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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

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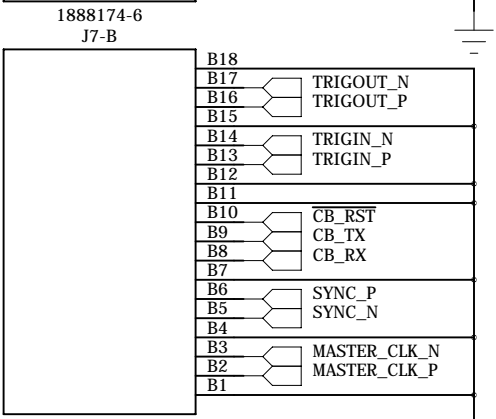
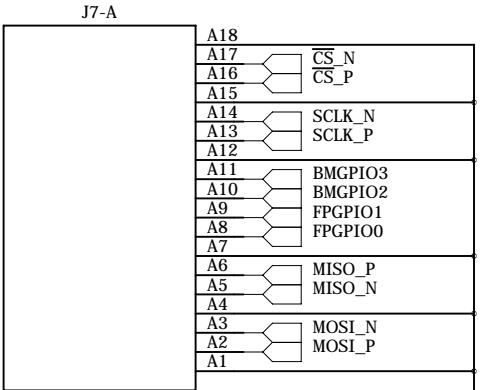
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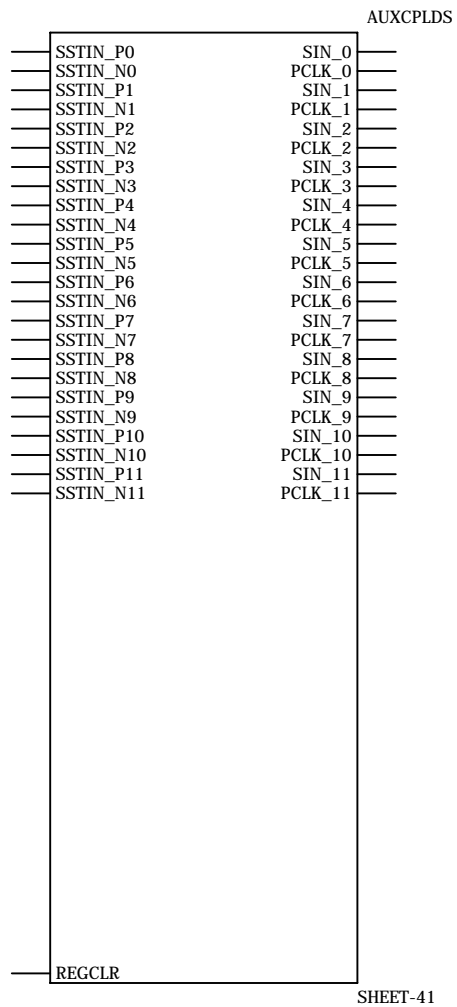
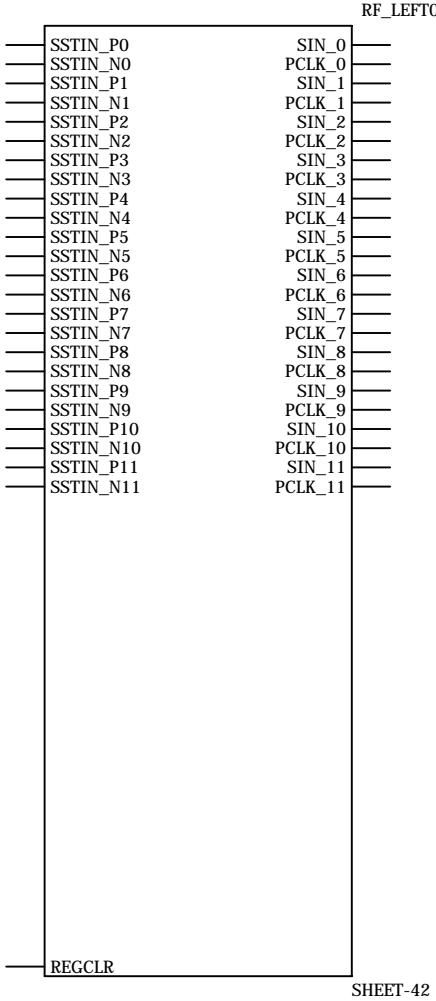
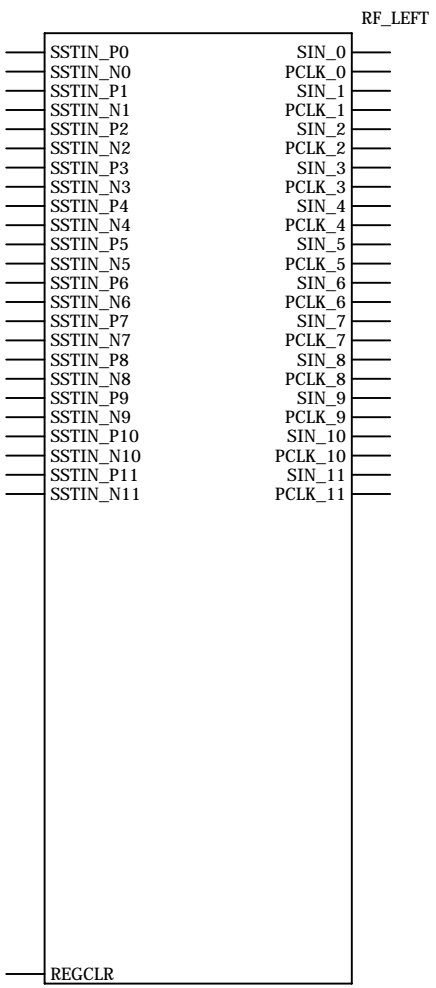
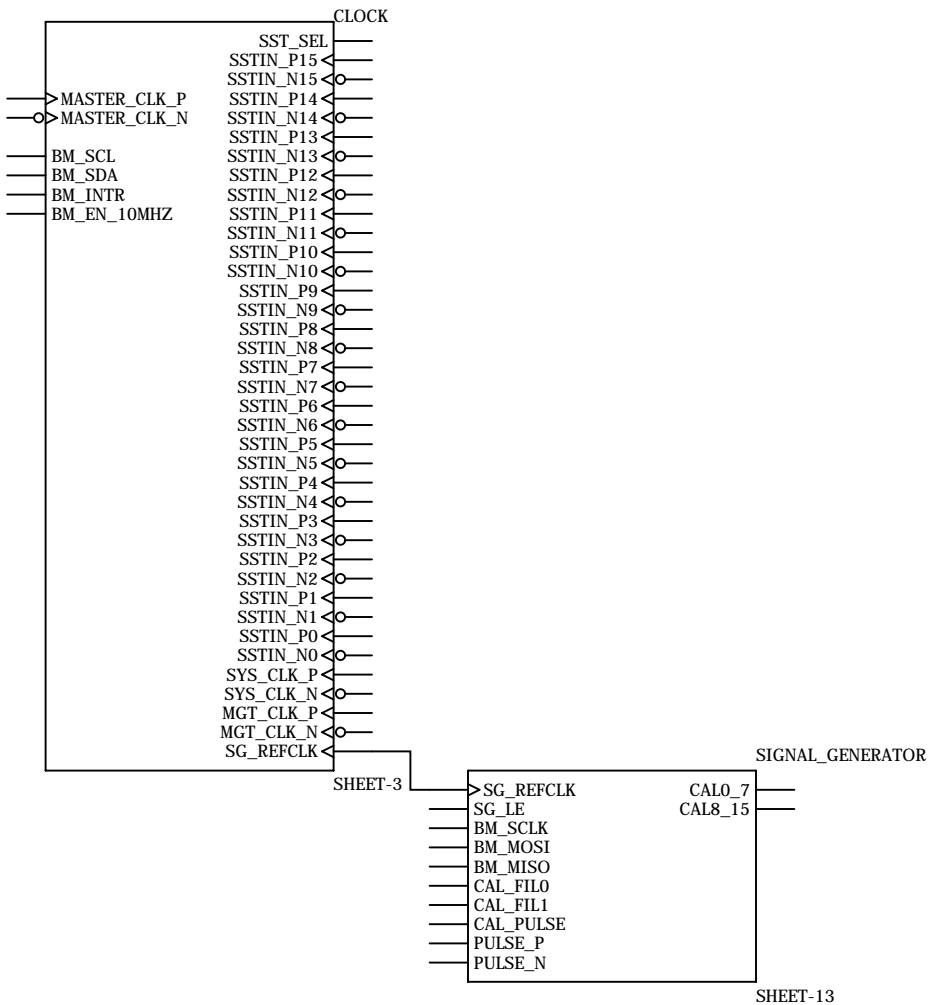
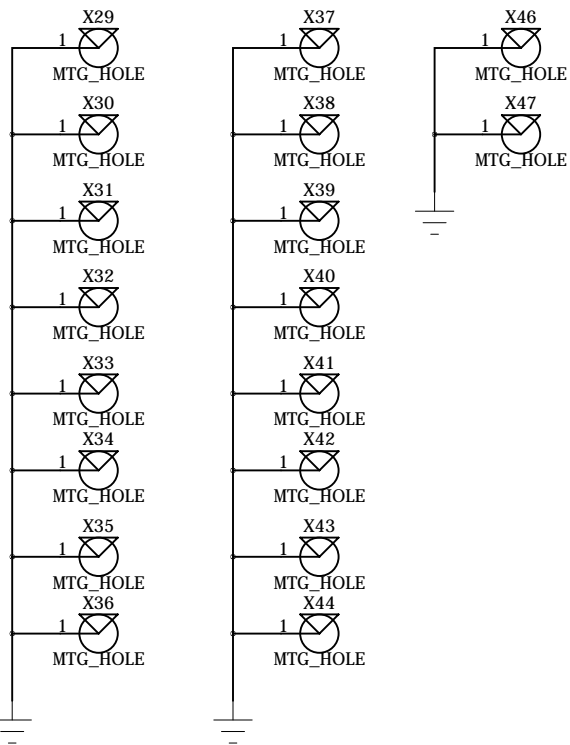
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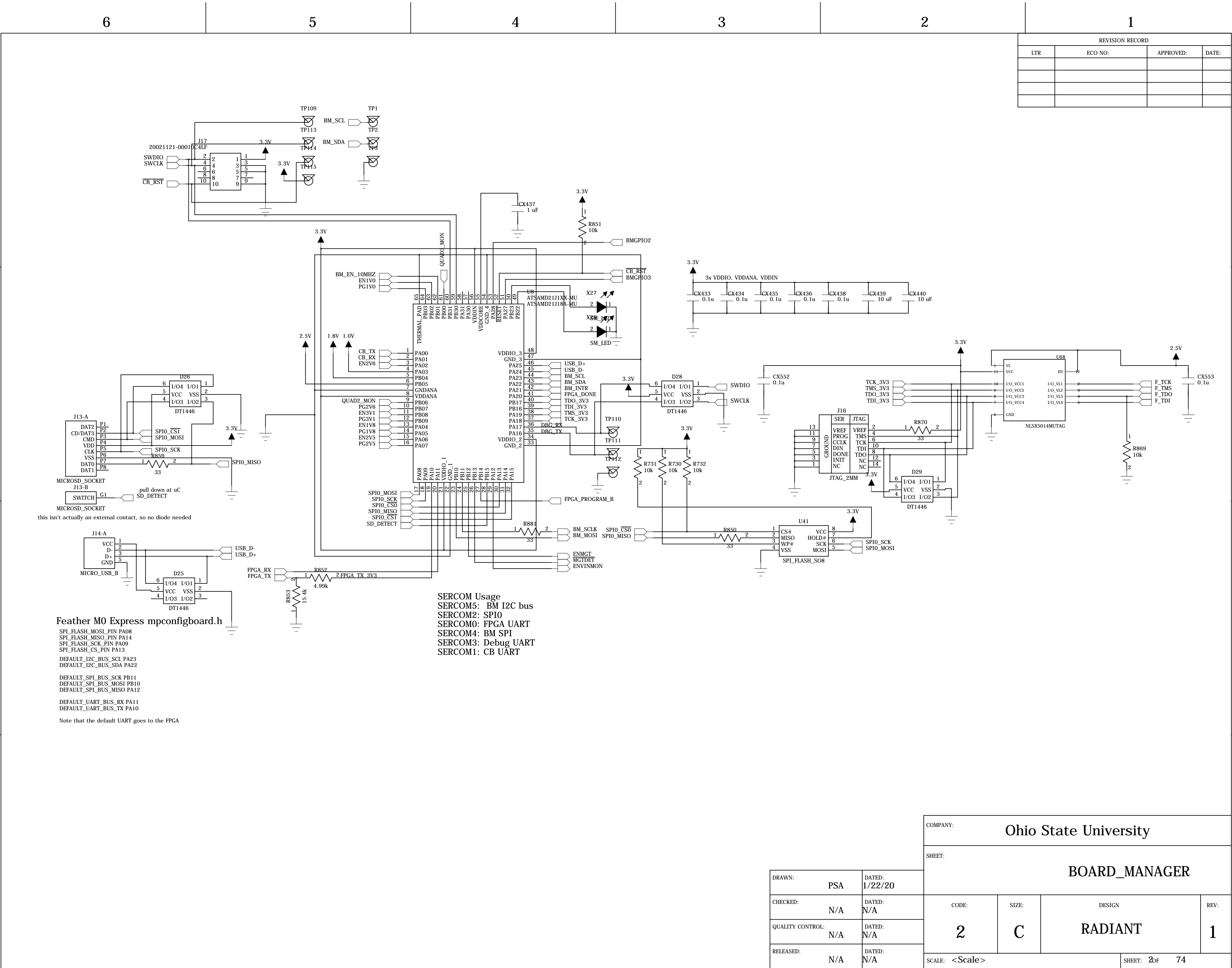
SFF-8087 connector  
Cable is designed with 8 differential pairs  
TRIGIN+/-  
TRIGOUT+/-  
CLK+/-  
SYNC+/-  
MOSI/GND  
MISO/GND (these are implemented as differential pairs!)  
SCLK/GND (allows for a higher-speed FPGA-to-FPGA link)  
CS/GND (if used single ended, just drive N side to ground in FPGA)  
There are also 8 sideband signals  
RX/TX/RST/GND/GPIO[3:0]

At some point I'll finish a top block diagram...



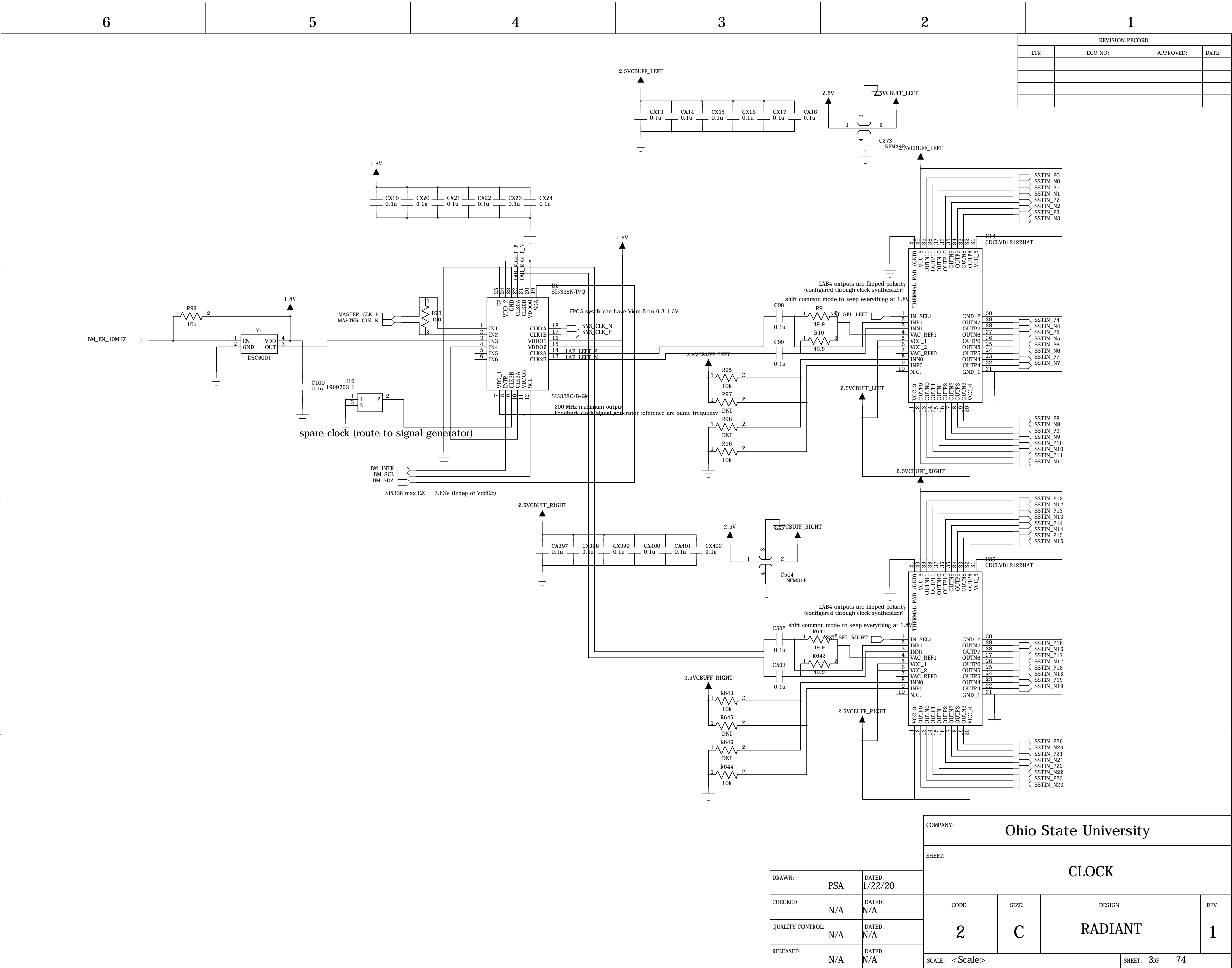
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CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

COMPANY: Ohio State University			
SHEET: TOP			
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 1 of 74



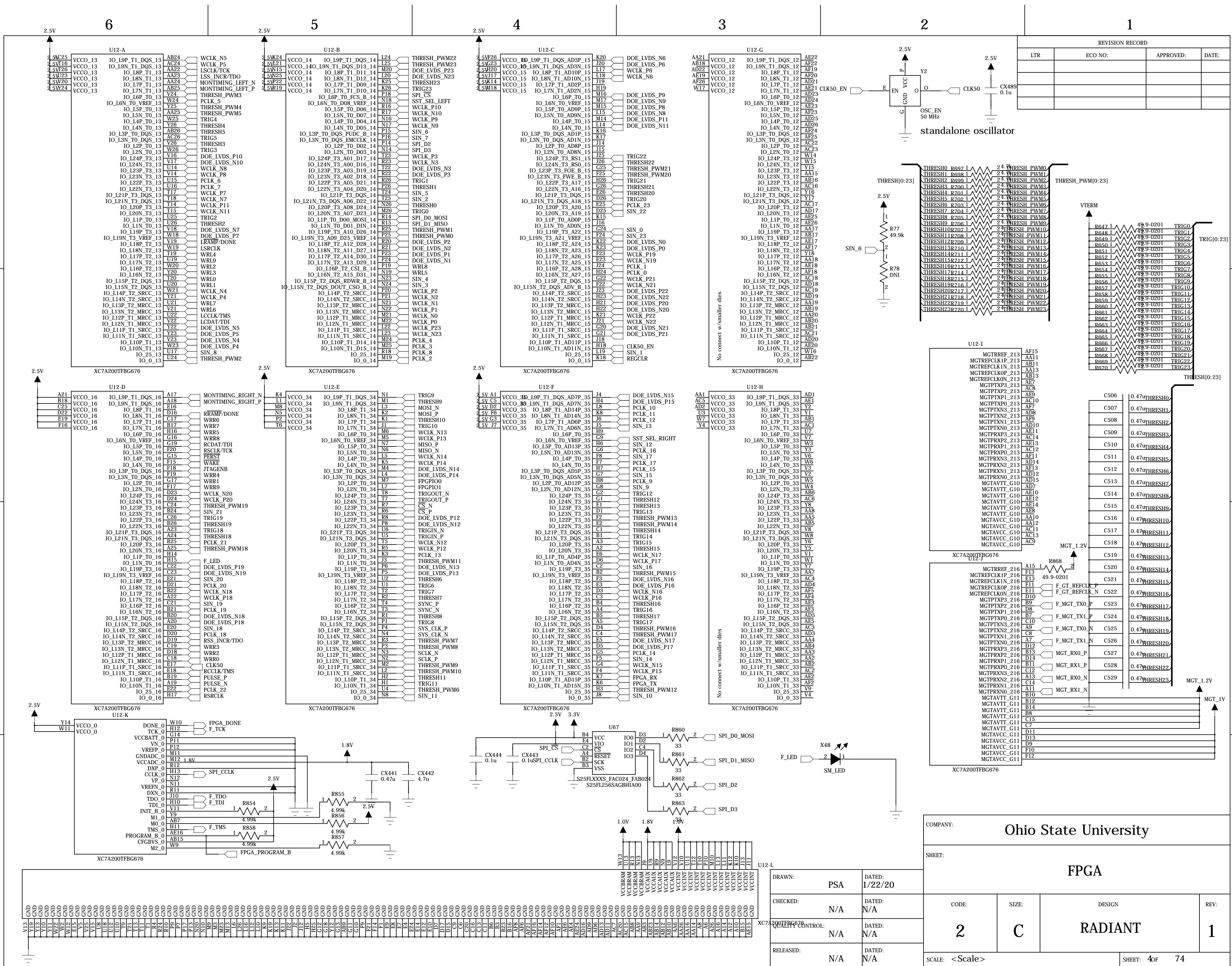
REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

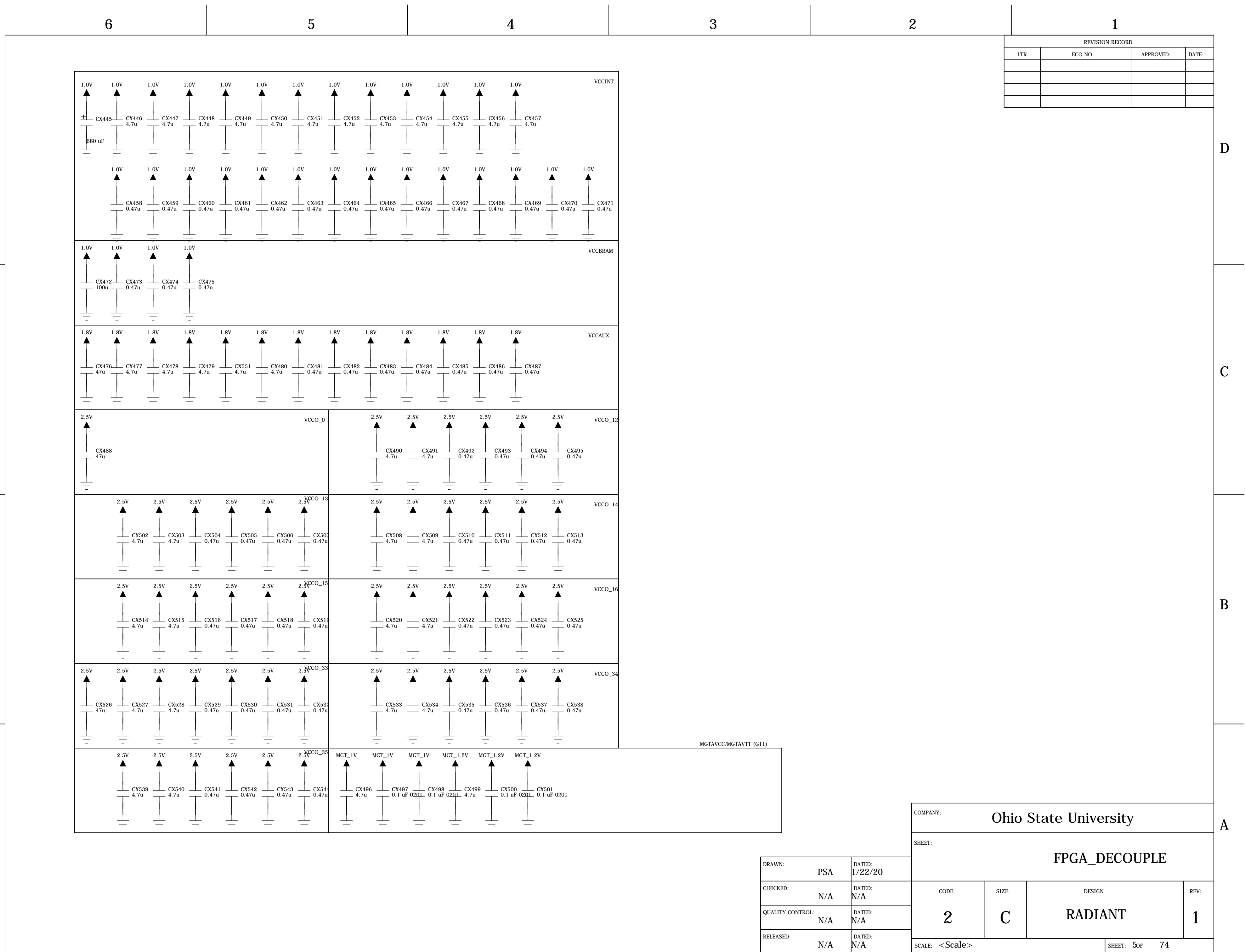
COMPANY: Ohio State University			
SHEET: BOARD_MANAGER			
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CHECKED: N/A	DATED: N/A	DESIGN: RADIANT	REV: 1
QUALITY CONTROL: N/A	DATED: N/A	SCALE: <Scale>	
RELEASED: N/A	DATED: N/A	SHEET: 2 of 74	



REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

COMPANY: Ohio State University			
SHEET: CLOCK			
DRAWN: PSA	DATED: 1/22/20	CODE: 2	SIZE: C
CHECKED: N/A	DATED: N/A	DESIGN: RADIANT	REV: 1
QUALITY CONTROL: N/A	DATED: N/A	SCALE: <Scale>	
RELEASED: N/A	DATED: N/A	SHEET: 3 of 74	





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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

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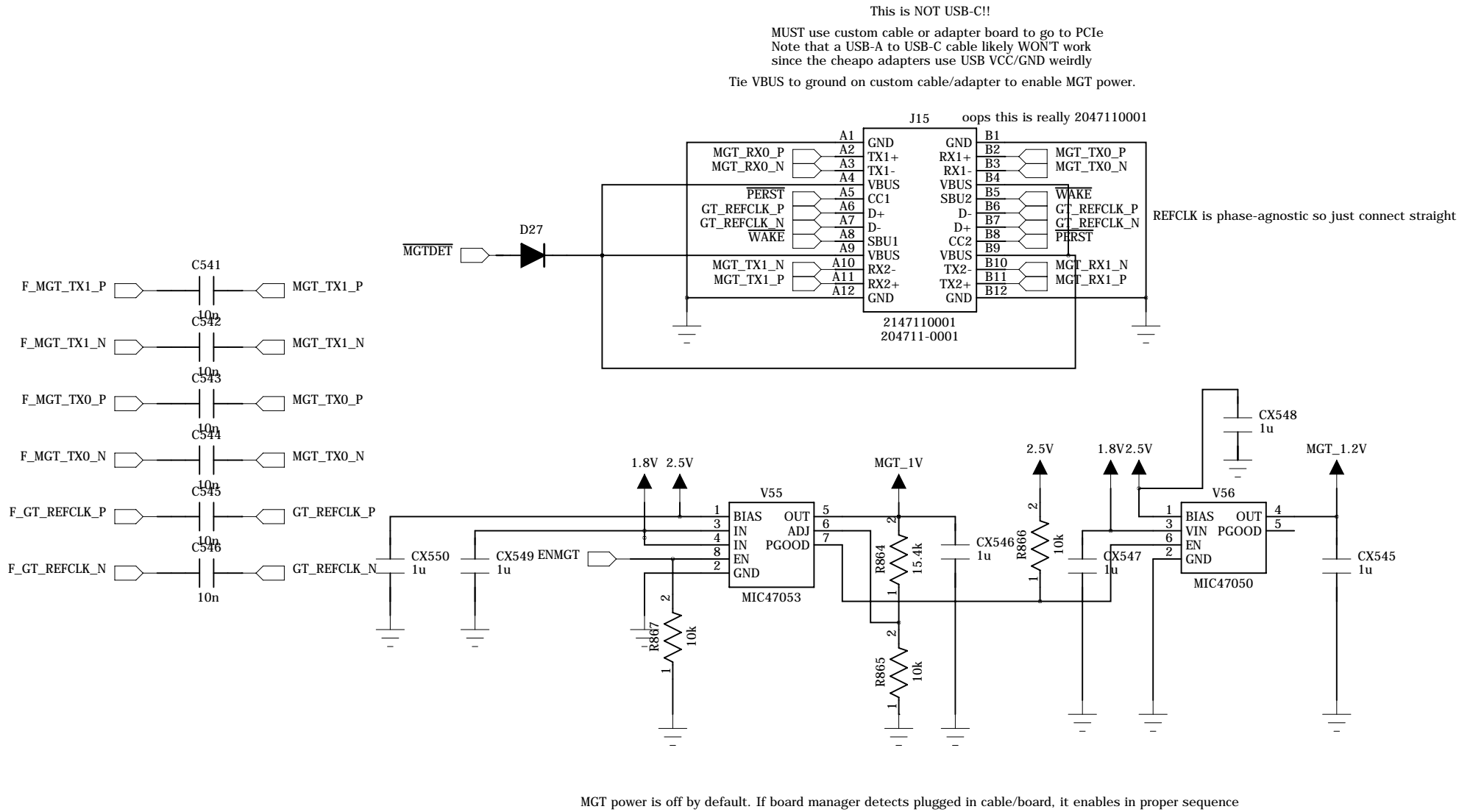
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DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

COMPANY: Ohio State University			
SHEET: FPGA-PCIE			
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 6 of 74

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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:

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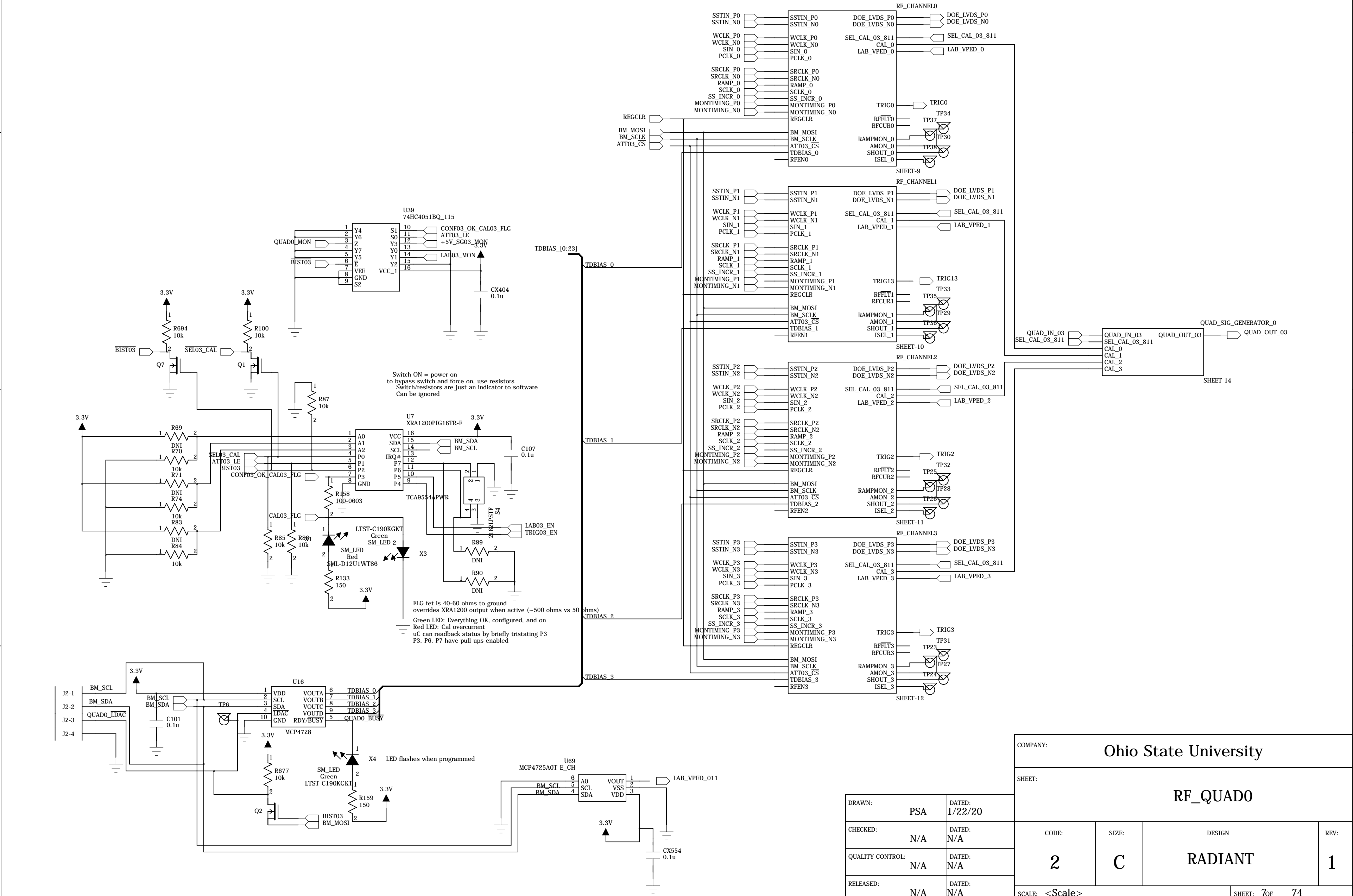
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DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

COMPANY: Ohio State University			
SHEET: RF_QUAD0			
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 70 of 74

