

# MPC8308-RDB Schematic

## SCHEMATIC PAGE DESCRIPTION

01:Cover Page  
02: DDR2 Chips  
03: Local Bus and Misc  
04:eTSECs, CFG\_RST\_SRC  
05:PCI-E, 1588  
06:SD, USB PHY/HUB  
07:Power Decoupling  
08:eTSEC1 PHY  
09:eTSEC2 L2 Switch  
10:L2 Switch Transformers  
11: MCU, Misc I2C devices  
12:Power Supply

## IRQ ,CS AND GPIO ASSIGN DESCRIPTION

IRQ0# MCU (Optional with RTC and Thermal )  
IRQ1# eTSEC1 PHY RTL8211B  
IRQ3# USB  
IRQ4# eTSEC2 GbE L2 Switch VSC7385  
CS0# NOR/NAND FLASH  
CS1# NAND/NOR FLASH  
CS2# eTSEC2 GbE L2 Switch VSC7385  
CS3# (NC)  
GPIO0 Wake# of mini PCI-e connector  
GPIO1 CS# of MAX5202  
GPIO9 Spare pin of J8

## I2C ADDRESS DETAILS

I2C1 Address

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MCU Address: 0x0A

AD5301B Address: 0xC

PCF8574A Address: 0x39

Thermometer address: 0x48

EEPROM Address: 0x50

RTC Address: 0x68

I2C2 Address

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ICS9FG104 Address: 0xDC, 0xDD

## VOLTAGE RAIL NOTATION

PWR RAIL	DESCRIPTION
V1200	12V, mini PCIe adaptor
V500	5V, USB
V330	3.3V I/O, eTSEC1 PHY
V250	2.5V L2 Switch
V180	1.8V DDR2, eTSEC1 PHY
V150	1.5V eTSEC1 PHY, miniPCI-E
V120	1.2V L2 Switch core
VCORE	Voltage source for MPC8308 Core, PCI-E

## MAJOR REVISION HISTORY

PCB REV	SCM REV	DESCRIPTION	DATE
X1	X1	SD CARD: R123-NP, R264-NP,R129, R131 RTL8211B CLK: C277- 0.1UF POWER: U69 (MC74VHC1G00DFT2G) PCIE Clock Generator: R84, R91	September 23, 2009
A	X2	SD CARD: R123, R264, R129-NP , R131-NP RTL8211B CLK: C277- 0.01UF POWER: Q8( MMBT4401LT1G) PCIE Clock Generator: R84, R91	January 11, 2010
A	A	SD CARD: R123, R264, R129-NP , R131-NP RTL8211B CLK: C277- 0.01UF POWER: Q8( MMBT4401LT1G) PCIE Clock Generator: R84-NP, R91-NP	February 23,2011

## Assembly NP options

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NP - Not Populate

Cover Page		
Size C	Document Number MPC8308-RDB	Rev A
Date: Wednesday, February 23, 2011	Sheet 1	of 12





