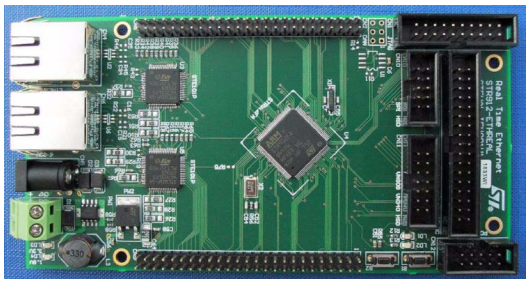
STEVAL-IFW001V1

Real-time Ethernet slave node demonstration board based on the STR912FAW44

Data Brief

Features

- 32-bit STR912FAW44 microcontroller with ARM966E-S™ core running at 96 MHz
- Two fast E-STE101P Ethernet transceivers supporting full duplex communication; available boot configuration settings; up to 32 selectable MII addresses; RJ45 connectors with embedded LEDs
- Two 50-pin header connectors for connecting different on-hook extensions with real-time IP featuring: three MIIs (medium independent interface), EMI (external memory interface), UART, I2C, SPI, external interrupts, 1.8 V, 3.3 V and GND pins
- Connectors for interfacing with industrial I/O cards: CAN, AC MC (motor control), CLT/PCLT (input termination circuit), HSD or SPI HSD (high side driver)
- Power supply using the L5973AD DC-DC converter, and the LF18 for the core supply
- JTAG debug interface connector
- 6 V to 30 V DC power supply voltage range
- One reset and one general-purpose button; two general purpose LEDs



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For Xilinx® Spartan™ FPGA extensions, refer to user manual UM0499 for the STEVAL-IFW002V1 demonstration board. With additional on-board connectors it is possible to connect industrial I/O cards and motor control boards.

Description

This demonstration board based on STR912FAW44 was designed for real-time Ethernet slave communication node evaluation. This board can be daisy chained with others into factory automation field bus systems. The board enables and requires the hooking on of different extensions that fulfill the requirements for different real-time Ethernet protocols on the market (e.i. Powerlink, EtherCAT, and others). For each protocol a special extension, or a programmable extension, must be used. The communication between the board and the extension can be accomplished through MII, EMI, SPI™, I2C™ or UART.

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1 Demonstration board schematic

