Internal Flash Controller IP for MachXO5-NX

IP Version: v2.3.0

Release Notes

FPGA-RN-02085-1.2

December 2025

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Contents

1. Introduction

This document contains the Release Notes for the Internal Flash Controller IP for MachXO5™-NX. For specific details about the IP and driver, refer to the following:

- Internal Flash Controller IP for MachXO5-NX User Guide (FPGA-IPUG-02174)
- Internal Flash Controller Driver API Reference (FPGA-TN-02421)

Internal Flash Controller IP for MachXO5-NX v2.3.0

Software	Software Version	Summary of Changes
Lattice Propel™	2025.2	Driver release v25.2.0: • Fixed unsigned char bug in words_num to support longer data read (up to 1024 bytes). • Added page_read helper function to perform multiple reads if length > 256 bytes.

Internal Flash Controller IP for MachXO5-NX v2.2.0

Software	Software Version	Summary of Changes
Lattice Propel	2025.1	Driver changes: • Removed duplicated definition. • Fixed register map addressing. • Consolidated multiple redundant functions into generic erase. • Fixed logic and sequences in write and read operation. • Fixed logic error in boundary check function. • Added multiple helper functions for better code readability.

Internal Flash Controller IP for MachXO5-NX v2.1.0

Software	Software Version	Summary of Changes
Lattice Propel	2025.1	• Added support for LFMXO5-35, LFMXO5-35T, LFMXO5-65, and LFMXO5-65T devices. • Added the TRANSACTION_STATUS register to indicate the idle status of the flash device.

Internal Flash Controller IP for MachXO5-NX Earlier Versions

IP Version	Summary of Changes
2.0.1	Updated RTL to resolve combinational loop warning flagged by Radiant™ SW during place and route.
2.0.0	Added LFMXO5-100T and LFMXO5-55T support.
1.1.0	Updated IP package with driver.
1.0.2	Updated frequency of the internal LMMI CLK, limiting to 50 MHz.
1.0.1	Updated design for on-chip flash erase function.
1.0.0	Initial release.

References

- Internal Flash Controller IP for MachXO5-NX User Guide (FPGA-IPUG-02174)
- Internal Flash Controller Driver API Reference (FPGA-TN-02421)
- MachXO5-NX web page
- Internal Flash Controller IP Core web page
- Lattice Propel Design Environment web page
- Lattice Radiant Software web page
- Lattice Solutions IP Cores web page
- Lattice Solutions Reference Designs web page
- Lattice Insights for Lattice Semiconductor training courses and learning plans

Technical Support Assistance

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For frequently asked questions, refer to the Lattice Answer Database at
www.latticesemi.com/Support/AnswerDatabase.

FPGA-RN-02085-1.2

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