

REVISION HISTORY

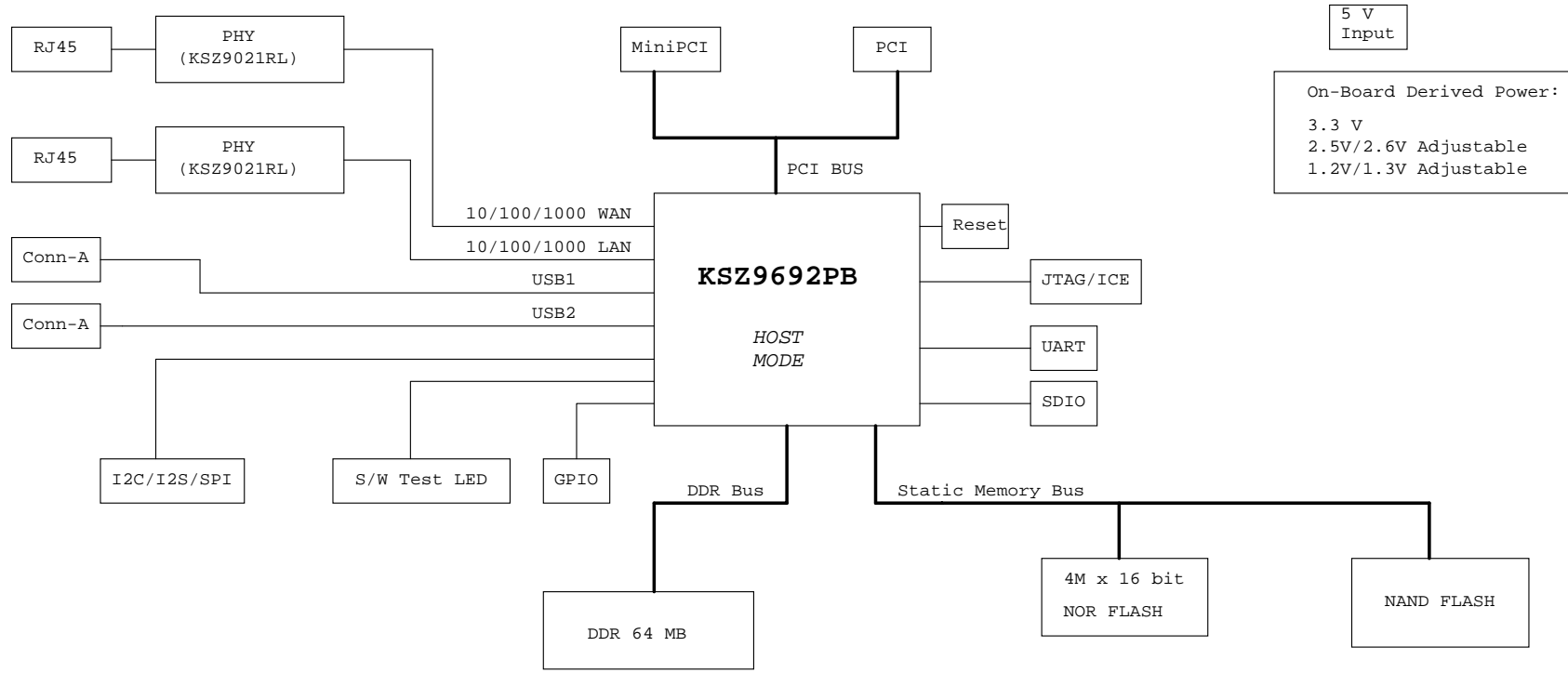
DATE:	DESCRIPTION	REVISION
04/27/09	Release	2.0
01/19/10	Support 32bit DDR. Remove terminator R249 and R250	2.1



CONFIDENTIAL & PROPRIETARY

MICREL SEMICONDUCTOR			
Title KSZ9092PB Marketing Eval Board Rev 2.1			
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# KSZ9692PB Marketing Eval Board Block Diagram



5 V Input

On-Board Derived Power:

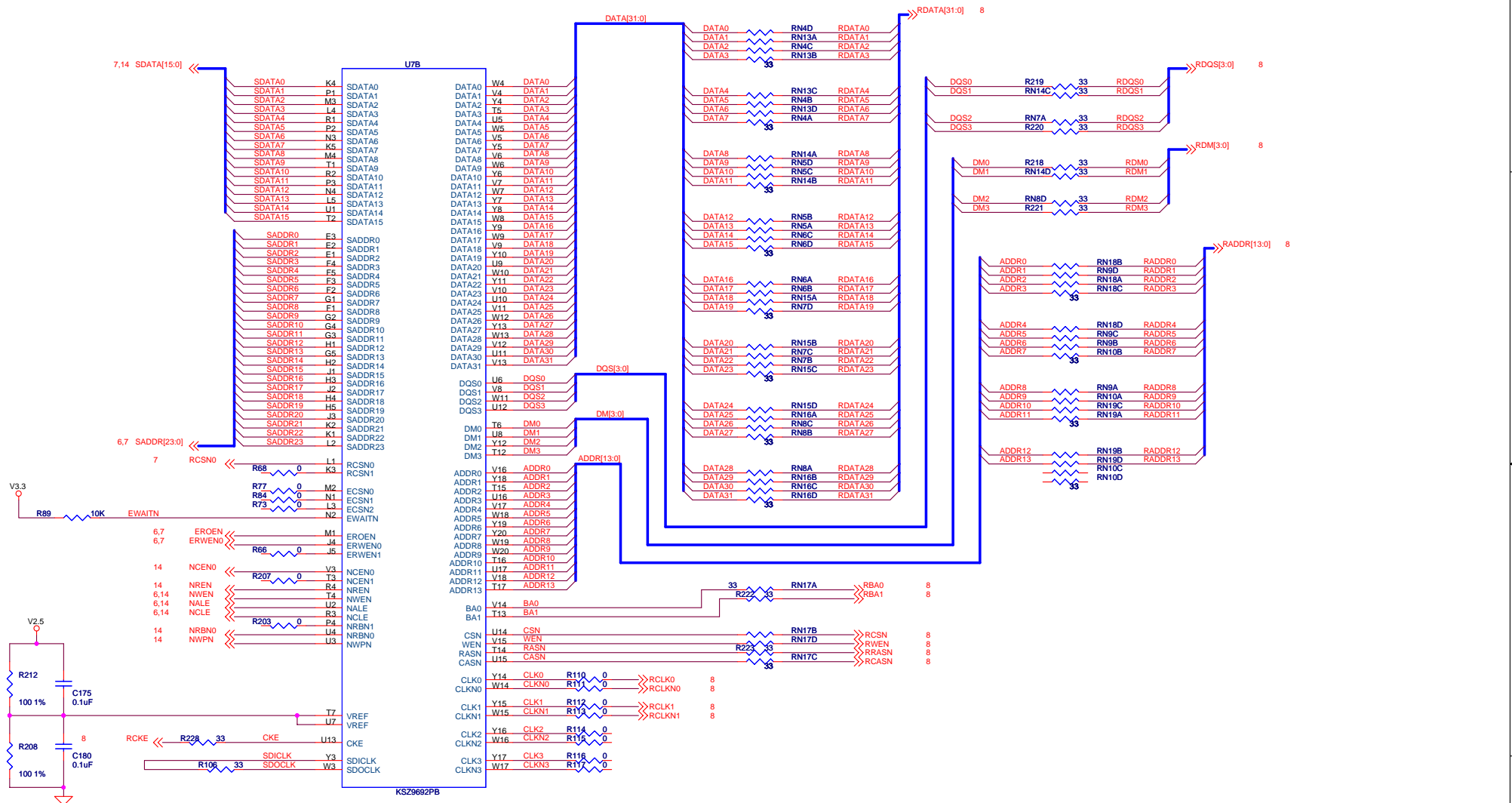
- 3.3 V
- 2.5V/2.6V Adjustable
- 1.2V/1.3V Adjustable

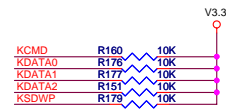
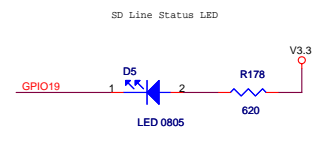
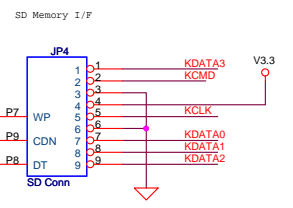
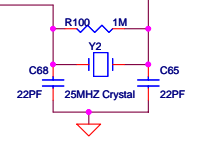
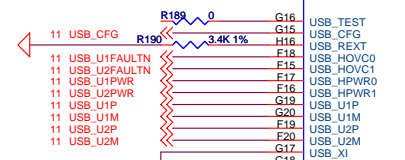
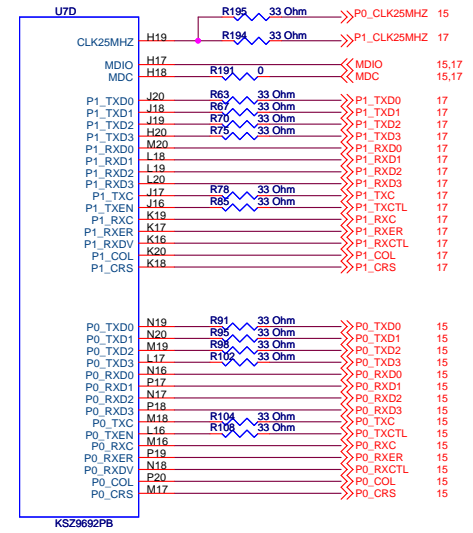
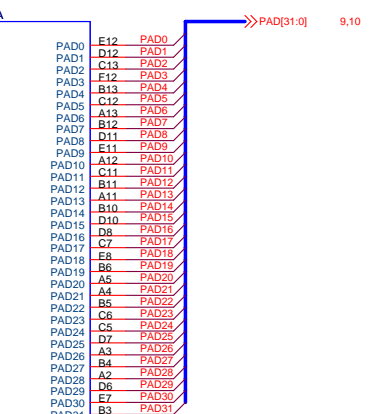
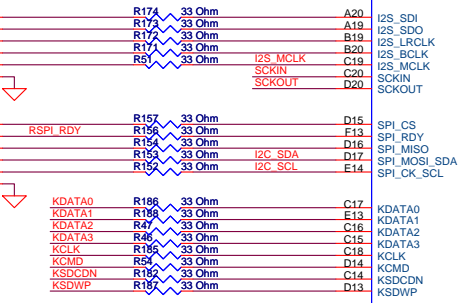
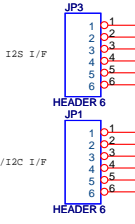
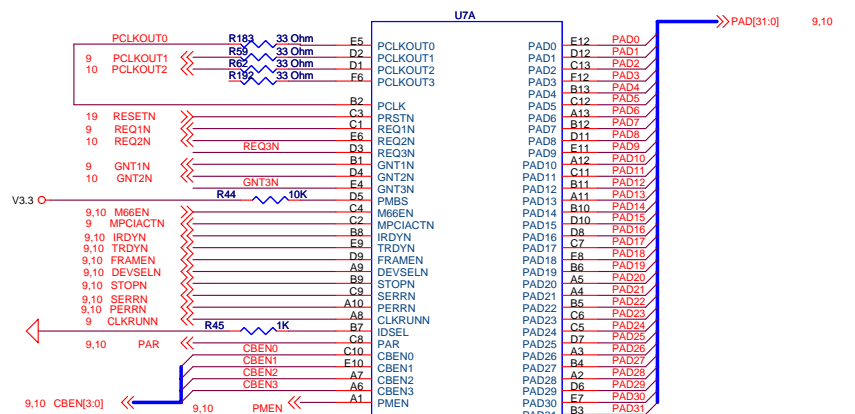
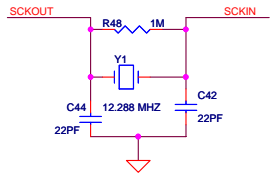
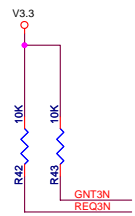


