


Millennium Technologies

ALN-9629 "Square" Inlay

The Alien Technology® ALN-9629 "Square" is a small form-factor, general purpose RFID inlay, well suited for item level tagging of apparel, pharmaceuticals or high value consumables where geometries are constrained.



Powered by Alien®'s break-through Higgs™3 UHF RFID IC and innovative antenna design, the ALN-9629 delivers industry leading EPC Gen 2 performance and reliability in a compact form factor.

ALN-9629 inlays are World Tag compliant, enabling consistent operation across the diverse frequencies of the Americas, Europe, Middle East, Asia, and Africa.

With its Higgs-3 core, the "Square" delivers exceptional performance and is especially well suited for item level applications where geometries are constrained.

The "Square" inlay comprises a rich feature set including a 32-bit TID, a 64-bit Unique TID for authentication and serialization applications, an extensible EPC memory bank, 512-bits of user memory for distributed data applications, and password protected read and write support capabilities to prevent unauthorized viewing and modification of the tag's data.

Typical applications for the "Square" include, but are not limited to apparel hang tags, pharmaceuticals, or other items where label real estate is at a premium.

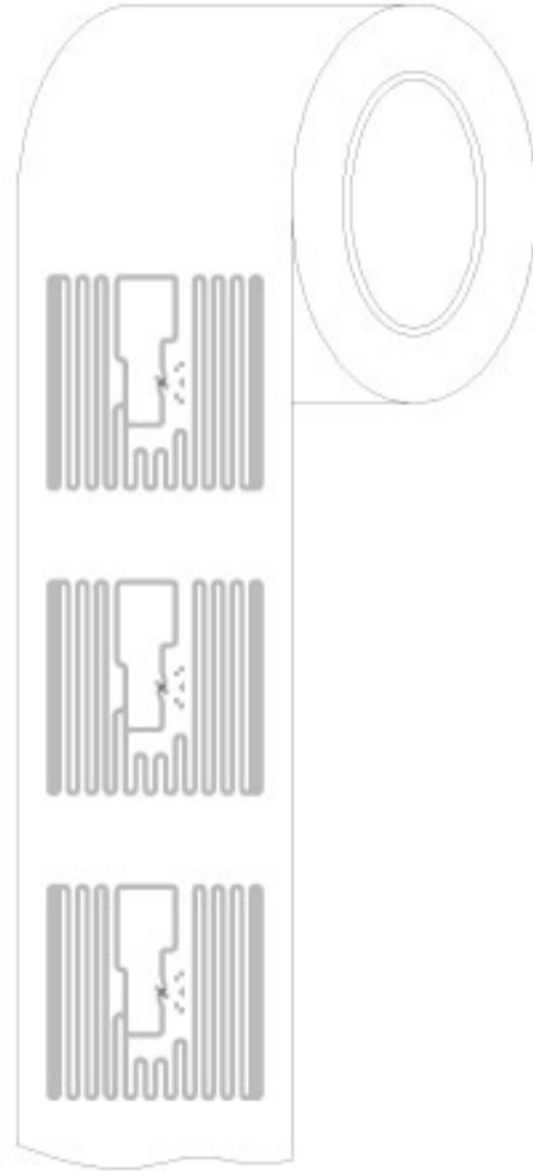
FEATURES

- › Compact size
- › Exceptional performance
- › Suitable for item level applications
- › EPC Gen 2 (v1.2.0) compliant
- › ISO/IEC 18000-6C compliant
- › Worldwide RFID UHF operation (840-960MHz)
- › Higgs™-3 IC with 800-bits of Nonvolatile Memory
 - 32-bit TID
 - 64-bit Unique TID
 - 96-bit EPC Memory, extensible to 480-bits
 - 512-bit User Memory
 - 32-bit Access password
 - 32-bit Kill password
- › Pre-programmed with a unique, unalterable 64-bit serial number (ideal for authentication)
- › User Memory can be Block Perma-Locked
- › User Memory can be Read Password protected in 64-bit blocks, prohibiting unintended Reads without an access password
- › Supports all Mandatory and Optional Gen 2 commands including item level commands
- › Custom commands for high speed programming
- › Available in high-yield, high-capacity dry/wet inlay rolls for high volume converting processes

