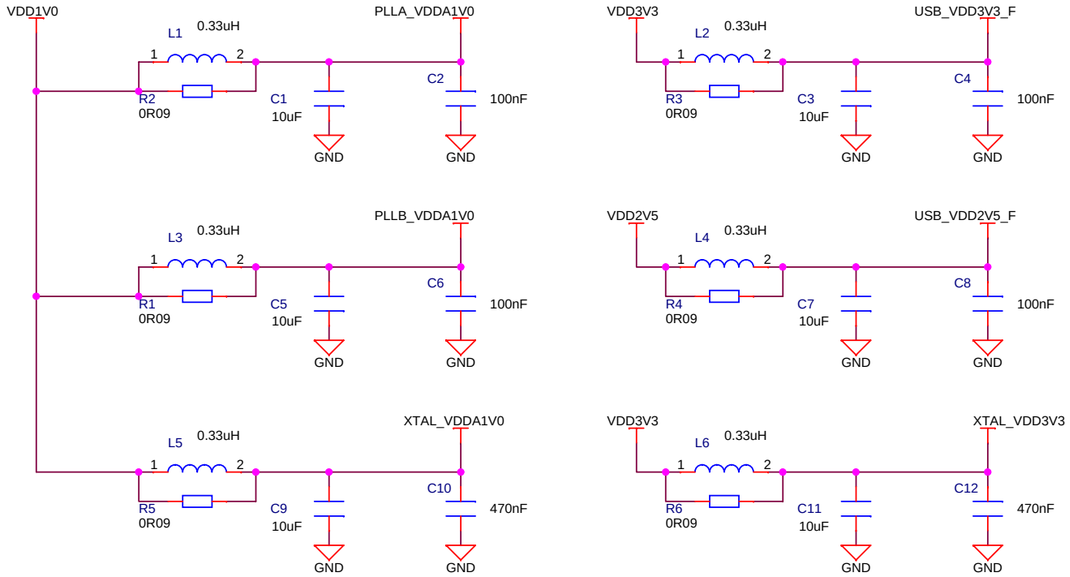
NAS7821/0 Reference Schematic

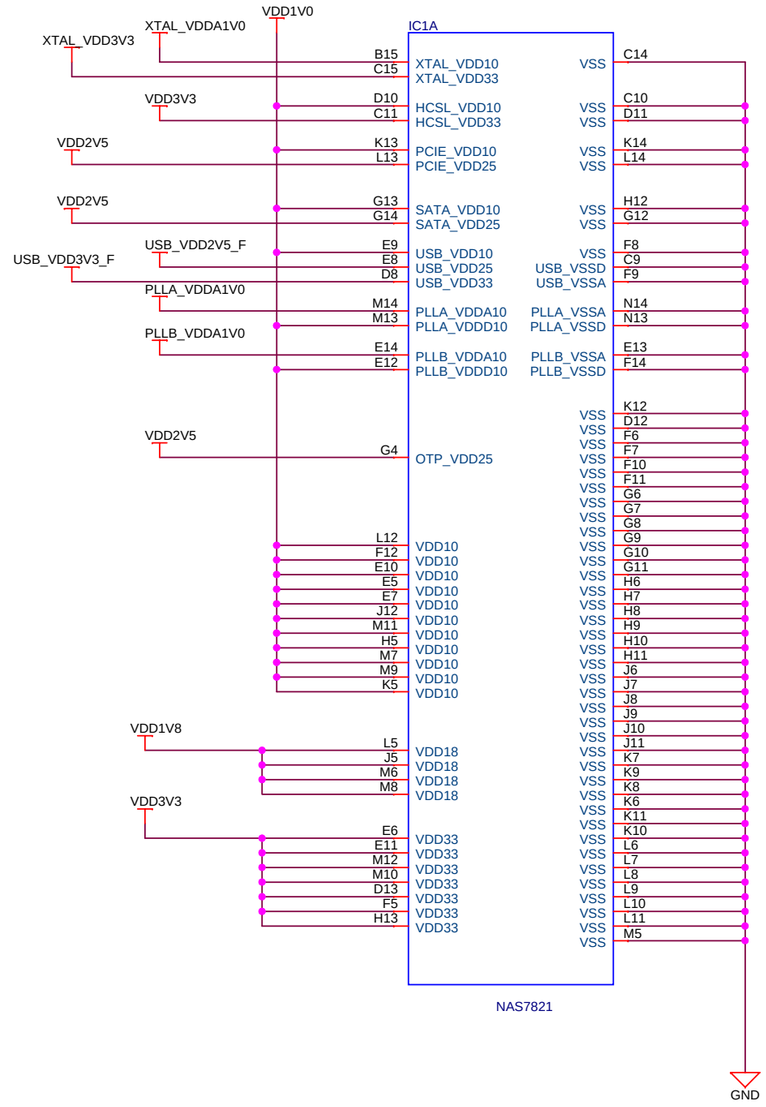
Doc No: SD_K149H10

Overall Revision:	1.0	1.1
Sheet Number | Rev'n	----------	----------
2	1.0	1.0
3	1.0	1.0
4	1.0	1.1
5	1.0	1.0
6	1.0	1.0
7	1.0	1.0

