

D

Design Goals:

- 7 Port GE switch (5 internal PHYs, 2 external PHYs)
- USB2SMI capability for switch management
- 5V input power
- Sync-E interface drawn out to SMA connectors
- TAI drawn out to SMA connectors
- Support 2wire EEPROM
- 3 available GPIOs brought to LEDs
- One 1000BASE-X SFP interface

D

Changelog (Jan 13, 2011):

- Added connection from 88E1111 COMA pin to GND
- Updated 88E6351 device NC pins
- Updated inductor part numbers on power supplies
-> L11, L5, L9, L10

Table of Contents

| Page No. | Description |
|----------|---|
| 01 | Title page |
| 02 | Block diagram |
| 03 | Switch device interconnections |
| 04 | Switch clock, configuration, & EEPROM |
| 05 | Reset & switch LEDs |
| 06 | Switch Port 0 copper MDI |
| 07 | Switch Port 1 copper MDI |
| 08 | Switch Port 2 copper MDI |
| 09 | Switch Port 3 copper MDI |
| 10 | Switch Port 4 copper MDI |
| 11 | 88E1116R external PHY connection to switch Port 5 via RGMII |
| 12 | 88E1116R Port 5 copper MDI |
| 13 | 88E1111 external PHY connection to switch Port 6 via GMII |
| 14 | 88E1111 Port 6 SFP |
| 15 | SMI CPLD |
| 16 | SMI USB |
| 17 | Power supplies |

B

Designer: Alex Wallace




A

Marvell Confidential

| | | |
|---|-----------------|-----|
| Title | | |
| 88E6351/88E6350/88E6175/88E6171 Development Board | | |
| Size | Document Number | Rev |
| | MV-L100728-00 | 1.1 |


