



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

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

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

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

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

Assembly NP options

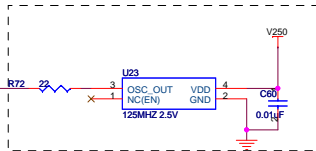
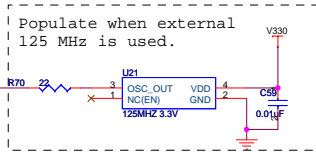
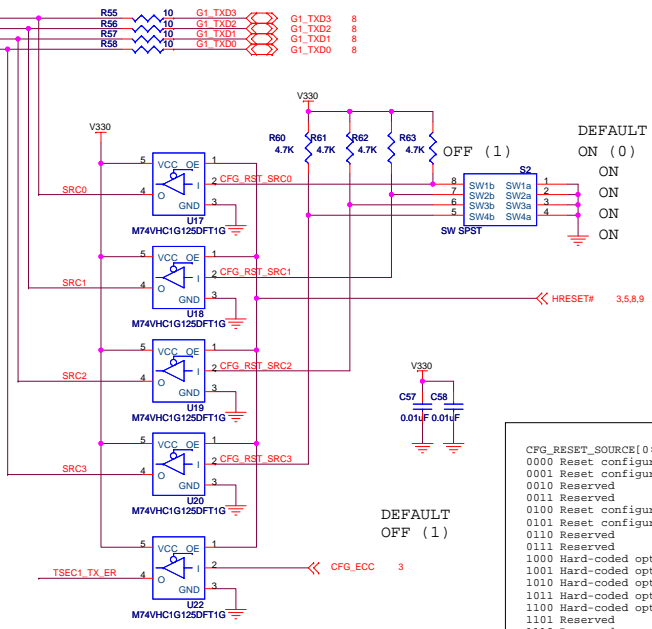
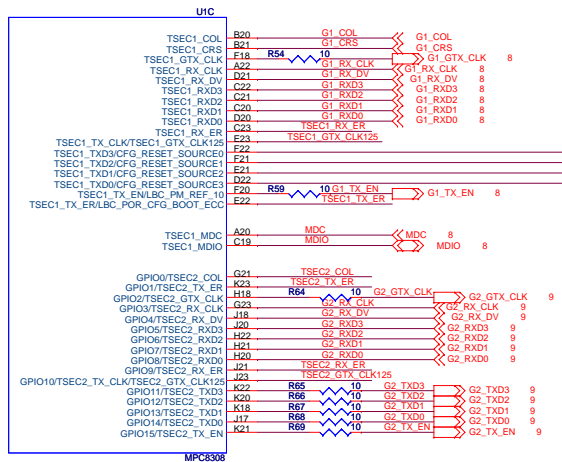
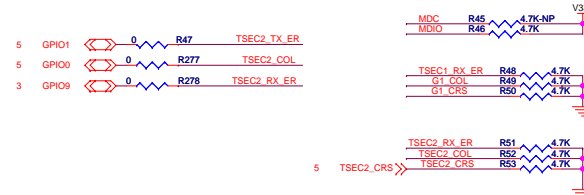
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NP - Not Populate

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eTSECs

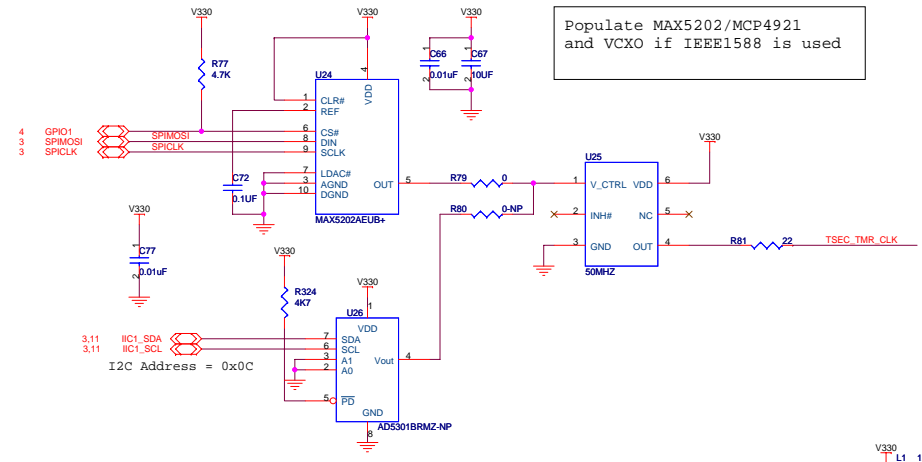
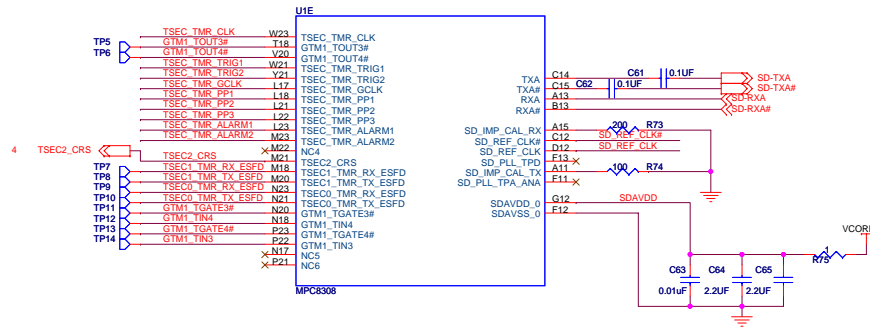


