Programming and Debug Tools

PolarFire v1.1 Service Pack 1

Release Notes

![Microsemi logo — Power Matters.™]

Microsemi makes no warranty, representation, or guarantee regarding the information contained herein or the suitability of its products and services for any particular purpose, nor does Microsemi assume any liability whatsoever arising out of the application or use of any product or circuit. The products sold hereunder and any other products sold by Microsemi have been subject to limited testing and should not be used in conjunction with mission-critical equipment or applications. Any performance specifications are believed to be reliable but are not verified, and Buyer must conduct and complete all performance and other testing of the products, alone and together with, or installed in, any end-products. Buyer shall not rely on any data and performance specifications or parameters provided by Microsemi. It is the Buyer's responsibility to independently determine suitability of any products and to test and verify the same. The information provided by Microsemi hereunder is provided "as is, where is" and with all faults, and the entire risk associated with such information is entirely with the Buyer. Microsemi does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other IP rights, whether with regard to such information itself or anything described by such information. Information provided in this document is proprietary to Microsemi, and Microsemi reserves the right to make any changes to the information in this document or to any products and services at any time without notice.

Microsemi Corporate Headquarters
One Enterprise, Aliso Viejo,
CA 92656 USA

Within the USA: +1 (800) 713-4113
Outside the USA: +1 (949) 380-6100
Fax: +1 (949) 215-4996

Email: sales.support@microsemi.com

www.microsemi.com

About Microsemi

Microsemi Corporation (Nasdaq: MSCC) offers a comprehensive portfolio of semiconductor and system solutions for aerospace & defense, communications, data center and industrial markets. Products include high-performance and radiation-hardened analog mixed-signal integrated circuits, FPGAs, SoCs and ASICs; power management products; timing and synchronization devices and precise time solutions, setting the world's standard for time; voice processing devices; RF solutions; discrete components; enterprise storage and communication solutions; security technologies and scalable anti-tamper products; Ethernet solutions;

Power-over-Ethernet ICs and midspans; as well as custom design capabilities and services. Microsemi is headquartered in Aliso Viejo, California, and has approximately 4,800 employees globally. Learn more at www.microsemi.com.

1 Revision History

1.1 Revision 1.0

This is the initial release of these Release Notes.

2   Reference Documents

UG0743: PolarFire FPGA Debugging User Guide

UG0714: PolarFire FPGA Programming User Guide

PolarFire SmartDebug User Guide

Contents

3 Programming and Debug Tools v1.1 SP1 Release Notes

The Programming and Debug Tools installer is intended for laboratory and production environments where Libero is not installed or needed. The installer installs the following tools:

- FlashPro (Available on Windows only)
- SmartDebug

3.1 What's New in this Release

This release includes the following new features and enhancements:

- First Programming and Debug Tools release to support PolarFire
- Programming support with FlashPro (Windows only) for MPF300 devices
- SmartDebug support for PolarFire (see PolarFire SmartDebug User Guide), with the following features:
  - Transceiver Debugging
  - uPROM Debugging
  - Logical View
  - Live Probe
  - Probe Insertion
  - Active Probe Read
  - Fabric SRAM Read/Write

3.2 Limitations of This Release

This release has the following limitations:

- FlashPro Express is not supported in this release for both Windows and Linux.

3.3 System Requirements

- 64-bit OS
  - Windows 7, Windows 8.1, or Windows 10
  - Red Hat Enterprise Linux (RHEL) 5, RHEL 6, RHEL 7, CentOS 5 ,CentOS 6, or CentOS 7
    - Programming is not supported on RHEL 5 or CentOS 5
- A minimum of 32 GB RAM (Recommended)

Note: Setup instructions for running FlashPro Express and SmartDebug on Red Hat Enterprise/CentOS Linux OS are available on the Libero SoC Documents web page. As noted in that document, installation step 2 now includes running a shell script (<installation_dir>/bin/check_linux_req/check_linux_req.sh) to confirm the presence of all required runtime packages.

Running this script is not required for Windows.

4 Known Issues and Limitations

4.1 FlashPro Express Not Supported

FlashPro Express is not supported for this release, although it is part of this release. Windows users can use FlashPro to program devices. Linux users can use SmartDebug's Import STAPL feature to program. In addition, device programming via Libero SoC Software is also supported on Windows and Linux.

