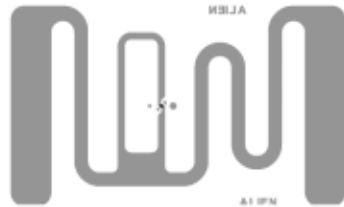




# ALN-9728

## “GT” GARMENT TAG INLAY

The Alien Technology® ALN-9728 “GT” is a 30mm x 50mm RFID inlay specifically designed for high read performance in the retail and apparel markets. This tag has a form-factor especially suitable for hang-tags.



### Applications

- Retail
- Apparel
- Hang-tags
- Joker tags
- Labels
- Document tracking

FEATURE	DESCRIPTION	BENEFIT
30mm x 50mm form-factor	Designed to fit the form-factor and everyday retail use cases where items are tightly packed on shelves or hangers	Extremely high read-rates in real-life, every day retail environments
Tuned for use in retail environments with packed shelves or hanging garments		
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:

- › 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
- › *BlastWrite™* and *QuickWrite™* mass-encoding
- › Dynamic Authentication™ - anti-cloning/anti-counterfeit technology
- › Exceptional operating range, up to 11m with appropriate antenna.
- › 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 “GT” antenna design**, the ALN-9728 delivers industry leading EPC Gen 2 performance and reliability for retail and apparel applications where items are tightly packed on shelves or hangers.

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

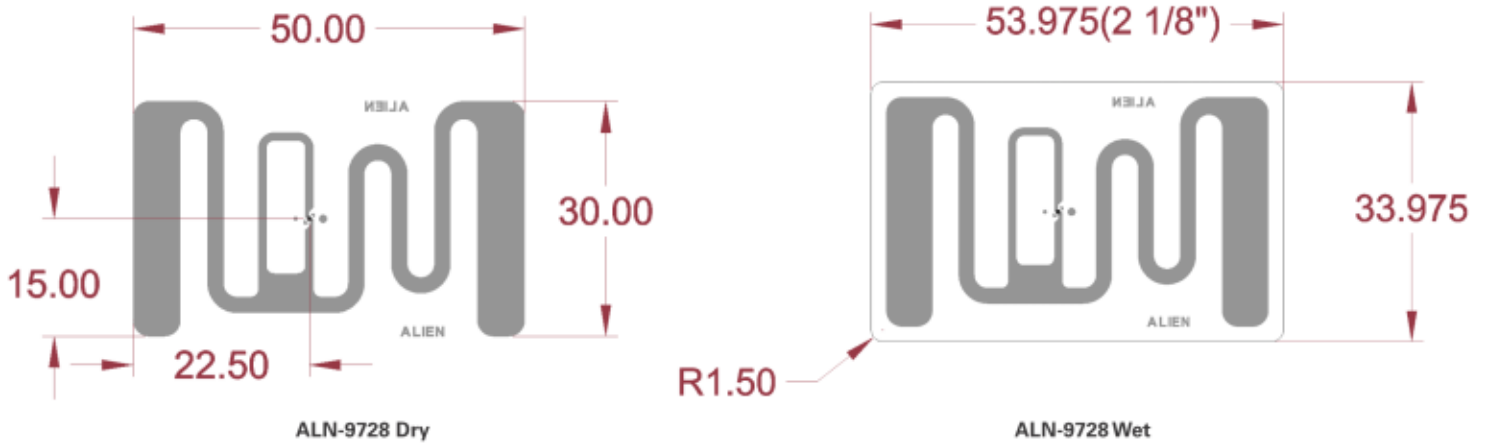
ALN-9728 inlays are World Tag compliant, enabling consistent operation across the diverse frequencies of the Americas, Europe, Middle East, Asia, and Africa.