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Note: Support DDR 32-bit data width.





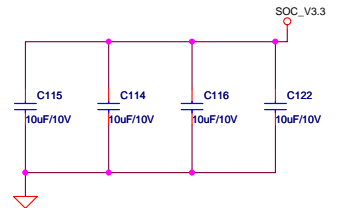
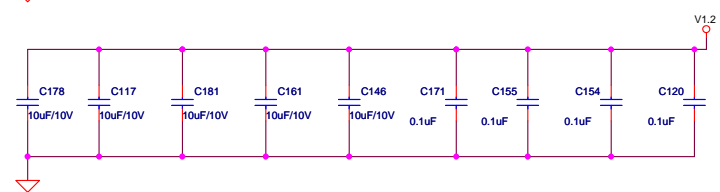
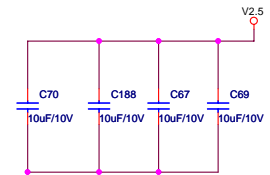
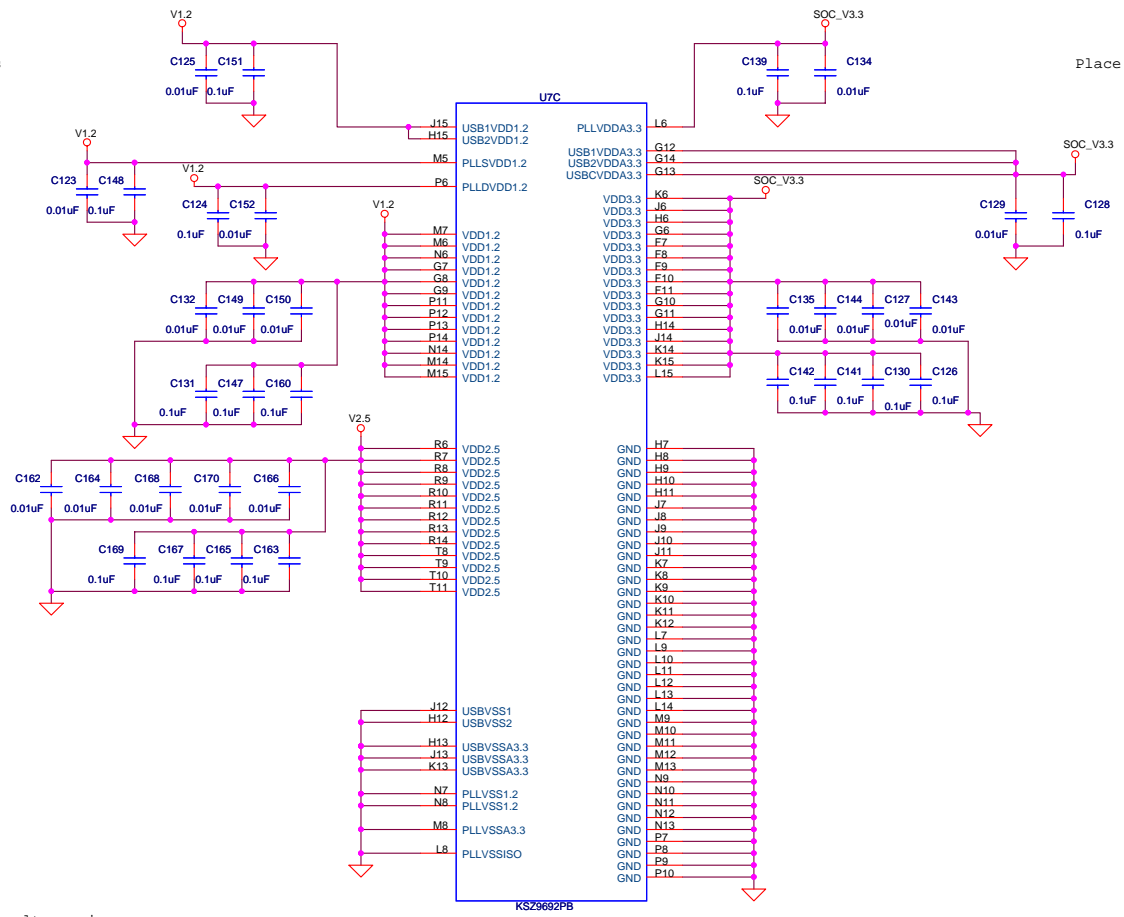
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Place V1.2 bypass caps next to BGA power pins

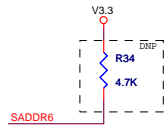
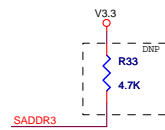
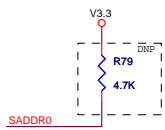
Place SOC\_V3.3 bypass caps next to BGA power pins

Place V2.5 bypass caps next to BGA power pins

Place caps close to the group of respective voltage pins



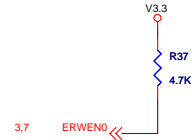
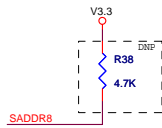
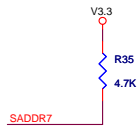
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Internal Pull-Down: NAND boot device small page size 512 byte (default)  
 External Pull-Up: NAND boot device small page size 528 byte

Internal Pull-Down: NAND boot device small block size (default)  
 External Pull-Up: NAND boot device large block size

Internal Pull-Down: NAND FLASH device does not support automatic page crossing (default)  
 External Pull-Up: NAND FLASH device supports automatic page crossing

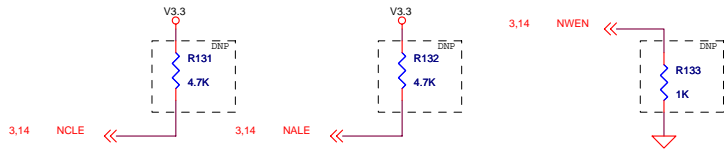


External Pull-Up: 16-bit boot device

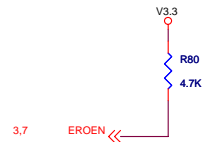
Internal Pull-Down: boot from NOR device (default)  
 External Pull-Up: boot from NAND device

Internal Pull-Down: MII mode  
 External Pull-Up: RGMII mode (default)

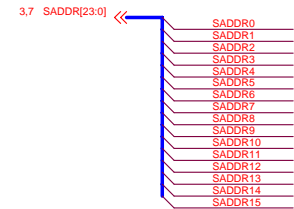
Internal Pull-Down: MII mode  
 External Pull-Up: RGMII mode (default)



NAND boot device size:128Mbit (default)

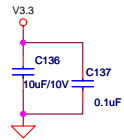
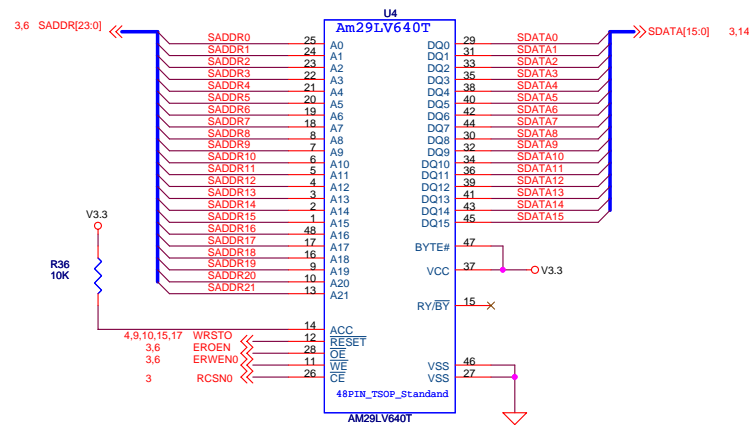


