



# 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.



## Applications

- Apparel, hang tags
- Corrugate cases
- Small package labels
- Asset management
- Shipping labels

FEATURE	DESCRIPTION	BENEFIT
Compact version of the high performance Squiggle and Squiglette tag	Approaches the well regarded Squiggle/Squiglette performance tag in a smaller 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:

- > 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

## Product Overview:

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.

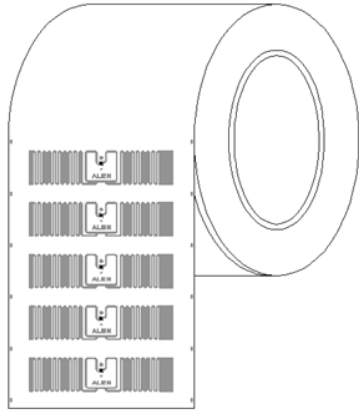
With its Higgs-3 core, the “Squig” delivers excellent performance and a rich feature set expanding the standard 32-bit TID with an **additional 64-bit Unique TID for authentication and serialization** applications, an **extensible EPC memory bank, 512-bits of user memory** for distributed data applications, 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.

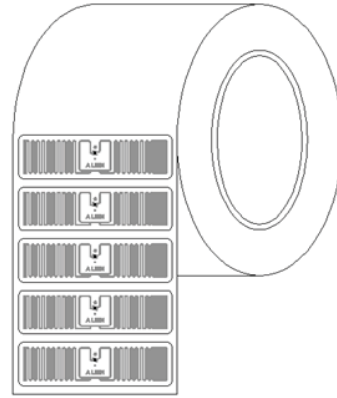


## ALN 9610 Squig Inlay

### ALN-9610 Inlay Orientation



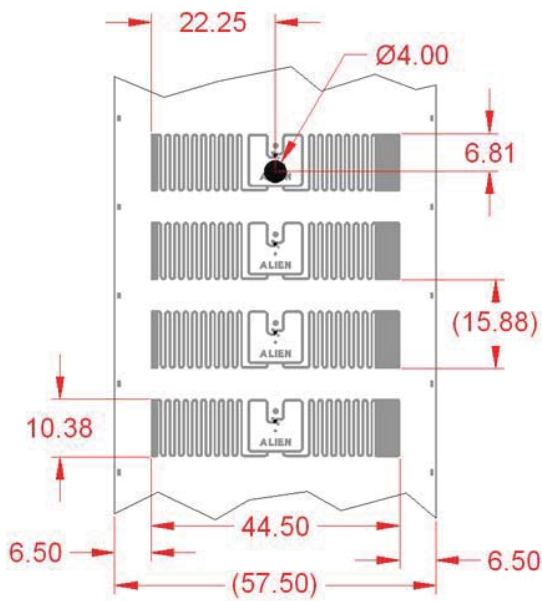
**ALN-9610-FR**  
**(Dry Unslit Roll)**



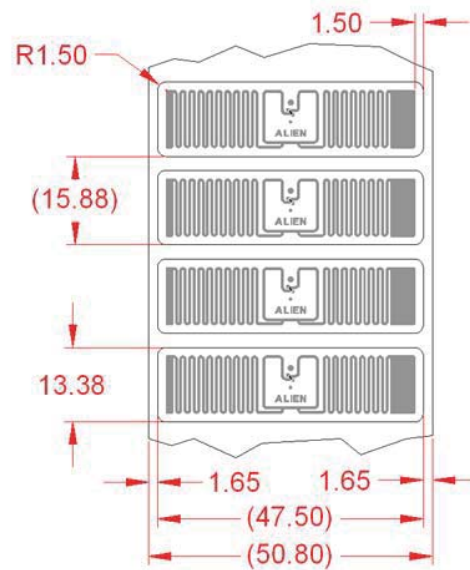
**ALN-9610-FWRW**  
**(White Wet Inlay)**