5 GPIO1  $\hookrightarrow$  0  $\hookrightarrow$  R47 TSEC2\_TX\_ER

GPIO0  $\hookrightarrow$  0  $\hookrightarrow$  R277 TSEC2\_COL

3 GPIO9  $\hookrightarrow$  0  $\hookrightarrow$  R278 TSEC2\_RX\_ER

TSEC2\_RX\_ER R46 4.7k V330

TSEC2\_COL R48 4.7k

TSEC2\_CRS R49 4.7k

TSEC2\_CRS R50 4.7k

TSEC2\_CRS R51 4.7k

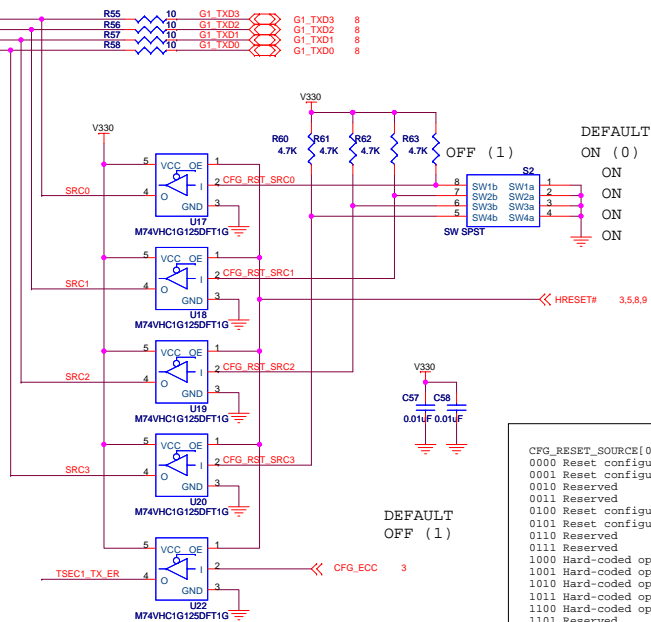
TSEC2\_CRS R52 4.7k

5 TSEC2\_CRS  $\hookrightarrow$  R53 4.7k