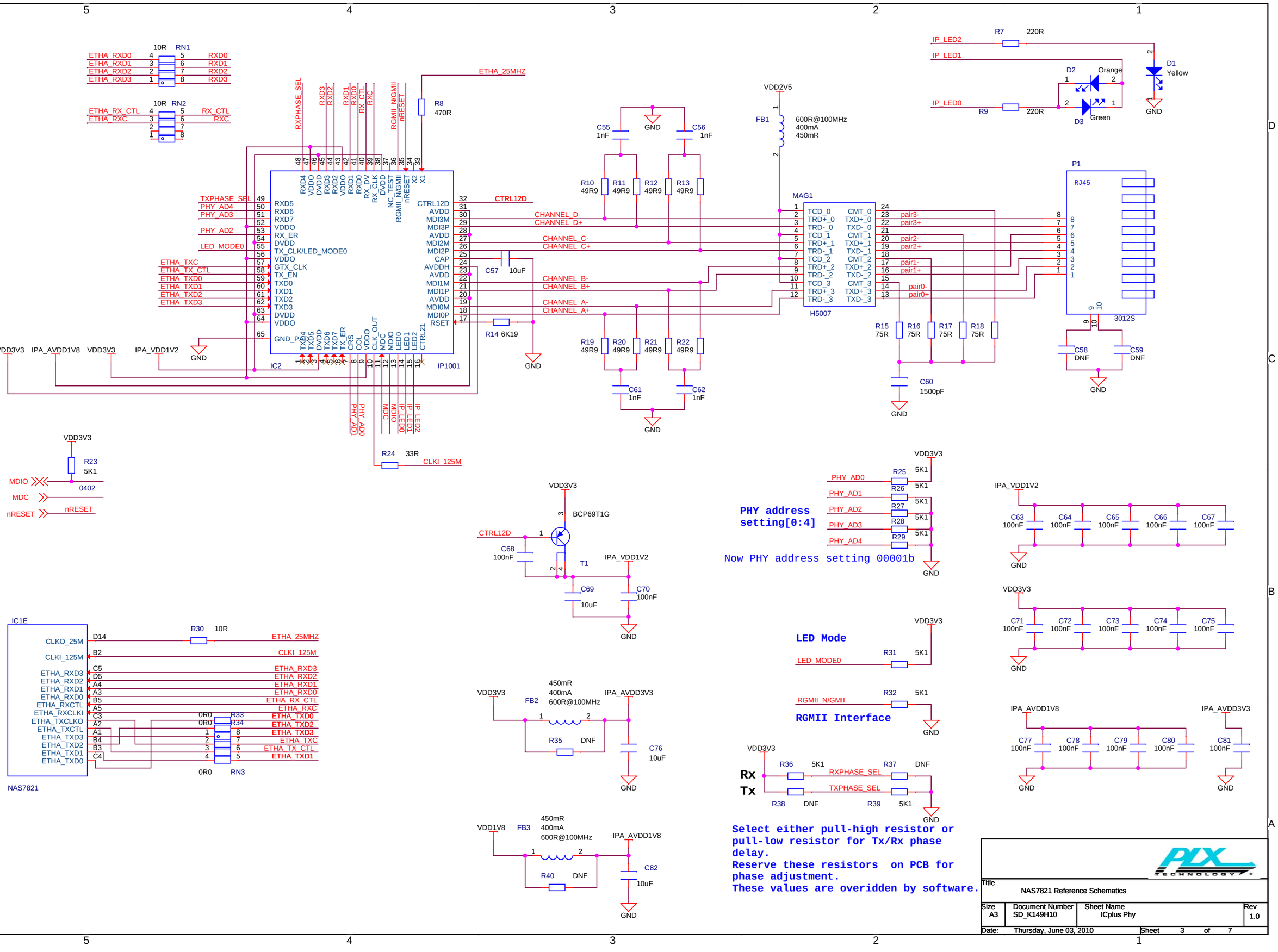
PLX TECHNOLOGY

Title: NAS7821 Reference Schematics			
Size: A3	Document Number: SD_K149H10	Sheet Name: Front page	Rev: 1.1
Date: Thursday, June 03, 2010	Sheet 1 of 7		

