Programming and Debug Tools v11.8 Service Pack 3

Release Notes

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Microsemi
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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.

Revision 1.3

Added Known Issue 4.5 SPPS: Erase action in HSM flow fails if VERIFY ticket is not present.

Revision 1.2

Added Known Issue 4.4 Run action PROGRAM fails on a secured device.

Revision 1.1

Added Known Issue 4.3 SPPS: Ticket counter decrements incorrectly when using HSM flow.

Revision 1.0

Revision 1.0 was the first publication of this document.

Contents

1 Programming and Debug Tools v11.8 SP3 Release Notes

Microsemi's Programming and Debug Tools installer is intended for laboratory and production environments where Libero is not installed, and allows you to install the following tools:

- FlashPro/FlashPro Express
- SmartDebug Standalone
- Job Manager

All the above tools also available with the full Libero SoC v11.8 SP3 release.

2 What's New in Programming and Debug Tools v11.8 SP3

2.1 SmartFusion2/IGLOO2: Bitstream Corruption with "S" Devices (CAN 17036.3)

You must regenerate the bitstream before programming any SmartFusion2 or IGLOO2 "S" device over the JTAG port or the dedicated system controller SPI port. A short dummy FPGA bitstream component that places the FPGA fabric in verify mode before bitstream programming has been added and prevents the collision. This will increase the programming time by 2-3 seconds. DirectC is also updated.

User Action: Open your design in Libero SoC v11.8 SP3 and regenerate the bitstream.

2.2 RTG4: Bitstream Detection of DEVRST_N Assertion During Programming

It is not recommended to drive DEVRST_N low while programming any RTG4 device. While programming with STAPL files generated during earlier releases, if the DEVRST_N was asserted, programming would silently fail. Libero SoC v11.8 SP3 will generate STAPL and DirectC files that will detect the state of DEVRST_N during programming.

User Action: To obtain a STAPL that detects DEVRST_N assertion, open your design in Libero SoC v11.8 SP3 and regenerate the bitstream.

2.3 FlashPro3/4/5 VPUMP Sensing

For SmartFusion2/IGLOO2/RTG4 devices, FlashPro software/hardware will not sense/drive VPUMP. However, if any ProASIC3/IGLOO/Fusion/SmartFusion device is detected in chain, then FlashPro will drive/sense VPUMP.

- FlashPro will not detect VPP if the board contains only SmartFusion2/IGLOO2/RTG4 devices. Leave the VPUMP pin of the JTAG header floating if the board has only SmartFusion2/IGLOO2/RTG4 devices.
- If the board contains ProASIC3/IGLOO/Fusion/SmartFusion devices along with SmartFusion2/IGLOO2/RTG4 devices in the JTAG chain, connect VPUMP of the ProASIC3/IGLOO/Fusion/SmartFusion device to the JTAG header's VPUMP pin.

3 Resolved Issues

The following table lists the customer-reported issues resolved in Programming and Debug Tools v11.8 SP3.

Case Number	Description
493642-2343019579	RTG4: enhance STAPL to detect DEVRST_N assertion and abort programming
	SF2/IGLOO2 SPI Slave Programming Fails
	DOS window is present upon program launch
	FlashPro3/4/5 and Vpump
	Update Algo to workaround Silicon Issue (JTAG/SPI-Slave programming)

4 Known Limitations, Issues and Workarounds

Note: Unless stated otherwise, known issues from Programming and Debug Tools v11.8 and v11.8 SP1 also apply to Programming and Debug Tools v11.8 SP3.

4.1 FlashPro TCK cannot be set above 4MHz in single device mode

If the maximum TCK frequency is set above 4MHz in single device mode, it will be reset to 4MHz, and a warning message displayed. Set TCK at 4MHz or below, or use chain mode

4.2 SmartDebug: Live Probe not supported with UPK1

If the UPK1 key is set in a design, Live Probe assignment errors out in SmartDebug, with the error:

Error: Cannot set live probes: UPK1 unlock failed.

This issue is observed only while using the Live Probe feature. Other SmartDebug features work correctly as long as the Live Probe action is not performed.

4.3 SPPS: Ticket counter decrements incorrectly when using HSM flow

Issue: When using HSM SPPS flow for larger SmartFusion2 and IGLOO2 devices (-060, -090 and -150), the number of devices per HSM ticket is incorrectly reduced as follows when running programming action in Flashpro Express:

PROGRAM action decreases program ticket counter by 2.

ERASE action decreases 1 verify ticket counter and 1 erase ticket counter.

Workaround: Specify double the number of devices per ticket in the "max_device" parameter of "new_hsmtask_ticket" in Job Manager.

4.4 Run action PROGRAM fails on a secured device

Issue: With SmartFusion2/IGLOO2, attempts to run action PROGRAM on a secured device (previously programmed with user security) will fail with the following syntax error:

```
Error: programmer 'S201QNUDK' : device 'M2S090TS' : Line : 2741 Exception : The index is out of range.
```

This issue persists when running PROGRAM action from within Libero SoC as well as with exported STAPL file (Master or Security_only_master STAPL) in FlashPro software.

Workaround: Run action ERASE and then run action PROGRAM to reprogram the device.

This issue will be fixed in a future release.

4.5 SPPS: Erase action in HSM flow fails if VERIFY ticket is not present

If a HSM FlashPro Express job has tickets for PROGRAM and ERASE but not for VERIFY, the ERASE action will fail with the following message:

```
Error: No flashpro ticket data found.
```

Workaround: Add ticket for VERIFY if ERASE action is needed.

Note: Running the ERASE action will reduce the ERASE ticket count and VERIFY ticket count (if VERIFY action has not been run), so the user must specify a number of devices in both ERASE and VERIFY tickets.

5 System Requirements

For information about operating system support and minimum system requirements, see the System Requirements web page.

For Linux OS setup instructions, see How to Set Up Linux Environment for Libero User Guide.

5.1 Operating System Support

Supported

- Windows 7, Windows 8.1, Windows 10
- RHEL 5*, RHEL 6, RHEL 7, CentOS 5*, CentOS 6, and CentOS 7
- SuSE 11 SP4 (Libero only. FlashPro Express, SmartDebug, and Job Manager are not supported.)

Note: * RHEL 5 and CentOS 5 do not support programming using FlashPro5.

Not Supported

- 32-bit operating systems
- Windows XP
- Support for the following operating systems will cease with the next major Programming and Debug Tools release. For more information, refer to PCN17031.
    - RedHat Enterprise Linux 5.x through 6.5
    - CentOS 5.x through 6.5

6 Programming and Debug Tools v11.8 SP3 Download

Click the following links to download Programming and Debug Tools v11.8 SP3 on Windows and Linux operating systems:

- Windows Download
- Linux Download

Note: Installation requires administrator privileges to the system.

Programming and Debug Tools v11.8 SP3 is an incremental service pack and must be installed over Programming and Debug Tools v11.8 or v11.8 SP1 (there was no Programming and Debug Tools v11.8 SP2 release).

After successful installation, clicking **Help-> About Libero** will show Version: 11.8.3.6.