4.2 Standalone SmartDebug Limitations

4.2.1 Security Settings are retained when DDC file contents are imported from Programming Connectivity and Interface

Scenario 1

Import a DDC file with Security Settings through **New Project > Import DDC option**. Open **Programming Connectivity and Interface** dialog and **Construct Chain Automatically**. The debug/program data of all devices is cleared.

Scenario 2

If you import the DDC file without security settings onto PolarFire device and click **OK**, in the User Interface, the passkey information is still shown (incorrect behavior) and the device can be debugged.

4.2.2 When multiple programmers are connected, programmer drop down list always default to first programmer, irrespective of user selection.

When the user has two programmers connected to the machine and opens the SmartDebug UI and selects programmer FP2 in the programmer drop-down list, the programmer drop-down list always defaults to the first programmer, FP1, after creation of the project and imports of a DDC file for the project. The user selection of FP2 is not honored.

4.2.3 SmartDebug crashes when Debug FPGA Array Data is opened

When a DDC file without FPGA Array Memory Data is exported from Libero and imported into a SmartDebug project, SmartDebug crashes when the Debug FPGA Array Data is opened.

4.2.4 DDC File exported without Probe Points do not show memory blocks in SmartDebug

When a DDC file without Probe Points are exported from Libero and imported into a standalone SmartDebug project, the memory blocks are not shown when Debug Array data is opened.

4.2.5 Debug SERDES and Debug XCVR labels reverse orders in chain configuration in SmartDebug UI when PolarFire and SmartFusion2/IGLOO2 devices are connected in a chain.

When Debug SERDES is opened for SmartFusion2/IGLOO2 and PolarFire devices in a chain configuration, the order is TDO – M2S010T (SmartFusion2) – MPF300TS_ES (PolarFire) – TDI.

When Debug Transceiver is opened for SmartFusion2/IGLOO2 and PolarFire devices in a chain configuration, the order is TDO – MPF300TS_ES – M2S010T – TDI.

4.2.6 Load Programming File and Import Debug Data from DDC are mutually exclusive and clear out the contents of each other.

When load programming file is followed by Import Debug Data from DDC, the programming file content is cleared. When Import Debug Data from DDC is followed by load programming file, the DDC file content is cleared.

4.2.7 Export of DDC file fails when bitstream information is included for export

Export of DDC file fails when bitstream information is checked for inclusion for export. When bitstream information is not checked (excluded from export), the export of the DDC file (which includes SmartDebug files) is successful.

4.3 Installation on Local Drive Only

This release is intended for installation only on a local drive. The Installer might report permission rights problems if the release is installed across a networked drive.

4.4 Installation

C++ installation error can be ignored. Required files will install successfully.

On some machines, the InstallShield Wizard displays a message stating:

The installation of Microsoft Visual C++ Redistributable Package (x86) appears to have failed. Do you want to continue the installation?

Click Yes and the software is installed successfully.

4.5 Antivirus Software Interaction

Many antivirus and HIPS (Host-based Intrusion Prevention System) tools will flag executables and prevent them from running. To eliminate this problem, users must modify their security setting by adding exceptions for specific executables. This is configured in the antivirus tool. Contact the tool provider for assistance.

Many users are running Libero SoC successfully with no modification to their antivirus software. Microsemi is aware of issues for some antivirus tool settings that occur when using Symantec, McAfee, Avira, Sophos, and Avast tools. The combination of operating system, antivirus tool version, and security settings all contribute to the end result. Depending on the environment, the operation of Libero SoC, ModelSim ME and/or Synplify Pro ME may or may not be affected.

All public releases of Libero are tested with several antivirus tools before they are released to ensure that they are not infected. In addition, Microsemi's software development and testing environment is also protected by antivirus tools and other security measures.

5   Download Programming and Debug Tools PolarFire v1.1 SP1

The following are available for download:

[Programming and Debug Tools PolarFire v1.1 SP1 for Linux](#)

[Programming and Debug Tools PolarFire v1.1 SP1 for Windows](#)

Note: Installation requires administrative privileges.