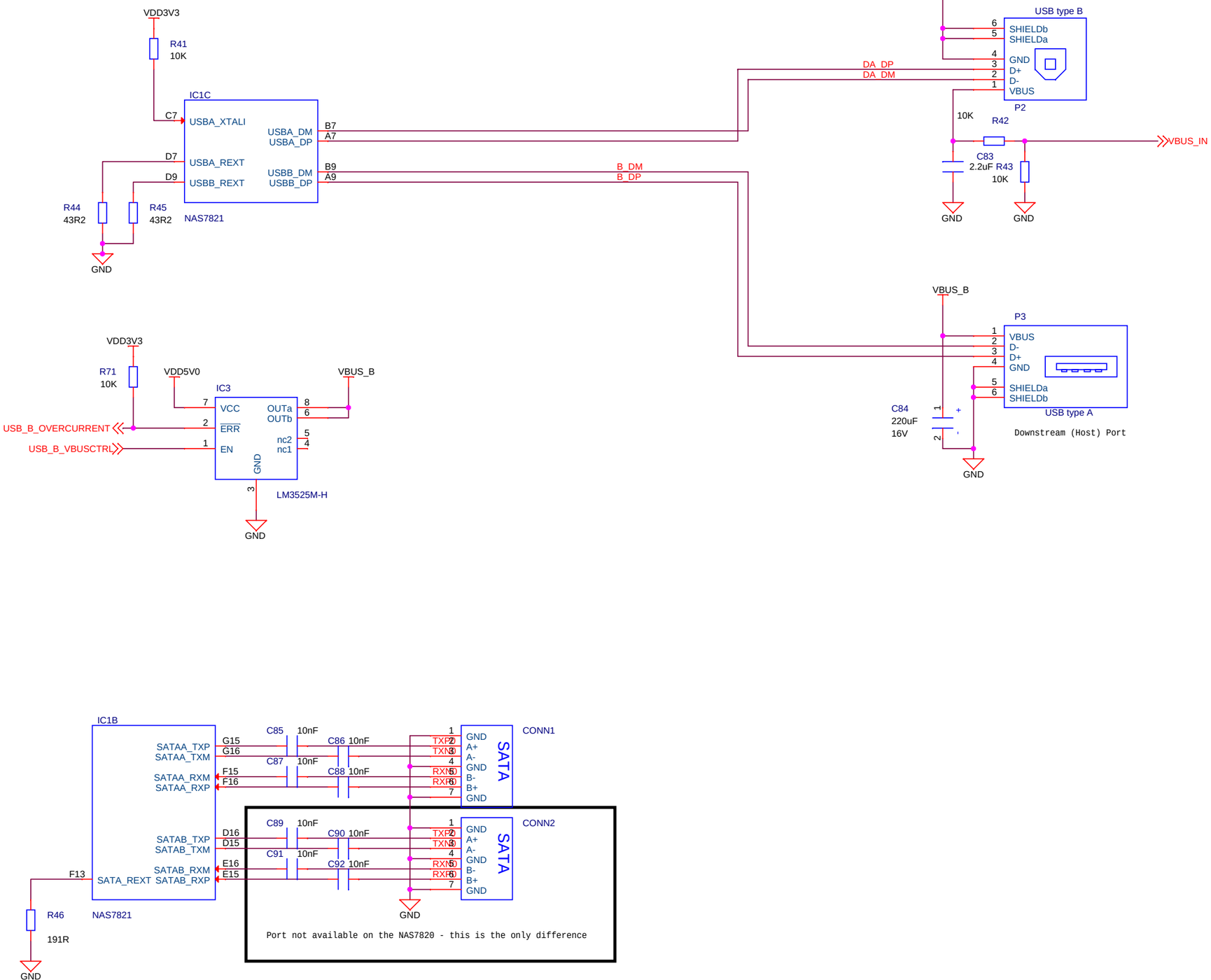




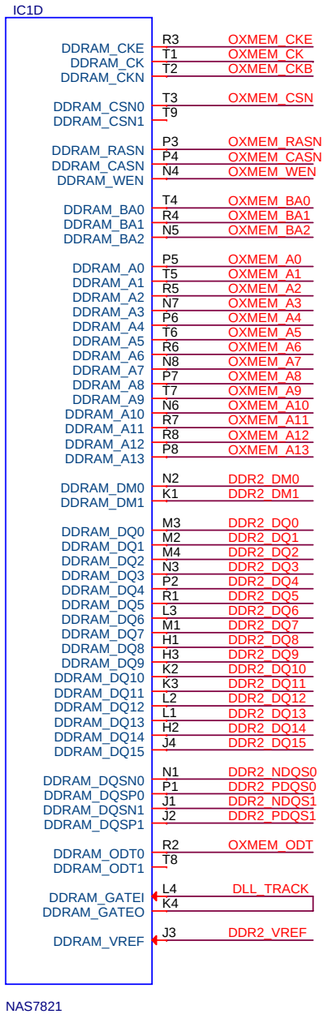
Title: NAS7821 Reference Schematics			
Size: A3	Document Number: SD_K149H10	Sheet Name: NAS7821 Power connections	Rev: 1.0
Date: Thursday, June 03, 2010	Sheet 2 of 7		

