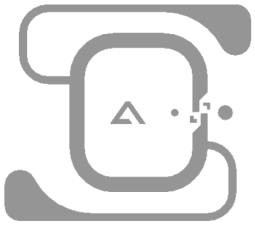
ALN-9714

"Bio" Vial/Ampule Inlay

The Alien Technology® ALN-9714 "Bio" RFID inlay is designed for use in pharmaceutical applications, especially glass vials or ampules containing fluids or powders.



Applications

- Pharmaceuticals
- Healthcare
- Vials/ampules
- Small glass objects
- Small liquid filled objects

FEATURE	DESCRIPTION	BENEFIT
Small form factor, non-near field read tag	Despite its diminutive size (15 x 17mm), this tag uses conventional long range UHF antenna to provide larger read range.	Offers read/write distances compatible with usage in pharmaceutical production facilities and handheld reader usage for logistics and supply chain.
Tuned for placement on glass containing water or oil based fluids.	Designed to provide 30 cm / 12" or greater read distance even when applied to vials containing water based fluids.	
Next generation Higgs™ 4 features and performance	A mass-market optimized tag with class leading read and write performance. Supports Aliens *Quick*Write™ and *Blast***Write**™	Rapid programming of serialized tags and excellent read/write performance

Features:

- Designed to meet EPCglobal Gen2 (V1.2.0) and ISO/IEC 18000-6C
- Worldwide operation in the RFID UHF bands (840-960 MHz)
- 448-Bits of NVRAM Memory
  - 128-EPC Bits
  - 128 User Bits
  - 64 Bit Unique TID
  - 32 Bit Access and 32 bit Kill Passwords
- Pre-Programmed with a unique, unalterable 64-bit serial number
- User Memory can be Block Perma-Locked as well as read password protected in 32 Bit Blocks
- Class leading read and write performance
- *Blast*Write™ and *Quick*Write™ mass-encoding
- Dynamic Authentication™ - anti-cloning/ anti-counterfeit technology
- Available in high-yield, high capacity dry/wet inlay rolls

Product Overview:

Powered by Alien®'s break-through **Higgs™4 UHF RFID IC** and **innovative "Bio" antenna design**, the ALN-9714 delivers industry leading EPC Gen 2 performance and reliability for pharmaceutical, Healthcare and chemical tracking applications especially when tagging compact glass vials.

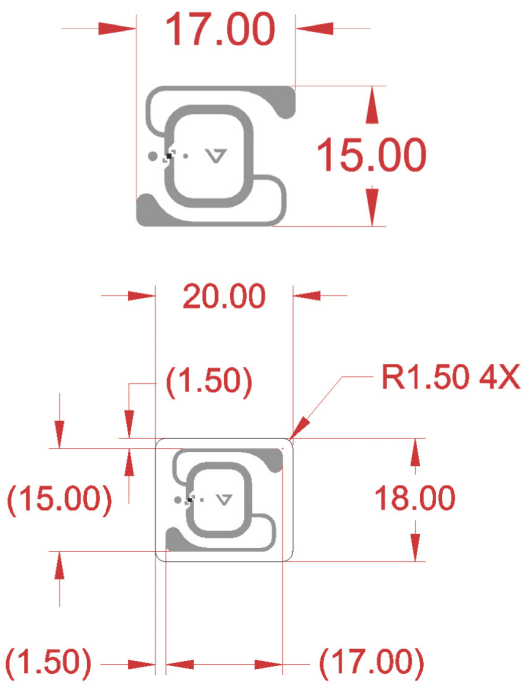
With its Higgs-4 core, the Bio delivers next generation read and write performance, yet is completely **optimized for the highest volume applications.**

An optimized memory footprint includes a 32-bit TID, **a 64-bit Unique TID for authentication** and **next generation serialization** applications, a 128-bit EPC memory bank, 128-bits of user memory for distributed data applications, and **password protected read and write** support capabilities to prevent unauthorized viewing and modification of the tag's data.

