

# Keil Development Tools for Infineon XC800/XE166/XC2000

## Infineon 8-bit Microcontrollers

The XC800 microcontroller family combines a high performance 8051 core, on-chip Flash and RAM, and a powerful mix of peripherals like CAN, LIN, A/D Converter, and enhanced Compare/Capture. These devices reduce system costs because of their highly integrated features and ability to operate at 3.3V or 5V.

### Supported new XC800 Devices

Family	Part Number	CPU Clock (MHz)	Flash (Kbytes)	RAM (Kbytes)	GPIO (max)	ADC	Timers	Interfaces
<b>XC800</b>	XC864-1FRI	27	4	0.75	13	4	3	UART, SSC
	XC878-13FF/16FF	27	52-64	3	40	8	4	2xUART, SSC
	XC878C-13FF/16FF	27	52-64	3	40	8	4	2xUART, SSC, 2xCAN
	XC878CM-13FF/16FF	27	52-64	3	40	8	4	2xUART, SSC, 2xCAN, Coprocessor
	XC878L-13FF/16FF	27	52-64	3	40	8	4	2xUART, SSC, LIN
	XC878M-9FF/13FF/16FF	27	52-64	3	40	8	4	2xUART, SSC, Coprocessor
<b>TLE7800</b>	TLE7809/10	27	16	0.25	8	8	3	UART, SSC, LIN
	TLE7824/26	24	24-32	0.25	8	8	3	2xUART, SPI, LIN

For a complete list of Infineon devices, refer to [www.keil.com/infineon](http://www.keil.com/infineon)

## Infineon 16-bit Microcontrollers

The XE166 microcontroller family has a rich portfolio, with enhanced features and computing performance for real-time embedded control applications. The XC2000 family is scalable and highly integrated, with three families optimized for different automotive applications. Both families feature configurable serial interface channels, each of which can be used as a UART, LIN, SPI, I<sup>2</sup>C bus interface or I<sup>2</sup>S interface.

### Supported new XE166 and XC2000 Devices

Family	Part Number	CPU Clock (MHz)	Flash (Kbytes)	RAM (Kbytes)	GPIO (max)	ADC	Timers	Interfaces
<b>XE166</b>	XE162FM/HM	80	192-576	24-50	40	9	5	0-2x CAN, 6x Serial I/O
	XE164FM/GM/HM/KM	80	192-576	24-50	76	11-16	5	0-4x CAN, 4-6x Serial I/O
	XE167FM/FM/HM/KM	80	384-576	34-50	119	16-24	5	0-6x CAN, 4-8x Serial I/O
<b>XC2000</b>	XC2267M/XC2287M	80	832	50	76/119	16/24	5	6x CAN, 8x Serial I/O
	XC2365A/XC2387A	80	832	50	76/119	16/24	5	3x CAN, 6x Serial I/O
	XC2765X/XC2785X	80	832	50	76/119	16/24	5	2x CAN, 6x Serial I/O

For a complete list of Infineon devices, refer to [www.keil.com/infineon](http://www.keil.com/infineon)

