FALKEN Secure Networks

Tamper Evident Technology

MIKOH

MIKOH specializes in ensuring the physical security of RFID tags and offers a broad suite of patent-protected RFID and non-RFID technologies incorporated into low cost pressure-sensitive security seals. The physical security of RFID tags is increasingly being recognized as vital in most applications in this emerging industry. For RFID end users who need to protect materials, documents or merchandise from security compromises and commercial loss, MIKOH's tamper-evident RFID technology is flexible, scalable and easily integrates into any RFID system. MIKOH's RFID and non-RFID tamper evident solutions provide a unique one-to-one relationship between a tag and an asset. This design eliminates the major physical security vulnerability inherent in RFID systems and helps organizations save time, money and resources.

FALKEN Secure Networks and MIKOH work together with customers to design and implement physically secure solutions to track, seal and/or monitor valuable assets. These solutions ensure that the proper business processes and labeling technologies are implemented in order for users to be certain that their assets are effectively managed. A sample of our customer-driven solutions include:

- prevent theft when transporting valuable items such as art and antiquities; a customer-selectable choice of various adhesives ensure conservation and preservation practices are observed.
- sustain a secure chain of custody when transporting court documents and crime scene evidence
- prevent theft of cell phones at point of sale;
- prevent theft of motor vehicles at dealerships;
- prevent theft and counterfeiting of high-value wines,
- prevent theft and mismanagement of sensitive and classified documents;
- prevent theft of valuable items in warehouses; and
- ensure a secure chain of custody for computer hard drives.

MIKOH's patent-protected technologies are applicable to both RFID and non-RFID physical security solutions that require tamper evidence. Tamper evidence can include both visual and electronic indicators depending on the application and how the tag or label has been tampered.

MIKOH has offices in Melbourne and Sydney in Australia, and McLean, Virginia and New York, New York in the USA.

MIKOH Quick Videos for Tamper Evident Technologies:

http://www.mikoh.com/flash/asset.html

http://www.mikoh.com/flash/ssv.html

Smart&Secure

The ***MIKOH Smart&Secure Inform*** tag is a pressure-sensitive RFID label incorporating a chip and antenna manufactured from destructible conductive ink. Its tamper layer causes antenna damage when the tag is compromised or removed.

Smart&Secure Inform is currently offered in both UHF and HF designs.

- Patented RFID physical security technology
- Deployed by high-security government agencies
- Rigorously tested by large SI's and end customers(Depending on the application, adjustments in the adhesive can be made to optimize performance for specific surfaces and other operating conditions).

Smart&Secure Inform disables the RFID functionality of tags, labels and seals if tampering occurs. This creates a unique, one-to-one relationship between the tag and the asset to which it is attached, preventing unauthorized tag removal and transfers. The result mitigates risk surrounding asset tampering, theft and counterfeiting. A functional tag indicates a genuine product. With Smart&Secure Inform, users can be certain that more than just the RFID tag is being tracked.

The MIKOH Smart&Secure Inform tag is a pressure-sensitive RFID label incorporating a chip and antenna manufactured from destructible conductive ink. Its tamper layer causes antenna damage when the tag is compromised or removed. This is done through a special multi-layer adhesive design. A proprietary adhesive chemistry and multi-layer manufacturing process result in reliable tamper indication even when sophisticated tamper methods are used, including:

- Temperature Extremes (e.g. Liquid Nitrogen Freezing, Heat Guns)
- Chemical Attack (e.g. Solvents, Corrosives)
- Mechanical Attack (e.g. Razor Blades, Knives)

MIKOH's highly-flexible Smart&Secure Inform platform works across a wide variety of RFID designs with no impact on performance. Smart&Secure Inform tags are compatible with all existing passive RFID frequencies, protocols and chips.