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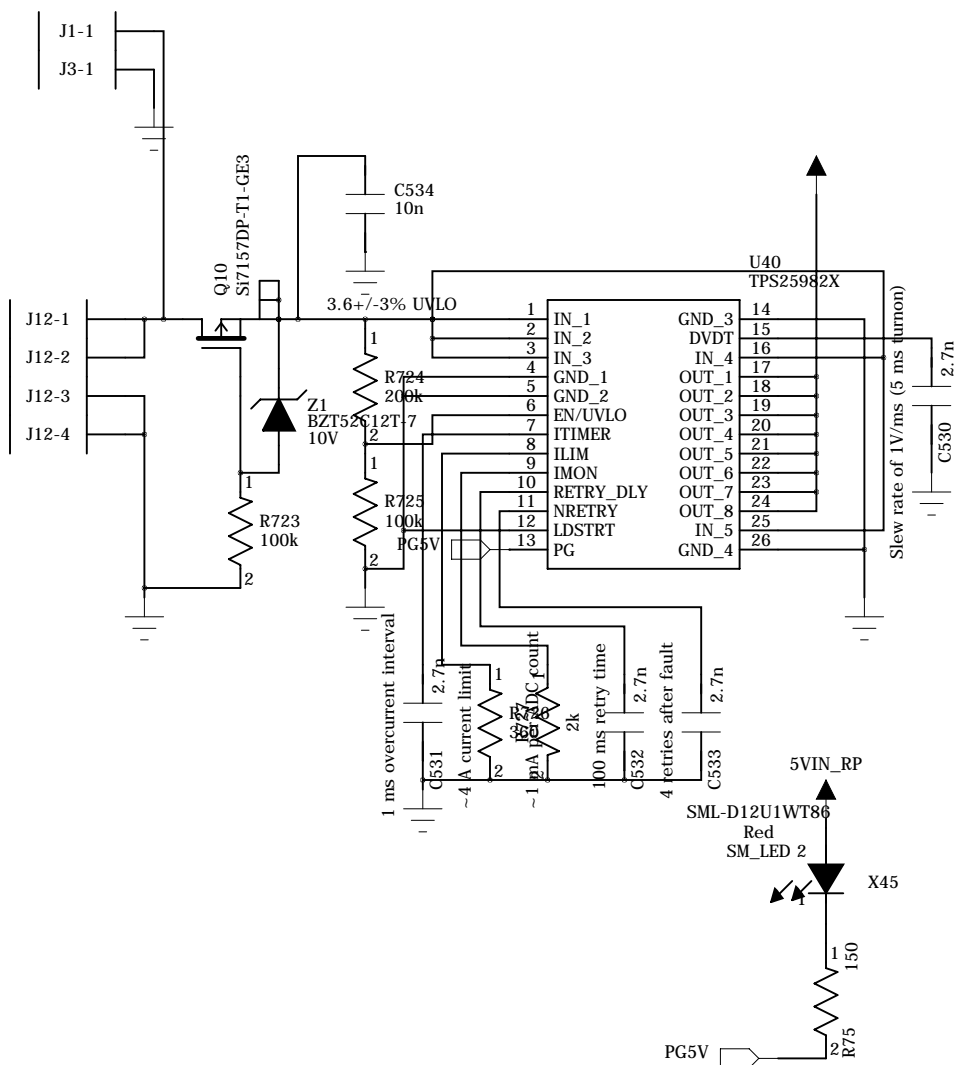
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

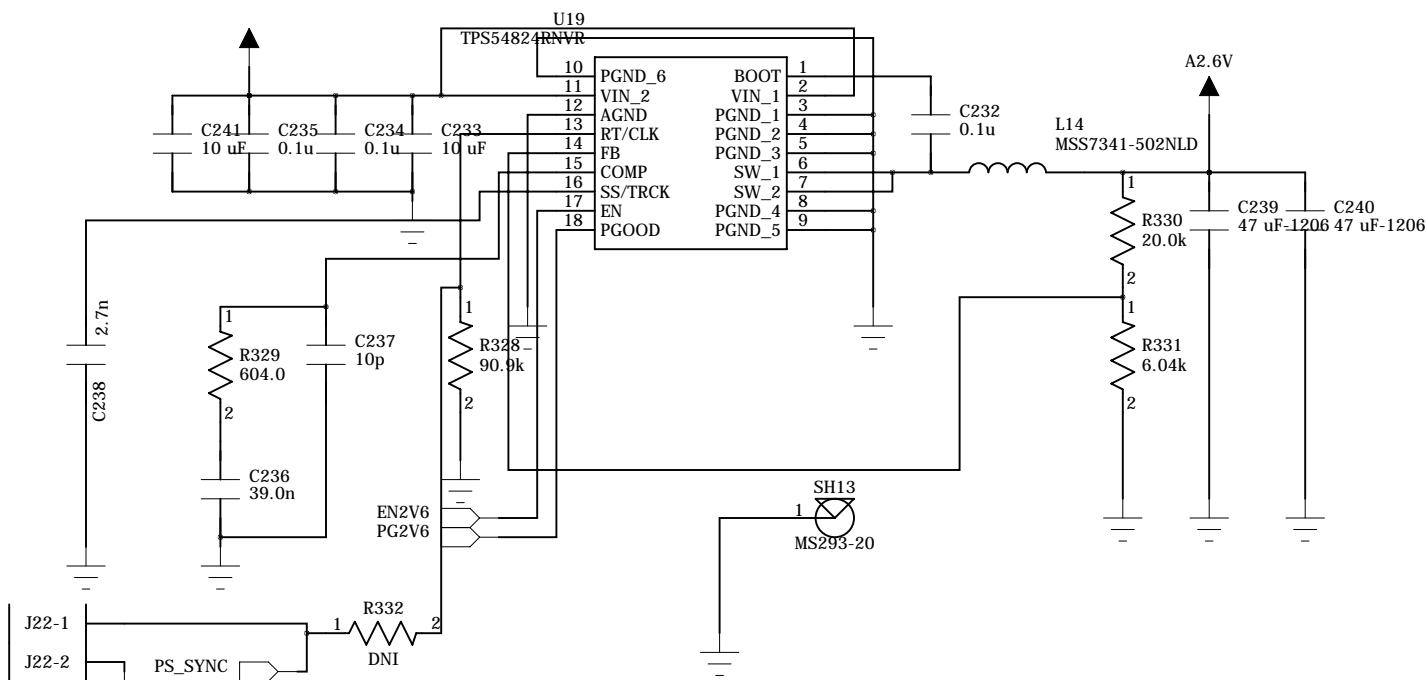
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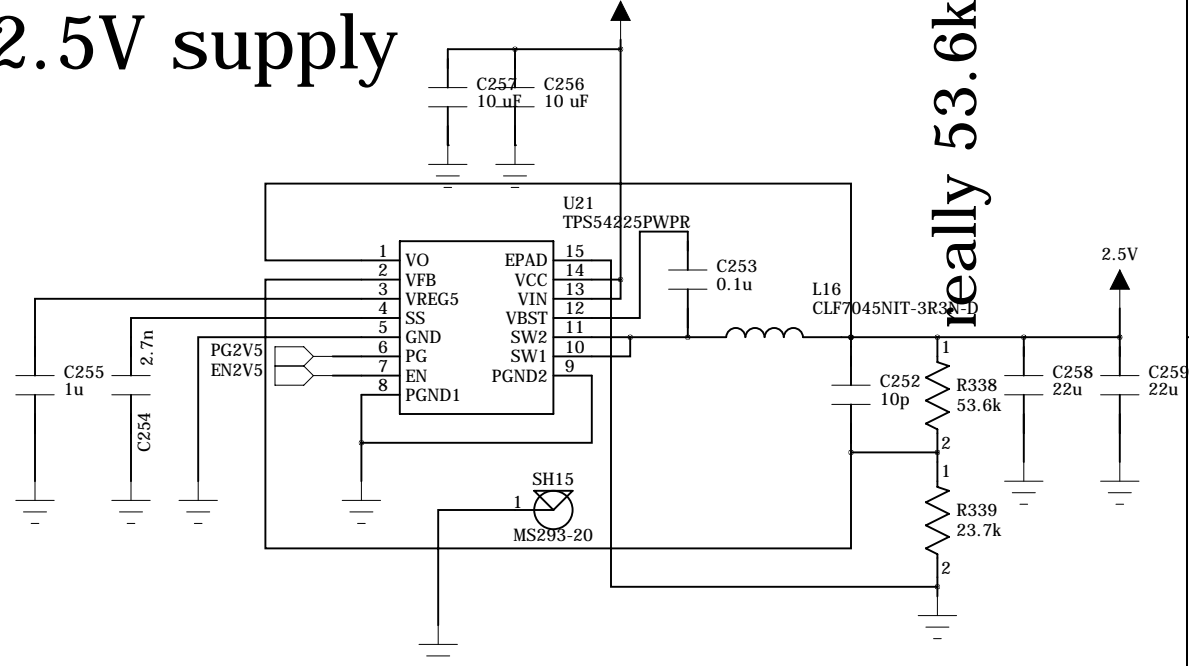
## Input power protection



## LAB4D supply (2.6V, regulated to 2.5V)



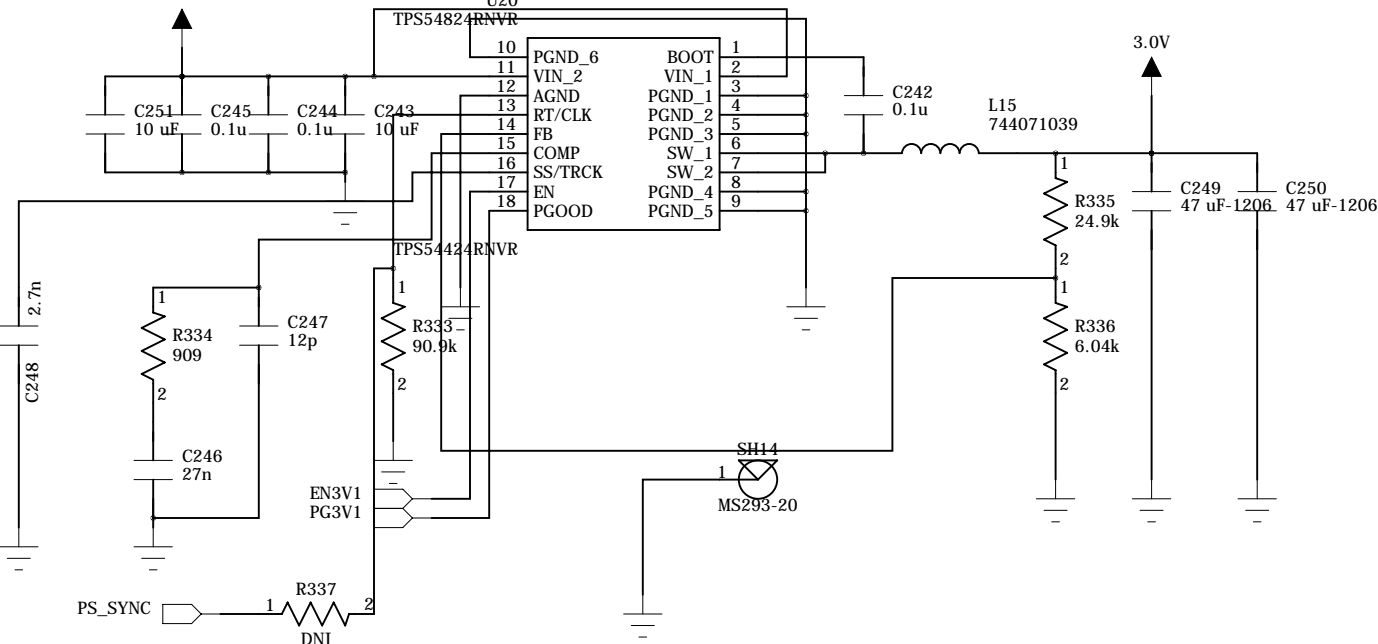
## 2.5V supply



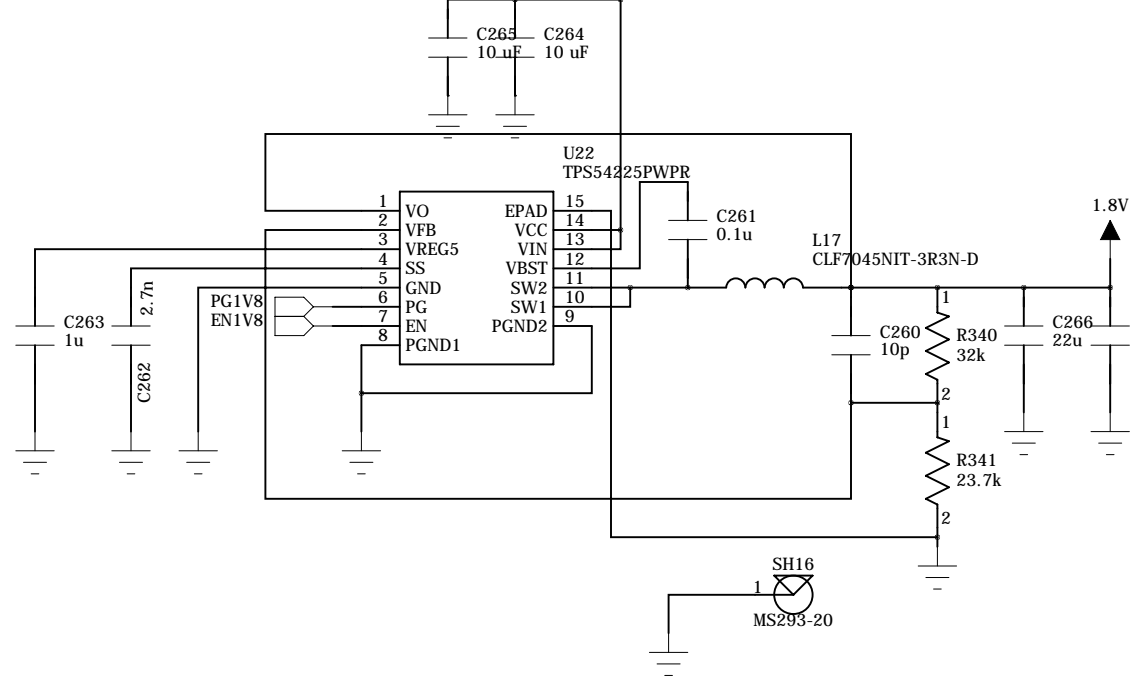
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## Trigger supply (3.07V, regulated to 3.0V)



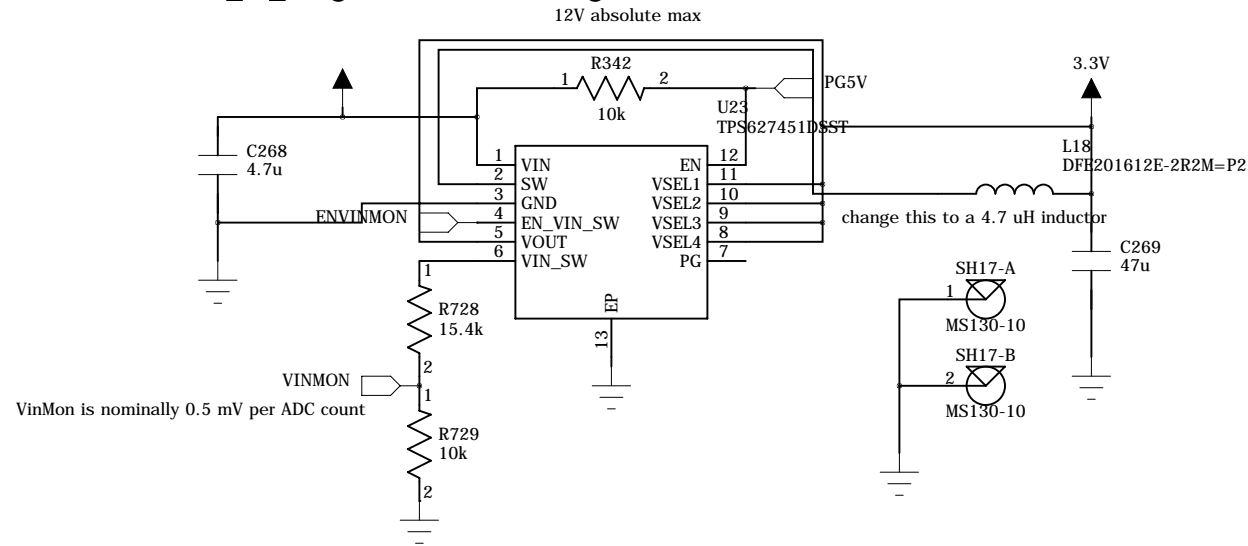
## 1.8V supply



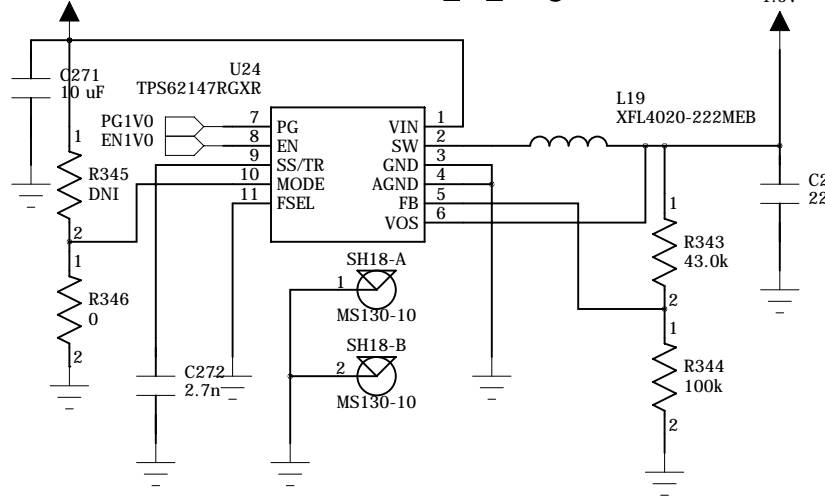
B

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## 3.3V supply (always on)

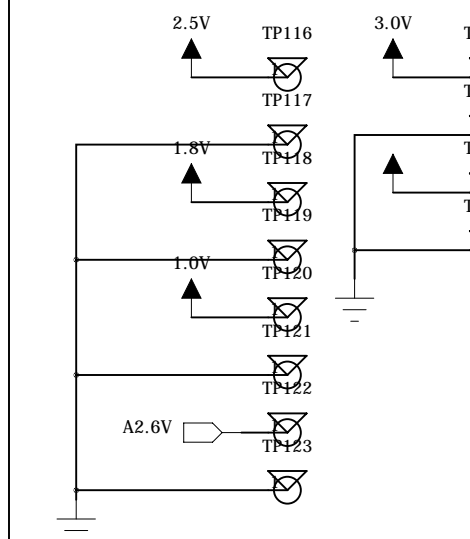


## FPGA core supply (1.0V)



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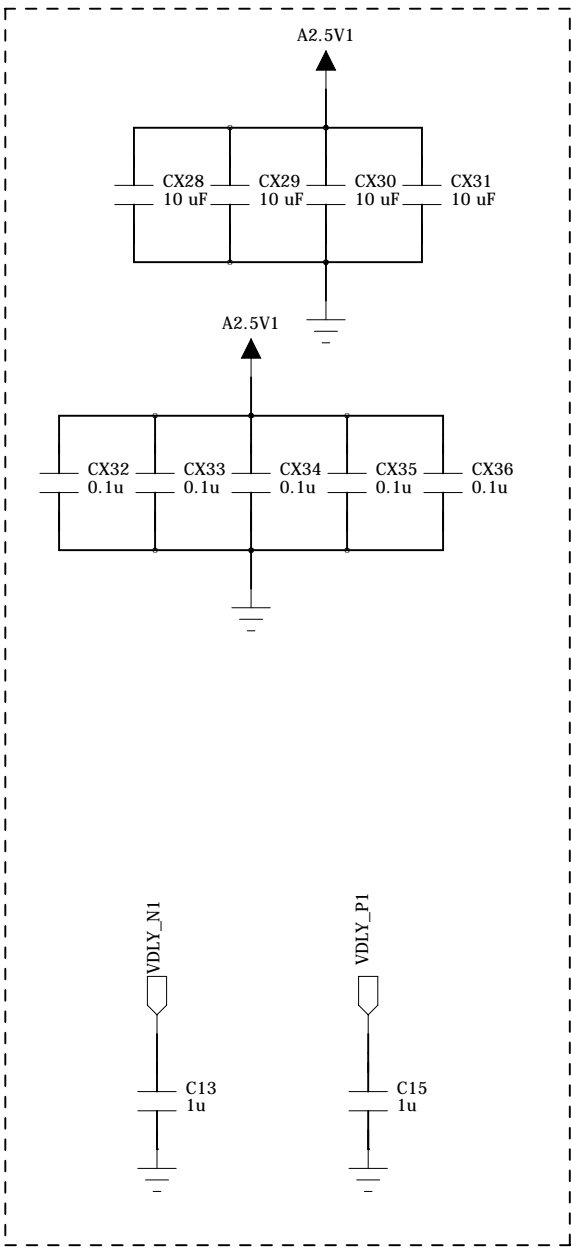


COMPANY: Ohio State University			
SHEET: POWER			
DRAWN: PSA	DATED: 1/22/20	CODE: 2	SIZE: C
CHECKED: N/A	DATED: N/A	DESIGN: RADIANT	REV: 1
QUALITY CONTROL: N/A	DATED: N/A	SCALE: <Scale>	
RELEASED: N/A	DATED: N/A	SHEET: 8 of 74	

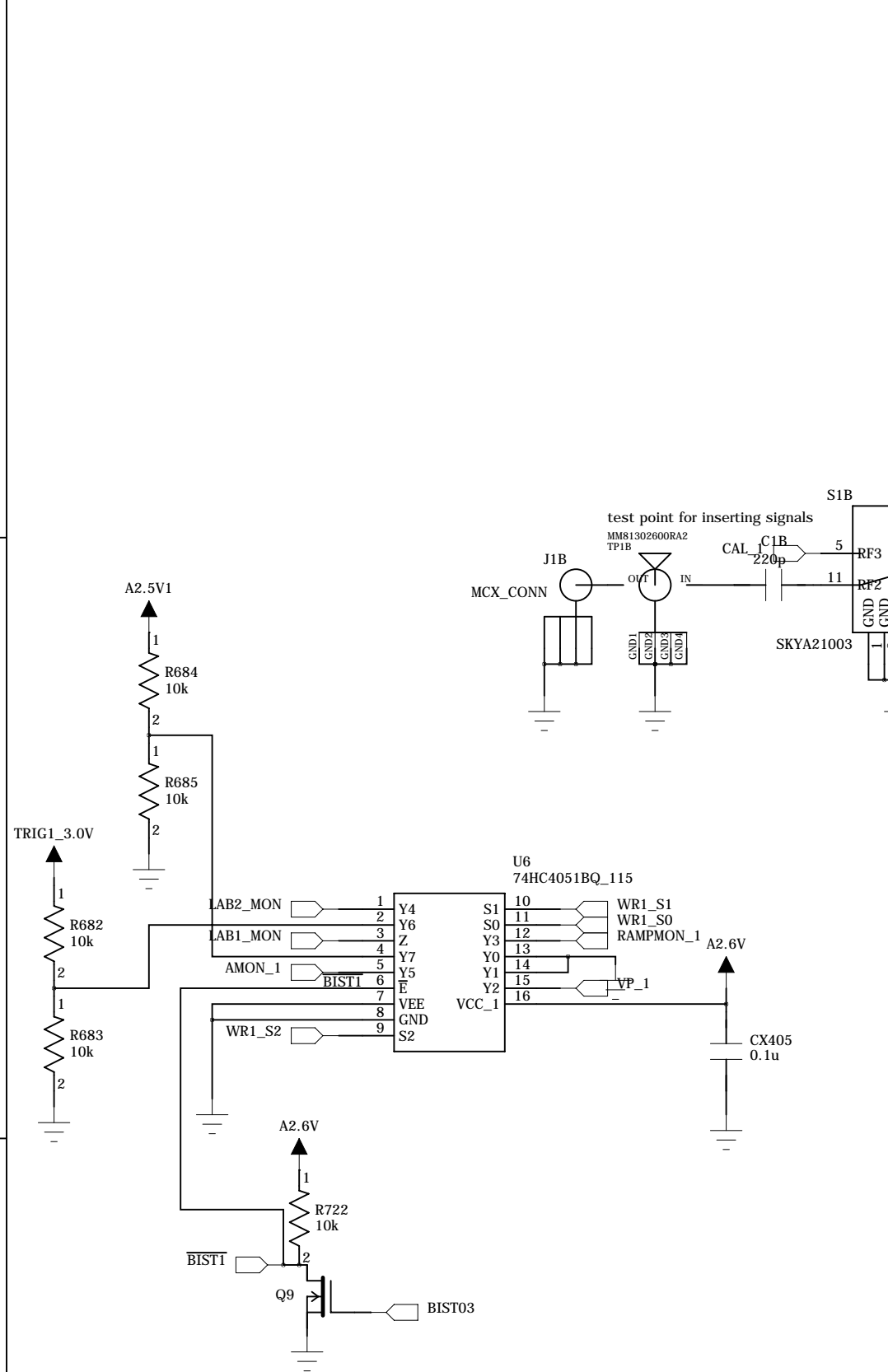
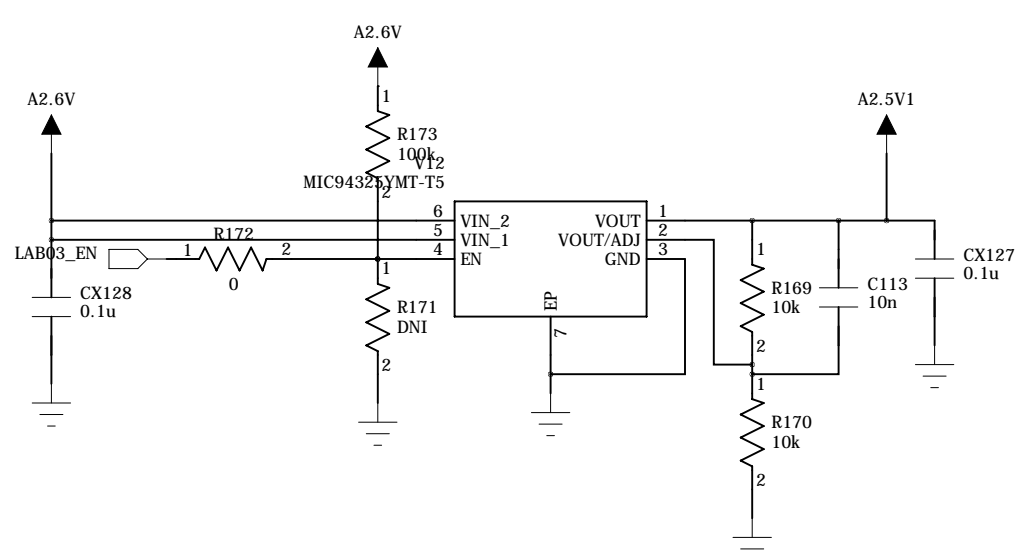
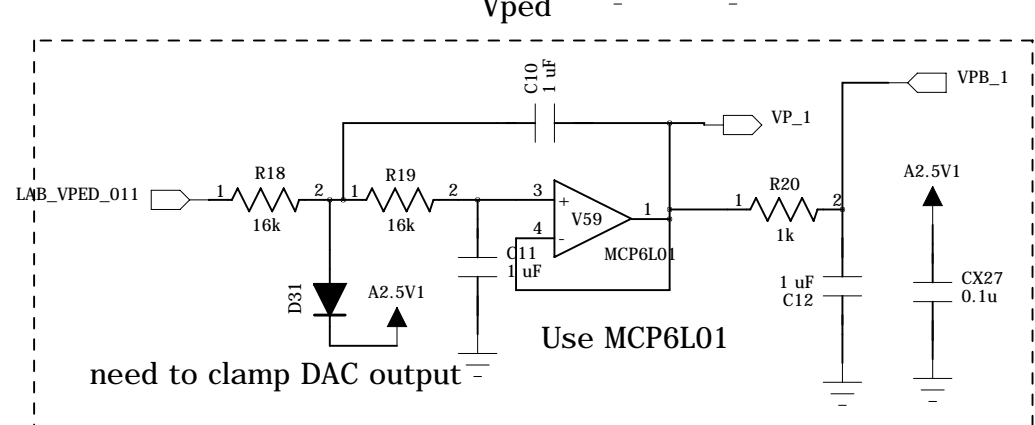
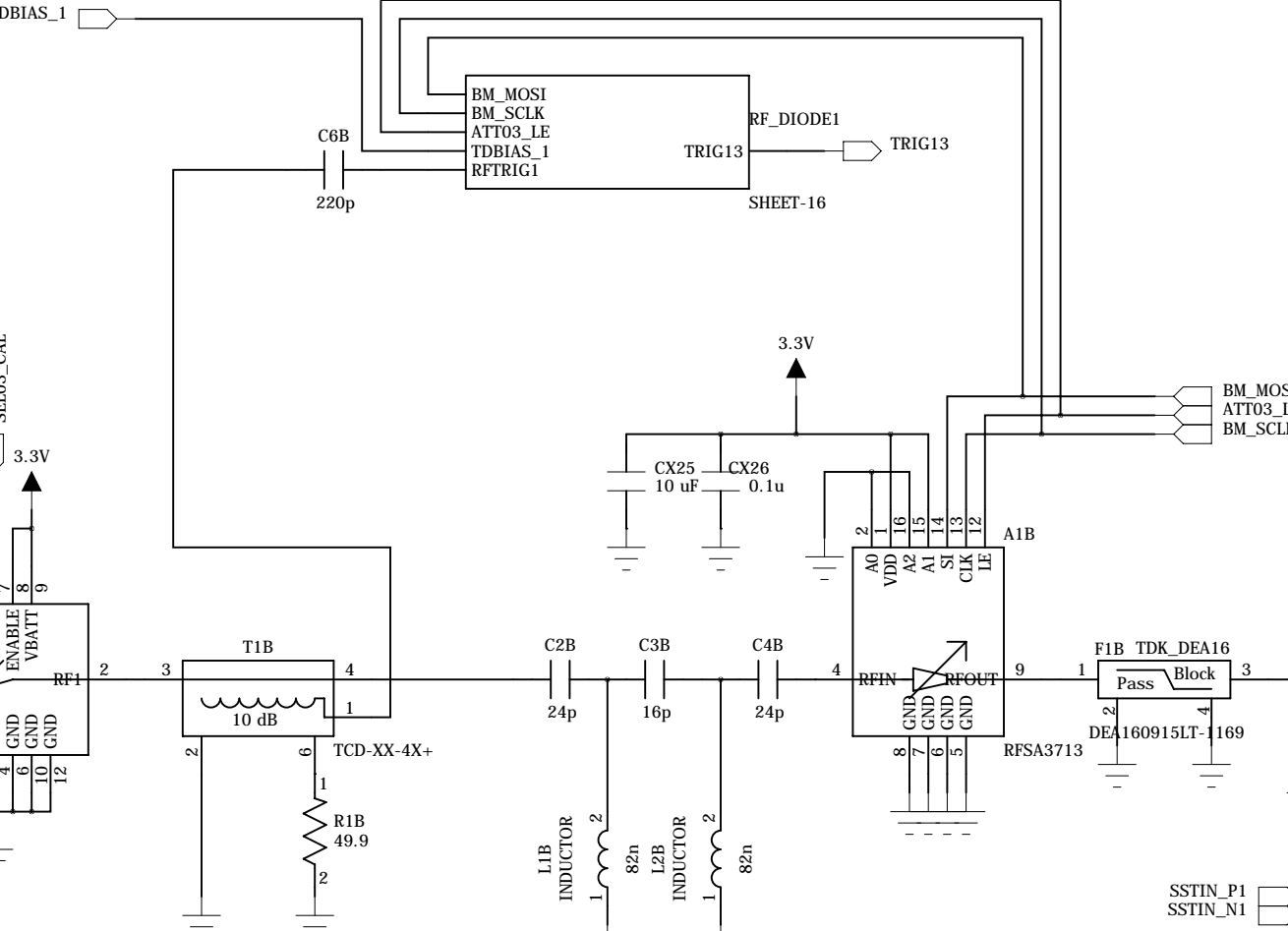
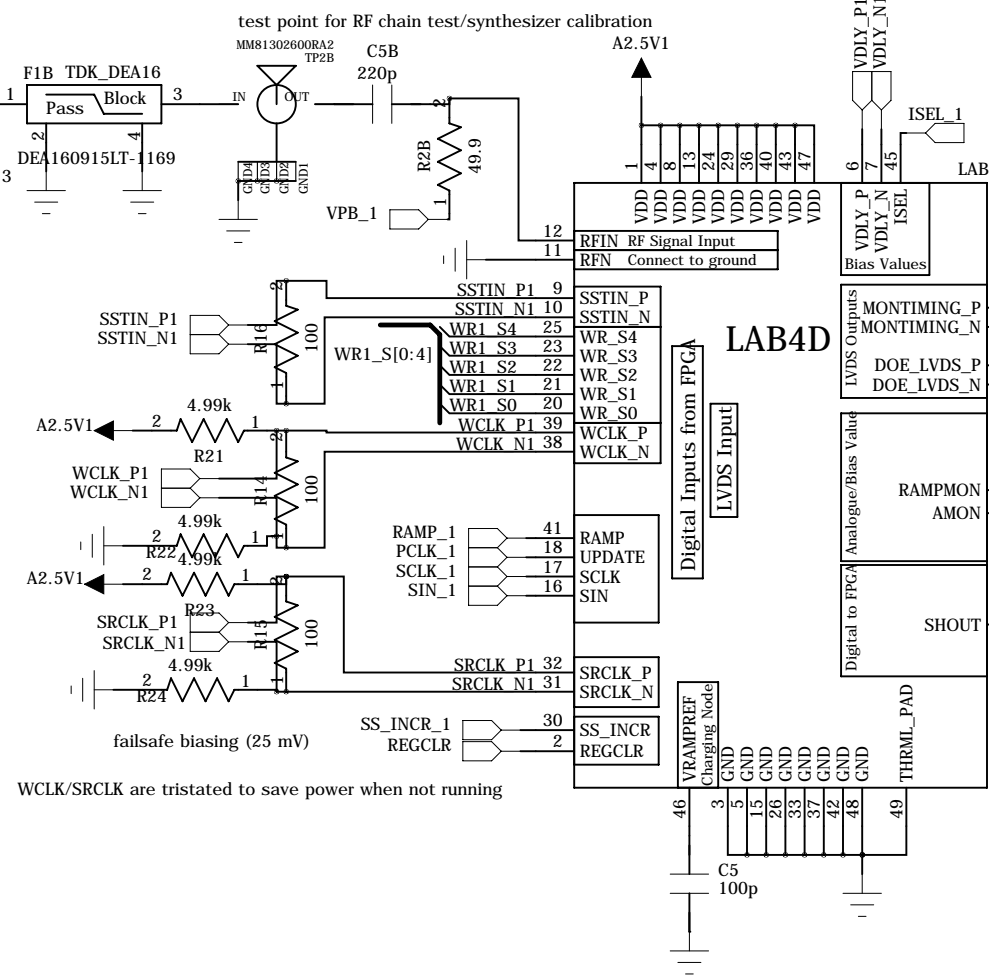
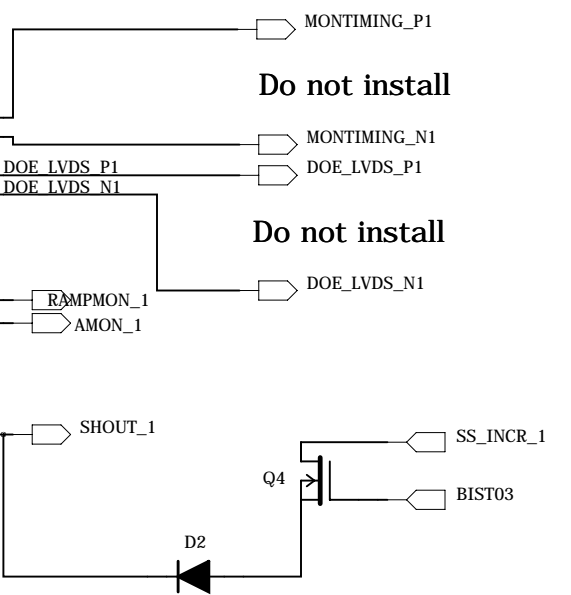




REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
	Filtering/bypass capacitors		



### Filtering/bypass capacitors



DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

COMPANY:		Ohio State University	
SHEET:		RF_CHANNEL1	
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>		SHEET: 10	74