CFG_RESET_SOURCE[0:3] Meaning

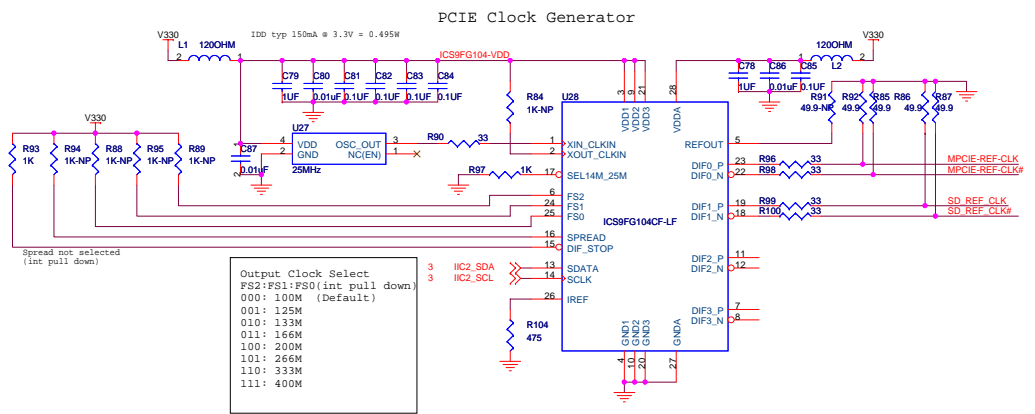
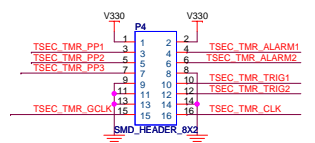
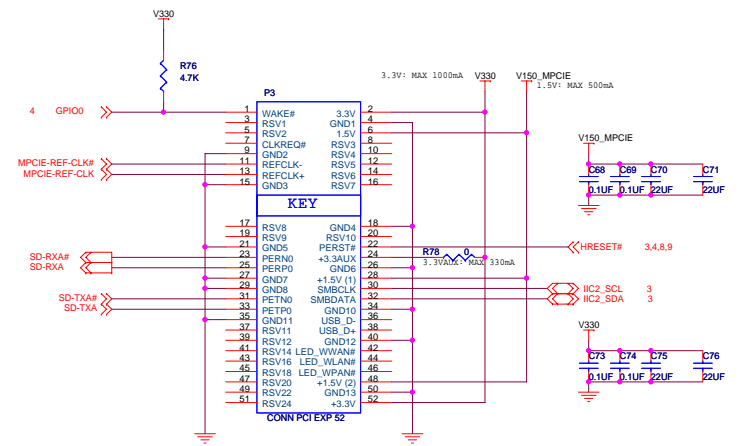
- 0000 Reset configuration word is loaded from NOR Flash.
- 0001 Reset configuration word is loaded from NAND Flash memory (8-bit small page).
- 0010 Reserved
- 0011 Reserved
- 0100 Reset configuration word is loaded from an I2C EEPROM. SYS_CLK_IN is in the range of 24-66.666 MHz
- 0101 Reset configuration 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