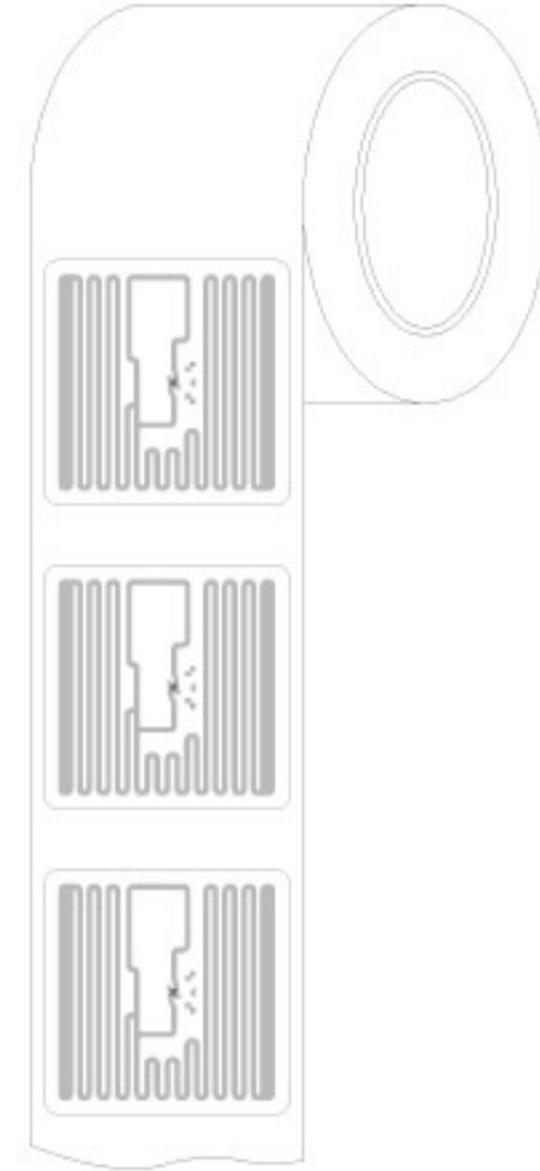


ALN-9629 "Square" Inlay

ALN-9629 Inlay Orientation



