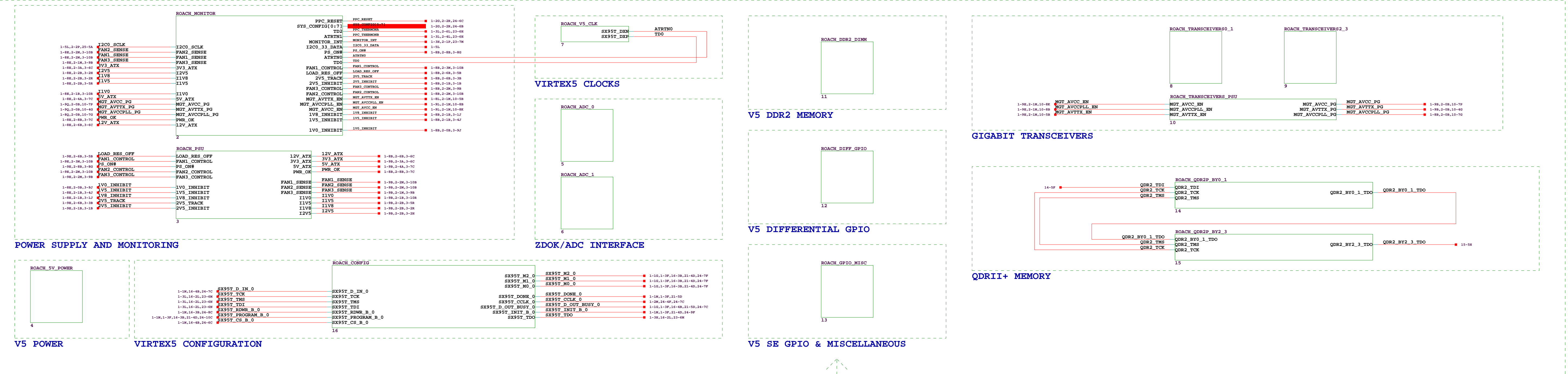
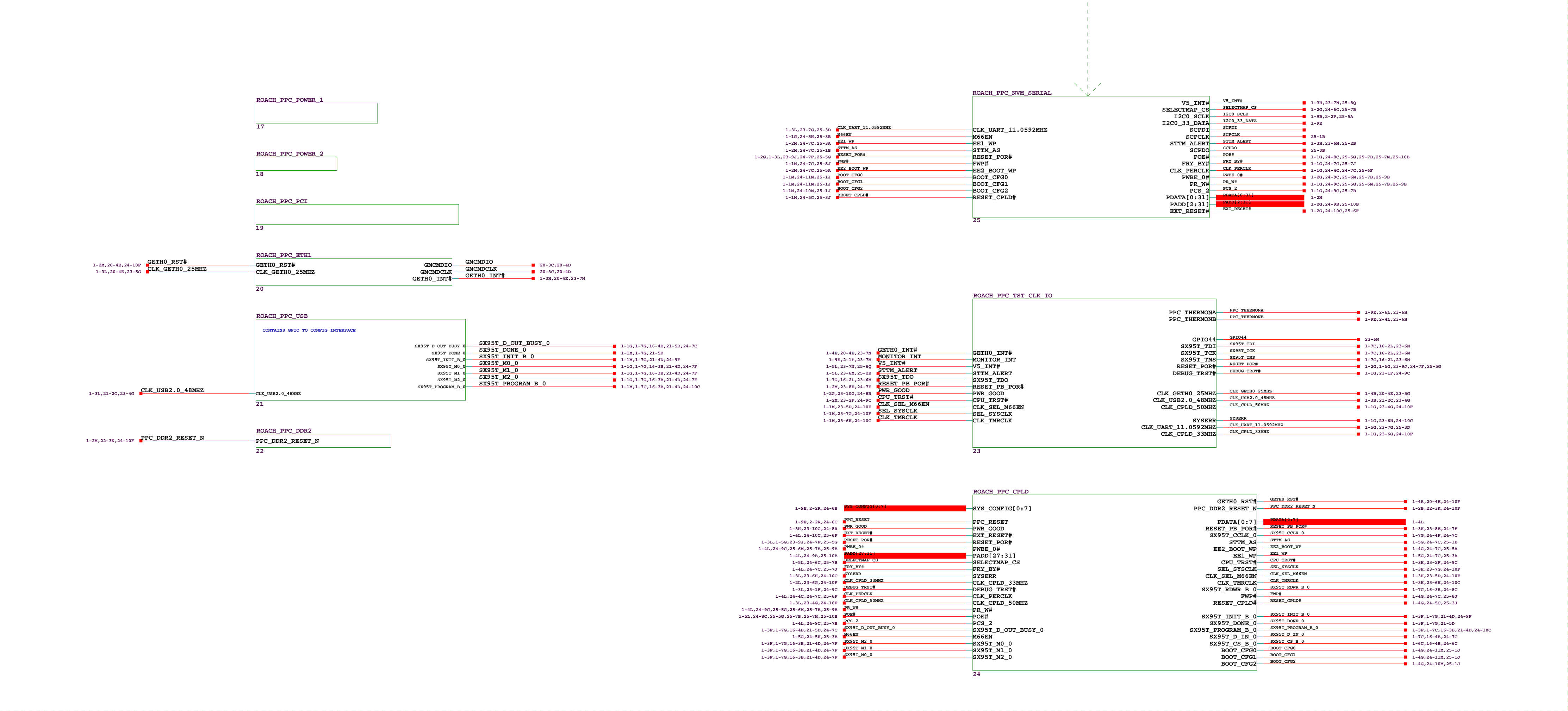


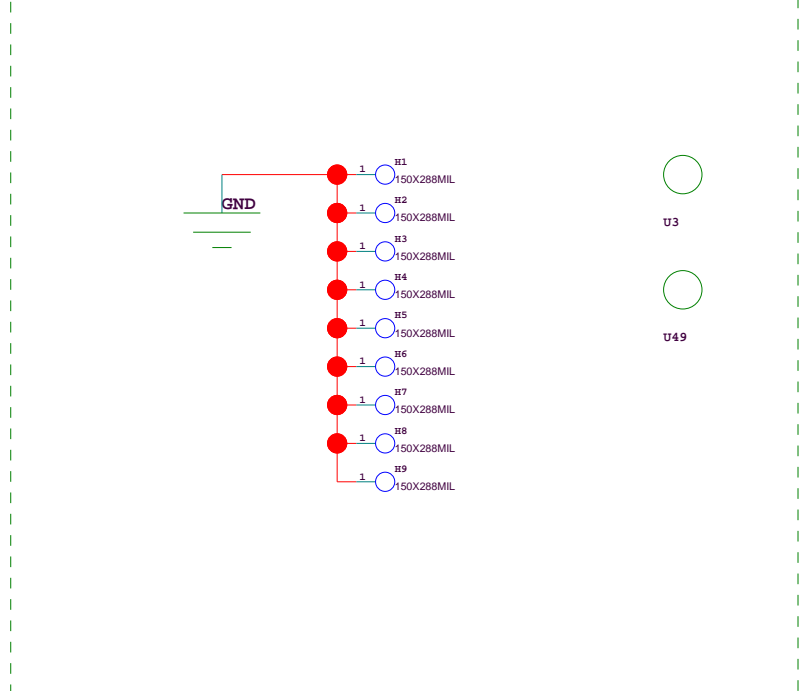
VIRTEX5



PPC



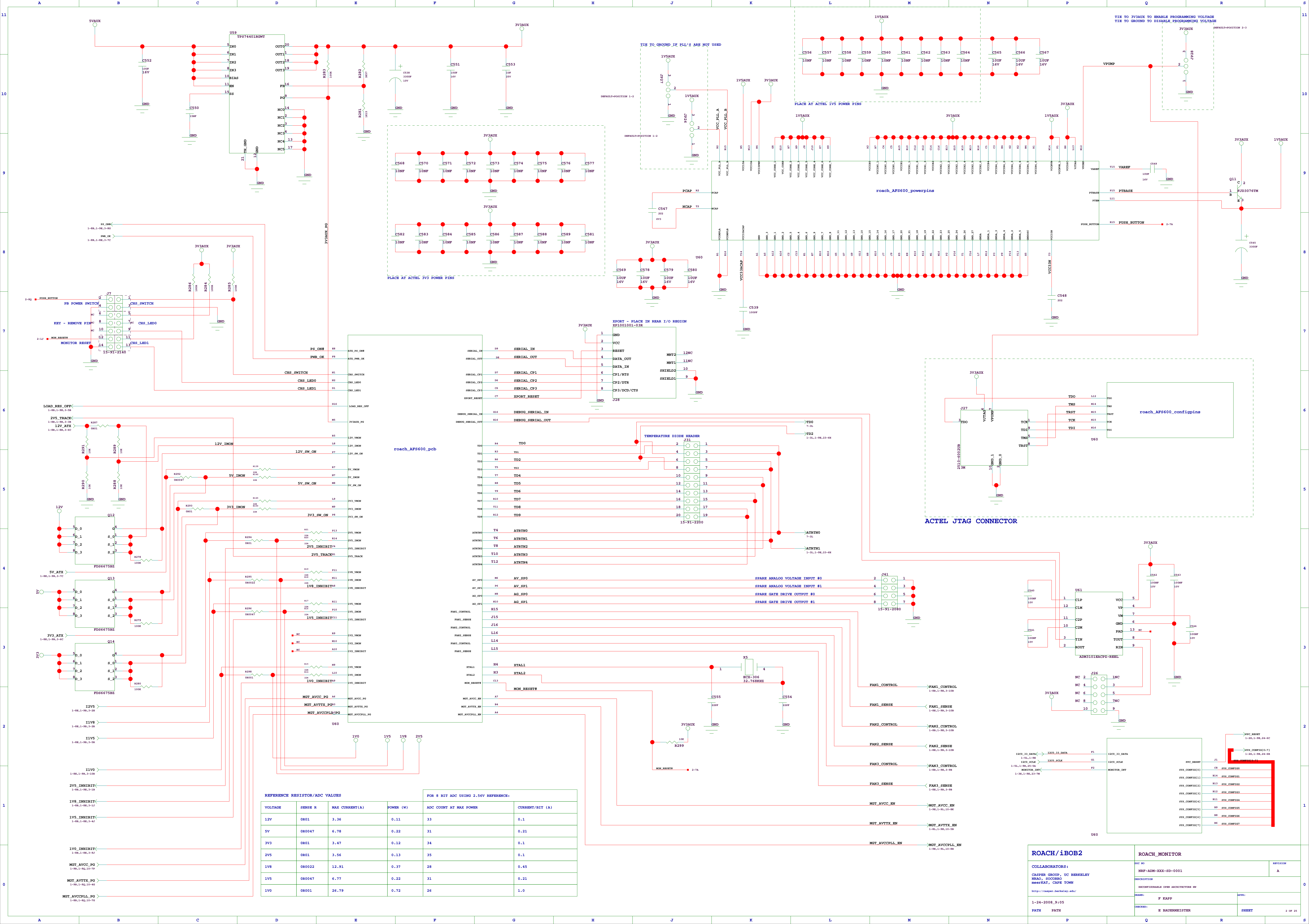
MECHANICAL

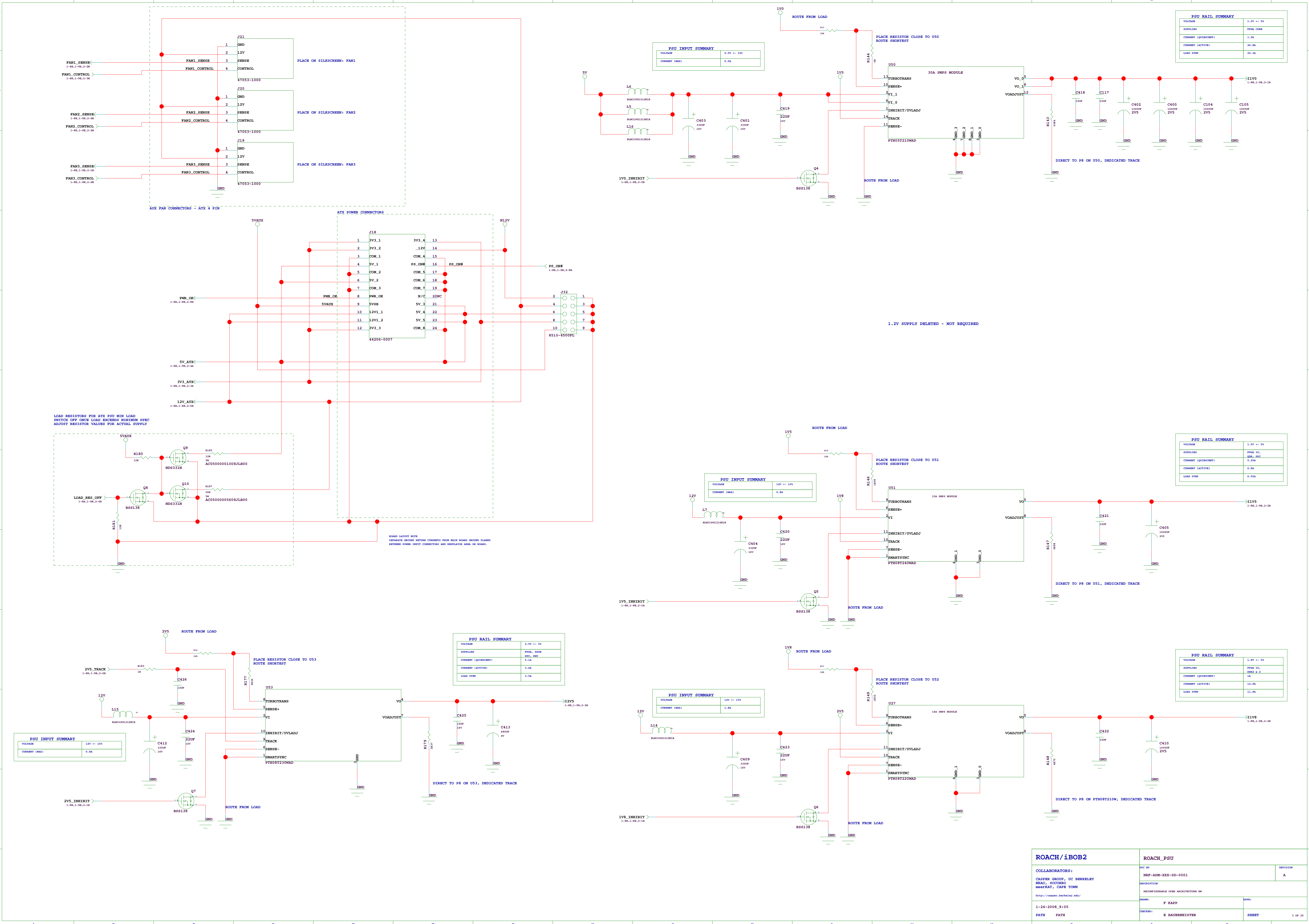


CONTRIBUTORS

- STEFAN BAUMHARTNER
- STEVE CHEN
- FRANCIS KAPP
- ALAN LARSON
- OSWALD RECK
- KIRK RUTENFR
- WENDE WU
- DAN WERTSCHER

ROACH/iBOB2		ROACH_TOP	
COLLABORATORS: CASPER GROUP, UC BERKELEY NRAO, SOONERO BaeKAT, CASP TOWN http://casper.berkeley.edu/ 1-24-2008, 9:05 PATH	DESCRIPTION: RECONFIGURABLE OPEN ARCHITECTURE HW F KAPP R BAUMHARTNER	DOC NO: NRF-ADM-XXX-SD-0001 A SHEET	REVISION





