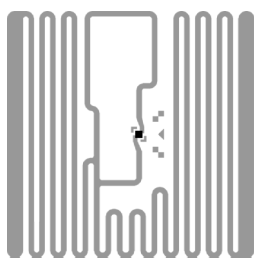




ALN-9629 SQUARE INLAY

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.



Applications

- Apparel hang tags
- Pharmaceuticals
- Item level tagging where space is a premium

FEATURE	DESCRIPTION	BENEFIT
Alien 2x2 tag performance in a smaller 1x1 form-factor	Approaches the well regarded 2x2 performance tag in a half-size form-factor	Smaller form-factor, still robust, proven, and reliable
Multiple frequency optimized sensitivity	Optimized for high performance in all world regions	A worldwide performance tag

Features:

- › Compact size yet exceptional performance
- › Designed to meet EPCglobal Gen2 (V1.2.0) and ISO/IEC 18000-6C
- › 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

Product Overview:

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.

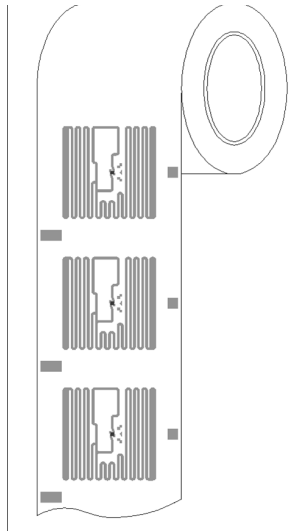
ALN-9629 inlays are World Tag compliant, enabling consistent operation across the diverse frequencies of the Americas, Europe, Middle East, Asia, and Africa.

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

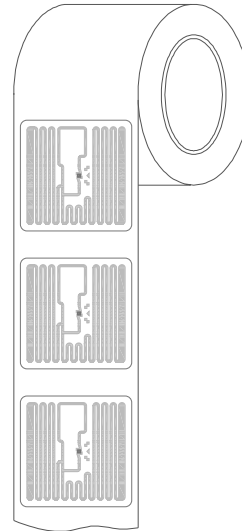
The “Square” inlay comprises a rich feature set including a 32-bit TID, **a 64-bit Unique TID for authentication and serialization applications**, an **extensible EPC memory bank, 512-bits of user memory** for distributed data applications, and **password protected read and write** support capabilities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



ALN-9629 Inlay Orientation



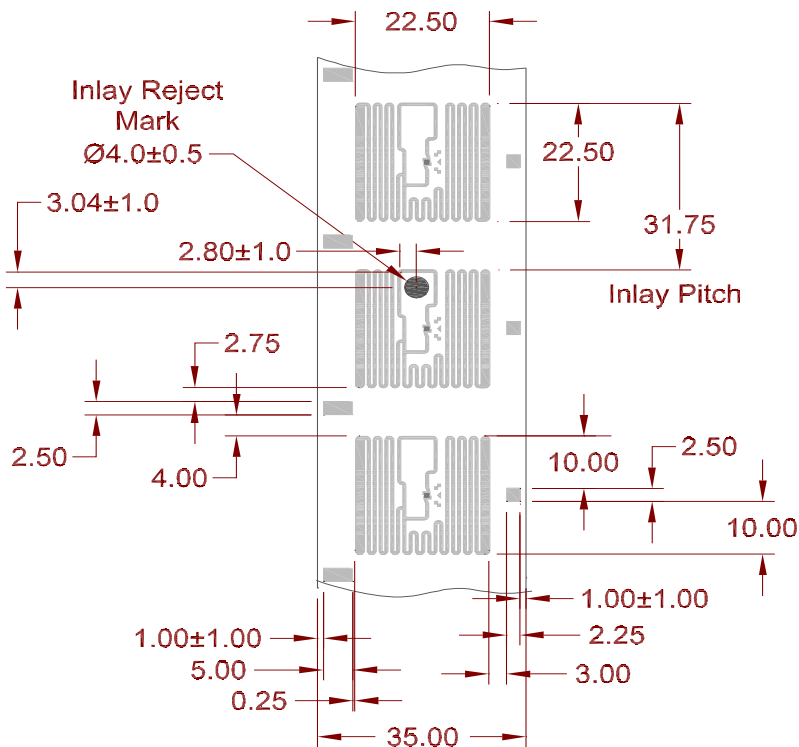
ALN-9629-FR
(Dry Unslit Roll)



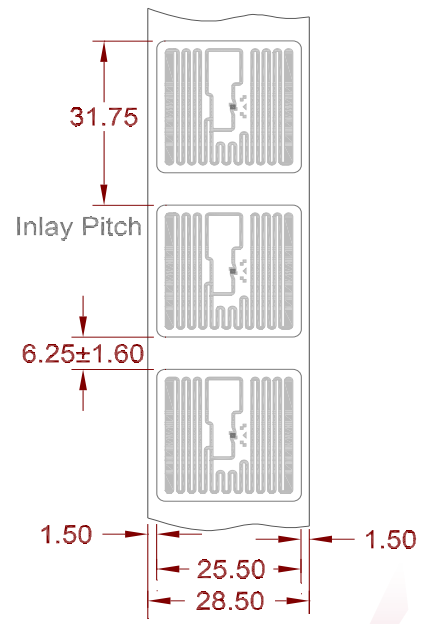
ALN-9629-FWRW
(White Wet Roll)

