below require testing and/or evaluation as indicated.

Note to QPS Follow Up Inspector: **The testing laboratory will notify you in writing when these components must be selected and sent to the laboratory for re-evaluation**

Ship the samples to: QPS Evaluation Services Inc.
81 Kelfield St. Unit 81
Toronto Ontario
Canada
M9W 5A3

Sample Disposition: Due to the destructive nature of the testing, all samples will be discarded at the conclusion of testing unless, the manufacturer specifically requests the return of the samples. The request for return **must** accompany the initial component shipment.

The Unlisted Components covered by this report are shown in the following Table:

| Photo No. | Component Description | Manufacturer | Catalog No. | Frequency* | Qty□□ | Send to Lab (YES or NO) | Required Action*** |
|-----------|-----------------------|--------------|-------------|------------|-------|-------------------------|--------------------|
| | | | | | | | None |
| | | | | | | | |
| | | | | | | | |

* Quarterly, semi-annual, annual.

** Note: Indicate any samples not available and provide the anticipated date that the component will be available.

*** Required Action (select one of the three):

Visual

Partial

Full Evaluation

Note:

Visual means the quarterly verification of the description of the unlisted component in the report is sufficient for Certification.