External Pull-Up: WRSTO is active low

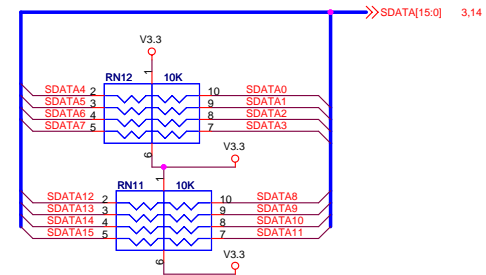


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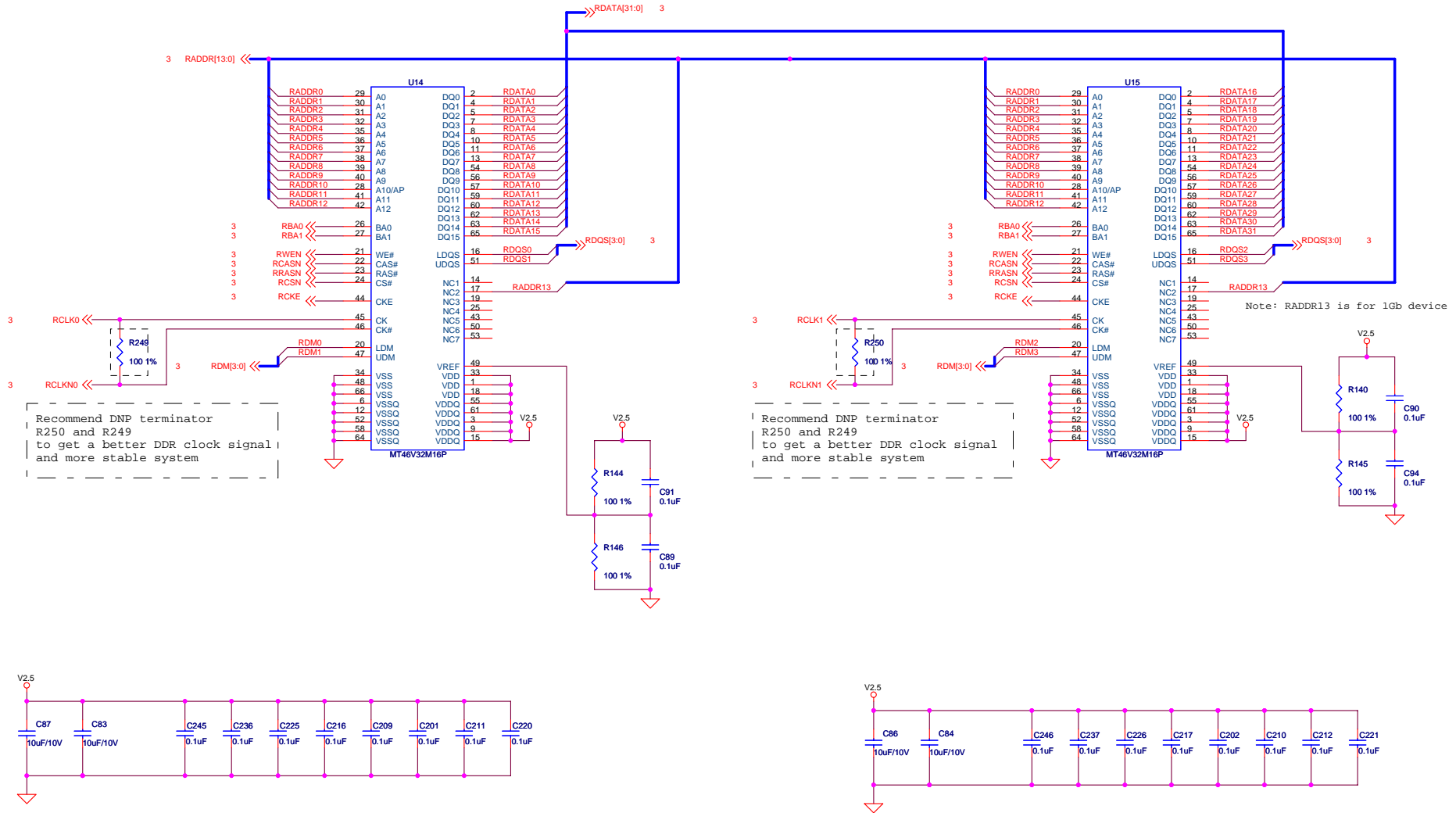
### Boot NOR Flash



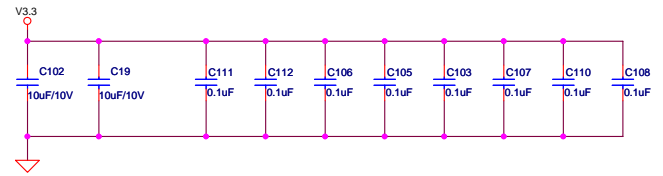
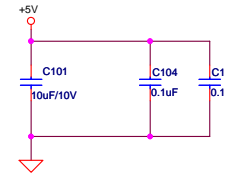
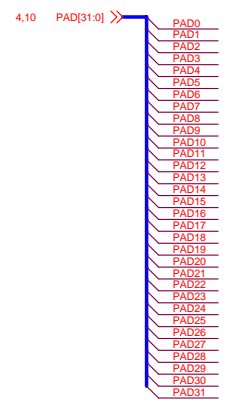
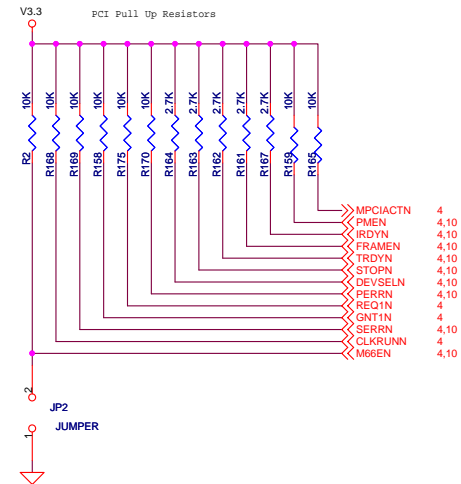
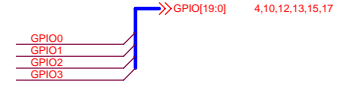
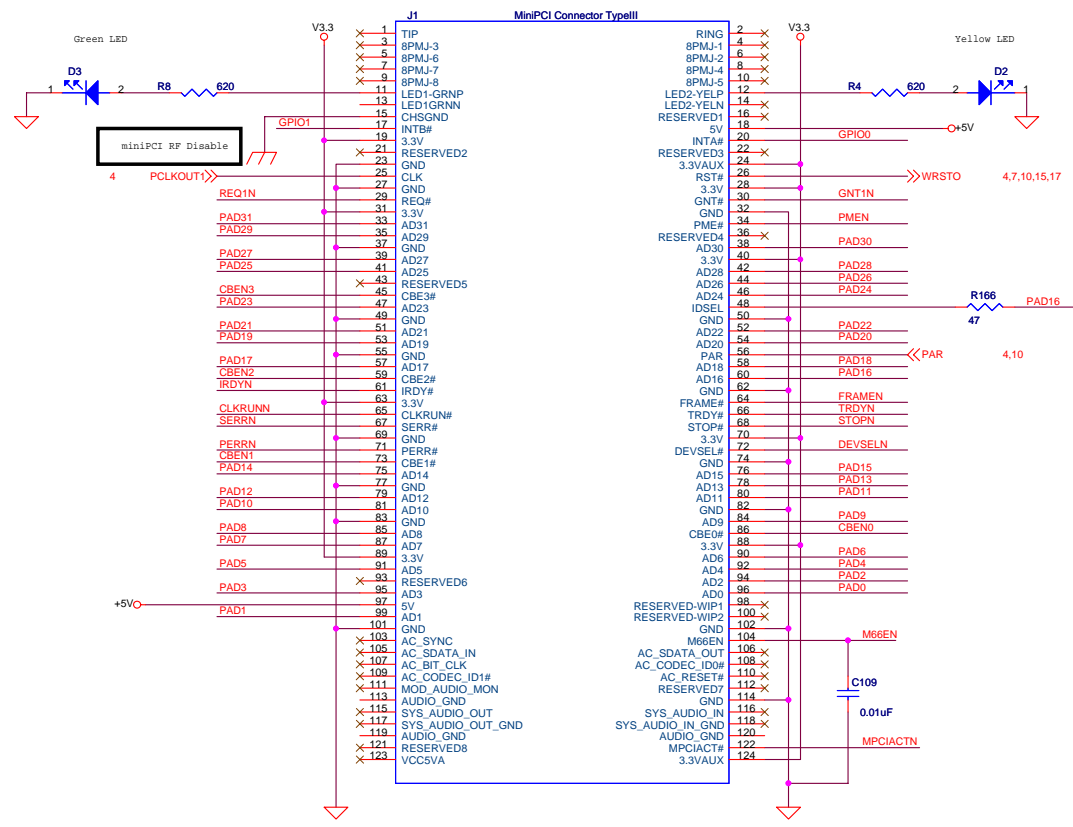
### Static memory data bus pullup