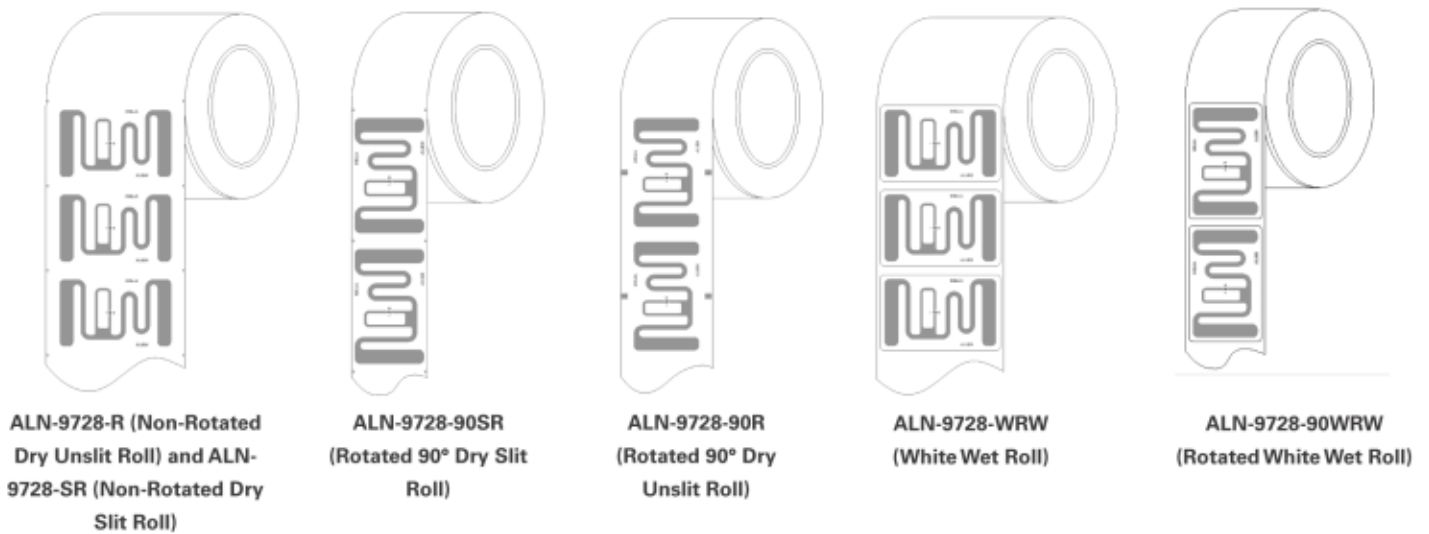
# ALN-9728 "GT" Garment Tag Inlay

All dimensions in millimeters unless specified otherwise

## ALN-9728 Basic Dimensions



## ALN-9728 Inlay Orientation

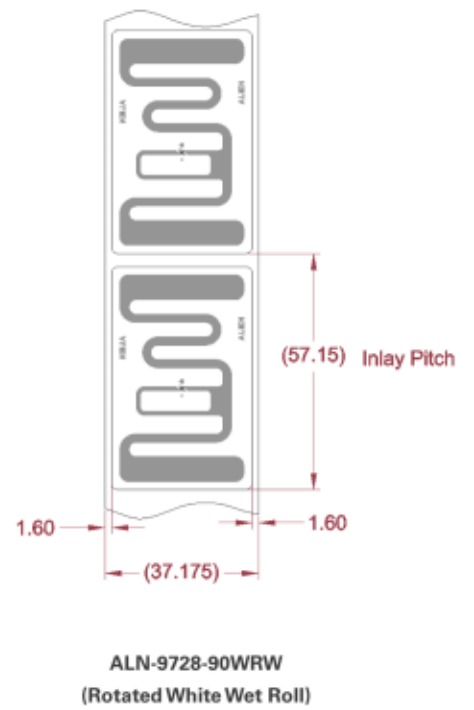
