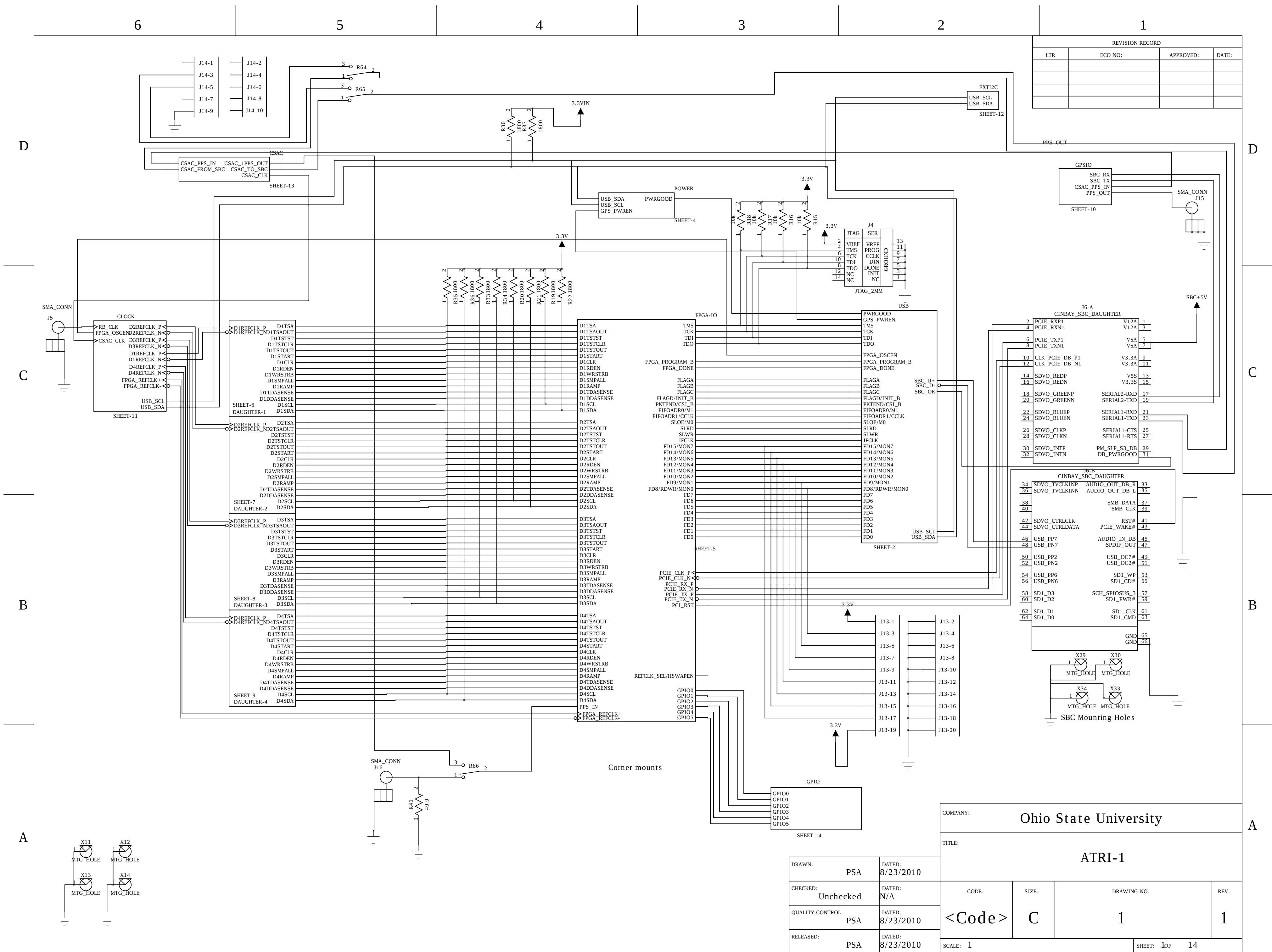




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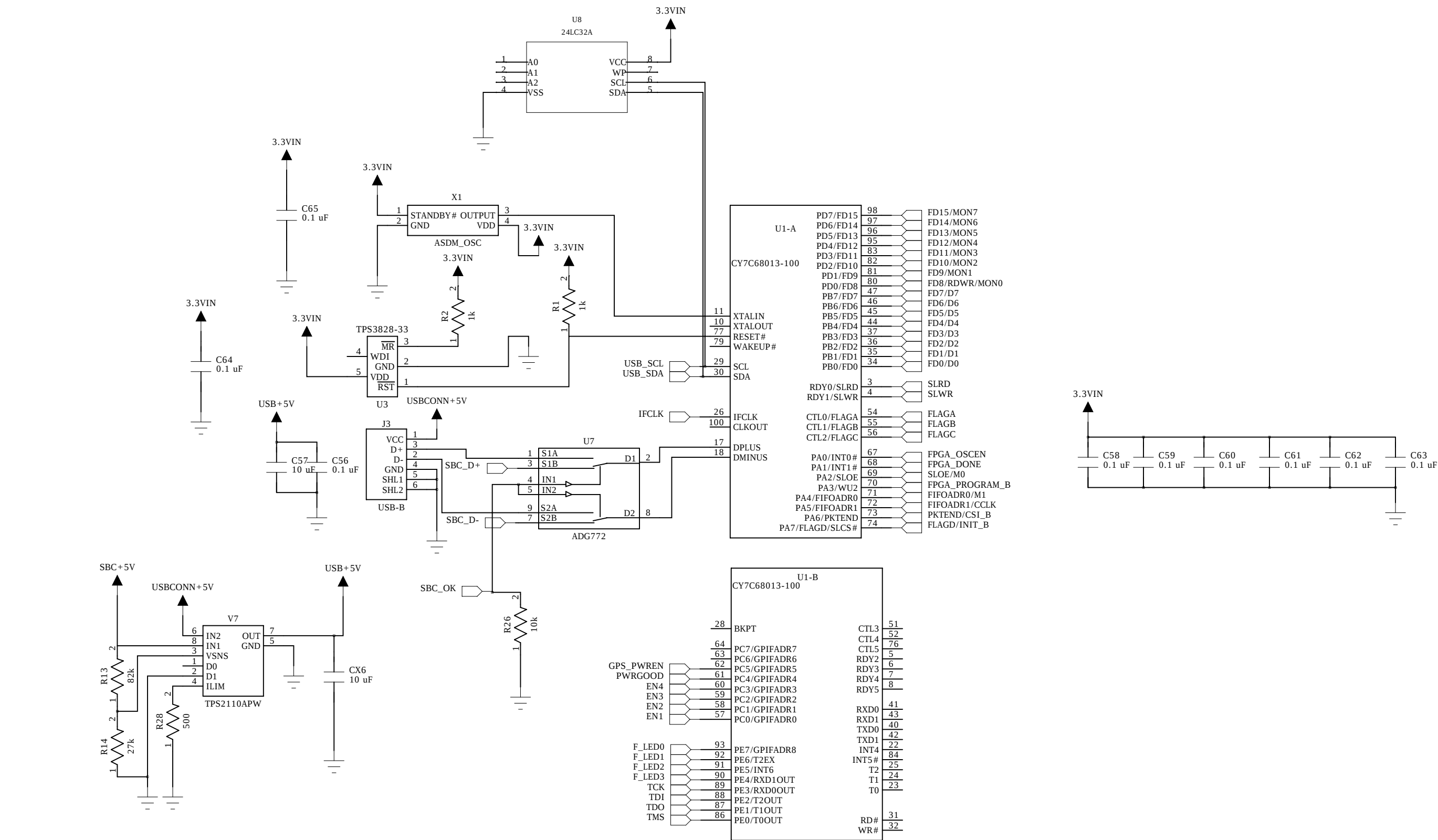
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| REVISION RECORD |         |           |       |
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| LTR             | ECO NO: | APPROVED: | DATE: |
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3.3V logic, 2V forward drop  
20 mA max current in 2 resistors =  
33 ohms/resistor

