

FELIX Prototype V3_1b (FLX-182)

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Brookhaven National Laboratory
5/26/2023

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BROOKHAVEN NATIONAL LABORATORY			
TITLE			
FELIX_Ph2_v3			
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DRAWN	Hongbin Liu, Hao Xu	DATE	12/07/2023:13:55

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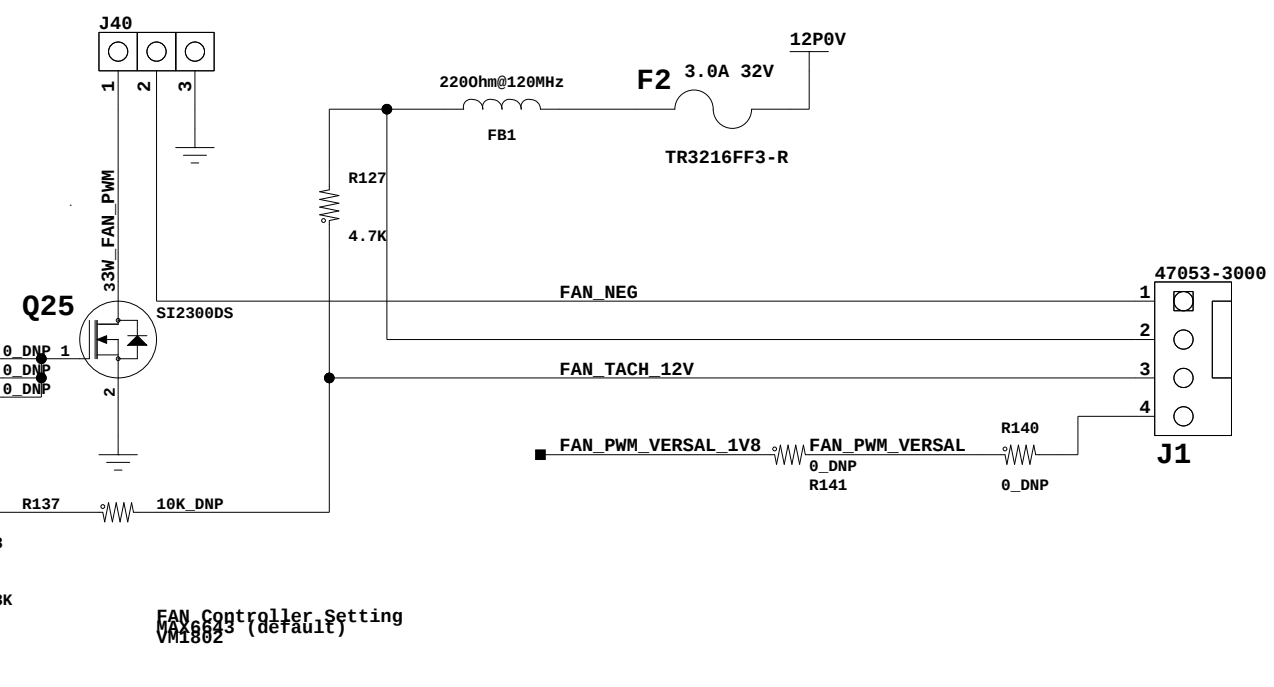
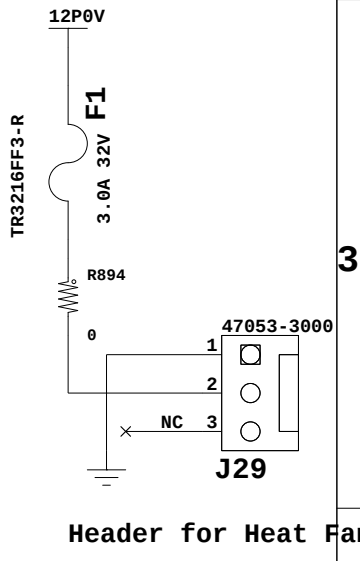
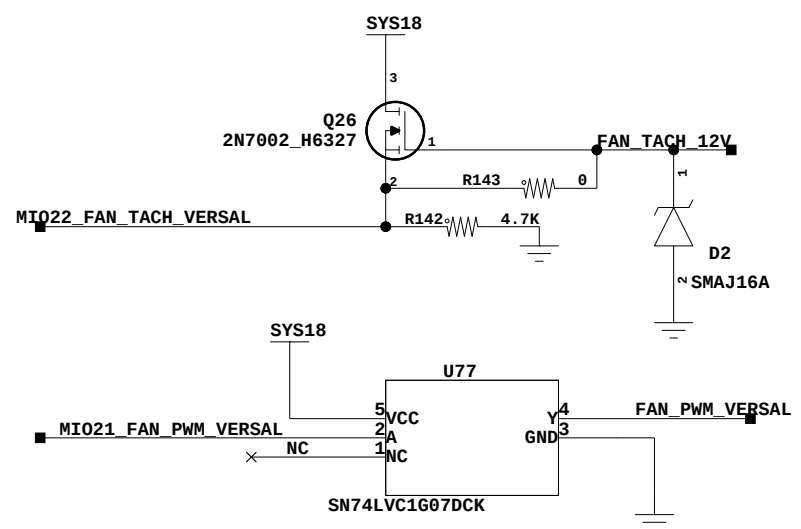
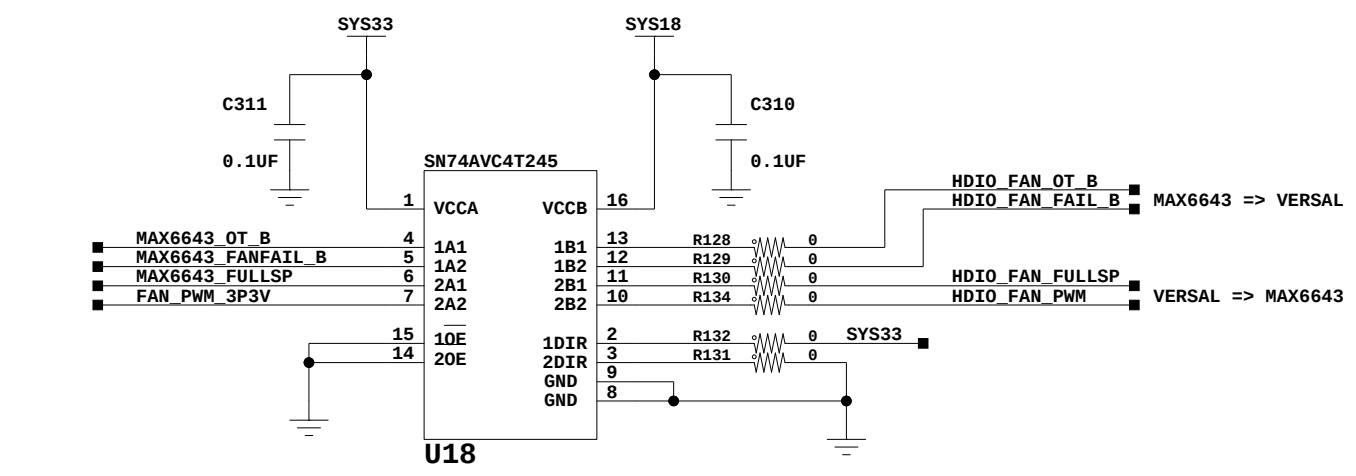
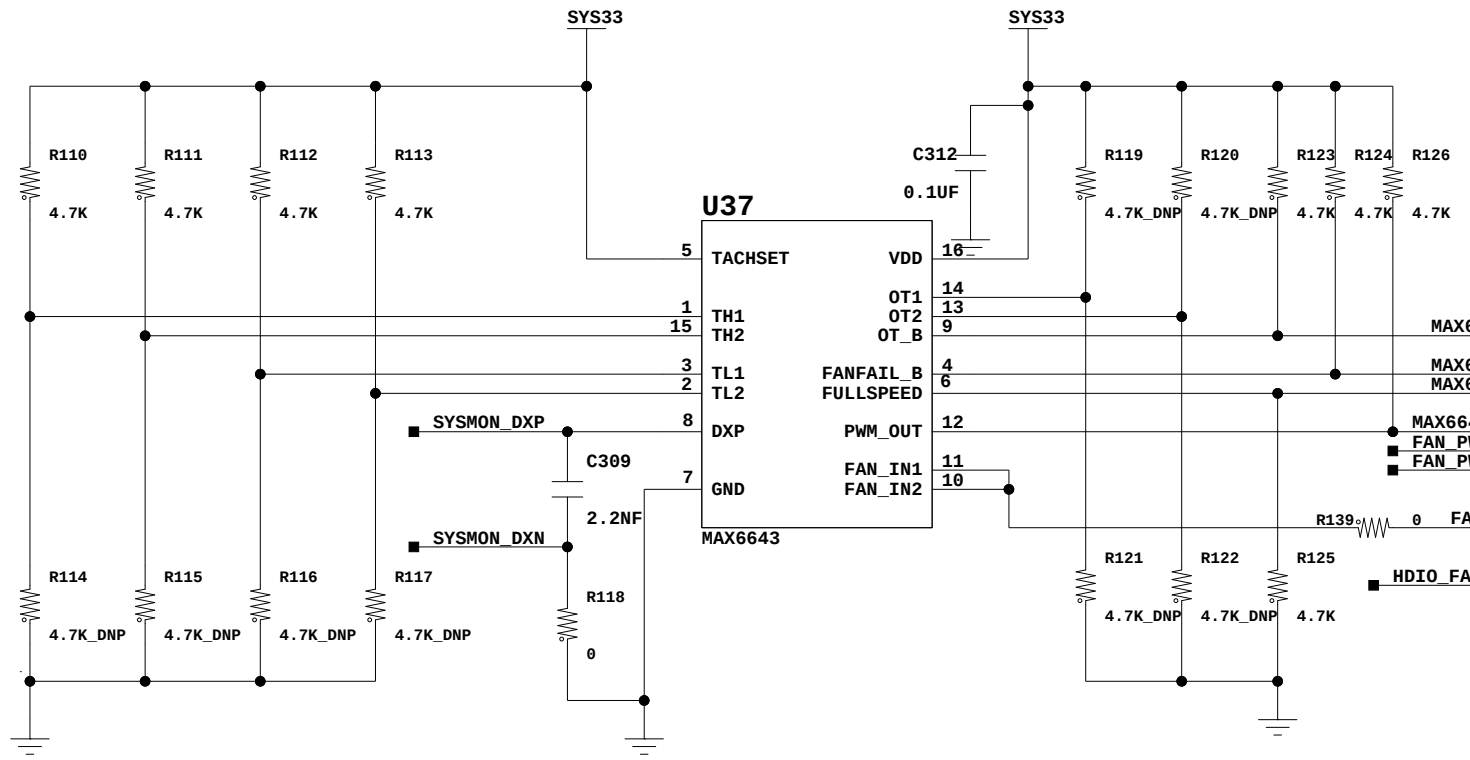
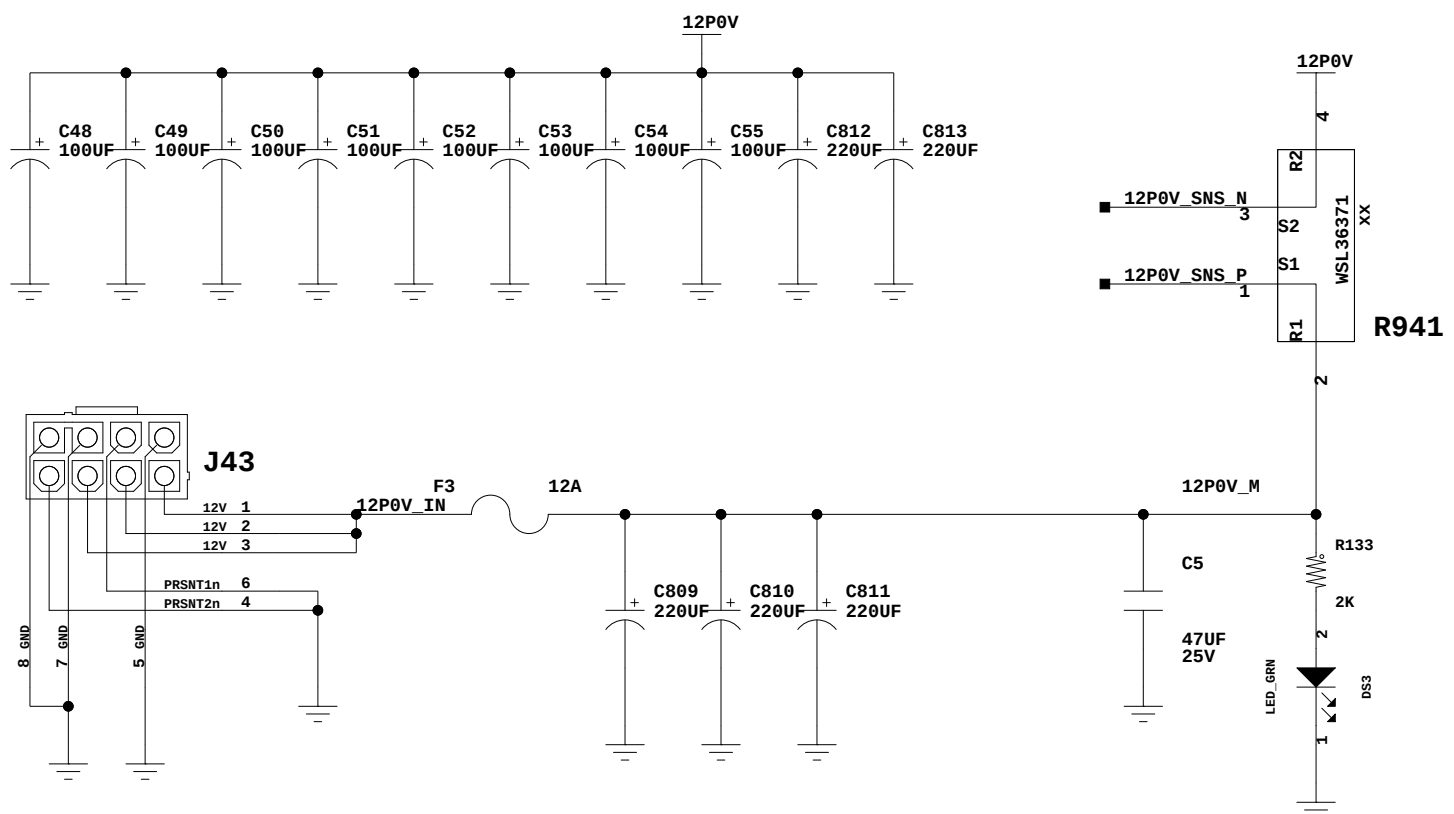
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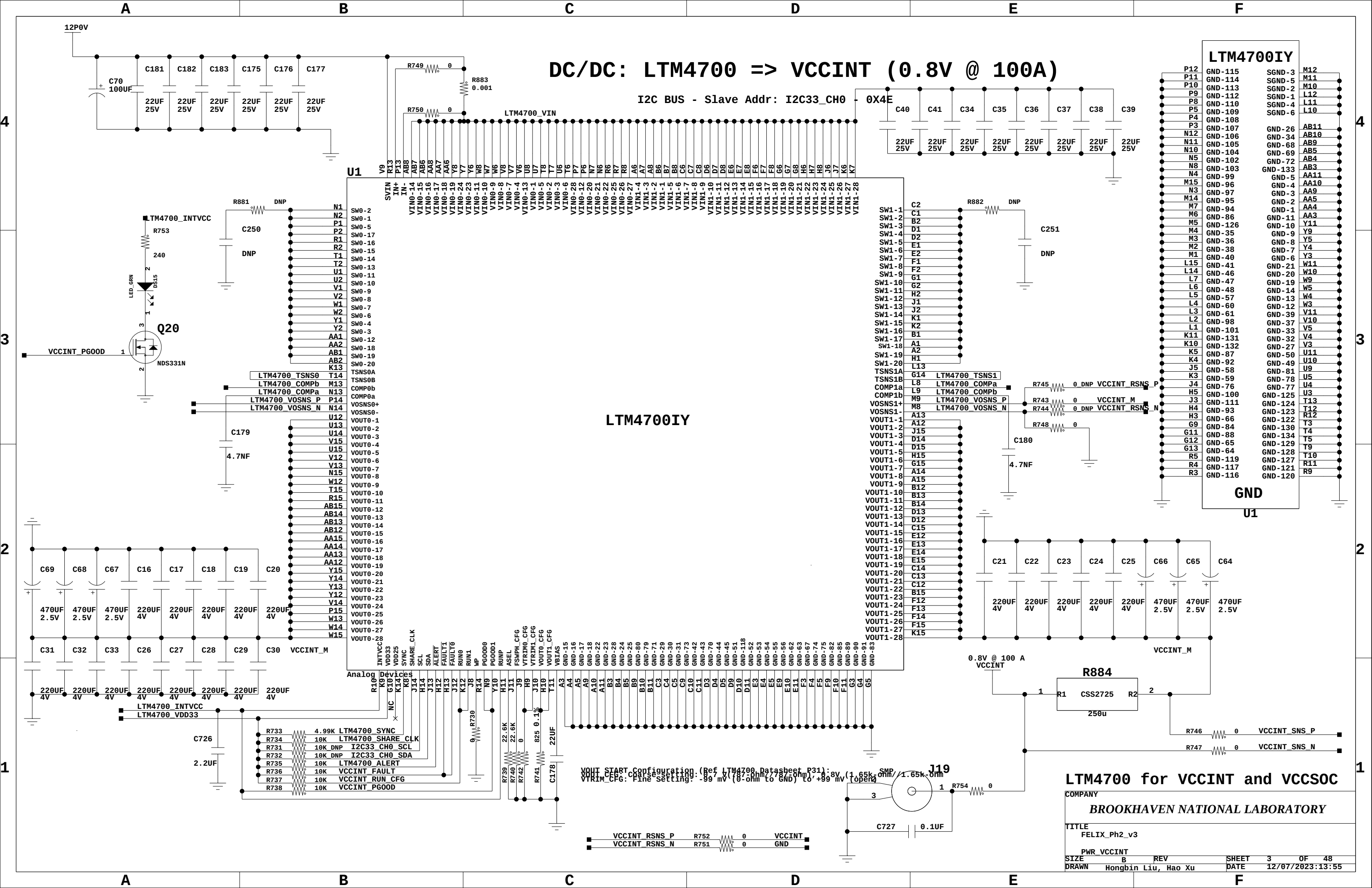
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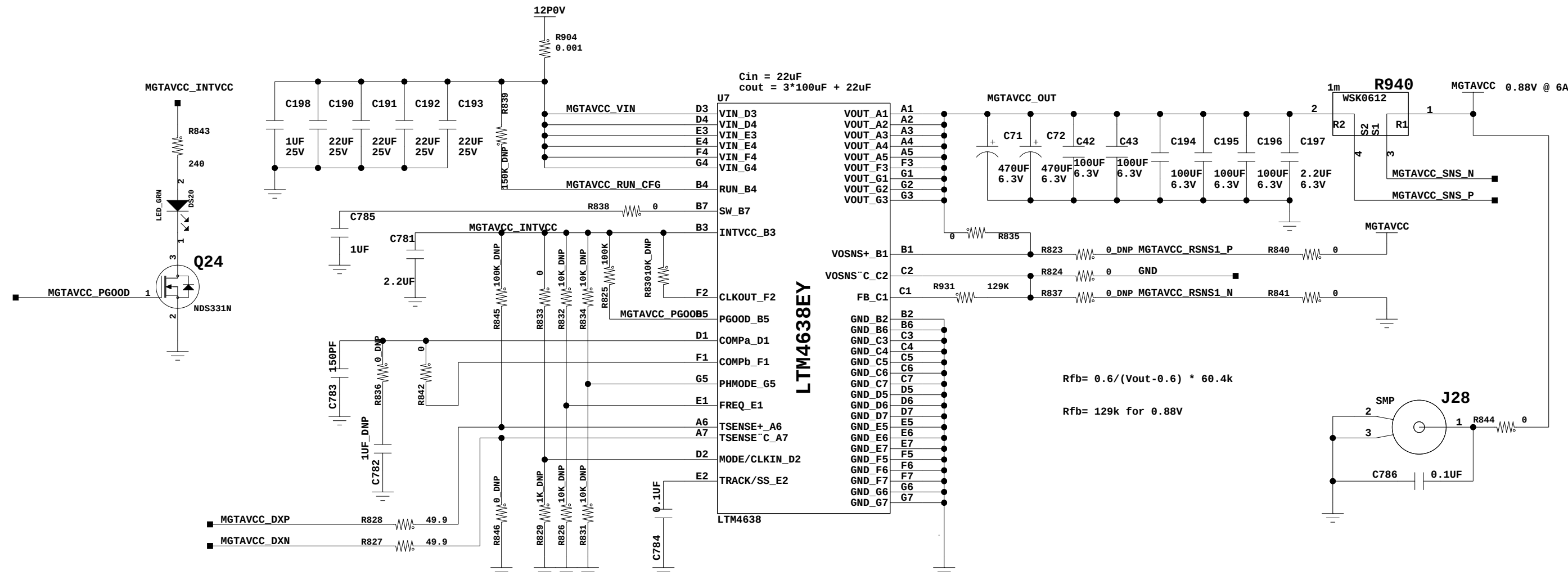
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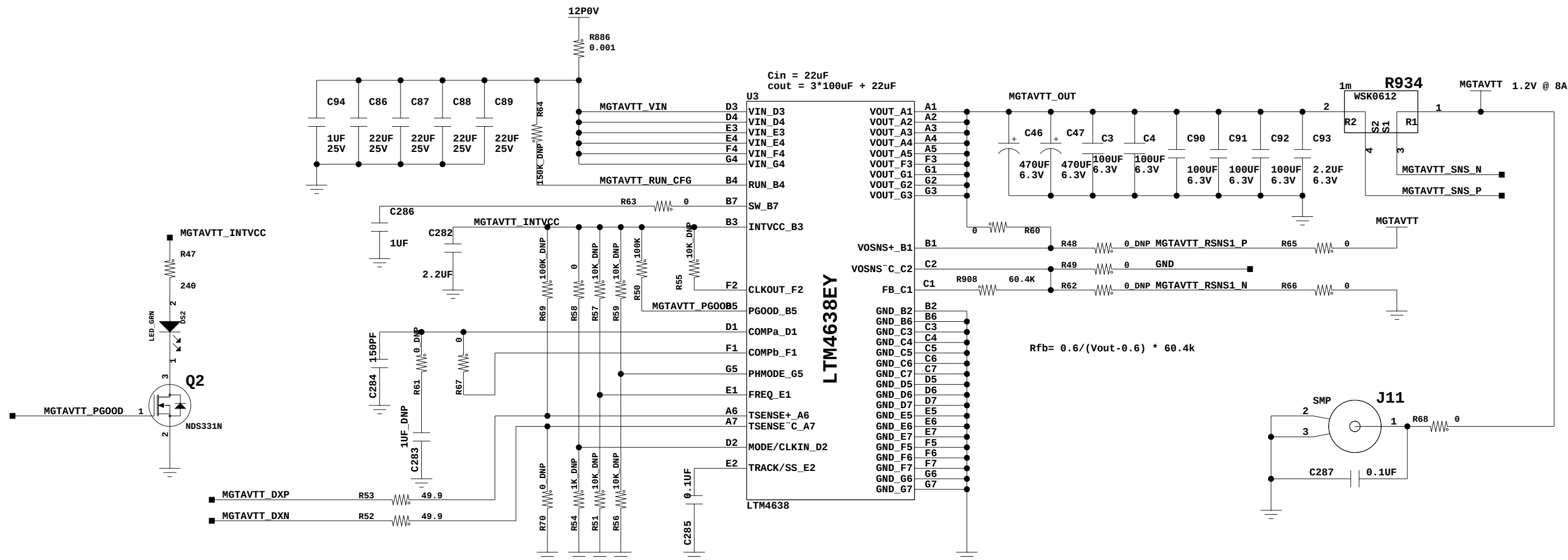
DC/DC : LTM4638 => MGTAVCC (0.88V @ 6A)



LTM4638 MGTAVCC

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BROOKHAVEN NATIONAL LABORATORY			
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PWR_MGTAVCC			
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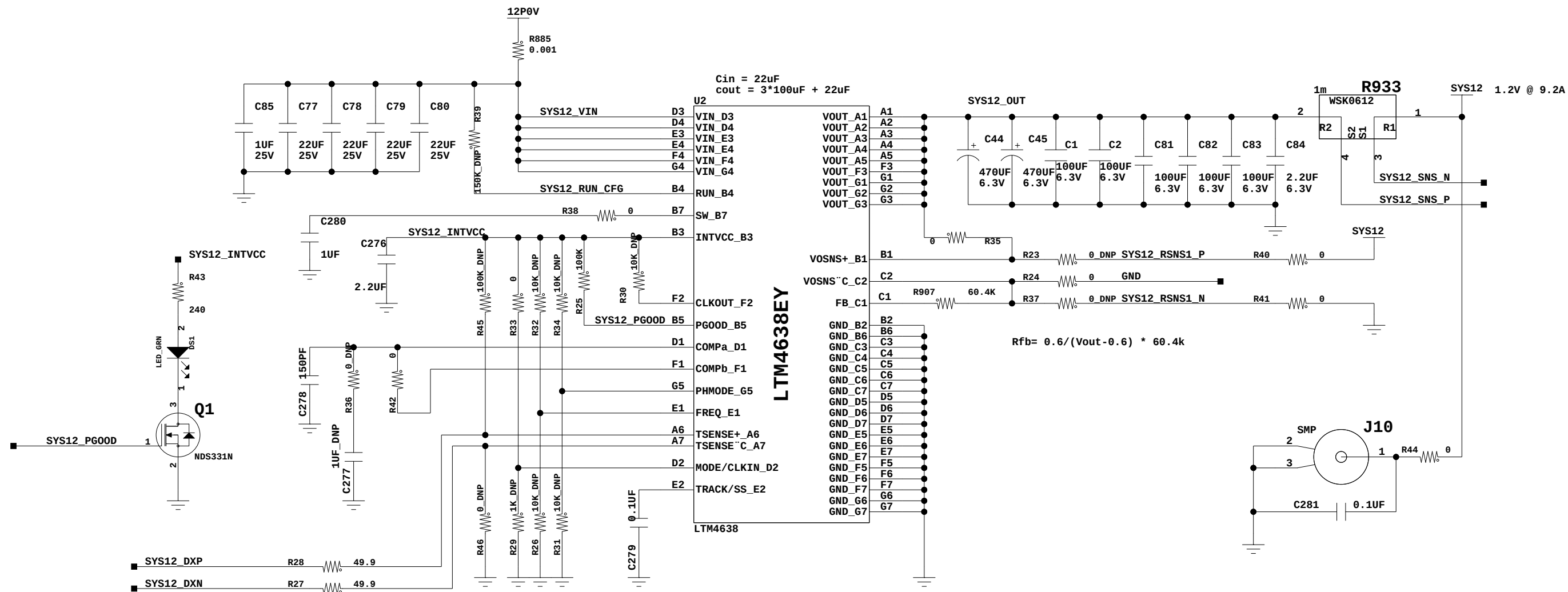
DC/DC: LTM4638 => MGTAVTT (1.20V @ 8A)



