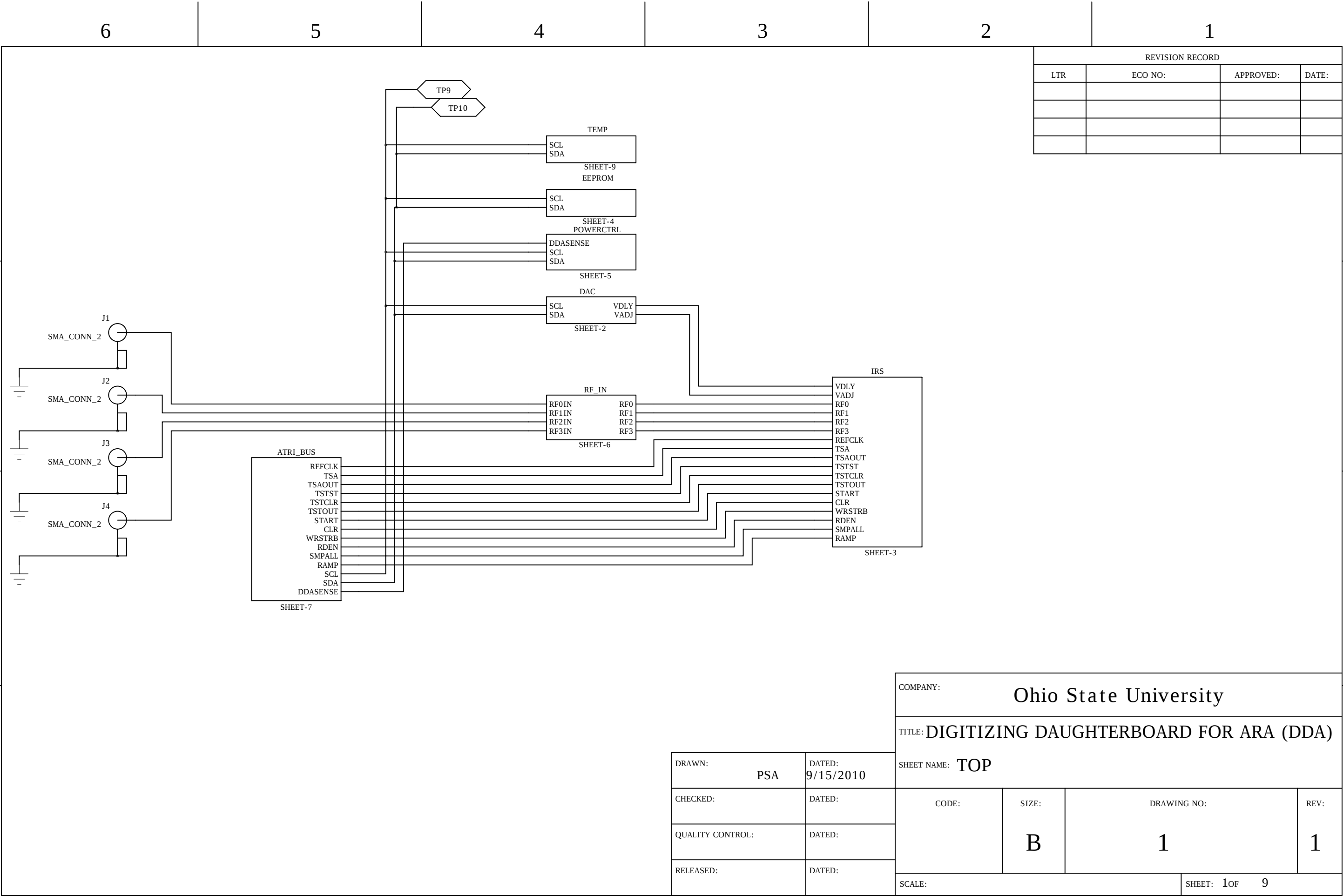


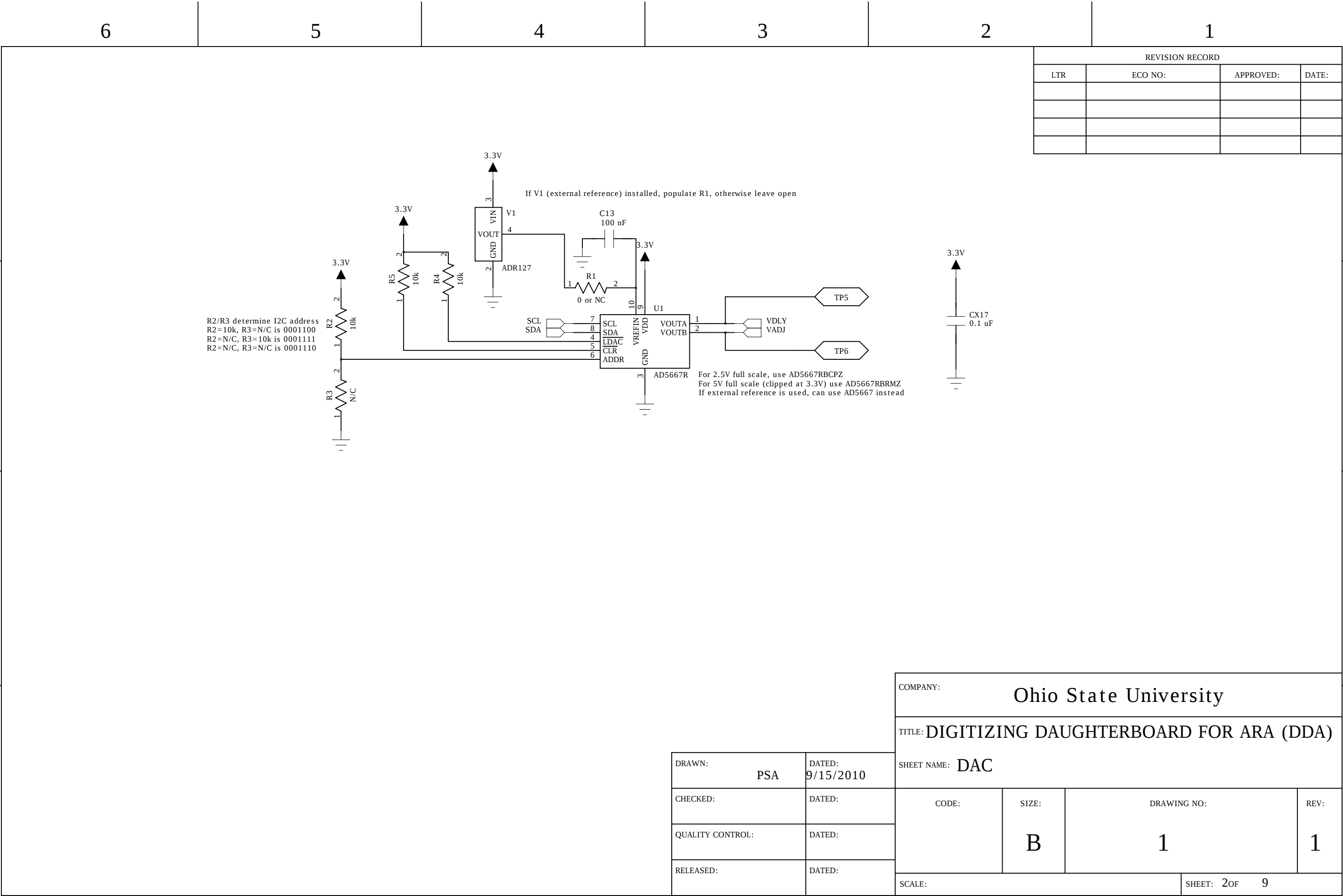


D

C

B

A



DRAWN: PSA		DATED: 9/15/2010	
CHECKED:		DATED:	
QUALITY CONTROL:		DATED:	
RELEASED:		DATED:	

COMPANY: Ohio State University			
TITLE: DIGITIZING DAUGHTERBOARD FOR ARA (DDA)			
SHEET NAME: DAC			
CODE:	SIZE: B	DRAWING NO: 1	REV: 1
SCALE:			SHEET: 2 OF 9

6

5

4

3

2

1

REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:

DDA gets A2/A1/A0 = 0/0/0
Device address is 1010000X (0xA0)

1

2

3

4

A0

A1

A2

VSS

U2

24LC32A

VCC

WP

SCL

SDA

8

7

6

5

3.3V

SCL

SDA

1

2

R8

10k

3.3V

N/C

1

2

R9

10k

3.3V

0.1 uF

COMPANY:

Ohio State University

TITLE:

DIGITIZING DAUGHTERBOARD FOR ARA (DDA)

SHEET NAME:

EEPROM

DRAWN:

PSA

DATED:

9/15/2010

CHECKED:

DATED:

QUALITY CONTROL:

DATED:

RELEASED:

DATED:

CODE:

SIZE:

B

DRAWING NO:

1

REV:

1

SCALE:

SHEET:

4

OF

9

D

C

B

A

6

5

4

3

2

1

D

C

B

A

D

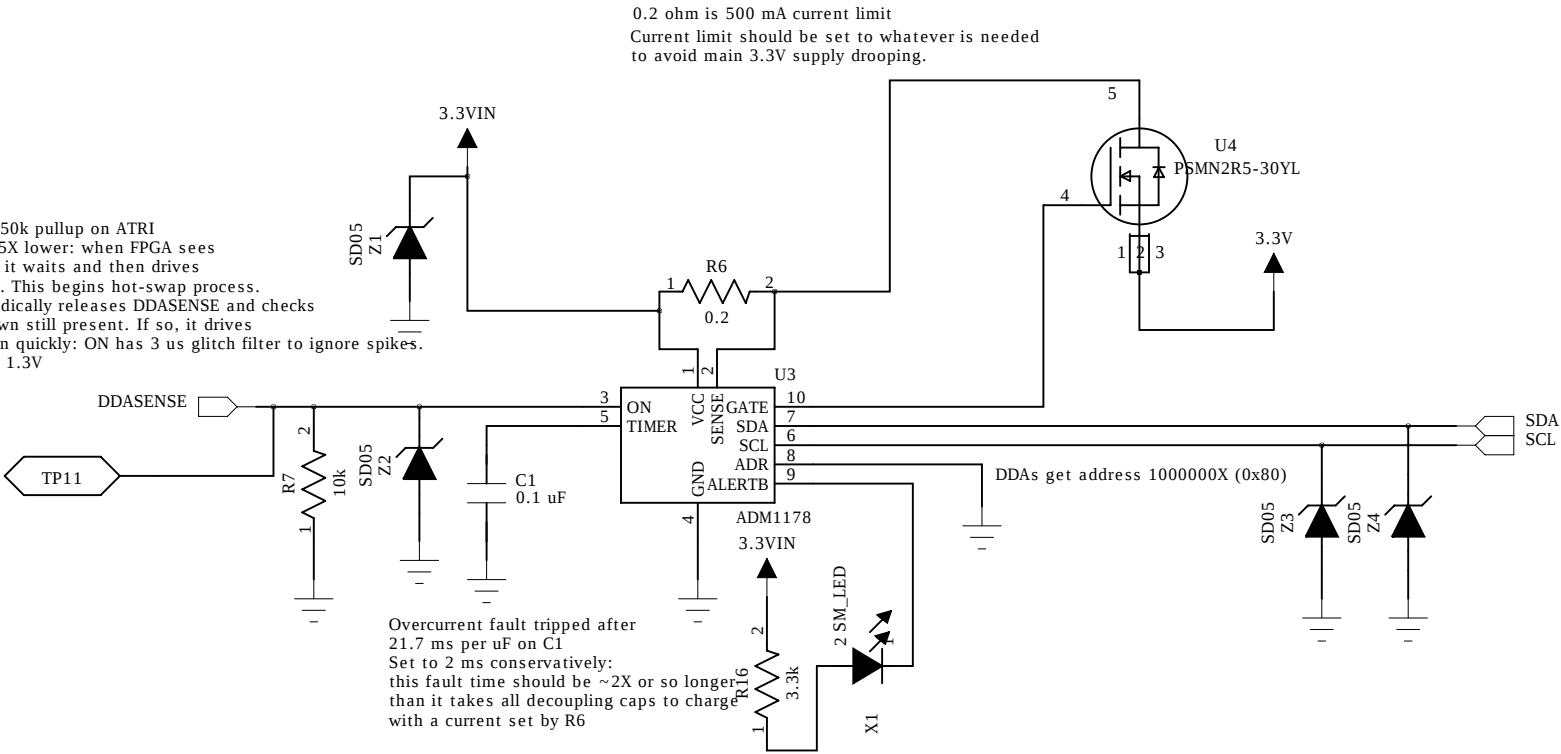
C

B

A

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

DDASENSE has 50k pullup on ATRI
R7 should be ~5X lower: when FPGA sees
DDASENSE low, it waits and then drives
DDASENSE high. This begins hot-swap process.
FPGA also periodically releases DDASENSE and checks
to see if pulldown still present. If so, it drives
DDASENSE again quickly: ON has 3 us glitch filter to ignore spikes.
ON threshold is 1.3V