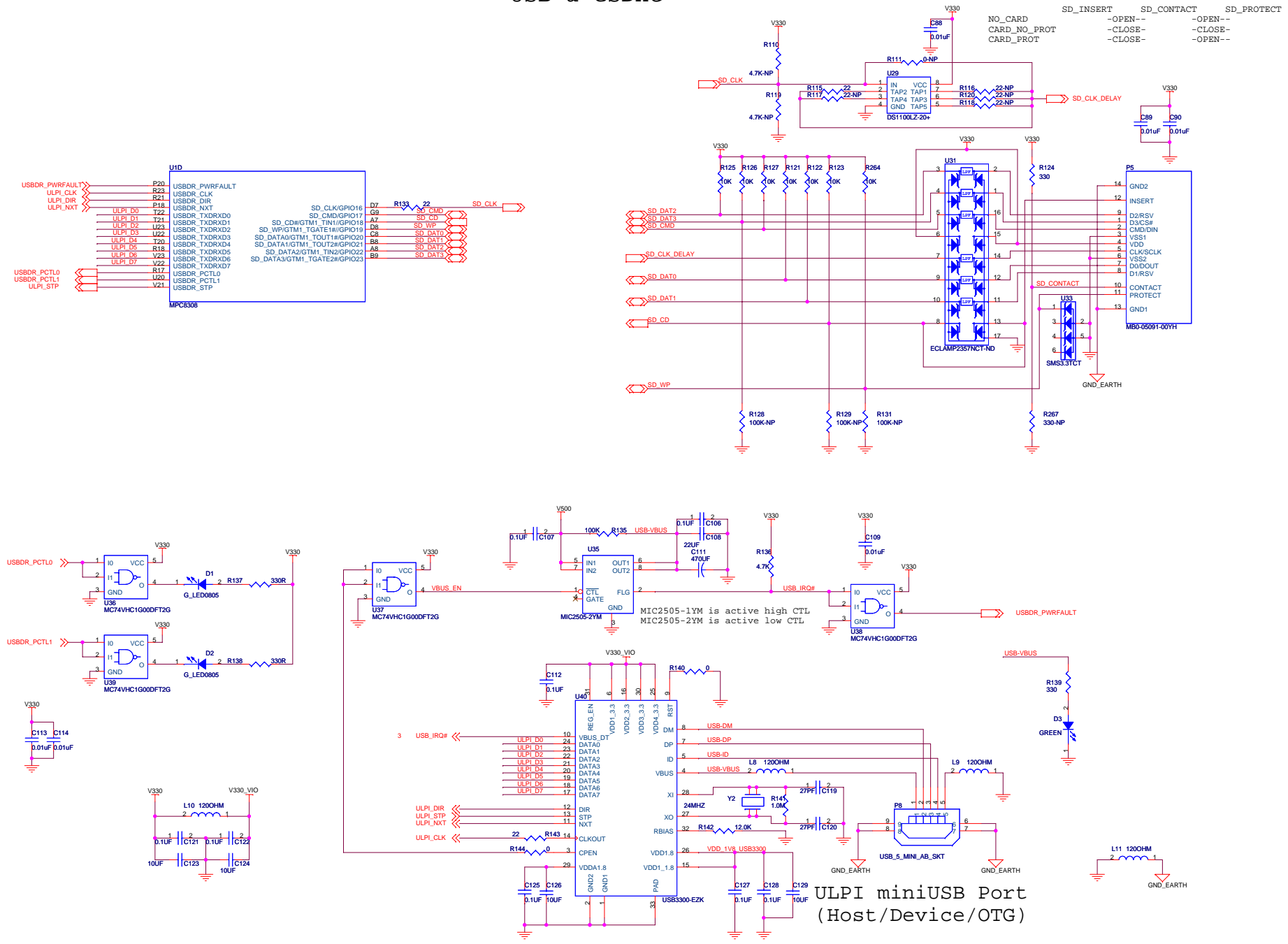
Populate MAX5202/MCP4921 and VCXO if IEEE1588 is used



Output Clock Select
 FS2:FS1:FS0(int pull down)
 000: 100M (Default)
 001: 125M
 010: 133M
 011: 166M
 100: 200M
 101: 266M
 110: 333M
 111: 400M