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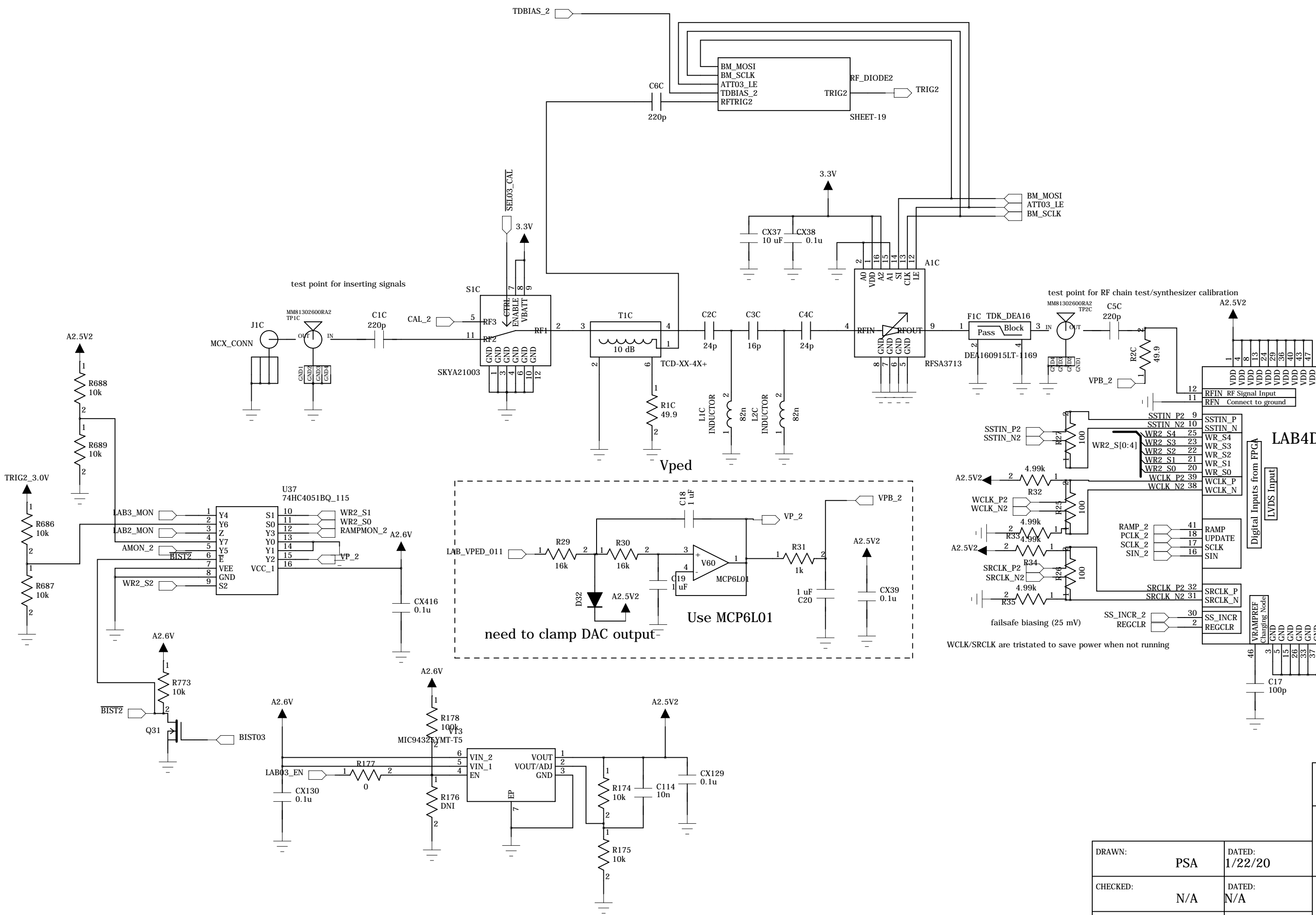
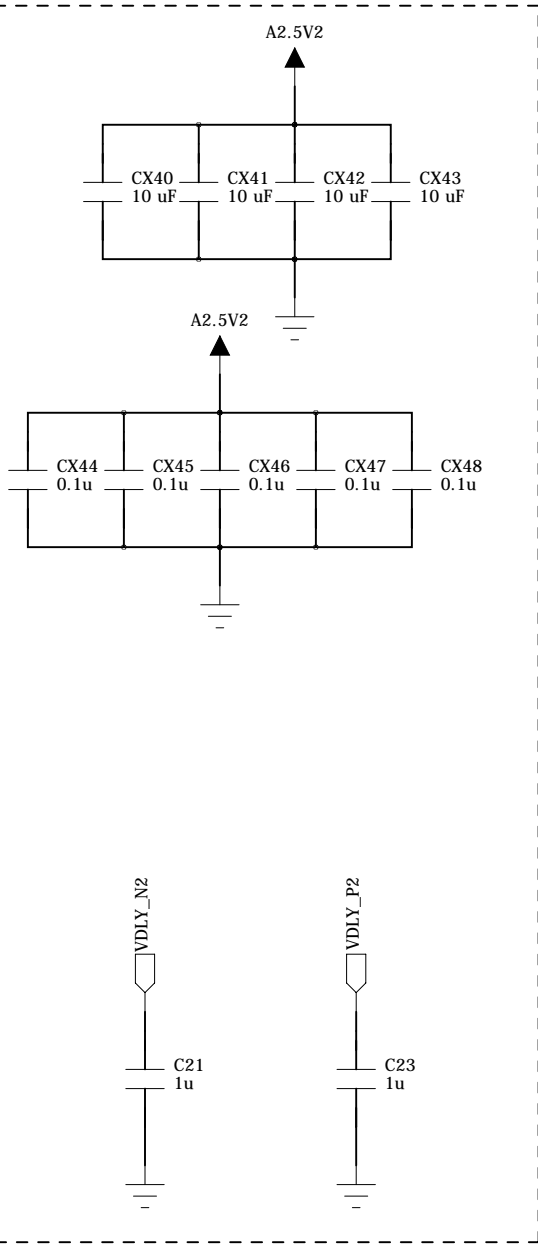
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

COMPANY: Ohio State University			
SHEET: RF_CHANNEL2			
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 1 of 74

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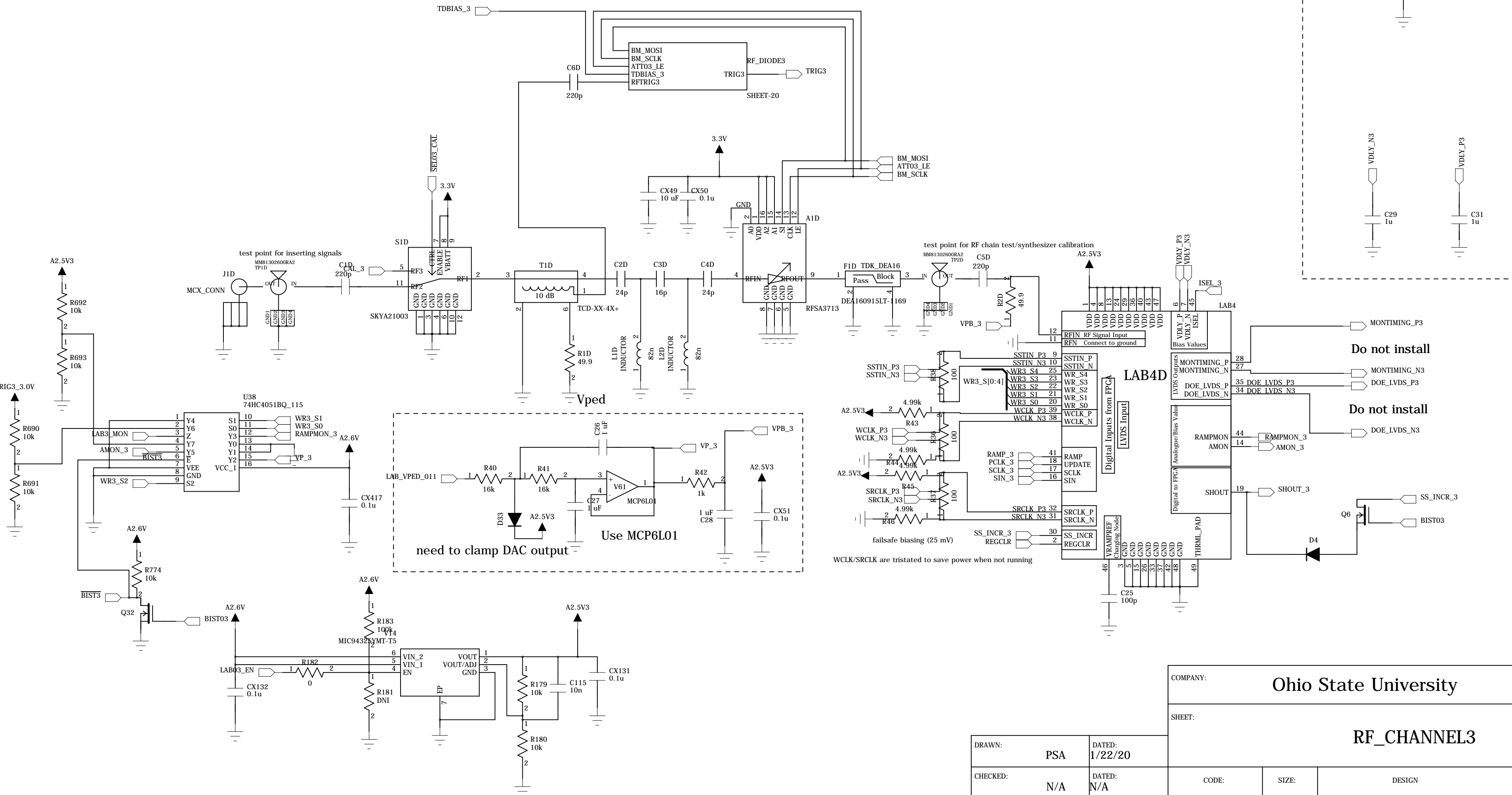
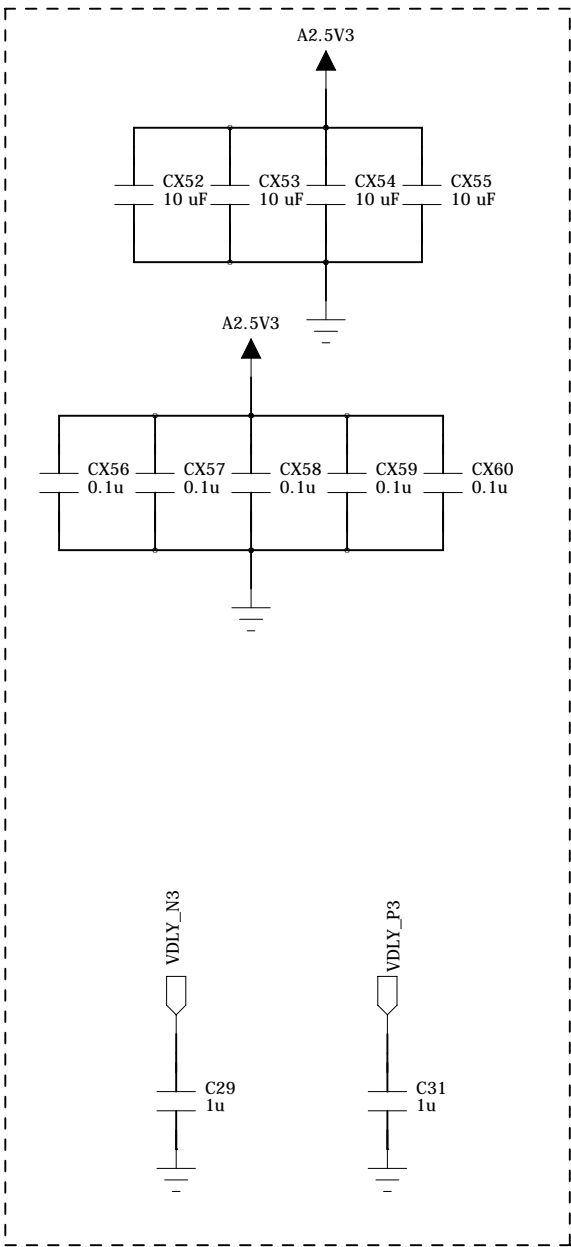
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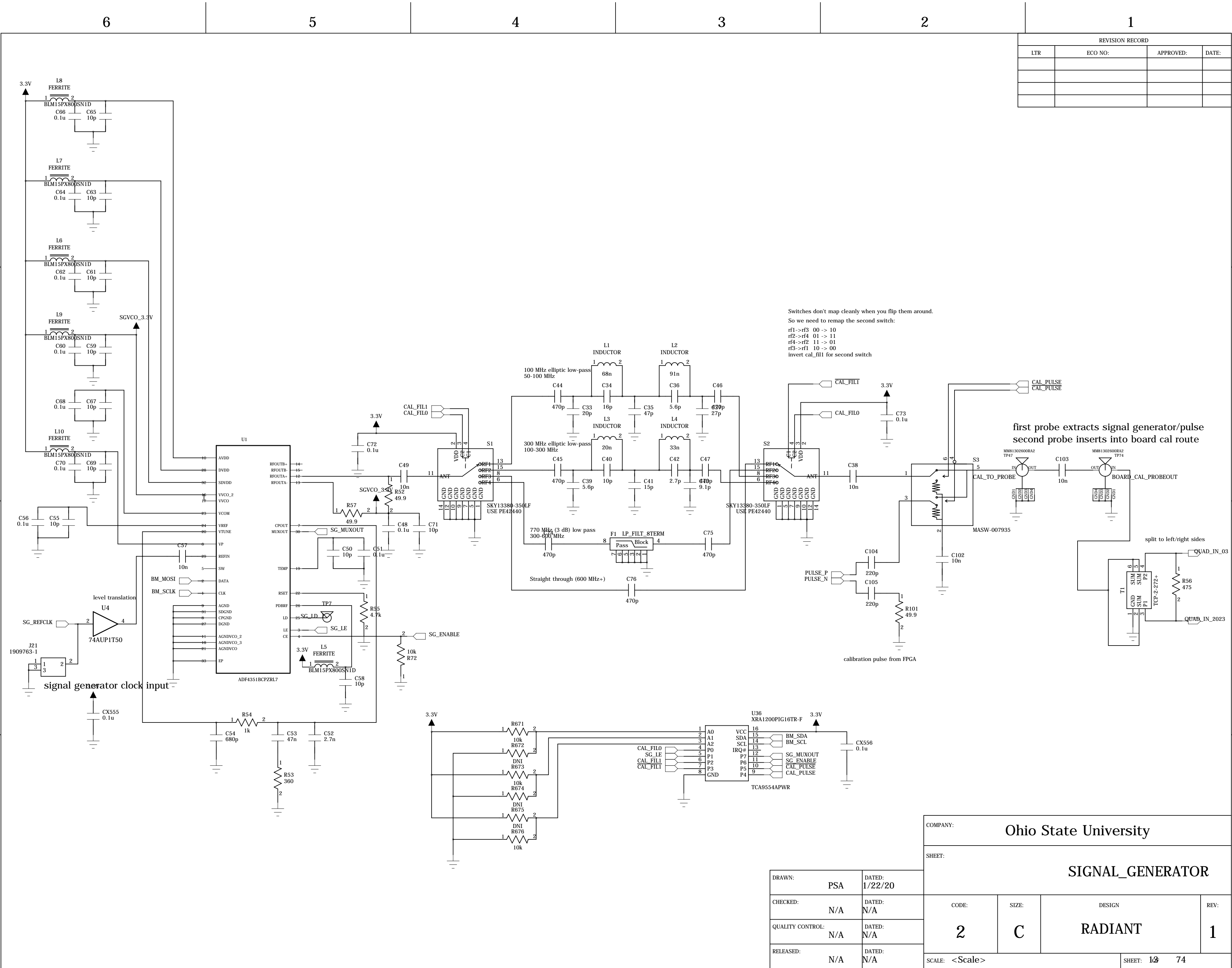
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

COMPANY: Ohio State University			
SHEET: RF_CHANNEL3			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 12 74



REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

Switches don't map cleanly when you flip them around.  
So we need to remap the second switch:

rf1->rf3 00 -> 10  
rf2->rf4 01 -> 11  
rf4->rf2 11 -> 01  
rf3->rf1 10 -> 00  
invert cal\_fill for second switch

first probe extracts signal generator/pulse  
second probe inserts into board cal route

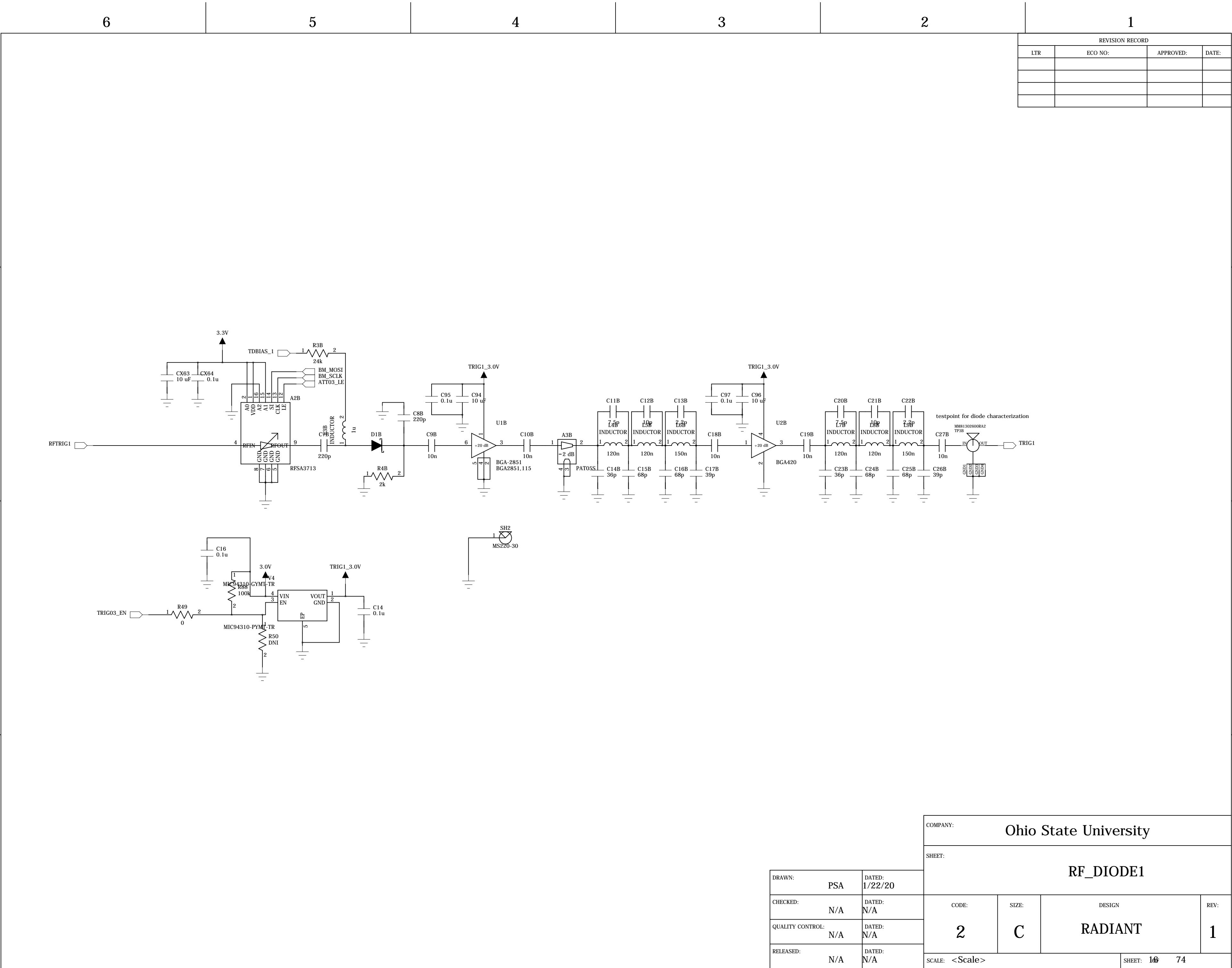
split to left/right sides

COMPANY: Ohio State University			
SHEET: SIGNAL_GENERATOR			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 13 74

DRAWN: PSA	DATED: 1/22/20
CHECKED: N/A	DATED: N/A
QUALITY CONTROL: N/A	DATED: N/A
RELEASED: N/A	DATED: N/A







REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

COMPANY: Ohio State University			
SHEET: RF_DIODE1			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 16 74

DRAWN: PSA	DATED: 1/22/20
CHECKED: N/A	DATED: N/A
QUALITY CONTROL: N/A	DATED: N/A
RELEASED: N/A	DATED: N/A



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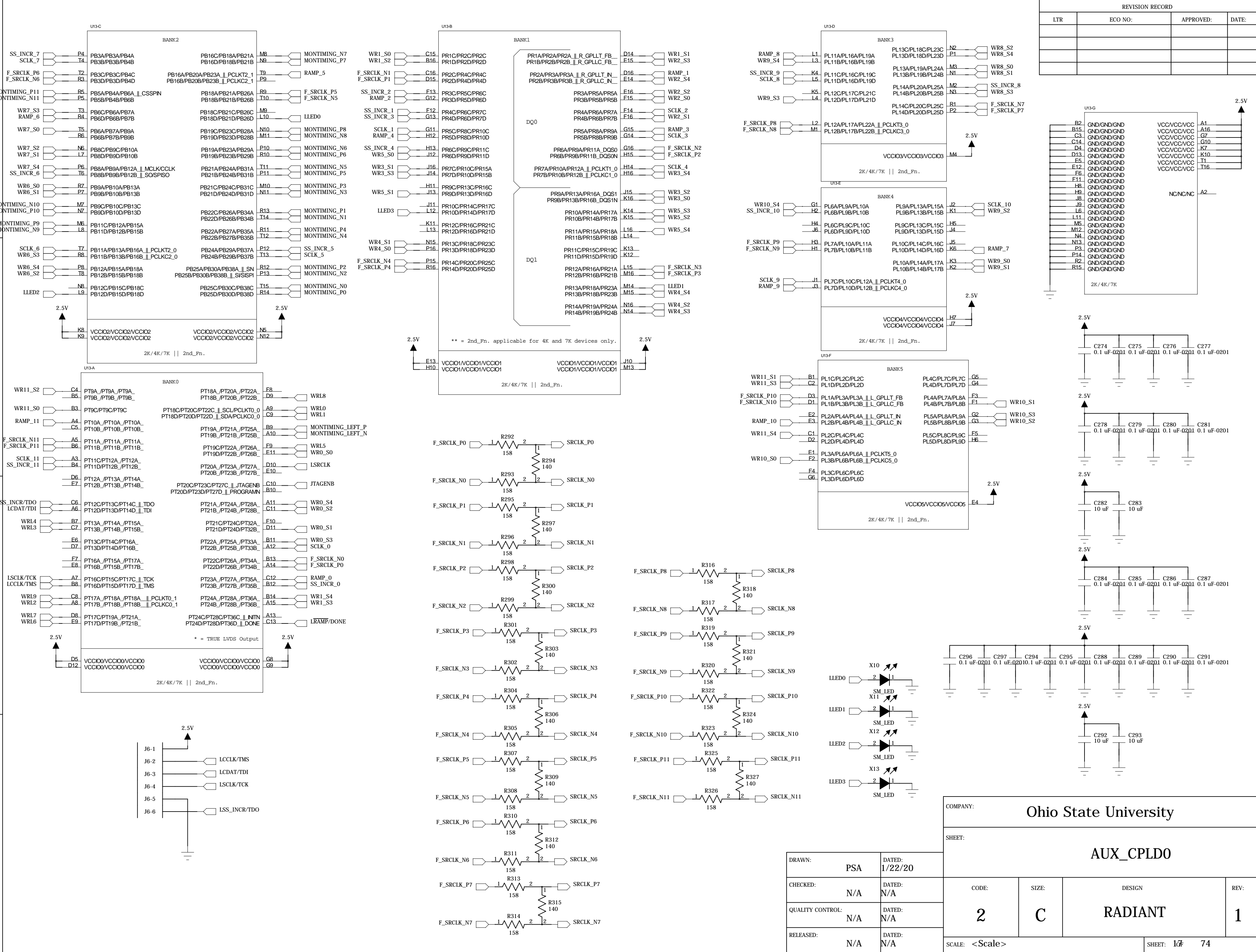
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: Ohio State University			
SHEET: AUX_CPLD0			
DRAWN: PSA	DATED: 1/22/20	CODE: 2	SIZE: C
CHECKED: N/A	DATED: N/A	DESIGN: RADIANT	REV: 1
QUALITY CONTROL: N/A	DATED: N/A	SCALE: <Scale>	SHEET: 17 74
RELEASED: N/A	DATED: N/A		



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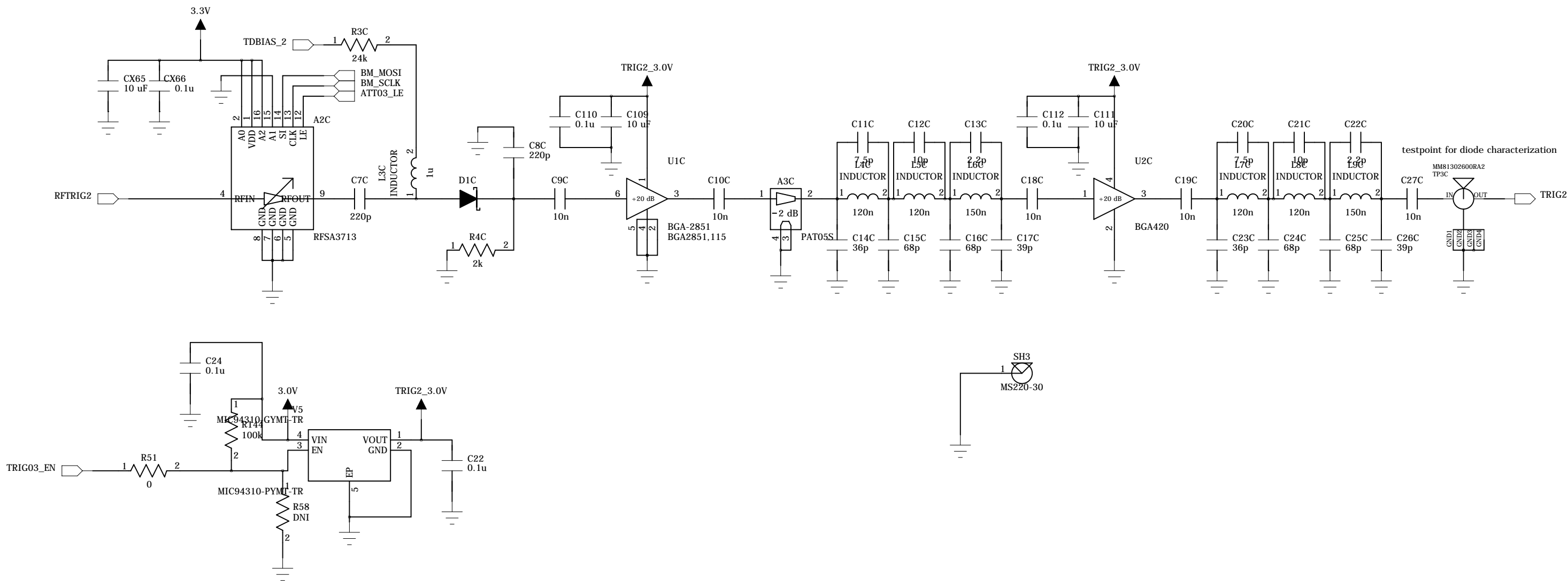
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY: Ohio State University			
SHEET: RF_DIODE2			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 19 74

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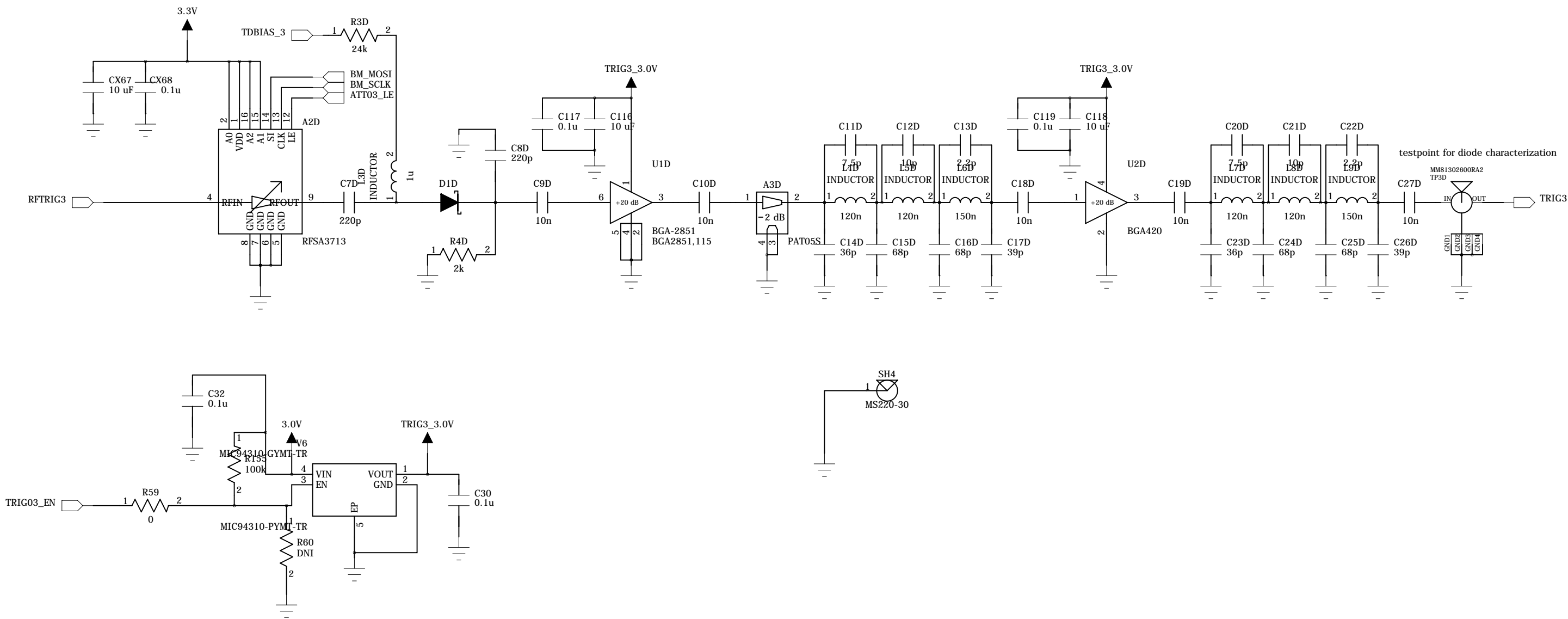
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY:

Ohio State University

SHEET:

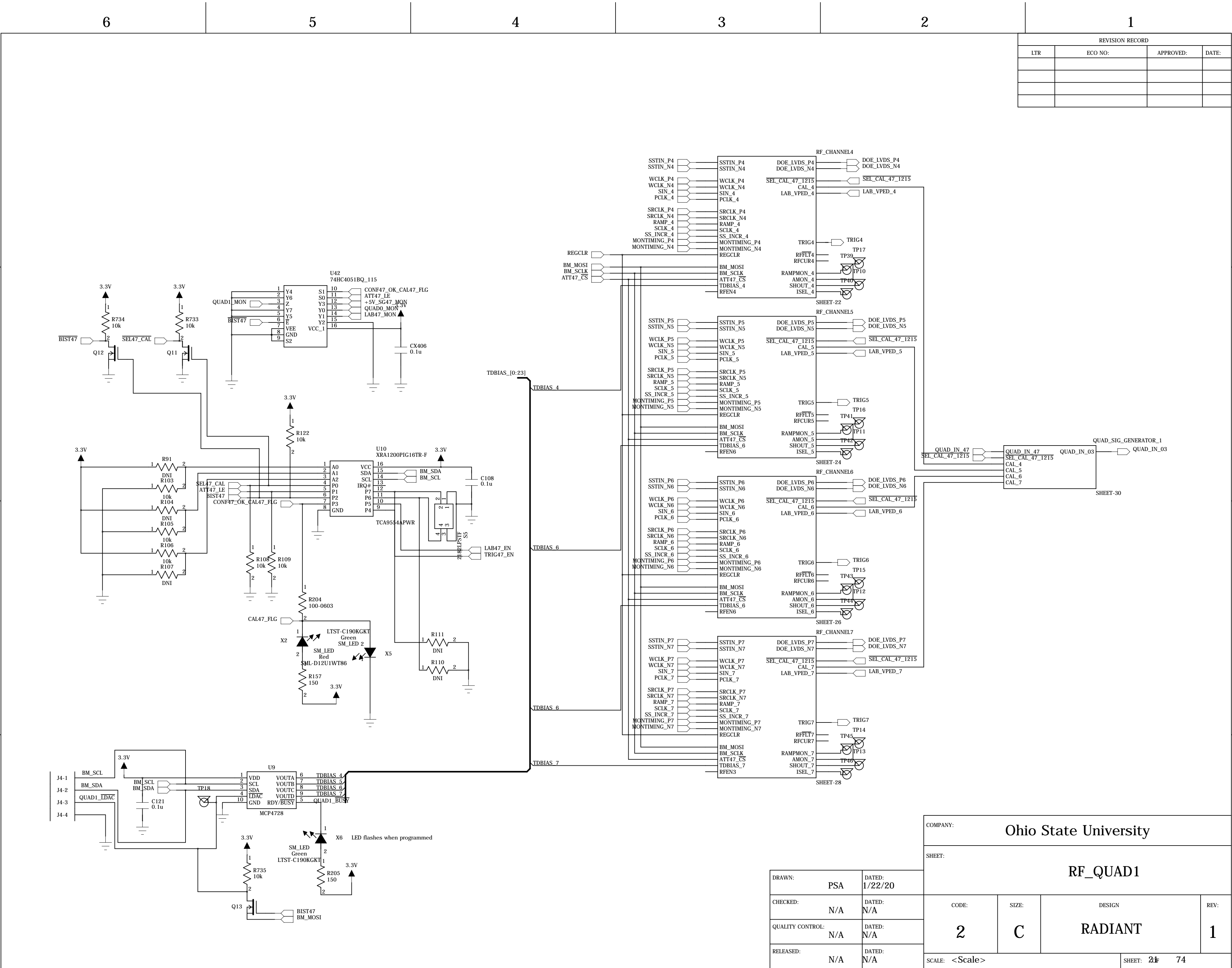
RF\_DIODE3

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

CODE:	SIZE:	DESIGN	REV:
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SCALE: <Scale>