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

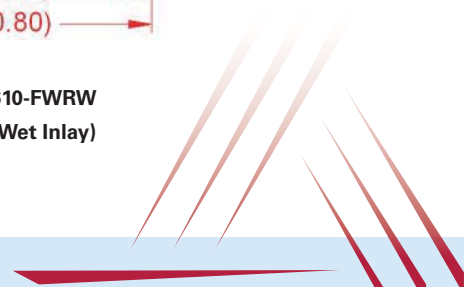
### ALN-9610 Inlay Specification



**ALN-9610-FR**  
**(Dry Unslit Roll)**



**ALN-9610-FWRW**  
**(White Wet Inlay)**



## ALN 9610 Squig Inlay

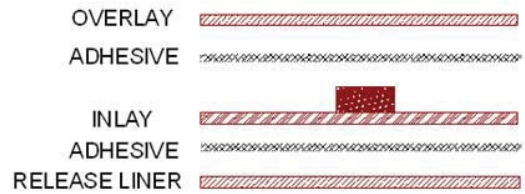
### ALN-9610 Inlay Stackup

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



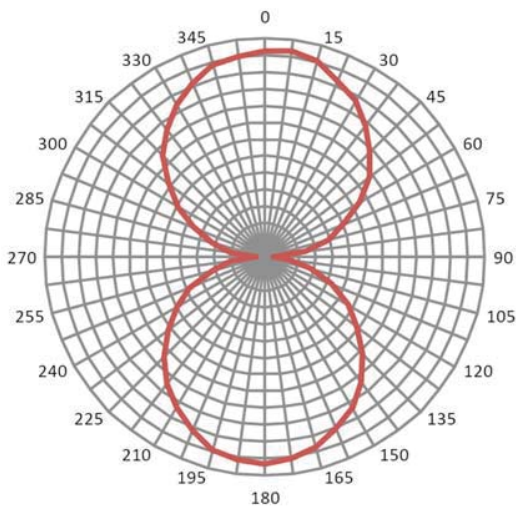
**ALN-9610-FR / -FSR**  
(Dry Unsplit Inlay)

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

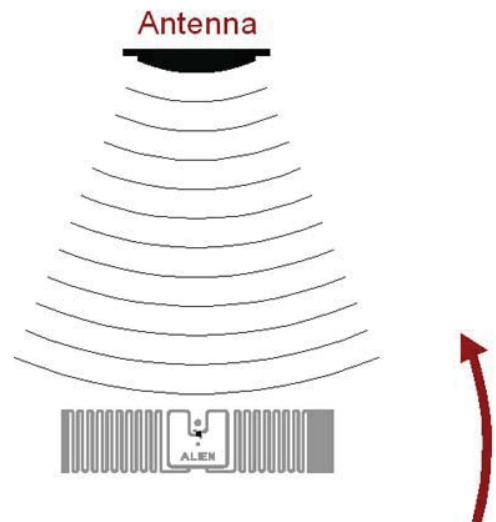


**ALN-9610-FWRW**  
(White Wet Inlay)

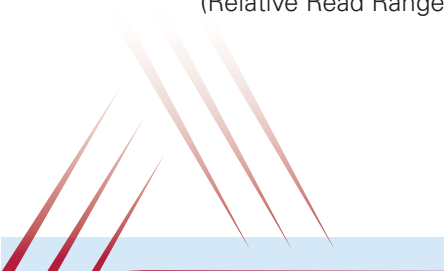
### ALN-9610 Inlay Angular Sensitivity



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		Environmental	
Antenna Width	1.752" [44.5mm]	Shelf Life	2 years at +77°F [+25°C] @ 40%RH
Antenna Length	0.409" [10.4mm]	Recommended Storage	+77°F [+25°C] @ 40% RH
Web Width	2.26" [57.5mm]	Storage Limits	-13°F to 122°F [-25°C to +50°C] 20% to 90% RH Non-condensing
Web Pitch	0.625" [15.875mm]	Operating Limits	-40°F to +158°F [-40°C to +70°C] 20% to 90% RH Non-condensing
Core Width	2.26" [57.5mm]	Bend Diameter	> 1.97" [50mm]
Core ID	6" [152.4mm]*	Pressure	< 5N/mm <sup>2</sup>
Core Material	Fiberboard	Drop Resistance	Per ASTM D5276
Inlays per Roll	20,000 Nominal	Write Cycles	100,000 @ 25°C
Maximum Roll OD	< 12" [304.8mm]	RoHs	2002/95/EC, 2005/618/EC, 2011/65/EU Compliant
Roll Labeling Data	Roll #, Quantity	REACH	1907/2006/EC Compliant (SVHC and ECHA)
		ESD Limit- HBM / CDM	5.0kV / 1.5kV
Wet Inlay		RFID	
Inlay Width	1.87" [47.5mm]	Protocols Supported	ISO/IEC 18000-6C EPCglobal Class 1 Gen 2
Inlay Length	0.528" [13.4mm]	Integrated Circuit	Alien Higgs-3
Web Width	2.0" [50.8mm]	EPCglobal Certificate	95011012600001084
Web Pitch	0.625" [15.875mm]	Operating Frequency	840-960 MHz
Core Width	2.0" [50.8mm]	EPC Size	96 - 480 Bits
Core ID	6" [152.4mm]*	User Memory	512 Bits
Core Material	Fiberboard	TID	32 Bits
Inlays per Roll	20,000 Nominal	Unique TID	64 Bits
Maximum Roll OD	< 16" [406.4mm]	Access Password	32 Bits
Roll Labeling Data	Roll #, Quantity	Kill Password	32 Bits
White	TT Printable White Film Only		
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		

\* Shipped with 6" to 3" plastic core adapter

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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.

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, 7417308, 7411503, 7385284, 7377445, 7364084, 7353598, 7342490, 7324061, 7321159, 7301458, 7295114, 7288432, 7268675, 7262086, 7260882, 7253735, 7244326, 7218527, 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, 6623579, 6606247, 6606079, 6590346, 6586338, 6566744, 6555408, 6527964, 6479395, 6468638, 6420266, 6316278, 6291896, 6281038. Other patents pending.

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