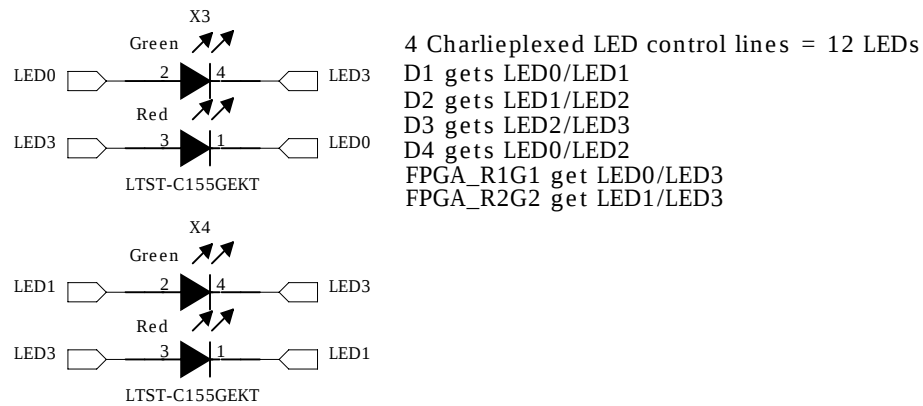
F\_LED0 LED0

F\_LED1 LED1

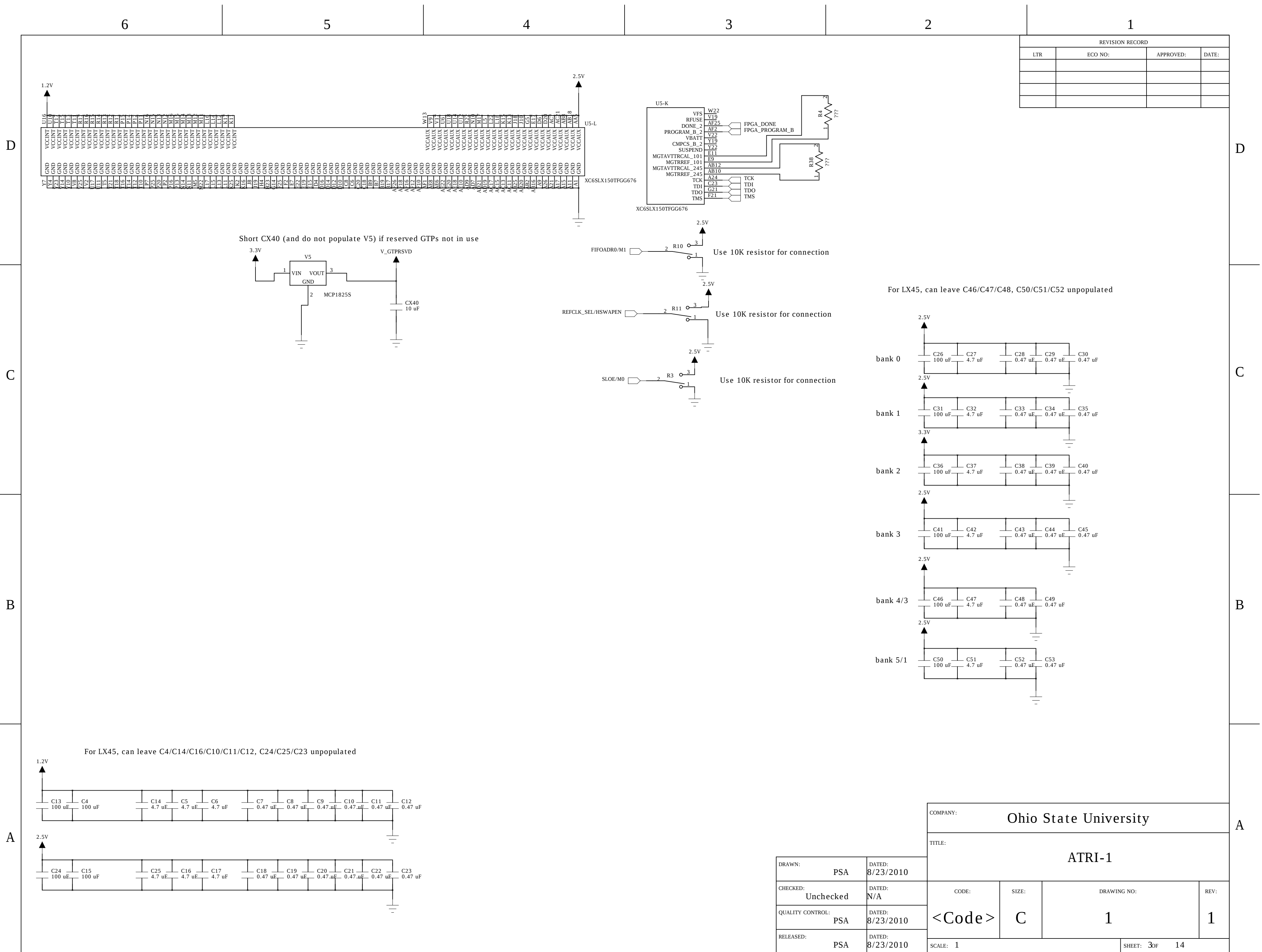
F\_LED2 LED2

F\_LED3 LED3