Date: Thursday, May 19, 2011 Sheet 1 of 17



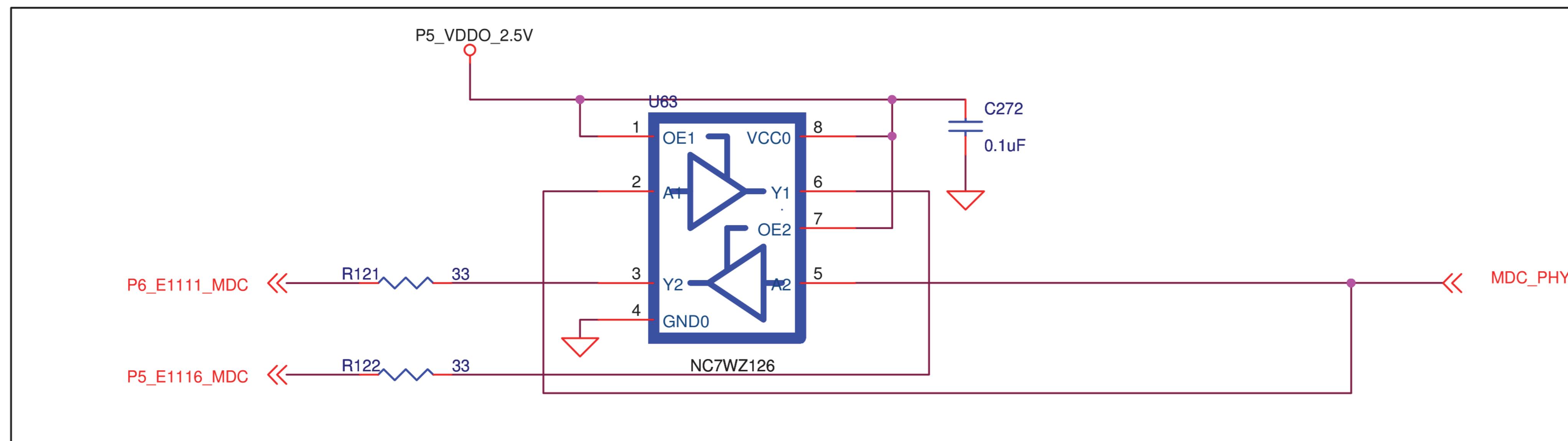
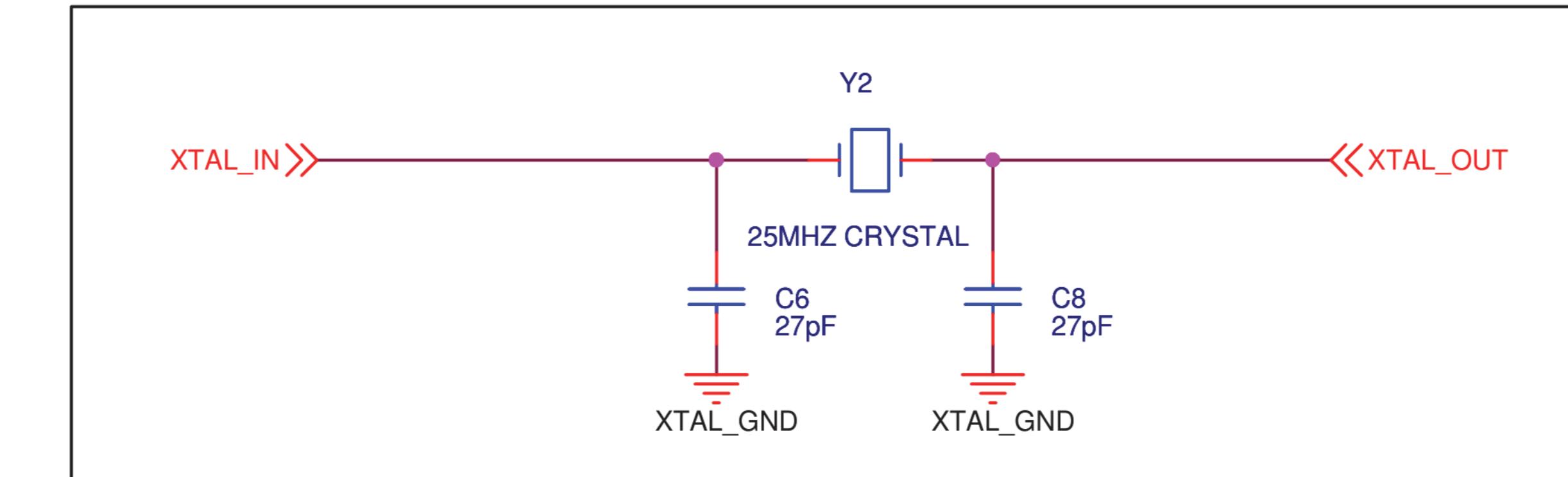