Figure 1. Connectors, buttons, LEDs and CAN

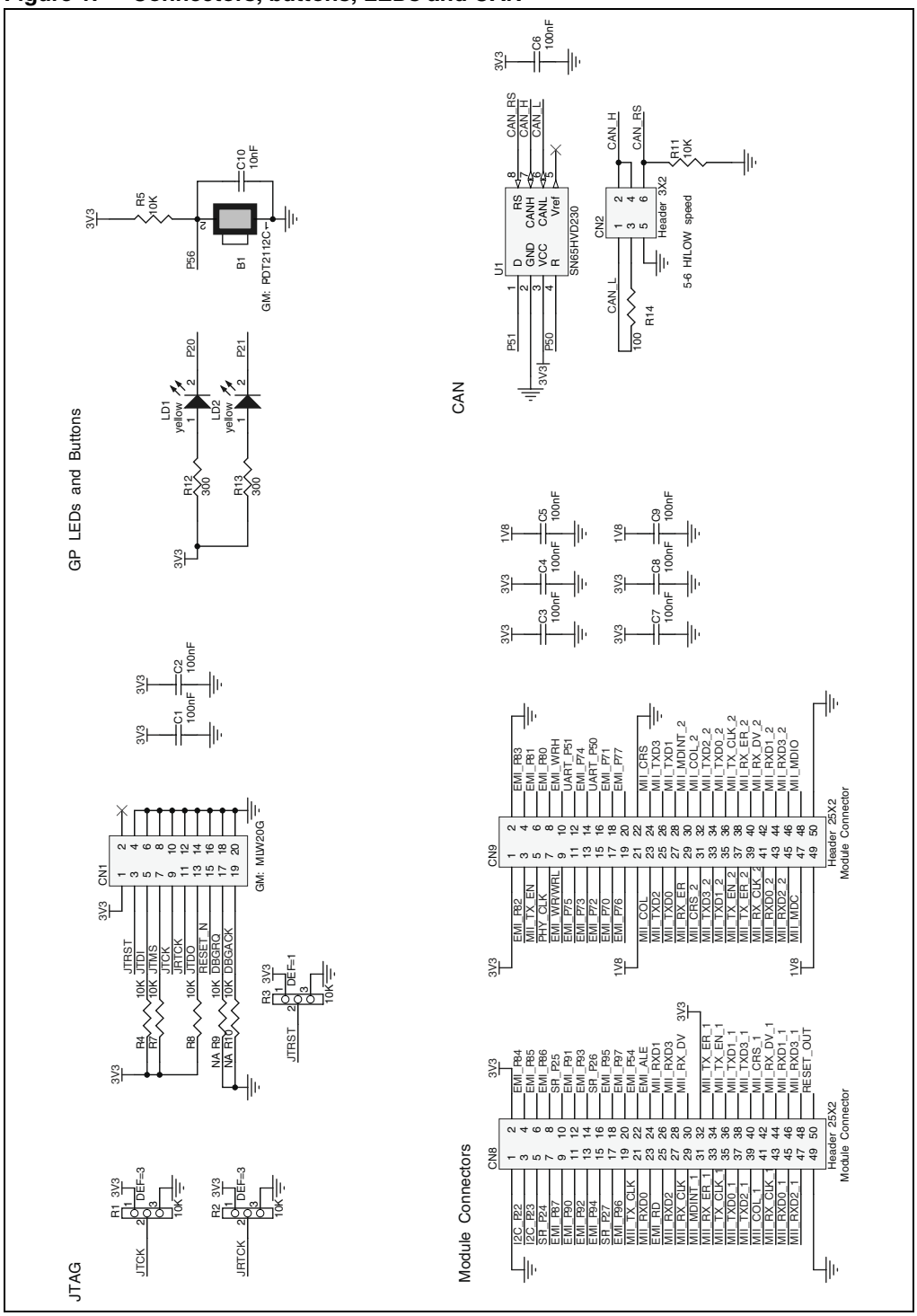

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Figure 2. Control connectors