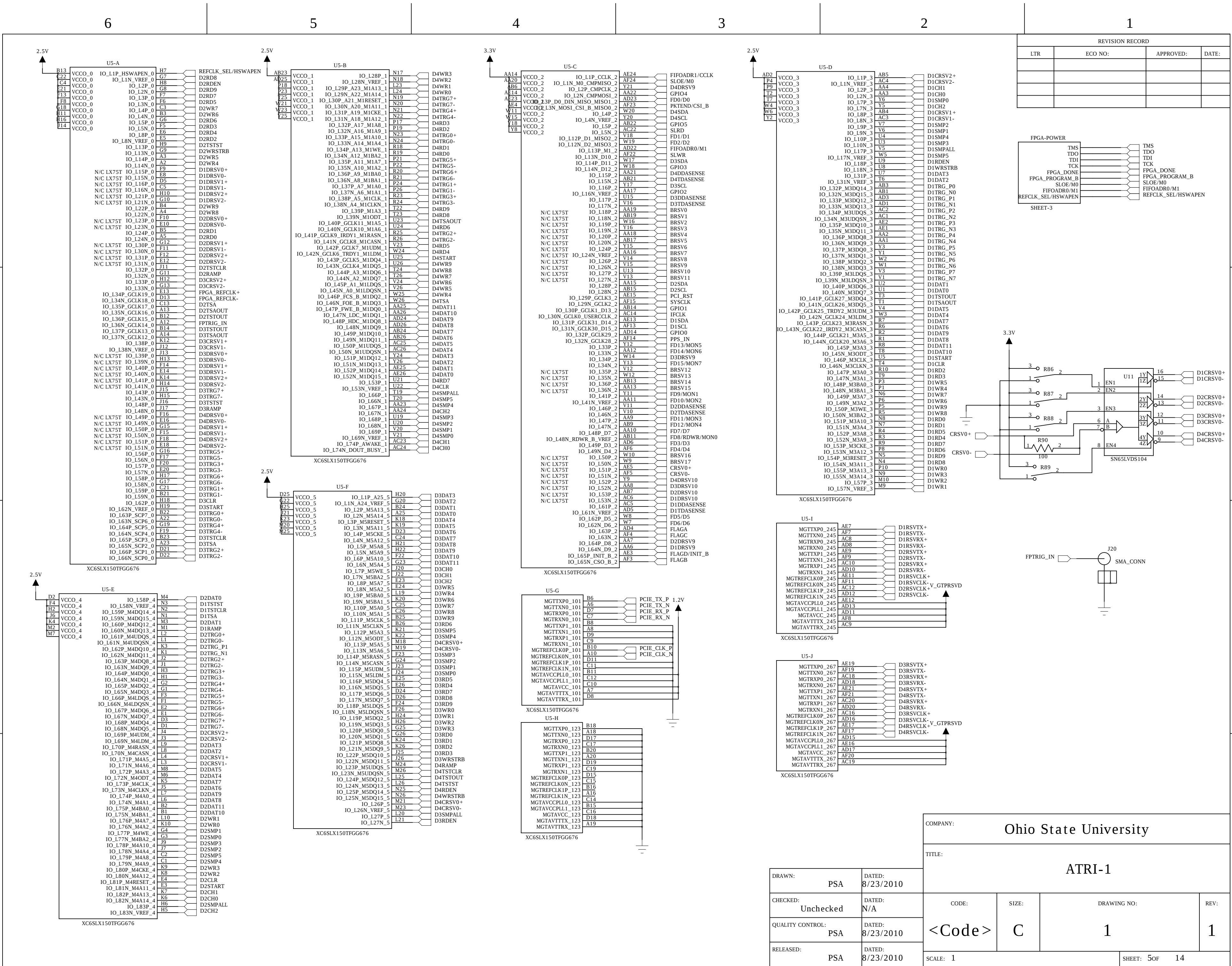
Note: LEDs will not be at max brightness  
since only have 8% duty cycle (avg 1.2 mA)  
Can adjust lower if needed



