

PRODUCT PREVIEW

Zarlink's ZLE70250 Application Development Kit (ADK) enables rapid evaluation, prototyping and development of radio frequency (RF) telemetry systems using the company's ZL70250 ultra low-power (ULP) Industrial Scientific and Medical (ISM) transceiver technology.

The ZLE70250 ADK combines hardware and software to create an end-to-end ISM communication system using the ZL70250 operating in either the 863 – 870 MHz band (EU) or the 902 – 928 MHz band (US) with only 2 mA peak current draw at a range of 20+ meters.

The kit demonstrates the ZL70250 IC's exceptional energy efficiency, high integration and high data rate capable of supporting continuous monitoring and voice applications.

Using the ZLE70250 ADK, customers can quickly create their own custom board designs and use Zarlink software as a starting point for software development for specific ZL70250 enabled ISM RF telemetry systems.



Applications

The ZLE70250 ADK facilitates rapid development and evaluation of ZL70250 based RF communication systems used in power critical applications, including:

- ➔ Medical telemetry
- ➔ Body Area Network (BAN)
- ➔ Wireless blood glucose monitoring
- ➔ Voice communication
- ➔ Wireless sensors
- ➔ Applications relying on energy harvesting or miniature battery
- ➔ Remote controls

Speeding Design of RF Telemetry Systems

- ➔ ADK includes ZL70250 transceiver IC, enables industry's lowest peak power and highest efficiency RF communication solutions
- ➔ Common application microcontroller enables rapid integration of customer-specific designs
- ➔ Optimized matching circuit to standard 50 Ω and provided antenna showcases a 2 mA RF system solution with a range of 20+ meters
- ➔ Extensive hardware documentation including board schematics, layout, Gerber files, and bill of material (BOM) enables faster development of customer-specific systems
- ➔ Software (written in C) with thoroughly commented source code available to speed understanding and reuse for custom development
- ➔ Periodic software upgrades to enhance functionality and support advanced features
- ➔ Out-of-the-box solution—all hardware and software provided to operate the ADK, only requires PC to run graphical user interface (GUI) software

Ordering Information

The ZLE70250 ADK (order number ZLE70250BADA) is available for qualified customers. Contact Zarlink's Medical Product Group sales (http://www.zarlink.com/zarlink/hs/sales_support.htm) for information. For detailed information on Zarlink's ULP ISM transceiver IC technology, please refer to the ZL70250 Product Preview and Data Sheet at www.zarlink.com.

ZLE70250 RF TELEMETRY APPLICATION DEVELOPMENT KIT

APPLICATION

The ZLE70250 ADK includes all hardware and software required to quickly and easily design RF communication systems based on the ZL70250 ULP RF Transceiver IC.

Application Development Platform (ADP100) board: Bridge board with integrated USB2.0 support to allow for interfacing between a PC running the ADK software and a Zarlink RF evaluation mezzanine board. The ADP100 provides two programmable power supplies with measurement capability to its mezzanine board. The USB-rechargeable Li-Ion battery allows the ADP100 and its mezzanine board to run disconnected from the host PC for hours.

Evaluation RF Mezzanine (ERM250) board: Mezzanine board that plugs into an ADP and provides all capabilities to develop a ZL70250 based wireless sensor. The RF section includes the ZL70250 IC, clocked at 24 MHz, probe points of key digital and analog signals, a matching network for 863 MHz to 928 MHz operation and an SMA-based interface to a standard 50 Ω antenna. A commonly used microcontroller with JTAG debug interface controls the ZL70250 IC. A light sensor, a temperature sensor and a 32 kHz RTC Xtal connected to the microcontroller provide all the functionality required for the development of a wireless sensor. The ERM250 can either be powered by the ADP100 for convenience or by its own power supply from any 2.7 – 10 V source, including a battery (a CR2032 holder is provided on the back of the board) or an energy harvester, to allow for standalone operation.

