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100 YEARS

# Company Profile



@RFID is a privately owned international group, having establishments in Bulgaria, China, France, Germany, Hong Kong, Taiwan, Turkey and the UK. Further to its constant development and growth and its ambition for technology leadership, the company is targeting an IPO by 2020.

With two R&D centers and four factories, @RFID is mastering RFID and contactless technologies from conception and design to all stages of manufacturing and production.

The innovation and the quality are fundamental in the corporate strategy and drive a continuous investment in cutting edge equipment and talent recruitment,

enabling a unique market positioning and an ever-growing business in the emerging IOT sector.

Truly international, @RFID benefits from its local involvement in different countries where its presence is constantly enforced, while pursuing its strategy of global development with new establishments in new business zones, targeting a worldwide leadership in IOT, RFID and contactless technologies.

Founded in 2007, @RFID celebrates its 10th anniversary in 2017, a record-breaking year for the company and a starting point of a further stage of development.



Through the years, @RFID gathered a valuable expertise in semiconductors and microelectronics and established strong partnerships with some of the world leading foundries. This unique situation is translated into comprehensive offer for ASSP ICs, packaging services and custom ASIC design and production.

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## Wafers & Bare Dice ASSP

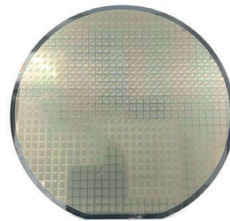
**Features:** Standard RFID memory ICs

**Available ICs:**

Low frequency 125 kHz

High frequency 13.56 MHz

Contact chips



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## Modules, COBs and IC Packaging

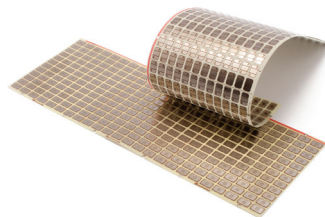
**Features:** ICs Packaging services

**Available packages:**

COB Module

Contact module

QFN



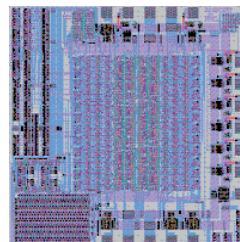
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## Custom ASIC Design

**Features:** On demand design

**Available technologies:**

Digital and analog ICs



# Prelaminated Inlays



@RFID Prelaminates are dedicated to card manufacturing, providing high quality technology core. The complex multilayer structure based on PVC, PET or PC substrates varies in thickness. The middle layer incorporates the transponders consisting of wired antenna and chip module. The transponders have various designs and can be aligned for different layouts. In addition there can be a layout print, reference angle mark, product reference and production date stamping.

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## LF RFID Prelaminates

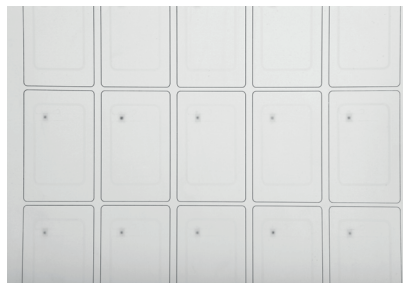
**Operating frequency:** 125-134 KHz  
**Available ICs:** EM, NXP, Atmel, @RFID Compatible LF  
**Chip connection/packaging:** COB/Module bonding  
**Substrate:** PVC  
**Antenna material:** Copper wire  
**Antenna shape:** Circular/Oval  
**Sizes and layout:** Up to 550x700 mm  
**Thickness:** From 500 to 650 microns



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## HF RFID Prelaminates

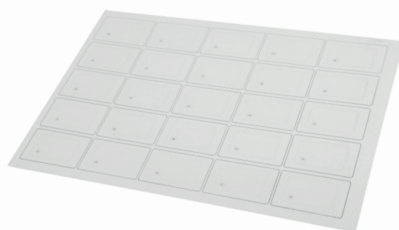
**Operating frequency:** 13.56 MHz  
**Standard:** ISO 14443, ISO 15693  
**Available ICs:** NXP, Infineon, ST Micro, @RFID  
**Chip connection/packaging:** COB/Module bonding  
**Substrate:** PVC/PET/PC  
**Antenna material:** Copper wire  
**Antenna shape:** Rectangular/Customizable  
**Sizes and layout:** Up to 550x700 mm  
**Thickness:** From 300 to 650 microns



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## UHF RFID Prelaminates

**Operating frequency:** 840-960 MHz  
**Available ICs:** NXP UCODE, Impinj Monza, Alien Higgs  
**Chip connection/packaging:** Bare die flipchip  
**Substrate:** PVC/PET  
**Antenna material:** Etched Aluminium  
**Antenna shape:** See Antenna Catalogue (page 25)  
**Sizes and layout:** Up to 550x700 mm  
**Thickness:** From 300 to 500 microns



### Combined RFID Prelaminates

**Combinations:** LF+HF/HF+UHF/LF+HF+UHF

**Operating frequency:** 125-134KHz/13.56MHz/840-960MHz

**Available ICs:** EM, Atmel, NXP, Infineon, ST, Impinj, Alien

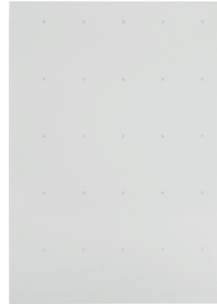
**Chip connection/packaging:** COB bonding, Bare die flipchip