|                                |                  |                |         |
|--------------------------------|------------------|----------------|---------|
| COMPANY: Ohio State University |                  |                |         |
| TITLE: ATRI-1                  |                  |                |         |
| DRAWN: PSA                     | DATED: 8/23/2010 | CODE: <Code>   | SIZE: C |
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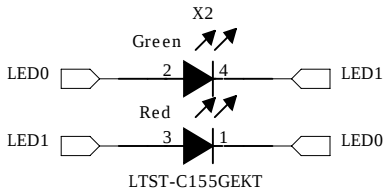
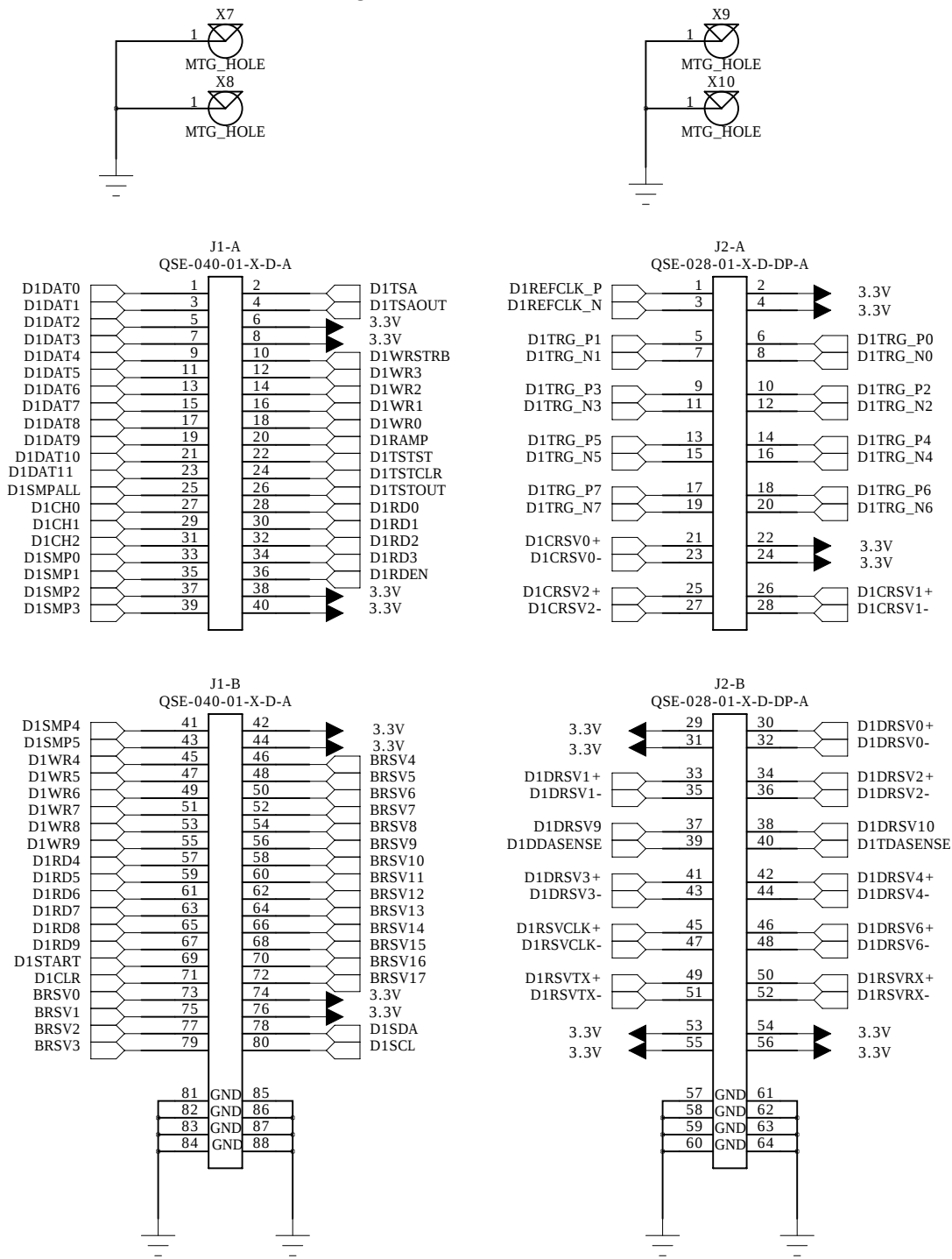
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REVISION RECORD

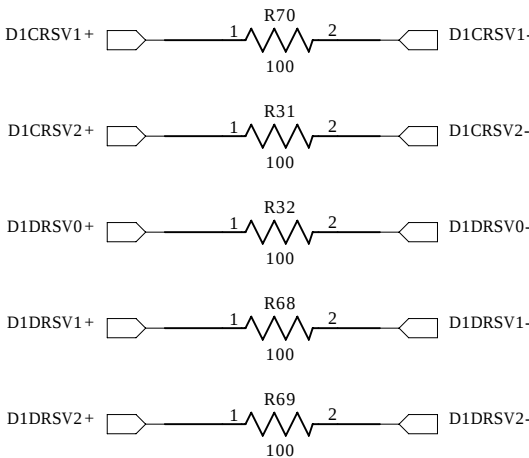
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Daughterboard connector mounts



4 Charlieplexed LED control lines = 12 LEDs  
D1 gets LED0/LED1  
D2 gets LED1/LED2  
D3 gets LED2/LED3  
D4 gets LED0/LED2  
FPGA\_R1G1 get LED0/LED3  
FPGA\_R2G2 get LED1/LED3

optional, for receiving LVDS only



DDASENSE/TDASENSE are pulled up on FPGA  
Short to ground on DDA/TDA boards for presence detect

D\*DRSV[6,4,3]+/- are board-to-board only

|                                |         |                |        |
|--------------------------------|---------|----------------|--------|
| COMPANY: Ohio State University |         |                |        |
| TITLE: ATRI-1                  |         |                |        |
| CODE:                          | SIZE: C | DRAWING NO: 1  | REV: 1 |
| SCALE: 1                       |         | SHEET: 6 of 14 |        |

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| CHECKED: Unchecked   | DATED: N/A       |
| QUALITY CONTROL: PSA | DATED: 8/23/2010 |
| RELEASED: PSA        | DATED: 8/23/2010 |

