

ALN-9850 Aviator™ by Alien Technology^(R) is an Auburn™ Category U inlay providing non-stop performance from take-off to touch-down.



Applications

- Airline Baggage Tracking
- Aviation Supply Chain
- Inventory & Logistics
- Wide variety of materials

FEATURE	DESCRIPTION	BENEFIT
High-performance orientation-agnostic tag applicable for a wide range of materials and world-wide frequencies.	Provides performance characteristics and angular sensitivity pattern that enables tag access edge-on through a full 360°. Low turn-on threshold and high backscatter.	Can be used in applications where the tag may be completely end-on to the reader antenna i.e. the tag is laid flat and the reader is "looking" at the edge of the tag.
Auburn Category U Compliant	Tested and certified by Auburn University ARC program - Category U, Aviation RFID inlays	Ensures consistent & robust performance in Aviation baggage tag applications worldwide
Reliable read / write performance with Sentinel™ memory	Bit error correction, improved read/write sensitivity, robust memory retention and 200,000 write cycles (2X that of competition)	Robust reliability of stored data, added protection against data loss/corruption

Features:

- > Worldwide operation in all RFID UHF bands (860-960 MHz)
- > Global GS1 Class 1 Gen 2 (V1.2.0) and ISO/IEC 18000-6C compliance
- > Class leading read and write performance
- > 512 bits of NVRAM Memory
 - Up to 128 EPC bits (96-bits nominal)
 - 128 User bits
 - 48 bit Unique TID
 - 32 bit Access and 32 bit Kill passwords
- > User Memory may be Block Perma-Locked as well as read password protected in 32 bit blocks
- > Low power operation for both read and write
- > BlastWrite™ and QuickWrite™ mass-encoding
- > Dynamic Authentication™ - anti-cloning/anti-counterfeit technology

Product Overview:

Designed for Aviation baggage labels, Aviation assets and general inventory & logistics, the **Higgs™-EC UHF RFID IC-based ALN-9850 "Aviator"** antenna design delivers industry leading performance and reliability at a competitive price.

Applications include (but not limited to):

- Aviation baggage label tracking
- Aviation supply chain
- General Inventory & Logistics
- Function on wide variety of materials

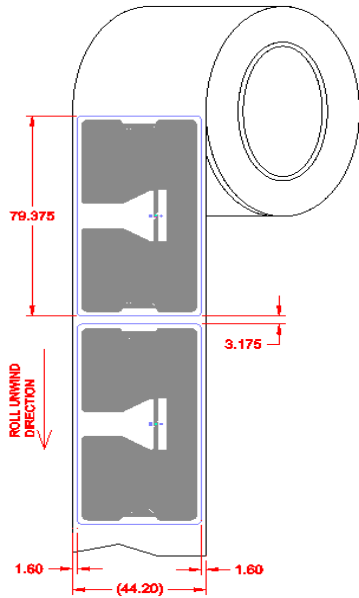
Enhanced memory footprint includes **a 48-bit Unique TID for authentication** and **serialization** applications and **password protected read and write** support to prevent unauthorized viewing and modification of the tag's data.

ALN-9850 inlays are World Tag compliant, enabling consistent operation across the diverse frequencies of the Americas, Europe, Middle East, Africa and Asia.





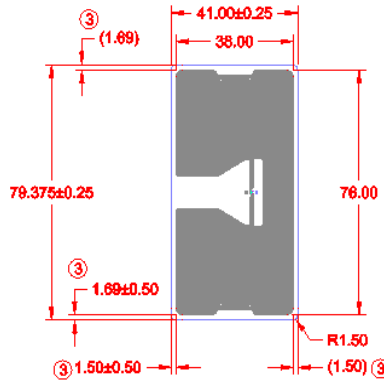
ALN-9850 Inlay Specifications & General Dimensions



