

Printronix Auto ID Guide Specification
RFID Label
860-960 MHz EPC Class 1, Gen 2
Alien 9634 Antenna



Applicable Printer Models

SL4M MP2 and SL5000r MP2

Disclaimer

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1. Scope

- 1.1. This document provides guide specifications for constructing UHF Class 1, Gen 2, RFID labels with Alien 9634 Antenna for use with Printronix Auto ID MP2 series of RFID printers.
- 1.2. Target Applications
 - 1.2.1. Target application is supply chain logistics labeling using paper pressure-sensitive RFID labels.
- 1.3. Target RFID Printer Models
 - 1.3.1. Printronix Auto ID SmartLine SL4M MP2 and SL5000r MP2 series RFID Smart Label Printers. Printers are designed to encode, verify and print RFID labels.

2. Disclaimer

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3. Requirements

- 3.1. Label Facestock
 - 3.1.1. Thermal Transfer printing mode – Coated label facestock designed for thermal transfer printing (Fasson Thermal Transfer 1C media or equivalent).
 - 3.1.2. Direct Thermal printing mode – Coated label facestock designed for direct thermal printing (Fasson DirectTherm 200HD or equivalent).
- 3.2. Liner
 - 3.2.1. 40 # bleached calendared Kraft stock.
- 3.3. Adhesive
 - 3.3.1. Permanent Acrylic or rubber based adhesives are acceptable
 - 3.3.2. Adhesive interface to liner shall be uniform and exhibit the same release characteristics along the full length of the label.

3.4. Perforations Between Labels

3.4.1. For SL4M and SL5000r models – per user requirements except no perforations for Peel Mode.

3.5. Roll Configurations

3.5.1. SL4M and SL5000r

3.5.1.1. Inside core diameter: 3 inches (76.2 mm).

3.5.1.2. Outside roll diameter: 8" (203.2 mm) maximum.

3.5.1.3. Label wind direction – label side out with orientation per Figure 1.

3.5.2. General

3.5.2.1. Roll to be wound with sufficient tension to prevent telescoping during transit and handling.

3.5.2.2. Splices to use clear tape, should be angled and placed under the labels and not between.

3.6. Inlay Characteristics

3.6.1 Inlay: Alien 9634. Silicon Type: **Alien Higgs 3**

TID = E2003412

3.6.2 Nominal operating frequency: 860-960 MHz.

3.6.3 EPC Memory: 96 up to 256 bits.

3.6.4 User Memory: 320 up to 512 Bits (sets automatically based on EPC memory setting).

3.6.5 EPC Protocol: UHF Class 1, Gen 2.

3.7. Printer Setup:

3.7.1. SL4M and SL5000r Coupler Position: **Yellow**.

3.7.2 SL4M and SL5000r RFID menu Tag Type: “**Alien 9634**”.

(SL4M and SL5000r RFID menu Interim Tag Type: “**Alien 9629 SQ**”). Interim Tag Type selection works with 96 bit EPC only. Printer firmware update is required to work with full memory.

3.8. Label Construction

3.8.1 Inlay location with respect to label top of form and liner edge outlined in Figure 1.

3.8.2 4” Printer Models

3.8.2.1. Nominal label facestock width with inlay is 4.0" (101.6 mm). Maximum width of label construction supported by printer is 4.5" (114.3 mm) edge to edge (4.1" (104.1 mm) is printable).

3.8.3. 6" Printer Models

3.8.3.1. Printable label facestock width with inlay is 6.6" (167.6 mm). Maximum width of label construction supported by printer is 6.8" (172.7 mm) edge to edge.

3.8.4. Minimum supported inlay pitch: see Figure 1.

3.8.5. Gap Sensing

3.8.5.1. Nominal gap between labels for gap sensing is 0.125" (3.17 mm). Minimum gap supported is 0.10" (2.54 mm).

3.8.5.2. 1.0" (25.4 mm) minimum x 0.125" (3.17 mm) timing marks on the liner under the gap.

3.8.6. Release Characteristics

3.8.6.1. Labels shall be able to dispense in a print and apply application.

3.9. Packaging and Handling

3.9.1. RFID labels are static sensitive devices and should be packaged and handled accordingly.

3.9.2. Low humidity environments can increase electrostatic discharge (ESD) conditions. ESD safeguards are recommended

3.9.3. Avoid storing labels in elevated temperature environment.

4. Thermal Transfer Ribbons for Printronix Auto ID RFID Printers

4.1. Ribbons for 4" RFID Printer Models

4.1.1. Wax resin ribbon for best durability. Wax Resin Blend Ribbon 8500, 4.33" x 2051' (110 mm x 625 m), package of 6 ribbons, Printronix Auto ID part no. 203485-103.

4.1.2. General purpose wax ribbon. Wide Spectrum Wax Ribbon 8300, 4.33" x 2051' (110 mm x 625 m), package of 6 ribbons, Printronix Auto ID part No. 175391-103.