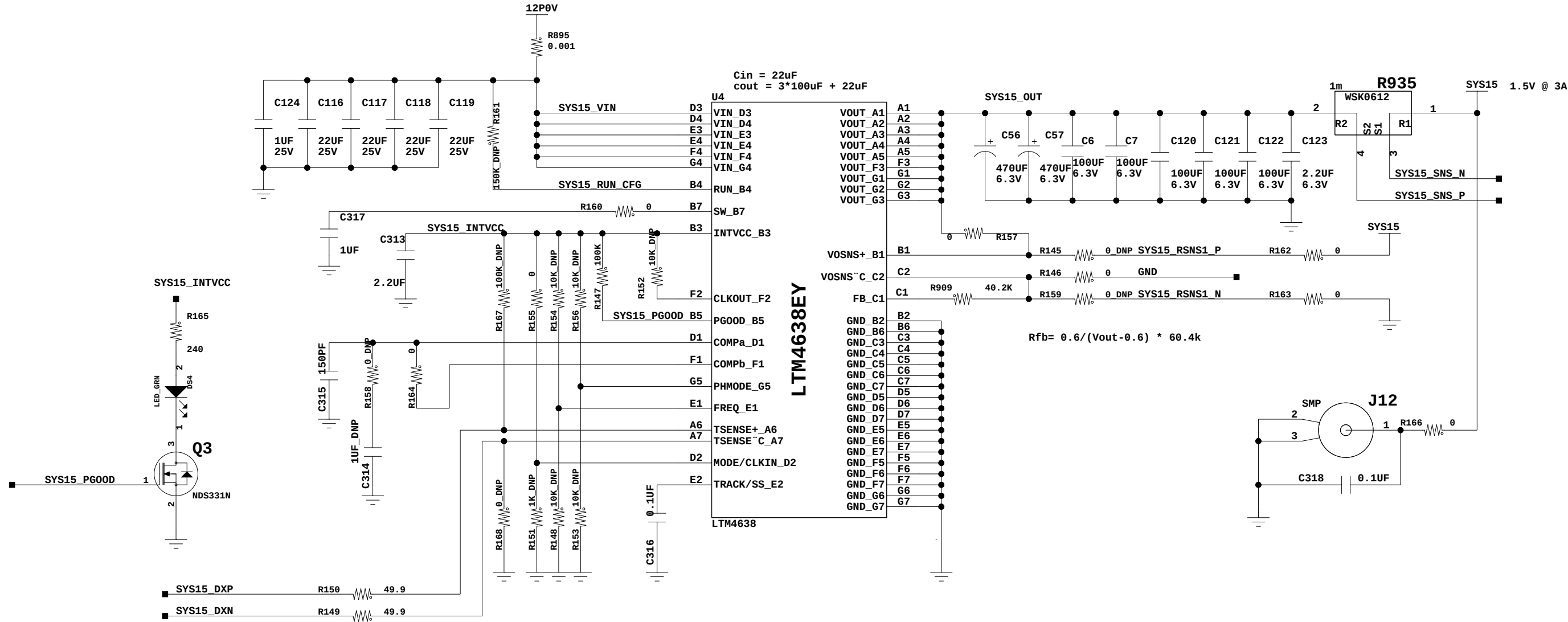
LTM4638 for MGTAVTT

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BROOKHAVEN NATIONAL LABORATORY				
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FELIX_Ph2_v3				
PWR_MGTAVTT				
SIZE	B	REV	SHEET	5 OF 48
DRAWN	Hongbin Liu, Hao Xu		DATE	12/07/2023:13:55

DC/DC: LTM4638 => SYS12 (1.20V @ 9.2A)



DC/DC: LTM4638 => SYS15 (1.50V @ 3A)



4



1

1

A

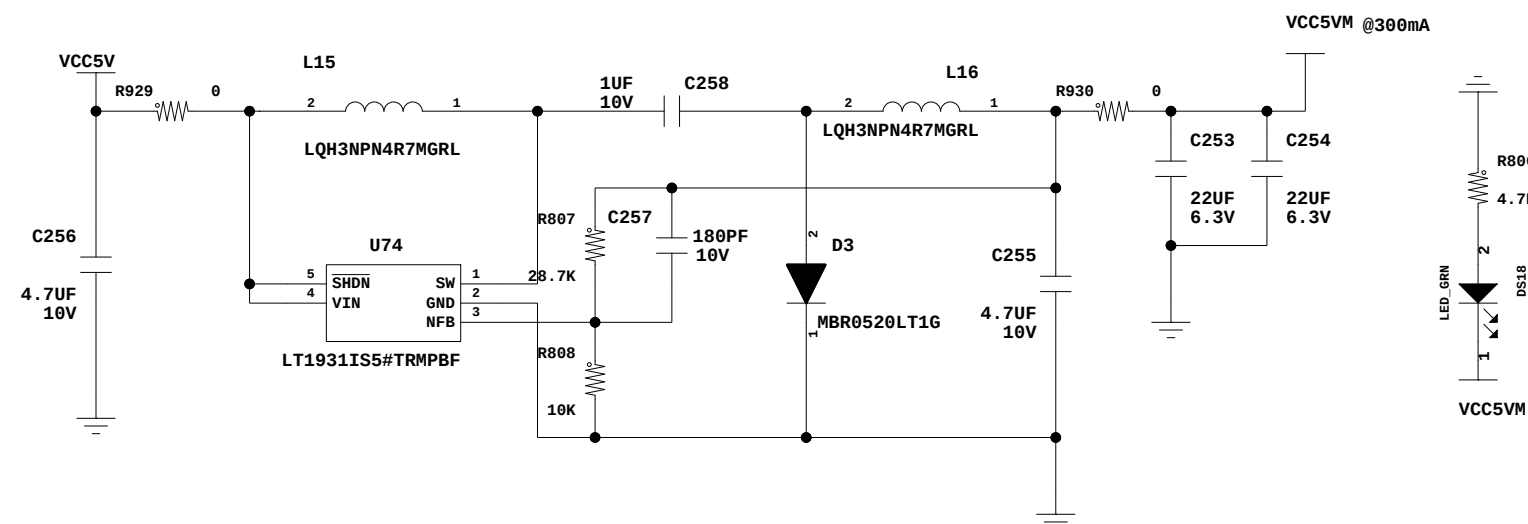
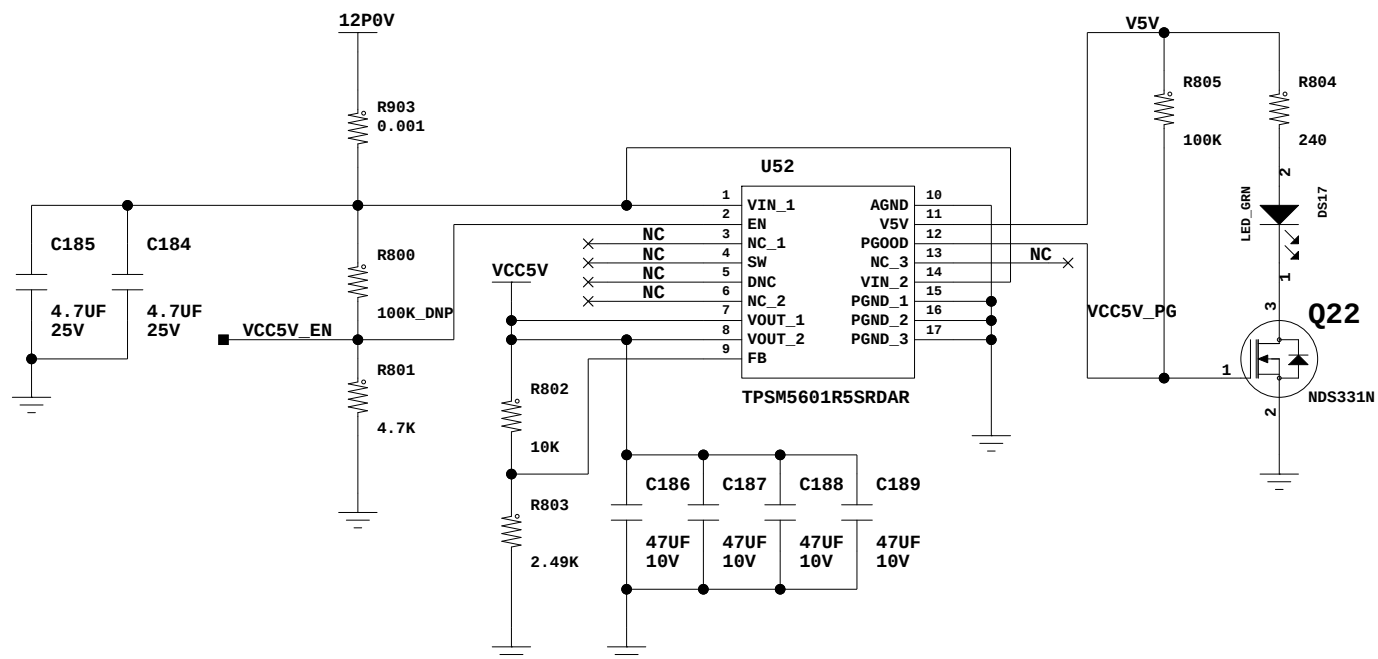
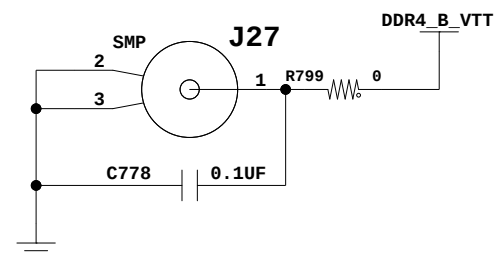
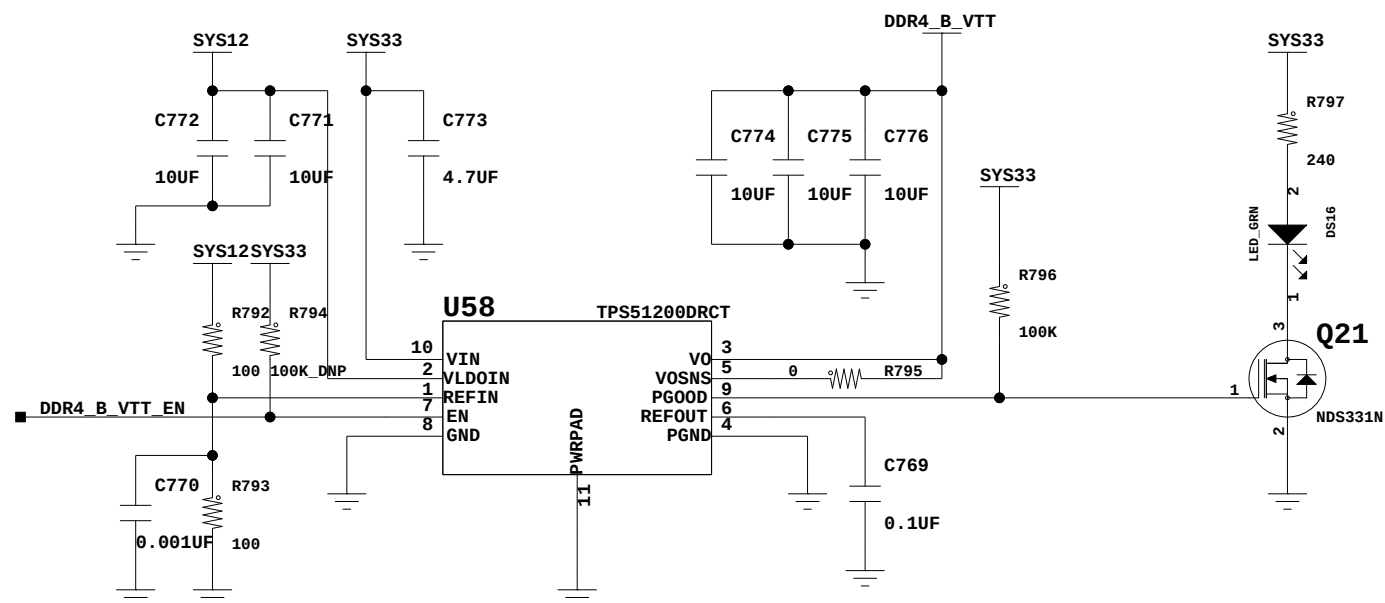
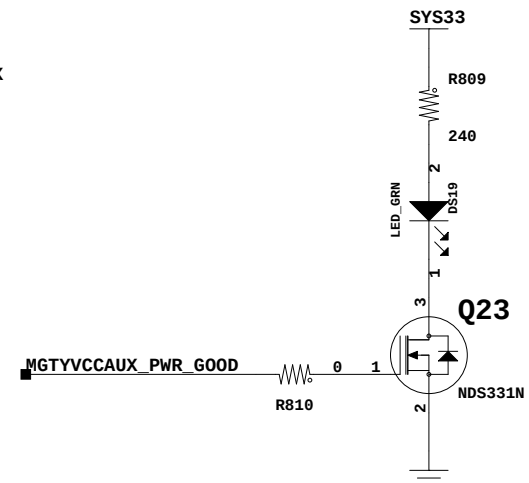
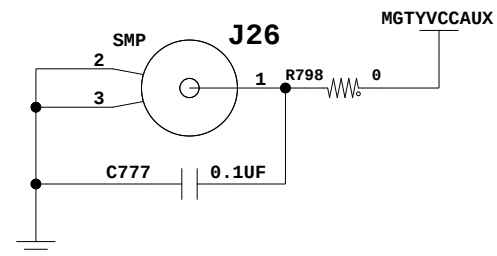
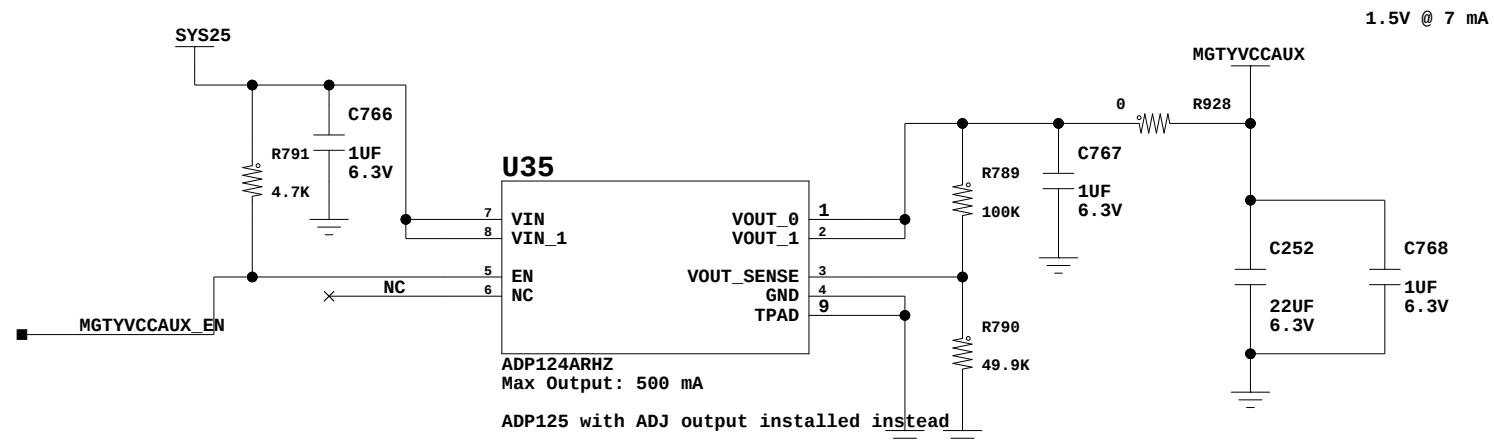
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D

E

F



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SIZE	B	REV	SHEET 11 OF 48
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A

B

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D

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F

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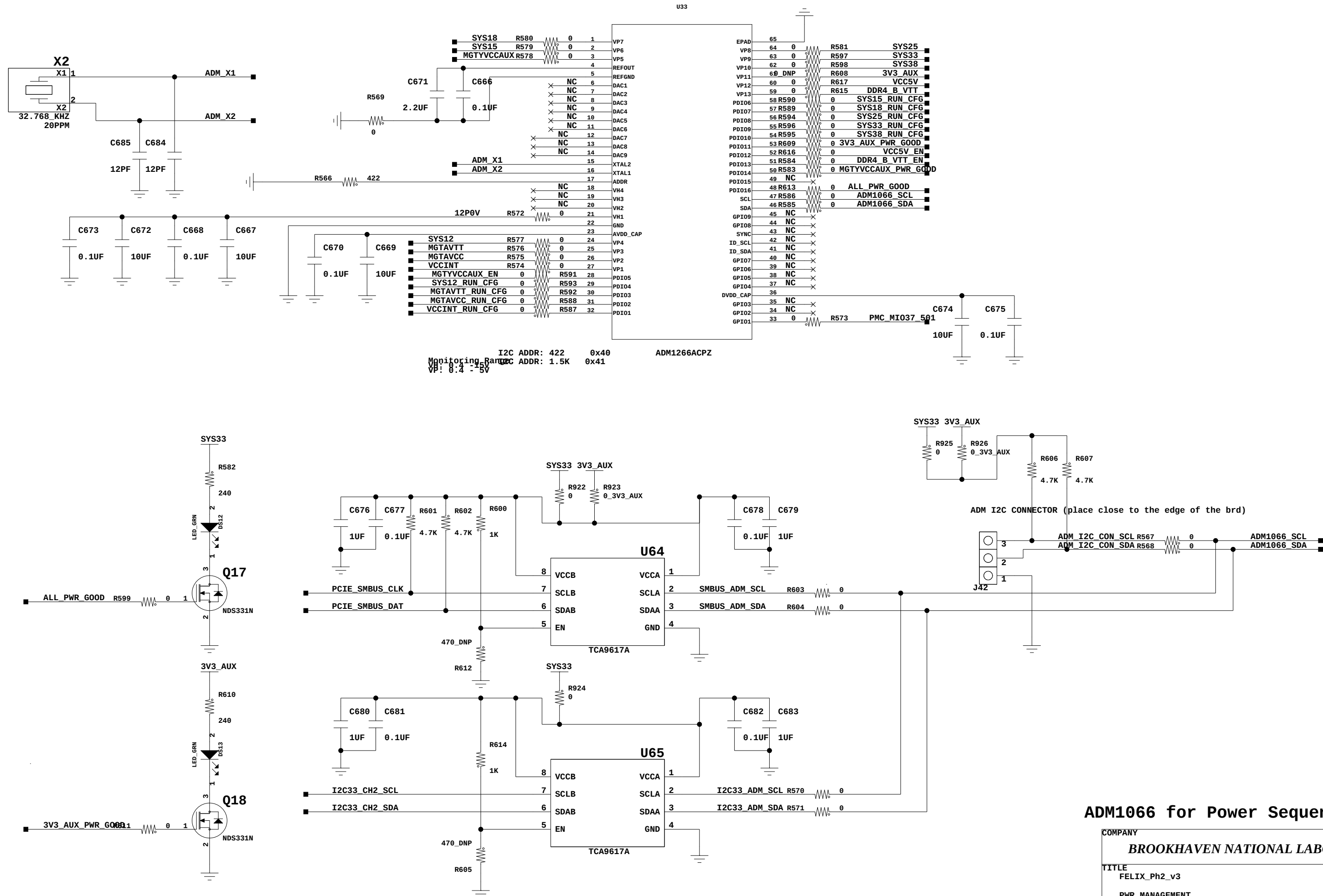
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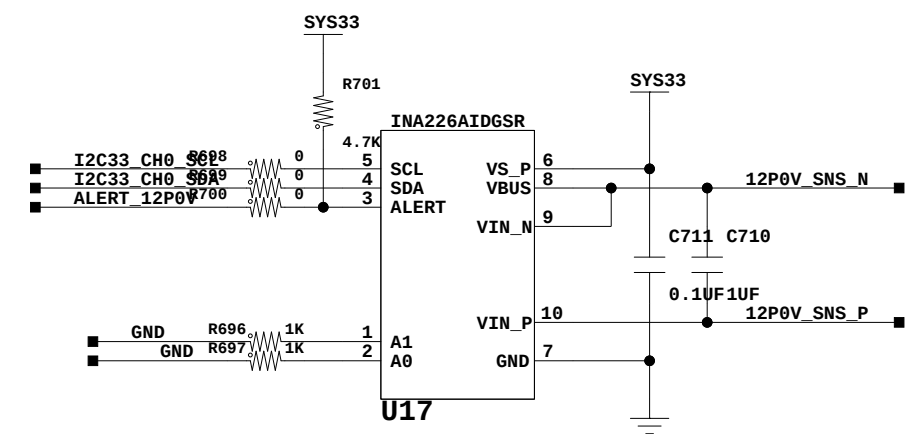
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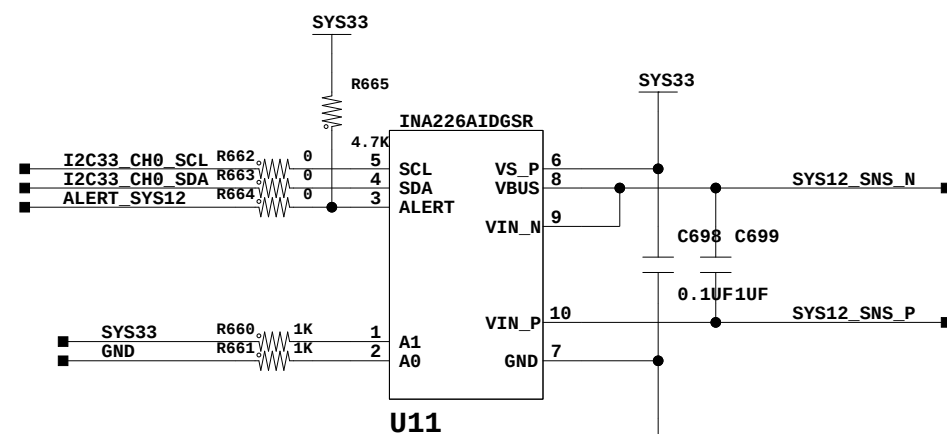
ADM1066 for Power Sequence and Monitoring

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BROOKHAVEN NATIONAL LABORATORY			
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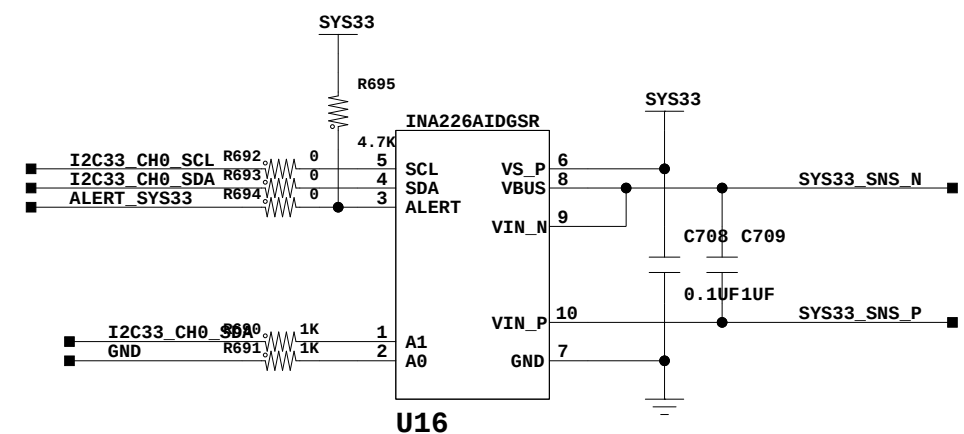
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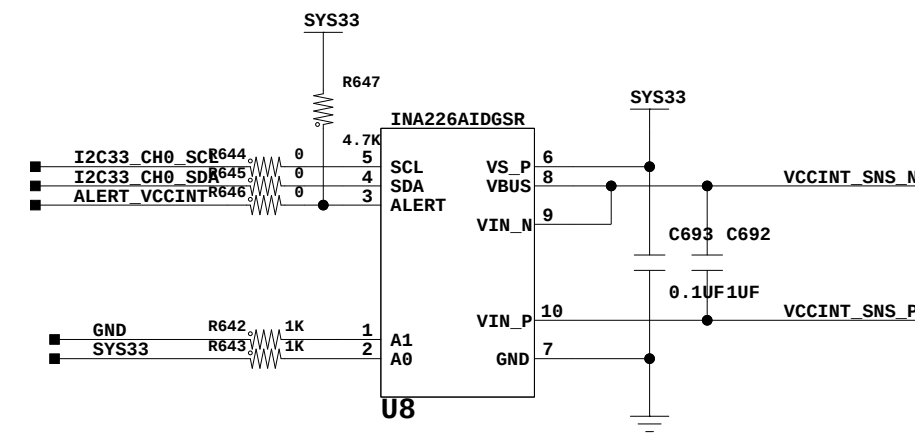


