Microchip Technology Enhances Mid-range 8-bit PIC(R) Microcontroller Core

Enhanced Mid-range Core Includes Numerous Feature & Peripheral Improvements

CHANDLER, Ariz.--(BUSINESS WIRE)--

Microchip Technology Inc. (NASDAQ:MCHP), a leading provider of microcontroller and analog semiconductors, today announced an enhancement to the microcontroller (MCU) architecture supporting Mid-range 8-bit PIC12 and PIC16 MCUs. Building upon the success of Microchip's popular Mid-range core, the enhanced core provides numerous technical improvements, including more program and data memory; a deeper/enhanced hardware stack; additional reset methods; 14 additional programming instructions, including "C" efficiency optimizations resulting in code size reductions; increased peripheral support; reduced interrupt latency, and other enhancements.

Recognizing the demand for increased performance and peripherals within the 8-bit MCU market, Microchip continues to invest in its 8-bit PIC(R) MCU line to provide a broad product portfolio that meets the needs of its existing and future customers. The enhanced core builds upon the best elements of the existing Mid-range core and provides additional performance, while maintaining compatibility with existing Mid-range products for true product migration. The enhancements provide users with a boost of performance of up to 50% and code-size reductions of up to 40% for various algorithms and functions. Microchip's Mid-range 8-bit PIC MCUs continue their wide market acceptance and gain further momentum into applications where MCUs have been historically void, thereby enabling designers to differentiate their products in the marketplace.

"As consumer, industrial, medical, automotive and other applications evolve to provide more benefits to the consumer at lower costs, the need for cost-effective intelligence building blocks is of utmost importance," said Steve Drehobl, vice president of Microchip's Security, Microcontroller and Technology Development Division. "Microchip's enhanced Mid-range core further drives high-end performance and features into low pincount PIC MCUs, making increased intelligence and control accessible for any design."

The enhanced core enables increased levels of integration and the use of multiple peripherals without sacrificing performance. It also provides a long-term expansion path for new peripheral support. These features result in application longevity, scalability, ease of design and overall versatility. Example peripheral support onboard the enhanced Mid-range core includes Microchip's mTouch(TM) Sensing Solution module for touch-sensing user interfaces; LCD displays; multiple Analog-to-Digital Converters (ADCs) and Pulse-Width Modulation (PWM) modules; additional timers and analog comparators, among other peripherals.

Additional feature enhancements include increased memory support with program Flash addressability up to 56 KB and Data RAM up to 4 KB. This enables the creation of more versatile code with increased functionality, for more complex applications--especially useful when developing code in the C programming language. With 14 additional instructions--for a total of 49--the enhanced core optimizes program code and data handling, which reduces code space and increases efficiency with fewer clock cycles. It also provides the ability to migrate with minimal effort among existing Mid-range PIC MCUs; as well as up or down with PIC12, PIC16 and PIC18 MCUs.

Mid-range PIC MCUs employing the enhanced core can target a wide variety of general-purpose applications. Examples include those in the appliance (blenders, refrigerators, dishwashers); consumer/home electronic (athletic attire, cell phones, phone chargers, electric shavers, vacuum cleaners); industrial (digital water heaters, security systems, HVAC control); automotive (car audio, remote controls, power seats, lighting control) and medical markets (intelligent medical bandages, pregnancy testers, glucose meters, patient-monitoring equipment).

Development Tool Support

Third-party compiler support for devices utilizing the enhanced core will be provided by HI-TECH Software, CCS, microEngineering Labs and Byte Craft Limited.

HI-TECH is planning to provide an updated version of its C(R) PRO ANSI C Compiler for the PIC10/12/16 MCUs. The enhanced core's memory-mapped W register, simplified bank selection and multiple file-select registers provide many opportunities for optimizing this compiler.

CCS' support is expected to be available in version 4.100 of its PCM and PCW compilers, which provide reduced system functions with the 16-level call stack using the more efficient MOVLP for page switches. Other enhancements include built-in functions for peripherals, translation of old or hard-coded addresses to use newly assigned SFR registers, the ability to use two FSRs for a reduction in the number of instructions, and advanced debugging support in the IDE compilers.

microEngineering Labs' PICBASIC(TM) PRO Compiler is expected to support the enhanced architecture with core-specific command libraries and extended RAM-bank switching. The compiler will include code optimizations to maximize the enhanced core's capabilities, and the meLabs programmers will also support the core.

Byte Craft Limited expects to ship an enhanced PIC16-specific code generator in the optimizing C compiler of its MPC Code Development System. This system implements over two dozen intuitive data types, with ISO TR 18037 fixed-point and named-address support.

Availability

The first devices based upon the enhanced 8-bit Mid-range PIC MCU core are expected to roll out Calendar Q1 2009. For further information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip's Web site at www.microchip.com/enhanced.

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About Microchip Technology

Microchip Technology Inc. (NASDAQ:MCHP) is a leading provider of microcontroller and analog semiconductors, providing low-risk product development, lower total system cost and faster time to market for thousands of diverse customer applications worldwide. Headquartered in Chandler, Ariz., Microchip offers outstanding technical support along with dependable delivery and quality. For more information, visit the Microchip website at www.microchip.com.

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