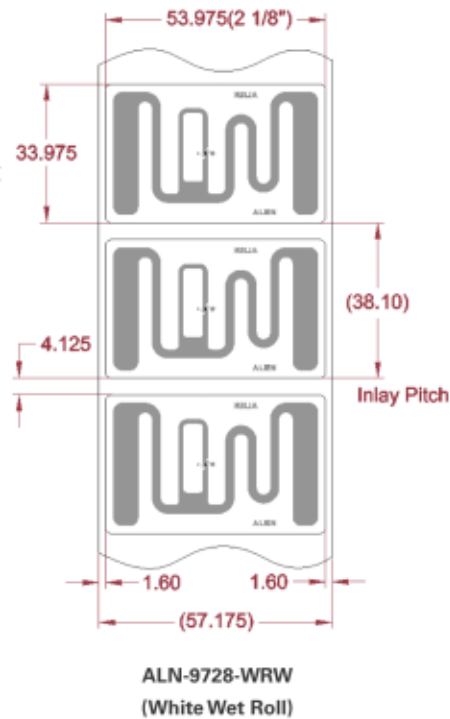
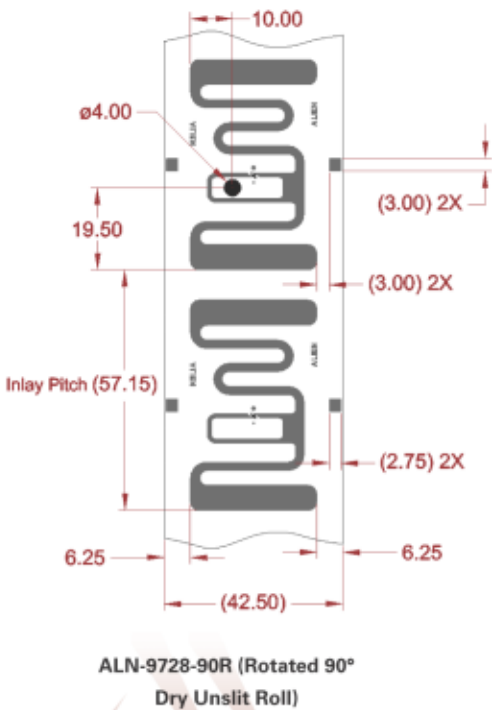
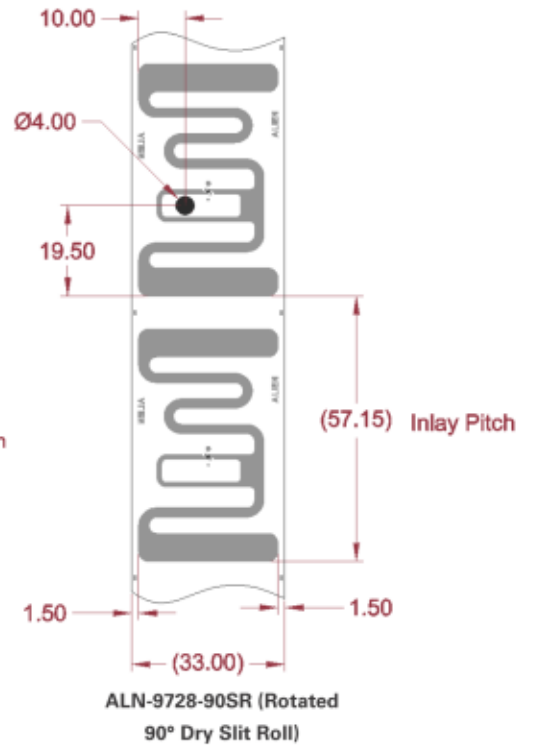
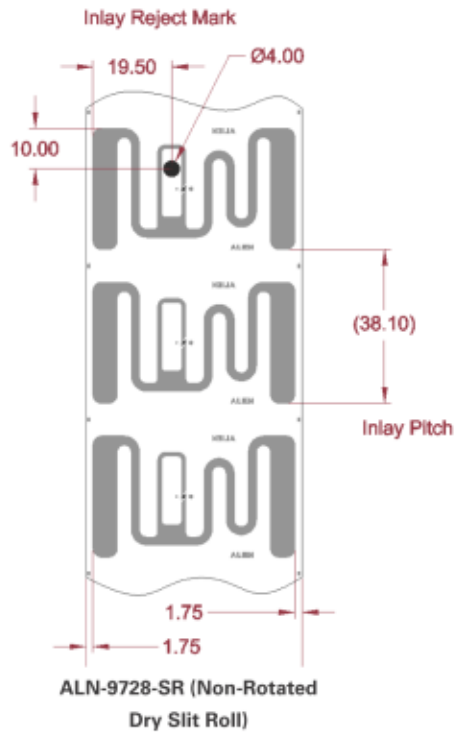
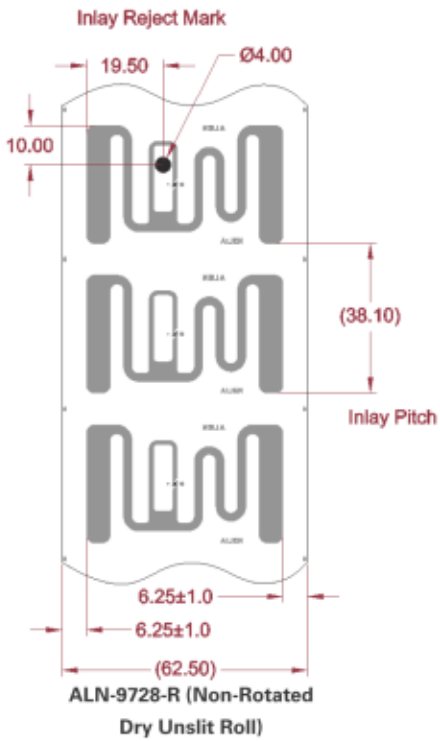