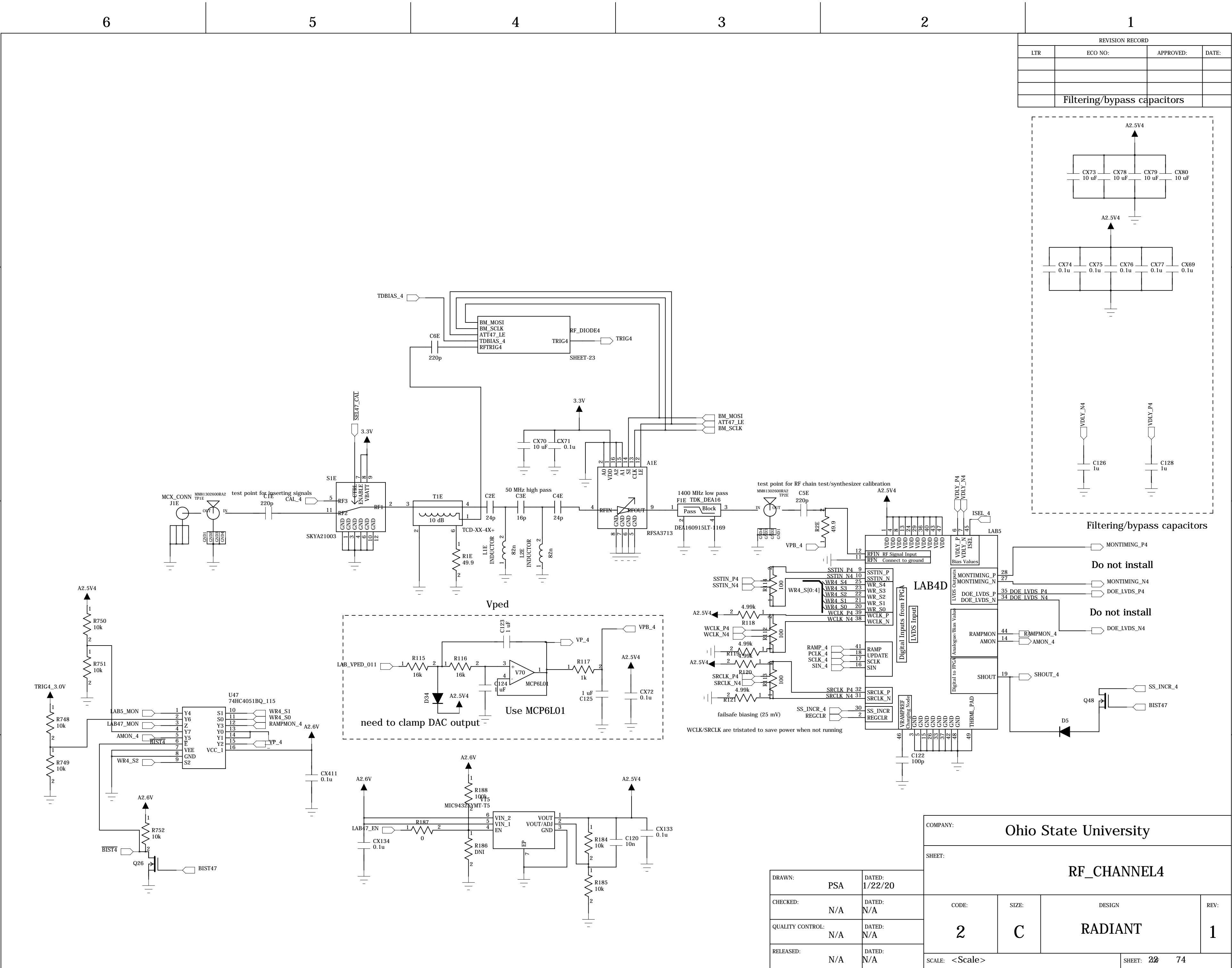
SHEET: 20 74



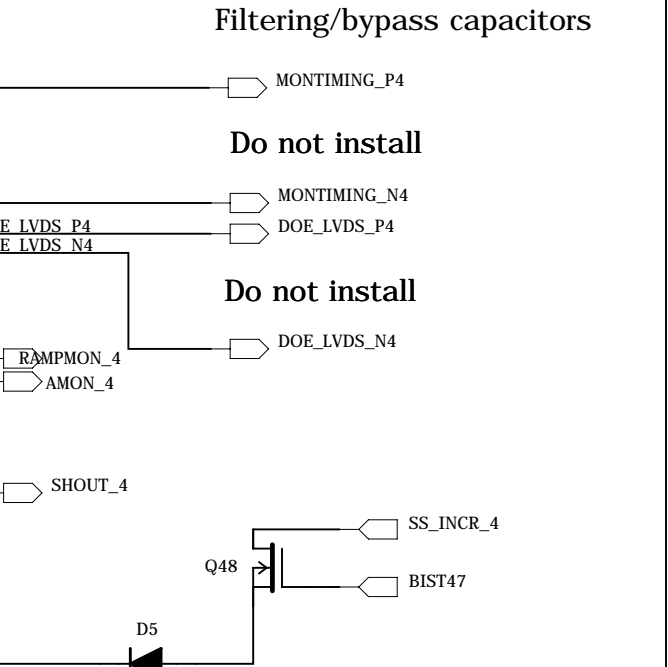
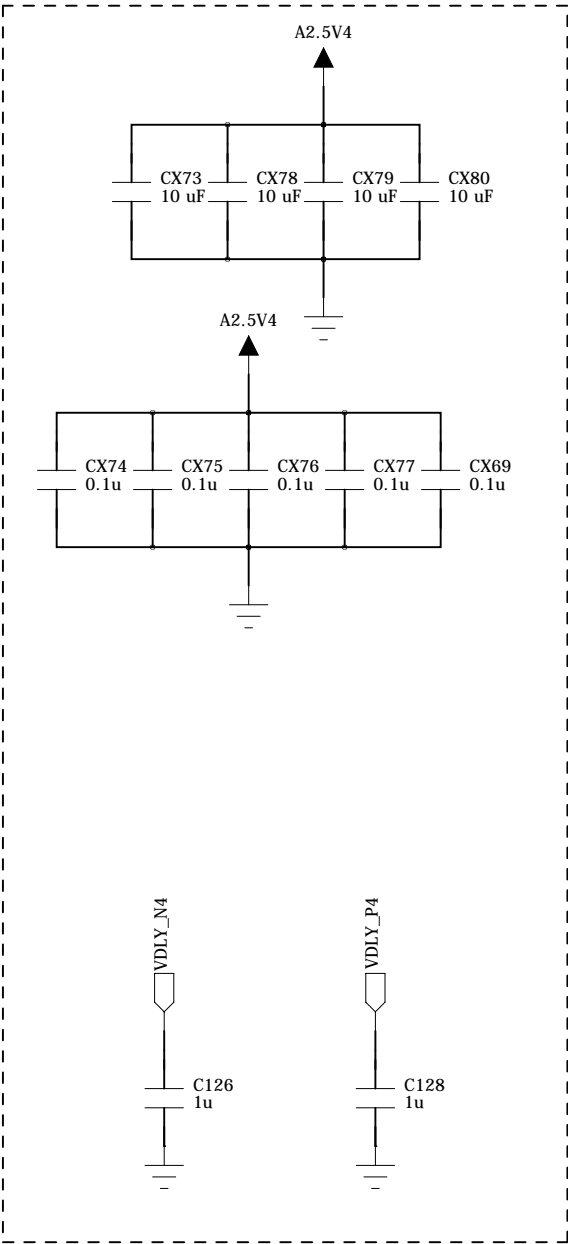
REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

COMPANY: Ohio State University			
SHEET: RF_QUAD1			
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 21 74

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A



REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



COMPANY: Ohio State University			
SHEET: RF_CHANNEL4			
DRAWN: PSA	DATED: 1/22/20	CODE: 2	SIZE: C
CHECKED: N/A	DATED: N/A	DESIGN: RADIANT	REV: 1
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RELEASED: N/A	DATED: N/A	SHEET: 22 74	

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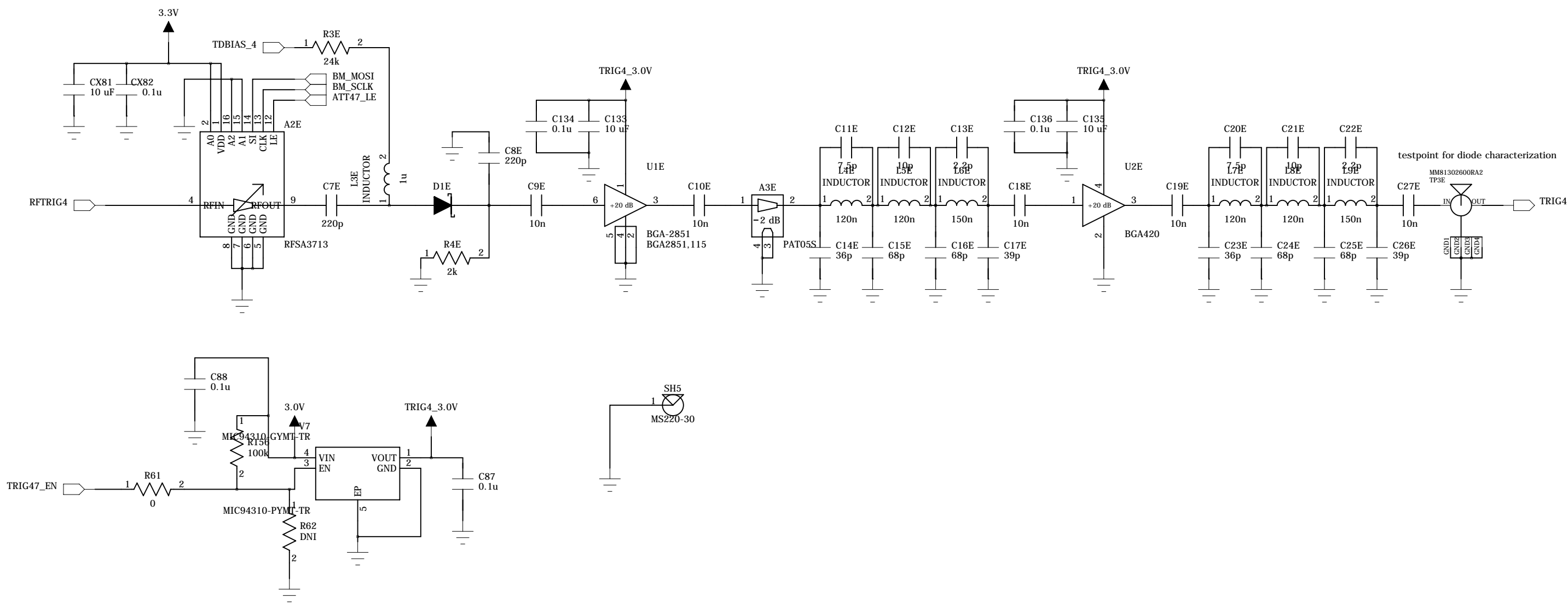
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY:

Ohio State University

SHEET:

RF\_DIODE4

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 23 74

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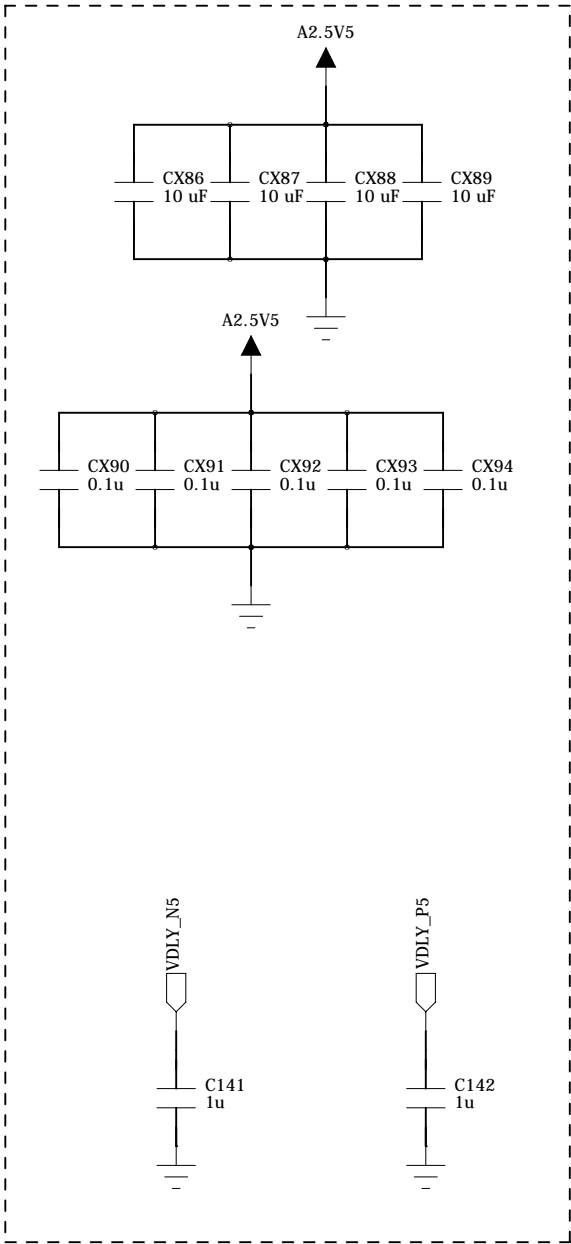
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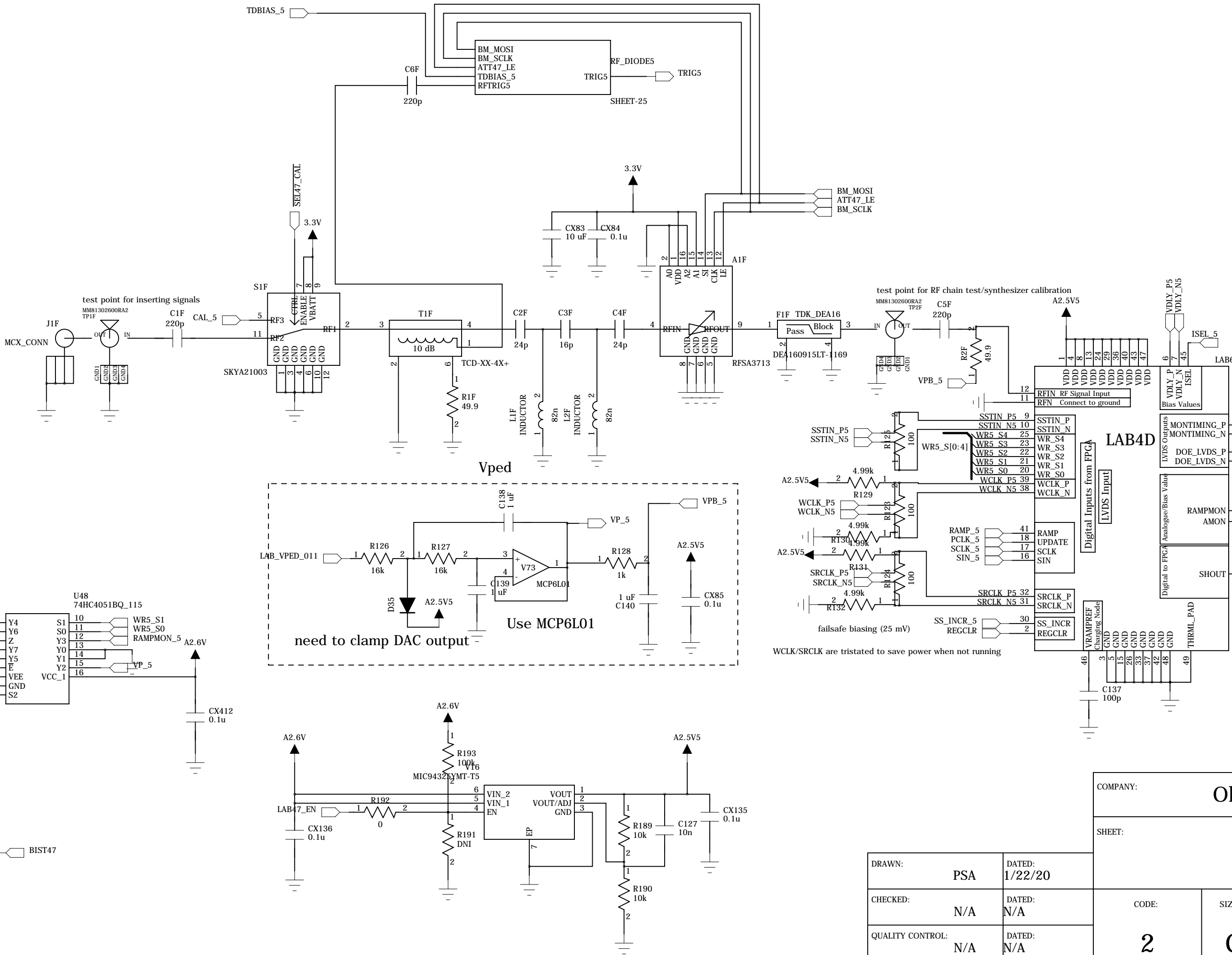
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



Filtering/bypass capacitors



COMPANY: Ohio State University			
SHEET: RF_CHANNEL5			
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 24 74

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
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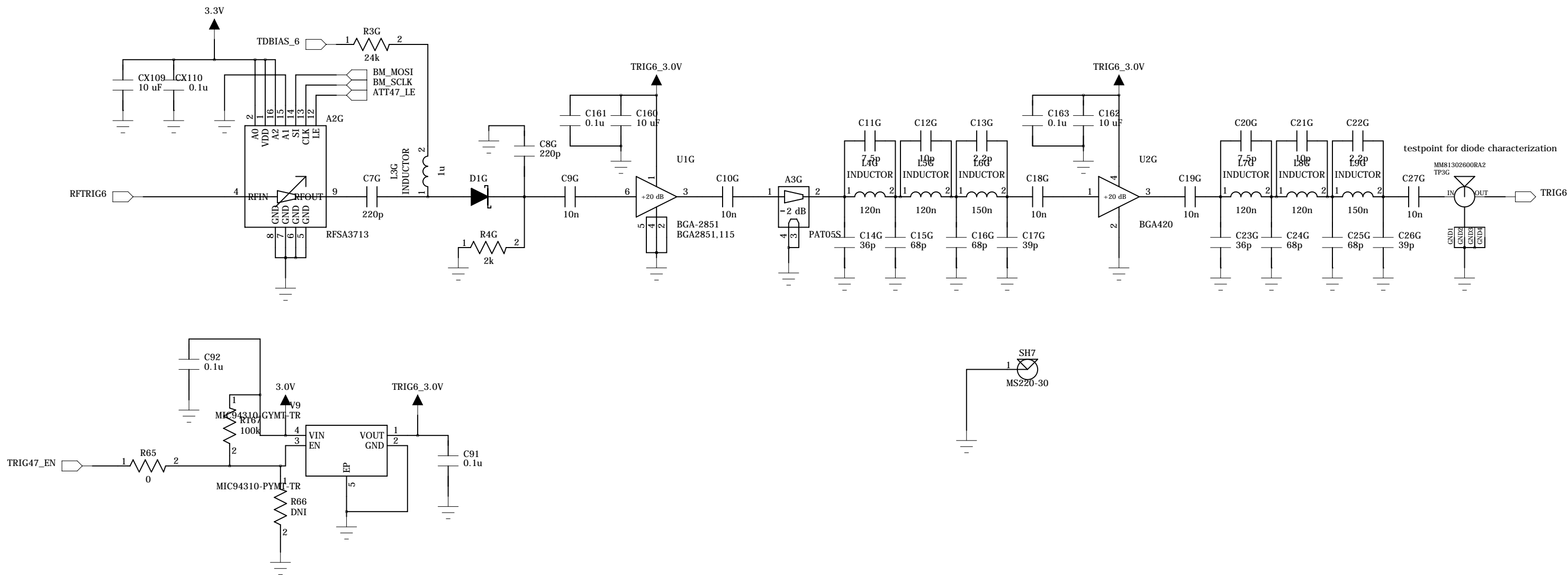
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY: Ohio State University			
SHEET: RF_DIODE6			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 27 74

DRAWN: PSA	DATED: 1/22/20
CHECKED: N/A	DATED: N/A
QUALITY CONTROL: N/A	DATED: N/A
RELEASED: N/A	DATED: N/A

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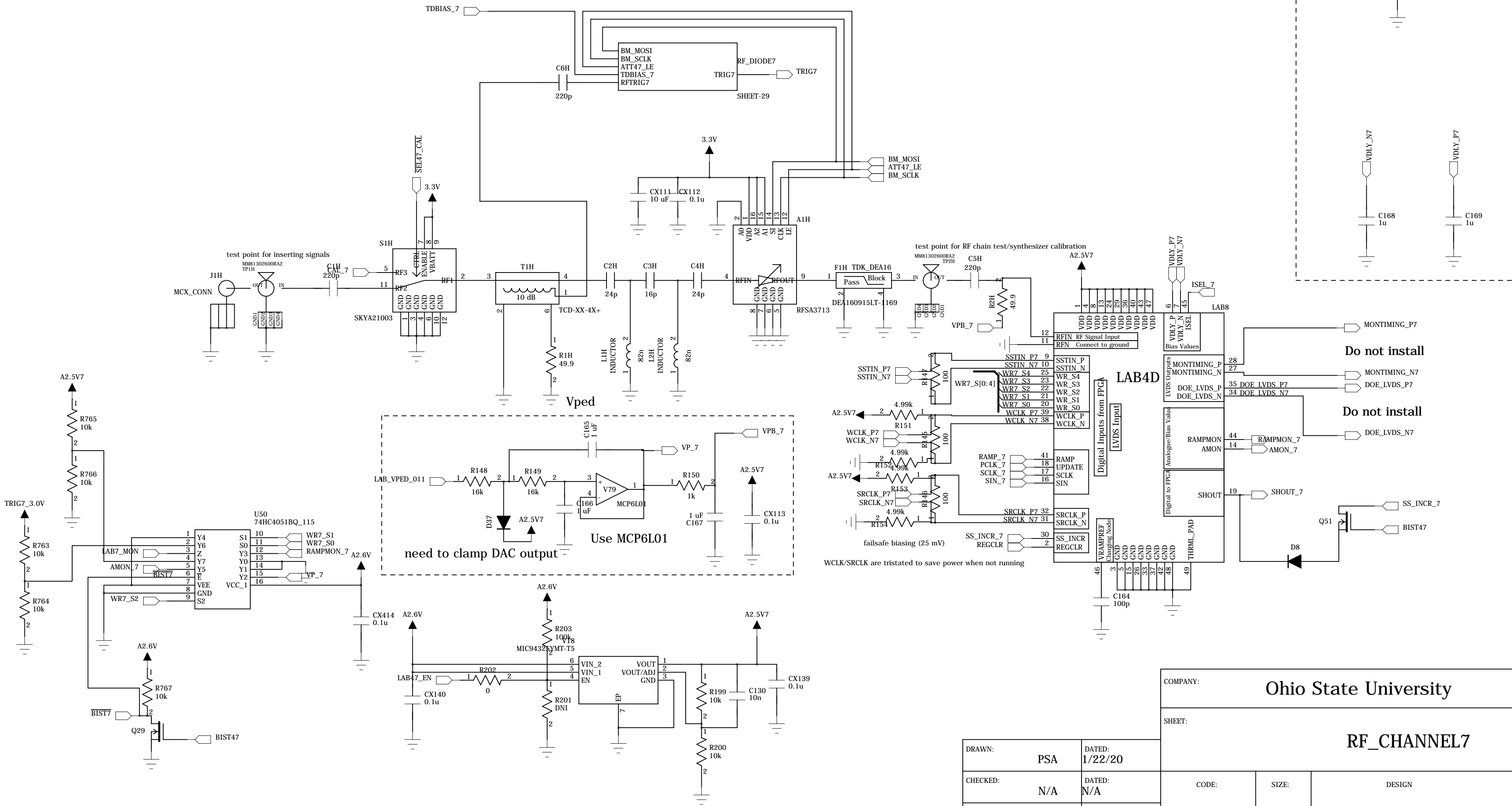
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



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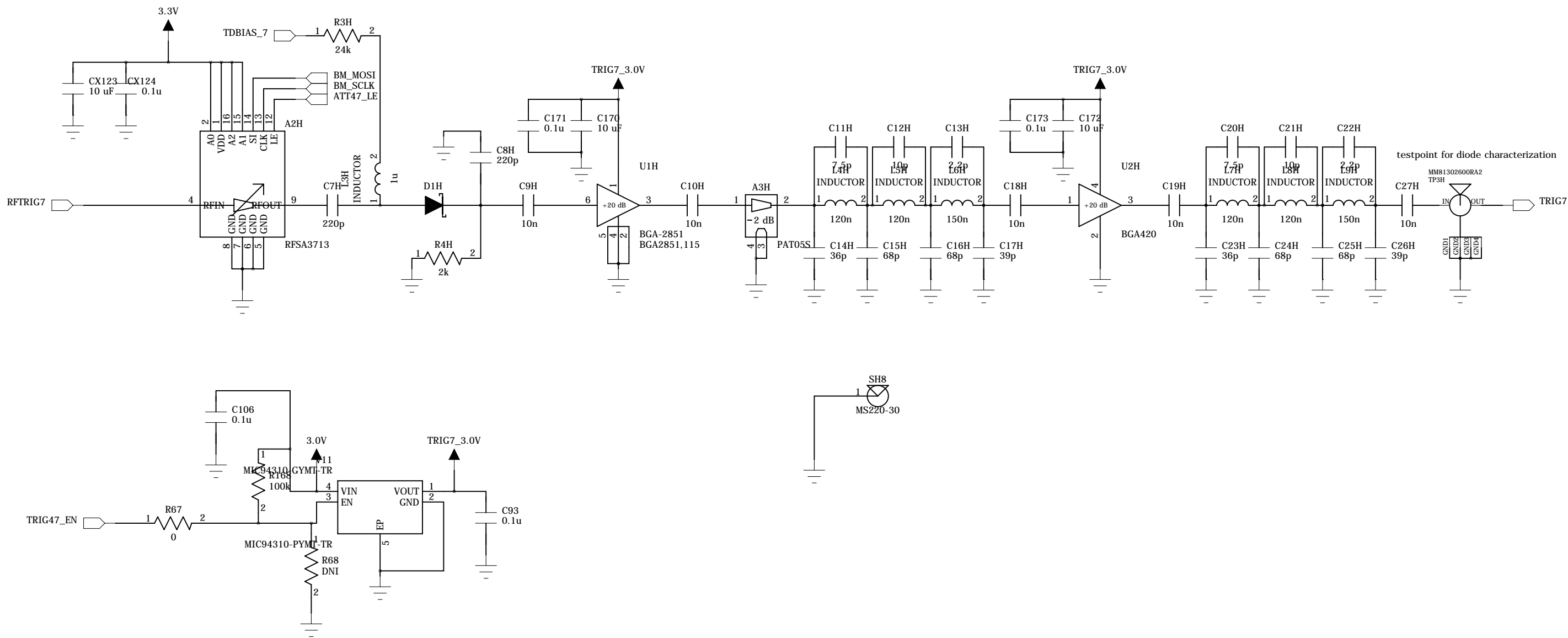
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY:

Ohio State University

SHEET:

RF\_DIODE7

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1

SCALE: <Scale>

SHEET: 29 74

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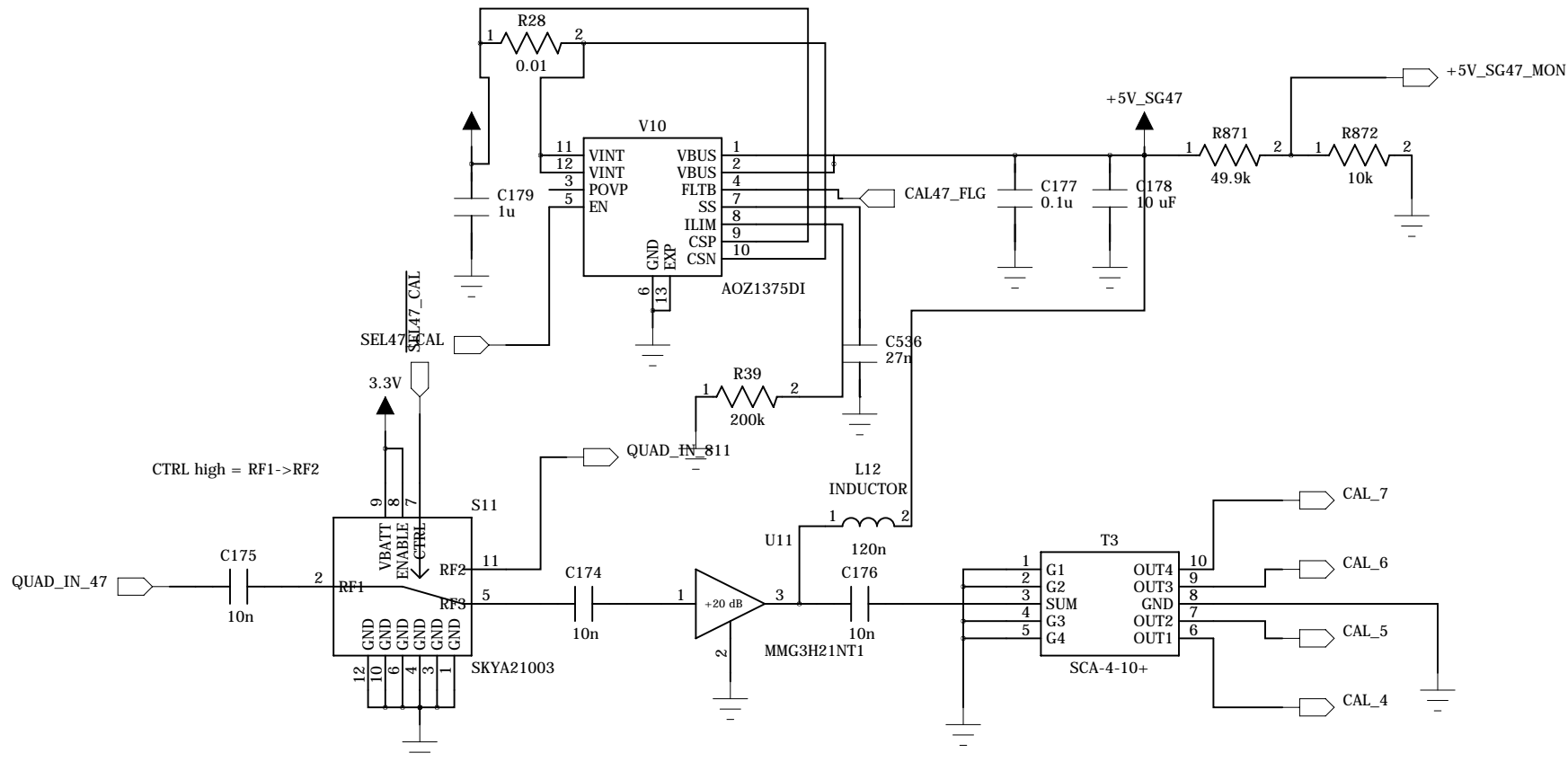
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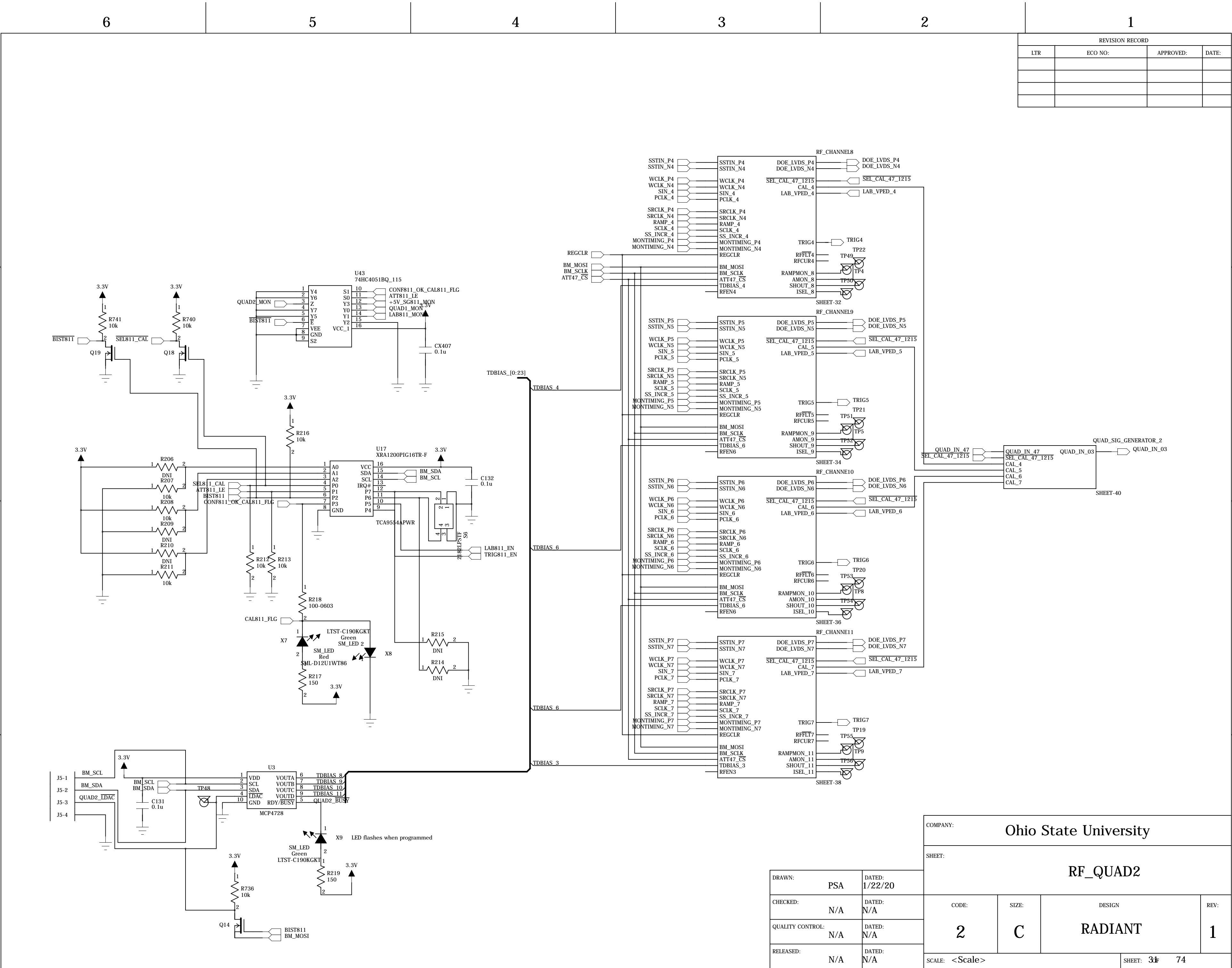
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

COMPANY: Ohio State University			
SHEET: QUAD_SIG_GENERATOR_1			
CODE:	SIZE:	DESIGN:	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 30 74



REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

COMPANY: Ohio State University			
SHEET: RF_QUAD2			
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 31 74

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

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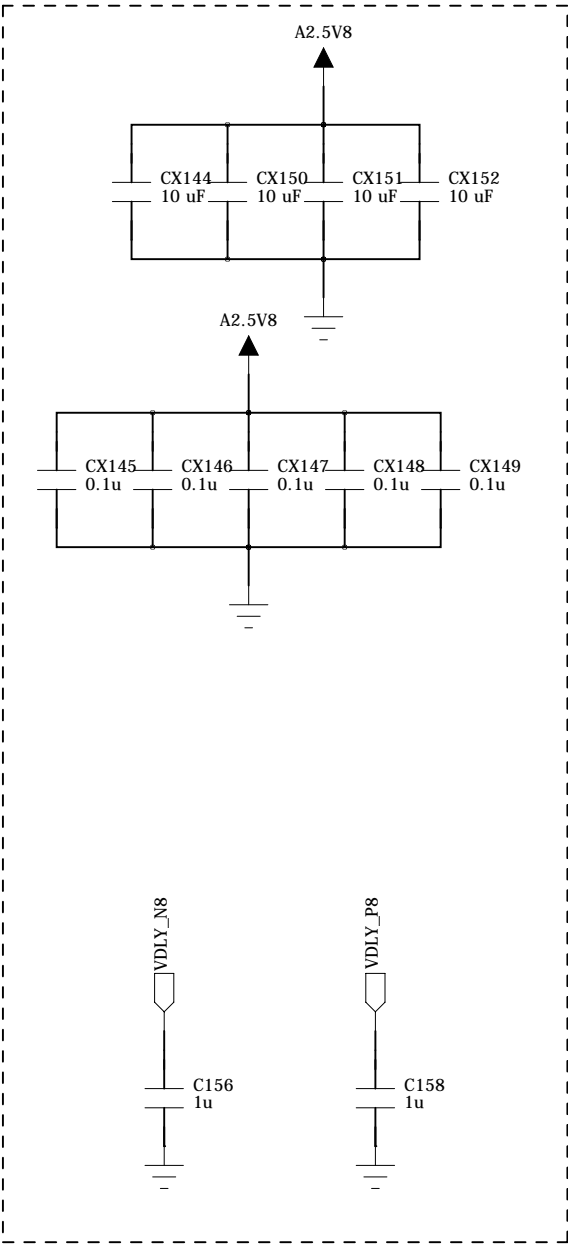
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



