



**2016 Products Catalog**



**THE ART OF IDENTIFICATION**





**CAENRFID**

THE ART OF IDENTIFICATION



Authorized Reseller:  
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## 2016 Products Catalog

We are proud of the high quality of our products.

## ISO 9001

ISO 9001:2008 approved quality system ensures all our internal processes.

From R&D to the registration of the incoming purchase orders, through:

- Resource Planning
- Scheduling
- Production

Our quality system is responsible for the proper functioning of all our internal processes and is subject to regularly unannounced audits, carried out by the National Standards Authority.

From the initial product design and its development stages, to the delivery of the production batches, we follow documented procedures that cover every aspect of our business. The auditing of our procedures by an independent third party guarantees that our business runs smoothly and efficiently.

The quality of CAEN RFID srl products is constantly monitored by the application of the UNI EN ISO 9001:2008 standard. CAEN RFID srl is ISO 9001 certified since 2012.



ISO9001:2008  
certified Company





## President's Foreword

### ***New challenges, new goals!***

*Dear Friends,*

*I still remember when we began this adventure 10 years ago. Very few in the world knew about this emerging technology and the opportunities it could have offered.*

*There were no reference points, no communication standards, no real life applications. But, for pioneers of technology frontiers like we are, challenges are stimulus to reach new goals.*

*We started by doing what we knew better: developing state-of-the-art technologies.*

*Today the scenario has changed, technology is mature, real applications are live and proven and new vertical sectors in which the RFID technology improves processes efficiency continuously emerge.*

*In the meantime the expertise of our team evolved so that we are now ready to face the new challenges: developing complete solutions to increase efficiency in complex scenarios. This will be our commitment for the next years and we will do that by providing the best available quality products, comprehensive system design and the best suited technologies.*

*We are excited to deal with this challenging task supporting our clients with a unique mix of strong technology skills, high quality standards and well-known Italian creativity.*

*A sincere thanks to you all,*

President & CEO  
Ing. Adriano Bigongiari



## Company Profile

CAEN RFID is a leading company in Automatic Identification (Autold). It has focused its activities in the Radiofrequency Identification (RFID) in the Ultra High Frequency (UHF) band.

UHF RFID technology allows to read and write information on devices, named tags or transponders, placed on objects for their identification. Read/write operations can occur without line-of-sight, at longer distance and faster speed compared to other passive technologies, thus allowing a cheaper and more efficient process automation.

CAEN RFID has developed its easy2read<sup>®</sup> and easy2log<sup>®</sup> product lines according to the EPC Gen2 (ISO18000-63) standard. Our team of engineers designs state-of-the-art devices and provides continuous support and feedback to customers. This provides our customers with a better understanding of RFID and our products, enabling their use in a more efficient and performing way.

The quality of our products, the consultancy service at the time of purchase and the after-sales support are among our top priority objectives.

Thanks to our detailed knowledge of all deployment aspects of an RFID installation, together with our large partners' network, CAEN RFID is also the ideal contact point to plan and develop outstanding and highly performing RFID solutions.

The most promising fields in which RFID can provide a quick Return on Investment (ROI) span from Fashion, to Pharma and Food, Waste Management, Security and Access Control, Industrial Manufacturing and Logistics. CAEN RFID can provide support with the best products and the development of the end user's solution.

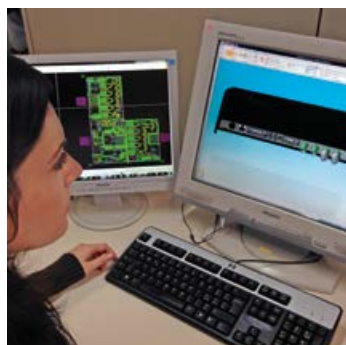
## Our History

CAEN RFID was founded in 2006 as a private-owned Italian company, but its activities started in 2003 as the RFID division of CAEN SpA. It has been the first European company to design, produce and market an UHF RFID reader. It is a partner of the most important associations, including EPCglobal and ETSI, participating to the definition of the standards.

The Management, Technical and Commercial teams are young, dynamic and greatly experienced with everyday RFID applications. All our staff has been previously involved in the experience within CAEN SpA, world leader in electronic instrumentation for Nuclear and Particle Physics. CAEN electronics is always at the forefront of technology and has become a "de facto" standard in most important Physics labs around the world.

In 2012 CAEN RFID has obtained the ISO9001:2008 Quality Certification. This award has driven CAEN RFID to supply products and services of great quality to our customers, who we consider our greatest asset.

In 2015 Datalogic became a shareholder of CAEN RFID through the acquisition of the 20% of the company.



# SOLUTIONS



Embedded

Fashion

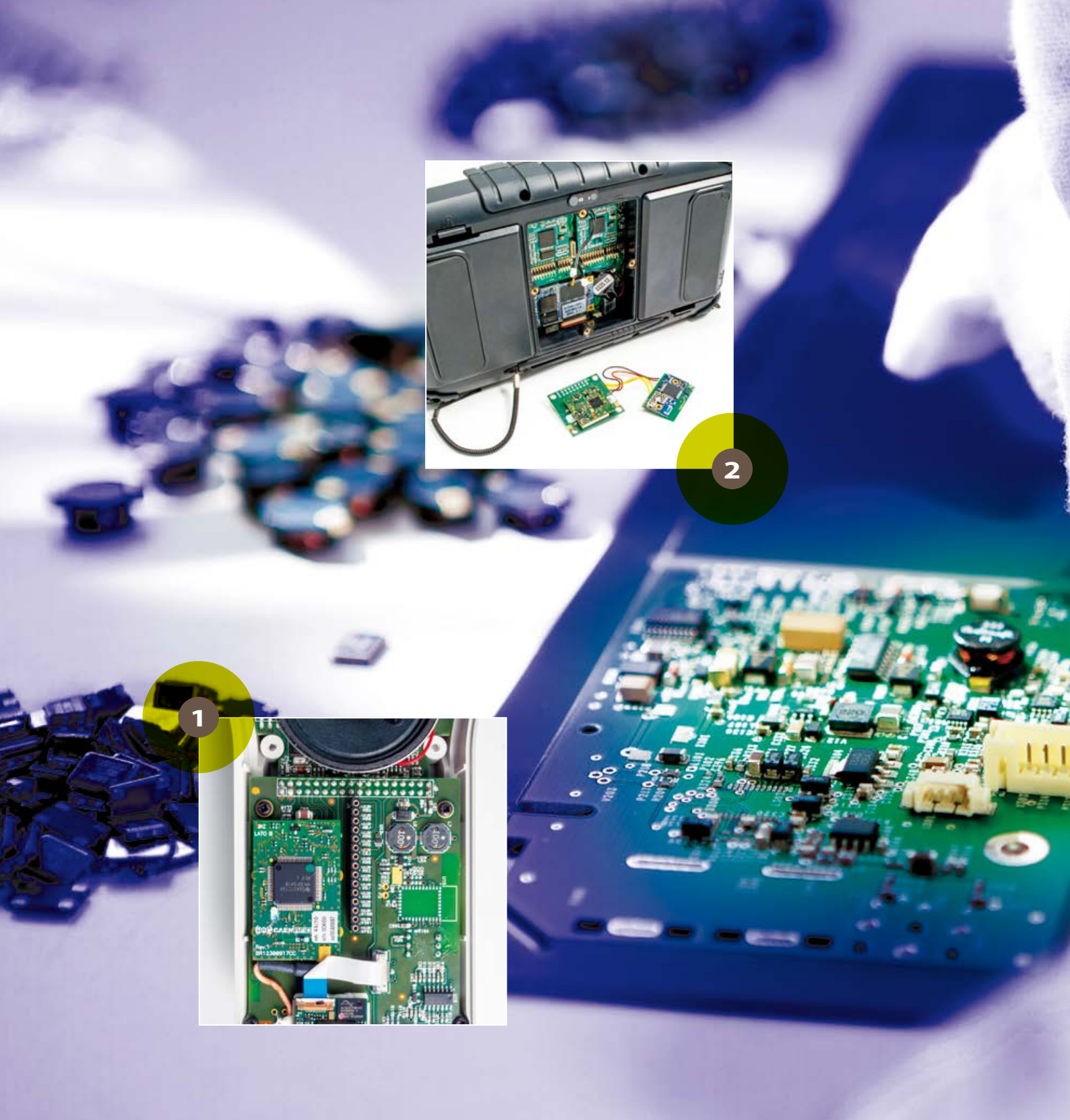
Temperature Controlled Supply Chain

Waste Management

Access Control

Industrial Manufacturing & Logistics





1

2

## Embedded

*Handhelds, Printers, Access Control Gates, Industrial Automation*

The use of RFID technology is today more pervasive than just a few years ago. Evolving from the traditional gate or portal concept, the embedding of RFID modules into products is undoubtedly an added value to existing and well established technologies.

UHF RFID products are perceived as smart devices, typically able to address multiple functions in several applications, thus providing process innovation and competitive advantage to the end users. The most popular applications include inventory in industrial automation and mobility, anti-counterfeiting, security, access control, product visibility and customer experience.

*Take the opportunity to use our skills and experience for the design of your new product or for the integration of the UHF RFID technology inside your existing product.*

### R1230 - Quark

OEM UHF Multiregional Ultra Compact Reader



- Small form-factor
- Cost effective device
- Low power consumption
- Ideal for low-power terminals



3



4



2

**R1270 - Quark Up**  
500mW UHF RFID Ultra Compact Module



- The smallest module on the market
- Excellent performances at low-power consumption
- Best suited for large population of tags
- Ideal for small mobile terminals and accessories

p.20

3

**A528B- Muon**  
OEM UHF Compact Reader

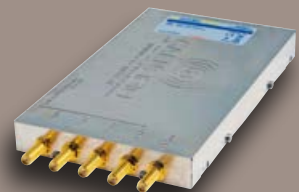


- Very compact form-factor
- Excellent read-range performances
- Best suited for large population of tags
- Ideal for high-end mobile terminals or industrial automation applications

p.21

4

**A941M - Tau**  
Embedded UHF RFID Reader



- Four antenna ports
- Full power (2W ERP) capability
- Compact form-factor
- Ideal for forklift, access control gates and any other long-range application

p.21





## Fashion

### Manufacturing - Retail

The use of RFID for Fashion and Retail applications is growing on a daily basis. From manufacturing to retail and brand owners, all stakeholders are feeling the benefits of item level tagging.

All processes in the Fashion chain, from production monitoring and planning, to inventory control, to in-store operations, can show a consistent ROI once RFID is in use.

Moreover, the increase of sales and reduction of out-of-stock provide the Fashion and Retail industry with consistent motivations for RFID adoption.

Last but not least, customer experience is becoming an even more powerful tool for brand loyalty and in-store customer service.

### R1260I - Slate and R1250I - Tile

UHF RFID Desktop Reader



- Point-of-Sale and checkout applications
- Picking and packing in automated stockhouses
- Tag initialization and verification





### R4301P - ion

UHF Long Range Reader with GPRS/WIFI



- Automatic inventory in stockhouse and shop floor
- Smart shelves and smart changing rooms
- Video output for improved customer experience

p.22

### R1240IE/IU - qID and R1170I - qIDmini

Wearable Bluetooth UHF RFID/BARCODE Reader



- Manual inventory management in shop floor
- Tag encoding from barcode label in manufacturing
- Agent inspection in stores and grey market identification
- Bluetooth communications for easy interfacing
- Easy Bluetooth interfacing with Android, iPhone and iPad

pp.24,25

### Labels and Printers



- Labels:
  - Labels for price tags
  - Special tags for Jeans and Jacket labels and badges
- Printers:
  - Tag initialization and verification
  - Rugged design for stockhouse operations

pp.35,37





## Temperature Controlled Supply Chain

### Pharma - Food

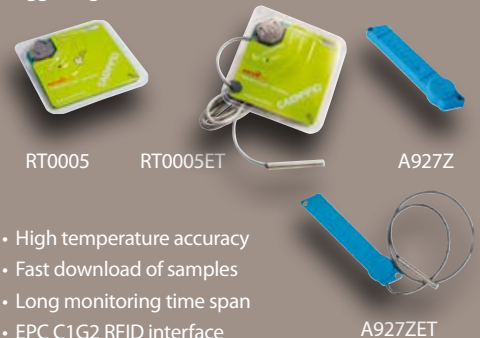
The vast majority of drugs and vaccines need to be shipped usually between 2 °C and 8 °C. Approximately one fifth of the total pharmaceutical market is represented by temperature-sensitive products.

CAEN RFID's technology enables a real-time temperature monitoring using RFID smart sensor tags within shipping containers and readers located at critical stages of the shipment.

Most recently, the Pharmaceutical companies are looking with great interest at the RFID technology, not only for temperature sensing products, but also for internal and external products and assets tracking. Food stocking and transportation can also take great benefits and advantages by using RFID loggers to control temperature at any stage of the processes.

