



STEVAL-CDE001V1

Embedded web server based on the ST72F321M9 microcontroller

Data Brief

Features

- Provides temperature measurements in the range of -55 °C to 150 °C
- Ethernet interface to the webpage based temperature display on computer terminal
- 2x16 dot matrix interface LCD module
- Switches are provided for user interface
- 10 pin ICC programming/debugging connector
- SCI interface for testing purposes
- 1 Mbyte serial Flash for storage of webpages having larger memory requirements

Description

This evaluation board is able to offer a temperature display via LCD on the board and on a webpage via Ethernet connection. The board acts as a server to provide temperature information on a webpage displayed on the client end. It is also able to measure the temperature from a remote region and send it to a computer unit and then provides the solution for central server-based temperature measurement of various terminals as in applications such as air conditioning control in the industrial sector and hospitals.



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1 Circuit schematic

Figure 1. Microcontroller

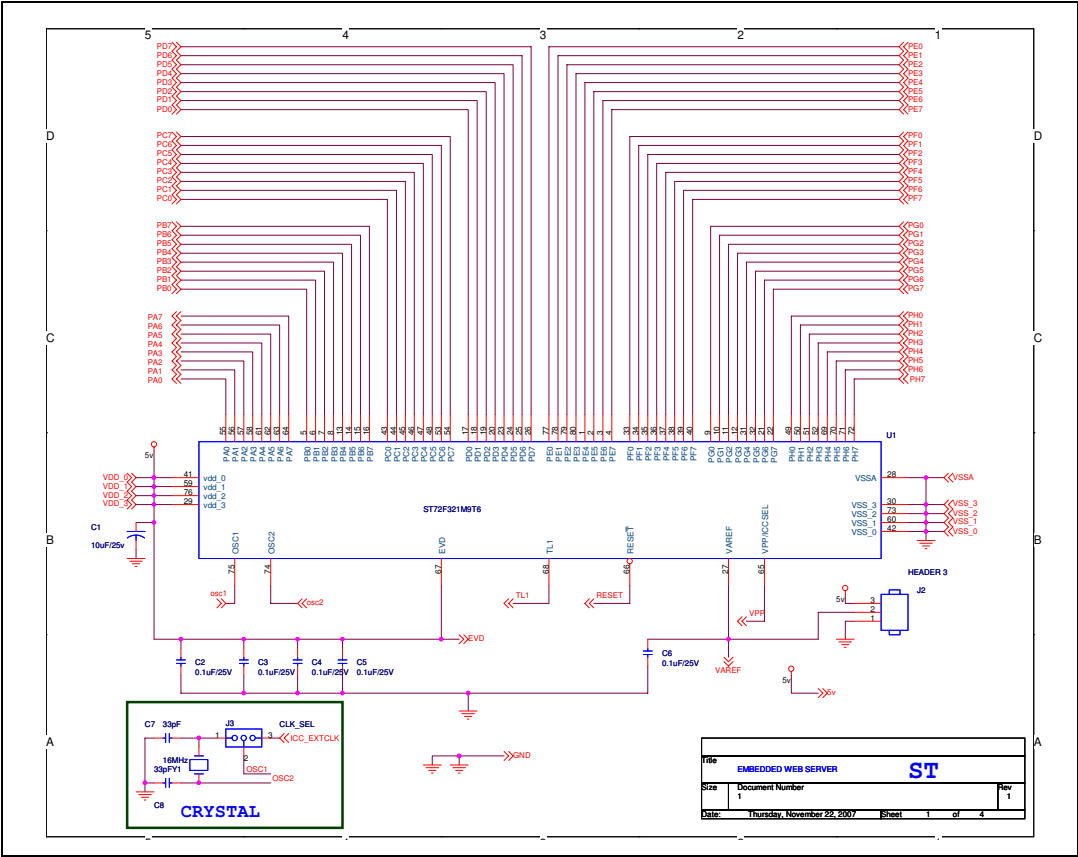
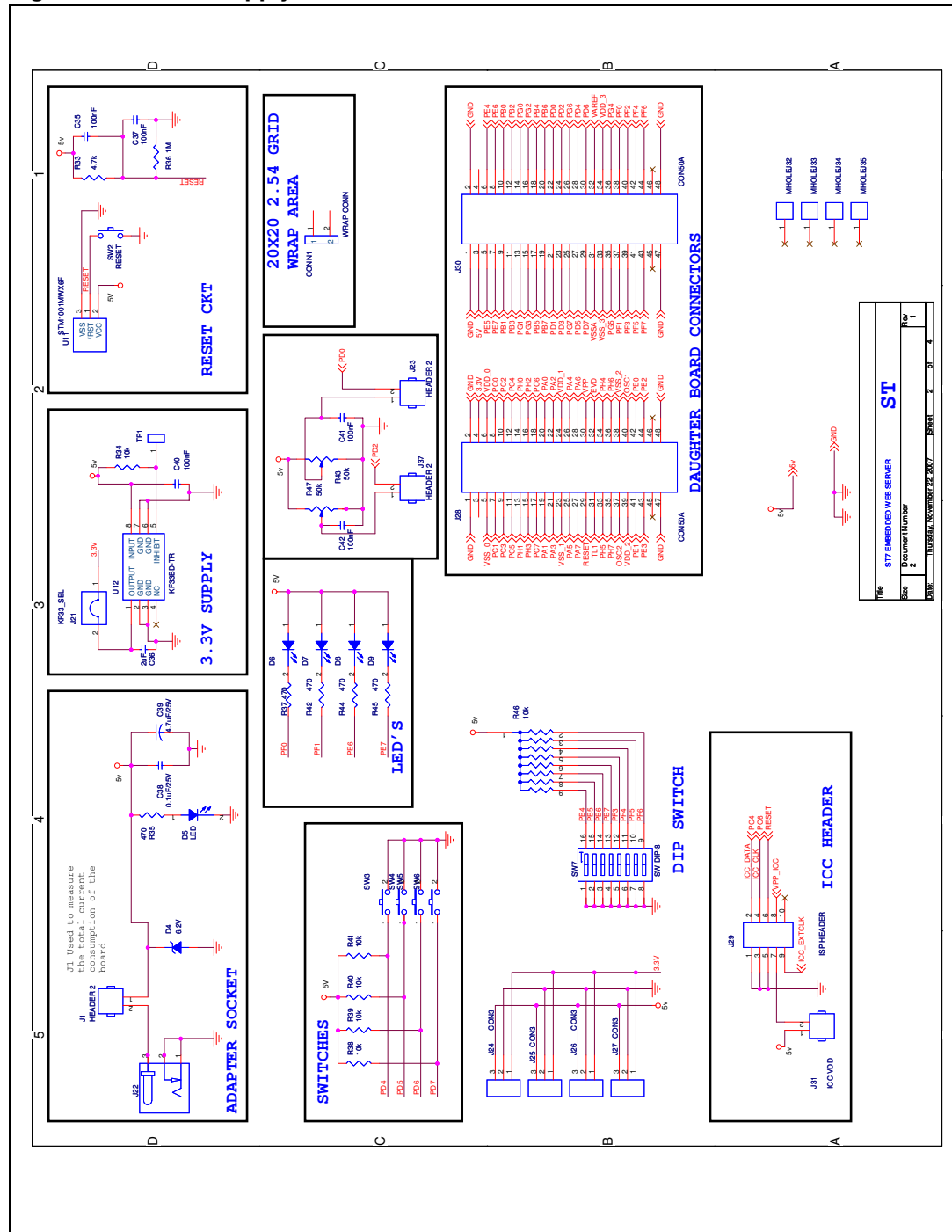