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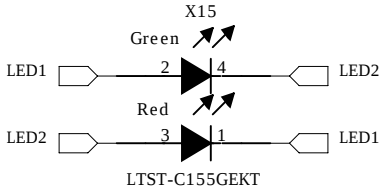
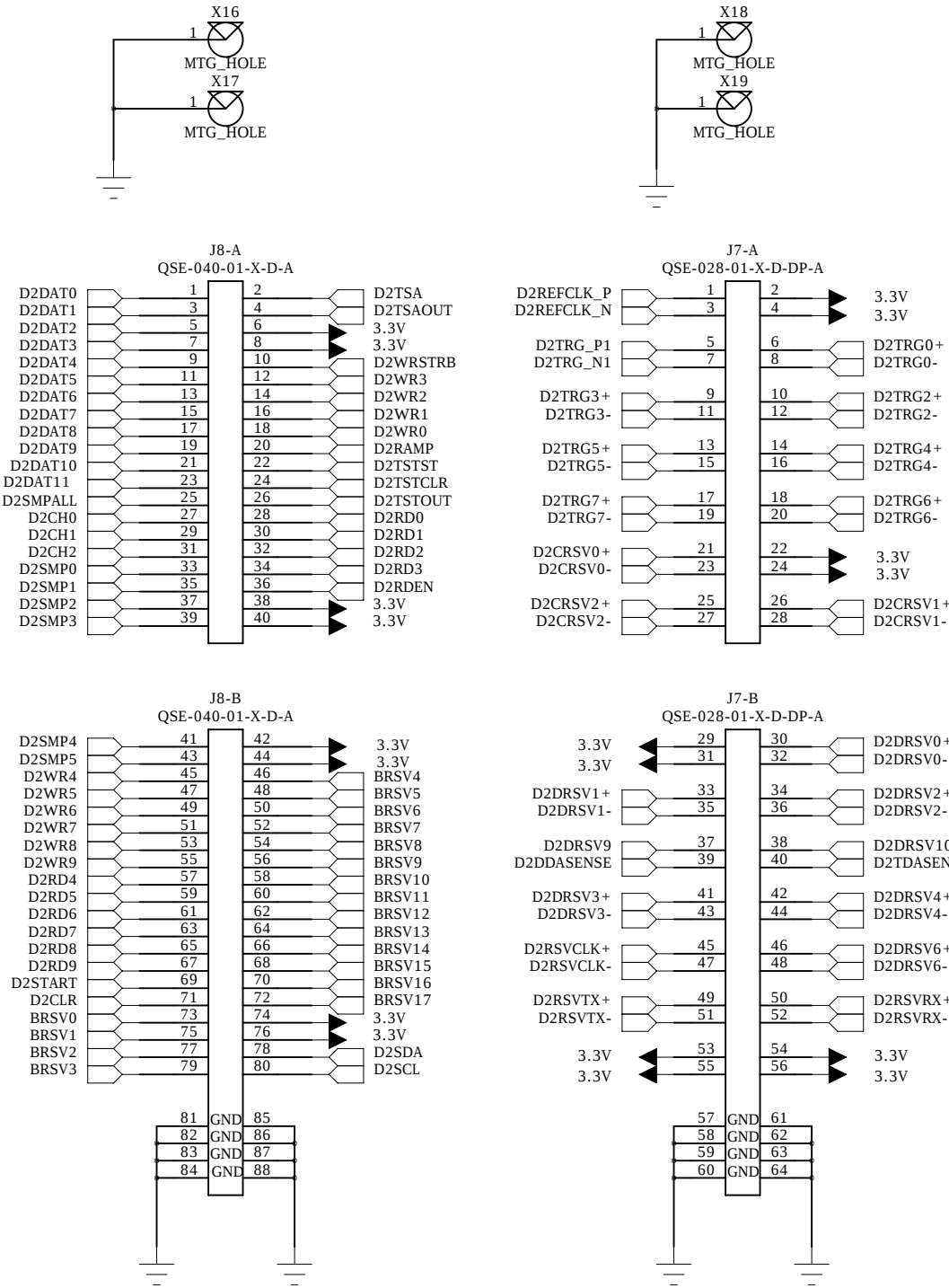
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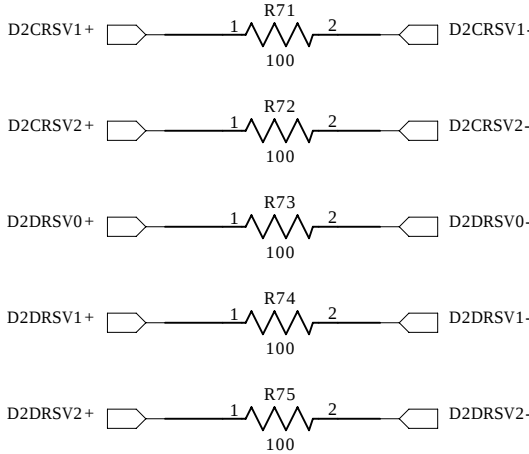
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Daughterboard connector mounts



4 Charlieplexed LED control lines = 12 LEDs  
D1 gets LED0/LED1  
D2 gets LED1/LED2  
D3 gets LED2/LED3  
D4 gets LED0/LED2  
FPGA\_R1G1 get LED0/LED3  
FPGA\_R2G2 get LED1/LED3

optional, for receiving LVDS only



DDASENSE/TDASENSE are pulled up on FPGA  
Short to ground on DDA/TDA boards for presence detect

|                                |         |                |        |
|--------------------------------|---------|----------------|--------|
| COMPANY: Ohio State University |         |                |        |
| TITLE: ATRI-1                  |         |                |        |
| CODE:                          | SIZE: C | DRAWING NO: 1  | REV: 1 |
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| CHECKED: Unchecked   | DATED: N/A       |
| QUALITY CONTROL: PSA | DATED: 8/23/2010 |
| RELEASED: PSA        | DATED: 8/23/2010 |

