

RFID PLAYBOOK

For Sam's Club U.S. clubs



SAM'S CLUB RFID

All Required Categories
For Sam's Club U.S. Stores

The requirements in this version supersede all previous playbooks.

General Overview

Industry Standards to Follow

- Sam's Club is following all industry standards set forth by the GS1 EPC Tag Data Standard, Auburn RFID tag placement standard, GS1 tag placement standard, and Auburn University ARC inlay standard.
- All tagging requirements must meet these standards and should be validated through the Auburn RFID Lab ALEC Program prior to arriving in our stores.

In-Scope:

- All items within the following Sam's Club Departments are required to have RFID tags, unless listed in the Out-of-Scope section of this playbook.
- All items in these departments are in scope for RFID with no minimum price. Sam's Club will not decide or grant approval on tag spec and location. All items must be validated and approved by the Auburn RFID lab.

| Apparel | Seasonal | Entertainment & Office |
|-------------------------------------|-----------------------------|--|
| 22 - Children's Apparel | 07 - Toys | 03 - Office Solutions |
| 23 - Men's Apparel | 09 - Sporting Goods | 15 - Folding Furniture |
| 33 - Ladies Apparel | 12 - Outdoor Living | 20 - Gaming |
| 68 - Seasonal Apparel | 16 - Seasonal Hardware | 29 - Printers & Ink |
| 95 - Basic Apparel | 18 - Seasonal Decor | 31 - Office Tech |
| Home & Hardlines | 66 - Outdoor Recreation | 32 - Next Gen Extreme Value Gift Cards |
| 10 - Power Equipment, Tools, Auto | 89 - Nursery & Gardening | 69 - Gift Cards |
| 11 - Home Eff & Improvement | Consumer Electronics | 70 - Entertainment |
| 14 - Housewares | 05 - Visual Tech | |
| 17 - Furniture & Mattresses | 06 - Connected Life | |
| 21 - Domestic | 61 - Sound & Studio | |
| 36 - Automotive Oil & Chemicals | 80 - Major Appliances | |
| 60 - Kitchen Electrics & Floor Care | 86 - CE Accessories & Power | |

Out of Scope:

- Direct Ship Vendors (DSV), Pay from Scan Items
- E-Comm only items
- Items where RFID tags are not compatible with the product, as determined through the Auburn University RFID Lab ALEC Program.

Getting Started

- The following outlines a standard framework to integrate RFID into packaging. This includes major points that should be considered; However, every company must tailor these steps to fit the needs of their business and supply chains.
 - Develop an internal team.
 - Engage with your packaging provider, and if needed, also 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.
 - Identify ways that RFID can help improve your operations

Select RFID Inlay Spec

- Sam's Club references a set of inlay specifications that are performance approved from the Auburn University RFID Lab. 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.**

Apparel

| Department | Packaging Type | Inlay Spec | Approved Inlay List |
|---|----------------|------------|---|
| Apparel - Children's, Men's, Ladies, Seasonal, Basics | All | R | https://rfidlab.org/arc/spec-r.php |

Home & Hardlines

| Department | Packaging Type | Inlay Spec | Approved Inlay List |
|-----------------------------------|---|------------------|---|
| 10 - Power Equipment, Tools, Auto | Boxed, Polybag, Shrink-Wrap, Belly Band, Adhesive Label, Backer Card, C-Card, Plastic Container | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 10 - Power Equipment, Tools, Auto | Other | Contact RFID Lab | https://rfidlab.org/alecontactform/ |
| 11 - Home Eff & Improvement | Boxed, Adhesive Label, Plastic Bottle, Belly Band, Shrink-Wrap, Blister Card, Plastic Container | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 11 - Home Eff & Improvement | Other | Contact RFID Lab | https://rfidlab.org/alecontactform/ |
| 14 - Housewares | Boxed, Belly Band, C-Card | Y2 | https://rfidlab.org/arc/spec-y2.php |

| | | | |
|------------------------------------|--|------------------|---|
| 14 - Housewares | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 17 - Furniture & Mattresses | Belly Band, Boxed, C-Card | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 17 - Furniture & Mattresses | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 21 - Domestic | Belly Band, Boxed, C-Card, Ribbon Card, Hangtag, Polybag, Tyvek Label | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 21 - Domestic | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 36 - Automotive Oil & Chemicals | Oil, Power Steering Fluid | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 36 - Automotive Oil & Chemicals | Antifreeze, Cleaners, Refrigerant, Grease, Brake Fluid, Diesel Exhaust Fluid | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 36 - Automotive Oil & Chemicals | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 60 - Kitchen Electrics & Floorcare | Boxed, Polybag | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 60 - Kitchen Electrics & Floorcare | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |

