

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 in-field 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