**Substrate:** PVC/PET

**Antenna material:** Copper wire, Etched Aluminium

**Sizes and layout:** Up to 550x700 mm

**Thickness:** From 350 to 500 microns



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### Dual Interface Prelaminates

**Operating frequency:** 13-14 MHz

**Connection Interface:** Zig-Zag wire, Copper plates, Inductive coupling

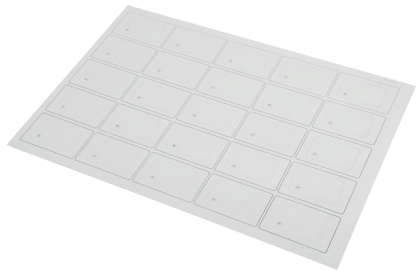
**Suitable for:** Infineon, ST Micro, NXP

**Substrate:** PVC/PET/PC

**Antenna material:** Copper wire, Alloy wire

**Sizes and layout:** Up to 550x700 mm

**Thickness:** From 150 to 500 microns



# Flexible Flipchip Inlays



@RFID Flexible Flipchip Inlays are designed for label converting and tag manufacturing, providing high technology core layer for high frequency or ultra-high frequency RFID tags. Based on flexible PET substrate with etched aluminium or copper antenna, the chip is assembled by cutting edge flipchip equipment. The inlays may integrate various antenna designs and chips, suitable for any application. The product is delivered on roll in multiple or single line.

---

## HF RFID Inlays

**Operating frequency:** 13.56 MHz

**Standard:** ISO 14443, ISO 15693

**Available ICs:** NXP, Infineon, ST Micro, @RFID  
Compatible HF

**Chip connection/packaging:** Bare die Flipchip

**Substrate:** PET

**Antenna material:** Etched Aluminium, Etched Copper

**Form factor:** Multiline/Single line roll



---

## UHF RFID Inlays

**Operating frequency:** 840-960MHz

**Available ICs:** NXP UCODE Series, Impinj Monza Series, Alien Higgs Series

**Chip connection/packaging:** Bare die Flipchip

**Substrate:** PET

**Antenna material:** Etched Aluminium, Etched Copper

**Form factor:** Multiline/Single line roll



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## MORE Inlays

Dual Frequency RFID Inlays

Paper Substrate RFID Inlays

Graphene Antenna RFID Inlays

White PET RFID Inlays





# Flexible RFID Transponders



@RFID Flexible transponders are designed for printing, personalisation or direct application. Based on high technology core layer of high frequency (NFC) or ultra-high frequency (UHF) RFID dry inlays, these products are additionally going through converting processes by high precision equipment applying adhesive material and liner, as well as optional frontal surface. Various materials are available to suit any application or printing equipment.