Seasonal

| Department | Packaging Type | Inlay Spec | Approved Inlay List |
|---------------------|---|------------------|---|
| 07 - Toys | Adhesive Label, Backer Card, Belly Band, Boxed, Hangtag | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 07 - Toys | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 09 - Sporting Goods | Adhesive Label, Backer Card, Belly Band, Blister Card, Boxed, Hangtag | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 09 - Sporting Goods | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 09 - Sporting Goods | Propane Canisters | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 12 - Outdoor Living | Belly Band, Boxed, Hangtag, Plastic Bottle | Y2 | https://rfidlab.org/arc/spec-y2.php |

| | | | |
|-------------------------|---|------------------|--|
| 12 - Outdoor Living | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 16 - Seasonal Hardware | Adhesive Label, Bagged, Belly Band, Blister Card, Boxed, Liquid Bottle, Multipack with Collar, Paper Insert, Plastic Container, Polybag | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 16 - Seasonal Hardware | Garden Soil | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 16 - Seasonal Hardware | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 18 - Seasonal Decor | All Holiday Décor, All Seasonal Festive Décor | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 18 - Seasonal Decor | Candles - Adhesive Label Directly on Candle | C2 | https://rfidarc.auburn.edu/temp/inlays/spec-c2.php |
| 18 - Seasonal Decor | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 66 - Outdoor Recreation | Boxed | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 66 - Outdoor Recreation | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 89 - Nursey & Gardening | Liquid Container w/ Cap (No Foil Seal) | B2 / Y2 | https://rfidlab.org/arc/spec-b2.php https://rfidlab.org/arc/spec-y2.php |
| 89 - Nursey & Gardening | Plants, Pesticides, Herbicides, Citronella, Repellants, Fertilizer, Mulch, Soil | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 89 - Nursey & Gardening | Other | Y2 | https://rfidlab.org/arc/spec-y2.php |

Consumer Electronics

| Department | Packaging Type | Inlay Spec | Approved Inlay List |
|---------------------|---------------------|------------------|---|
| 05 - Visual Tech | Boxed | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 05 - Visual Tech | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 06 - Connected Life | Boxed | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 06 - Connected Life | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 61 - Sound & Studio | Blister Card, Boxed | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 61 - Sound & Studio | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |

| | | | |
|-----------------------------|---------------------|------------------|---|
| 80 - Major Appliances | Boxed | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 80 - Major Appliances | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 86 - CE Accessories & Power | Blister Card, Boxed | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 86 - CE Accessories & Power | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |

Entertainment & Office

| Department | Packaging Type | Inlay Spec | Approved Inlay List |
|--|--|------------------|---|
| 03 - Office Solutions | Adhesive Label, Backer Card, Boxed, C-Card, Clamshell, Hangtag, Plastic Bottle, Shrink Wrapped Multipack | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 03 - Office Solutions | Aerosol Can | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 03 - Office Solutions | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 15 - Folding Furniture | Adhesive Label, Boxed | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 15 - Folding Furniture | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 20 - Gaming | Adhesive Label, Blister Card, Boxed | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 20 - Gaming | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 29 - Printers & Ink | Backer Card, Blister Card, Boxed | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 29 - Printers & Ink | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 31 - Office Tech | Blister Card, Boxed | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 31 - Office Tech | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |
| 32 - Next Gen Extreme Value Gift Cards | Gift Cards | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 69 - Gift Cards | Gift Cards | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 70 - Entertainment | Adhesive Label, Backer Card, Blister Card, Boxed | Y2 | https://rfidlab.org/arc/spec-y2.php |
| 70 - Entertainment | Other | Contact RFID Lab | https://rfidlab.org/aleccontactform/ |

Determine Inlay Manufacturer & Packaging Resources

- All product suppliers must use RFID inlays from ARC approved inlay manufacturers. The latest version of the ARC approved RFID inlay manufacturer contact information is available at <https://rfidlab.org/inlaycontacts/>.
- Any packaging resource can be used, so long as ARC approved inlays are sourced for your approved spec. A list of packaging resources is available at: <https://rfidpackagingresources.org/rfid-packaging-providers/>

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.
- For additional clarification, please contact the RFID lab at <https://rfidlab.org/aleccontactform/> to discuss any additional options for your item.