### RT0005 and A927Z

Easy2Log Low Cost Semi-Passive UHF Temperature Logger Tag



- High temperature accuracy
- Fast download of samples
- Long monitoring time span
- EPC C1G2 RFID interface

A927ZET





**R1260I - Slate**  
UHF RFID Desktop Reader

2



- Integrated reader for distributed temperature control at check points
- Allows easy desktop check of temperature tag samples
- Easy USB power and PC interfacing

p.26

**R4301P - Ion**  
UHF Long Range Reader with GPRS/WIFI

3



- Gate installation checking point for temperature tags
- Video output for improved operations
- On-board intelligence for scripting and decision making
- Embedded optional GPRS Modem for remote data transmission

p.22

**R1240IE/IU - qID**  
Wearable Bluetooth UHF RFID/BARCODE Reader

4

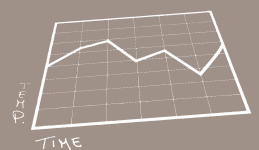


- Handheld reader for distributed temperature control at check points
- Allows easy mobile check of temperature tag samples
- Easy Bluetooth interfacing with Android, iPhone and iPad

p.24

**Temp Track - WOCC**  
Software Solutions

5



- Data distribution via web engine
- Backward and forward product tracing
- Reduction of errors in delivery
- Analytic reports and detailed graphics

p.34





3

## Waste Management

### *Collection, transport and processing of waste material*

The waste management and recycling industry is today one of the most interesting market segments. Both public and private companies are turning to technology and they see the RFID UHF as mature and suitable.

All the stages of the waste management and recycling process can be improved by providing a fast and reliable identification and data collection process.

Another important advantage comes with the ability to use the collected data in order to certify the process, improve the route plan, elaborate statistics and reward the most virtuous users.

CAEN RFID's proposal is able to cover the market request for the main waste and recycling industry applications mixing UHF RFID, GPRS and GPS technologies.

1

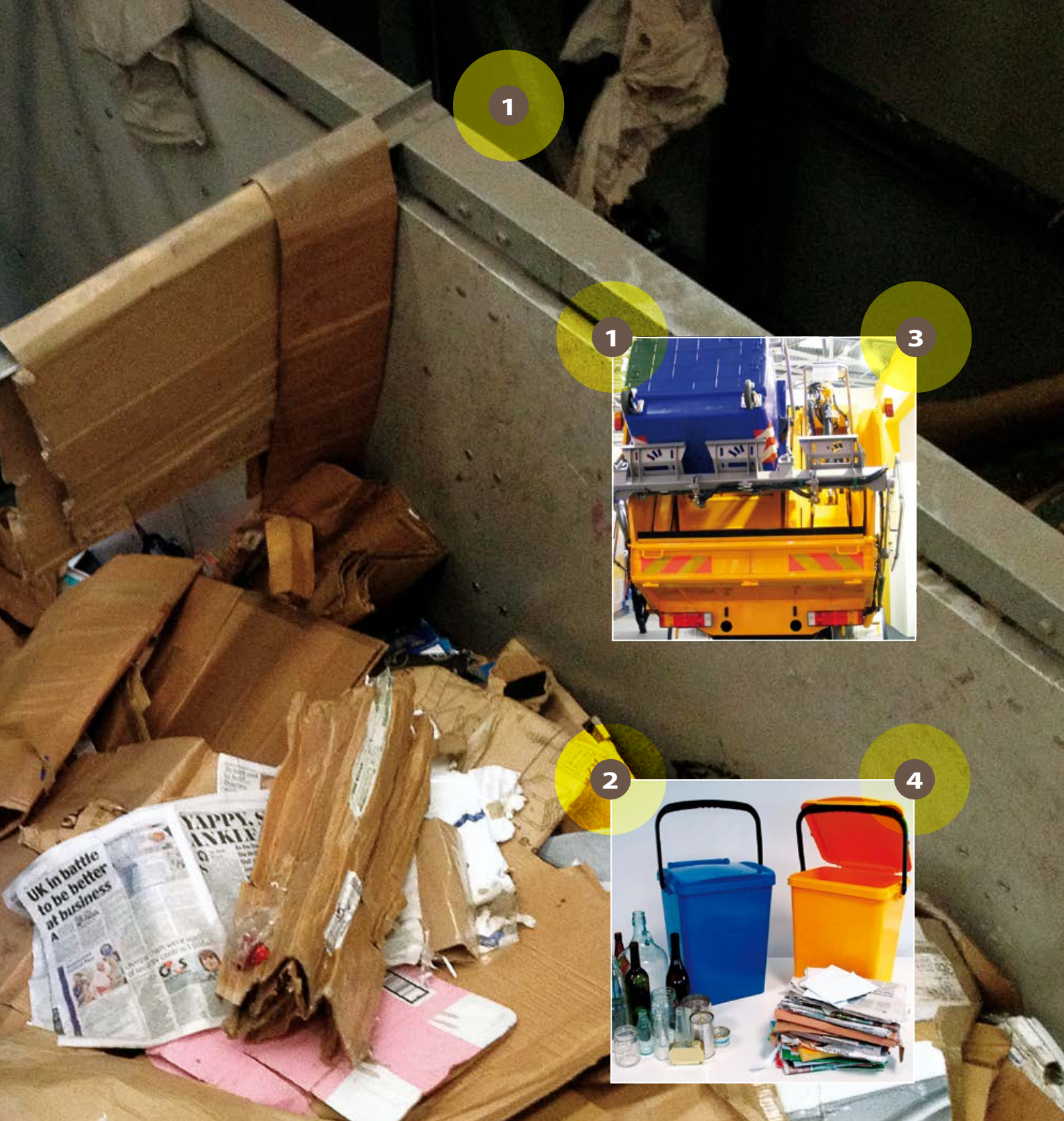
### **R4301P - Ion**

UHF Long Range Reader with GPRS/WIFI



- Allows automatic reading of garbage bins and bags
- Ideal for on-truck installation
- On-board intelligence for smart process handling
- Multi peripherals handling, including GPS and embedded GPRS





1

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**R1240IE/IU - qiD and R1170I - qiDmini**

Fully integrated UHF RFID USB/Bluetooth reader



- Handheld reader for manual read of bins and bags
- Ideal for recycled waste collection
- Easy USB recharging and Bluetooth interfacing with Android, iPhone and iPad

pp. 24, 25

**A941M - Tau**

Embedded UHF RFID Reader



- Allows automatic reading of garbage bins and bags
- Ideal for on-truck installation
- Serial connection allows interfacing to existing navigation systems

p. 21

**Labels and Special Tags**



- Labels for plastic bags in door-to-door applications
- Ready-made plastic bags with embedded tag
- Metal mount tags for large containers
- Rugged tags for bins and plastic containers

p. 35





## Access Control

### People - Vehicles

Nowadays many organizations require an efficient and secure access control system to manage the flow of employees, visitors and vehicles into, around and out of buildings.

Having an UHF RFID system for access control means having a system able to grant the right access to the right person/vehicle at the right time, overcoming the limitations of standard access control systems. Indeed proximity readers, biometric scanners and barcode all require a direct contact, physical or through a badge, with the user (or require the user to place his badge very close to the reader). Such limitations are time consuming and sometime cannot be easily performed.

CAEN RFID offers a variety of devices that allow to implement a fast and efficient access control system.

1

### R4301P - Ion

UHF Long Range Reader with GPRS/WIFI



- Allows gate installations for vehicles and people identification
- On-board intelligence for standalone operations and smart process handling
- Multi peripherals handling, including GPS and embedded GPRS





### MSTGW - Quantum

UHF RFID gate for people access control

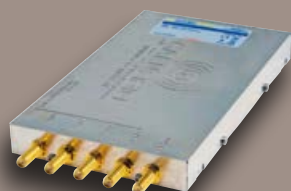


- Complete standalone gate for people identification
- Low-profile, light weight equipment

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### A941M - Tau

Embedded UHF RFID Reader

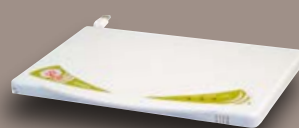


- Allows gate installations for vehicles and people identification
- Serial connection allows easy interfacing to existing access systems

p. 21

### R12601 - Slate

UHF RFID Desktop Reader



- Wall mount allows personnel badge and card detection
- Access identification and security keying
- Useful for badge and card initialization

p. 26

### Special Tags



- Cards and Badges for personnel identification
- Windshield tags for vehicles
- Metal-mount tags for trucks and trailers

p. 35





1

4

## Industrial Manufacturing & Logistics

### *Production Lines, Stockhouses, Loading Doors, Fleet Management, Asset Tracking*

Industrial Manufacturing has always adopted several strategies, including Just in Time and Kanban, to reduce in-process inventory and its associated costs.

The UHF RFID technology becomes a powerful tool to implement these strategies, adding features such as Return on Investment (ROI), quality and efficiency to the whole manufacturing process.

Benefits from RFID adoption include raising the productivity of material reception, enabling of process automation and improvement of the global logistics.

### R4301P - Ion

UHF Long Range Reader with GPRS/WIFI



- Allows gate and mini-gate installations in manufacturing plants and stockhouses
- Can be installed on trucks for automatic inventory of goods
- On-board intelligence for standalone operations and smart process handling





2

3



**R1240IE/IU - qiD and R1170I - qiDmini**  
Fully integrated UHF RFID USB/Bluetooth reader

2



- Manual inventory management in stockhouses and manufacturing plants
- Tag encoding from barcode label in manufacturing
- Bluetooth communications for easy interfacing

pp. 24, 25

**A528B - Muon**  
Embedded UHF RFID Reader

3



- Allows single read point installations in manufacturing plants and stockhouses
- Excellent for embedded applications in industrial automation

p. 21

**A941M - Tau**  
Embedded UHF RFID Reader

4



- Allows gate and mini-gate installations in manufacturing plants and stockhouses
- Can be installed on trucks for automatic inventory of goods
- Serial connection allows easy interfacing to existing systems

p. 21





# PRODUCTS



Readers

Tags

Accessories

Software

# Embedded RFID Readers

Typical products that feature UHF RFID are Handheld and PDA devices, label printers and applicators, desktop readers, kiosks, industrial readers and smart shelves.

Embedded RFID readers are the best choice for all companies wishing to integrate their existing or new products with RFID functionality.

Our products differ for form factor, read distance and power consumption. Please contact us to get advise on the right module for your application.



## R1270 500mW UHF RFID Ultra Compact Module

The QuarkUp (Model R1270), OEM reader of the easy2read<sup>®</sup> Family, is an UHF multiregional ultra compact reader for low-power, high performances UHF RFID applications.

With programmable output power in 18 steps from 10dBm to 27dBm, the reader can detect tags at more than 3 mt of distance (depending on antenna and tag dimensions).

Due to its low power consumption, the module is specifically designed to be easily integrated in battery powered devices.

The radio frequency core of the module permits to achieve fast reading and to be used in dense reader and dense tag environments for top-class rated performances.

The compactness of the device and the board-to-board connector allow to embed the R1270 inside the new small form factor industrial handhelds, smartphone accessories and other compact form factor devices.

The R1270 complies with and can operate in both European and US regulatory environments and due to its multiregional capabilities, it's ideal for integration in devices requiring compliance to different geographical regions.



## R1230 OEM UHF Multiregional Ultra Compact Reader

The Quark (Model R1230), OEM reader of the easy2read<sup>®</sup> Family, is an UHF multiregional ultra compact reader for low-power, high performances UHF RFID applications.

With programmable output power in 15 steps from 9dBm to 23dBm, the reader can detect tags at more than 1 mt of distance (depending on antenna and tag dimensions).

Due to its low power consumption, the module is specifically designed to be easily integrated in battery powered devices as well as powered directly by a standard USB port.

The radio frequency core of the module permits to achieve fast reading and to be used in dense reader and dense tag environments for top-class rated performances.

The compactness of the device and the board-to-board connector allow to embed the R1230 inside the new small form factor industrial handhelds, smartphone accessories, small USB dongles and other compact form factor devices.

The R1230 complies with and can operate in both European and US regulatory environments and due to its multiregional capabilities, it is ideal for integration in devices requiring compliance to different geographical regions.



The world's **smallest** OEM reader

**Cost effective** and low power

## Custom design and integration support

Take the opportunity to use our skills and experience for the design of your new product or for the integration of the UHF RFID technology inside your existing product.

For further information contact [info@caenrfid.com](mailto:info@caenrfid.com)



### A528B OEM UHF Compact Reader

The Muon (Model A528B), OEM reader of the easy2read® Family, is an UHF multiregional compact reader for high performances UHF RFID applications.

With programmable output power in 8 steps from 10dBm to 27dBm, the reader can detect tags up to 3m of distance (depending on antenna and tag dimensions).

