25G Ethernet IP

IP Version: v2.4.1

Release Notes

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1. Introduction

This document contains the Release Notes for the 25G Ethernet IP. For specific details about the IP, refer to the following:

- 25G Ethernet IP User Guide (FPGA-IPUG-02249)
- 2.5G, 10G, and 25G Ethernet Driver API Reference (FPGA-TN-02375)

25G Ethernet IP v2.4.1

Software	Software Version	Summary of Changes
Lattice Radiant™	2026.1.1	• Addressed stability issues in RS-FEC mode to improve reliability. • Optimized throughput to improve data transfer performance. • Resolved RX short-frame-related defects.

Corrections to Previous Release Notes

- In IP version 2.4.0, the RX adaptation mode selection feature was added to the IP GUI. However, this update was not documented in the release notes.

25G Ethernet IP v2.4.0

Software	Software Version	Summary of Changes
Lattice Radiant	2026.1	• Removed clock domain set_false_paths constraints at SDC. • Added multicast hash index calculator. • Updated Lattice Avant™ Versa Hardware Example Design and constraints.

25G Ethernet IP v2.3.0

Software	Software Version	Summary of Changes
Lattice Radiant	2025.2	• Enabled Avant X30 device support. • Enabled SDC flow and updated timing constraints for easier integration by replacing set_clock_groups with set_false_paths.

25G Ethernet IP v2.2.1

Software	Software Version	Summary of Changes
Lattice Radiant	2025.1.1	• Changed the Loopback mode naming from *Fabric loopback* to *Far End Parallel Loopback* and *Near PMA loopback* to *Near End Parallel Loopback* to match the MPPHY Foundation naming notation. • Updated the Avant PHY-based PMA setting and GUI to allow RX/TXEQ tuning. • Removed MDIO interface. • Reverted the IP name in the Radiant software from 25Gb Ethernet MAC + PHY to 25G Ethernet.

25G Ethernet IP v2.2.0

Software	Software Version	Summary of Changes
Lattice Radiant	2025.1	• Enabled lane-merging support for Avant devices. • Added driver codes for the Lattice Propel™ Builder software.

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25G Ethernet IP Earlier Versions

IP Version	Summary of Changes
2.1.0	• Enabled the RS-FEC feature. • Enabled the FC-FEC feature. • Enabled SyncE support. • Enhanced the statistics counter feature by adding a counter for cumulative number of bytes transmitted or received. • Fixed the driver code enablement in the Propel Builder software. • Changed the IP name in the Radiant software from 25Gb Ethernet to 25G Ethernet MAC + PHY.
2.0.0	• Added Lite Mode in Statistics Counter. • Added support for a slower clock frequency in the AXIL interface. • Added another approach to trigger TX pause frame generation.
1.0.3	Radiant software v2024.2 support for Avant ES devices.
1.0.2	Hardware example design testbench bug fix for Avant ES devices.
1.0.1	Radiant software v2024.1 support for Avant ES devices.
1.0.0	Initial release.

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References

- 25G Ethernet IP User Guide (FPGA-IPUG-02249)
- 2.5G, 10G, and 25G Ethernet Driver API Reference (FPGA-TN-02375)
- Avant-X web page
- 25G Ethernet IP Core web page
- Lattice Solutions IP Cores web page
- Lattice Solutions Reference Designs web page
- Lattice Solutions Boards web page
- Lattice Solutions Demonstrations web page
- Lattice Propel Builder software web page
- Lattice Radiant FPGA design software web page
- Lattice Insights for Lattice Semiconductor training courses and learning plans

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