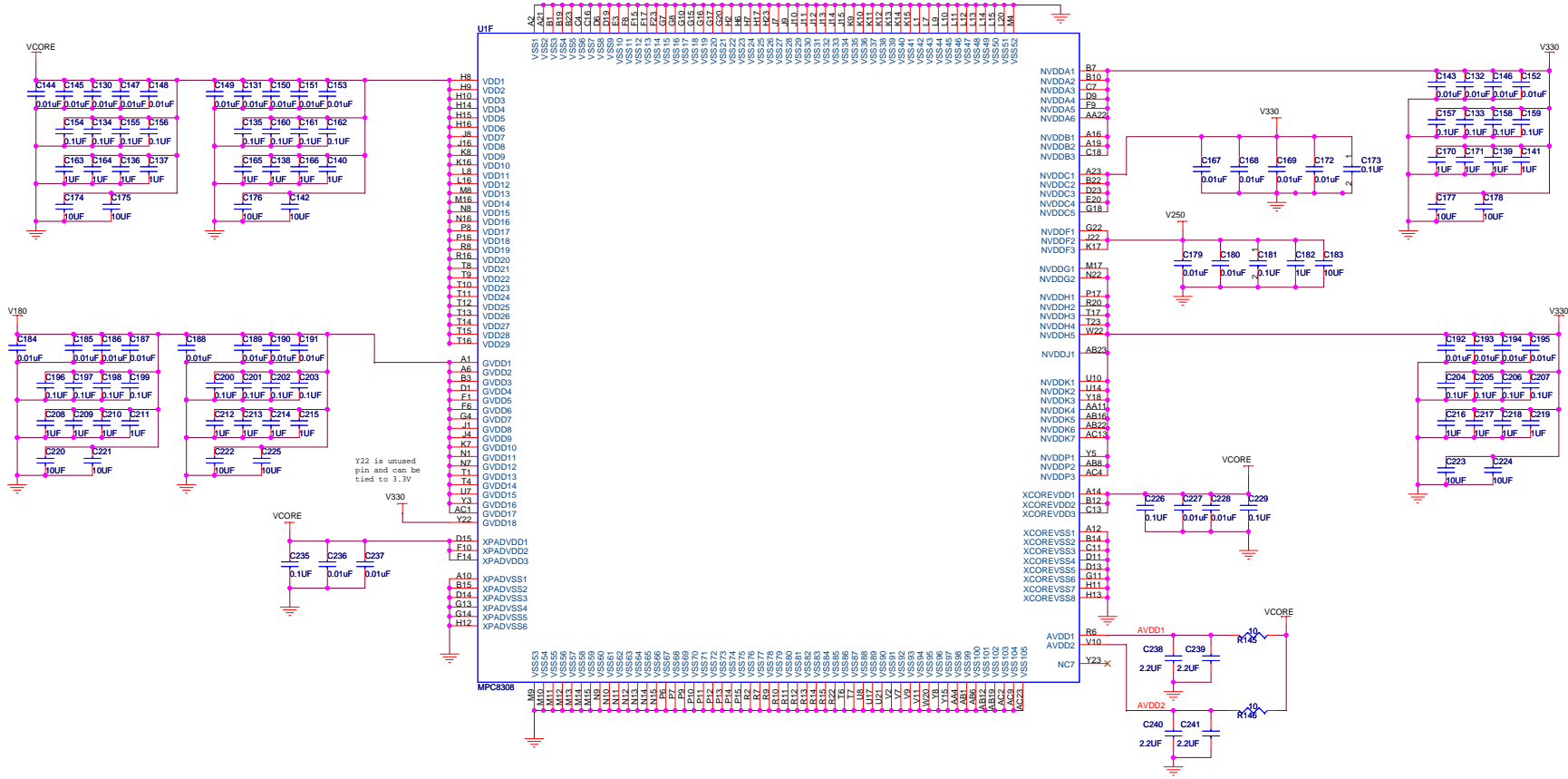
USB & eSDHC



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6308 SD, USB PHY and USB HUB		
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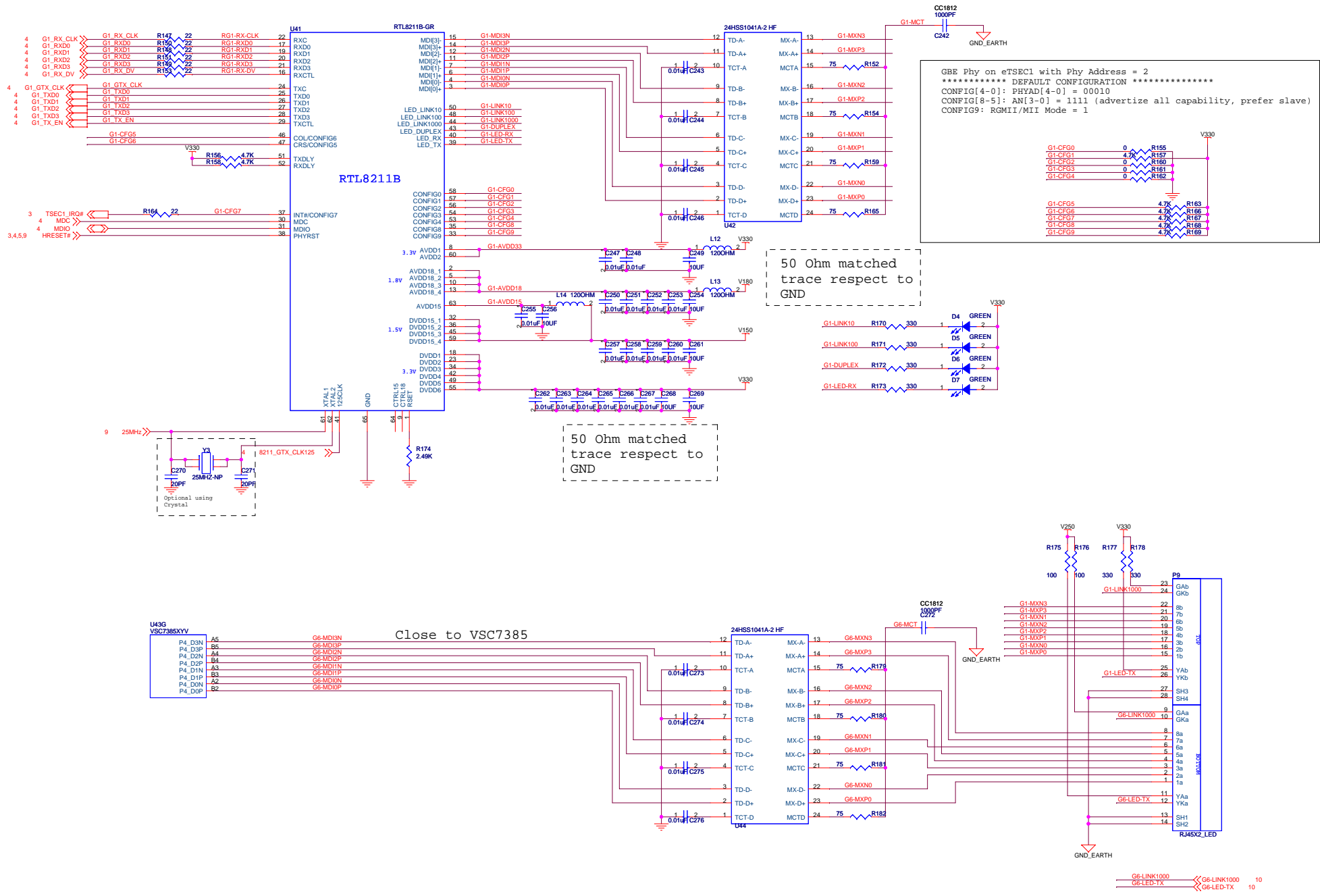


