

RFID Tagging Challenges Enabler



# RFID Tagging Challenges Enabler

Co-bulid with SAGLab to Champion Your Success



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SAG-rfid.com



QC80000:2012 H581533 IECQ  
ISO14001 EMS 589628  
ISO9001:2008 FM 59667

2025-1n

## SHOW PLAN



LogiMAT  
Stuttgart, Germany  
March 11-13, 2025  
Booth: 2C40



ISC WEST  
Las Vegas, USA  
April 01-04, 2025  
Booth: 3073



The Security Event  
Birmingham, UK  
April 08-10, 2025  
Booth: 5/B56



Automate  
Detroit, USA  
May 12-15, 2025  
Booth: 302



Taipei Automation  
Taipei, Taiwan  
August 20-23, 2025

# SAG is the RFID Tagging Challenges Enabler

SAG rises to conquer RFID tagging challenges, driven by excellence in tailored antenna design, material science, and self-developed machinery capabilities, connecting the world through digital identification and help our customers to connect forward.



# Our Business and Services

Encompass Full Spectrum of Applications

We focus on the most complex challenges and tailor your end-to-end tagging solution across high-end vertical segments.



# Company History

- 1999 • Founded SAG, Securitag Assembly Group.
- 2001 • Acquired Legic and Philips Mifare Arsenal Certificates. Certified to ISO9001: 2000.
- 2004 • Approved to produce RFID transponders with SONY FeliCa chip.
- 2010 • Certified to ISO9001: 2008. Introduced smart label into product portfolio.
- 2011 • Certified to ICQ QC080000.
- 2013 • Certified to ISO14001:2004. Achieved SONY Green Partner.
- 2015 • Listed in Taipei Exchange.
- 2016 • Established SAG Japan.
- 2017 • Joined AIM, RAIN Alliance and NFC Forum.
- 2018 • Certified to Mastercard CQM.
- 2019 • Certified to ISO13485 for healthcare applications.
- 2020 • Certified to ISO16949 for automotive industry applications.
- 2023 • Relocated to the new headquarter, SAGopolis, TAIWAN.
- 2024 • Hosted RAIN Alliance and NFC Forum Connections Summit.
- Received the LEED silver certification for Building Design and Construction (BD+C) program.

**FOUNDED IN 1999**

**2015 LISTED IN TAIPEI EXCHANGE**

**2016 SAG JAPAN NEW OPEN**

**2019 ISO 13485 CERTIFIED**

**2020 IATF 16949 CERTIFIED**

**2023 SAGOPOLIS NEW OPEN**

**2024 RAIN & NFC CONNECTIONS SUMMIT**

# Certifications

## ECO-FRIENDLY

## TECHNOLOGY CERTIFICATION

ISO 14001    ISO 15001    Sony Green Partner    LEED Silver®    NXP    LEGIC    NFC Certificate

## QUALITY MANAGEMENT

## OCCUPATIONAL HEALTH & SAFETY

ISO 13485    ISO 9001:2015    IECQ QC080000    IATF 16949    CQM    ISO 45001

ISO 13485 Quality Certified    IATF 16949    RAIN ALLIANCE Industrial Association    NFC FORUM    Digi-Key Shop SAG In Digi-Key

# 01

## RFID+1

### REALIZE SCALABILITY FOR YOUR APPLICATION

### RFID with sensor for IoT purpose

RFID+1 is an innovative synergy where RFID technology joins forces with other technologies such as advanced sensors to revolutionize various industries. It paves the way for smarter and more connected solutions across diverse fields.

## Temp Tracker HF

SAG Temp Tracker, an NFC-enabled label with App support, measures temperature for the transport of temperature-sensitive substances such as vaccines and perishables.



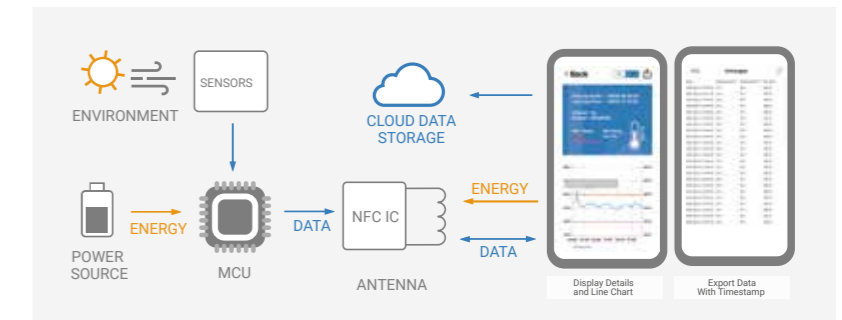
### Features

1. Use on NFC-enabled phone ( App ready on iOS / Android )
2. Easy installation by adhesive backing
3. Temperature Accuracy  $\pm 0.5^{\circ}\text{C}$  from  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$
4. Approx 3~30 days monitoring (depends on time interval setting)



### Specification

- ▶ Dimension: L 85.6 x W 54 x T 1 mm
- ▶ Operating Temperature:  $-20^{\circ}\text{C}$  to  $60^{\circ}\text{C}$
- ▶ Storage Temperature:  $-20^{\circ}\text{C}$  to  $60^{\circ}\text{C}$
- ▶ IP Rating: IP54
- ▶ Data Logging: Up to 4,000 records
- ▶ Logging Intervals: Min 60 to Max 630 sec
- ▶ Battery Life: 700 hours after product activation or 6 months under inactive mode in room conditions



## LED Tag UHF

The combination of RFID and LED helps light up to indicate what you are looking for from a distance.



### Features

1. Semi-active LED lighting from translucent housing
2. A variety of mounting methods (via screw, cable tie or double-sided tape)

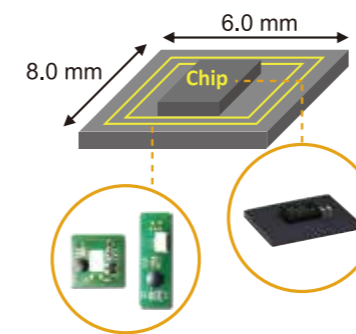
### Specification:

- ▶ Dimension: L 100 x W 30 x T 9 mm
- ▶ Operating Temperature:  $-30^{\circ}\text{C}$  to  $60^{\circ}\text{C}$
- ▶ Storage Temperature:  $-20^{\circ}\text{C}$  to  $60^{\circ}\text{C}$
- ▶ Battery type: User-replaceable CR2032, 3 volt

### Method of Fixation:



## 0806 Dynamic Tag Module HF



0806 Dynamic Tag Module packages both antenna and chip in one unit. The dual interface of both RFID (NDEF message support) and I<sup>2</sup>C can go with your sensor, consumer electronics, and energy harvesting device via SMT process. Via I<sup>2</sup>C, this tag helps connect devices for more advanced NFC applications in the IoT era.

### Specification:

- ▶ Dimension: L 8.0 x W 6.0 x T 1.35 mm
- ▶ Material: Ferrite
- ▶ Operating Temperature:  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$
- ▶ Storage Temperature:  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$

ISO Standard	IC & Application Note
14443	Non-Metal ST M24SR02-Y
15693	ST25DV04K

## NFC Chip

IC Type	Type 2 IC	Type 3 IC	Type 4 IC	Type 5 IC
Standards	ISO/IEC14443A	ISO/IEC 18092 JISX 6319-4 Felica	ISO/IEC14443A/ IEC14443B	ISO/IEC15693
Read/Write Speed	106 Kbit/s	212 Kbit/s - 424 Kbit/s	106 Kbit/s	26 Kbit/s (up to 53)
Anti-collision	Yes	Yes	Yes	Yes
Dynamic NFC ICs	NXP NTAG IC		M24SR02-Y	ST25DV04K
NFC ICs	NXP NTAG213 NXP NTAG213TT(Tag Tamper) NXP NTAG215 NXP NTAG216 NXP MIFARE Ultralight EV1 NXP MIFARE Ultralight C ST25TN EM4332	Sony Felica RC-S966	ST25TA02K/16K/64K-P ST25TB512/04K NXP DESFire EV1/EV2/EV3 NXP NTAG424 DNA NXP NTAG424 DNA TT	ST25TV512C/02KC ST25TV512/02K EM4425 NXP ICODE SLIX2

# 02 Label Solution

## Achieve Item-Level Tracking and Gain Visibility

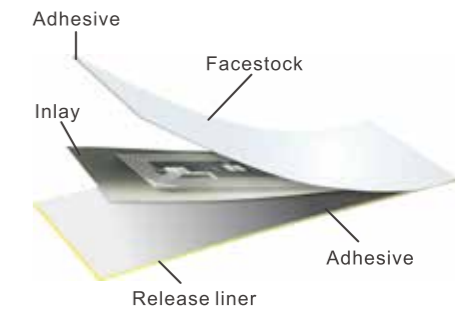
Explore our comprehensive RFID Label lineups which serve a wide range of applications, making it a valuable tool for business and organization seeking to improve efficiency, security and data accuracy.