PSU RAIL SUMMARY	
VOLTAGE	1.0V +- 5%
SUPPLIES	PPDA CORR
CURRENT (QUIESCENT)	1.5A
CURRENT (ACTIVE)	26.8A
LOAD STEP	25.3A

PSU RAIL SUMMARY	
VOLTAGE	1.0V +- 5%
SUPPLIES	PPDA 10,
CURRENT (QUIESCENT)	0.25A
CURRENT (ACTIVE)	6.8A
LOAD STEP	6.55A

PSU RAIL SUMMARY	
VOLTAGE	1.0V +- 5%
SUPPLIES	PPDA 10,
CURRENT (QUIESCENT)	1A
CURRENT (ACTIVE)	12.8A
LOAD STEP	11.8A

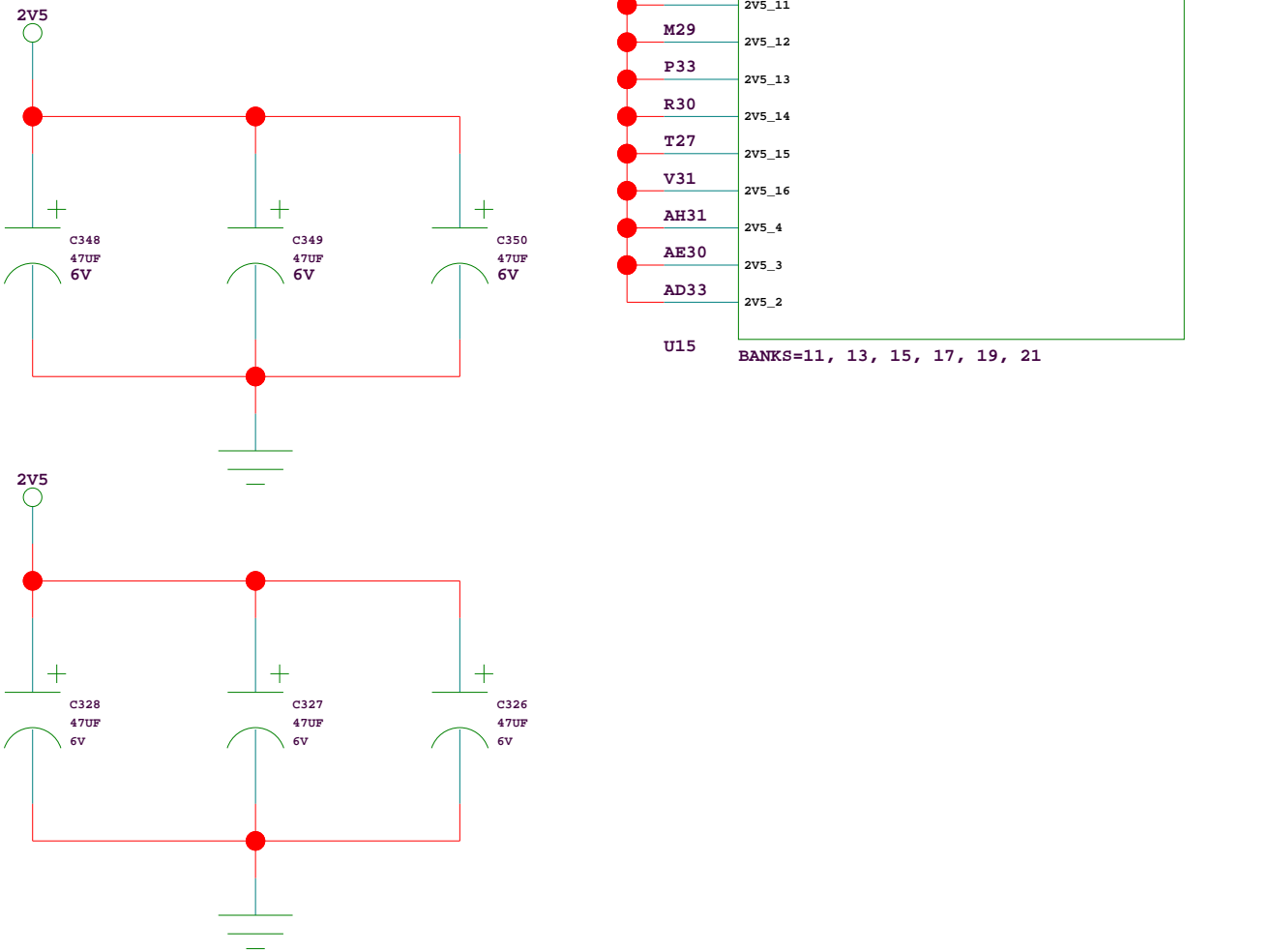
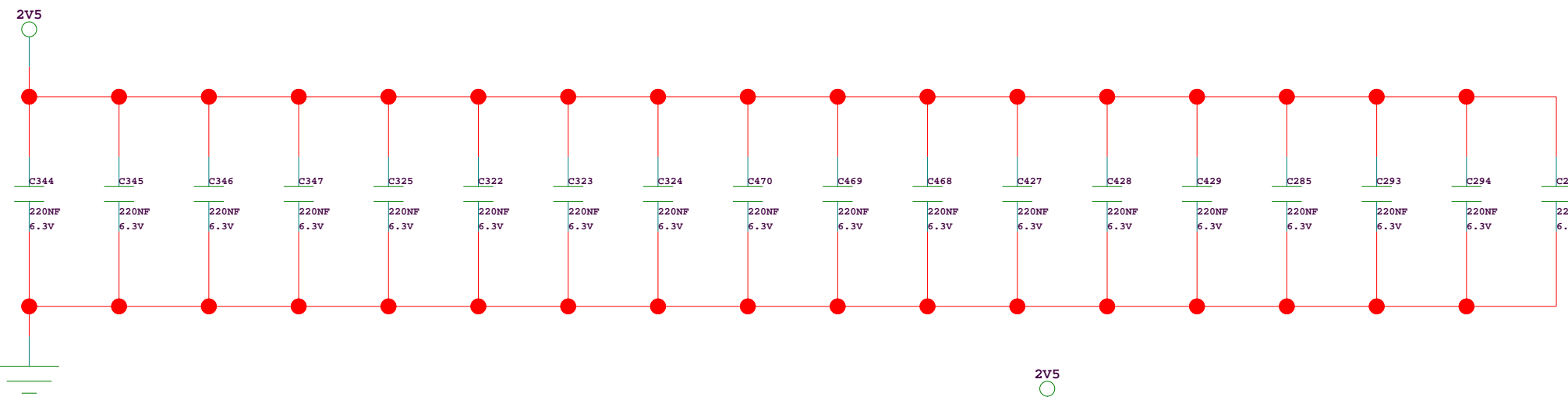
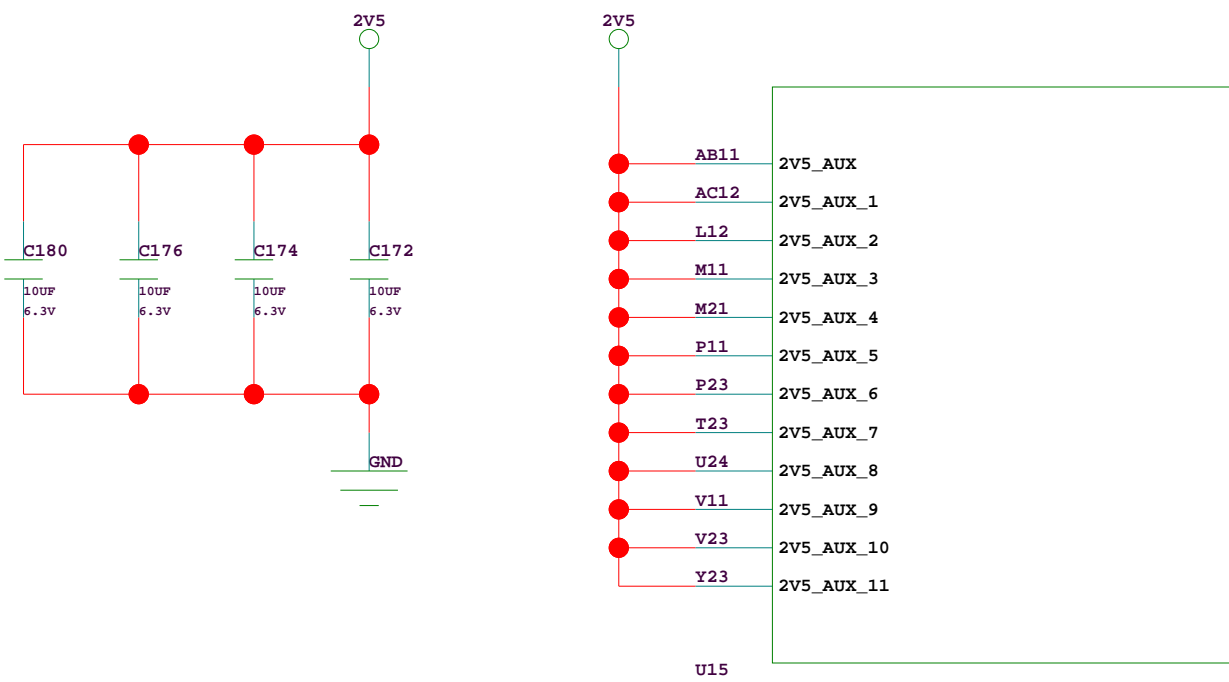
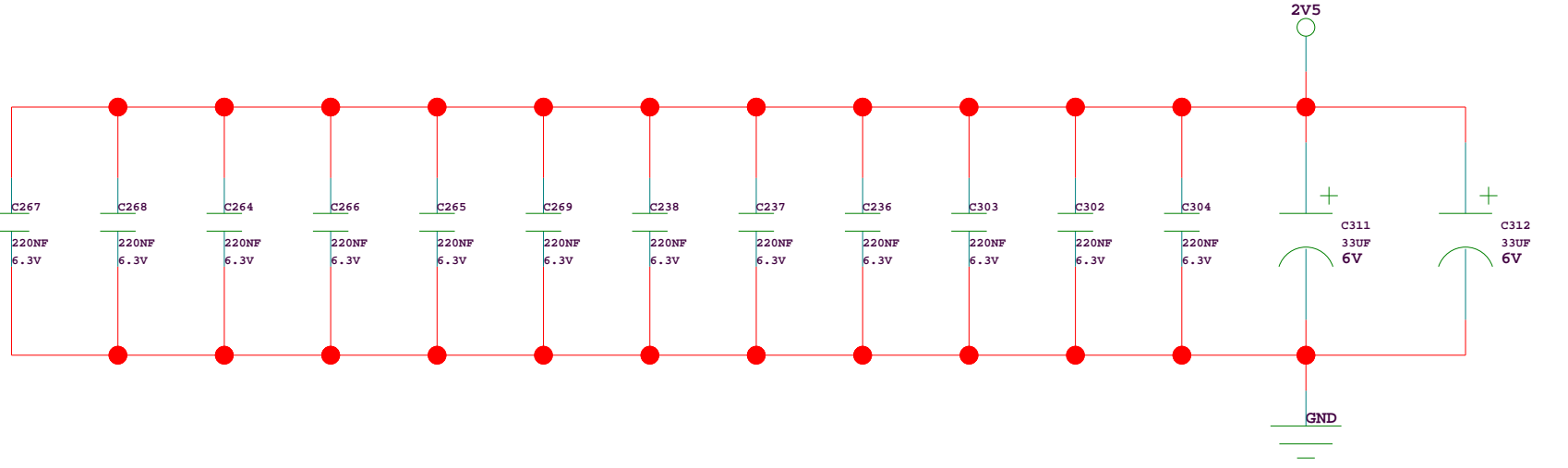
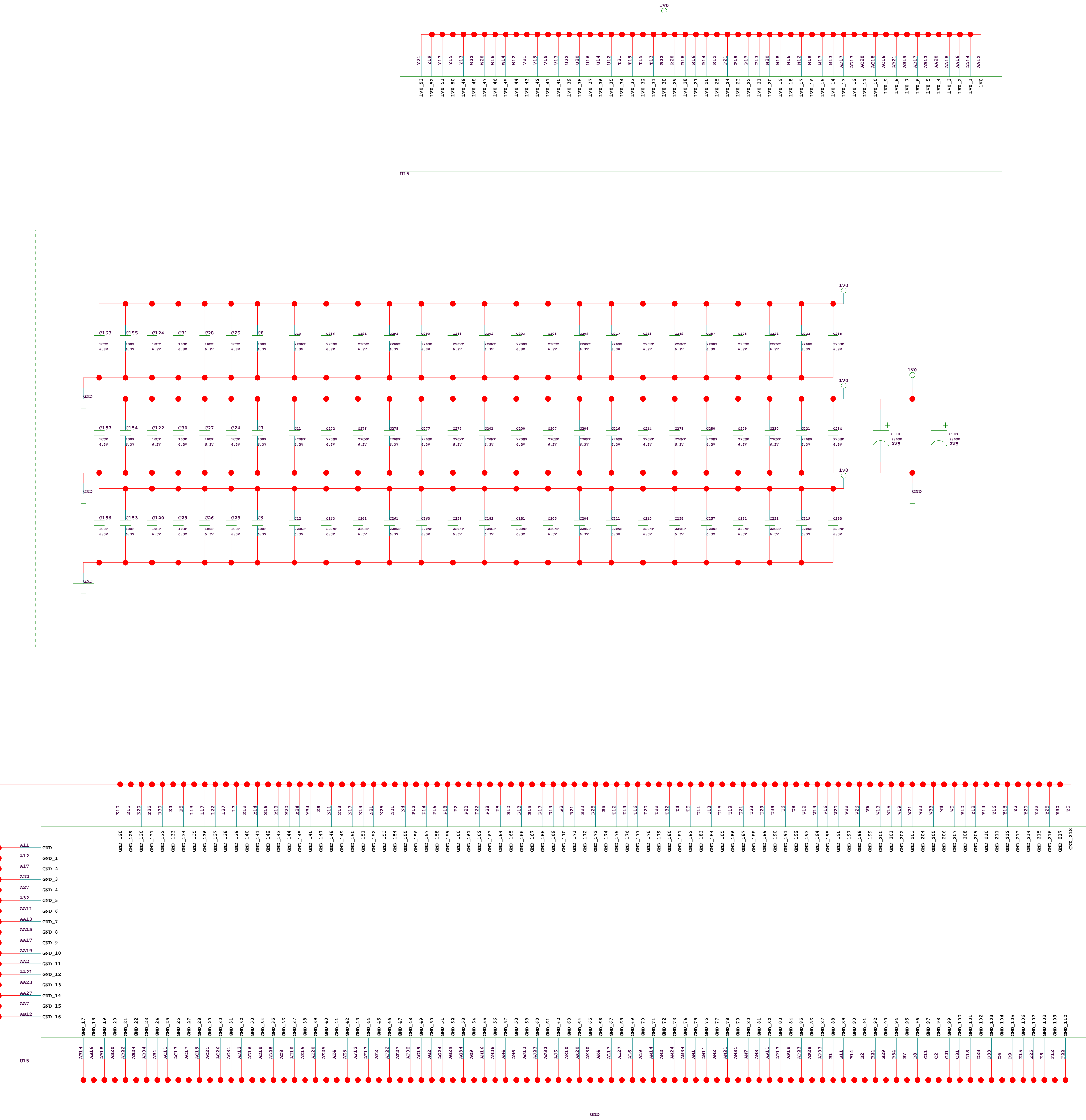
PSU INPUT SUMMARY	
VOLTAGE	1.2V +- 10%
CURRENT (MAX)	0.8A