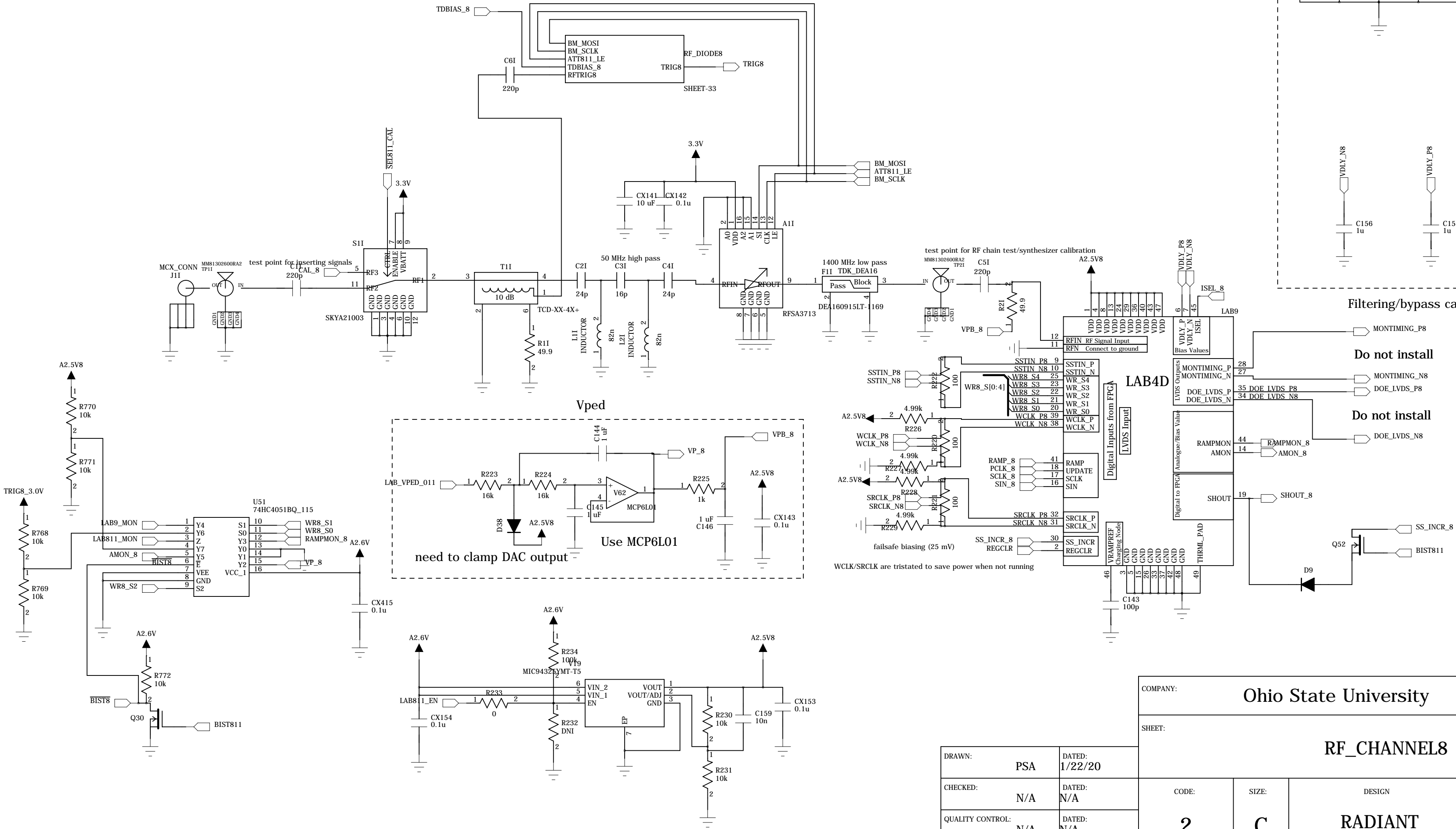
Filtering/bypass capacitors

Do not install

Do not install

COMPANY: Ohio State University			
SHEET: RF_CHANNEL8			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 32 74

DRAWN: PSA	DATED: 1/22/20
CHECKED: N/A	DATED: N/A
QUALITY CONTROL: N/A	DATED: N/A
RELEASED: N/A	DATED: N/A



Vped

Use MCP6L01

need to clamp DAC output

LAB4D

WCLK/SRCLK are tristated to save power when not running



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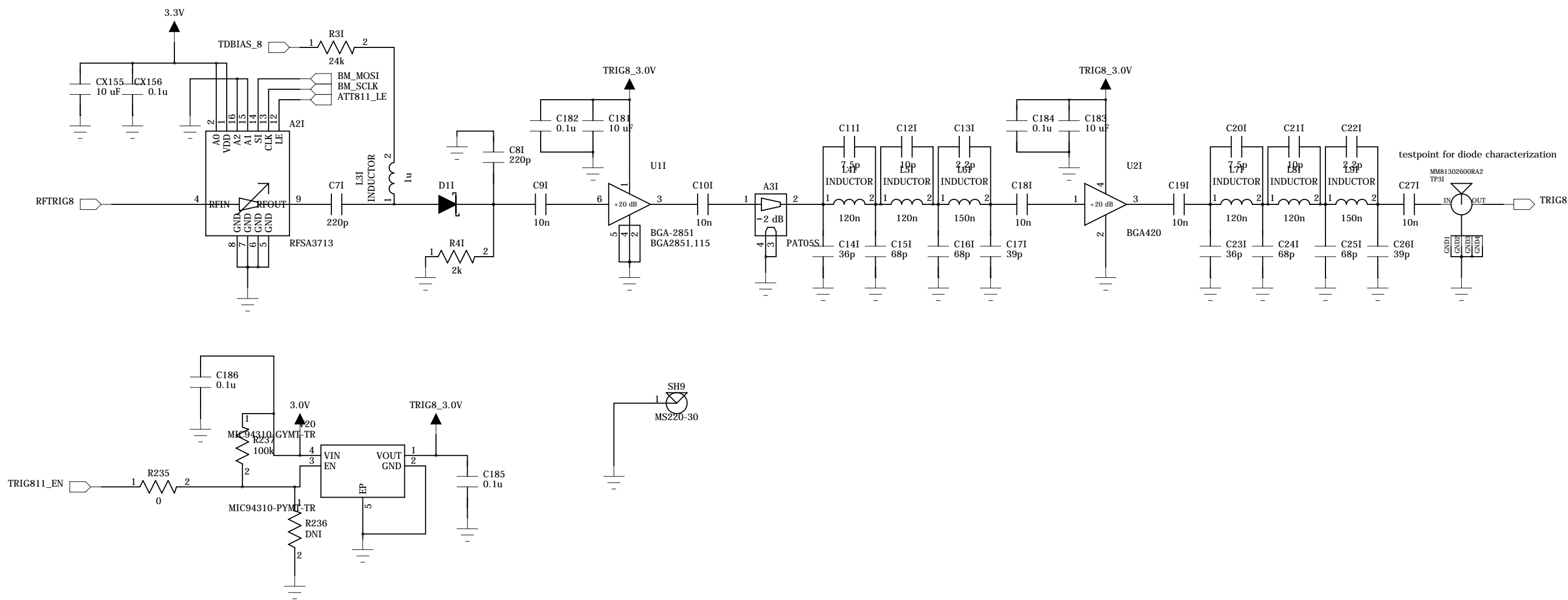
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY:

Ohio State University

SHEET:

RF\_DIODE8

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 38 74

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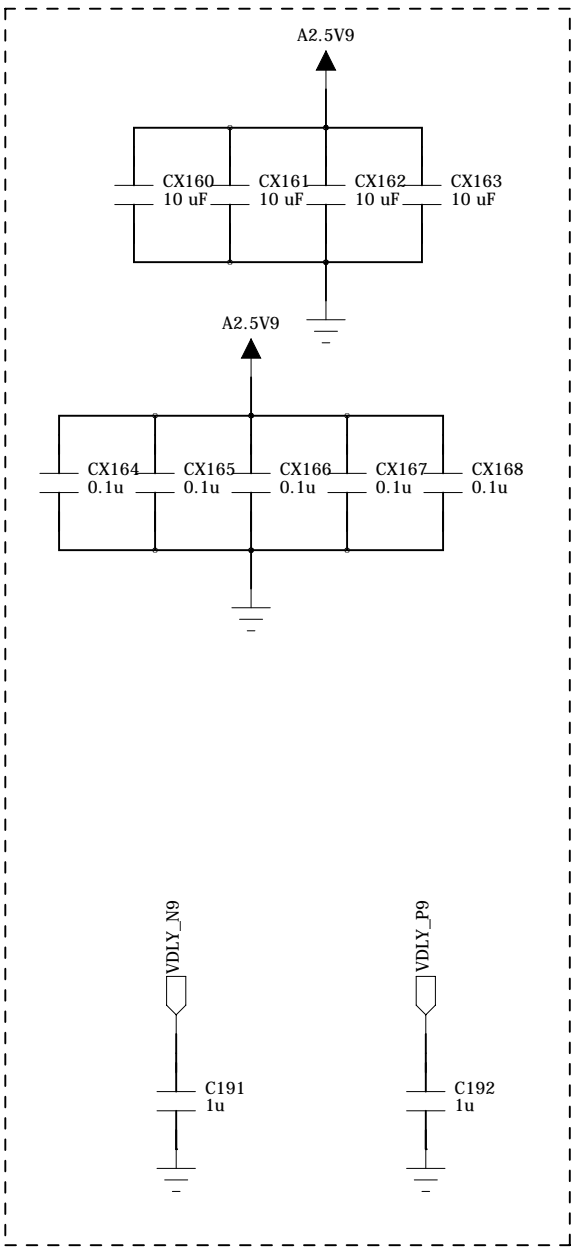
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



Filtering/bypass capacitors

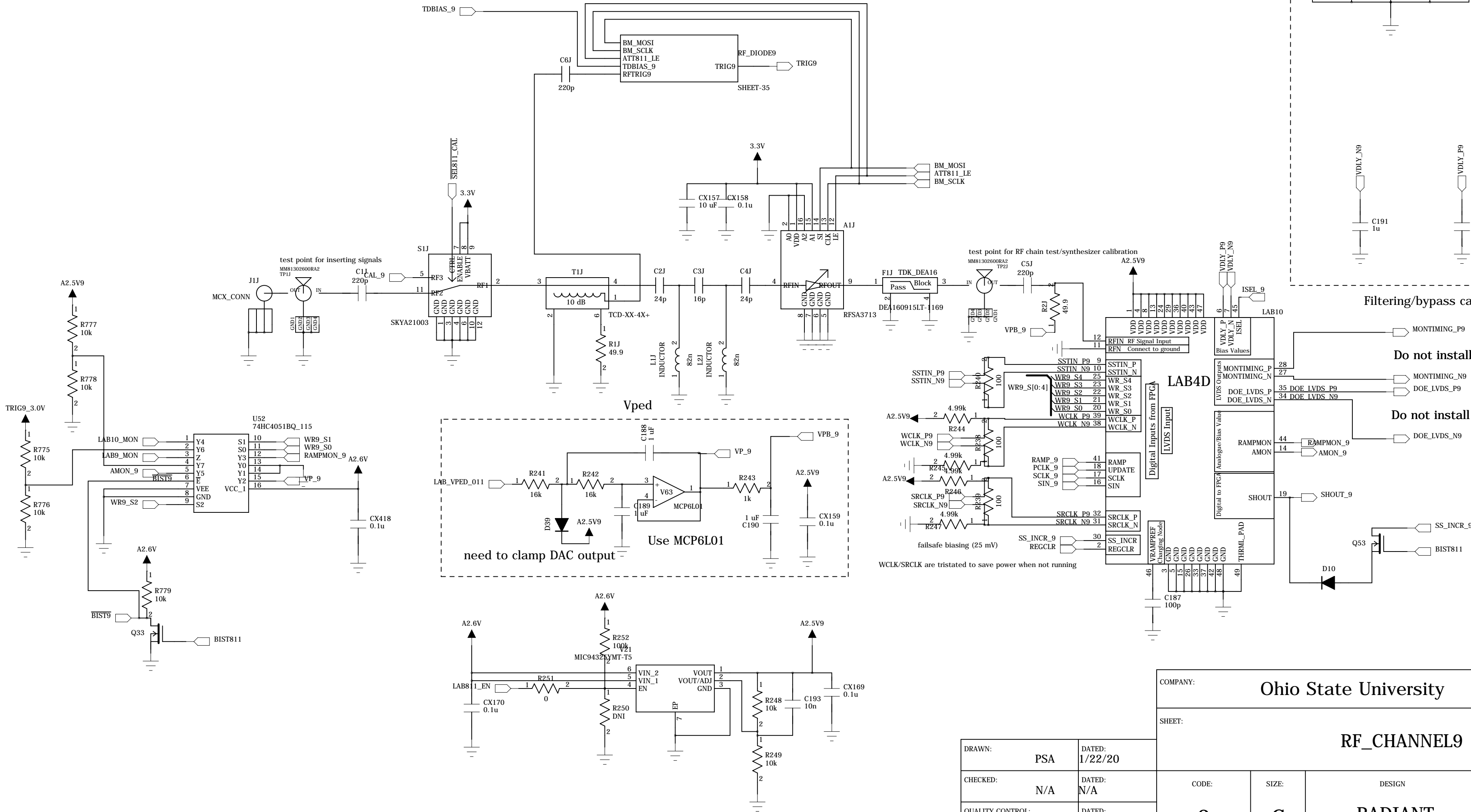
Do not install

Do not install

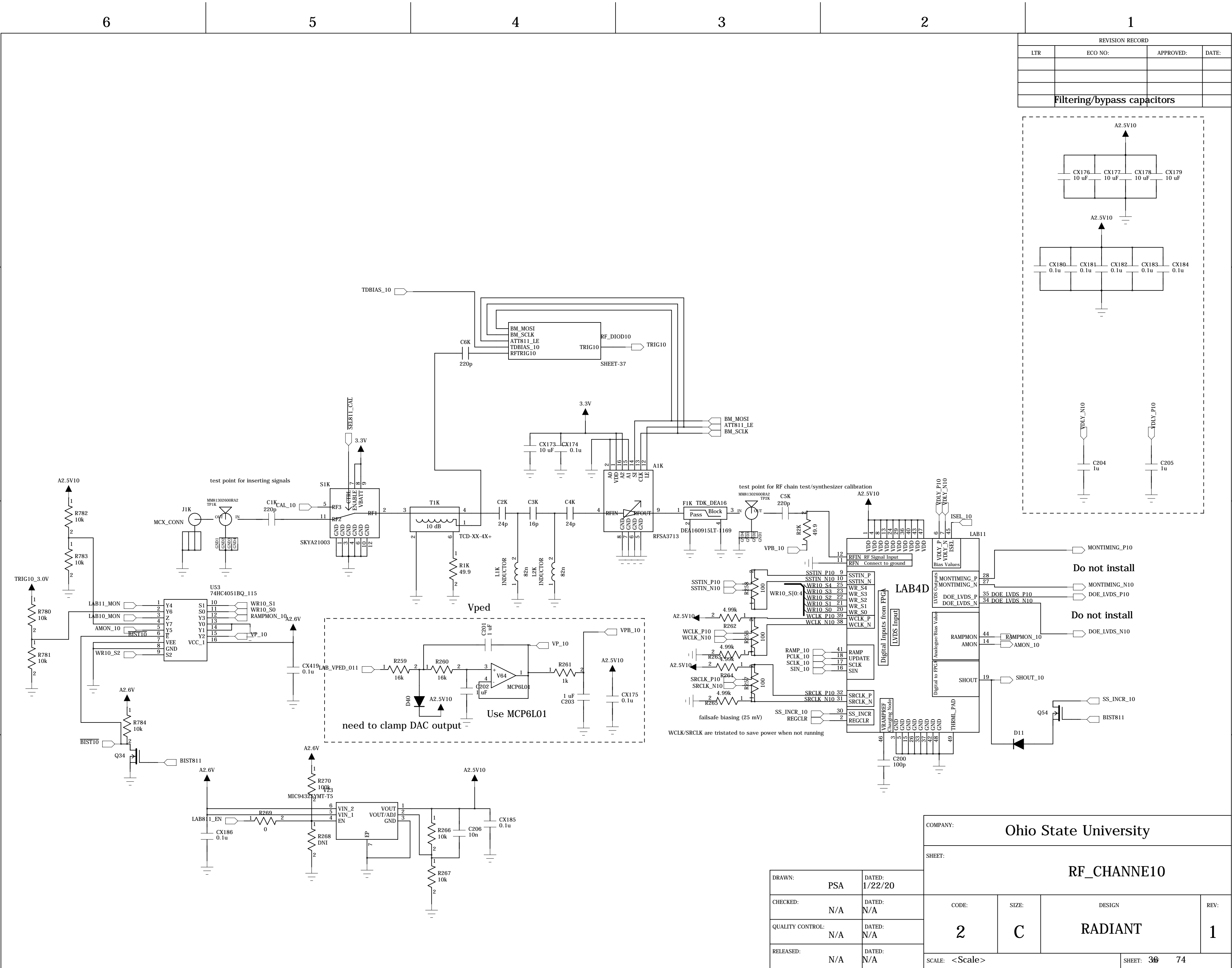
DOE\_LVDS\_P9

DOE\_LVDS\_N9

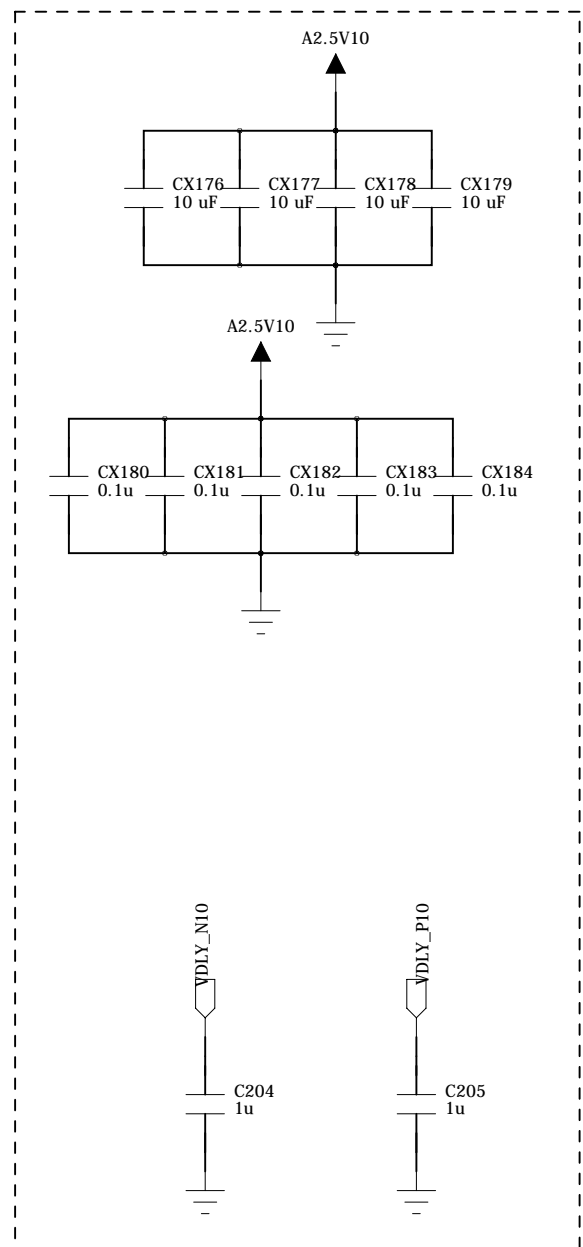
COMPANY: Ohio State University			
SHEET: RF_CHANNEL9			
DRAWN: PSA	DATED: 1/22/20	CODE: 2	SIZE: C
CHECKED: N/A	DATED: N/A	DESIGN: RADIANT	REV: 1
QUALITY CONTROL: N/A	DATED: N/A	SCALE: <Scale>	
RELEASED: N/A	DATED: N/A	SHEET: 34 74	







REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



COMPANY: Ohio State University			
SHEET: RF_CHANNE10			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 36 74

DRAWN: PSA	DATED: 1/22/20
CHECKED: N/A	DATED: N/A
QUALITY CONTROL: N/A	DATED: N/A
RELEASED: N/A	DATED: N/A



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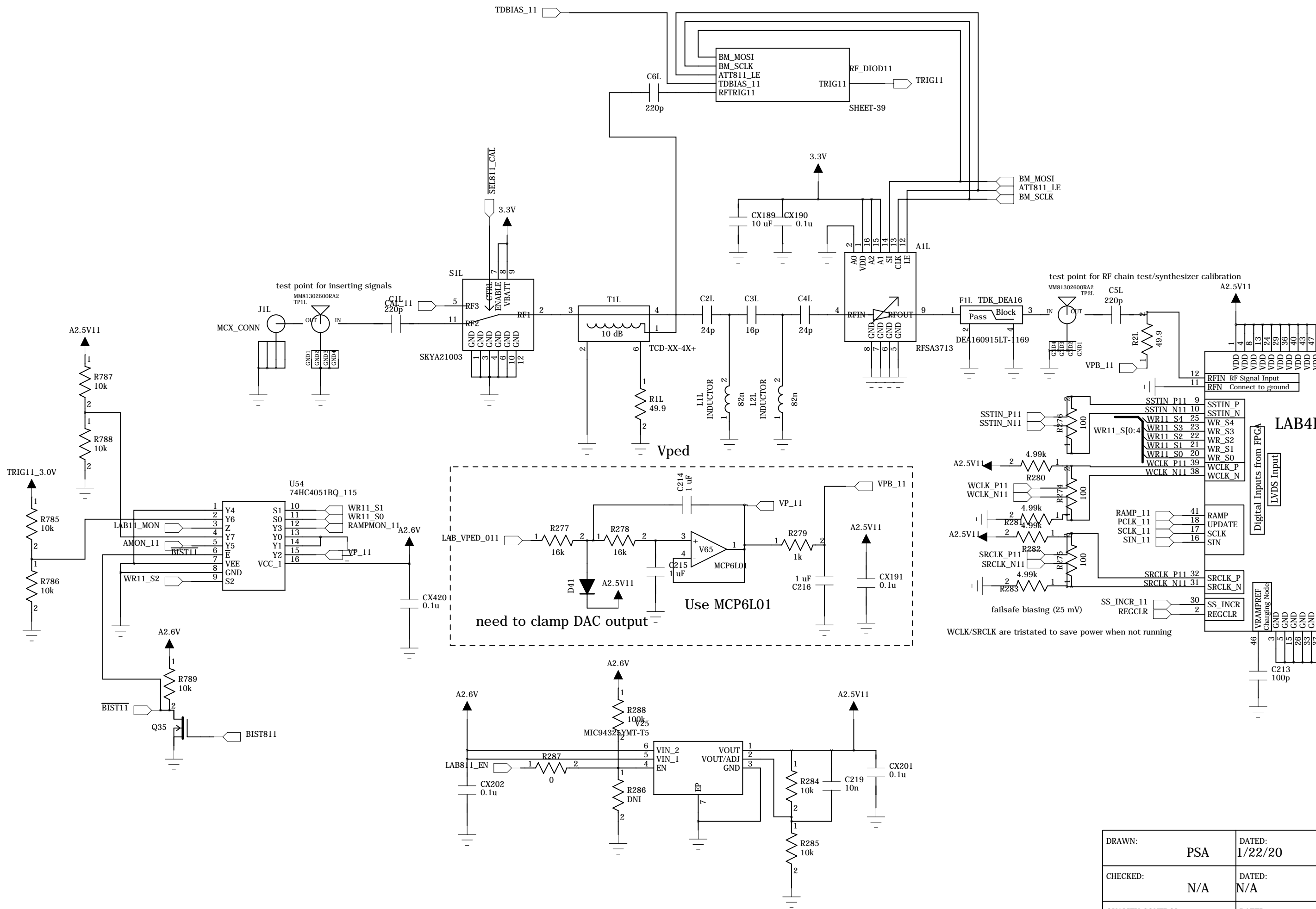
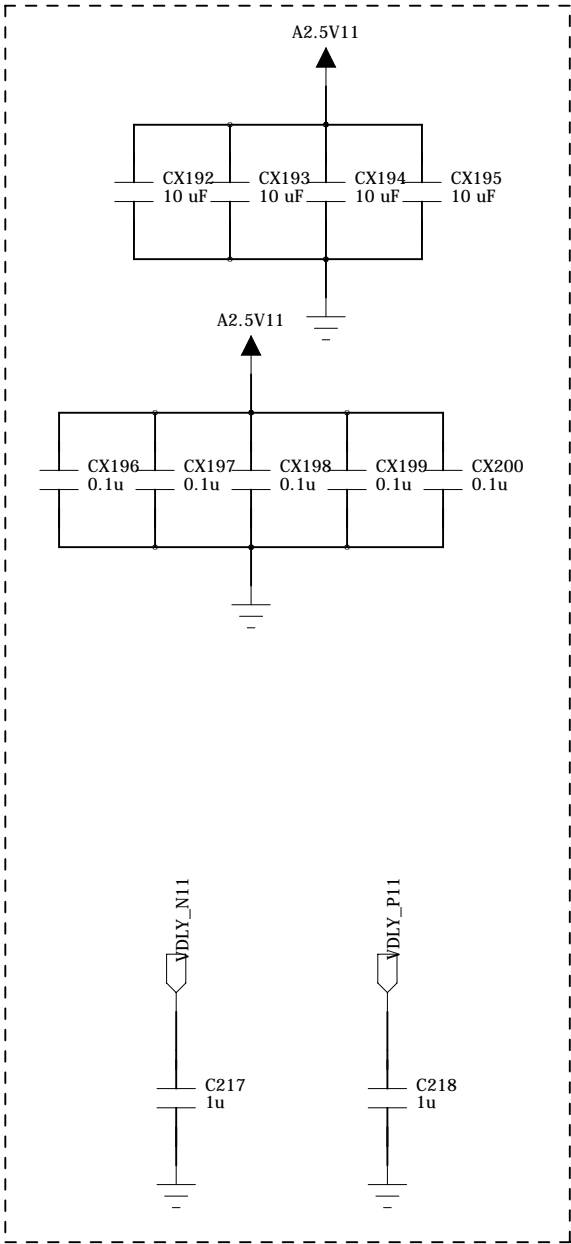
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



COMPANY: Ohio State University			
SHEET: RF_CHANNE11			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 38 74

DRAWN: PSA	DATED: 1/22/20
CHECKED: N/A	DATED: N/A
QUALITY CONTROL: N/A	DATED: N/A
RELEASED: N/A	DATED: N/A

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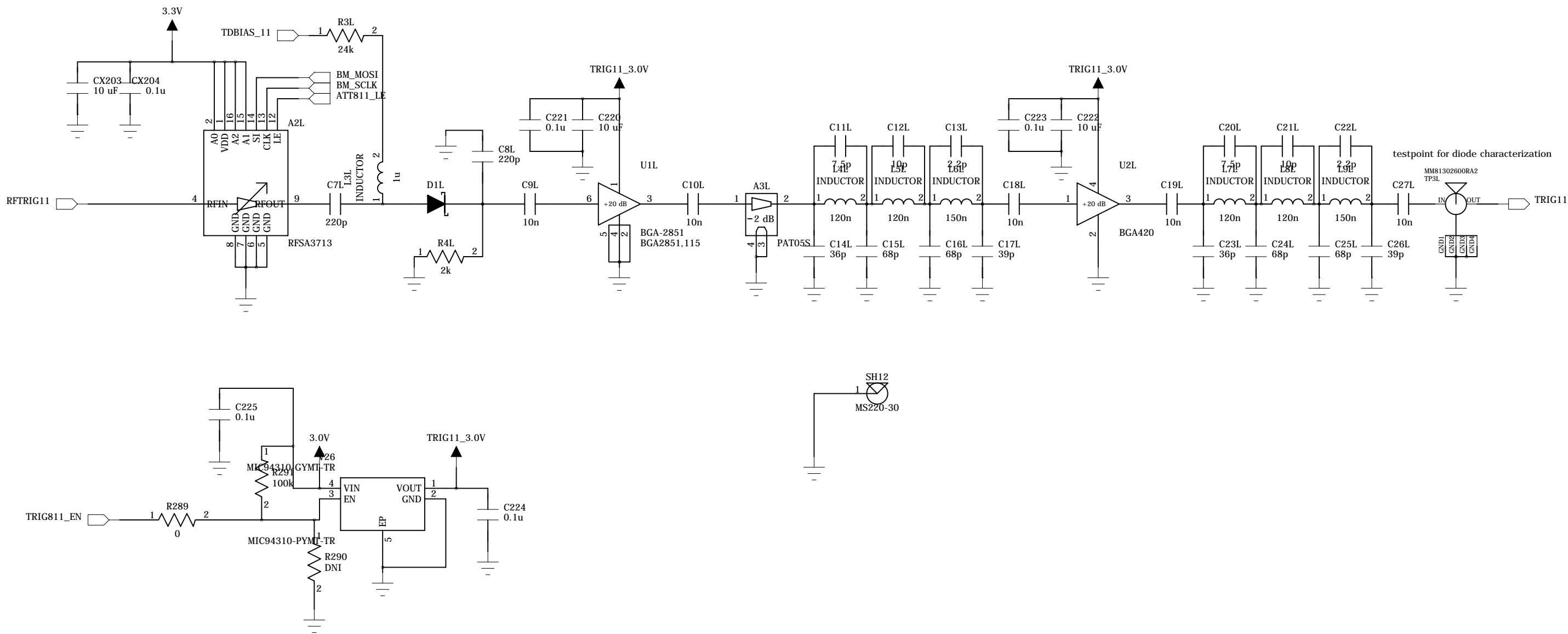
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY:

Ohio State University

SHEET:

RF\_DIOD11

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 39 74

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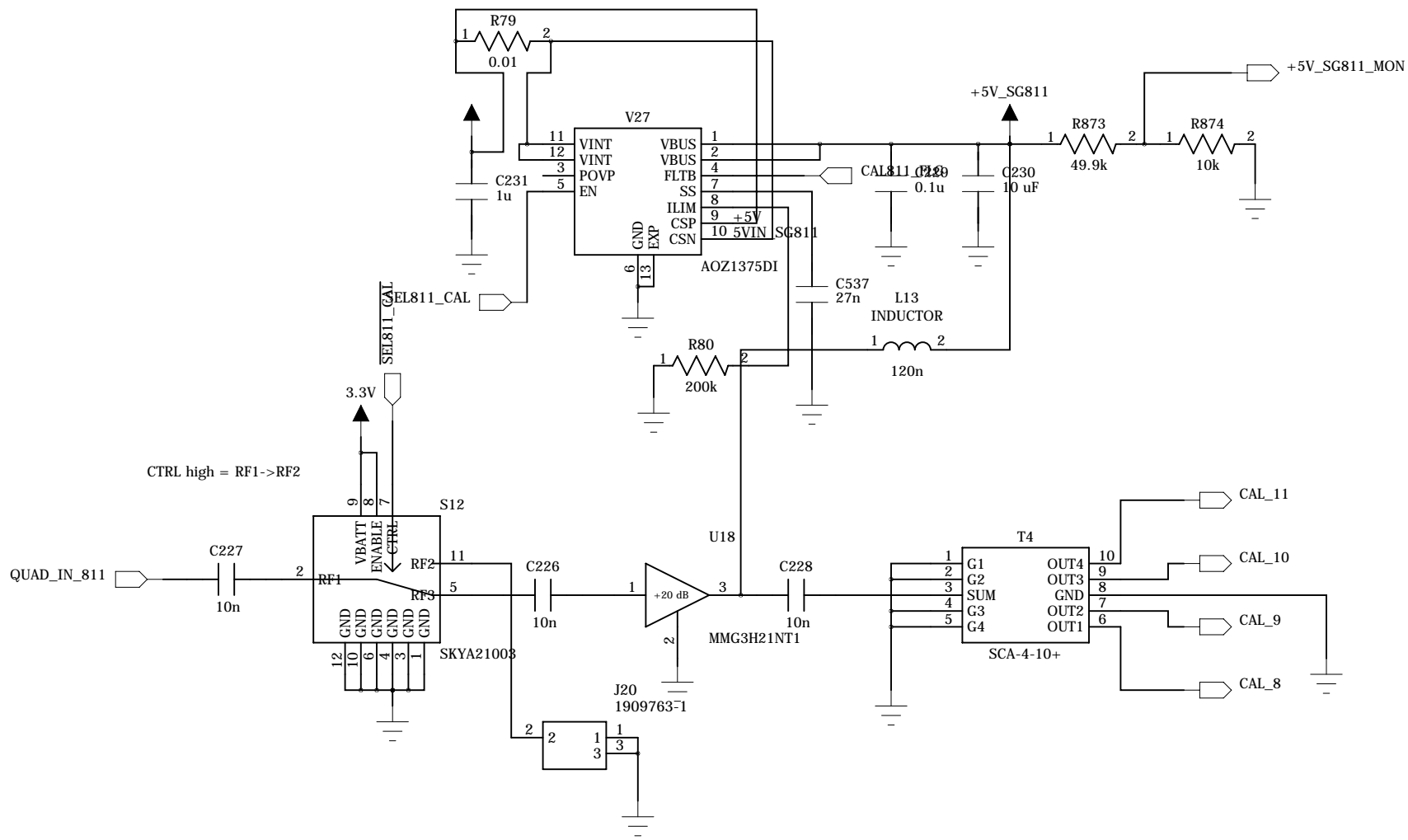
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: Ohio State University			
SHEET: QUAD_SIG_GENERATOR_2			
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 40 74

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A



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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

