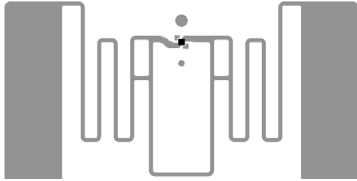




ALN-9825

“GEEKO” RETAIL AND APPAREL INLAY

Optimal performance in a compact form factor, the Alien Technology® ALN-9825 “Gecko” RFID inlay offers world class range and sensitivity for dense Retail & Apparel applications.



Applications

- Retail
- Apparel
- Compact form factor
- Dense read reliability

FEATURE	DESCRIPTION	BENEFIT
Compact far-field design	29x15mm size, compatible with all standard far-field RFID reader antennas (fixed and hand-held)	Seamless operation with currently deployed RFID hardware
Optimized for dense read environment	Reliable performance in dense tag populations	Worry free readability whether items are spaced close or far apart
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
- › Available in high-yield, high capacity dry/wet inlay rolls



Product Overview:

Designed for Retail, Apparel and smaller form factor applications with optimization for readability in dense tag populations, the 29x15mm **Higgs™-EC UHF RFID IC** based “Gecko” antenna design offers reliable performance for today’s fast growing high volume Retail and Apparel requirements.

Applications include (but not limited to):

- Apparel / Retail labeling
- On product tagging
- Small form factor applications
- Dense tagged asset population readability

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.

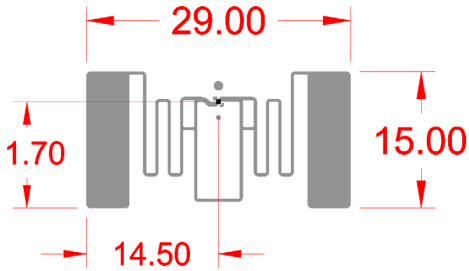
ALN-9825 inlays are World Tag compliant, enabling consistent operation across the diverse frequencies of the Americas, Europe, Middle East, Asia, and Africa.