PSU INPUT SUMMARY	
VOLTAGE	1.2V +- 10%
CURRENT (MAX)	0.8A

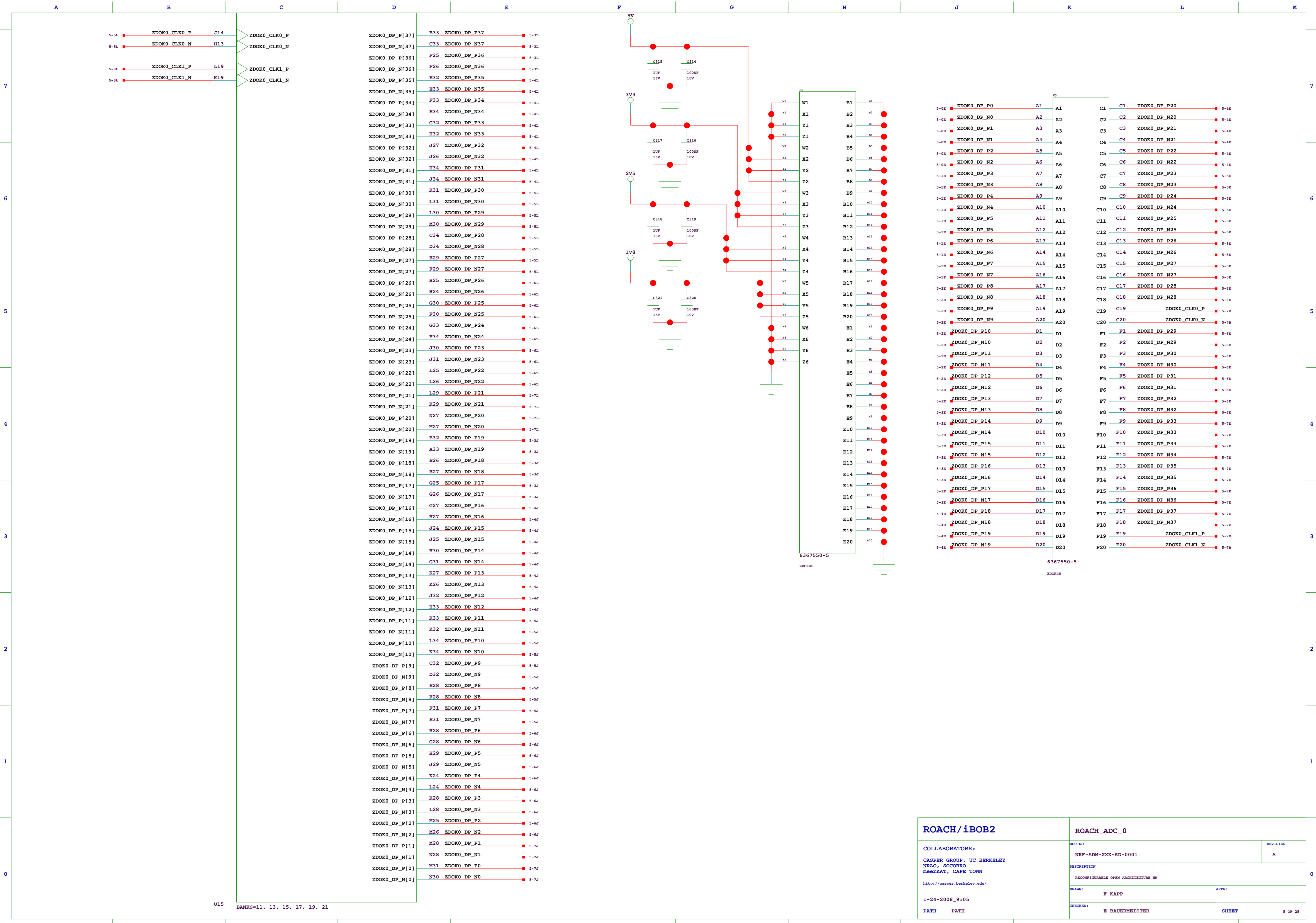
PSU INPUT SUMMARY	
VOLTAGE	1.2V +- 10%
CURRENT (MAX)	1.8A

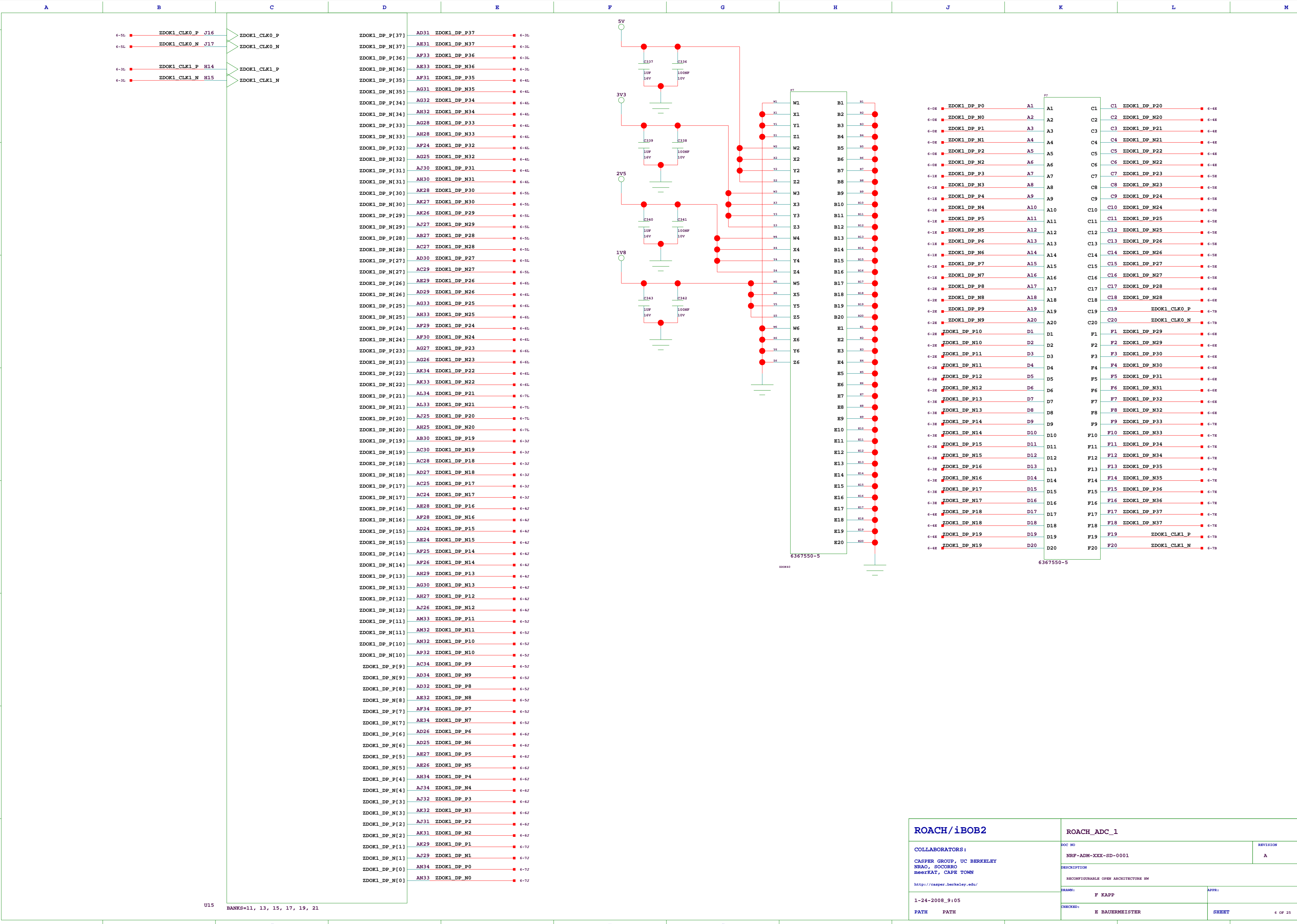
PSU RAIL SUMMARY	
VOLTAGE	2.0V +- 5%
SUPPLIES	PPDA, BDR
CURRENT (QUIESCENT)	9.1A
CURRENT (ACTIVE)	3.6A
LOAD STEP	3.5A

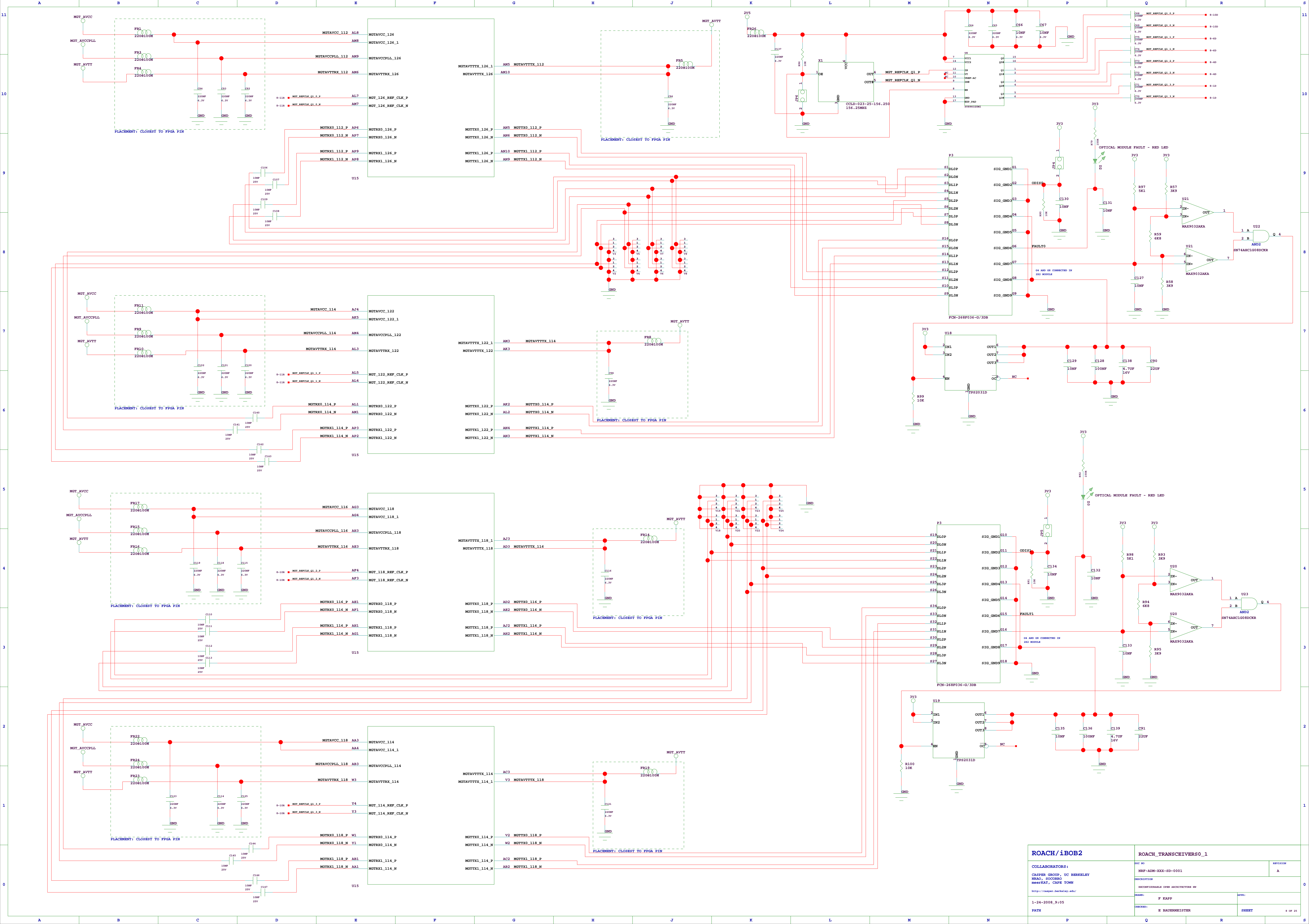
ROACH/iBOE2		ROACH_PSU	
COLLABORATORS:		DOC NO	REVISION
CASPER GROUP, UC BERKELEY		NRF-ADM-XXX-SD-0001	A
NRAO, SOCCORRO		DESCRIPTION	
MASCAT, CAPE TOWN		RECONFIGURABLE OPEN ARCHITECTURE IN	
http://casper.berkeley.edu/		BRANCH	PPR
1-24-2008, 9:05		F KAPP	
PATH PATH		CHECKED	R BAUERMEISTER
		SHEET	3 OF 25

