# RFID PLAYBOOK

**Dillard's**
The Style of Your Life.

# General Overview

Radio Frequency Identification (RFID) technology is being used in Dillard's Distribution Centers and Stores. We are committed to using this technology to improve product flow through our supply chain and inventory accuracy in our stores.

Today's RFID use cases are:

- 100% item level counts audits in our distribution centers for cartons processed through the RFID tunnel
- Frequent product cycle counts and inventory level adjustments in our stores

## What industry standards to follow?

Dillard's is following all industry standards set forth by GS1 RFID serialized encoding standard, GS1 tag placement standards, and Auburn University RFID Lab ARC RFID inlay standards. All tagging requirements must meet these standards prior to arriving in our stores.

## What carries RFID tagging?

Beginning with purchase orders with a start ship date of January 1, 2023, all vendors will be required to apply item level RFID tags to all merchandise.

## Out of Scope:

- Cosmetics
- Hard Home

# Getting Started

The following outlines a standard framework to integrate RFID into packaging. This includes major points and areas that should be considered; However, every company must tailor these steps to fit the needs of their business and supply chains.

- Identify the ways that RFID can help improve your operations. Refer to the "RFID Use Cases for Suppliers" section for details
- Develop an internal team
- Engage with your packaging provider and if needed you will also need to engage with an approved RFID Inlay Manufacturer
- Begin procurement discussions and provide forecasts to your packaging and RFID Inlay provider
- Begin data management and serialization discussions with your RFID packaging provider. Refer to the "RFID Encoding & Serialization Requirements" section for details
- Develop quality check process to ensure all items are tagged according to all requirements in this Playbook
- Ideally, tagging should occur at the point of manufacture as this enables vendors to utilize and gain benefit from the technology throughout their supply chain

# Determine Inlay Manufacturer

Suppliers may only select from the approved list provided on the Auburn University RFID Lab's Website from the appropriate Spec. Any inlay manufacturer not listed on the appropriate Spec cannot produce inlays for packaging being shipped to Dillard's.

The latest version of the ARC approved RFID inlay manufacturer and contact information is available at https://rfidlab.org/inlaycontacts/

# Determine Packaging Resource, RFID Service Bureau

Suppliers can utilize their own RFID packaging resource to develop and print their RFID inlays but must adhere to the GS1 standards and RFID Lab ARC standards.

A list of RFID packaging resources is available at https://rfidpackagingresources.org/  These are packaging providers that have supplied packaging for other RFID Programs.  This is NOT an endorsement or list of nominated suppliers.

Suppliers can also utilize other RFID packaging providers that are not listed.  All label providers or packaging resources will need to source an Auburn university ARC approved RFID inlay.

# Select RFID Inlay Spec

Dillard's has a set of ARC inlay specifications that are performance approved from the Auburn University RFID Lab. The Auburn University ARC standard ensures RFID tags meet or exceed the levels of performance and quality necessary to provide benefit in a consistent and cost-effective manner.

Refer to the chart below to see what spec has been assigned to each category.  You can only use an approved inlay from an item's associated inlay list.

| Product Category | Inlay Spec | Approved Inlay List |
|---|---|---|
| Apparel | Spec R | https://rfidlab.org/arc/spec-r.php |
| Socks, Polybagged underwear, Banded underwear, Boxed apparel | Spec W2 | https://rfidlab.org/arc/spec-w2.php |
| Baby Gear | Spec Y | https://rfidlab.org/arc/spec-y.php |
| Footwear | Spec R | https://rfidlab.org/arc/spec-r.php |
| Handbags | Spec R | https://rfidlab.org/arc/spec-r.php |
| Luggage | Spec W3 | https://rfidlab.org/arc/spec-w3.php |
| Soft Home | Spec W4 | https://rfidlab.org/arc/spec-w4.php |
| Sunglasses | Spec W5 | https://rfidlab.org/arc/spec-w5.php |
| Jewelry | Spec W6 | https://rfidlab.org/arc/spec-w6.php |
| Watches | Spec W4 | https://rfidlab.org/arc/spec-w4.php |

# Identify Inlay Size

Use the largest RFID inlay size available that fits your packaging.

If your packaging does not fit the smallest inlay size available within the approved spec, add a generic embedded inlay hangtag or a separate paper-based sticker to your item.

# Determine placement of RFID tag

The below guidelines are general in nature. Please consult the GS1 Apparel Placement Guideline manual for product specific placement and adhere to GS1 standards.
https://www.gs1us.org/DesktopModules/Bring2mind/DMX/Download.aspx?Command=Core_Download&EntryId=429&language=en-US&PortalId=0&TabId=134

# Tagging Requirements

- Please make sure that that there is only ONE RFID tag per product

- RFID tags must be removable by the customer. If sewn in, they must be removable

- RFID tags can be placed inside the packaging if the EPC symbol is placed outside

- RFID tags cannot be integrated into the product.

- RFID tags or inlays cannot cover any text or images

- If an item is being stickered, the domicile with the country of origin should not be covered up - it needs to be visible to the customer. The supplier can print the country of origin on the RFID sticker if needed

- The RFID tag should not fall off from product easily

- No staples, perforations, swift tachs, folding or die cuts through the inlay as it will make the inlay unreadable

- When choosing the tagging location, RFID readability should be considered while product is in salesfloor, backroom, and case pack. For example, the RFID tag cannot be placed on bottom of product since the tag will most likely be in direct contact with metal.

