



ALN-9841

“Doc” DOCUMENT INLAY (HIGGS™ -EC)

Built for dense stacked files & documents the Alien Technology® ALN-9841 “Doc” RFID inlay is designed for operation in close proximity to each other allowing you to find the document you need, when you need it.



Applications

- Stacked paper/cardboard
- Documents
- File folders
- Envelopes

FEATURE	DESCRIPTION	BENEFIT
Dielectrically matched to papers, cardboards and similar printed stock.	Allows tagging of documents, files, booklets and paper products.	Allows tags to be placed on documents or files where these documents will be tightly packed together with many tags in close proximity to each other. These tags have minimal chance of shadowing (hiding each other) from the reader.
Extremely tolerant to close placement of multiple tags.	Specifically designed to reduce shadowing of one tag over another.	
Next generation Higgs™ 4 features and performance	A mass-market optimized tag with class leading read and write performance. Supports Aliens <i>QuickWrite™</i> and <i>BlastWrite™</i>	Rapid programming of serialized tags and excellent read/write performance

Features:

- › Worldwide operation in all RFID UHF bands (840-960 MHz)
- › Global GS1 Class 2 Gen 2 (V1.2.0) and ISO/IEC 18000-6C compliance
- › 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 can be Block Perma-Locked as well as read password protected in 32 Bit Blocks
- › Class leading read and write performance
- › *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 stacked & dense packed documents, folders & other paper goods, the **Higgs™-EC UHF RFID IC** based **“Doc” antenna design**, offers superior performance and reliability for tagging of papers, files, documents, folders or other thin and tightly compact wood/organic materials.

Applications include (but not limited to) Legal, Academic, Medial or other:

- Documents
- Certificates
- Folders
- Envelopes

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.

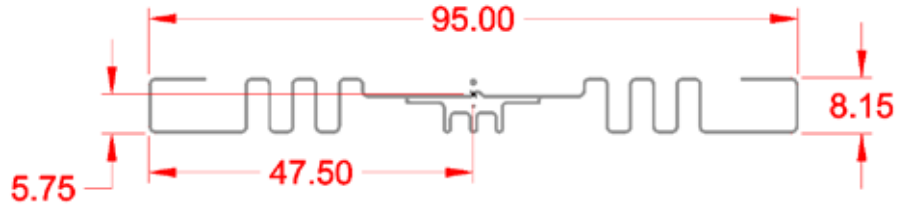
ALN-9841 inlays are World Tag compliant, enabling consistent operation across the diverse frequencies of the Americas, Europe, Middle East, Asia, and Africa.



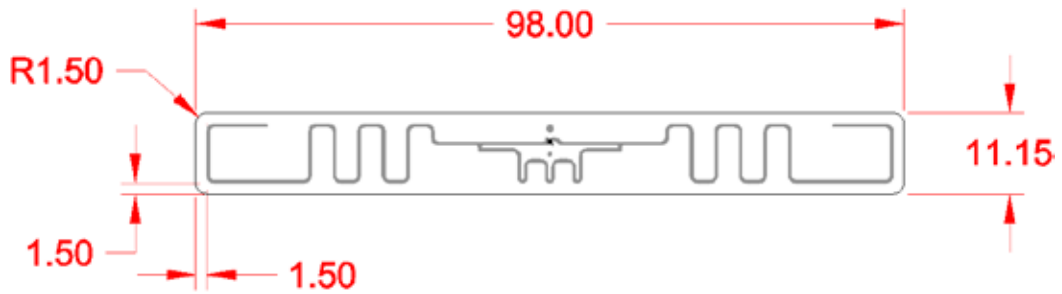


All dimensions in millimeters unless specified otherwise

ALN-9841 Antenna Size

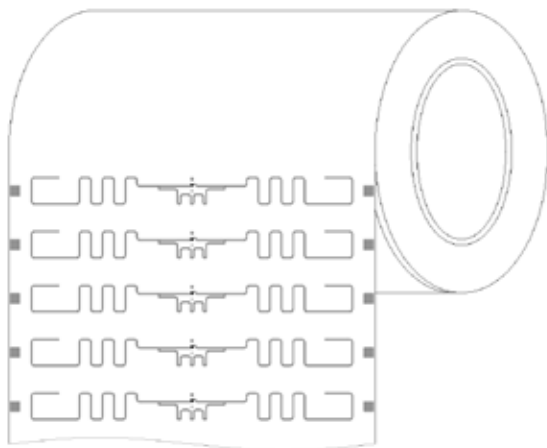


ALN-9841-R (Dry Unslit Roll)

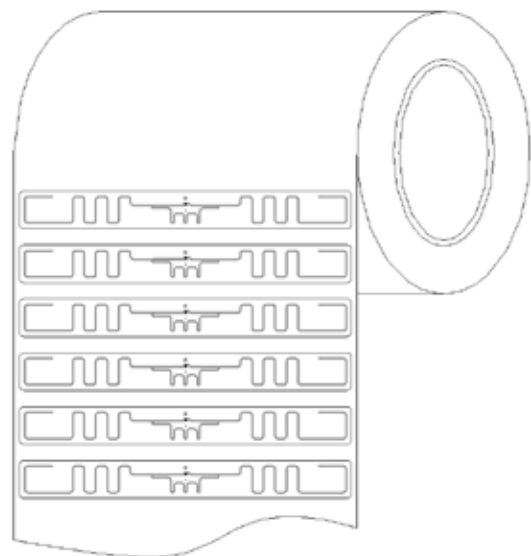


ALN-9841-WRW (White Wet Inlay)