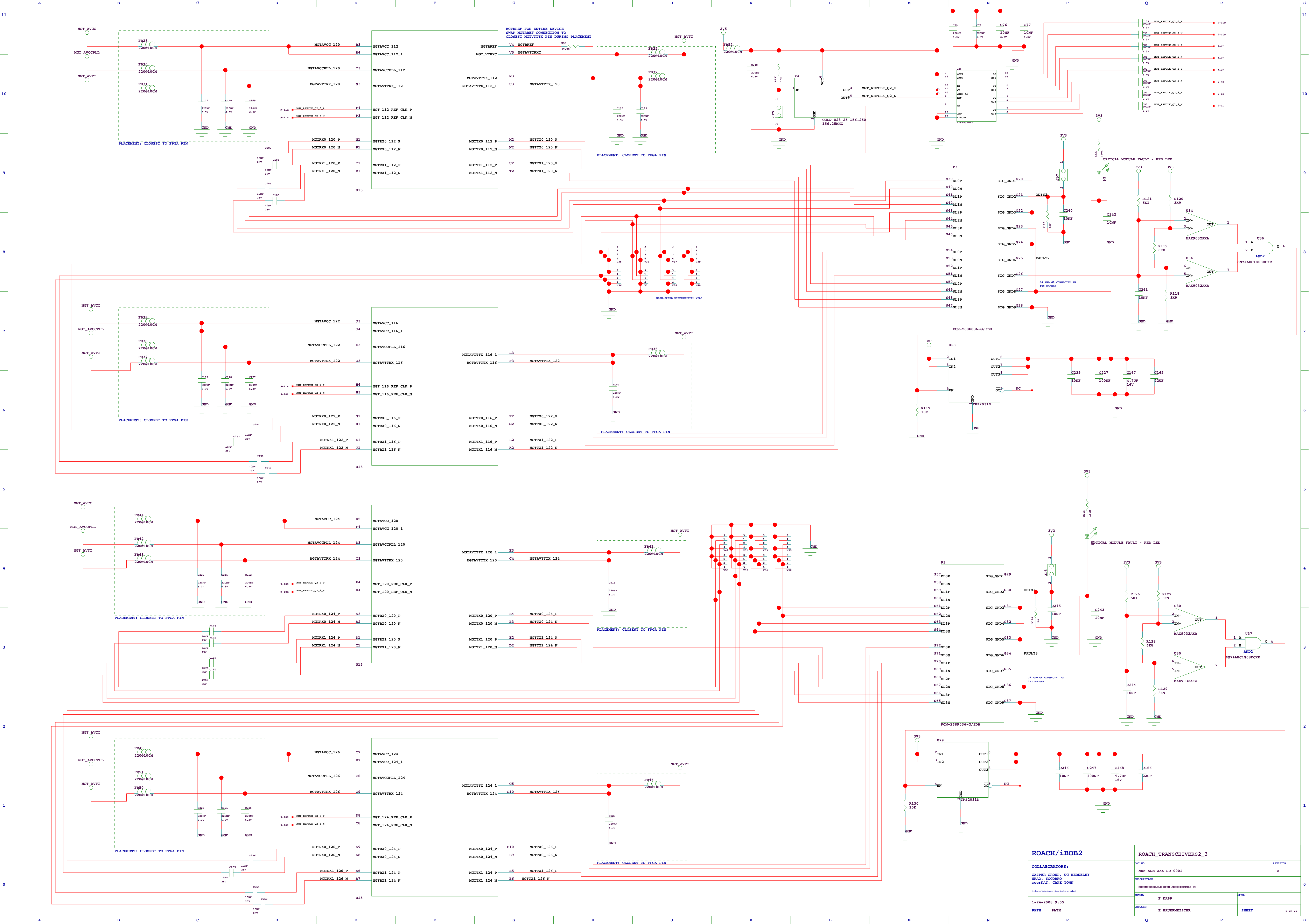


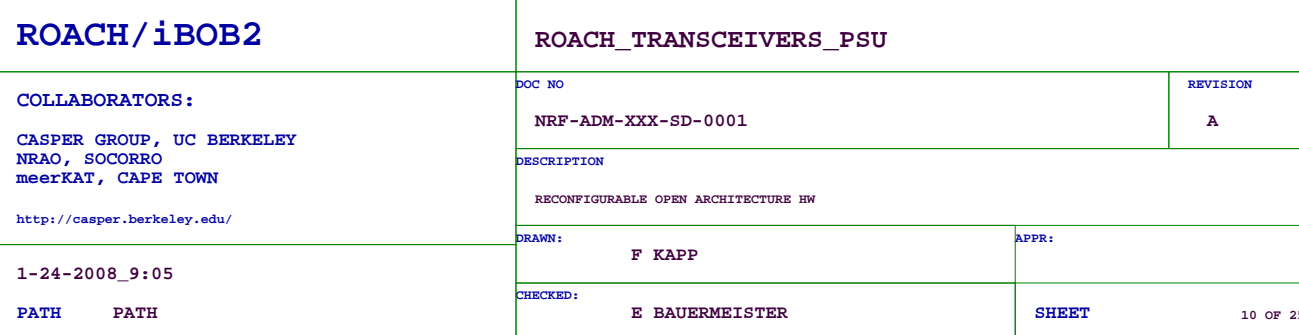
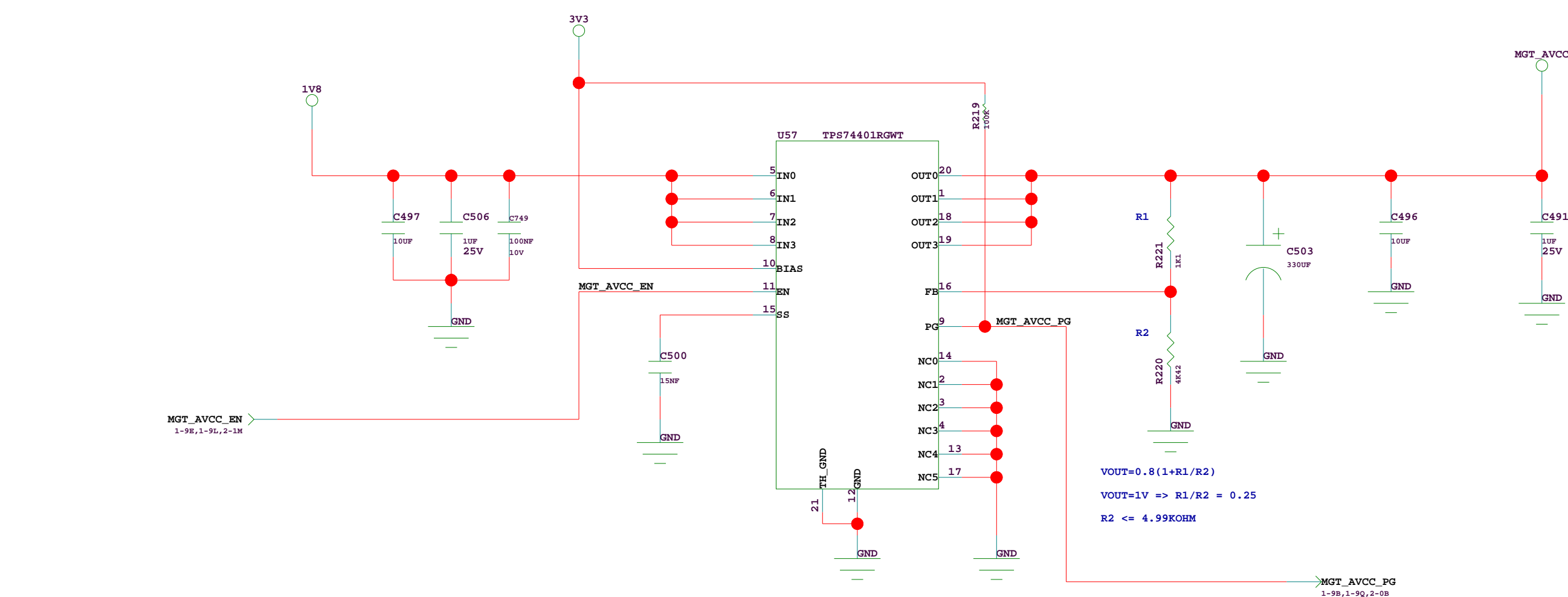
ROACH/iBOE2			ROACH_5V_POWER		
COLLABORATORS:			DOC NO		
CASPER GROUP, UC BERKELEY			NRF-ADM-XXX-SD-0001		
NRAO, SOONERO			REVISION		
BARKER, CAPE TOWN			A		
http://casper.berkeley.edu/			RECONFIGURABLE OPEN ARCHITECTURE HW		
1-24-2008, 9:05			F KAPP		
PATH			R BARKERBROSTER		
SHEET			4 OF 25		

