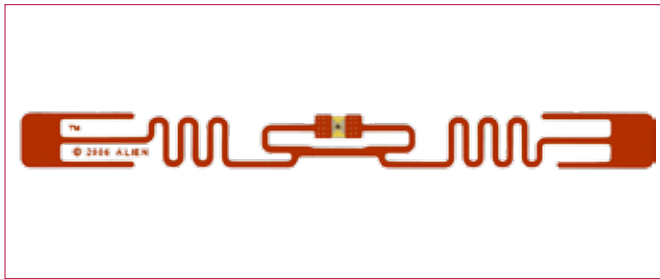




# ALN-9540 Squiggle® Inlay

The Alien Technology® ALN-9540 Squiggle® Inlays are general purpose RFID inlays optimized for use in pallet and case tagging applications.

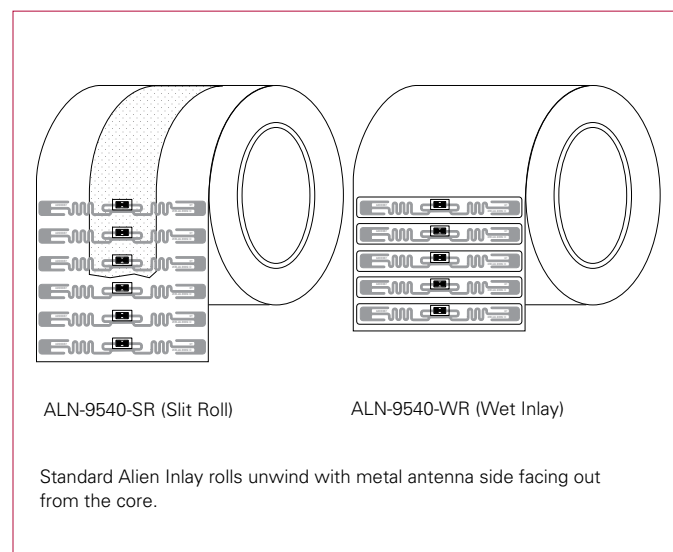


## Features

- › EPC Class 1 Gen 2 / ISO 18000-6C
- › Exceptional range
- › High-speed programming for seamless manufacturing integration
- › World Tag operates at global frequencies 860-960 MHz
- › Available in high-yield, high-capacity rolls for high-volume converting processes
- › Alien Higgs™-2 IC

Based on Alien®'s break-through Higgs™-2 UHF RFID IC and innovative Squiggle antenna design, the ALN-9540 delivers industry leading EPC Gen 2 range and reliability at competitive prices. ALN-9540 inlays are also World Tag compliant, enabling inlays that operate consistently across the diverse frequencies of the Americas, Europe, Middle East, Asia, and Africa.

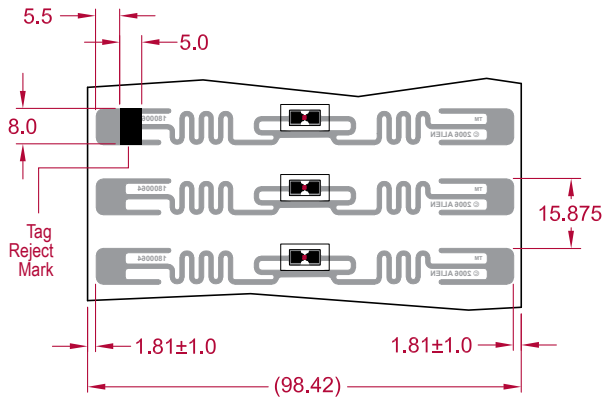
The ALN-9540 is the most versatile member of Alien's family of Alien Higgs-2 powered UHF RFID inlays. Other members include: the 2 x 2 (ALN-9534), an omni-directional inlay for baggage and apparel; the M (ALN-9554) for high-performance on plastics; the Squiggle-SH (ALN-9562), which complements the Squiggle by delivering similar performance in a 3" label size; and the Squiggle-SQ (ALN-9529) for small item inlays. All members of the family are manufactured using Alien's patented Fluidic Self Assembly (FSA™) process, which delivers high inlay volumes at low unit costs.



