



STEVAL-PCC008V1

TFT display demonstration board with Ethernet connectivity based on the STR91

Data brief

Features

- Embedded Ethernet web client based on the STR91 system package
- Board fitted with TFT, microSD card, and keypad
- System pre-programmed
- Can display images from the web
- Includes set of sample images to work with web server
- RoHS compliant

Description

The STEVAL-PCC008V1 demonstration board implements the functionality of an embedded Ethernet web client system, which is based on the STR91xFAW ARM966E-S™ 16/32-Bit Flash MCU with Ethernet microcontroller.

The system is designed to view/monitor JPEG images taken from an HTTP web server or from an IP camera on the network. The images are displayed on the TFT screen, demonstrating the surveillance capability. The system is compatible with web servers which do not require secure socket layer (SSL) support. It uses specific programmed requests to capture images from the specific web servers.

The display is a 2.4" TFT screen which displays images captured from the network by converting them into bitmaps through a JPEG decompression algorithm.

A six-button keypad is provided for navigating through menus.

The availability of a microSD card on the board aids in the handling of large chunks of data from the network.

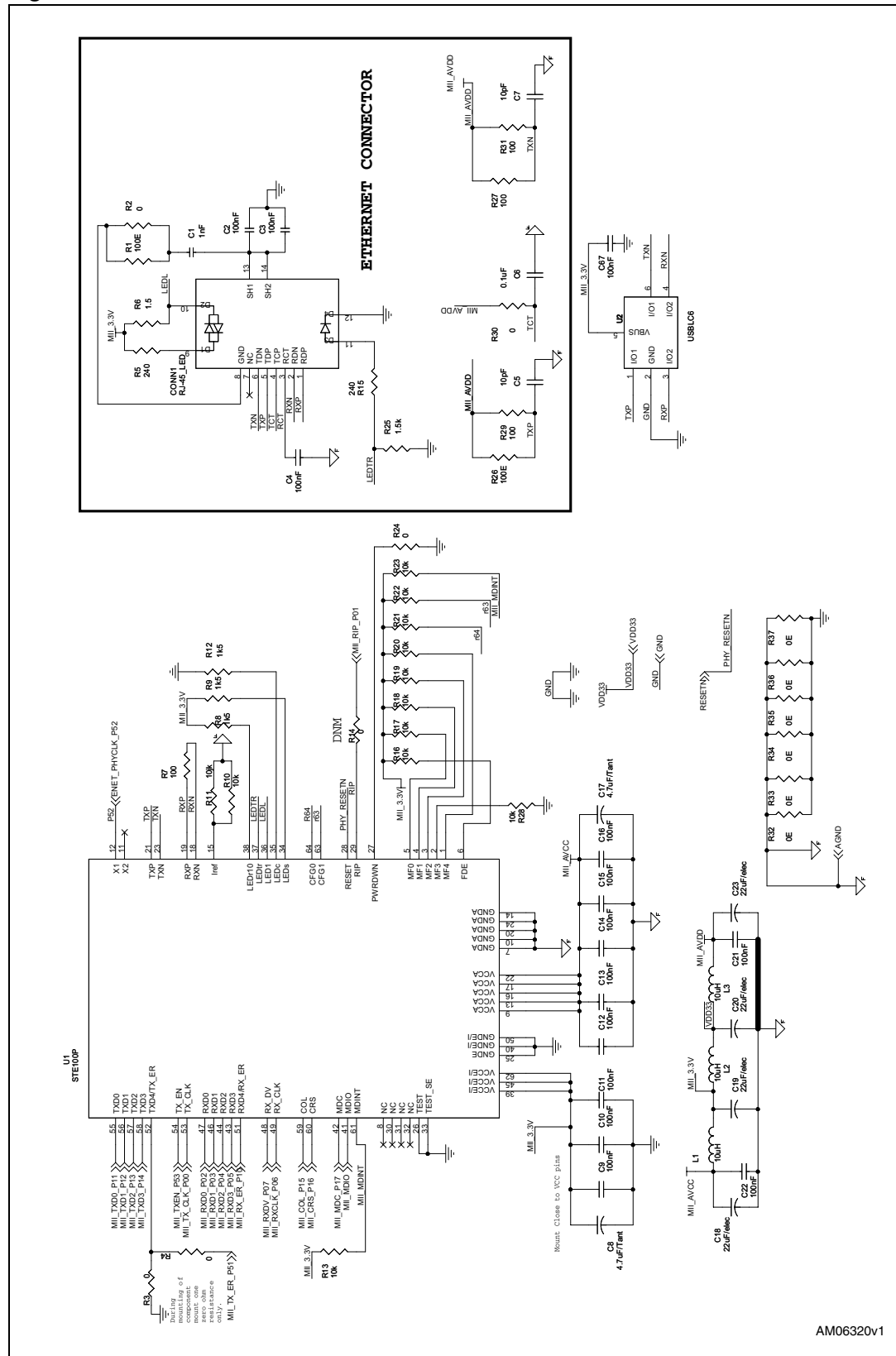


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Figure 1. Microcontroller circuit schematic