---

## Adhesive (Wet Inlays)

**Operating frequency:** 13.56 MHz/840-960 MHz

**Available ICs:** NXP, Infineon, ST, @RFID Compatible HF, Alien, Impinj

**Chip connection/packaging:** Bare die flipchip

**Substrate:** PET with Adhesive and Release paper

**Antenna material:** Etched Aluminium, Etched

Copper **Form factor:** Multiline/Single line roll



---

## RFID Labels

**Operating frequency:** 13.56 MHz/ 840-960 MHz

**Available ICs:** NXP, Infineon, ST Micro, @RFID Compatible HF, Alien, Impinj

**Chip connection/packaging:** Bare die flipchip

**Substrate:** PET with Adhesive on Release paper with Frontal Paper/PVC/PET/PP

**Antenna material:** Etched Aluminium, Etched Copper

**Form factor:** Multiline/Single line roll



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## On Metal RFID Labels

**Operating frequency:** 13.56 MHz/840-960 MHz

**Available ICs:** NXP, Infineon, ST Micro, @RFID Compatible, Alien, Impinj

**Chip connection/packaging:** Bare die flipchip

**Substrate:** PET with Adhesive on Release paper with Frontal Paper/PVC/PET/PP

**Metal Insulation Layer:** Ferrite/Foam/Aluminium foil

**Antenna material:** Etched Aluminium, Etched Copper

**Form factor:** Multiline/Single line roll



### RFID Tickets

**Operating frequency:** 13.56 MHz, 840-960 MHz

**Available ICs:** NXP, Infineon, ST Micro, @RFID

**Compatible HF, Alien, Impinj**

**Chip connection/packaging:** Bare die Flipchip

**Substrate:** PET inlay within Paper encapsulation

**Antenna material:** Etched Aluminium, Etched Copper

**Form factor:** Roll, Fan-fold, Piece by piece



### RFID Paper Tags

**Operating frequency:** 13.56 MHz, 840-960MHz

**Available ICs:** NXP, Infineon, ST Micro, @RFID

**Compatible HF, Alien, Impinj**

**Chip connection/packaging:** Bare die flipchip

**Substrate:** PET inlay within Paper encapsulation

**Antenna material:** Etched Aluminium, Etched Copper

**Form factor:** Roll, Fan-fold, Piece by piece



### RFID Clothing Tags

**Operating frequency:** 13.56 MHz, 840-960MHz

**Available ICs:** NXP, Infineon, ST Micro, @RFID

**Compatible HF, Alien, Impinj**

**Chip connection/packaging:** Bare die Flipchip

**Substrate:** PET inlay within paper encapsulation

**Antenna material:** Etched Aluminium, Etched Copper

**Form factor:** On roll or piece by piece

**Features:** Perforation, hanging string



# Standard RFID Transponders



@RFID standard RFID transponders are versatile products with proven quality that follow strictly the ISO requirements for form factor, durability and performance. Cost effective and reliable, they can be ready to use or can offer a perfect solution for integration within any RFID application.

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## ISO Cards

**Standard:** LF/HF/UHF/Combined

**Operating frequency:** 125KHz/13.56MHz/860-960MHz

**Available ICs:** EM, NXP, Infineon, ST Micro, @RFID Compatible, Impinj, Alien

**Chip connection/packaging:** COB Module, Bare die Flipchip

**Substrate:** PVC, PET

**Antenna material:** Copper wire Etched Aluminium

**Form factor:** ISO Standard



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## RFID Key Fobs and Clamshell Cards

**Standard:** LF/HF

**Available ICs:** EM, NXP, Infineon, ST, @RFID Compatible

**Chip connection/packaging:** COB Module, Bare die Flipchip

**Housing Material:** ABS Shell

**Antenna material:** Copper wire

**Form factor:** @RFID KF Shell/Clamshell standard housing



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## RFID Tokens

**Standard:** LF/HF

**Available ICs:** EM, NXP, Infineon, ST Micro, @RFID Compatible HF

**Chip connection/packaging:** COB Module

**Substrate:** ABS Shell

**Antenna material:** Copper wire

**Form factor:** Various token shapes



### Coil and Module (Clear Tags)

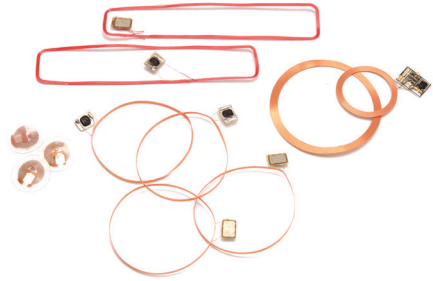
**Standard:** LF/HF

**Available ICs:** EM, NXP, Infineon, ST Micro, @RFID Compatible

**Chip connection/packaging:** COB Module

**Antenna material:** Copper wire

**Form factor:** Various antenna shapes and sizes



### PCB Tags

**Operating frequency:** 13-14 MHz/860-960 MHz

**Available ICs:** NXP, ST Micro, @RFID Compatible Range, Impinj, Alien

**Chip connection/packaging:** Direct bonding, SMT

**Substrate:** PCB

**Antenna material:** Etched aluminium or copper

**Form factor:** Various antenna shapes and sizes



### FPC Tags

**Operating frequency:** 13-14 MHz/860-960 MHz

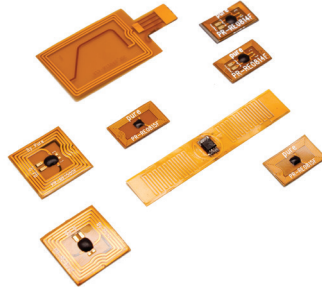
**Available ICs:** NXP, Infineon, ST Micro, @RFID Compatible, Impinj, Alien

**Chip connection/packaging:** Direct bonding, SMT

**Substrate:** FPC

**Antenna material:** Etched aluminium or copper

**Form factor:** Various antenna shapes and sizes



### RFID Wearables

**Standard:** LF/HF/UHF

**Available ICs:** EM, NXP, Infineon ST Micro, @RFID Compatible, Impinj, Alien

**Chip connection/packaging:** COB Module, Bare die flipchip

**Material:** Silicon, PVC, Fabric

**Antenna material:** Copper Wire, Etched Aluminium

**Form factor:** Various shapes and form factors



# Industrial RFID Transponders



@RFID Industrial RFID Transponders are specifically designed to withstand harsh environment and extreme temperature and suite various industrial applications. The integrated RFID units are protected by custom developed highly resistant housings in various shapes, sizes and features for different usages.