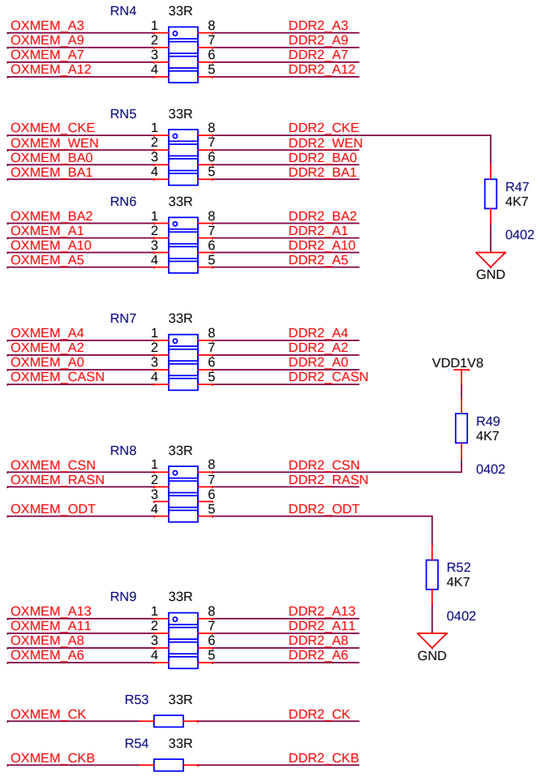


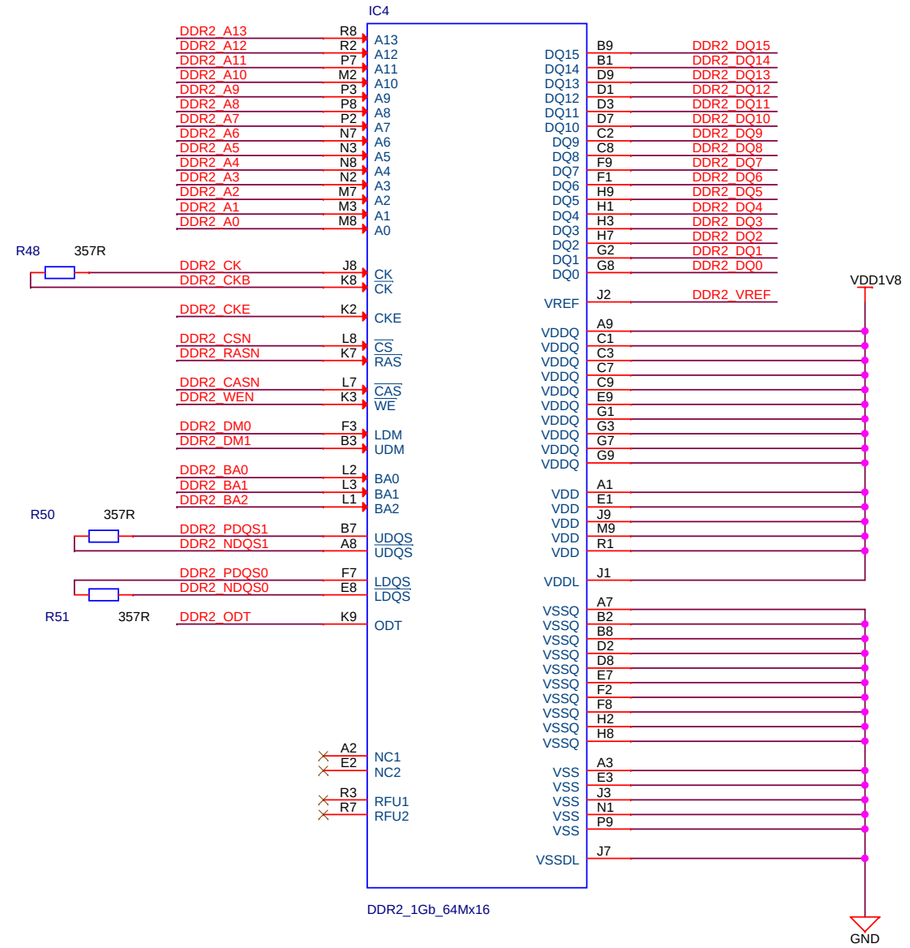
Title	NAS7821 Reference Schematics		
Size A3	Document Number SD_K149H10	Sheet Name ICplus Phy	Rev 1.0
Date: Thursday, June 03, 2010	Sheet 3 of 7		



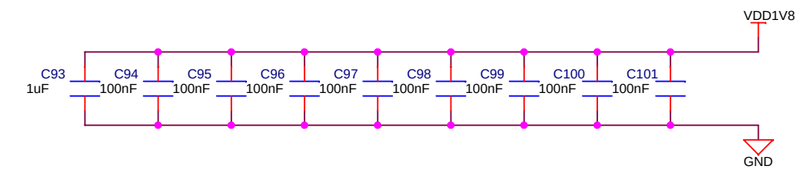
Title	NAS7821 Reference Schematics		
Size A3	Document Number SD_K149H10	Sheet Name USB and SATA	Rev 1.1
Date: Thursday, June 03, 2010	Sheet 4 of 7		

