



## Alien ALN 9768 UHF WRW RFID TAG

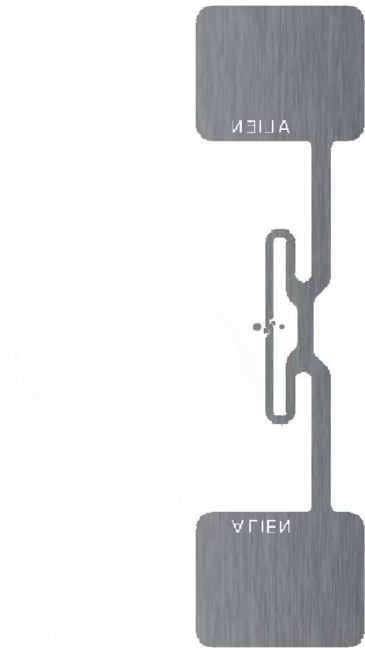
Model: ALN-9768

### > Applications

- 1 Set Top Boxes
- 2 Bottled liquids
- 3 General Purpose Applications
- 4 Consumer electronic appliances
- 5 Automotive, windshields & head lamps

### > Features

- 1 EPC Gen 2 (v1.2.0) compliant
- 2 BlastWrite™ and QuickWrite™ mass-encoding
- 3 448-Bits of NVRAM Memory
  - 128-EPS Bits
  - 128-User Bits
  - 64 Bit Unique TID
  - 32 Bit Access and 32 bit Kill Passwords
- 4 Pre-Programmed with a unique, unalterable 64-bit serial number
- 5 Designed to meet EPCglobal Gen2 (V1.2.0) and ISO/IEC 18000-6C
- 6 Class leading read and write performance
- 7 Exceptional operating range, up to 11m with appropriate antenna
- 8 User Memory can be Block Perma-Locked as well as read password protected in 32 Bit Blocks
- 9 Worldwide operation in the RFID UHF bands (840-960 MHz)
- 10 Available in high-yield, high capacity dry/wet inlay rolls



## > Descriptions

*Powered by Alien®'s break-through Higgs™4 UHF RFID IC and innovative "Wonder Dog™" antenna design, the ALN-9768 delivers industry leading EPC Gen 2 performance and reliability for general purpose, automotive and consumer electronics tagging applications.*

*With its Higgs-4 core, the "WD" delivers next generation read and write performance, yet is completely optimized for the highest volume enterprise, retail, and automotive applications.*

*ALN-9768 inlays are World Tag compliant, enabling consistent operation across the diverse frequencies of the Americas, Europe, Middle East, Asia, and Africa.*

## > ALN-9768 Specifications

### Dry Inlay

	Unslit ALN-9768-R	Narrow Slit ALN-9768-SR
Antenna Width	3.39 [ 86mm ]	
Antenna Length	0.91 [ 23mm ]	
Web Width	3.88" [98.5mm]	3.52" [89.5mm]
Web Pitch	1.125" [28.575mm]	
Core Width	3.88" [98.5mm]	3.52" [89.5mm]
Core ID	6 [ 152.4 mm ]*	
Core Material	Fiberboard	
Inlays per Roll	12,500 Nominal	12,500 Nominal
Maximum Roll OD	< 12" [304.8mm]	
Roll Labeling Data	Roll #, Quantity	

\* The products and specifications described in this document are subject to change without notice.

## Wet Inlay

Inlay Width	3.51 [ 89.2mm ]
Inlay Length	1.03 [ 26.2mm ]
Web Width	3.64 [ 92.4mm ]
Web Pitch	1.125 [ 28.575mm ]
Core Width	3.64 [ 92.4mm ]
Core ID	6 [ 152.4 mm ]*
Core Material	Fiberboard
Inlays per Roll	12,500 Nominal
Maximum Roll OD	< 16 [ 406.4 mm ]
Roll Labeling Data	Roll #, Quantity
White	TT Printable White Film Overlay
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

## RFID

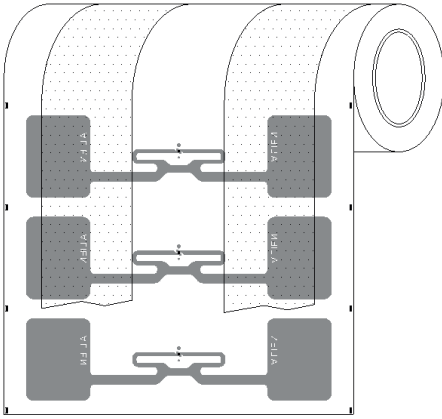
Protocols Supported	ISO/IEC 18000-6C EPCglobal Class 1 Gen 2
Integrated Circuit	Alien Higgs-4
EPCglobal Certificate	950110126000001084
Operating Frequency	840 - 960 MHz
EPC Size	128 Bits
User Memory	128 Bits
TID	32 Bits
Unique TID	64 Bits
Access Password	32 Bits
Kill Password	32 Bits

