



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

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.



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.

1 Demonstration board schematic

Figure 1. Connectors, buttons, LEDs and CAN

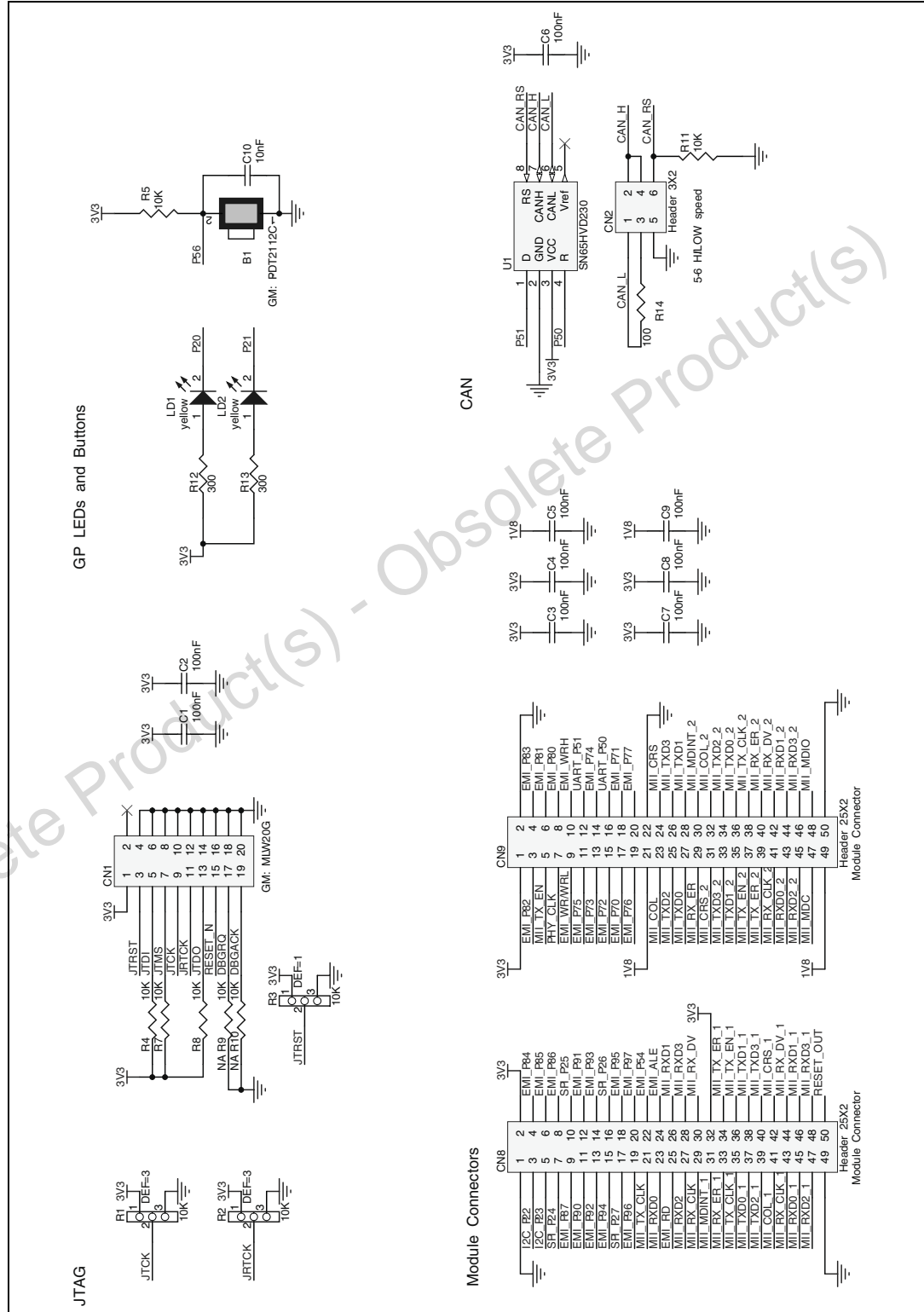


Figure 2. Control connectors

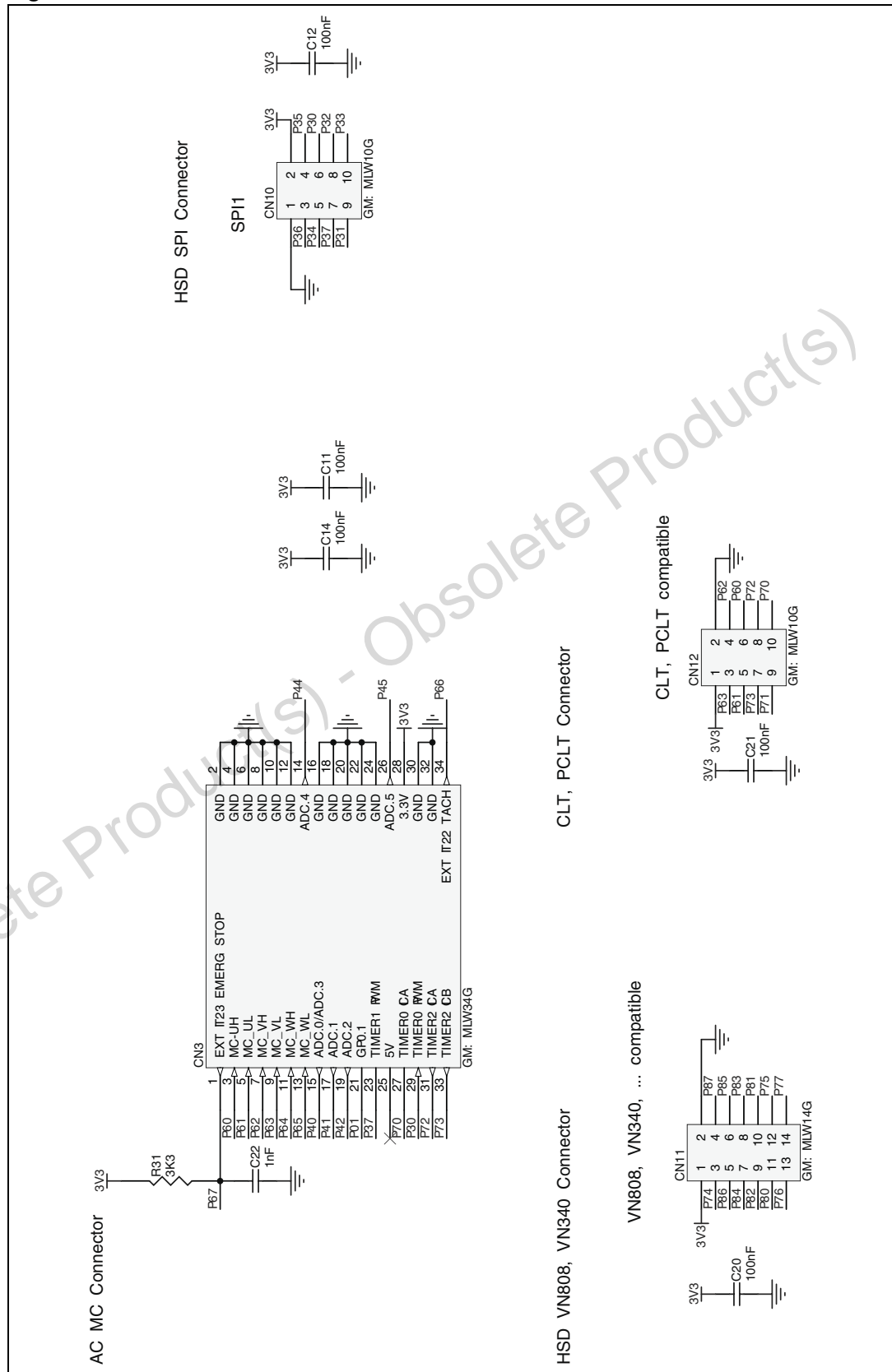


Figure 3. Ethernet 1

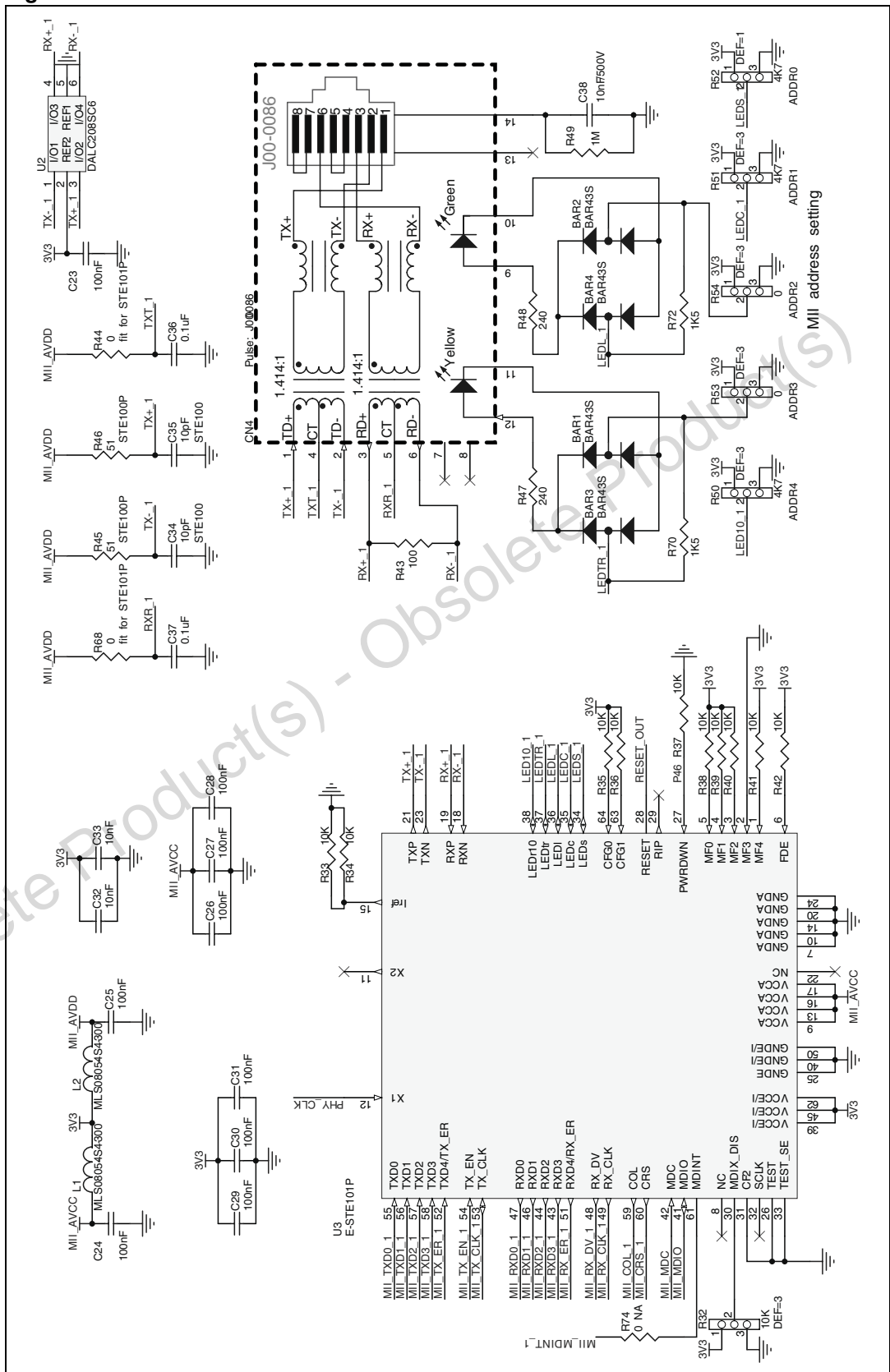