Due to its form factor, the module is specifically designed to be easily embedded either in battery powered devices, such as industrial handhelds, or fixed reading point devices, such as printers, point of sales, self-service kiosks or industrial automation readers.

The radio frequency core of the module allows to achieve fast reading/writing and operation in dense reader and dense tag environments for top-class rated performances.

The A528B complies with and can operate in both European and US regulatory environments and, due to its multiregional capabilities, it's ideal for integration in devices requiring compliance to different geographical regions.



### A941M Embedded UHF RFID Reader

The Tau (Model A941M), OEM reader of the easy2read® Family, is an UHF multi protocol module for long range applications.

With programmable output power in 256 steps from 17dBm to 32dBm, the reader can detect tags up to 10m of distance (depending on antenna and tag dimensions).

Due to its form factor, the module is specifically designed to be easily embedded into a user's infrastructure/ devices requiring UHF tag programming and reading.

The A941M is fully compliant to the European regulations ETSI EN 302 208 and ETSI EN 300 220 and supports Philips UCODE EPC 1.19, ISO 18000-6B, and EPC Class1 Gen2.

The A941M is ideal for customers who want to design their own RFID solution and require a long range RFID reader engine featuring up to 4 antennas.



The perfect match to your high performance devices

Ideal for long read range applications





## R4301P - ion

**UHF Long Range Reader with GPRS/WIFI**

**NEW!**

The Ion is not only an UHF reader, it's a unique combination of outstanding RFID reading performances, computing power and communication capabilities.

Based on a standard HW architecture (x86) and operating system (Linux), the Ion eases the development of custom

software and solutions.

Thanks to its flexibility, a wide range of peripherals and I/O interfaces can be handled, enabling new scenarios for AutoID applications.

### Features

- EPC C1 G2, ISO 18000-6C Compliant
- Multi-Regional Support
- Embedded Intelligence
- Ethernet Port
- USB 2.0 High Speed Host Port
- Internal MicroSD slot
- Integrated GPRS modem or WIFI interface module (optional)
- Easily deployable & scalable

### Applications

- RFID tunnels
- Portal applications
- On vehicle installations
- Industrial control
- Access control systems
- Point of sales devices (smart shelves, smart displays)

The Ion (Model R4301P) is the top-of-the-range portal reader of the easy2read® Family.

CAEN RFID has carefully designed the device taking into account customer requests and on-field experience on RFID installations. The result is not only an UHF reader, it's a unique combination of outstanding RFID reading performances, computing power and communication capabilities.

The reader is optimized for portal installations, featuring full power to up to 4 antennas, Gen2 Dense Reader Mode management and high speed read rates.

Based on an embedded HW architecture (x86) and standard operating system (Linux), the Ion eases the development of custom software and solutions.

The on-board computing power and connectivity remove the need for an external PC and related cabling. This results in deployment and operations cost savings, thus reducing the total cost of ownership of installed devices.

The Ion is best suited for complex AutoID scenarios, where the information can be collected and fed directly to the reader from

multiple sources such as Smart Card readers, Barcode readers, GPS and other in-field sensors.

All data can be handled locally through data buffering, filtering and aggregation, in order to directly provide decision-making data to higher level Business Intelligence processes. The same data can also trigger local actuators and screen displays for in-field real-time processes in a standalone mode.

The presence on board of an optional integrated GPRS modem or WIFI interface module, together with its compact and versatile form factor, allow to use it in any worldwide installation requiring RFID usage in remote areas.

As a result of all the above, the Ion allows solution providers to customize the reader to each application, thus creating their own specialized devices accordingly.

The Ion complies with and can operate in different regulatory environments (Europe, US, Australia, China, Korea, Singapore, Taiwan).



The first UHF RFID portal reader with **embedded GPRS/WIFI**



## MSTGW

### UHF RFID gate for people access control and asset tracking

The Quantum is an UHF RFID gate for people access control. It combines outstanding RFID reading performances with ease of use in challenging environments.

It overcomes the size and installation limits of standard portals with a low-profile, lightweight device.

#### Features

- EPC C1 G2, ISO 18000-6C Compliant
- Multi-Regional Support
- Embedded Intelligence
- Ethernet, RS232 and RS485 Ports
- Integrated 3-dimensional reading antenna
- Integrated GPRS Modem (embedded)
- Easily deployable & scalable

The Quantum is a UHF RFID Gate for "hands free" people access control and asset tracking. It offers high performances, toughness and read reliability in a smart form factor.

The device is composed of a couple of elegant vertical metal structures, to be fixed in a floor-mount fashion, which can be installed on doorways, corridors or any other transit zone.

Each vertical panel incorporates a special antenna that allows a 3-dimensional reading of the tags independently from their orientation.

On-panel sensors are able to detect both transit direction and missing UHF badge/tag reads, the latter indicating an attempt to unauthorised gate transit.

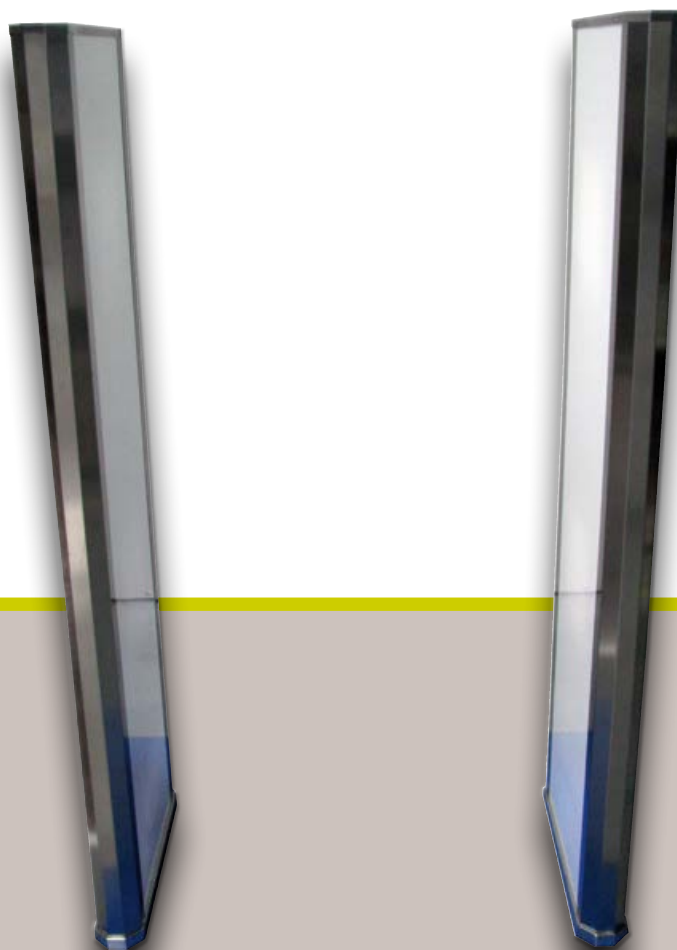
The internal control system handles the RF emission in the gate, the signals coming from the sensors and the signals to lamps and audible alarm.

The Quantum can work also in standalone mode using the internal Intel Atom processor (based on Linux Debian) and it is optionally available with GPRS modem. WiFi connection is available via USB.

Designed for people access control in shops, offices, exhibition halls, hospitals and several other indoor areas, the Quantum Gate is also ideal for identification and tracking of pallets, trolleys, RTIs, tagged items passing through docking doors, corridors or other areas.

#### Applications

- People access control
- Identification and tracking of items and pallets
- Electronic Article Surveillance (EAS)





# R1240IE/IU - qID

**NEW!**

## Wearable Bluetooth UHF RFID/BARCODE Reader

The qID is an UHF RFID reader with Bluetooth® interface. Its ease of use allows the qID to be the ideal companion for any mobility application requiring a UHF RFID read and write handheld device.

An optional barcode imager enables the qID to be a perfect identification device in mixed barcode/RFID labels environment.

### Features

- EPC C1 G2, ISO 18000-6C Compliant
- Multi-Regional Support
- USB and Bluetooth communication
- Integrated circular polarized antenna
- Ergonomic form-factor
- Battery powered
- iPhone/iPad compatibility
- Internal scripting engine

### Applications

- UHF add-on to Bluetooth devices
- Point of sales
- Field sales mobility
- People access control
- Inventory management

The qID (Model R1240IE/IU), mobile reader of the easy2read® Family, is an UHF multiregional RFID reader with integrated antenna for short to medium range applications. It is compliant with ISO 18000-6C/EPC C1G2 standards.

The reader hosts an internal rechargeable battery and can operate both in wired mode, using a USB cable, or in wireless mode through the Bluetooth® interface.

Thanks to the Bluetooth® communication interface, the R1240I is a perfect add-on for any Bluetooth® enabled host such as a PC, a smartphone, a PDA or a tablet for UHF RFID readings. The reader is compatible with Windows XP/7/8/10, Windows CE/Mobile, Android, iPhone and iPad.

The reader can also operate in "Batch Mode", allowing to store up to 500.000 EPC codes into the internal memory when the communication links (USB or Bluetooth®) are not available.

The qID can work autonomously thanks to its internal scripting engine: the user can upload a script to be executed when the trigger button is pressed. The scripting language is very powerful and, in addition to the standard programming language constructs, it permits to access to all the Gen2 commands, the optional barcode scanner, the LEDs and the internal memory.

An optional 1D/2D barcode imager enables the qID to read most of the barcode standards. This enables the qID to be the perfect identification device in mixed barcode/RFID labels environment.

When paired to a smartphone or a tablet, the qID is a cost effective alternative to more expensive handheld devices.

Designed for mobile operators in indoor or outdoor areas, the qID is ideal for inventory management, field sales mobility, service and maintenance applications.



The ideal RFID companion for **Bluetooth** devices



# R1170I

## Keyfob Bluetooth UHF RFID Reader

The qIDmini is a keyfob-sized UHF RFID reader with Bluetooth® interface.

Its compact form factor allows to use the qIDmini in any mobility application requiring a UHF RFID read and write handheld device.

The HID Bluetooth profile makes the qIDmini very easy to use with any device with standard and legacy softwares while the iPad/iPhone compatibility opens the doors for new smart applications.

### Features

- EPC C1 G2, ISO 18000-6C Compliant
- USB and Bluetooth communication
- SPP and HID Bluetooth profiles
- Integrated linear polarized antenna
- Small, lightweight and ergonomic form factor
- Battery powered
- LCD display
- Vibration feedback
- iPhone/iPad compatibility

The qIDmini (Model R1170I) is a handheld reader of the easy2read® product family, compliant with UHF RFID ISO 18000-6C/EPC C1G2 standards.

The qIDmini has an integrated antenna suited for short to medium range applications and, thanks to the Bluetooth® communication interface, it is a perfect UHF RFID add-on for any Bluetooth® enabled host such as a PC, a smartphone, a PDA or a tablet. The reader is compatible with Windows XP/7, Windows CE/Mobile, Android, iPhone and iPad.

The HID version supports native keyboard emulation allowing to interact directly with legacy application, office automation SW or any other generic solution requiring manual input.

The reader can also operate in "Batch Mode",

allowing to store EPC codes into the internal memory when the communication links (USB or Bluetooth®) are not available.

When paired to a smartphone or a tablet, the qIDmini is a cost effective alternative to more expensive handheld devices.

Designed for mobile operators in indoor or outdoor areas, the qIDmini is ideal for in-store inventory management, field sales mobility, service and maintenance applications.

### Applications

- UHF add-on to Bluetooth devices
- Point of sales
- Field sales mobility
- People access control
- Inventory management
- Service and maintenance

*Also available with Near Field antenna, optimized for Murata MAGICSTRAP® and HITACHI USPT miniaturized tags.*



**UHF RFID technology**  
in your **hand**



## R1260I RFID UHF Desktop Reader

The Slate is an UHF RFID desktop reader powered and controlled by USB.

Its ease of use allows the Slate to be the perfect tool for any desktop installation requiring a UHF RFID read and write point.

### Features

- EPC C1 G2/ISO18000-63 Compliant
- Multi-Regional Support
- USB power and communication
- Integrated circular polarized antenna
- Low profile

### Applications

- Point-of-sales
- Documents tracking
- Access control
- Tag programming stations
- Inventory management

Its attractive design and low profile form factor enable its use in fashion shops and general retail stores.

The Slate (Model R1260I), desktop reader of the easy2read® Family, is a multiregional UHF RFID reader with integrated antenna for short to medium range applications.

The reader is powered and controlled directly by an USB cable, thus allowing to read EPC Class1 Gen2 UHF RFID tags in an easy desktop environment.

Thanks to its low profile (15 mm) and its size (approximately an A4 page), the Slate reader is the perfect choice for various applications such as point-of-sales, document tracking, tag programming stations, access control and so on. It can also be used as a building block for smart shelves and smart displays.

