Octal SPI Controller IP

IP Version: v1.4.1

Release Notes

FPGA-RN-02011-1.5

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1. Introduction

This document contains the Release Notes for the Octal SPI Controller IP and Octal SPI Controller Driver. For specific details about the IP and driver, refer to the following:

- Octal SPI Controller IP User Guide (FPGA-IPUG-02273)
- Octal SPI Controller Driver API Reference (FPGA-TN-02400)

Octal SPI Controller IP v1.4.1

Software	Software Version	Summary of Changes
Lattice Radiant™	2026.1	• Fixed an issue in dummy cycle generation. • Updated the customer testbench directory structure. • Updated the constraint.pdc file in the eval folder by implementing timing relaxations for clock domain crossing constraints, minimum or maximum delays, and multicycle paths to improve timing closure. **Note:** There are no updates to the IP user guide for this release. Refer to the Octal SPI Controller IP User Guide (FPGA-IPUG-02273, v1.4) for the applicable documentation.

Octal SPI Controller IP v1.4.0

Software	Software Version	Summary of Changes
Lattice Radiant	2025.2	Driver release v25.2.0. • Optimized erase, program, and read functions. • Added single lane configuration support in read function. • Fixed incorrect QE bit command for Macronix™ SPI flash. • Added pre-processor checking for SPI manufacturer. • Fixed SUCCESS and FAILURE define values.

Corrections to Previous Release Notes

- In IP version 1.3.0, the correct driver version format is v25.1.0.

Octal SPI Controller IP v1.3.0

Software	Software Version	Summary of Changes

Lattice Radiant	2025.1	• Added support for dual bus.
		• Added bus options: APB and AXI4-Lite.
		• Driver release v25.01.00.
		  ◦ Added Macronix SPI flash support.
		  ◦ Fixed fast read issue with O2 optimization build.
		  ◦ Minor cleanup and restructuring to simplify the source code.

Octal SPI Controller IP v1.2.0

Software	Software Version	Summary of Changes
Lattice Radiant	2024.2	Initial driver release v24.2.0.

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Octal SPI Controller IP v1.1.0

Software	Software Version	Summary of Changes
Lattice Radiant	2024.2	• Added other Avant™ and Nexus™ device support. • Removed programmable endianness option. • Added GUI option for XiP address padding, AXI ID width, and FIFO implementation. • Enabled UMXSPI primitive for Avant-X device. • SPI clock frequency can operate up to 200 MHz.

Octal SPI Controller IP v1.0.0

Software	Software Version	Summary of Changes
Lattice Radiant	2024.1 SP1	Initial release.

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References

- Octal SPI Controller IP User Guide (FPGA-IPUG-02273)
- Octal SPI Controller Driver API Reference (FPGA-TN-02400)
- Avant-E web page
- Avant-G web page
- Avant-X web page
- Certus-NX web page
- CertusPro-NX web page
- CrossLink-NX web page
- MachXO5-NX web page
- Octal SPI Controller IP Core web page
- Lattice Radiant Software web page
- Lattice Propel Design Environment web page
- Lattice Solutions IP Cores web page
- Lattice Solutions Reference Designs web page
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