



ALN-9610 “Squig” Inlay

The Alien Technology® ALN-9610 “Squig” RFID inlay is a shorter version of its high performance, general purpose Squiggle® and Squiglette siblings.



Powered by Alien®’s break-through **Higgs™3** UHF RFID IC and innovative “**Squig**” antenna design, the ALN-9610 delivers industry leading EPC Gen 2 performance and reliability in a shorter width than it’s bigger brothers, the Squiggle® and the Squiglette, making it ideal for **apparel and small label applications**.

With its Higgs-3 core, the “**Squig**” delivers excellent performance and a rich feature set expanding the standard 32-bit TID with an **additional 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-9610 inlays are *World Tag* compliant, enabling consistent operation across the diverse frequencies of the Americas, Europe, Middle East, Asia, and Africa.

Typical applications for the “Squig” include, but are not limited to:

- apparel, hang tags
- corrugate cases
- small package labels
- shipping labels
- asset management
- file folder labels

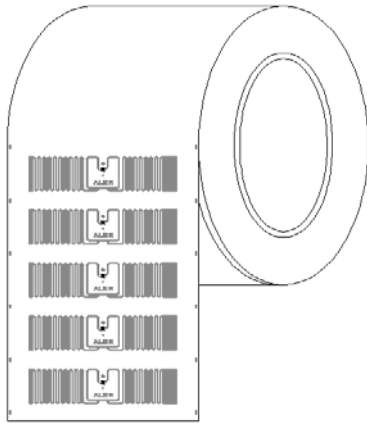
FEATURES

- Exceptional performance
- 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

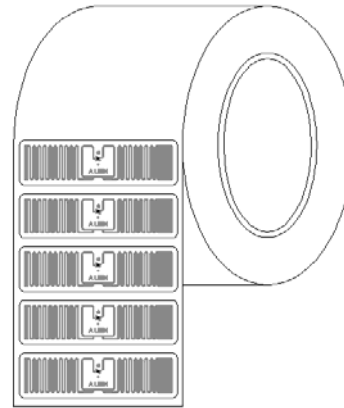


ALN-9610 “Squig” Inlay

ALN-9610 Inlay Orientation



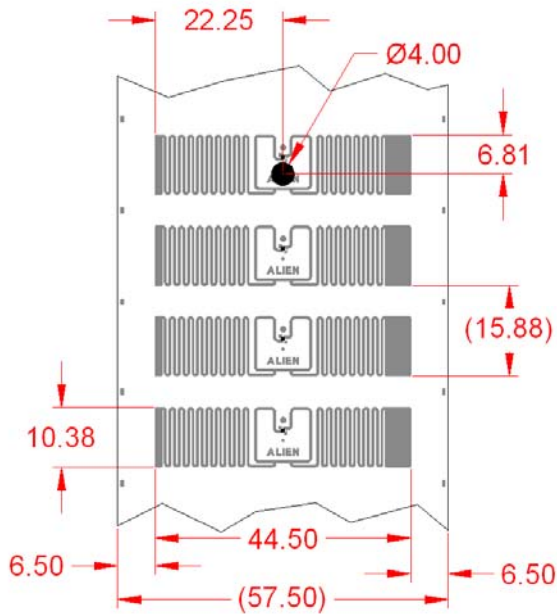
ALN-9610-FR
(Dry Unslit Roll)



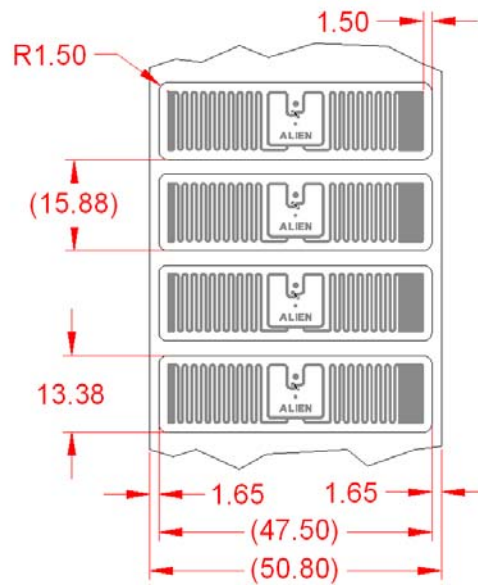
ALN-9610-FWRW
(White Wet Roll)

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

ALN-9610 Inlay Specification



ALN-9610-FR
(Dry Unslit Inlay)



ALN-9610-FWRW
(White Wet Inlay)