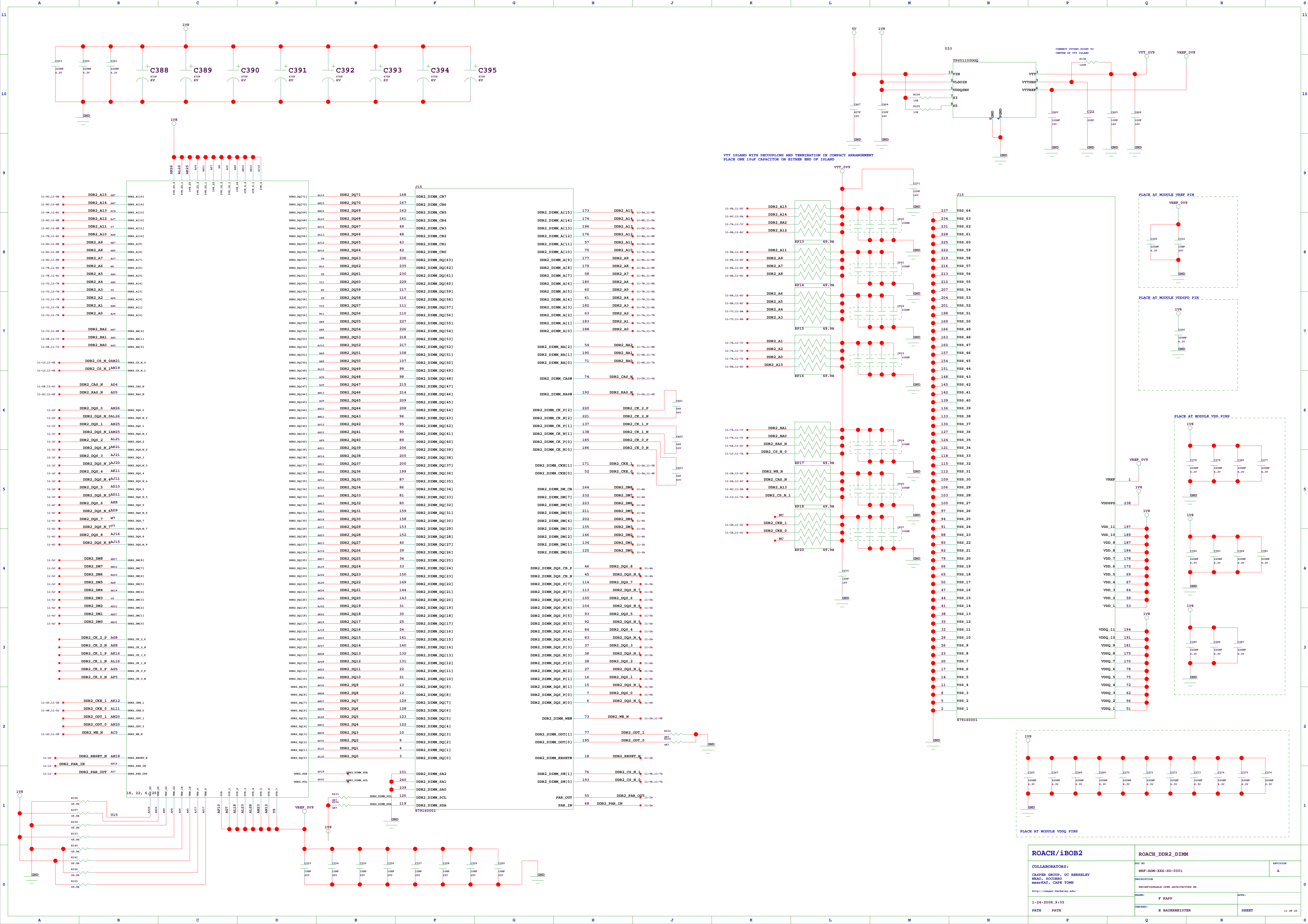


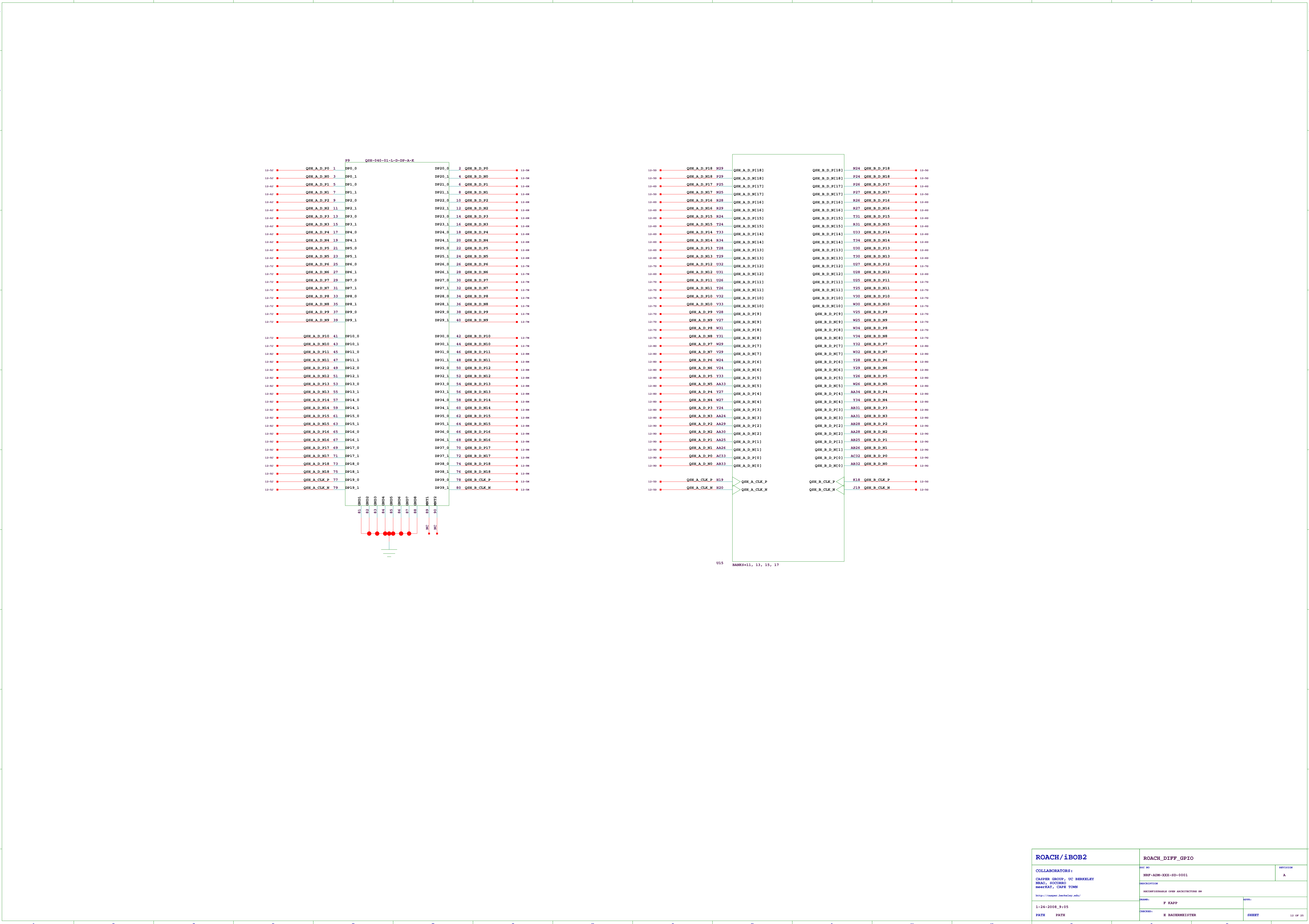




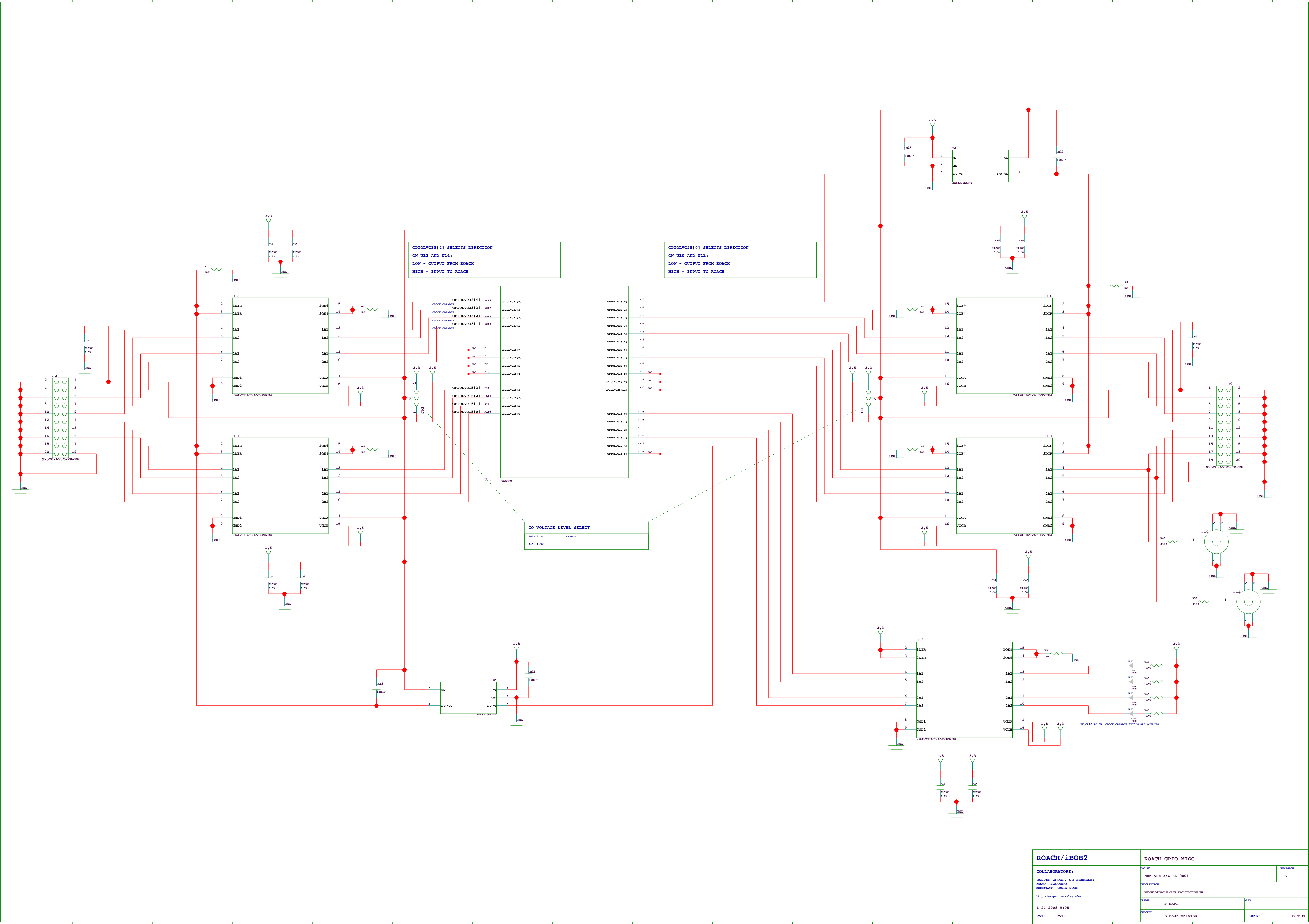




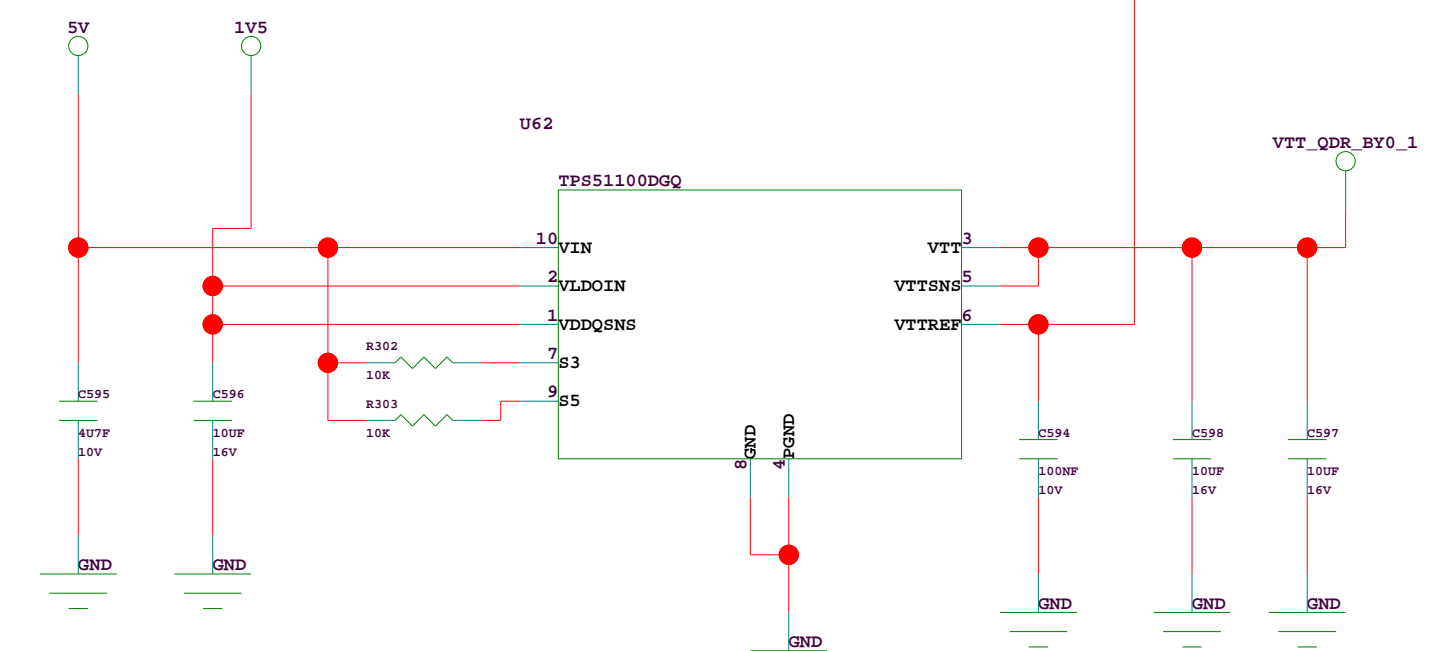
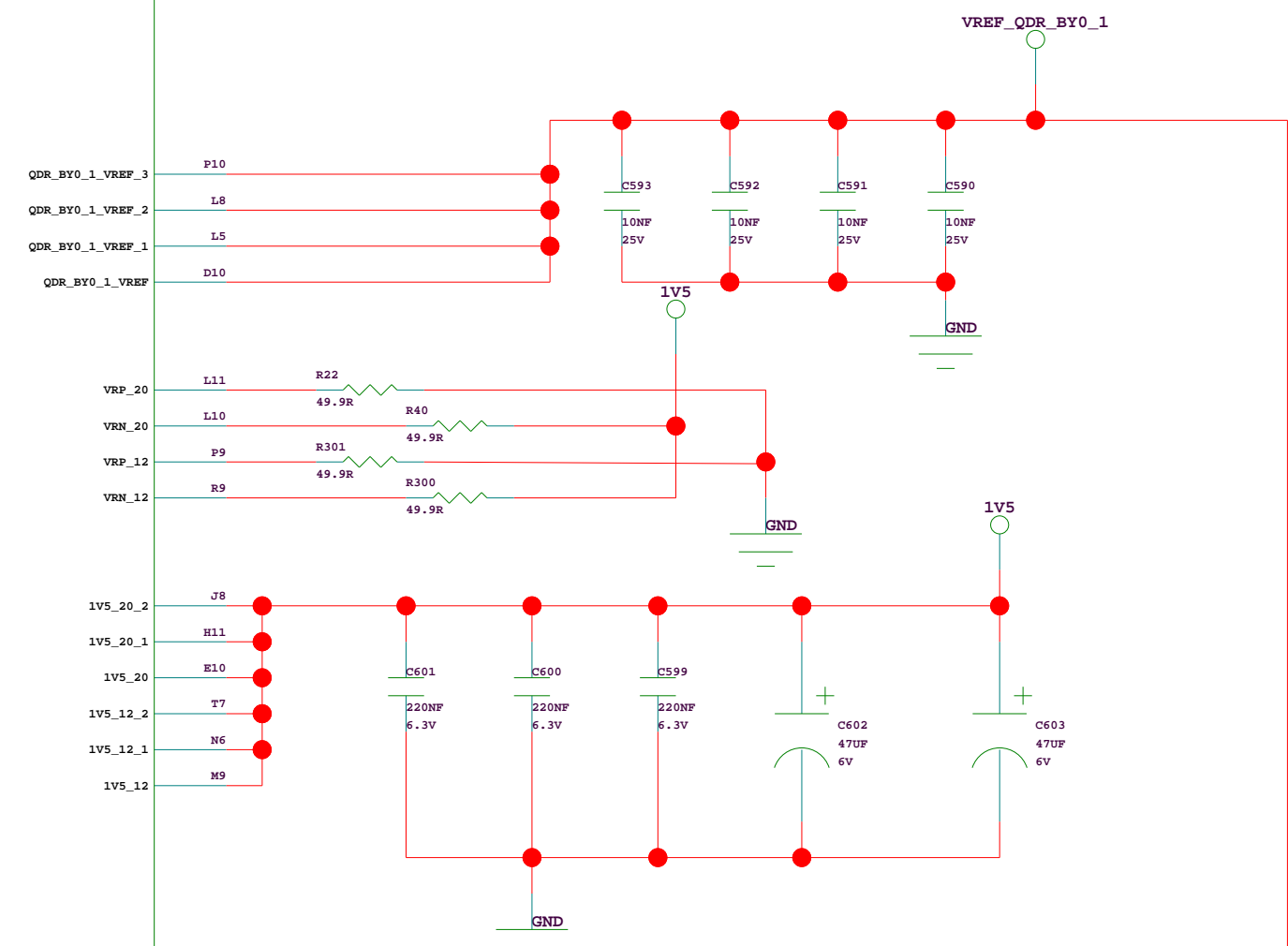
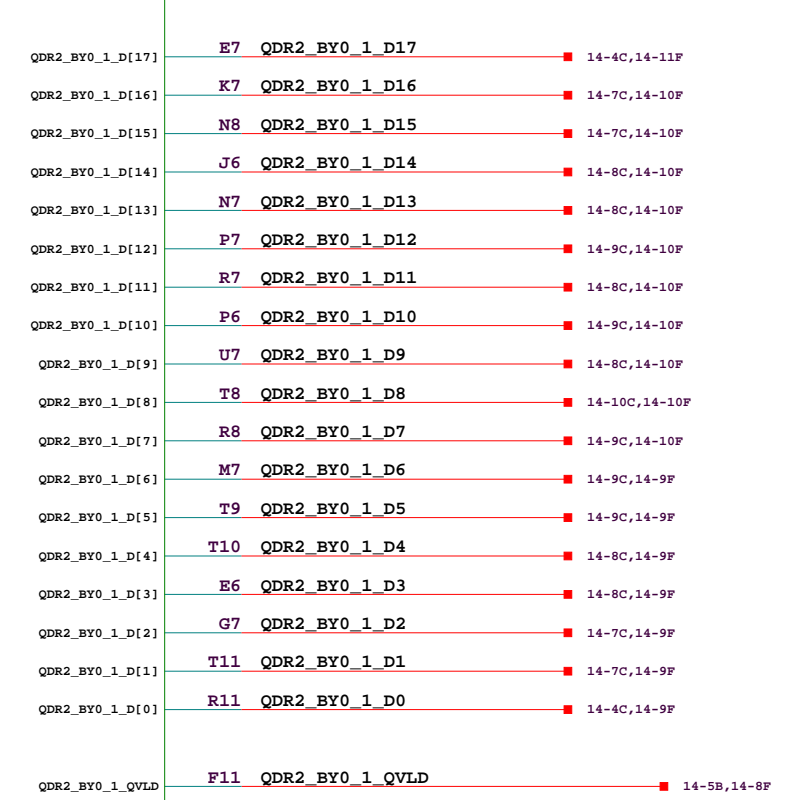
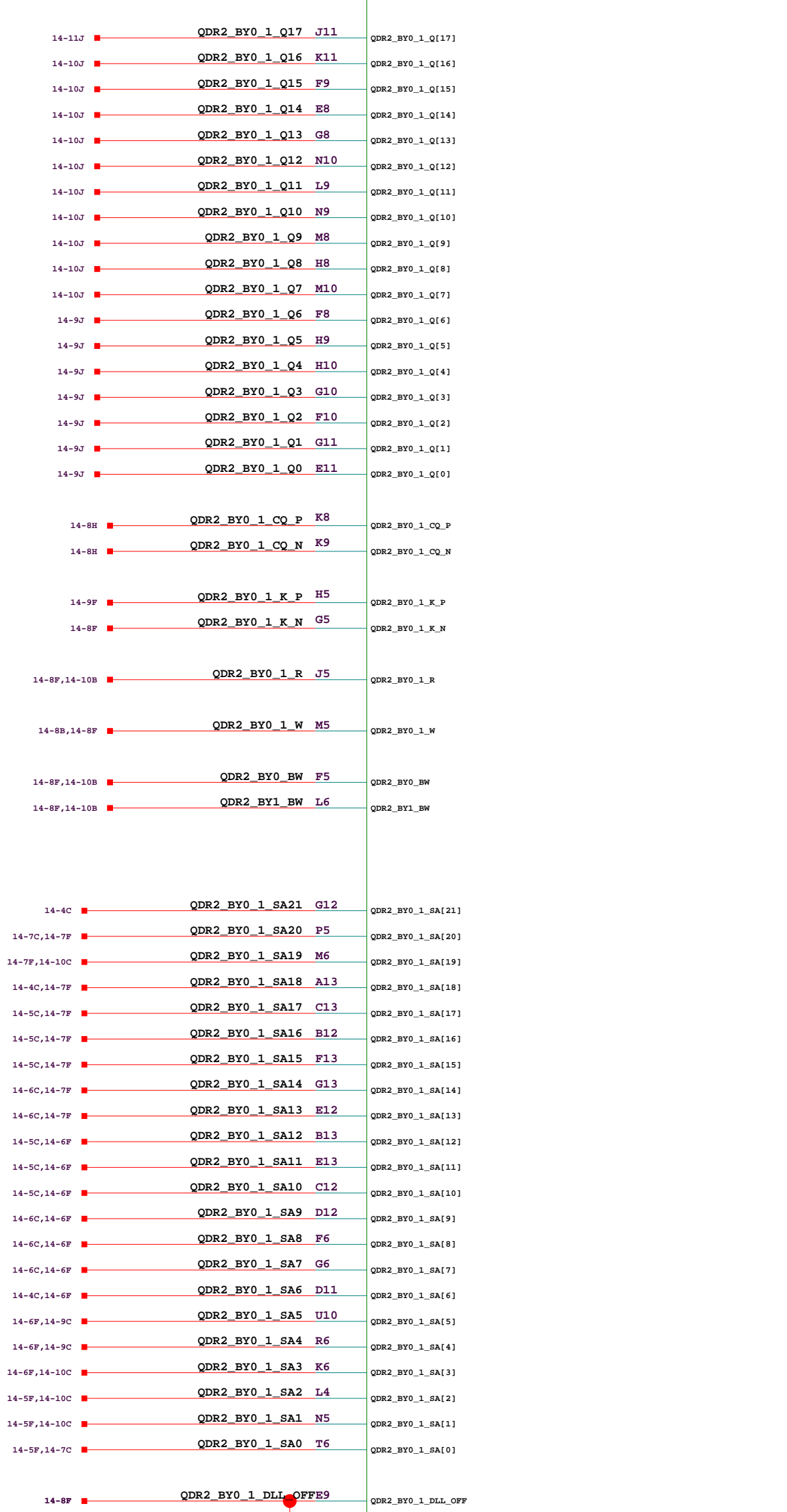
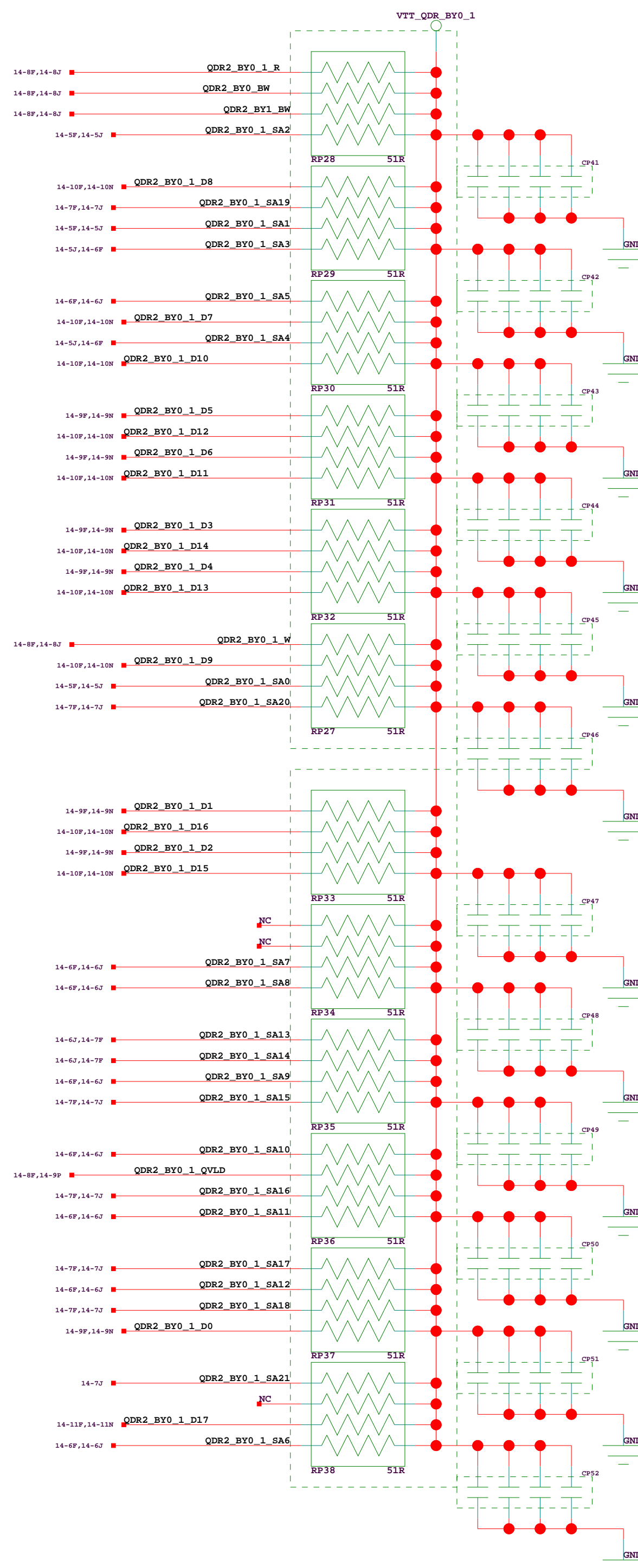




