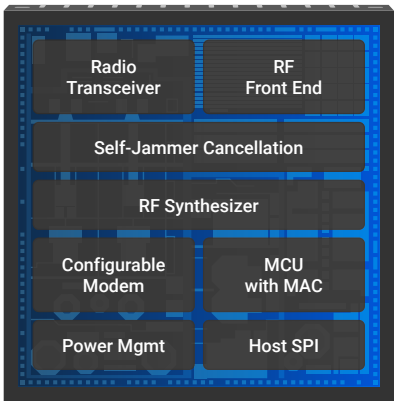
Impinj E700 Series RAIN RFID Reader Chips

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

The 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 the Impinj Indy series that set performance standards for over a decade. Compared to the Impinj Indy R2000, the new Impinj E710 reader chip delivers:

- Up to 4 dB better receive sensitivity 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.



Impinj E710 Reader Chip

Why use Impinj E700 series reader chips

Design high-performance RAIN RFID readers

Develop a range of high-performance devices for use in demanding applications where superior 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-generation IoT solutions

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

A new bar for performance, integration, and ease of use

Optimized, high-performance design
Enables reading, writing, and authenticating of tags farther and faster with superior receive sensitivity.

Integrated systems-on-chips 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.

Impinj Reader Chip Portfolio

R500 and R2000 are not recommended for new designs.

E910

E710

E510

E310

R2000

R500

		E910	E710	E510	E310	R2000	R500
SPECS	Air interface protocol	RAIN RFID / ISO 18000-63 and EPCglobal Gen2v2 compliant					
	Receive sensitivity[1] (dBm)	-94	-88	-82	-75	-84	-68
	Maximum read rate[2] (tags/second)	1,000		700	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	12	12	9	5	4	4
	Impinj adaptive tag access	✓	✓	✓	✓		
	RAIN RFID integration	Radio, Modem, MAC, Baluns, and Power Detectors				Radio + Modem	
	Pin- and software-compatible	Impinj E910, E710, E510, E310				Impinj R2000, R500	
	Worldwide region support	✓	✓	✓	✓	✓	✓

[1]Sensitivity measured with 10dBm antenna reflection, at chip receive pins, FCC DRM Reader Mode, 99% success rate
[2]Maximum tag read rate measured over the air with a large tag population in a quiet RF environment

Impinj product performance is based on Impinj's modeling and test data, actual results may vary.

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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