DECOUPLING



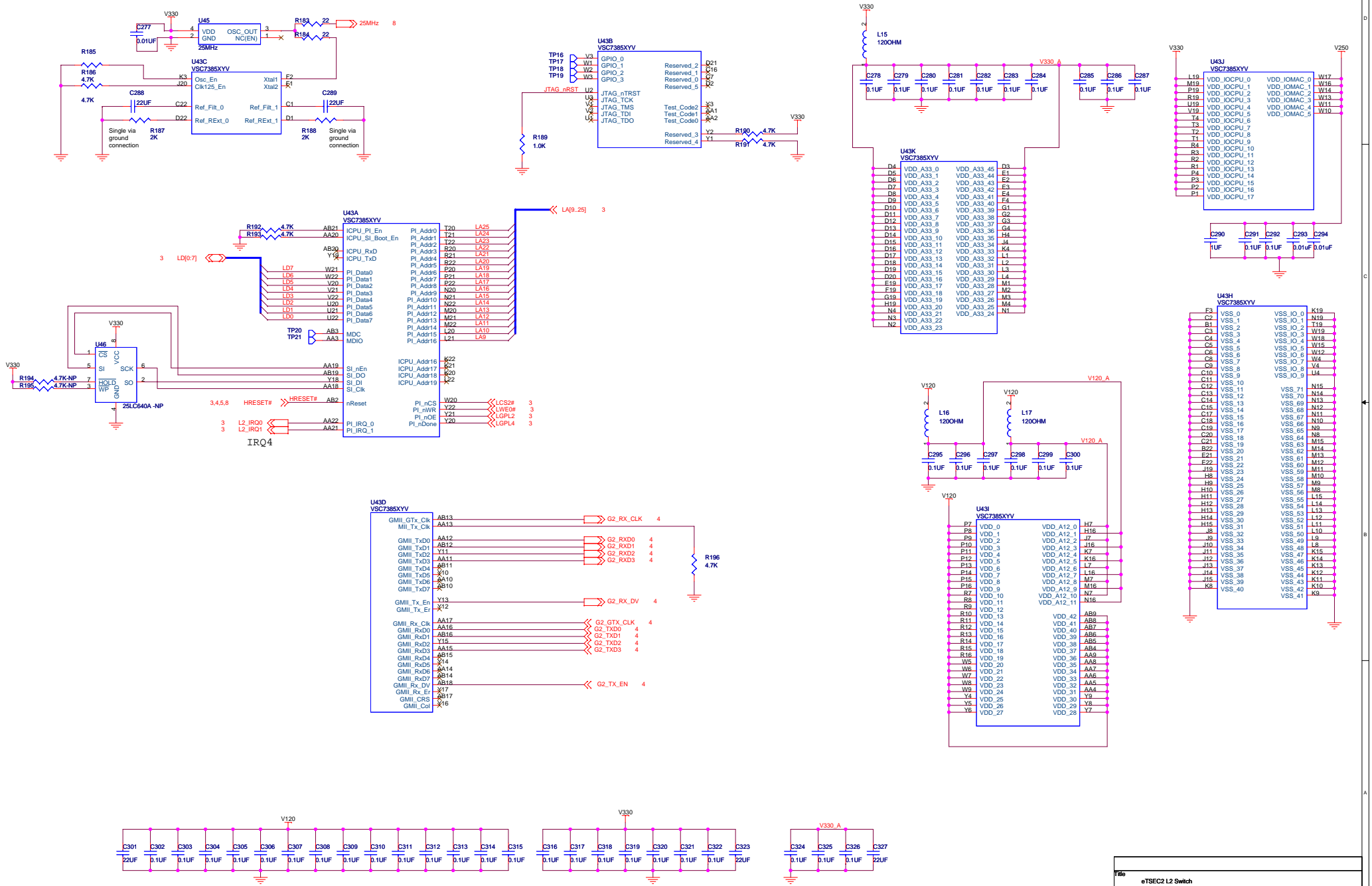


eTSEC1 PHY





L2 SWITCH



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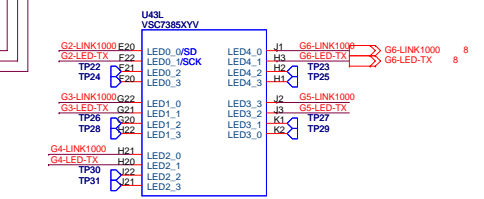
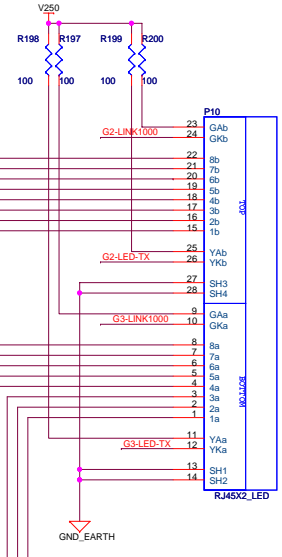
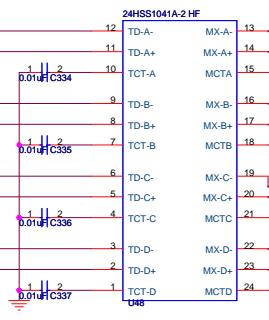
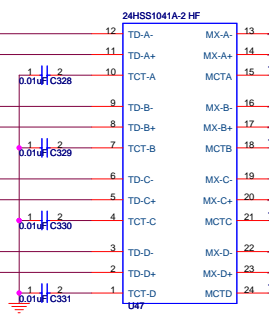