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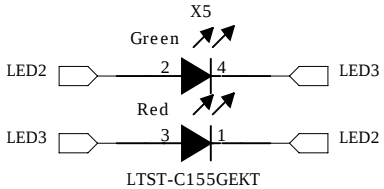
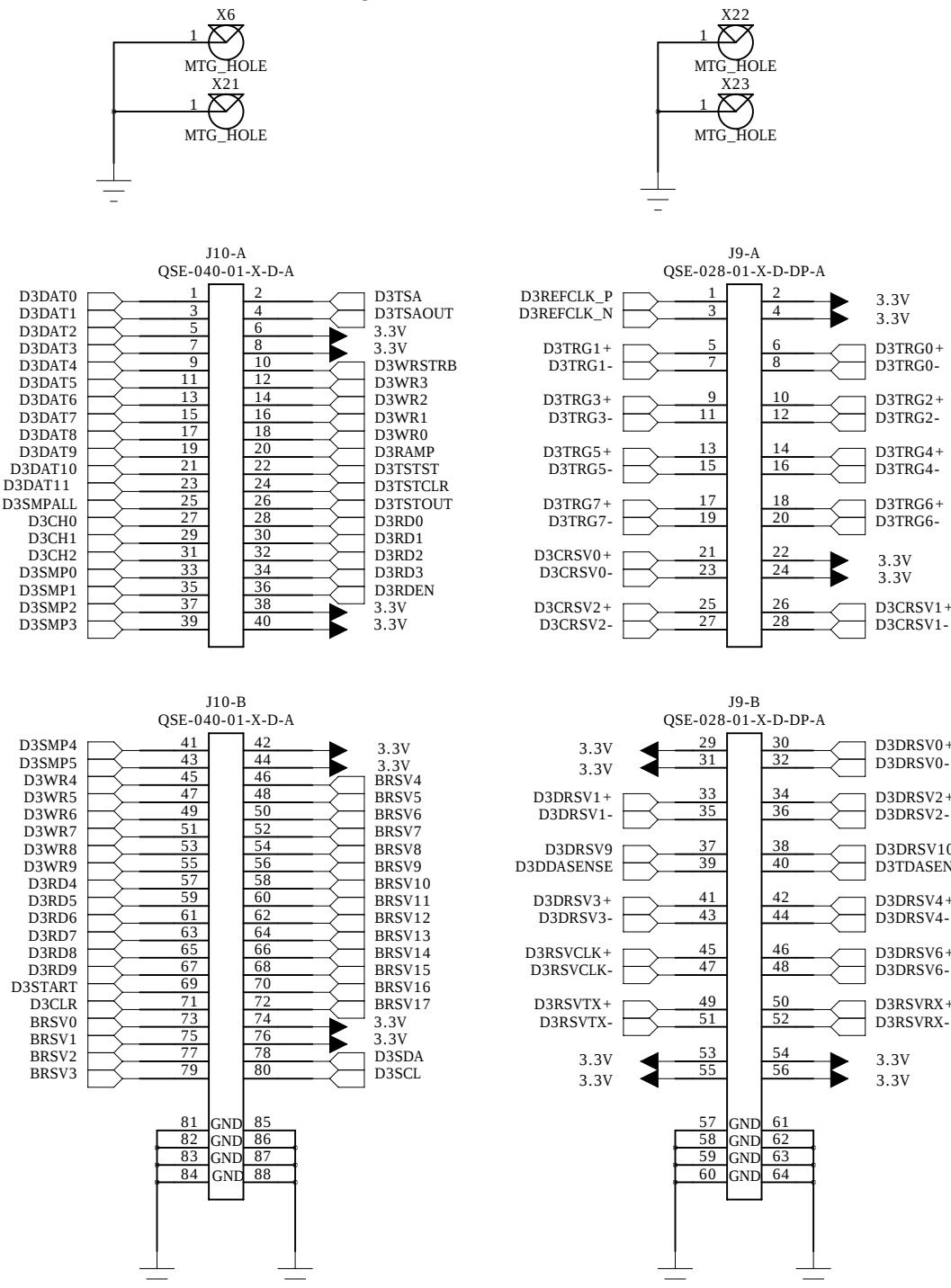
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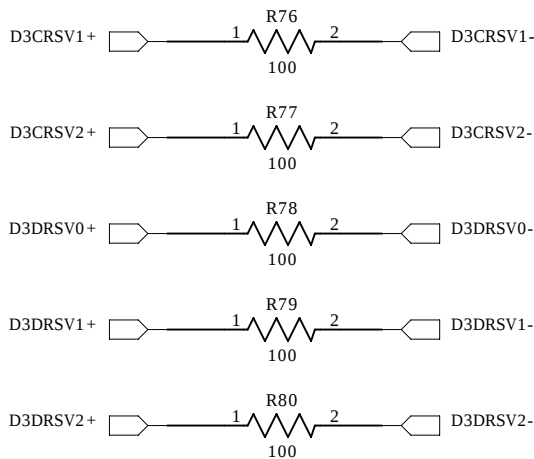
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Daughterboard connector mounts



4 Charlieplexed LED control lines = 12 LEDs  
D1 gets LED0/LED1  
D2 gets LED1/LED2  
D3 gets LED2/LED3  
D4 gets LED0/LED2  
FPGA\_R1G1 get LED0/LED3  
FPGA\_R2G2 get LED1/LED3

optional, for receiving LVDS only



DDA/SENSE/TDA/SENSE are pulled up on FPGA  
Short to ground on DDA/TDA boards for presence detect