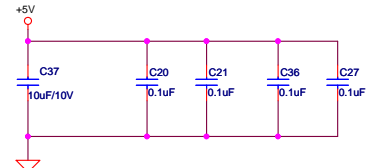
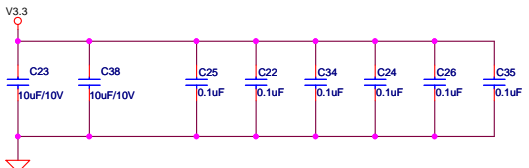
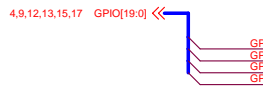
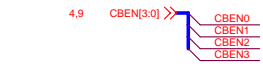
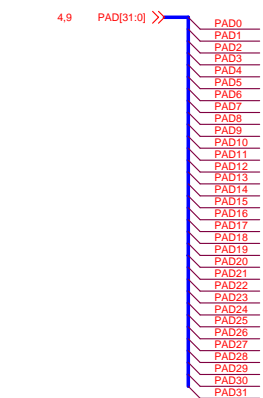
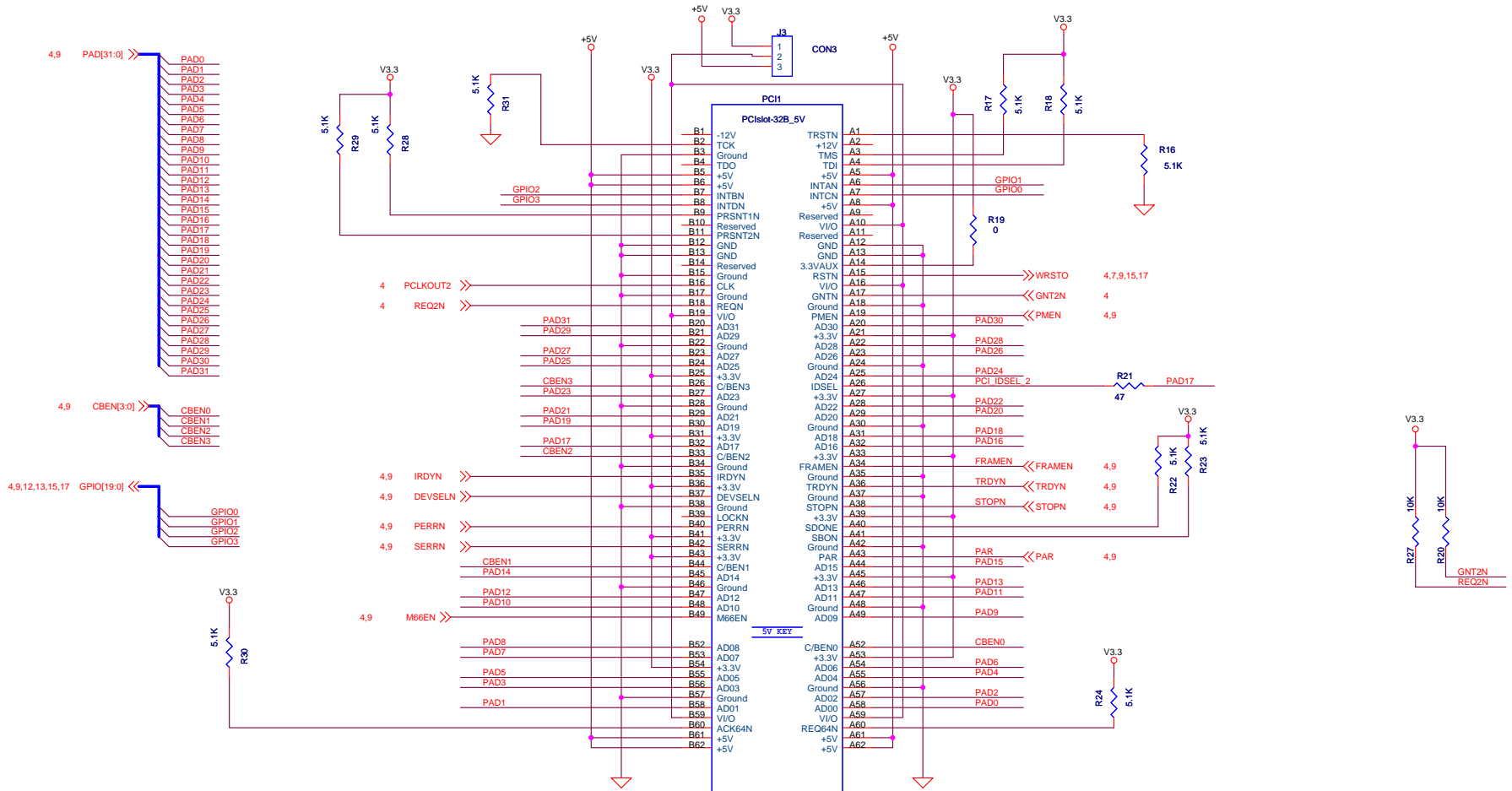
Note: Support DDR 32-bit data width



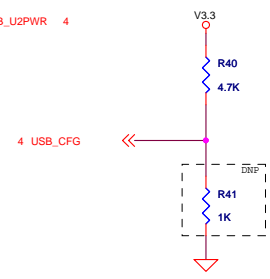
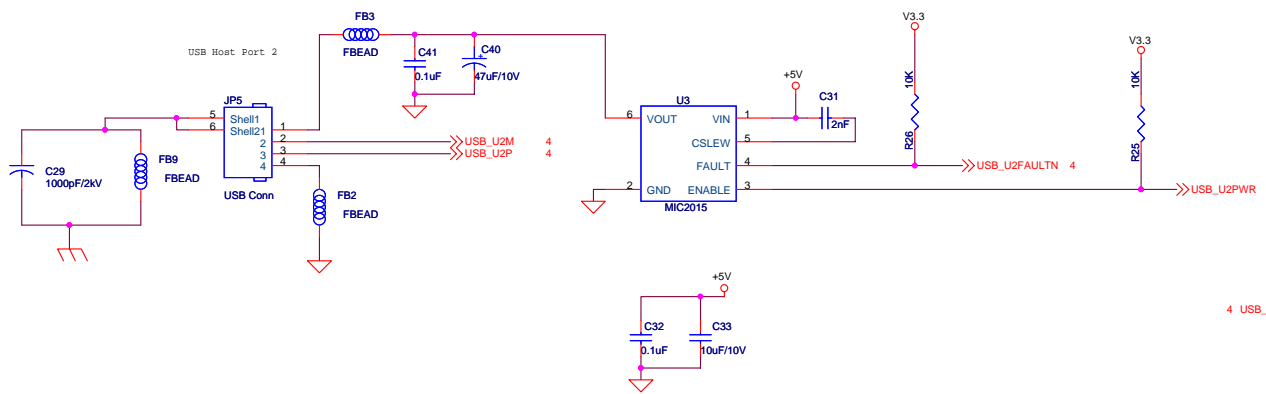
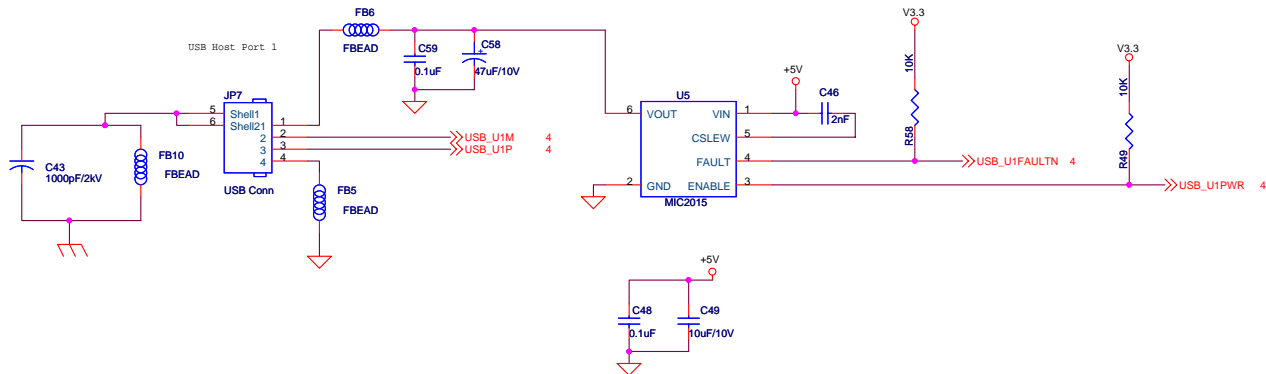




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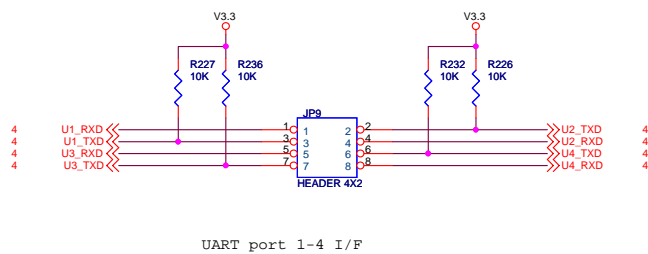
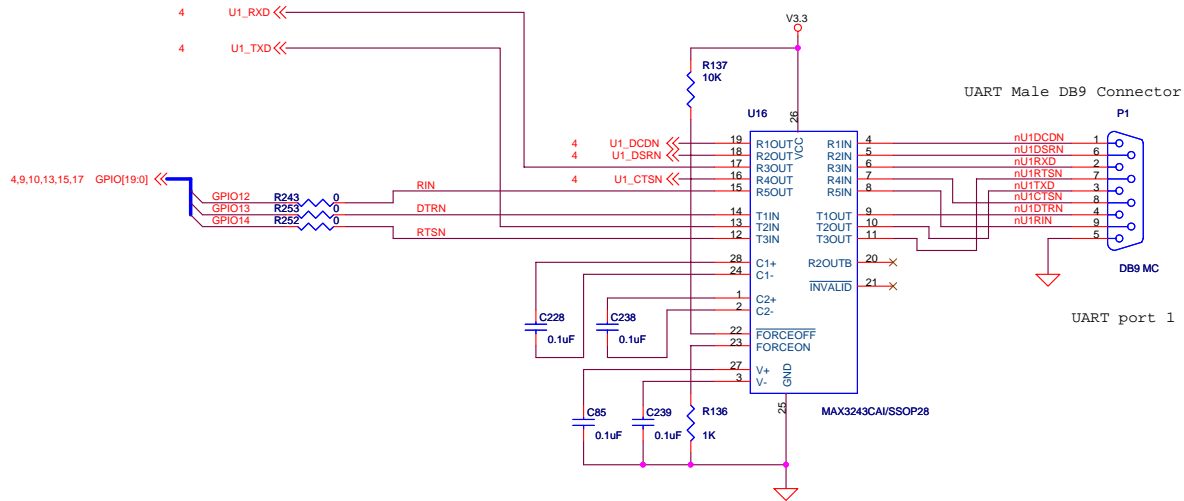
MICREL SEMICONDUCTOR			
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USB port 2 configuration:  
 R71 installed: USB port 2 is Host (default)  
 R67 installed: USB port 2 is Device

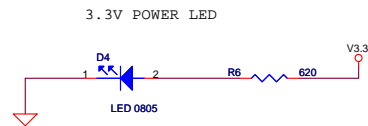
Caution: if Port 2 is configured as Device, do not apply external power to JP5 or remove FB2

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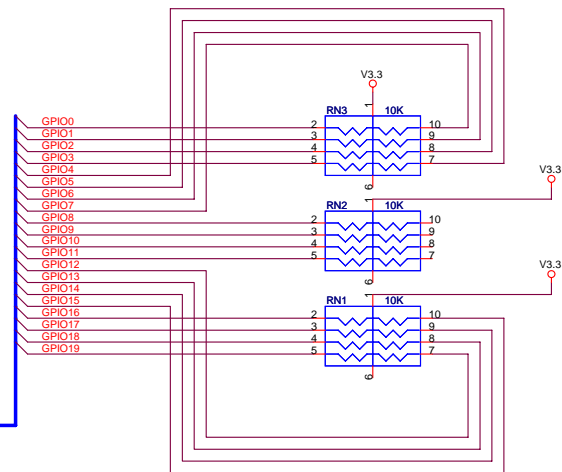
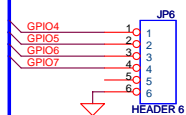