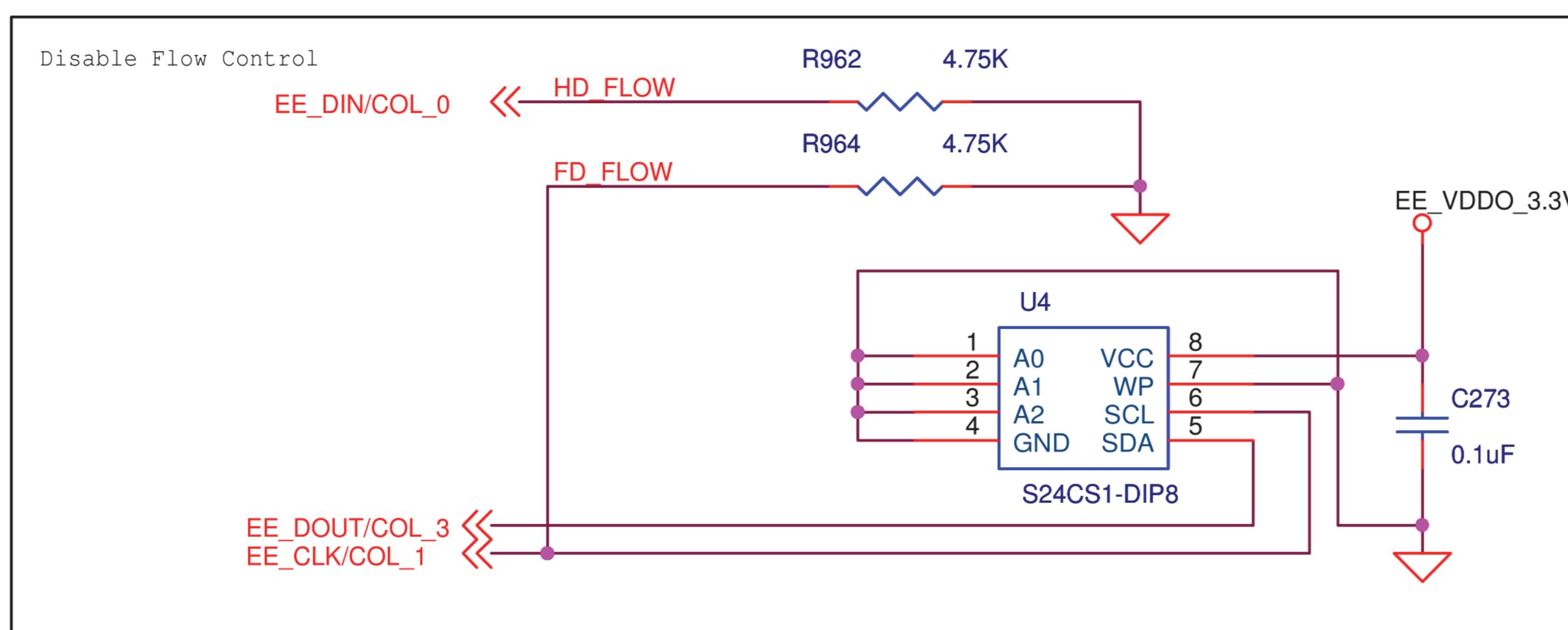
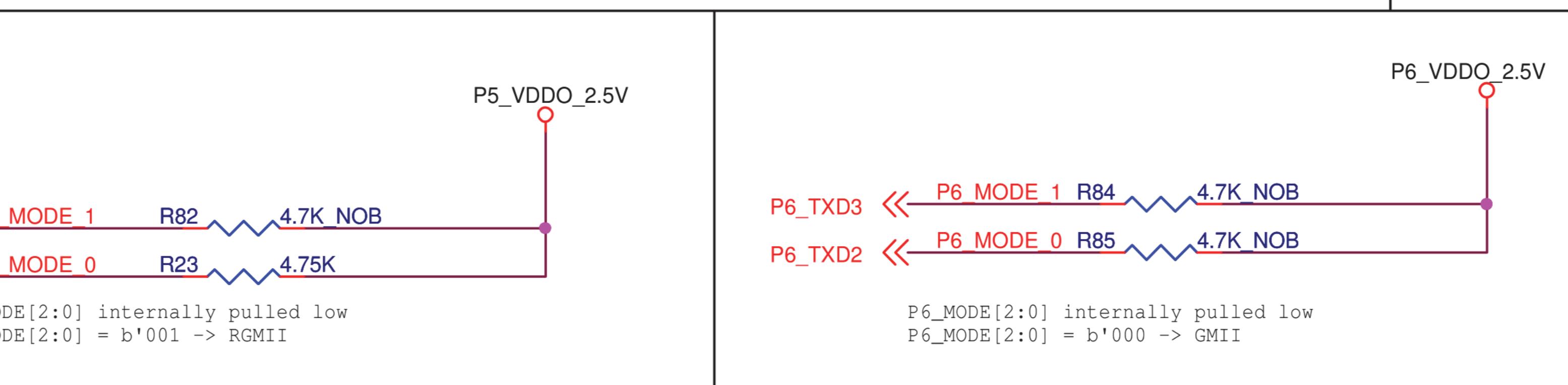
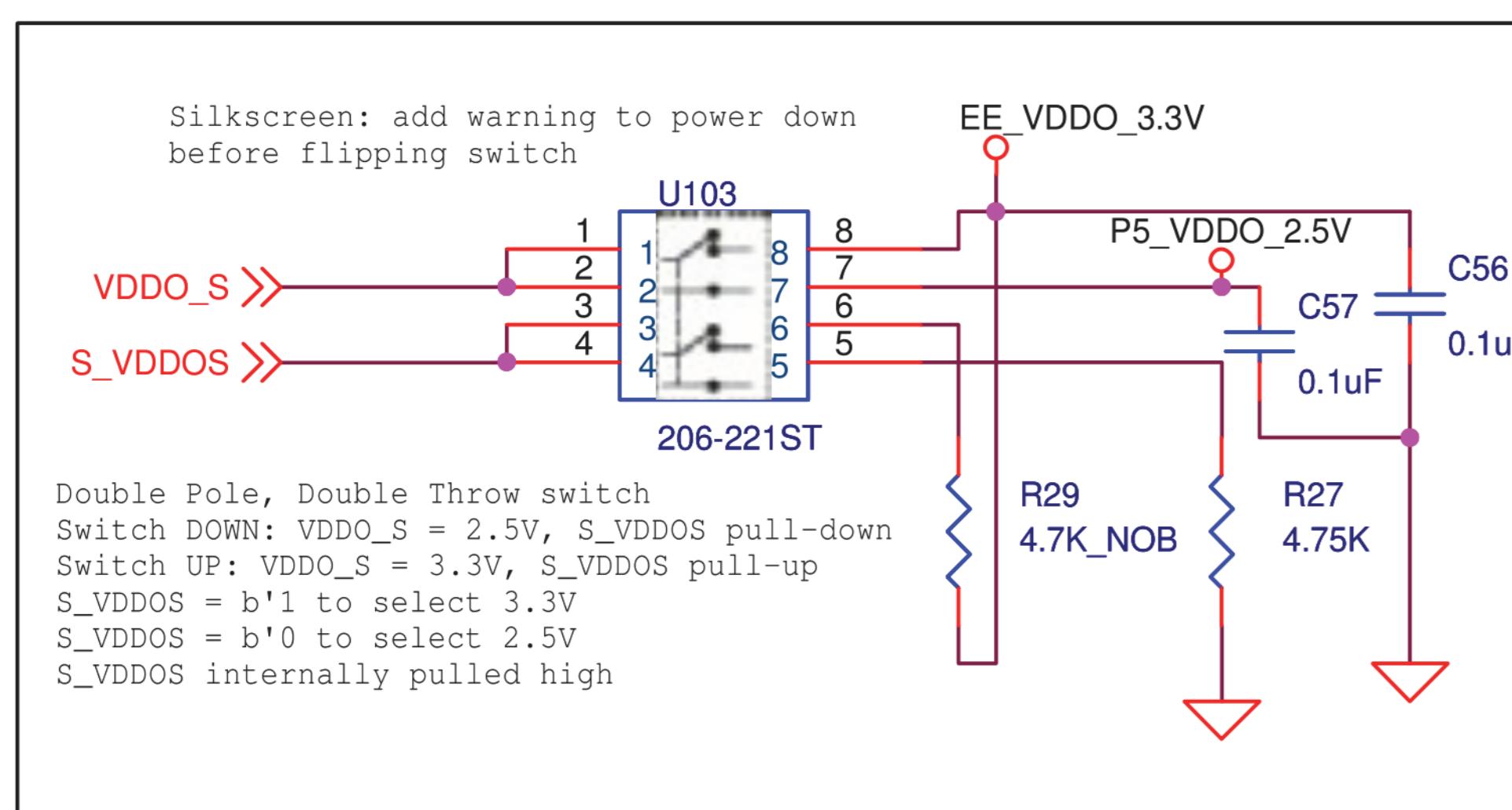
