



A small piece  
Adds **BIG** Value...

# RM300 Series

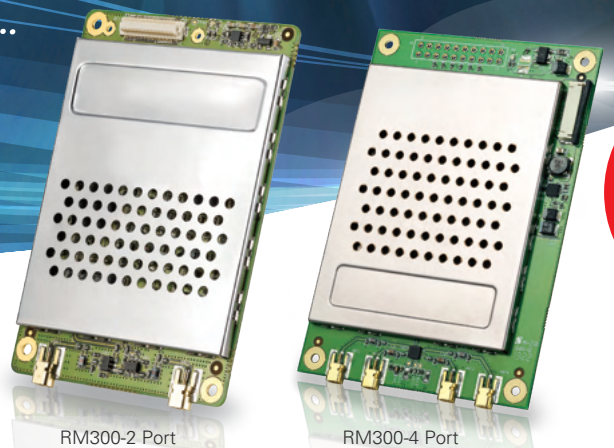
## UHF RFID Reader Module

Unitech's RM300 series is a high-performance UHF RFID reader module based on Impinj R2000 chip and compliant with EPC C1 Gen2 / ISO 18000-6C and FCC modular approval requirements. System Integrators, RFID device makers could use RM300 to develop their own products with the benefits of cost-efficiency and high-performance.

RM300 series has two models, one is named RM300-2port with two (MMCX) antenna connectors and the other one is RM300-4port with four (MMCX) antenna connectors. The antenna connectors of RM300-2port that can be configured as one bi-static antenna or two mono-static antennas. It also supports dense reader mode (DRM), anti-collision, and Listen-Before-Talk (LBT) features. RM300 has an operating distance up to 9 meters when its adjustable TX power is set to 30 dBm with a 6 dBi antenna. In addition, RM300 is small and ideal for adding UHF RFID read/write capabilities to a wide range of products and solutions such as handheld PDA, label printers, stationary readers, or any other device for UHF RFID applications. RM300 uses Serial and USB interfaces to connect to an external processor board or PC host.

### Applications

- Mobile reader / Logistic inventory / Warehouse management / Assets tracking / Cargo tracking / Baggage handling / Access control / Large-scale RFID system implement



RM300-2 Port

RM300-4 Port

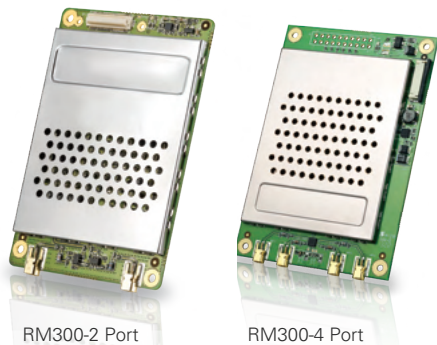
Unitech offers a starter kit to enable you to design RM300 into your products quickly and easily. This kit includes SDK, demo code, driver, and documentation. With its tiny size, excellent operating range, and high quality UHF RFID technology, RM300 is the perfect solution for embedded RFID applications.

### Features

- Support for EPC C1 Gen2 / ISO 18000-6C tag protocol with anti-collision, DRM and Listen-Before-Talk features
- International operation with global frequency coverage over 860-960 MHz band
- Offer two kinds of models with two or four (MMCX) antenna connectors for choice
- Adjustable transmit output level control from 5 dBm to 30 dBm in 1 dB step
- Maximum tag read rate of over 900 tags per second
- Maximum tag read distance of over 27 feet (9 m) with 6 dBi antenna
- Easy to use Starter Kit to shorten product development time

**unitech**  
because we care

# RM300 Series UHF RFID Reader Module



RM300-2 Port

RM300-4 Port

## Protocol

RFID EPCglobal Gen 2 ( ISO 18000-6C ), DRM

## Architecture

RFID ASIC IMPINJ R2000  
Processor ATMEL AT91SAM7S - 256

## Power

Voltage 5V VDC  
Current Consumption Scan Mode : 1.5 A ( Max )  
Idle Modes : 0.33 A ( Typical )

## Interface

Connector RM300-2port 50-pin ( HRS-DF12 SMT connector )  
RM300-4port 20-pin ( ZIF FPC 0.5mm connector )  
UART Baud rates: 9,600 to 115,200 bps, Logic levels: 3.3 / 5 V  
USB USB 2.0 Full Speed (12 Mbps )  
GPIO 4 GPIO pins, Logic levels: 3.3 / 5 V  
API Interface Impinj

## RF

Antenna Connector Two/Four MMCX antenna connectors supporting 2/4 mono-static antennas, or one bi-static antenna, with VSWR less than 2:1  
Frequency 860-960MHz  
TX Power Adjustable from 5 dBm to 30 dBm @ ±1 dBm  
Frequency Stability ±20 ppm  
Harmonic Performance under 35.0 dBc  
Modulation Depth 90% nominal  
Data Encoding FMO or Miller code  
Bit Rate Supports uplink data rates of up to 640 Kbps

## Software

Platform Support PC Windows OS & WinCE SDK  
Development Tools Visual studio with C#/C++/VB.NET

## Performance

Tag Read Rate Over 900 tags/second  
Inventory Reliability Through anti-collision  
Tag Read Distance 27 feet ( 9m ) with a 6 dBi antenna ( 36 dBm EIRP )

## Compliance

Regulatory : Certification obtained : RM300-2port ( FCC, TELEC, NCC )

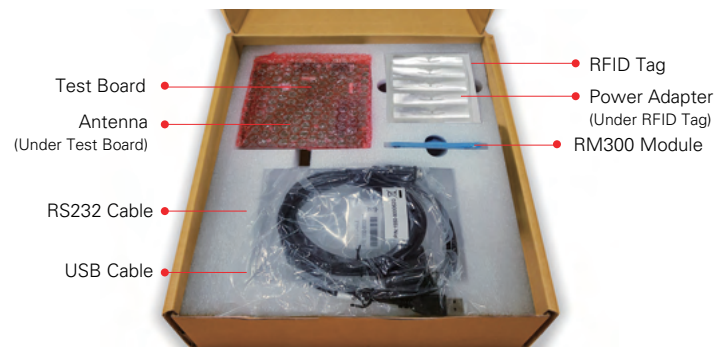
## Environmental Compliance

Operating Temperature -20°C to 60°C  
Storage Temperature -30°C to 85°C  
Humidity 10% ~ 85% Non-condensing  
Electrostatic Discharge 10 KV to antenna conductor with the antenna attached

## Physical

Dimensions 76.5mm ( L ) x 50mm ( W ) x 4.2 mm ( H ) ( 2-port )  
92.5mm ( L ) x 63mm ( W ) x 4.5 mm ( H ) ( 4-port )

## Accessories in starter kit package



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