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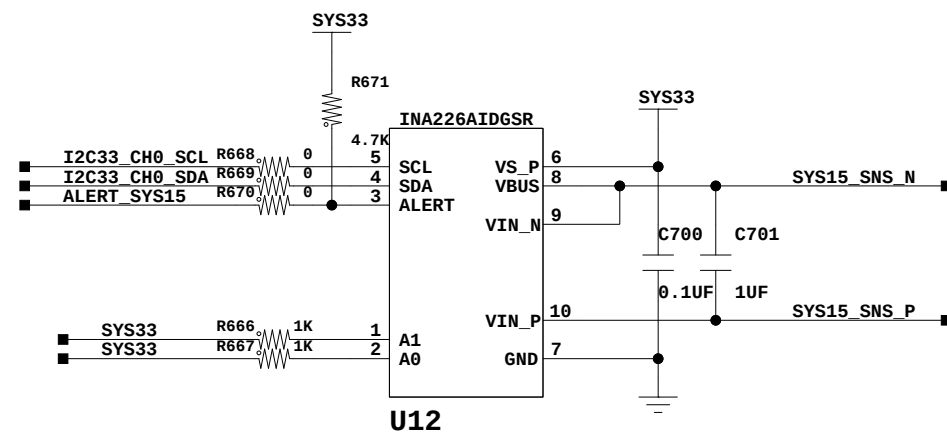


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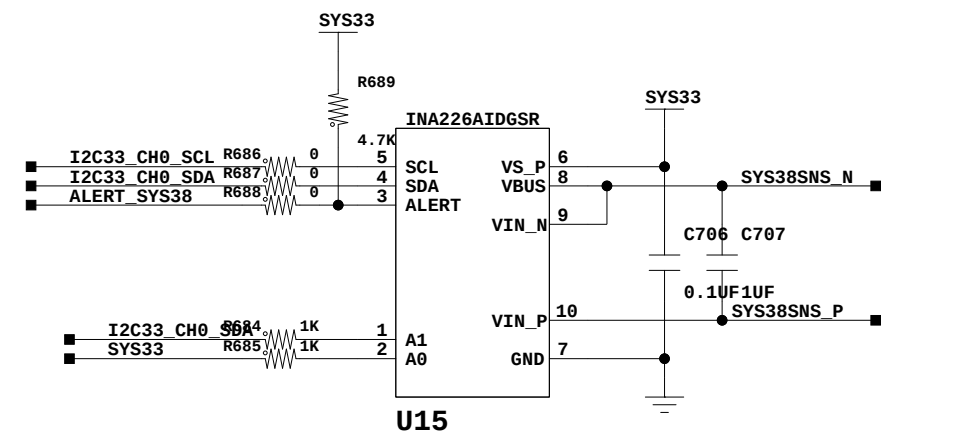
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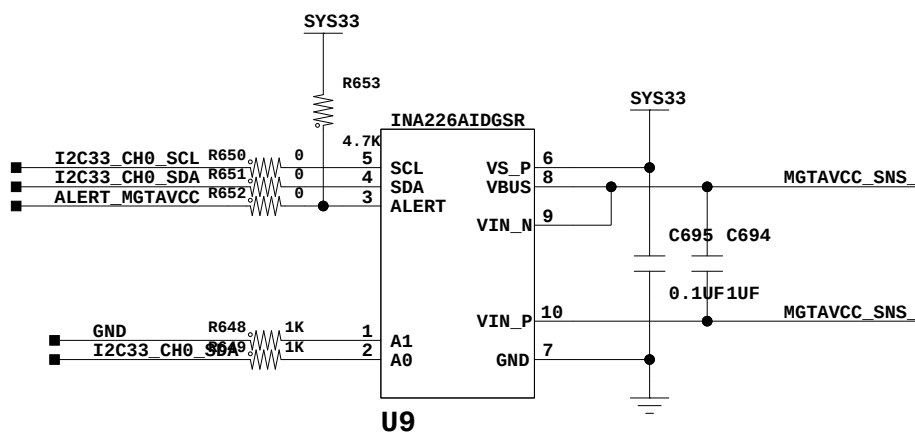


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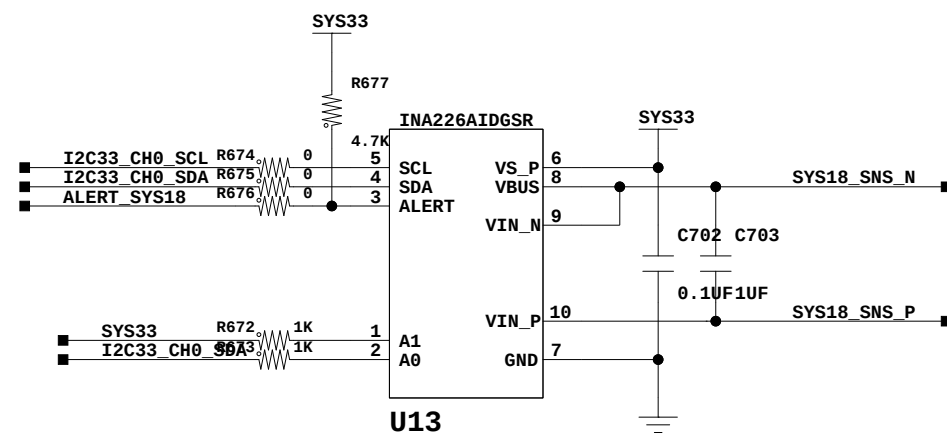


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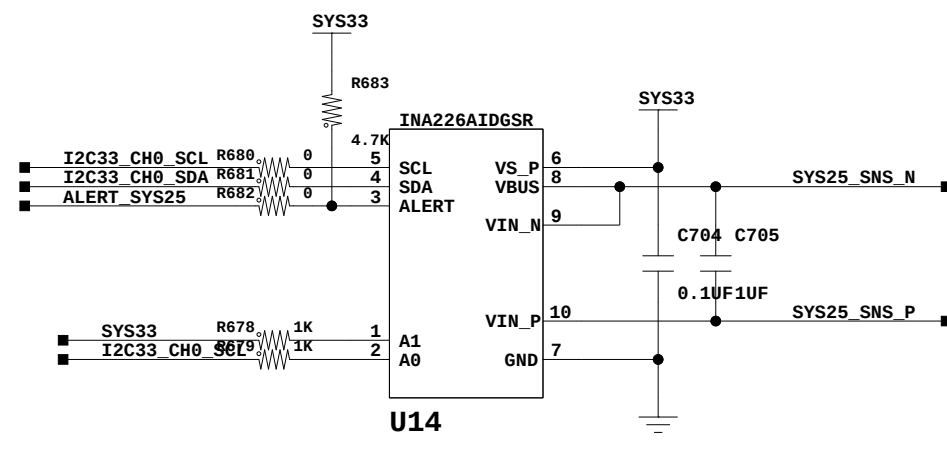
I2C BUS - Slave Addr: INA226 - 0X42



I2C BUS - Slave Addr: INA226 - 0X46



I2C BUS - Slave Addr: INA226 - 0X43



I2C BUS - Slave Addr: INA226 - 0X47

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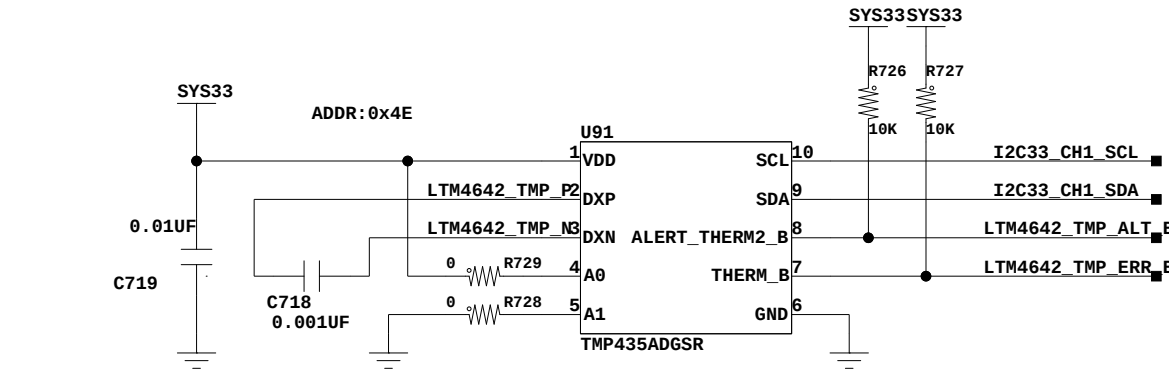
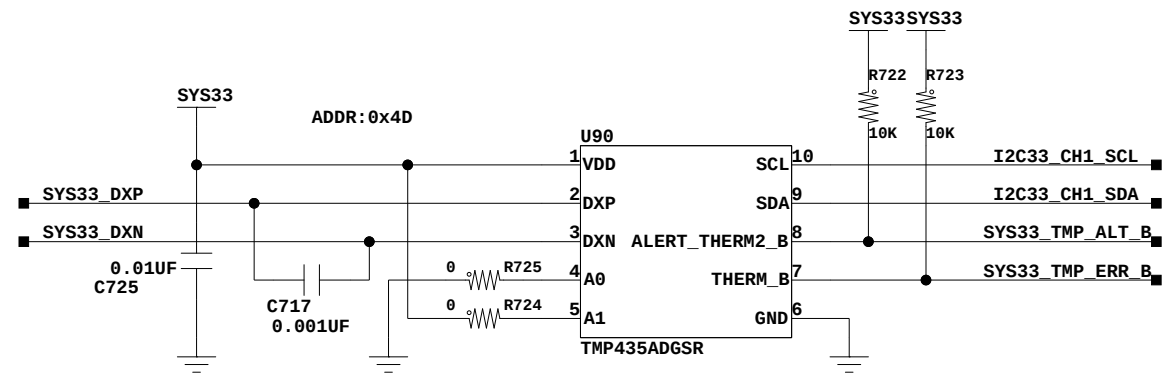
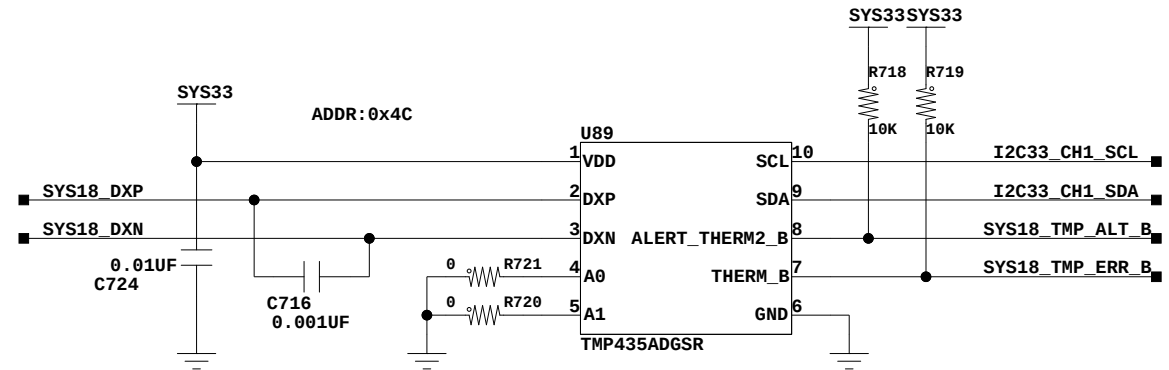
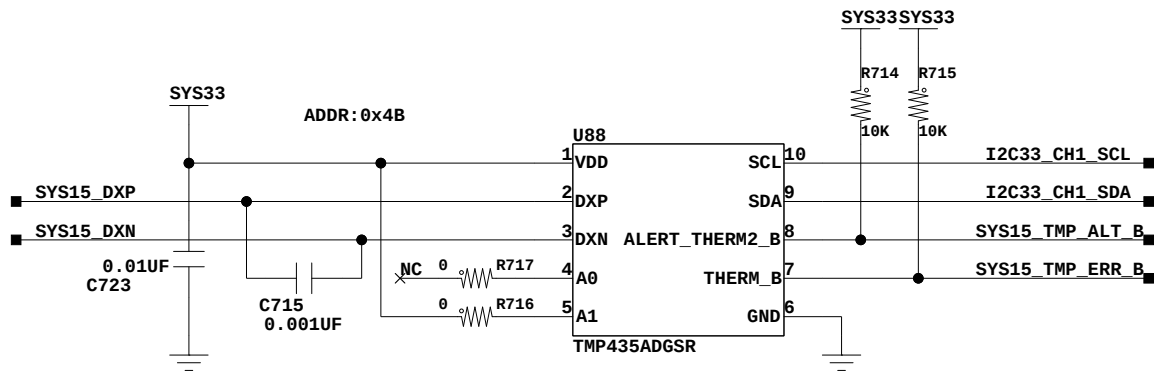
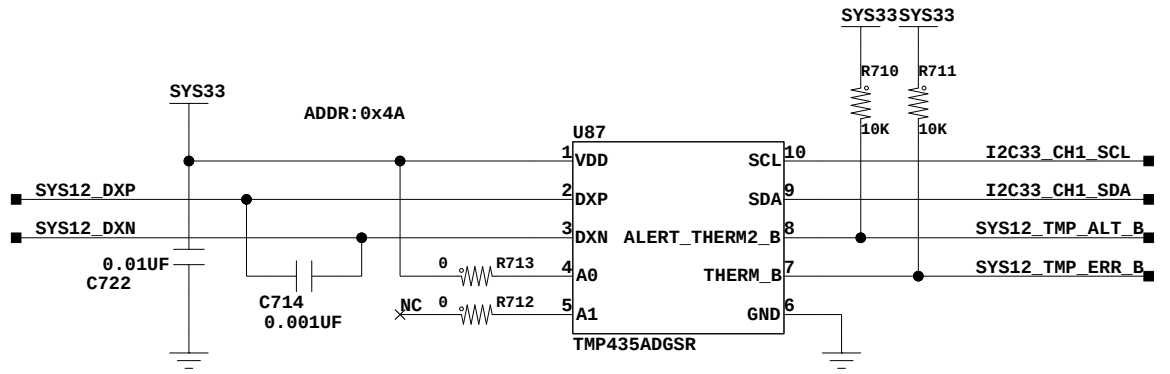
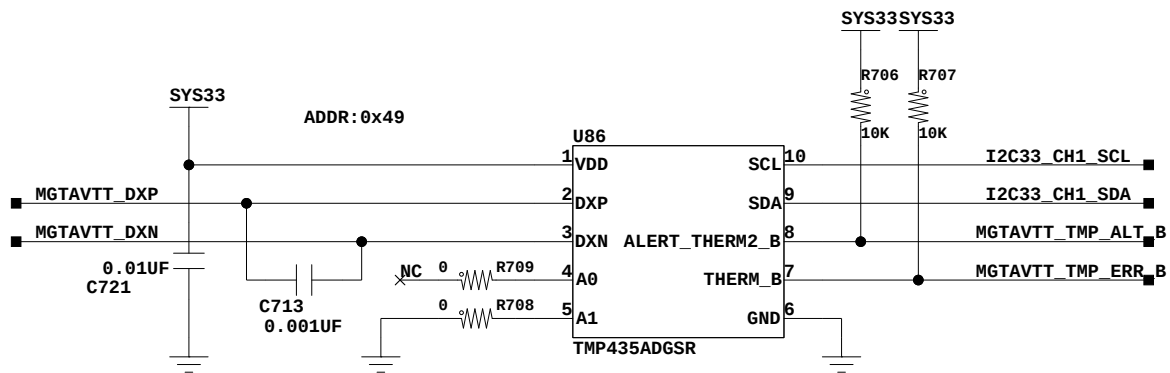
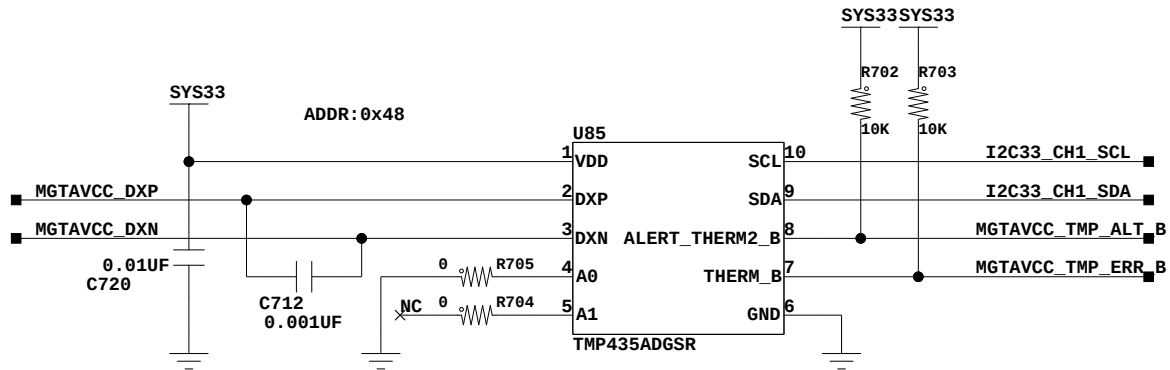
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0	1	0x41
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0	SCL	0x43
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1	1	0x45
1	SDA	0x46
1	SCL	0x47
SDA	0	0x48
SDA	1	0x49
SDA	SDA	0x4A
SDA	SCL	0x4B
SCL	0	0x4C
SCL	1	0x4D
SCL	SDA	0x4E
SCL	SCL	0x4F

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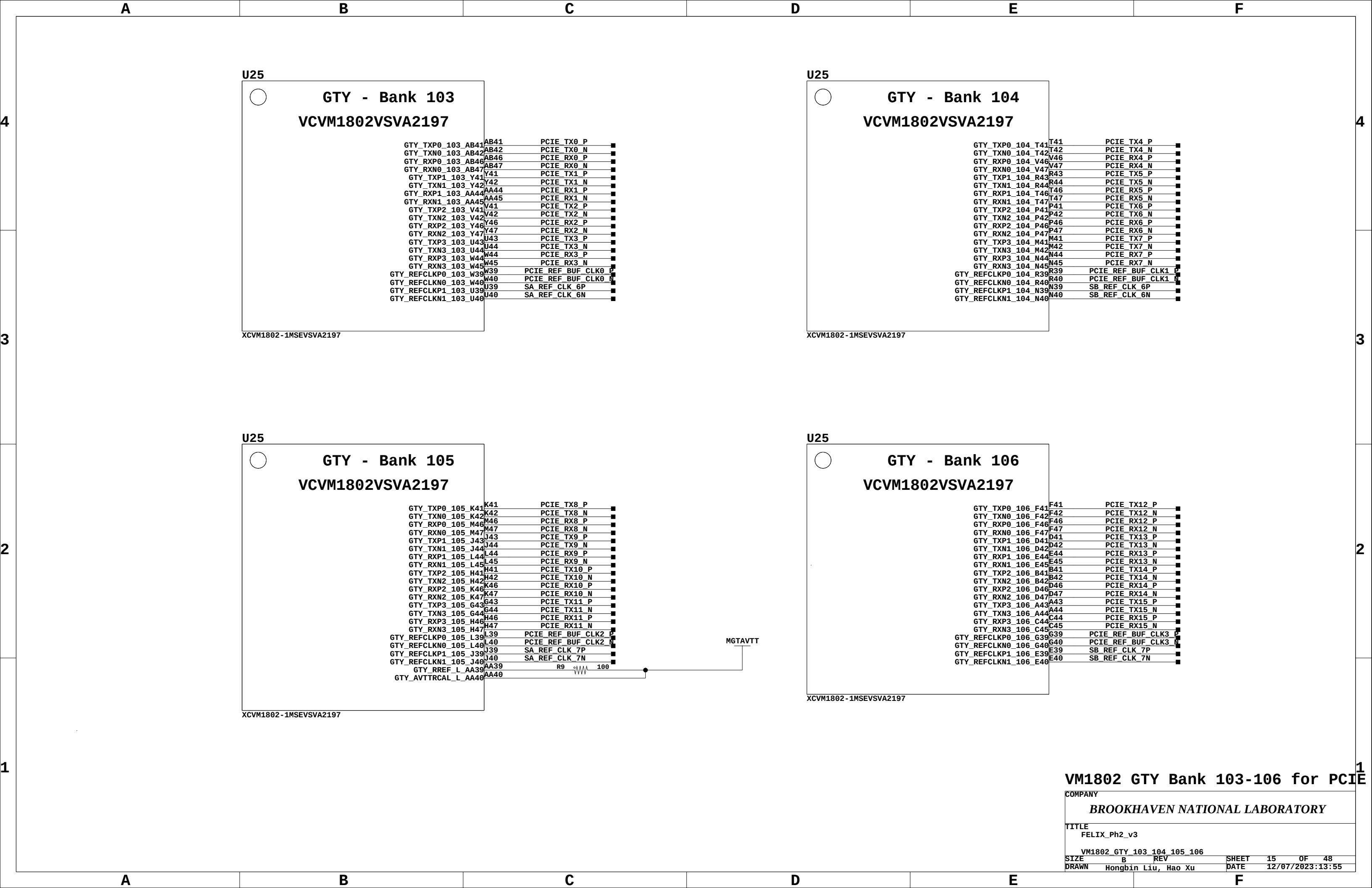
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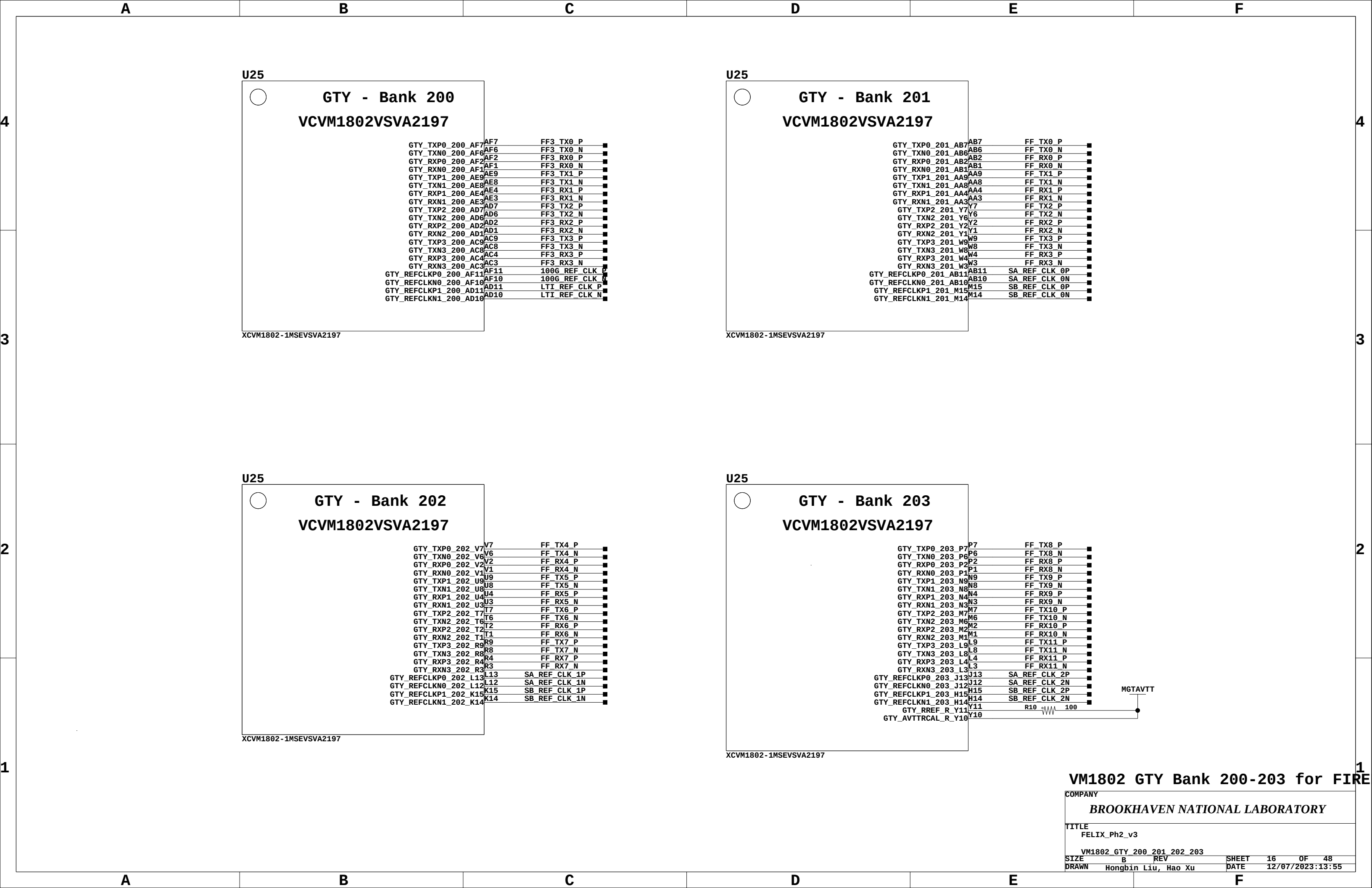