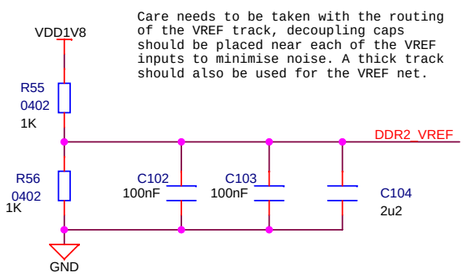






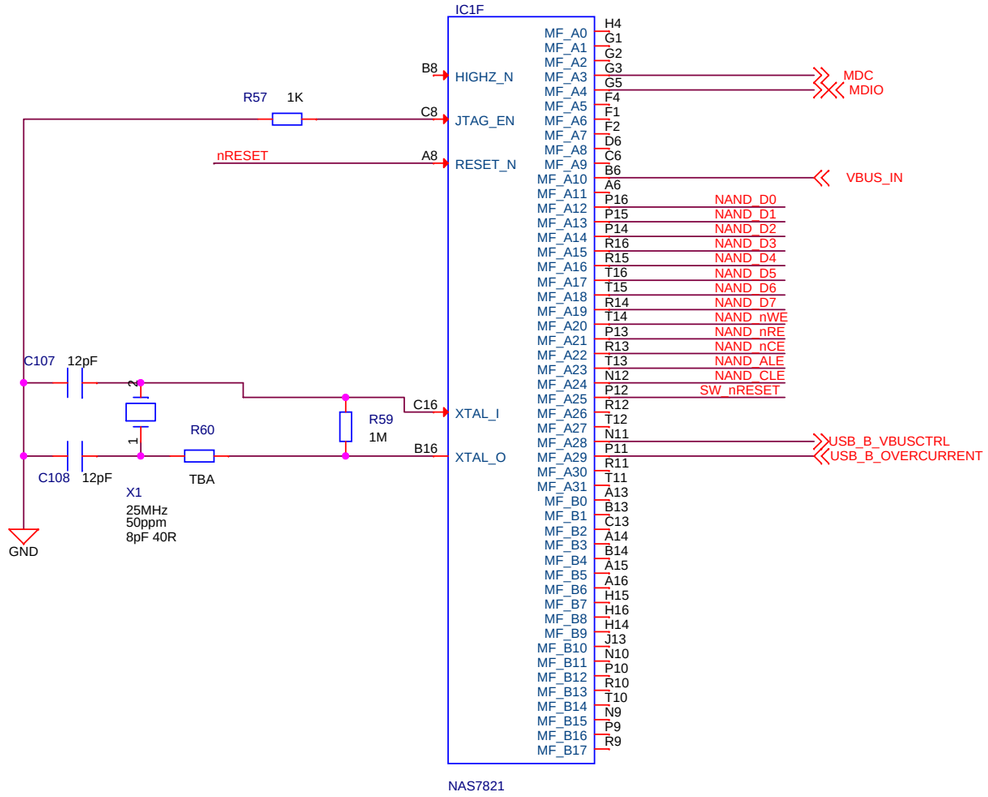
The DQ[15:0], PDQS0, NDQS0, PDQS1, NDQS1, DM0 & DM1 signals have ODT (DM0 & DM1 will only have ODT at the DDR2 IC)

