ALIEN® ALN-9630 SQUIGLETTE INLAY

The Alien Technology® ALN-9630 "Squiglette" RFID inlay is a narrower version of its high-performance, general-purpose Squiggle® sibling.
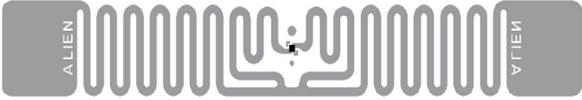
Applications

- Apparel hang tags
- Corrugate cases
- Pallet placard labels
- Shipping labels
- Asset management
- File folder labels
- Application on plastics

FEATURE	DESCRIPTION	BENEFIT
Squiggle tag performance in a smaller tag	Approaches the well regarded Squiggle 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 **Squiglette** antenna design, the ALN-9630 delivers industry leading EPC Gen 2 performance and reliability in a narrower width than it's bigger brother, the Squiggle®, and makes it ideal for apparel applications.

ALN-9630 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 Squiglette 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-9630 Inlay Orientation
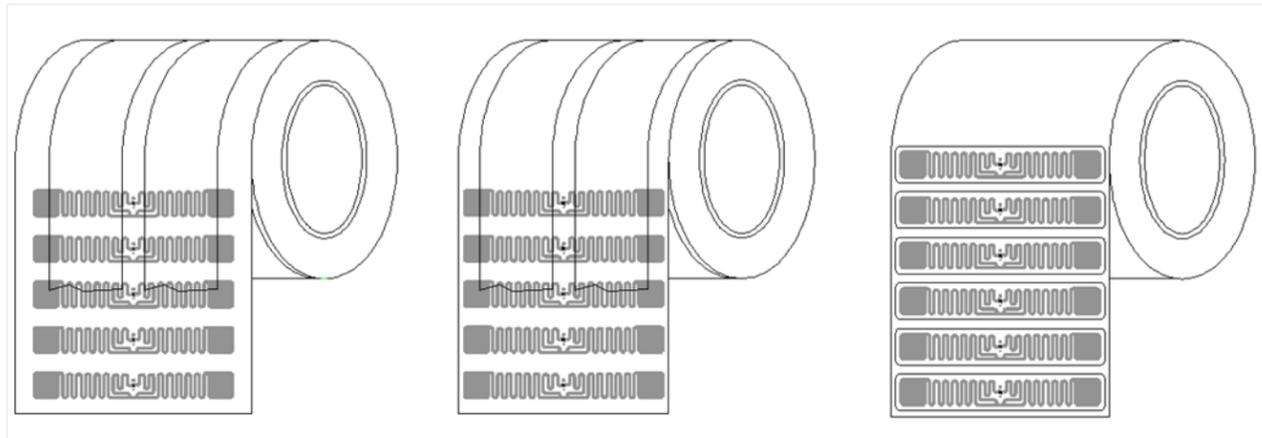
ALN-9630-FR
(Dry Unslit Roll)

ALN-9630-FSR
(Dry Slit Roll)

ALN-9630-FWRC / -FWRW
(Clear / White Wet Roll)

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

ALN-9630 Inlay Specification
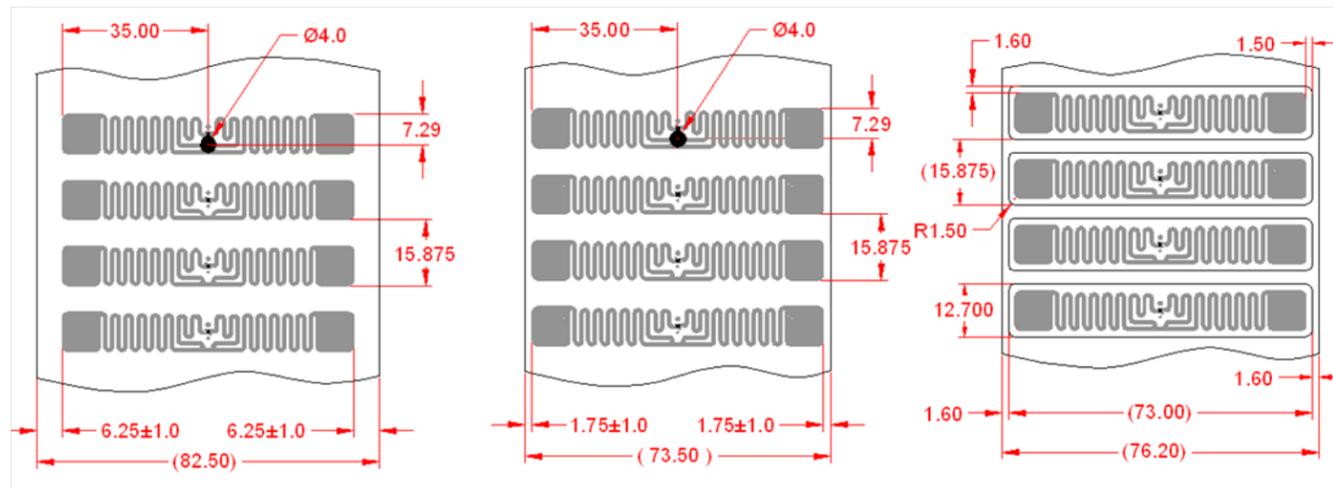
ALN-9630-FR
(Dry Unslit Roll)

ALN-9630-FSR
(Dry Slit Roll)

ALN-9630-FWRC / -FWRW
(Clear / White Wet Inlay)