## Production Capability

### Material and Structure

- ▶ Facestock: art paper, PET/PP synthetic paper with glossy finish
- ▶ Facestock adhesive: permanent adhesive
- ▶ Antenna material: aluminum
- ▶ Antenna substrate: PET
- ▶ Label adhesive: Available options for high end applications such as FDA-approved, bio-compatible and high temp resistant adhesive.
- ▶ Release liner: Glassine

### Label Structure



### Personalization

Full color pre-printed on facestock  
Thermal transfer printing for UID, serial number, Bar code/QR code, Data encoding service

### Quality Control

Antenna: 100% SAG-developed Self Resonance Frequency (SRF) test  
Inlay and Label: 100% reading test  
Cross mark (x) is put onto NG piece (Premium roll is an option for consecutive good labels.)

### Reliability Test

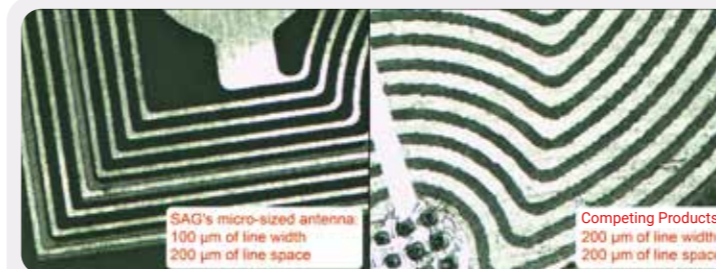
Environmental test: heat and cold; thermal shock  
Dynamic durability test: die shear, bending  
Electrical-resistant test: ESD test according to IEC 61000-4-2 contact discharge

### Environmental Resistance

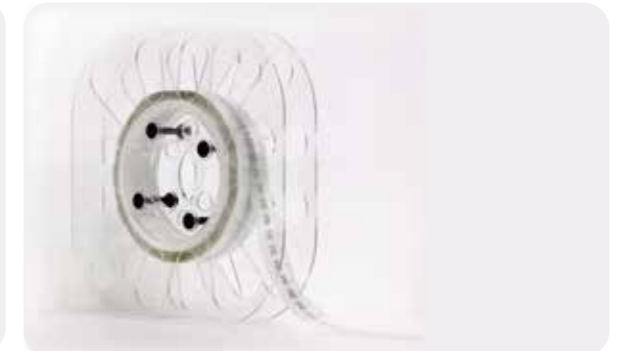
- ▶ Operating temperature: -20°C to 70°C

### Packaging Options

- ▶ Standard package: paper core
- ▶ Optional package: PC core for high end application



- ▶ Compared to the competing products, SAG antenna shows no rough edge under the microscope.



## Product Format



Die cut size (mm)	Tamper Proof Label		
	30 x 45	52 x 52	42 x 26.5
Antenna size (mm)	Embedded Antenna by IC type		37 x 21
ICode SLIX	●	●	
Mifare Classic EV1 1K	●	●	
Mifare DESFire EV1 (4K/8K)	●	●	
Mifare S50 EV1	●	●	
Mifare Ultralight EV1	●	●	
Mifare Ultralight C	●	●	
NTAG 213	●	●	
Legic MIM256	●	●	
Legic ATC1024 / ATC256	●		
ST25TV02KC-T			●


- for non-metal application (all in reel format)
- for on-metal application (all in reel format)
- provided in single piece

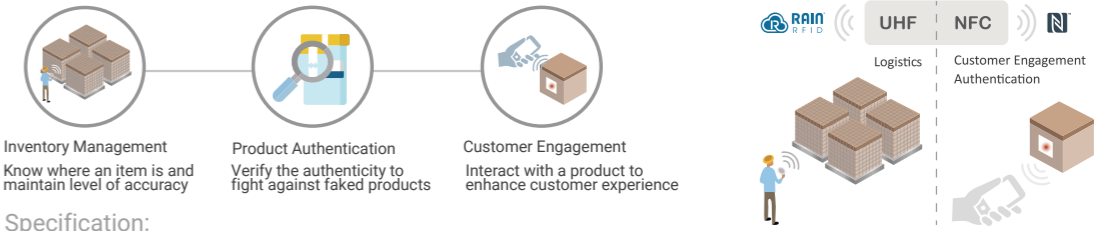
Die cut size (mm)	CD/DVD Label									
	Ø15	Ø25	Ø27	Ø27	Ø28	Ø29	Ø38	29 x 29	Ø35 center hole 16 coil antenna	Ø38 center hole 16
Antenna size (mm)	Ø13	Ø23	Ø23	Ø24.2	Ø25	Ø25	Ø34	Ø25		Ø35
EM4102									●	
EM4332						●				
Mifare Ultralight EV1			●			●				
Mifare Ultralight C						●				
Mifare Classic EV1 1K		●	●			●				
Mifare DESFire EV1 256B						●				
NTAG213	●					●	●	●		●
NTAG215		●	●			●	●	●		
NTAG216		●	●			●	●	●		
ICode SLIX						●	●	●		●
FeliCa RC-S966						●	●	●		
ICode SLIX 2		●	●			●				
NTAG424DNA						●				
ST25TA02KB						●				
ST25TV512						●				
ST25TV02K		●				●				
ST25TV512C		●			●					
ST25TN01K						●				
Tag-it HF-I Plus / I Pro				●						

Die cut size (mm)	Cube										
	10 x 10	12.5 x 12.5	14 x 14	14.5 x 14.5	16 x 16	18 x 18	19 x 19	18 x 35	26.5 x 42	54 x 86	50.8 x 50.8
Antenna size (mm)	8.5 x 8.5	10.5 x 10.5	12 x 12	10.5 x 10.5	12 x 12	14.5 x 14.5	15 x 15	14 x 31	22.5 x 38	45 x 76	45 x 45
Mifare Ultralight EV1									●	●	
Mifare Ultralight C									●	●	
Mifare Classic EV1 1K									●	●	
NTAG213			●		●		●	●	●	●	
NTAG215					●		●		●	●	
NTAG216					●		●		●	●	
ICode SLIX	●	●		●			●	●	●		●
ICode SLIX-S									●		
ICode ILT-M								●			
FeliCa RC-S966							●		●	●	
ICode SLIX 2								●			
NTAG213 TT									●		
ST25TA02KB					●						
ST25TV512								●			
ST25TV02K				●					●		●
ST25TV02KC						●			●		●
Tag-it HF-I Plus									●	●	●
Tag-it HF-I Pro									●	●	●

## Dual Frequency RFID Label **HF** **UHF**

This special label can operate on both NFC and RAIN RFID (UHF) technologies. Powered by em | echo-V chip (EM4425), it provides an application crossover and opens the possibility to apply just one label to fit all use cases in two domains.





