

## FEATURES

### Narrow-band power line communications IC

Integrates physical layer, data link layer, and networking layer  
Application layer

Supports DL/T 645-1997 or -2007 data protocol (specific to China), as well as a pass-through option

### Networking layer

Automatic baud rate negotiation

Dynamic routing

### Data link layer

CRC error checking

Network key for data security

### Physical layer

FSK modulation

Up to 800 bps on a single-phase

Single 3.3 V supply, low power (140 mW typical)

Package and temperature range

40-lead, 6 mm × 6 mm LFCSP

Fully specified for -40°C to +85°C operation

## APPLICATIONS

Power line modems for AMR/AMI systems

## GENERAL DESCRIPTION

The [ADE8157](#)<sup>1</sup> is a complete digital baseband processor IC that includes a physical layer (PHY), data link layer (DLL), and networking layer (NL). The [ADE8157](#) includes a high performance receive path analog-to-digital converter (ADC) to reduce the external component count. An on-chip digital modulator creates the transmit signal for an external field effect transistor (FET) driver. The [ADE8157](#) can communicate directly with an energy meter over the on-chip UART. The [ADE8157](#) slave modem IC is designed to work with the [ADE8167](#) master modem IC for a complete power line communication system.

In an advanced metering infrastructure (AMI) system, the [ADE8157](#) IC provides the essential functions of a slave modem, which enables energy meters to communicate over the power line. Each slave modem operates as a node in a mesh network. The mesh network is under the control of a single master modem. The [ADE8167](#) IC provides the foundation for a master PLC modem.

## FUNCTIONAL BLOCK DIAGRAM

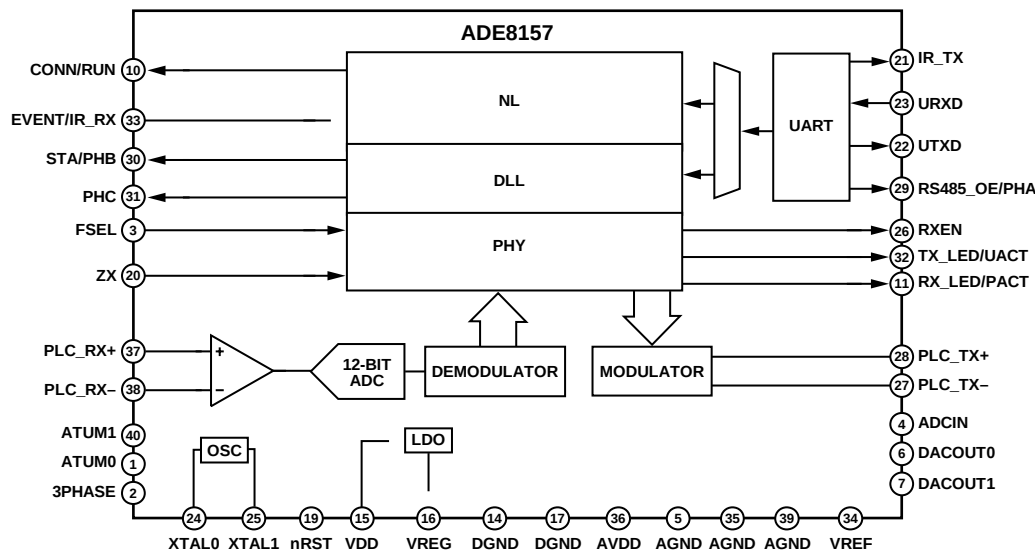


Figure 1.

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For more information about the ADE8157 slave modem IC, contact your local [Analog Devices, Inc., sales office](#).

<sup>1</sup> U.S. patents pending.

### Rev. SpB

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