ALN-9630 Inlay Stackup

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

CLEAR WET INLAY THICKNESS, ±10%	
OVER ANTENNA	0.08 mm
OVER CHIP	0.28 mm

WHITE WET INLAY THICKNESS, ±10%	
OVER ANTENNA	0.16 mm
OVER CHIP	0.36 mm
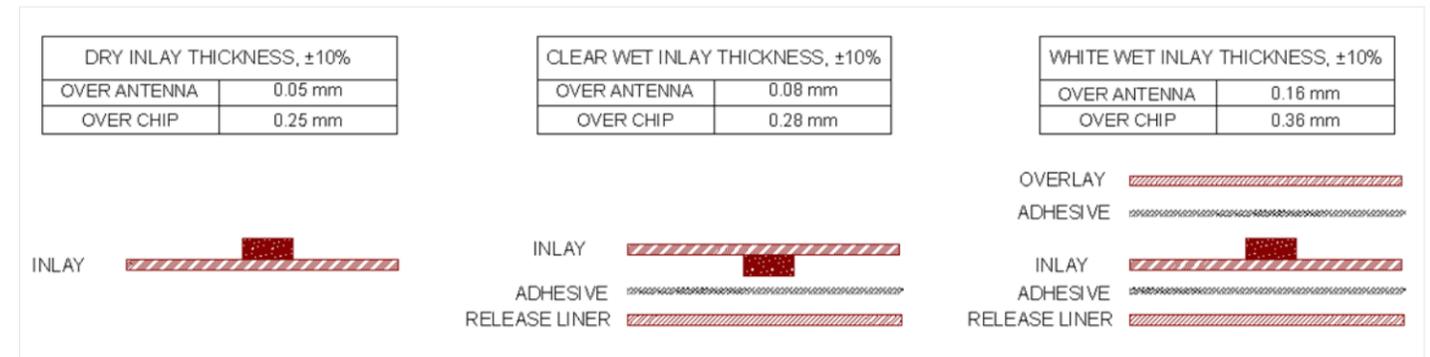
**ALN-9630-FR / -FSR**
(Dry Unslit / Slit Inlay)

ALN-9630-FWRC
(Clear Wet Inlay)

ALN-9630-FWRW
(White Wet Inlay)

ALN-9630 Inlay Angular Sensitivity
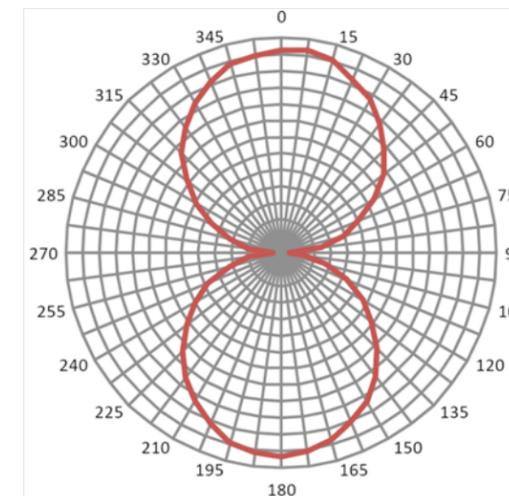
Angular Sensitivity
(Relative Read Range vs. Orientation)
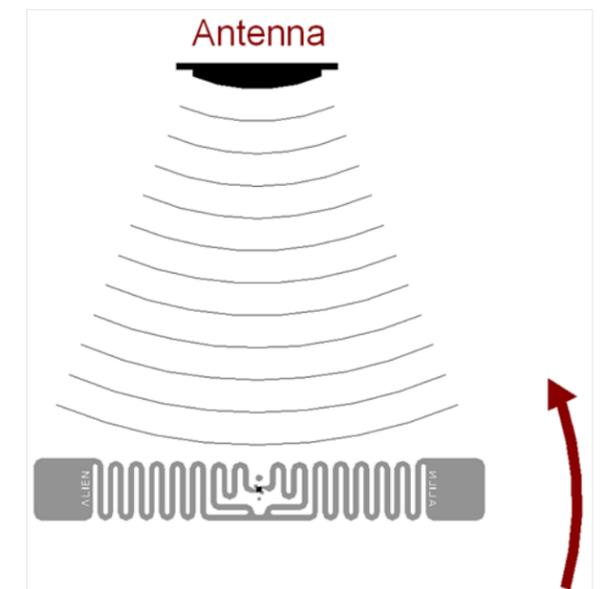
Angular Sensitivity
Inlay is rotated in the x, y, plane about the z axis
(tag shown at 0° with respect to face of antenna)

ALN-9630 Specifications

Dry Inlay

Antenna Width	2.756″ [70mm]
Antenna Length	0.374″ [9.5mm]
Web Width (-FR)	3.25″ [82.5mm]
Web Width (-FSR)	2.89″ [73.5mm]
Web Pitch	0.625″ [15.875mm]
Core Width (-FR)	3.25″ [82.5mm]
Core Width (-FSR)	2.89″ [73.5mm]
Core ID	6″ [152.4mm]*
Core Material	Fiberboard
Interleaf Material	Paper
Interleaf Width	1.0″ [25.4mm]
Inlays per Roll	20,000 Nominal
Maximum Roll OD	< 12″ [304.8mm]
Roll Labeling Data	Roll #, Quantity

Wet Inlay

Inlay Width	2.87″ [73mm]
Inlay Length	0.5″ [12.7mm]
Web Width	3.0″ [76.2mm]
Web Pitch	0.625″ [15.875mm]
Core Width	3.0″ [76.2mm]
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
Clear (-FWRC)	PET base without Overlay
White (-FWRW)	TT Printable White Film Only
Overlay Adhesive (-FWRW)	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
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/mm²
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 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

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Alien Technology
845 Embedded Way
San Jose, CA 95138-1030
866-RFID NOW
www.alientechnology.com