Smart&Secure Insight

The ***MIKOH Smart&Secure Insight*** tag is a pressure-sensitive RFID label incorporating a chip, antenna and dedicated tamper circuit manufactured from destructible conductive ink. Smart&Secure Insight's tamper layer causes disruption to the tamper circuit on tampering or removal of the tag without affecting the chip or antenna. During a read operation, this disruption is sensed by the chip and the tampering is reported to the reader. This is done through a special multi-layer adhesive design. A proprietary adhesive chemistry and multi-layer manufacturing process result in reliable tamper indication even when sophisticated tamper methods are used, including:

- Temperature Extremes (e.g. Liquid Nitrogen Freezing, Heat Guns)
- Chemical Attack (e.g. Solvents, Corrosives)
- Mechanical Attack (e.g. Razor Blades, Knives)

MIKOH's highly-flexible Smart&Secure Insight platform is currently available at 13.56 MHz. UHF chip designs are currently on the roadmap for future introduction.

- ***Destroys tag when tampered***
- ***Damages the antenna, cannot be repaired***
- ***Damages the tamper trace***
- ***RFID chip can still be read and written to and indicates tampering***

- ***Damages the tamper trace***
- ***RFID chip can still be read and written to and indicates tampering***

Smart&Secure: Merchandise Tag

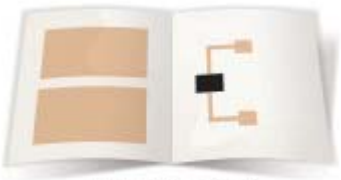
Unlike other RFID tags designed for retail applications, the ***Smart&Secure Merchandise Tag*** allows consumers to reduce the RFID read distance simply by unfolding the top layer of the tag, which decouples the tag's antenna from its RFID chip and thereby ensures consumer privacy.

If the product is returned, the tag's read distance can easily be restored by folding the tag closed again, making it fully usable in an inventory management system or reverse supply chain.

Smart&Secure Merchandise Tag

TAG FRONT

Read Distance:
15-20 feet



UNFOLDED TAG

Read Distance:
Approx. 4 inches

Read Distance:
15-20 feet

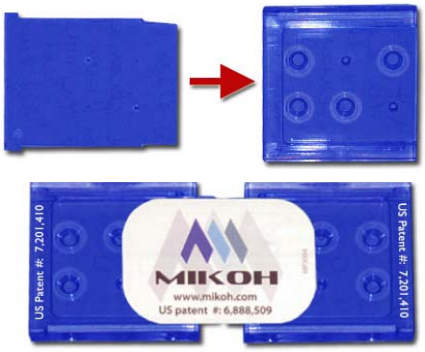
SecureContainer

A system designed to seal reusable plastic containers (RPCs) using low cost pressure-sensitive security seals, incorporating intellectual property licensed from the US National Security Agency (NSA).

Complete SecureContainers with initial sealing kit in a variety of sizes and usage applications, including: Long, Large and Medium. Familiar rugged cases from Pelican with the added benefit of MIKOH SecureContainer technology.

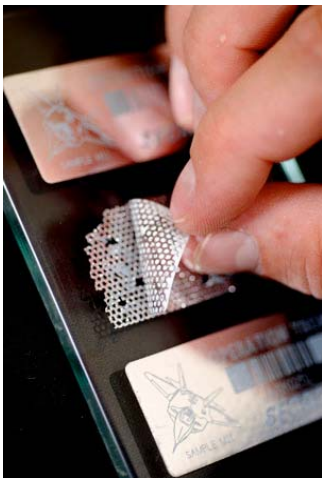
- Utilizes tamper indicating seals with Reusable Plastic Containers

- Residue from tamper evident tag remains on insert that is replaced
- Patent Pending



SecureEnclosure *US Patent Pending*

• Enables tamper indicating seals to be conveniently used on containers such as Reusable Plastic Containers (RPCs)
• Recesses are incorporated in both sides of the container lid
• Inserts project into the recesses of both sides of the cover
• The seal is applied across the inserts
• When the seal is removed, the residue remains on the inserts
• The inserts can be replaced eliminating the need to clean off the residue



SubScribe (Non-RFID)