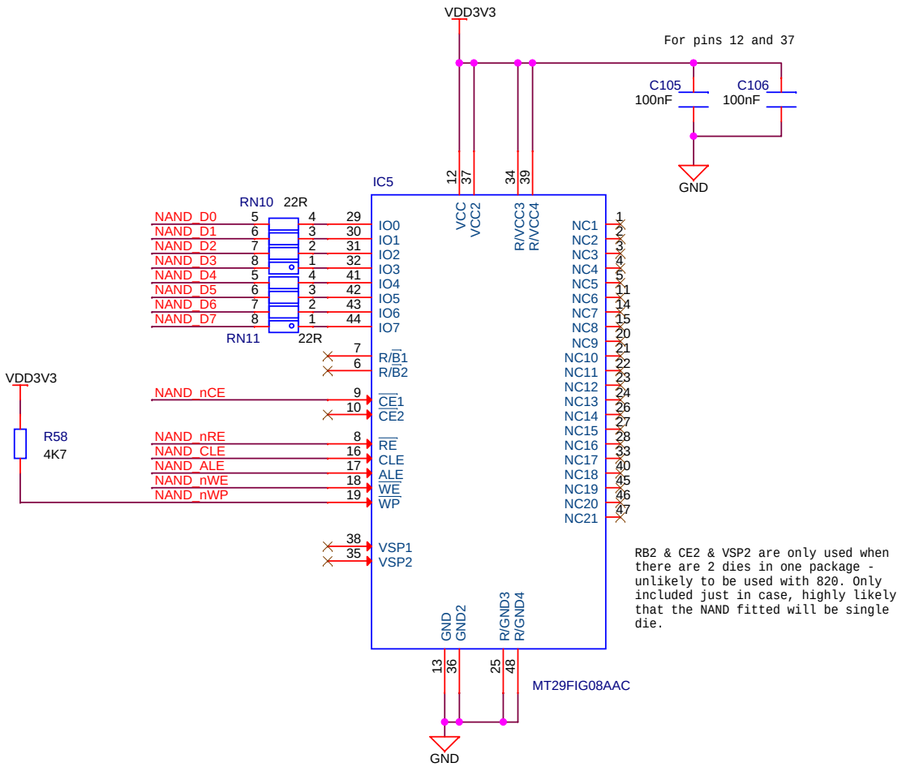


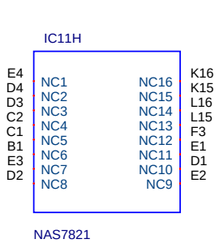


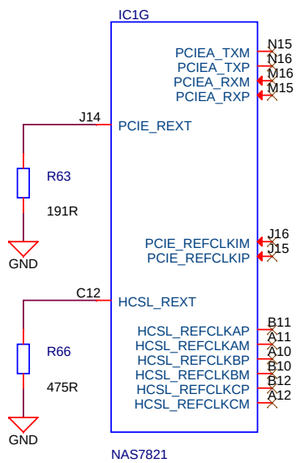
Care needs to be taken with the routing of the VREF track, decoupling caps should be placed near each of the VREF inputs to minimise noise. A thick track should also be used for the VREF net.

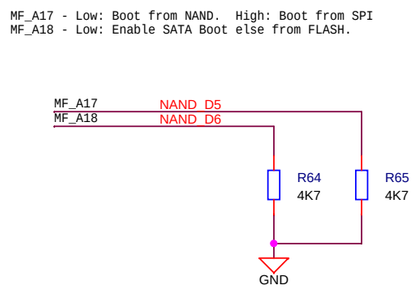