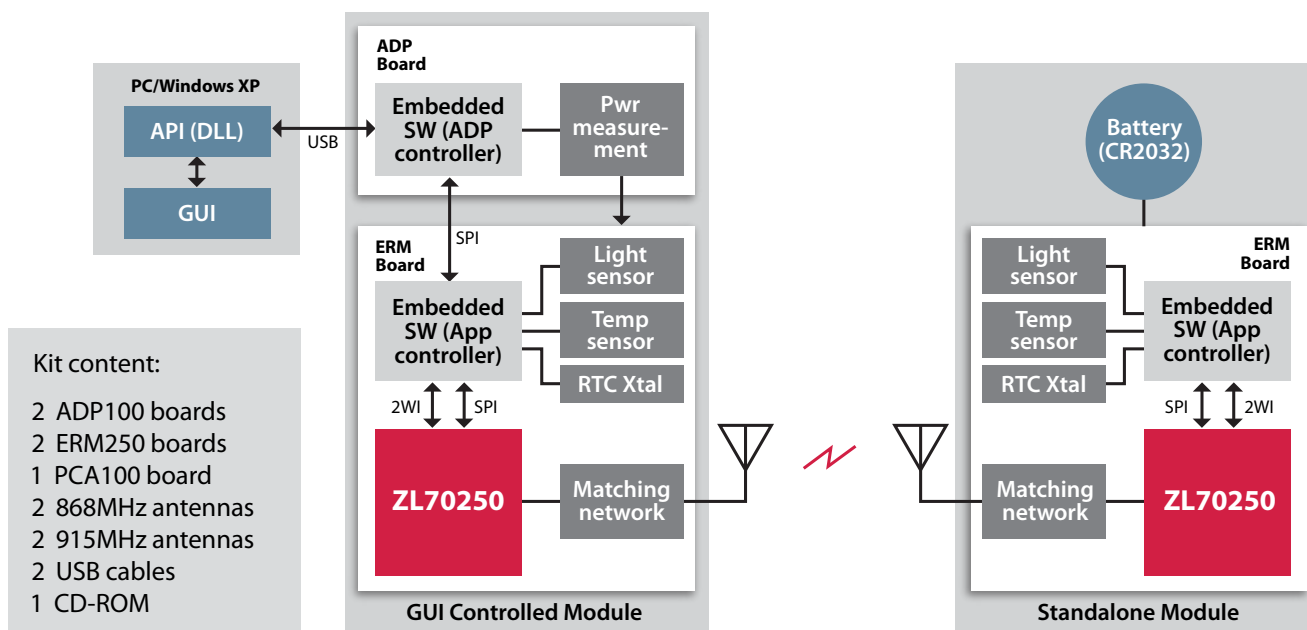
Programmer Cable Adapter (PCA100): Adapter board to enable programming/code download and debugger support to the ADP and Application microcontrollers.

Antennas: A pair of 868 MHz whip antennas and a pair of 915 MHz whip antennas are provided in the kit.

Embedded Firmware: For the ADP and ERM250, enables setup and control of the ZL70250 residing on the ERM250. It runs on each board's commonly used microcontroller. This example code may be modified for specific customer systems incorporating the ZL70250 IC.

PC Software: Software compatible with Windows-based PCs included on CD-ROM in the ADK with an easy-to-run installation executable. The GUI application provides a user-friendly visual interface for controlling and demonstrating the capabilities of a ZL70250 enabled RF system including trim and tune, clear channel assessment (CCA), Bit Error Rate (BER) and missed packets, as well as accessing ZL70250 specific registers. It communicates through a well-defined application programming interface (API) realized through a Windows DLL to the embedded firmware running within the application microcontroller on the ERM250 via the ADP100 board.

Full Documentation: Provided on CD-ROM, includes, ADK Getting Started Guide, Source Code Overview, Board Level Documents (schematics, layouts, Gerbers, and BOM for all included boards).



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