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

ALN-9629 Inlay Specification



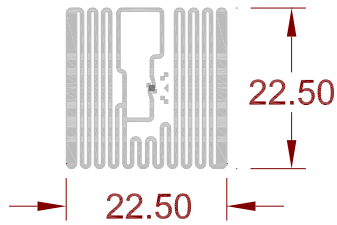
ALN-9629-FR
(Dry Unslit Inlay)



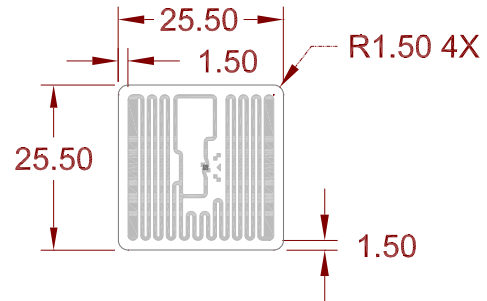
ALN-9629-FWRW
(White Wet Inlay)



ALN-9629 Inlay General Dimensions



ALN-9629-FR
(Dry Unslit Inlay)



ALN-9629-FWRW
(White Wet Inlay)

ALN-9629 Inlay Stackup

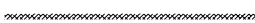
DRY INLAY THICKNESS, $\pm 10\%$	
OVER ANTENNA	0.05 mm
OVER CHIP	0.25 mm

INLAY



ALN-9629-FR
(Dry Unslit Inlay)

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

OVERLAY 
 ADHESIVE 
 INLAY 
 ADHESIVE 
 RELEASE LINER 

ALN-9629-FWRW
(White Wet Inlay)

ALN-9629 Specifications

Dry Inlay

Antenna Width	0.89" [22.5mm]
Antenna Length	0.89" [22.5mm]
Web Width	1.38" [35.0mm]
Web Pitch	1.25" [31.75mm]
Core Width	1.5" [38mm]
Core ID	6.0" [152.4mm]*
Core Material	Fiberboard
Inlays per Roll	10,000 Nominal (Two Rolls per Box)
Maximum Roll OD	< 12.0" [304.8mm]
Roll Labeling Data	Roll #, Quantity

Wet Inlay

Inlay Width	1.00" [25.5mm]
Inlay Length	1.00" [25.5mm]
Web Width	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 (Two Rolls per Box)
Maximum Roll OD	< 16.0" [406.4mm]
Roll Labeling Data	Roll #, Quantity
Overlay	TT Printable White Film Overlay
Overlay Adhesive	General Purpose Permanent
Inlay Adhesive	General Purpose Permanent
Adhesive Application Temperature	> +25°F [-4°C]
Adhesive Service Temperature	-40°F to +200°F [-40°C to +93.3°C]
Release Liner	40# SCK

Environmental

Shelf Life	Dry Inlays: 5 years at +77°F [+25°C] @ 40% RH Wet Inlays: 2 years at +77°F [+25°C] @ 40% RH
Recommended Storage	+77°F [+25°C] @ 40% RH
Dry Inlay Operating and Storage Limits	-40°F to +158°F [-40°C to +70°C] 20% to 90% RH Non-condensing
Wet Inlay Operating and Storage Limits	-13°F to 122°F [-25°C to +50°C] 20% to 90% RH Non-condensing
Bend Diameter	> 1.97" [50mm]
Pressure	< 5N/mm ²
Drop Resistance	Per ASTM D5276
Write Cycles	100,000 @ 25°C
RoHs	2002/95/EC, 2005/618/EC, 2011/65/EU Compliant
REACH	1907/2006/EC Compliant (SVHC and ECHA)
ESD Limit– 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

* Shipped with 6" to 3" plastic core adapter

March 22, 2017

Copyright© 2017 Alien Technology LLC. All rights reserved.

Alien, Alien Technology, the Alien Technology logo, Spider, Higgs, Dynamic Authentication, QuickWrite, BlockWrite, Squiggle, and the Squiggle logo are trademarks or registered trademarks of Alien Technology Corporation in the U.S. and other countries.

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.

This product is covered by one or more of the following U.S. patents: 7967204, 7931063, 7868766, 7737825, 7716208, 7716160, 7688206, 7659822, 7619531, 7615479, 7598867, 7580378, 7576656, 7562083, 7561221, 7559486, 7559131, 7554451, 7551141, 7542301, 7542008, 7531218, 7522055, 7500610, 7489248, 7453705, 7425467, 7417306, 7411503, 7385284, 7377445, 7364084, 7353598, 7342490, 7324061, 7321159, 7301458, 7295114, 7288432, 7265675, 7262686, 7260882, 7253735, 7244326, 7214569, 7199527, 7193504, 7173528, 7172910, 7172789, 7141176, 7113250, 7101502, 7080444, 7070851, 7068224, 7046328, 6998644, 6988667, 6985361, 6980184, 6970219, 6952157, 6942155, 6933848, 6927085, 6816380, 6780696, 6731353, 6693384, 6683663, 6665044, 6657289, 6623599, 6606247, 6606079, 6590346, 6586338, 6568744, 6555408, 6527964, 6479395, 6468638, 6420266, 6316278, 6291896, 6281038. Other patents pending.

This product is licensed under patents of Round Rock Research, LLC, for use solely with UHF RFID Readers (such as Alien reader products) that are licensed under an agreement with Round Rock Research, LLC.