

Advanced Metering Infrastructure

Single-Chip Multimode PLC Modem

The EV8000 is a highly integrated system-on-chip (SoC) solution that combines the baseband modem with integrated Analog Front End (AFE) for power line control and communications applications.

The EV8000 incorporates both the AFE (PHY) and media access control (MAC) layers. The EV8000 offers multimode modulation supporting advanced OFDM line coding with proprietary algorithms to enable robust data transmission over power line networks. It also supports FSK and Spread Spectrum line coding to support legacy applications in existing power line networks.

EV8000 is designed with a programmable architecture that supports several modulation modes including orthogonal frequency division multiplexing (OFDM) technique that allows reliable data transmission under channel conditions with excessive impulsive noise.

OFDM constellations ranging from BPSK to 256QAM are supported. Forward Error Correction (FEC) further improves the signal to noise ratio available under noisy channel conditions. EV8000 supports advanced coding algorithms such as LDPC to provide maximum system robustness under severe impulsive noise presence.

Standards and Implementations Supported:

- **4GPLC™** (EnVerv High Performance Mode)
- G3-PLC
- PRIME
- S-FSK (IEC 61334)

EV8000 Specifications

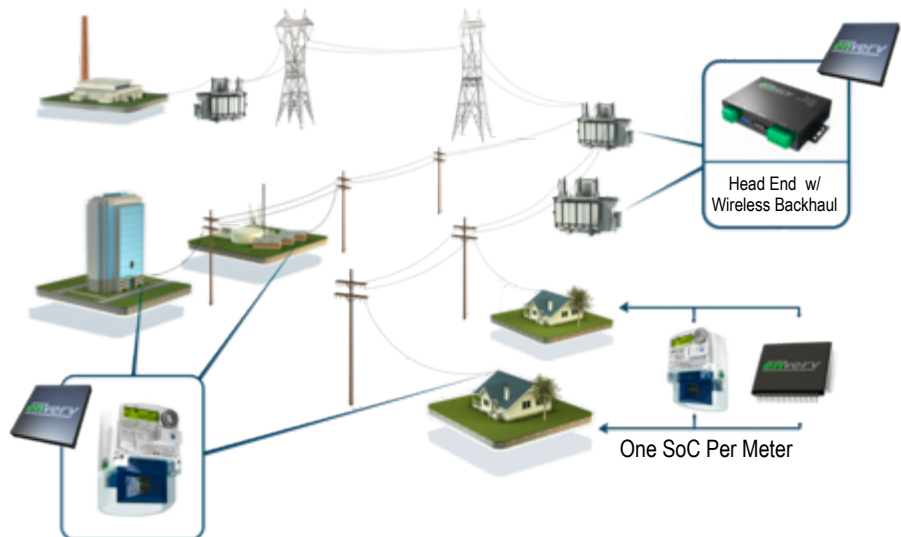
- Integrated Physical Layer (PHY), Media Access Controller (MAC) and Analog Front End (AFE)
- Integrated u-controller with 256KB SRAM
- Integrated Secure Flash memory
- Supports data rates of up to 1Mbps
- Compatible with
 - CENELEC A, B, C (10kHz to 140kHz)
 - FCC (10kHz to 490kHz)
 - ARIB (10kHz to 450kHz)
- SPI, I2C, and UART interfaces and PWM Counters
- OTW (Over The Wire) field upgrades
- Industrial temperature operating range (-40°C to +85°C)

Diverse Applications

AMI
LED Lights
Solar Plants
Traffic Lights
Airport Runways

Network Diagram

- EnVerv head-end installed at transmission and/or distribution substations
- Multi-standard EnVerv head-end allows for connectivity with various meters with different technologies
- High-performance EnVerv EV8000 SoC ensures more service nodes per head-end and higher coverage



Applications

- Automatic Meter Infrastructure (AMI)
- Intelligent Lighting Control
- LED Array Control
- Home Automation
- Heating Ventilation & Air Conditioning (HVAC)
- Industrial Automation
- Sensor Control and Data Acquisition
- Remote Monitoring & Control
- Security Systems / Keyless Entry



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