Figure 4. Ethernet 2

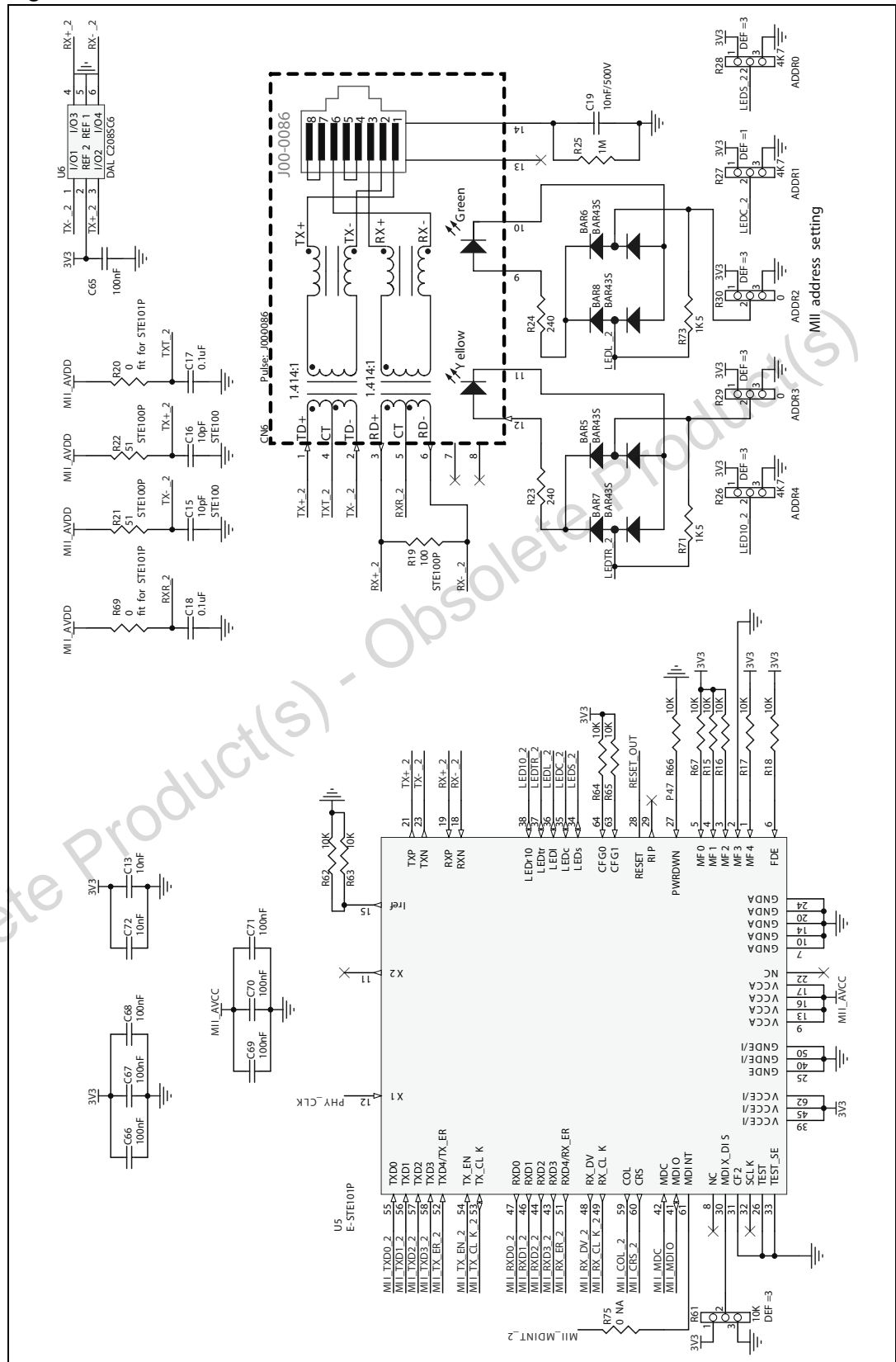


Figure 5. MCU

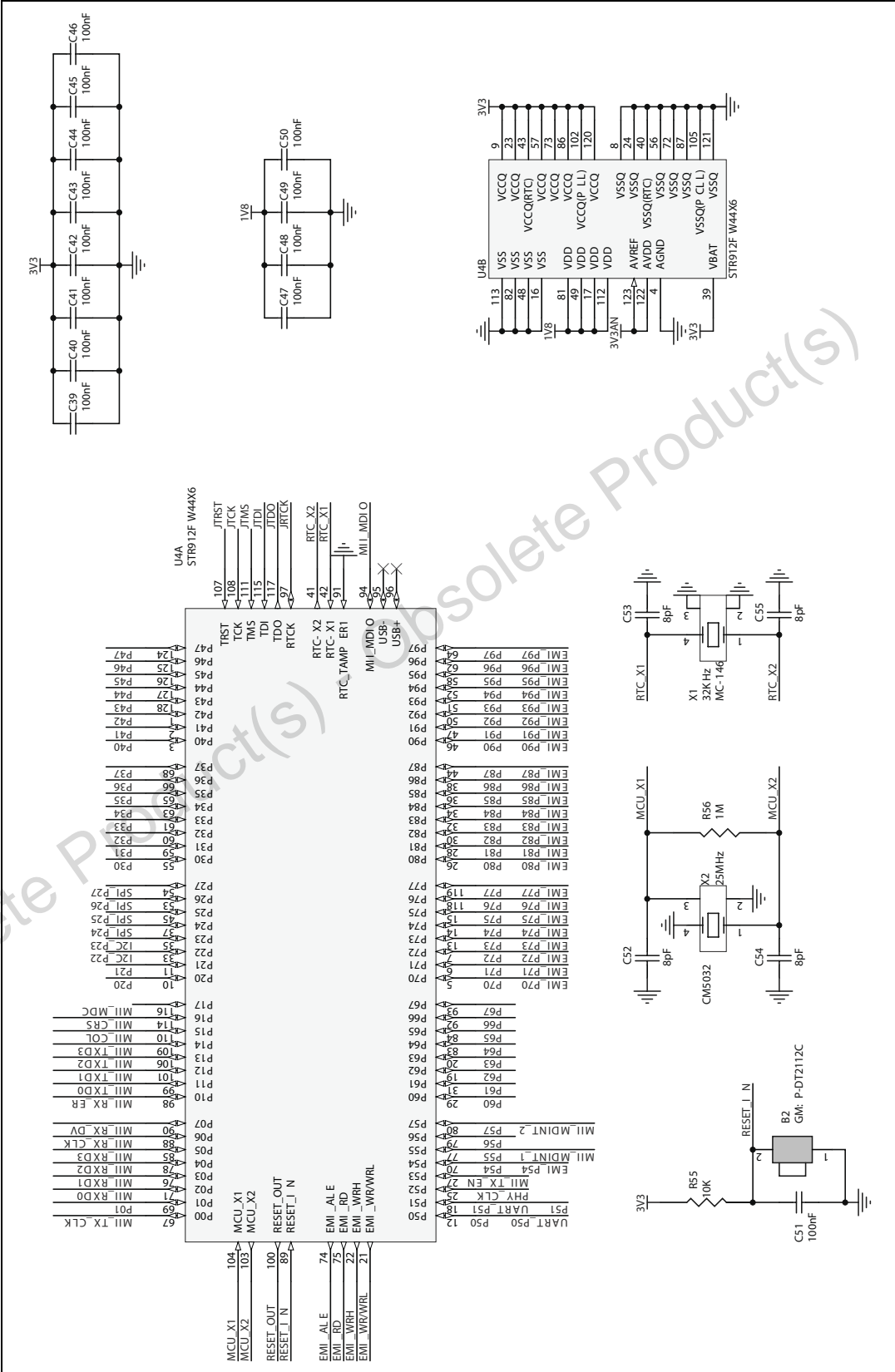
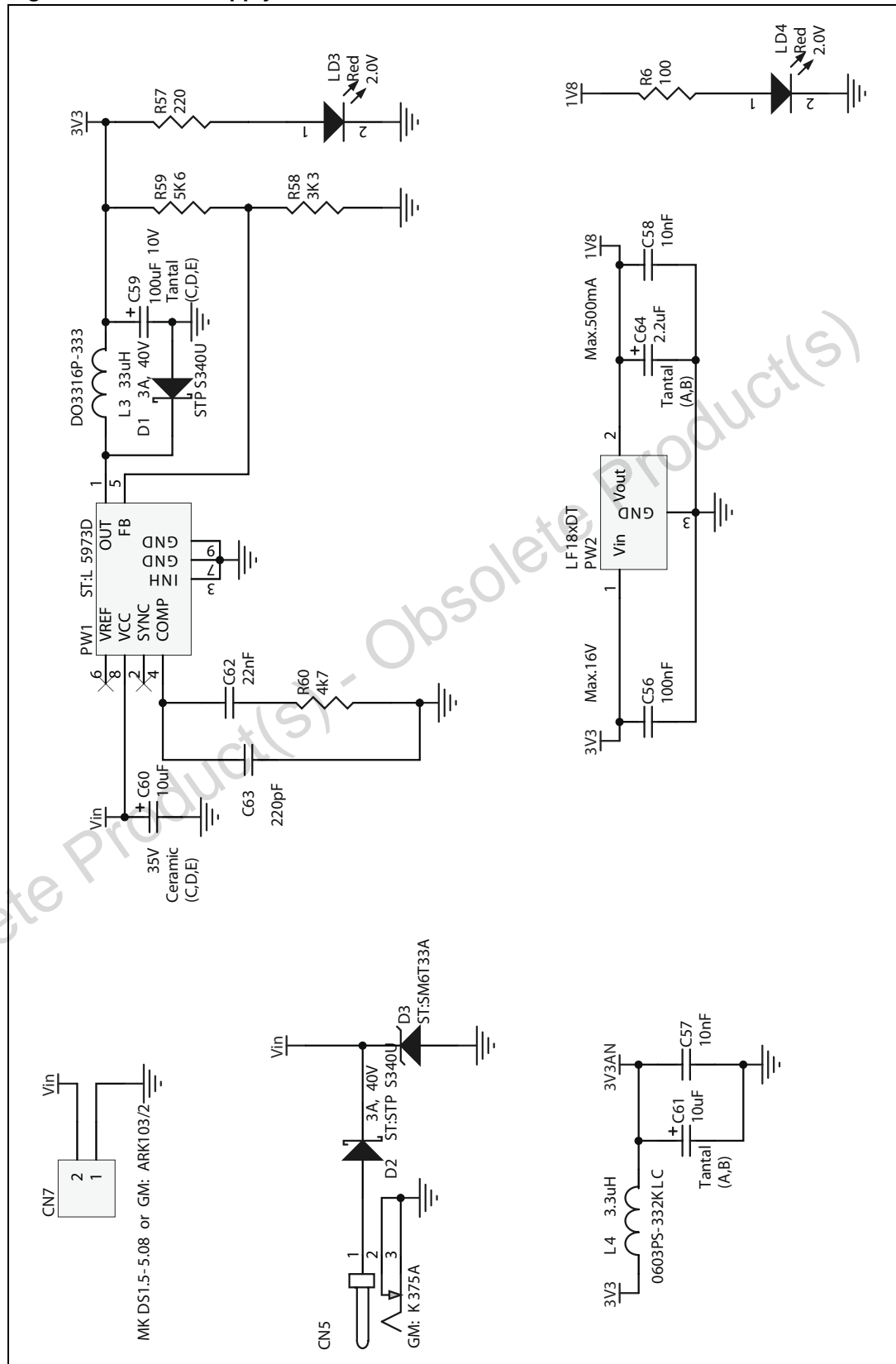


Figure 6. Power supply



2 Revision history

Table 1. Document revision history

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

Obsolete Product(s) - Obsolete Product(s)

Please Read Carefully:

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

UNLESS EXPRESSLY APPROVED IN WRITING BY AN AUTHORIZED ST REPRESENTATIVE, ST PRODUCTS ARE NOT RECOMMENDED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE. ST PRODUCTS WHICH ARE NOT SPECIFIED AS "AUTOMOTIVE GRADE" MAY ONLY BE USED IN AUTOMOTIVE APPLICATIONS AT USER'S OWN RISK.

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2008 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com