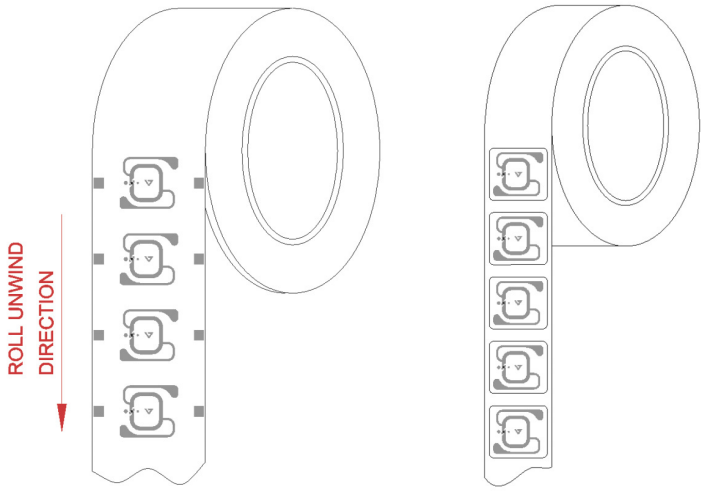
ALN-9714 inlays are World Tag compliant, enabling consistent operation across the diverse frequencies of the Americas, Europe, Middle East, Asia, and Africa.

All dimensions in millimeters unless specified otherwise

ALN-9714 Antenna Size



ALN-9714 Inlay Orientation

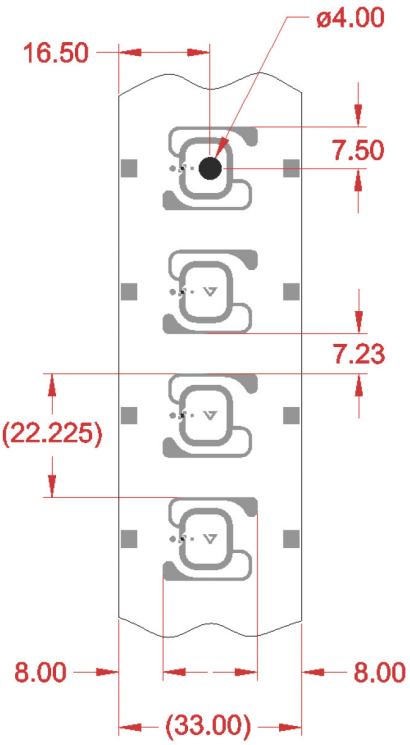


ALN-9714-R
(Dry Unslit Roll)

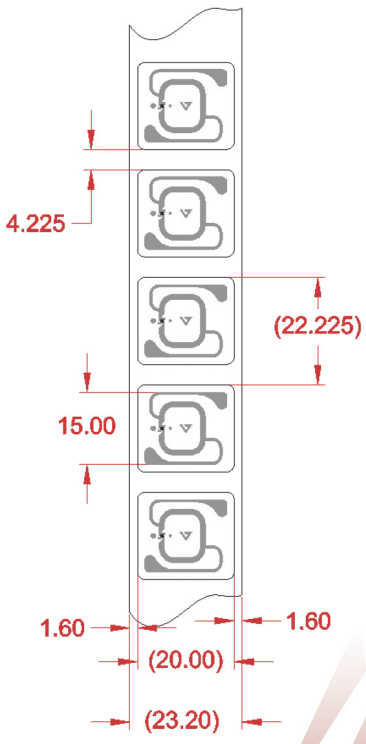
ALN-9714-WRW
(White Wet Inlay)

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

ALN-9714 Inlay Specification



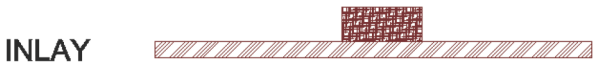
ALN-9714-R
(Dry Unslit Roll)



ALN-9714-WRW
(White Wet Inlay)