COMPANY:	Ohio State University		
SHEET:	AUXCPLDS		
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 4174

there's stuff here, it's just off-sheet cuz it's too big



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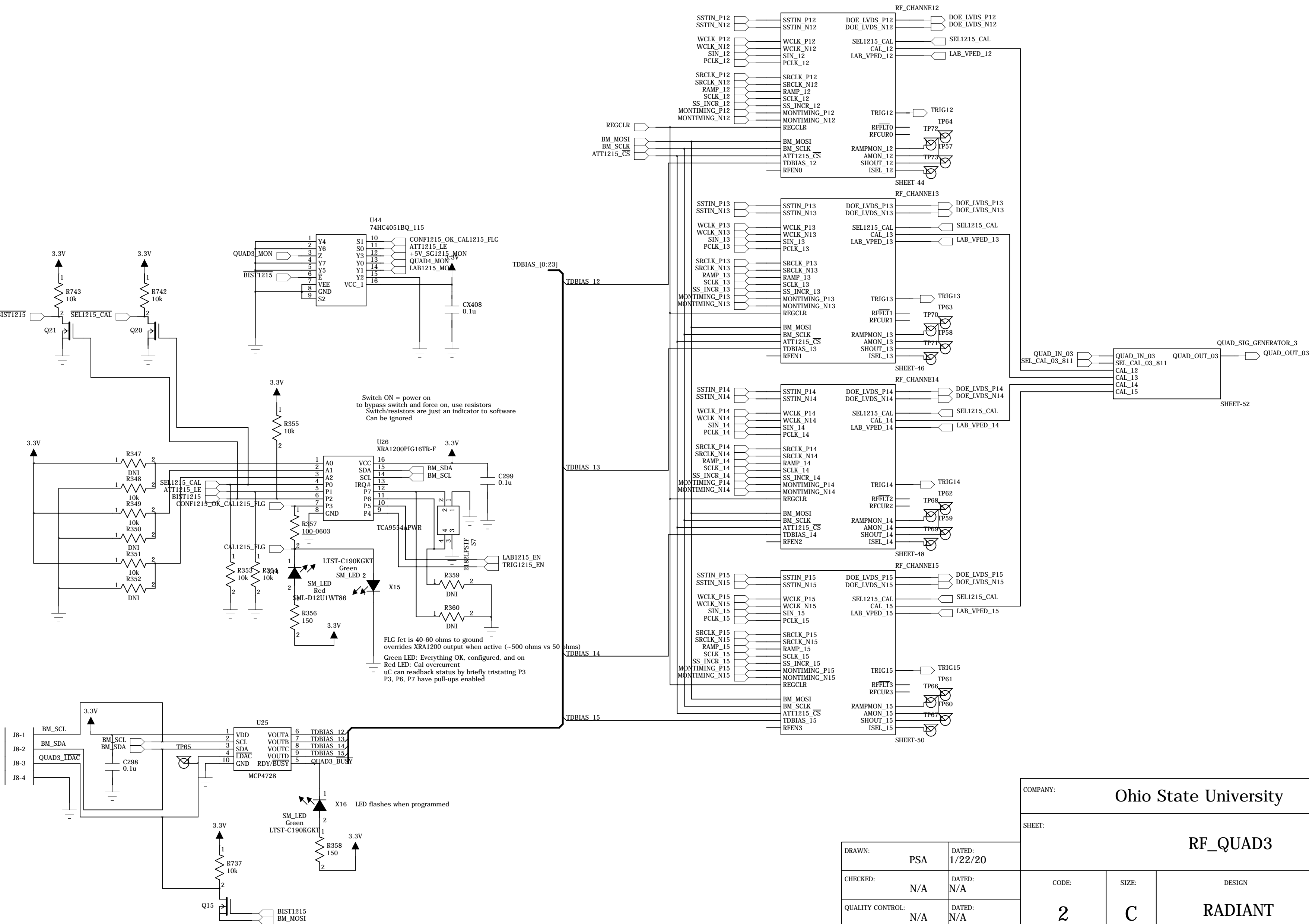
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: Ohio State University			
SHEET: RF_Quad3			
DRAWN: PSA	DATED: 1/22/20	CODE: 2	SIZE: C
CHECKED: N/A	DATED: N/A	DESIGN: RADIANT	REV: 1
QUALITY CONTROL: N/A	DATED: N/A	SCALE: <Scale>	
RELEASED: N/A	DATED: N/A	SHEET: 43 74	

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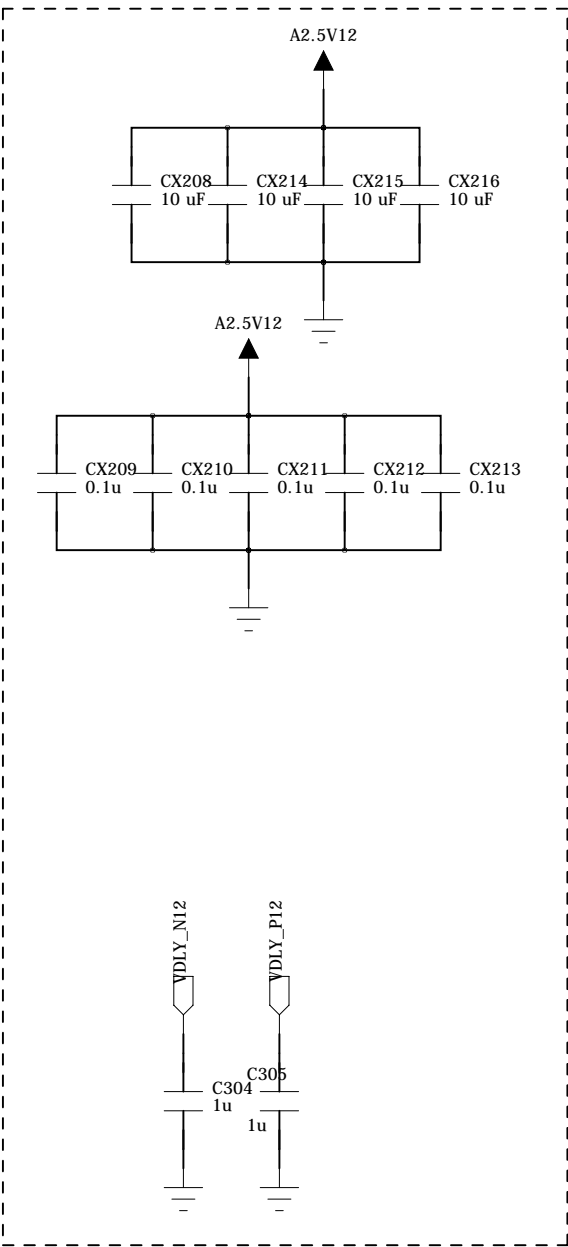
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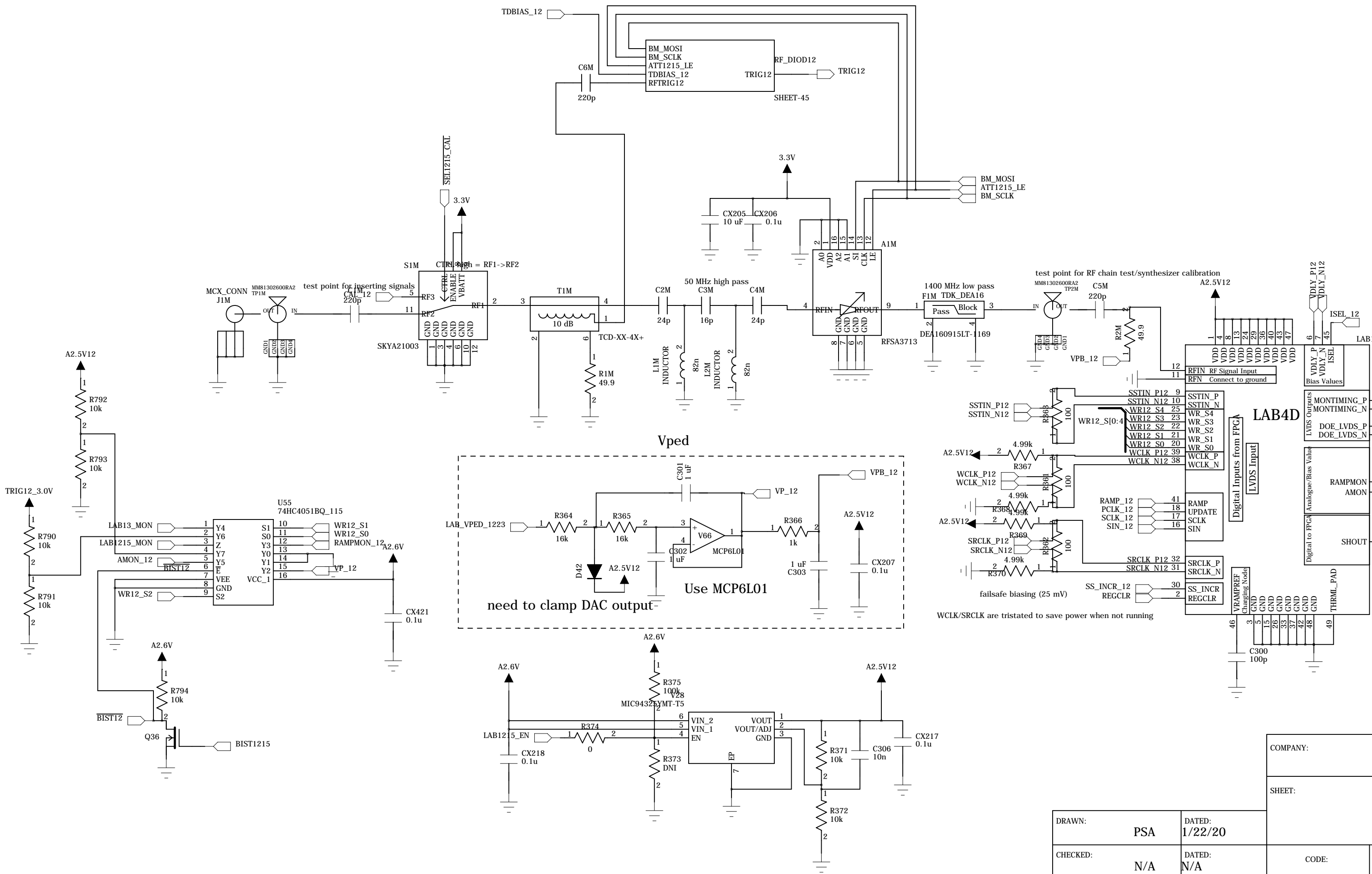
REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



Filtering/bypass capacitors

Do not install

Do not install



COMPANY: Ohio State University			
SHEET: RF_CHANNE12			
DRAWN: PSA	DATED: 1/22/20	CODE: 2	SIZE: C
CHECKED: N/A	DATED: N/A	DESIGN: RADIANT	REV: 1
QUALITY CONTROL: N/A	DATED: N/A	SCALE: <Scale>	
RELEASED: N/A	DATED: N/A	SHEET: 44 74	

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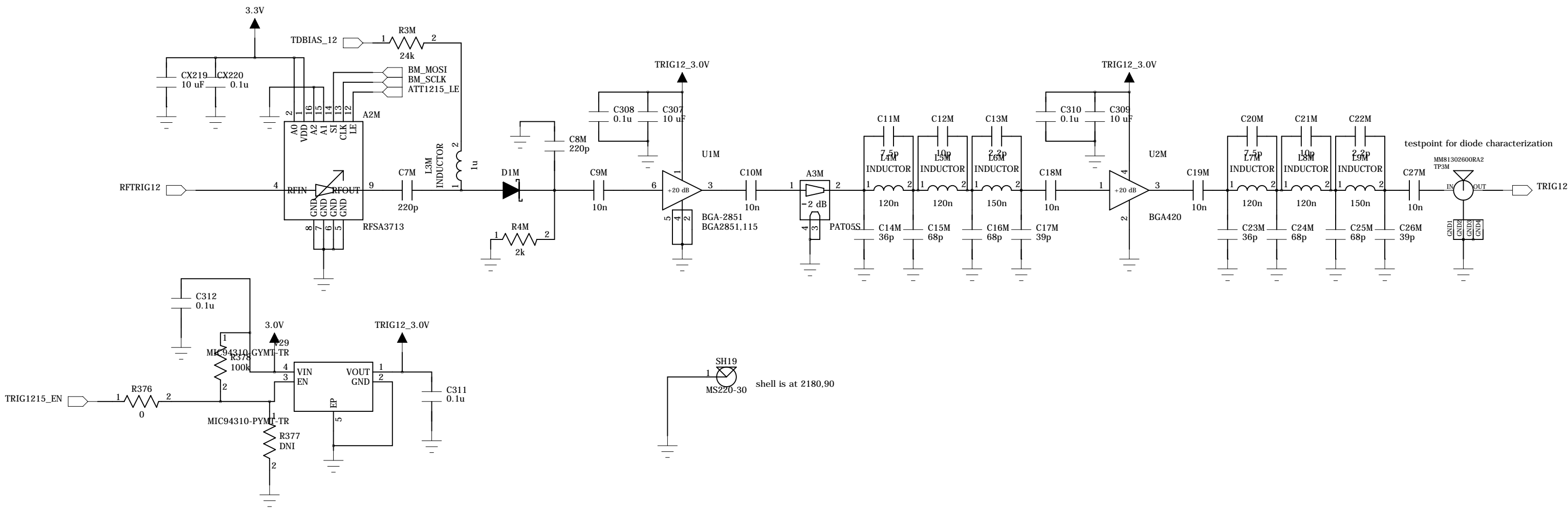
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY:

Ohio State University

SHEET:

RF\_DIOD12

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 45 74

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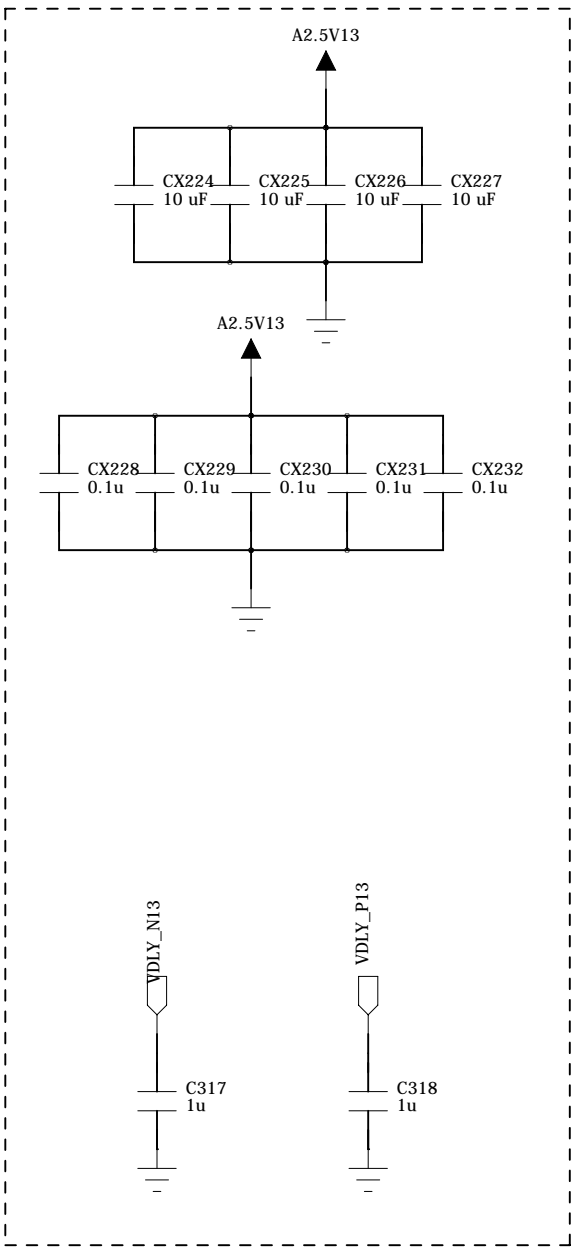
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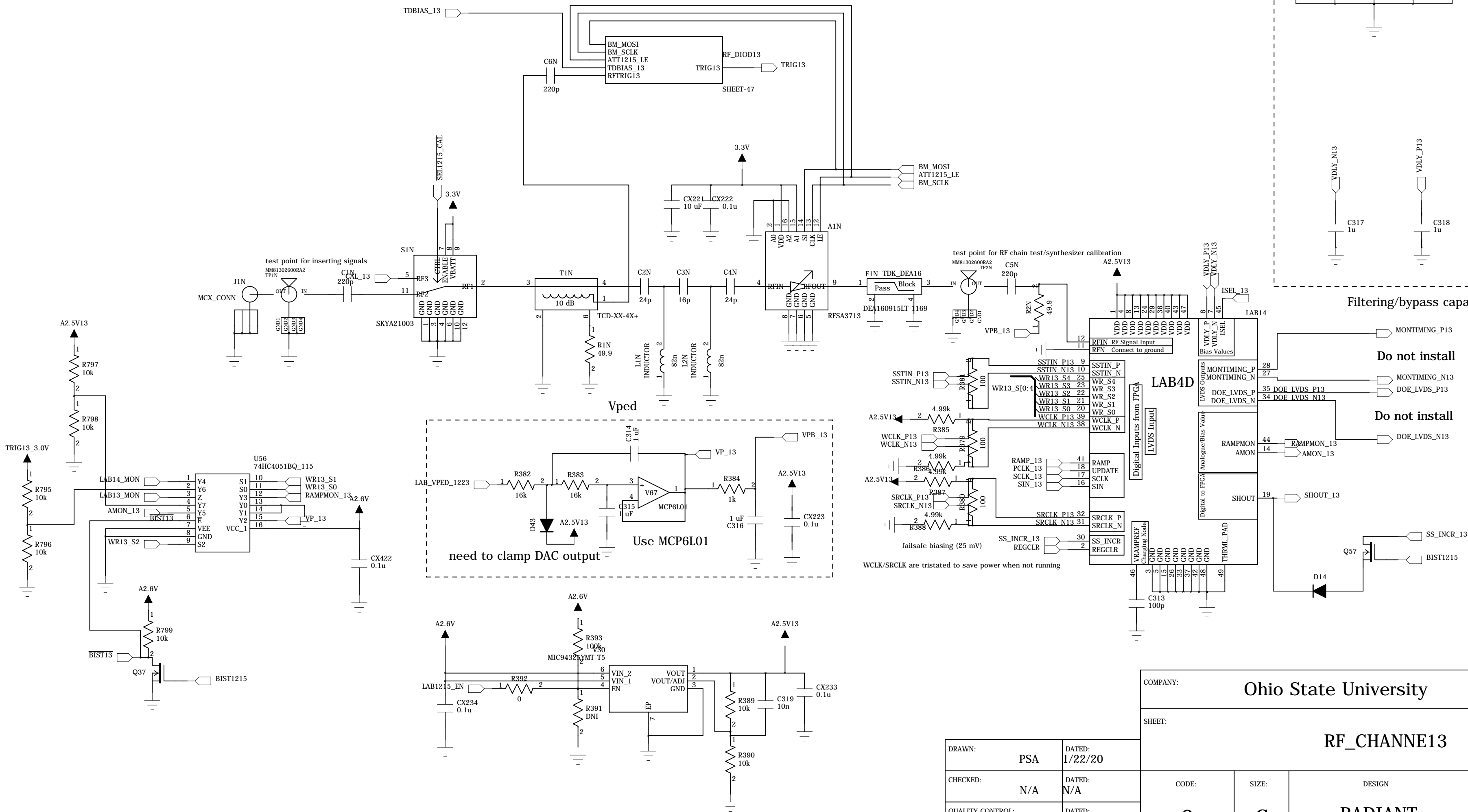
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



Filtering/bypass capacitors



COMPANY: Ohio State University			
SHEET: RF_CHANNE13			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 46 74

DRAWN: PSA	DATED: 1/22/20
CHECKED: N/A	DATED: N/A
QUALITY CONTROL: N/A	DATED: N/A
RELEASED: N/A	DATED: N/A

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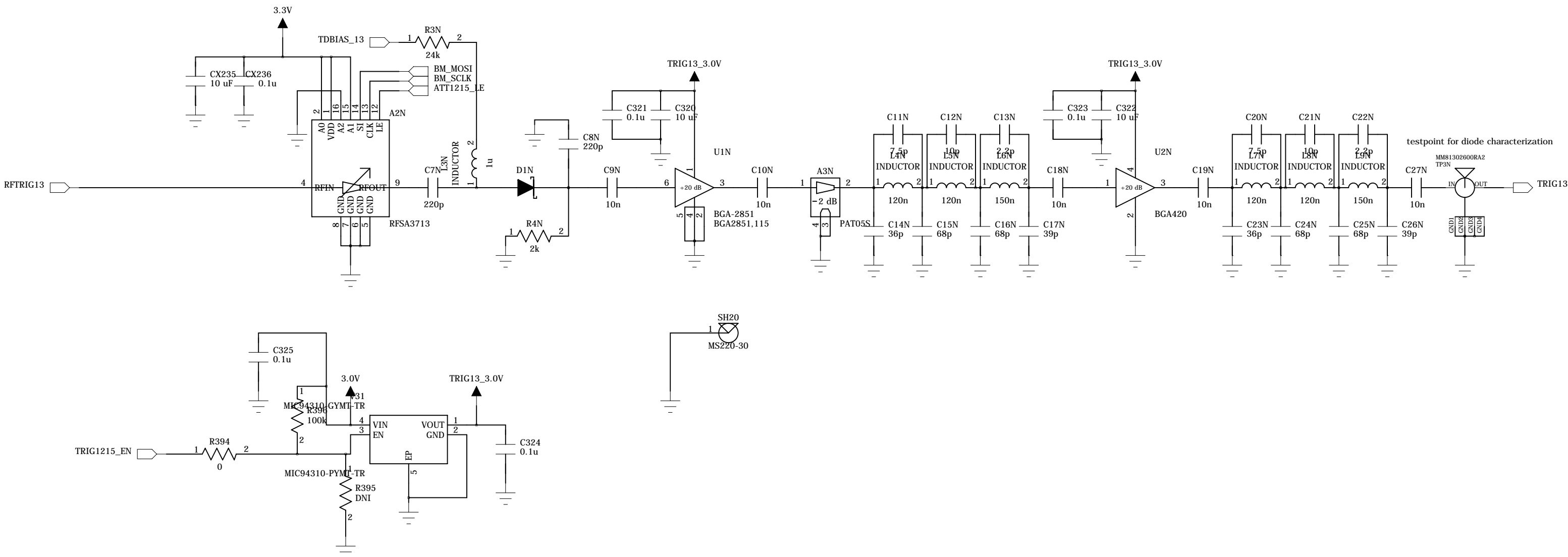
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY: Ohio State University			
SHEET: RF_DIOD13			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 47 74

DRAWN: PSA	DATED: 1/22/20
CHECKED: N/A	DATED: N/A
QUALITY CONTROL: N/A	DATED: N/A
RELEASED: N/A	DATED: N/A

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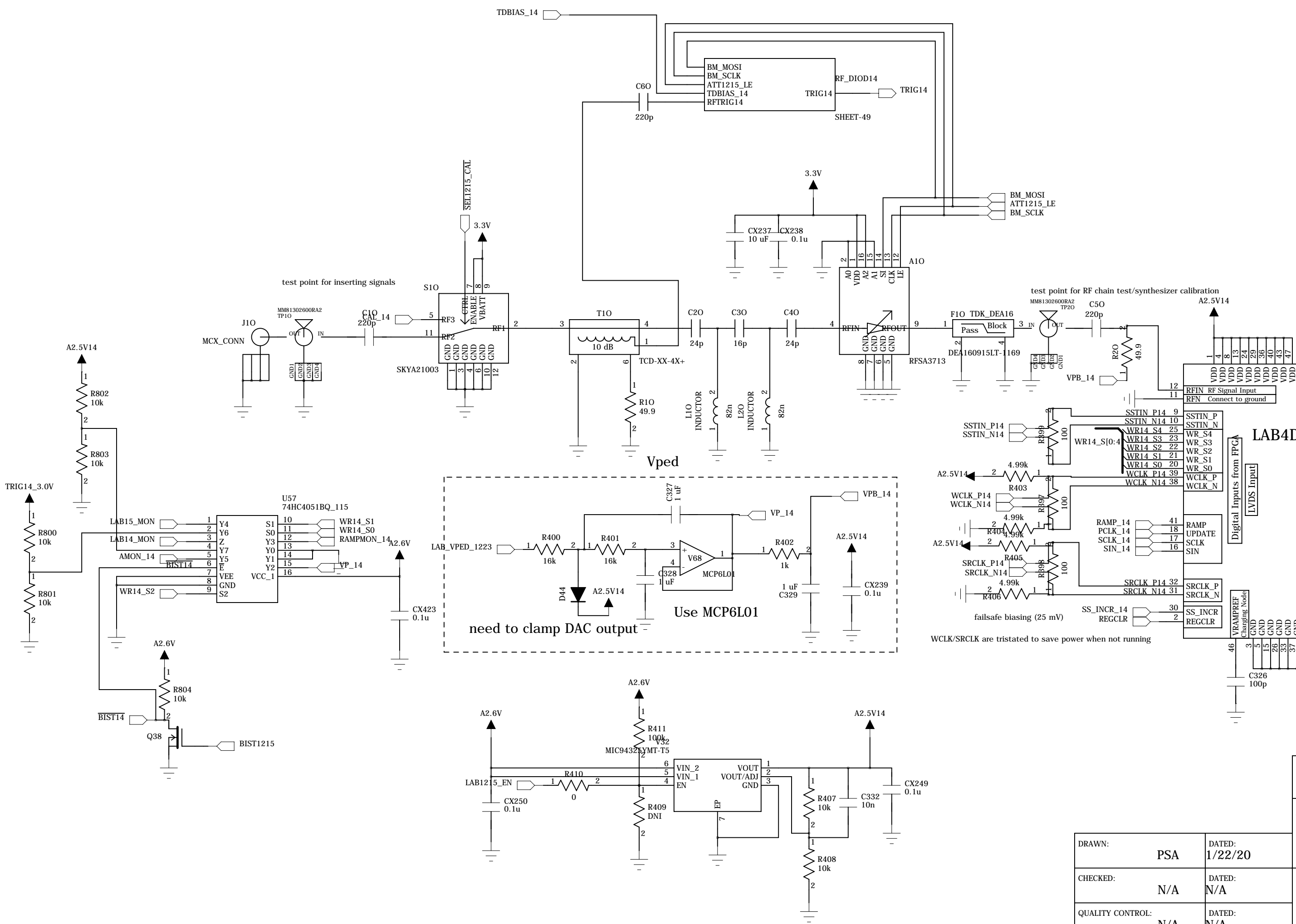
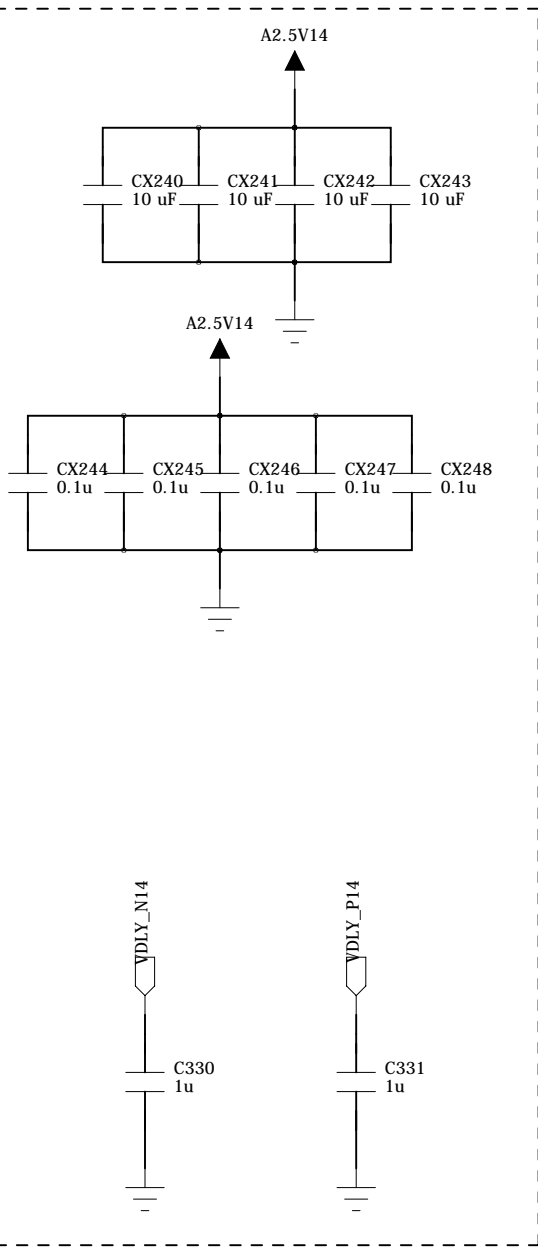
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



COMPANY: Ohio State University			
SHEET: RF_CHANNE14			
DRAWN: PSA	DATED: 1/22/20	CODE: 2	SIZE: C
CHECKED: N/A	DATED: N/A	DESIGN: RADIANT	REV: 1
QUALITY CONTROL: N/A	DATED: N/A	SCALE: <Scale>	
RELEASED: N/A	DATED: N/A	SHEET: 48 74	



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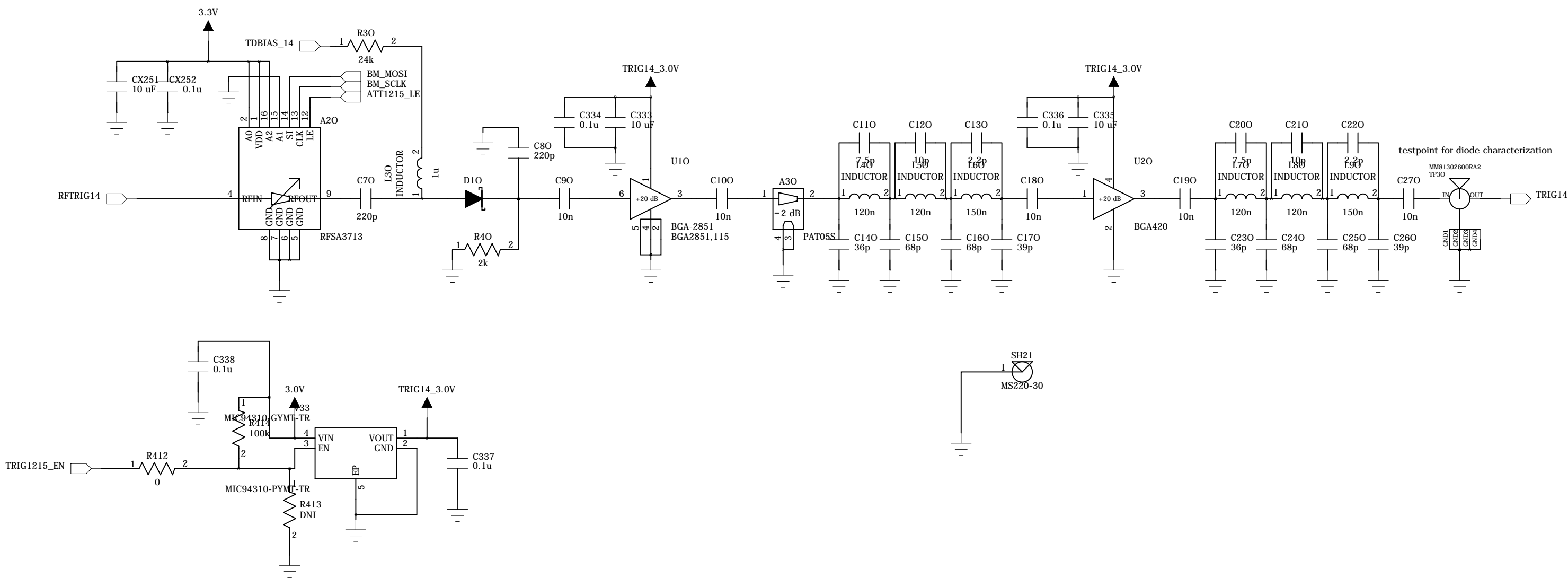
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY:

Ohio State University

SHEET:

RF\_DIOD14

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1

SCALE: <Scale> SHEET: 49 74

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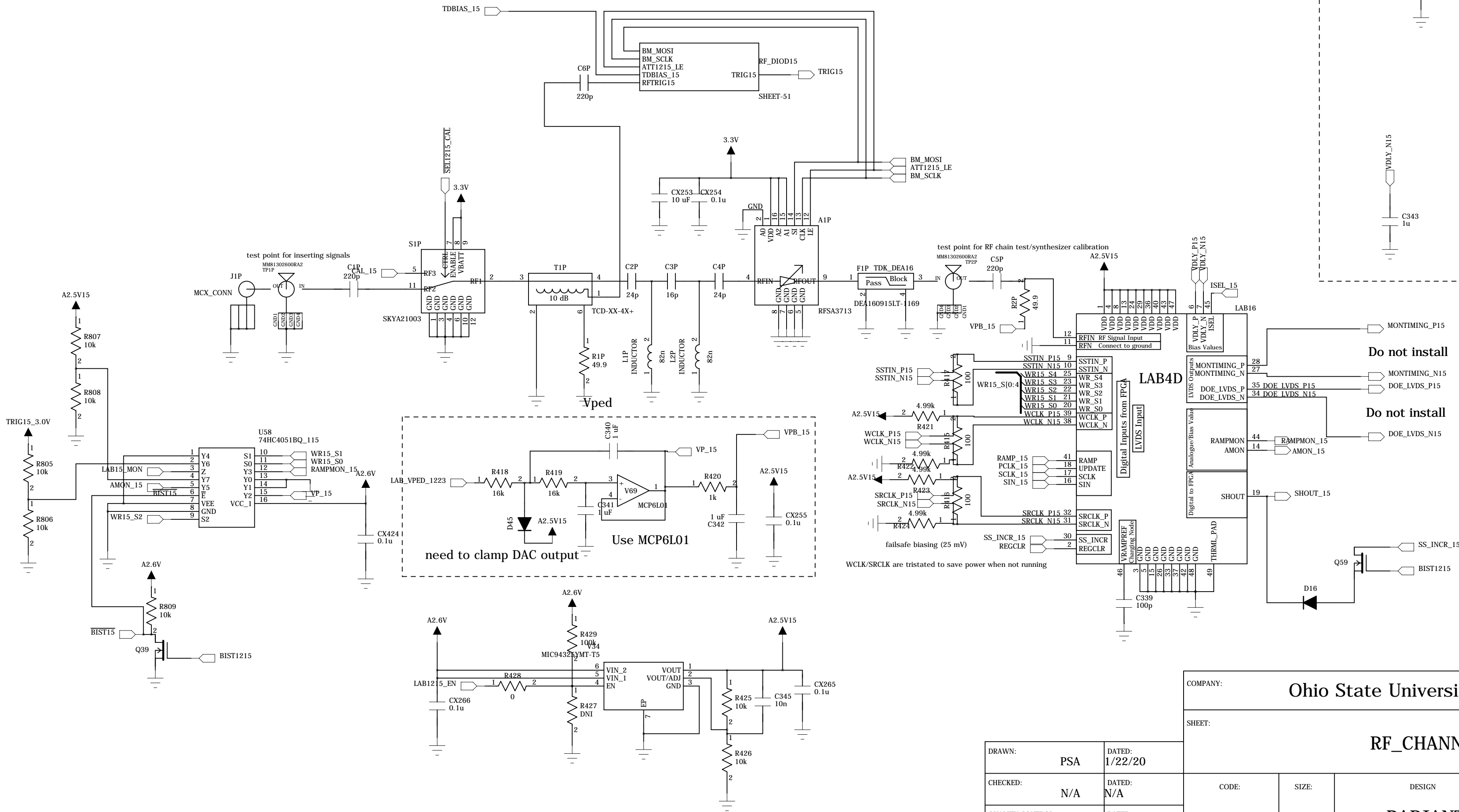
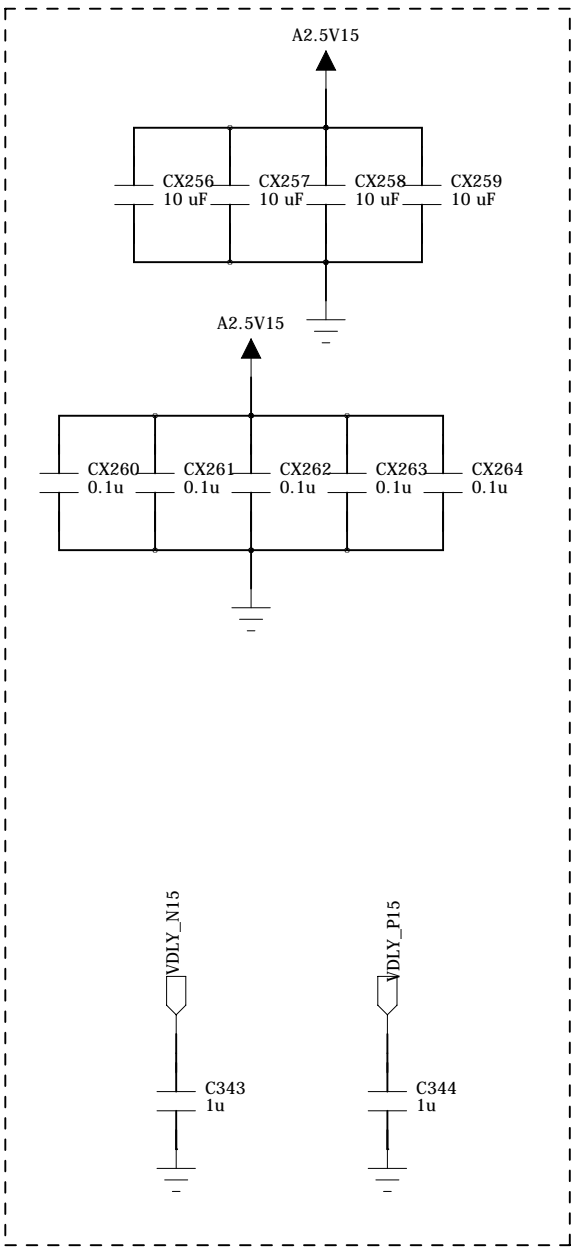
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