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## Rugged RFID Tags

**Operating frequency:** 125-134 KHz/13-14 MHz/  
860-960 MHz

**Available ICs:** EM, NXP, Infineon, ST Micro, @RFID  
Compatible HF, Impinj, Alien

**Chip connection/packaging:** COB Module

**Housing Material:** PCB, PPS, Epoxy

**Antenna material:** Copper wire, Etched Aluminium,  
Etched Copper

**Form factor:** Various shapes and form factors



---

## Rugged On Metal RFID Tags

**Operating frequency:** 125-134 KHz/13-14 MHz/  
860-960 MHz

**Available ICs:** EM, NXP, Infineon, ST Micro, @RFID  
Compatible, Impinj, Alien

**Chip connection/packaging:** COB Module

**Housing Material:** ABS, PPS

**Antenna material:** Copper wire, Etched  
Aluminium, Etched Copper

**Form factor:** Various shapes and form factors



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## RFID Disc Tags

**Operating frequency:** 125-134 KHz/13-14 MHz/  
860-960 MHz

**Available ICs:** EM, NXP, Infineon, ST Micro, @RFID  
Compatible, Impinj, Alien

**Chip connection/packaging:** COB Module

**Housing Material:** ABS, PPS

**Antenna material:** Copper wire, Etched  
Aluminium, Etched Copper

**Form factor:** Various shapes and form factors



### RFID Waste Bin Tags

**Operating frequency:** 125-134 KHz, 13-14 MHz

**Available ICs:** EM, NXP, Infineon, ST Micro,

@RFID Compatible

**Chip connection/packaging:** COB Module

**Housing material:** ABS, PPS

**Antenna material:** Copper Wire

**Form factor:** Screw shape



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### LF/HF Laundry Tags

**Operating frequency:** 125-134 KHz, 13-14 MHz

**Available ICs:** EM, NXP, Infineon, ST Micro,

@RFID Compatible

**Chip connection/packaging:** COB Module

**Housing Material:** ABS, PPS

**Antenna material:** Copper wire

**Form factor:** Circular



---

### UHF Laundry Tags

**Operating frequency:** 840-960 MHz

**Available ICs:** NXP, Impinj, Alien

**Chip connection/packaging:** COB Module,  
Inductive coupling

**Surface Material:** High durability fabric

**Antenna material:** Alloy Wire

**Form factor:** Rectangular



---

### Tamper-evident Seal Tags

**Operating frequency:** 125-134 KHz, 13-14 MHz

**Available ICs:** EM, NXP, Infineon, ST Micro,

Silicon Craft, @RFID Compatible

**Chip connection/packaging:** COB Module

**Housing Material:** ABS, Nylon

**Antenna material:** Copper wire

**Form factor:** Lockable single use tamper-evident  
seal



### Tamper-resistant Seal Tags

**Operating frequency:** 13-14 MHz/860-960 MHz

**Available ICs:** NXP, Infineon, ST Micro, @RFID

Compatible, Impinj, Alien

**Chip connection/packaging:** Bare die flipchip

**Housing Material:** ABS, Nylon

**Antenna material:** Etched Aluminium or Copper

**Form factor:** Lockable single use tamper-resistant seal



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### Mini Bullet Tags

**Operating frequency:** 13-14 MHz

**Available ICs:** NXP, Infineon, ST Micro, @RFID

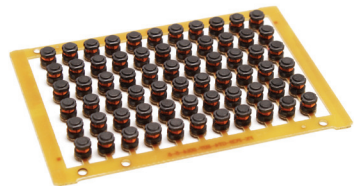
Compatible

**Chip connection/packaging:** COB Module

**Base Material:** Ferrite

**Antenna material:** Copper Wire

**Form factor:** Cylinder "bullet" shape



@RFID Biometric RFID product range translates the latest R&D results in the field of secure identification. Battery assisted and equipped with high precision fingerprint sensor, the Biometric RFID transponders enable a unique authentication process prior to the RFID communication, while its core antenna and chip are based on FPC substrate, whose reliability and performance are proven. A further process of hot lamination provides the needed resistance and follows strictly the ISO standards.

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## Fingerprint Cards

**Operating frequency:** 13.56 MHz

**Available ICs:** NXP, Infineon, ST Micro, @RFID

Compatible

**Chip connection/packaging:** Direct bonding, SMT

**Substrate:** FPC, PVC

**Antenna material:** Etched copper

**Form factor:** ISO Size



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## Fingerprint Prelaminated Inlays

**Operating frequency:** 13.56 MHz

**Available ICs:** NXP, Infineon, ST Micro, @RFID

Compatible

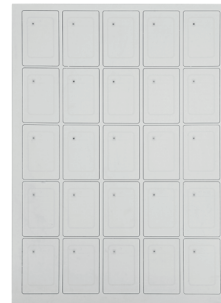
**Chip connection/packaging:** Direct bonding, SMT

**Substrate:** FPC, PVC

**Antenna material:** Etched copper

**Size and layout:** Up to 550x700 mm

**Thickness:** From 450 to 600 microns





# ENEFCY (NFC Tags)



@RFID ENEFCY product range is designed for any NFC and mobile based applications. The proven high frequency RFID technology is here enhanced by high-end enclosing and housing materials and sophisticated design, making the products ergonomic, durable, user friendly and high quality. Further innovations and ingenious solutions offer wide application possibilities.