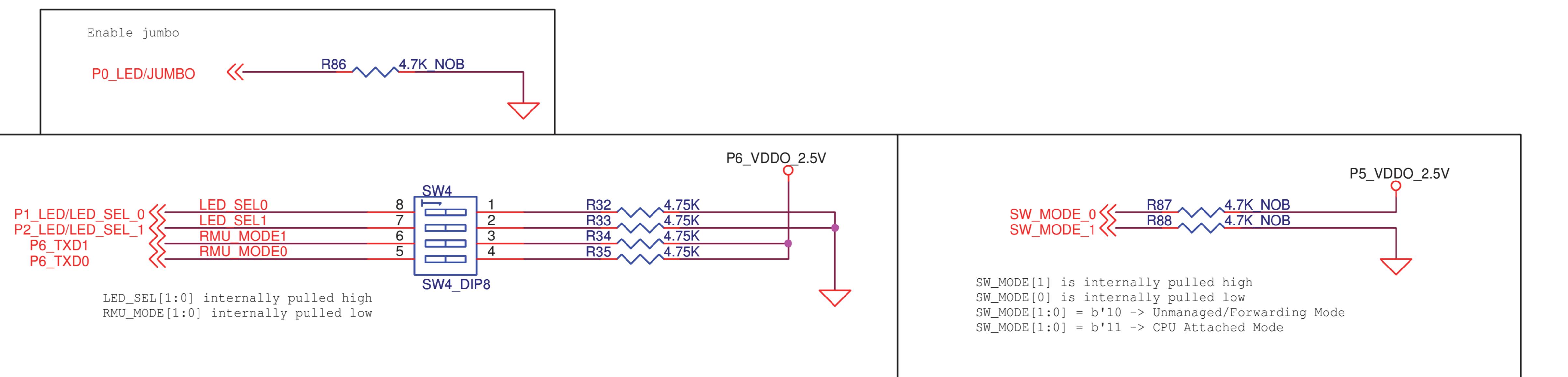
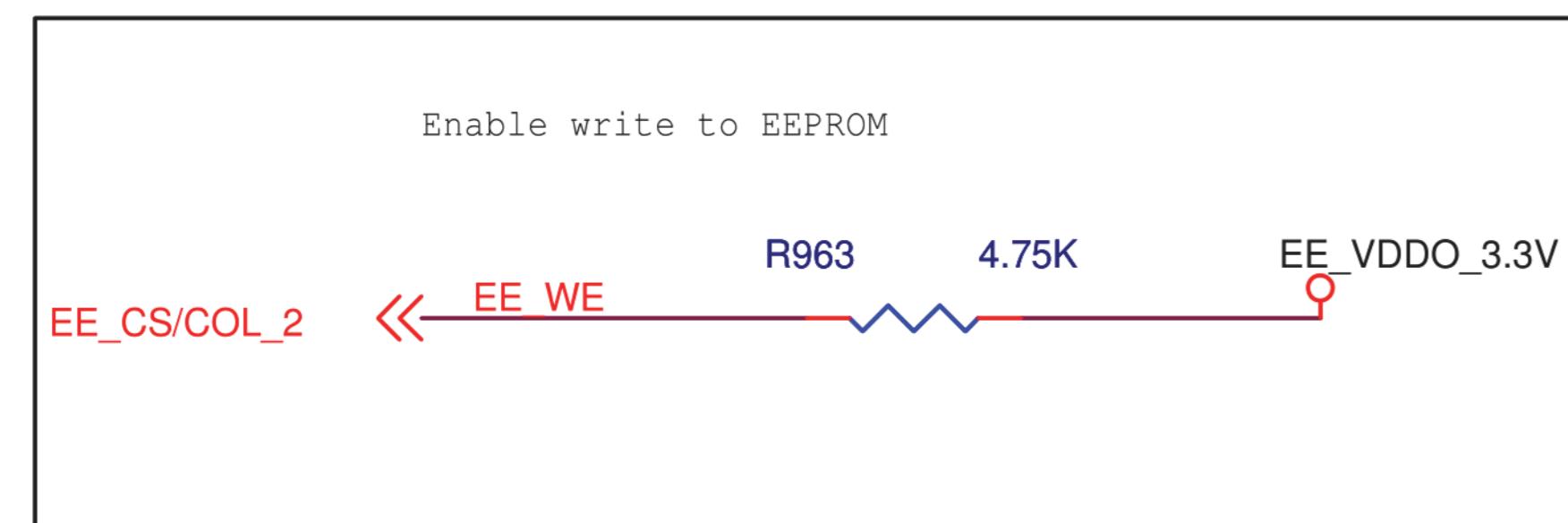
Marvell Confidential