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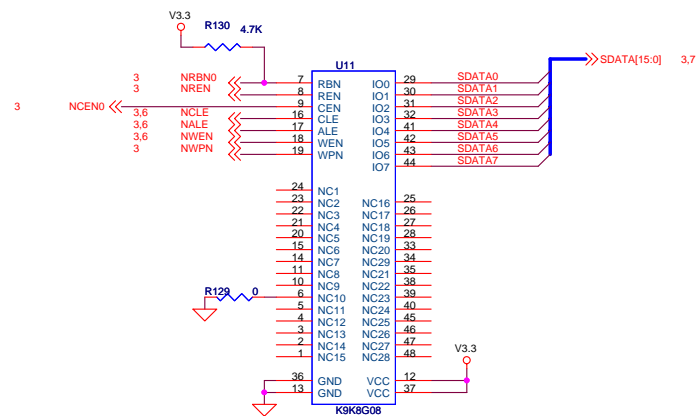
Programmable GPIO LED Indicators



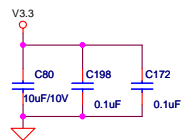
User Programmable GPIO

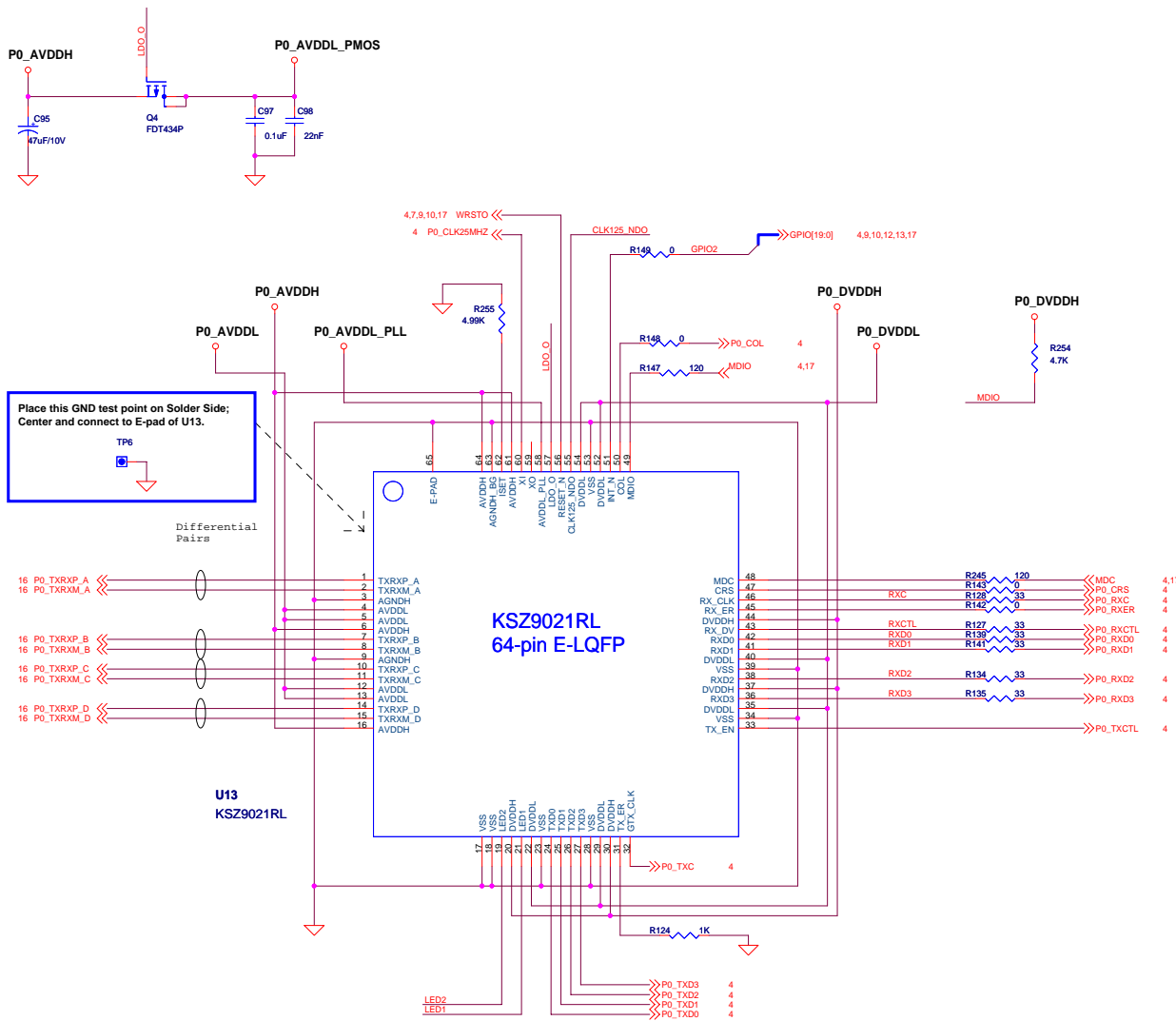


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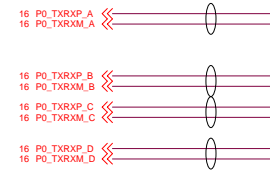


Note: U11 is DNP





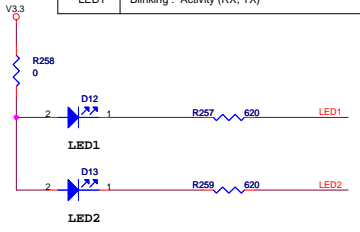
Place this GND test point on Solder Side; Center and connect to E-pad of U13.



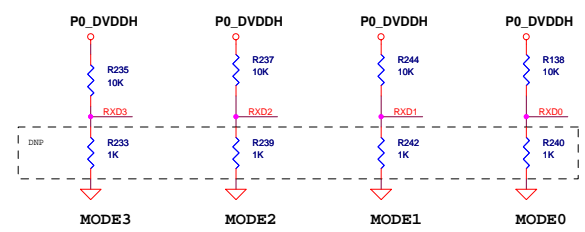
U13  
KSZ9021RL

Two single LEDs

Pin	Description
LED2	1 : Link off 0 : Link on (any speed), solid color
LED1	Blinking : Activity (RX, TX)

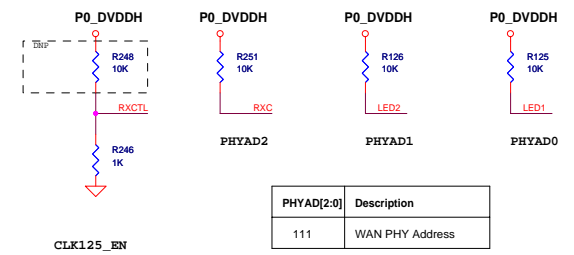


### Strapping Pins

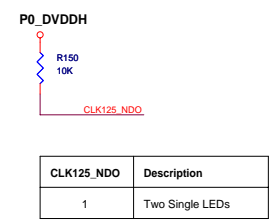


MODE[3:0]	Description
0000	reserved
0001	reserved
0010	reserved
0011	reserved
0100	NAND Tree mode
0101	reserved
0110	reserved
0111	reserved

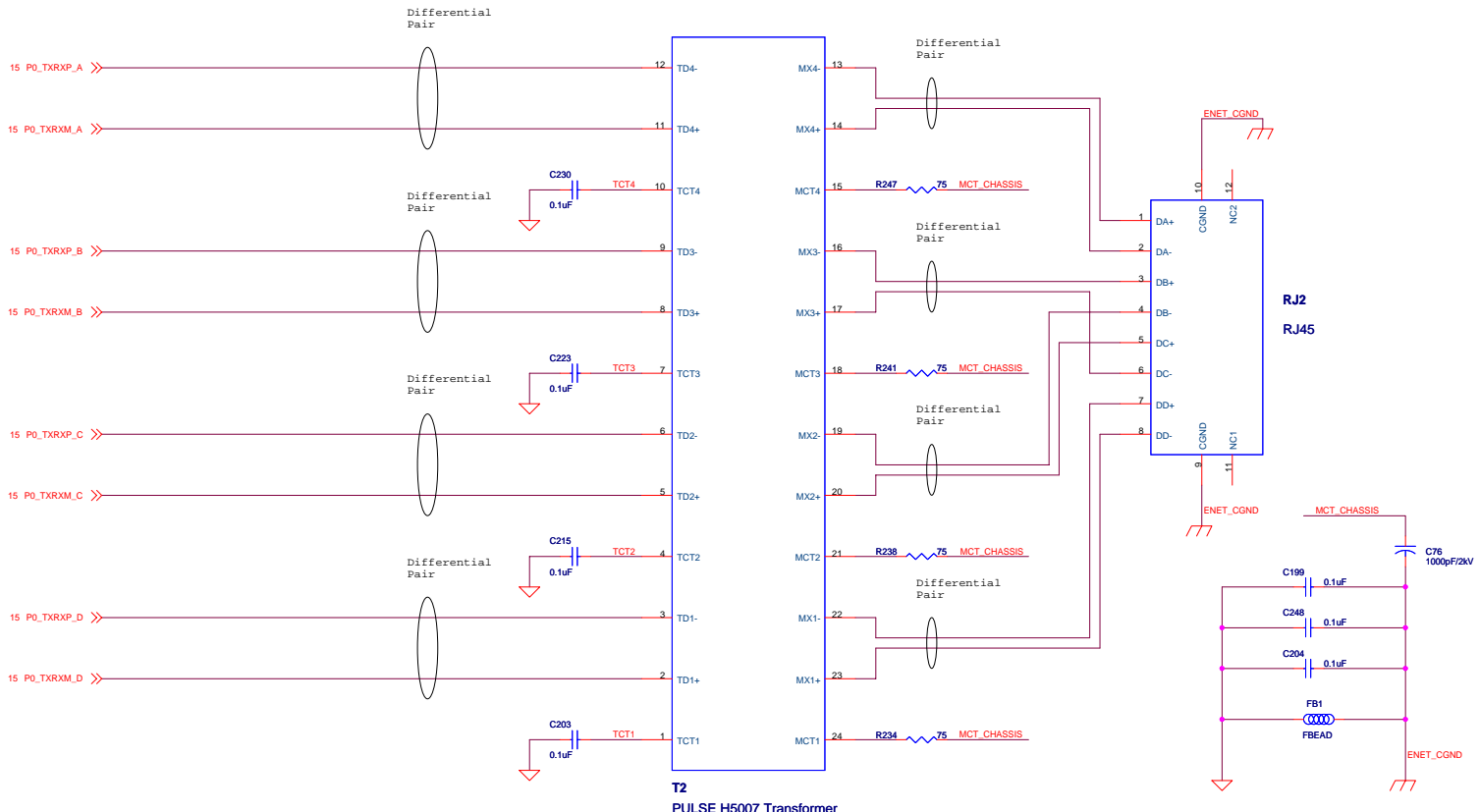
MODE[3:0]	Description
1000	reserved
1001	reserved
1010	reserved
1011	reserved
1100	Advertise 1000BT full-duplex only (RGMII)
1101	Advertise 1000BT full- and half-duplex only (RGMII)
1110	Advertise all capabilities, except 1000BT half-duplex (RGMII)
1111	<b>Advertise all capabilities (RGMII)- DEFAULT</b>



