



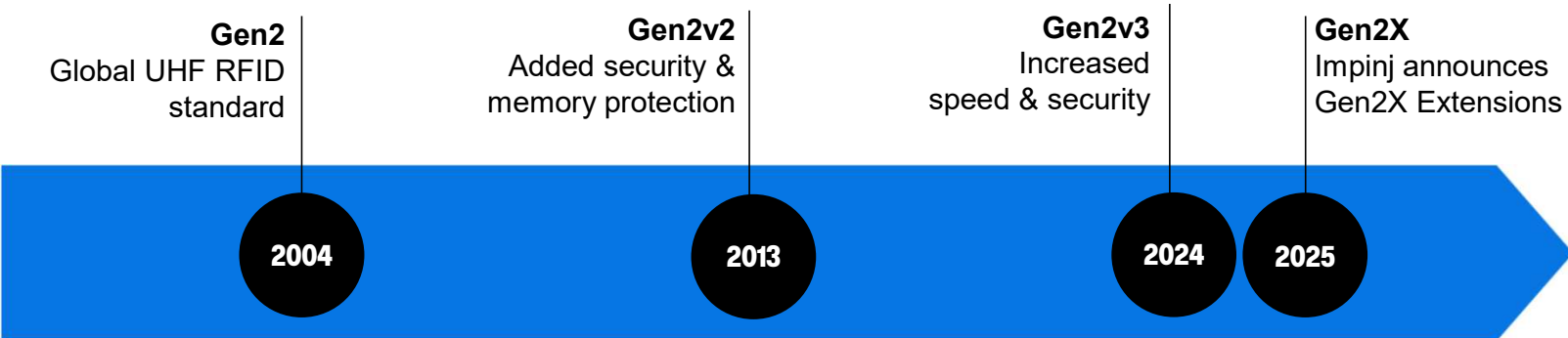
Zebra Technologies Corporation

Impinj Gen2X Overview

Advanced Location Technologies

June 2025

Evolution of RFID: From Gen2 to Gen2X



Impinj Gen2X is an enhancement to the radio and logical layers of the Gen2 Protocol industry communications standard that:

- Speeds inventory
- Increases tag read range
- Declutters the environment
- Protects consumers
- Inhibits label and item counterfeiting
- Reduces solution cost.

Gen2X enabled readers seamlessly integrate with your existing RFID ecosystem, reading and interacting with both **Gen2X** and **standard Gen2** RFID tags.

Impinj Gen2X Performance Features

Innovative capabilities that increase solution performance while reducing solution cost

Tag readability and range

Improves reader sensitivity and power delivery to tags, delivering exceptional readability, especially for small tags on densely packed items.

Inventory speed

Accelerates reader inventory speed by reducing tag backscatter data and tag communication errors.

Tag decluttering

Enables readers to declutter complex tag environments by discriminating which reader a tag's response is intended for and silencing already inventoried tags.

Tag filtering

Allows readers to complete tag selection at inventory round initiation, ensuring only tags of interest participate.



Improves readability of small, hard-to-read tags



Mitigates interference and improves accuracy



Faster inventory of tags-of-interest in cluttered places

Impinj Gen2X Protection Features

Key features that protect tag data, authenticate tag chips, and protect consumer privacy.

Impinj Protected Mode tag data protection

Makes a RAIN tag invisible to RAIN readers. When necessary, the tag can be returned to normal operation using a secure PIN.

Impinj FastID high-speed verification

Allows readers to instruct tags to concatenate their TID and EPC during inventory, speeding up EPC-to-TID verification.

Impinj Authenticity cryptographic authentication

Verifies a product's authenticity using a challenge-response protocol, preventing counterfeits and securing the supply chain.

Impinj Integra memory diagnostics

Verifies tag chip health and validates data encoding, enabling more reliable tags and consistent delivery of accurate data.

*Source: [impinj.com](https://www.impinj.com)

ZEBRA TECHNOLOGIES



What Products Support Impinj Gen2X?

Impinj Products

- Impinj M800 series tag chips
- Impinj E family reader chips
- Impinj R700 readers



**Gen2X Features
require both Gen2X
enabled readers *and*
tags to fully unlock
advanced features**

Zebra Products *(Coming Soon!)*

- Zebra Fixed and Overhead RFID Readers
- Zebra Handheld RFID Readers
- Zebra RFID-enabled Mobile Computers
- Zebra RFID-enabled Printers



What is Zebra's Gen2X Strategy?

Zebra is thrilled to partner with Impinj to integrate Gen2X technology into our reader firmware, SDKs, and tools, reinforcing our commitment to pioneering RFID innovation and meeting the demand for superior reader performance.

Versatility and Strategic Evaluation

- Our readers support proprietary extensions from all chip manufacturers, ensuring compatibility.
- Our product team is carefully prioritizing capabilities to **balance cutting-edge technology** with targeted customer use cases to **maximize business value**.
- Gen2X updates will be part of our standard firmware, SDKs and tools.

Zebra's Commitment to Excellence

"Zebra, as a Gen2X licensee, plans to leverage Gen2X in our products and solutions. We look forward to the benefits Gen2X will have enhancing item visibility and creating operational success for our customers."

— Joe White, Chief Product and Solutions Officer, Zebra Technologies





Shaping the Future of RFID

Advance

Gen2X Offers greater speed, accuracy, and security, optimized for small tags and dense environments, while seamlessly integrating with Gen2 standards.

Enhance

Zebra's Gen2X strategy enhances and future-proofs RFID by prioritizing advanced features that increase business value, empowering customers to maximize their Zebra reader investments.

Evolve

Zebra's adoption of Gen2X demonstrates a commitment to leading RFID innovation to meet evolving customer needs and expanding use cases.

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“We are excited to collaborate with Zebra Technologies to bring the advanced capabilities of Gen2X, currently available in Impinj M800 series endpoint ICs, to life. This partnership underscores our shared commitment to pushing the boundaries of RAIN RFID innovation, enabling businesses to leverage Gen2X's enhanced performance and security to achieve their operational goals.”

– **Chris Diorio, Chief Executive Officer, Vice Chair, and Co-Founder, Impinj**

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Resources

Zebra RFID:

<http://www.zebra.com/rfid>

Related Links:

[Gen 2x Protocol Solutions Toolbox for Performance & Protection | Impinj](#)

[CEO Letter: Unlocking Enterprise Use Cases with Gen2X](#) (Zebra announcement)

[Kroger Adopts RFID to Maximize Grocery Freshness and Reduce Waste](#)



Stay tuned for exciting new firmware, SDKs, and tools updates coming soon!



Thank you

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