TSEC2\_CRS R54 4.7k

TSEC2\_CRS R55 4.7k

TSEC2\_CRS R56 4.7k

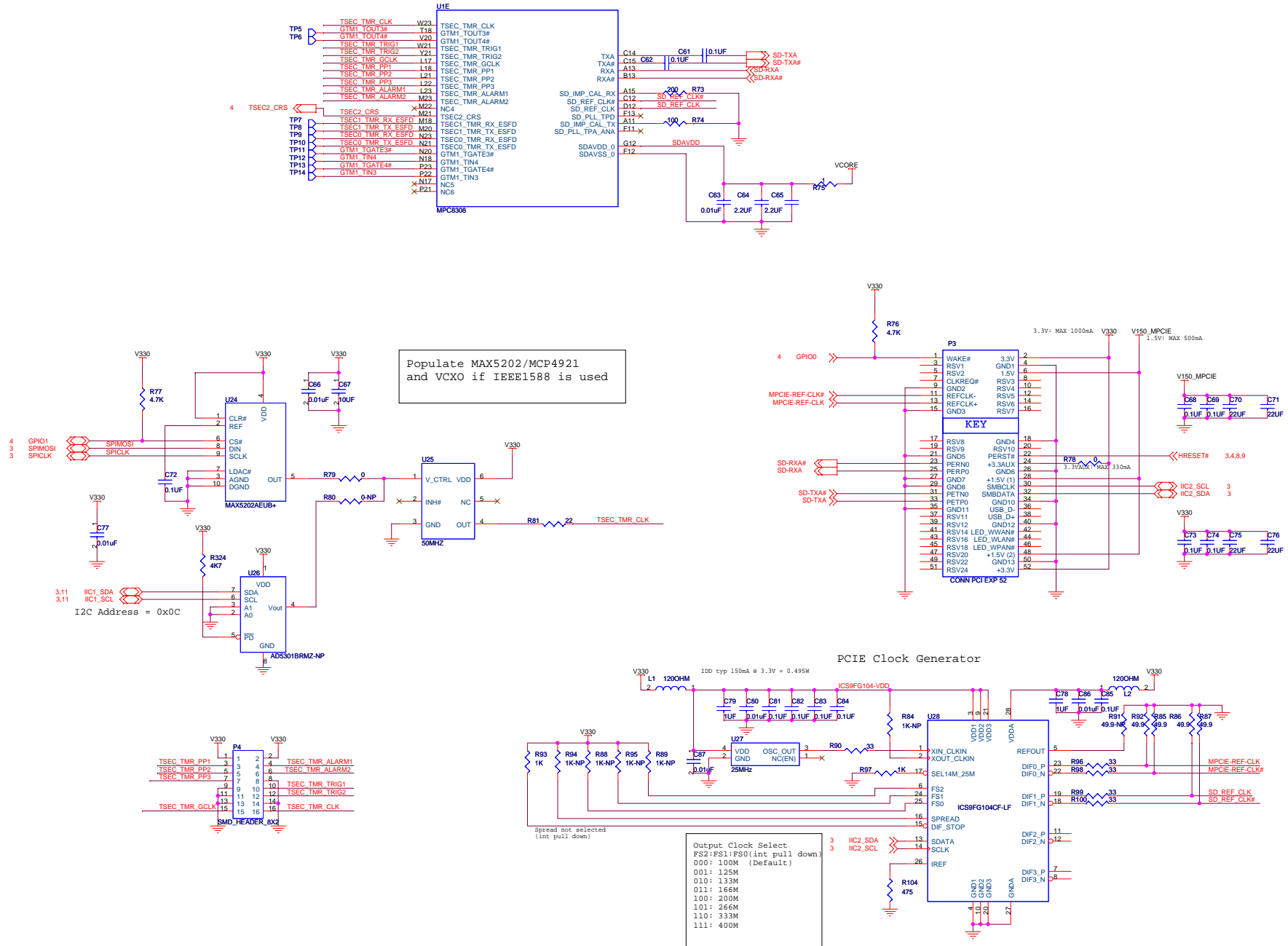


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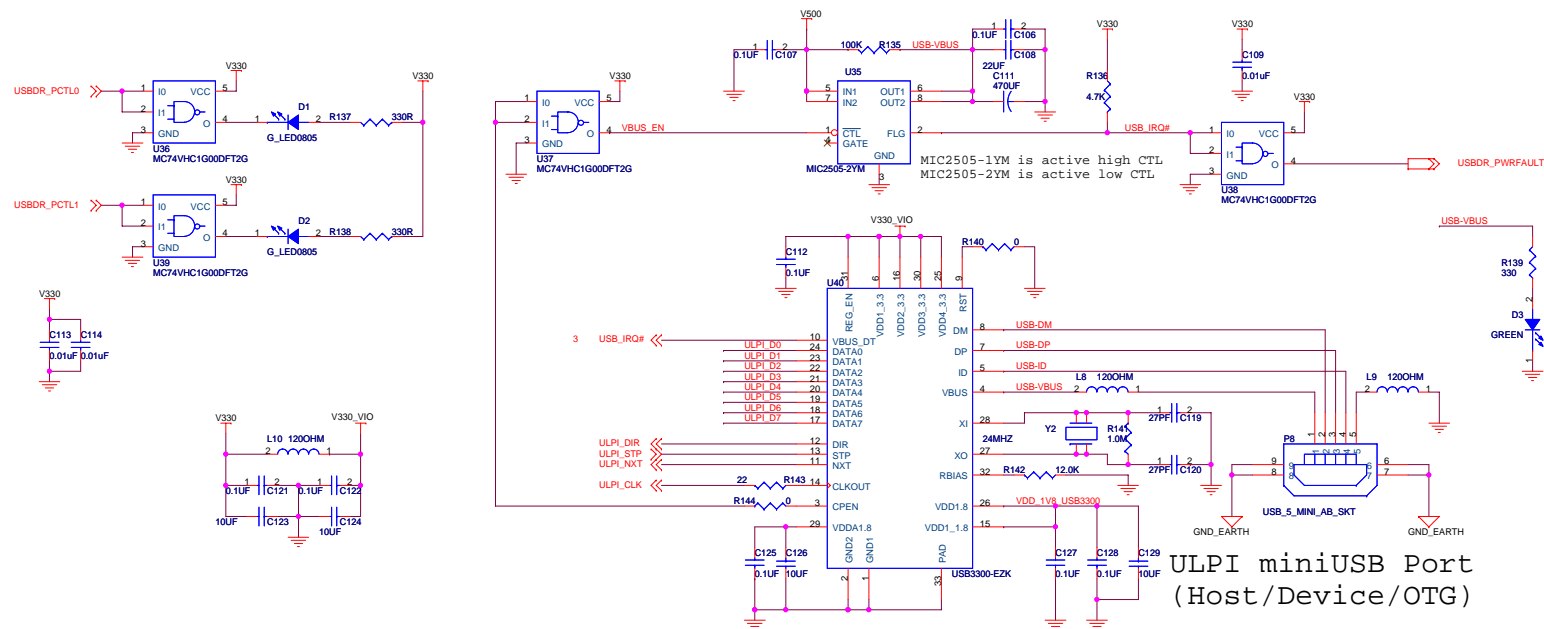
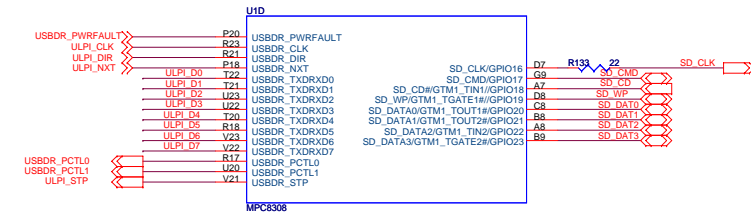
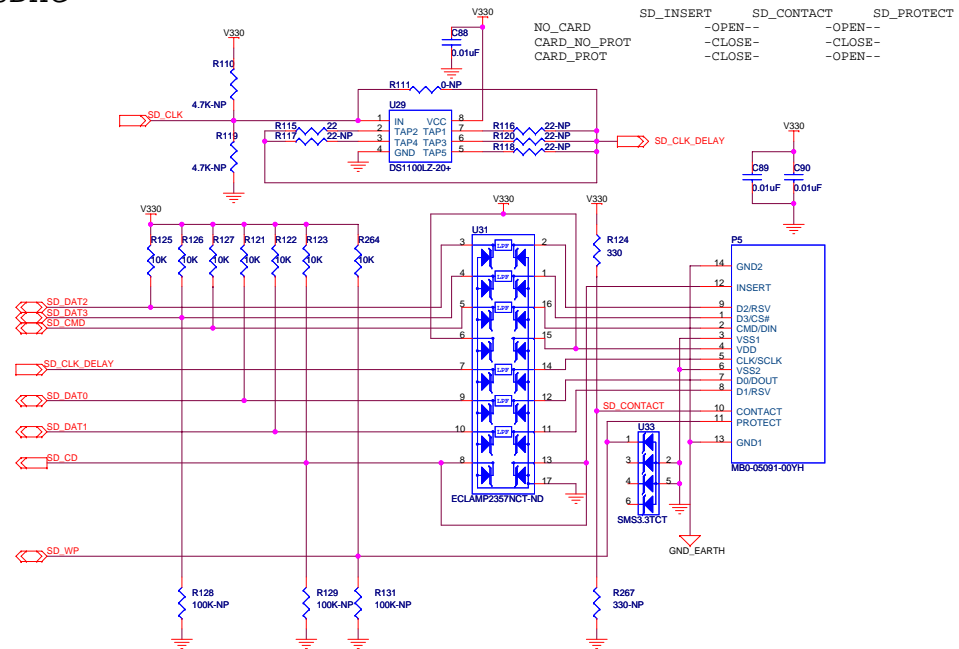
CFG_RESET_SOURCE[0:3] Meaning
0000 Reset configuration word is loaded from NOR Flash.
