

# R3S

## Desktop RFID Reader

Smaller Size and Richer Interfaces to Support Broader Application Needs.



Chainway R3S is our newly launched desktop UHF reader designed for close-range RFID data capture. It is built with the Impinj E-series chip and supports the latest Impinj Gen2X protocol, enabling reading distances of up to 100 cm. With a proprietary high-efficiency anti-collision algorithm, the R3S delivers fast, stable performance while maintaining a high read rate. It supports multiple data interfaces, including Bluetooth, Type-C USB, and Ethernet, and works seamlessly with Android, iOS, and Windows devices. Typical applications include retail checkout, tablet-based POS, and jewelry or valuables management.

### Compact design for flexible deployment

The R3S adopts a compact, integrated design that combines the UHF module and antenna into a single unit, making it small, plug-and-play, and easy to deploy. A top-mounted Scan button allows manual trigger-based reading for more flexible operation. It fits perfectly in space-constrained environments such as desktops, counters, and service windows, and can also be embedded into self-checkout kiosks, loan/return terminals, and other all-in-one devices—delivering a "fits anywhere" deployment experience.

### Versatile Interfaces for Easy Integration

USB provides true plug-and-play operation without an external power supply. RJ45 supports Ethernet communication and PoE+ power. A DC input is available to ensure stable power delivery when USB is insufficient or when external Bluetooth modules are used. Multiple I/O options greatly enhance installation flexibility.



USB Type-C



RJ45



DC input



Bluetooth 5.0

### High-Performance, Low-Miss Reading Engine

Powered by the Impinj E-series and supporting the latest Impinj Gen2X protocol, the R3S offers excellent sensitivity and anti-collision performance. It can read 70+ tags in a single session (5-second inventory), significantly improving efficiency for batch checkout and inventory tasks, even in dense tag environments.



## Dual Indicators for Instant Feedback

LED indicators and a **built-in buzzer** provide **intuitive real-time feedback** for read/write operations, helping users confirm status quickly and reducing errors caused by oversight.

## Precise power control for reduced misreads

With a maximum read distance of **approximately 100 cm** and **30-level adjustable power settings**, the R3S allows fine-tuned control for different operational scenarios. This helps minimize stray reads and misreads, ensuring accurate and reliable results.

## Strong compatibility with mainstream platforms

Fully compatible with **Windows, Android, and iOS systems**, the R3S connects easily with mainstream terminal devices. SDKs are available to support application development and reduce integration effort and cost.



## Specification

Physical Characteristics	Dimensions	255×235×18mm / 10.04×9.25×0.71in
	Weight	Approximately 650g / 22.93oz.
	Material	PC
	Port	Compact Version: 1 USB Type-C port Enhanced Version: 1 USB Type-C port + 1 DC power port PoE Version: 1 USB Type-C port + 1 DC power port + 1 RJ45 port
	Power Supply	USB, DC, and RJ45 ports all support power supply
	Scan Button	1 Scan Button
	LED Indicators	1 Power indicator (ring around the inventory button) 1 Bluetooth indicator 1 Operation indicator Ethernet indicators: 1 green LED + 1 yellow LED (PoE Version)
	Audio	1 Buzzer
Data Communication	USB	USB 2.0 with a transmission rate of 12 Mbit/s
	Ethernet	10/100 Base-T Ethernet /PoE+ support
	Bluetooth	BLE 5.0
Environmental	Operating Temp.	-4°F to 122°F / -20 °C to 50°C
	Storage Temp.	-40°F to 158°F / -40°C to 70°C
	Humidity	5%RH-95%RH non condensing
	Sealing	Ingress Protection (IP) 54 rating
	Vibration	YD/T 1539-2019
	ESD	±15kV air discharge, ±8kV contact discharge

<b>RFID</b>	<b>Engine</b>	Based on Impinj E-Series chip
	<b>Frequency</b>	865-868MHz / 920-925MHz / 902-928MHz (custom-design for frequency band)
	<b>Impinj Gen2X</b>	Supported
	<b>Protocol</b>	EPC global Class 1 Gen 2 / ISO18000-63 RFID
	<b>Transmit Power</b>	1-30, step 1dB
	<b>Antenna</b>	Near-Field Antenna
	<b>Fastest Read Rate</b>	250+ tags/sec
	<b>Multi-tag Inventory</b>	Supports reading 70+ RFID tags at once (5 seconds)
	<b>Max Read Range</b>	>100cm (tag: Impinj M750 tag)
<b>Developing Environment</b>	<b>SDK</b>	Supports Android, iOS, and Windows systems
<b>Accessories</b>	<b>Standard</b>	1 USB data cable, 1 USB cable clip, 2 USB cable fixing screws, 1 DC power adapter (PoE Version and Enhanced Version)
	<b>Optional</b>	1 PoE power adapter (PoE Version) 、 Mounting Bracket

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Notice: Product specifications are subject to change without  
prior notice. | Model: R3S | Version: V2.1