

Designing SmartFusion with IAR Systems

Microsemi SmartFusion™ is supported by the latest IAR Systems® release: IAR Embedded Workbench® for ARM. IAR Embedded Workbench is a set of highly sophisticated and easy-to-use development tools for embedded applications. It integrates the IAR C/C++ Compiler™, assembler, linker, librarian, text editor, project manager, and C-SPY® Debugger in an integrated development environment (IDE).

IAR Embedded Workbench for ARM

The IAR Embedded Workbench for ARM includes the following components:

- Integrated development environment with project management tools and editor
- Highly optimizing C and C++ compiler
- Configuration files for all supported devices
- C-SPY® simulator and hardware debugger systems
- Support for RTOS-aware debugging on hardware

If you are new to IAR tools, you can begin with the evaluation edition or Kickstart edition and then upgrade to the Cortex-M3 or full versions of the tools. If you are an existing user of IAR Embedded Workbench, version 5.4.1 or above supports the SmartFusion devices.

IAR Embedded Workbench for ARM Editions

- Evaluation edition — Free of charge and lasts for 30 days
- Kickstart Edition – Free 32K code limited version with no time limit
- Baseline Edition – 256K code limited version
- Cortex-M3 Edition – No code size restriction and supports Cortex-M3 based processors only
- Full Edition – No code restrictions and supports all ARM-based processors

Downloads of free versions are available from www.iar.com/downloads.

SmartFusion debug requires a USB-JTAG adapter or debug probe. The IAR-J-Link for ARM, IAR J-Trace for ARM Cortex-M3, and IAR J-Trace for ARM all support SmartFusion devices.

Design Examples for SmartFusion Using IAR Software

There are multiple design examples and tutorials available for SmartFusion designers using the IAR Embedded Workbench.

1. Since v5.4.1 was released before the SmartFusion launch, design examples were not included directly in the software. These will be included in later versions.
2. The Firmware Catalog included as part of the Microsemi Libero® Integrated Design Environment (IDE) tools allows for the generation of sample code for any peripheral in the device, exported specifically for the IAR design environment.
3. For the evaluation and development kits, published tutorials show the use of the IAR design environment for complete SmartFusion designs.