PHYAD[2:0]	Description
111	WAN PHY Address

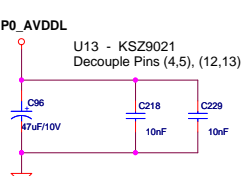
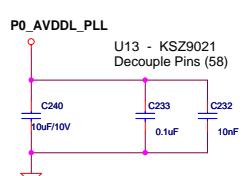
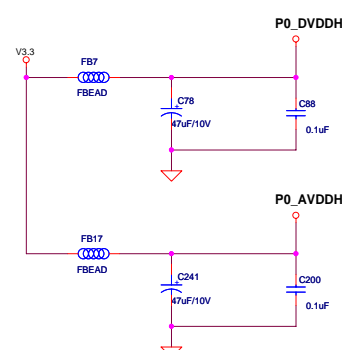
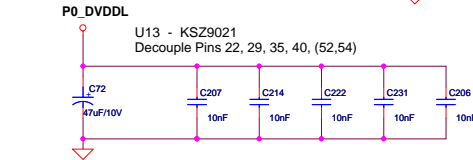
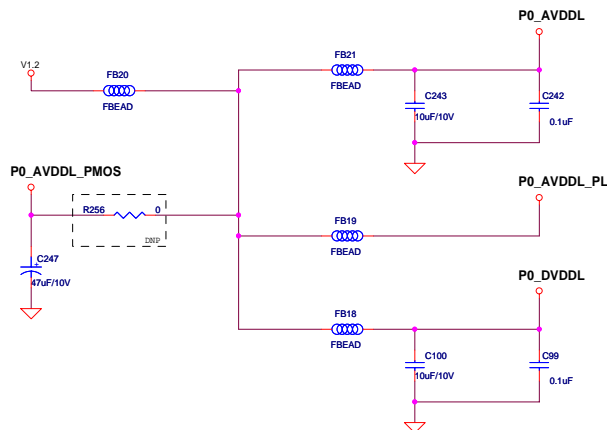
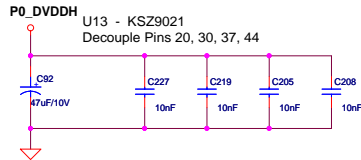
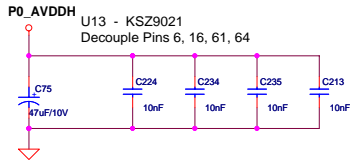


CLK125_NDO	Description
1	Two Single LEDs

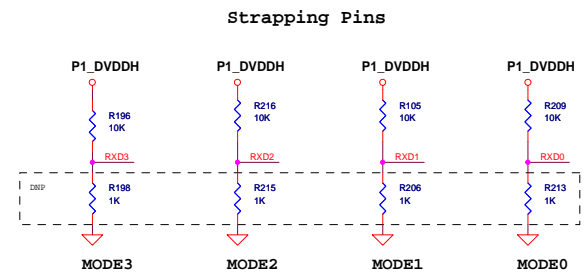
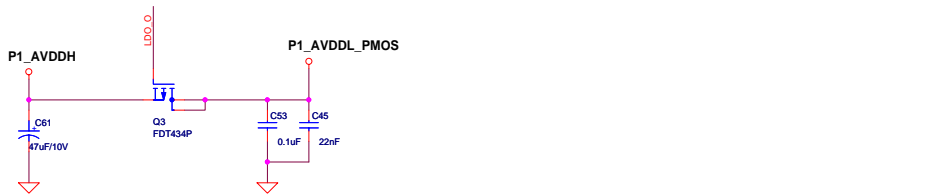


**T2**  
PULSE H5007 Transformer

**RJ45**

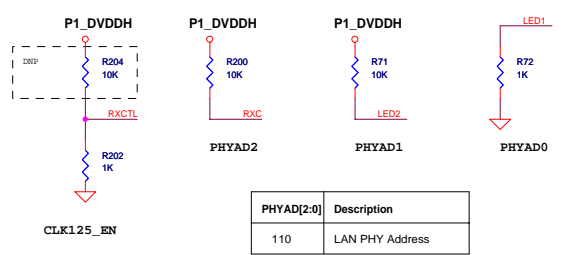
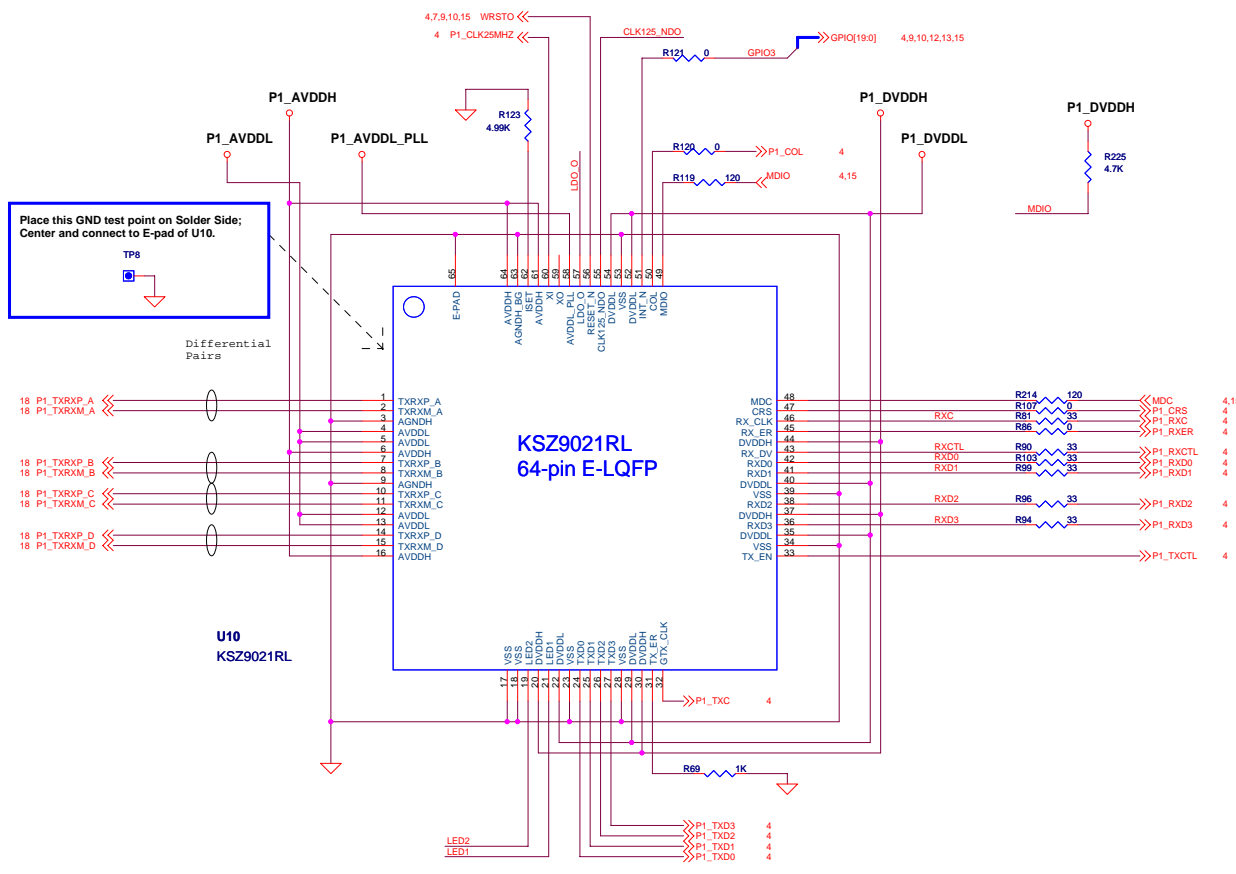




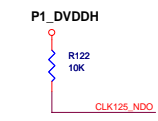


MODE[3:0]	Description	MODE[3:0]	Description
0000	reserved	1000	reserved
0001	reserved	1001	reserved
0010	reserved	1010	reserved
0011	reserved	1011	reserved
0100	NAND Tree mode	1100	Advertise 1000BT full-duplex only (RGMII)
0101	reserved	1101	Advertise 1000BT full- and half-duplex only (RGMII)
0110	reserved	1110	Advertise all capabilities, except 1000BT half-duplex (RGMII)
0111	reserved	1111	Advertise all capabilities (RGMII)- DEFAULT

Place this GND test point on Solder Side; Center and connect to E-pad of U10.