ALN-9610 "Squig" Inlay

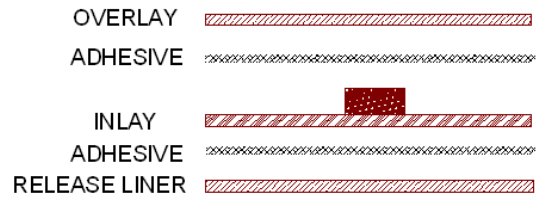
ALN-9610 Inlay Stackup

DRY INLAY THICKNESS, ±10%	
OVER ANTENNA	0.05 mm
OVER CHIP	0.25 mm

WHITE WET INLAY THICKNESS, ±10%	
OVER ANTENNA	0.16 mm
OVER CHIP	0.36 mm

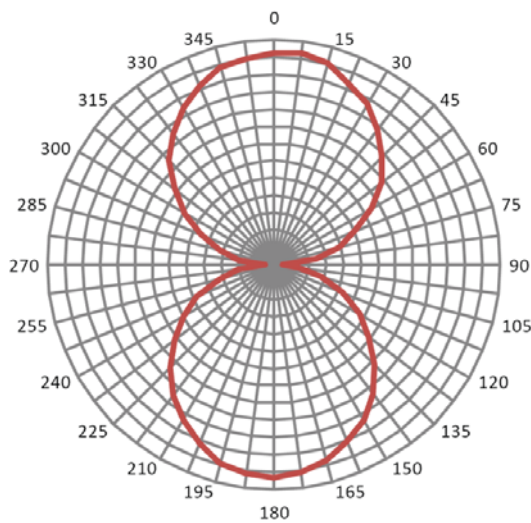


ALN-9610-FR / -FSR
(Dry Unslit Inlay)

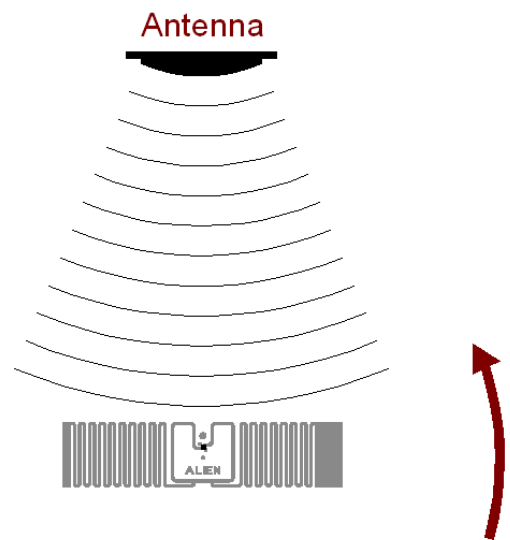


ALN-9610-FWRW
(White Wet Inlay)

ALN-9610 Inlay Angular Sensitivity



Angular Sensitivity
(Relative Read Range vs. Orientation)



Angular Sensitivity
Inlay is rotated in the x, y, plane about the z axis
(tag shown at 0° with respect to face of antenna)

ALN-9610 “Squig” Inlay

ALN-9610 Specifications

Dry Inlay

Antenna Width	1.752" [44.5mm]
Antenna Length	0.409" [10.4 mm]
Web Width (FR)	2.26" [57.5mm]
Web Pitch	0.625" [15.875mm]
Core Width (FR)	2.26" [57.5mm]
Core ID	6" [152.4mm]
Core Material	Fiberboard
Interleaf Material	N/A
Interleaf Width	N/A
Inlays per Roll	20,000 Nominal
Maximum Roll OD	< 12" [304.8mm]
Roll Labeling Data	Roll #, Quantity

Wet Inlay

Inlay Width	1.87" [47.5mm]
Inlay Length	0.528" [13.4mm]
Web Width (FWRW)	2.0" [50.8 mm]
Web Pitch	0.625" [15.875]
Core Width	2.0" [50.8mm]
Core ID	6" [152.4mm]
Core Material	Fiberboard
Inlays per Roll	20,000 Nominal
Maximum Roll OD	< 16" [406.4mm]
Roll Labeling Data	Roll #, Quantity
White (-FWRW)	TT Printable White Film Overlay
Overlay Adhesive (-FWRW)	General Purpose Permanent
Inlay Adhesive	General Purpose Permanent
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 -13°F to 122°F [-25°C to +50°C]
Storage Limits	20% to 90% RH Non-condensing -40°F to +158°F [-40°C to +70°C]
Operating Limits	20% to 90% RH Non-condensing
Bend Diameter	> 1.97" [50mm]
Pressure	< 5N/mm ²
Drop Resistance	Per ASTM D5276
Write Cycles	100,000 at 25°C
RoHs	2002/95/EC Compliant
ESD – HBM / CDM	> 5.0kV / > 1.5kV

RFID

ISO/IEC 18000-6C	
EPCglobal Class 1 Gen 2	
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.

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