Figure 2. Power supply



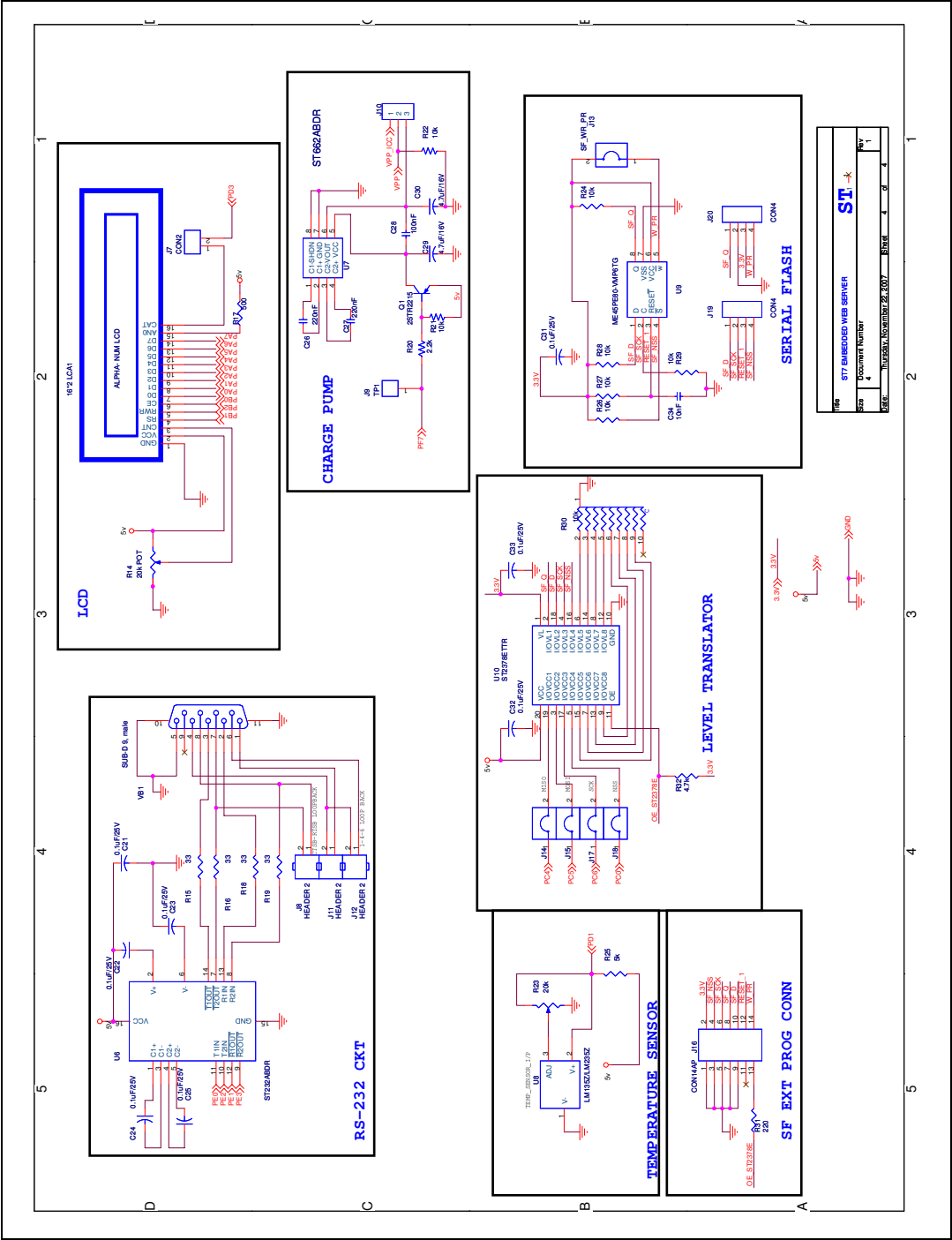
The schematic shows a complex PCB design for an STM32F103C8T6 microcontroller. The board includes several key components and sections:

- Microcontroller (U1):** STM32F103C8T6, located at the center.
- Clock Source (U2):** 20MHz XUC08UC14 CRYSTAL, providing the system clock.
- EEPROM (U4):** M25P10-WMNTPW, connected via SPI bus.
- Ethernet Interface (U5):** RJ-45 TABOO CONN ETHERNET I/O module.
- USB-to-UART Bridge (U3):** RTL8019AS, facilitating communication between the microcontroller and a PC.
- Power Management:** Multiple decoupling capacitors (C1-C19) and a 5V regulator section.
- Indicators:** Three LEDs (D1, D2, D3) for status indication.
- Connectors:** J1 (USB), J2 (UART), J3 (Ethernet), J4 (SPI), and J5 (HOLD).

The PCB is dimensioned with a grid from 1 to 5 horizontally and A to D vertically. Various labels like "R1 10k", "R2 470", "R3 470", etc., specify component values. The bottom right corner contains a title block with the following information:

Title	STM32F103C8T6 WEB SERVER
Doc Number	3
Date	Thursday, November 22, 2007
Sheet	3 of 4
Rev	1

Figure 4. Temperature



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
23-Jan-2008	1	Initial release.

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