Figure 2. Ethernet circuit schematic

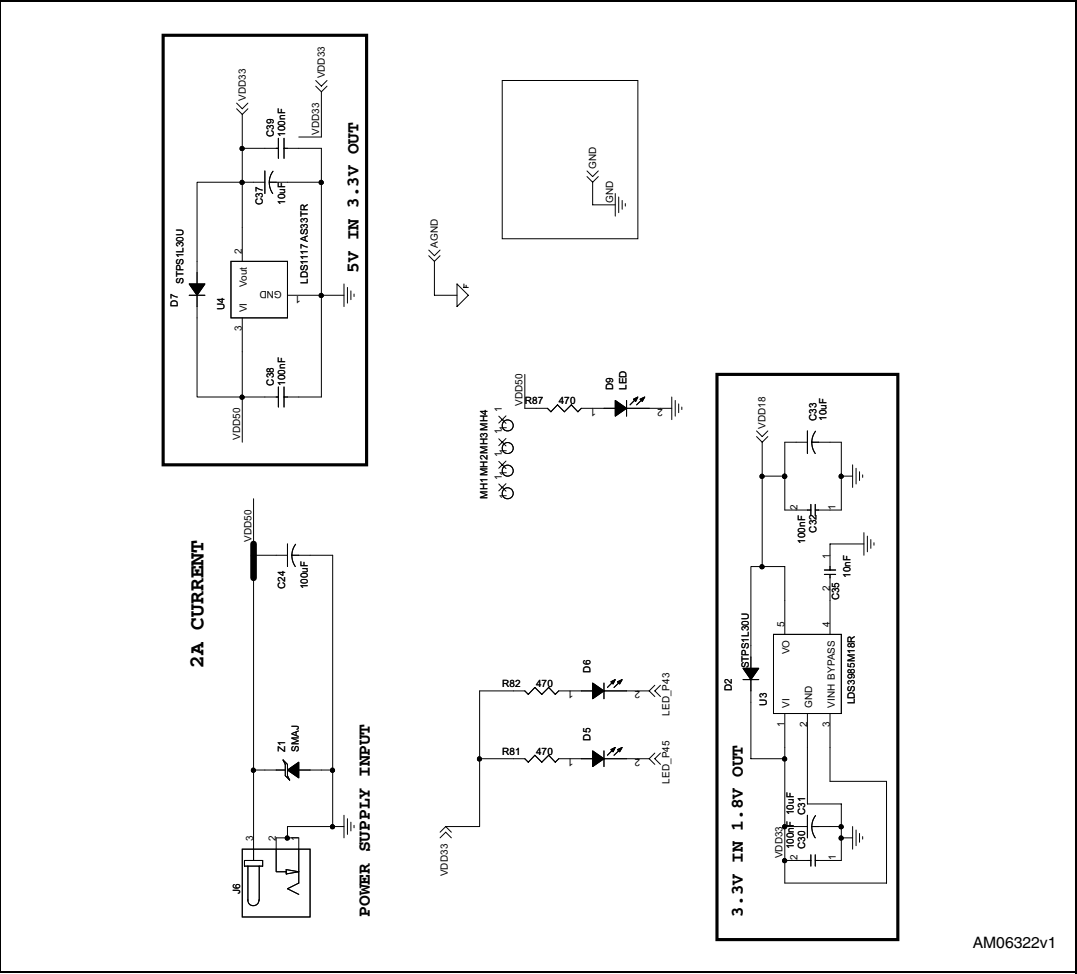


The schematic diagram illustrates the electrical connections for the MB542 TFT Connector. It is divided into three main sections:

- EEPROM:** This section shows the connection of an EEPROM (U10) to the system. The EEPROM's CS pin is connected to VDD33 through a 100nF capacitor (C69) and a 4.7k resistor (R108). The DATA_IN pin is connected to the DATA_OUT pin of the MMC_CON uSD connector (J16) through a 100k resistor (R109). The DATA_OUT pin is connected to the DATA_IN pin of the MMC_CON uSD connector (J16) through a 100k resistor (R110). The VDD33 pin is connected to VDD33 through a 100nF capacitor (C71) and a 4.7k resistor (R112). The GND pin is connected to GND through a 4.7k resistor (R113).
- Zigbee Module:** This section shows the connection of a Zigbee Module (U2) to the system. The module's VDD33 pin is connected to VDD33 through a 100nF capacitor (C25). The module's GND pin is connected to GND. The module's RSTB pin is connected to VDD33 through a 4.7k resistor (R46). The module's INT pin is connected to the INT pin of the KEY BOARD CONNECTOR (J24). The module's SSEL pin is connected to the SSEL pin of the KEY BOARD CONNECTOR (J24). The module's MOSI pin is connected to the MOSI pin of the KEY BOARD CONNECTOR (J24). The module's MISO pin is connected to the MISO pin of the KEY BOARD CONNECTOR (J24). The module's CLK pin is connected to the CLK pin of the KEY BOARD CONNECTOR (J24). The module's SCK pin is connected to the SCK pin of the KEY BOARD CONNECTOR (J24).
