idChamp-9613 Inlay

Applications

- Jewelry Tags
- Pharmaceutical vials
- Bottles
- Syringes
- Blister packs
- Liquids
- Food product packaging
- Sof tware/video DVD's
- ISO Access Control or loyalty cards
- Fashion Apparel
- Numerous counterfeiting applications where the tag can be easily concealed

FEATURE	DESCRIPTION	BENEFIT
Ultra-compact without quality compromise	Fits very small objects normally challenging for RFID (9mm x 12mm antenna)	Application on very small items
Near-field operation only	Enables a very controlled, close proximity read zone	Added security
Can be used adjacent to metallic objects	Extended read-range enabled through appropriate placement adjacent to conductive surfaces.	Greater performance near challenging materials

Features:

- Ultra Compact size
- Near-field coupling
- Capable of converting to far field by coupling to conductiv e packaging
- Exceptional performance
- EPC Gen 2 (v.1.2.0) compliant
- ISO/IEC 18000-6C compliant
- Worldwide RFID UHF operation
- Higgs™ 3 IC with 800-bits of Nonvolatile memory
  - 32-bit TID
  - 64-bit Unique TID
  - 96-bit EPC Memory, extentible to 480-bits
  - 512-bit User Memory
  - 32-bit Access password
  - 32-bit Kill password
- Pre-programmed with a unique, unalterable 64-bit serial number (ideal for authentication)
- User Memor y can be Block Perma-Locked
- User Memory can be Read Password protected in 64-bit blocks, prohibiting unintended Reads without an access password
- Supports all Mandator y and Optional Gen 2 commands including item lev el
- Custom commands for high speed programming

Product Overview:

Powered by Serialio's break-through Higgs™3 UHF RFID IC, a nea r-field (aka magnetic or inductive)coupled an-tenna design, the idChamp-9613 delivers industry leading EPC Gen 2 performance and reliability in an ultra compact form factor.

The idChamp 9613 is especially well-suited for very small item-level applications where geometries are critical. The near-field coupling properties make this tag ideal where read range requirements are short or for applications on aqueous materials.

With its Higgs-3 core, the SIT delivers excellent performance and a rich feature set including a 32-bit TID, a 64-bit Unique TID for authentication and serialization applications, an extensible EPC memory bank, 512-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.

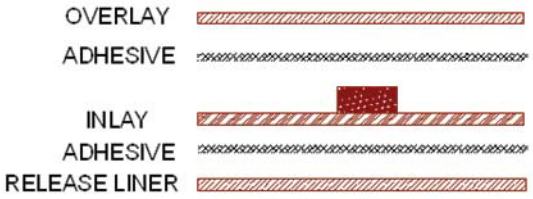
idChamp-9613 inlays are World Tag compliant, enabling consistent operation across the diverse frequencies of the Americas, Europe, Middle East, Asia, and Africa.

idChamp-9613 Inlay Stackup

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

idChamp-9613-FR
(Dry Unslit Roll)

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



idChamp-9613-FWRW
(White W et Roll)

idChamp-9613 Inlay Angular Sensitivity

The radiation pattern of the SIT is very dependent on the metallic objects that are in close proximity of the tag. By itself the SIT does not have a classical radiation pattern. Coupling to the SIT is extremely dependent on the near-field reader antenna used. Since the coupling is mostly magnetic or inductive one can think of the SIT as a classical coil with one turn. Thus it will couple very well to other coils of similar dimensions.

idChamp 9613 Inlay

Dry Inlay	
Antenna Width	0.472" [12.0mm]
Antenna Length	0.354" [9.0 mm]
Web Width	2.36" [60.0mm]
Web Pitch	0.787" [20.0mm]
Core Width	2.36" [60.0mm]
Core ID	6" [152.4mm]*
Core Material	Fiberboard
Interleaf Material	Paper
Interleaf Width	0.59" [15.0mm]
Inlays per Roll	15,000 Nominal
Maximum Roll OD	< 12" [304.8mm]
Roll Labeling Data	Roll #, Quantity

Environmental	
Shelf Life	2 years at +77°F [+25°C] @ 40%RH
Recommended Storage	+77ºF [+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 at 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

Wet Inlay	
Inlay Width	0.748" [19.0.mm]
Inlay Length	0.512" [13.0mm]
Web Width	2.36" [60.0mm]
Web Pitch	0.787" [20.0mm]
Core Width	2.36" [60.0mm]
Core ID	6" [152.4mm]*
Core Material	Fiberboard
Inlays per Roll	15,000 Nominal
Maximum Roll OD	< 16" [406.4mm]
Roll Labeling Data	Roll #, Quantity
White	TT Printable White Film Overlay
Overlay Adhesive	General Purpose Permanent
Inlay Adhesive	General Purpose Permanent
Adhesive Application Temperature	> +25ºF [-4ºC]
Adhesive Service Temperature	-40ºF to +200ºF [-40ºC to +93.3ºC]
Release Liner	40# SCK

* Shipped with 6" to 3" plastic core adapter

RFID	
Protocols Supported	ISO/IEC 18000-6C EPCglobal Class 1 Gen 2
Integrated Circuit	Alien Higgs-3
EPCglobal Certificate	950110126 000001084
Operating Frequency	840–960 MHz
EPC Size	96 - 480 Bits
User Memory	512 Bits
TID	32 Bits
Unique TID	64 Bits
Access Password	32 Bits
Kill Password	32 Bits

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