PRODUCT BRIEF

intel Software

Develop Innovations That Can Change the World

Intel® System Studio for Microcontrollers

Internet of Things

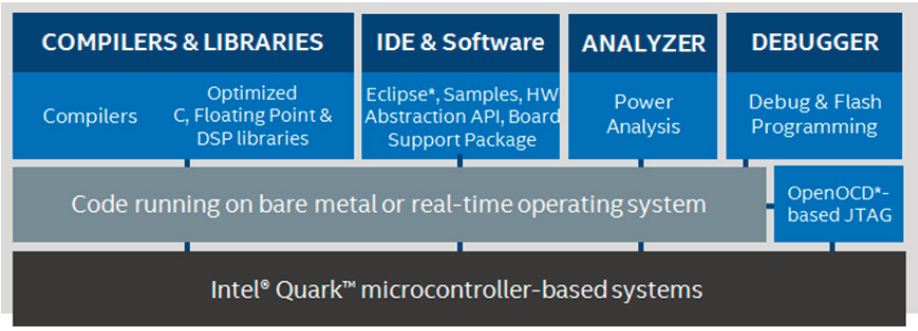
Development Environment for Intel® Quark™ Microcontroller Software Developers

Intel® System Studio for Microcontrollers, an Eclipse*-integrated software suite, is designed specifically to empower Intel® Quark™ microcontroller developers to create fast, intelligent things.

The Internet of Things (IoT) is the big growth wave in tech—from smart cities, homes, and classrooms to energy management, wearable devices, and much more. The Intel Quark microcontroller family extends intelligent computing to a new spectrum of devices requiring low power consumption for sensor input and data actuation applications.

What it Does

- **Speeds time to market** with an Eclipse-integrated development environment for Intel Quark microcontroller-based systems.
- **Optimizes source code** for power and system resource efficiency for IoT classes of small sensors and devices with proven compilers and libraries.
- **Strengthens system reliability** by quickly isolating complex source code issues with a system and application debugger.



Intel® System Studio for Microcontrollers			
		Coming Soon	Available Now
Intel® Quark™ microcontroller		Intel® Quark™ microcontroller D2000, Intel® Quark™ SE microcontroller	Intel® Quark™ microcontroller D1000
Compilers & Libraries	GNU* C Compiler	●	
	Intel® C++ Compiler		●
	Runtime Libraries (C or C/C++)	●	●
	Intel® DSP Library	●	
	Floating Point Emulation Library	●	
System & Application Debugger	OpenOCD* JTAG Debugger	●	●
	Intel-enhanced GDB* Application Debugger	●	●
Power Analysis	Power Analyzer	●	
Software	Sample Applications	●	●
	Board Support Package (BSP)	●	
	Quark Microcontroller Software Interface (QMSI)	●	
Environment	Eclipse* Integrated Development Environment	●	●
	Command line	●	●
	Host Operating Systems	Linux*, Windows*, Mac*	Linux*, Windows*
	Target Environment / Operating Systems	Bare metal and real-time operating system	Bare metal
		Register to stay informed about the availability	Technology Preview Download Now

Details

Compilers and Libraries

The included compilers and libraries offer standard features of the C and C++ languages. Extensions allow developers to benefit from Intel® architecture-specific capabilities. The compilers are:

- **Integrated** with other core software in the Eclipse IDE and build system.
- **Efficient**, with advanced, processor-specific optimizations for speed and memory footprint to allow generation of very efficient machine code.
- **Standards-based**, with support for the ELF/DWARF object format.
- **Versatile**, with object code that can be linked with assembler routines.
- **Precise,** with optimized digital signal processing (DSP), math, and floating point libraries to help optimize the code.

System and Application Debugger

The OpenOCD*-based JTAG Debugger is designed to be used with the provided build tools and libraries, completely integrated into the Eclipse IDE and complemented by the provided GDB* for source-level awareness, allowing seamless switching between development and debugging. It enables:

- **Efficient debug.** During a debug session, a developer can make updates directly into the same source code window that is used to control the debug session. Modifications will be ready for the next source code rebuild and flashing of the device.
- **Setting source code or data breakpoints** before starting the debugger. Breakpoints in source code will be associated with the same piece of source code, even if additional code is inserted. Modify register and variable values on the fly and continue executing the program flow.
- **Convenient flash programming** of the IoT device controlled by the IDE.
- **Real-time** operating system awareness debugging.

- **Ability to attach** to a running application without resetting the target.
- **Simultaneous debug** of both source and assembly.

Power Analyzer

- **Optimize for power efficiency** by profiling system-wide energy consumption to identify power-inefficient code.

Documentation and Sample Code

- **Jump-start development** with comprehensive code examples and template projects.
- **Get scalability** for software reuse across the Intel Quark Microcontroller portfolio with the included Quark Microcontroller Software Interface (QMSI), which abstracts and extends hardware features.

Learn More about Intel® System Studio for Microcontrollers

For hardware and other technical requirements, see the latest Release Notes.

Get more information regarding performance and optimization choices in Intel® software products.

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