COMPANY: Ohio State University			
SHEET: RF_CHANNE15			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 50 74

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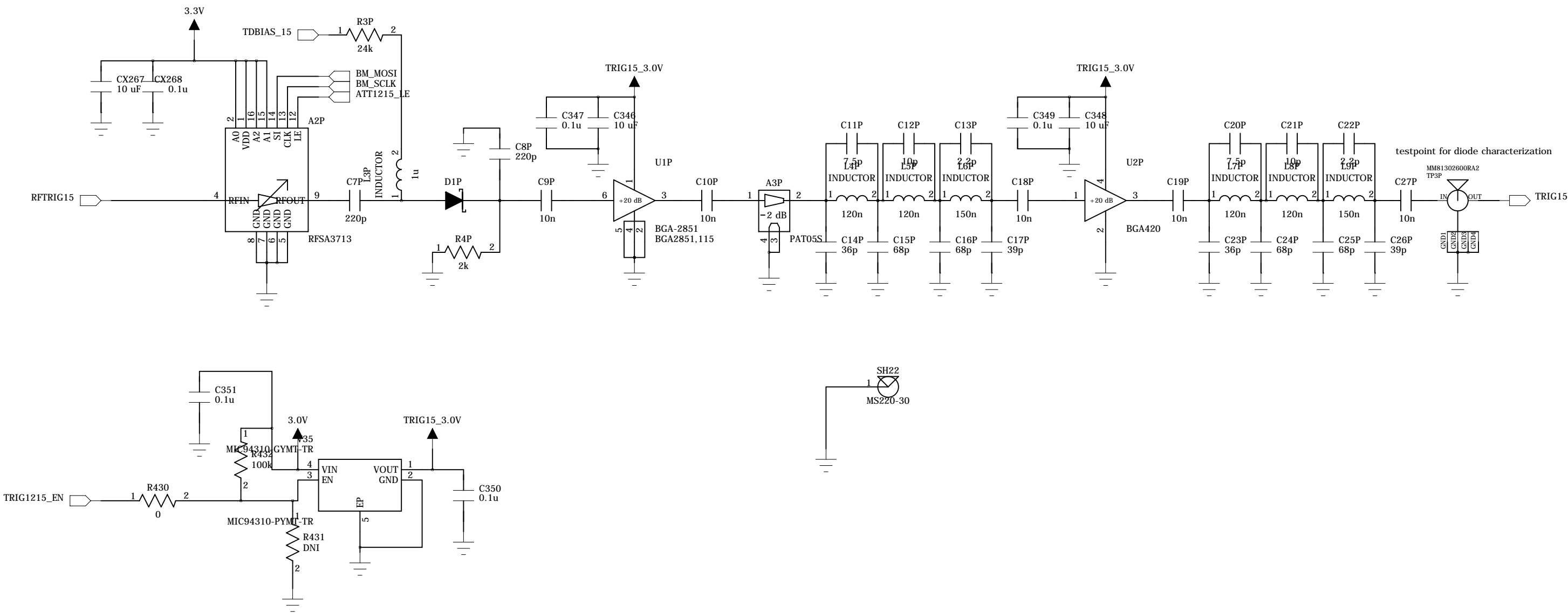
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY:

Ohio State University

SHEET:

RF\_DIOD15

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1

SCALE: <Scale> SHEET: 5 of 74

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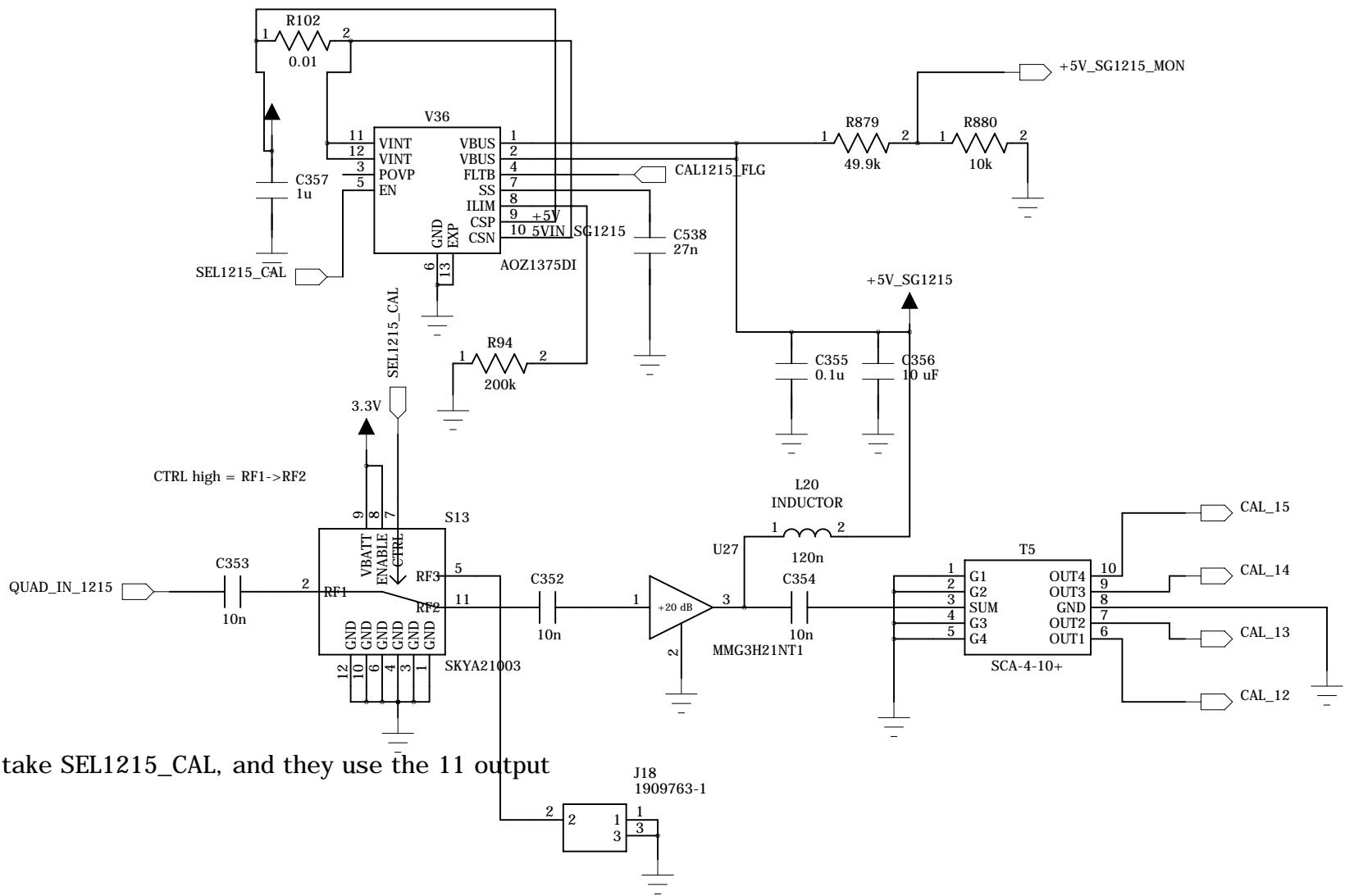
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

COMPANY: Ohio State University			
SHEET: QUAD_SIG_GENERATOR_3			
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 52 74

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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

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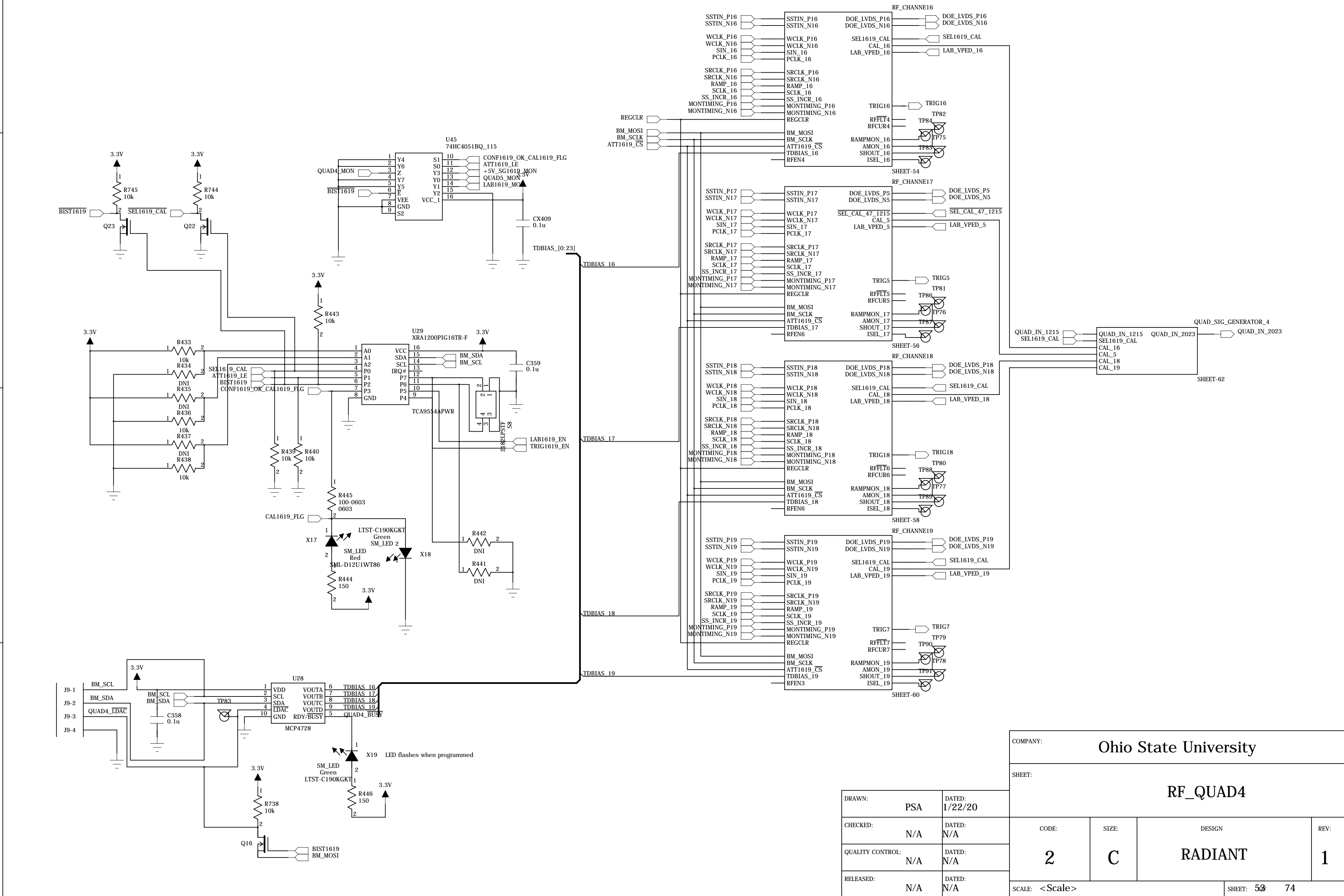
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COMPANY: Ohio State University			
SHEET: RF_QUAD4			
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 58 74

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

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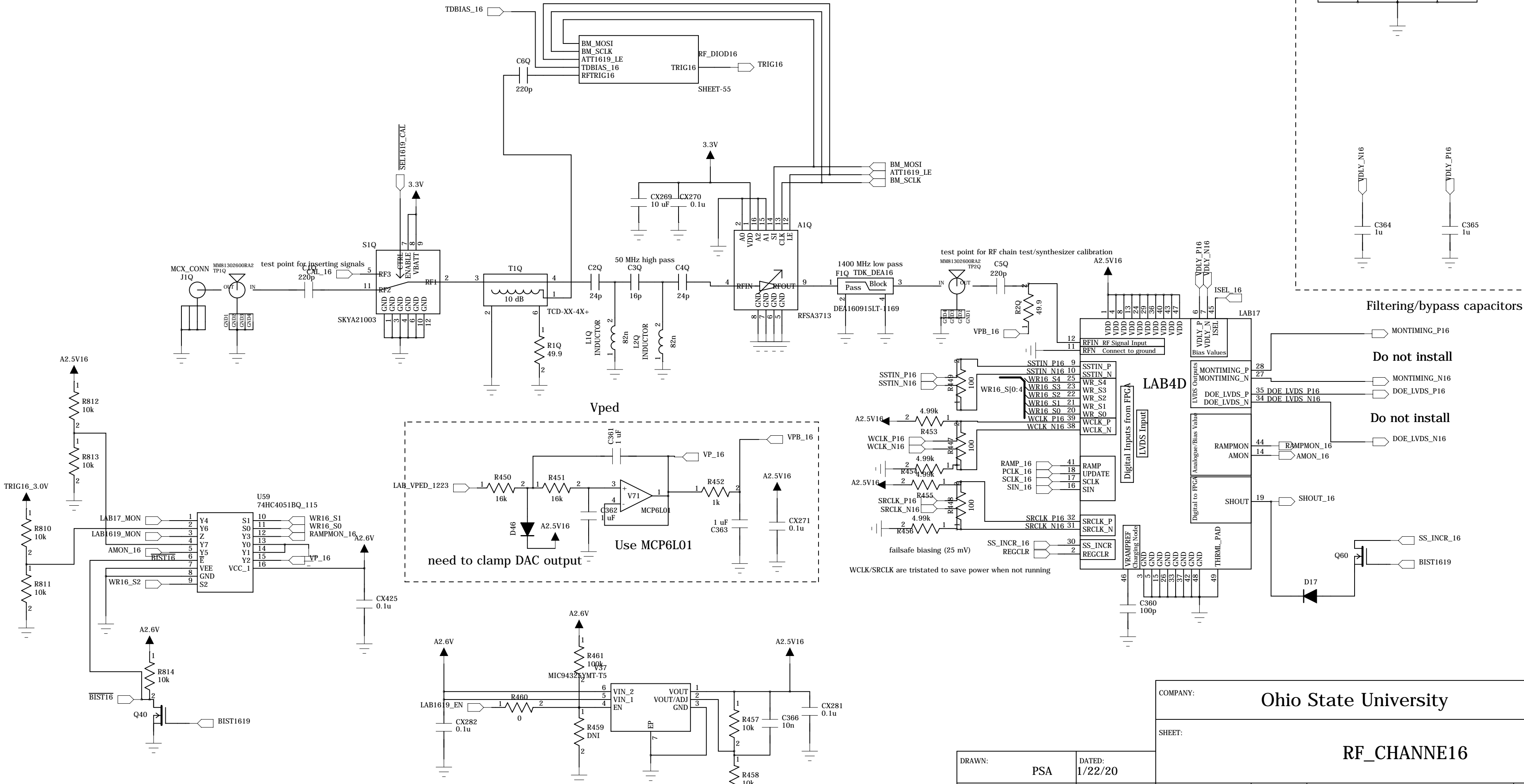
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



COMPANY: Ohio State University			
SHEET: RF_CHANNE16			
DRAWN: PSA	DATED: 1/22/20	CODE: 2	SIZE: C
CHECKED: N/A	DATED: N/A	DESIGN: RADIANT	REV: 1
QUALITY CONTROL: N/A	DATED: N/A	SCALE: <Scale>	
RELEASED: N/A	DATED: N/A	SHEET: 54 74	



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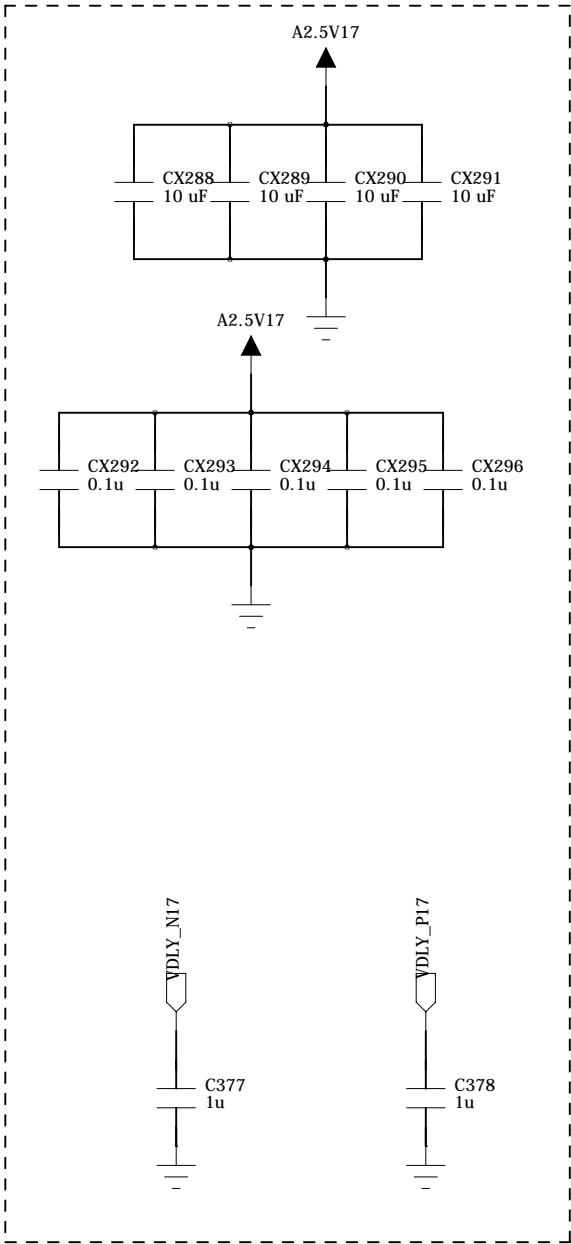
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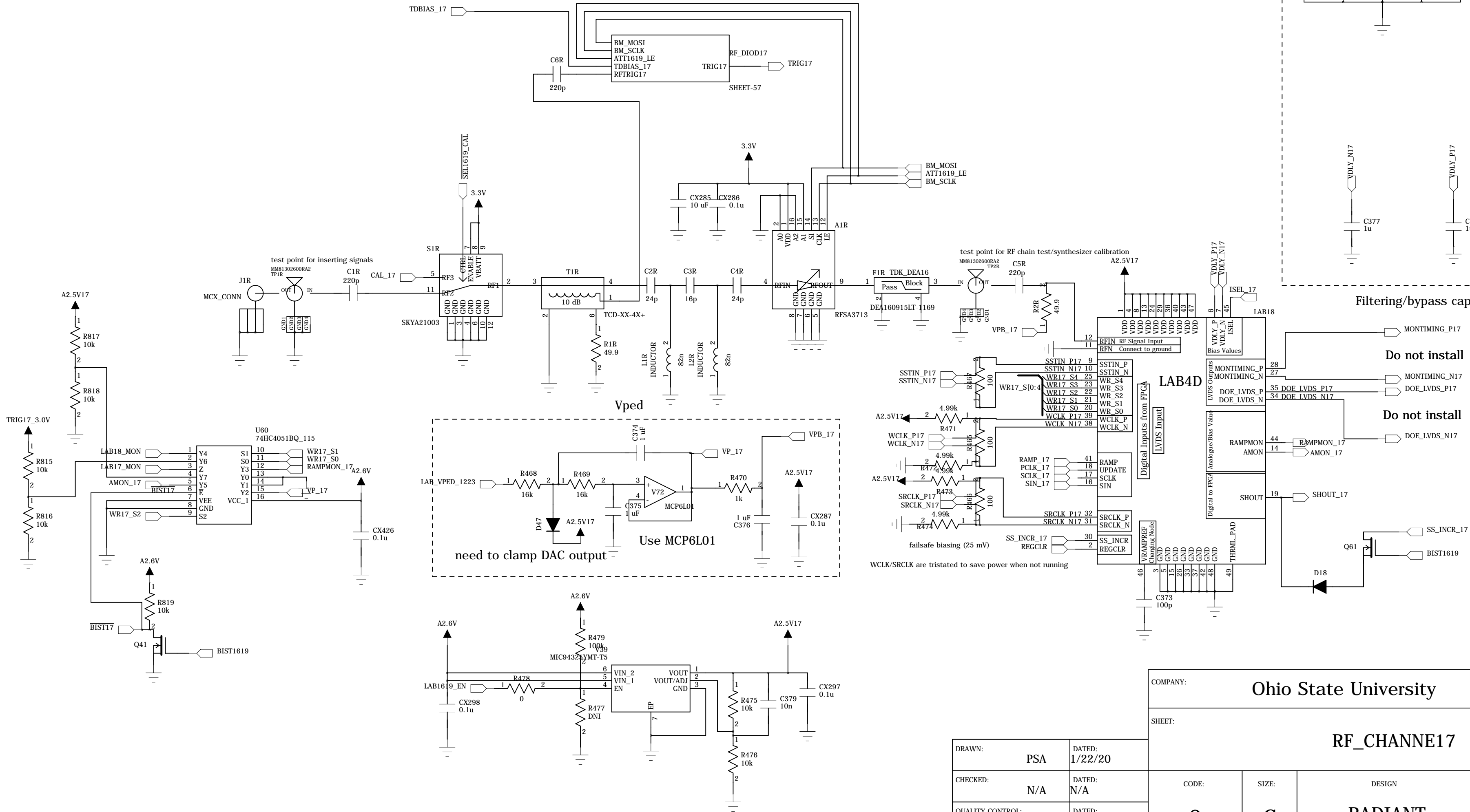
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



Filtering/bypass capacitors



COMPANY: Ohio State University			
SHEET: RF_CHANNE17			
DRAWN: PSA	DATED: 1/22/20	CODE: 2	SIZE: C
CHECKED: N/A	DATED: N/A	DESIGN: RADIANT	REV: 1
QUALITY CONTROL: N/A	DATED: N/A	SCALE: <Scale>	
RELEASED: N/A	DATED: N/A	SHEET: 56 74	



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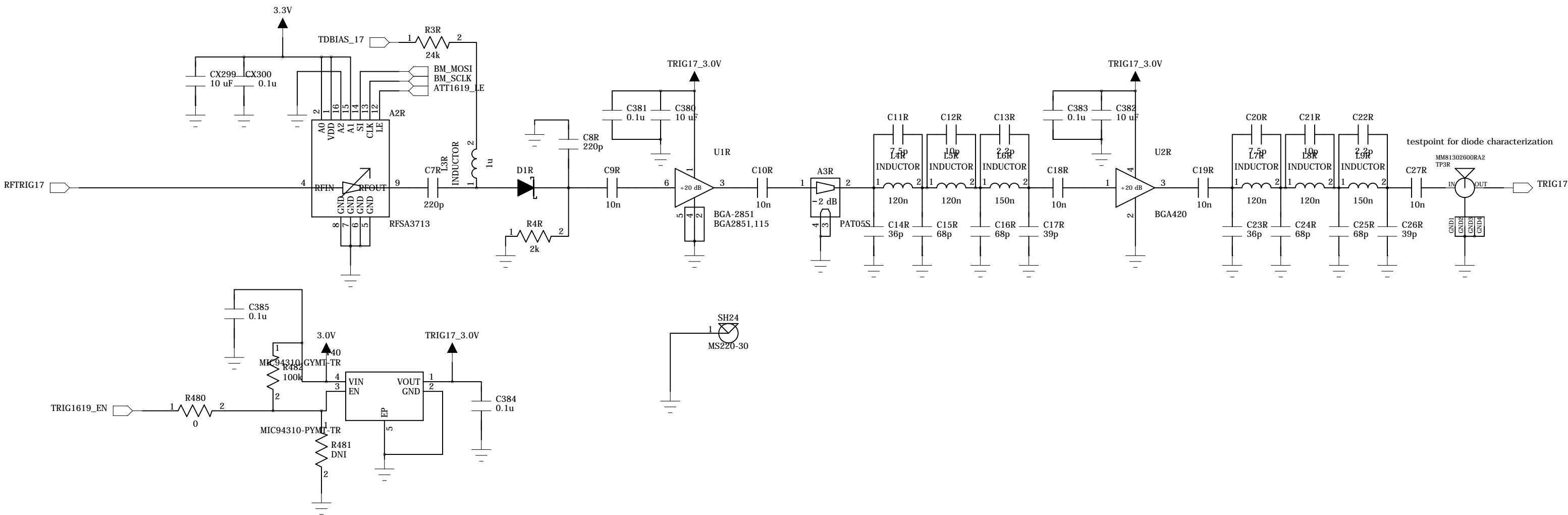
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY: Ohio State University			
SHEET: RF_DIOD17			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 57 74

DRAWN: PSA	DATED: 1/22/20
CHECKED: N/A	DATED: N/A
QUALITY CONTROL: N/A	DATED: N/A
RELEASED: N/A	DATED: N/A



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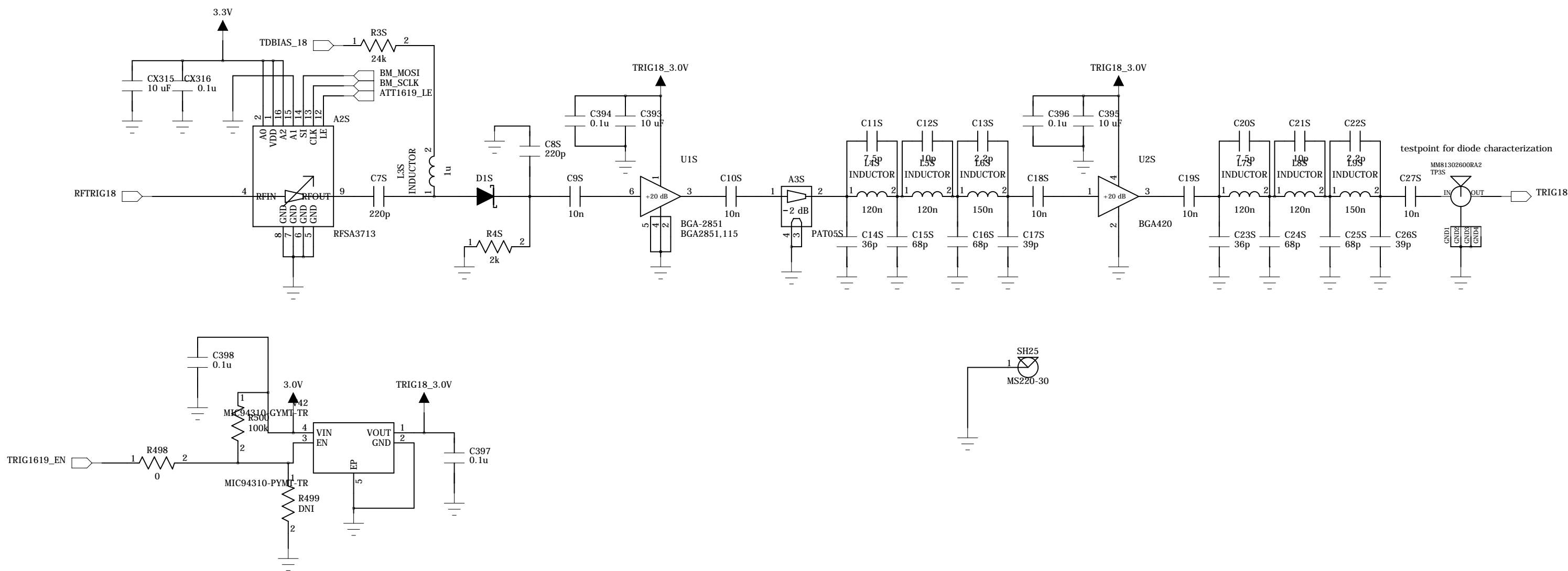
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY:

Ohio State University

SHEET:

RF\_DIOD18

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

CODE:

2

SIZE:

C

DESIGN

RADIANT

REV:

1

SCALE: <Scale>

SHEET: 59 74



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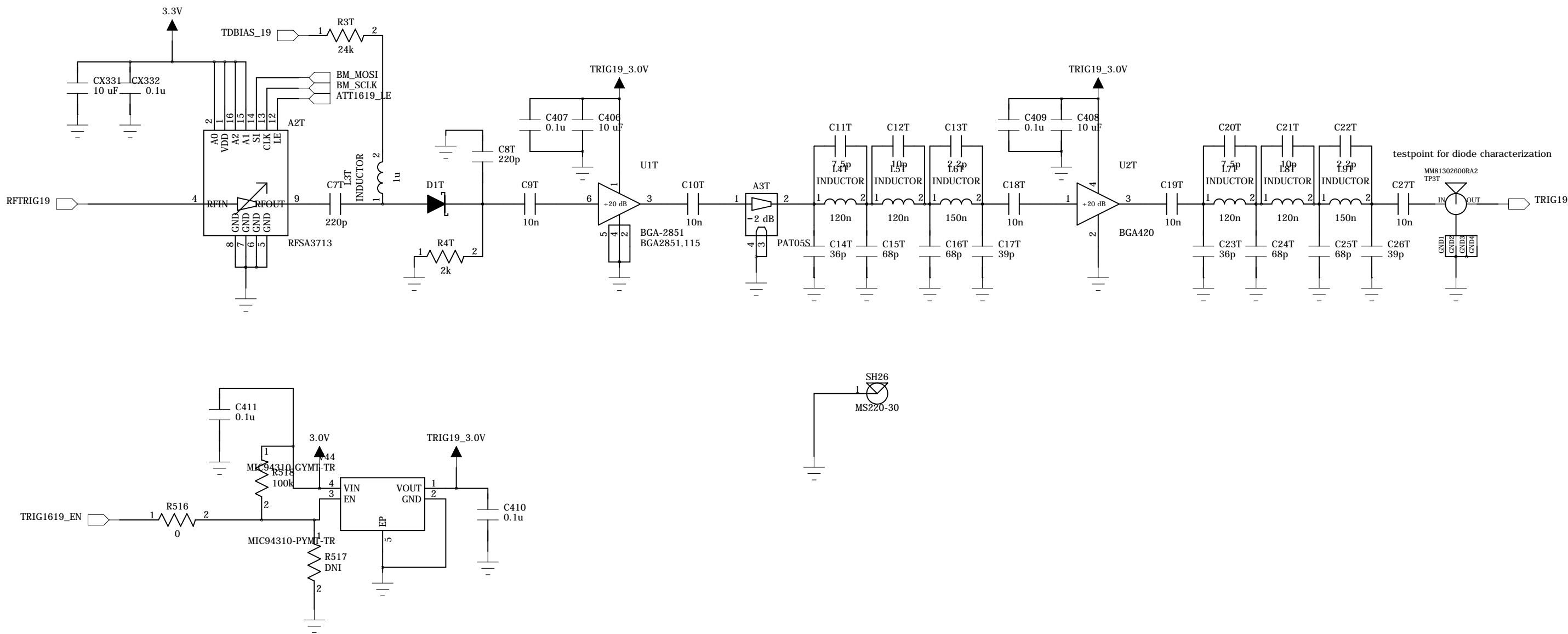
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY:

Ohio State University

SHEET:

RF\_DIOD19

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

CODE:

2

SIZE:

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DESIGN

RADIANT

REV:

1

SCALE: <Scale>

SHEET: 61 of 74

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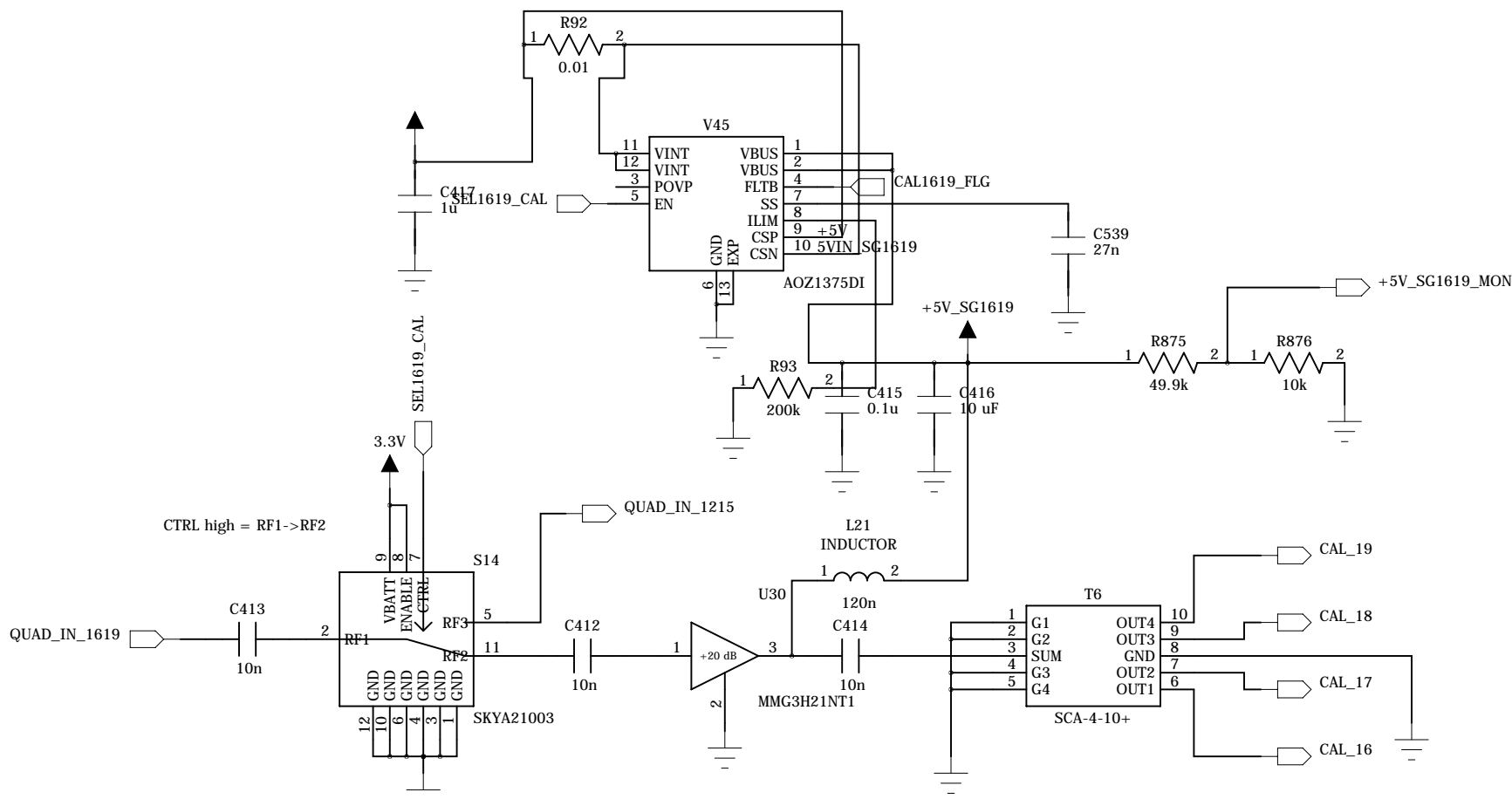
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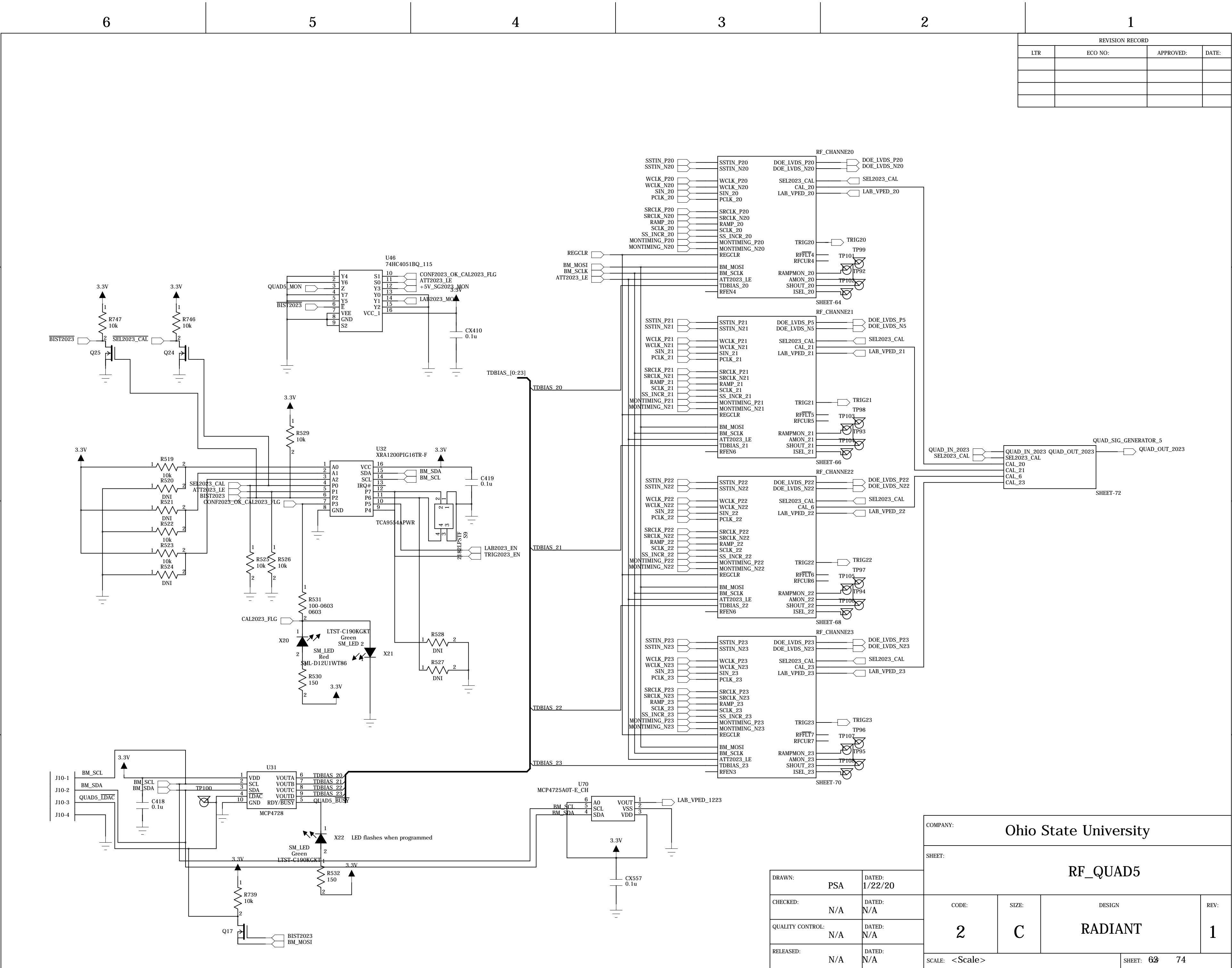
A

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

COMPANY: Ohio State University			
SHEET: QUAD_SIG_GENERATOR_4			
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 62 74



REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

COMPANY: Ohio State University			
SHEET: RF_QUAD5			
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>			SHEET: 68 74

DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A





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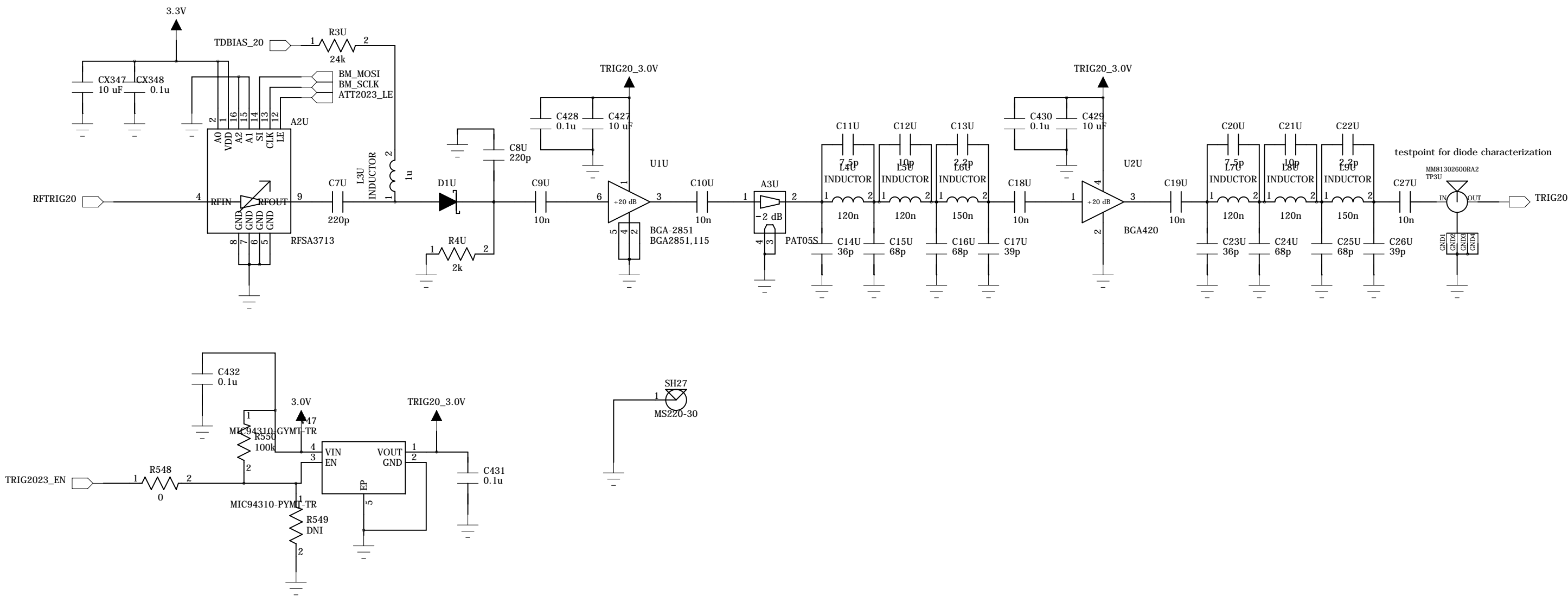
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REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:



COMPANY: Ohio State University			
SHEET: RF_DIOD20			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 65 74

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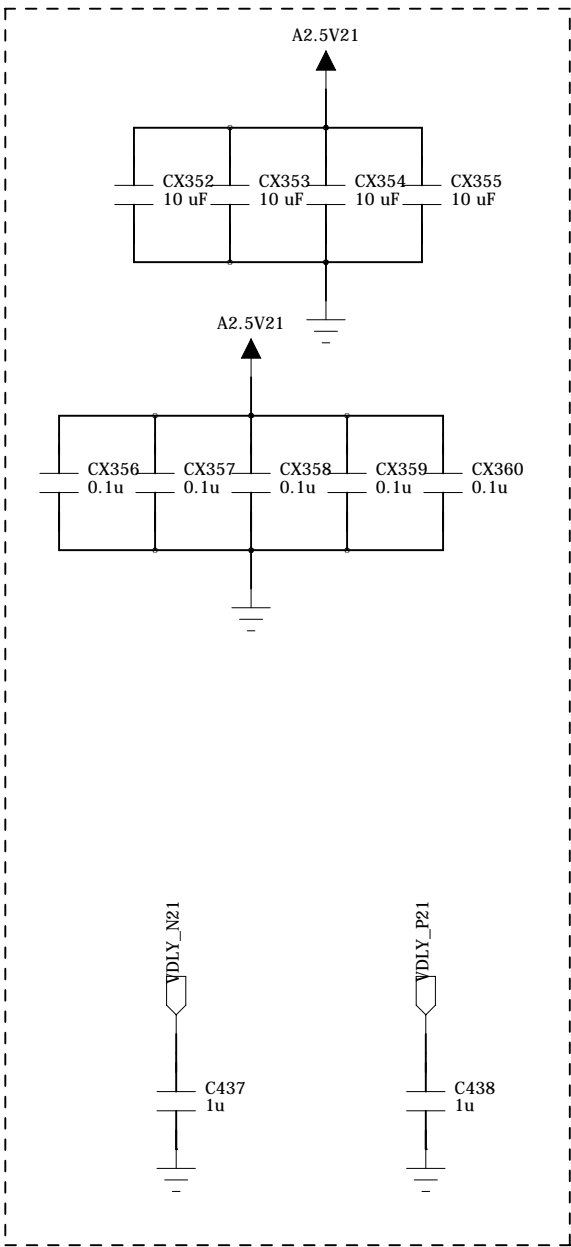
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



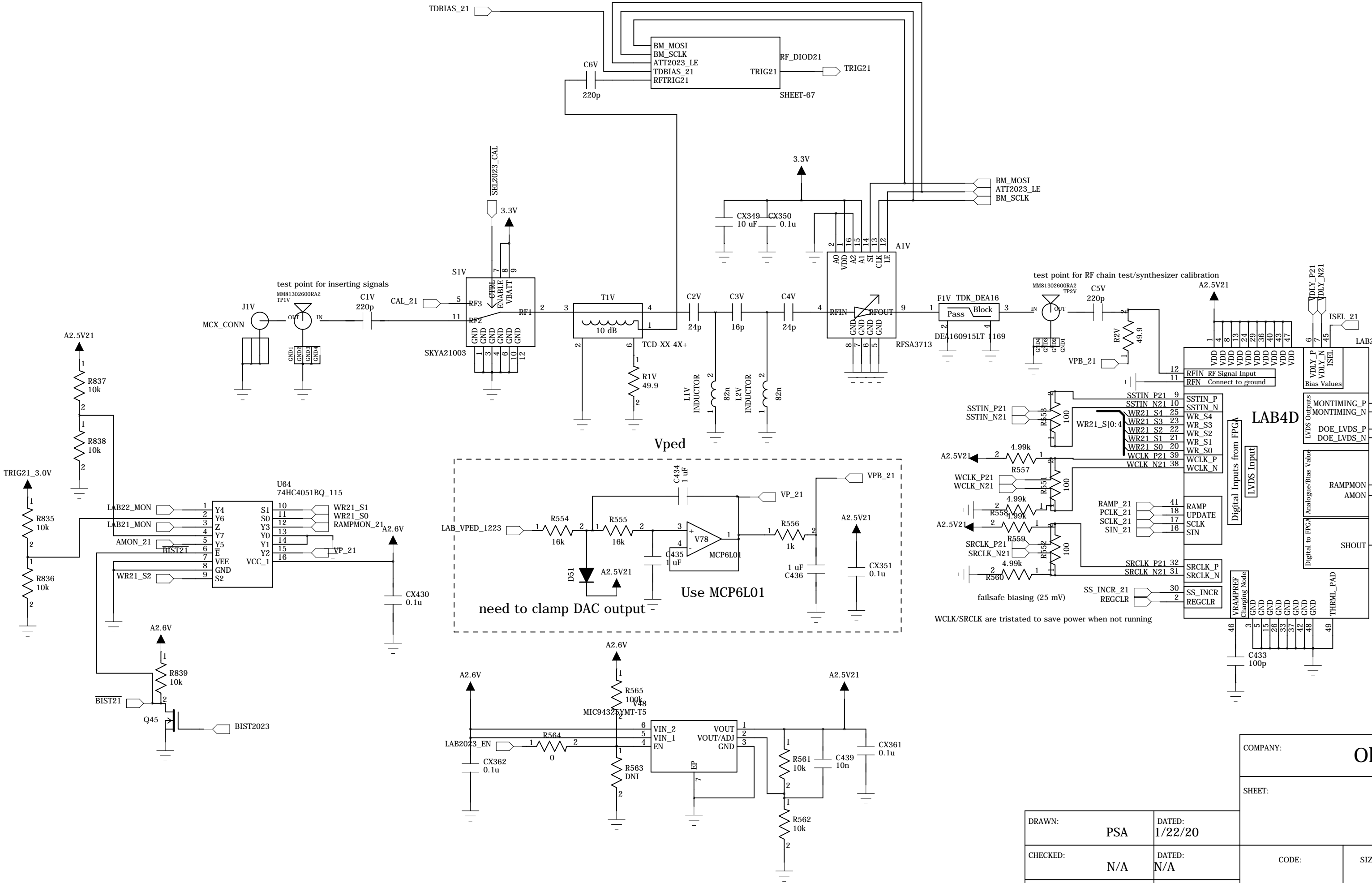
Filtering/bypass capacitors

Do not install

Do not install

COMPANY: Ohio State University			
SHEET: RF_CHANNE21			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 66 74

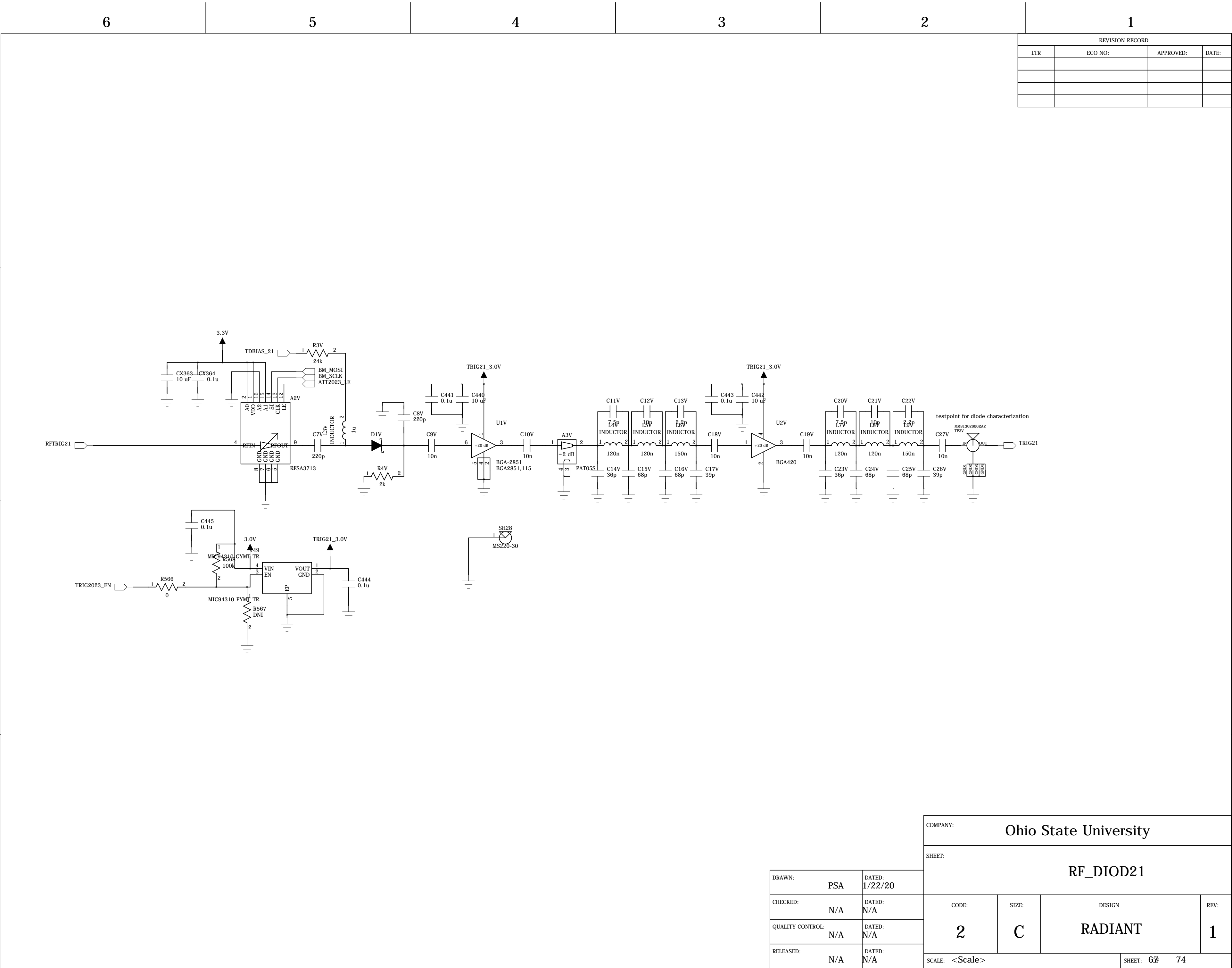
DRAWN: PSA	DATED: 1/22/20
CHECKED: N/A	DATED: N/A
QUALITY CONTROL: N/A	DATED: N/A
RELEASED: N/A	DATED: N/A



need to clamp DAC output

Use MCP6L01

WCLK/SRCLK are tristated to save power when not running



REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

COMPANY: Ohio State University			
SHEET: RF_DIOD21			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 67 74

DRAWN: PSA	DATED: 1/22/20
CHECKED: N/A	DATED: N/A
QUALITY CONTROL: N/A	DATED: N/A
RELEASED: N/A	DATED: N/A





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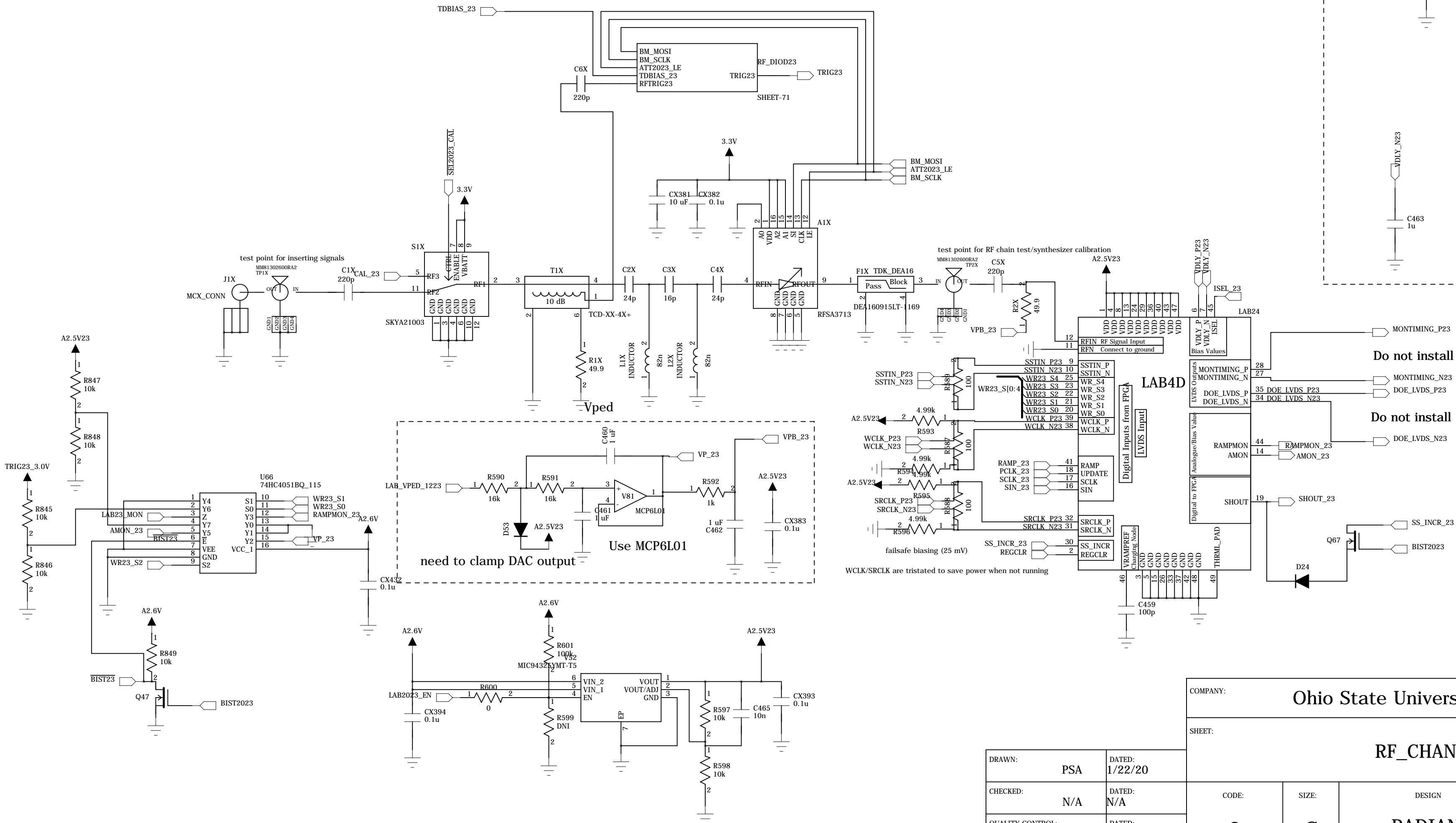
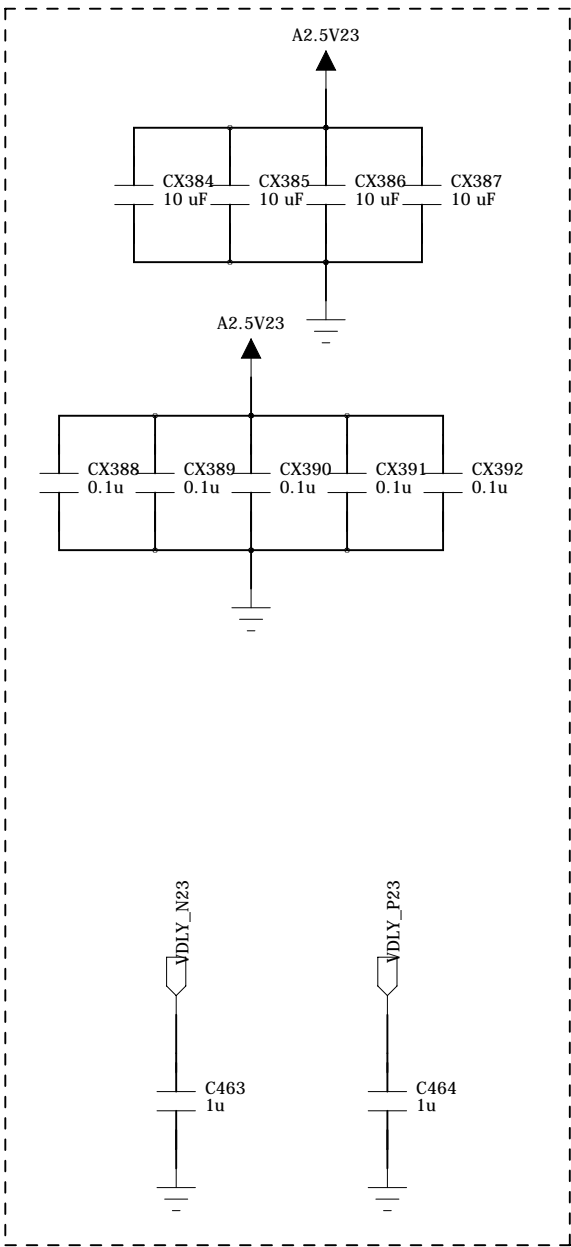
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
Filtering/bypass capacitors			



DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

COMPANY: Ohio State University			
SHEET: RF_CHANNE23			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 70 74

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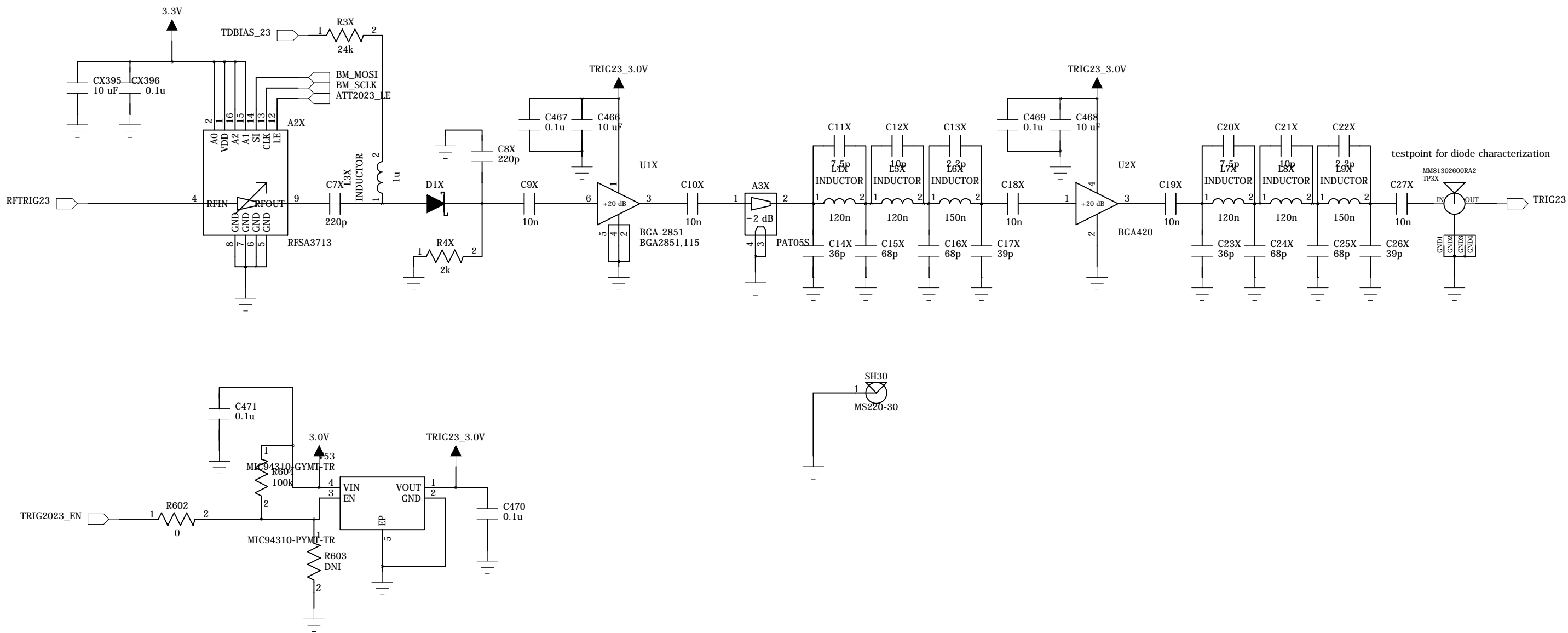
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: Ohio State University			
SHEET: RF_DIOD23			
CODE: 2	SIZE: C	DESIGN: RADIANT	REV: 1
SCALE: <Scale>			SHEET: 74 of 74

DRAWN: PSA	DATED: 1/22/20
CHECKED: N/A	DATED: N/A
QUALITY CONTROL: N/A	DATED: N/A
RELEASED: N/A	DATED: N/A





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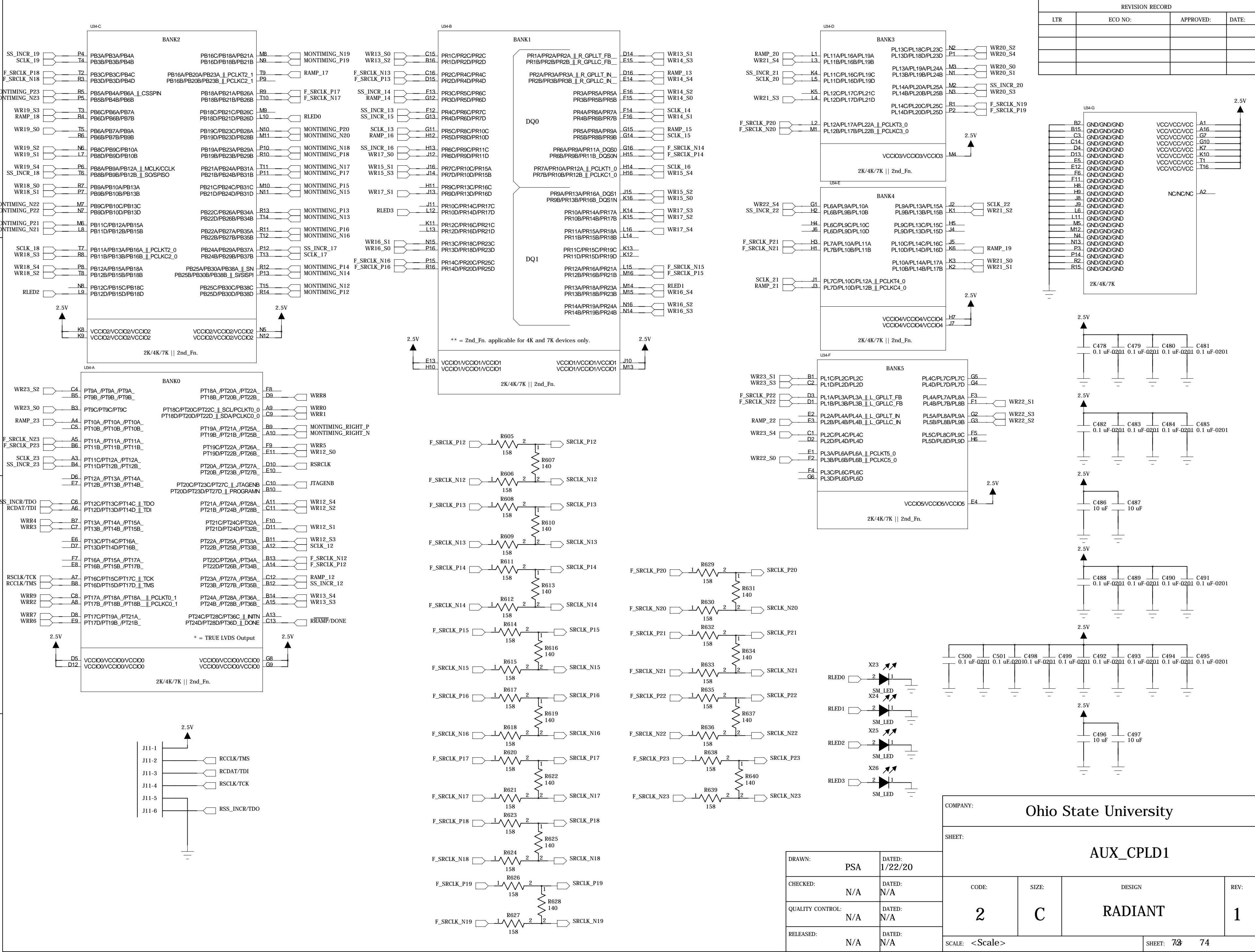
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



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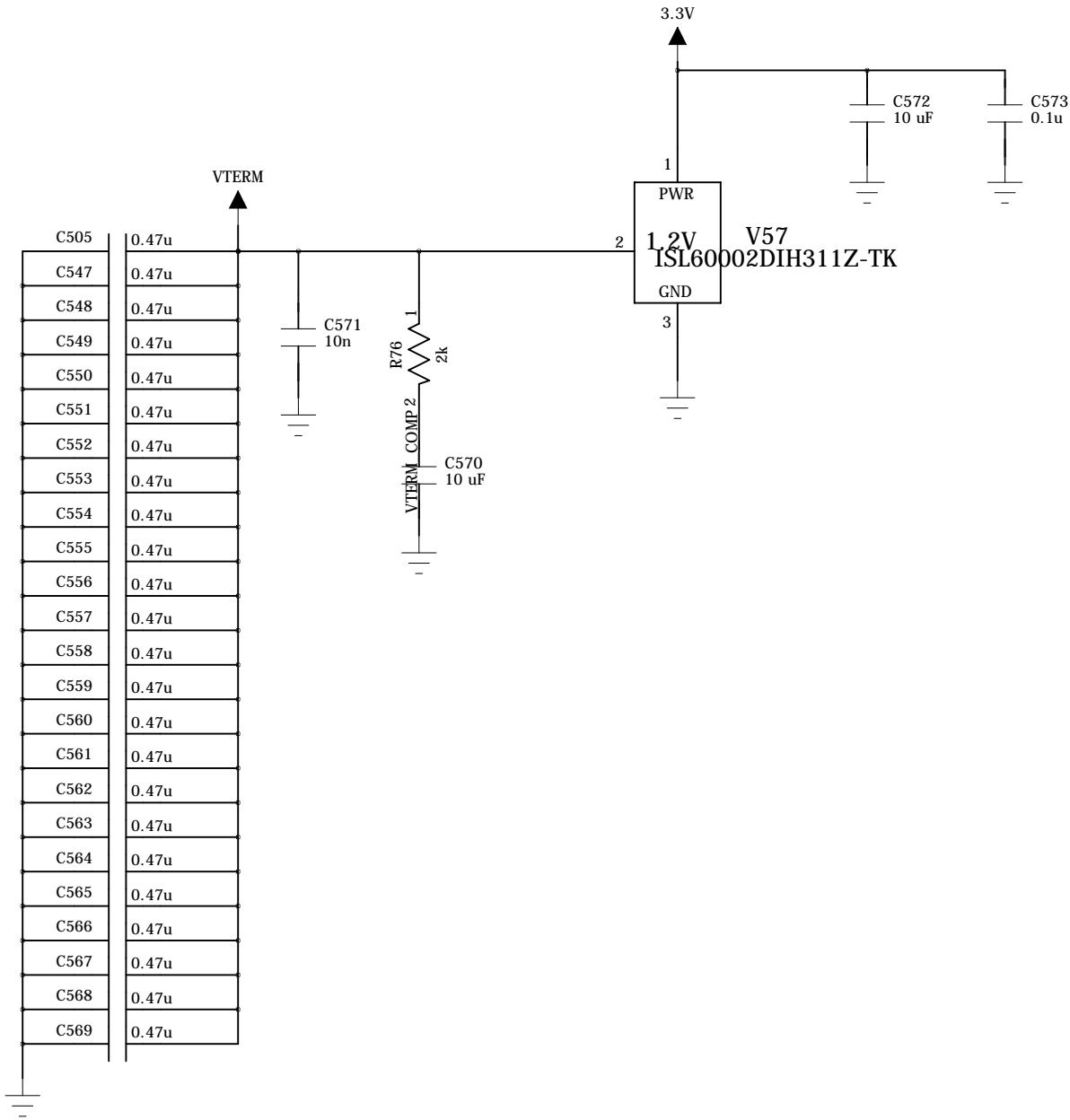
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REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



DRAWN:	PSA	DATED:	1/22/20
CHECKED:	N/A	DATED:	N/A
QUALITY CONTROL:	N/A	DATED:	N/A
RELEASED:	N/A	DATED:	N/A

COMPANY:		Ohio State University	
SHEET:			
VTERM			
CODE:	SIZE:	DESIGN	REV:
2	C	RADIANT	1
SCALE: <Scale>		SHEET: 74	74