GBE TRANSFORMER

U43E
VSC7385XYV

P0_D3N A21 G2-MDI3N
P0_D3P B21 G2-MDI3P
P0_D2N A20 G2-MDI2N
P0_D2P B20 G2-MDI2P
P0_D1N A19 G2-MDI1N
P0_D1P B19 G2-MDI1P
P0_D0N A18 G2-MDI0N
P0_D0P B18 G2-MDI0P

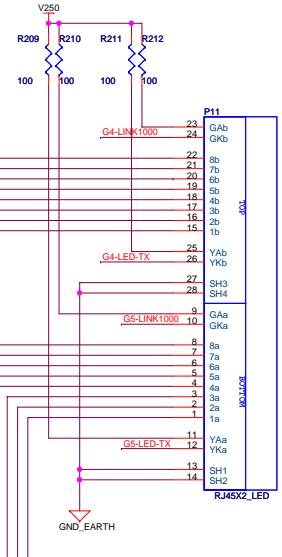
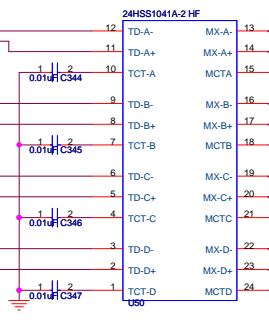
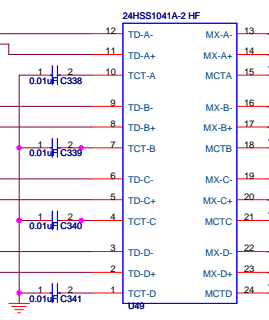
P1_D3N A17 G3-MDI3N
P1_D3P B17 G3-MDI3P
P1_D2N A16 G3-MDI2N
P1_D2P B16 G3-MDI2P
P1_D1N A15 G3-MDI1N
P1_D1P B15 G3-MDI1P
P1_D0N A14 G3-MDI0N
P1_D0P B14 G3-MDI0P



U43F
VSC7385XYV

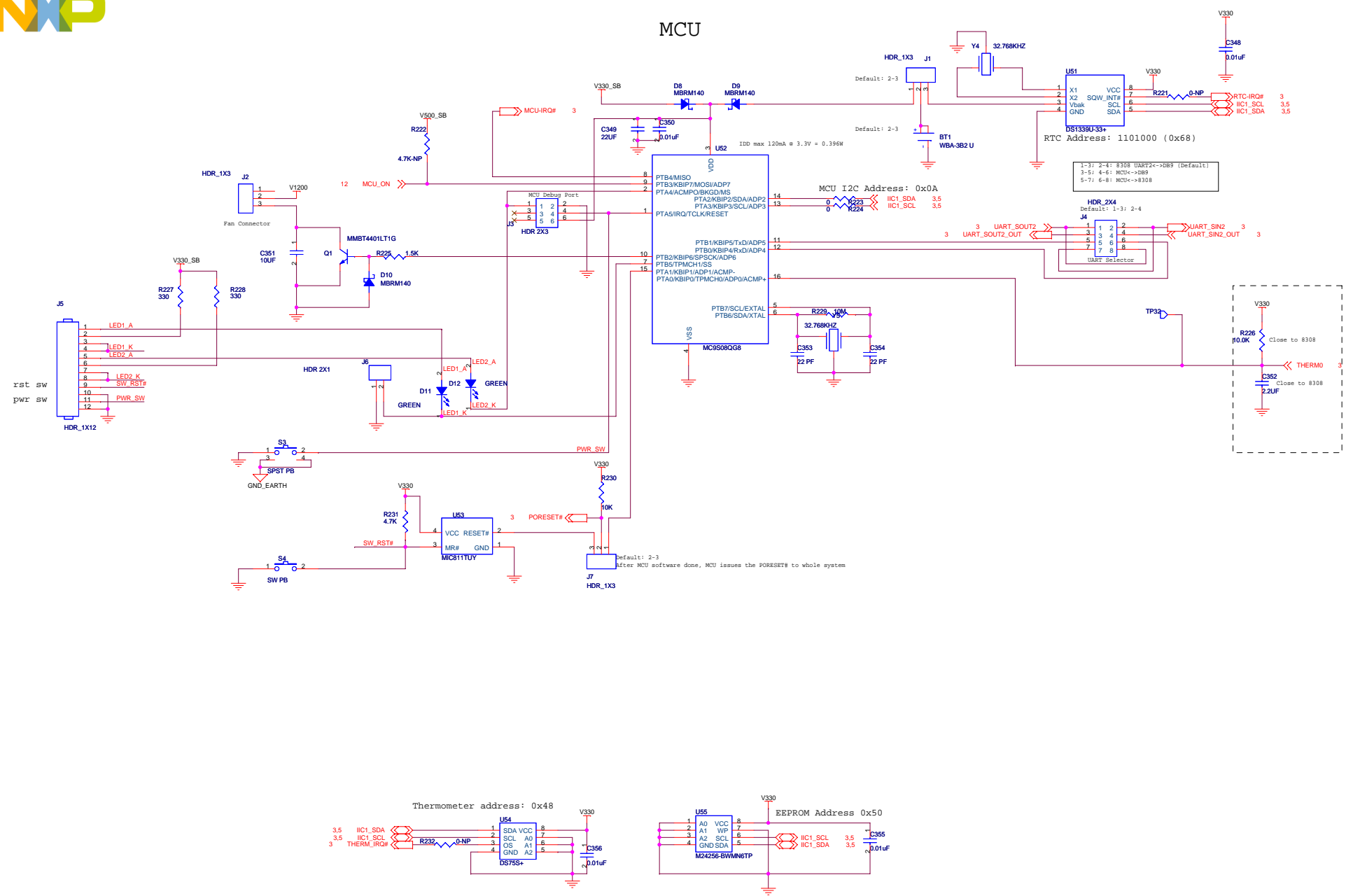
P2_D3N A13 G4-MDI3N
P2_D3P B13 G4-MDI3P
P2_D2N A12 G4-MDI2N
P2_D2P B12 G4-MDI2P
P2_D1N A11 G4-MDI1N
P2_D1P B11 G4-MDI1P
P2_D0N A10 G4-MDI0N
P2_D0P B10 G4-MDI0P