0001 Reset configuration word is loaded from NAND Flash memory (8-bit small page).
0100 Reserved
0101 Reserved
0100 Reset configuration word is loaded from an I2C EEPROM. SYS_CLK_IN is in the range of 24-66.666 Mhz
0101 Reset configuration word is loaded from NAND Flash memory (8-bit large page).
0110 Reserved
0111 Reserved
1000 Hard-coded option 0. Reset configuration word is not loaded.
1001 Hard-coded option 1. Reset configuration word is not loaded.
1010 Hard-coded option 2. Reset configuration word is not loaded.
1011 Hard-coded option 3. Reset configuration word is not loaded.
1100 Hard-coded option 4. Reset configuration word is not loaded.
1101 Reserved
1110 Reserved
1111 Reserved

```

# PCie & IEEE1588



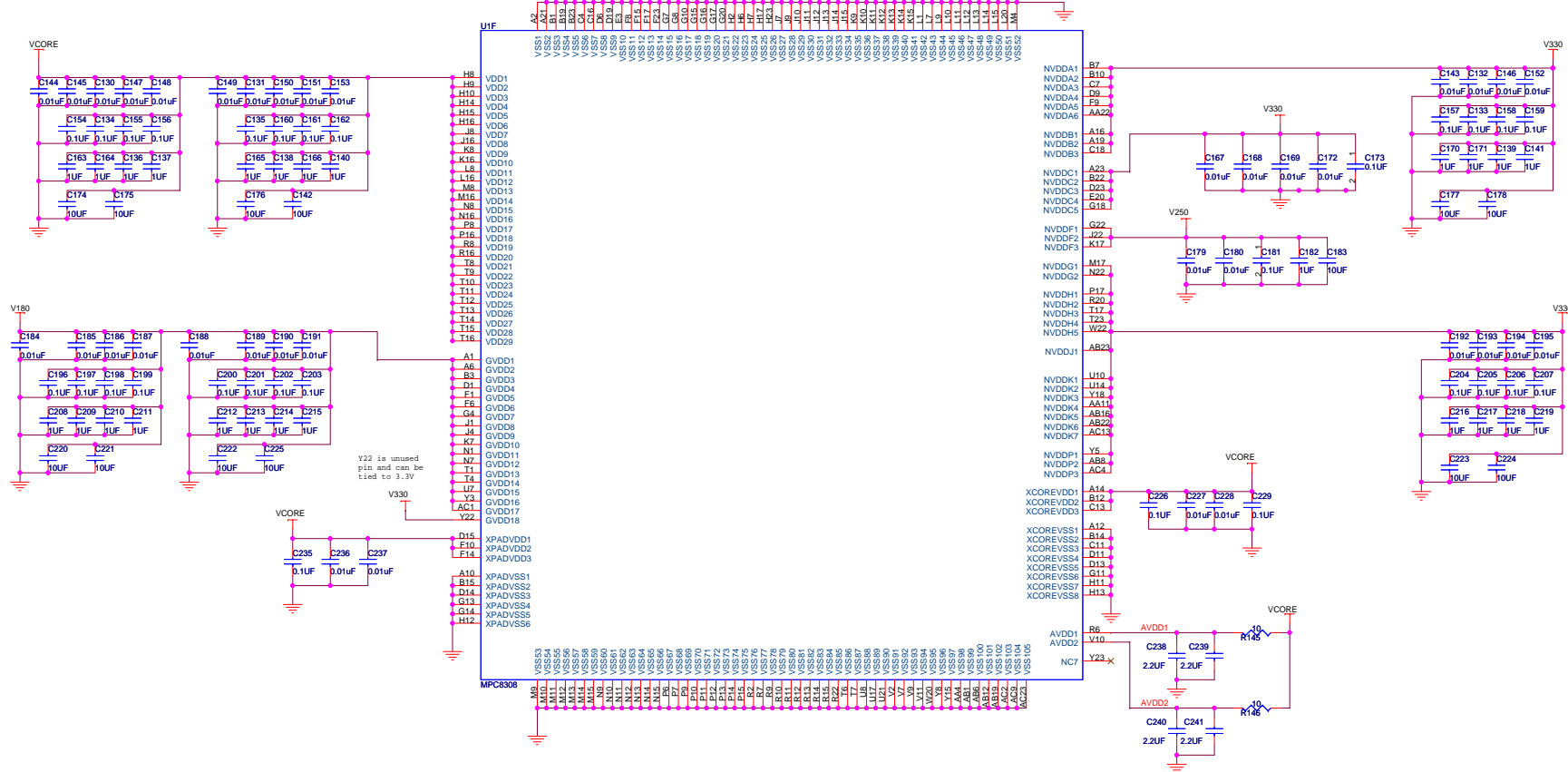
## USB & eSDHC



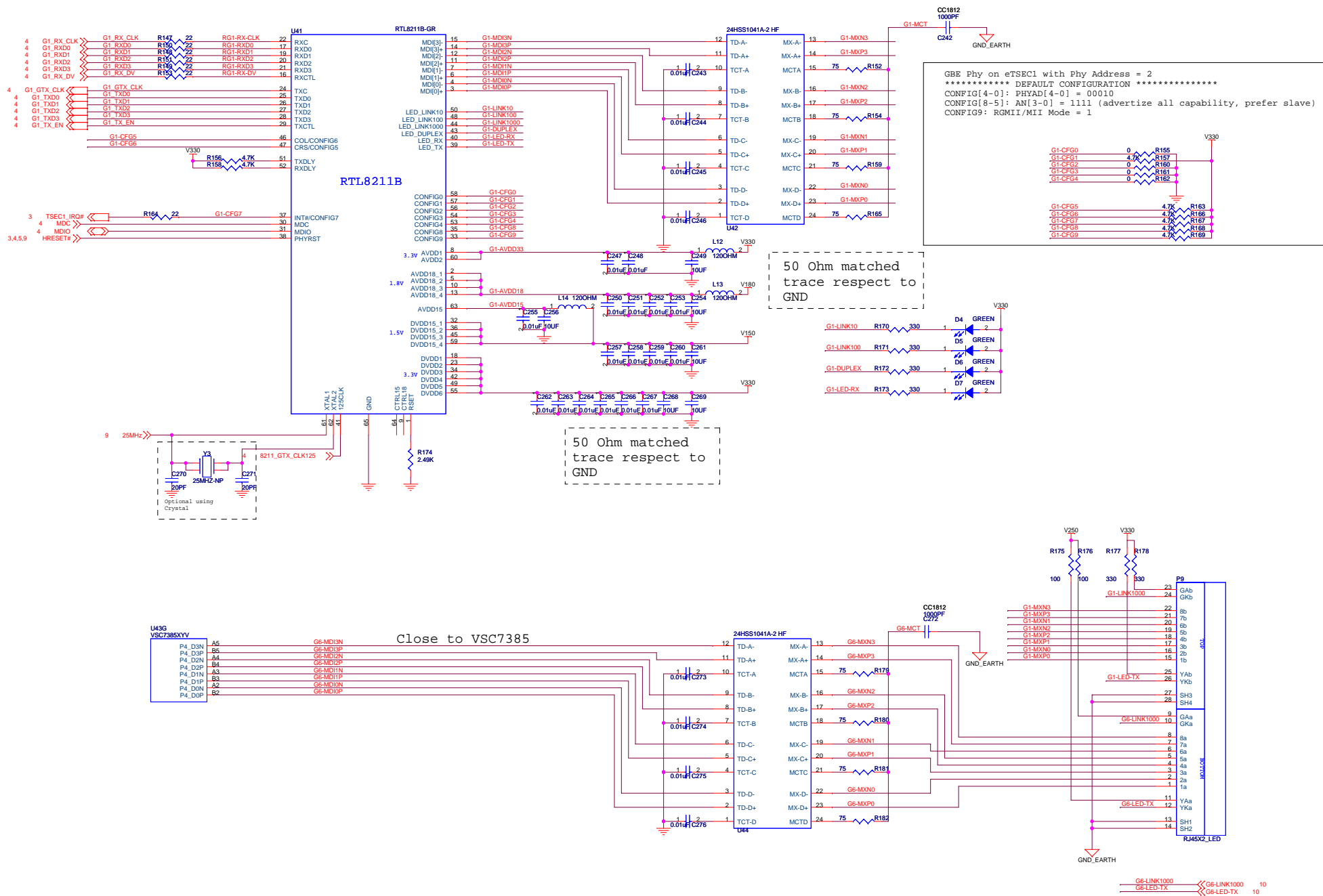
ULPI miniUSB Port  