**Inventory Management**  
Know where an item is and maintain level of accuracy


**Product Authentication**  
Verify the authenticity to fight against faked products

**Customer Engagement**  
Interact with a product to enhance customer experience

**Specification:**

- ▶ Dimension: L 30 x W 50 mm
- ▶ Operating Temperature: -25°C to 70°C
- ▶ RFID Chip: EM4425
- ▶ Storage Temperature: -25°C to 70°C

## Windshield Label **UHF**




Applying this label onto the windshield to get a hands-free parking experience. The chip area is coated to enhance its UV protection capability when the label is exposed to the direct sunlight. Meanwhile, the label has security cut for tamper evident when removal.

**Specification:**

- ▶ Dimension: L 106.5 x W 28.5 mm
- ▶ Operating Temperature: -40°C to 80°C
- ▶ RFID Chip: NXP UCODE 8
- ▶ Storage Temperature: -40°C to 80°C

## UHF Metal Label **UHF**

(Single Piece)




90x28 On Metal Label provides excellent performance and long reading range up to 4 meters. Its performance goes well on metallic objects for various applications.

**Specification:**

- ▶ Dimension: L 90 x W 28 x T 0.8 mm
- ▶ Operating Temperature: -40°C to 85°C
- ▶ IP Rating: IP68
- ▶ Storage Temperature: -40°C to 85°C
- ▶ RFID Chip: Impinj Monza 4QT

## UHF Metal Label **UHF**

(Roll to Roll)






This roll-to-roll UHF label provides superior reading performance while offering higher data transfer speeds. It is suitable for asset management and inventory control.







**Specification:**

- ▶ Dimension: L 75 x W 25 x T 1.3 mm
- ▶ Operating Temperature: -25°C to 70°C
- ▶ RFID Chip: NXP Ucode8
- ▶ Storage Temperature: -25°C to 70°C







## UHF Label **UHF** Label with customized die cut size is upon request.

Model			
Die cut size (mm)	21 x 73	12 x 98	Ø15
Antenna size (mm)	15 x 70	8 x 94	● Ø12
Available chip	Impinj Monza R6 NXP Ucode 8	Impinj Monza R6	Impinj Monza 4E

Model						
Die cut size (mm)	48 x 48	53 x 53	22 x 45	25 x 43	12 x 26	19 x 30
Antenna size (mm)	● 44 x 44	51 x 51	● 18 x 30	● 20 x 39	● 8 x 22	● 16 x 26
Available chip	Impinj Monza 4	Impinj Monza 4QT	Impinj Monza R6	Impinj Monza R6	Impinj Monza 4	Impinj Monza 4QT

Model						
Die cut size (mm)	19 x 44	33 x 53	6 x 94	12 x 98	17 x 72	23 x 96
Antenna size (mm)	● 15 x 40	● 30 x 50	● 3 x 90	● 8 x 95	● 15 x 70	● 19 x 90
Available chip	NXP Ucode 8	NXP Ucode 8	Impinj Monza 4	Impinj Monza R6	Impinj Monza R6	Impinj Monza R6

- on-metal
- library
- apparel
- near-field
- logistics, asset management

# 03 Tag Solution

## ENABLE EVERY RFID POTENTIAL

### Different form factors to go with your applications

Hard tags are ideal for applications under environment with harsh conditions such as high/low temperature, humidity or metallic interference. We offer hard tag in various sizes and designs to be affixed to a variety of surfaces.

# UHF Tag Solution

**ECORE Pro** **UHF** A yarn-type embeddable solution with superior chemical and environmental resistance, truly empowering real DPP use cases, transforming waste into value.

Specification:

- ▶ Dimension: L 76 x W 2.5 x T 1.55 mm
- ▶ IP Rating: IP68
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -40°C to 85°C
- ▶ Peak Temperature 210 °C for 2 mins
- ▶ Wash Cycle Stability 60 °C for 100 times (AATCC 135)
- ▶ Resistance to Damage by Flexing ≥ 1,000 times (ISO 7854)
- ▶ Tensile Strength 5cm/min ≥ 1kgf (ASTM D2256)

**Ring Tag** **UHF** Ring Tag requires no adhesive or screws. Instead, it effortlessly sits in a place in a hole drilled into a metal item to ensure a seamless and sleek finish.



Specification:

- ▶ Dimension: D 30 x T 2.4 / D 20 x T 2.3 mm
- ▶ Applicable Surface: In-metal
- ▶ RFID Chip: NXP UCODE 8
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -40°C to 85°C
- ▶ Frequency: 865-868 MHz(ETSI - EU), 902-928(FCC - US)

**MetalEvo** **UHF** A masterpiece of engineering offers high-performance to meet your industrial tagging versatility



Specification:

- ▶ Dimension: L 78 x W 21 x T 11 mm
- ▶ Material: Nylon
- ▶ Applicable Surface: On-metal
- ▶ RFID Chip: NXP UCODE 8 / UCODE 9XM
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -40°C to 120°C
- ▶ IP Rating: IP68
- ▶ Frequency: 865-868 MHz(ETSI - EU), 902-928(FCC - US)

**Overmolded Brick Mini Metal Tag** **UHF** Built to realize small-item and high-metal-density tagging environment



Specification:

- ▶ Dimension: L 50 x W 25 x T 6 mm
- ▶ Material: Nylon
- ▶ Applicable Surface: On-metal
- ▶ RFID Chip: NXP UCODE 8 / UCODE 9XM
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -40°C to 120°C
- ▶ IP Rating: IP68
- ▶ Frequency: 865-868 MHz(ETSI - EU), 902-928(FCC - US)

**Overmolded Brick Metal Tag- PPS** **UHF** Crafted with strong environment impact resistance to conquer harsh conditions



Specification:

- ▶ Dimension: L 54 x W 36 x T 13 mm
- ▶ Material: PPS
- ▶ Applicable Surface: On-metal
- ▶ RFID Chip: NXP UCODE 8 / UCODE 9XM
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -55°C to 150°C
- ▶ IP Rating: IP68
- ▶ Frequency: 865-868 MHz(ETSI - EU), 902-928(FCC - US)

**Overmolded Square Metal Tag** **UHF** Characterized in broadband frequency to open up global interoperability



Specification:

- ▶ Dimension: L 53 x W 44 x T 11 mm
- ▶ Material: Nylon
- ▶ Applicable Surface: On-metal
- ▶ RFID Chip: NXP UCODE 8 / UCODE 9xm
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -40°C to 120°C
- ▶ IP Rating: IP68
- ▶ Frequency: Global 860-960 MHz

EM4425

## Overmolded Uni Metal Tag UHF

Overmolded Uni Metal Tag is designed to be read in the rear of a metallic object. It helps realize applications where a traditional metal tag sees a challenge. This tag sees no obstacles and makes front reading not the only choice.



### Specification:

- ▶ Dimension: L 52 x W 23 x T 5.7 mm
- ▶ Material: Nylon
- ▶ IP Rating: IP68
- ▶ Applicable Surface: On-metal
- ▶ RFID Chip: NXP UCODE 8 IMPINJ M830
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -40°C to 125°C
- ▶ Peak temperature resistant 200°C/1Hr
- ▶ Frequency: 865-868 MHz (ETSI-EU) 902-928 MHz (FCC-US)

## TPV Flexible Tag UHF

RAIN RFID TPV Flexible Tag, made of thermoplastic elastomer (TPV), is ideal to fit a curved surface on a non-metal item. This tag can also go to metal items by fixing the yellow tag with Panduit cable tie to one hole. It ideally acts as an inspection tag when placed on equipments or machines.



### Specification:

- ▶ Dimension: L 25.5 x W 83 x T 3 mm
- ▶ Material: TPV
- ▶ IP Rating: IP68
- ▶ Applicable Surface: Non metal
- ▶ RFID Chip: Impinj Monza 4QT
- ▶ Operating Temperature: -40°C to 70°C
- ▶ Storage Temperature: -40°C to 70°C
- ▶ Frequency: Global 860-960 MHz

## On-Metal Stick Tag LF HF UHF

On Metal Stick Tag is built with industrial grade plastic to withstand harsh conditions. The tag can be mounted on items with metal surface by using adhesive or screw in the 4.5mm central hole. The flat surface can be laser marked with logo or numbering to assist visual identification.