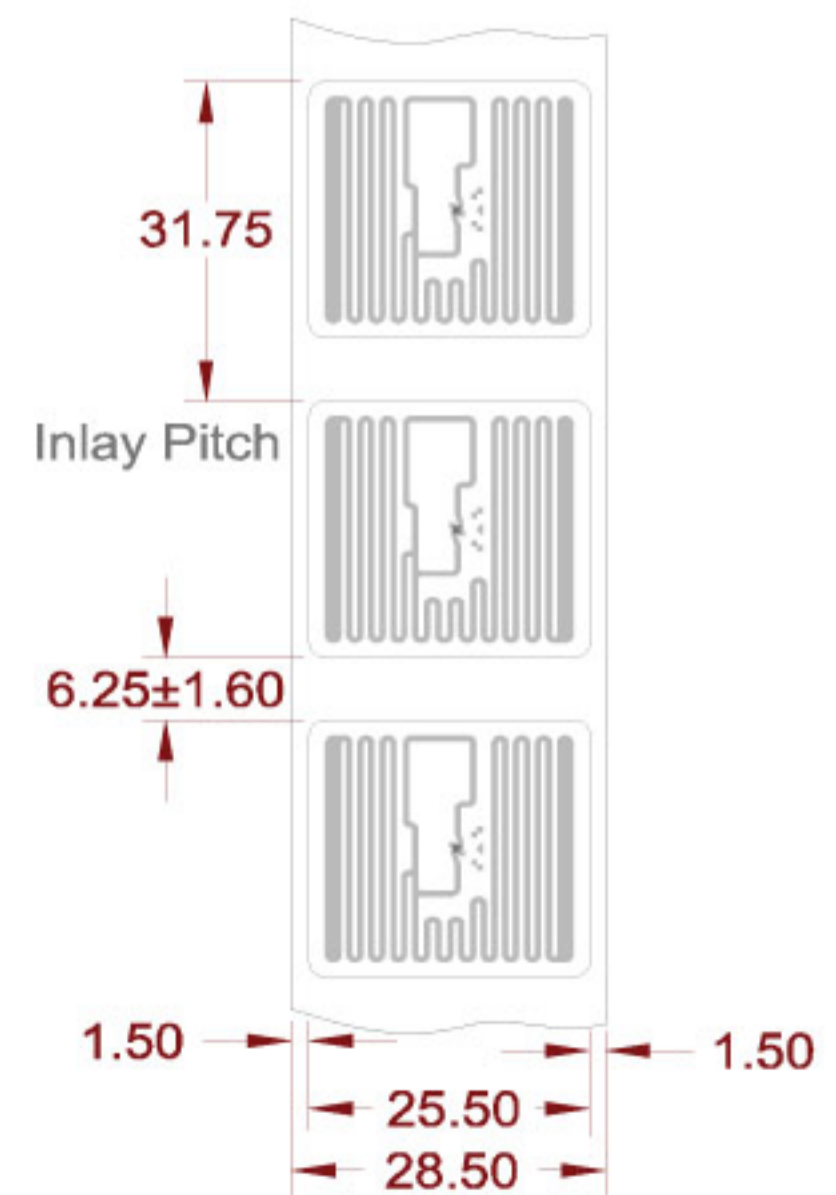
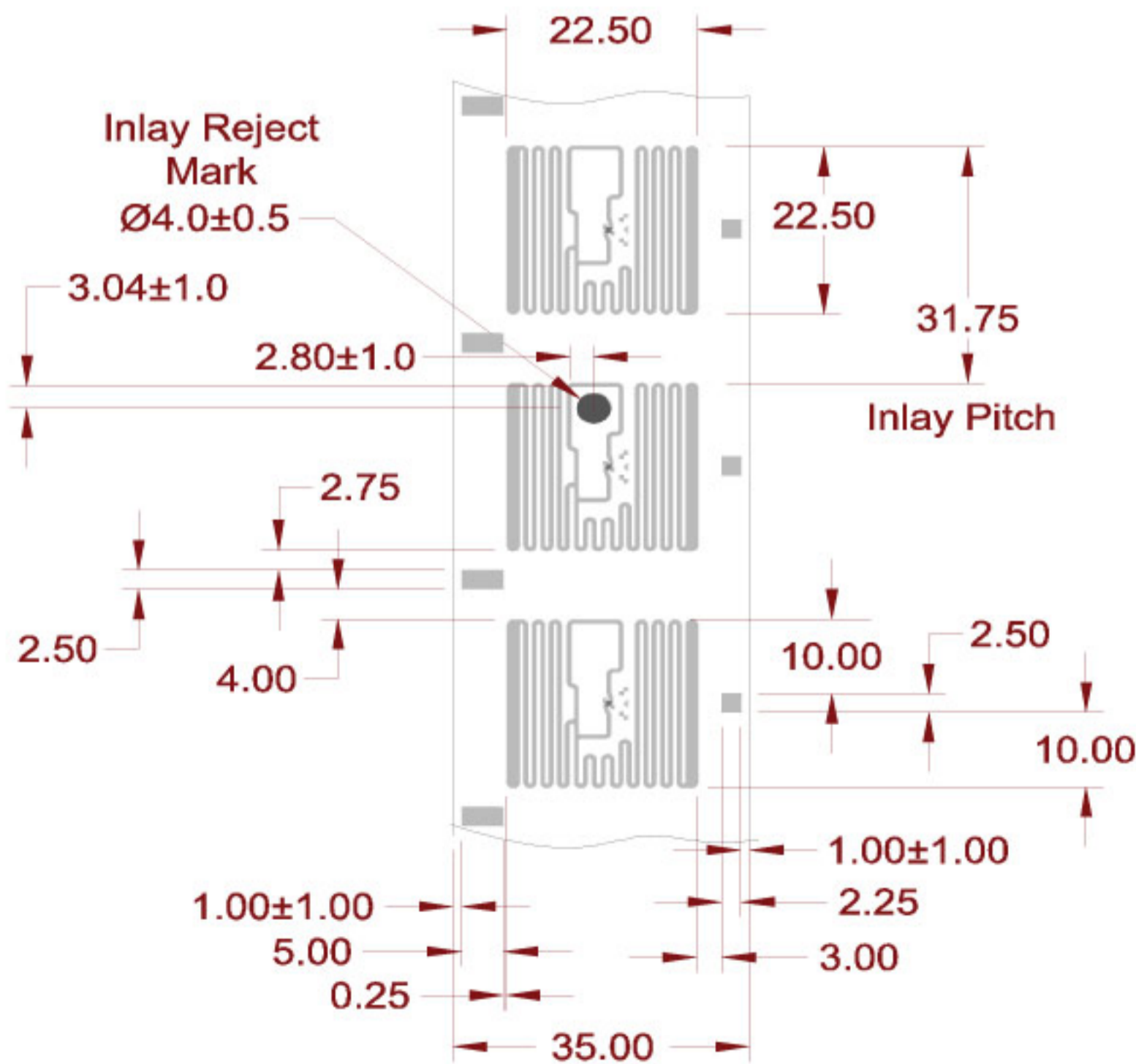
ALN-9629-FR
(Dry Unslit Roll)