(Host/Device/OTG)

Title 8308 SD, USB PHY and USB HUB			
Size C	Document Number MPC8308-RDB		Rev A
Date:	Tuesday, February 22, 2011	Sheet	6 of 12

## DECOUPLING



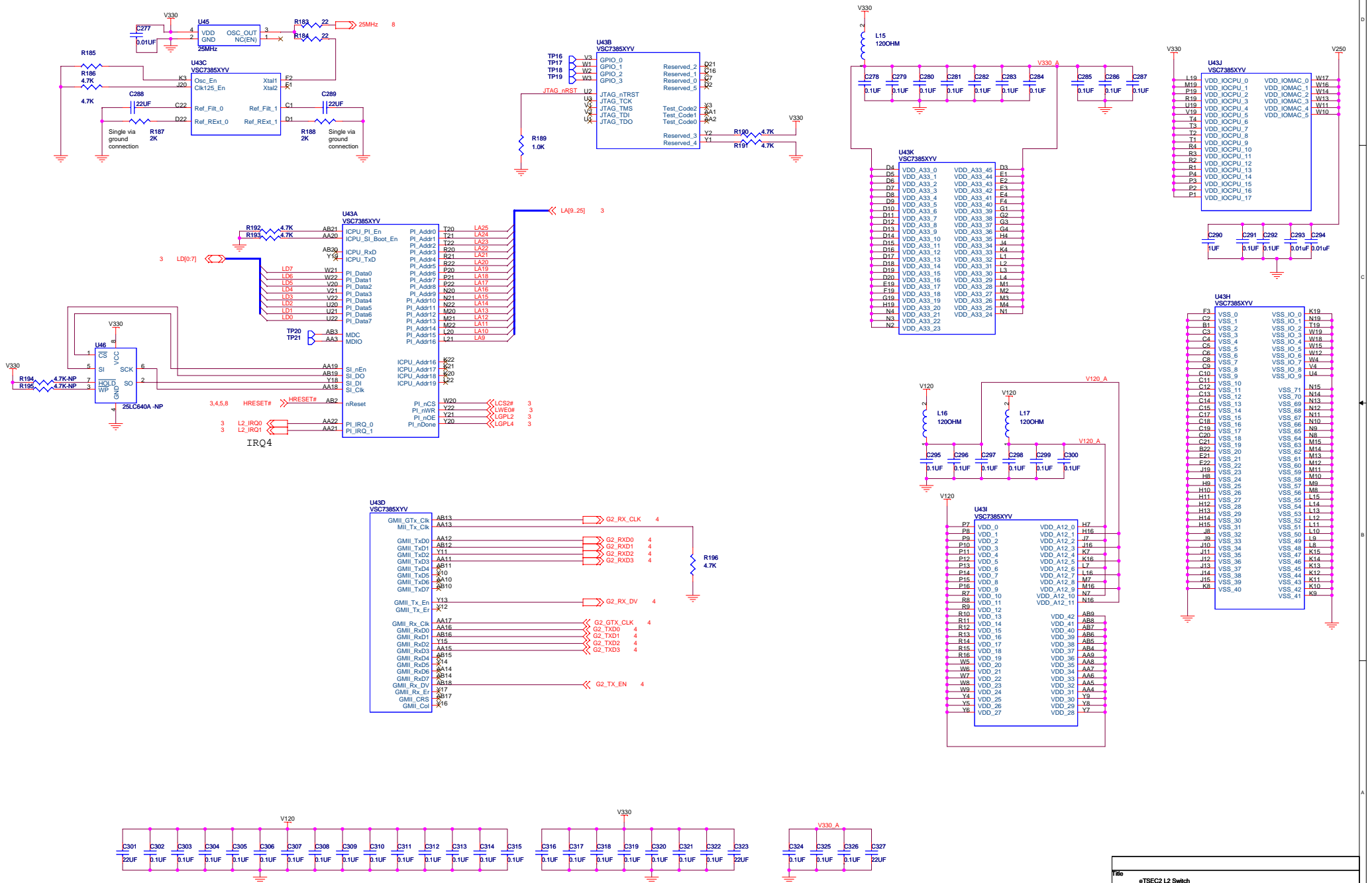
## eTSEC1 PHY



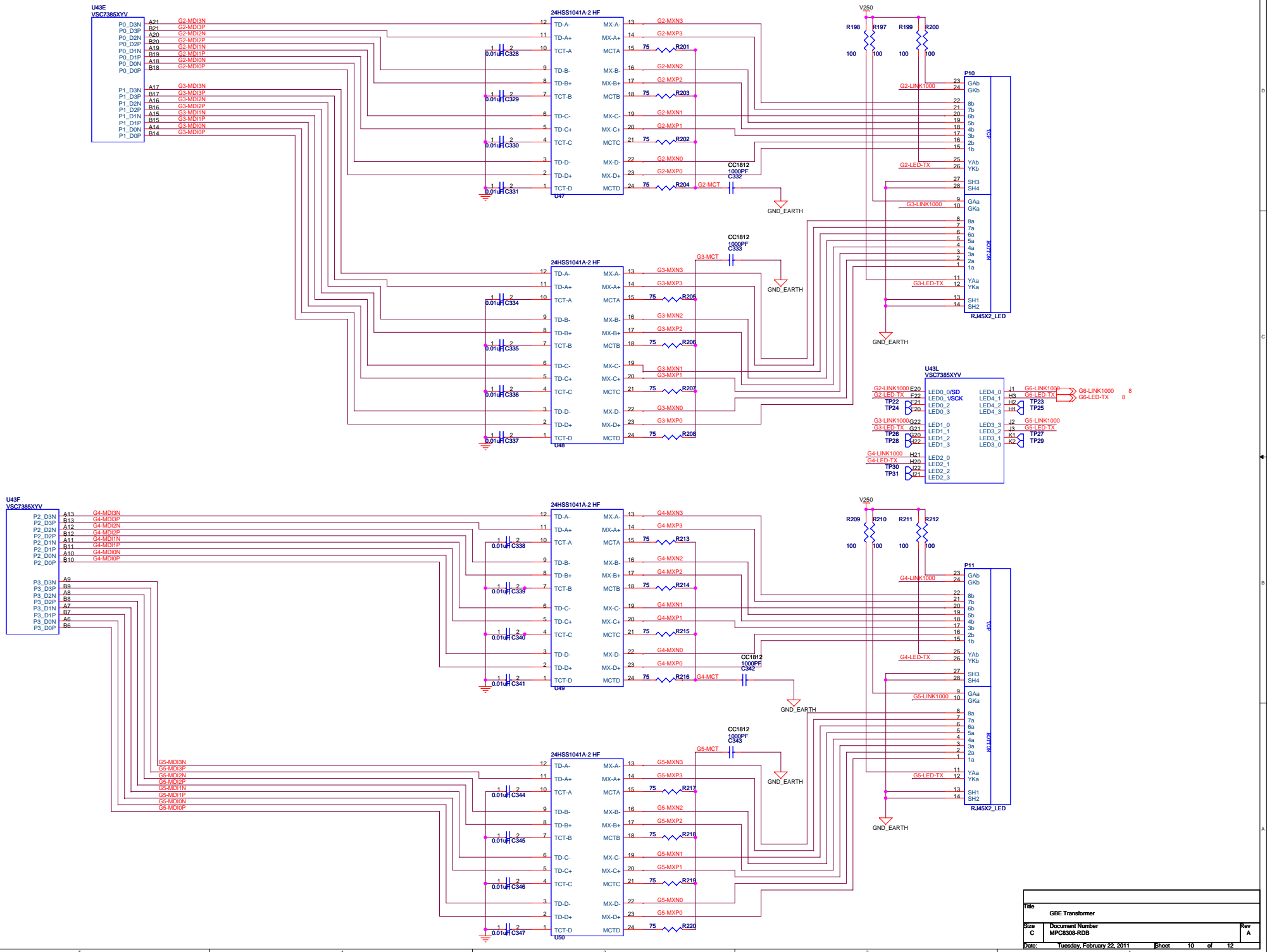
Title eTSEC1 PHY			
Size C	Document Number MPC8308-RDB		Rev A
Date:	Tuesday, February 22, 2011	Sheet	8 of 12



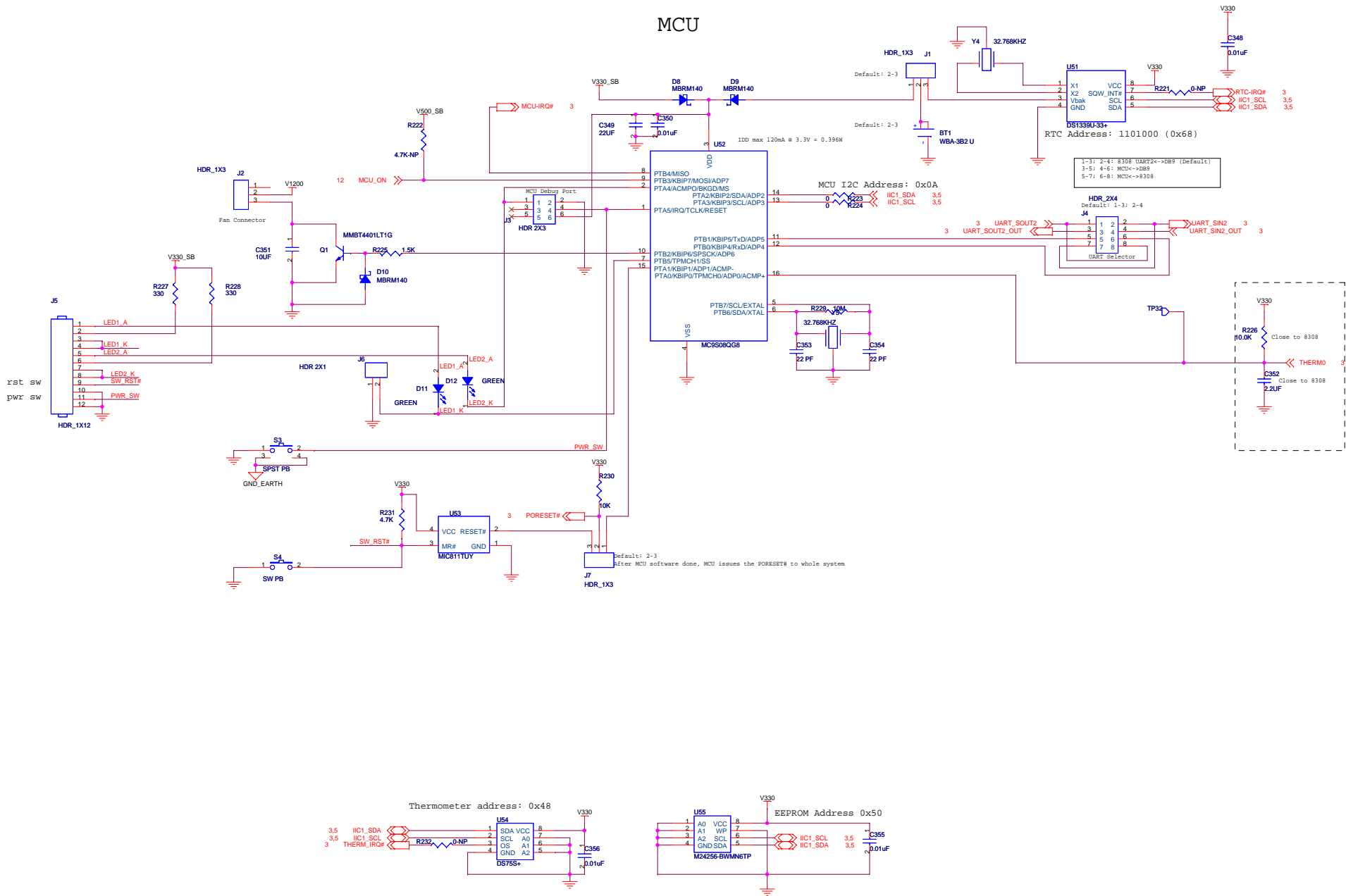
