

Oki's Advantage Microcontroller Evaluation (AME) Kit contains everything needed to evaluate and write software for Oki's Advantage Microcontroller™ ML67Q4050/4060 Series of 32-bit ARM7TDMI-based microcontrollers. Based on a concept of modularity and reuse, Oki Semiconductor developed the AME processor board to provide everything necessary for MCU operation with easy access to all I/O and peripherals of the device. The AME-51 board supports the ML67Q4051, 4050, 4061, & 4060 devices, and it is the key component in the AME-51 evaluation kit. The kit contains a USB JTAG ICE and a 32KB code limited IAR KickStart tool chain. It can be further enhanced by the addition of Oki's Advantage Design Accelerators (ADA), which uses AME's modular design concept. The ADA, which connects to the headers on the

AME board, provides additional hardware and software targeted to specific application and technology segments. Accelerator boards are designed to work with all of Oki's Advantage Microcontroller Evaluation (AME) Kits, including ARM7-based and ARM9-based devices.

The IAR Embedded Workbench IDE with its C/C++ compiler and C-SPY debugger is a complete and easy-to-use set of development tools.

J-Link is a compact USB-to-JTAG target system interface that connects the AME-51 via USB to the Windows based host PC. J-Link integrates seamlessly into the IAR Embedded Workbench for ARM and is fully plug-and-play compatible. J-Link also supplies power to the AME-51 board. For more detailed information and updates go to [www.okisemi.com/us/ame51](http://www.okisemi.com/us/ame51).

## FEATURES

- Oki ML67Q4051 MCU
  - 16KB internal RAM
  - 128KB of internal Flash
- 1MB of SRAM for debugging
- Two RS-232 serial ports (DTE & DCE)
- I<sup>2</sup>C Temperature sensor
  - 7-Segment LED display
  - Three direct drive LEDs
  - A/D Potentiometer
  - Three Push-button switches
- Expansion headers
- 20-pin JTAG Header
- Reset Button & Power LED
- Compact 4" x 5" Board

## KIT CONTENTS

- AME-51 Board
- RS-232 Cable
- USB J-Link JTAG ICE and cables
  - Supplies power to AME-51
- IAR "Kick Start" tool chain
  - IAR Embedded Workbench IDE
    - C/C++ Compiler (32KB limit)
    - C-Spy Debugger
- Flash programming utility
- Documentation & Sample code
- Printed quick start guide
- Supported platforms
  - Microsoft Windows 2000
  - Windows XP



### IAR J-Link-KS USB-driven JTAG interface

J-Link-KS is a USB-to-JTAG conversion box for ARM. It connects via USB to the PC host running Microsoft Windows. J-Link-KS integrates seamlessly into IAR Embedded Workbench® and is fully plug-and-play compatible.

- Supports Oki ML67Q4050/4060 Series using the ML67Q4051 MCU
- Download speed up to 50Kbytes/s
- No power supply required, powered through USB
- JTAG speed 8 MHz
- Auto speed recognition
- All JTAG signals can be monitored, target voltage can be measured
- 20-pin standard JTAG connector
- USB and 20-pin flat cable included
- Supported platforms: Microsoft Windows 2000 and Windows XP



### Software Development Tools

The software suite includes a complete set of development tools for embedded applications. It supports all project phases from Idea to Target®.

For detailed product information on these tools, visit:

<http://www.iar.com>IAR Embedded Workbench®

### IAR Embedded Workbench®

- Easy-to-use integrated development environment
- Powerful project management features
- KickStart 32KB C/C++ compiler included, complete upgrade path available from IAR Systems
- Editor, linker and librarian tools
- Template projects and programming examples
- Chip-specific flash tools
- C-SPY® debugger
- Complete integration with J-Link

### AME-51 Board – System Diagram