ALN-9841 Inlay Orientation



ALN-9841-R (Dry Unslit Roll)

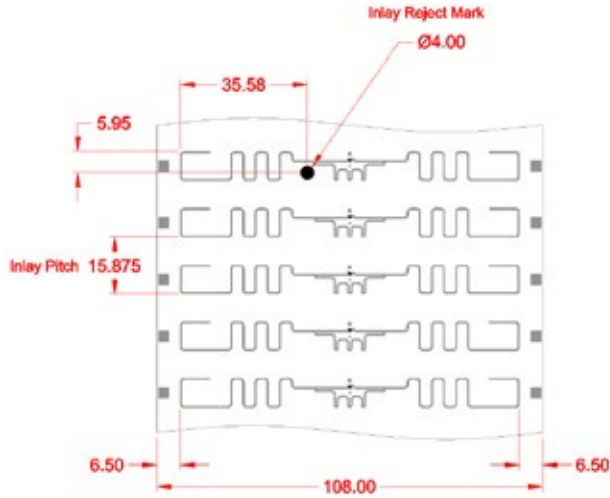


ALN-9841-WRW (White Wet Inlay)

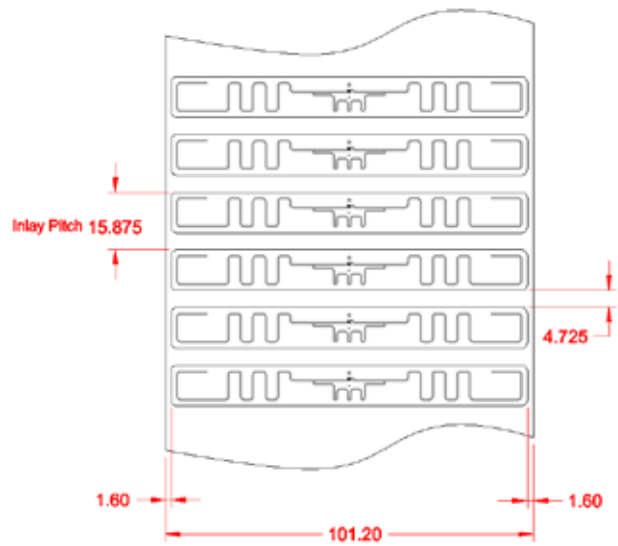
Standard Alien Inlay rolls unwind with metal antenna side facing outward, with respect to the core.



ALN-9841 Inlay Specification



ALN-9841-R (Dry Unslit Roll)



ALN-9841-WRW (White Wet Inlay)

ALN-9841 Inlay Stackup

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

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

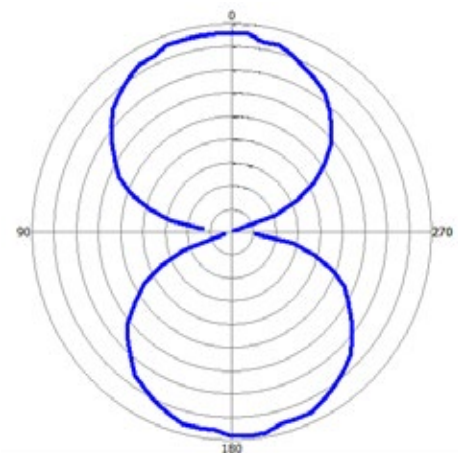
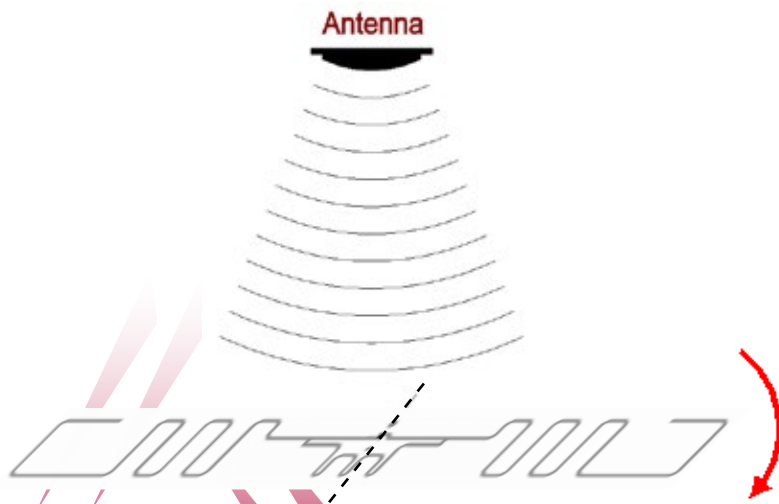


ALN-9841-R
(Dry Unslit Inlay)



ALN-9841-WRW
(White Wet Inlay)

ALN-9841 Inlay Angular Sensitivity



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



ALN-9841 Doc Inlay

ALN-9841 Specifications

Dry Inlay	
Antenna Width	3.74" [95mm]
Antenna Length	0.32" [8.15mm]
Web Width	4.25" [108.0mm]
Web Pitch	0.625" [15.875mm]
Core Width	4.25" [108.0mm]
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	3.85" [98mm]
Inlay Length	0.44" [11.15mm]
Web Width	3.98" [101.20mm]
Web Pitch	0.625" [15.875mm]
Core Width	4.00" [101.56mm]
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	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, 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-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

April 15, 2019

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