Wireless Zdots® Single Board Computer Development Kit

User Manual

UM022403-1008

Revision History

Each instance in Revision History reflects a change to this document from its previous revision. For more details, refer to the corresponding pages and appropriate links in the table below.

Date	Revision Level	Description	Page Number
October 2008	03	Replaced WiFi with Wireless.	All
October 2008	02	Updated Wireless Zdots® SBC Development Kit Overview, Wireless Zdots® SBC Development Kit Connectors/Jumper, Physical Dimensions (Figure 6 Title) sections.	2, 5, 6
October 2008	01	Original issue.	All

Safeguards

The following precautions must be observed when working with the devices described in this document.

⚠️ **Caution:** *Always use a grounding strap to prevent damage resulting from electrostatic discharge (ESD).*

Table of Contents

Introduction

Zilog's Wireless Zdots® Single Board Computer (SBC) Development Kit provides a general-purpose platform to evaluate the capabilities and operation of Zilog's eZ80F91 microcontroller unit (MCU) and the Realtek 8711 Wireless Transceiver. The eZ80F91 is a member of eZ80Acclaim*Plus!*™ product family, which offers on-chip Flash capability. The Wireless Zdots SBC Development Kit features two primary boards— the eZ80Acclaim*Plus!* Wireless Zdots SBC and a base board. The Wireless Zdots SBC Development Kit provides a full development platform when using both the boards. It can also provide a smaller-sized reference platform with the Wireless Zdots SBC as a stand-alone development tool.

Kit Features

The key features of eZ80Acclaim*Plus!* Wireless Zdots SBC Development Kit include:

- eZ80Acclaim*Plus!* Wireless Zdots SBC
  - 1 MB fast SRAM (12 ns access time)
  - 4 MB NOR Flash (70 ns access time)
  - Realtek RTL8711 Wireless 802.11 b/g transceiver
  - On-board antenna, option for external antenna
  - Two Optional headers for connection to RS-232, General-Purpose Input/Output (GPIO), I^{2}C, MII interface
  - Programmable power switch
  - Small footprint
  - Standard operating Temperature range: 0 ºC to 70 ºC
- eZ80Acclaim*Plus!* Wireless Zdots SBC Development Kit Base Board
  - Zilog Debug Interface (ZDI)
  - Supported by Zilog Developer Studio II (ZDS II) and the eZ80® C-Compiler
  - Plug-in headers for the Wireless Zdots SBC and test points
  - Prototype area
  - Power supply

Wireless Zdots® SBC Development Kit Overview

The Wireless Zdots SBC Development Kit provides a set of tools to evaluate the features of eZ80F91 MCU and the Realtek 8711 Wireless transceiver to develop a new application before building the application hardware. The eZ80Acclaim*Plus!*™ Wireless Zdots SBC Development Kit, together with its plugged-in Wireless Zdots SBC, can operate in stand-alone mode with Flash Memory, or interface via USB Smart Cable (or any Zilog® debug tool) to a host PC running ZDS II Integrated Development Environment (IDE) software. A block diagram of the eZ80Acclaim*Plus!* Wireless Zdots SBC Development Kit and the Wireless Zdots SBC is displayed in Figure 1.
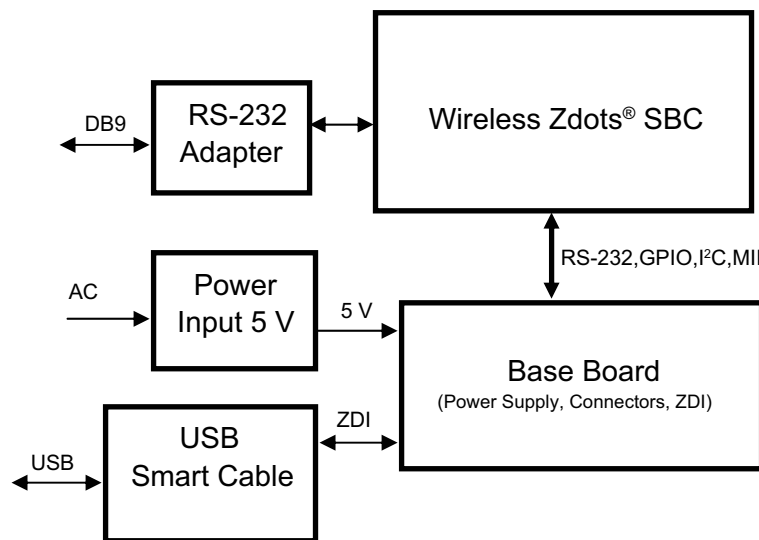
Figure 1. Wireless Zdots® SBC Development Kit Block Diagram

