Semitech Debuts Multi-Standard OFDM Narrowband Power Line Communication Chip for Smart Grid Applications

SM2400 Modem Addresses Noise, Delivers Reliable Communications for IEEE 1901.2, PRIME, G3 and Proprietary Smart Grid Metering Deployments

SINGAPORE, September 29, 2011 - Semitech Semiconductor, a provider of power line communications (PLC) solutions that enable the transformation of the electricity grid into a smart grid, today announced its new SM2400 device. A multi-standard OFDM based PLC transceiver, the SM2400 is designed with ultimate flexibility to operate in a wide range of noise prone smart grid environments, while addressing a multitude of established and evolving standards and proprietary modes.

Regional requirements and differing standards further complicate communications over the already notoriously noisy power grid. The SM2400 combines a cost-effective design that has been optimized for PLC applications with a high level of programmability to address a multitude of communications schemes and evolving standards. Extremely flexible, the SM2400 features a dual core architecture to guarantee superior communication performance while maintaining a very high level of flexibility and programmability for OFDM based and other standards - as well as proprietary and fully customized implementations.

The SM2400 is a future proofed PLC solution supporting all common OFDM based standards including: IEEE 1901.2, G3-PLC and PRIME, with high flexibility to address standard evolution, new standards and special proprietary modes. The SM2400 is the second generation of OFDM based solutions from Semitech. It builds upon its SM2200 field proven performance to add further programmability multi-standard compliance and power efficiency, while allowing for flexible channel adaptation and higher data rates of up to 500Mbs.

Applications for the SM2400 include advanced metering infrastructure and automated meter reading, street lighting control, smart energy home area networking, home automation, building automation, and other deployments requiring communications over an existing power line.

The SM2400's unique capabilities include:

- Multitude of operation modes addressing all common OFDM standards including full compliance with: IEEE 1901.2, G3-PLC, PRIME and flexibility to address standard evolution, new standards and special proprietary modes
- Dual core architecture with custom PLC DSP and Data Link Layer 32bit controller integrating Physical Layer (PHY) and Media Access Controller (MAC)
- Configurable operational band within 5-500KHz range - compliant with CENELEC, FCC and ARIB bands operation
- Selectable differential and coherent BPSK, QPSK and 8PSK
- Integrated AFE
- High speed, reliable communication
- Power optimization

"It is an extremely exciting time in the evolution of the smart grid," noted Mike Holt, vice president of marketing and sales for Semitech. "In the last year, we have seen significant adoption of power line communications smart meters. Robust communications capabilities and communications standards compatibility have been critical components of this increased adoption rate. The SM2400 brings together the robust communications capabilities already proven in Semitech's SM2200 with multi-standard communications capabilities. This enables smart meter makers to use a common PLC approach across markets - regardless of networking standards or power line noise characteristics."
The SM2400 FPGA is available now for evaluation and smart grid system development.