---

## NFC Labels

**Operating frequency:** 13.56 MHz

**Available ICs:** NXP, ST Micro, @RFID Compatible

**Chip connection/packaging:** Bare die Flipchip

**Substrate:** PET with Adhesive on Release paper with Frontal Paper/PVC/PET/PP

**Antenna material:** Etched Aluminium, Etched Copper

**Form factor:** On roll / Piece by piece



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## Epoxy Tags

**Operating frequency:** 13.56 MHz

**Available ICs:** NXP, ST Micro, @RFID

Compatible HF Range

**Chip connection/packaging:** COB Module

**Substrate:** PVC core with Epoxy doming

**Antenna material:** Copper Wire

**Form factor:** Various shapes and sizes



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## NFC Wristbands

**Operating frequency:** 13.56 MHz

**Available ICs:** NXP, ST Micro, @RFID Compatible

**Chip connection/packaging:** COB Module

**Base Material:** PVC core, Fabric band

**Antenna material:** Copper Wire

**Form factor:** Various shapes and sizes

**Close:** Single or multiple use



### NFC Buttons

**Operating frequency:** 13.56 MHz

**Available ICs:** NXP, ST Micro, @RFID Compatible

HF Range

**Chip connection/packaging:** COB Module

**Substrate:** PET, PVC

**Antenna material:** Etched Aluminium

**Form factor:** Various shapes, sizes and constructions



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### LED NFC Tags

**Operating frequency:** 13.56 MHz

**Available ICs:** NXP, ST Micro, @RFID Compatible

+ LED

**Chip connection/packaging:** COB Module

**Substrate:** PVC, Epoxy doming

**Antenna material:** Copper Wire

**Form factor:** Various shapes and sizes



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### NFC Posters

**Operating frequency:** 13.56 MHz

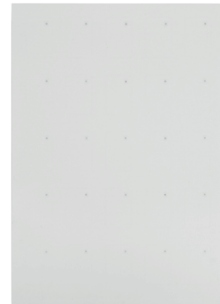
**Available ICs:** NXP, ST Micro, @RFID Compatible

**Chip connection/packaging:** COB Module

**Substrate:** PVC

**Antenna material:** Copper wire

**Size and layout:** Various sheet sizes



## BIELEE (BLE Tags)



@RFID BIELEE product range is designed for Bluetooth and iBeacon mobile based applications. Based on a high quality PCB technology, assembled by SMT, the products are enclosed in high quality resistant housing materials providing sophisticated design and making the products durable, user friendly and high quality.

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### BLE Tags

**Standard:** Bluetooth Low Energy

**Available ICs:** Nordic ID, ST Micro

**Chip connection/packaging:** SMT

**Material:** PCB/ABS Housing

**Antenna material:** Etched Copper

**Form factor:** Various housing



@RFID Smart Sensing IOTags are resulting from years of intense R&D work and high market demand. They incorporate various contactless communication interfaces, including high and ultra high frequency RFID (NFC and UHF), BLE and LoRa, while the smart sensors can measure temperature, humidity, shock or movement. Passive or battery assisted (loggers), the IOTags can have different form factors, from highly resistant rugged devices to flexible labels.

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## NFC T°Tag Temperature Loggers

**Interface:** NFC (frequency: 13.56MHz)

**Available ICs:** NXP, AMS

**Sensor:** On-chip temperature sensor

**Chip connection/packaging:** SMT

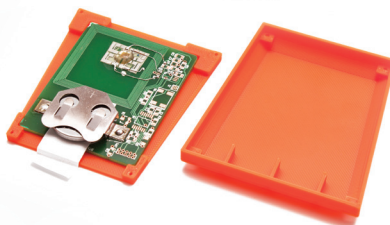
**Material:** PCB/ABS Housing

**Antenna material:** Etched Copper

**Form factor:** ABS Shell, various shapes

**Supply voltage:** RF field or 1.2 to 3.3V

**Visual Indication:** LED, Electro chromatic display



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## Dual RFID T°Tag Temperature Loggers

**Interface:** Dual NFC + UHF (13.56 and 860-960 MHz)

**Available ICs:** NXP, AMS

**Sensor:** On-chip temperature sensor

**Chip connection/packaging:** SMT

**Material:** PCB/ABS Housing

**Antenna material:** Etched Copper, Chip antenna

**Form factor:** ABS Shell, Epoxy molding

**Supply voltage:** RF field or 1.2 to 3.3v

**Visual Indication:** LED, Electro chromatic display



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## RFID T°Tag Logger Labels

**Interface:** NFC and UHF dual RFID

**Standard:** 13.56 and 860-960 MHz

**Chips:** AMS, NXP

**Sensor:** On-chip temperature sensor

**Chip connection/packaging:** COB + Pick and Stamping

**Substrate:** PET, Adhesive with Frontal PET/PP

**Antenna material:** Etched Aluminium

**Form factor:** Label

**Supply voltage:** RF field or 1.2 to 3.3v



### Smart Sensing IOTag Loggers

**Interface:** NFC and BLE

**Available ICs:** ST Micro, Nordic ID

**Sensor:** External Temperature & Humidity, Accelerometer

**Chip connection/packaging:** SMT

**Material:** PCB/ABS Housing

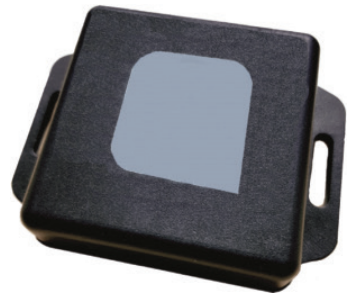
**Antenna material:** Etched Copper

**Form factor:** ABS Shell, Epoxy molding

**Supply voltage:** RF field or 1.2 to 3.3v

**Visual Indication:** LED, Electro chromatic display

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### Smart Sensing IOT Card Loggers