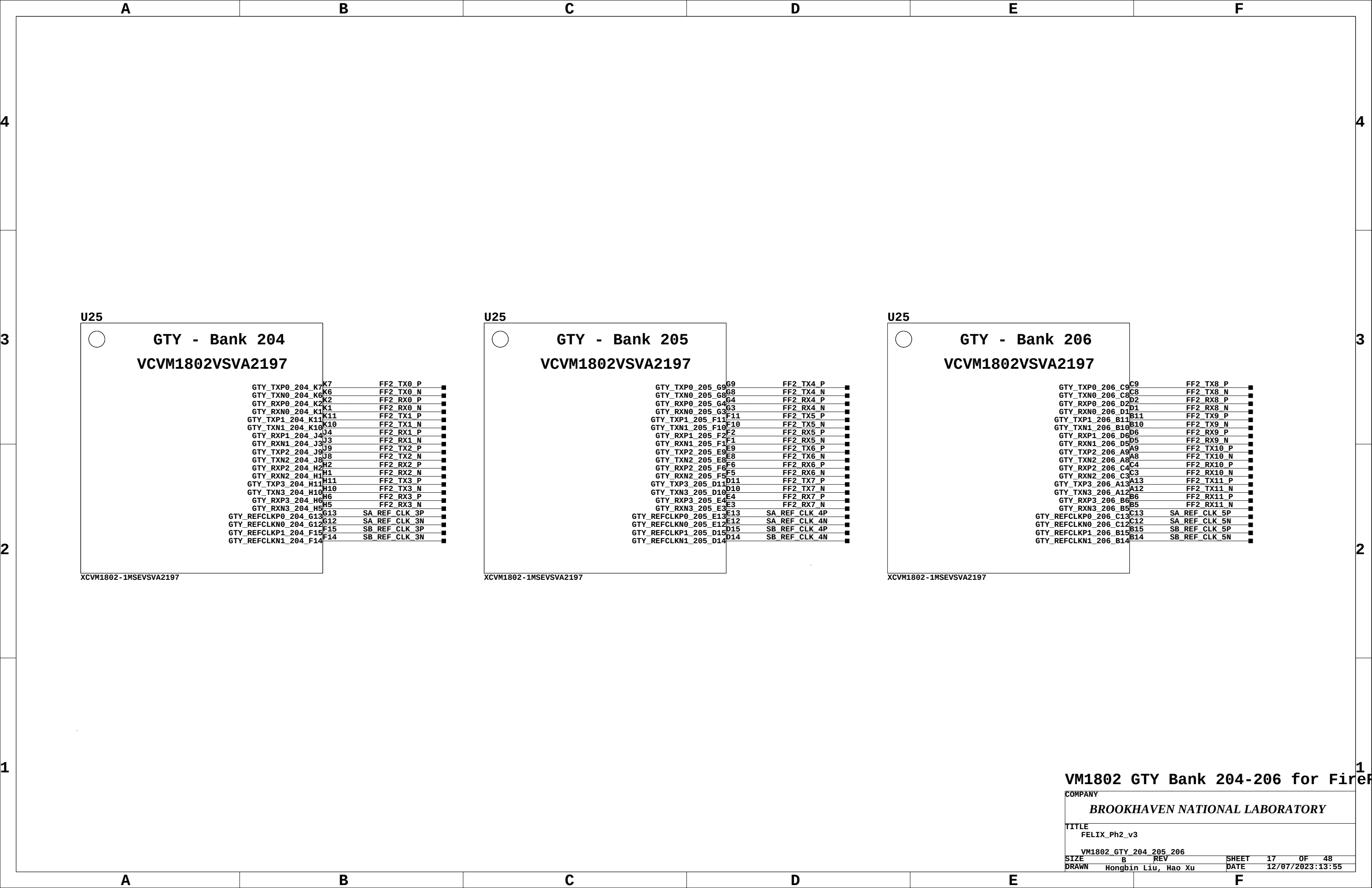
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z	0	0x49
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1	0	0x4E
1	1	0x4F

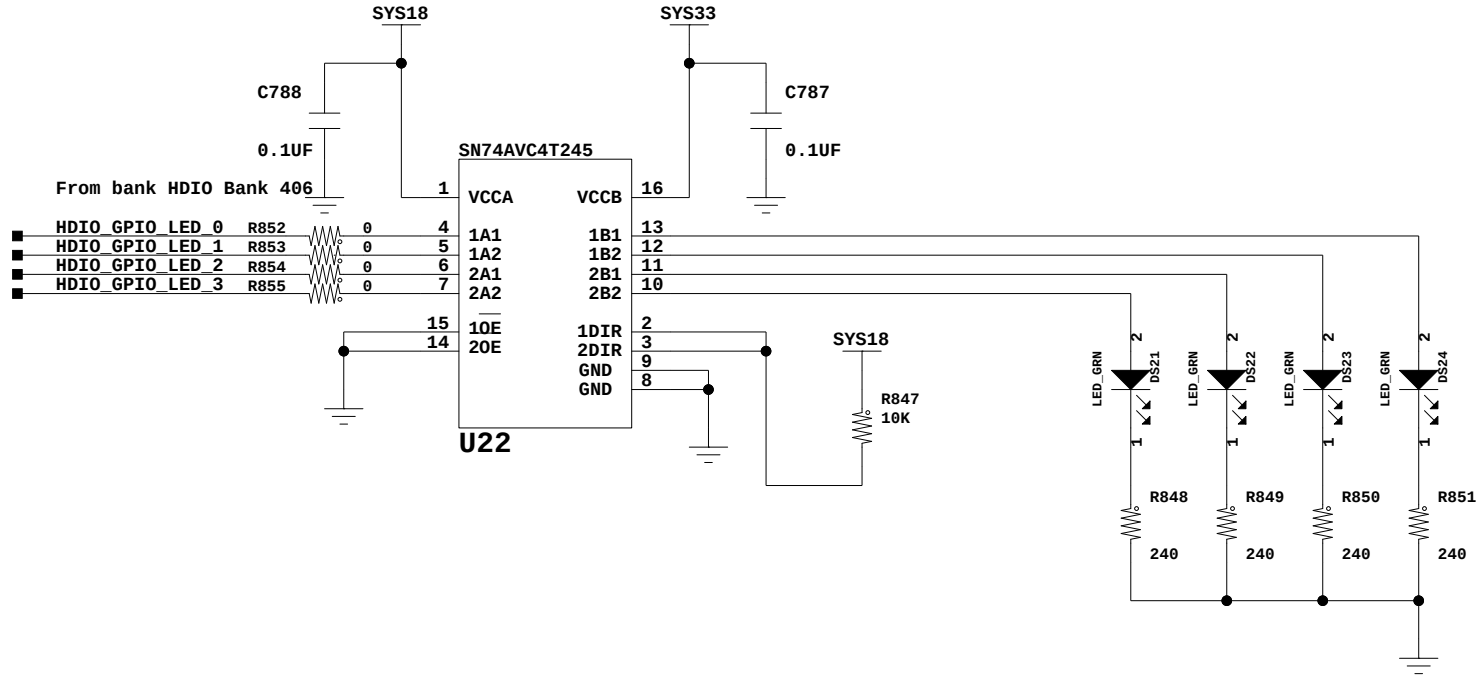
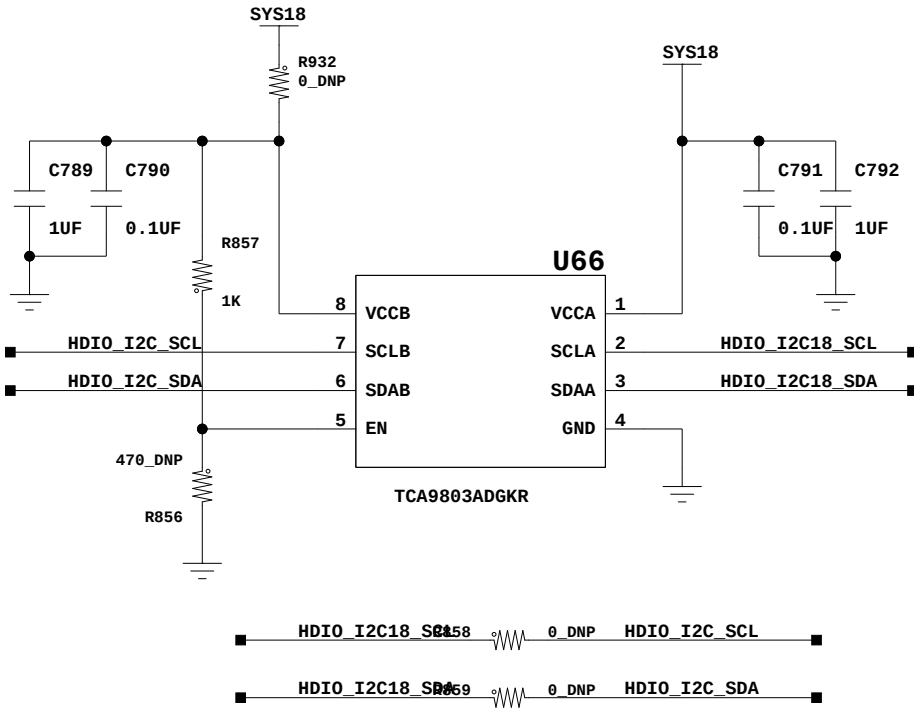
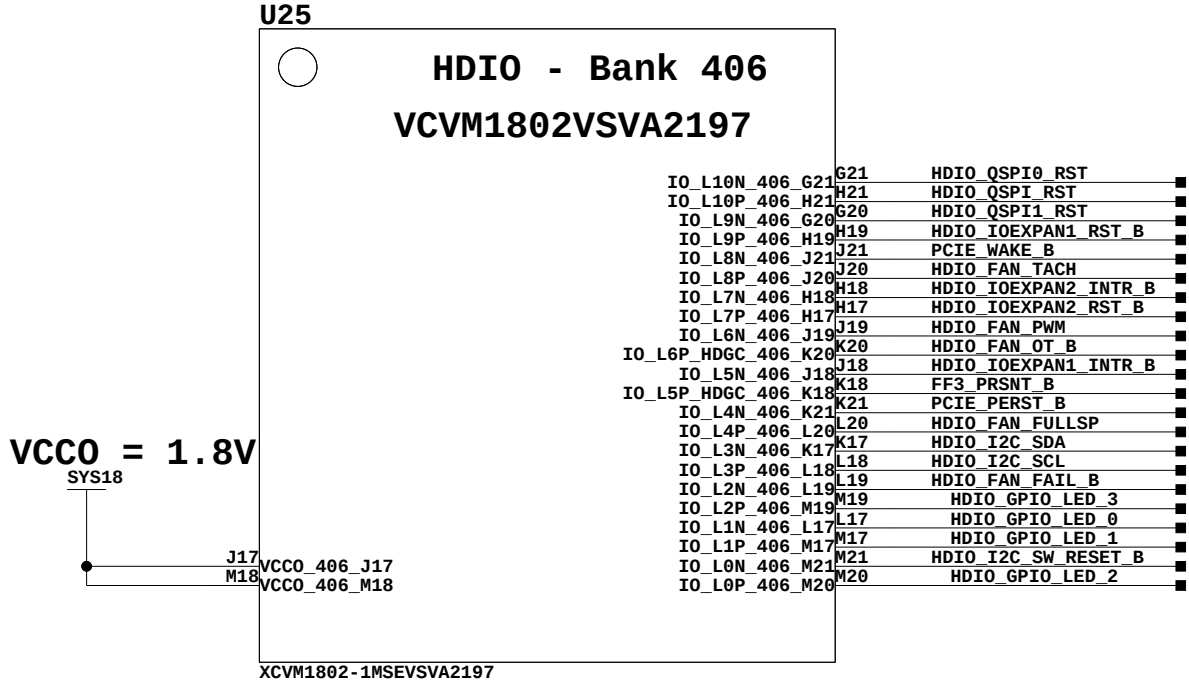
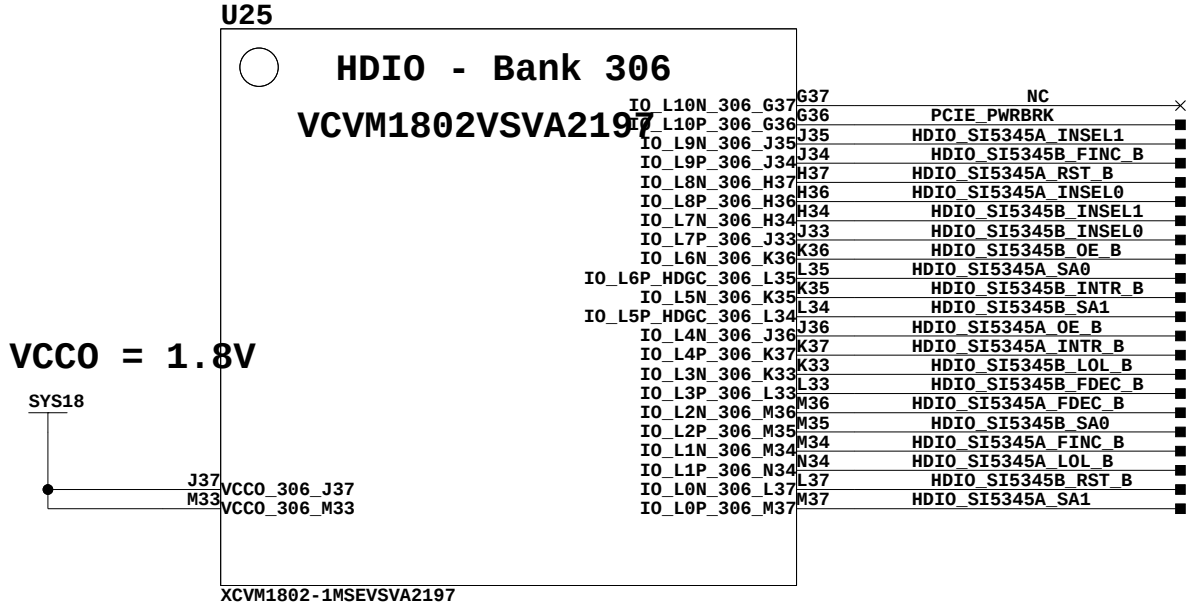


VM1802 GTY Bank 103-106 for PCIE

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BROOKHAVEN NATIONAL LABORATORY			
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FELIX_Ph2_v3			
VM1802 GTY 103 104 105 106			
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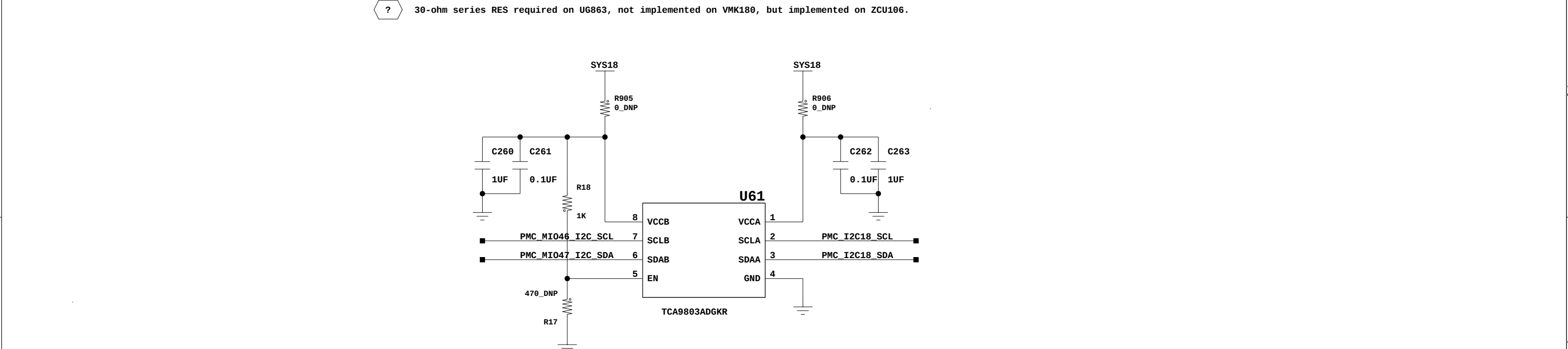
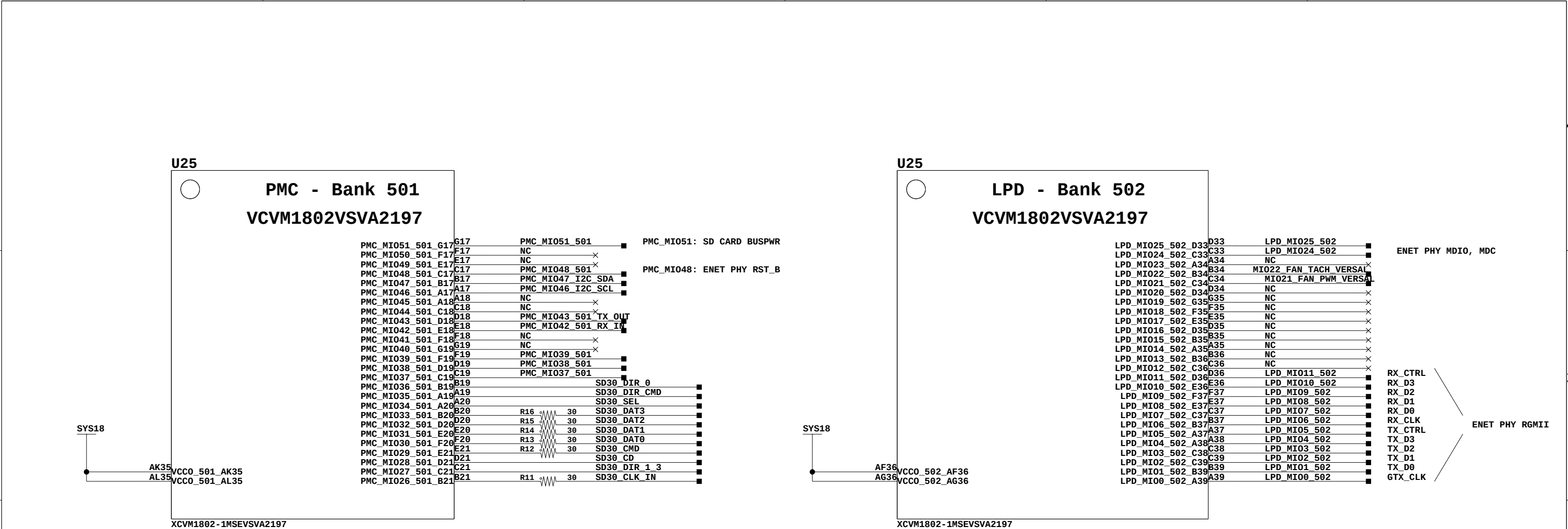