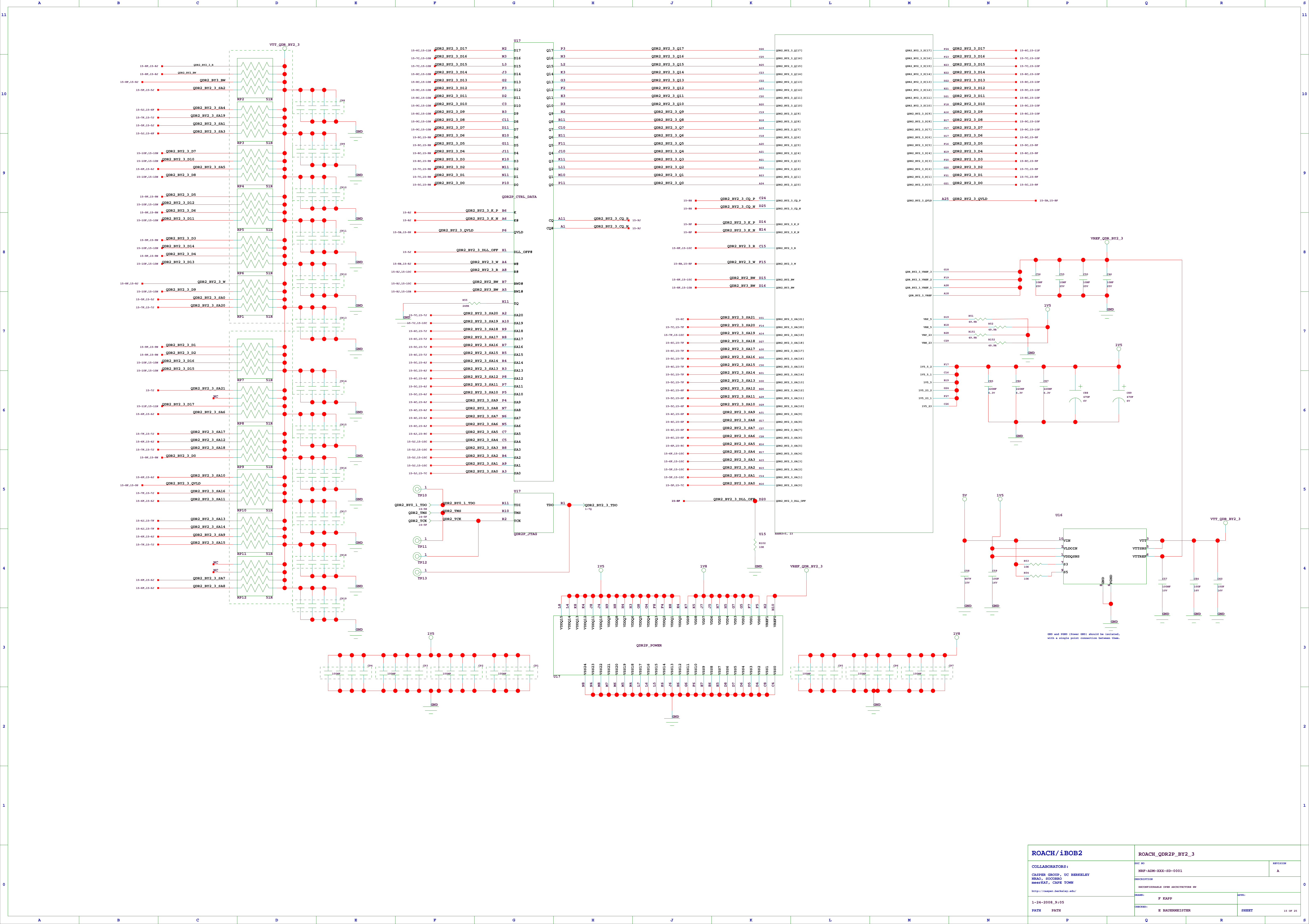
ROACH/iBOE2				ROACH_DIFF_GPIO			
COLLABORATORS: CASPER GROUP, UC BERKELEY NRAO, SOONERO BARKAT, CAPE TOWN http://casper.berkeley.edu/				DOC NO:		REVISION	
				NRF-ADM-XXX-SD-0001		A	
				DESCRIPTION: RECONFIGURABLE OPEN ARCHITECTURE HW			
DRAWN:				F KAPP		APPR:	
1-24-2008, 9:05				CHECKED:		SHEET	
PATH				E BAUERMEISTER		12 OF 25	



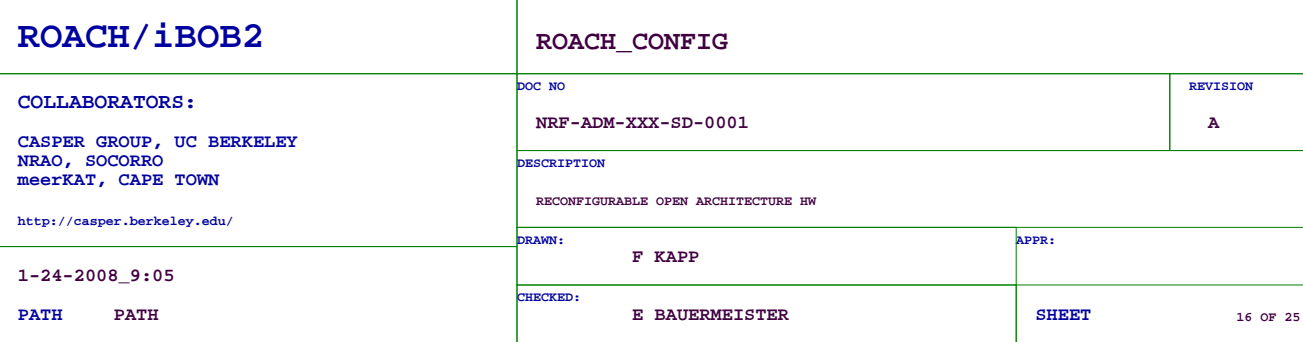
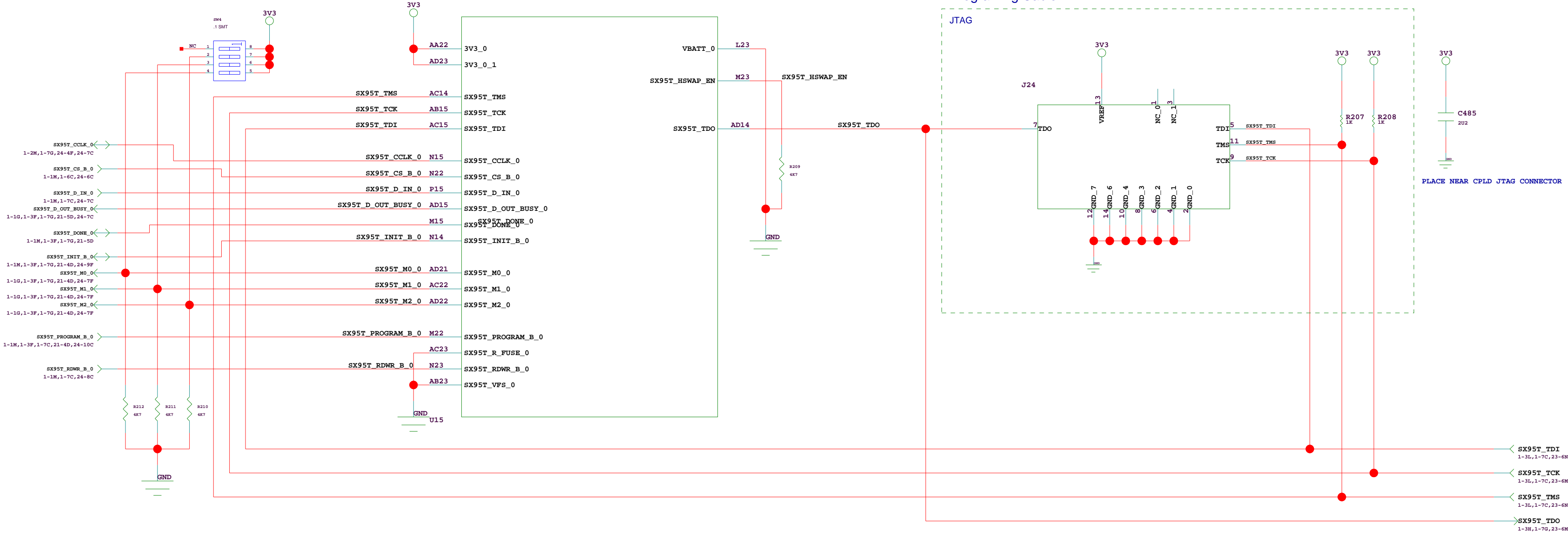
ROACH/iBOE2		ROACH_GPIO_MISC	
COLLABORATORS:		DOC NO	REVISION
CASPER GROUP, UC BERKELEY		NRF-ADM-XXX-BD-0001	A
DESCRIPTION			
NRAO, SOONERO			
BauerKAT, CAPE TOWN			
RECONFIGURABLE OPEN ARCHITECTURE HW			
http://casper.berkeley.edu/		DRWN:	APP:
1-24-2008, 9:05		F KAPP	
PATH	PATH	R BAUERMISTROT	
		CHECKED:	SHEET