- RFID tags can be used in parallel with EAS tags but **CANNOT** be used on top of each other

- No metal foils, holograms or metallic inks should be used on any packaging containing the RFID inlay.  If so, you MUST receive the RFID Lab approval prior to bulk production of the printed packaging

- No RFID inlay placement on bottom of polybags, bottom of boxed items, on glass, on liquids, on Silvadur, or near metal/foil

- The performance of the RFID inlays could be affected by metals, foils, liquids, and glass. Special consideration must be taken when choosing tagging format and location for such products. Please contact the RFID lab at alec@rfidlab.org

# EPC Symbol

- The EPC logo example represents the bare minimum of information that should be shown on your packaging to identify RFID tagging

- Any packaging that has an RFID tag must have the Electronic Product Code (EPC) symbol displayed on the packaging for the customer and store associates to recognize

- The EPC symbol should not be shown on any packaging that does not contain an RFID inlay.  The EPC logo is an industry standard to inform the customer and store employee that the tag contains RFID. Having tags with an EPC logo and/or inlay but not properly encoded can cause major confusion within the process

- See this link for the EPC Symbol image file and related documentation: https://www.gs1.org/standards/epc-rfid/guidelines

# RFID Encoding & Serialization Requirements

- All tags are to be encoded appropriately per EPC Tag Data Standards (TDS), resulting in unique serialization for each item.  The SGTIN-96 tag encoding standard maintained by GS1 is to be used

<div align="center">

**UPC** ➕ **Unique Serial Number** 🟰 **EPC (RFID)**

</div>

- Please keep in mind that each serial number must be unique to that item and can run a risk of having duplicate numbers if not managed properly throughout the development process.  Please ensure unique serialization is managed when using multiple packaging providers for the same SKU. See the link below for more information.

  https://www.gs1us.org/DesktopModules/Bring2mind/DMX/Download.aspx?EntryId=1946

- Tags must be permalocked to prevent tampering

- All tags must undergo quality and data integrity checks prior to entering the supply chain

- The EPC Encoder/Decoder Tool may be found here:  https://www.gs1.org/services/epc-encoderdecoder

# Approval of Production RFID Packaging Samples

Send Five (5) EPC tag samples only (no product or packaging) to Dillard's for validation prior to bulk production.

- Submit one UPC per Submission Form.

- Not all UPCs supplied by a supplier require validation.  Select one representative UPC (SKU) per product supplier per brand per packaging type per packaging agency per RFID Inlay model per tagging location. Send five inlay samples of the one representative UPC.

- RFID Tags MUST be production quality.

- Please complete and submit the online submission form at https://rfidlab.org/dillards/

- Print the PDF confirmation and include it along with the samples.

- Product Suppliers are responsible for submitting their own samples.  Packaging resources CANNOT submit samples on behalf of the Product Suppliers.

- Product Suppliers who decide to switch inlay models and/or inlay providers and/or Service Bureau AFTER receiving validation, will need to re-submit tag samples again for validation.

- Product Suppliers who decide to change/add new packaging with materials that may interfere with readability, will need to re-submit tag samples again for validation.

# Supplier Accountability

- Product suppliers are required to have a process in place to ensure all tags leaving your facility are completely unique.
- Quality checking includes ensuring there are no duplicate serial numbers and that each tag is properly encoded for the item it is on.
- Any errors arriving at the stores will be the responsibility of product suppliers and all costs incurred.

# RFID Use Case & Technology Options for Suppliers

Please refer to the following research paper published by Auburn University for potential uses of RFID in your operations and supply chain.

https://rfid.auburn.edu/papers/rfid-item-level-quantity-auditing-for-apparel-supplier-distribution-centers-12/

https://rfid.auburn.edu/wp-content/uploads/2021/02/Empirical_Study_of_RFID_in_Supply_Chain.pdf

https://rfid.auburn.edu/wp-content/uploads/2021/02/CHIP-Proof-of-Concept-Results-Auburn-RFID-Lab.pdf

RFID is being used by suppliers to automate inbound audit processes, improve Inventory accuracy, and outbound validation.

# RFID Shipper Case Markings

For the stores to easily identify on cases which items have packaging with RFID labels. The Shipper Case Markings must include the word RFID.



Carton or carton labels do not carry any RFID inlays.  Only the selling unit packaging carries the RFID inlay.
The RFID marking is in addition to all other case markings and should not interfere with any other printed case markings, case labels, federal and state laws, or any other compliance related markings.
If the product inside the case is not RFID labeled, do NOT use the updated RFID marking.

# Non-Compliance Charges

Non-compliance charges of **$250 per PO/Shipment + $0.50 per piece** will be accessed beginning with purchase orders with a start ship date of January 1, 2023, or later if not, RFID tagged.

# Contacts

## Dillard's vendor relations

Email - vendor.compliance@dillards.com

Phone - +1-501-376-5412

## Dillard's Vendor Implementation and Information Guide (Section IX – RFID)

https://ebiz.dillards.com/eBiz/login

## Dillard's supplier validation

https://rfidlab.org/dillards/

## Auburn University RFID Lab

General Questions - alec@auburn.edu

## GS1 US

Website: www.gs1us.org

Supplier-oriented introduction to RFID: https://site.gs1us.org/RFID-success.html

Serialization Guide https://www.gs1us.org/DesktopModules/Bring2mind/DMX/Download.aspx?EntryId=1946

Tag Data Standard https://www.gs1.org/standards/tds