P3_D3N A9 G5-MDI3N
P3_D3P B9 G5-MDI3P
P3_D2N A8 G5-MDI2N
P3_D2P B8 G5-MDI2P
P3_D1N A7 G5-MDI1N
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P3_D0P B6 G5-MDI0P





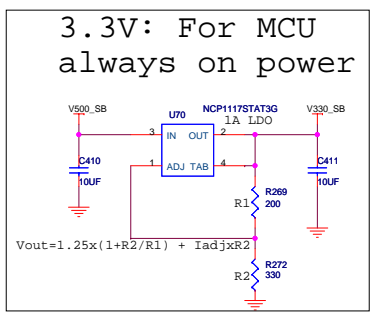
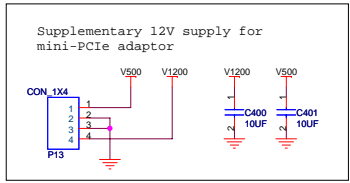
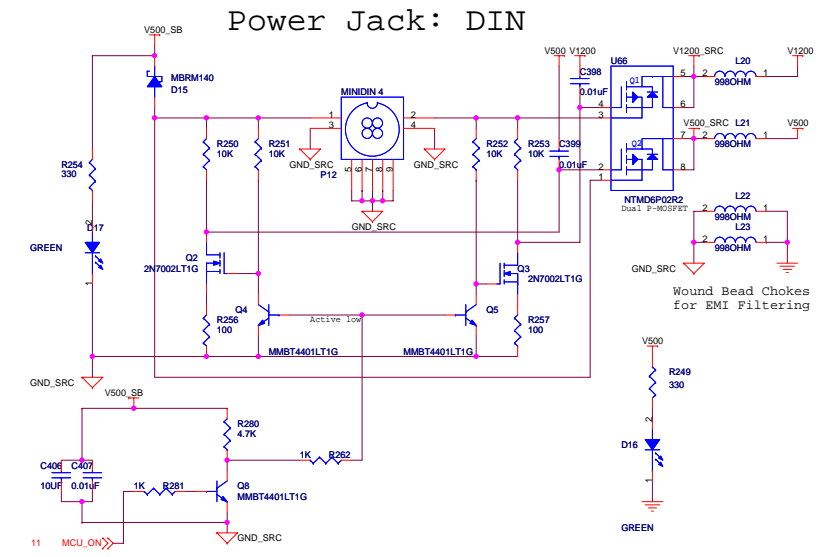
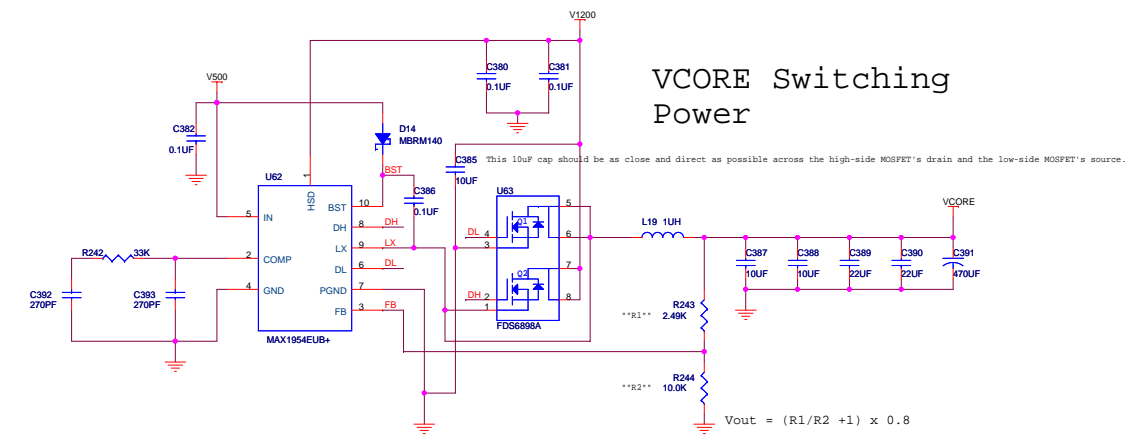
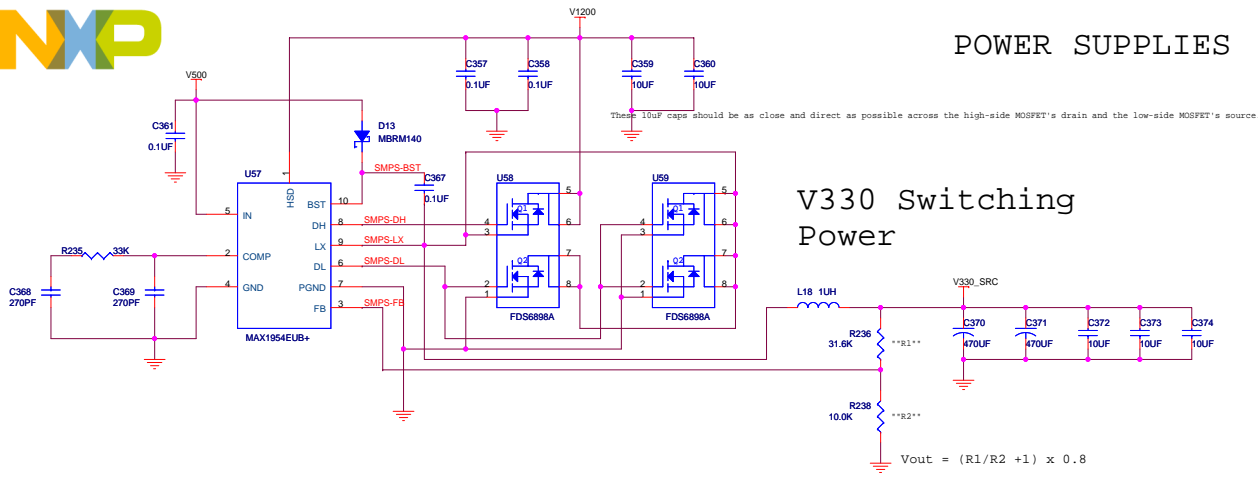
MCU



