AVR462: Reducing the Power Consumption of the AT90EIT1 – AVR Embedded Internet Toolkit.

AVR®

Embedded Internet Toolkit

Application Note

The Embedded Internet Toolkit circuit board is known to become very hot during extended operation. This is due to heat dissipation into the board from the voltage regulator and the Cirrus Logic ethernet device. By performing this upgrade, power consumption of the ethernet device can be reduced, thereby lowering the operating temperature of the board.

Required Parts

- No additional parts are required.

Required Tools

- ESD-safe workstation
- A good soldering iron
- Desolder wick
- Fine pliers

Work Description

This work must only take place on an ESD-safe workstation. The AT90EIT1 board contains ESD sensitive components that may be damaged if not handled correctly.

Disconnect the power and ethernet cables from the board, and any other IO connections.

Place the board such that the AVR Embedded Web Server text is correcly oriented.

Locate the area inbetween the Crystal LAN CS8900A-CG device and the ATmega103 device.

Identify the two surface mount resistors immediately to the right of the CS8900A-CQ device. These two resistors are oriented along the top-bottom axis of the AT90EIT1 board. (Resistors R41 and R43 on the EIT schematic diagram, connected to pins 33 and 34 of the CS8900A-CQ.) See Figure 1 below for assistance.

Using the soldering iron and desolder wick, remove the solder from the resistors, and carefully remove them from the board.

Check that no solder has been placed on the surrounding devices' pins, which may cause short circuits.

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Figure 1. The Resistors have been Removed from the Position Shown

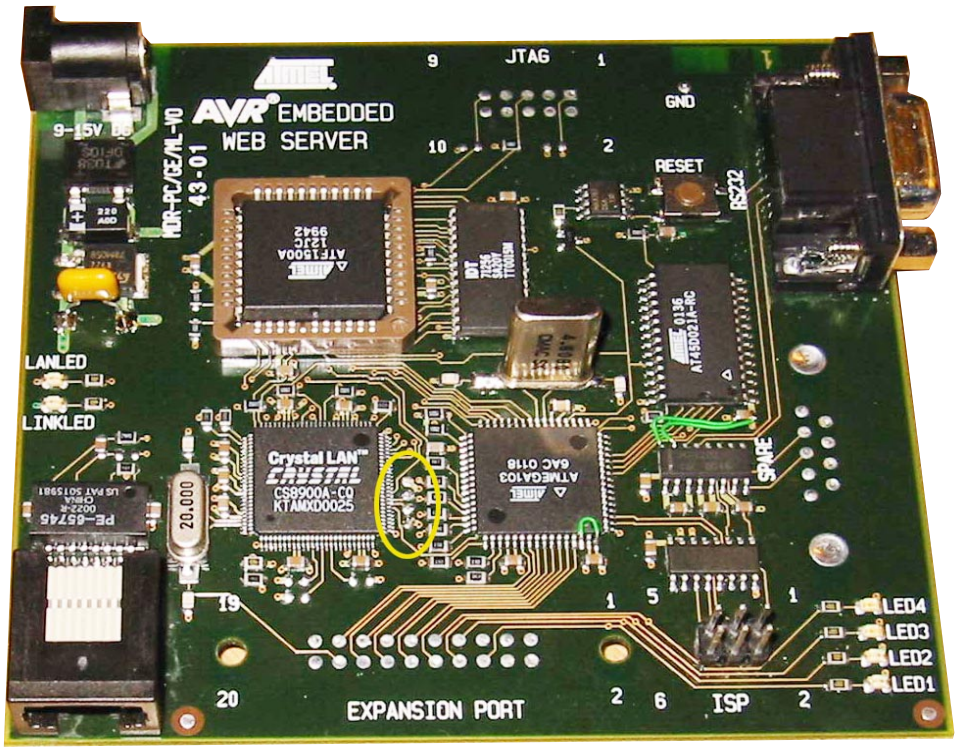
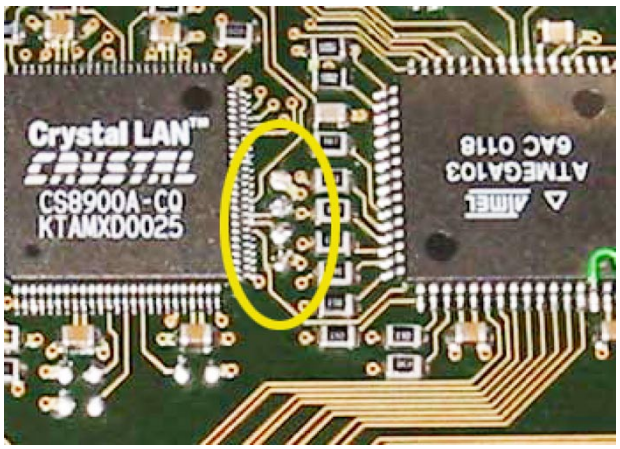


Figure 2. Detail of the Area Concerned



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