Being compliant with both European and US regulatory environments, the Slate reader allows installations in various countries worldwide as needed by retailers, forwarders, warehouses and other global organizations.

The core component of the Slate reader is the CAEN RFID Quark module, the lowest power consuming module available on the market.



Powered by **USB** for ease of use





## R1250I Compact UHF RFID Desktop Reader

The Tile is a compact UHF RFID desktop reader powered and controlled by USB.

Its ease of use allows the Tile to be the perfect tool for any desktop installation requiring a UHF RFID read and

write point. The HID profile (keyboard emulation) allows plug&play installation with every device.

The flanged version is perfect also for people and asset tracking.

### Features

- EPC C1 G2, ISO 18000-6C Compliant
- Multi-Regional Support
- USB power and communication
- Integrated circular polarized antenna
- Compact size
- HID profile support

The Tile (model R1250I), desktop reader of the easy2read© family, is an UHF RFID reader with integrated antenna for short to medium range applications.

The reader is powered and controlled directly by a USB cable, thus allowing to read EPC Class1 Gen2 UHF RFID tags in an easy desktop environment.

Thanks to its compact size, the Tile reader is the perfect choice for various applications such as point-of-sales, document tracking, tag programming stations, access control and so on. It can also be used as a building block for smart shelves and smart displays.

The Tile reader supports the HID profile

(native keyboard emulation) allowing to interact directly with legacy application, office automation SW or any other generic solution requiring manual input.

Being compliant with both European and US regulatory environments, the Tile reader allows installations in various countries worldwide as needed by retailers, forwarders, warehouses and other global organizations.

The core components of the Tile reader are the CAEN RFID QuarkUp module, a top performing ultra-compact UHF RFID module, and the Quad, a compact circular polarized antenna designed by CAEN RFID.

### Applications

- Point-of-sales
- Documents tracking
- Access control
- Tag programming stations
- Inventory management



**UHF RFID technology  
on your desk**

# Temperature logger tags

Vaccines, drugs and clinical trials products need to be shipped within a prescribed temperature range to maintain their efficacy as well as food to maintain its freshness.

The benefits of applying RFID and sensors to perishable goods include improved food and drugs safety, longer vaccines and drug efficacy, more efficient product recalls,

reduced costs due to less spoilage, lower inventories, more efficient logistics, and improved customer service.

Easy2log® products allow to have a complete history of the temperature exposure of your perishables thus allowing a complete control of the Cold Chain and to predict the remaining life.

## RT0005 - RT0005ET

### Easy2log® Low Cost, Semi-Passive UHF Logger Tag

CAEN RFID easy2log® RT0005 is a low cost, semi-passive UHF logger tag that allows to monitor temperature sensitive products like perishable foods and pharmaceuticals, during transportation and storage. The combination of the high resolution sensor, the large memory size and the standard RFID interface permits to realize effective track and trace solutions for the cold-chain.

The RT0005 can be used with standard UHF RFID readers available on the market without requiring any additional equipment thanks to its compatibility with the EPCGlobal C1G2 and ISO18000-63 standards.

The tag can be configured to store temperature samples in intervals from 1 second to 18 hours in the internal memory that can contain up to 3,958 samples. The user can define up to 16 temperature ranges with independent threshold alarms for a very accurate control of the temperature excursions. The tag can be started either using a button or via standard RFID commands.

The tag is also able to calculate the Mean Kinetic Temperature and user configurable remaining shelf life time as well as generate alarms in case these parameters exceeded user defined thresholds.

The RT0005 RFID logger can be used for multiple shipments thanks to the long battery life and the reset function thus allowing to reduce the total cost of the solution and anticipate the ROI.

In the Mod. RT0005ET the sensor is placed on an external probe so it is possible to measure temperature even inside a shielded box where the RFID field cannot get through.

## A927Z - A927ZET

### Temperature logger UHF Semi-Passive Tag

CAEN RFID easy2log® A927Z is a low cost, ruggedized, semi-passive UHF logger tag that allows to monitor temperature sensitive products like perishable foods and pharmaceuticals, during transportation and storage. The combination of the high resolution sensor, the large memory size and the standard RFID interface permits to realize effective track and trace solutions for the cold-chain.

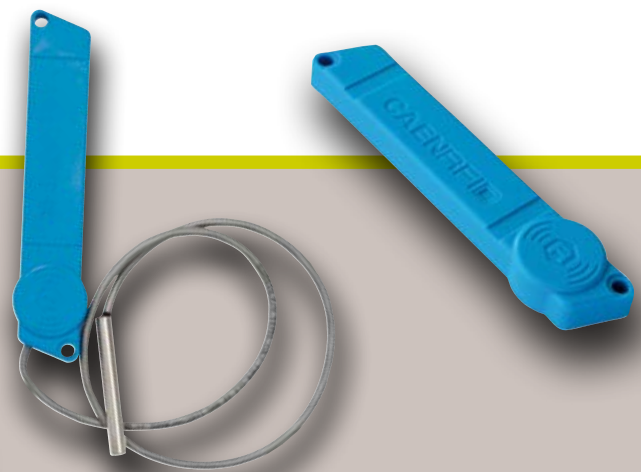
The A927Z can be used with standard UHF RFID readers available on the market without requiring any additional equipment thanks to its compatibility with the EPCGlobal C1G2 and ISO18000-63 standards.

The tag can be configured to store temperature samples in intervals from 8 second to 18 hours in the internal memory that can contain up to 8,000 samples. The user can define alarms for high and low temperature thresholds for an accurate control of the temperature excursions.

The rugged enclosure of this logger make it the perfect choice for the cold-chain monitoring in harsh environment or in presence of strong vibration.

The A927Z RFID logger can be used for multiple shipments thanks to the long battery life and the reset function thus allowing to reduce the total cost of the solution and anticipate the ROI.

In the Mod. A927ZET an additional sensor is placed on an external probe so it is possible to measure temperature even inside a shielded box where the RFID field cannot get through.



# Software products

## EasyController® for Windows RFID Software User Interface

EasyController® for Windows software allows to explore the main CAEN RFID readers capabilities.

Thanks to a friendly user interface, the user can inventory, read, write, lock or kill tags.

Due to the common API interface, the software can be used to control all easy2read® readers ranging from the OEM small sized models to the large sized readers for full portal installations. The software is provided in source code so that it can be used as programming samples for the developers.

## SDK Software Development Kit

The development kits (SDK) include software libraries that make easier the RFID technology adoption.

These libraries define a high-level object-oriented interface that permits the communication with all easy2read® readers allowing the developers to focus their commitment on the application logic instead of wasting time with the communication protocol details.

CAEN RFID provides libraries for Visual C++, JAVA, and Microsoft .Net. These tools simplify the interfacing of middleware and enterprise applications based on these software technologies to easy2read® readers as well as the development of new custom applications.

The libraries are bundled with easy2read® development kits with a royalty-free license, in order to have always available a modern and homogeneous interface.

## EasyController® for Android RFID Software User Interface

EasyController® for Android software will let you explore the main CAEN RFID readers capabilities.

Thanks to a friendly user interface, the user can inventory, read, write, lock or kill tags.

This demo software is especially designed for the R1240I - qID (Fully integrated UHF RFID USB/Bluetooth reader) but it supports also network connected readers.

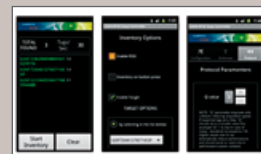
It can be downloaded either from the Download tab on our web site or from GooglePlay's web site to have always the latest version automatically updated on your Android device.

## Easy2log® Demo software

Easy2log® Demo softwares allow to easily configure and control your CAEN RFID sensor tags (A927Z and RT0005).

Thanks to a friendly user interface, the user can inventory, read, program the tag, download and plot the temperature samples. Both "Continuous" and "Over-Thresholds" operating modes are available, thus allowing the storage of several temperature samples with programmable sampling times.

In addition, with the RT0005 version you can setup different alarms (E.T.A., Shelf Life, M.K.T.), up to 16 different temperature ranges and display time histogram graphs.



# Accessories

## ANTENNAS **NEW!**

**Circular polarized antenna**  
WANTENNAX019  
WANTENNAX020

This antenna is designed for UHF RFID long range application like portals, vehicles identification, access control or waste management.

Thanks to the circular polarization, the tag read range is independent from the relative tag - antenna orientation.

The enclosure is IP65 rated for outdoor installation.

- Frequency: 902 ÷ 928 MHz (WANTENNAX020)  
865 - 868 MHz (WANTENNAX019)
- Gain: 8,5 dBc
- VSWR: 1.1:1
- Half-power beamwidth (3dB): 65° (Elevation)  
65° (Azimuth)
- Axial ratio: 2dB (WANTENNAX019)  
<2.5dB (WANTENNAX020)
- Polarization: Right Hand Circularly Polarized (RHCP)
- Nominal Impedance: 50 Ohm
- Connector: N-m with 30cm RG58 cable
- Dimensions: (W)270 x (L) 270 x (H) 75 mm<sup>3</sup>
- Weight: 1,2 Kg
- Operating Temperature: -30°C to + 60°C
- Max wind speed: Calculated to 160km/h
- Protection: IP 65

**Quad - Circular Polarized Quadrifilar Antenna**  
WANT020  
WANT021

The Quad antenna is designed for portable and desktop RFID systems. It is a circular polarized quadrifilar antenna equipped with a MMCX, SMA or U.FL connector. This antenna can be used for testing purposes or as an embedded antenna for mobile readers or desktop reading points. The WANT020 model covers the ETSI UHF RFID band, while the WANT021 model covers the FCC UHF RFID band.

- Frequency Band: 865.6 ÷ 867.6 MHz (WANT020)  
902 ÷ 928 MHz (WANT021)
- Polarization: Circular (RHCP)
- Gain: 0.2dBi typ. (WANT020)  
0.7dBi typ. (WANT021)
- Axial Ratio: 1dB typ.
- Dimensions: (W) 60 x (L) 60 x (H) 9 mm<sup>3</sup>  
(2.36 x 2.36 x 0.35 in<sup>3</sup>)
- Impedance: 50Ω
- VSWR: < 1.5:1
- RF Cable:
  - Length: 50 cm; SMA Plug Male, Straight connector (WANT020XASMA/WANT021XASMA)
  - Length: 40 cm; MMCX Plug Male, Straight connector (WANT020XMMCX/WANT021XMMCX)
  - Length: 20 cm; U.FL Plug Female Socket, Right Angle connector (WANT020XAUF/L/WANT021XAUF/L)

## POWER SUPPLY

**RA0005**  
qDock - qIDmini Docking Station

The qDock (RA0005) is a recharging docking station for the qIDmini (R1170I) UHF RFID reader that can host up to three (3) readers and recharge them simultaneously.

The qDock is recommended as a recharging station when more than one reader is used in the same premise to reduce the number of micro USB charging cables around. Its ergonomic form factor is designed to make the plug/unplug operation easy and safe.

The docking station is provided together with its external power supply to be connected to a power socket for recharging.

A USB device port permits to connect the docking station to a PC to upgrade the firmware of the readers when needed.

The docking station can be also wall mounted using the provided hooks.

- Function: docking station
- USB interface: USB 2.0 Full Speed (12 Mbit/s) device port
- User Interface:
  - Red LED: external power supply indication
  - Orange LED: communication activity
- Power supply: 5Vdc ± 5% @ 1.5A max
- Operating Temperature: -10 °C to +55 °C
- IP rating: IP40
- Dimensions: 288x140x34mm<sup>3</sup>

## MULTIPLEXER

**RA0003**  
UHF Antenna Multiplexer

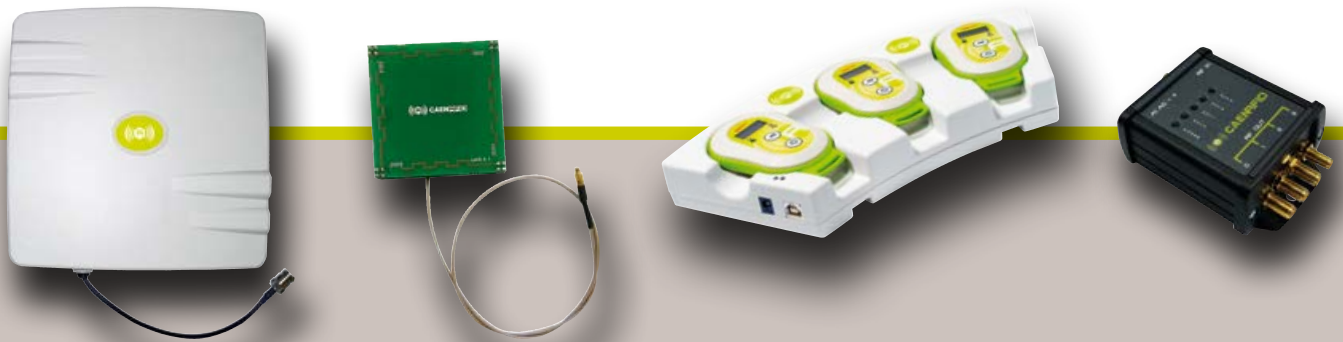
The RA0003 module is a 1 to 4 UHF antenna multiplexer that allows to expand read points management of CAEN RFID easy2read® Family products.