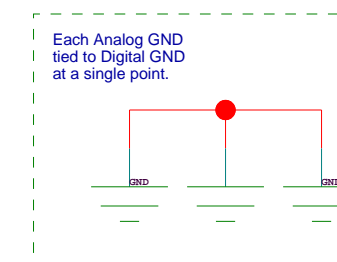
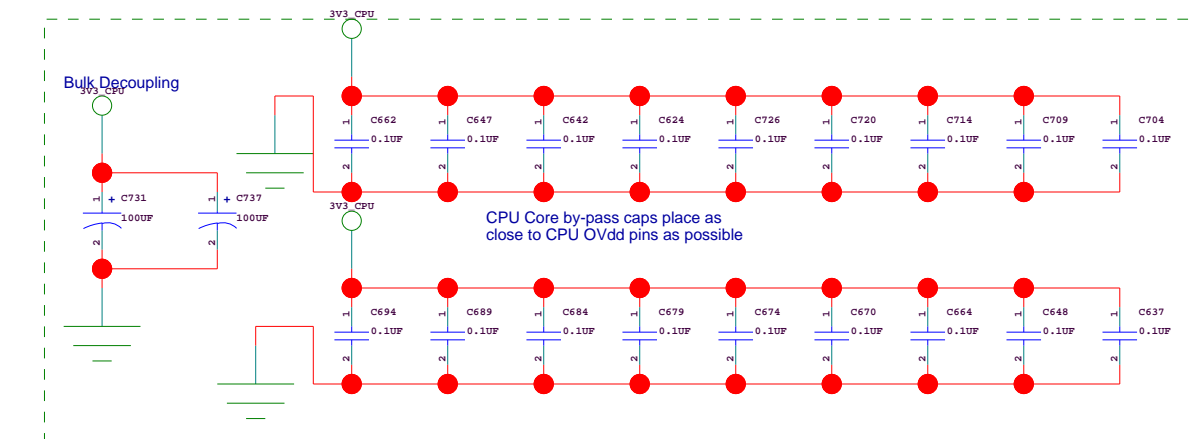
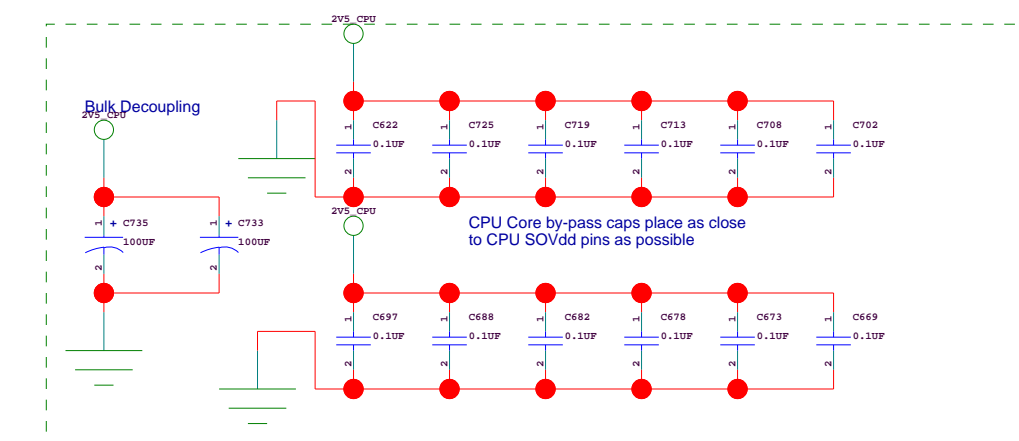
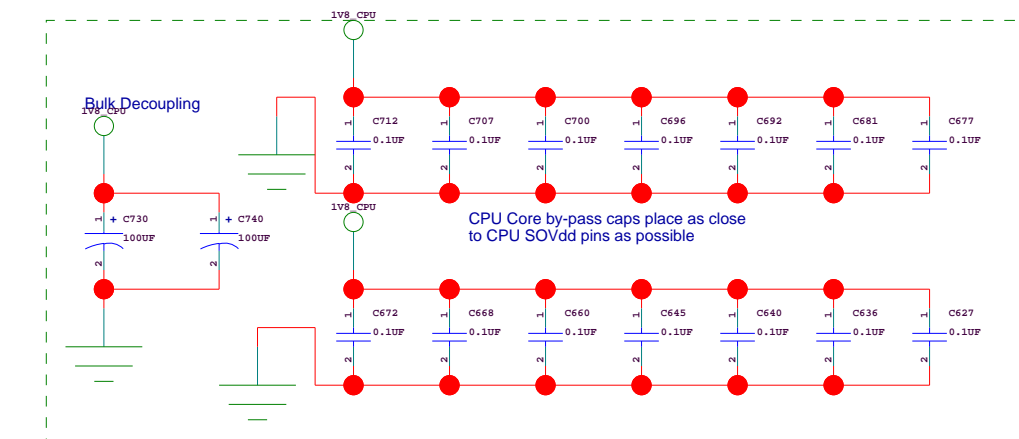
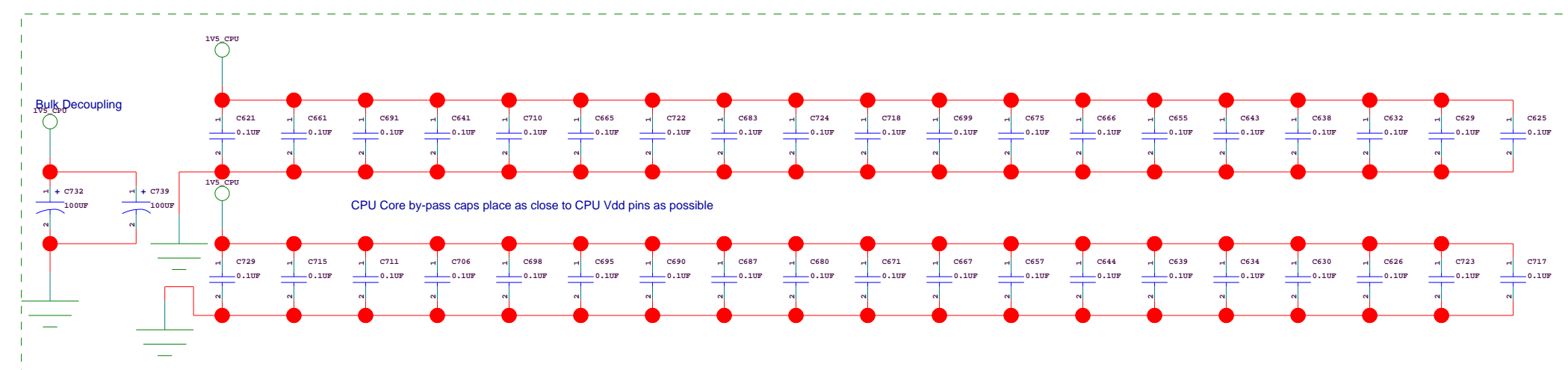
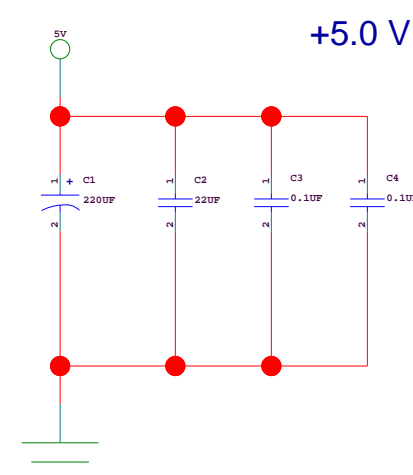
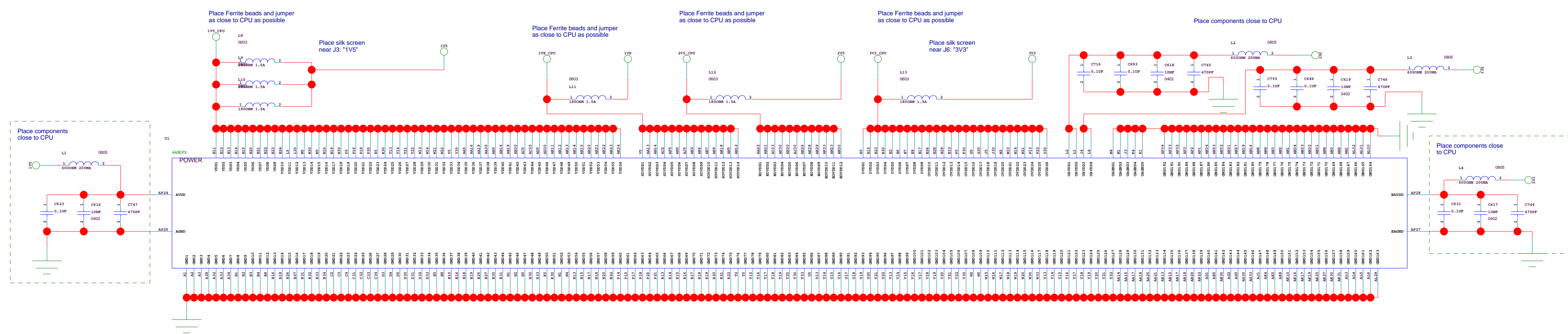


ROACH/iBOB2		ROACH_QDR2P_BY0_1	
COLLABORATORS: CAPSER GROUP, UC BERKELEY HNSO, FOCORBO meacEAT, CAPR TOWN http://capers.berkeley.edu/		DOC NO NRP-ADM-XXX-ED-0001 DESCRIPTION RECONSTRUCTABLE OPEN ARCHITECTURE SH NAME: F KAPP SECRET: F BAUERHOMISTER	REVISION A APPR: SHEET 14 OF 2
1-24-2008 9:05 PATH PATH			



VALID CONFIGURATION MODES			
Configuration Mode	M[2:0]	Bus Width	CCLK Direction
Master Serial	000	1	Output
Master SPI	001	1	Output
Master BPI-Up	010	8, 16	Output
Master BPI-Down	011	8, 16	Output
Master SelectMAP	100	8, 16	Output
Master JTAG	101	1	Input (TCK)
Slave SelectMAP	110	8, 16, 32	Input
Slave Serial	111	1	Input



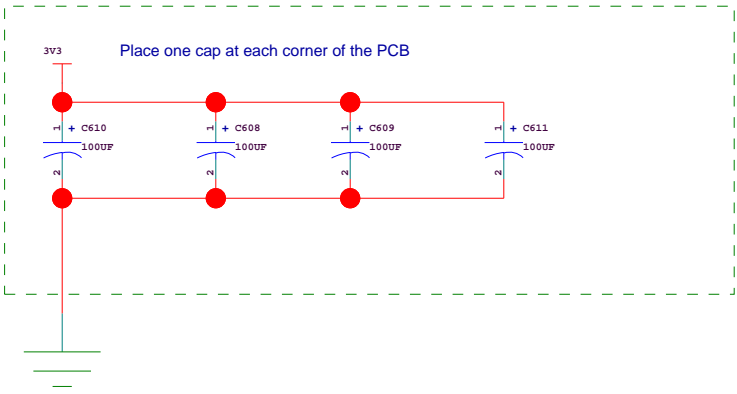


REMOVED 1.8V AND 1.5V REGULATORS, CONNECTED TO V5 RAILS

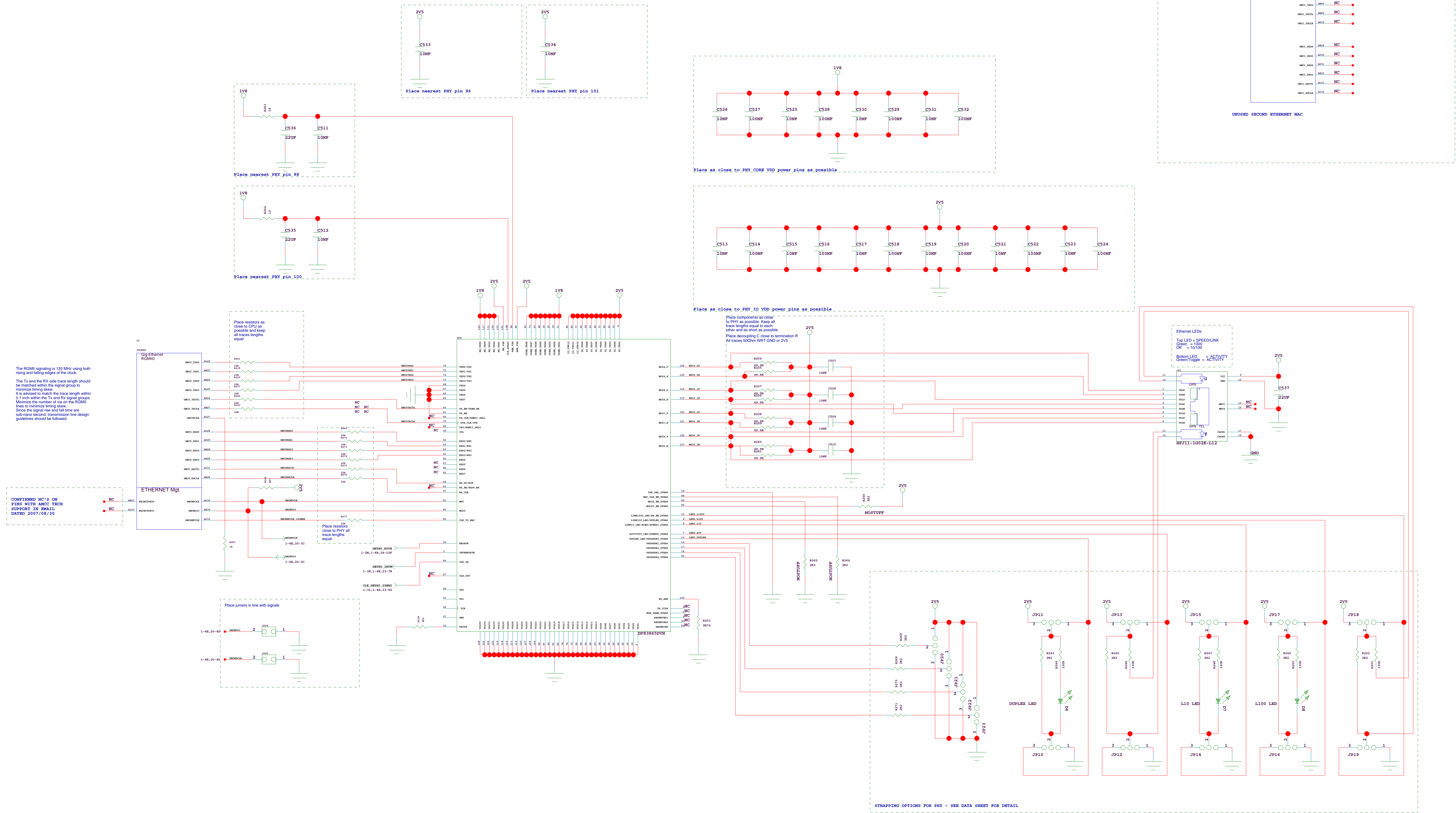
REMOVED VTT AND VREF - INCLUDED ON ROACH_PPC_DDR2

ROACH/iBOB2		ROACH_PPC_POWER_1	
COLLABORATORS:		SOC NO	REVISION
CASPER GROUP, UC BERKELEY MESA, SOCORRO MesaTech, CAPE TOWN		NEP-ADM-XXX-SD-0001	A
		DESCRIPTION	
		RECONFIGURABLE OPEN ARCHITECTURE HW	
http://casper.berkeley.edu/		DRAG:	APPR:
1-24-2008-9:05		F KAPP	
PATH PATH		CHECKED:	SHEET
		K BAUMEISTER	17 OF 25

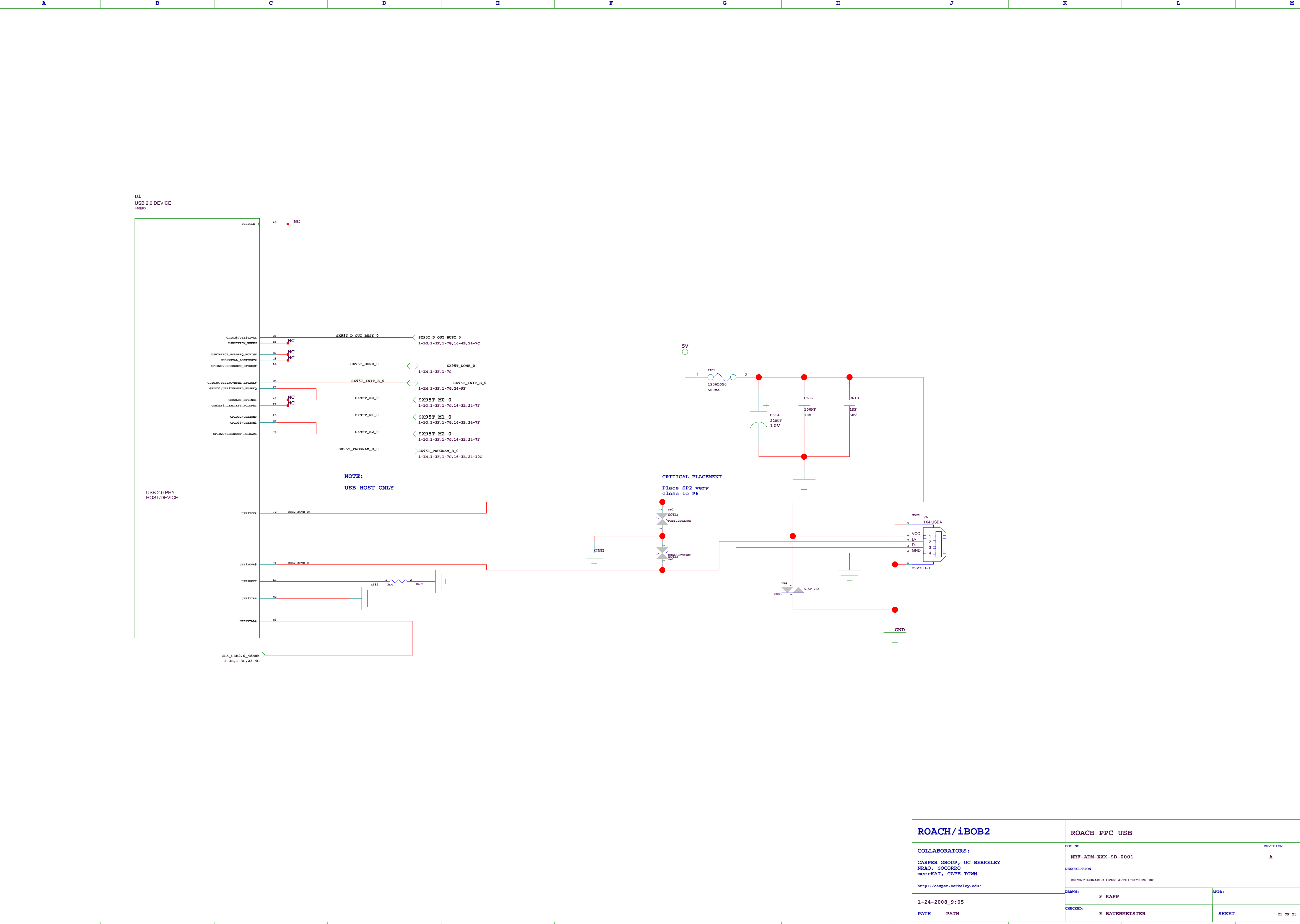
	A	B	C	D	E	F	G	H	J	K	L	M
7												
6			REMOVED 3V3 GENERATION									
5												
4		REMOVED +12V GENERATION			REMOVED -12V GENERATION							
3												
2												
1		REMOVED +1V GENERATION			REMOVED +2V5 GENERATION							
0												
	A	B	C	D	E	F	G	H	J	K	L	M