• Low cost alternative to RFID solutions
• Security Construction and Equipment Committee (SCEC) certified in Australia
• FIPS certified (US)
• Robust subsurface laser marking
• Digital laser marking resulting in high flexibility

SubScribe labels as document authentication

Tampered SubScribe label

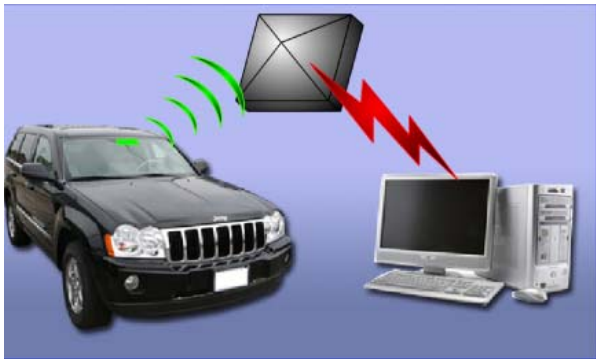
Smart&Secure: **Warehouse**

• Inventory Management
• Storage of Classified and Sensitive Materials
• Weaponry and Munition Storage
• Disaster Recovery and Relief

Smart&Secure: **Transport**

• Automatic Vehicle Identification/EVR
• Supply Chain Management
• Facility Access Control
• Fleet Management
• Cold Chain Logistics

Smart&Secure loop seals are also used to secure cases for transport.



Smart&Secure: **Healthcare & Pharma**

Track and trace and e-pedigree systems detect the tag but only infer the presence of the product. As a result, RFID can
actually disguise theft and counterfeiting. Conventional RFID tags can be easily moved from one item to another, without
affecting the RFID function.

• Nothing prevents a shipping carton from being opened, removing all RFID tags and placing them on counterfeit items.

• It is easy to remove the RFID tags, steal the assets and leave the tags in the empty carton.

MIKOH's Smart&Secure platform fills the current holes in other RFID systems by creating a one-to-one relationship between the tag and drug packaging that is tamper-evident. It instills certainty of pharmaceutical authenticity while meeting track and trace and e-pedigree requirements, saving your company money and time.

SecureContainer eliminates the need for item level tagging by providing a trusted reusable plastic container (RPC) for tracking and tracing pharmaceutical shipments. Other Mikoh applications include:

- Patient ID Wristbands
- Tissue Sample and Transplant
- Organ Shipment Containers
- Pharmaceutical Track and Trace/e- Pedigree
- Sealed Surgical Kits

Smart&Secure: **Document**

Police to Courthouse to Storage
Diplomatic Courier Service
Transport of Intellectual Property

• Storage/Control of Legal Evidence
• Chain of Custody
• Records Management

Frangible Tags

A material is said to be frangible if through deformation it tends to break up into fragments, rather than deforming plastically and retaining its cohesion as a single object.

Frangible Tags that tear apart upon removal are typically positioned as a physically secure solution. However, Frangible Tags can be easily defeated and provide little to no physical security.

- Tamper Slits or Tamper Destruct Material
- RFID functionality is NOT tamper evident
- Can be defeated by a razor blade and temperature to release the label from the surface
- Additional Face Stock with strong adhesive may be overlayed to act as a new tag backbone

Tamper Evidence vs. Authentication

Tag authentication is frequently confused with tamper evidence

Examples of authentication technologies:

- Authentication technologies include: Color shifting inks, security threads and holograms
- **Authentic tags can still be easily moved if not also designed to be tamper evident**

Security Threads

Color Shifting Ink

Holograms

A tag with a variety of authentication features..

