

# Programming and Debug Tools

## PolarFire v1.1 Service Pack 1

### Release Notes

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# 1 Revision History

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## 1.1 Revision 1.0

This is the initial release of these Release Notes.

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## 2 Reference Documents

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[UG0743: PolarFire FPGA Debugging User Guide](#)

[UG0714: PolarFire FPGA Programming User Guide](#)

[PolarFire SmartDebug User Guide](#)

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## Contents

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<b>1</b>	<b>Revision History</b> .....	<b>3</b>
1.1	Revision 1.0 .....	3
<b>2</b>	<b>Reference Documents</b> .....	<b>4</b>
<b>3</b>	<b>Programming and Debug Tools v1.1 SP1 Release Notes</b> .....	<b>6</b>
3.1	What’s New in this Release .....	6
3.2	Limitations of This Release .....	6
3.3	System Requirements .....	6
<b>4</b>	<b>Known Issues and Limitations</b> .....	<b>7</b>
4.1	FlashPro Express Not Supported .....	7
4.2	Standalone SmartDebug Limitations.....	7
4.2.1	Security Settings are retained when DDC file contents are imported from Programming Connectivity and Interface .....	7
4.2.2	When multiple programmers are connected, programmer drop down list always default to first programmer, irrespective of user selection. ....	7
4.2.3	SmartDebug crashes when Debug FPGA Array Data is opened.....	7
4.2.4	DDC File exported without Probe Points do not show memory blocks in SmartDebug.....	7
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.....	7
4.2.6	Load Programming File and Import Debug Data from DDC are mutually exclusive and clear out the contents of each other. ....	8
4.2.7	Export of DDC file fails when bitstream information is included for export.....	8
4.3	Installation on Local Drive Only .....	8
4.4	Installation .....	8
4.5	Antivirus Software Interaction .....	8
<b>5</b>	<b>Download Programming and Debug Tools PolarFire v1.1 SP1</b> .....	<b>9</b>

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## 3 Programming and Debug Tools v1.1 SP1 Release Notes

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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.

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## 4 Known Issues and Limitations

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### 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) – MPP300TS\_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.



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## 5 Download Programming and Debug Tools PolarFire v1.1 SP1

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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.