

High-Performance RFID Module Solutions



Empowering next-generation IoT & automation hardware
with industry-leading RAIN RFID core engines.

RFID Product Portfolio Overview

IDRO Co., Ltd. offers a dynamic line of high-performance RAIN RFID transceiver modules tailored for seamless integration across hardware structures.

Model Series		Target Market Segment	Engine Architecture	Unique Standout Value
	IDRO900ME-H	Premium Industrial Systems	Flexible E-Series Engine	Industry-leading reading rates for hardware integrations.
	IDRO900ME-L	Standard Enterprise Operations	Flexible E-Series Engine	Visual LED active status diagnostics & superb system stability.
	IDRO900ME-T	Fixed Reader Hubs	Flexible E-Series Engine	Scalable 4-antenna ports via highly compact SMD board design.
	IDRO900ME-U	Micro-Devices & Wearables	Flexible E-Series Engine	Featherlight 1g form factor with a massive 1,300 tags/sec throughput.

Product Selection Guide

Handhelds Encoders

High Power Module

IDRO900ME-H
36.0 x 40.5 x 7.6mm



Designed strictly for top-tier industrial execution requiring the premium Impinj E-Series (E710 & E910) performance engine inside.

Printers Desktop Units

Low Power Consumption Module

IDRO900ME-L
36.0 x 40.5 x 7.6mm



Features on-board diagnostic LED indicators to supply instant hardware state monitoring during operations.

Fixed Multi-Antenna Hubs

SMD Type Module

IDRO900ME-T
25.0 x 27.0 x 4.1mm



Compact, lightweight surface-mount packaging optimized for building custom multi-port desktop RFID readers.

Wearables Micro-IoT

Micro-Sized Module

IDRO900ME-U
15.0 x 15.0 x 2.15mm



The ultimate miniaturized RFID engine. Weighing only 1 gram while keeping top-tier response speeds intact.

IDR0900ME-H, Premium Specs

HIGH-SPEC INDUSTRIAL MODULE

Impinj E-Series Engine Integration

- ✓ Powered by premium Impinj E-Series IC Core (E710 & E910) for rapid tag execution.
- ✓ Outstanding anti-collision technology for multi-tag environments.
- ✓ Compact standalone form factor for seamless mechanical layout integration.



DIMENSIONS

36.0 × 40.5 × 7.6 mm

MAX OUTPUT

+30 dBm (Software adjustable)

PROTOCOL SUPPORT

ISO 18000-63 / EPC Gen2V2

READ RANGE

Up to 10 Meters (Single Tag)

IDR0900ME-L, Universal Specs



VERSATILE RFID READER MODULE

Low Power Consumption with Easy Integration

- ✓ On-board diagnostic LED indicator provides real-time signal feedback.
- ✓ Fully versatile engine supporting E-series core chips (E310~E910).
- ✓ Rugged physical structural design engineered for operational printer units.

DIMENSIONS

36.0 × 40.5 × 7.6 mm

RX SENSITIVITY

-95 dBm (E710 Version)

MAX OUTPUT

+30 dBm (Highly Stabilized)

INTERFACES

UART, GPIO Integration Hub

IDR0900ME-T, Scalable Specs

HIGH-PORT DENSITY SURFACE MOUNT

Compact Form Factor with 4-Port Expansion

- ✓ Ultra lightweight 3g profile specifically configured for direct SMD mounting.
- ✓ Rapid operational processing capabilities of up to 1000 tags per second.
- ✓ Built for custom multi-port antenna terminal configurations.



DIMENSIONS

25.0 × 27.0 × 4.1 mm

RX SENSITIVITY

-95 dBm (E710 Version)

ENGINE POWER

+30 dBm Max Output

INTERFACE HUB

UART, GPIO interface support

IDR0900ME-U, Ultra-Mini Specs



MICRO-HARDWARE INTEGRATION

The Ultimate 1-Gram Ultra-Lightweight Module

- ✓ Unbelievably lightweight 1g build designed for highly tight spaces.
- ✓ Blazing fast processing rate capability up to 1,300 tags per second.
- ✓ Excellent thermal management and energy efficiency constraints.

DIMENSIONS

15.0 × 15.0 × 2.15 mm

RX SENSITIVITY

-95 dBm (Optimized for wearables)

POWER OUTPUT

+30 dBm (Energy-Efficient Tuning)

APPLICATION

Smart Wearables, Medical Micropins

Detailed Technical Matrix

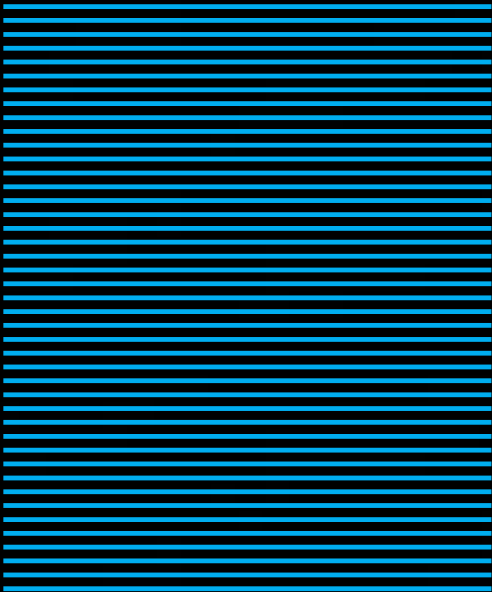
Use this comparison chart to choose the exact IDRO module model that matches your physical and electrical specification boundaries.