### Specification:

- ▶ Dimension: OD 34 x ID 4.5 x T 6 mm
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -40°C to 100°C
- ▶ Peak Temperature: 200°C, 30 mins
- ▶ Frequency: 865-868 MHz(ETSI-EU) 902-928 MHz (FCC-US)
- ▶ Material: Nylon / PPS
- ▶ Applicable Surface: On-metal
- ▶ IP Rating: IP68

### Color Options:

- ▶ Red / Yellow / Blue / Green / Black



## Overmolded Stick Tag LF HF UHF

With a central hole, Overmolded Stick Tag can be easily fixed on non-metal objects for warehouse management, process control and asset tracking.



### Specification:

- ▶ Dimension: OD 22 x ID 3 x T 3.1 mm HF
- ▶ Dimension: OD 30 x ID 5 x T 3 mm HF UHF
- ▶ Dimension: OD 30 x ID 5 x T 2.5 mm LF HF
- ▶ Dimension: OD 50 x ID 5x T3 mm LF HF
- ▶ Material: Nylon
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -40°C to 120°C
- ▶ IP Rating: IP68
- ▶ Applicable Surface: Non-metal
- ▶ Frequency: 865-868 MHz (ETSI-EU) 902-928 MHz (FCC-US)

## Token Tag LF HF UHF

Token Tag is created by polycarbonate into a coin shape. It is popular for vending machine and toll collection application.



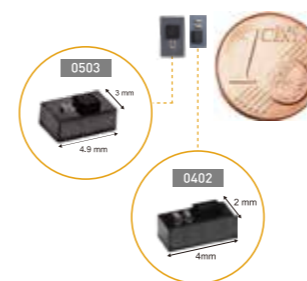
### Specification:

- ▶ Dimension: D 30 x T3 mm
- ▶ IP Rating: IP68
- ▶ Applicable Surface: Non-metal
- ▶ Material: PC / ABS+PC
- ▶ Operating Temperature: -25°C to 70°C/-10°C to 50°C
- ▶ Storage Temperature: -40°C to 90°C/-20°C to 50°C

# Embeddable Tag Solution

## NFC Ferrite Tag HF

NFC Ferrite tag 0503 and 0402 (the smallest in the category) are designed to empower a device with NFC function. These tags are created to operate on-metal and free air respectively. Meanwhile, it is SMT-applicable.



### 0503 Specification:

ISO Standard	IC & Application Note	
	On-Metal	Non-Metal
14443	NTAG213	NTAG213
	ST25TA02K	ST25TA02K
15693	ICode SLIX 2	ICode SLIX 2
	ST25TV02K	ST25TV02K
	MB89R118	MB89R118

- ▶ Dimension:
- 0503: L 4.9 x W 3.0 x T 2.4 mm
- 0402: L 4.0 x W 2.0 x T 2.0 mm

### 0402 Specification:

ISO Standard	IC & Application Note	
	On-Metal	Non-Metal
15693	ICode SLIX 2	ICode SLIX 2
	ST25TV02K	ST25TV02K

- ▶ Material: Ferrite
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -80°C to 220°C

## Plug Metal Tag HF

Plug Metal Tag resembles a metric bolt (M7 x P1.0) to be screwed or plugged into a metallic item. It works with an inductive coupler or NFC-enabled device from reading inside metal. Ideal for production control or asset management.



### Specification:

- ▶ Dimension: M 7 x P 1 x H 4 mm
- ▶ Material: Nylon
- ▶ Applicable Surface: In-metal
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -40°C to 120°C
- ▶ IP Rating: IP68

## Molding Tag HF

Molding Tag is an embeddable RFID tag. With enhanced protection to the chip and antenna, this tag can withstand higher temperature and environmental impact than PCB Tag.



### Specification:

- ▶ Dimension: L 6.7 x W 6.7 x T 0.75 mm
- ▶ Material: PCB + Compound
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -80°C to 200°C
- ▶ IP Rating: IP67

## Molding Metal Tag HF

Molding Metal Tag is a hassle-free tag solution in a miniature form factor for on-metal applications. With enhanced protection to the chip and antenna to guarantee its resistibility under harsh environment.

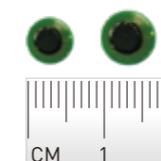


### Specification:

- ▶ Dimension: D 6 x T 0.9 mm
- ▶ Material: PCB + Compound
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -80°C to 200°C
- ▶ IP Rating: IP67

## PCB Tag HF

PCB Tag is ideal for small containers or applications that require a small RFID tag or when no sufficient room is allowed. We also provide smallest-ever metal tag with tuned frequency to go with your on-metal application.



### Specification:

- ▶ Dimension:
- D 6 x T 1.1mm (on metal)
- D 6.75 / 7.5 x T 0.9 mm (non-metal)
- ▶ Material: PCB
- ▶ Operating Temperature: -25°C to 55°C
- ▶ Storage Temperature: -25°C to 85°C
- ▶ IP Rating: IP65

# Tag Solution

## Cable Tie Tag HF

Cable Tie Tag fastens objects while enabling asset management, item tracking, and material workflow control. Its one-time use ensures tamper proof security, while the tag supports NFC reading. Especially, the black version offers UV resistance and supports laser engraving for marking.



Specification:

- ▶ Dimension: L 195 x W 8.3 x T 1.3 mm
- ▶ Material: Nylon
- ▶ Flammability Classification: UL94 V-2
- ▶ Min: Tensile Strength: 215 Nm
- ▶ Storage Temperature: -20°C to 85°C
- ▶ Operating Temperature: -20°C to 85°C
- ▶ IP Rating: IP68

## Button Tag LF HF

Button Tag is available in a range of small sizes. It is ideal for a size-constrained object or a limited area where RFID is needed.



Specification:

- ▶ Dimension: D 10 x T 1.8 mm HF  
D 14.5 x T 3 mm
- ▶ Material: Nylon
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -40°C to 90°C
- ▶ IP Rating: IP68
- ▶ Applicable Surface: Non-metal
- ▶ Dimension: D 12.4 x T 2mm LF  
D 20 x T 2.5 mm
- ▶ Material: Nylon
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -40°C to 90°C
- ▶ IP Rating: IP68 / IP69K
- ▶ Applicable Surface: Non-metal
- ▶ Dimension: D 16 x T 1.3 mm HF
- ▶ Material: Nylon
- ▶ Operating Temperature: -25°C to 80°C
- ▶ Storage Temperature: -25°C to 80°C
- ▶ IP Rating: IP68
- ▶ Applicable Surface: Non-metal
- ▶ Dimension: D 22 x T 3 mm HF
- ▶ Material: Nylon
- ▶ Operating Temperature: -25°C to 85°C
- ▶ Storage Temperature: -40°C to 120°C
- ▶ IP Rating: IP68
- ▶ Applicable Surface: Non-metal

## Overmolded Metal Tag HF

Overmolded Metal Tag is made by overmolded process to elevate its grade to IP68. This type of tag features its small size.

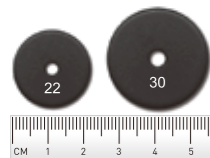


Specification:

- ▶ Dimension: D 10 x T 2.6 / D 14.5 x T 3 mm
- ▶ Operating Temperature: -25°C to 55°C / -40°C to 85°C
- ▶ Storage Temperature: -40°C to 80°C / -40°C to 120°C
- ▶ Material: Nylon
- ▶ Applicable Surface: On-metal
- ▶ IP Rating: IP68

## Overmolded Metal Stick Tag HF

Overmolded Metal Stick Tag (size 22/30mm in diameter) has a slim but robust housing for industrial applications. The tag can be mounted to items with metal surface by using adhesive or screw in the 3.1/5mm central hole. The flat surface can be laser marked with logo or numbering to assist visual identification.