|                                |       |                |      |
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| COMPANY: Ohio State University |       |                |      |
| TITLE: ATRI-1                  |       |                |      |
| CODE:                          | SIZE: | DRAWING NO:    | REV: |
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| DRAWN:           | PSA       | DATED: | 8/23/2010 |
| CHECKED:         | Unchecked | DATED: | N/A       |
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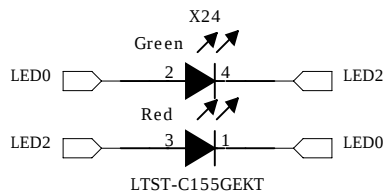
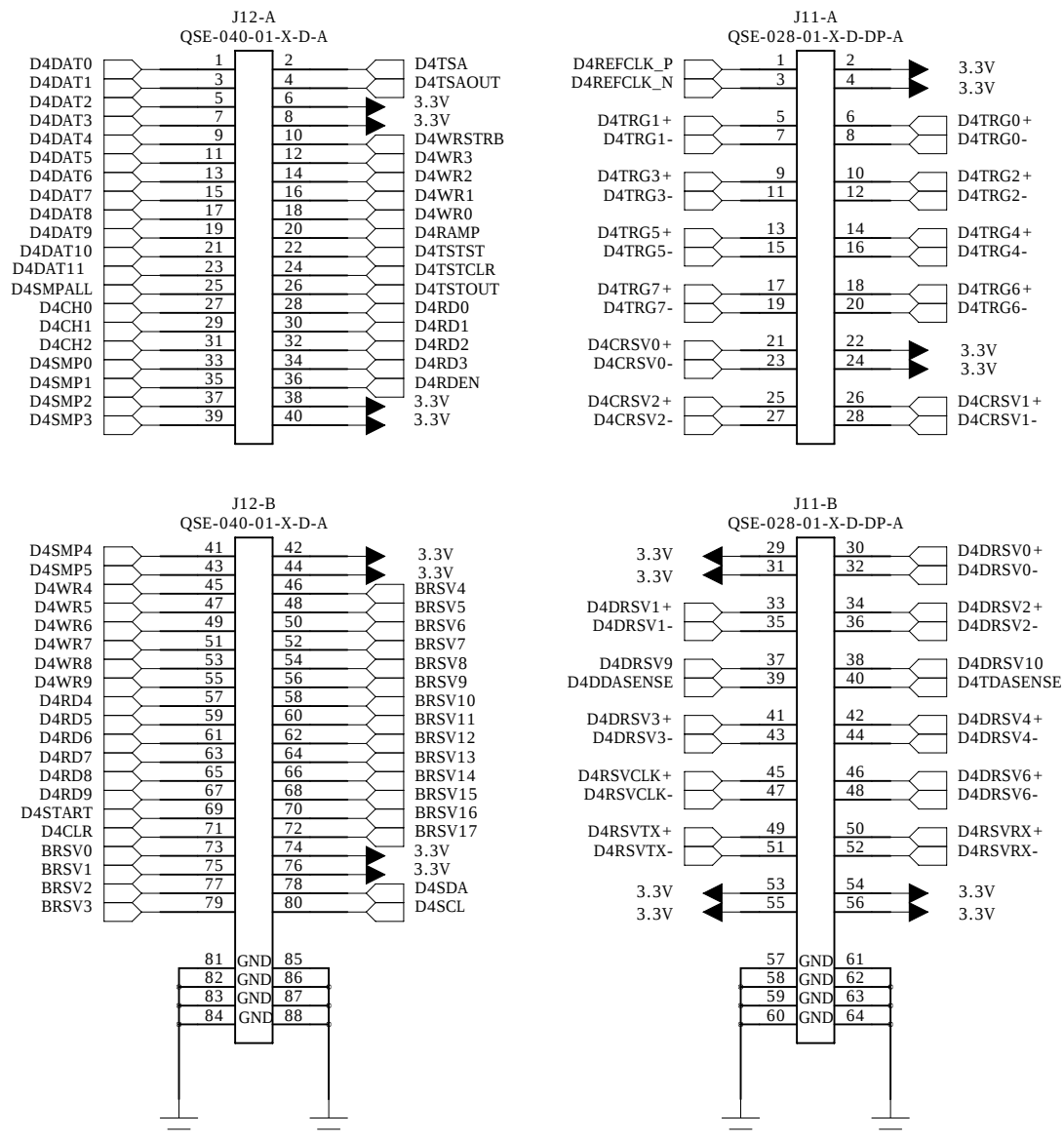
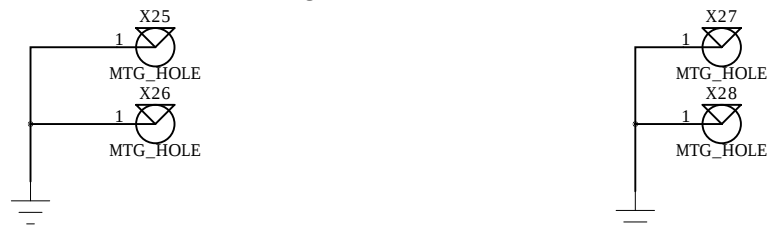
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| REVISION RECORD |         |           |       |
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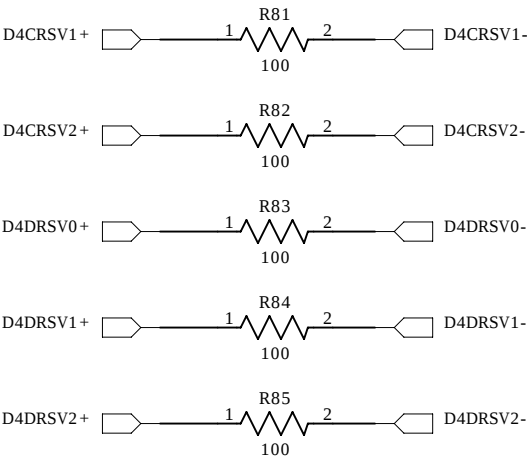
Daughterboard connector mounts



4 Charlieplexed LED control lines = 12 LEDs  
D1 gets LED0/LED1  
D2 gets LED1/LED2  
D3 gets LED2/LED3  
D4 gets LED0/LED2  
FPGA\_R1G1 get LED0/LED3  
FPGA\_R2G2 get LED1/LED3