| Title | | |
|---|------------------------|---------------|
| 88E6351/88E6350/88E6175/88E6171 Development Board | | |
| Size | Document Number | Rev |
| | MV-L100728-00 | 1.1 |
| Date: | Thursday, May 19, 2011 | Sheet 2 of 17 |


88E6351 CHIP INTERFACE





88E6351 CLOCK/CONFIG/EEPROM



| Title | | |
|---|------------------------|---------------|
| 88E6351/88E6350/88E6175/88E6171 Development Board | | |
| Size | Document Number | Rev |
| Custom | MV-L100728-00 | 1.1 |
| Date: | Thursday, May 19, 2011 | Sheet 4 of 17 |









| Title | | |
|---|-----------------|-----|
| 88E6351/88E6350/88E6175/88E6171 Development Board | | |
| Size | Document Number | Rev |
| | MV-L100728-00 | 1.1 |

Date: Thursday, May 19, 2011 Sheet 7 of 17




| | | |
|---|-----------------|-----|
| Title | | |
| 88E6351/88E6350/88E6175/88E6171 Development Board | | |
| Size | Document Number | Rev |
| | MV-L100728-00 | 1.1 |

Date: Thursday, May 19, 2011 Sheet 8 of 17



| | | |
|---|-----------------|-----|
| Title | | |
| 88E6351/88E6350/88E6175/88E6171 Development Board | | |
| Size | Document Number | Rev |
| | MV-L100728-00 | 1.1 |

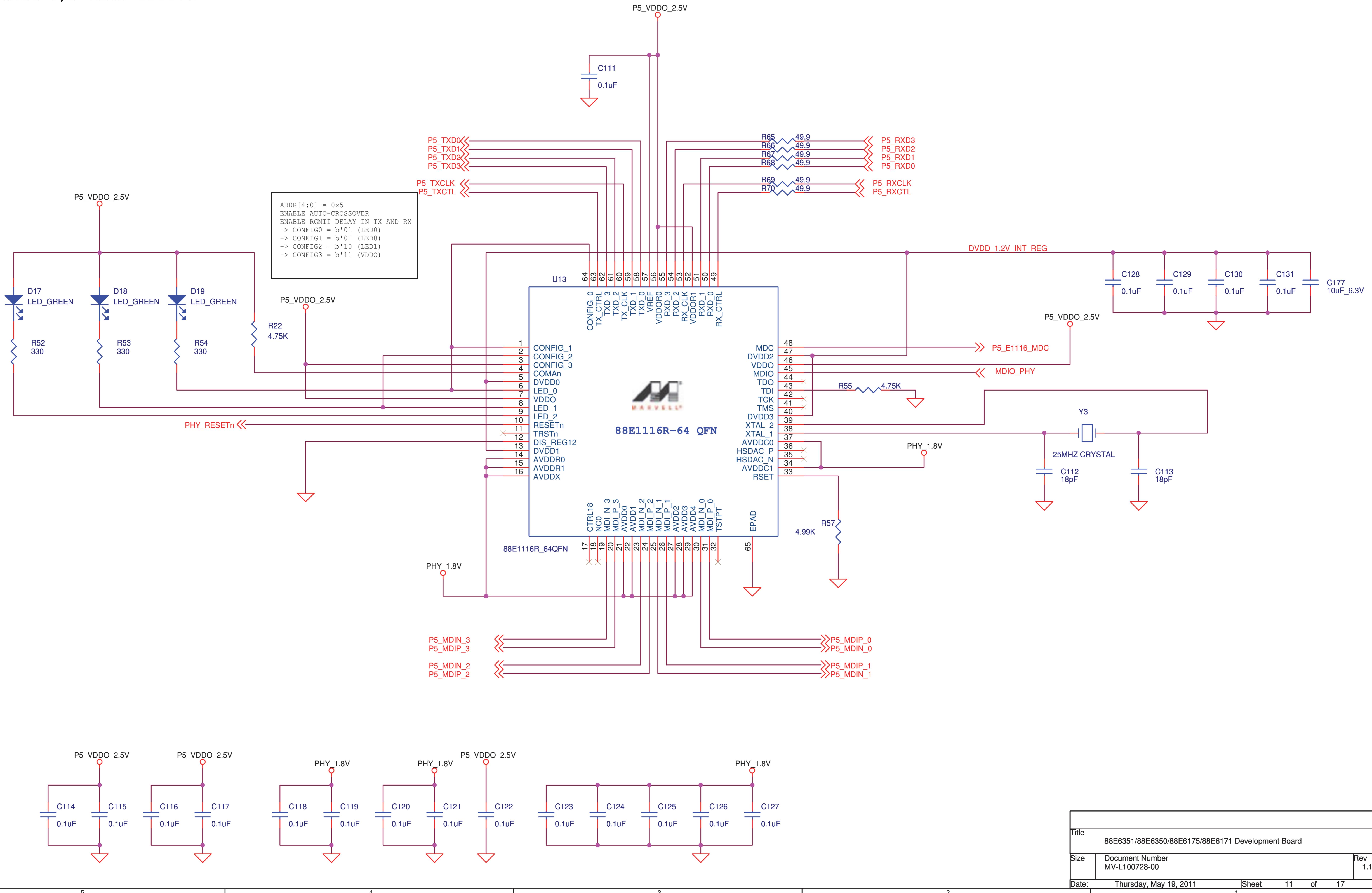
Date: Thursday, May 19, 2011 Sheet 9 of 17