**Keil C51 Version 8**  
**Supports Infineon XC800 Devices**

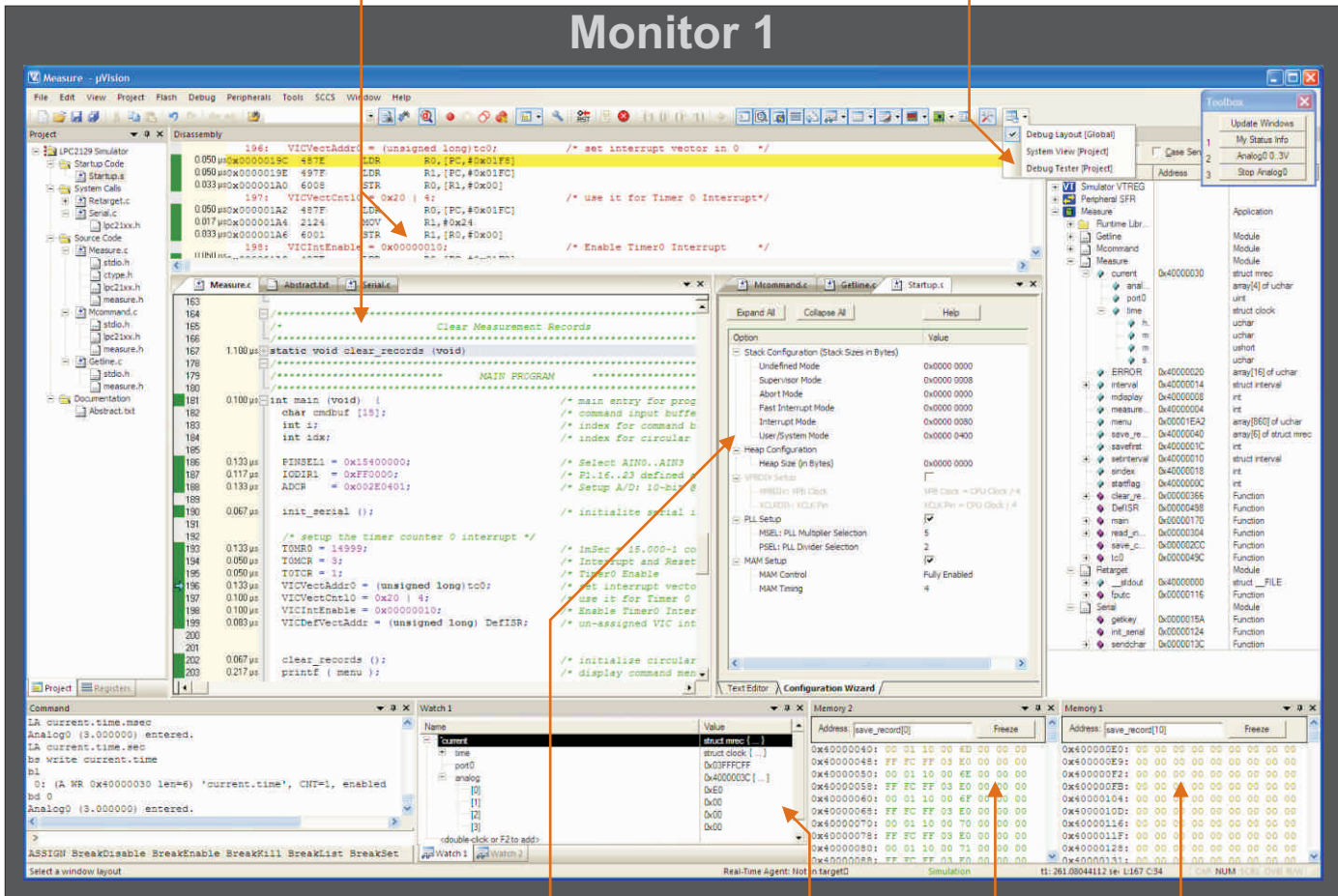
**Keil C166 Version 6**  
**Support for XE166 & XC2000**

XC800  
XE166 XC2000

# µVision4 IDE and Debugger

The **Disassembly Window** and **Source Windows** are fully synchronized making program debugging and cursor navigation easier.

**Debug Restore Views** allow you to save multiple window layouts. You can quickly select the view which best suits your program analysis.



The **Configuration Wizard** provides an easy way to set up tool and device parameters for your application. The dialogs are based on the specific device selected from the µVision4 integrated Device Database.

µVision4 enables you to drag and drop individual windows anywhere on the visual surface. This increases your flexibility, for instance, you may have multiple memory and variable watch windows.

The flexible window management system introduced in µVision4 enables you to use multiple monitors and provides complete control over window placement. This new interface allows you to make better use of your screen space and to organise multiple windows.

Application development often requires working with more than one project at the same time, for instance working on a bootloader and application programs. The µVision **Multi-Project Workspace** combines several projects and simplifies the build and debug process of such applications.

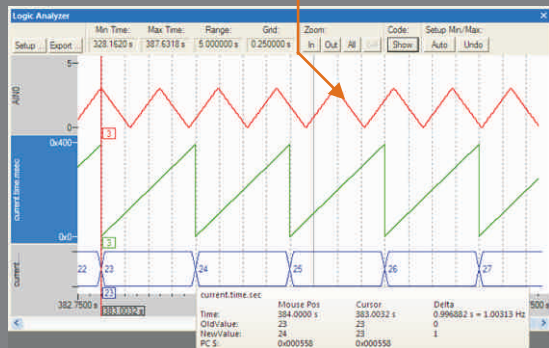
Visit [www.keil.com/uv4](http://www.keil.com/uv4) for more information about µVision4.

# µVision4 IDE and Debugger

The **Logic Analyzer** is used to graphically display variable changes in simulation or from data trace captured on a Cortex-M3 based MCU.

**Device Simulation** includes simulation of the CPU and on-chip peripherals. These powerful simulation capabilities provide serious benefits and promote rapid, reliable embedded