## Enviromental

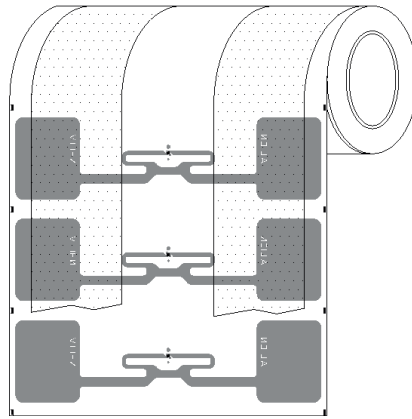
<b>Shelf Life</b>	2 years at +77°F [ +25°C ] @ 40% RH
<b>Recommended Storage</b>	+77°F [ +25°C ] @ 40% RH
<b>Storage Limits</b>	-13°F to 122°F [ -25°C to +50°C ] 20% to 90% RH Non-condensing
<b>Operating Limits</b>	-40°F to + 158°F [ -40°C to +70°C ] 20% to 90% RH Non-condensing
<b>Bend Diameter</b>	> 1.97 [ 50 mm ]
<b>Pressure</b>	< 5N/mm
<b>Drop Resistance</b>	Per ASTM D5276
<b>Write Cycles</b>	100,000 @ 25°C
<b>ROHs</b>	2002/95/EC, 2005/618/EC, 2011/65/EU Compliant
<b>REACH</b>	1907/2006/EC Compliant (SVHC and ECHA)
<b>ESD Limit HBM / CDM</b>	5.0kV / 1.5kV



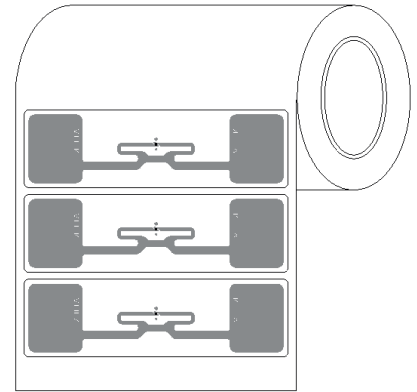
## > ALN-9768 Inlay Orientation



**ALN-9768-R**  
( Dry Unslit Roll )



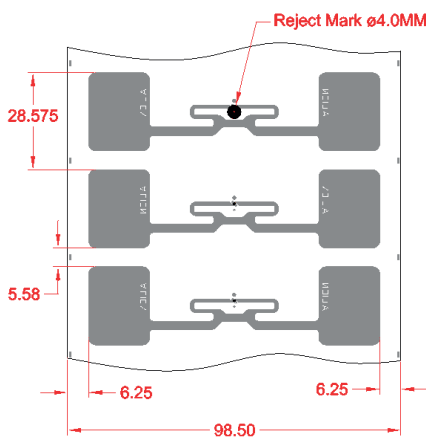
**ALN-9678-SR**  
( Narrow Dry Unslit Roll )



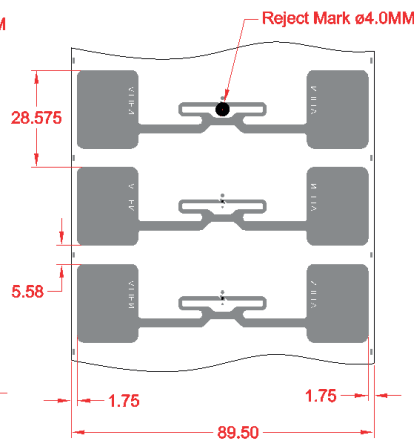
**ALN-9678-WRW**  
(White Wet Roll Inlay)