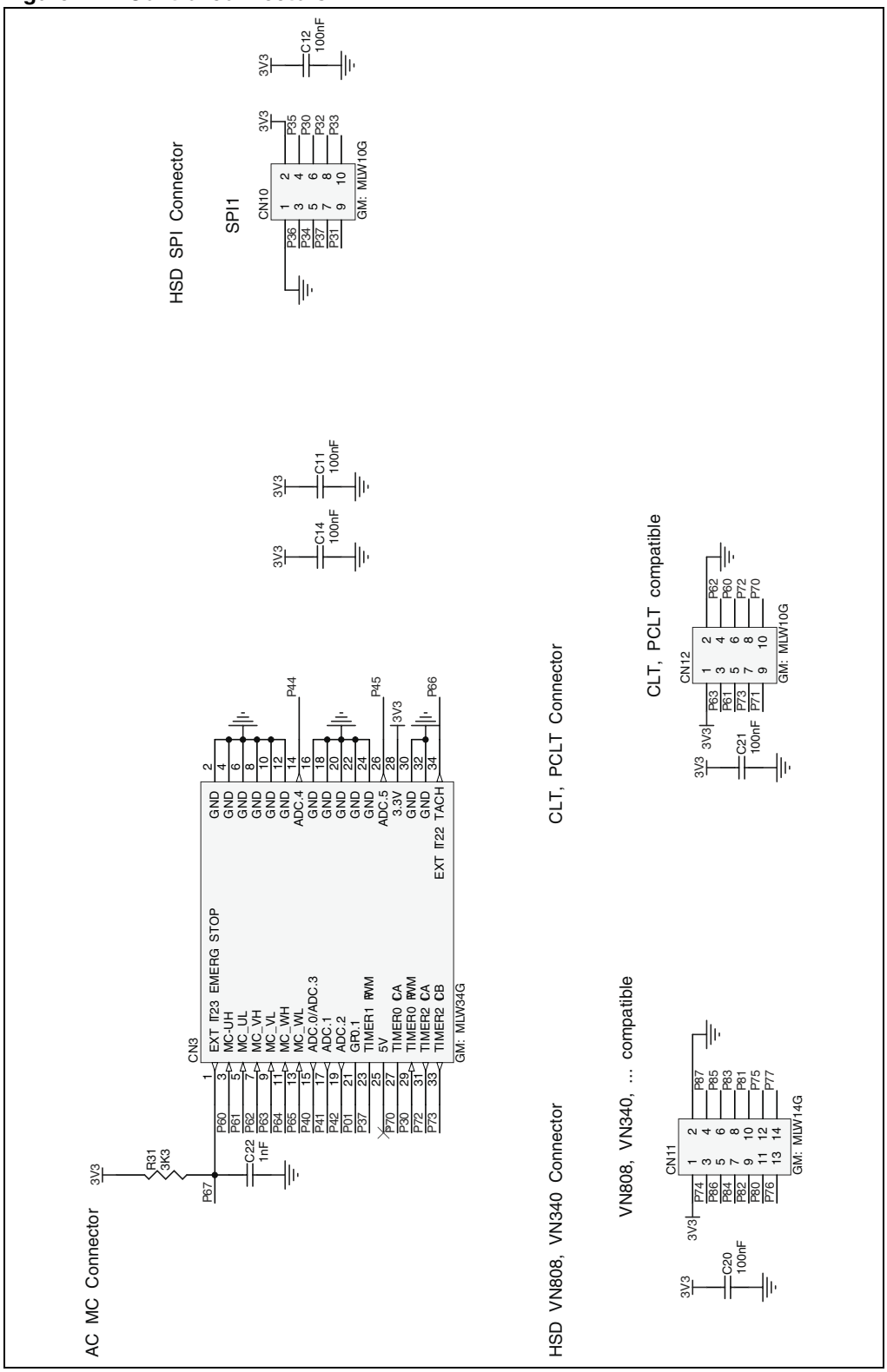

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Figure 3. Ethernet 1

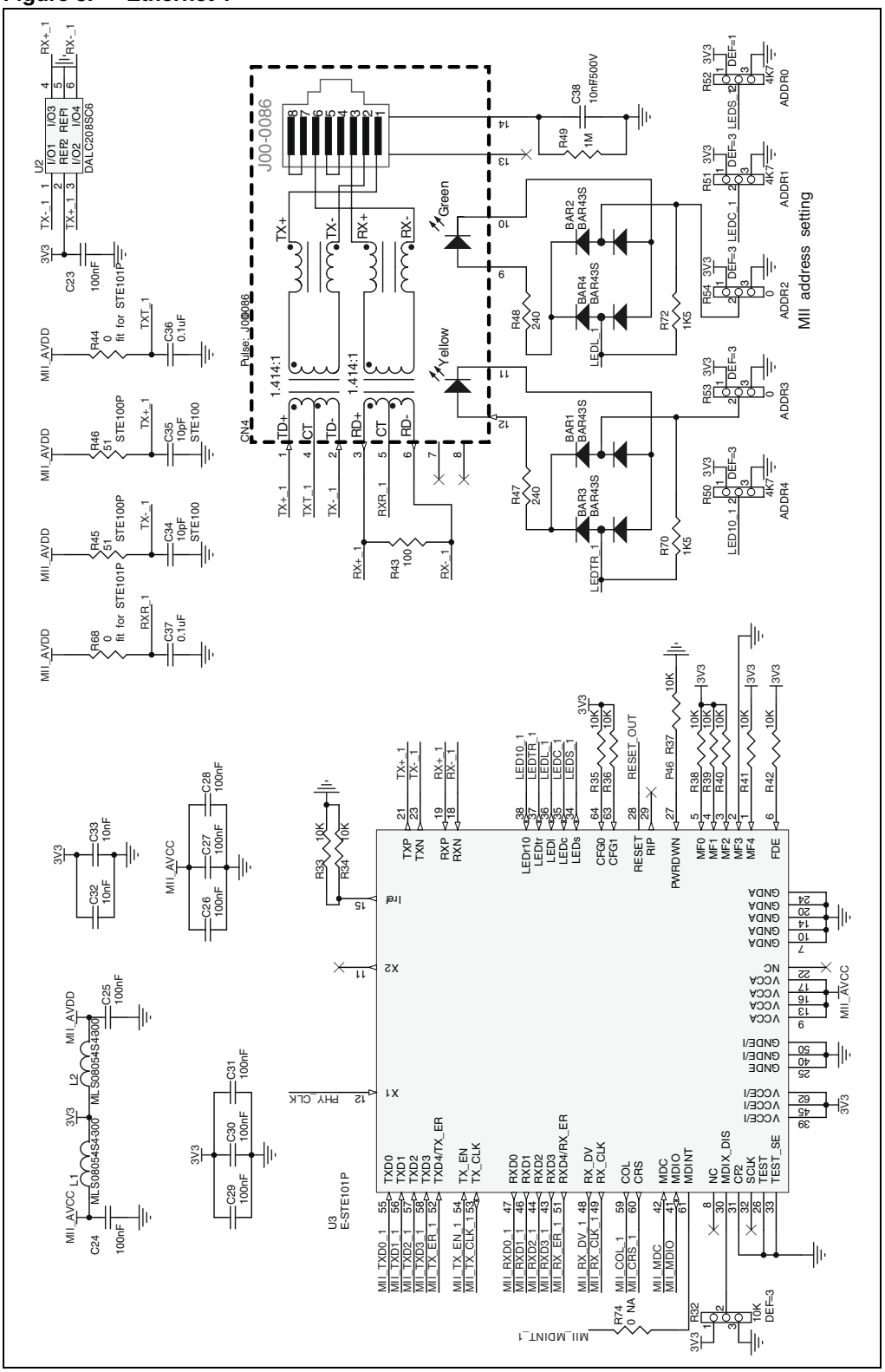