| | | |
|---|-----------------|-----|
| Title | | |
| 88E6351/88E6350/88E6175/88E6171 Development Board | | |
| Size | Document Number | Rev |
| | MV-L100728-00 | 1.1 |

Date: Thursday, May 19, 2011 Sheet 10 of 17

P5 RGMII I/F with E1116R




| | | |
|-------|------------------------|---|
| Title | | 88E6351/88E6350/88E6175/88E6171 Development Board |
| Size | Document Number | MV-L100728-00 |
| Date: | Thursday, May 19, 2011 | Rev 1.1 |



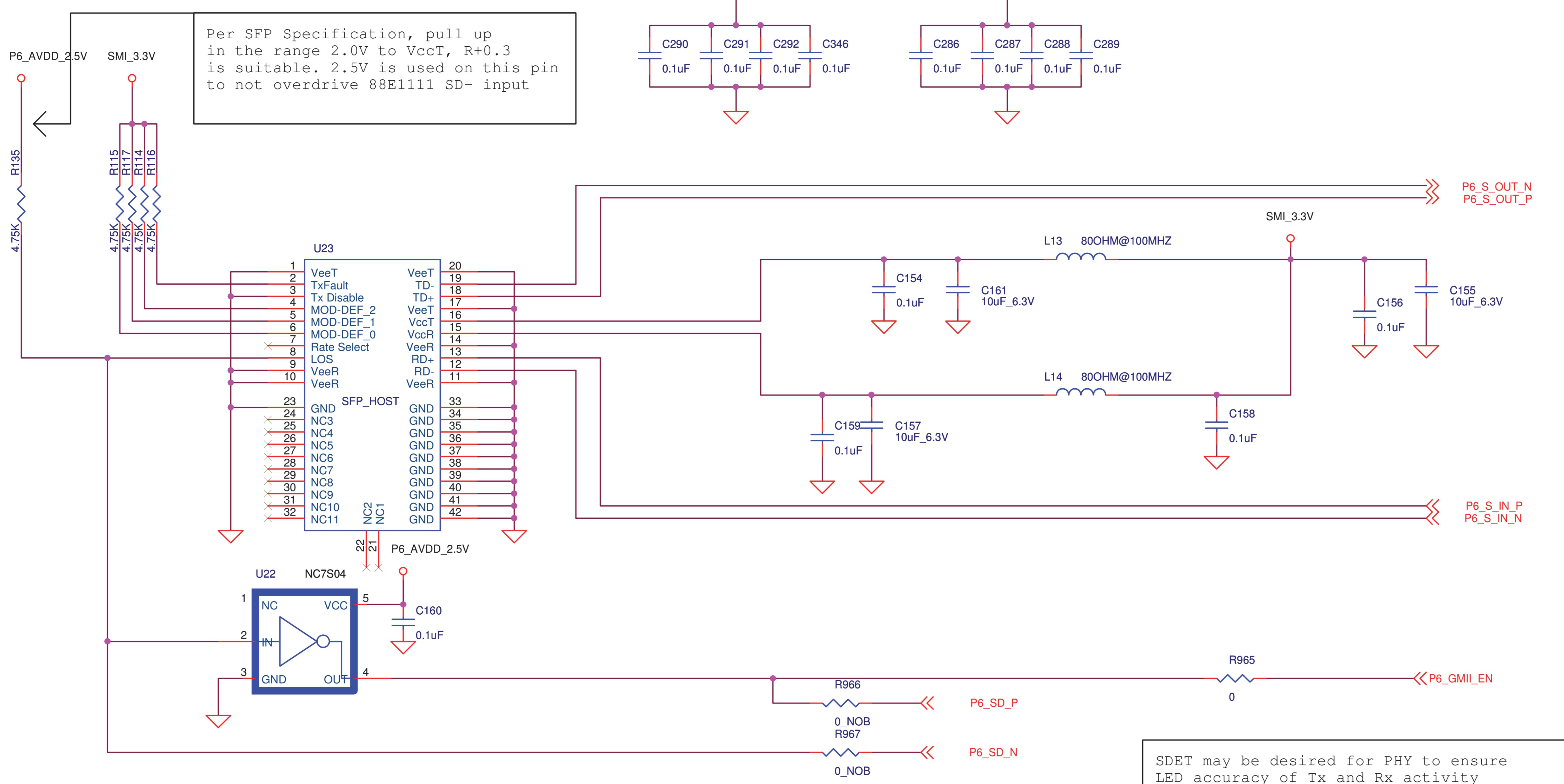
| Title | | |
|---|-----------------|-----|
| 88E6351/88E6350/88E6175/88E6171 Development Board | | |
| Size | Document Number | Rev |
| | MV-L100728-00 | 1.1 |