Parameter	IDR0900ME-H	IDR0900ME-L	IDR0900ME-T	IDR0900ME-U
Form Factor Size	36.0 × 40.5 × 7.6 mm	36.0 × 40.5 × 7.6 mm	25.0 × 27.0 × 4.1 mm	15.0 × 15.0 × 2.15 mm
Weight	~16.0g	~16.0g	~3.0g	~1.0g (Featherlight)
RX Sensitivity	−95.0 dBm	−95.0 dBm	−95.0 dBm	−95.0 dBm
Max RF Output	+30 dBm (1W)	+30 dBm (1W)	+30 dBm (1W)	+30 dBm (1W)
Host Interfaces	UART, GPIO	UART, GPIO	UART, GPIO	UART, GPIO
Core Engine IC	E-series Scalable	E-series Scalable	E-series Scalable	E-series Scalable

Multi-Tag Benchmark Performance

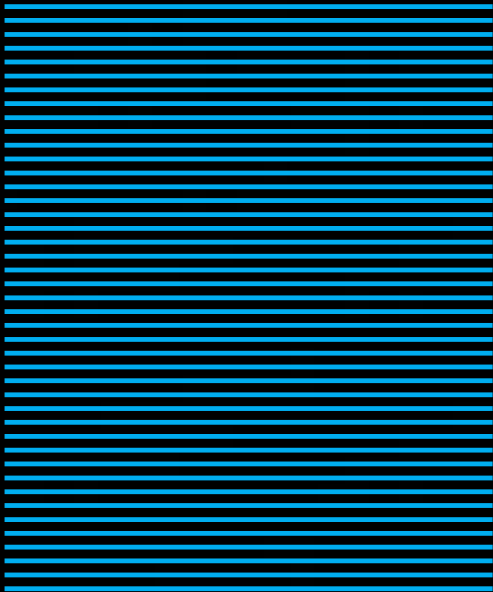
Anti-collision Speed Capacity (Processed Tags per Second)

1,300 Tags/s



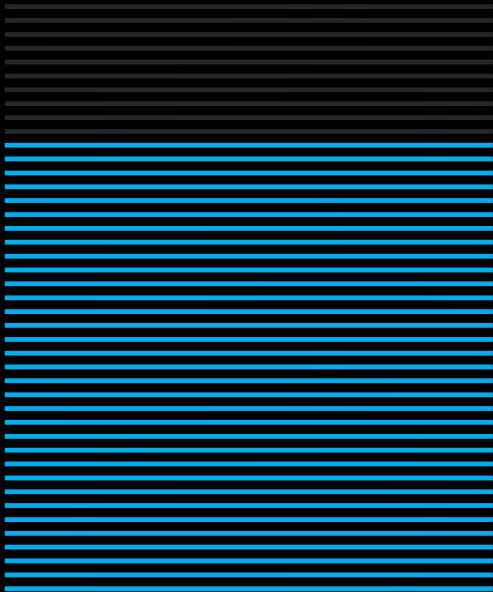
IDRO900ME-H (E710 Core)

1,300 Tags/s



IDRO900ME-U (E710 Core)

1,000 Tags/s



IDRO900ME-T (SMD Hub)

150 Tags/s



Legacy Modules (Previous Gen)

* Tested in controlled multi-path clean chambers. Exact field execution performance will vary depending on operational antenna configurations, core chip choices, and surrounding metallic environments.

Development Support & Integration Options

Accelerate Your Development: EVM Kits & Carrier Boards

Professional tools and flexible hardware options for seamless integration.

01

EVM Kits

| Purpose

Designed for rapid testing and performance evaluation of IDRO modules.

| Key Components



Main Evaluation Board with USB/UART interface.



Comprehensive SDK & GUI software for easy configuration.



Antenna, cables, and the casing are included



| Benefit

Reduce “Time-to-Market” by providing a plug-and-play testing environment.

Development Support & Integration Options

Accelerate Your Development: EVM Kits & Carrier Boards

Professional tools and flexible hardware options
for seamless integration.

02

Carrier Board Options for SMD Modules

Compatible Module	1-Port Configuration	4-Port Configuration	Application Strategy
IDRO900ME-T	Available 	Available 	Middle size industrial devices
IDRO900ME-U	Available 	Available 	Ultra-compact or high speed system.

| Key Advantage: High Scalability

Both T and U series offer dual-configuration support (1-Port & 4-Port),
allowing you to scale from single-antenna handhelds
to multi-antenna fixed reader system without changing the core module.



Expert support, robust integration guides, and custom board optimization options are ready for your engineering teams.



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