## Monitor 2

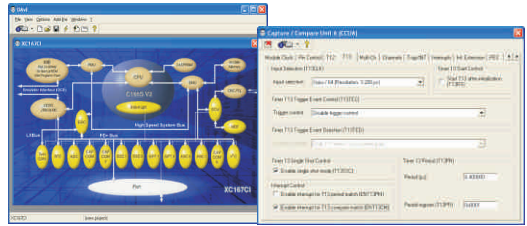


Address	Hex	ASCII
0x400000E0	00 00 00 00 00 00 00 00	
0x400000E1	00 00 00 00 00 00 00 00	
0x400000E2	00 00 00 00 00 00 00 00	
0x400000E3	00 00 00 00 00 00 00 00	
0x400000E4	00 00 00 00 00 00 00 00	
0x400000E5	00 00 00 00 00 00 00 00	
0x400000E6	00 00 00 00 00 00 00 00	
0x400000E7	00 00 00 00 00 00 00 00	
0x400000E8	00 00 00 00 00 00 00 00	
0x400000E9	00 00 00 00 00 00 00 00	
0x400000EA	00 00 00 00 00 00 00 00	
0x400000EB	00 00 00 00 00 00 00 00	
0x400000EC	00 00 00 00 00 00 00 00	
0x400000ED	00 00 00 00 00 00 00 00	
0x400000EE	00 00 00 00 00 00 00 00	
0x400000EF	00 00 00 00 00 00 00 00	
0x400000F0	00 00 00 00 00 00 00 00	
0x400000F1	00 00 00 00 00 00 00 00	
0x400000F2	00 00 00 00 00 00 00 00	
0x400000F3	00 00 00 00 00 00 00 00	
0x400000F4	00 00 00 00 00 00 00 00	
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0x400000F6	00 00 00 00 00 00 00 00	
0x400000F7	00 00 00 00 00 00 00 00	
0x400000F8	00 00 00 00 00 00 00 00	
0x400000F9	00 00 00 00 00 00 00 00	
0x400000FA	00 00 00 00 00 00 00 00	
0x400000FB	00 00 00 00 00 00 00 00	
0x400000FC	00 00 00 00 00 00 00 00	
0x400000FD	00 00 00 00 00 00 00 00	
0x400000FE	00 00 00 00 00 00 00 00	
0x400000FF	00 00 00 00 00 00 00 00	

The **Source Browser** displays information about symbol and variable definitions and their usage in your program. You can navigate through your source code using the F12 key and the Source Browser Window.

The µVision4 **System Viewer** windows provide information about device peripheral register contents. Detailed status information is available and can be changed directly from within the System Viewer window.

DAVe helps you to get started with Infineon MCU devices. It simplifies the system setup, provides configurable software drivers for on-chip peripherals, and delivers a template application. You can import the generated DAVE project into µVision4 to write the rest of your application code. For more information, refer to [www.infineon.com/DAVe](http://www.infineon.com/DAVe)



DAVe and µVision4 enable you to quickly develop projects on Infineon MCUs

# Keil Development Tools for Infineon XC800/XE166/XC2000



Keil is a leader in development tools for the Infineon XC800, XC166, XE166, and XC2000 microcontroller families. Tools from Keil support all levels of developer from the beginner just starting out to the professional applications engineer. Keil offers a wide range of products which include evaluation boards and the ULINK2 USB-JTAG adapter for Flash programming and In-System Debugging.

For more information, see [www.keil.com/infineon](http://www.keil.com/infineon)

Third Party Utilities

## Keil Professional Developer's Kit

µVision IDE & Project Manager

ANSI C Compiler

Macro Assembler & Run-Time Libraries

µVision Debugger & Analysis Tools

Complete Device Simulation

Examples and Templates

The **Keil PK51** and **PK166 Professional Developer's Kits** are complete software development environments for Infineon 8-bit and 16-bit microcontrollers. The kits include the tools needed to create, translate, and debug C and assembly source files. Like all Keil tools, they are easy to learn and easy to use. The integrated Device Database<sup>®</sup> configures the tools options for each specific microcontroller. For a complete list of supported devices, refer to [www.keil.com/dd](http://www.keil.com/dd)

## Advanced Real-Time OS

RTOS Kernel

TCP/IP Suite

TCP, UDP, PPP, SLIP,  
ARP, DNS Resolver,  
Ethernet, DHCP Client,  
HTTP Server with CGI,  
TFTP Server, SMTP Client

Flash File System

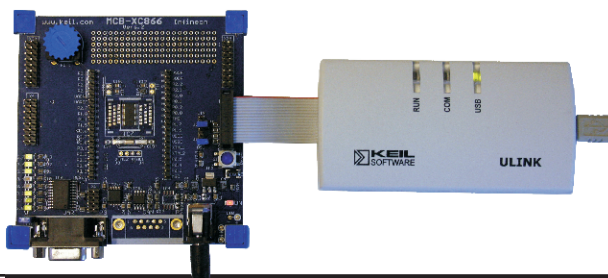
Examples and Templates

The **Advanced RTOS** is a real-time kernel for XE166/XC2000 devices that simplifies the design and implementation of complex, time-critical applications. The royalty-free kernel is complemented by a TCP/IP networking suite and Flash File System. For more information, refer to [www.keil.com/ar166](http://www.keil.com/ar166)

## Hardware Debugging

Infineon microcontrollers integrate an On-Chip Debugging system (OCDS). To interactively test and debug programs, you can use the Keil ULINK<sup>®</sup>2 USB-JTAG Adapter or Infineon Debug Access Server (DAS) compatible hardware.

The Keil ULINK2 Adapter connects your PC's USB port to the OCDS debugging connector of your target hardware system.



ULINK2 supports Flash programming, single-stepping, real-time program execution with breakpoints, and access to memory and CPU registers. For more information, refer to [www.keil.com/ulink2](http://www.keil.com/ulink2)

ULINK2 requires that your target system has an OCDS connector. Alternatively, you may get started with Keil OCDS-ready XC167 or XC8xx evaluation boards. For more information, refer to [www.keil.com/boards](http://www.keil.com/boards)

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