



LatticeMico System Software Release Notes for ispLEVER 8.2

The LatticeMico System Software includes changes to the Lattice Mico System Builder (MSB) and Software Project Environment (C/C++ SPE) for ispLEVER[®] version 8.2.

What's New in LatticeMico System

The following enhancements have been made:

- ◆ Support for building hardware platforms with multiple instances of the Lattice Tri-Speed Ethernet Media Access Controller (TSMAC) IP core (v3.4 onwards).
- ◆ Software name change from LatticeMico32 System Software to LatticeMico System Software.
- ◆ A Memory Passthrough component (v3.0) has been added, which provides a data path between the LatticeMico internal WISHBONE bus and the external WISHBONE memory devices. For more information, see the "LatticeMico Memory Passthrough" datasheet and the Memory Passthrough component Help, available in the LatticeMico System software.
- ◆ An option has been added to the LatticeMico32 Microprocessor (v3.8) to dynamically change the exception base address (EBA) to a debug stub by asserting an LM32 GPIO pin named at_debug. This pin is exposed to the design only when this option is enabled. For more information, see the LatticeMico32 Processor component Help page and the "LatticeMico32 Processor Reference Manual," available in the LatticeMico System software.
- ◆ Support for Wishbone ERROR signal in the LatticeMico32 Microprocessor (v3.8) has been added. The WISHBONE interconnect will assert the WISHBONE ERROR signal when an access is made to an undefined

address. LatticeMico32 will translate this ERROR signal into Data or Instruction Abort if the access originated from LatticeMico32's Data or Instruction WISHBONE ports respectively. For more information, see the LatticeMico32 Processor component Help page and the "LatticeMico32 Processor Reference Manual," available in the LatticeMico System software.

- ◆ Ability to build designs with DDR3 SDRAM controller.
- ◆ Support for software development via the Software Project Environment even if ispLEVER is not installed. LatticeMico System also provides an option to install the ispVM system components required to debug the software on silicon when ispLEVER is not installed.

Component Updates

In the LatticeMico System version for ispLEVER 8.2, changes have been implemented in the following components:

- ◆ LatticeMico32 microprocessor v3.8
- ◆ On-Chip Memory v3.4
- ◆ Parallel Flash controller v3.1
- ◆ Async SRAM controller v3.1
- ◆ SPI Flash v3.4
- ◆ DMA v3.3
- ◆ UART v3.6
- ◆ GPIO v3.3

If the user chooses to update, the new components will be incorporated when the platform is regenerated. If the user does not update, the regenerated platform will contain the existing components.

Release Compatibility

LatticeMico System Builder platforms developed prior to the release of ispLEVER 8.1 SP1 (or Lattice Diamond 1.1) may need to be analyzed and subsequently updated.

Users who open a platform containing one of the components listed below, at the version shown or older, will be given the option to update the platform:

- ◆ SPI Flash v3.2
- ◆ DMA v3.1
- ◆ UART v3.4
- ◆ GPIO v3.1

Users who choose to update a platform with a newer version of these components may need to make modifications to their C/C++ source code.

It may also be necessary to update any RTL source code instantiating the LatticeMico System Software generated platform.

To get an understanding of how the newer version of these components affects the C/C++ and RTL code please read Technical Note [1221](#). It has a complete description of the changes made, the situations where there will be an impact your existing design, and instructions on how to update your design if it is required.

Known Issue with Windows 7 64-Bit OS

There is a known issue with the Eclipse software, upon which the LatticeMico System software is based, when being run on Windows 7 64-bit operating systems. Sometime icons, such as in the Software Deployment Tools dialog box in the C/C++ Perspective, do not appear. For a complete description of the problem, and for workarounds, consult the Lattice Diamond Known Issues for version 1.3, available at: www.latticesemi.com.

- ◆ To find the Known Issue, choose **Support > Forums > Design Tools and IP > LatticeMico**.

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