Date: Thursday, May 19, 2011 Sheet 12 of 17

P6 GMII I/F with 88E1111



P6 SFP to 88E1111

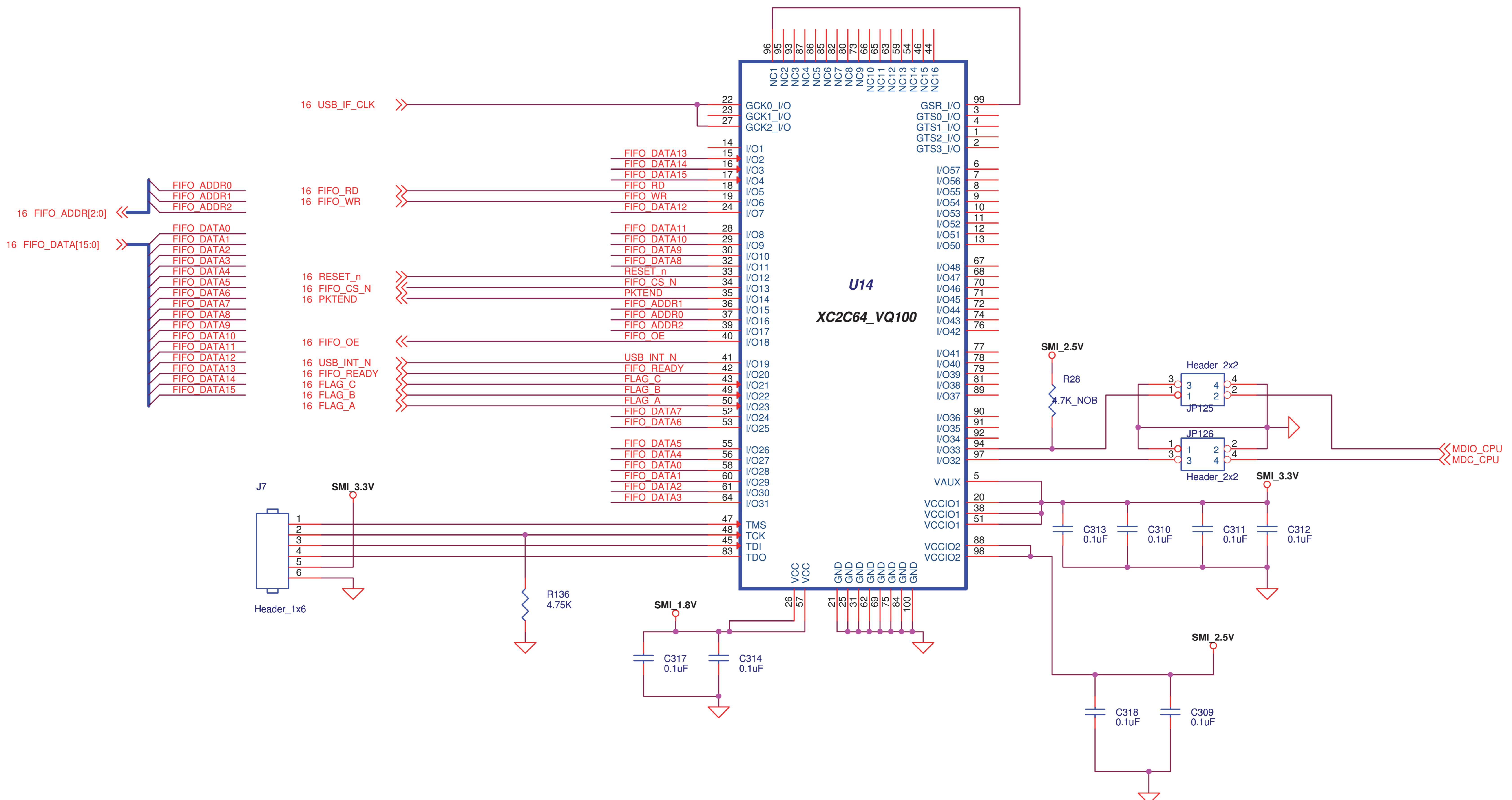


SDET may be desired for PHY to ensure LED accuracy of Tx and Rx activity
-> Requires setting of PHY reg 26.7 = b'1