RA0003 has SMA RF connectors, it is able to manage up to 2W RF power and can be used in the whole range of UHF RFID worldwide band.

The module has an extended supply voltage range (9Vdc 36Vdc) and TTL level address lines.

Five LEDs provide the user with information about module operation.

- Function: 1 to 4 multiplexer
- RF Ports Impedance: 50 Ohm
- Operating Frequency: 860 ÷ 960 MHz
- RF Power Handling: up to 2W
- Insertion Loss: 1.5dB typ.
- Return Loss: 22dB typ.
- Isolation: 27dB typ.
- RF Connectors Type: SMA jack
- Dimensions : (W)65 x (L)93 x (H)35 mm<sup>3</sup>
- Supply Voltage Range: 9Vdc ÷ 36Vdc
- Power Consumption: < 350mW
- Control Voltage Range: 0V ÷ 6V
- Operating Temperature: -20°C to +70°C
- User interface :
  - Green LED: power
  - Yellow LED: selected antenna information
- IP Rating: IP30
- Weight: 155g





## GPI/O

### RA0002

#### Digital I/O Interface Unit

The CAEN RFID RA0002 Digital I/O Interface Unit provides an easily accessible interface to the CAEN RFID readers' digital inputs and outputs, in order to connect external devices such as motion sensors, lightstacks and audible alarms.

The RA0002 GPIO connector is dedicated for the R4300P ION reader, while for the others CAEN RFID readers it is necessary to wire the connector.

- Function: Digital I/O interface unit
- Serial interface: DB 15 (Connection to Ion R4300P Reader)
- Terminals: Push in pcb terminals
- Supply Voltage Range: 9 Vdc  $\pm$  36 Vdc , 24 Vdc (Typ)
- Input terminal ratings: 5 Vdc  $\pm$  48 Vdc voltage each signal can support
- Input resistance for GPIs: 3 kOhm(Typ)
- Output terminal ratings: 0  $\pm$  500 mA overall for all external loads
- Output breakdown voltage: 60 Vdc
- Input/output isolation: 750Vrms
- Relay nominal: 5A, 240 VAC
- Relay Max Switching Voltage: 400 VAC
- Relay Expected Life, Mechanical: 15x10<sup>6</sup> cycles
- Relay Expected Life, Electrical: 1x10<sup>4</sup> cycles (at 5A, 250 VAC , 6 cycles/min)
- Safety output current: Multifuse Polyswitch RKEF075
- User interface:
  - Green LED: power
  - Yellow LED: selected GPI/O information
- IP rating: IP30
- Operating Temperature: -20 to 60 °C
- Humidity: 5 to 95% (on-condensing)
- Dimensions: (W)100,5 x (L)131 x (H)34,4 mm<sup>3</sup>
- Weight: 200 g

## ADAPTER BOARDS

### R1230CEVB Quark

#### Reader Evaluation Board

The R1230CEVB evaluation board allows to manage the R1230 Quark reader directly via USB interface. This board is particularly suited for Quark reader evaluation and SW development purposes.

- Switch:
  - SW1= RESET
  - SW2...SW5=GPIO
- USB Port: USB Type A plug connector Bus powered USB 2.0 device Must be connected to High-power Port (500 mA @ VBUS) It appears as USB serial port Virtual Com Port (VCP) drivers for Windows XP/Vista/Seven (7), Windows CE 4.2, Linux 2.40 and greater Baudrate: 115200 Databits: 8 Stopbits: 1 Parity: none Flow control: none
- User Interface:
  - Red LED: Power
  - Yellow LED: USB communication activity
  - Green LED: GPIO[0..3].
- Dimensions: (W)70.9 x (L)62.5 x (H)11.6 mm<sup>3</sup>
- Electrical Power:
  - DC Voltage 5V +/-5%
  - Max 400 mA
- Operating Temperature: -10 °C to +55 °C

### R1270CEVB Quark Up

#### Reader Evaluation Board

The R1270CEVB evaluation board allows to manage the R1270 Quark Up reader directly via USB interface. This board is particularly suited for Quark Up reader evaluation and SW development purposes.

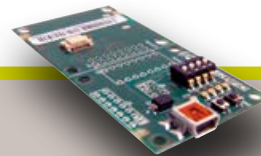
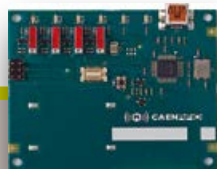
- Switch:
  - SW1= GPIO0...GPIO3
  - SW2= FW UPGRADE
  - SW3= RESET
- USB Port: USB Type A plug connector Bus powered USB 2.0 device. Must be connected to two High-power Port (500 mA @ VBUS) via dual USB cable. It appears as USB serial port. Virtual Com Port (VCP) drivers for Windows XP/Vista/Seven (7) Baudrate up to 230400 Databits: 8 Stopbits: 1 Parity: none Flow control: none
- User Interface:
  - Red LED: Power
  - Green LED: GPIO[0..3].
- Dimensions: (W)76 x (L)38 x (H)10 mm<sup>3</sup>
- Electrical Power:
  - DC Voltage 5V +/-5%
  - Max 650 mA
- Operating Temperature: -10 °C to +55 °C

### A528ADAT Muon

#### Adapter Board

The A528ADAT service board allows to manage the A528B Muon reader directly via RS232 interface. This board is particularly suited for A528B reader evaluation and SW development purposes. The board requires an external 5V DC power, see ordering options for a suitable matching product.

- Digital I/O:
  - Four I/O lines 3.3 V out @ 3mA, 5 V tolerant
- USB Port: USB B female connector USB 2.0 device It appears as USB A528 device; drivers for Windows XP, Windows CE 5.0, Linux 4 and greater
- RS232 Port:
  - Baudrate: 115200
  - Databits: 8
  - Stopbits: 1
  - Parity: none
  - Flow control: none
- User Interface:
  - RED: Power
  - GREEN: GPIO[0..3], USB connection
  - YELLOW: RECOVERY procedure
- Dimensions: (W)81 x (L)76 x (H)28 mm<sup>3</sup>
- Electrical Power: DC Voltage 5V +/-5%
- Current consumption: 1A max.
- Operating Temperature: -20 °C to +60 °C





# PARTNER SOLUTIONS & PRODUCTS



# Partner Solutions

## WOCC by Erplan

Web Order & Cold Chain (WOCC by Erplan) is a solution to enhance communication between the company, the suppliers and the customers. It enables an innovative and automated logistic model allowing the visualization and the validation of the supply chain processes, including the cold chain management.

WOCC provides a secure web based architecture to allow bi-directional communication between supply chain stakeholders through secure data management and standard communication protocols.

The versatile design and the usage of integrated technologies (RFID, barcode, GPS, etc.) and international industry standards (EAN/EPC, ISO, etc.) guarantees an high degree of flexibility and scalability providing a perfect platform for automated identification, localization and status determination of products.

The solution is completed by the continuous logging of the temperature along the supply chain of perishable products allowing to manage the hot/cold chain by means of data analysis and reporting for each shipment, providing temperature history and alarms/warnings for each parcel.

## Enlight Solutions

The following is a list of Enlight turn-key and cloud based solutions that give complete visibility of equipment, containers and machinery.

### Temp Track

The Temperature Tracking (Temp Track) solution allows to follow the goods and transmit the temperature logged data wirelessly and automatically. If it's outside the defined limits, alerts will be triggered by the alarm handling system and transferred to mobile devices (PDA, Smartphones).

### Asset and Container Tracking

Any equipment or container can be tagged with RFID to trace its movements within and outside the company premises. Global accessibility of asset or container data can be retrieved on fixed PC, PDA or smartphones, providing manual or automatic updated reports.

### EPCIS-as-a-Service

The service allows to implement customer solutions that deliver value and remain both scalable and robust. It is ideal for hardware suppliers that deliver data from on-field equipment to a service of storing, filtering and dissemination.

## RFIDtoObserver by NGWay

RFIDtoObserver by NGWay is a software agent that can be installed directly on the CAEN RFID R4300P UHF RFID reader as the local agent of Observer, a data collection platform for geolocalized information. Observer can be interfaced with any back-end system and it exposes a WEB console for administration and configuration.

RFIDtoObserver has native access to the reader capabilities and it is completely configurable. Data obtained from RFID tags can be georeferenced and sent to the Observer platform using a network link or the embedded GPRS modem.

RFIDtoObserver together with Observer and the R4300P UHF RFID reader is a perfect team for your data collection and data presentation applications.

With few simple configuration steps you can setup application for fleet management, asset management, sales force management, waste collection management and more.

Your solutions for mobility will be easy to develop, easy to install, with low cost of infrastructures and based upon international standards.

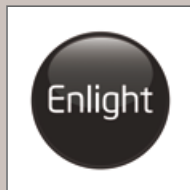
## onID by ATON

onID by Aton is an RFID platform able to manage data from a wide range of devices, and to process them in a very quick and efficient way.

Its modular structure permits to build either prototype systems or distributed multi-server solutions in a very efficient and easy way. onID has been chosen by several companies in fashion, manufacturing, automotive and government sectors as well as prominent innovation centers (e.g. Accenture, Cisco) and by prestigious Italian and European universities.

onID is better in terms of :

- scalability: a modular architecture that permits to run on embedded systems as well as multi-processor servers.
- usability: an user friendly graphical interface allows to draw an efficient data flow and keep control of hardware devices such as sensors, photocells, actuators.
- deployment time: building a complete system is a matter of hours, not days!
- flexibility: expanding or modifying the system is just a matter of changing the blocks that need to be changed, even without stopping the server, and the rest will continue to work as it always did.





# Labels

Labels are the most popular tags, finding their best applications in Fashion, on carton boxes or any other “RFID Friendly” item. The following is a selection of proposed labels by our partner LAB ID.

Custom labels are also available for virtually any project: please ask us for further information.

## UH105

### Inlay Features:

- EPC Class1 Gen2 compliant
- Dipole configuration
- Very long read range
- Good orientation insensitivity
- Designed to work in environment with high density of tags
- Supports Impinj Monza 5 dies

### Applications:

- Logistics

### Dimensions:

Standard label size (96x29 mm)

### Material:

White paper suitable for thermal transfer printing.

## UH423/424

### Inlay Features:

- EPC Class1 Gen2 compliant
- Compact dipole configuration
- Long read range
- High orientation insensitivity
- Designed to work in environment with high density of tags
- Fits well into medium sized labels
- Optimized performance when attached to paper or apparel
- Supports Impinj Monza dies (UH423 for Monza 5, UH424 for Monza 4)

### Applications:

- Item-level logistics
- Apparel applications

### Dimensions:

Standard label size (56x34 mm)

### Material:

White paper suitable for thermal transfer printing.

## SKL4020

### Inlay Features:

- EPC Class1 Gen2 compliant
- Good read range
- Fits well into small sized labels
- Supports Impinj Monza 5 dies

### Applications:

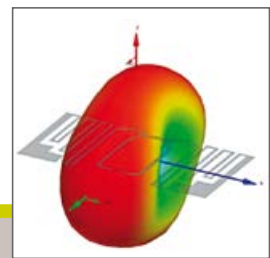
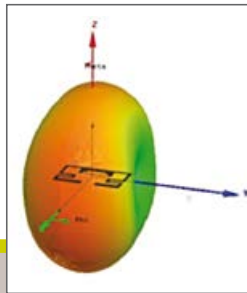
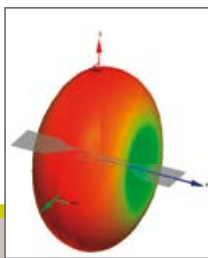
- Apparel applications
- Item level logistics

### Dimensions:

Standard label size (45x32 mm)

### Material:

White paper suitable for thermal transfer printing.



# Partner Products

The following is a selection of the most popular CAEN RFID partner products.

**NEW!**

## C-One

A happy medium between a Smartphone and a professional, 'customisable' PDA

The C-One is a latest-generation professional PDA based on Android platform. Robust, ergonomically designed and visually pleasing, it features the best in computing power, wireless communications and data-capture technologies.

What really stands-out from the competition is the size of the 'magic box', ingeniously pro-portioned to integrate and connect, simply and effectively, an array of different functions which deliver a PDA perfectly suited to the professional user.

