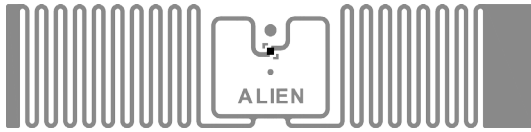




# ALN-9610 SQUIG INLAY

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:

- › 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

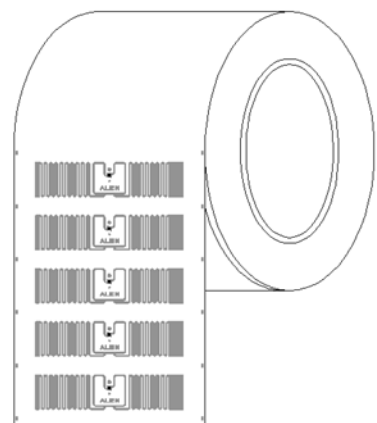
## Product Overview:

Powered by Alien®’s break-through **Higgs™3 UHF RFID IC** and **innovative “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.

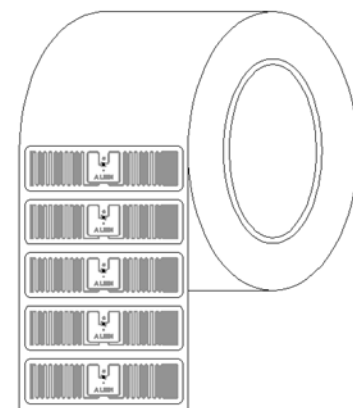
With its Higgs-3 core, the “Squig” delivers excellent performance and a rich feature set expanding the standard 32-bit TID with an **additional 64-bit Unique TID for authentication and serialization** applications, an **extensible EPC memory bank, 512-bits of user memory** for distributed data applications,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



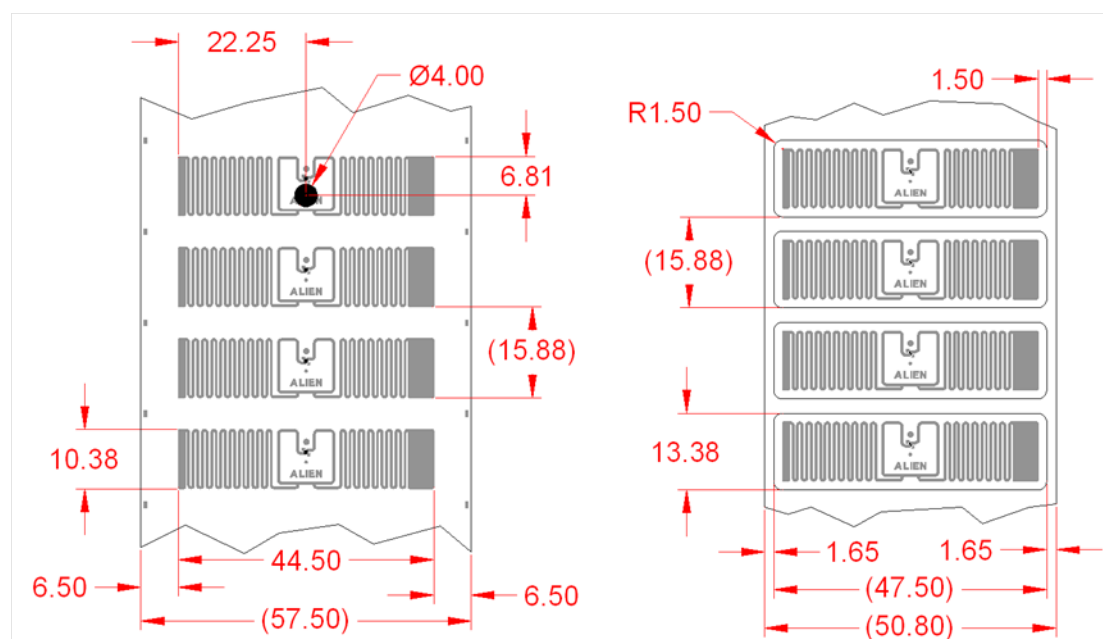
**ALN-9610-FR**  
(Dry Unslit Roll)



