MAX79356

ZENO Flexible Narrowband OFDM Powerline Communication Modem with Integrated Analog Front End

A Single Hardware Platform for Your G3-PLC and PRIME PLC Solution

NDA Required. Request Full Data Sheet

Overview

Description

ZENO™ (MAX79356) is a programmable narrowband orthogonal frequency division multiplexing (OFDM)-based powerline communication (PLC) modem system-on-chip (SoC) device that provides standards compliant high performance and secured powerline communication in a small package. ZENO integrates two pipelined 32-bit RISC (MAXQ®30E) processors to offer high performance and future-proof flexibility. These two 32-bit RISC processors perform dedicated PHY signal processing functions and MAC layer functionality. Maxim provided, certified firmware images allow faster time to market. Factory or infield firmware update feature allows adoption of changes and updates in PLC communication standards. The integrated high-speed AES-CCM* engine ensures standards compliant data communication security and integrity.

Key Features

- Supports All Standards and Frequency Bands to Reduce R&D Investment and Time to Market
  - G3-PLC Certified
  - Compliant with, G3-PLC, IEEE 1901.2, ITU G9903, PRIME
  - Supports Regulated Frequency Bands for Communication: CENELEC, FCC, ARIB
- Accommodates Evolving Standards with Flexible System Architecture that Integrates Dual 32-Bit RISC Processors with 512KB Flash and 288KB RAM for MAC and PHY

    - Universal Firmware Supports Both PAN Coordinator and PAN Device Functionality
    - Programmable Frequency Notching
- Efficient BOM for Building Competitive Modems
    - Supports All G3-PLC Bands with One SKU
    - Integrates MAC, OFDM PHY, and Analog Front End for Simplified Board Design
    - Single 16MHz Crystal Generates All Operating Clocks
    - UART Provides Simple Interface for Host Processor Communications
- Low Power Consumption
    - 55mW in Listen Mode
    - 70mW in Active Mode
- High-Sensitivity Receiver with Adaptive Gain Control Allows Communication with Low Signal-to-Noise Ratio
- Integrated 128/256-bit AES and AES-CCM* Engine for Encryption/Decryption and Authentication

Applications/Uses

- Advanced Metering Infrastructure (AMI)
- AMI Concentrators
- Electric Vehicle Charging
- Factory and Building Automation
- Home Energy Monitoring
- Smart Grid Communications
- Smart Meters
- Solar and Renewable Energy Management
- Street Lighting Automation and Lighting Control