**Interface:** NFC, UHF and BLE

**Available ICs:** ST Micro, Nordic ID

**Sensor:** External Temperature & Humidity, Accelerometer

**Chip connection/packaging:** SMT

**Material:** FPC/Hot laminated PVC

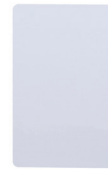
**Antenna material:** Etched Copper

**Form factor:** ABS Shell, Epoxy molding

**Supply voltage:** RF field or 1.2 to 3.3v

**Visual Indication:** LED, Electro chromatic paper display

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### Smart Sensing LoRa IOTag Loggers

**Interface:** NFC, BLE and LoRa

**Available ICs:** ST Micro, Nordic ID

**Sensor:** External Temperature & Humidity, Accelerometer

**Chip connection/packaging:** SMT

**Material:** PCB/ABS Housing

**Antenna material:** Etched Copper

**Form factor:** ABS Shell, Epoxy molding

**Supply voltage:** 3.3V battery, 12V plug-in

**Visual Indication:** LED, Electro chromatic paper display



@RFID offers a complete range of quality RFID readers, from basic reader modules to high-end performant connected devices, dedicated to different applications and usages. Along with the products and the attentive after-sales service, a further integration support can be provided by local technology partners and integrators.

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## LF RFID Reader Module

**Standard:** LF

**Operating frequency:** 125 KHz

**Supported ICs:** EM, Atmel, Compatible

**Assembly:** SMT

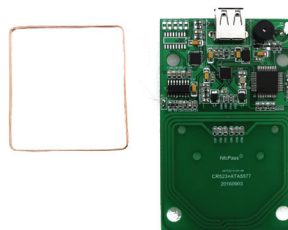
**Material:** PCB

**Antenna material:** Wired Copper

**Reading range:** Up to 10 cm **Interface/**

**Power supply:** DC, USB

**SDK:** Win32, Win64 SDK



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## HF RFID Reader Module

**Standard:** HF (NFC)

**Operating frequency:** 13.56 MHz

**MCU:** ARM 32-bit Cortex

**Supported ICs:** NXP, ST Micro, Infineon, Compatible

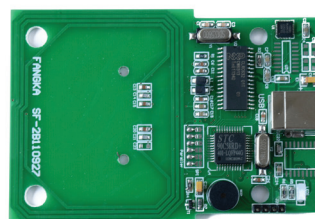
**Assembly:** SMT

**Material:** PCB

**Antenna material:** Etched Copper

**Reading range:** Up to 10 cm

**Interface/Power supply:** DC, USB



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## URA Mini (Mobile UHF Reader)

**Standard:** UHF (frequency: 860-960 MHz)

**Supported ICs:** NXP, Alien, Impinj

**Supported platforms:** Android, iOS

**Assembly:** SMT

**Material:** PCB/ABS Housing

**Form factor:** Mobile accessory

**Reading range:** Up to 50 cm

**Interface:** 3.5 mm Audio jack

**Power supply:** USB



### URA Blue (Bluetooth UHF Reader)

**Interface:** UHF (frequency: 860-960 MHz)

**UHF Module:** Impinj R2000

**Supported ICs:** NXP, Alien, Impinj

**Supported platforms:** PC (Win/Mac), Mobile (Android/iOS)

**Form factor:** Handheld racket

**RF output:** 0-30 dBm, 1 dB / Step

**Battery:** 3000 mAh Li-ion

**Reading range:** Up to 10 m

**Visual Indication:** 1.3 inch OLED LCD display



### URA One (All-in-one UHF Reader)

**Interface:** UHF (frequency: 860-960 MHz)

**Processor:** ARM Cortex M3, 100M

**Supported ICs:** NXP, Alien, Impinj

**Supported interfaces:** Ethernet, RS232, RS485, Wiegand

**Material:** PCB/ABS Housing

**Configuration:** All-in-one, Integrated antenna

**RF output:** 0-31 dBm

**Power supply:** DC 9-15V

**Reading range:** Up to 7 m



### URA Multi (4 Channel UHF Reader)

**Interface:** UHF (frequency: 860-960 MHz)

**Processor:** ARM Cortex M3, 100M

**Supported ICs:** NXP, Alien, Impinj

**Supported interfaces:** Ethernet, RS232, RS485, Wiegand

**Material:** PCB/ABS Housing

**Form factor:** Metal box

**Antenna output:** Up to 4 antennas

**RF output:** 0-31 dBm

**Power supply:** DC 9-15V

**Reading range:** Up to 10 m



@RFID has strong R&D capabilities and extended know-how in RFID, IOT and contactless technologies, combined with fully integrated production facilities, providing a competitive advantage for innovation and design. With its dedicated team, the company is eager to undertake any challenge for custom product development, following particular customer and application requirements.

