IMPINJ®
READER CHIPS

Impinj E710
RAIN RFID Reader Chip

Industry-leading receive sensitivity for long read range, improved read rate, and support for next-gen RAIN tags—this chip is designed for IoT devices that identify, locate, and authenticate large numbers of tagged items quickly.

A New Bar for Performance, Integration, and Ease of Use

The new Impinj E710 reader chip is designed for high-performance handheld readers and fixed readers in shelves, cabinets, and conveyors enabling real-time inventory and asset tracking.

The Impinj E710 joins a portfolio of new systems-on-chips (SoCs) built on a heritage of Impinj Indy series that set performance standards for over a decade. Compared to the Impinj Indy R2000, the E710 delivers:

- Up to 2x better receive sensitivity for reliable performance in new and emerging uses
- 50% lower chip power consumption, supporting battery-powered, energy-efficient IoT devices
- Up to 80% smaller RAIN RFID system designs ideal for small, next-generation devices

With industry-leading system integration and easy-to-use development tools, the Impinj E710 enables the development of quick-to-market IoT devices.

Why Use Impinj E710?

Design High Performance RAIN Readers
Develop a range of high-performance devices for use in demanding applications where industry-leading sensitivity, long range, and fast read rates are required.

Build Small, Powerful, Energy-Efficient Products
Build high-performance, small-size readers that remain active longer on a single battery charge. The efficient chip design and low power consumption open the doors of product innovation.

Accelerate Innovation of Next-Gen IoT Solutions
Reach emerging markets quickly with a powerful, differentiated product portfolio. The ease of use, development tools, and pre-certified partner-built modules support reduce the complexity and timeline of new product development.

Key Features

> ### Optimized, High-Performance Design
> Enables reading and writing tags farther and faster with industry-leading receive sensitivity.

> ### Integrated SoC in a 6x6mm Package
> Includes a radio modem, self-jammer cancellation, RF front-end, microcontroller, and power regulation.

> ### Flexible Host Controller & Modem Design
> Supports a range of performances, costs, and worldwide region support with an advanced development kit and chip compatibility.

Primary Uses

> ### Handheld Readers for Inventory
> Count inventory quickly in high-tag environments to gain visibility that drives efficient operations.

> ### Smart Shelves and Cabinets for Retail
> Track goods on shelves and in cabinets for self-service applications and engaging product displays.

> ### Fixed Readers for Automated Systems
> Read items as they move through automated systems and conveyors for speedy, streamlined distribution and visibility end to end.

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Impinj RAIN RFID Reader Chips Embed Connectivity into Devices

INDY® R2000, E510, INDY® R500, E310, E710

Impinj reader chips provide a foundation for designing devices with embedded RAIN RFID read/write capability. The Impinj E710, E510, and E310 are pin- and software-compatible for easy performance upgrades and design reuse.

Impinj partner-built reader modules enable accelerated product development, time to market, and government certifications worldwide.

Impinj Reader Chip Portfolio

	E710	E510	E310	R2000	R500
SPECIFICATIONS					
Air interface protocol	RAIN RFID / ISO 18000-63 and EPCglobal Gen2v2 compliant				
Receive sensitivity[1] (dBm)	-88	-82	-75	-84	-68
Maximum read rate (tags/second)	950[2]	550	250	900	190
Typical power consumption (watts)	0.5			1.5	1.1
Package type	56-pin QFN			64-pin QFN	
Package size (mm)	6 x 6			9 x 9	
FEATURES					
Self-jammer cancellation	✓	✓	✓	✓	
Reader modes	8	7	5	4	4
Impinj adaptive tag access	✓	✓	✓		
RAIN RFID integration	Radio, Modem, MAC, Baluns, and Power Detectors			Radio + Modem	
Pin- and software-compatible	E710, E510, E310			R2000, R500	
Worldwide region support	✓	✓	✓	✓	✓

[1]Sensitivity measured with 10dBm antenna reflection, at chip receive pins, FCC DRM RF Mode, 99% success rate
[2]950 tag per-second RF Mode in Impinj E710 firmware version 1.1

Impinj product performance is based on Impinj's modeling and test data, actual results may vary.
For a list of supported regions and geographies please go to: www.impinj.com/supported_regions.

Ready to discuss how Impinj can help your business?

CONTACT US
WWW.IMPINJ.COM

Impinj (NASDAQ: PI) helps businesses and people analyze, optimize, and innovate by wirelessly connecting billions of everyday things—such as apparel, automobile parts, luggage, and shipments—to the Internet. The Impinj platform uses RAIN RFID to deliver timely data about these everyday things to business and consumer applications, enabling a boundless Internet of Things.

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