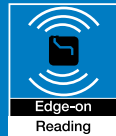


**RF Protocol**  
ISO/IEC 18000-6C  
EPC Class 1 Gen 2



**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.