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## Custom Antenna and Transponder

**Standard:** LF, HF (NFC), UHF RFID

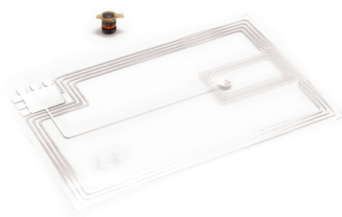
**Available ICs:** EM, NXP, ST Micro, Infineon, @RFID Compatible, Alien, Impinj

**Chip connection/packaging:** COB Module, Bare die flipchip, SMT

**Substrate/Material:** Coil, PET film, PCB

**Antenna material:** Wired copper, Etched Aluminium or Copper

**Form factor:** Custom



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## Custom Housing

**Material:** PVC, PET, PP, PC, ABS, Silicon, Nylon, Wood, Metal, Composite

**Shapes & sizes:** Custom design, various configurations

**Special features:** IP resistance, custom application purpose functionalities

**Mold and sampling:** 3D print, CNC

**Production and Assembly :** Converting, Lamination, Gluing, Ultrasonic welding, Molding, Injection, Doming, Encapsulation



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## Custom Device Architecture

**Standard:** RFID, BLE, LoRa, WiFi

**Optional:** Smart Sensors, Custom connectivity

**Chip connection/packaging:** COB Module, Bare die flipchip, SMT

**Substrate/Material:** Coil, PET film, PCB, optional converting, lamination or housing

**Form factor:** Custom

**Supply voltage:** RF field, Integrated battery, Power supply

**Optional visual Indication:** LED, Displays

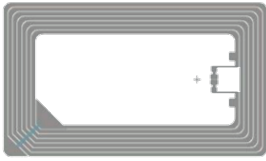




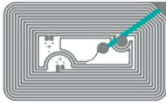


The logo features a stylized lowercase 'a' inside a square frame, with three orange lines to its left. A horizontal line extends from the bottom of the frame, ending in four dots.

# ANTENNA CATALOGUE



DA 3102	Features
Inlay	78×47 mm
Antenna	76×45 mm
Frequency	13.5-14.5 MHz
Read range	≥5 cm
Protocol	ISO 15693
Chips	NXP I-code Series



DA 3110	Features
Inlay	42×27 mm
Antenna	40×25 mm
Frequency	13.8-14.2 MHz
Read range	6-8 cm
Protocol	ISO 15693
Chips	NXP I-code Series



DA 3112	Features
Inlay	Φ24 mm
Antenna	Φ22 mm
Frequency	13.8-14.2 MHz
Read range	5-7 cm
Protocol	ISO 15693
Chips	NXP I-code Series



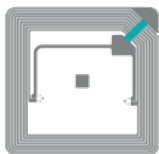
DA 3108	Features
Inlay	Φ27 mm
Antenna	Φ25 mm
Frequency	14-14.4 MHz
Read range	≥2 cm
Protocol	ISO 15693
Chips	NXP I-code Series



DA 3111	Features
Inlay	13.5×13.5 mm
Antenna	11.5×11.5 mm
Frequency	13.8—14.0 MHz
Read range	≥2 cm
Protocol	ISO 15693
Chips	NXP I-code Series



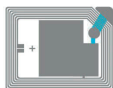
DA 3113	Features
Inlay	Φ15 mm
Antenna	Φ13 mm
Frequency	16.9-17.1 MHz
Read range	≥2 cm
Protocol	ISO 15693
Chips	NXP I-code Series



DA 3116	Features
Inlay	47×47 mm
Antenna	45×45 mm
Frequency	13.8-14.2 MHz
Read range	6-8 cm
Protocol	ISO 15693
Chips	NXP I-code Series



DA 3125	Features
Inlay	28x15 mm
Antenna	26x11 mm
Frequency	13.7-13.9 MHz
Read range	≥3 cm
Protocol	ISO 15693
Chips	NXP Icode Series



DA 3218	Features
Inlay	25×20 mm
Antenna	23×18 mm
Frequency	13.5-14.5 MHz
Read range	≥2 cm
Protocol	ISO 14443 A
Chips	NXP Mifare Series/ Fudan08



DA 3117	Features
Inlay	38×10 mm
Antenna	36×8 mm
Frequency	13.9-14.1 MHz
Read range	≥3 cm
Protocol	ISO 15693
Chips	NXP I-code Series



DA 3206	Features
Inlay	77x45 mm
Antenna	75x43 mm
Frequency	13.5-14.5 MHz
Read range	≥5 cm
Protocol	ISO 14443 A
Chips	NXP Mifare Series /Fudan08



DA 3258	Features
Inlay	Φ17.8 mm
Antenna	Φ15.8 mm
Frequency	13.8-14.2 MHz
Read range	2-3 cm
Protocol	ISO 14443A
Chips	NXP Mifare Series/ Fudan08



DA 3222	Features
Inlay	Φ37 mm
Antenna	Φ35 mm
Frequency	13.5-14.5 MHz
Read range	≥4 cm
Protocol	ISO 14443A
Chips	NXP Mifare Series /Fudan08



DA 3228	Features
Inlay	77x45 mm
Antenna	75x43 mm
Frequency	13.5-14.5 MHz
Read range	≥5 cm
Protocol	ISO 14443 A
Chips	NXP NTAG Series /@RFID Compatible Series