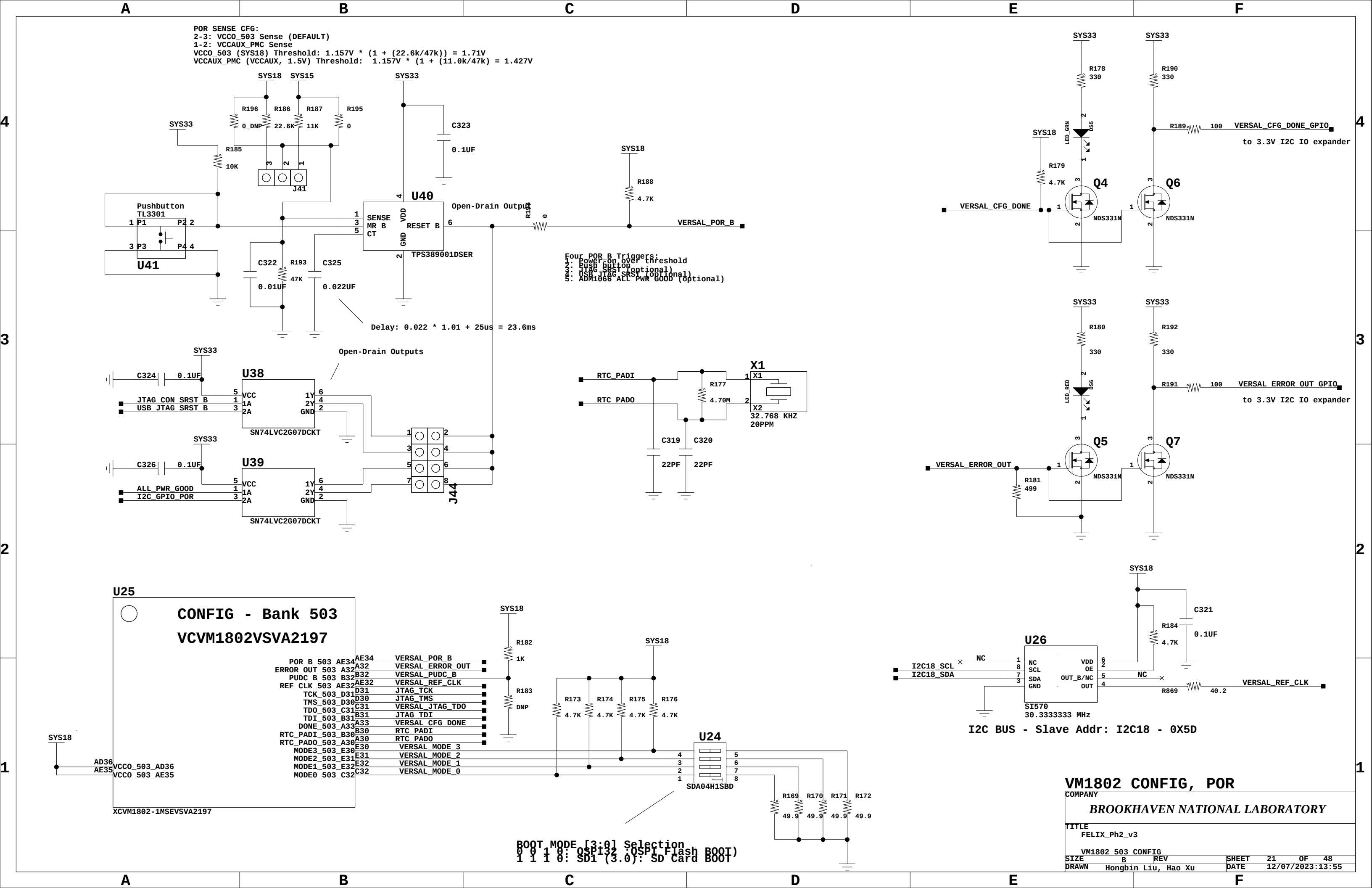


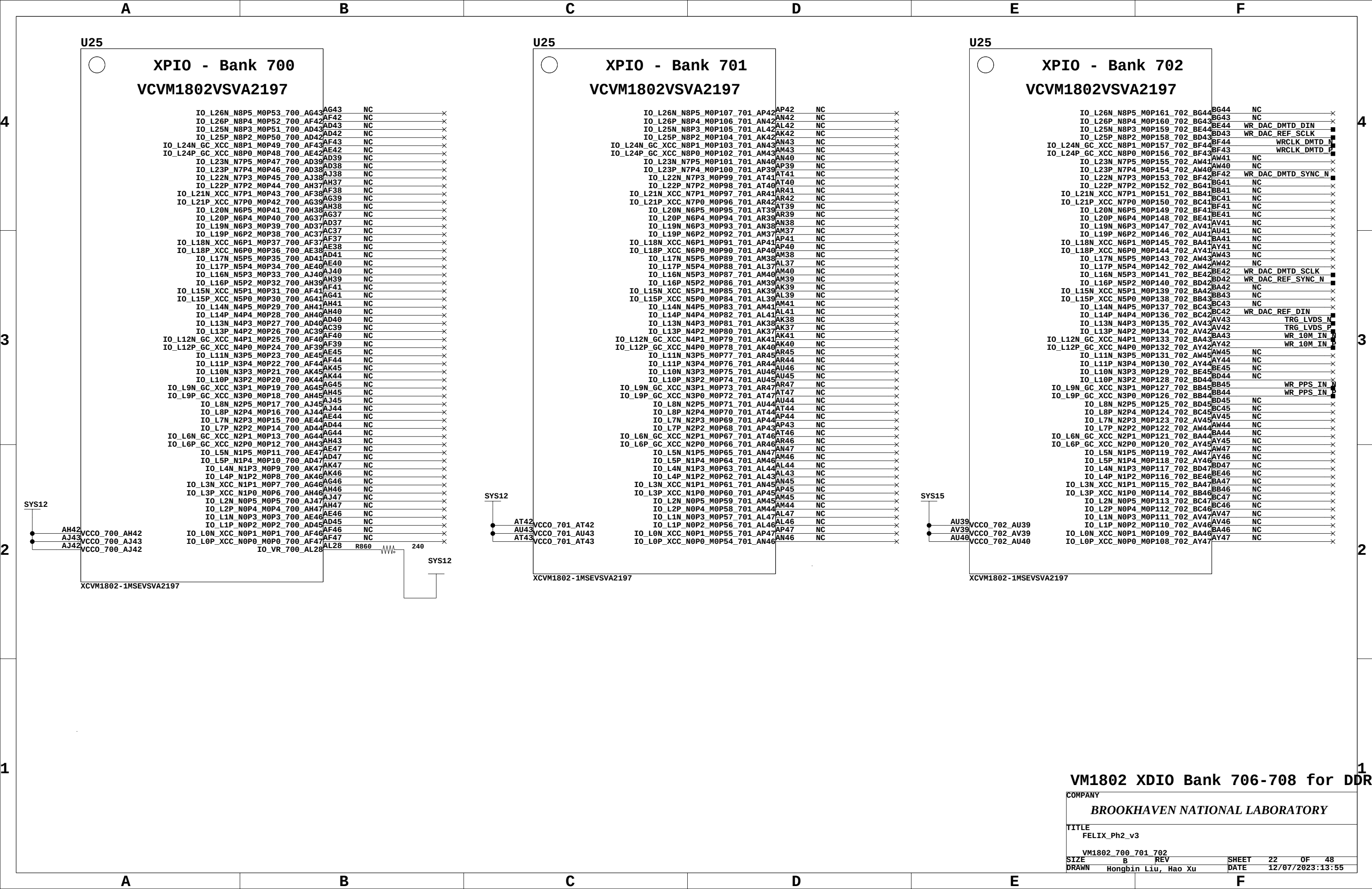


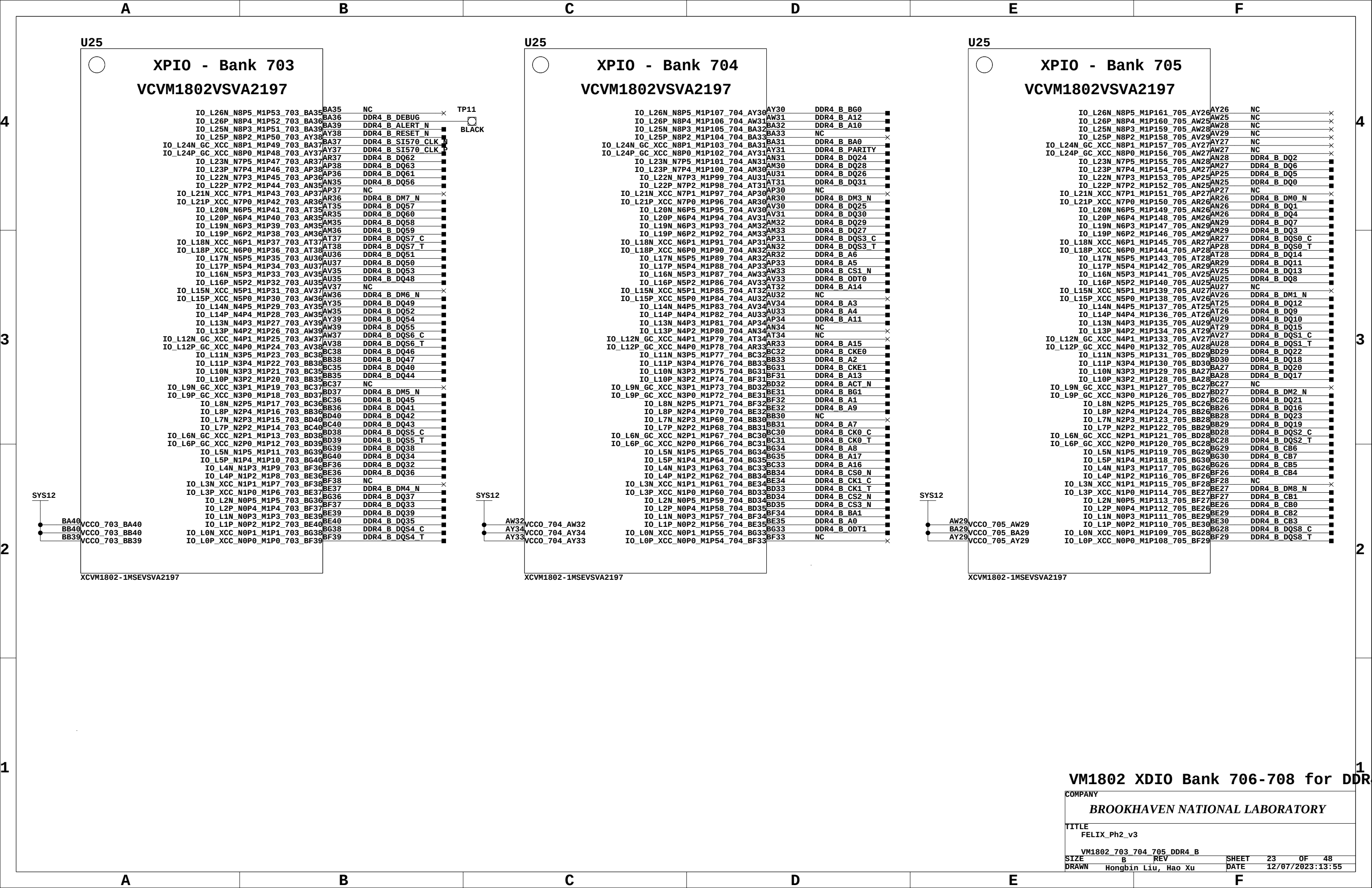
VM1802 HDIO Bank 306,406 for GPI

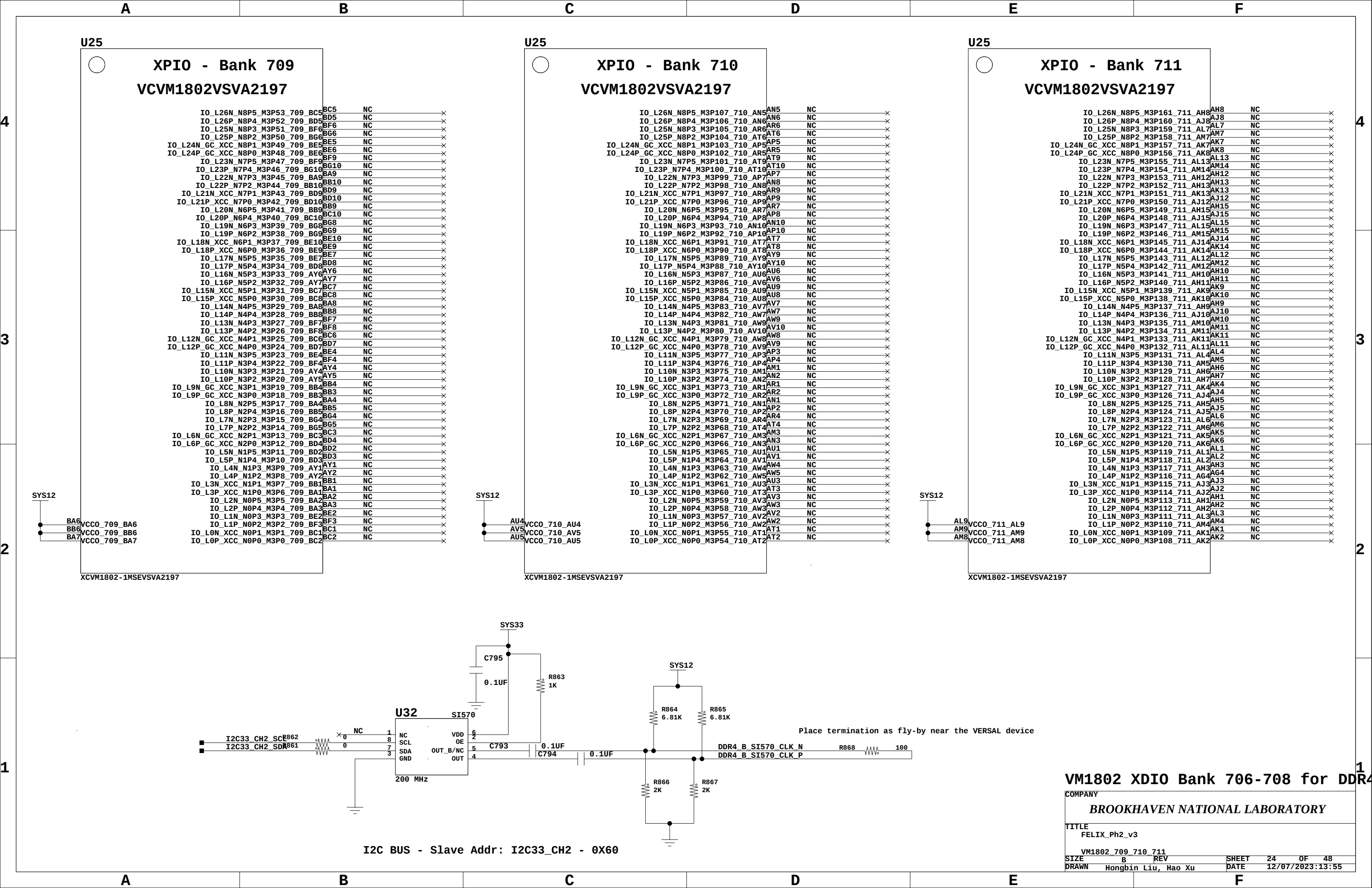
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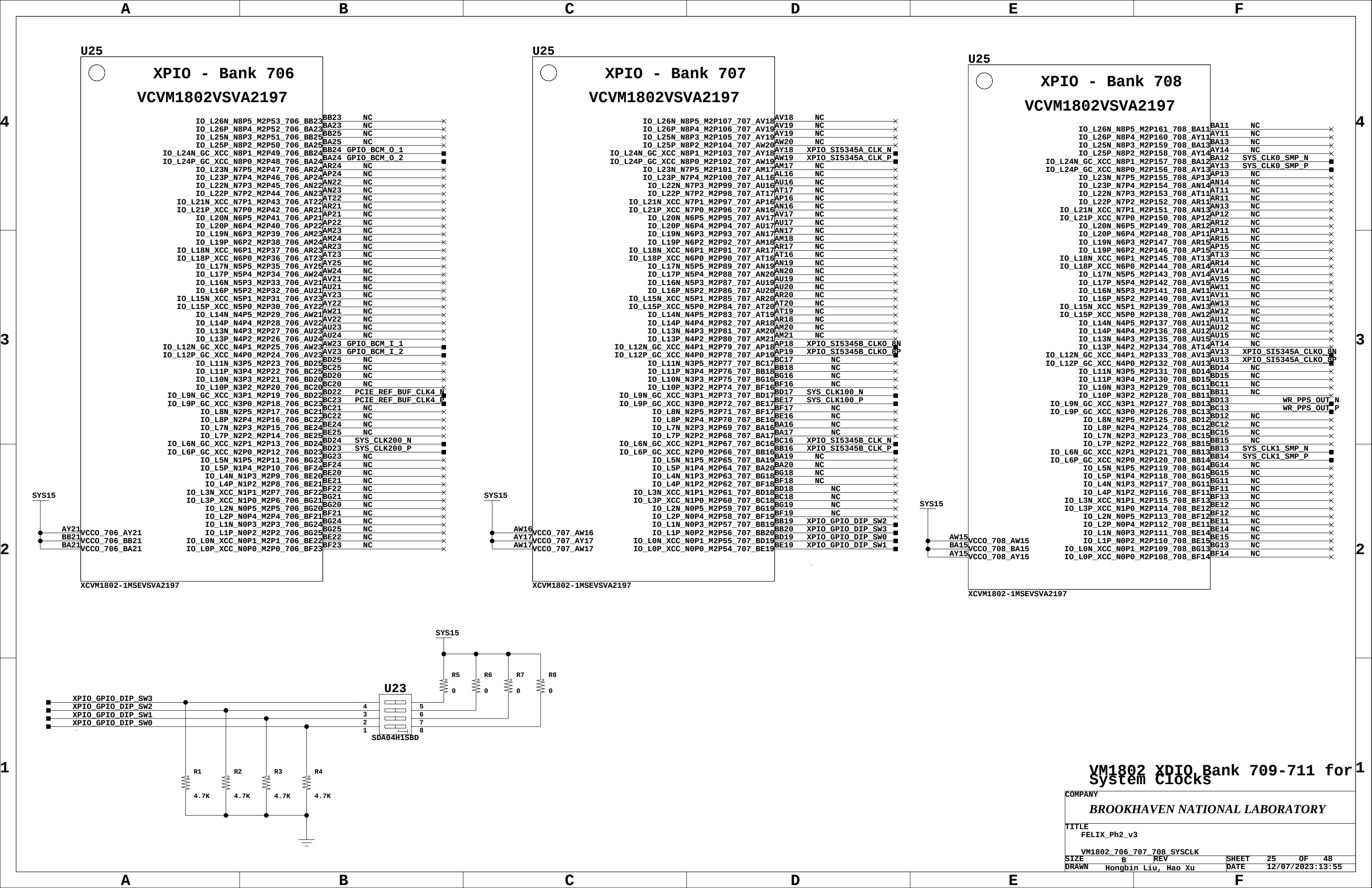


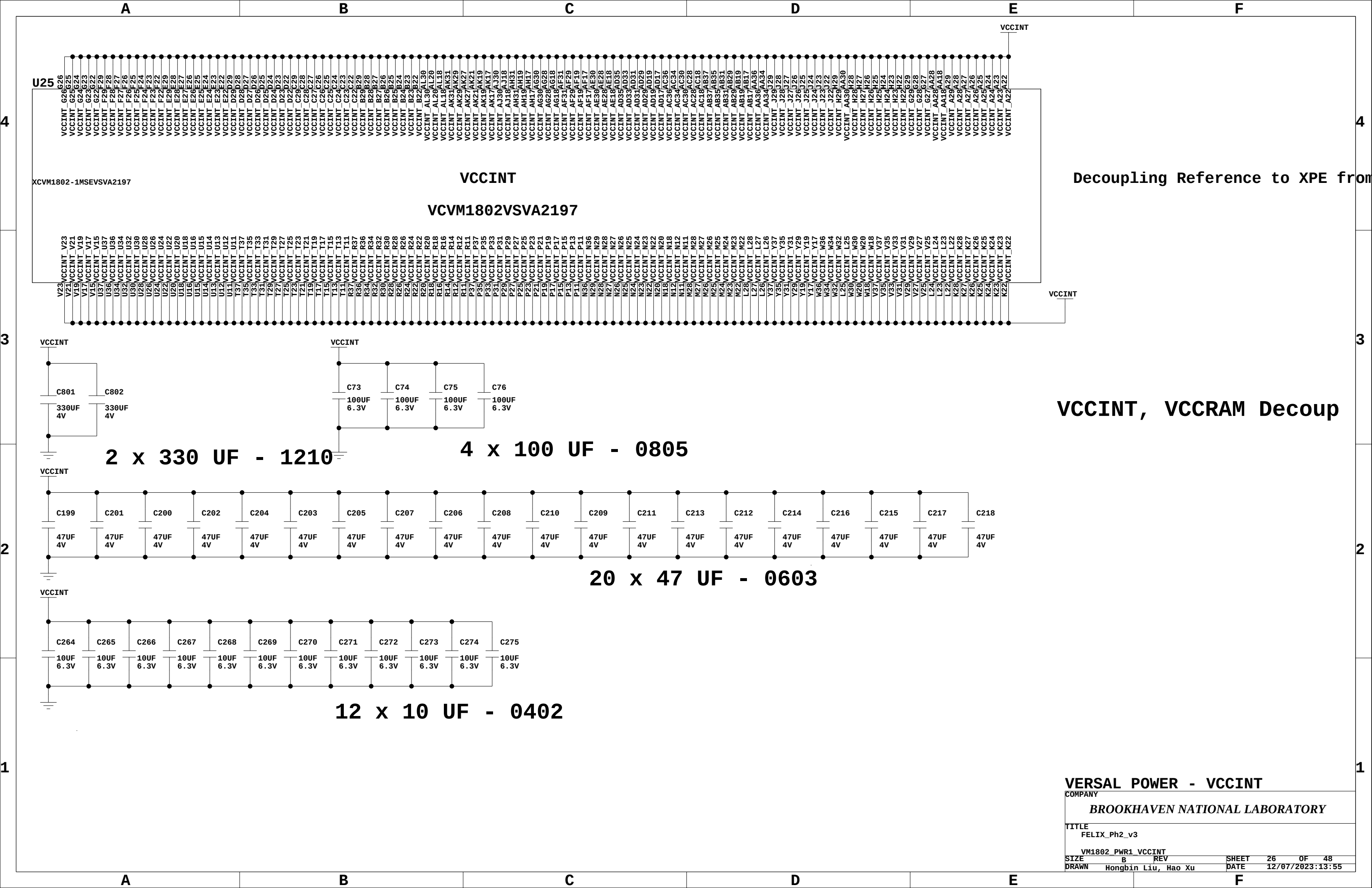




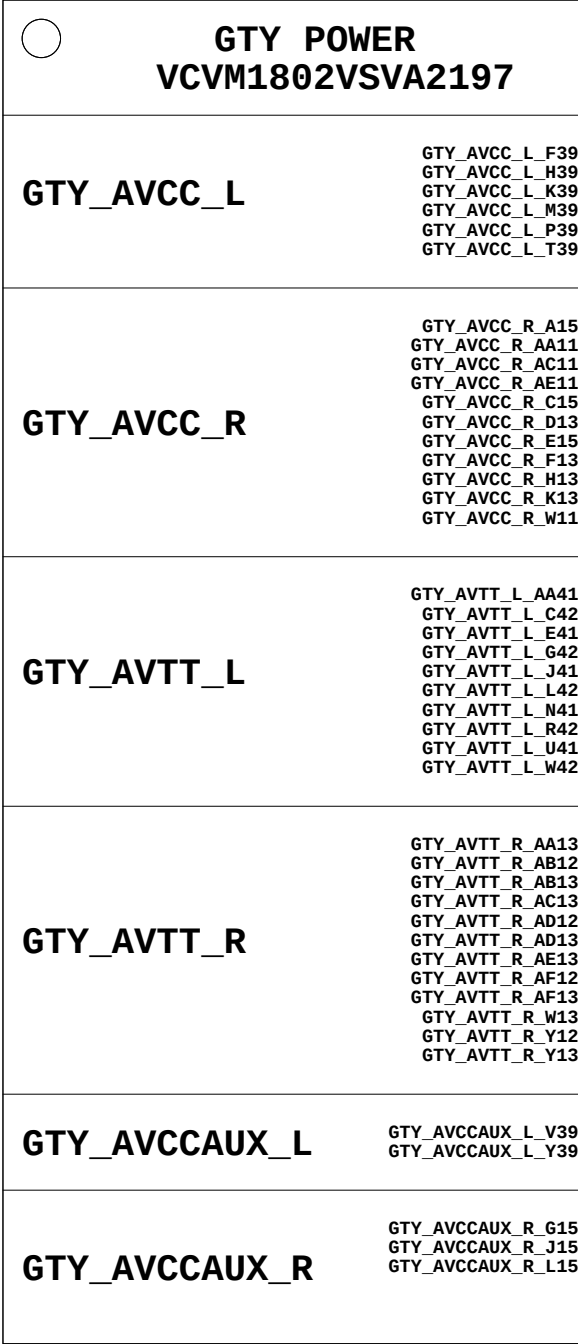








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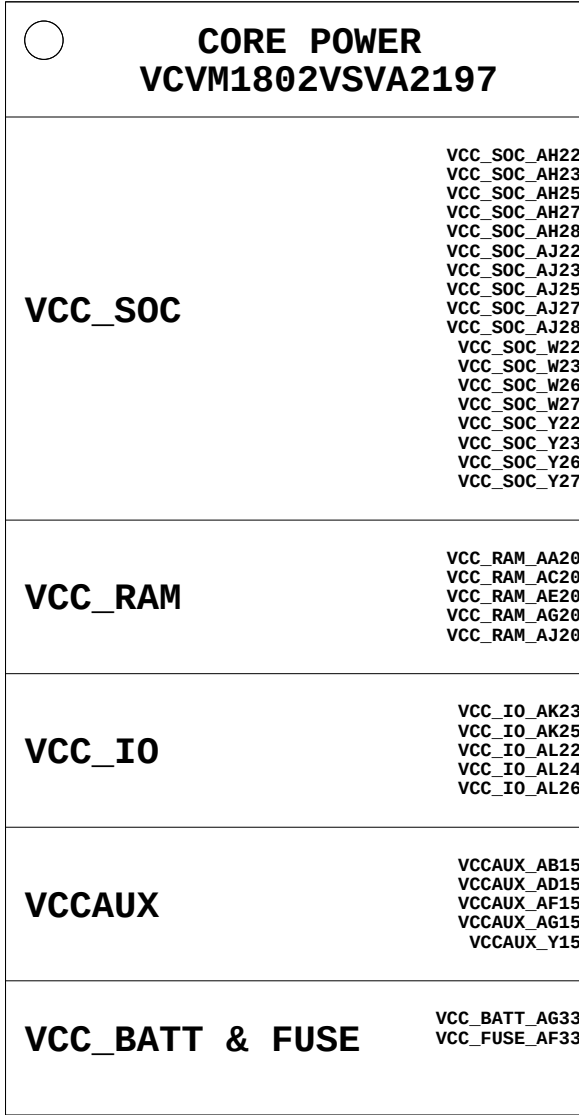
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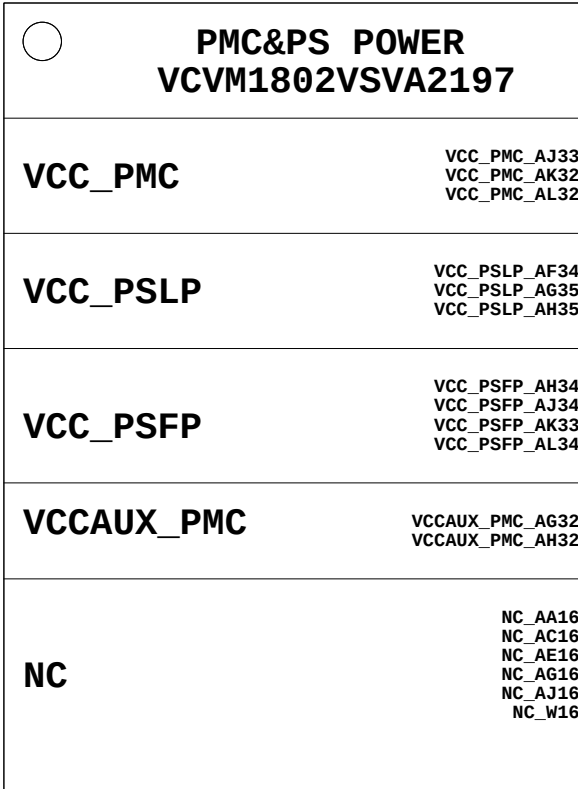


VCCINT

SYS15

XCVm1802-1MSEVSVA2197

U25



VCCINT

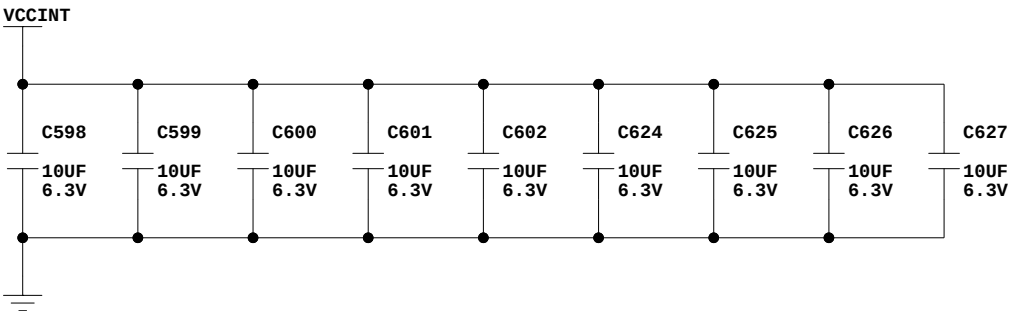
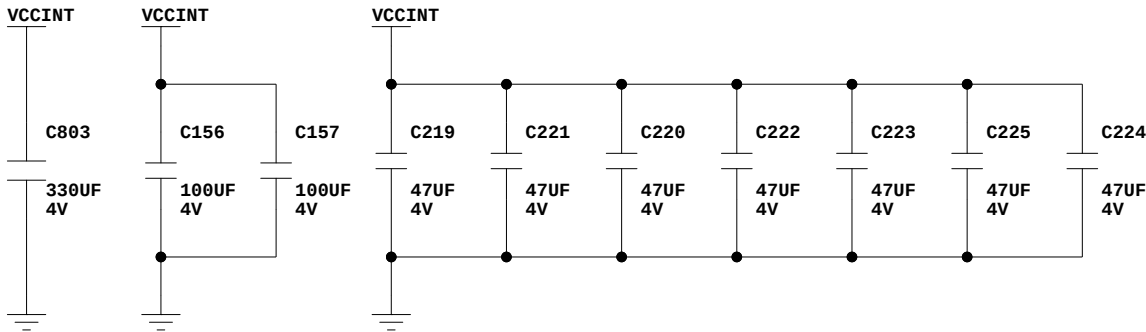
SYS15

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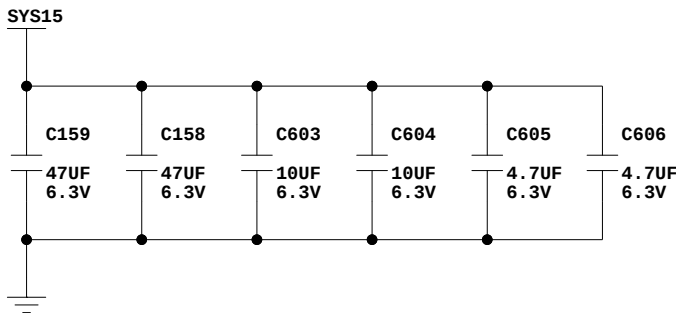
VERSAL POWER

COMPANY					
BROOKHAVEN NATIONAL LABORATORY					
TITLE					
FELIX_Ph2_v3					
VM1802_PWR2					
SIZE	B	REV	SHEET	27	OF 48
DRAWN	Hongbin Liu, Hao Xu		DATE	12/07/2023:13:55	

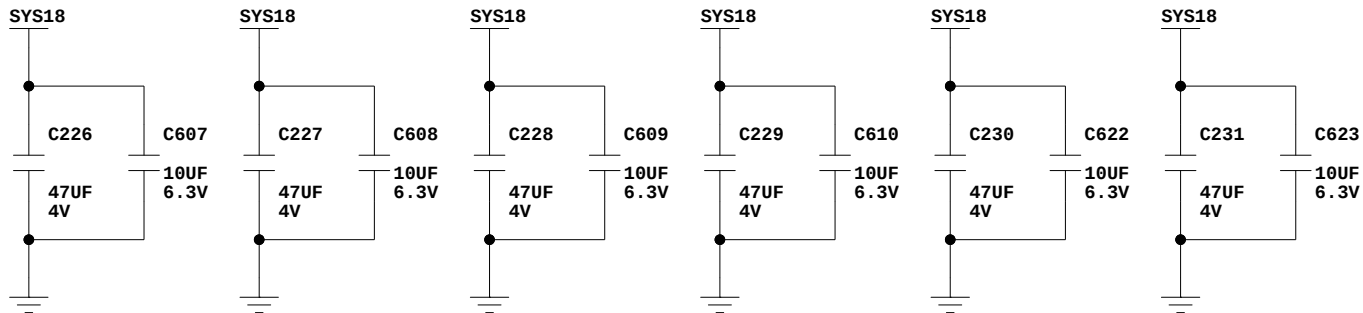
VCC_SOC, VCC_IO



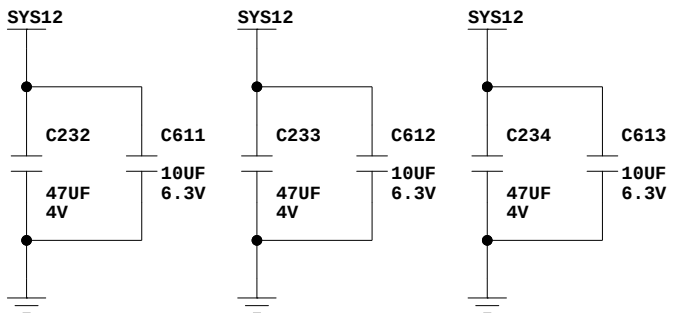
VCC_AUX, VCCAUX_PMC, VCCUAX_SMON



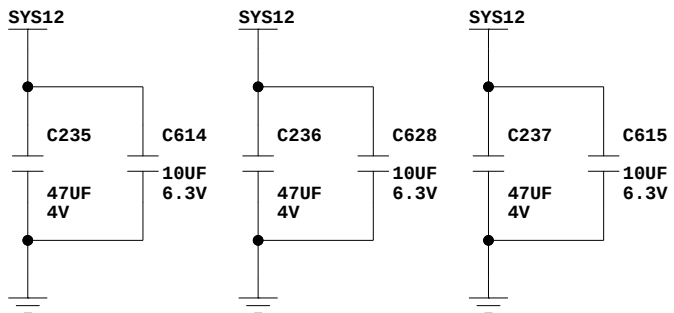
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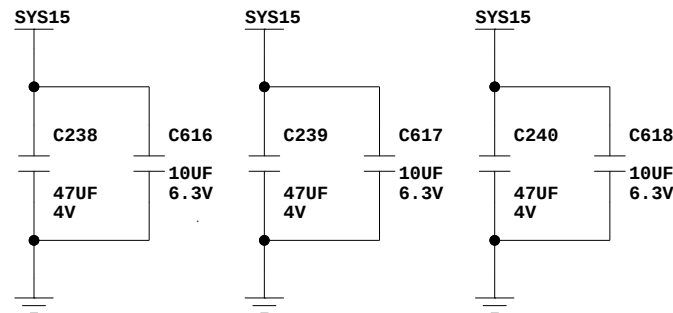
VCC0_700, 701, 702