Specification:

- ▶ Dimension: OD 22 x ID 3.1 x T 3 mm
- ▶ Operating Temperature: -40°C to 85°C
- ▶ Storage Temperature: -40°C to 120°C
- ▶ Material: Nylon
- ▶ Applicable Surface: On-metal
- ▶ IP Rating: IP68

## GF Stick Tag LF HF

GF Stick Tag can be put on non-metallic surface for tracking, data recording or regular patrol purpose.



Specification :

- ▶ Dimension: OD 20 x ID 3 x T 1.6 mm LF
- ▶ Dimension: OD 30 x ID 3.2 x T 1.6 mm LF HF
- ▶ Dimension: OD 50 x ID 3 x T 1.6 mm HF
- ▶ Dimension: OD 50 x ID 4.3 x T 1.6 mm LF
- ▶ Material: GF
- ▶ Operating Temperature: -25°C to 85°C
- ▶ Storage Temperature: -25°C to 120°C
- ▶ IP Rating: IP67
- ▶ Applicable Surface: Non-metal

## ABS Stick Tag LF HF

The simple and conventional tag offers a quick and easy tagging function for asset management or process control.



Specification:

- ▶ Dimension: OD 30 x ID 3.3 x T 2.3 mm
- ▶ Material: ABS
- ▶ Applicable Surface: Non-metal
- ▶ Operating Temperature: -10°C to 50°C
- ▶ Storage Temperature: -20°C to 70°C
- ▶ IP Rating: IP66

## Overmolded Square Tag HF

Produced by overmolded process, it can resist the heat, pressure and chemical in harsh environment. It is also ideal for industrial applications where a robust and durable tag is needed.



Specification:

- ▶ Dimension: L 13 x W 13 x T 2 mm
- ▶ Material: Nylon
- ▶ Applicable Surface: Non-metal
- ▶ Operating Temperature: -30°C to 90°C
- ▶ Storage Temperature: -40°C to 120°C
- ▶ IP Rating: IP68

## PVC Stick Tag LF HF

PVC Stick Tag is a coin-shaped RFID transponder designed for use on non-metal surface. This waterproof RFID Tag (IP68) can be fixed to an item with a screw.

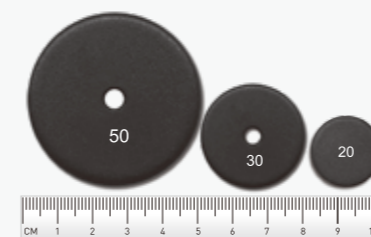


Specification:

- ▶ Dimension: OD 35 x ID 3.3 x T 1.8 mm
- ▶ Material: PVC
- ▶ Applicable Surface: Non-metal
- ▶ Operating Temperature: -15°C to 55°C
- ▶ Storage Temperature: -15°C to 75°C
- ▶ IP Rating: IP68

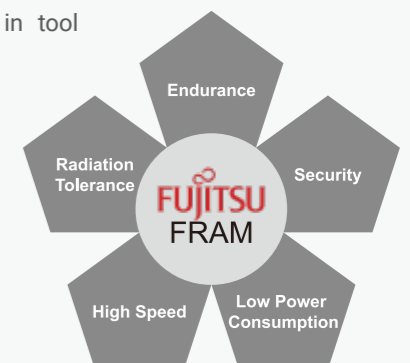
## Overmolded Type Tag Embedded with FRAM Technology HF

Discover our range of specialty RFID tags featuring radiation hardness to facilitate medical device sterilization in the irradiation process. With fast writing capabilities, these tags excel in tool identification and management, elevating operational precision in factory automation.



Comparison of FRAM with EEPROM

	FRAM	EEPROM
Type	Non-volatile	Non-volatile
Writing Method	Overwriting	Erase(byte)+write
Write Cycle Time	150ns	3ms
Endurance	10 billion	1 million

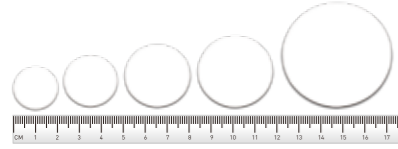


## Disc Tag LF HF

Disc Tag is a coin-shaped RFID transponder designed for use on non-metal surface. It is a waterproof RFID Tag (IP68) and can be profiled into different sizes.

Disc Patch Tag is Disc Tag with a sticker so that it can be attached to an item in a quick and easy way.

Stick Patch Tag has both a sticker and a hole in the middle for easy attachment.



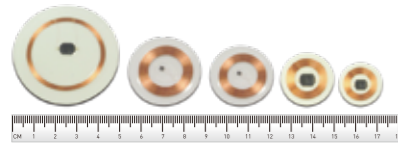
Specification:

- ▶ Dimension: D 20 / 25 / 30 / 35 / 50 x T 1.1 mm (without adhesive T 0.8 mm)
- ▶ Material: PVC
- ▶ Operating Temperature: -15°C to 55°C
- ▶ Storage Temperature: -15°C to 75°C
- ▶ IP Rating: IP68
- ▶ Applicable Surface: Non-metal

## Clear Disc Tag LF HF

Clear Disc Tag is designed for use on non-metal surface. It is a cost-effective RFID Tag due to its simple form factor and it can be made in different sizes.

Clear Disc Patch Tag is Clear Disc Tag with a sticker so that it can be attached to an item in a quick and easy way.



Specification:

- ▶ Dimension: D 20 / 25 / 30 / 35 / 50 x T 1.0 mm (without adhesive)
- ▶ Material: PET
- ▶ IP Rating: IP65
- ▶ Operating Temperature: -15°C to 55°C
- ▶ Storage Temperature: -15°C to 75°C
- ▶ Applicable Surface: Non-metal

## Screw Tag HF



Screw Tag resembles a metric bolt (M10x1.5). This tag is designed to be screwed into a metallic object (tapped with thread) and work with inductive couplers. Ideal for production control and asset management.

Specification:

- ▶ Dimension: M 10 x P1.5 x H6 mm
- ▶ Material: Nylon
- ▶ IP Rating: IP68
- ▶ Applicable Surface: In-metal
- ▶ Operating Temperature: -25°C to 85°C
- ▶ Storage Temperature: -25°C to 85°C
- ▶ RFID Chip: Fijitsu MB89R118

## GF Disc Tag LF HF

GF Disc Tag can be put on non-metallic surface for tracking, data recording or regular patrol purpose.



Specification:

- ▶ Dimension : D 20 x T 1.6 mm LF
- ▶ Dimension : D 25 x T 1.6 mm LF
- ▶ Dimension : D 30 x T 1.6 mm LF HF
- ▶ Dimension : D 50 x T 1.6 mm LF
- ▶ Material: GF
- ▶ Operating Temperature: -25°C to 85°C
- ▶ Storage Temperature: -25°C to 120°C
- ▶ IP Rating: IP67
- ▶ Applicable Surface: Non-metal

## On-Metal Tag LF HF



On-Metal Tag has a hard PVC substrate topped with soft Epoxy. With adhesive, it can be attached to any metallic surface.

Specification:

- ▶ Dimension: L 65 x W 25 x T 3.5 mm
- ▶ Material: PVC + Epoxy
- ▶ Applicable Surface: On-metal
- ▶ Operating Temperature: -25°C to 55°C
- ▶ Storage Temperature: -25°C to 75°C
- ▶ IP Rating: IP68

# Wristband Solution

## Adjustable Wristband HF UHF



Human body is composed of water which causes interference to the wristband's reading performance when people wear it. Hands-free solution helps you get access into a place without the need to reach your keyfob or card to the reader. It brings convenience and comfort for your access control application.