Wireless Zdots® SBC Development Kit Boards
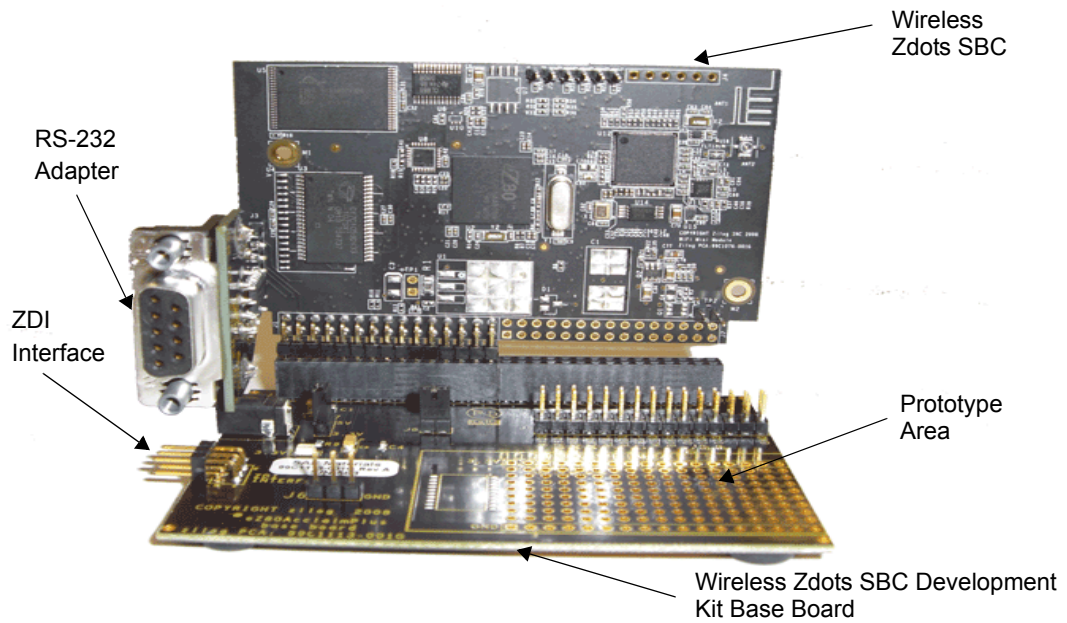
Figure 2 displays Wireless Zdots SBC Development Kit.

Figure 2. Wireless Zdots® SBC Development Kit
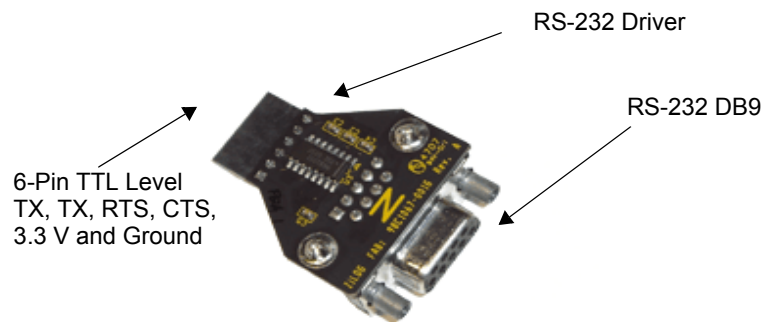
Figure 3 displays RS-232 Adapter.

