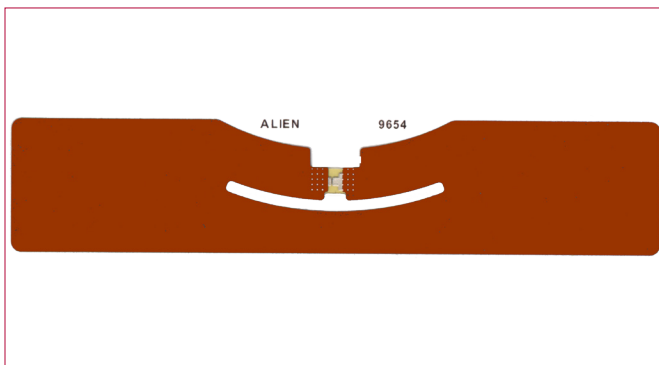




ALN-9654 G Inlay

The Alien Technology® ALN-9654 G Inlay is a general purpose RFID inlay optimized for tagging glass, plastic and similar high dielectric materials such as windshields and reusable plastic containers and pallets.

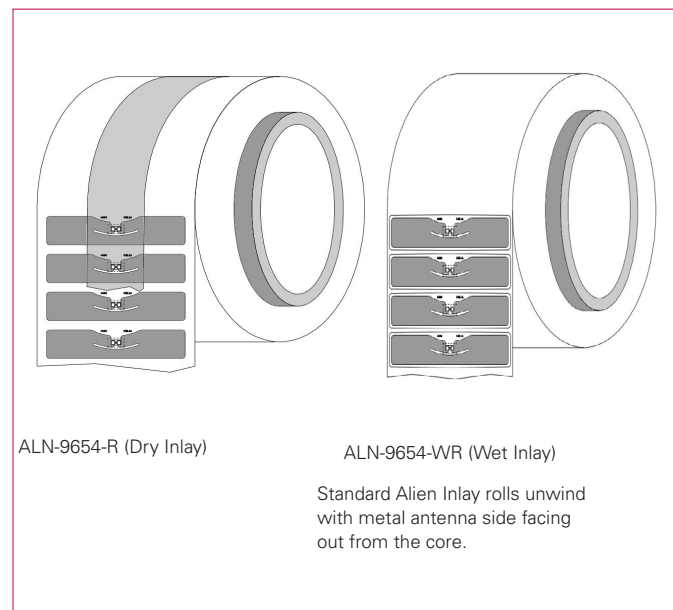


Features

- › Meets EPCglobal Gen 2 (v 1.2.0) as well as ISO/IEC 18000-6C
- › Worldwide operation in the RFID UHF Bands (860-960Mhz)
- › Higgs™-3 IC with 800-bits of NonVolatile Memory
 - 96 EPC bits, extensible to 480-bits
 - 512 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 64-bit blocks
- › Supports all Mandatory and Optional Gen 2 Commands including Item Level
- › Custom Command for high speed programming
- › Exceptional Operating Range
- › Available in high-yield, high-capacity rolls for high-volume converting processes

Based on Alien's advanced Higgs™-3 UHF RFID IC and a high-performance antenna design, the ALN-9654 inlay delivers industry leading EPC Gen 2 range and reliability at competitive prices. The ALN-9654 is also globally compliant, enabling labels that operate consistently across the diverse frequencies of the Americas, Europe, Middle East, Asia, and Africa.

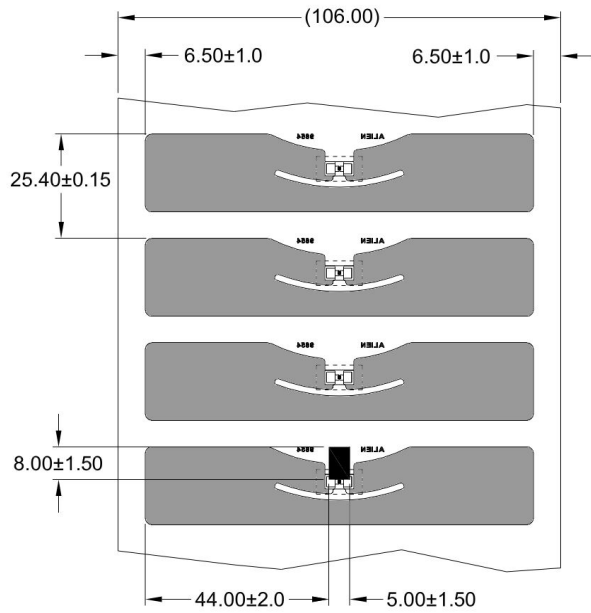
The ALN-9654 is the latest addition to Alien's growing portfolio of Higgs-3 powered UHF RFID inlays. Other members include: the Squiggle inlay (ALN-9640), Alien's iconic industry best general purpose inlay for use in pallet and case tagging applications; the TIE inlay (ALN-9654) for high-performance on apparel and baggage; and the Squiggle-SH (ALN-9662), which complements the Squiggle by delivering similar performance in a 3" label. 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.



