Avery Dennison
Smartrac
Quick Guide

January 2023

RFID labels
for Pharmaceutical
and Healthcare

AVERY
DENNISON

rfid.averydennison.com

Why RFID?

Inventory accuracy
- Faster stock checks.
- Eliminates manual paperwork.
- Easy to identify near expiration medication.
- Reduces processing time.

Reduced medical errors
- Eliminates human error.
- Ensures all medication is correct and safe to use.

Why Avery Dennison?

Broadest product range for any RFID challenge
- Global manufacturing footprint with one of the largest product ranges.
- Customized inlay and label products.
- Sustainable paper-based SmartFace®.

Most reliable and durable products ensuring consistent quality and performance
- Proprietary chip strap attach for most durable RFID tags (chip protection through life cycle).
- 100% quality control ensures 99%+ functioning tags on roll to achieve maximum ROI.
- Minimal number of malfunctioning tags even after conversion.
- Less machine down time and wastage (label converting
- and application).

Valued services that help grow your business
- Low MOQs (from 1 roll).
- Free sampling service.
- Shipping of stock items within 24 hours.
- Fast response from local RFID technology and sales team.
- Quick product qualification and POC support.

Global network to expand your knowledge and capability
- New business opportunities from dedicated Business Development Managers and SMEs.
- RFID training academies and workshops at our I.Lab centers.
- Connect with local and/or global commercial partners.

Sustainability

Our Pure portfolio of environmentally friendly inlays include a family of UHF RFID inlay designs that feature antennas made from pure aluminum in the final inlay construction.

Our RFID product recommendations

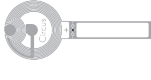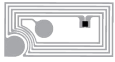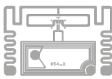| Product Name	Design (not to scale)	Antenna Dimensions	Chip	EPC and User Memory	TID Memory	Delivery Format	Applications
AD Accessory		30 x 15 mm 1.20 x 0.60 in	NXP UCODE 9	96-bit EPC	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Fashion Jewelry and Sunglasses Children Accessories Pharmaceutical and Healthcare
AD-130		45 x 7.5 mm 1.772 x 0.295 in	NXP UCODE 8	128-bit EPC	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Beauty & Personal Care Healthcare Apparel
AD-163		60 x 4 mm 2.36 x 0.16 in	NXP UCODE 8	128-bit EPC	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Cosmetics, Skin Care Products, Medical Packaging Containers
AD-164		60 x 4 mm 2.36 x 0.16 in	NXP UCODE 9	96-bit EPC	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Cosmetics, Skin Care Products, Medical Packaging Containers
AD-173		27 x 14 mm 1.06 x 0.55 in	NXP UCODE 8	128-bit EPC	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Apparel Beauty and Personal Care Healthcare
AD-183		Ø 26 mm 1.205 in	NXP UCODE 9	96-bit EPC	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Home Essentials Personal Care Products Asset Tracking
AD-190		22 x 12.5 mm 0.86 x 0.49 in	NXP UCODE 8	128-bit EPC	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Fashion Jewelry and Sunglasses Pharmaceutical and Healthcare Personal Care Products
AD-192		22 x 12.5 mm 0.86 x 0.49 in	Impinj M730 Impinj M750	128-bit EPC 96-bit EPC and 32-bit user memory	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Fashion Jewelry and Sunglasses Pharmaceutical and Healthcare Personal Care Products
AD-23x Slim		70 x 10.5 mm 2.75 x 0.413 in	NXP UCODE U9	96-bit EPC	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Brand Protection Asset Tracking Supply Chain Management

Our RFID product recommendations

Product Name	Design (not to scale)	Antenna Dimensions	Chip	EPC and User Memory	TID Memory	Delivery Format	Applications
AD-302		41.4 x 16 mm 1.63 x 0.63 in	Impinj M730 Impinj M750	128-bit EPC 96-bit EPC and 32-bit UM	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Brand Protection Jewelry & Sunglasses Pharma & Healthcare
AD-324 FCC		41.4 x 16 mm 1.63 x 0.63 in	NXP UCODE 8	128-bit EPC	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Healthcare Logistics
AD-325		42.5 x 17 mm 1.67 x 0.67 in	Impinj M730 Impinj M750	128-bit EPC 96-bit EPC and 32-bit UM	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Apparel Home Essentials Supply Chain Management
AD-327 ETSI		41.4 x 16 mm 1.63 x 0.63 in	NXP UCODE 9	96-bit EPC	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Apparel Logistics Healthcare
AD-327 ETSI Pure		41.4 x 16 mm 1.63 x 0.63 in	NXP UCODE 9	96-bit EPC	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Apparel Logistics Healthcare
AD-327 FCC		42.5 x 17 mm 1.67 x 0.67 in	NXP UCODE 9	96-bit EPC	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label	Apparel Logistics Healthcare
AD-456 ETSI AD-456 FCC		64 x 6 mm 2.52 x 0.24 in	NXP UCODE 8	128-bit	96-bit / 48-bit unique serial number	Label	On-Metal Asset Tracking Brand Protection Food Item-Level Retail
AD-810		Ø 16 mm 0.63 in	Impinj Monza R6	96-bit	96-bit / 48-bit unique serial number	Dry inlay Wet inlay	Asset tracking Pharmaceutical and Healthcare
AD-850		Ø 10 mm 0.4 in	Impinj Monza 4QT	128-bit EPC and 512-bit User Memory	96-bit / 48-bit unique serial number	Dry inlay Wet inlay	Asset tracking Pharmaceutical and Healthcare
AD Bling		22 x 12 mm 0.9 x 0.5 in	Impinj M730 Impinj M750	128-bit EPC 96-bit and 32-bit	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label / sticker	Fashion Jewelry and Sunglasses Pharmaceutical and Healthcare Personal Care Products
AD Bullseye™		Ø 33 mm 1.30 in	NXP ICODE SLIX2	2500-bit	N/A	Label / sticker	Authentication, Warranty, Care Integration into Label Packaging
AD Bullseye™ NFC		Ø 33 mm 1.30 in	NTAG213 NTAG216	144 bytes 888 bytes	N/A	Wet Inlay	Authentication, Warranty, Care Integration into Label Packaging
AD Bullseye™ On Metal		Ø 35 mm 1.38 in	NXP NTAG213	144 bytes	N/A	Wet inlay	Authentication, Warranty, Care Integration into Label Packaging
AD Circus™		Ø 18 mm 0.71 in	NXP ICODE SLIX 2	2500-bit	N/A	Wet inlay	Authentication, Warranty, Care Integration into Label Packaging