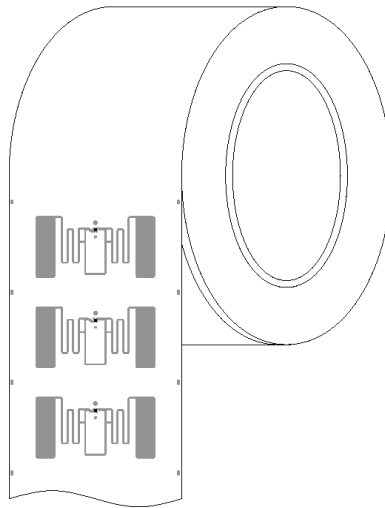
ALN-9825 Gecko Inlay

All dimensions in millimeters unless specified otherwise

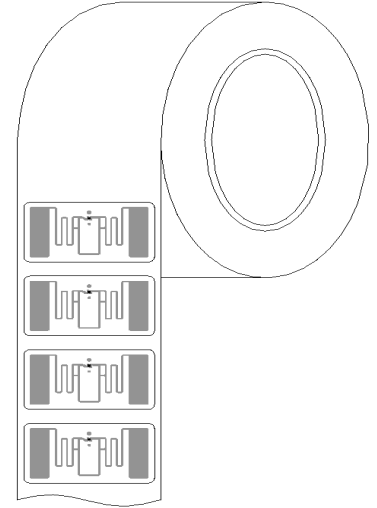
ALN-9825 Antenna Size



ALN-9825 Inlay Orientation



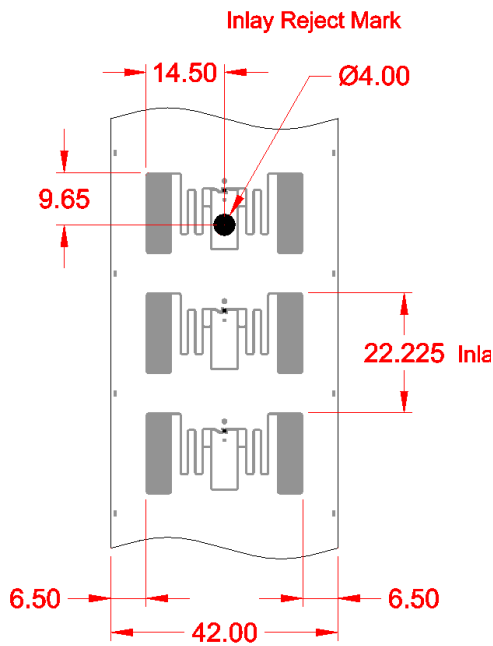
ALN-9825-R
(Dry Unslit Roll)



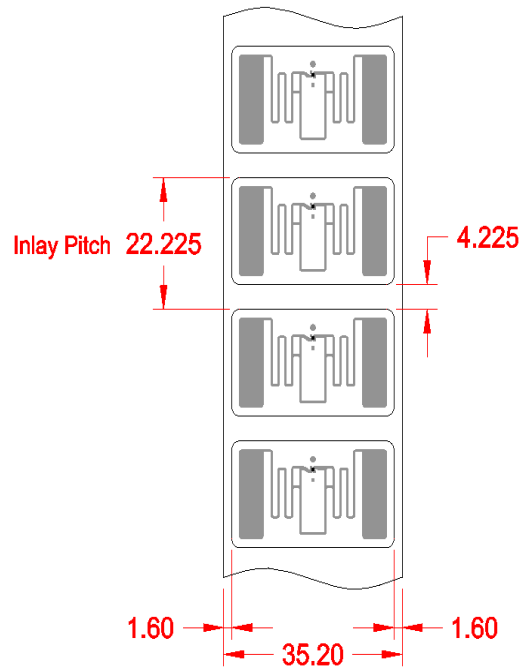
ALN-9825-WRW
(White Wet Inlay)

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

ALN-9825 Inlay Specification



ALN-9825-R
(Dry Unslit Roll)



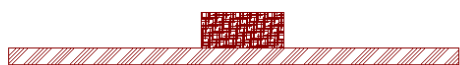
ALN-9825-WRW
(White Wet Inlay)

ALN-9825 Inlay Stackup

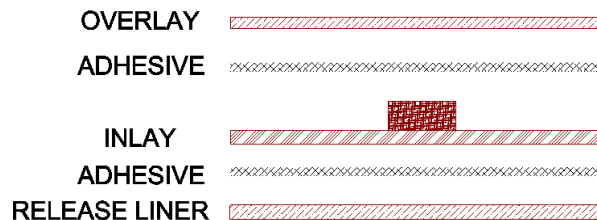
DRY INLAY THICKNESS $\pm 10\%$	
Over Antenna	0.06mm
Over Chip	0.24mm