## L2 SWITCH



# GBE TRANSFORMER

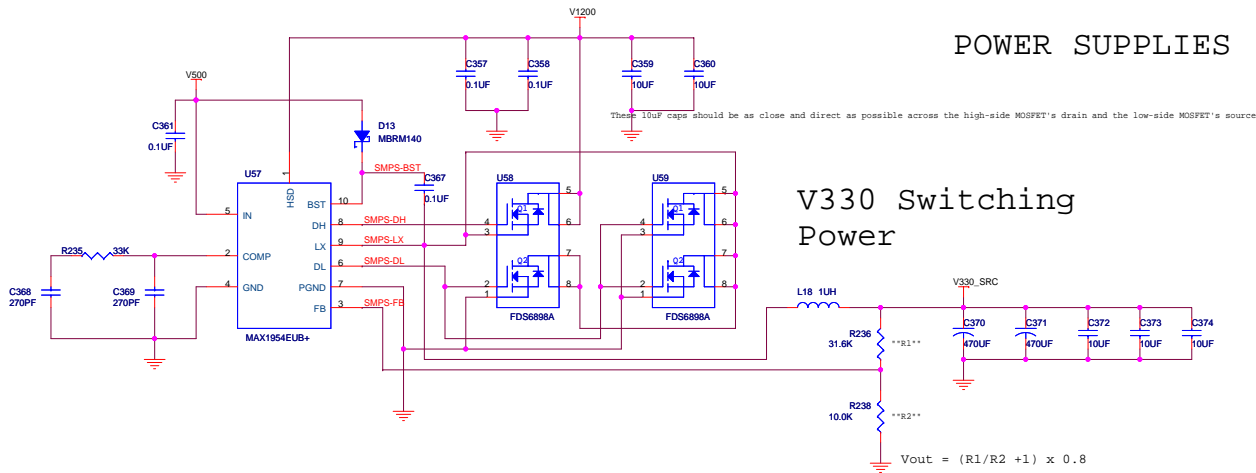


# MCU

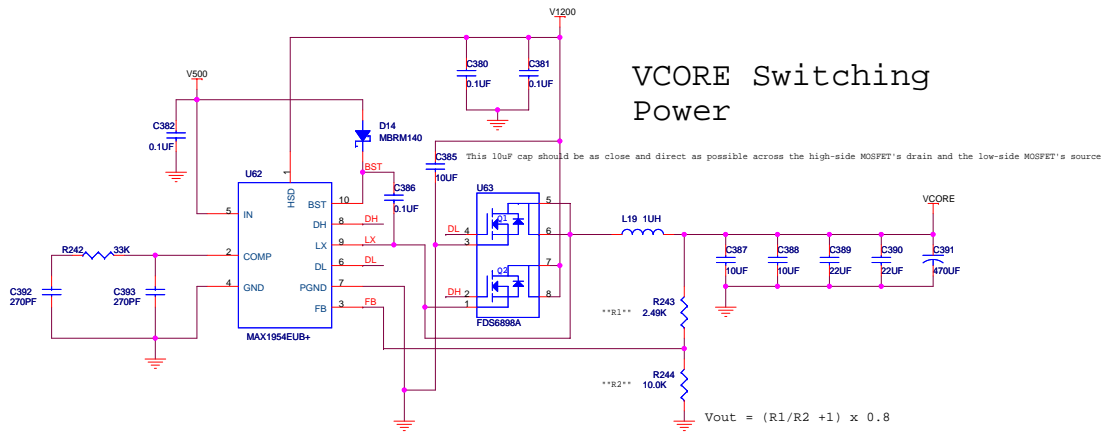


## POWER SUPPLIES

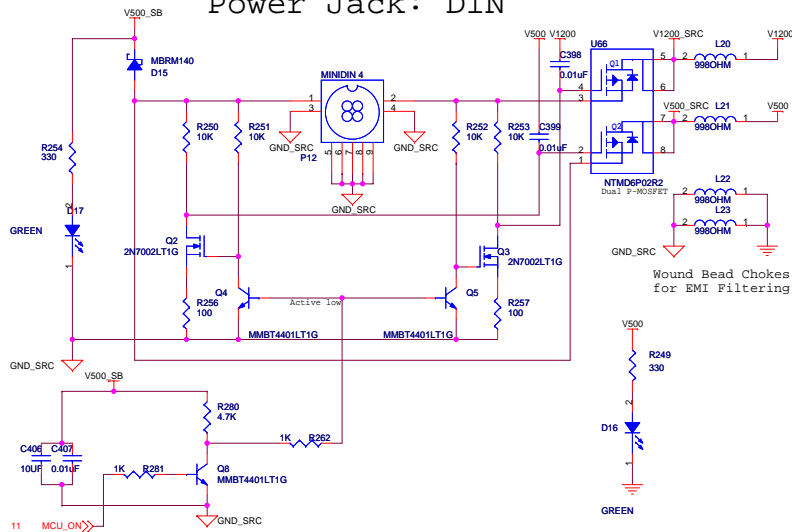
### V330 Switching Power



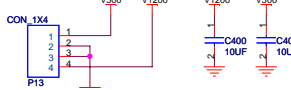
### VCORE Switching Power



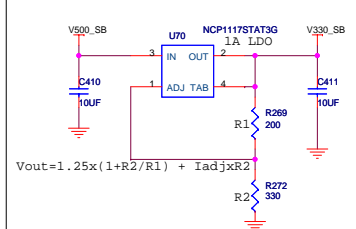
### Power Jack: DIN



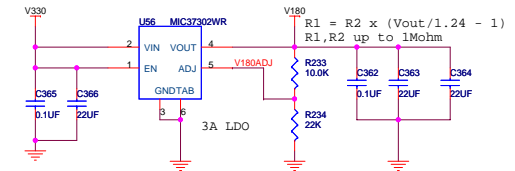
