

**Printronix Guide Specification
RFID Label
860-960 MHz EPC Class 1, Gen 2
Raflatac 1938 Belt Antenna**



Applicable Printer Models

SL4M MP2 and SL5000r MP2

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1. Scope

- 1.1. This document provides guide specifications for constructing UHF Class 1, Gen 2, RFID labels with Raflatac 1938 Belt Antenna for use with Printronix 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 SmartLine SL4M MP2 and SL5000r MP2 series RFID Smart Label Printers. Printers are designed to encode, verify and print RFID labels.

2. Disclaimer

- 2.1. Notwithstanding anything to the contrary in this document, the guidelines, suggestions and other information included in this document or otherwise provided to the recipient, including the guidelines and suggestions for developing converted RFID labels, are provided by Printronix on an "as is" basis and without warranty of any kind whatsoever, expressed or implied. In particular, Printronix disclaims any implied warranty of merchantability or fitness for a particular purpose. Printronix will not be liable under any circumstances for any damages or losses related in any way to use of the guidelines, specifications or other information, including damages, which may be incurred as a result of labels not working properly in a specific application. All specifications are subject to change without notice. Testing of the converted labels in the printer is recommended prior to production quantities.

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: Raflatac 1938 Belt iL. Silicon Type: NXP G2iL or NXP G2iL+
NXP G2iL TID = E2006805 or E2006806
NXP G2iL+ TID = E2006807

3.6.2 Nominal operating frequency: 860-960 MHz.

3.6.3 EPC Memory: 128 bits.

3.6.4 User Memory: N/A

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: “Raf 1938Belt iL”.

(SL4M and SL5000r RFID menu Interim Tag Type: “Raf 1322 Sat”). 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 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 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 part No. 175391-103.

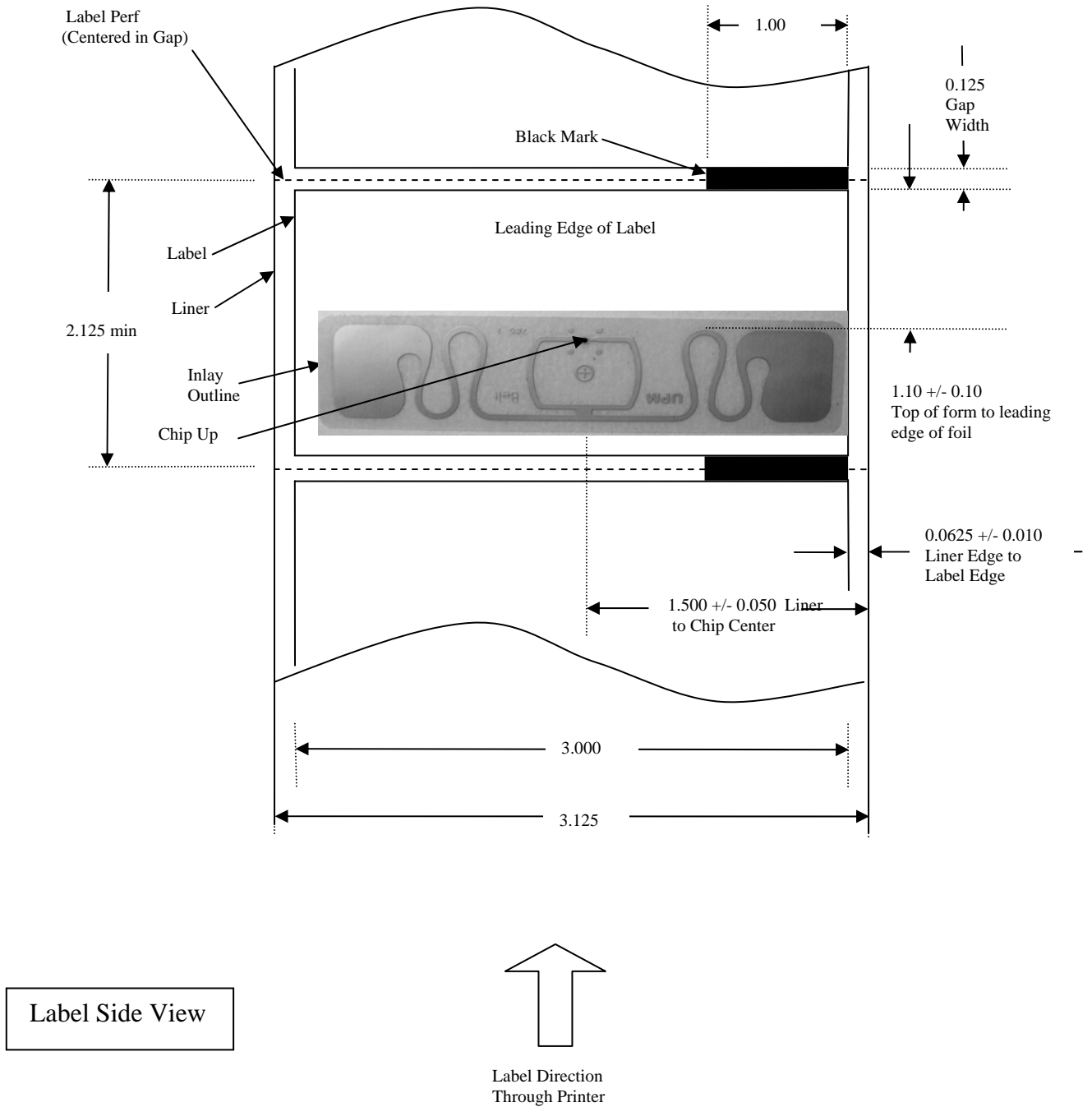
4.2. Ribbons for 6" RFID Printer Models

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 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 part No. 175391-106.

5. Contact Information

5.1. For comments or questions, please contact Andy Edwards at AEdwards@printronix.com or 714-368-2548.



Printronix RFID Label Requirements for MP2 Gen 2
 Raflatrac 1938 Belt Inlay

Figure 1. Label Layout

Not to Scale
 All Dimensions in Inches

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