WHITE WET INLAY THICKNESS $\pm 10\%$	
Over Antenna	0.16mm
Over Chip	0.32mm

INLAY

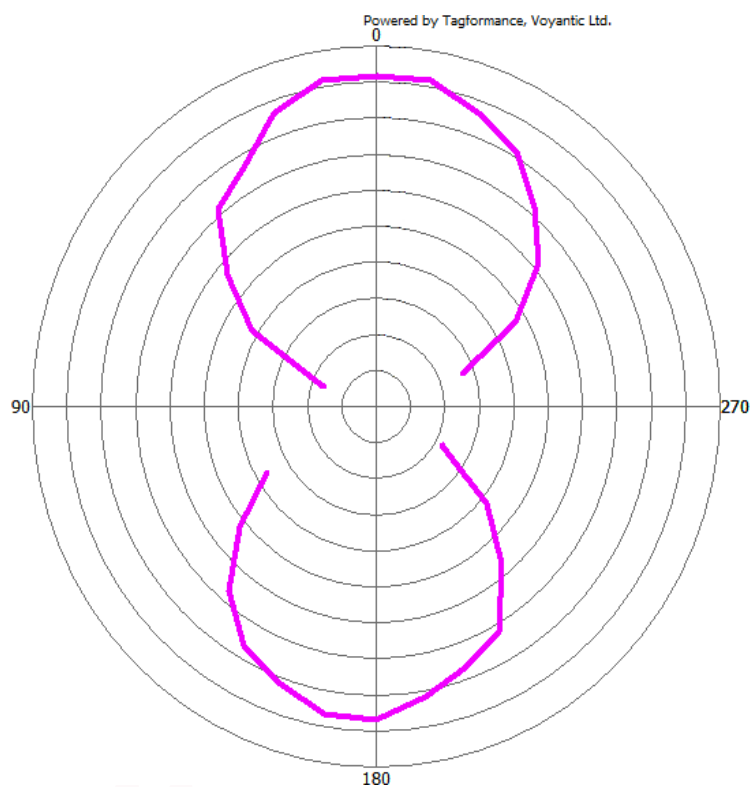


ALN-9825-R
(Dry Unslit Inlay)

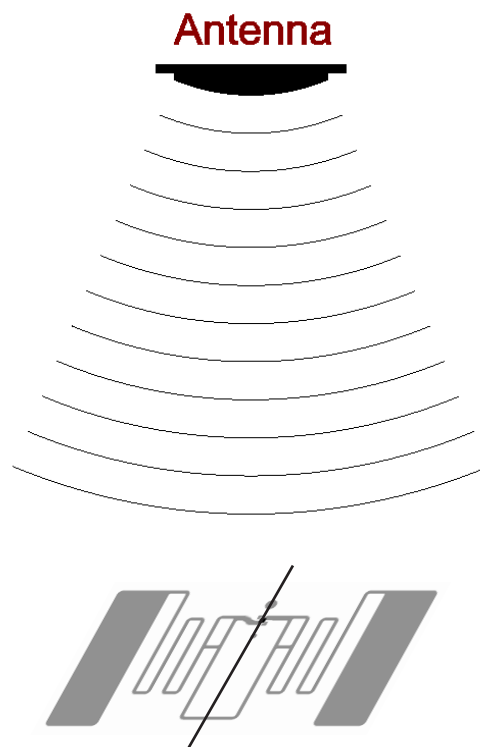


ALN-9825-WRW
(White Wet Inlay)

ALN-9825 Inlay Angular Sensitivity



Angular Sensitivity
(Relative Read Range vs. Orientation)



Angular Sensitivity
Inlay is rotated in the x, y, plane about the z axis



ALN-9825 Specifications

Dry Inlay

Antenna Width	1.142" [29mm]
Antenna Length	0.591" [15mm]
Web Width	1.654" [42mm]
Web Pitch	0.875" [22.225mm]
Core Width	1.654" [42mm]
Core ID	6" [152.4mm]*
Core Material	Fiberboard
Inlays per Roll	12,500 Nominal
Maximum Roll OD	< 12" [304.8mm]
Roll Labeling Data	Roll #, Quantity

Wet Inlay

Inlay Width	1.260" [32mm]
Inlay Length	0.709" [18mm]
Web Width	1.385" [35.2mm]
Web Pitch	0.875" [22.225mm]
Core Width	1.385" [35.2mm]
Core ID	6" [152.4mm]*
Core Material	Fiberboard
Inlays per Roll	12,500 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	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/mm ²
Drop Resistance	Per ASTM D5276
Write Cycles	200,000 @ 25°C
RoHs	2002/95/EC (RoHS 1), 2011/65/EU (RoHS 2), 2015/863 (RoHS 10)
REACH	EU 143/2011, EU 125/2012, Annex XIV of EC no. 1907/2006
ESD Limit- HBM / CDM	5.0kV / 1.5kV

RFID

Protocols Supported	ISO/IEC 18000-6C EPCglobal Class 1 Gen 2
Integrated Circuit	Alien Higgs™-EC
Operating Frequency	840–960 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

May 12, 2018

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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, 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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