

EPC-enabled RFID

Requirements and Technical Specification Document

March 13, 2012 version 1.3

Table of Contents

1. Families of Business (FOBs) and Departments 3
2. Getting Started 4
3. General Tag Requirements 5
4. Tag Application 6
5. Product Identification 6
6. Contacts 6

1. Families of Business (FOBs) and Departments

ENTITY	DESCRIPTION	DEPT #	DEPARTMENT DESCRIP-TION
Macy's and Bloomingdale's	Innerwear	086	Better Bras
Macy's and Bloomingdale's	Innerwear	245	Status Innerwear
Macy's and Bloomingdale's	Innerwear	246	Panties
Macy's and Bloomingdale's	Innerwear	247	Daywear
Macy's and Bloomingdale's	Innerwear	251	Bras
Macy's and Bloomingdale's	Innerwear	252	Control
Macy's and Bloomingdale's	Mens Furnishings	522	Status Dress Shirts
Macy's and Bloomingdale's	Mens Furnishings	523	Dress Shirts
Bloomingdale's	Mens Tailored Clothing	509	Designer Dress Shirts
Macy's	Mens Furnishings	533	Belts
Macy's	Mens Furnishings	536	Underwear
Macy's	Young Mens	579	Young Mens Levis
Macy's	Mens Bottoms	511	Mens Dress/Casual Slacks
Macy's	Mens Bottoms	512	Mens Casual Slacks/Jeans
Macy's	Mens Tailored Clothing	503	Mens Tailored Sports coats
Macy's	Mens Tailored Clothing	504	Mens Dress Slacks
Macy's	Mens Tailored Clothing	507	Mens Suit Separates
Macy's	Mens Tailored Clothing	524	Mens Better Suits
Macy's	Mens Tailored Clothing	526	Mens Designer Suits

2. Getting Started

As you begin to prepare to incorporate the use and application of EPC-enabled RFID technology into your packaging, here are some steps to help you become prepared to get started:

1. **UNDERSTANDING THE REQUIRMENTS:** This document should provide the necessary basic requirements expected of you. Additional information may be obtained from our team. Additional contacts will be provided as needed.

2. **GETTING EDUCATED:** GS1 US offers low cost education/training and user group available to you as you begin your participation. For more information about how to prepare, visit: http://www.gs1us.org/industries/apparel/standards-and-programs/participate

3. **IDENTIFYING INTERNAL STAKEHOLDERS AND DEVELOPING YOUR TEAM:**
    a. Packaging
    b. Merchandising
    c. IT/Operations

4. **DETERMINING YOUR TAGGING OPTIONS:**
    a. Tag/Inlay Selection based on approved and certified list of vendors
    b. Determine tag application options (integrated or apply secondary tag)
    c. Determine how to best encode/apply the tag to ensure proper identification and application to the right product.

5. **DEVELOPING THE APPLICATION PROCESS:**
    a. Review tag placement options
    b. Determine appropriate placement location for each SKU of interest – aim for uniformity
    c. Develop quality check process
    d. Finalize information that will be included on the EPC label
    e. Ensure EPC Symbol is included

6. **TESTING YOUR WORK PRODUCT**
    a. Ensure proper encoding of the sGTIN for a specific product
    b. Ensure the tag looks correct and includes all proper information
    c. Send labels/tags to Macy's for review/testing

3. General Tag Requirements

- All tags should be GS1 UHF Gen 2 certified. For a list of certified vendors, see:

  http://www.gs1.org/epcglobal/certification/hw_cert

- All tags should be sGTIN-96 encoded properly for the specific product SKU, with sGTIN per the GS1 EPCglobal Tag Data Standard
- The following tag inlays meet the optimal performance per Macy's requirements. All tags must be sent in for testing, encoded with an EPC for your product prior to shipping. Please identify the solution provider that you will be using for the inlay. If there is a tag inlay that is not included on this list that you would like approval to use, it must be sent in for testing and must specifically be approved by Macy's prior to shipping.

Product Category	**Tag Manufacturer/Tag Model**										
	Alien 9630	Alien 9640	Alien 9662	Avery 223	Avery 231D	Avery 232	Avery 826	Avery 827	Avery 316	UPM Short Dipole	UPM Belt
Chip type	Alien Higgs3	Alien Higgs3	Alien Higgs3	Impinj Monza 3	Impinj Monza 4	NXP G2i	Impinj Monza 3	Impinj Monza 3	NXP G2iL	Impinj Monza 4	Impinj Monza 5
Innerwear	●	●	●	●	●	●		●	●	●	●
Denim		●		●	●	●				●	●
Men's Underwear	●	●	●	●	●	●			●	●	●
Men's Belts							●		●		●
Men's Dress Shirts	●	●	●	●	●	●			●	●	●
Men's Slacks /Bottoms		●		●	●	●				●	●
Men's Suit Sepa-rates / Suits / Sport coats		●		●	●	●			●	●	●

- All tags must undergo quality and data integrity checks prior to shipment into Macy's stores. Please send sample EPC labels (qty = 20) to Macy's for validation and approval prior to shipping, as follows:

  Macy's
  2101 E. Kemper Rd
  Cincinnati, OH 45241
  Attn: Kris Whitney

- All products containing EPC should have an indication that an EPC is present using the EPC symbol on the label:

- 

- Guidelines for use of the symbol may be found here: http://www.gs1.org/epcglobal/public_policy/manufacturers_tool_kit

4. Tag Application

- RFID tags should be *integrated* into existing hangtags containing the UPC barcode with the EPC symbol included.
- If an integrated tag presents challenges in meeting the roll out schedule, Macy's may consider the application of a secondary tag (in addition to the existing UPC barcode) containing the EPC, for the short term through 2012. If a secondary tag is applied it must meet the following specifications:
  - Plain, white tag with EPC symbol. As with all tags, sample must be sent in for certification by Macy's.
- All tags, whether integrated into existing UPC barcode tags or in a secondary tag, should be applied where tags are currently placed today.

5. Product Identification

The benefits of EPC-enabled RFID rely completely on proper identification of a specific product beyond the SKU level. It requires a serialized identifier for each individual item and encoding of that identification into an EPC (Electronic Product Code).

EPC is simply a data structure for encoding a GTIN (which is the product identifier you encode in a UPC bar code today) plus a serial number into the RFID tag. Ensure you and/or your providers have a good understanding of how to move from UPC to EPC. More information on this can be obtained from our partners at GS1 US: http://www.gs1us.org/industries/apparel/standards-and-programs/participate

Each supplier should develop a strategy for serializing their products by reviewing the best practices and guidelines of the industry. GS1 US can provide more information on the industry best practices. There are instances where Macy's will need to encode and apply tags for your products (returns from customers, misplaced or lost tags, etc). While the industry determines the best practice for managing serialization across the supply chain for these exceptions instances, Macy's will coordinate how to avoid duplication of serialized products.

6. Contacts

Macy's

General questions can be directed to 513-782-1412

Technical questions can be directed to 513-782-3170

GS1 US

Patrick Javick: pjavick@gs1us.org 609-620-8023

Gena Morgan: gmorgan@gs1us.org 678-513-7015