Specification:

- ▶ Dimension: L 40.5 x W 44 x T 11 mm
- ▶ Material: ABS
- ▶ Applicable Surface: Wearable
- ▶ RFID Chip: NXP UCODE 8
- ▶ Operating Temperature: -25°C to 55°C
- ▶ Storage Temperature: -25°C to 65°C
- ▶ IP Rating: IP67
- ▶ Frequency : 865-868 MHz(ETSI - EU), 902-928(FCC - US)

## Disposable Wristband (Reel Format) HF UHF



It features disposable use and lower cost so that it can be an economical choice for some temporary applications. The button provides the band with tamper proof function.

Specification:

- ▶ Dimension: L 270 x W 34 mm
- ▶ Material: PP
- ▶ Operating Temperature: -25°C to 50°C
- ▶ Storage Temperature: -25°C to 50°C
- ▶ Frequency: 865-868 MHz (ETSI-EU), 902-928 MHz (FCC-US)

## SBand HF



SBand has a slim and stylish design to its kind. A variety of colors are available. Custom logo and numbering can be done to make it more attractive.

Specification:

- ▶ Dimension: C 220 x H 16 x T 7.5 mm (Xtra Large)
- ▶ Dimension: C 196 x H 16 x T 7.5 mm (Adult)
- ▶ Dimension: C 180 x H 16 x T 7.5 mm (Young)
- ▶ Dimension: C 152 x H 16 x T 7.5 mm (Child)
- ▶ Material: Silicone
- ▶ Operating Temperature: -25°C to 85°C
- ▶ Storage Temperature: -25°C to 140°C
- ▶ IP Rating: IP68

Color Options:

- ▶ Red / Pink / Yellow / Light Green / Dark Green / Grey
- ▶ Light Blue / Dark Blue / Purple / White / Black / Orange

## Silicone Wristband LF HF



Silicone Wristband Tag is another product solution to deal with water or high humidity environment. It has been widely adopted in gym, swimming pool, and waterpark.

Specification:

- ▶ Dimension: C 210 x H 16 x T 7.5 mm (Xtra Large)
- ▶ Dimension: C 195 x H 16 x T 7.5 mm (Adult)
- ▶ Dimension: C 180 x H 16 x T 7.5 mm (Young)
- ▶ Dimension: C 152 x H 16 x T 7.5 mm (Child)
- ▶ Material: Silicone
- ▶ Operating Temperature: -25°C to 85°C
- ▶ Storage Temperature: -25°C to 140°C
- ▶ IP Rating: IP68

Color Options:

- ▶ Red / Pink / Yellow / Light Green / Dark Green
- ▶ Light Blue / Dark Blue / Purple / White / Black

# 04 Card Solution

## SMART ACCESS CONTROL

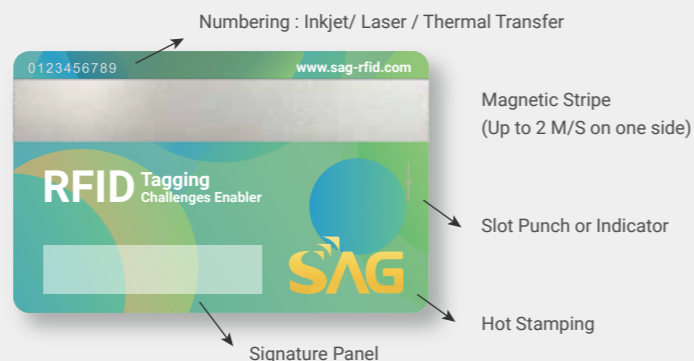
Built for commercial, residential and the advanced

We can build your RFID Card with PVC, PETG or even PETF to make the card body with enhanced heat-resistibility up to 100°C. We offer various artwork printing methods, surface finish effects and numbering options to make your card in a style.

### Card Structure

Printing Options:  
 - Offset  
 - Silk Screen  
 - Thermal Re-transfer

\*Customized shape  
 \*Thickness upon request



### ISO Card LF HF UHF

ISO Card is the most commonly used and popular form factor in RFID transponders. SAG can build ISO Card with a variety of materials and bring out elegant printing results.



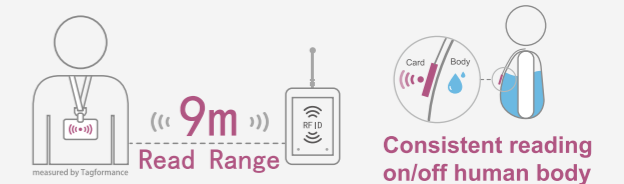
Specification:

- ▶ Dimension: L 85.6 x W 54 x T 0.8 mm
- ▶ Material: PVC / NPETG / PETF Composite
- ▶ Operating Temperature:
  - PVC: -25°C to 50°C
  - PVC+NPETG: -25°C to 50°C
  - PVC+PETF: -30°C to 70°C
- ▶ IP Rating: IP68
- ▶ Storage Temperature:
  - PVC: -25°C to 50°C
  - PVC+NPETG: -25°C to 60°C
  - PVC+PETF: -40°C to 100°C

SAG PETF Composite card can be printed on direct-to-card or thermal retransfer card printer. We have excellent printing result on these top models.  
 ▶ Brand (Model #): Fargo (HDP5000) / Zebra (ZXP8) / Datacard (CD8000) / Matica (xID8300)

### UHF ISO Card UHF Hands-free Solution

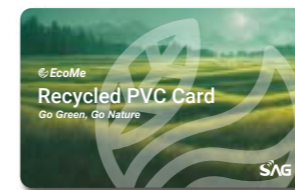
SAG overcomes the seemingly inevitable read range drop when UHF Card is placed near human body and affected by the interference. This card features both the unique SAG antenna design and NXP UCODE 8 technology, making hands-free access control a real thing.



### EcoMe Recycled PVC Card LF HF UHF

ECO

Recycled PVC Card is an eco-friendly green product using recycled PVC (UL2809 compliant) to give plastics a second life. Built for achieving your sustainable strategy to access control systems, this card is also certified to ISO10373 quality test without compromising its durability and robustness.



Specification:

- ▶ Dimension: L 85.6 x W 54 x T 0.8 mm
- ▶ Material: Recycled PVC
- ▶ Operating Temperature: -25°C to 50°C
- ▶ Storage Temperature: -25°C to 50°C

**Material Certification**  
 Made of 100% recycled plastics and complied with UL2809



**Quality Certification**  
 Complied with ISO 10373



ECO

### EcoMe Wooden Card HF

Wooden Card offers an eco-friendly and aesthetically pleasing alternative to plastic cards by using FSC-certified wood material. This innovative card can be custom printed or laser marked for company identity or branding purposes. The combination of RFID technology and wood material creates a fusion of modern technology and natural elements.



Specification:

- ▶ Dimension: L 85.6 x W 54 x T 1.3 mm
- ▶ Material: FSC-certified Wood
- ▶ IP Rating: IP6X
- ▶ Operating Temperature: -25°C to 50°C
- ▶ Storage Temperature: -25°C to 50°C

**Material Certification**  
 Made of FSC-certified wood material



### Clamshell Card LF HF

Clamshell Card is a cost-effective solution. Also, the robust housing makes no easy damage by bending or torsion.



Specification:

- ▶ Dimension: L 85.6 x W 54 x T 1.9 mm
- ▶ Material: ABS Housing+ PVC Sticker
- ▶ IP Rating: IP66
- ▶ Operating Temperature: -10°C to 50°C
- ▶ Storage Temperature: -10°C to 50°C

# 05 Keyfob Solution

## WHEN CRAFTSMANSHIP MEETS ORIGINALITY

### Be amazed at our keyfob as a luxury

Elevating your life to a new level with the most chic RFID Keyfob has been our belief. We create multiple types and colors for your selection. Vivid artwork or company logo can be applied to make your keyfob with style.

#### Ultra Keyfob

Ultra Keyfob is crowned with a metal part which gives a great volume in your hand and conveys a sense of refinement from its matte texture. This keyfob is designed to perfectly fit your taste to a high end life while making access control just a simple tap.