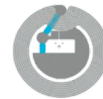
DA 3238	Features
Inlay	Φ24 mm
Antenna	Φ22 mm
Frequency	13.5-14.5 MHz
Read range	≥2 cm
Protocol	ISO 14443 A
Chips	NXP NTAG Series /@RFID Compatible Series



DA 3226	Features
Inlay	Φ22 mm
Antenna	Φ20 mm
Frequency	13.5-14.5 MHz
Read range	2-3 cm
Protocol	ISO 14443A
Chips	NXP Mifare Series /Fudan08



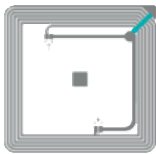
DA 3231	Features
Inlay	17 mm
Antenna	15 mm
Frequency	13.5-14.5 MHz
Read range	≥5 cm
Protocol	ISO 14443 A
Chips	NXP NTAG Series /@RFID Compatible Series



DA 3250	Features
Inlay	Φ27 mm
Antenna	Φ25 mm
Frequency	13.8—14.2 MHz
Read range	2 - 3 cm
Protocol	ISO 14443 A
Chips	NXP Mifare Series /Fudan08



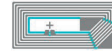
DA 3256	Features
Inlay	Φ39 mm
Antenna	Φ37 mm
Frequency	13.8-14.2 MHz
Read range	3-5 cm
Protocol	ISO 14443 A
Chips	NXP NTAG Series / ST / @RFID Compatible Series



DA 3262	Features
Inlay	42×42 mm
Antenna	40×40 mm
Frequency	13.8-14.2 MHz
Read range	6-8 cm
Protocol	ISO 14443A
Chips	NXP NTAG Series / ST / @RFID Compatible Series



DA 4221	Features
Inlay	45x23 mm
Antenna	43x21 mm
Frequency	860-960 MHz
Read range	≥5 m
Protocol	ISO18000-6C/EPC Gen2
Chips	NXP U-code Series



DA 3260	Features
Inlay	10×20 mm
Antenna	8×18 mm
Frequency	13.8-14.2 MHz
Read range	1-2 cm
Protocol	ISO 14443A
Chips	NXP NTAG Series / ST / @RFID Compatible Series



DA 4201	Features
Inlay	74x18 mm
Antenna	73x17 mm
Frequency	902 MHz - 928 MHz
Read range	Up to 10 m
Protocol	ISO18000-6C/EPC Gen2
Chips	NXP U-code Series



DA 4243	Features
Inlay	50x30 mm
Antenna	52x32 mm
Frequency	860 – 960 MHz
Read range	Up to 10 m
Protocol	ISO18000-6C/EPC Gen2
Chips	NXP U-code Series



DA 6201	Features
Inlay	73×21 mm
Antenna	71×19 mm
Frequency	860-960 MHz
Read range	≥6 m
Protocol	ISO18000-6C/EPC Gen2
Chips	Alien Higgs Series



DA 6218	Features
Inlay	24.5×24.5mm
Antenna	22.5×22.5mm
Frequency	860-960 MHz
Read range	≥3.5 m
Protocol	ISO18000-6C/EPC Gen2
Chips	Alien Higgs Series



DA 6239	Features
Inlay	24×10 mm
Antenna	22×8 mm
Frequency	860-960 MHz
Read range	≥0.3 m
Protocol	ISO18000-6C/EPC Gen2
Chips	Impinj Monza Series



DA 6219	Features
Inlay	95×21 mm
Antenna	93×19 mm
Frequency	860-960 MHz
Read range	≥6 m
Protocol	ISO18000-6C/EPC Gen2
Chips	Alien Higgs Series



DA 6220	Features
Inlay	46x46 mm
Antenna	44x44 mm
Frequency	860-960 MHz
Read range	≥6 m
Protocol	ISO18000-6C/EPC Gen2
Chips	Impinj Monza 4 Series



DA 6263	Features
Inlay	14x11 mm
Antenna	12×9 mm
Frequency	860-960 MHz
Read range	≥0.2 m
Protocol	ISO18000-6C/EPC Gen2
Chips	Alien Higgs Series



DA 6265	Features
Inlay	96x5 mm
Antenna	94x3 mm
Frequency	860-960 MHz
Read range	≥3 m
Protocol	ISO18000-6C/EPC Gen2
Chips	Alien Higgs Series



DA 6277	Features
Inlay	Φ12 mm
Antenna	Φ10 mm
Frequency	860-960 MHz
Read range	≥0.3 m
Protocol	ISO18000-6C/EPC Gen2
Chips	Impinj Monza R6 Series



DA 6275	Features
Inlay	72×52 mm
Antenna	70×50 mm
Frequency	860-960 MHz
Read range	≥6 m
Protocol	ISO18000-6C/EPC Gen2
Chips	Impinj Monza R6 Series



DA 6285	Features
Inlay	42x17 mm
Antenna	40×15 mm
Frequency	860-960 MHz
Read range	≥4 m
Protocol	ISO18000-6C/EPC Gen2
Chips	Alien Higgs Series



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