General RFID Tagging Guideline by Packaging Type

AUBURN UNIVERSITY
RFID LAB

Contents

Introduction

The purpose of this document is to serve as a general guideline for RFID tag placement. Please use this guideline as a starting point, but the final tagging location should be determined based on considering all the factors that affect the readability of RFID tags. The tagging location should be validated for each product type through the Auburn University RFID Lab ALEC program before mass production.

Improvements and changes are periodically made to this document. Please refer to the Auburn University RFID Lab website at https://rfidlab.org/wp-content/uploads/sportinggoods.pdf for the most current version available.

General Guidelines

1. Ensure there is only ONE RFID tag per product.
2. The performance of the RFID inlays is significantly 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 tag at https://rfidlab.org/walmartsportinggoodscontact/ if the tag will be in close proximity (less than 3 inches) to metal, liquids, glass, or foil.
3. 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.
4. No metal foils, holograms, or metallic inks should be used on any packaging containing the RFID inlay.
5. RFID cannot be applied to an EAS tag.
6. No staples, perforations, swift tach, or die cuts through the inlay as it will make the inlay unreadable.
7. Close proximity of RFID tags should be considered in stacking when determining tag formats and placement. RFID tags cannot be in very close proximity of each other when displayed/stored.
8. The product should be easily identified as RFID tagged. A consistent tagging location should be used across similar products.
9. The RFID tag should not fall off from product easily.
10. The RFID tag should be placed such that it is easily removable by the customer after purchase.
11. The RFID tag should not be folded.
12. The RFID tag should not be sewn in or integrated into the physical item.
13. RFID inlay stickers should be placed on packaging only and not directly on product.
14. The RFID tag should not be loosely placed within the product and/or packaging.
15. The RFID tag cannot cover any text or images.
16. 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.

17. RFID tags can be placed inside the packaging (not the product) as long as the EPC symbol is placed outside.

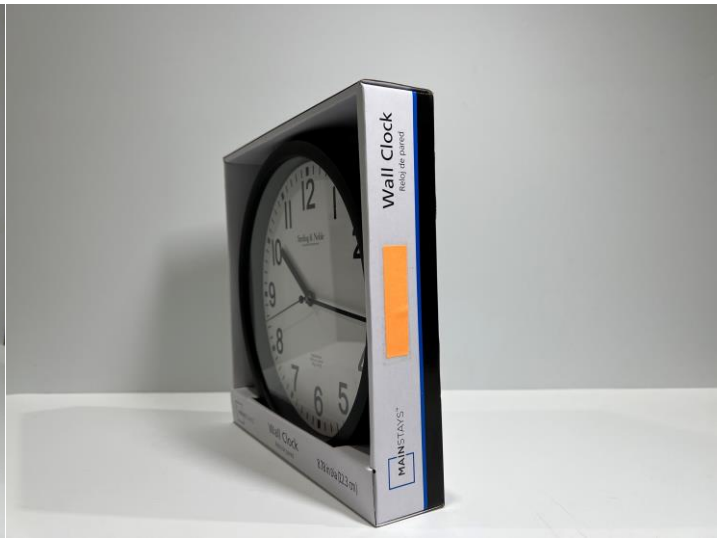
EPC Symbol

1. The EPC logo example represents the bare minimum of information that should be shown on your packaging to identify RFID tagging.
2. 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.
3. 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.
4. EPC Symbol image file and related documentation: https://www.gs1.org/standards/epc-rfid/guidelines

Guideline by Packaging Type

The orange labels on the photos are used to illustrate a potential tagging location. The final tagging format (embedded or integrated or secondary) and tagging location should be determined based on all packaging requirements and factors that affect the readability of RFID tags.

Cardboard Box or Acetate Box




4"
surf
onn.
USB-C® to HDMI® Adapter
HDMI


KID
Connection
TRY ME!
My First Vehicle


OZARK TRAIL
LED
LANTERN
200

Preferred Tagging location

- RFID Adhesive label on the side of the box. Choose the narrow or thin side that has the least likelihood of touching metal shelves.
- If the product is made of metal, foils, liquids, or glass, place the RFID tag on the box such that the tag is away from those materials.

Alternative Tagging location

- N/A

Notes

- Ensure the tag is not on the bottom of the box since the tag will most likely be in direct contact with metal shelves.

Belly Band

Preferred Tagging location

- RFID tag on the side of the belly band. Choose the narrow or thin side that has the least likelihood of touching metal shelves.

Alternative Tagging location

- If placing the RFID tag on the side of the belly band is not feasible due to the thickness of the product, the RFID tag can be placed on the front or back of the belly band.

Notes

- Ensure the tag is not on the bottom of the belly band since the tag will most likely be in direct contact with metal shelves.

Backer Card

Preferred Tagging location

- Integrate into current backer card.

Alternative Tagging location

- Apply EPC adhesive label on the back or front side of the existing backer card.

Notes

- Ensure the RFID tag is offset from the product as far as possible.
- Please contact the RFID tag at https://rfidlab.org/walmartsportinggoodscontact/ if the tag will be in close proximity (less than 3 inches) to metal, liquids, glass, or foil.

Backer Card with Clamshell

Preferred Tagging location

- Integrate into current backer card.

Alternative Tagging location

- Apply EPC adhesive label on the back or front side of the existing backer card.

Notes

- Ensure the RFID tag is offset from the product as far as possible.
- Please contact the RFID tag at https://rfidlab.org/walmartsportinggoodscontact/ if the tag will be in close proximity (less than 3 inches) to metal, liquids, glass, or foil.