#### Ultra Eternity LF HF



Specification: ▶ Dimension: L 56 x W 26 x T 3.2 mm ▶ Operating Temperature: -25°C to 85°C  
▶ IP Rating: IP68 ▶ Storage Temperature: -25°C to 85°C

Surface Texture: Leather / Marble / Alligator / Woven Leather

#### Ultra Classic LF HF



Specification: ▶ Dimension: L 56 x W 26 x T 3.2 mm ▶ Operating Temperature: -25°C to 85°C  
▶ IP Rating: IP68 ▶ Storage Temperature: -25°C to 85°C

Color Options: Red / Orange / Blue / Navy Blue / Purple / White / Grey / Black



#### Overmolded Pear Keyfob LF HF



Overmolded Pear Keyfob is 100% waterproof with an array of colors for selection, and sharp laser marking effect, making it more than just a keyfob.

Specification:

- ▶ Dimension: L 45 x W 30 x T 2.2 mm ▶ Operating Temperature: -25°C to 85°C
- ▶ L 45 x W 30 x T 2.6 mm (Dual chip type) ▶ Storage Temperature: -25°C to 85°C
- ▶ IP Rating: IP68

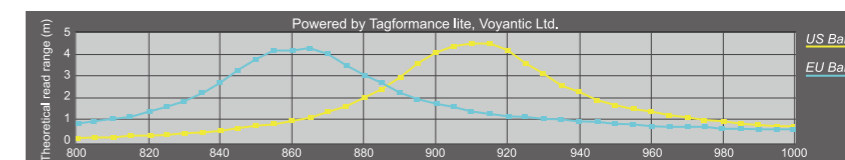
Color Options:

- ▶ Red / Orange / Yellow / Green / Blue / Navy Blue / Purple / White / Grey / Black

#### UHF Overmolded Pear Keyfob UHF

UHF Overmolded Pear Keyfob helps the user get access without having to reach out a keyfob to tap and go, realizing the hands-free solution and offers great efficiency.

RFID Chip: ▶ Impinj Monza R6-P Color Options: ▶ Red / Yellow / Green / White



EcoMe

#### Ocean-recycled Plastic Keyfob HF

ECO



The iconic Overmolded Pear Keyfob comes with a new version, made of post-consumer recycled material (PCR) for a greener future. Built for achieving your sustainable strategy to access control systems, the eco-friendly keyfob not only reduces environmental impact but also maintains high performance and durability.

Specification:

- ▶ Dimension: L 45 x W 30 x T 2.2 mm
- ▶ IP Rating: IP68
- ▶ Operating Temperature: -25°C to 85°C
- ▶ Storage Temperature: -25°C to 85°C

Color Options: ▶ Black

Material Certification

Made of 100% recycled post-consumer plastics and complied with GRS and OBP Certification



#### Palette Keyfob LF HF



Palette Keyfob features unique plays of color in inspiring contrast. The two-tone keyfob is crafted with a matte texture finish.

Specification:

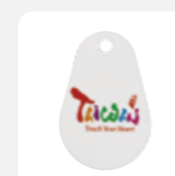
- ▶ Dimension: L 45 x W 30 x T 3.5 mm ▶ Operating Temperature: -10°C to 50°C
- ▶ IP Rating: IP68 ▶ Storage Temperature: -10°C to 50°C

Color Options:

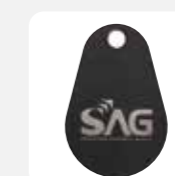
- ▶ Red / Orange / Yellow / Pink / Green / Blue / Purple / Grey / Black / White



#### Customization Option



- ▶ UV Inkjet Printing: Print colorful design or even texture to get a more vibrant finish.



- ▶ Laser Engraving: Mark clear UID or numbers in good contrast or decorate with graphic design to improve visual appeal.

## Tear Keyfob



LF HF

Specification: ▶ Dimension: L 40 x W 31 x T 5 mm ▶ Operating Temperature: -25°C to 55°C  
▶ IP Rating: IP66 ▶ Storage Temperature: -25°C to 75°C

Color Options: ▶ Red / Pink / Yellow / Green / Blue / Purple / White / Black / Orange / Grey

## Tumbler Keyfob



LF HF Dual

Specification: ▶ Dimension: L 36.2 x W 30 x T 7.5mm ▶ Operating Temperature: -25°C to 55°C  
▶ IP Rating: IP66 ▶ Storage Temperature: -25°C to 75°C

Color Options: ▶ Red / Green / Yellow / Dark Blue / Grey / White / Black / Orange / Blue

## Translucent Keyfob

LF HF UHF



Specification: ▶ Dimension: L 55.5 x W 31 x T 8 mm ▶ Operating Temperature: -25°C to 55°C  
▶ IP Rating: IP66 ▶ Storage Temperature: -25°C to 75°C

Color Options: ▶ Green / Blue / Red / Black

## Water Drop Keyfob

LF HF Dual



Specification: ▶ Dimension: L 50.5 x W 31.5 x T 9.5 mm ▶ Operating Temperature: -25°C to 55°C  
▶ IP Rating: IP66 ▶ Storage Temperature: -25°C to 75°C

Color Options: ▶ Grey

## Pear Keyfob

LF HF Dual



Specification: ▶ Dimension : L 45 x W 30 x T 1.6 mm ▶ Operating Temperature: -25°C to 55°C  
▶ IP Rating: IP67 ▶ Storage Temperature: -25°C to 120°C

Color Options: ▶ Black

## Thumb Keyfob

LF HF



Specification: ▶ Dimension: L 49.6 x W 33 x T 7.05 mm ▶ Operating Temperature: -25°C to 55°C  
▶ IP Rating: IP66 ▶ Storage Temperature: -25°C to 75°C

Color Options: ▶ Blue / Grey

## Arch Keyfob

LF HF UHF



Specification: ▶ Dimension: L 54 x W 28 x T 1.8 mm ▶ Operating Temperature: -10°C to 50°C  
Color Options: ▶ IP Rating: IP68 ▶ Storage Temperature: -10°C to 50°C  
▶ PVC blank white

## Epoxy Keyfob

LF HF Dual



Specification: ▶ Dimension: L 50 x W 30 x T 6mm (Rectangle Epoxy Keyfob)  
L 65 x W 25 x T 6mm (Slender Epoxy Keyfob)  
L 53 x W 26 x T 6mm (Oval Epoxy Keyfob)  
L 45 x W 30 x T 6mm (Pear Epoxy Keyfob)  
L 25 x W 19 x T 6mm (Mini Epoxy Keyfob)

▶ Operating Temperature: -10°C to 50°C  
▶ Storage Temperature: -10°C to 50°C  
▶ IP Rating: IP68