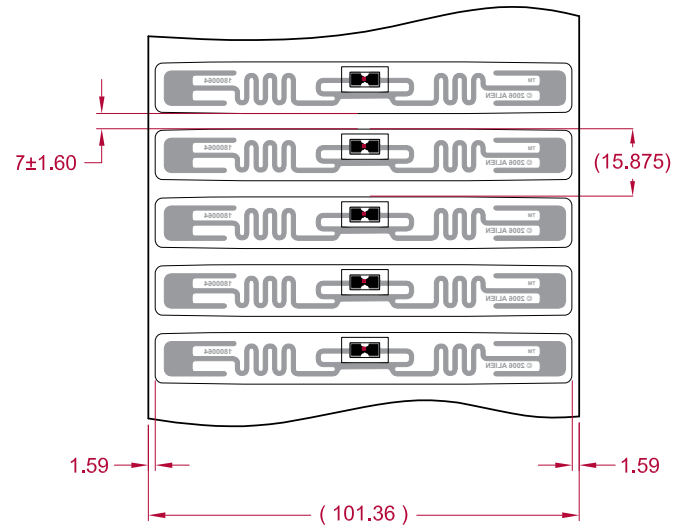


# ALN-9540 Squiggle® Inlay

## ALN-9540 Dry Inlay Specifications

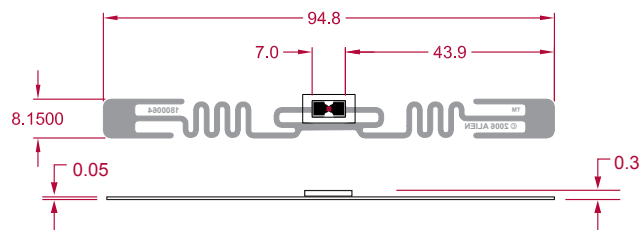


ALN-9540-SR (Slit Roll)

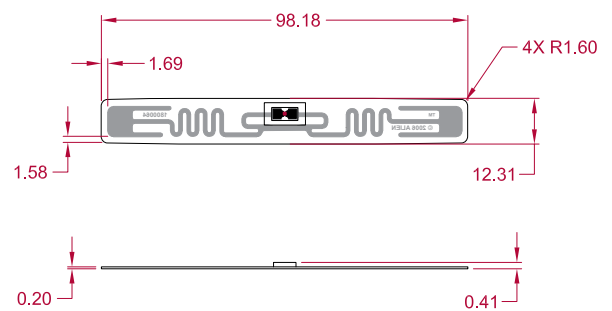


ALN-9540-WR (Wet Inlay)

## ALN-9540 Inlay General Dimensions



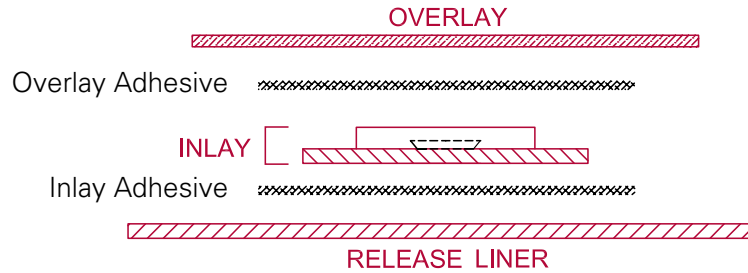
ALN-9540-SR (Slit Roll)



ALN-9540-WR (Wet Inlay)