Overcurrent fault tripped after
21.7 ms per uF on C1
Set to 2 ms conservatively:
this fault time should be ~2X or so longer
than it takes all decoupling caps to charge
with a current set by R6

COMPANY: Ohio State University			
TITLE: DIGITIZING DAUGHTERBOARD FOR ARA (DDA)			
SHEET NAME: POWERCTRL			
CODE:	SIZE: B	DRAWING NO: 1	REV: 1
SCALE:		SHEET: 5 of 9	

DRAWN: PSA	DATED: 9/15/2010
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

6

5

4

3

2

1

D

C

B

A

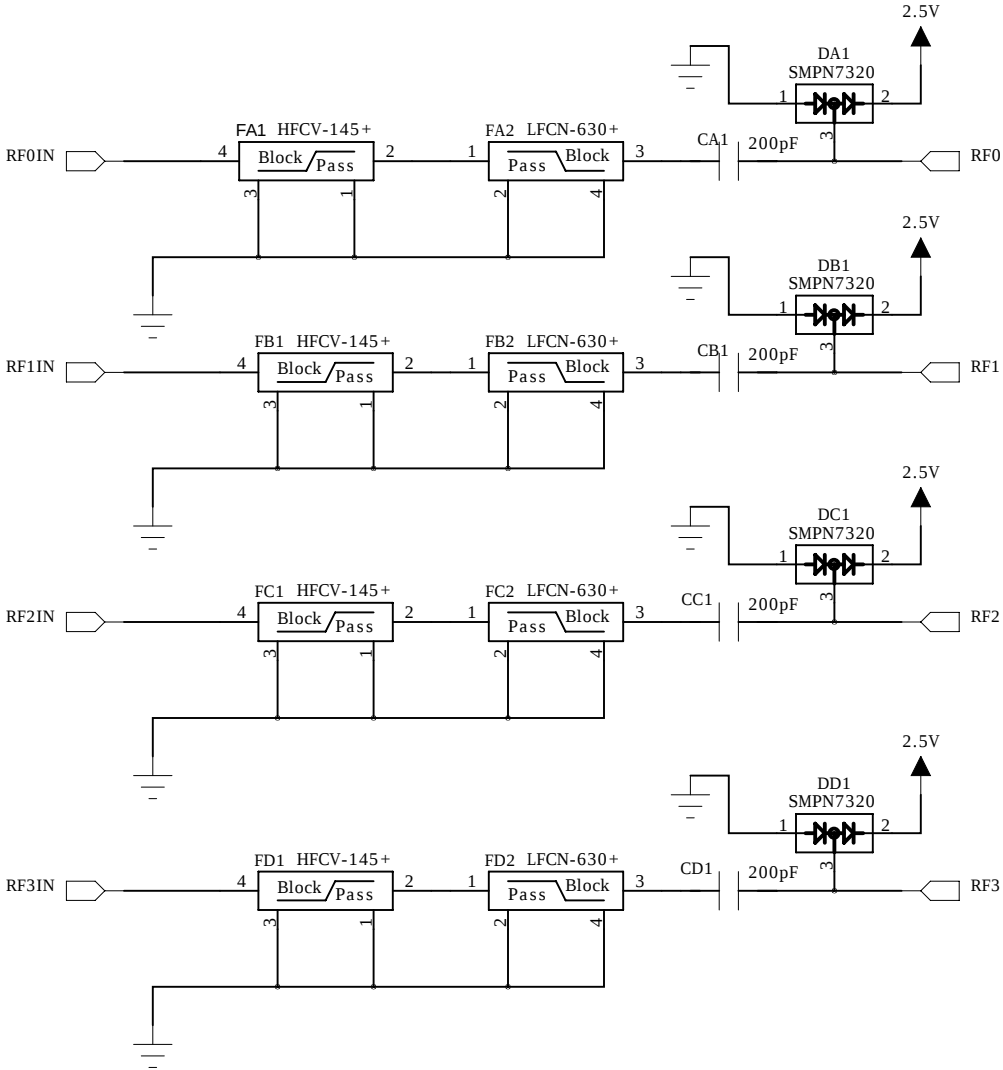
D

C

B

A

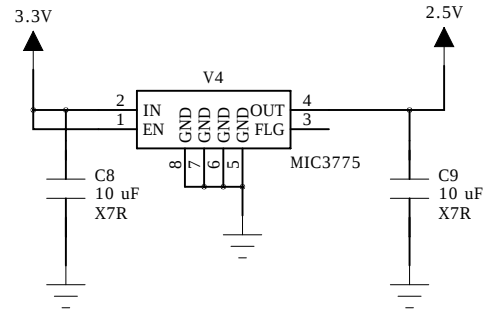
REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



200 pF yields 100 MHz low-frequency 3 dB point on 50 ohm

COMPANY: Ohio State University			
TITLE: DIGITIZING DAUGHTERBOARD FOR ARA (DDA)			
SHEET NAME: RF_IN			
CODE:	SIZE:	DRAWING NO:	REV:
	B	1	1
SCALE:		SHEET: 6 OF 9	

DRAWN: PSA	DATED: 9/15/2010
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

6		5		4		3		2		1																																									
										REVISION RECORD																																									
										LTR	ECO NO:		APPROVED:	DATE:																																					
D											D																																								
Need ~150 mm2 copper area for adequate heatsinking at 50 C ambient																																																			
C											C																																								
B											B																																								