Color Options: ▶ PVC blank white

## RFID IC LIST

Brand	IC Name	Frequency	UID / Memory	Remark		
UHF	NXP	UCODE 9xm	860~960MHz	TID 96 Bit ; EPC up to 496 Bit ; User up to 752 Bit	ISO 18000-63 / EPC Gen2 V2	
		UCODE 9	860~960MHz	TID 96 Bit ; EPC up to 96 Bit	ISO 18000-63 / EPC Gen2 V2	
		UCODE DNA	860~960MHz	TID 96 Bit ; EPC up to 448 Bit ; User 3027 Bit	ISO 18000-63 / EPC Gen2 V2	
		UCODE 8	860~960MHz	TID 96 Bit ; EPC up to 128 Bit	ISO 18000-63 / EPC Gen2 V2	
		UCODE G2iL	860~960MHz	TID 64 Bit ; EPC 128 Bit	ISO 18000-63 / EPC Gen2 V2	
		UCODE G2XM	860~960MHz	TID 64 Bit ; EPC 240 Bit ; User up to 512 Bit	ISO 18000-63 / EPC Gen2 V2	
		UCODE 7	860~960MHz	TID 96 Bit ; EPC up to 128 Bit	ISO 18000-63 / EPC Gen2 V2	
		Monza 4E	860~960MHz	TID 96 Bit ; EPC 496 Bit ; 128 Bit	ISO 18000-63 / EPC Gen2 V2	
		Monza 4QT	860~960MHz	TID 96 Bit ; EPC 128 Bit ; User 512 Bit	ISO 18000-63 / EPC Gen2 V2	
		Monza R6	860~960MHz	TID 96 Bit ; EPC 96 Bit	ISO 18000-63 / EPC Gen2 V2	
HF	IMPINJ	Monza R6-P	860~960MHz	TID 96 Bit ; EPC 96-128 Bit ; User 32-64 Bit	ISO 18000-63 / EPC Gen2 V2	
		M750	860~960MHz	TID 96 Bit ; EPC 96-128 Bit ; 0-32 Bit	ISO 18000-63 / EPC Gen2 V2	
		M830	860~960MHz	TID 96 Bit ; EPC 128 Bit	ISO 18000-63 / EPC Gen2 V2	
		NXP	NTAG IPC Plus	13.56MHz	UID 7 Byte ; 2K Byte	ISO/IEC 14443A
			NTAG 213 / 215 / 216	13.56MHz	UID 7 Byte ; 144 / 504 / 888 Byte	ISO/IEC 14443A
			NTAG 424DNA / 424 DNA TT	13.56MHz	UID 7 Byte ; 416 Byte	ISO/IEC 14443A
			NTAG 213 Tag Tamper	13.56MHz	UID 7 Byte ; 144 Byte	ISO/IEC 14443A
			MIFARE DUOX	13.56MHz	UID 7 Byte ; 2 / 4 / 8 / 16 K Byte	ISO/IEC 14443A
			MIFARE Ultralight AES	13.56MHz	UID 7 Byte ; 144 Byte	ISO/IEC 14443A / AES encryption
			MIFARE Ultralight Nano	13.56MHz	UID 7 Byte ; 320 Bit	ISO/IEC 14443A
MIFARE Ultralight EV1	13.56MHz		UID 7 Byte ; 384 Bit	ISO/IEC 14443A		
MIFARE Ultralight C	13.56MHz		UID 7 Byte ; 1152 Bit	ISO/IEC 14443A		
MIFARE Plus SE	13.56MHz		UID 4 / 7 Byte ; 1K Byte	ISO/IEC 14443A / AES encryption		
MIFARE Plus S 2K / 4K	13.56MHz	UID 4 / 7 Byte ; 2K / 4K Byte	ISO/IEC 14443A / AES encryption			
MIFARE Plus X 2K / 4K	13.56MHz	UID 4 / 7 Byte ; 2K / 4K Byte	ISO/IEC 14443A / AES encryption			
MIFARE Plus EV1 2K	13.56MHz	UID 7 Byte ; 2K Byte	ISO/IEC 14443A / AES encryption			
MIFARE Plus EV2 2K/4K	13.56MHz	NUID 4 / UID 7 Byte ; 2K/4K Byte	ISO/IEC 14443A / AES encryption			
MIFARE Classic EV1 1K	13.56MHz	NUID 4 / UID 7 Byte ; 1K Byte	ISO/IEC 14443A			
MIFARE Classic EV1 4K	13.56MHz	NUID 4 / UID 7 Byte ; 4K Byte	ISO/IEC 14443A			
MIFARE DESFire EV1 / EV2 / EV3	13.56MHz	UID 7 Byte ; 2K / 4K / 8K Byte	ISO/IEC 14443A			
MIFARE DESFire EV1 256B	13.56MHz	UID 7 Byte ; 256 Byte	ISO/IEC 14443A			
MIFARE DESFire light	13.56MHz	UID 7 Byte ; 640 Byte	ISO/IEC 14443A			
ICODE 3	13.56MHz	UID 8 Byte ; 2400 Bit	ISO/IEC 15693			
ICODE SLIX / SLIX2	13.56MHz	UID 8 Byte ; 896 / 2528 Bit	ISO/IEC 15693 & 18000-3			
ICODE SLIX-L / SLIX-S	13.56MHz	UID 8 Byte ; 256 / 1280 Bit	ISO/IEC 15693 & 18000-3			
HITAG 1/ HITAG 2	125 KHz	UID 4 Byte ; 2048 / 256 Bit	ISO/IEC 11784 & 11785			
HITAG S	125 KHz	UID 4 Byte ; 2048 / 2048 Bit	ISO/IEC 11784 & 11785 & 14223			
ST25DV04K	13.56MHz	UID 8 Byte ; 4K Bit	ISO/IEC 15693			
ST25TV512/ 02K/ 512C/ 02KC	13.56MHz	UID 8 Byte ; 512/ 2K/ Bit	ISO/IEC 15693			
ST25TN01K	13.56MHz	UID 7 Byte ; up to 1.6Kbit EEPROM memory	ISO/IEC 14443A			
ST25TA512/ 02K	13.56MHz	UID 7 Byte ; 512/ 2K/ Bit	ISO/IEC 14443A			
ST25TA16K	13.56MHz	UID 7 Byte ; 16K/ 64K Bit	ISO/IEC 14443A			
ST25TB512/ 04K	13.56MHz	UID 7 Byte ; 512/ 4K Bit	ISO/IEC 14443B			
EM4305	125 KHz	UID 32 Bit ; User 512 Bit	ISO/IEC 11784/85 Compatible			
EM4450 / EM4550	125 KHz	UID 64 Bit ; User 1K Bit	ISO/IEC 11784/85 Compatible			
EM4102 / EM4200	125 ~ 134.2 KHz	UID 64 Bit ; Read only	ISO/IEC 11784/85 Compatible			
EM4425	13.56 MHz 860~960 MHz	[NFC interface] UID 8 Byte [UHF interface] TID 96 Bit EPC up to 480 Bit Shared Memory 2048 Bit	ISO/IEC 14443A ISO 18000-6C / EPC Gen2 V2			
EM4332	13.56MHz	UID 7Byte ; 308 Byte EEPROM	ISO/IEC 14443A			
MICROCHIP	ATA5577	125 KHz	Memory 363 Bit	ISO/IEC 11784/85 Compatible		
	MB89R118 / 119 / 112	13.56MHz	UID 8Byte ; 2K / 256 / 8K Byte FRAM	ISO/IEC 15693		
FUJITSU	RC-S966 (Felica Lite-S)	13.56MHz	UID 8Byte ; 432 Byte EEPROM	ISO/IEC 18092		
	RC-SA00 / 01	13.56MHz	UID 8Byte ; 6K/4K Byte FRAM	ISO/IEC 15408		
SONY Felica	MIM256 / MIM1024	13.56MHz	UID 16 Byte ; 256/1024 Byte	ISO/IEC 14443A		
	ATC 256MV / ATC 1024MV	13.56MHz	UID 8 Byte ; User 224 / 912 Byte	ISO/IEC 15693 & 14443A (MV010)		
LEGIC	ATC4096MP	13.56MHz	UID 7 Byte ; 4096 Byte	ISO/IEC 14443A		
	MAX 66240	13.56MHz	UID 64 Bit ; 512 Byte	ISO/IEC 15693 & 18000-3		
maxim integrated.	Tag-it HF-I Pro / Plus	13.56MHz	UID 8 Byte ; 256 / 2048 Bit	ISO/IEC 15693 & 18000-3		
	SLE 66r01P	13.56MHz	UID 7 Byte ; 128 Byte	ISO/IEC 14443A		
TEXAS INSTRUMENTS	SRF55V10S	13.56MHz	UID 8 Byte ; User 992 Byte	ISO/IEC 15693		
	SRF55V10P	13.56MHz	UID 8 Byte ; User 992 Byte	ISO/IEC 15693		
infineon	SLE 66r01P	13.56MHz	UID 7 Byte ; 128 Byte	ISO/IEC 14443A		
	SRF55V10S	13.56MHz	UID 8 Byte ; User 992 Byte	ISO/IEC 15693		
infineon	SRF55V10P	13.56MHz	UID 8 Byte ; User 992 Byte	ISO/IEC 15693		