



EM MICROELECTRONIC - MARIN SA

A COMPANY OF THE SWATCH GROUP

Fact Sheet

EM4223

Read-only UHF Radio Frequency Identification Device according to ISO IEC 18000-6

Description

The EM4223 chip is used in UHF passive read-only transponder applications. The chip derives its operating power from an RF beam transmitted by the reader, which is received and rectified by the chip. It transmits its factory-programmed code back to the reader by varying the amount of energy that is reflected from the chip antenna circuit (passive backscatter modulation).

The air interface communication protocol is implemented according to ISO18000-6 type A.

The code structure supports the effort of EPCglobal, Inc. as an industry accepted standard.

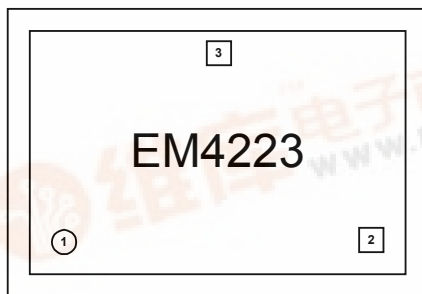
It additionally incorporates the Fast Counting Supertag™ protocol for applications where the fast counting of large tag populations is required.

The chip is frequency agile, and can be used in the range of 800 MHz to 2.5GHz for RF propagating field applications.

Typical Applications

- ☐ Supply chain management (SCM)
- ☐ Tracking and tracing
- ☐ Asset control
- ☐ Licensing
- ☐ Auto-tolling

Pin Assignment



Features

- ☐ Air interface is ISO18000-6 type A compliant
- ☐ Supports EAN•UCC and EPC™ data structures as defined by the Auto-ID center
- ☐ Supports Fast Counting Supertag™ mode
- ☐ 128 bit user memory license plate
- ☐ Group select by means of 'Application Family Identifier' (AFI) according to ISO
- ☐ Fast reading of user data during arbitration (no need to first take an inventory)
- ☐ Frequency independent: Typically used at 862 - 870 MHz, 902 - 950 MHz and 2.45 GHz
- ☐ Low voltage operation - down to 1.0 V
- ☐ Low power consumption
- ☐ Cost effective
- ☐ -40 to +85 °C operating temperature range

Benefits

- ☐ Numbering scheme according to international standards
- ☐ Operates worldwide according to the local radio regulation
- ☐ Ideal for applications where long range and high-speed item identification is required

Pad No	Name	Function
1	A	Connection to antenna (positive)
2	V _{ss}	Connection to antenna (negative)
3	V _{dd}	Positive connection (optional use)

Chip design is a joint development with RFIP Solutions Ltd.

EM Microelectronic-Marlin SA cannot assume responsibility for use of any circuitry described other than circuitry entirely embodied in an EM Microelectronic-Marlin SA product. EM Microelectronic-Marlin SA reserves the right to change the circuitry and specifications without notice at any time. You are strongly urged to ensure that the information given has not been superseded by a more up-to-date version.