Built to International Standard IP65, it will withstand multiple falls of 1.50 m on to concrete and remain fully operational within a temperature range of -20°C to +60°C. The battery enables stand-alone usage of up to, or greater than, 10 hours working-time.

The C-One 'magic box' has been perfectly crafted to integrate, without altering its dimensions or appearance, the CAEN RFID UHF module (R1270) and antenna.



## M3 ORANGE

Fully Rugged Industrial PDA

The Mobile Terminal M3 has been designed for industrial use and is of outstanding durability. It proved unmatched ruggedness to perform in extreme environments through a large variety of durability tests. The combination of a powerful Intel X-scale PXA270 624 / 806 MHz processor and the user friendly Windows Mobile 6.1 / 6.5 operating system, as well as the SDRAM (up to 256 MB) and Flash memory (up to 1 GB) allows running many different applications (Access Control, Industrial Manufacturing and Logistics and Waste Management). The Mobile Terminal M3 is available with different configurations including the UHF ISO 18000-6C compliant one. For that reason the M3 Orange is not only a mobile computer for tough environmental conditions, but also a stand-alone mobile RFID device. The Mobile Terminal M3 is available with different options (WiFi, GSM/GPRS/EDGE/HSDPA) and accessories.



**NEW!**

## iRFID500

Handheld Bluetooth UHF RFID reader for Hazardous areas and harsh environment

The iRFID500 is an intrinsically safe handheld RFID reader, designed for use in hazardous areas and harsh environments such as offshore, marine, chemical, and industrial environments. The device is certified for use in ATEX and IECEx Zones 1, 2, 21, and 22.

It has an integrated antenna suited for short to medium range applications and, thanks to the Bluetooth interface, it is a perfect UHF RFID add-on for any Bluetooth enabled host such as a PC, a smartphone, a PDA or a tablet. The reader is compatible with Windows XP/7, Windows CE/Mobile and Android.

The interface, besides an LCD display and a buzzer, includes a vibrator suited for signaling in noisy environments where the buzzer cannot be heard.

The iRFID500 is designed for mobile operators in outdoor and hazardous areas, the iRFID500 is ideal for supporting operations such as inventory management, tracking and tracing, maintenance planning, and regulatory compliance.



## TagTrans and BlueTank

Fully Integrated RFID Bluetooth device

The TagTrans is a rugged fully integrated RFID reader (LF, HF or UHF) with optional 1D/2D imager. Thanks to the Bluetooth communication interface, the TagTrans is a perfect add-on for any Bluetooth enabled host for RFID readings. The IP67 rating and the optional ATEX certified version make it the ideal device for any hazardous areas. Main applications are Logistics, Industrial Manufacturing, Waste Management and Asset Tracking.

The BlueTank is an authentication controlled refueling device based on RFID technology. The BlueTank can easily communicate with a controller via Bluetooth. A BlueTank reader is fixed on the nozzle while a transponder is positioned on the refueling neck of the vehicle. The fuel pump is activated only if the transponder is in a white list. Transport, construction, public service companies and others can know exactly how much fuel has been taken, by whom, where and when. Fuel cost savings and the prevention of criminal misuse are only the main advantages of the system.



# MICROPLEX Printers

For more than 25 years MICROPLEX Printware AG is developer and manufacturer of printers for industry and retail. This experience plus the in-house HW and SW development make the MICROPLEX UHF Gen2 printers reliable, robust and easy to use.

## SOLID 45-2 RFID

Laser printer with UHF Gen2 reader

### Applications:

- single sheet RFID tags
- business papers
- barcode labels
- reading, writing and verifying of smartlabels

### Main Features:

- The RFID hardware is integrated in an additional paper cassette
- frequency range: UHF (ETSI EN 302 208 or FCC Part 15)
- protocols: EPC C1 G2, ISO18000-63
- measurement tag position: unnecessary because of predefined reading section
- formats: cutsheet DIN A4 and A5
- sprint speed: approx. 13 pages DIN A4 per minute in RFID mode

## LOGIJET T4/T6 RFID

4/6 inch thermal printer with integrated UHF RFID reader

### Applications:

- smartlabels, labels and tags
- from roll or leporello
- just-in-time or batch printing
- reading, writing and verifying of smartlabels

### Main Features:

- frequency range: UHF (ETSI EN 302 208 or FCC Part 15)
- protocols: EPC C1 G2, ISO18000-63
- smallest antenna gap of RFID inlays: 10 mm (depending on inlay design)
- measurement tag position: manually or automatically (depending on inlay design)
- sprint speed: approx. 13 pages DIN A4 per minute in RFID mode

## LOGIJET 30ET TD RFID

Continuous direct thermal printing with UHF RFID functionality

### Applications:

- just-in-time applications
- batch applications
- labels and tags
- workflow papers

### Main Features:

- frequency range: UHF (ETSI EN 302 208 or FCC Part 15)
- protocols: EPC C1 G2, ISO18000-63
- measurement tag position: manually

## LOGIJET T8 RFID

8 inch thermal printer with integrated UHF RFID reader

### Applications:

- smartlabels, labels and tags
- from roll or leporello
- just-in-time or batch printing
- reading, writing and verifying of smartlabels

### Main Features:

- frequency range: UHF (ETSI EN 302 208 or FCC Part 15)
- protocols: EPC C1 G2, ISO18000-63
- smallest antenna gap of RFID inlays: 10 mm (depending on inlay design)
- measurement tag position: manually







# TECHNICAL SPECIFICATION TABLES



# Technical Specification Tables



## R4301P Ion

|                                 |  |
|---------------------------------|--|
| <b>Frequency Range</b>          | 902÷928 MHz (FCC part 15)<br>865.600÷867.600 (ETSI EN 302 208)                                     |
| <b>RF Power</b>                 | Up to 32 dBm (1.6W) conducted (ETSI)<br>Up to 30 dBm (1W) conducted (FCC)                          |
| <b>CPU</b>                      | Intel Atom E3815 CPU @ 1.46Ghz   |
| <b>Memory</b>                   | 2Gbytes RAM, 8 Gbytes MicroSD  |
| <b>Operating System</b>         | Linux (Debian)   |
| <b>Scripting</b>                | Java Virtual Machine   |
| <b>Host Interface Protocols</b> | CAEN RFID host-to-reader protocol<br>EPCGlobal LLRP RFID host-to-reader protocol                   |
| <b>Antenna Connector</b>        | 4 TNC Reverse Polarity   |
| <b>Receiving Capability</b>     | Gen 2 Dense Reader Mode Management<br>Data rate up to 400 Kbits/s                                  |
| <b>Std. Compliance</b>          | EPC C1 G2/ISO 18000-6C   |
| <b>Digital I/O</b>              | 13 GPIO pins, TTL level  |
| <b>Connectivity</b>             | RS232 Serial Communication (DB9);<br>USB 2.0 High Speed Host Port;<br>Ethernet 10/100BASE-T (RJ45) |
| <b>Wireless Comm.</b>           | GSM/GPRS (SMA) (optional)<br>WiFi (SMA) (optional)   |
| <b>Internal Interfaces</b>      | MicroSD slot<br>SIM card housing (optional)  |
| <b>IP Rating</b>                | IP42   |
| <b>MTBF</b>                     | 135'000 hours  |
| <b>Dimensions</b>               | (W)275 x (L)155 x (H)39 mm <sup>3</sup><br>(10.8 x 6.1 x 1.5 inch <sup>3</sup> )                   |
| <b>DC Power</b>                 | 9÷36 VDC(30W)  |
| <b>Operating Temp.</b>          | -20 °C to 55 °C  |
| <b>Weight</b>                   | 1.3 kg   |

## Ordering Options

| Code          | Description |
|---------------|-------------|
| <b>Reader</b> |             |

|              |   |
|--------------|---|
| WR4301PXAAAA | R4301P - ION - RFID UHF Portal Reader                     |
| WR4301PXGPRS | R4301P - ION - RFID UHF Portal reader with GPRS           |
| WR4301PXWIFI | R4301P - ION - RFID UHF Portal reader with WIFI Interface |

## Development kit

|              |   |
|--------------|---|
| WR4301PDKWFI | R4301PDKW - Development kit with R4301P WIFI reader, antenna, cable, power supply and demo tags |
| WR4301PDKAAA | R4301PDK - Development kit with R4301P reader, antenna, cable, power supply and demo tags       |
| WR4301PDKGPR | R4301PDKG - Development kit with R4301P GPRS reader, antenna, cable, power supply and demo tags |

## Accessories

|              |  |
|--------------|--|
| WANTENAX018  | GPRS Antenna for Ion                     |
| WANTENAX019  | Circular polarized antenna 8.5dBc - ETSI |
| WANTENAX020  | Circular polarized antenna 8.5dBc - FCC  |
| WANTENAX021  | WiFi Antenna for R4301P                  |
| WALIM0000003 | Power Supply for Ion R4301P              |
| WCAVOAAAX005 | 5 m RF Antenna Cable TNC/ RP-N type      |
| WCAVOAAAX006 | 15 m RF Antenna Cable TNC/ RP-N type     |
| WRA0003XAAAA | RA0003 - UHF Antenna Multiplexer         |
| WRA0002XAAAA | RA0002 - Digital I/O Interface Unit      |



## MSTGW Quantum

|                         |   |
|-------------------------|---|
| <b>Frequency Range</b>  | 902÷928 MHz (FCC part 15)<br>865.600÷867.600 (ETSI EN 302 208)                    |
| <b>RF Power</b>         | Up to 32 dBm (~1.6W) conducted  |
| <b>Std. Compliance</b>  | EPC C1 G2/ISO 18000-6C  |
| <b>Connectivity</b>     | RS232 / RS485<br>Ethernet 10-100M   |
| <b>Wireless Comm.</b>   | GSM/GPRS (SMA) (optional)<br>WiFi (optional via USB host)                         |
| <b>Panels distance</b>  | 90 ÷ 200 cm max   |
| <b>Panel Dimensions</b> | (W)9.2 x (L)50 x (H)152 cm <sup>3</sup><br>(3.6 x 19.7 x 58.8 inch <sup>3</sup> ) |
| <b>AC Power</b>         | 220 VAC   |
| <b>Operating Temp.</b>  | 0 ÷ 50 °C   |
| <b>Weight</b>           | 42 Kg   |

## Ordering Options

| Code         | Description  |
|--------------|--|
| 1MSTGR4300PX | UHF RFID Gate for People Acces Control based on R4300P           |
| 1MSTGR4300PG | UHF RFID Gate for People Acces Control based on R4300P with GPRS |



## R1240IE/IU qID

|                              |  |
|------------------------------|--|
| <b>Frequency Range</b>       | 865.600÷867.600 MHz (ETSI EN 302 208 v. 1.4.1.) (Mod. R1240IE - R1240IEB)<br>902÷928 MHz (FCC part 15.247) (Mod. R1240IU - R1240IUB)   |
| <b>RF Power</b>              | Programmable in 8 levels from 8 dBm ERP to 25dBm ERP (Mod. R1240IE - R1240IEB)<br>Programmable in 8 levels from 8,5 dBm ERP to 25,5dBm ERP (Mod. R1240IU - R1240IUB)                               |
| <b>Antenna</b>               | Integrated Circular Polarized Antenna<br>Antenna Gain:<br>0,2 dBi (typical) (Mod. R1240IE - R1240IEB)<br>0,7 dBi (typical) (Mod. R1240IU - R1240IUB)   |
| <b>Number of Channels</b>    | 4 channels (compliant to ETSI EN 302 208 v.1.4.1.) (Mod. R1240IE - R1240IEB)<br>50 hopping channels (compliant to FCC part 15.247) (Mod. R1240IU - R1240IUB)                                       |
| <b>Std. Compliance</b>       | EPC C1G2 /ISO 18000-6C   |
| <b>Read Range</b>            | up to 1.5m. (typical)  |
| <b>Connectivity</b>          | USB Interface:<br>USB 2.0 Full Speed (12 Mbit/s) device port<br><br>Bluetooth Interface:<br>Class 1 with output power 5dBm e.i.r.p.<br>Virtual COM port parameters:<br>Baudrate: up to 921.600kbps |
| <b>User Interface</b>        | 2 buttons, 3 LEDs, buzzer  |
| <b>Internal Buffer Size</b>  | 5MByte (equivalent to 400000 EPC codes@96bit) (TBC)  |
| <b>Barcode Reader</b>        | 1D and 2D imager (only in Mod. R1240IEB - R1240IUB).   |
| <b>Battery Type</b>          | Li-Ion 3.7V, 2100mAh   |
| <b>Battery Life</b>          | Operating: > 8h<br>Standby: > 7 days   |
| <b>Battery Charging Time</b> | 7h from USB port<br>3h with AC/DC adapter  |
| <b>IP Rating</b>             | IP32   |
| <b>Dimensions</b>            | (W)90 x (L)140 x (H)35 mm <sup>3</sup> max.<br>(3.6 x 5.5 x 1.4 inch <sup>3</sup> )  |
| <b>USB cable</b>             | length 1,5 m   |
| <b>Operating Temp.</b>       | -10 °C to +55 °C   |
| <b>Weight</b>                | 230g max (Mod. R1240IE/IU)<br>250g max (Mod. R1240IEB/IUB)   |

