# Printronix Guide Specification
# RFID Label
# 915 MHz, 96 Bit, EPC Class 1, Gen 2
# Rafsec Short Dipole Antenna

**Applicable Printer Models**

| Print and Apply Models | Desktop Models |
|---|---|
| SLPA8000r MP2 | SL4M MP2 |
| SLPA7000r MP2 | SL5000r MP2 |

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# 915 MHz EPC Class 1, Gen 2
# Rafsec Short Dipole Antenna

## 1. Scope

1.1. This document provides guide specifications for developing 96 Bit, EPC UHF Class 1, Gen 2, RFID labels with Rafsec Short Dipole 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.

1.3.2. Printronix SmartLine SLPA8000r MP2 and SLPA7000r MP2 series RFID Smart Label Printer Applicator. Printers are designed to encode, verify, print and apply 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 subjective 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 SL5000 models – per user requirements except no perforations for Peel Mode.

3.4.2. For SLPA8000 and SLPA7000 models – no perforation between labels.

3.5. Roll Configurations

3.5.1. SL4M and SL5000 models

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. SLPA8000 and SLPA7000 models

3.5.2.1. Inside core diameter: 3.000” (+0.032”, -0.0”) (76.190 mm (+0.813, -0.0)) core acceptable for label lengths less than 5" (127.0 mm) with inlay lengths less than 2" (50.8 mm). For label lengths greater than 5" (127.0 mm) core diameter shall be 6.0" (+0.032”, -0.0”) (152.4 mm (+0.813, -0.0).

3.5.2.2. Outside roll diameter: up to 12" (304.8 mm) maximum.

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

3.5.3. General

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

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

3.6. Inlay

3.6.1. Inlay: Rafsec Gen 2 Short Dipole inlay (similar to Rafsec sales code 3000704).

3.6.2. Base antenna material: Etched aluminum.

3.6.3. Nominal operating frequency: 915 (+/-15) MHz.

3.6.4. EPC Protocol: UHF Class 1, Gen 2.

3.6.5. Memory: 96 Bit Read/Write.

3.7. Label Construction

3.7.1. Inlay location with respect to label facestock outlined in Figure 1.

3.7.2. 4” Printer Models

3.7.2.1. 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).

3.7.3. 6” Printer Models

3.7.3.1. 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.

3.7.4. Minimum supported inlay pitch is 2.0" (50.8 mm).

3.7.5. Gap Sensing

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

3.7.5.2. 1.0" (25.4 mm) minimum x 0.125" (3.17 mm) timing marks on the liner under the gap.

3.7.6. Release Characteristics

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

3.8. Packaging and Handling

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

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

3.8.3. 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.

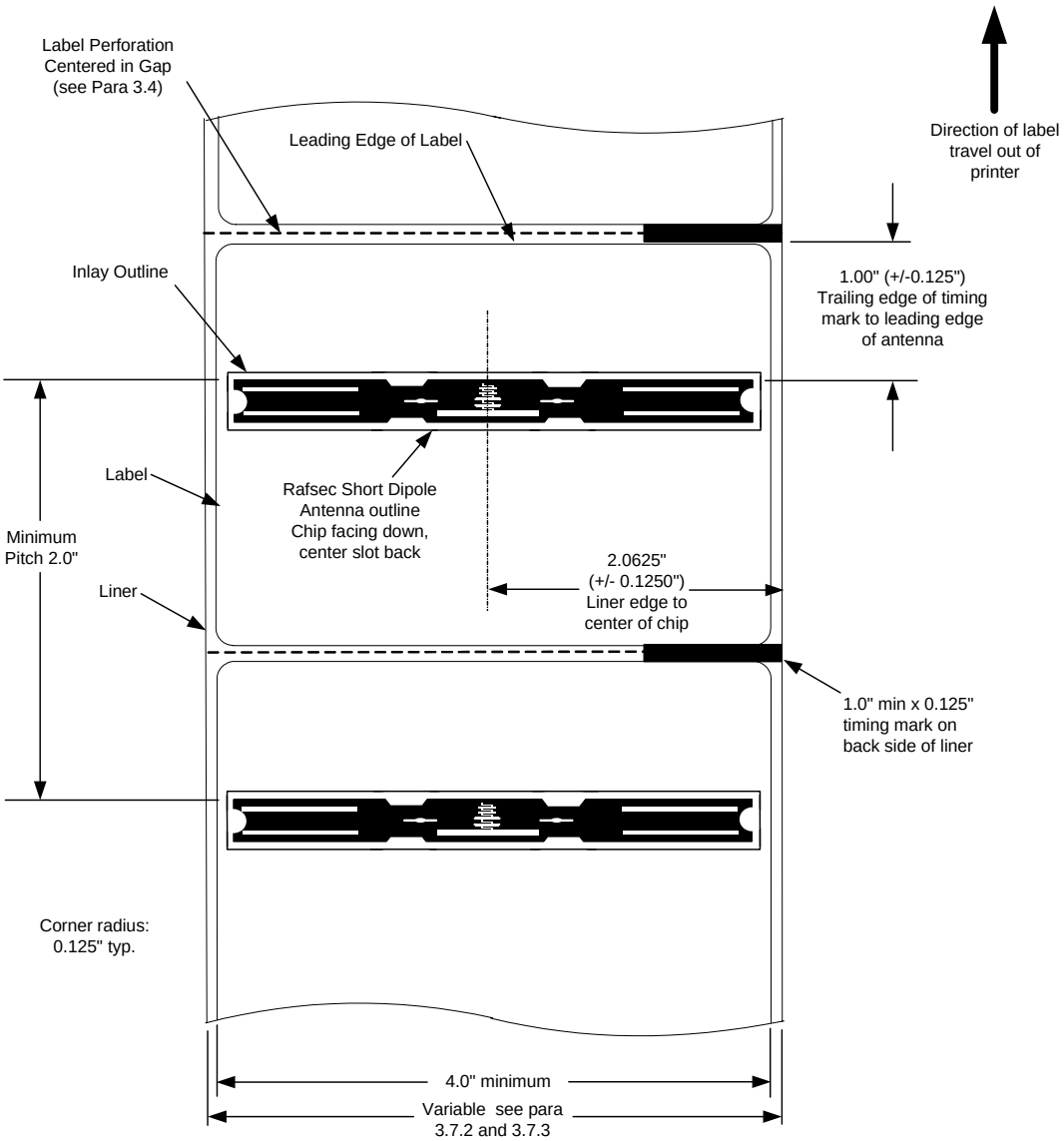
4.2. Ribbons for 6” RFID Printer Models

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 Andrew Moore at amoore@printronix.com or 714-368-2477.




**Printronix RFID Label Requirements for Rafsec Short Dipole Inlay**

**Viewed from Facestock Side**

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All Dimensions in Inches

# Figure 1. Label Layout