Supplementary 12V supply for mini-PCie adaptor



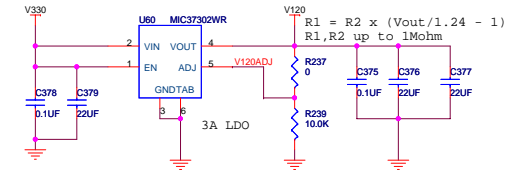
### 3.3V: For MCU always on power



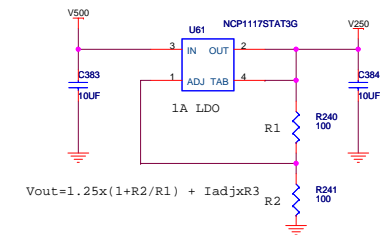
### 1.8V: DDR2 & 8211 PHY



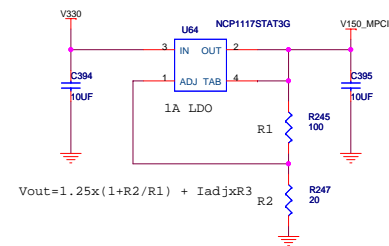
### 1.2V: VSC7385



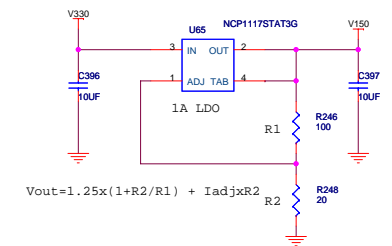
### 2.5V: VSC7385



### 1.5V: MiniPCie



### 1.5V: 8211 PHY



### Controlled 3.3V for Power Sequencing