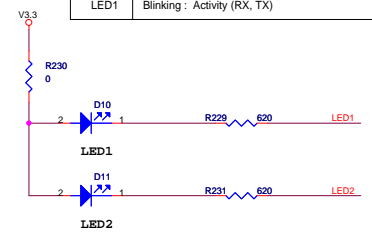
PHYAD[2:0]	Description
110	LAN PHY Address

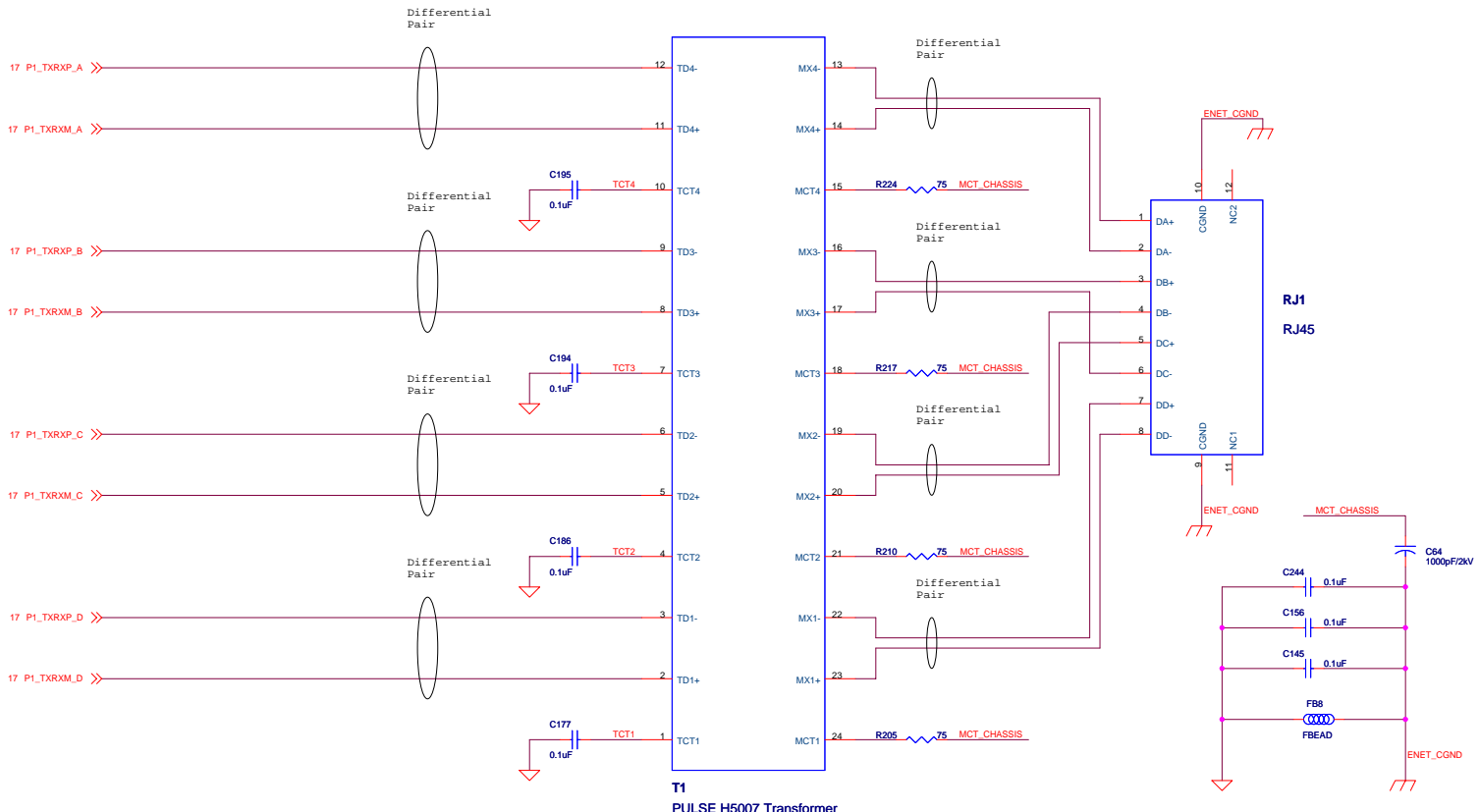


CLK125_NDO	Description
1	Two Single LEDs

Two single LEDs

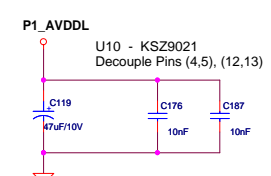
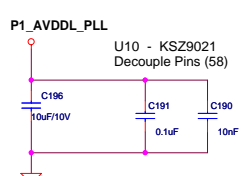
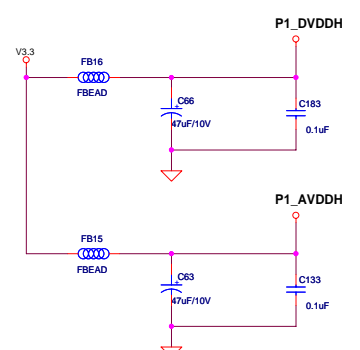
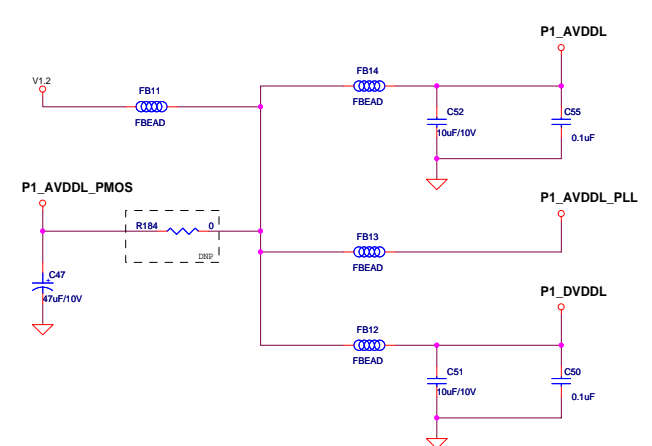
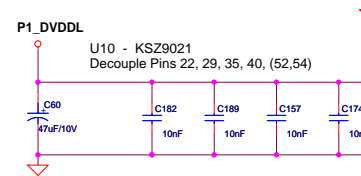
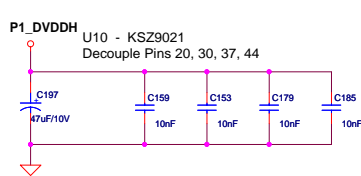
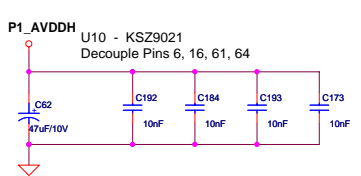
Pin	Description
LED2	1 : Link off 0 : Link on (any speed), solid color
LED1	Blinking : Activity (RX, TX)



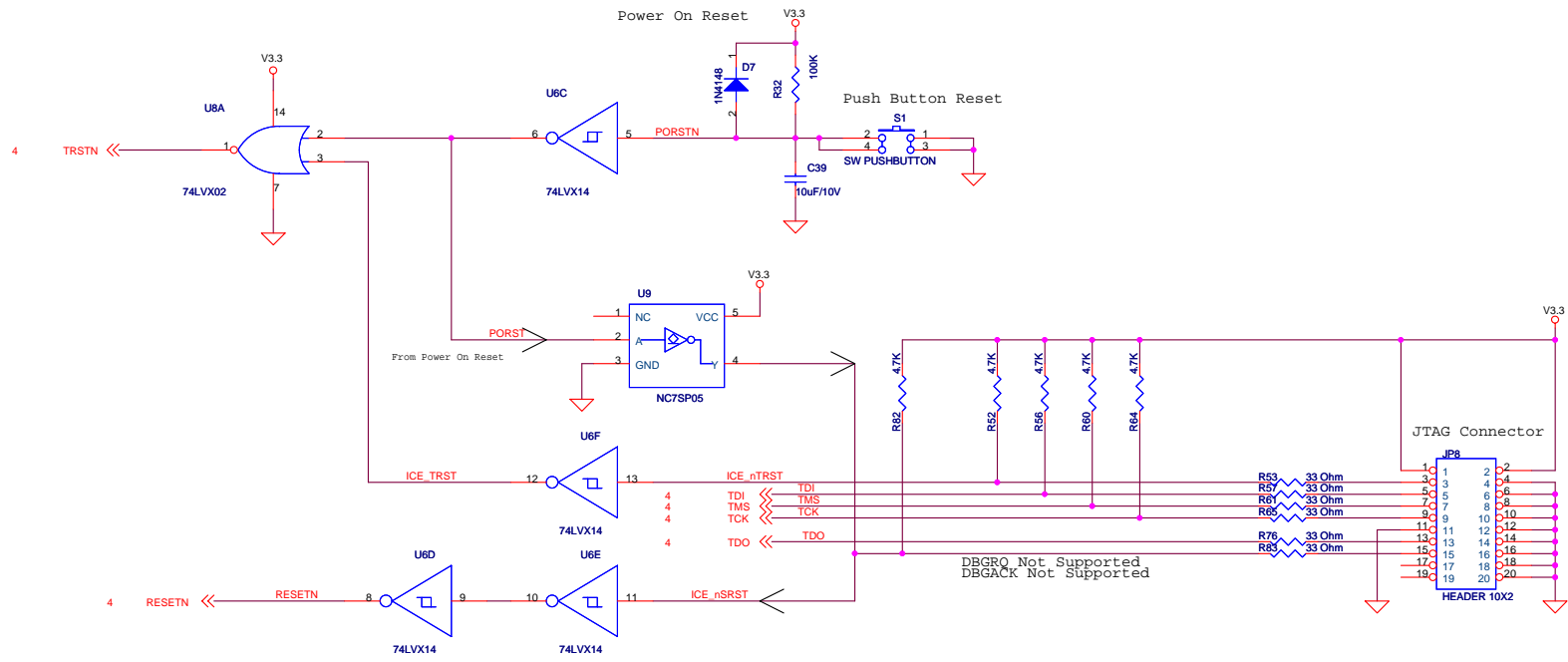


**T1**  
PULSE H5007 Transformer

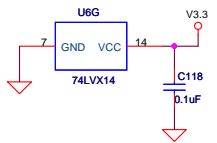
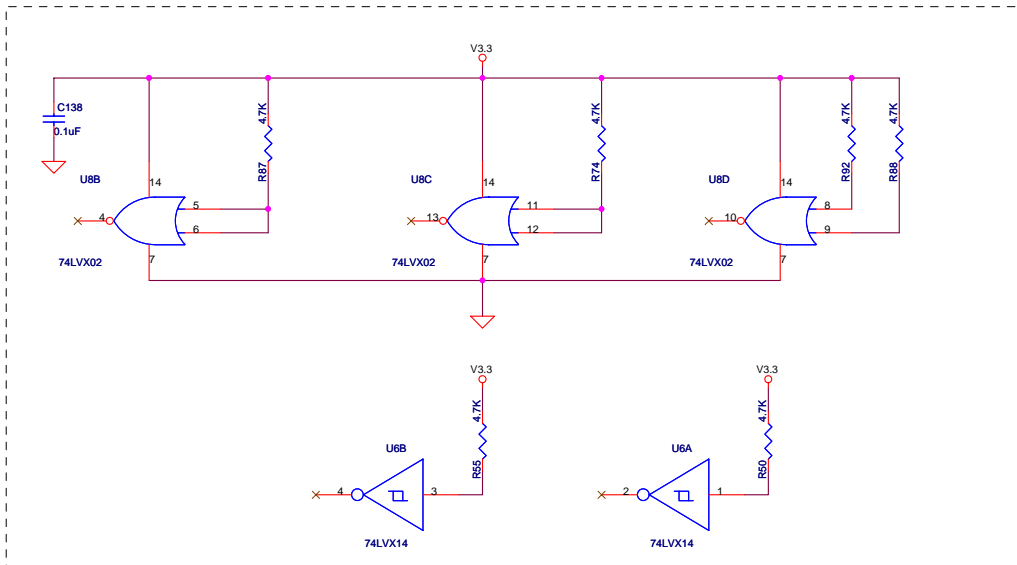
**RJ1**  
RJ45



