

**Title – Building Low-Power Embedded Systems using MSP430
Platform**

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Abstract

The Embedded System market is growing steadily as we witness innovations in the areas of energy and environment monitoring, medical instrumentation, security and surveillance, and infotainment. These innovations are helping in making the world a greener, healthier, safer and more fun place to be. Selecting the right embedded processor in these systems is important from the view point of optimizing the system cost, performance, and power while not compromising on functionality or quality. MSP430 is an ultra low-power 16-bit microcontroller which competes with 8-bit microcontrollers in terms of cost, but offers an amazing range of functionalities suitable for a wide range of products such as portable instruments, utility meters, medical instruments, sports equipment, home automation and wireless sensor networks among others. MSP430 microcontroller has a history of over 15 years and continues to evolve with VLSI technology. Being a 'system-on-chip,' the MSP430 includes not only a RISC CPU but also the analog front-end and peripherals to build an entire system, making it possible to build low-cost systems. The Code Composer Studio development environment can be used to develop software for an MSP430-based system. The MSP430 CPU is easy to program, with an orthogonal instruction set that includes only 27 instructions. This talk will give an overview of the MSP430 microcontroller, its architecture, features, and its applications.