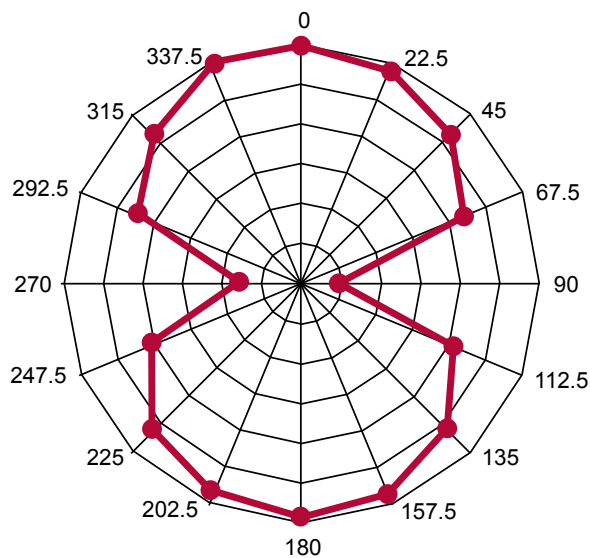


## ALN-9540 Wet Inlay Construction

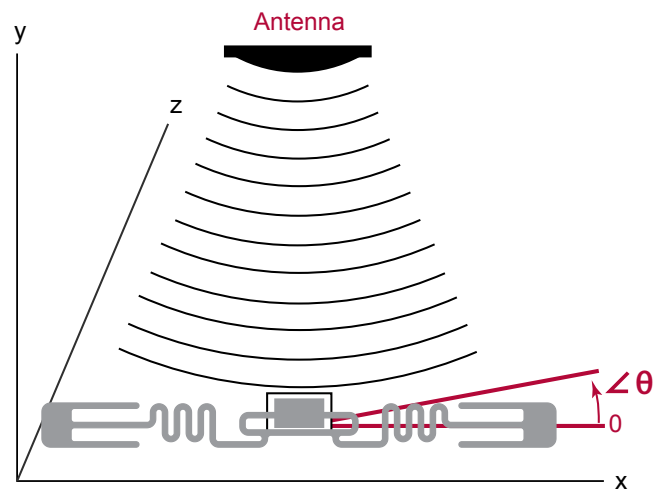


## ALN-9540 Inlay Sensitivity & Orientation

World Tag Angular Sensitivity (dB vs. Angle Position)

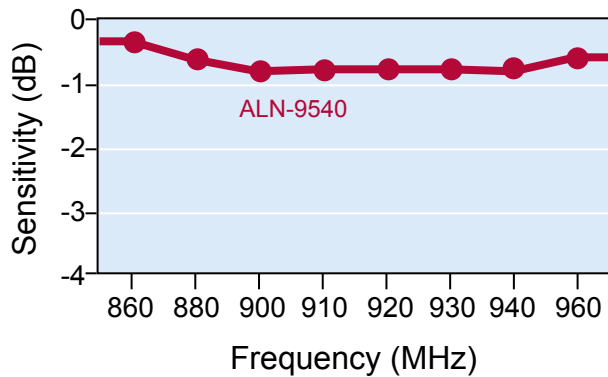


World Tag Relative Orientation  
Inlay is rotated in the x, y, plane about the z axis

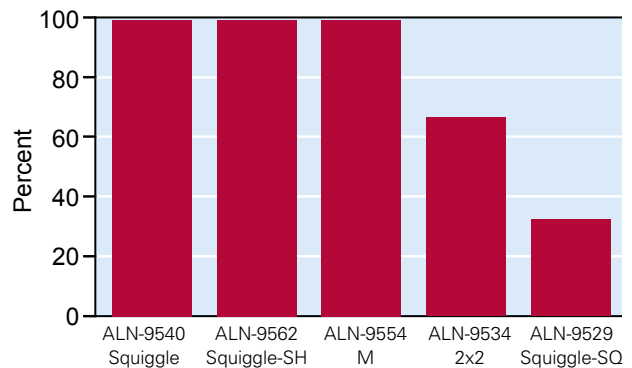


## On-Product Performance Information

Frequency Response in Air  
Suitable for Global Use



Relative Range in Free Space





## ALN-9540 Squiggle® Inlay

### ALN-9540 Specifications

#### Dry Inlay

Antenna Width	94.8mm
Antenna Length	8.1mm
Web Width	98.4mm
Web Pitch	15.875mm
Core Width	98.4mm
Core ID	152.4mm
Core Material	Fiberboard
Interleaf Material	Paper
Interleaf Width	38.1mm
Inlays per Roll	20,000 Nominal
Maximum Roll OD	< 406.4mm
Roll Labeling Data	Roll #, Quantity

#### Wet Inlay

Inlay Width	98.2mm
Inlay Length	12.3mm
Web Width	101.4mm
Web Pitch	15.875mm
Core Width	120.7mm
Core ID	152.4mm
Core Material	Fiberboard
Inlays per Roll	20,000 Nominal
Maximum Roll OD	< 406.4mm
Roll Labeling Data	Roll #, Quantity
Overlay	2.5 Mil White Polyolefin
Overlay Adhesive	Acrylic Emulsion
Inlay Adhesive	Rubber Based
Adhesive Application Temperature	> +2°C
Adhesive Service Temperature	-20°C to +93°C
Release Liner	40# SCK

#### Environmental

Shelf Life	2 Years
Recommended Storage	+25°C / 40% RH
Storage Limits	-25°C to +50°C 20% to 90% RH Non-condensing
Operating Limits	-40°C to +70°C 20% to 90% RH Non-condensing
Bend Diameter	> 50mm
Pressure	< 5N/mm <sup>2</sup>
Drop Resistance	Per ASTM D5276
Write Cycles	10,000
RoHs	2002/95/EC Compliant
ESD – HBM / CDM	> 5.0kV / > 1.5kV

#### RFID

ISO/IEC 18000-6C	
EPC Class 1 Gen 2	
Integrated Circuit	Alien Higgs-2
EPCglobal Certificate	9501101260000001091
Operating Frequency	840–960 MHz
EPC Size	96 Bits
Access Password	32 Bits
Kill Password	32 Bits

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