Standard Alien Inlay rolls unwind with metal antenna side facing outward, with respect to the core.





ALN-9728 Inlay Specification





# ALN-9728 "GT" Garment Tag Inlay

## ALN-9728 Inlay Stackup

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



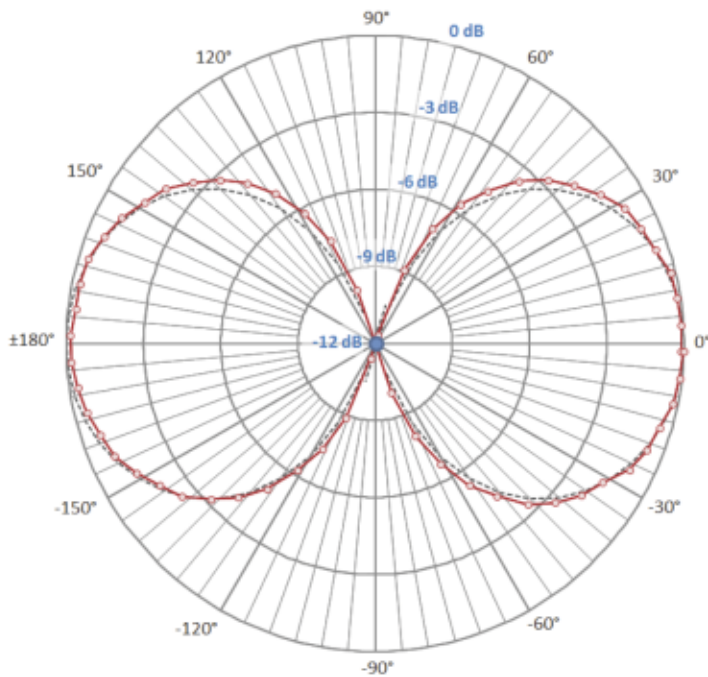
ALN-9728-R/90SR/90R

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

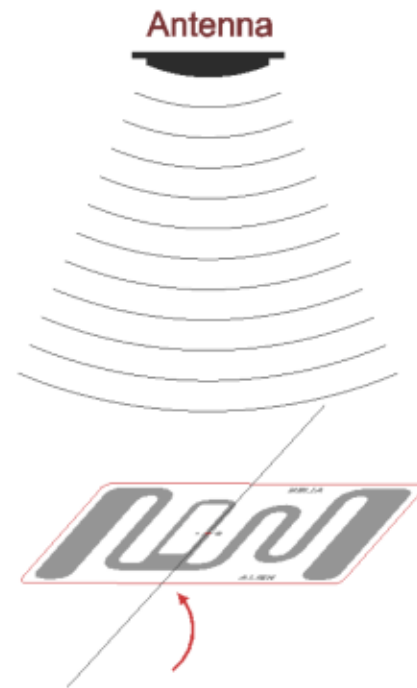


ALN-9728-WRW/90WRW

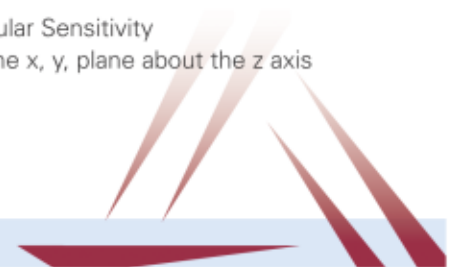
## ALN-9728 Inlay Angular Sensitivity



Angular Sensitivity  
(Relative Read Range vs. Orientation)



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





ALN-9728 Specifications

Dry Inlay	Non-Rotated ALN-9728-R	Non-Rotated Slit ALN-9728-SR	Rotated ALN-9728-90SR	Rotated Unslit ALN-9728-90R
Antenna Width	1.97" [50mm]	1.97" [50mm]	1.18" [30mm]	1.18" [30mm]
Antenna Length	1.18" [30mm]	1.18" [30mm]	1.97" [50mm]	1.97" [50mm]
Web/Core Width	2.46" [62.5mm]	2.11" [53.5mm]	1.3" [33mm]	1.67" [42.5mm]
Web Pitch	1.5" [38.1mm]	1.5" [38.1mm]	2.25" [57.15mm]	2.25" [57.15mm]
Core ID	6" [152.4mm]*			
Core Material	Fiberboard			
Inlays per Roll	12,500 Nominal	12,500 Nominal	7,500 Nominal	7,500 Nominal
Maximum Roll OD	< 12" [304.8mm]			
Roll Labeling Data	Roll #, Quantity			

Wet Inlay	Non-Rotated ALN-9728-WRW	Rotated ALN-9728-90WRW
Inlay Width	2.125" [53.975mm]	1.34" [33.975mm]
Inlay Length	1.34" [33.975mm]	2.125" [53.975mm]
Web Width	2.25" [57.175mm]	1.46" [37.175mm]