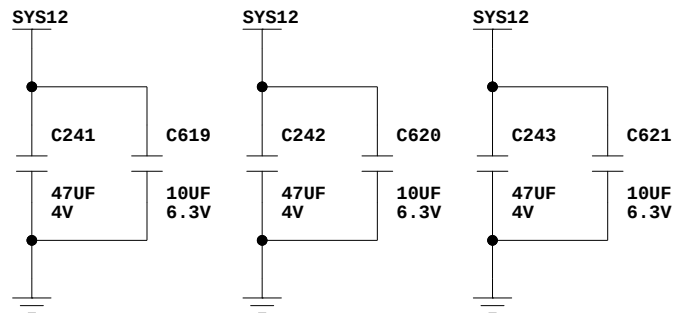
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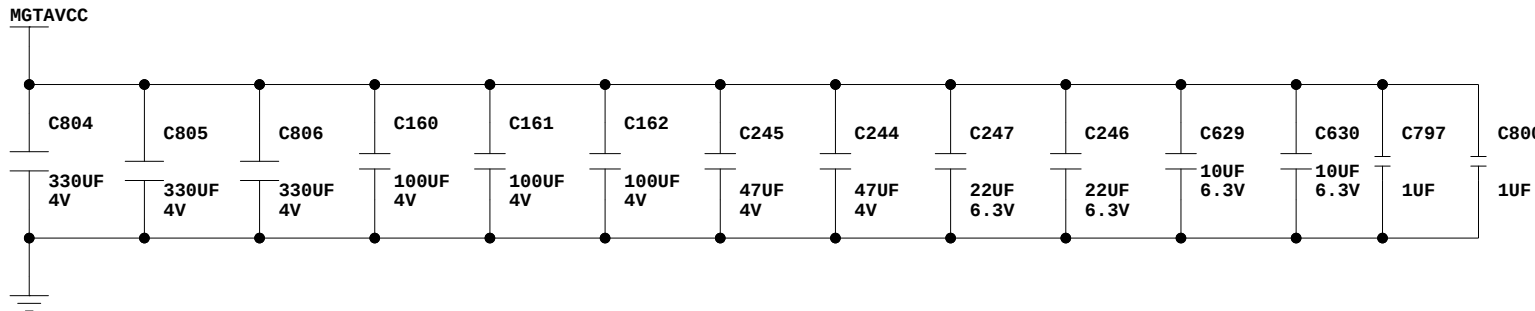
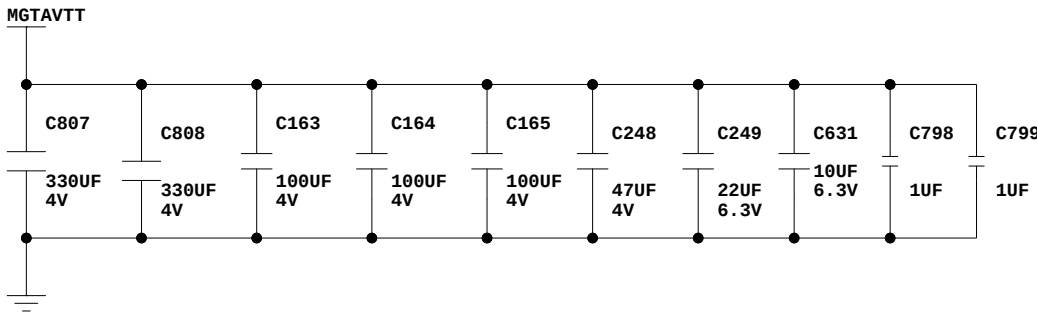
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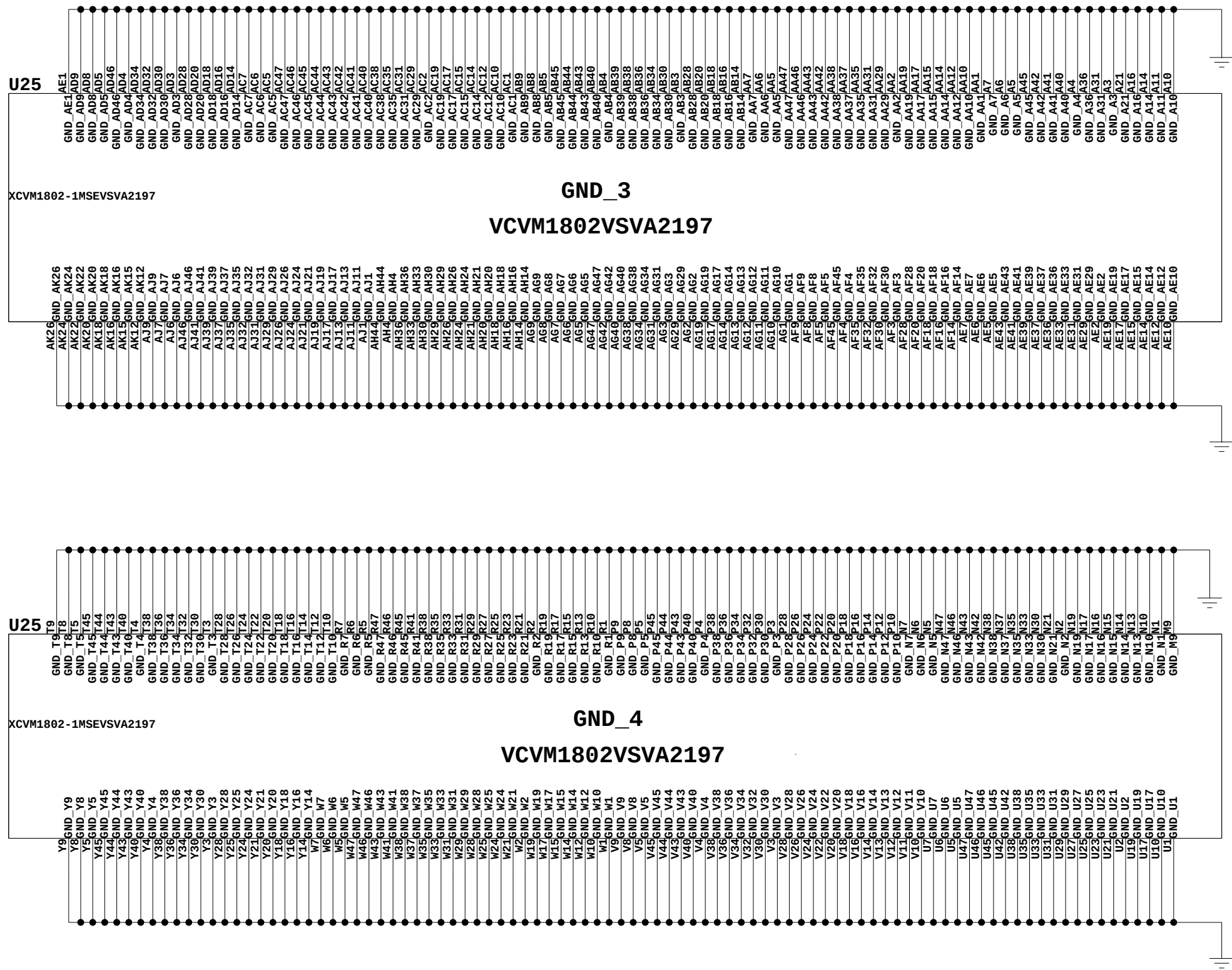
VCC0_709, 710, 711

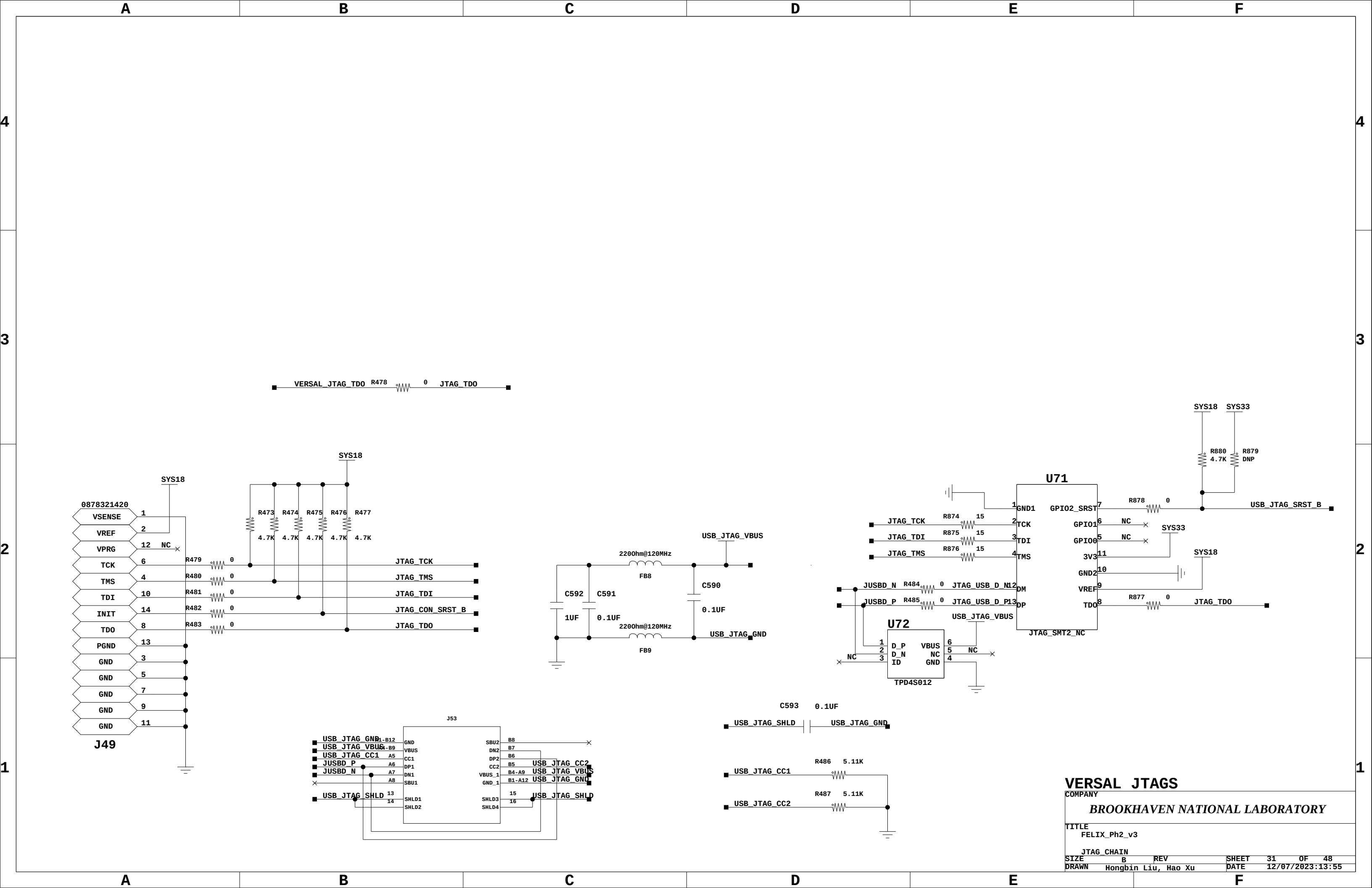


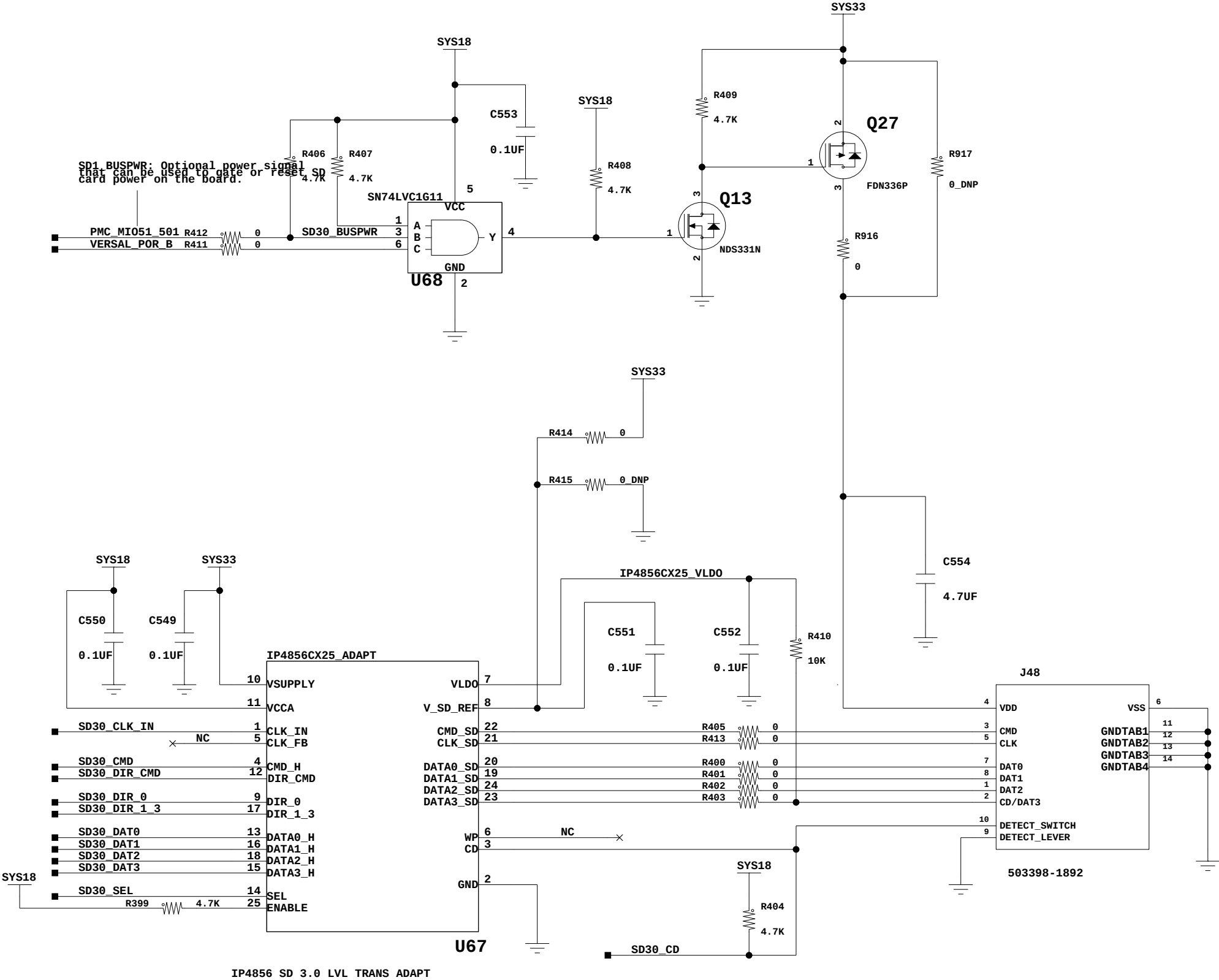
MGTYAVTT, MGTAVCC



VERSAL DECOUPLING			
COMPANY			
BROOKHAVEN NATIONAL LABORATORY			
TITLE			
FELIX_Ph2_v3			
VM1802_PWR3_DECOUPLING			
SIZE	B	REV	
DRAWN	Hongbin Liu, Hao Xu		
SHEET	28	OF	48
DATE	12/07/2023:13:55		

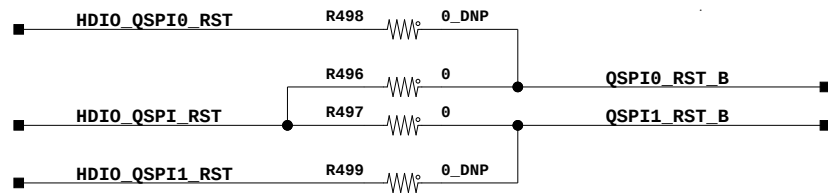
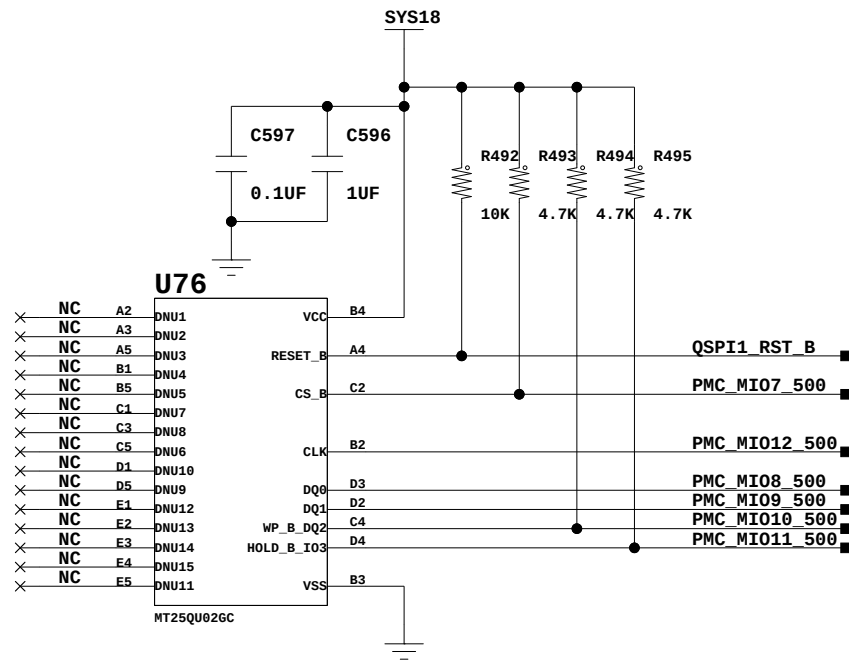
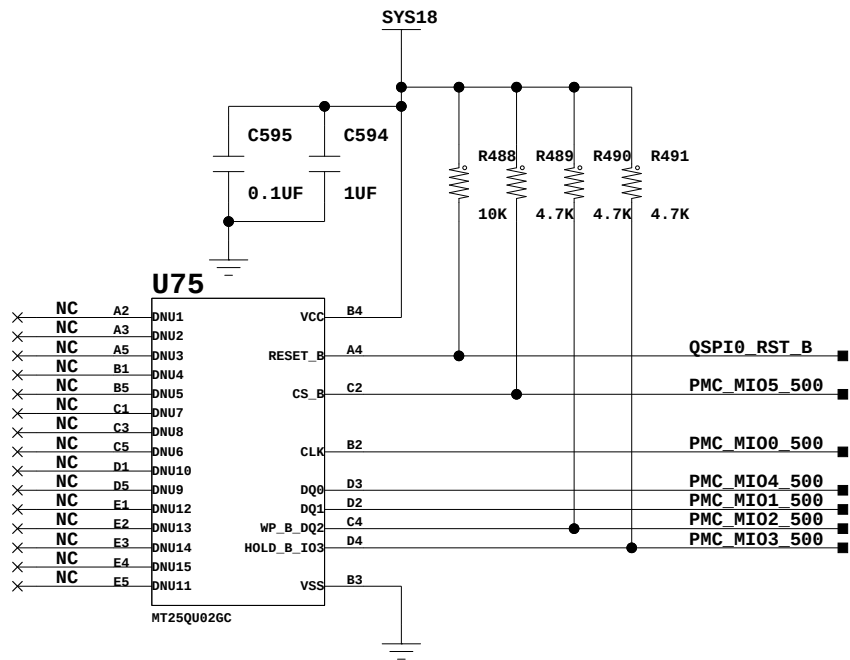






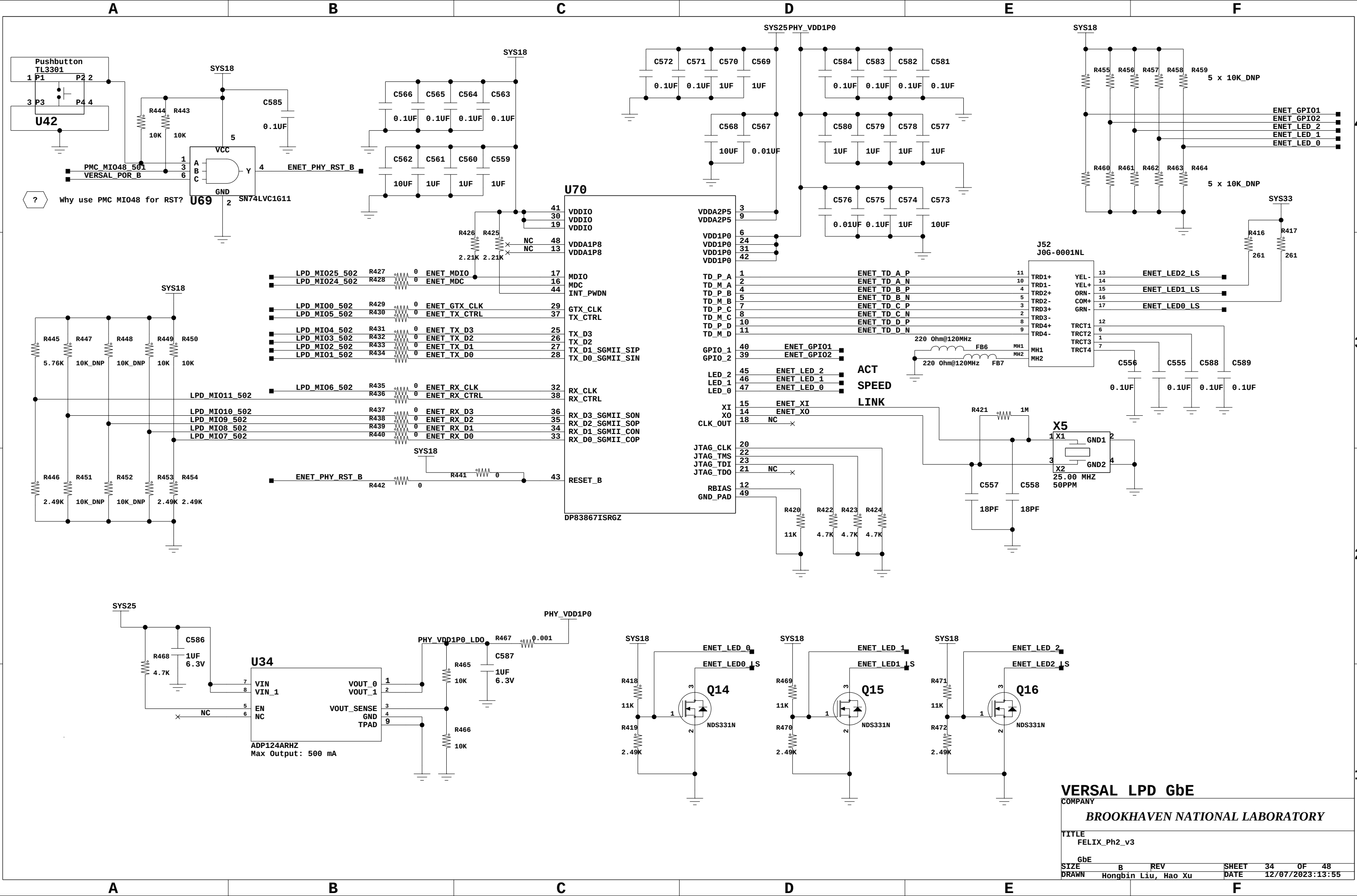
SD 3.0 AND ADAPTER

COMPANY			
BROOKHAVEN NATIONAL LABORATORY			
TITLE			
FELIX_Ph2_v3			
SD_CARD			
SIZE	B	REV	SHEET 32 OF 48
DRAWN	Hongbin Liu, Hao Xu		DATE 12/07/2023:13:55



DUAL QSPI FOR BOOT

COMPANY			
BROOKHAVEN NATIONAL LABORATORY			
TITLE			
FELIX_Ph2_v3			
QSPI_FLASH			
SIZE	B	REV	
DRAWN	Hongbin Liu, Hao Xu		DATE
SHEET		33	OF 48
DATE		12/07/2023:13:55	