A	<table><tr><td colspan="2">DRAWN: PSA</td><td colspan="2">DATED: 9/15/2010</td><td colspan="4">COMPANY: Ohio State University</td></tr><tr><td colspan="2">CHECKED:</td><td colspan="2">DATED:</td><td colspan="4">TITLE: DIGITIZING DAUGHTERBOARD FOR ARA (DDA)</td></tr><tr><td colspan="2">QUALITY CONTROL:</td><td colspan="2">DATED:</td><td colspan="4">SHEET NAME: POWER</td></tr><tr><td colspan="2">RELEASED:</td><td colspan="2">DATED:</td><td>CODE:</td><td>SIZE: B</td><td>DRAWING NO: 1</td><td>REV: 1</td></tr><tr><td colspan="4"></td><td colspan="2">SCALE:</td><td colspan="2">SHEET: 8 OF 9</td></tr></table>										DRAWN: PSA		DATED: 9/15/2010		COMPANY: Ohio State University				CHECKED:		DATED:		TITLE: DIGITIZING DAUGHTERBOARD FOR ARA (DDA)				QUALITY CONTROL:		DATED:		SHEET NAME: POWER				RELEASED:		DATED:		CODE:	SIZE: B	DRAWING NO: 1	REV: 1					SCALE:		SHEET: 8 OF 9		A
DRAWN: PSA		DATED: 9/15/2010		COMPANY: Ohio State University																																															
CHECKED:		DATED:		TITLE: DIGITIZING DAUGHTERBOARD FOR ARA (DDA)																																															
QUALITY CONTROL:		DATED:		SHEET NAME: POWER																																															
RELEASED:		DATED:		CODE:	SIZE: B	DRAWING NO: 1	REV: 1																																												
				SCALE:		SHEET: 8 OF 9																																													

6

5

4

3

2

1

REVISION RECORD

LTR	ECO NO:	APPROVED:	DATE:

D

C

B

A

U6

tmp102aidrlr

SCL

SDA

1

6

2

GND

3

ALERT

V+

5

4

ADD0

3.3V

CX21

0.1 uF

DDA gets 1001000X for temp sensor address

DRAWN: PSA		DATED: 9/15/2010	
CHECKED:		DATED:	
QUALITY CONTROL:		DATED:	
RELEASED:		DATED:	

COMPANY: Ohio State University			
TITLE: DIGITIZING DAUGHTERBOARD FOR ARA (DDA)			
SHEET NAME: TEMP			
CODE:	SIZE: B	DRAWING NO: 1	REV: 1
SCALE:		SHEET: 9 OF 9	