Title: NAS7821 Reference Schematics			
Size: A3	Document Number: SD_K149H10	Sheet Name: DDR2	Rev: 1.0
Date: Thursday, June 03, 2010	Sheet 5 of 7		

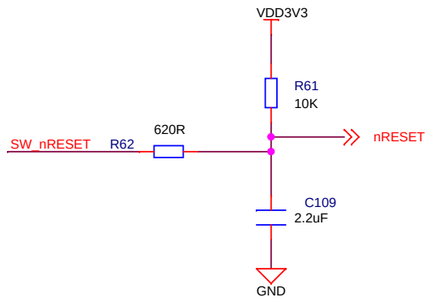










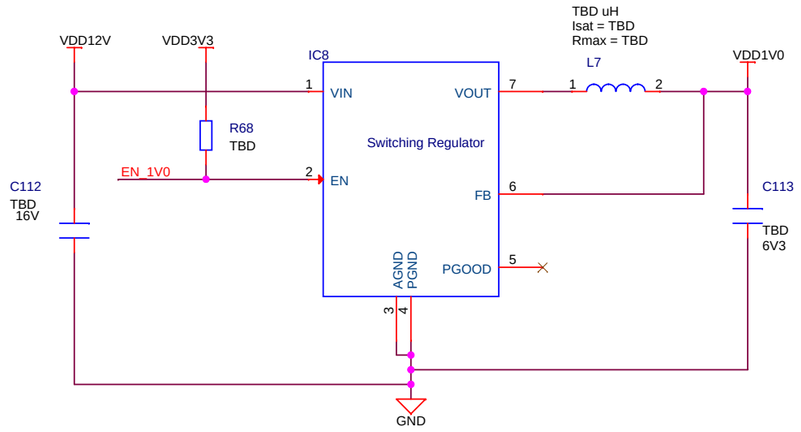


Title: NAS7821 Reference Schematics			
Size: A3	Document Number: SD_K149H10	Sheet Name: GPIO and Flash	Rev: 1.0
Date: Thursday, June 03, 2010	Sheet 6 of 7		