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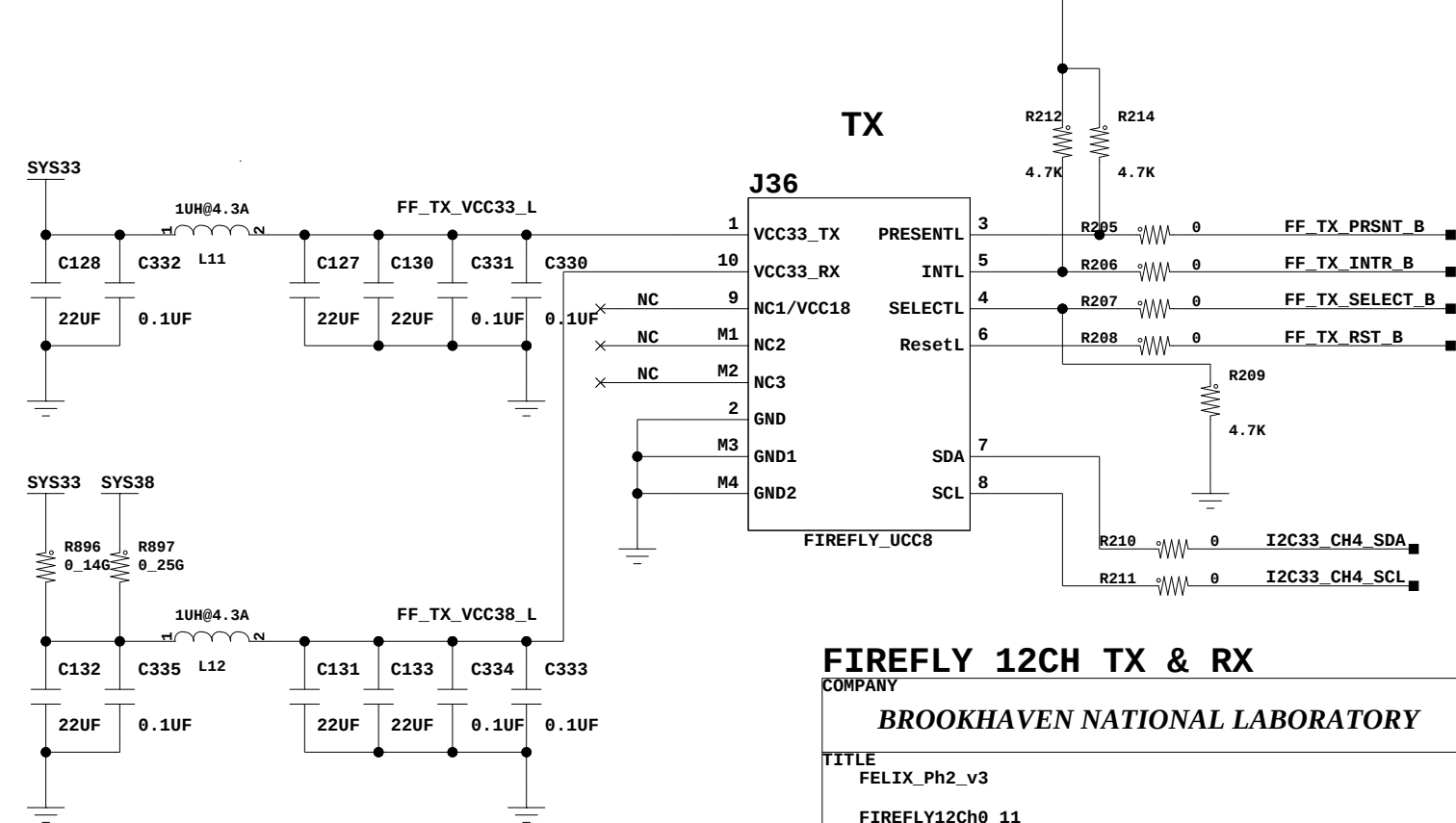
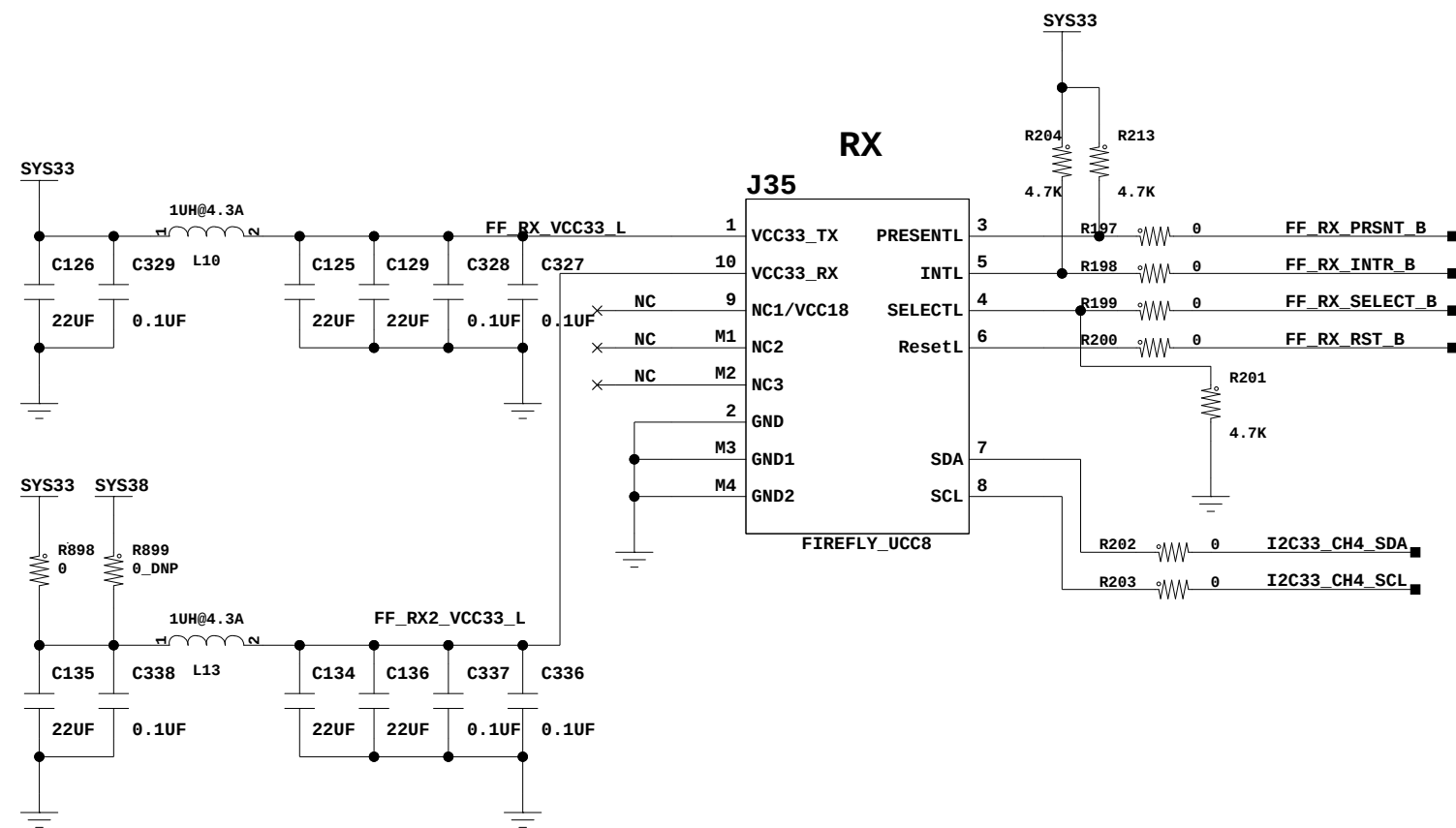
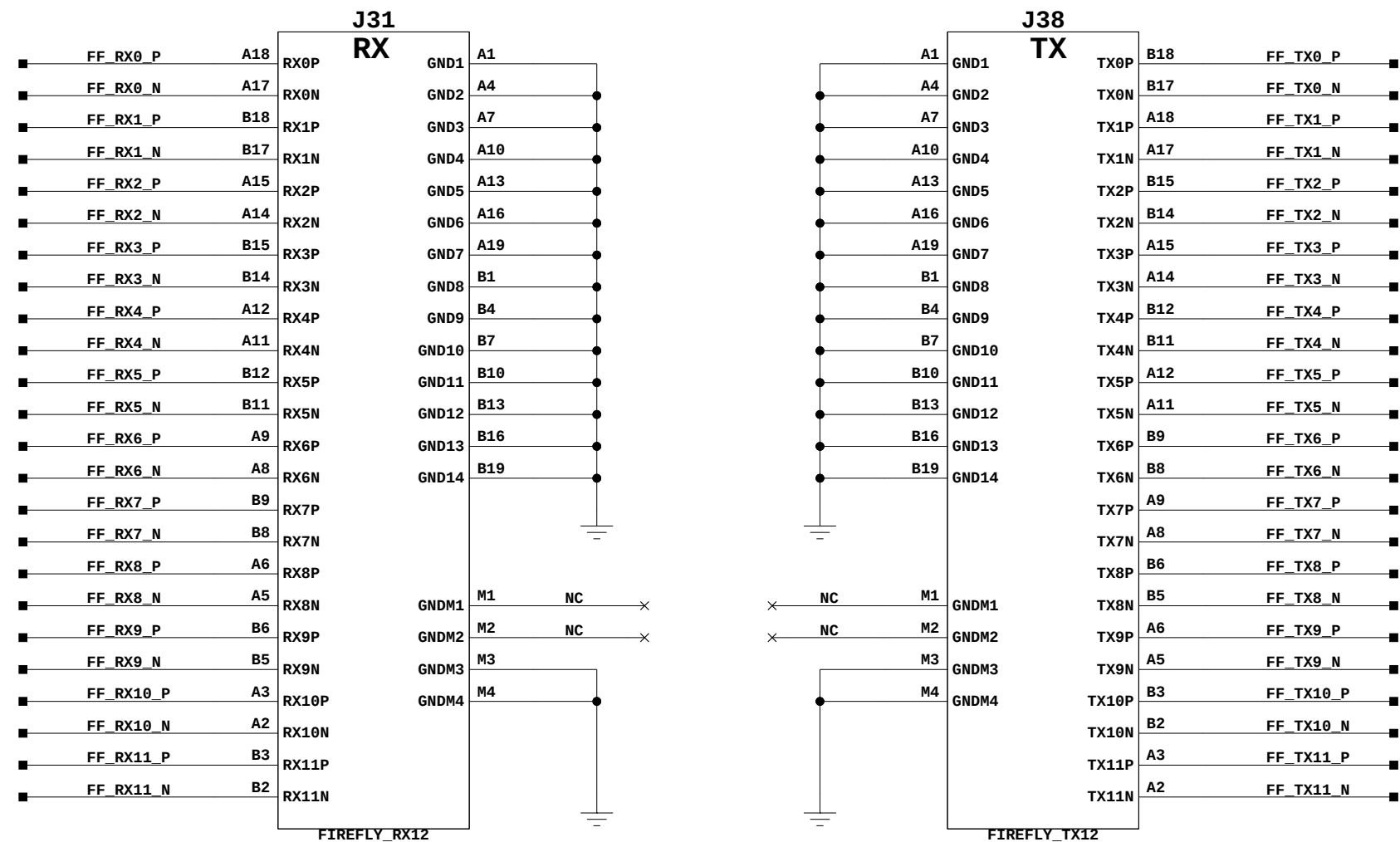
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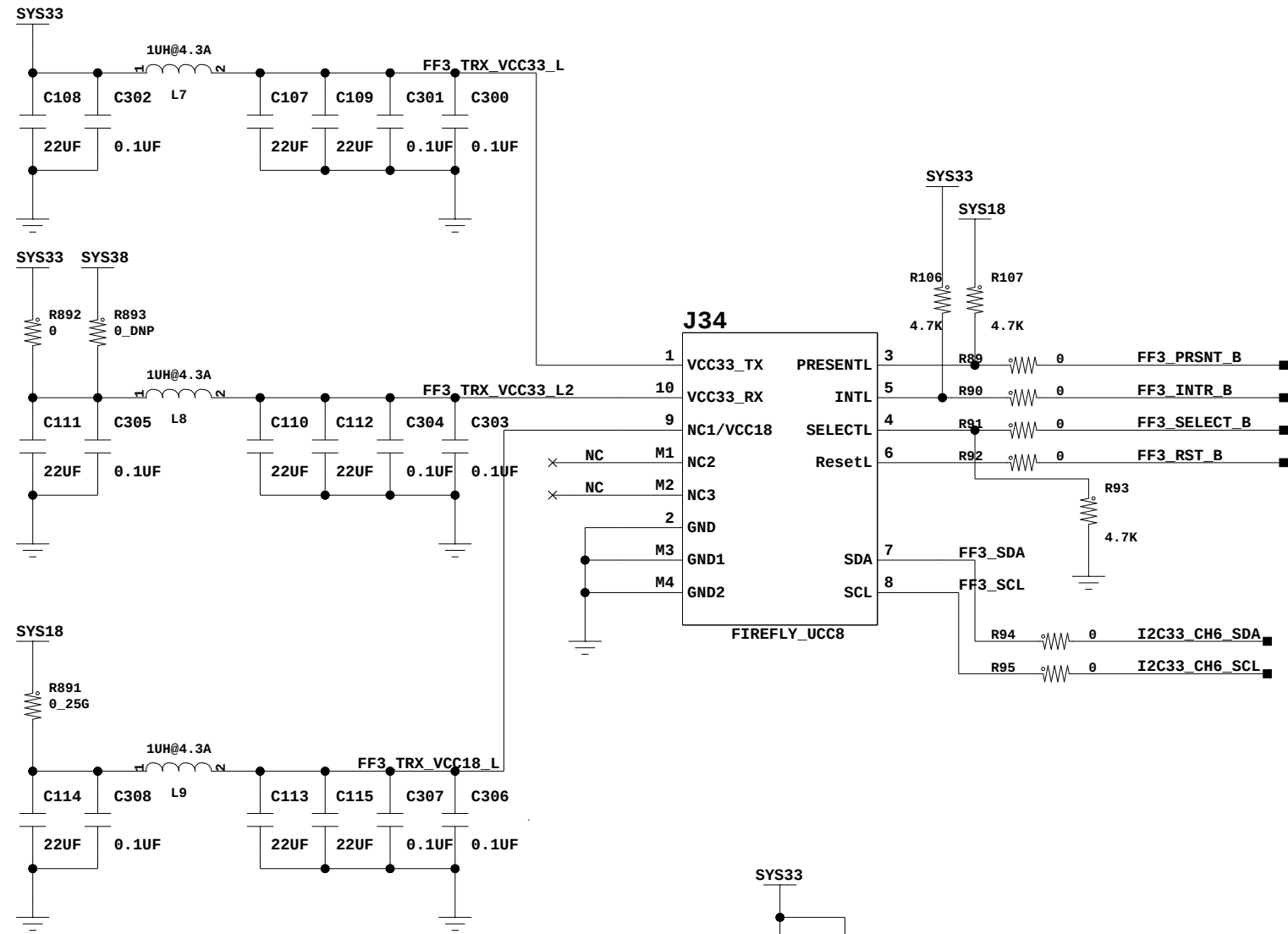
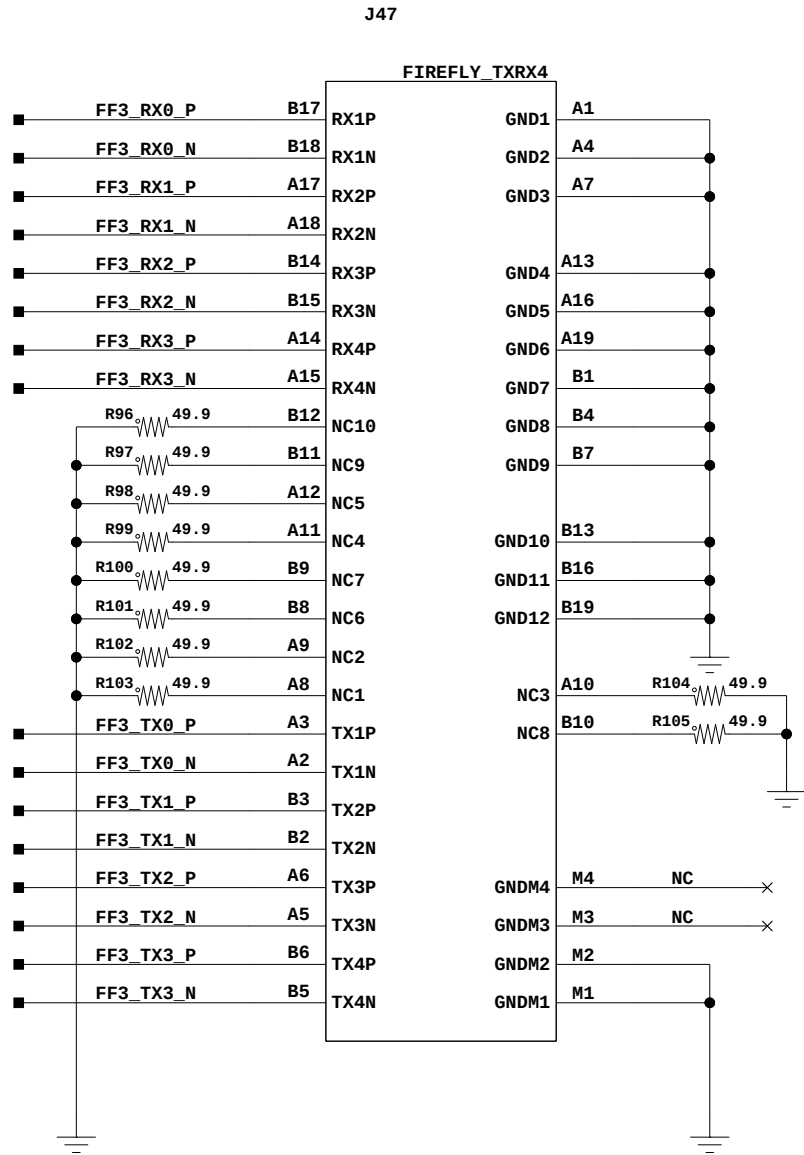
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1

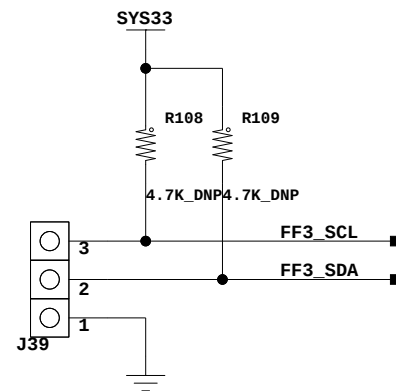


FIREFLY 12CH TX & RX

COMPANY			
BROOKHAVEN NATIONAL LABORATORY			
TITLE			
FELIX_Ph2_v3			
FIREFLY12Ch0_11			
SIZE	B	REV	
DRAWN	Hongbin Liu, Hao Xu	DATE	12/07/2023:13:55