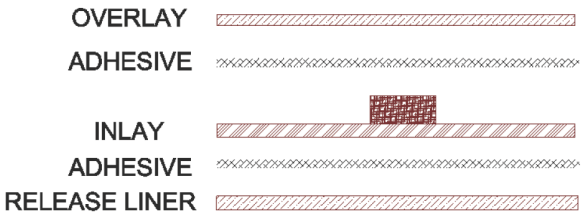
ALN-9714 Inlay Stackup

DRY INLAY THICKNESS, ±10%	
OVER ANTENNA	0.05 mm
OVER CHIP	0.25 mm



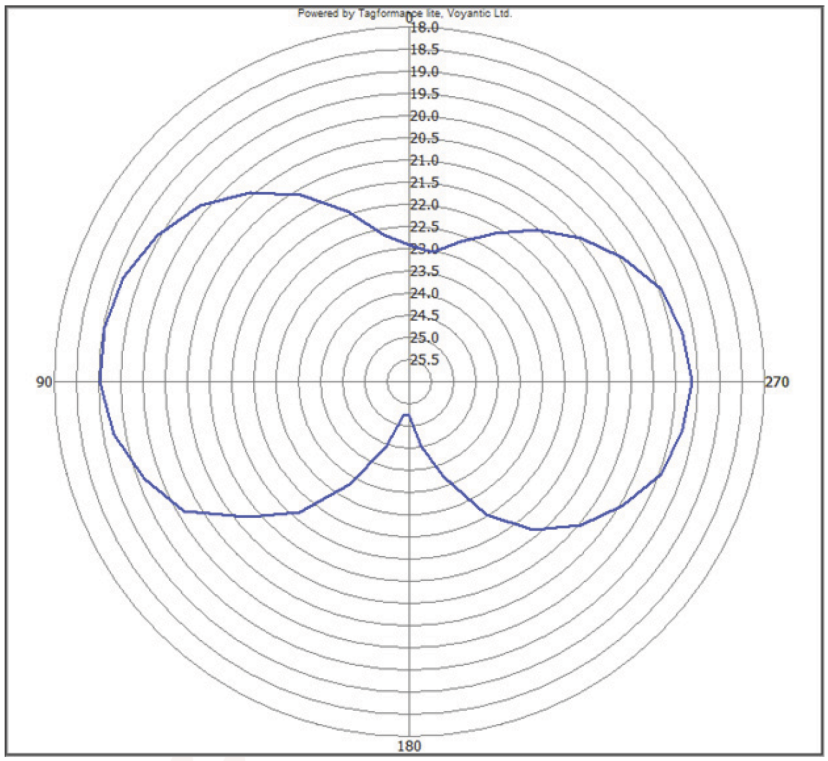
ALN-9714-R
(Dry Unslit Inlay)

WHITE WET INLAY THICKNESS, ±10%	
OVER ANTENNA	0.16 mm
OVER CHIP	0.36 mm

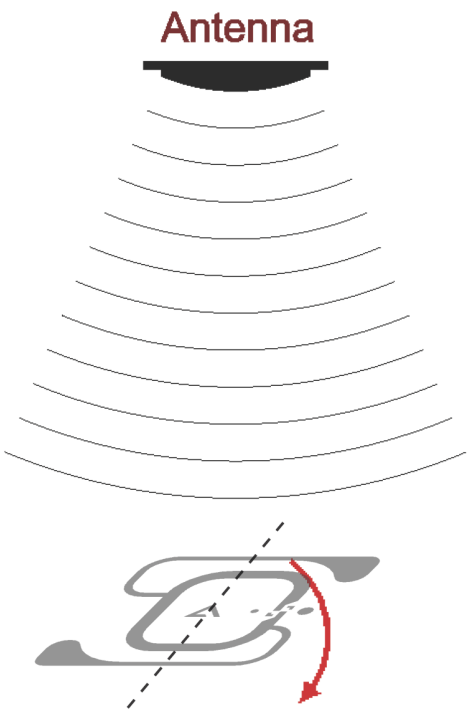


ALN-9714-WRW
(White Wet Inlay)

ALN-9714 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-9714 Bio Inlay

ALN-9714 Specifications

Dry Inlay	
Antenna Width	0.67" [17mm]
Antenna Length	0.59" [15mm]
Web Width	1.3" [33.0mm]
Web Pitch	0.875" [22.23mm]
Core Width	1.3" [33.0mm]
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	0.79" [20mm]
Inlay Length	0.71" [18mm]
Web Width	0.91" [23.2mm]
Web Pitch	0.875" [22.225mm]
Core Width	0.91" [23.2mm]
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	100,000 @ 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-4
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

* Shipped with 6" to 3" plastic core adapter

July 5, 2016

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.