

Designing SmartFusion with Keil

Microsemi SmartFusion™ is supported by Keil's latest release of MDK-ARM™. Keil™ development tools for ARM7, ARM9, ARM® Cortex™-M0, Cortex-M1, and Cortex-M3 microcontrollers are easy to learn and use, yet powerful enough for the most demanding embedded applications.

Microcontroller Development Kit (MDK-ARM)

The Keil Microcontroller Development Kit for ARM includes the following components:

- [µVision](#)® IDE, debugger and simulation environment
- [ARM](#) industry-leading C/C++ compiler
- [MicroLib](#) highly optimized run-time library
- [Real-Time Trace](#) for Cortex-M3 processor based devices
- Keil [RTX](#) deterministic real-time operating system

If you are new to Keil tools, you can begin with the evaluation version and then upgrade to the basic or standard edition of the tools. For existing users of Keil MDK-ARM, SmartFusion devices are supported in version 4.03a or above.

MDK-ARM Microcontroller Development Kit - Evaluation Software

The evaluation software is a 32K code limited version of the MDK-ARM Microcontroller Development Kit and can be downloaded for free from <http://www.keil.com/demo/eval/arm.htm>.

MDK-ARM-B Microcontroller Development Kit – Basic Edition

The Basic Edition is a 256K code limited version of the MDK-ARM and can be purchased directly from Keil or from their distributors, which include both Avnet-Memec and Future.

MDK-ARM Microcontroller Development Kit – Standard Edition

The Standard Edition is a full version of the MDK-ARM with no code limitations and can be purchased directly from Keil or from their distributors, which include both Avnet-Memec and Future.

SmartFusion debug requires a USB-JTAG adapter or debug probe. The ULINK®2, ULINKPro and ULINK-ME all support SmartFusion devices.

Design Examples for SmartFusion Using Keil Software

There are multiple design examples and tutorials available for SmartFusion designers using the Keil design environment.

1. The MDK-ARM software includes basic examples such as blinky for customer use.
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 Keil design environment.
3. For the evaluation and development kits, published tutorials show the use of the Keil design environment for complete SmartFusion designs.