DirectC v3.0 Release Notes

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What's New in this Release

DirectC v3.0 introduces support for Microsemi's SmartFusion2 and IGLOO2 devices.

This version of DirectC operates on DAT files generated by Designer v8.6 or later for programming IGLOO, IGLOO2, IGLOO nano, IGLOO PLUS, ProASIC3, ProASIC3L (excluding M1 variants), SmartFusion2, SmartFusion, and Fusion. Full support for programming the array, as well as the FlashROM, is provided. Full support for encrypted programming using AES encrypted STAPL files is provided. The DirectC software supports 8-, 16-, and 32-bit microprocessors.

Supported Families

DirectC v3.0 is available to support IGLOO® nano—the world's lowest power FPGA, IGLOO, IGLOO PLUS, IGLOO2, ProASIC®3, ProASIC nano, ProASIC3L (excluding M1 variants), SmartFusion2, SmartFusion, and Fusion.

Product Family	Device
IGLOO	AGL015, AGL030, AGL060, AGL125, AGL250, AGL400, AGL600, AGL1000, AGLE600, M1AGL250, M1AGL600
IGLOO nano	AGLN010, AGLN015, AGLN020, AGLN060, AGLN125, AGLN250, AGLN030Z, AGLN060Z, AGLN125Z, AGLN250Z
IGLOO PLUS	AGLP030, AGLP060, AGLP125
IGLOO2	M2GL010, M2GL025, M2GL050
ProASIC3	A3P015, A3P030, A3P060, A3P125, A3P250, A3P400, A3P600, A3P1000, A3PE1500, A3PE3000, M7A3P400, M7A3P1000, M1A3P250, M1A3P600, M1A3P1000, M1A3PE1500
ProASIC3 nano	A3PN010, A3PN015, A3PN020, A3PN060, A3PN125, A3PN250, A3PN030Z, A3PN060Z, A3PN125Z, A3PN250Z
ProASIC3L	A3P250L, A3P600L, A3P1000L
SmartFusion2	M2S005, M2S010, M2S025, M2S050
SmartFusion	A2F200, A2F500
Fusion	AFS090, AFS250, AFS600, AFS1500, M7AFS600, M1AFS250,M1AFS600, M1AFS1500, P1AFS600, P1AFS1500

DirectC v1.3 must be used for programming ProASICPLUS (APA) devices.

Security programming is enabled. Take care when using this feature. DirectC is designed for remote reprogramming via a microprocessor. It is important that security programming only take place in a trusted environment. In a non-secure environment, the communications line between the PC and the remote equipment would have to be secured by the end customer. Subsequent to altering the security settings, remote upgrades using DirectC with an encrypted STAPL file (matching the AES key programmed during altering the security settings) can then be safely carried out over a non-secure communications line by the user.

Known Issues and Workarounds

SAR 18887: When using the compiler option, ENABLE_CODE_SPACE_OPTIMIZATION, programming the CORE or FROM of a previously secured device, using a DAT file with a different security key will erroneously pass. The device remains in the same state prior to the operation. The CORE or FROM programming is not executed on the device. This SAR does not apply to the SmartFusion2 or IGLOO2 families of devices.

System Requirements

Any development system that supports ANSI C Programming.

Microprocessor compiler for the chosen platform.

DAT file generated by Microsemi Designer Software or Microsemi Libero® Integrated Design Environment (IDE).

Download DirectC v3.0

DirectC v3.0 (12,408 KB)

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