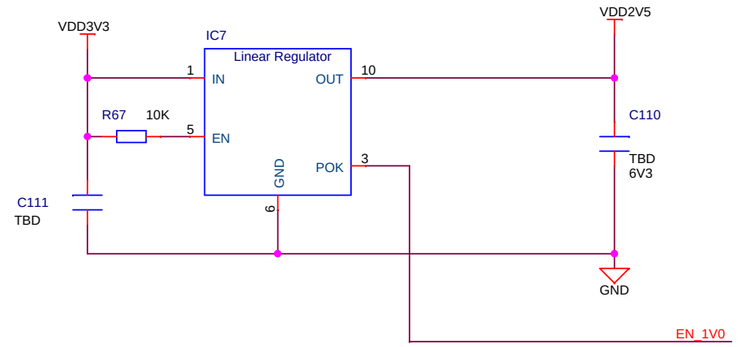
NOTE THAT THIS SCHEMATIC ASSUMES THAT THERE WILL BE AN EXTERNALLY GENERATED 12V & 5V SUPPLY (required by the hard drive as well)

This power supply design shows a potential implementation. Other schemes can be used. Ensure that the power supply requirements for the gigabit PHY and the NAS7821 are met. Refer to the appropriate datasheets.

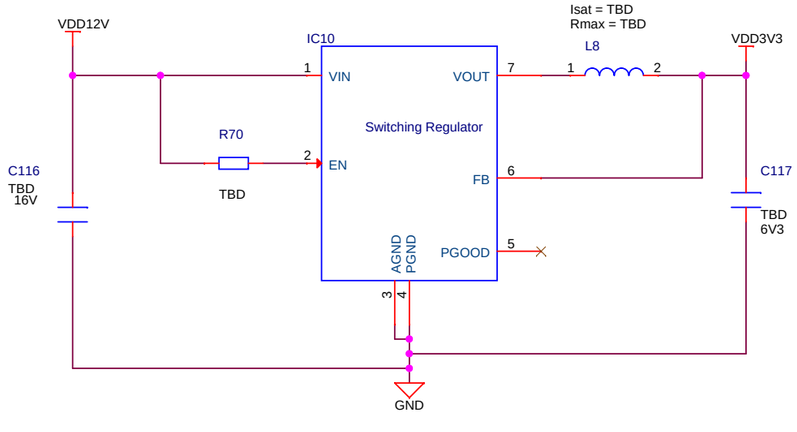
This regulator requires:
Current rating >=2.5A
Output tolerance <=5% Note the limit on the 1V0 supply is -5% this includes all tolerance, ripple and noise.
Output ripple <0.5%
Power dissipation will depend on the regulator
chosen and the periphal components used. However it will
be in the region of 1.2 W assuming 85% efficiency is achieved.

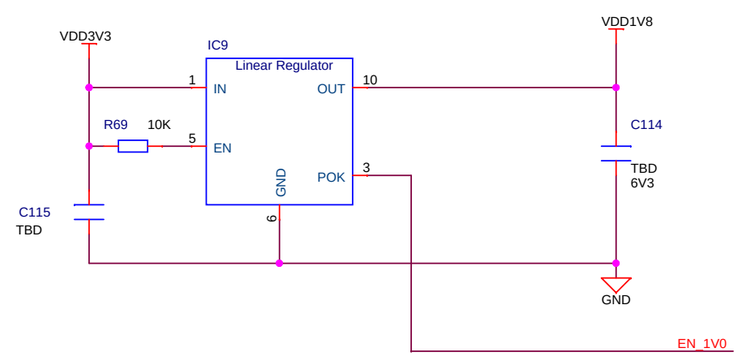


This regulator requires:
Drop out voltage <=0.5V
Current rating >=0.4A
Power dissipation capability of 0.436W.
Output tolerance <=5%



This regulator requires:
Current rating >=1.8A
Output tolerance <=5%
Output ripple <0.5%
Rise time <=4mS
Power dissipation will depend on the regulator
chosen and the periphal components used. However it will
be in the region of 1.5 W assuming 87% efficiency is achieved.





This regulator requires:
Drop out voltage <=1.3V
Current rating >=0.7A
Power dissipation capability of 1.23W.
Output tolerance <=5%

Title: NAS7821 Reference Schematics			
Size: A3	Document Number: SD_K149H10	Sheet Name: Power conversion	Rev: 1.0
Date: Thursday, June 10, 2010	Sheet 7 of 7		