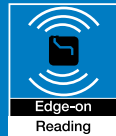


**RF Protocol**  
ISO/IEC 18000-6C  
EPC Class 1 Gen 2



**Optimized Operating Frequencies**  
AD-820: 902-928 MHz (US)  
AD-821: 865-868 MHz (Europe)

**Antenna Size**  
2.84 in x 1.18 in

## AD-820 & AD-821 RFID Inlays

- High performance solution for garment hang-tags
- Tuned for edge-on reading
- Designed to be read in close proximity to other hang-tags
- Ideal for retail shelf and hanging garment environments

# AD-820 & AD-821 RFID Inlays


## RF Performance Features

Optimized operating frequency	902-928 MHz (US) 865-868 MHz (Europe)
AD-820	902-928 MHz (US)
AD-821	865-868 MHz (Europe)
Mode of operation	Passive (battery free)
RF performance	Edge-on reading capability provides superior performance for garment hang-tag applications

## Protocol and Memory

Protocol	ISO/IEC 18000-6C EPC Class 1 Gen 2
EPC memory allocation	96 bits

## Inlay Roll Format/Finishing

Un-wind direction	
Core size [mm]	3 in [76]
Maximum roll outer diameter (not to exceed) [mm]	16 in [406]
Average number of units per roll	5000

## Environmental Specifications

Operating temperature	-40° F to +149° F -40° C to +65° C
Storage temperature	-40° F to +185° F -40° C to +85° C
Humidity (recommended)	40% to 80% RH

## Dry Inlay Specifications

Antenna dimensions [mm]	2.84 in [72.1] x 1.18 in [30]
Standard pitch [mm]	1.50 in [38.1]
Standard web width [mm]	3.625 in [92.0]
Inlay substrate material and thickness [microns]	Heat-treated PET, 2 mils [51]
Total thickness over chip (typical) [microns]	11.5 mils [279]
Shelf life	2 years
Quality assurance	100% read tested with out-of-tolerance inlay marked

## Pressure-Sensitive Inlay Specifications

Die cut dimensions [mm]	2.96 in [75.2] x 1.31 in [33.3]
Standard pitch [mm]	1.50 in [38.1]
Standard web width [mm]	3.21 in [81.5]
Inlay to liner adhesive	S490 (Fasson®)
Liner material	40# SCK (Fasson®)
Total thickness over chip (typical) [microns]	14 mils [356]
Shelf life	1 year
Quality assurance	100% edit and replace



## Real-World™ RFID

Avery Dennison RFID focuses the resources of a global Fortune 500 company on developing the tags your customers need in the real world, including (*clockwise from top*):

- AD-220:** economical plug-and-play solution for reliable high printer yields and throughput;
- AD-612:** a truly wide-band tag with consistent and reliable high performance in many countries of the world;
- AD-622:** orientation-insensitive 3D read capability for pallet tags and applications with awkward read angles;
- AD-812/811:** enhanced edge-on reading capability for pharma and item-level applications;
- AD-420/421:** a position-insensitive tag to fit many applications;
- AD-820/821:** enhanced edge-on reading designed for garment hang tags and other item-level applications.

## Avery Dennison RFID

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Clinton SC 29325  
877.734.3289 (RFID.AVY)  
Fax: 866.238.2372

**CARE AND HANDLING** Inlays are sensitive to ESD. Observe standard practices to keep environmental static charge to a minimum.

**FITNESS FOR USE** This Avery Dennison RFID product should be tested thoroughly under end-use conditions to ensure it meets the requirements of the intended application. Customer is responsible for determining its fitness for any particular use.

**WARRANTY** This product is warranted pursuant to Avery Dennison RFID Standard Terms and Conditions of Sale. All warranties, express or implied, are hereby disclaimed. We reserve the right to make changes to the product specifications without prior notice. These specifications do not constitute a representation or warranty.

**UPDATES** The specifications on this datasheet are subject to change. For the most recent version of this datasheet visit [www.rfid.averydennison.com](http://www.rfid.averydennison.com).

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