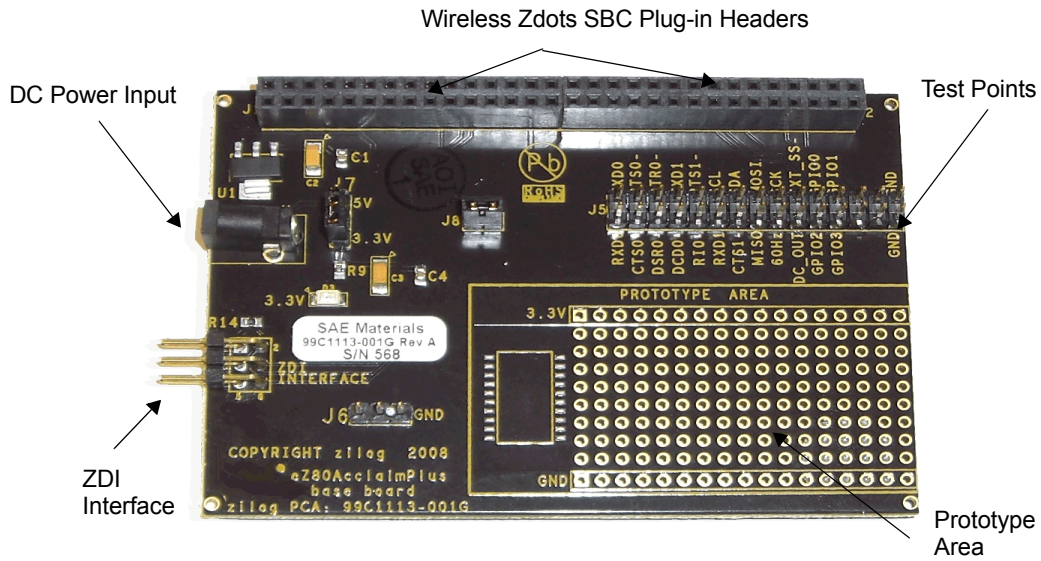**Figure 3. RS-232 Adapter**

Figure 4 displays Wireless Base Board.

Figure 4. Wireless Base Board
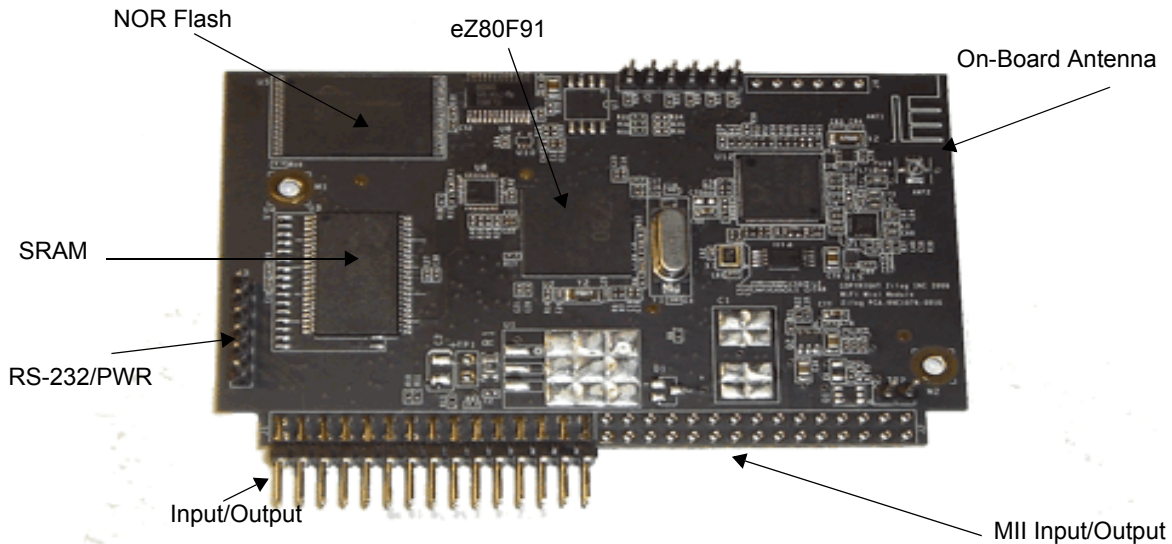
Figure 5 displays Wireless Zdots SBC.