ALN-9629-FWRW
(White Wet Inlay)

Standard Alien Inlay rolls unwind with metal antenna side facing outward with respect to the core.

ALN-9629 Inlay Specifications





ALN-9629 "Square" Inlay

ALN-9629 Inlay General Dimensions



ALN-9629-FR
(Dry Unslit Inlay)

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ALN-9629 Inlay Stackup

DRY INLAY THICKNESS, $\pm 10\%$	
OVER ANTENNA	0.05 mm
OVER CHIP	0.25 mm

INLAY



ALN-9629-FR
(Dry Unslit Inlay)

WHITE WET INLAY THICKNESS, $\pm 10\%$	
OVER ANTENNA	0.16 mm
OVER CHIP	0.36 mm



ALN-9629-FWRW
(White Wet Inlay)



ALN-9629 "Square" Inlay

ALN-9629 Specifications

Dry Inlay

Antenna Width	0.89" [22.5mm]
Antenna Length	0.89" [22.5mm]
Web Width (FR)	1.38" [35.0mm]
Web Width (FSR)	Not Available
Web Pitch	1.25" [31.75mm]
Core Width	1.5" [38mm]
Core ID	6.0" [152.4mm]
Core Material	Fiberboard
Interleaf Material	Not Applicable
Interleaf Width	Not Applicable
Inlays per Roll	10,000 Nominal
Maximum Roll OD	< 16.0" [406.4mm]
Roll Labeling Data	Roll #, Quantity

Wet Inlay

Inlay Width	1.00" [25.5mm]
Inlay Length	1.00" [25.5mm]
Web Width (-FWR)	1.12" [28.5mm]
Web Pitch	1.25" [31.75mm]
Core Width	1.12" [28.5mm]
Core ID	6" [152.4mm]
Core Material	Fiberboard
Inlays per Roll	10,000 Nominal
Maximum Roll OD	< 16.0" [406.4mm]
Roll Labeling Data	Roll #, Quantity
Overlay (-FWRW)	2.5 Mil White Polyolefin
Overlay Adhesive (-FWRW)	Acrylic
Inlay Adhesive	Acrylic
Adhesive Application Temperature	> +36.5°F [+2°C]
Adhesive Service Temperature	-4°F to +199.4°F [-20°C to +93°C]
Release Liner	40# SCK

Environmental

Shelf Life	2 Years at +77°F [+25°C] @ 40%RH
Recommended Storage	+77°F [+25°C] @ 40% RH
Storage Limits	-13°F to 122°F [-25°C to +50°C] 20% to 90% RH Non-condensing
Operating Limits	-40°F to +158°F [-40°C to +70°C] 20% to 90% RH Non-condensing
Bend Diameter	> 1.97" [50mm]
Pressure	< 5N/mm ²
Drop Resistance	Per ASTM D5276
Write Cycles	10,000
RoHs	2002/95/EC Compliant
ESD – HBM / CDM	> 5.0kV / > 1.5kV

RFID

Protocols Supported	EPCglobal Class 1 Gen 2 ISO/IEC 18000-6C
Integrated Circuit	Alien Higgs-3
EPCglobal Certificate	950110126000001084
Operating Frequency	840–960 MHz
EPC Size	96 - 480 Bits
User Memory	512 Bits
TID	32 Bits
Unique TID	64 Bits
Access Password	32 Bits
Kill Password	32 Bits



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HANDLING PRECAUTIONS Observe standard handling practices to minimize ESD.

DISCLAIMER Application recommendations are guidelines only - actual results may vary and should be confirmed. This is a general purpose product not designed or intended for any specific application.