- KEY BOARD CONNECTOR:** This section shows the connection of the KEY BOARD CONNECTOR (J24) to the system. The connector's SW_P56 pin is connected to VDD33. The connector's SW_P80 pin is connected to VDD33. The connector's SW_P86 pin is connected to VDD33. The connector's SW_P88 pin is connected to VDD33. The connector's INTPIN_P32 pin is connected to the INT pin of the KEY BOARD CONNECTOR (J24). The connector's TFT_TRST_P40 pin is connected to the TFT_TRST pin of the KEY BOARD CONNECTOR (J24).

The diagram also includes a section for the MB542 TFT Connector, which shows the connection of the TFT module to the system. The module's VDD33 pin is connected to VDD33 through a 100nF capacitor (C71) and a 4.7k resistor (R112). The module's GND pin is connected to GND through a 4.7k resistor (R113). The module's RSTB pin is connected to VDD33 through a 4.7k resistor (R114). The module's INT pin is connected to the INT pin of the KEY BOARD CONNECTOR (J24). The module's SSEL pin is connected to the SSEL pin of the KEY BOARD CONNECTOR (J24). The module's MOSI pin is connected to the MOSI pin of the KEY BOARD CONNECTOR (J24). The module's MISO pin is connected to the MISO pin of the KEY BOARD CONNECTOR (J24). The module's CLK pin is connected to the CLK pin of the KEY BOARD CONNECTOR (J24). The module's SCK pin is connected to the SCK pin of the KEY BOARD CONNECTOR (J24).

Figure 4. Power management circuit schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
05-Mar-2010	1	Initial release.

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