...can be easily moved if not designed properly

Serialization

- Serialization identifies tags and labels as unique

- **Serialized tags can still be easily moved if not also designed to be tamper evident**

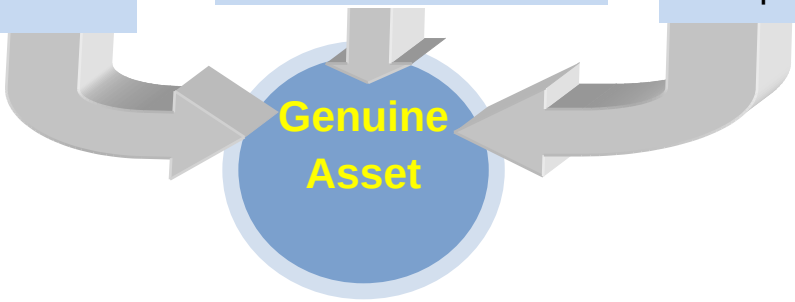
Three Components of Anti-Counterfeiting

Authentication + **Serialization** + **Tamper Evidence**

Proves that a tag or label is genuine

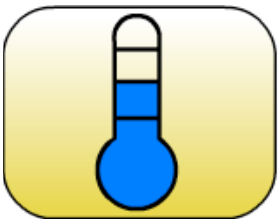
Proves application of correct tag or label

Indicates whether tag or label has been manipulated



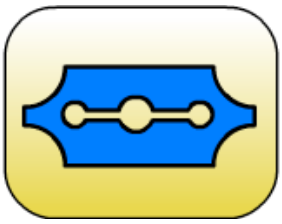
Smart&Secure - Third Party Testing Results

MIKOH tags all operated within specification under the following conditions:

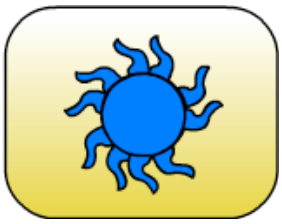


•-40º C → 150º C, cycled in different patterns
•Stress: 31 days, -40º C → 95º C every 2 hours

•24 hour immersion
•Household: Windex, Glass Plus, Armor All, Coke, Coffee
• Industrial: Toluene, MEK, Hexane



•Razor blade, as it is the most stringent test on a glass surface



•7 days at 65º C and 94% humidity
•Simulated 1 year of outdoor exposure in Arizona

NSA Technology:

SecureEnclosure

• MIKOH has licensed the NSA's Closure Technology
• NSA developed the concept to quickly verify door closure location has been 'swept'
• Similar to the closure mechanism

SecureContainer

• Seal can be used for any closure
• Building doorways
• Container doors
• Filing cabinet drawers

Our Customers Include Various High Security Government Agencies

Australian Government

Canadian Government

New Zealand Government

There are no current competing products that offer the level of security that MIKOH offers.

FALKEN Secure Networks(FSN)—Your partner for RFID automation

If you choose to pursue RFID implementation in your organization, here is the FALKEN Secure Networks commitment to you:

- FSN will provide solution architects to work with you to define system requirements for your particular installation. Multiple locations can be networked together for a central and real-time view and centralized management.
- FSN will do a RFID site survey to validate radio frequencies, tag types, system design and performance
- FSN will provide all necessary hardware and software to make the system work for you
- FSN will integrate the system with your existing enterprise management software
- FSN will provide documentation for the system, including operating procedures
- FSN will train your people
- FSN will provide warranty and continued system support

Our sole uncompromised focus as a RFID solution architect and specialized system integrator is cost-effectively solving the customer business issue and optimizing the RFID security and physics variables in our recommended solutions.

Contact Us

FALKEN Secure Networks is a specialized System Integrator, RFID Solution Architect, and Value-Added Reseller with focused expertise in the RFID site survey, cost-effective design, and turn-key project implementation.

Contact FSN at sales@falkensecurenetworks.com

CERTIFIED Partner OMNITROL NETWORKS

Motorola/Symbol PartnerSelect
Authorized Value-Added Reseller

ALIEN
CERTIFIED *Partner*
Authorized Value-Added Reseller

Zebra
Authorized Value-Added Reseller

Omni-ID
Authorized Value-Added Reseller

MIKOH
Authorized Mikoh Partner

FILETRAIL
Authorized FileTrail Partner

METALcraft I.D. PLATES & LABELS
CERTIFIED *Partner*
Authorized Value-Added Reseller