Determine Placement of RFID tag

- Please consult the Auburn University RFID Lab and GS1 Tag Placement Guidelines for product specific placement:
 - Auburn RFID Tag Placement Guideline: <https://rfid.auburn.edu/tagging-location-guide/>
 - GS1 RFID Tag Placement Guideline: <https://www.gs1us.org/content/dam/gs1us/documents/industries-insights/by-industry/apparel-general-merchandise/guideline-toolkit/Guideline-Format-And-Symbol-Placement-for-the-Electronic-Product-Code-EPC.pdf>
- If your item is not represented in the Auburn University RFID Lab Tag Placement Guideline, please contact the RFID lab at <https://rfidlab.org/aleccontactform/>.

Review RFID Application Formats

- Please consult the Auburn University RFID Lab Tag Placement Guideline for all available application formats. Please contact the RFID lab at <https://rfidlab.org/alecontactform/> for any questions.

Branded Embedded Hangtag (Private Brands Only)



- Image above is for example only. All Sam’s Club packaging guidelines must be followed.
- Any changes to die lines or artwork will be managed through Sam's Club U.S. Packaging Team
- Inlays must be embedded into branded hangtag
- 4 mm gutter or greater around the embedded inlay

Generic Embedded Hangtag Format or Insert



Hangtag dimensions: 83mm x 25mm

Specifications:

- Embed inlay between C2S paper stock
- Material: ~14pt. C2S (minimum; glossy both sides)
- Font: 12pt. Bogle Regular (centered vertically & horizontally from left side of logo to right side of swift tack hole)
- EPC logo: Centered vertically and placed as shown
- Prints: Black ink on one side of the tag
- 4 mm gutter or greater around the embedded inlay

Minimum Copy Requirements:

- UPC # (no bars; human readable)
- EPC Logo
- Prints: Black ink on one side of the tag

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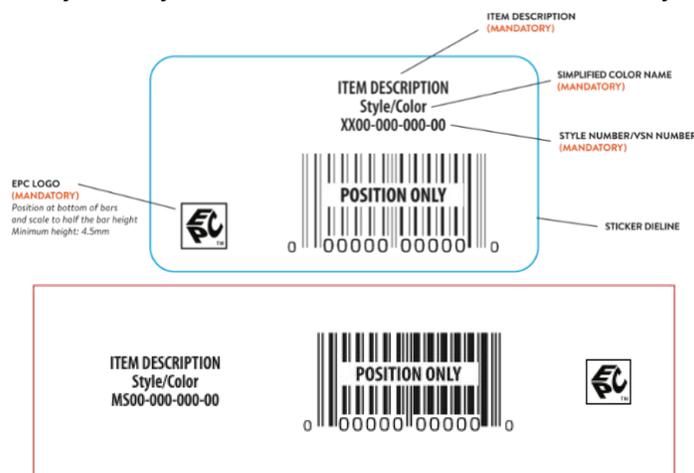
- Additional information is allowed

License Hangtags (All Brands)

- May use RFID embedded Sam's Club generic price ticket

Generic Embedded Sticker WITH Scannable UPC Code

- If you DO NOT already have a scannable UPC barcode already shown on pack, Sam's Club prefers to use an EPC combo sticker as shown below. Please make sure that the UPC barcodes cannot be placed in front of packaging.
- The example below is from an apparel item. Please include all the data fields as applicable to your item.
- Example: For a GM item you may not have size or color. Leave this off your finished RFID tag.



MINIMUM REQUIREMENTS

- Barcode/UPC #
- EPC Logo
- Item Description (picked up from other primary packaging)
- Additional information is allowed
- 4 mm gutter or greater around the embedded inlay

Private Brands Only

Tag options for plastic packaging are:

- If the packaging contains both paper and plastic, suppliers must place the RFID tag on the paper instead of plastic
- If plastic is the only packaging for the product, suppliers must choose one of the following options:
 - Place the RFID tag loosely inside the packaging. Ensure that the tag won't reach the bottom of the package during transportation/handling and touch the metal shelves
 - A hangtag attached to the packaging or product

Tagging Requirements

- RFID inlay stickers should be placed on packaging only.
- 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.
- There should be no staples, perforations, swift tach, folding or die cuts through the inlay, as inlay performance may be affected.
- RFID inlays should not be placed on the bottom of polybags, bottom of boxed items, near the under wire for bras, on liquids, on Silvadur, or near metal/foil, including metallic inks.
- RFID cannot be placed on top of an EAS tag. They can be used together but cannot overlap.
- RFID tags can be sewn into the physical item if the tag can be easily removed.
- If the product could be merchandised without the packaging, the RFID tag should be attached to the product. For example, Bikes, Grills, Furniture.
- If the product comes in multiple cases (example, furniture set where the table is boxed separately from the chairs), ensure that there is only one tag on one of the cases. Please contact Auburn RFID Lab to determine the case to be tagged.
- For items that are typically stored in metal locked cases, the RFID tag should be on the side of the item that is most likely to be facing outwards.
- Please ensure there is only ONE RFID tag per product.