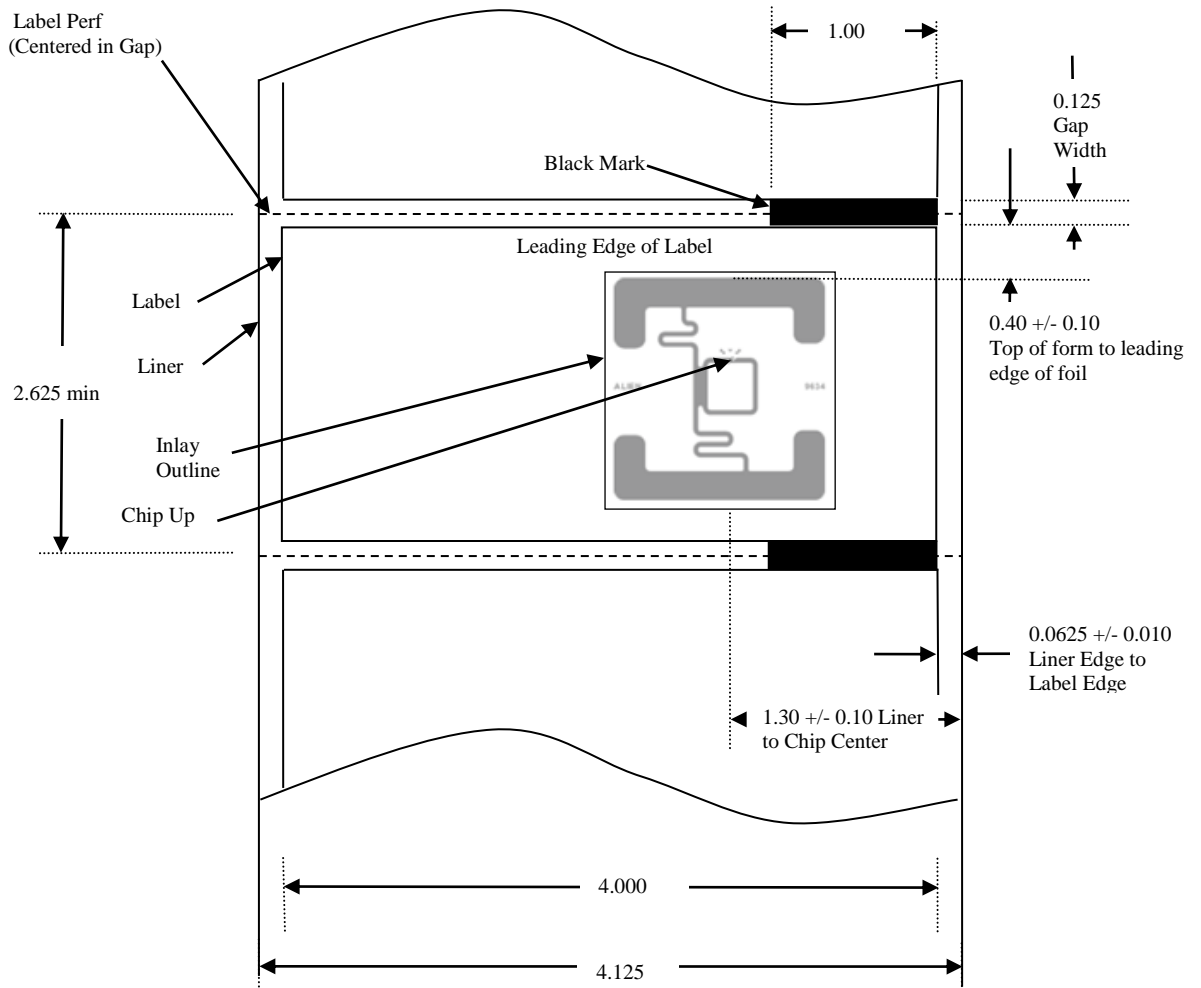
4.2. Ribbons for 6" RFID Printer Models

4.2.1. Wax resin ribbon for best durability. Wax Resin Blend Ribbon 8500, 6.73" x 2051' (171 mm x 625 m), package of 6 ribbons, Printronix Auto ID part no. 203485-106.

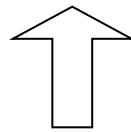
4.2.2. General purpose wax ribbon. Wide Spectrum Wax Ribbon 8300, 6.73" x 2051' (171 mm x 625 m), package of 6 ribbons, Printronix Auto ID part No. 175391-106.

5. Contact Information

5.1. For comments or questions, please contact Andy Edwards at AEdwards@Printronixautoid.com or 657-258-0816.



Label Side View



Label Direction
Through Printer

**Printronic Auto ID RFID Label Requirements for MP2 Gen 2
Alien 9634 Inlay**

Figure 1. Label Layout

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Not to Scale
All Dimensions in Inches