## Ordering Options

| Code               | Description   |
|--------------------|---|
| <b>Reader</b>      |   |
| WR1240IXEAAA       | R1240IE - qID Wearable Bluetooth UHF RFID Reader (ETSI)           |
| WR1240IXEBAA       | R1240IEB - qID Wearable Bluetooth UHF RFID/ BARCODE Reader (ETSI) |
| WR1240IXUAAA       | R1240IU - qID Wearable Bluetooth UHF RFID Reader (FCC)            |
| WR1240IXUBAA       | R1240IUB - qID Wearable Bluetooth UHF RFID/ BARCODE Reader (FCC)  |
| <b>Accessories</b> |   |
| EACCESCDRF06       | R1240I SILICONE COVER   |



## R1170I qID mini

|                              |  |
|------------------------------|--|
| <b>Frequency Range</b>       | 865.600÷867.600 MHz (ETSI EN 302 208 v. 1.4.1.) (Mod. R1170IEHIDP and R1170IEAPLP)<br>902÷928 MHz (FCC part 15.247) (Mod. R1170IUHIDP and R1170IUAPLP)                                   |
| <b>RF Power</b>              | Programmable in 18 levels from 1dBm e.r.p. (1.3mW e.r.p.) to 18dBm e.r.p. (63mW e.r.p.)  |
| <b>Antenna</b>               | Integrated linear (horizontal)   |
| <b>Number of Channels</b>    | 4 channels (compliant to ETSI EN 302 208 v. 1.4.1.) (Mod. R1170IEHIDP and R1170IEAPLP)<br>50 hopping channels (compliant to FCC part 15.247) (Mod. R1170IUHIDP and R1170IUAPLP)          |
| <b>Std. Compliance</b>       | EPC C1G2 /ISO 18000-6C   |
| <b>Read Range</b>            | up to 90cm (typical)   |
| <b>Connectivity</b>          | USB Interface: USB 2.0 Full Speed (12 Mbit/s) device port<br>Bluetooth Interface: Class 2 with output power 4dBm e.i.r.p.<br>Virtual COM port parameters:<br>Baudrate: up to 230.400kbps |
| <b>User Interface</b>        | 2 buttons, 2 LEDs, vibration, buzzer, LCD  |
| <b>Internal Buffer Size</b>  | 48KByte (equivalent to 4096 EPC codes@96bit) (TBC)   |
| <b>Battery Type</b>          | Li-Ion 3.7V, 570mAh  |
| <b>Battery Life</b>          | Operating: > 12h with 40'000 tag readings<br>Standby: > 15 days  |
| <b>Battery Charging Time</b> | 2h (typical)   |
| <b>IP Rating</b>             | IP32   |
| <b>Dimensions</b>            | (W)99 x (L)54 x (H)20 mm <sup>3</sup> max.<br>(3.9 x 2.1 x 0.8 inch <sup>3</sup> )   |
| <b>USB cable</b>             | length 1,5 m   |
| <b>Operating Temp.</b>       | -10 °C to +55 °C   |
| <b>Weight</b>                | 57g (TBC)  |

## Ordering Options

| Code          | Description  |
|---------------|--|
| <b>Reader</b> |  |
| WR1170IEAPLP  | R1170IEAPLP - qIDmini Keyfob Bluetooth UHF RFID Reader (ETSI) with Apple profile |
| WR1170IEHIDP  | R1170IEHIDP - qIDmini Keyfob Bluetooth UHF RFID Reader (ETSI) with HID profile   |
| WR1170IUAPLP  | R1170IUAPLP - qIDmini Keyfob Bluetooth UHF RFID Reader (FCC) with Apple profile  |
| WR1170IUHIDP  | R1170IUHIDP - qIDmini Keyfob Bluetooth UHF RFID Reader (FCC) with HID profile    |

## Development kit

|              |  |
|--------------|--|
| WR1170IDKEAP | R1170IDKEAP - Development kit with qIDmini R1170I Reader (ETSI with Apple profile) and demo tags |
| WR1170IDKEHI | R1170IDKEHI - Development kit with qIDmini R1170I Reader (ETSI with HID profile) and demo tags   |
| WR1170IDKUAP | R1170IDKUAP - Development kit with qIDmini R1170I Reader (FCC with Apple profile) and demo tags  |
| WR1170IDKUHI | R1170IDKUHI - Development kit with qIDmini R1170I Reader (FCC with HID profile) and demo tags    |



### R1260I Slate

|                            |  |
|----------------------------|--|
| <b>Frequency Range</b>     | 902÷928 MHz (FCC part 15)<br>865.600÷867.600 MHz (ETSI EN 302 208)   |
| <b>RF Power</b>            | Programmable in 15 levels (1dB step) from 12dBm ERP to 26dBm ERP (from 16mW ERP to 400mW ERP)  |
| <b>Antenna</b>             | Integrated circular polarized antenna  |
| <b>Number of Channels</b>  | 4 channels (compliant to ETSI EN 302 208)<br>50 hopping channels (compliant to FCC part 15.247)<br>All subsets of FCC band are supported   |
| <b>Std. Compliance</b>     | EPC C1 G2/ISO 18000-6C   |
| <b>User Interface</b>      | Green LED: Power<br>Blinking red LED: Tag detection<br>Blinking yellow LED: USB communication activity<br>Buzzer: user programmable event signalling   |
| <b>Connectivity</b>        | USB Type A plug connector<br>Bus powered USB 2.0 device<br>Must be connected to High-power Port (500 mA @ VBUS)<br>It appears as USB serial port<br>Virtual Com Port (VCP) drivers for Windows XP/Vista/Seven (7), Windows CE 4.2, Linux 2.4.0 and greater<br>Baudrate: 115200<br>Databits: 8<br>Stopbits: 1<br>Parity: none<br>Flow control: none |
| <b>Dimensions</b>          | (W)297 x (L)205 x (H)15 mm <sup>3</sup><br>(11.7 x 8 x 0.6 inch <sup>3</sup> )   |
| <b>Length of USB cable</b> | 1.5 m  |
| <b>DC Power</b>            | 5 VDC bus powered (USB)<br>Max 400 mA  |
| <b>Operating Temp.</b>     | -10 °C to +55 °C   |
| <b>Weight</b>              | 525 g  |

### Ordering Options

| Code                   | Description   |
|------------------------|---|
| <b>Reader</b>          |   |
| WR1260IXAAAA           | R1260I - RFID UHF Desktop Reader                    |
| <b>Development kit</b> |   |
| WR1260IDKAAA           | R1260IDK - development kit with Slate and temp tags |



### R1250I Tile

|                              |  |
|------------------------------|--|
| <b>Frequency Range</b>       | 865.600÷867.600 MHz (ETSI EN 302 208) (Mod. R1250IE)<br>902÷928 MHz (FCC part 15) (Mod. R1250IU)   |
| <b>RF Power</b>              | Programmable in 18 levels (1dB step) from 8 dBm ERP to 25 dBm ERP (Mod. R1250IE)<br>Programmable in 18 levels (1dB step) from 8,5 dBm ERP to 25,5 dBm ERP (Mod. R1250IU)   |
| <b>Output power accuracy</b> | +/- 1dB  |
| <b>Antenna</b>               | Integrated Circular Polarized Antenna  |
| <b>Frequency Tolerance</b>   | ±10 ppm over the entire temperature range  |
| <b>Number of Channels</b>    | 4 channels (compliant to ETSI EN 302 208 v1.4.1) (Mod. R1250IE) 50 hopping channels (compliant to FCC part 15.247) (Mod. R1250IU)  |
| <b>Standard Compliance</b>   | EPC C1 G2 / ISO18000-63  |
| <b>User Interface</b>        | Red LED: Power Blinking  |
| <b>Green LED</b>             | Tag detection  |
| <b>Connectivity</b>          | Mini USB type B plug connector, USB 2.0 Full Speed (12Mbit/s) device port, Must be connected to two High-power USB Type A ports (500 mA @ VBUS), Virtual COM port parameters:<br>- Baudrate: up to 115.200kbps<br>- Databits: 8 - Stopbits: 1 - Parity: none - Flow control: none<br>HID profile available |
| <b>Dimensions</b>            | (W)125 x (L)125 x (H)25 mm <sup>3</sup><br>(4,92 x 4,92 x 0,98 inch <sup>3</sup> )   |
| <b>Length of USB cable</b>   | 1m   |
| <b>DC Power</b>              | 5 VDC ± 5% - bus powered (USB)<br>Max 650 mA   |
| <b>Operating Temperature</b> | -10 °C to +55 °C   |
| <b>Weight</b>                | 220g max.  |

### Ordering Options

| Code         | Description   |
|--------------|---|
| WR1250IEXAAA | R1250IE - Tile - Compact UHF RFID Desktop Reader (ETSI)                 |
| WR1250IEXAFL | R1250IE - Tile - Flanged - Compact UHF RFID Desktop Reader (ETSI)       |
| WR1250IEXBAA | R1250IE - Tile - Black - Compact UHF RFID Desktop Reader (ETSI)         |
| WR1250IEXBFL | R1250IE - Tile - Black Flanged - Compact UHF RFID Desktop Reader (ETSI) |
| WR1250IUXAAA | R1250IU - Tile - Compact UHF RFID Desktop Reader (FCC)                  |
| WR1250IUXAFL | R1250IU - Tile - Flanged - Compact UHF RFID Desktop Reader (FCC)        |
| WR1250IUXBAA | R1250IU - Tile - Black - Compact UHF RFID Desktop Reader (FCC)          |
| WR1250IUXBFL | R1250IU - Tile - Black Flanged - Compact UHF RFID Desktop Reader (FCC)  |

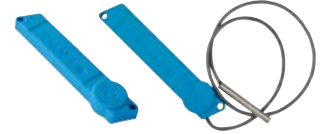


### RT0005 and RT0005ET

|                                      |   |
|--------------------------------------|---|
| <b>Tag Type</b>                      | Semipassive   |
| <b>Data Points</b>                   | 4000  |
| <b>Temperature operating range</b>   | -20°C to +70°C  |
| <b>Temperature Accuracy</b>          | ±0.5°C typical  |
| <b>Monitoring Time Span</b>          | Up to 5 years   |
| <b>Time Accuracy</b>                 | <0.01% error  |
| <b>RFID Interface</b>                | UHF EPC Class1 Gen2/ISO 18000-6C compatible   |
| <b>Frequency range</b>               | 860 MHz ÷ 928 MHz   |
| <b>Read range</b>                    | approx. 10m in air @ 2W ERP   |
| <b>Memory capacity</b>               | 4k samples (8 Kbyte)  |
| <b>Available Memory</b>              | Up to 512 bits in EPC bank, up to 512 bits in User Memory bank  |
| <b>Monitoring Delay Option</b>       | Up to 18 hours  |
| <b>Battery Type</b>                  | Li / MnO2 Model Renata CR 2450N   |
| <b>Battery Life</b>                  | 1 year (typical) (depending on usage and operating temperature)   |
| <b>Alarms</b>                        | Multiple user-configurable high temperature and low temperature alarms, ETA alarm, MKT alarm, shelf life alarm, low battery alarm |
| <b>Shelf Life Prediction</b>         | Calculations based on Arrhenius kinetic model with customer designation of time-temperature dependency                            |
| <b>Shelf Life Monitoring</b>         | Provides Remaining Shelf Life information at check points with RFID reader or manual interface                                    |
| <b>IP Rating</b>                     | IP67  |
| <b>Dimensions (L,W,H)</b>            | (W)107 x (L)107 x (H)8.7 mm <sup>3</sup><br>(4.2 x 4.2 x 0.3 inch <sup>3</sup> )  |
| <b>Probe dimensions (RT0005ET)</b>   | length 50.8mm (2.00 inches), diameter 6.35mm (0.250 inches)   |
| <b>Probe cable length (RT0005ET)</b> | 2m (6.56 feet)  |
| <b>Enclosure material</b>            | PVC Tecnovil code: 21TV306TRS00000  |
| <b>Weight</b>                        | 31 g (RT0005)<br>85 g (RT0005ET)  |

### Ordering Options

| Code        | Description   |
|-------------|---|
| WR0005XAAAA | RT0005 - Temp. logger UHF semi-passive tag (EPC C1G2) Blistered |
| WR0005ETAAA | RT0005ET - UHF Temperature tag (EPC C1G2) with external probe   |