Web Pitch	1.5" [38.1mm]	2.25" [57.15mm]
Core Width	2.25" [57.175mm]	1.46" [37.175mm]
Core ID	6" [152.4mm]*	
Core Material	Fiberboard	
Inlays per Roll	11,500 Nominal	7,500 Nominal
Maximum Roll OD	< 16" [406.4mm]	< 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	

\* Shipped with 6" to 3" plastic core adapter

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 <sup>2</sup>
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

July 5, 2016

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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: 7907204, 7931063, 7868766, 7778025, 7716208, 7716160, 7888206, 7699822, 7619531, 7615479, 7598867, 7580376, 7578656, 7562863, 7561221, 7559486, 7559131, 7554451, 7551141, 7542301, 7542008, 7531218, 7529055, 7506810, 7489248, 7481795, 7425467, 7417396, 7411563, 7385284, 7377445, 7364884, 7355948, 7342490, 7324061, 7321159, 7301458, 7295114, 7288432, 7265675, 7262688, 7260882, 7257735, 7244326, 7218527, 7214569, 7194527, 7193504, 7173528, 7172918, 7172767, 7141176, 7112267, 7101582, 7088444, 7070851, 7068224, 7046328, 6998444, 6988667, 6985361, 6980384, 6979219, 6952157, 6942125, 6933846, 6927085, 6816380, 6780096, 6751353, 6683384, 6683363, 6683044, 6657289, 6623577, 6606247, 6606079, 6590343, 6585334, 6546331, 6555408, 6527964, 6479395, 6468838, 6436264, 6314278, 6291896, 6281838. Other patents pending.

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