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

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

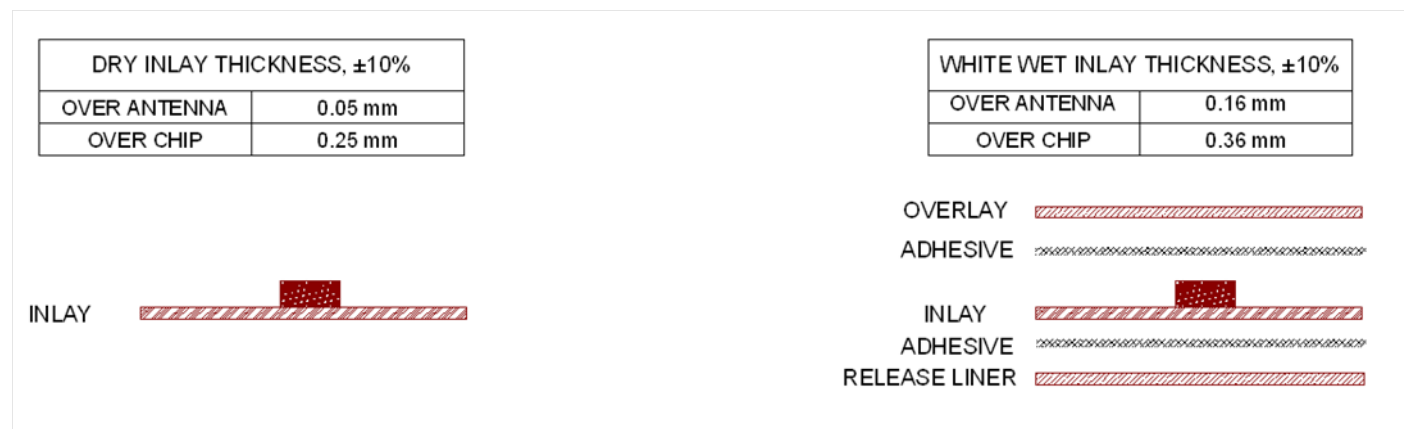
### ALN-9610 Inlay Specification



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

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

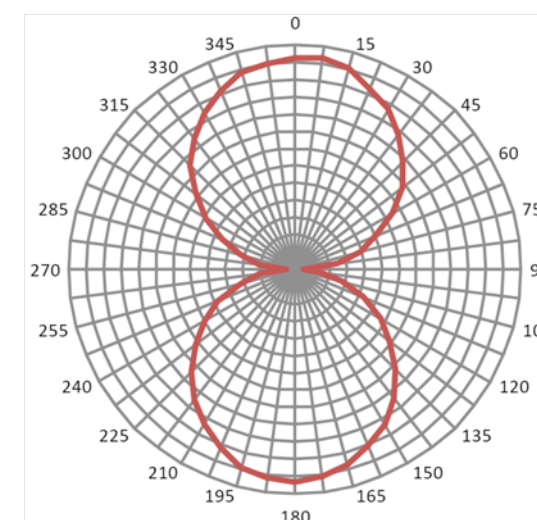
### ALN-9610 Inlay Stackup



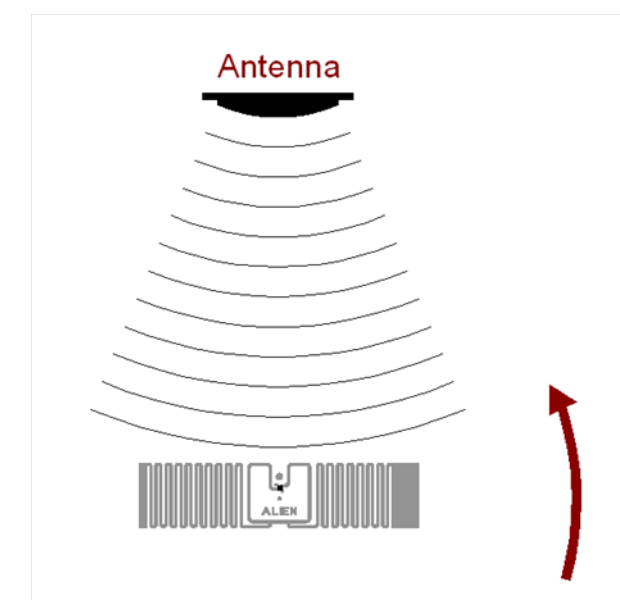
**ALN-9610-FR / -FSR**  
(Dry Unslit Inlay)

**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 Specifications

### Dry Inlay

|                    |                   |
|--------------------|-------------------|
| Antenna Width      | 1.752" [44.5mm]   |
| Antenna Length     | 0.409" [10.4mm]   |
| Web Width          | 2.26" [57.5mm]    |
| Web Pitch          | 0.625" [15.875mm] |
| Core Width         | 2.26" [57.5mm]    |
| Core ID            | 6" [152.4mm]*     |
| Core Material      | Fiberboard        |
| 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                        | 2.0" [50.8mm]                      |
| Web Pitch                        | 0.625" [15.875mm]                  |
| 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                            | 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                            |

### 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]<br>20% to 90% RH<br>Non-condensing  |
| Operating Limits     | -40°F to +158°F [-40°C to +70°C]<br>20% to 90% RH<br>Non-condensing |
| Bend Diameter        | > 1.97" [50mm]  |
| Pressure             | < 5N/mm <sup>2</sup>  |
| 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   | ISO/IEC 18000-6C<br>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                                     |

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

December 15, 2014

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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, 7417306, 7411503, 7385284, 7377445, 7364084, 7353598, 7342490, 7324061, 7321159, 7301458, 7295114, 7288432, 7265675, 7262686, 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, 6623599, 6606247, 6606079, 6590386, 6586338, 6566744, 6555408, 6527964, 6479395, 6468638, 6420266, 6316278, 6291896, 6281038. Other patents pending.

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