ALN-9850-90WRW

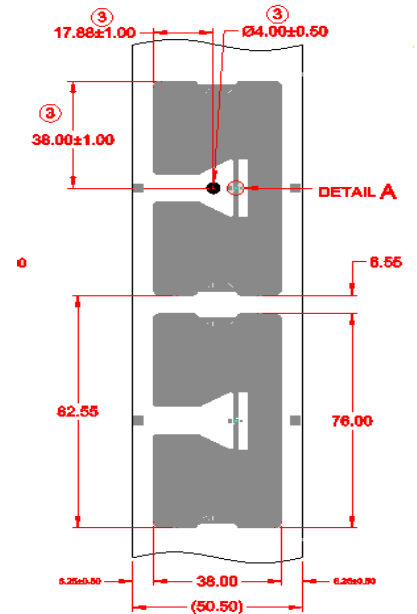
(Wet White Roll & Dimensions)

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



ALN-9850-90WRW

(Wet White Detailed Dimensions)



ALN-9850-90R

(Dry Unslit Roll & Inlay Dimensions)

ALN-9850-90WRW Inlay Stackup

WET INLAY THICKNESS, ±10%	
OVER ANTENNA	0.06mm
OVER CHIP	0.35mm

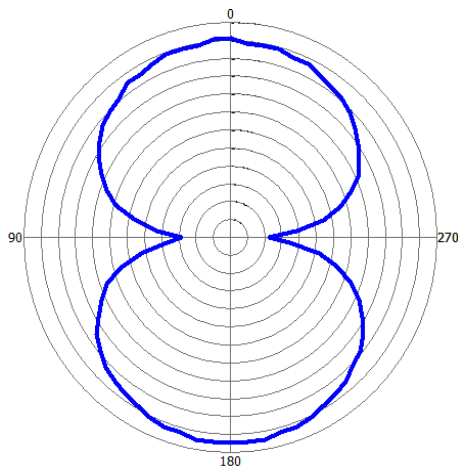


ALN-9850-90R Inlay Stackup

DRY INLAY THICKNESS, ±10%	
OVER ANTENNA	0.06mm
OVER CHIP	0.24mm



ALN-9850 Inlay Angular Sensitivity



Angular Sensitivity
(Relative Read Range vs. Orientation)



ALN-9850 Specifications

Dry Inlay	
Antenna Width	1.496" [38mm]
Antenna Length	2.992" [76mm]
Web Width (-90R)	2.008" [50.5mm]
Inlay Pitch	3.250" [82.55mm]
Core Width (-90R)	2.008" [50.5mm]
Core ID	6" [152.4mm]*
Core Material	Fiberboard
Inlays per Roll	4,500 (+/- 200)
Maximum Roll OD	<12" [304.8mm]
Roll Labeling Data	Roll #, Quantity

Wet Inlay	
Antenna Width	1.614" [41mm]
Antenna Length	3.125" [79.4mm]
Web Width (-90WRW)	1.740" [44.2mm]
Inlay Pitch	3.250" [82.55mm]
Core Width (-90WRW)	1.740" [44.2mm]
Core ID	6" [152.4mm]*
Core Material	Fiberboard
Inlays per Roll	4,500 Nominal
Maximum Roll OD	<16" [404.6mm]
Roll Labeling Data	Roll #, Quantity

Environmental	
Shelf Life	Dry Inlays: 5 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/mm ²
Drop Resistance	Per ASTM D5276
Write Cycles	200,000 @ 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 GS1 Class 1 Gen 2
Integrated Circuit	Alien Higgs™-EC
Operating Frequency	860-960 MHz
EPC Size	128 Bits
User Memory	128 Bits
TID	32 Bits
Unique TID	48 Bits
Access Password	32 Bits
Kill Password	32 Bits

* Shipped with 6" to 3" plastic core adapter

January 21, 2020

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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, 6590346, 6586338, 6566744, 6555408, 6527964, 6479395, 6468638, 6420266, 6316278, 6291896, 6281038. Other patents pending.

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