Programmable Metrology Devices for Low-Cost Analog Front-End Solutions

Focusing on metering and Smart Grid applications, Texas Instruments Incorporated (TI) introduces the MSP430AFE2xx series of metrology analog front end (AFE) ultra-low-power 16-bit microcontrollers. Part of TI's leading embedded processing portfolio, the low-cost MSP430AFE series offers the industry's first programmable single-phase metrology devices supported with multiple communication interfaces.

The microcontrollers enable system partitioning in metering applications, such as electricity meters, home automation, sub-metering and energy saving systems, which allows flexible, stand-alone, high-quality measurement. The MSP430AFE series is based on a 16-bit RISC architecture with a system frequency of 12 MHz, offering 3X the system speed over competing parts to drive increased functionality. The microcontroller achieves less than 0.1 percent error in energy accuracy over a wide dynamic range of 2400:1, enabled by three independent 24-bit sigma-delta converters supporting anti-tamper.

The MSP430AFE2xx series is also supported by multiple tools, demos and EVMs to provide several options for developers to begin evaluation and move quickly to production. Allowing users to manage energy usage and begin saving money, the RF-capable MSP430 Energy Watchdog demo displays the electricity consumption of any plug-in appliance on an LCD display. The programmable MSP430AFE EVM can be used to test the new MSP430AFE2xx as a calibrated electricity meter. Additionally, the MSP-TS430PW24 target board and MSP-FET430U24 flash emulation tool can be used to program and debug the MSP430AFE devices.

For more information, please visit www.ti.com/430afe-430metering-pr-lp.

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