Figure 5. Wireless Zdots® SBC

Wireless Zdots® SBC Development Kit Connectors/Jumper

The Wireless Base Board include:

- J4 DC Input 5 V

- J6 3 pins Ground test points

- J7 3 pins Voltage Select:
    - Pins 1:2, 5.0 V connects to Wireless Zdots SBC
    - Pins 2:3, 3.3 V connects to Wireless Zdots SBC[1]

- J3 ZDI Interface

- J8 2 pin Wireless Zdots SBC power input[2]

- J1 Wireless Zdots SBC Main GPIO I/O connector

- J2 Wireless MII I/O pins

- J5 General Test points

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1. The default jumper setting is 2:3 CLOSE (jumper is placed near 3.3 V label)
2. The default jumper setting is 1:2 CLOSE

Physical Dimensions

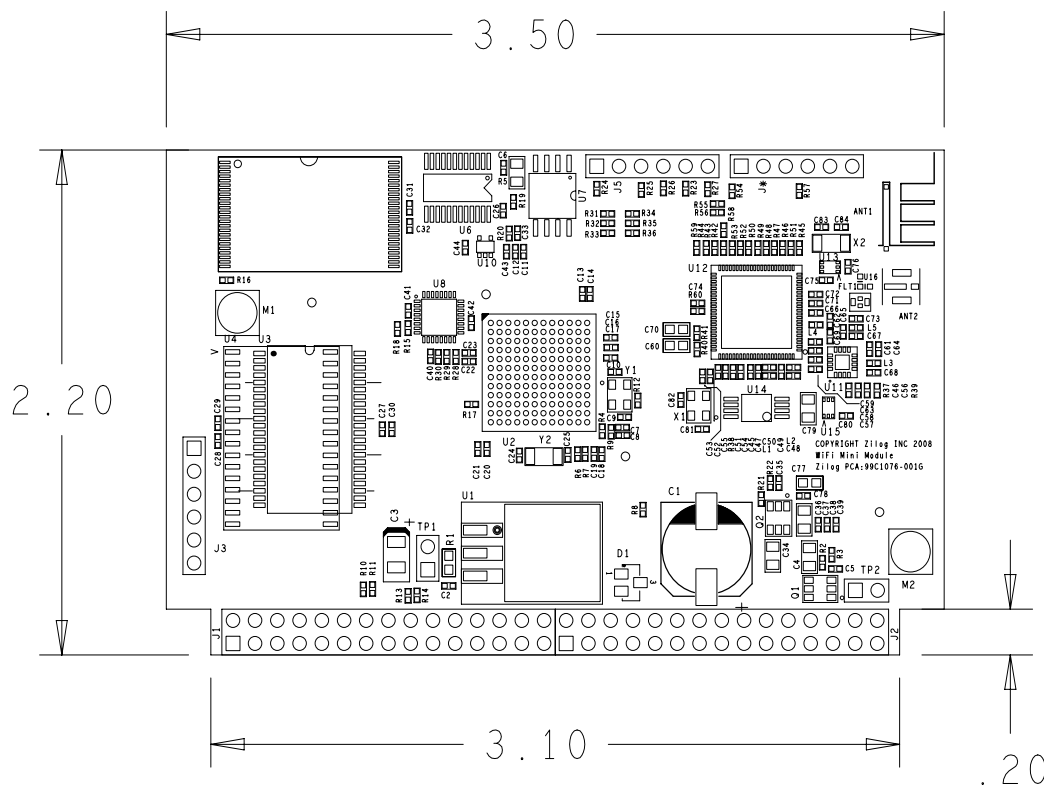The dimensions of the Wireless Zdots SBC (see Figure 6) are 2.20 inches x 3.50 inches (55.88 mm x 88.90 mm).

Figure 6. Physical Dimensions of the Wireless Zdots® SBC

Flash Loader Utility

The Flash Loader utility integrated within ZDS II provides a convenient way to program on-chip and off-chip Flash Memory. For more details, refer to *Zilog Developer Studio II-eZ80Acclaim!® User Manual (UM0144)*.

Mounting the Wireless Zdots® SBC to the Base Board

The Wireless Zdots SBC features two 30-pin connectors. However, only connector labeled J1 is installed on the Wireless Zdots SBC. When mounting the Wireless Zdots SBC onto the base board, check its orientation to the platform to ensure a correct fit. Observe that the 30 pins of the Wireless Zdots SBC plug into connector J1 on the base board. The components on the Wireless Zdots SBC should point into the components of the base board. See Figure 2 on page 3.

