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# CoreMBX v2.1 Release Notes

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This is the production release for the CoreMBX IP core. This release note describe the features and enhancements for CoreMBX v2.1. This release note also contains known information about system requirements, supported families, implementations, and known issues and workarounds.

## Features

- Mailbox simultaneously accessible from an AMBA advanced high-performance bus (AHB)/AHB-Lite master and an advanced peripheral bus (APB) master
- Mailbox memory storage elements made of either dual-port SRAM or FIFO blocks
- INIT/CONFIG master interface suitable for initializing CoreABC via AHB-Lite master
- Configurable number of interrupt flags between two processors
- Optional ROM built of FPGA tiles for up to 40 ROM words

## Interfaces

CoreMBX has one AMBA AHB/AHB-Lite slave interface and one APB slave interface.

## Delivery Types

CoreMBX is licensed in two ways: Obfuscated and RTL.

### Obfuscated

Complete RTL code is provided for the core, enabling the core to be instantiated with SmartDesign. Simulation, synthesis, and layout can be performed with Libero® System-on-Chip (SoC). The RTL code for the core is obfuscated.

### RTL

Complete RTL source code is provided for the core and testbenches.

## Supported Families

The following families and specific devices are supported in this version:

- SmartFusion®2
- Fusion®
- ProASIC®3
- ProASIC3E
- ProASIC3L
- IGLOO®
- IGLOOe

## Supported Tool Flows

This version requires the following base versions of tools:

- Libero IDE v8.6 or higher
- Libero SoC v8.6

## Install Instructions

The CoreMBX CPZ file must be installed using either the Libero SoC or Libero IDE.

### Libero IDE/SmartDesign Instructions

Within Libero IDE, click the **Add Core** button in the Catalog to locate and install a local CPZ file, or use the automatic web update feature in Libero IDE. Once the CPZ file is installed in Libero IDE, the core can be instantiated, configured, and generated within SmartDesign for inclusion in your Libero IDE project.

For the RTL release version of the core, the FlexLM license must be installed and Libero IDE restarted before the core can be configured and generated within SmartDesign. Refer to the Libero IDE online help for instructions about core installation and licensing

## Documentation

This release contains a copy of the CoreMBX Handbook, which describes the core functionality, gives step-by-step instructions on how to simulate, synthesize, and place-and-route this core, and provides implementation suggestions. If using SmartDesign, refer to the Libero IDE online help for instructions on obtaining IP documentation.

For updates and additional information about the software, devices, and hardware, please visit the Intellectual Property pages on the Microsemi web site at [www.microsemi.com/soc](http://www.microsemi.com/soc).

## Supported Test Environments

This version supports the following environments:

- Verilog user testbench
- VHDL user testbench

## Discontinued Features and Devices

The following features have been discontinued in the CoreMBX v2.1 release.

- FIFO macro support removed for Smartfusion2 only.

## Resolved Issues in the CoreMBX v2.1 Release

The following issues are resolved in the CoreMBX v2.1 release.

- SAR13744: Core does not support Linux
- SAR13720: CoreMBX is returning incorrect DEF\_ROM\_DATA value

## Known Limitations and Workarounds

### Decimal Numbers

In this release of CoreMBX, if using the ROM configuration in the CoreConsole or SmartDesign IP configurator GUI, you will need to enter all numbers in decimal notation for the ROM address/data pair fields.

### Stitching

In SmartDesign, if trying to connect the Init/Config master bus interface of CoreMBX to the Init/Config slave bus interface of CoreABC, you may encounter issues that can be worked around in the following manner, after performing the Auto Connect action within the SmartDesign canvas:

- Within the SmartDesign grid, make connections between the INIT\* outputs of the CoreMBX instance to the INIT\* inputs of the CoreABC instance. Refer to the Libero IDE online help for details on making connections in the SmartDesign GUI.



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