

## 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

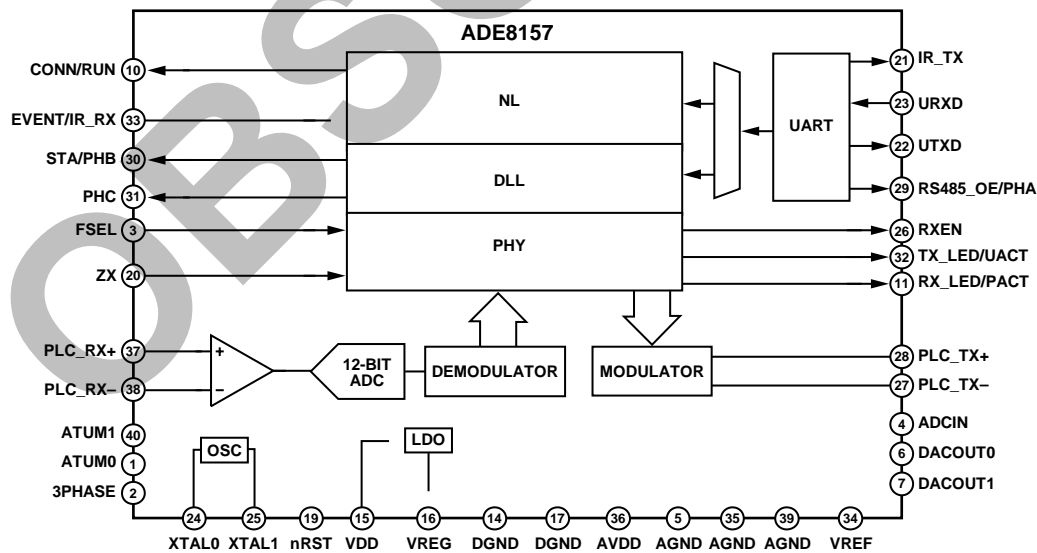


Figure 1.

10157-001

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

Information furnished by Analog Devices is believed to be accurate and reliable. However, no responsibility is assumed by Analog Devices for its use, nor for any infringements of patents or other rights of third parties that may result from its use. Specifications subject to change without notice. No license is granted by implication or otherwise under any patent or patent rights of Analog Devices. Trademarks and registered trademarks are the property of their respective owners.

One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106, U.S.A.  
Tel: 781.329.4700 [www.analog.com](http://www.analog.com)  
Fax: 781.461.3113 ©2011–2012 Analog Devices, Inc. All rights reserved.

**NOTES**

**OBSOLETE**