Header Card


48 in.-84 in
Tension Rod
No tools needed


7'
surf onn.
CAT6 Networking Cable


4'
surf onn.
HDMI® Cable
HDMI


ALL-AROUND
POLE LIGHT
OZARK TRAIL


ATHLETIC
Pee Wee
Shin Guards


ATHLETIC
Active Sport
Headband

Preferred Tagging location

- Integrate into current header card.
- Ensure the RFID tag is positioned on the Header Card such that the tag has the maximum separation from the metal shelf when the product is placed on a metal shelf.

Alternative Tagging location

- Apply EPC adhesive label on the back or front side of the existing header card.
- The RFID tag can be placed on the top of the header card if feasible due to the thickness of the product.

Notes

- Ensure the RFID tag is offset from the product as far as possible.
- Please contact the RFID tag at https://rfidlab.org/walmartsportinggoodscontact/ if the tag will be in close proximity (less than 3 inches) to metal, liquids, glass, or foil.
- No staples, perforations, swift tach, or die cuts through the inlay as it will make the inlay unreadable.

Header Card with Clamshell

Preferred Tagging location

- Integrate into current header card.
- Ensure the RFID tag is positioned on the Header Card such that the tag has the maximum separation from the metal shelf when the product is placed on a metal shelf.

Alternative Tagging location

- The RFID tag can be placed on the top of the header card if feasible due to the thickness of the product.
- Apply EPC adhesive label on the back or front side of the existing header card.

Notes

- Ensure the RFID tag is offset from the product as far as possible.
- Please contact the RFID tag at https://rfidlab.org/walmartsportinggoodscontact/ if the tag will be in close proximity (less than 3 inches) to metal, liquids, glass, or foil.

Cardstock Insert

Preferred Tagging location

- Integrate into current cardstock insert.

Alternative Tagging location

- Apply EPC adhesive label on existing cardstock insert.

Notes

- Ensure the RFID tag is offset from the product as far as possible.

Clamshell with Cardstock Insert

Preferred Tagging location

- Integrate into current cardstock insert.

Alternative Tagging location

- Apply EPC adhesive label on the back or front side of the existing cardstock insert.

Notes

- Ensure the RFID tag is offset from the product as far as possible.
- Please contact the RFID tag at https://rfidlab.org/walmartsportinggoodscontact/ if the tag will be in close proximity (less than 3 inches) to metal, liquids, glass, or foil.

C-Card

Preferred Tagging location

- If placing the RFID tag on the side of the C-Card is feasible due to the thickness of the product, the RFID tag can be placed on the side of the C-Card.

- Inner and Back side of C-Card. Ensure the RFID tag is positioned on the C-Card such that the tag has the maximum separation from the metal shelf when the product is stored or displayed.

- If the product is not folded and the back side of the C-Card will come in direct contact with the metal shelves, ensure the RFID tag is placed on the Inner and Front side of C-Card.

Alternative Tagging location

- N/A

Notes

- No metal foils, holograms or metallic inks should be used on c-card containing the RFID inlay.
- No staples, perforations, swift tach, folding or die cuts through the inlay.

Polybag

Preferred Tagging location

- RFID Adhesive label on the side of the polybag. Choose the narrow or thin side that has the least likelihood of touching metal shelves.

Alternative Tagging location

- If placing the RFID tag on the side of the polybag is not feasible due to the thickness of the product, the RFID tag can be placed on the front of the polybag.

Notes

If the packaging contains paper, please place the RFID tag on the paper instead of plastic. If plastic is the only packaging in the product, consider either of the following,

Place the RFID tag loosely inside the packaging.

Use a clear wet inlay instead of a wet paper face inlay as a label on the plastic.

Polybag with Cardstock Insert

Preferred Tagging location

- Integrate into current cardstock insert.

Alternative Tagging location

- Adhesive label on the side of polybag. Choose the narrow or thin side that has the least likelihood of touching metal shelves.
- Apply EPC adhesive label on existing cardstock insert.
- If placing the RFID tag on the side of the polybag is not feasible due to the thickness of the product, the RFID tag can be placed on the front of the polybag.

Notes

- Ensure the RFID tag is offset from the product as far as possible.
- Ensure the tag is not on the bottom of the polybag.

Hang Tag

Preferred Tagging location

- Integrate into current hang tag.
- Ensure the hangtag is attached to the product so that any metal, foil, liquids, or glass in the product does not interfere with the readability of the RFID tag.
- When choosing the location for the hang tag, RFID readability should be considered while product is in salesfloor, backroom, and case pack. For example, the hang tag cannot be placed towards the bottom of product since the tag will most likely be in close or direct contact with metal shelves.

Alternative Tagging location

- Adhesive label on current hang tag.
- Secondary hang tag along with the current hang tag.

Notes

- No metal foils, holograms or metallic inks should be used on hang tag containing the RFID inlay.
- No staples, perforations, swift tach, folding or die cuts through the inlay.

Adhesive Label Directly on Product

Preferred Tagging location

- If the adhesive is the only packaging on the product, please contact the RFID Lab at https://rfidlab.org/walmartsportinggoodscontact/.

Alternative Tagging location

- N/A

Notes

- RFID Adhesive Labels cannot be placed directly on metals, liquids, and glass.

Apparel

- For apparel items, please refer to the Apparel RFID Playbook for guidance on tag placement.

Others

If your packaging type is not listed, please contact the RFID Lab at https://rfidlab.org/walmartsportinggoodscontact/.

Contacts

Auburn University RFID Lab

General Questions https://rfidlab.org/walmartsportinggoodscontact/

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