Changing the Power Supply Plug

The universal 5 V DC power supply offers three different plug configurations and a tool that aids in removing one plug configuration to insert another, as displayed in Figure 7.
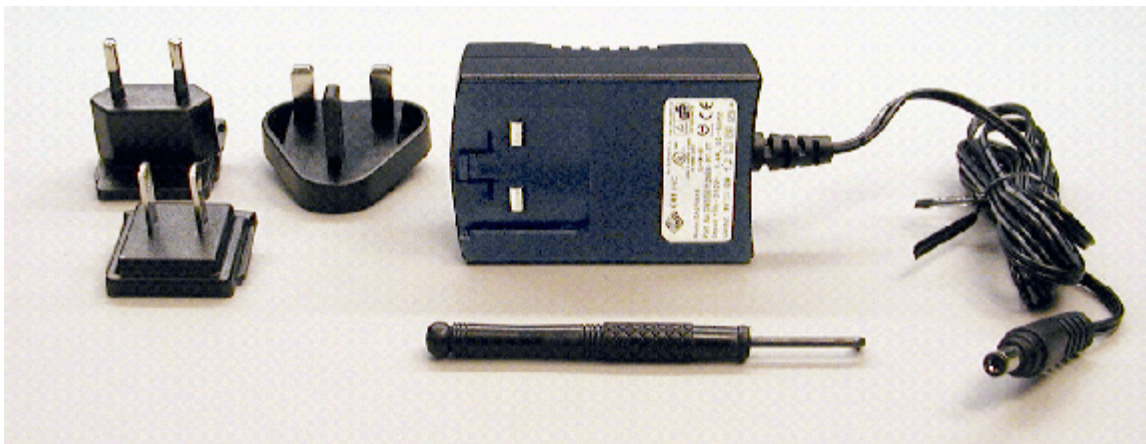

Figure 7. Universal 5 V DC Power Supply Plug

Follow the steps below to exchange one plug configuration for another:

1. Place the tip of the removal tool into the round hole at the top of the current plug configuration.

2. Press down to disengage the keeper tab and push the plug configuration out of its slot.

3. Select the plug configuration appropriate for your location, and insert it into the slot formerly occupied by the previous plug configuration.

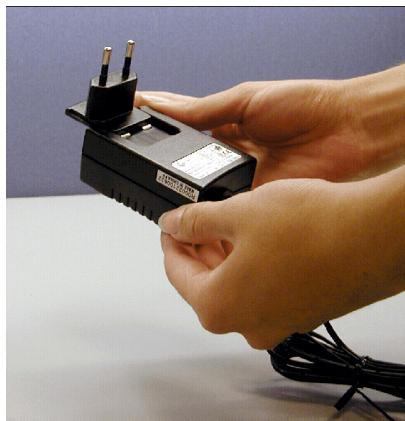4. Push the new plug configuration down until it snaps into place, as displayed in Figure 8 on page 8.