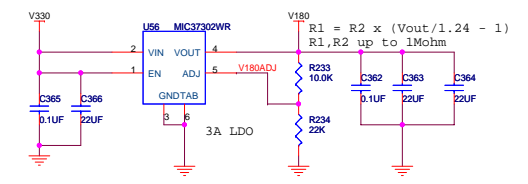
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MCU, MISC I2C Devices		
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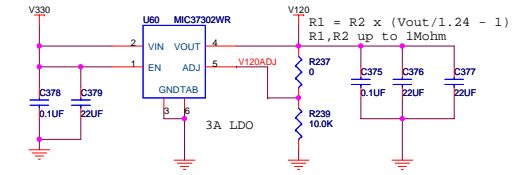
POWER SUPPLIES



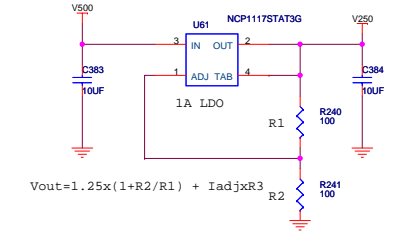
1.8V: DDR2 & 8211 PHY



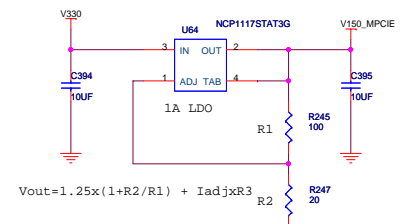
1.2V: VSC7385



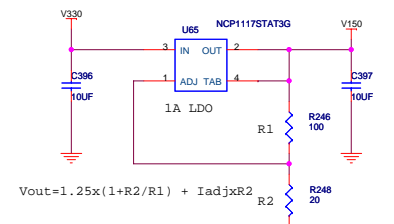
2.5V: VSC7385



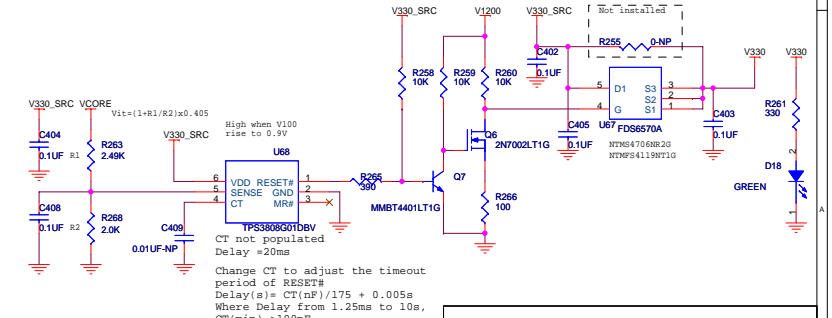
1.5V: MiniPCIe



1.5V: 8211 PHY



Controlled 3.3V for Power Sequencing



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