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Figure 4. Ethernet 2

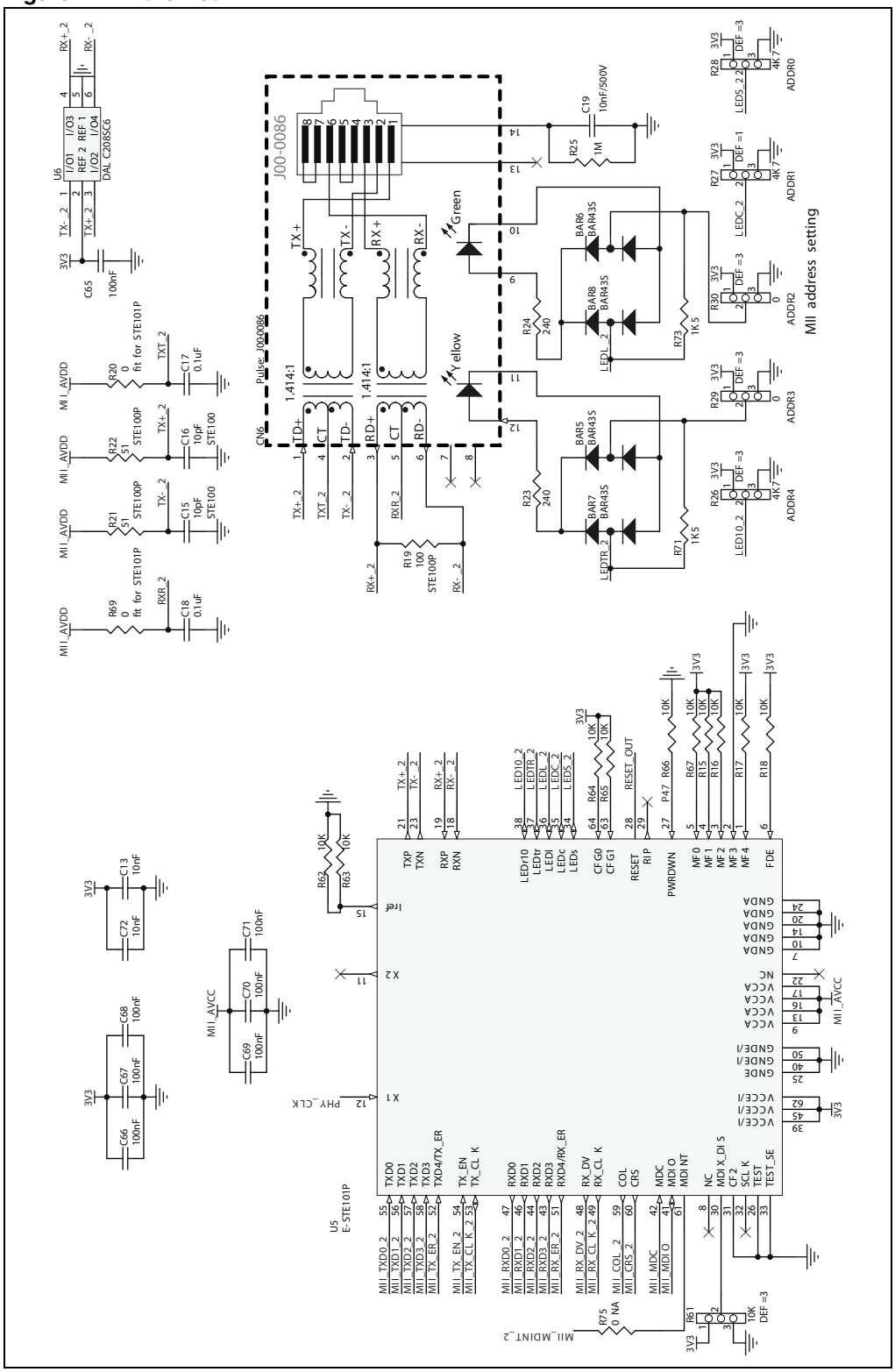

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Figure 5. MCU