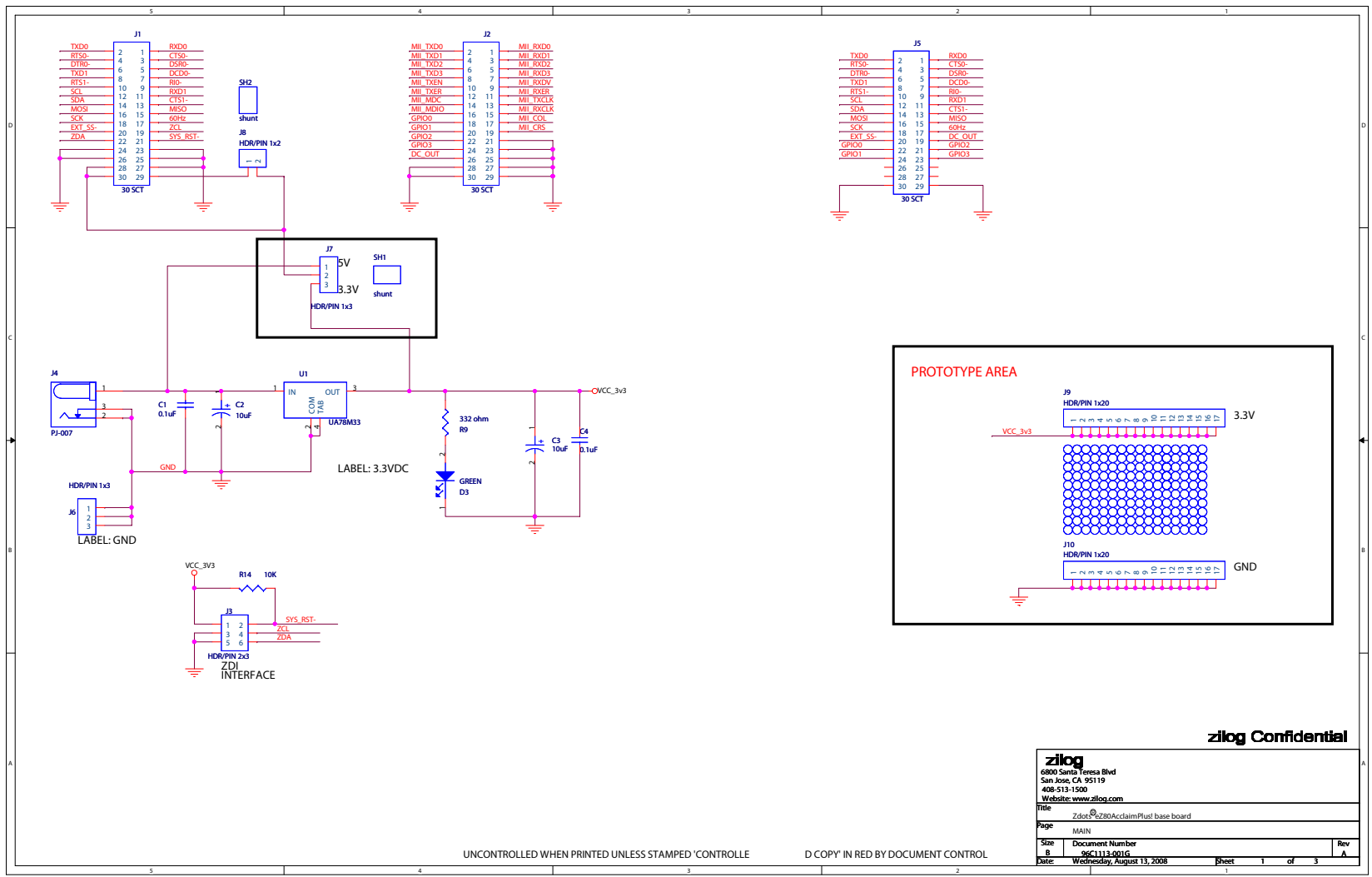**Figure 8. Snapping the New Plug Configuration**

Related Documentation

The documents associated with ZTP, RZK, and eZ80Acclaim*Plus!* available for download on www.zilog.com are provided below:

- Zilog Full-Feature TCP/IP Software Suite Product Brief (PB0154)

- Zilog TCP/IP Software Suite Quick Start Guide (QS0049)

- Zilog TCP/IP Software Suite Programmer's Guide (RM0041)

- Zilog TCP/IP Stack API Reference Manual (RM0040)

- Zilog Real-Time Kernel Product Brief (PB0155)

- Zilog Real-Time Kernel Quick Start Guide (QS0048)

- Zilog Real-Time Kernel Reference Manual (RM0006)

- Wireless Zdots® Single Board Computer Development Kit Quick Start Guide (QS0075)

- eZ80Acclaim*Plus!*™ Wireless Zdots® Single Board Computer Product Specification (PS0280)

Schematics

Figure 9 displays Base Board Schematics.

Figure 9. Base Board Schematics

Customer Support

For answers to technical questions about the product, documentation, or any other issues with Zilog's offerings, please visit Zilog's Knowledge Base at http://www.zilog.com/kb.

For any comments, detail technical questions, or reporting problems, please visit Zilog's Technical Support at http://support.zilog.com.

⚠️ **Warning:** DO NOT USE IN LIFE SUPPORT

LIFE SUPPORT POLICY

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As used herein

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