For testing PPU-less configuration,
inverted LOS may drive P6_GMII_EN

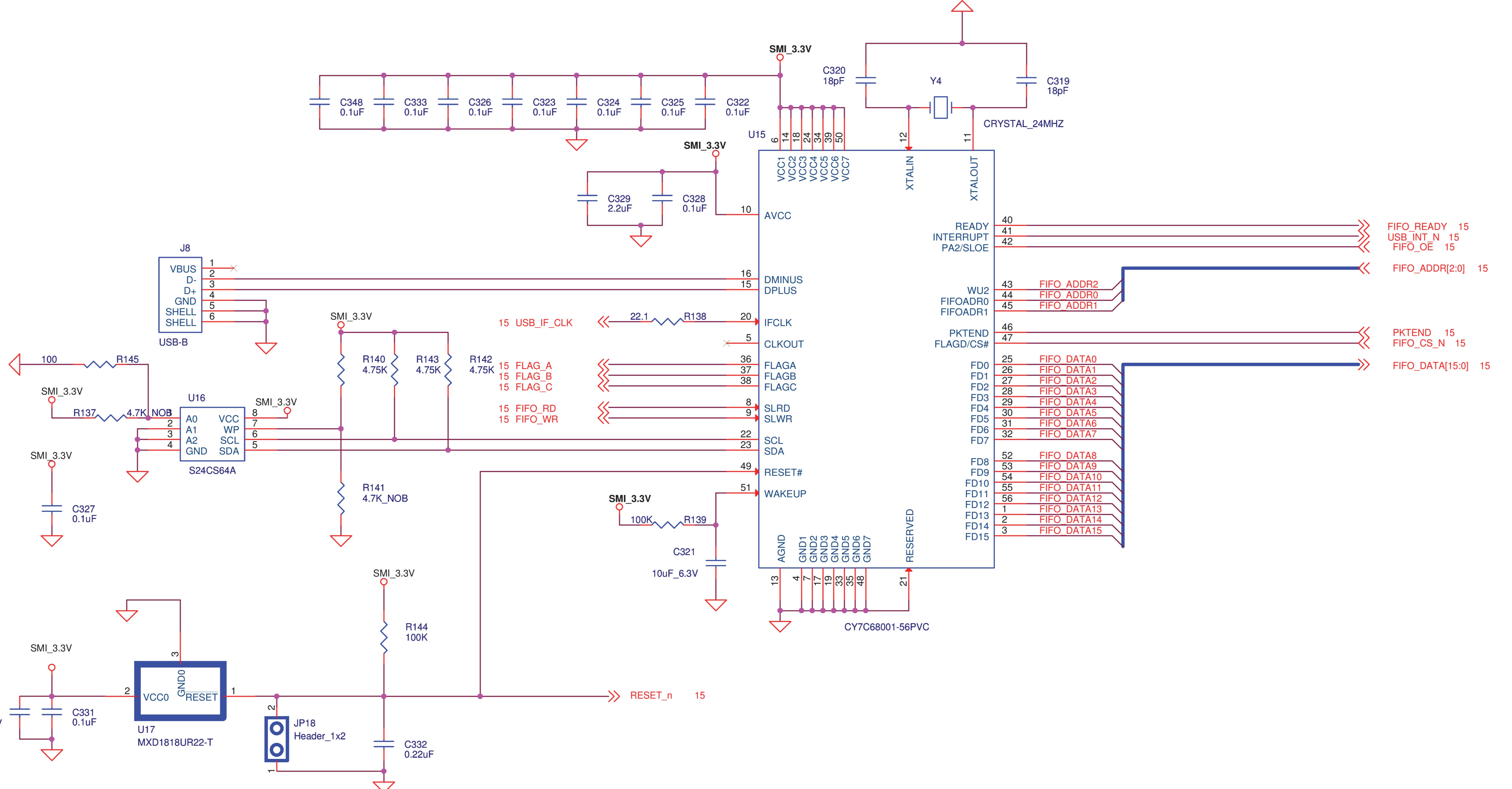
| Title | | |
|---|------------------------|----------------|
| 88E6351/88E6350/88E6175/88E6171 Development Board | | |
| Size | Document Number | Rev |
| | MV-L100728-00 | 1.1 |
| Date: | Thursday, May 19, 2011 | Sheet 14 of 17 |

SMI CPLD



| Title | | |
|---|------------------------|---------------|
| 88E6351/88E6350/88E6175/88E6171 Development Board | | |
| Size | Document Number | Rev |
| | MV-L100728-00 | 1.1 |
| Date: | Thursday, May 19, 2011 | Sheet 15 of 1 |

SMI USB CONTROLLER



| Title | | |
|---|-----------------|-----|
| 88E6351/88E6350/88E6175/88E6171 Development Board | | |
| Size | Document Number | Rev |
| | MV-L100728-00 | 1.1 |

Date: Thursday, May 19, 2011 Sheet 16 of 17

SWITCH & PHY POWER SUPPLY