EPC Symbol

- Sam's Club requires that the EPC Symbol be shown externally on your packaging to communicate to customers and store associates that your product is RFID tagged.



- The EPC symbol should not be shown on any packaging that does not contain an RFID inlay.
- 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 inlays must be encoded per the EPC Tag Data Standards (TDS), resulting in unique serialization for each item. The SGTIN-96 tag encoding standard maintained by GS1 must be used.

$$\text{UPC} + \text{Unique Serial Number} = \text{EPC (RFID)}$$

- Each RFID inlay must be uniquely serialized. **Please ensure unique serialization is managed when using multiple packaging providers for the same UPC. Learn more about serialization below:**
 - <https://documents.gs1us.org/adobe/assets/deliver/urn:aaid:aem:5f88064e-0dbb-495b-9f29-a9ce3758caed/Developing-an-RFID-Serialization-Plan.pdf>
- Tags must be permalocked to prevent tampering.
- All tags must undergo quality and data integrity checks prior to entering the Sam's Club supply chain.

ALEC - Approval of Production RFID Packaging Samples

- Auburn University RFID Lab's ALEC program helps Product Suppliers ensure their RFID tagged items meet all industry requirements. Before any shipment of RFID-tagged goods can begin, you must receive RFID Lab approval.
- Refer to the ALEC website for questions and submission instructions:
 - <https://rfid.auburn.edu/alec/alec-validation.php>

ALEC Submission Process



- ALEC submission form: <https://rfidlab.org/alec-submissionform/>
- Submit one representative UPC per Submission Form
 - 5 RFID tag samples are required only for the representative UPC

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- Like-items to the representative UPC should be included in the submission item file, and must share the same:
 - Brand, packaging type, packaging provider, RFID inlay model, and tagging location
- Print the confirmation of your submission form after submitting and include it with your shipment of RFID tag samples.
- Actual product or packaging will only need to be sent when specifically requested by the RFID Lab. Any product sent to the RFID Lab will NOT be returned to the product supplier.

ALEC - Updating Previously Approved Submissions

- To add Sam's Club to an existing submission for another retailer, change inlay models, change packaging providers, change tagging locations, or add additional UPCs to a submission, complete the Submission Update Form: <https://rfidlab.org/submissionupdate/>
- All submission updates should only reflect items that meet the same criteria as the representative UPC of the submission, including:
 - Product supplier, brand, packaging type, packaging provider, RFID inlay model, tagging location

Supplier Accountability

- Product suppliers should ensure all items delivered to Sam's Club have an ARC approved RFID tag.
- Product suppliers should ensure no duplicate serial numbers are used and that each tag is properly encoded with the correct GTIN for the item it is on.
- Product suppliers will be responsible for all costs incurred for any RFID errors at store level.

RFID Shipper Case Markings

- For the stores to easily identify cases/cartons containing RFID tagged products, the Shipper Case Markings must include the word "RFID".
- Case/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/carton labels, federal and state laws, or any other compliance related markings.
- If the product inside the case/carton is not RFID labeled, do NOT use the updated RFID marking.

DSDC Suppliers

- All master cases must be labeled with RFID even if there are mixed SKUs that are currently out of scope.

Acronym Summary

| Acronym | Meaning |
|---------|-------------------------------------|
| ALEC | Auburn Lab EPC Compliance |
| ARC | Arkansas (Auburn) Radio Compliance |
| EAS | Electronic Article surveillance |
| EPC | Electronic Product Code |
| GS1 | Global Standards Organization |
| RFID | Radio Frequency Identification |
| SGTIN | Serialized Global Trade Item Number |
| SKU | Stock Keeping Unit |
| TDS | Tag Data Standards |
| UPC | Universal Product Code |

Contacts

Auburn University RFID Lab

General Questions: <https://rfidlab.org/alecontactform/>

ALEC RFID Submission Form: <https://rfidlab.org/alec-submissionform/>

ALEC Submission Update Form: <https://rfidlab.org/submissionupdate/>

ARC Website: <https://rfidlab.org/arc/>

GS1 U.S.

Website: www.gs1us.org

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

Serialization Guide: <https://documents.gs1us.org/adobe/assets/deliver/urn:aaid:aem:5f88064e-0dbb-495b-9f29-a9ce3758caed/Developing-an-RFID-Serialization-Plan.pdf>

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