### A927Z and A927ZET

|                                     |   |
|-------------------------------------|---|
| <b>Tag Type</b>                     | Semipassive   |
| <b>RFID Interface</b>               | UHF EPC Class1 Gen2/ISO 18000-6C compatible   |
| <b>Reserved memory size</b>         | 512 bit   |
| <b>EPC memory size</b>              | 512 bit   |
| <b>TID memory size</b>              | 208 bit   |
| <b>Reserved memory size</b>         | 512 bit   |
| <b>User Memory size</b>             | 17484 byte  |
| <b>Access control</b>               | yes   |
| <b>Memory retention</b>             | 100 years   |
| <b>Memory endurance</b>             | 10000 cycles  |
| <b>Read range</b>                   | 10m in air (2.5m on metal) @ 2W ERP   |
| <b>Frequency range</b>              | 860 MHz ÷ 928 MHz   |
| <b>Write time</b>                   | 100 µsec  |
| <b>Alarms</b>                       | User-configurable high temperature and low temperature alarms                                     |
| <b>Battery Life</b>                 | 3 years typical (depending on usage and operating temperature)                                    |
| <b>Battery Type</b>                 | Li / MnO2 Model Renata CR 2450N   |
| <b>Operating temp.</b>              | A927Z: -30°C to +70°C<br>A927ZET:<br>- int. sensor -30°C to +70°C<br>- ext. sensor -20°C to +70°C |
| <b>Storage temp.</b>                | A927Z: -40°C to +85°C<br>A927ZET:<br>- int. sensor -40°C to +85°C<br>- ext. sensor -40°C to +85°C |
| <b>Absolute temp. range</b>         | A927Z: -40°C to +70°C<br>A927ZET:<br>- int. sensor -40°C to +70°C<br>- ext. sensor -20°C to +70°C |
| <b>Temp. Resolution</b>             | ±0.1°C  |
| <b>IP Rating</b>                    | IP67  |
| <b>Dimensions (L, W, H)</b>         | (W)23.4 x (L)130.4 x (H)12.7 mm <sup>3</sup><br>(0.9 x 5.1 x 0.5 inch <sup>3</sup> )              |
| <b>Probe cable length (A927ZET)</b> | 50 cm (19,68 feet)  |
| <b>Weight</b>                       | 35 g (A927Z)<br>48 g (A927ZET)  |

### Ordering Options

| Code        | Description   |
|-------------|---|
| WA927ZAAAAA | A927Z - Temp. logger UHF semi-passive tag (EPC C1G2) Std                            |
| WA927ZETAAA | A927ZET - Temperature logger with external probe UHFsemi-passive tag (EPC C1G2) Std |



# Technical Specification Tables



## R1270 Quark Up

|                              |  |
|------------------------------|--|
| <b>Frequency Range</b>       | 902÷928 MHz (FCC part 15)<br>865.600÷867.600 MHz (ETSI EN 302 208)   |
| <b>RF Power</b>              | Programmable in 18 levels (1 dB step) from 10 dBm to 27 dBm (from 10 mW to 500 mW) conducted   |
| <b>Output Power Accuracy</b> | ± 1dB  |
| <b>Antenna Connector</b>     | Nr. 1 U.FL type  |
| <b>Frequency Tolerance</b>   | ±10 ppm over the entire temp. range  |
| <b>Number of Channels</b>    | 4 channels (compliant to ETSI EN 302 208 v1.3.1)<br>50 hopping channels (compliant to FCC part 15.247)   |
| <b>Std. compliance</b>       | EPC C1 G2/ISO 18000-6C   |
| <b>Digital I/O</b>           | 4 I/O lines (3.3 V level; Iout=3 mA max)   |
| <b>Connectivity</b>          | USB interface:<br>One USB 2.0 Full Speed (12 Mbit/s) device port<br>UART Serial Port:<br>Baudrate: up to 115200<br>Databits: 8<br>Stopbits: 1<br>Parity: none<br>Flow control: none<br>3.3 V I/O voltage level |
| <b>Dimensions</b>            | (W)25 x (L)25 x (H)6 mm <sup>3</sup> (1.0 x 1.0 x 0.2 inch <sup>3</sup> )  |
| <b>Power Consumption</b>     | - 2.7W @ RF out = 27 dBm<br>- 1.6 W @ RF out = 23 dBm<br>- 0.15 W in idle mode   |
| <b>DC Power</b>              | 5.0VDC +/- 5%  |
| <b>Operating Temp.</b>       | -10 °C to +55 °C   |
| <b>Weight</b>                | 5 g  |

## Ordering Options

| Code         | Description                                     |
|--------------|---|
| WR1270CXAAAA | R1270C - Ultra Compact Embedded UHF RFID Reader |



## R1230 Quark

|                                 |  |
|---------------------------------|--|
| <b>Frequency Range</b>          | 902÷928 MHz (FCC part 15)<br>865.600÷867.600 MHz (ETSI EN 302 208)   |
| <b>RF Power</b>                 | Programmable in 15 levels (1dB step) from 9dBm to 23dBm (from 8mW to 200mW) conducted  |
| <b>Output Power Accuracy</b>    | +/- 1dB  |
| <b>Antenna VSWR Requirement</b> | 2:1 or better for optimum performances   |
| <b>Antenna Connector</b>        | Nr. 1 MMCX type  |
| <b>Frequency Tolerance</b>      | ±10 ppm over the entire temp. range  |
| <b>Number of Channels</b>       | 4 channels (compliant to ETSI EN 302 208)<br>50 hopping channels (compliant to FCC part 15.247)<br>All subsets of 902-928 MHz band are supported |
| <b>Std. Compliance</b>          | EPC C1 G2 / ISO18000-63  |
| <b>Digital I/O</b>              | 4 I/O lines 3.3V out @ 3mA; 3.3V input level   |
| <b>Connectivity</b>             | UART Serial Port:<br>Baudrate: up to 115200<br>Databits: 8<br>Stopbits: 1<br>Parity: none<br>Flow control: none<br>3.3 V I/O voltage level       |
| <b>Dimensions</b>               | (W)25 x (L)40 x (H)6 mm <sup>3</sup> (1.0 x 1.6 x 0.2 inch <sup>3</sup> )  |
| <b>Power Consumption</b>        | - 1.6W @ RF out = 23dBm<br>- 1.3W @ RF out = 17dBm<br>- 0.25W in idle mode   |
| <b>DC Power</b>                 | 2.5VDC ÷ 5.5VDC  |
| <b>Operating Temp.</b>          | -10 °C to +55 °C   |
| <b>Weight</b>                   | 8 g  |

## Ordering Options

| Code                   | Description  |
|------------------------|--|
| <b>Reader</b>          |  |
| WR1230CXBAAA           | R1230CB - Quark Low Power OEM UHF Compact RFID Reader        |
| <b>Development kit</b> |  |
| WR1230CBDKEU           | R1230CBDK - Development kit with Quark reader, antenna, tags |
| <b>Accessories</b>     |  |
| WR1230ADAT01           | R1230ADAT - Quark Adapter Board                              |
| WR1230CBEVBX           | R1230CBEVB - Quark Reader Evaluation Board                   |
| WANTENNA004            | Linear polarized 3db gain 870 MHz PIFA antenna               |
| WANTENNA008            | Linear polarized antenna for handheld units 865 - 870 MHz    |
| WANTENNA009            | Linear polarized antenna for printers 865 - 870 MHz          |
| WANTENNA010            | Linear polarized 3db gain 915 MHz PIFA antenna               |
| WANTENNA011            | Linear polarized antenna for handheld units 915 MHz          |
| WANTENNA012            | Linear polarized antenna for printers 902 - 928 MHz          |



## A528B Muon

|                                     |  |
|-------------------------------------|--|
| <b>Frequency Range</b>              | 902÷928 MHz (FCC part 15.247)<br>865.600÷867.600 (ETSI EN 302 208 v1.4.1)  |
| <b>RF Power</b>                     | Programmable in 8 levels from 10 dBm to 27 dBm   |
| <b>Output Power Accuracy</b>        | +/- 1dB  |
| <b>Antenna VSWR Requirement</b>     | 2:1 or better for optimum performances   |
| <b>Antenna Connector</b>            | Nr. 1 MMCX type  |
| <b>Frequency Tolerance</b>          | ±10 ppm over the entire temperature range  |
| <b>Number of Channels</b>           | 4 channels (compliant to ETSI EN 302 208 v1.4.1)<br>50 hopping channels (compliant to FCC part 15.247)                         |
| <b>Std. Compliance</b>              | EPC C1G2   |
| <b>Forward link characteristics</b> | DSB-ASK 40kBit/s<br>PR-ASK 40kBit/s<br>DSB-ASK 160kBit/s (FCC only)  |
| <b>Return link characteristics</b>  | FM0 40kbit/s<br>Miller encoding (M=4;LF=250kHz)<br>Miller encoding (M=4;LF=300kHz)<br>FM0 400kbit/s (FCC only)                 |
| <b>Digital I/O</b>                  | 4 I/O lines 3.3V out @ 3mA; 5V tolerant  |
| <b>Connectivity</b>                 | UART Serial Port:<br>Baudrate: up to 115200<br>Databits: 8<br>Stopbits: 1<br>Parity: none<br>Flow control: none<br>3.3 V level |
| <b>Dimensions</b>                   | (W) 42 x (L) 60 x (H) 6.3 mm <sup>3</sup> (1.65 x 2.36 x 0.25 inch <sup>3</sup> )  |
| <b>Power Consumption</b>            | 1A max @ 5 VDC (TX/RX mode)<br>230 mA @ 5 VDC (idle mode)  |
| <b>DC Power</b>                     | 4.75VDC ÷ 5.25VDC<br>ripple and noise < 100mVpp<br>ripple frequency > 100kHz   |
| <b>Operating Temperature</b>        | -20 °C to +60 °C   |
| <b>Weight</b>                       | 18 g   |

## Ordering Options

| Code                   | Description  |
|------------------------|--|
| <b>Reader</b>          |  |
| WA528BXAAAA            | A528B - Muon - Compact Embedded UHF RFID Reader                            |
| <b>Development kit</b> |  |
| WA528BXDKAAA           | A528BDK - Development kit with A528B reader, antennas, cable and demo tags |
| <b>Accessories</b>     |  |
| WANTENNA004            | Linear polarized 3db gain 870 MHz PIFA antenna                             |
| WANTENNA008            | Linear polarized antenna for handheld units 865 - 870 MHz                  |
| WANTENNA009            | Linear polarized antenna for printers 865 - 870 MHz                        |
| WANTENNA010            | Linear polarized 3db gain 915 MHz PIFA antenna                             |
| WANTENNA011            | Linear polarized antenna for handheld units 915 MHz                        |
| WANTENNA012            | Linear polarized antenna for printers 902 - 928 MHz                        |
| WA528ADATX01           | A528 (MUON) USB/RS232 Adapter Board  |
| WALIM0000002           | Power Supply for A528 Adapter Board  |



## A941M Tau

|                            |  |
|----------------------------|--|
| <b>Frequency Range</b>     | 865.6 ÷ 867.6 MHz (ETSI EN 302 208)  |
| <b>RF Power</b>            | SW programmable Max.: 1.5 W (32 dBm) conducted                               |
| <b>Antenna Connector</b>   | Nr. 5 SMA type female; 4 read point + 1 LBT (Listen Before Talk)             |
| <b>Frequency Tolerance</b> | ±10 ppm over the entire temp. range  |
| <b>Number of Channels</b>  | 4 channels compliant to ETSI EN 302 208                                      |
| <b>Std. Compliance</b>     | ISO 18000-6B<br>Philips UCODE EPC 1.19<br>EPC C1G2                           |
| <b>Digital I/O</b>         | Five I/O lines 3.3 V out, 5 V tolerant                                       |
| <b>Connectivity</b>        | RS232; 9.6÷115 kbit/s data rate (settable)                                   |
| <b>Dimensions</b>          | (W)187 x (L)101 x (H)18 mm <sup>3</sup> (7.4 x 4.0 x 0.7 inch <sup>3</sup> ) |
| <b>Power Consumption</b>   | - 1 A @ 15 V (TX/RX mode)<br>- 260 mA @ 15 V (idle mode)                     |
| <b>DC Power</b>            | 15± 5% VDC   |
| <b>Operating Temp.</b>     | -20 °C to 70°C   |
| <b>Weight</b>              | 330 g  |

## Ordering Options

| Code               | Description  |
|--------------------|--|
| <b>Reader</b>      |  |
| WA941MEOXAAA       | A941MEO - OEM UHF stand alone reader (ETSI EN 302 208) |
| <b>Accessories</b> |  |
| WANTENNA005        | Circular polarized antenna                             |
| WANTENNA007        | Linear polarized antenna                               |
| WCAVOAAAX003       | 5 m RF Antenna Cable SMA-N type                        |
| WCAVOAAAX004       | 15 m RF Antenna Cable SMA-N type                       |

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