Our RFID product recommendations

Product Name	Design (not to scale)	Antenna Dimensions	Chip	EPC and User Memory	TID Memory	Delivery Format	Applications
AD Circus™ ILT-M		Ø 22 mm 0.87 in	NXP ILT-M	240 bit EPC and 512 bit	N/A	Wet inlay	Authentication, Warranty, Care Integration into Label Packaging
AD Circus™ NFC		Ø 20 mm 0.79 in	NXP NTAG210 Micro NTAG213 NTAG216 ST25TN512 ST25TN01K	48 bytes 144 bytes 888 bytes 64 bytes 160 bytes	N/A	Wet inlay	Authentication, Warranty, Care Integration into Label Packaging
AD Circus™ On Metal		Ø 20 mm 0.79 in	NXP NTAG213	144 bytes	N/A	Wet inlay	Authentication, Warranty, Care Integration into Label Packaging
AD Circus™ Pro		Ø 20 mm 0.79 in	NXP NTAG424 DNA	416 bytes	N/A	Wet inlay	Authentication, Warranty, Care Integration into Label Packaging
AD Circus™ Pro		Ø 20 mm 0.79 in	EM4332	208 bytes	N/A	Wet inlay	Authentication, Warranty, Care Integration into Label Packaging Consumer Experience
AD Circus™ Tamper Loop		20 x 50 mm 0.79 x 2.0 in	NXP NTAG213 TT	144 bytes	N/A	Wet inlay Label / sticker	Authentication, Warranty, Care Integration into Label Packaging
AD Circus™ Tamper Loop Pro		20 x 50 mm 0.79 x 2.0 in	Silicon Craft	144 bytes	N/A	Wet inlay Label / sticker	Authentication, Warranty, Care Integration into Label Packaging
AD Fly		12 x 12 mm 0.5 x 0.5 in	NXP UCODE 7XM	448-bit and 2048-bit	N/A	Dry inlay Wet inlay Label / sticker	Aerospace Pharmaceutical and Healthcare
AD Force		50 x 30 mm 1.97 x 1.18 in	Impinj M775	128-bit EPC, 32-bit User memory	96-bit / 48-bit unique serial number	Label	Retail Apparel General Retail Accessories Pharmaceutical

Our RFID product recommendations

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AD Grille		22 x 22 mm 0.90 x 0.90 in	NXP UCODE 7XM	448-bit and 2048-bit	N/A	Dry inlay Wet inlay Label / sticker	Aerospace Pharmaceutical and Healthcare
AD Microtrack		20 x 10 mm 0.79 x 0.39 in	NXP ICODE SLIX HC	240 bit EPC and 512 bit	N/A	Dry inlay Wet inlay	Authentication, Warranty, Care Integration into Label Packaging
AD MedioWeb DF		45 x 28.5 mm 1.772 x 1.122 in	EM4425	96-bit / up to 480-bit	96-bit (UHF) / 64-bit (HF) overlapping	Dry+, Label	RTIs, Cardboard box, Medical device
AD Midas Flagtag		31.41 x 18 mm 1.24 x 0.71 in	Impinj M750	96-bit and 32-bit	96-bit / 48-bit unique serial number	Wet inlay	On-Metal Asset Tracking Metal / Liquids Supply Chain Management
AD Microblock		8 x 8 mm 0.315 x 0.315 in	NXP ICODE SLIX	896 bits	N/A		Pharmaceutical and Healthcare
AD Minidose		12 x 22 mm 0.47 x 0.87 in	NXP UCODE 8	128-bit	96-bit / 48-bit unique serial number	Dry inlay Wet inlay	Package Tracking Pharmaceutical and Healthcare
AD Minidose		12 x 22 mm 0.47 x 0.87 in	NXP UCODE 9	96-bit	96-bit / 48-bit unique serial number	Dry inlay Dry+ inlay Wet inlay	Package Tracking Pharmaceutical and Healthcare
AD Minitrack		14 x 31 mm 0.55 x 1.22 in	NXP ICODE SLIX 2	2500-bit	N/A	Dry inlay Wet inlay	Authentication, Warranty, Care Integration into Label Packaging
AD Slim DF		74.2 x 10.7 mm 2.921 x 0.421 in	EM4425	96-bit / up to 480-bit	96-bit (UHF) / 64-bit (HF) overlapping	Dry inlay Wet inlay	RTIs, medical device
AD Squarewave		93 x 11 mm 3.661 x 0.433 in	Impinj M730 Impinj M750	128-bit EPC 96-bit and 32-bit	96-bit / 48-bit unique serial number	Dry inlay Wet inlay Label / sticker	Apparel Automotive Logistics

Contact information
rfid.averydennison.com/contact
+1-678-617-2359

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