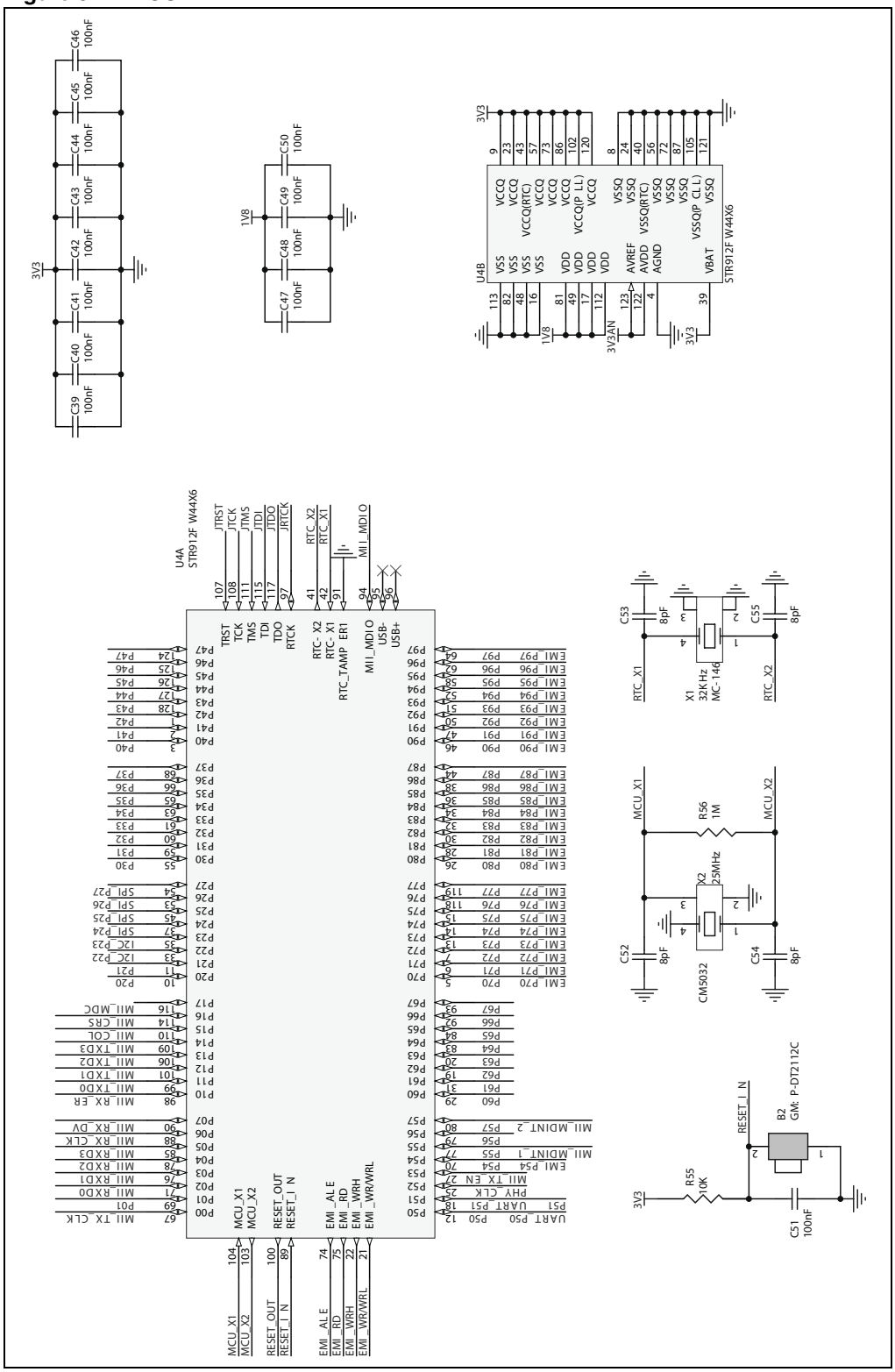

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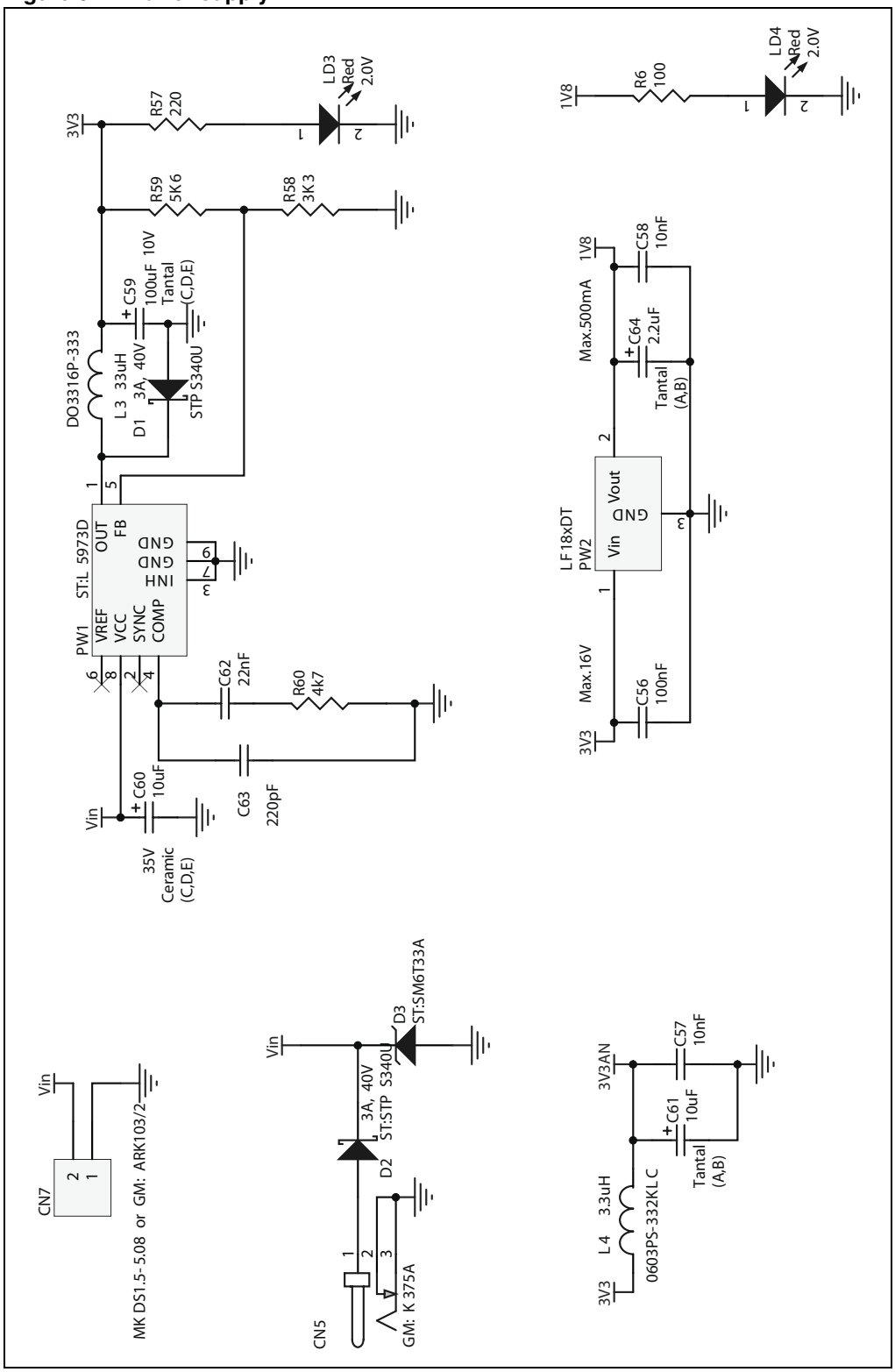
Figure 6. Power supply



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2 Revision history

Table 1. Document revision history

Date	Revision	Changes
01-Sep-2008	1	Initial release.

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