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

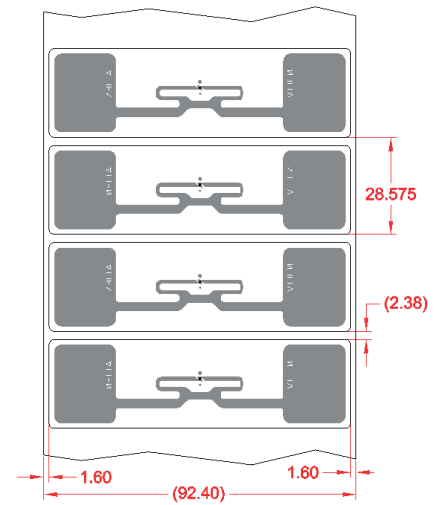
## > ALN-9768 Inlay Specification



**ALN-9768-R**  
( Dry Unslit Roll )



**ALN-9678-SR**  
( Narrow Dry Unslit Roll )



**ALN-9678-WRW**  
(White Wet Roll Inlay)

## > ALN-9613 Inlay Stackup

DRY INLAY THICKNESS. +10%	
OVER ANTENNA	0.05 mm
OVER CHIP	0.25 mm

WHITE WET INLAY THICKNESS. +10%	
OVER ANTENNA	0.16 mm
OVER CHIP	0.36 mm

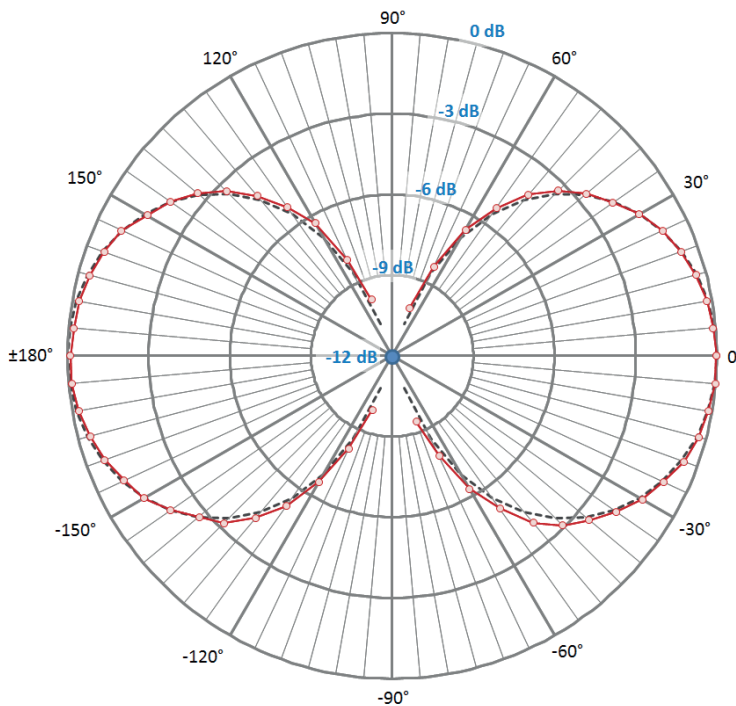


**ALN-9768-R/SR**  
( Dry Unslit Roll )

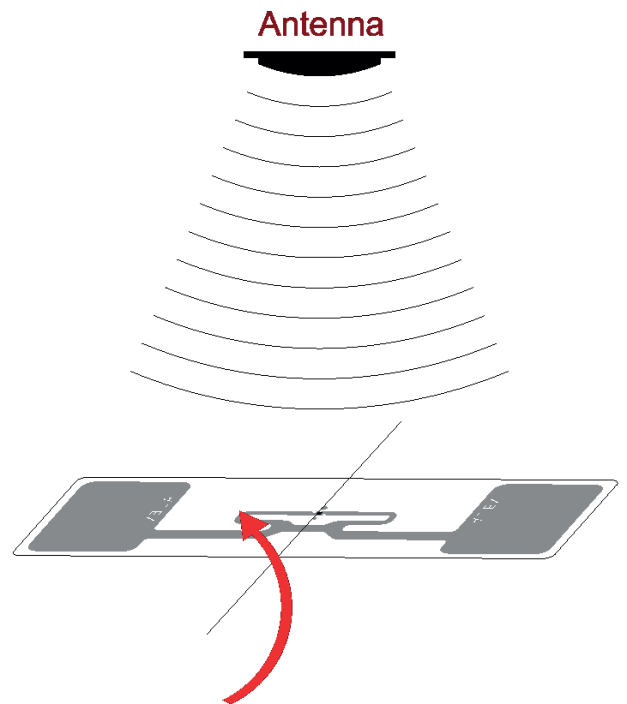


**ALN-9768-WRW**  
( White Wet Roll )

## > ALN-9768 Inlay Angular Sensitivity



**Angular Sensitivity**  
(Relative Read Range vs. Orientation)



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



Automotive



Bottled Liquids



Electronic Appliances



General Purpose Applications