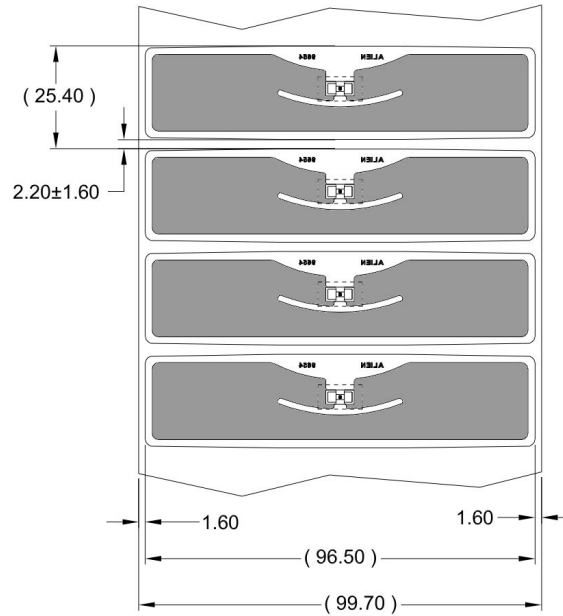


ALN-9654 G Inlay

ALN-9654 Inlay Physical Dimensions

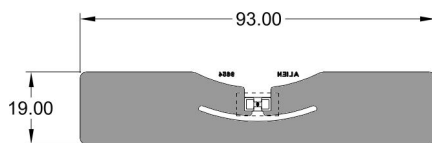


ALN-9654-R Dry Inlay

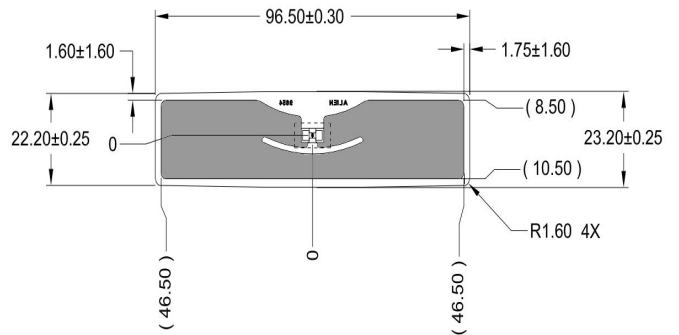


ALN-9654-WR Wet Inlay

ALN-9654 Inlay General Dimensions



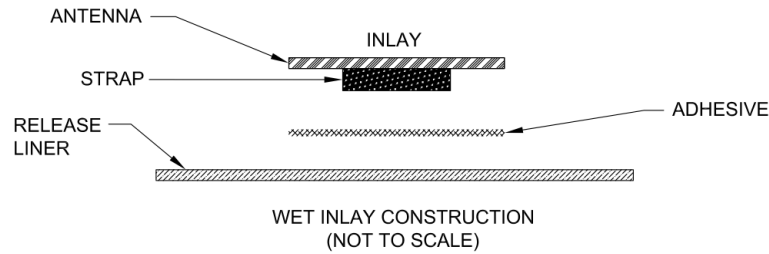
ALN-9654-R Dry Inlay



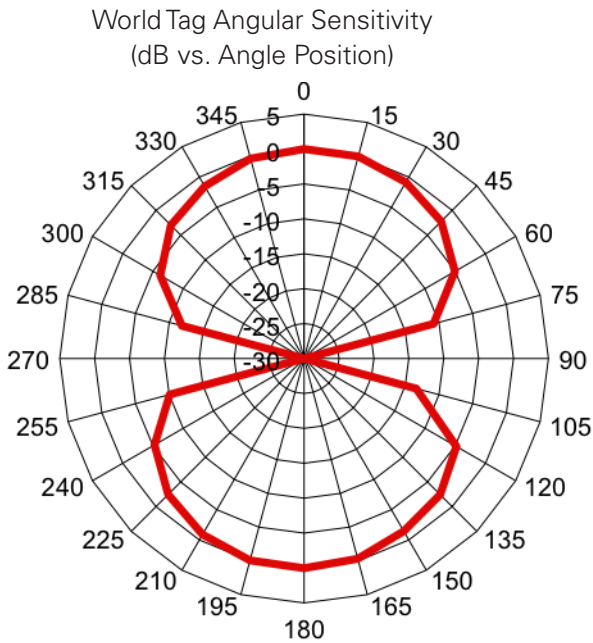
ALN-9654-WR Wet Inlay



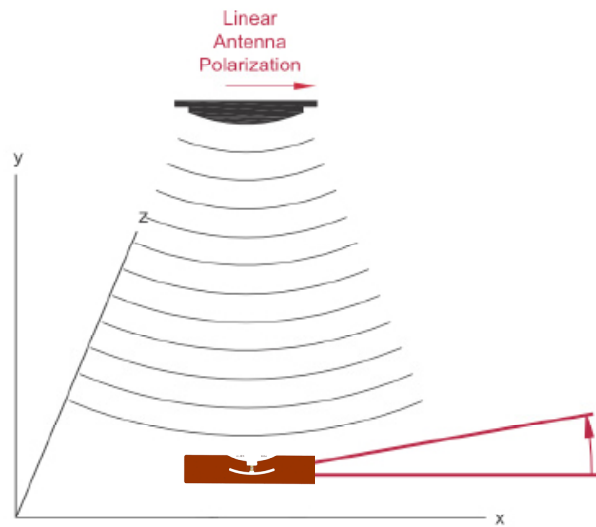
ALN-9654 Wet Inlay Construction



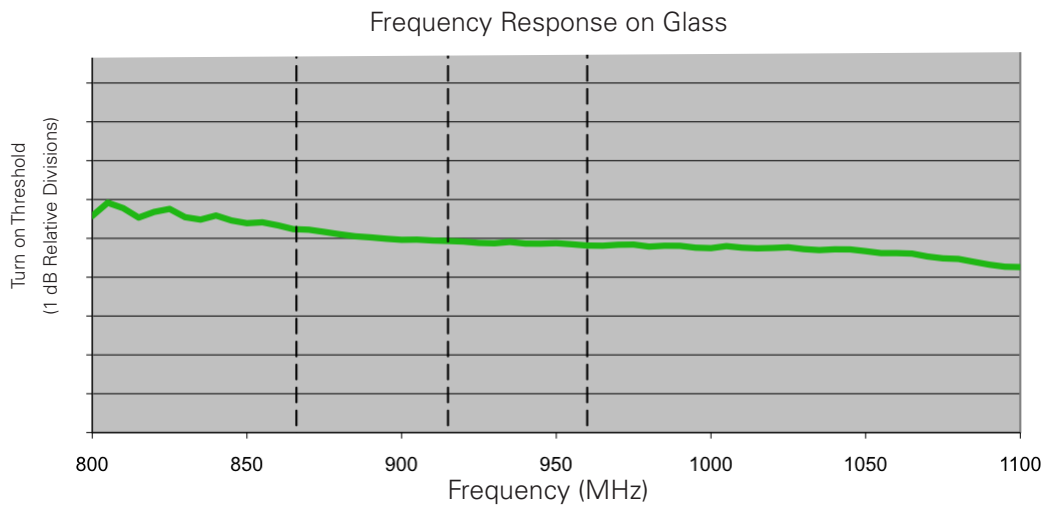
ALN-9654 Inlay Sensitivity & Orientation



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



On-Product Performance Information





ALN-9654 G Inlay

ALN-9654 Specifications

Dry Inlay

| | |
|--------------------|-------------------|
| Antenna Width | 93.0mm |
| Antenna Length | 19.0mm |
| Web Width | 106.0mm |
| Web Pitch | 25.4mm |
| Core Width | 106.0mm |
| Core ID | 152.4mm |
| Core Material | Fiberboard |
| Interleaf Material | Paper |
| Interleaf Width | 38.1mm |
| Inlays per Roll | 15,000 Nominal |
| Roll OD | < 406.4mm Nominal |
| Roll Labeling Data | Roll #, Quantity |

Wet Inlay

| | |
|----------------------------------|------------------|
| Inlay Width | 96.5mm |
| Inlay Length | 23.2mm |
| Web Width | 99.7mm |
| Web Pitch | 25.4mm |
| Core Width | 98.4mm |
| Core ID | 152.4mm |
| Core Material | Fiberboard |
| Inlays per Roll | 15,000 Nominal |
| Maximum Roll OD | < 406.4mm |
| Roll Labeling Data | Roll #, Quantity |
| Inlay Adhesive | Fasson S490 |
| 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 ² |
| Drop Resistance | Per ASTM D5276 |
| Write Cycles | 100,000 @ 25°C |
| 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-3 |
| EPCglobal Certificate | 9501101260000001084 |
| Operating Frequency | 840–960 MHz |
| EPC Size | 96–480 Bits |
| User Memory | 512 Bits |
| Unique TID | 64 Bits |
| Access Password | 32 Bits |
| Kill Password | 32 Bits |

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