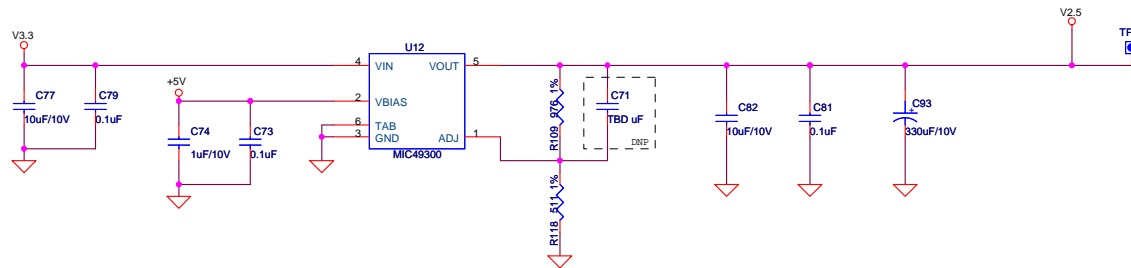
Micrel, Inc.		
Title: KSZ9021PB Marketing Eval Board Rev 2.1		
Size: C	Document Number: Ethernet LAN Transformer-Power	Rev: 2.1
Date: Tuesday, January 19, 2010	Sheet: 18	of: 22



Spare Gates

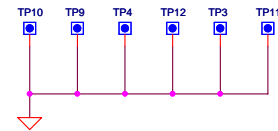


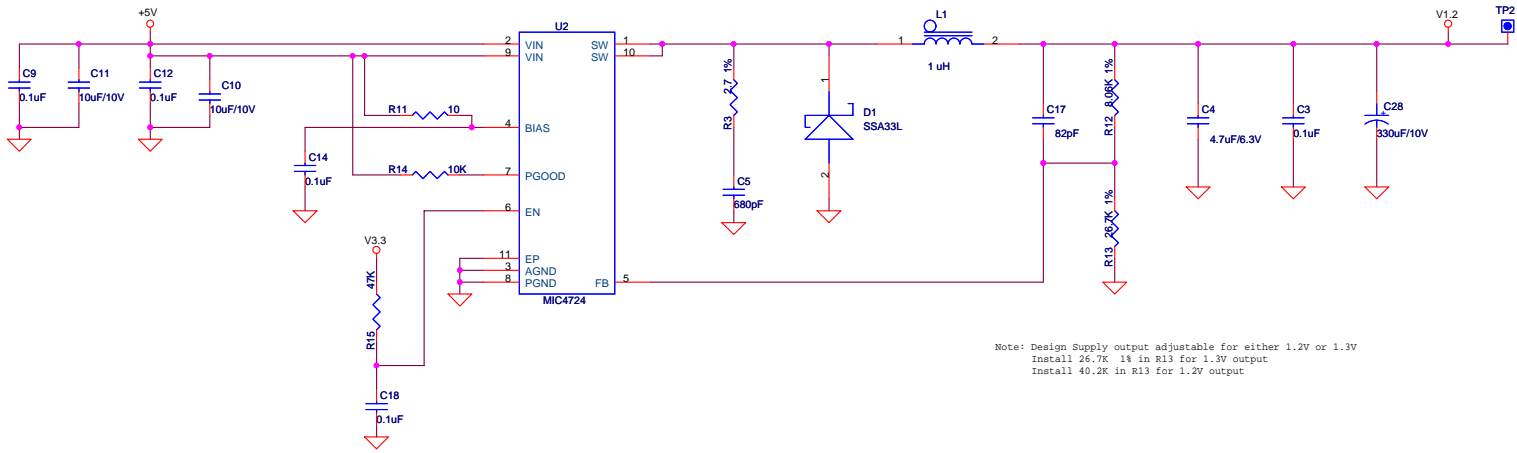
MICREL SEMICONDUCTOR			
Title KSZ9692PB Marketing Eval Board Rev 2.1			
Size Custom	Document Number JTAG - RESET	Rev 2.1	
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Note: V2.5 must be adjusted to 2.6V for Micron DDR device MT46V32M16-5B. See Micron Electrical Specification.  
 For DDR devices that require 2.5V, install 1K in R109, 562 ohm in R118

Ground Test Points

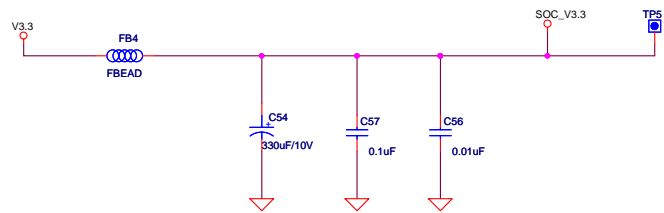
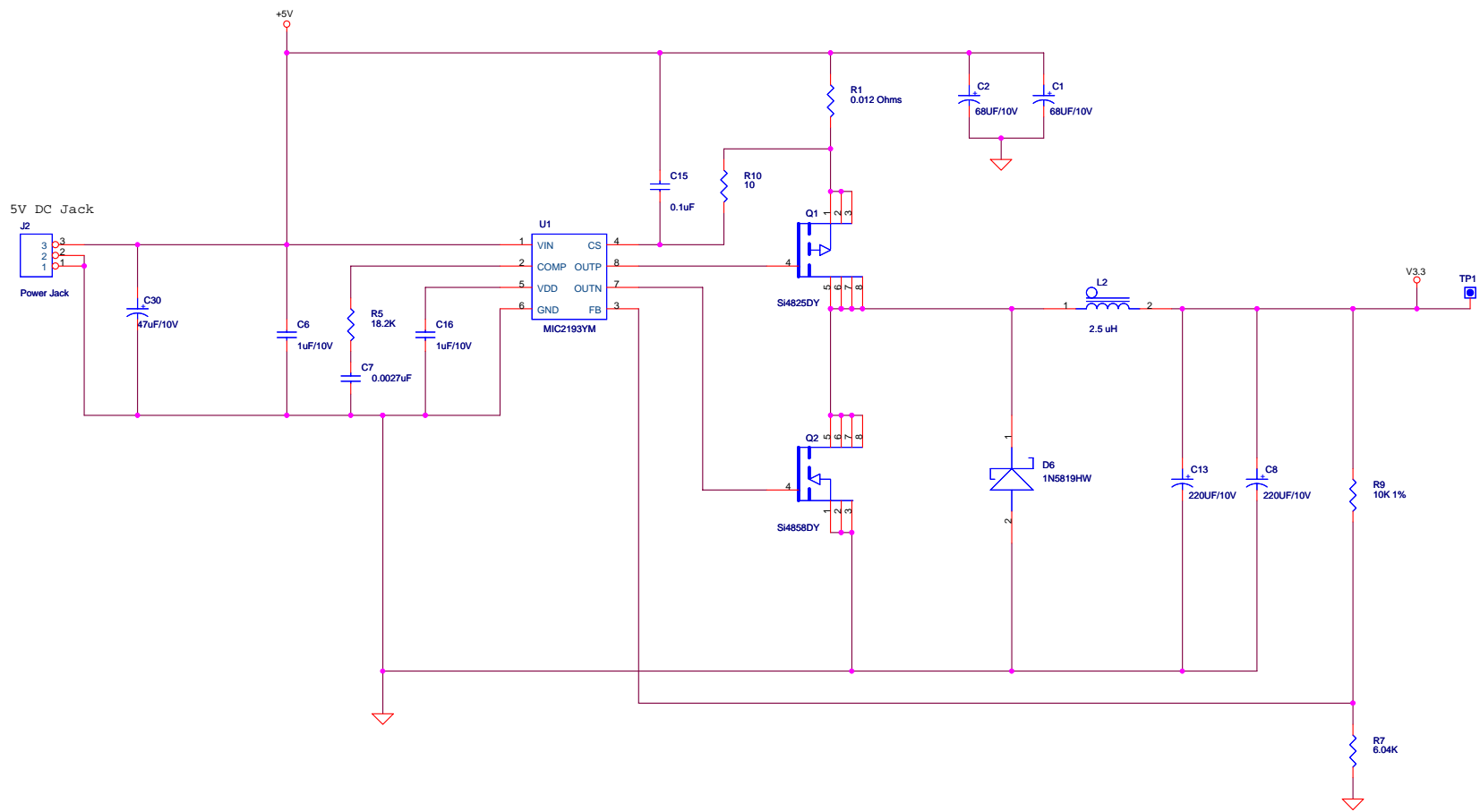




Note: Design Supply output adjustable for either 1.2V or 1.3V  
 Install 26.7K Ω in R13 for 1.3V output  
 Install 40.2K Ω in R13 for 1.2V output

Note: RC added to EN control to enforce power sequencing

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MICREL SEMICONDUCTOR			
Title KSZ9692PB Marketing Eval Board Rev 2.1			
Size Custom	Document Number 3.3V Power		Rev 2.1
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