

RN0224
Release Notes
CoreUHD_SDIRX v2.1



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1 Revision History

The revision history describes the changes that were implemented in the document. The changes are listed by revision, starting with the most current publication.

1.1 Revision 2.0

Updated changes related to CoreUHD_SDIRX v2.1.

1.2 Revision 1.0

Revision 1.0 was the first publication of this document. Created for CoreUHD_SDIRX v2.0.

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2 CoreUHD_SDIRX

2.1 Overview

This release notes provides details about the features, enhancements, system requirements, supported families, implementations, and known issues and workarounds.

2.2 Features

CoreUHD_SDIRX DirectCore IP is a Serial Digital Interface (SDI) Deframer. The core accepts the SDI data stream and extracts video data by deframing the SDI data stream.

CoreUHD_SDIRX has the following features:

- Compliant with SMPTE ST 292-1 (HD-SDI) standard.
- Compliant with SMPTE ST 424 (3G-SDI) standard.
- Compliant with SMPTE ST 2081-1 (6G-SDI) standard.
- Compliant with SMPTE ST 2082-1 (12G-SDI) standard.
- Supports data rates 1.485 Gb/s and 1.485/1.001 Gb/s for HD-SDI standard.
- Supports data rates 2.97 Gb/s and 2.97/1.001 Gb/s for 3G-SDI standard.
- Supports data rates 5.94 Gb/s and 5.94/1.001 Gb/s for 6G-SDI standard.
- Supports data rates 11.88 Gb/s and 11.88/1.001 Gb/s for 12G-SDI standard.
- Performs NRZI decoding and descrambling.
- Performs word alignment on SDI data stream.
- Performs removal of sync-bit from timing reference words in 12G-SDI and 6G-SDI standards.
- Performs CRC check on SDI data stream.
- Performs extraction of Video Payload Identification (VPID) data bytes.
- Performs extraction of timing reference signals (TRS).
- Performs extraction of Line Number (LN) data.

2.3 Delivery Types

CoreUHD_SDIRX is available in two versions:

- **Evaluation:** Evaluation version is available for free and supports 4 hours of the functionality on silicon while operating at 12G-SDI, 6G-SDI, and 3G-SDI data rates, and 8 hours of the functionality on silicon while operating at HD-SDI data rate.
- **Obfuscated:** Obfuscated version is license locked and is available only with Libero Platinum license.

2.4 Supported Families

- PolarFire® SoC
- PolarFire®

2.5 Supported Tool Flows

CoreUHD_SDIRX v2.1 requires Libero v12.0 or higher.

2.6 Installation Instructions

The CoreSDIRX CPZ file must be installed into Libero software. This is done automatically through the Catalog update function in Libero, or the CPZ file can be manually added using the **Add Core** catalog feature. Once the CPZ file is installed in Libero, the core can be configured, generated, and instantiated within SmartDesign for inclusion in the Libero project. For more information, see the *Knowledge Based article*.

To know how to create SmartDesign project using the IP cores, refer to the *SmartDesign User guide*.

2.7 Documentation

This release contains a copy of the *CoreSDIRX Handbook*. The handbook, describes the core functionality and gives step-by-step instructions on how to simulate, synthesize, and place-and-route this core, and also implementation suggestions. Visit <https://www.microsemi.com/product-directory/design-resources/1750-libero-soc#documents> page for the latest version and instructions on obtaining IP documentation.

For updates and additional information, visit the Intellectual Property pages on the Microsemi SoC Products Group website: visit:

<http://www.microsemi.com/products/fpga-soc/design-resources/ip-cores>.

2.8 Supported Test Environments

VHDL user testbench is provided with the core.

2.9 Resolved Issues in the v2.1 Release

Table 1 • Resolved Issues in the v2.1 Release

SAR Number	Description
SAR112757	Added support for HD-SDI standard and 3G-SDI standard (both Level A and Level B mappings)
SAR112758	Resolved duplicate modules issue while using multiple instances of the core in Libero.

2.10 Discontinued Features and Devices

There are no discontinued features and devices.

2.11 Known Limitations and Workarounds

There are no known limitations and workarounds.