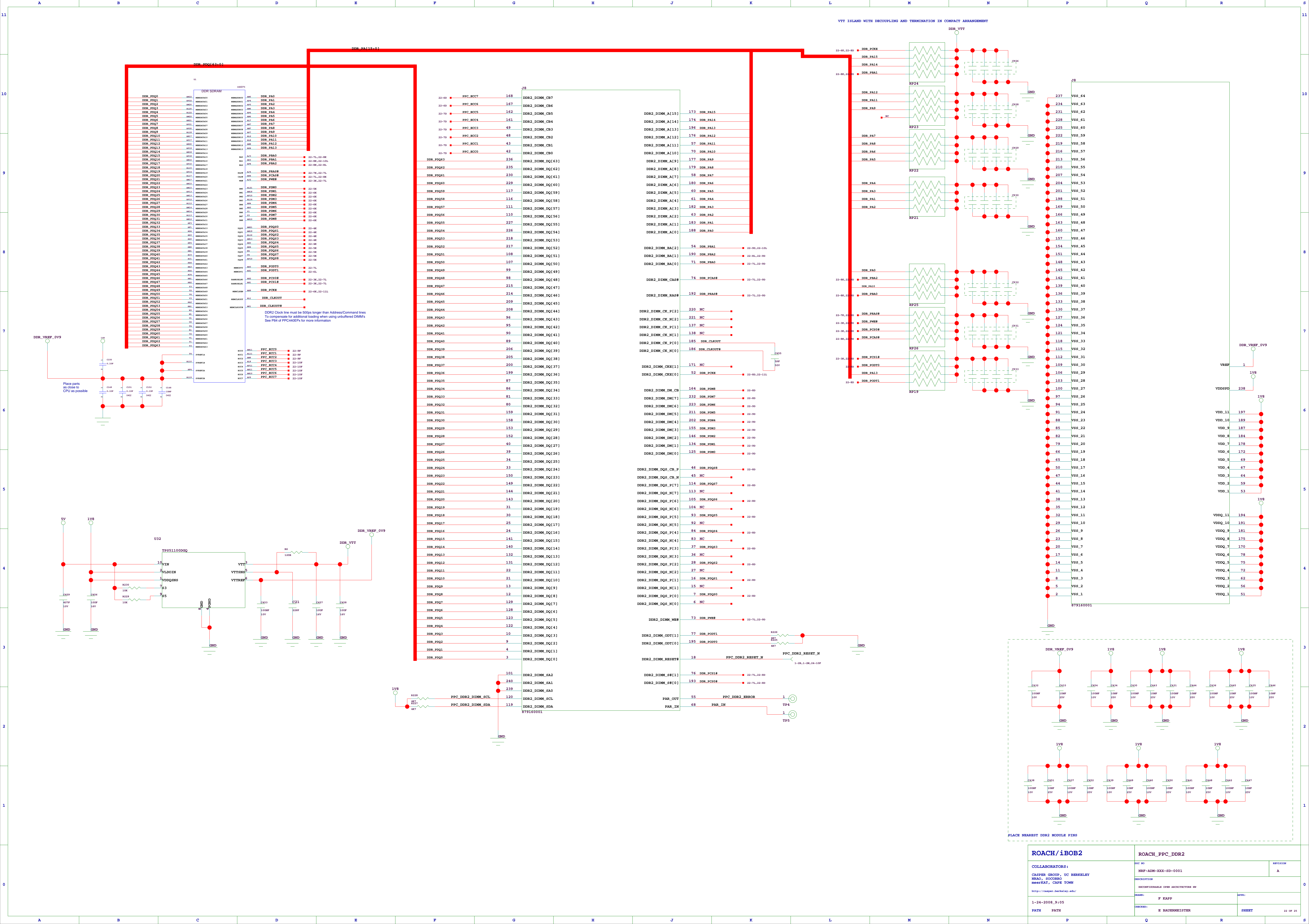
ROACH/iBOB2	ROACH_PPC_POWER_2	
COLLABORATORS: CASPER GROUP, UC BERKELEY NRAO, SOCORRO meerKAT, CAPE TOWN http://casper.berkeley.edu/	DOC NO NRF-ADM-XXX-SD-0001	REVISION A
	DESCRIPTION RECONFIGURABLE OPEN ARCHITECTURE HW	
	DRAWN: F KAPP	APPR:
1-24-2008_9:05	CHECKED: E BAUERMEISTER	SHEET 18 OF 25
PATH	PATH	



ROACH/iBOB2		ROACH_PPC_ETH1	
COLLABORATORS:		DOC NO	REVISION
CASPER GROUP, UC BERKELEY		NRF-ADM-XXX-SD-0001	A
HRAU, FORDHO		DESCRIPTION	
MEERKAT, CAPE TOWN		RECOMMENDABLES OPEN ARCHITECTURE HW	
http://casper.berkeley.edu/		NAME:	NAME:
1-24-2008_9:05		F KAPP	
PATH PATH		CHECKED:	SHEET
		E BAUERKRITTER	20 OF 2



ROACH/iBOB2		ROACH_PPC_USB	
COLLABORATORS: CASPER GROUP, UC BERKELEY NRAO, SOCORRO meerKAT, CAPE TOWN http://casper.berkeley.edu/ 1-24-2008_9:05 PATH PATH	DOC NO NRF-ADM-XXX-SD-0001		REVISION A
	DESCRIPTION RECONFIGURABLE OPEN ARCHITECTURE HW		
	DRAWN: F KAPP		APPR:
	CHECKED: E BAUERMEISTER		SHEET 21 OF 25

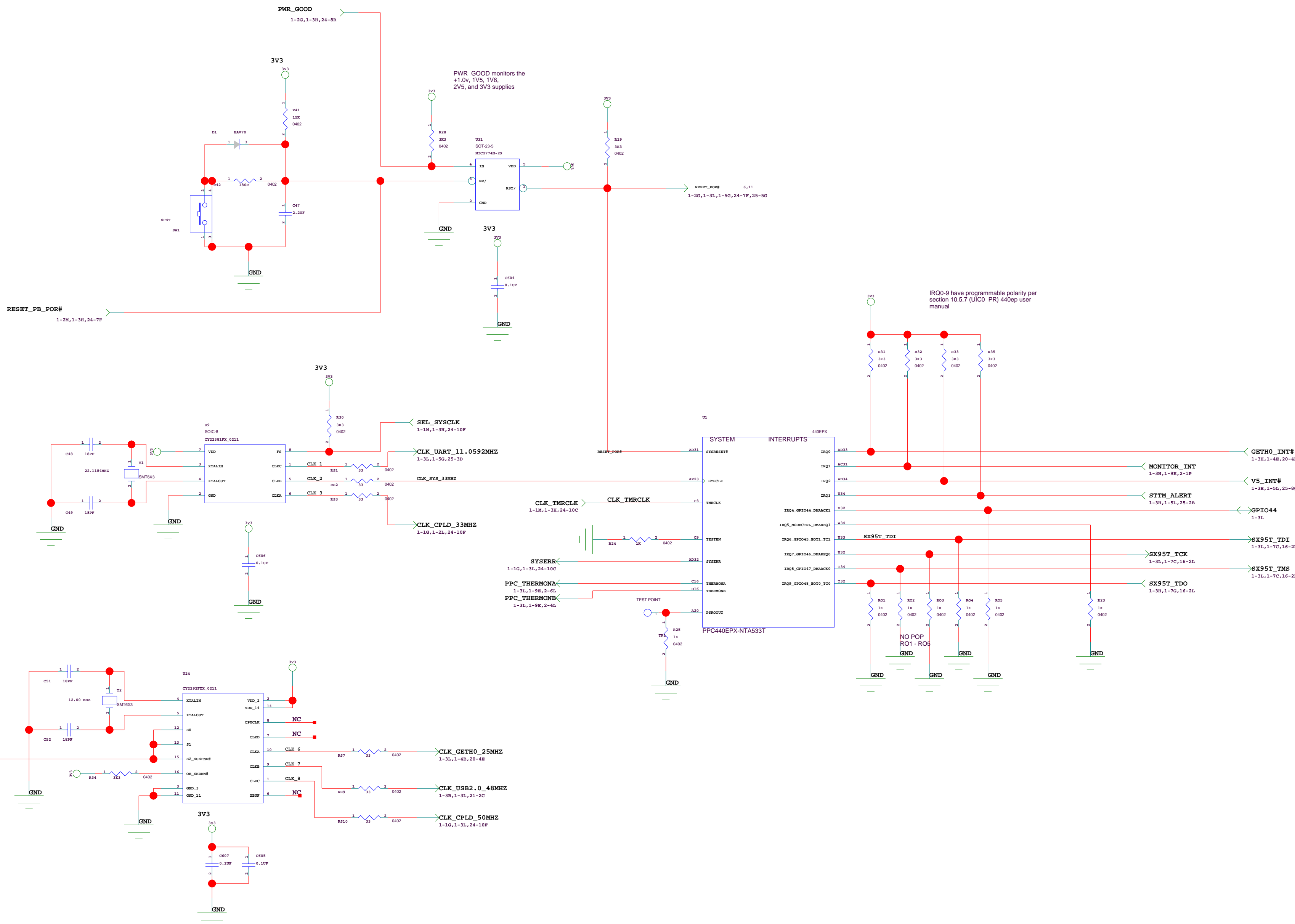


Critical Placement and Route
Clock Rules:

Clock Rules:
CLK_UART_11.0592MHz = as short as possible
CLK_SYS_33MHz = as short as possible
CLK_CPLD_33MHz = CLK_SYS_33MHz

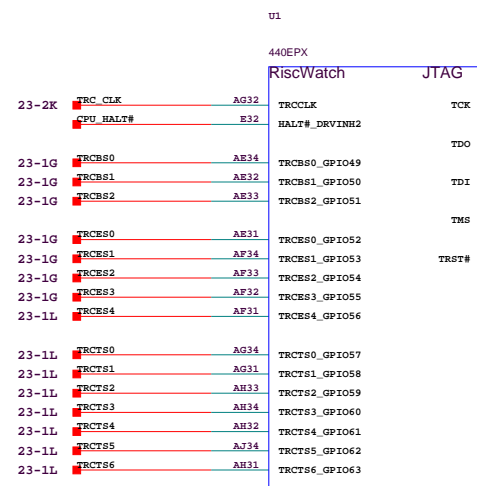
Critical Placement and Route
Clock Rules:

Clock Rules:
CLK_PC13_66.33MHz = as short as possible
CLK_PC12_66.33MHz = CLK_PC13_66.33MHz
CLK_PC11_66.33MHz = CLK_PC12_66.33MHz + 2.5°
CLK_GETH0_25MHz = as short as possible
CLK_GETH1_25MHz = CLK_GETH0_25MHz
CLK_CPLD_50MHz = as short as possible
CLK_USB2_0_48MHz = as short as possible
CLK_USB2_0_12MHz = as short as possible



TRACE & JTAG CONNECTORS

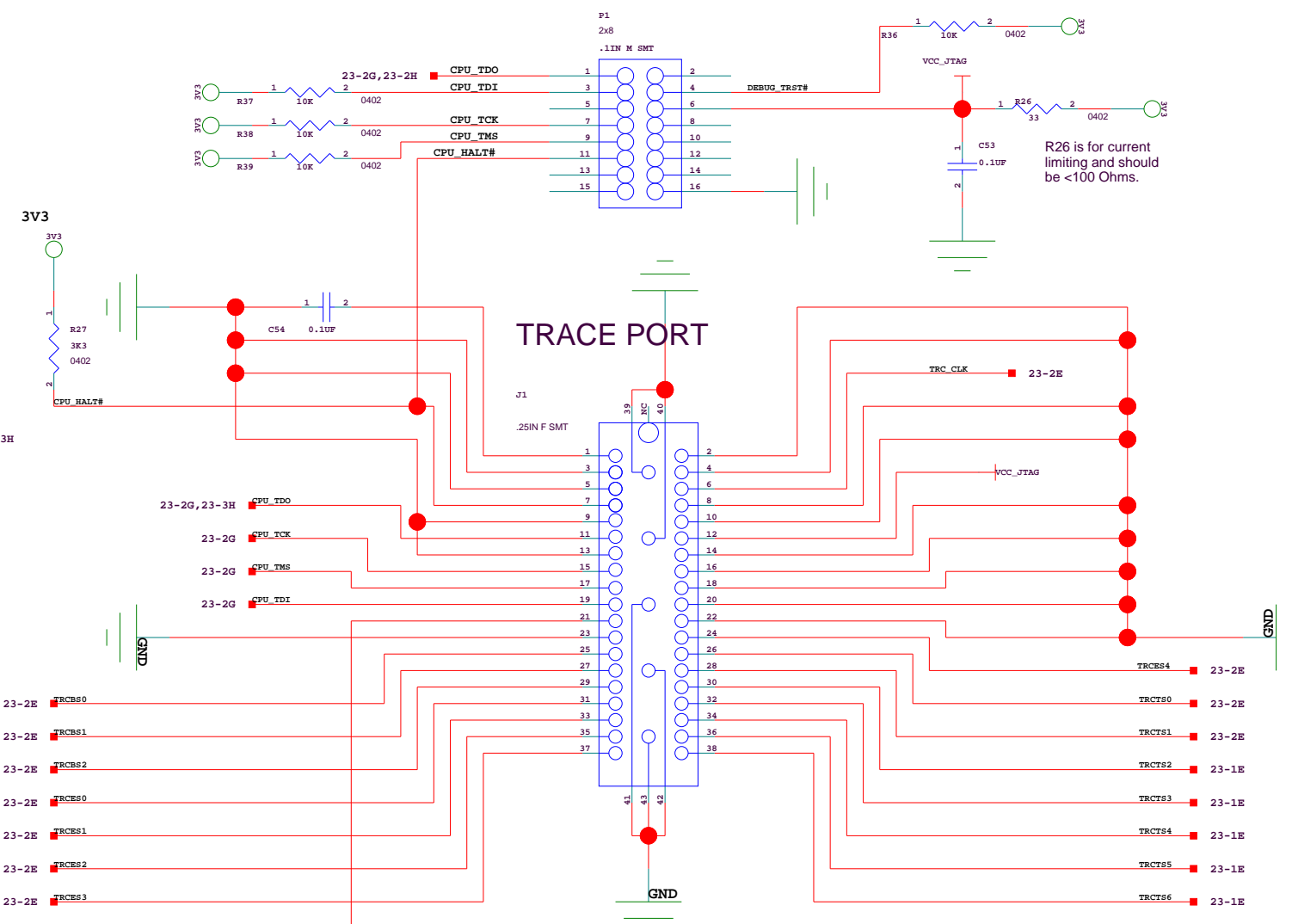
Critical placement and routing of
the Trace connector and nets.
Up to CPU frequency!



DEBUG_TRST#

1-30,1-35,24-30

TRACE PORT



ROACH/iBOE2		ROACH_PPC_TST_CLK_IO	
COLLABORATORS:		DOC NO	REVISION
CASPER GROUP, UC BERKELEY NRAC, SOCORRO meserKAT, CAPE TOWN		NRF-ADM-XXX-SD-0001	A
DESCRIPTION		RECONFIGURABLE OPEN ARCHITECTURE HW	
http://casper.berkeley.edu/		ISSUES	
1-24-2008, 9:05		ISSUES:	APPROVE:
PATH	PATH	F KAPP	
CHECKED:		K BAUERMEISTER	SHEET
			23 OF 25