SYS18 doesn't need for 146 FF



FIREFLY 4CH TX & RX

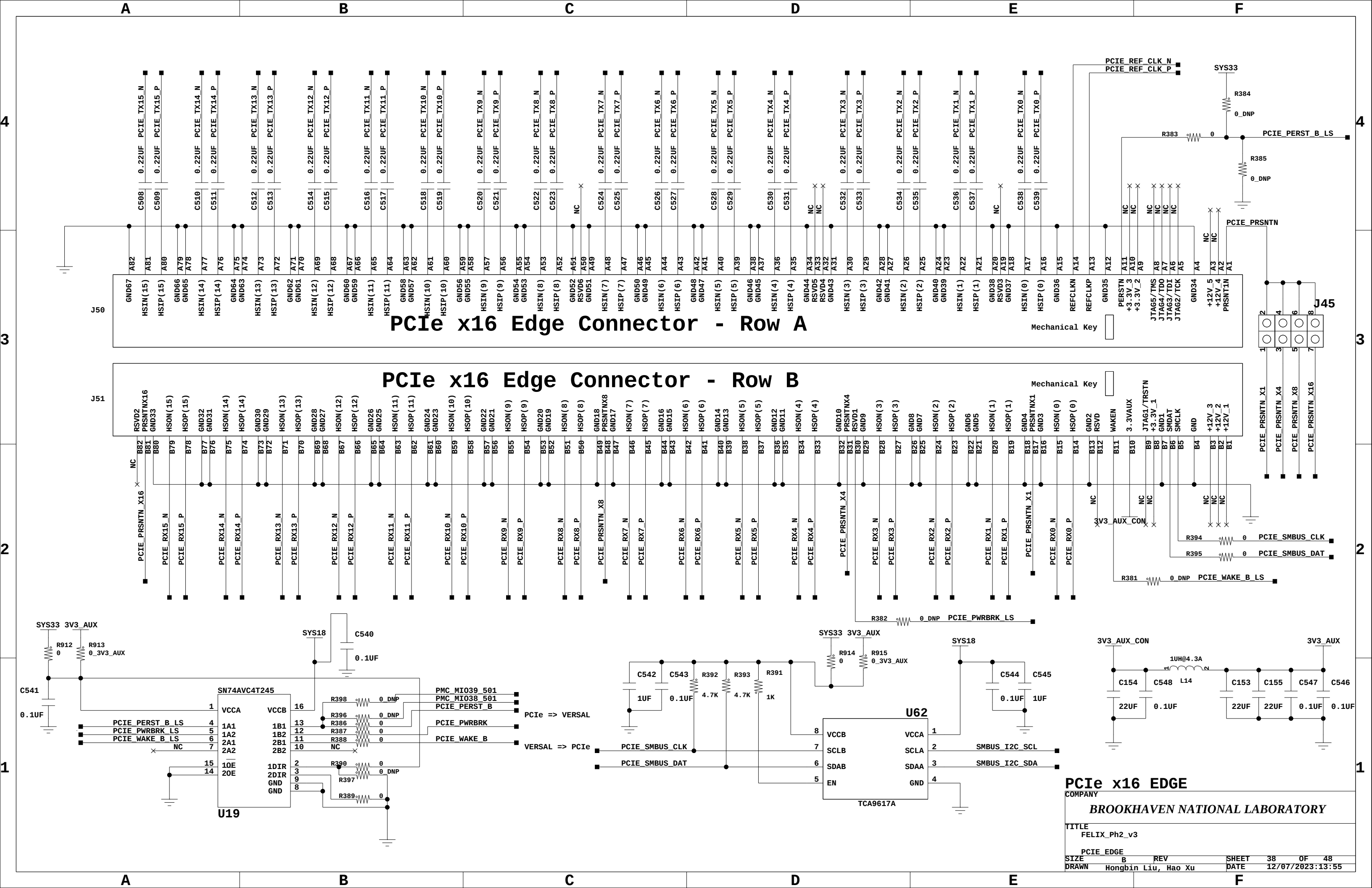
COMPANY
BROOKHAVEN NATIONAL LABORATORY

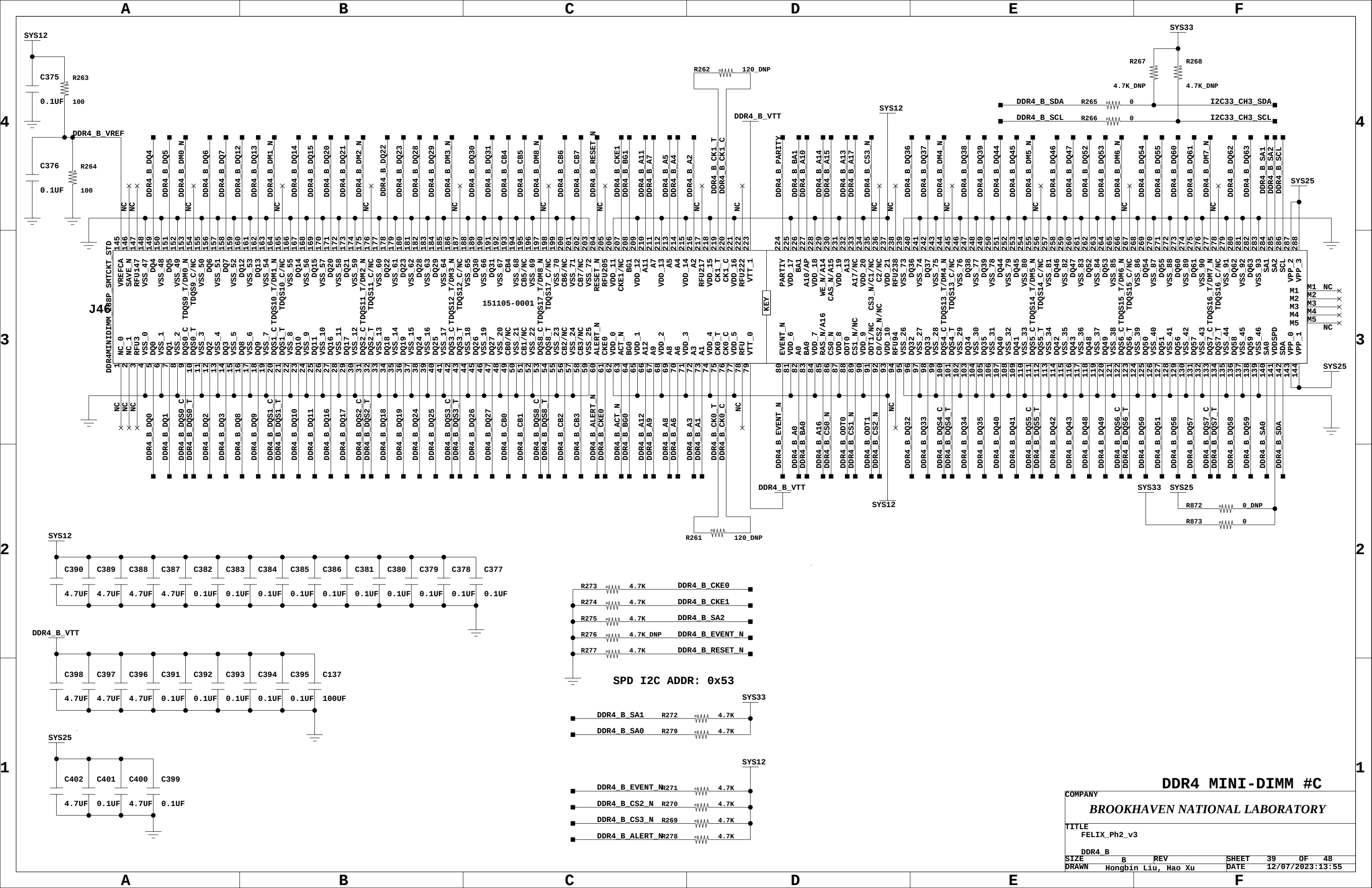
TITLE
FELIX_Ph2_v3

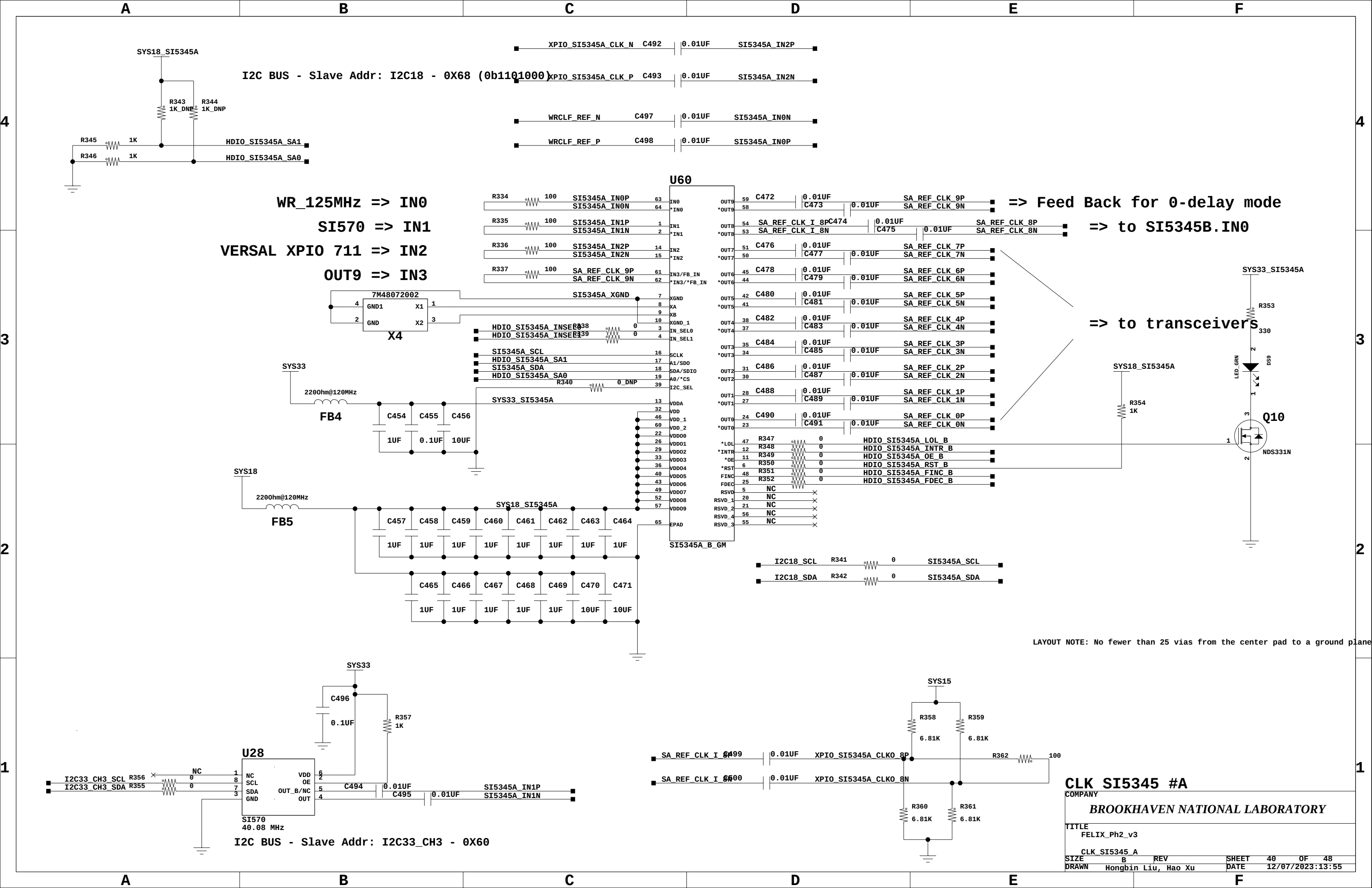
SIZE
B

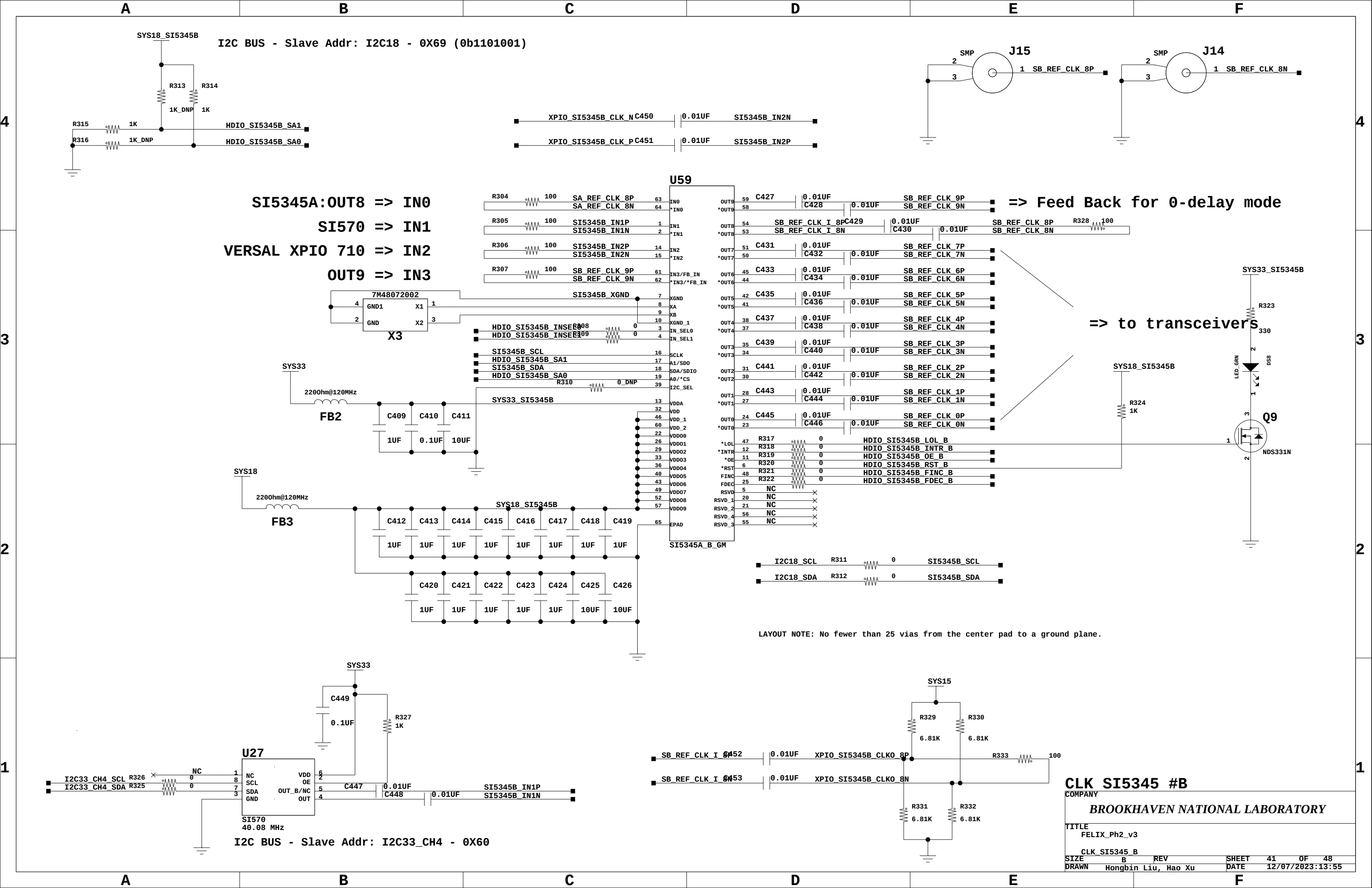
DRAWN
Hongbin Liu, Hao Xu

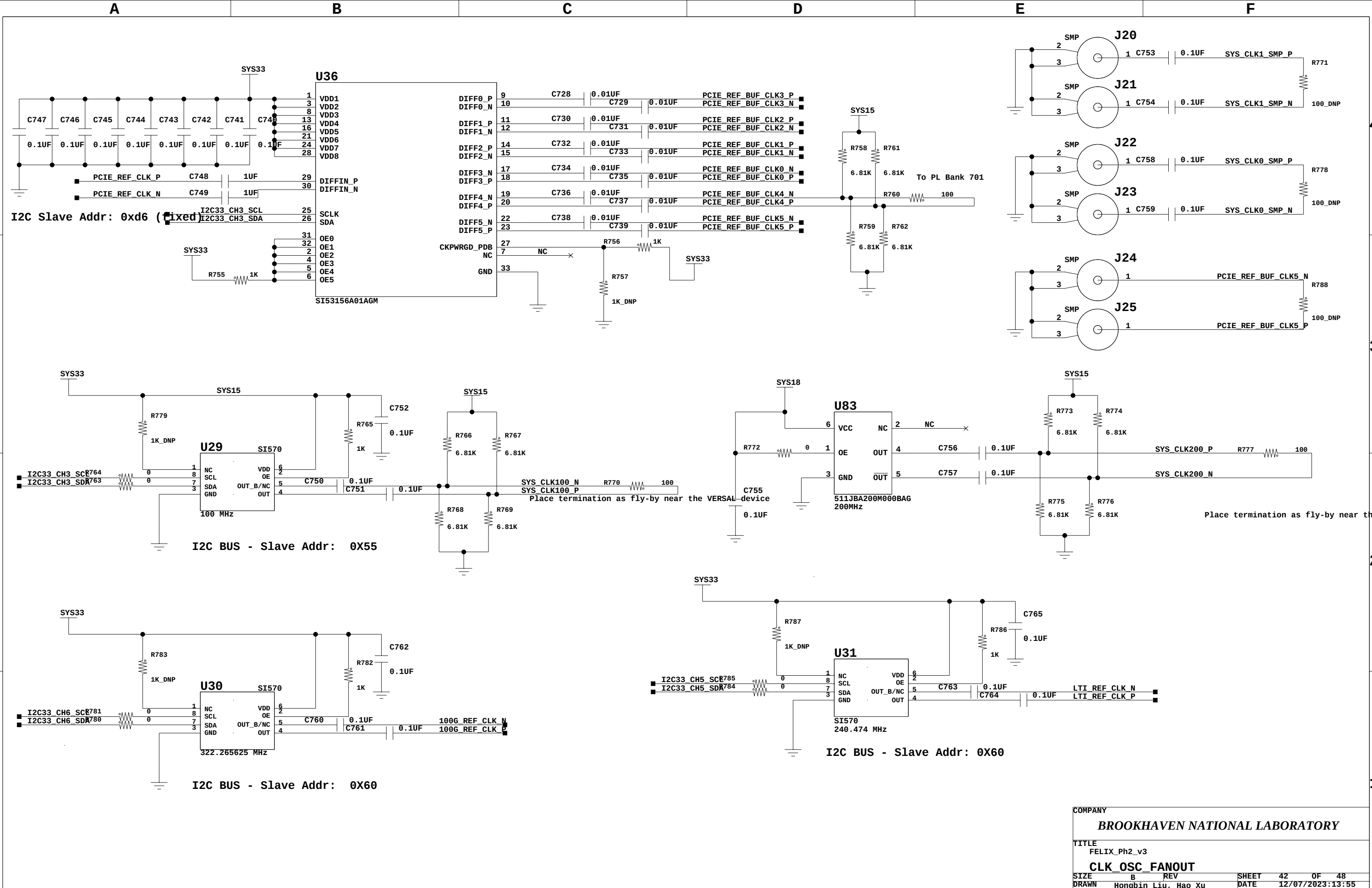
SHEET
37 OF 48
DATE
12/07/2023:13:55











COMPANY					
BROOKHAVEN NATIONAL LABORATORY					
TITLE					
FELIX_Ph2_v3					
CLK_OSC_FANOUT					
SIZE	B	REV	SHEET	42	OF 48
DRAWN	Hongbin Liu, Hao Xu		DATE	12/07/2023:13:55	

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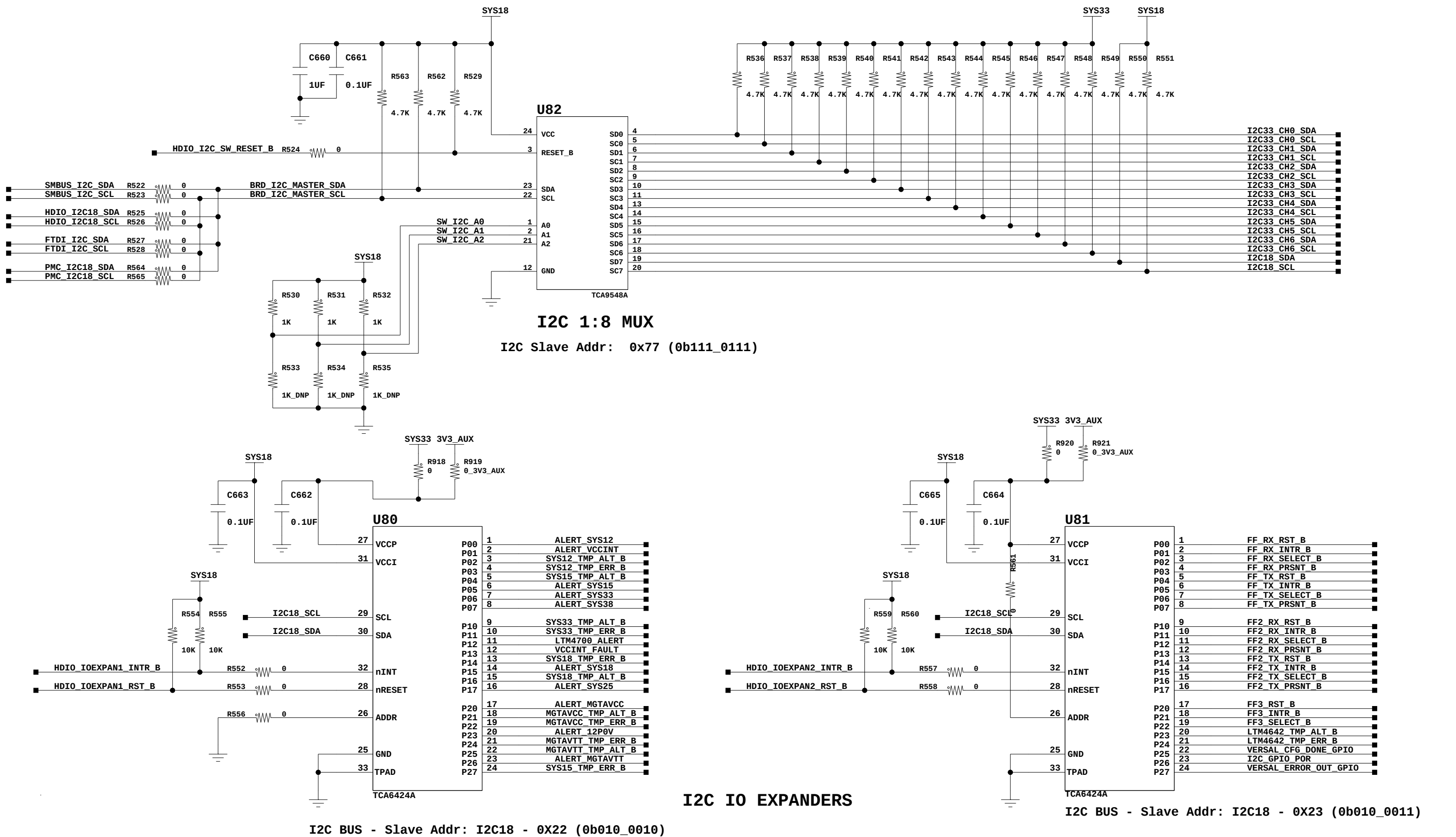
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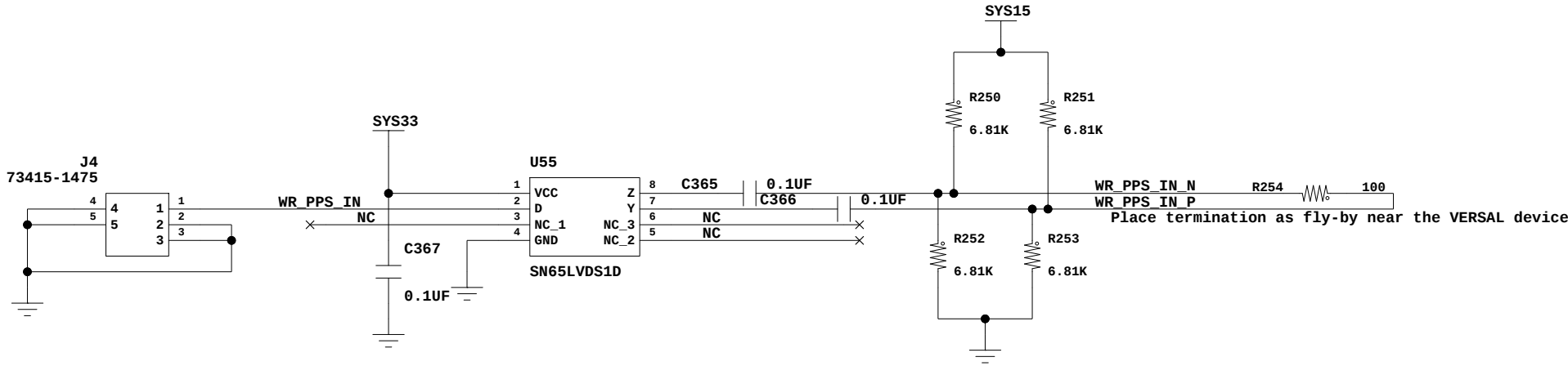
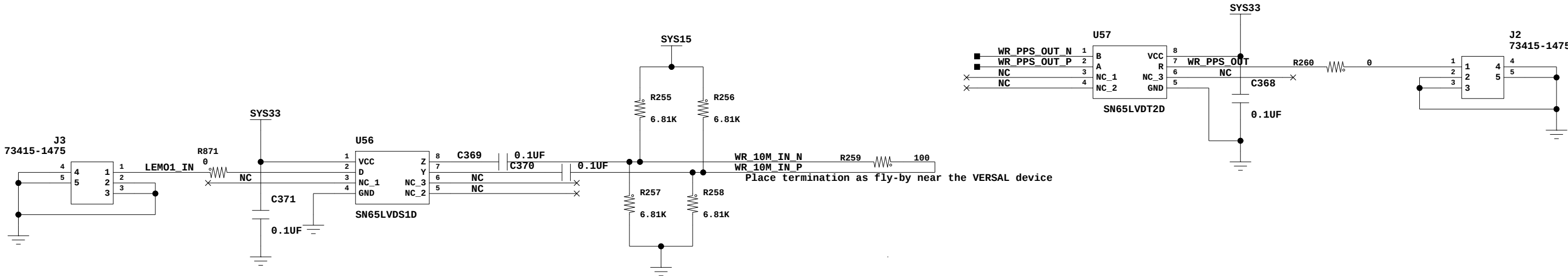
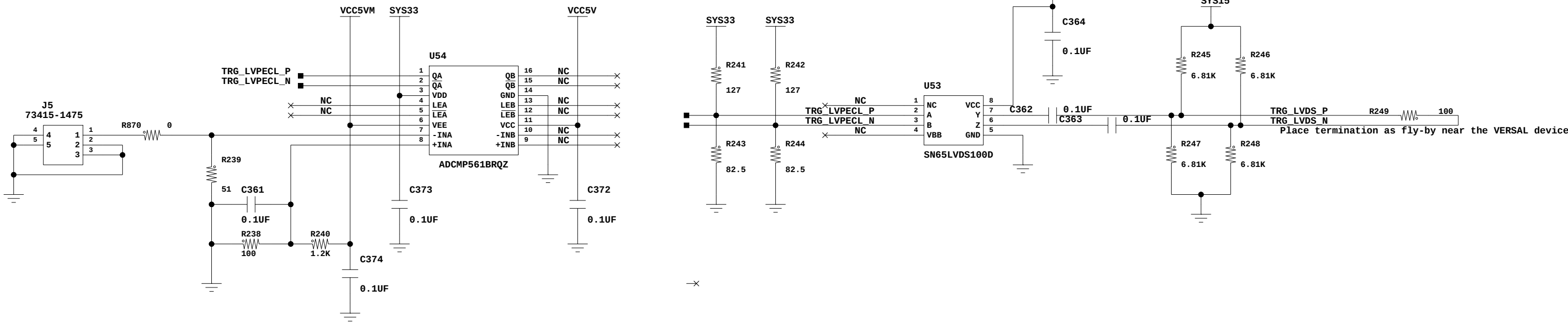
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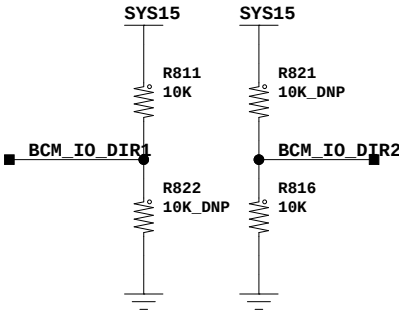
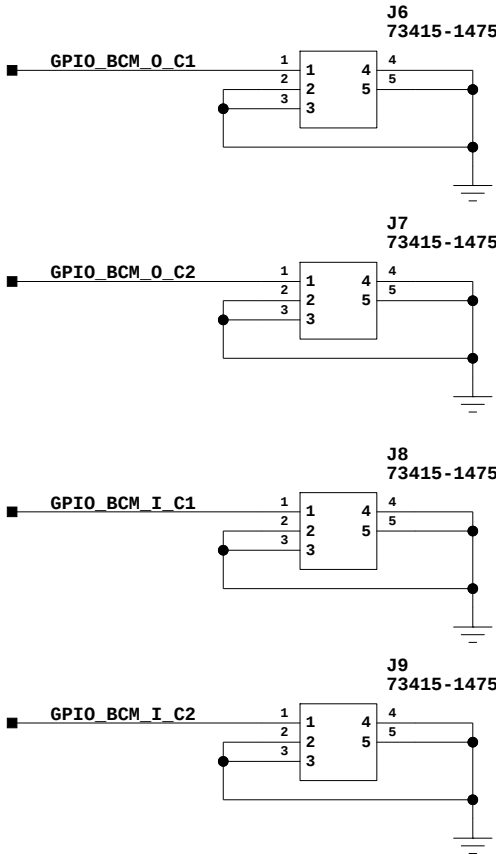
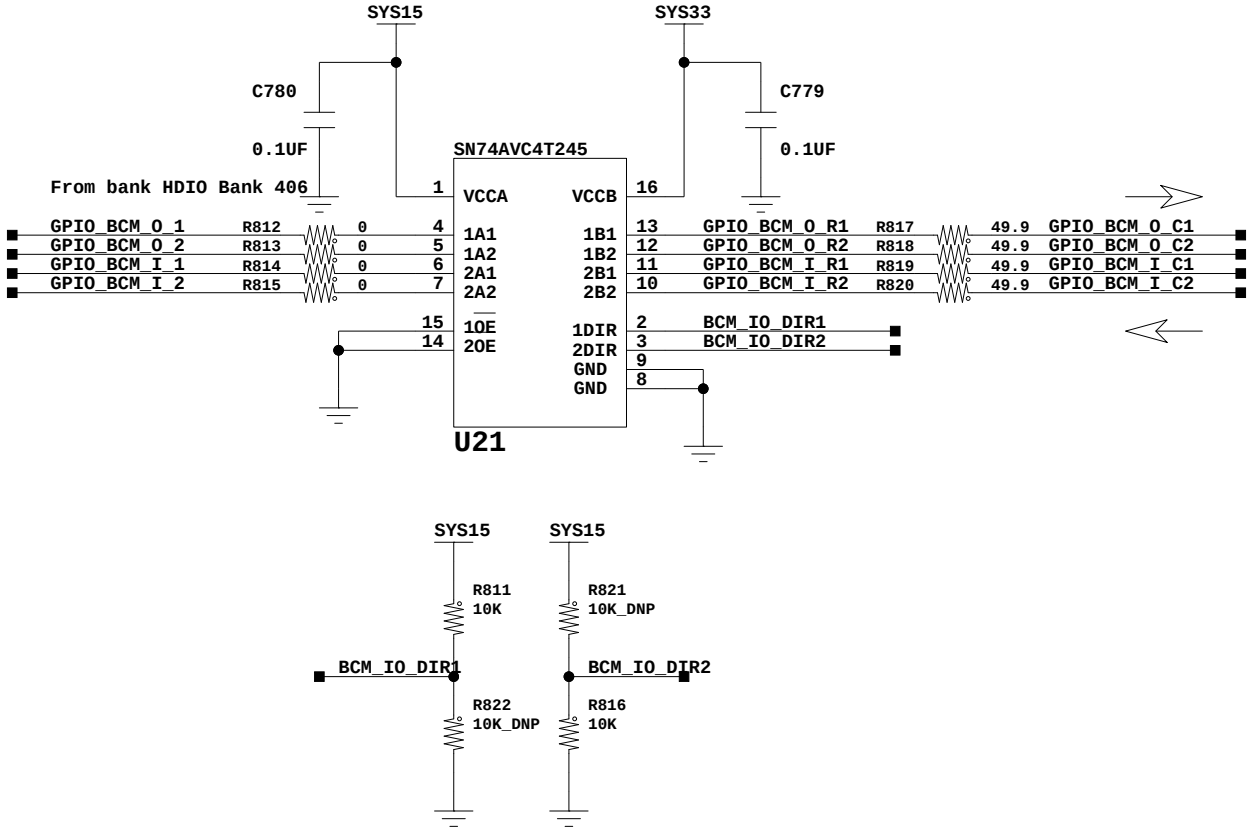
I2C MUX and IO EXPANDERS

COMPANY					
BROOKHAVEN NATIONAL LABORATORY					
TITLE					
FELIX_Ph2_v3					
I2C BUS SWITCH IO EXPANDER					
SIZE	B	REV		SHEET	44 OF 48
DRAWN	Hongbin Liu, Hao Xu		DATE	12/07/2023:13:55	



WR, ALTI interface

COMPANY		BROOKHAVEN NATIONAL LABORATORY			
TITLE		FELIX_Ph2_v3			
ALTI TRG		REV		SHEET 46 OF 48	
DRAWN Hongbin Liu, Hao Xu		DATE		12/07/2023:13:55	



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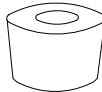
StandOff Components



STANDOFF_0P375



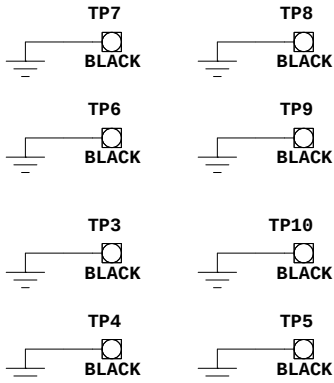
WASHER_FLAT_4



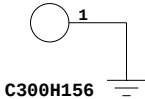
RUBBER BUMPER



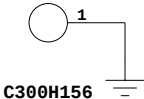
MACHINE_SCREW_4-40



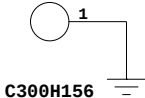
MH3



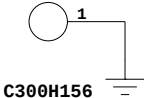
MH6



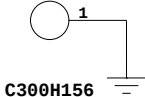
MH4



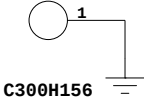
MH7



MH5



MH8



MECHANICAL COMPONENTS

COMPANY					
BROOKHAVEN NATIONAL LABORATORY					
TITLE					
FELIX_Ph2_v3					
MECHANICAL					
SIZE	B	REV		SHEET	48 OF 48
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A

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