



# 1 kbit Read/Write, ISO 18000-6C / EPC C-1 G-2 Passive / Battery-assisted Passive Contactless IC

## Description

EM4324 is a long range battery-assisted passive UHF RFID tag IC compliant with the ISO 18000-6C / EPCglobal Class-1 Generation-2 protocol. The chip offers an advanced feature set (EPC+) leading to a performance beyond that of standard Gen2 chips. Battery-assisted, EM4324 offers superior reading range and reliability compared to purely passive RFID solutions. The battery-assisted mode is tailored to harsh environment applications where other passive UHF solutions fail e.g. in the presence of water or metal.

Moreover, the EM4324 current consumption has been optimized to maximize the battery lifetime. Even if the battery is flat, the chip continues to operate and to communicate with the reader in passive mode.

The non-volatile memory size is 1024 bits enabling the support of an ISO or EPC data structure. Besides the ISO / EPC coding structure each chip is delivered with a 64-bit Unique Identifier to ensure full traceability.

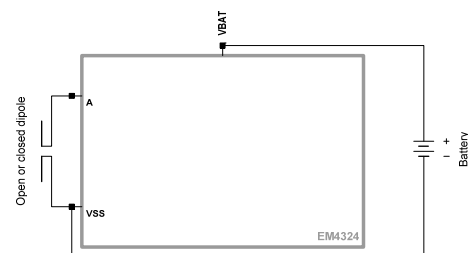
## Typical Applications

- Supply chain management
- Tracking and tracing
- Containers identification
- Access control
- Asset control

## Features

- ISO 18000-6C compliant
- EPC Class 1 Gen2 compliant
- EPC Class 3 compliant (Battery-Assisted Passive gen2)
- 1024-bit non-volatile memory
- 720-bit user's free memory
- 96-bit EPC numbers supported
- 64-bit manufacturer-programmed Unique Identifier (TID / UID)
- Forward link data rates: 40 to 160 kbits/s
- Return link data rates: 40 to 640 kbits/s
- Battery assistance mode for unsurpassed reading range and reading reliability
- Rectifier that allows passive operation in case the battery is flat or not present
- Support of near-field mode enabling reading e.g. through water
- Support of parallel-inductance matching for improved matching
- 32-bit password-protected Kill command
- 32-bit password-protected Access command
- Anti-tearing feature to prevent malicious unlocking
- EPC-extended temperature range (-40°C to +85°C)

## Typical Configuration



## Ordering Information

For samples, please, order exclusively:

The versions below are considered standards and should be readily available. For other versions or other delivery form, please contact EM Microelectronic-Marine S.A.

Part Number	Package/Die Form	Delivery Form
EM4324WS7E	Sawn wafer / bumped die – thickness of 7 mils	Wafer sawn on frame
EM4324VXXXX-%%%	custom	Custom