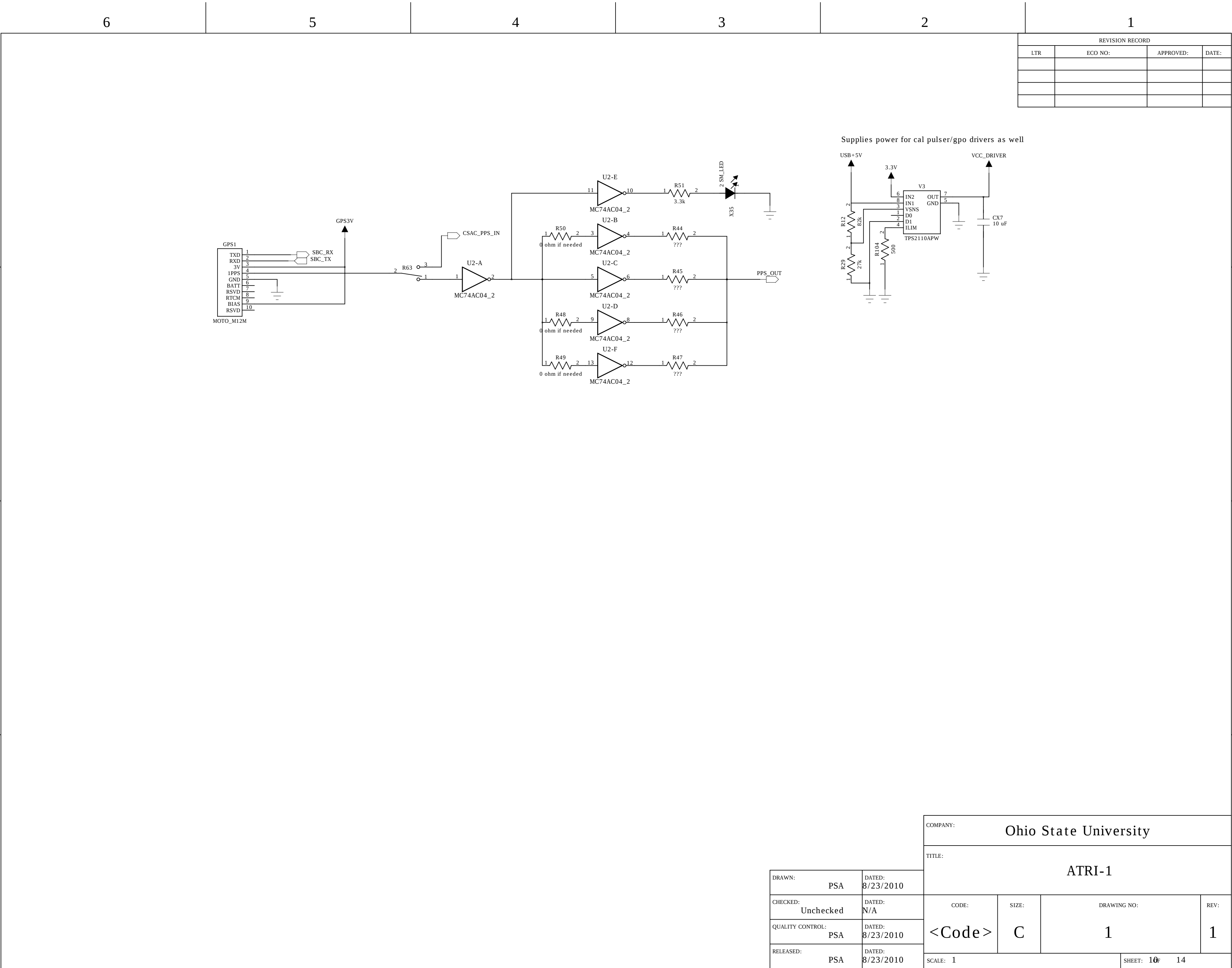
DDASENSE/TDASENSE are pulled up on FPGA  
Short to ground on DDA/TDA boards for presence detect

optional, for receiving LVDS only



|                                |         |                |        |
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| COMPANY: Ohio State University |         |                |        |
| TITLE: ATRI-1                  |         |                |        |
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| SCALE: 1                       |         | SHEET: 9 of 14 |        |

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| CHECKED: Unchecked   | DATED: N/A       |
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| RELEASED: PSA        | DATED: 8/23/2010 |



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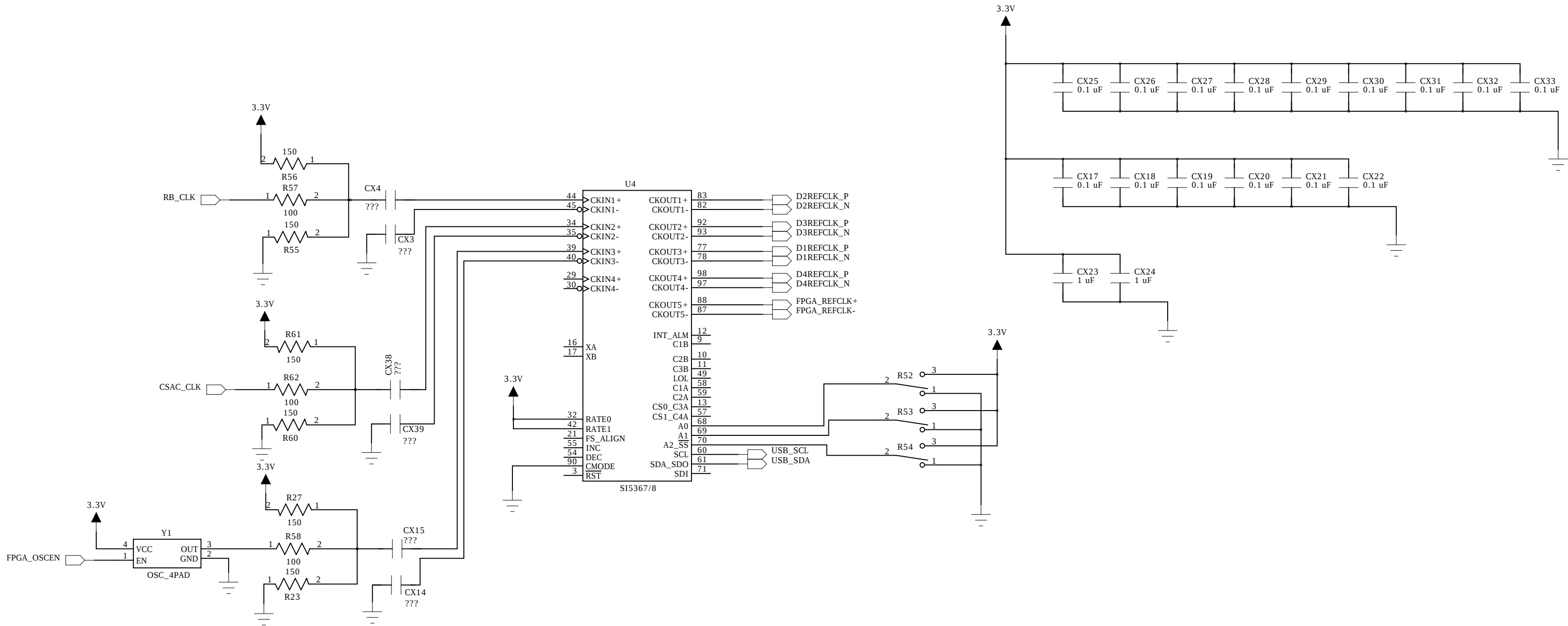
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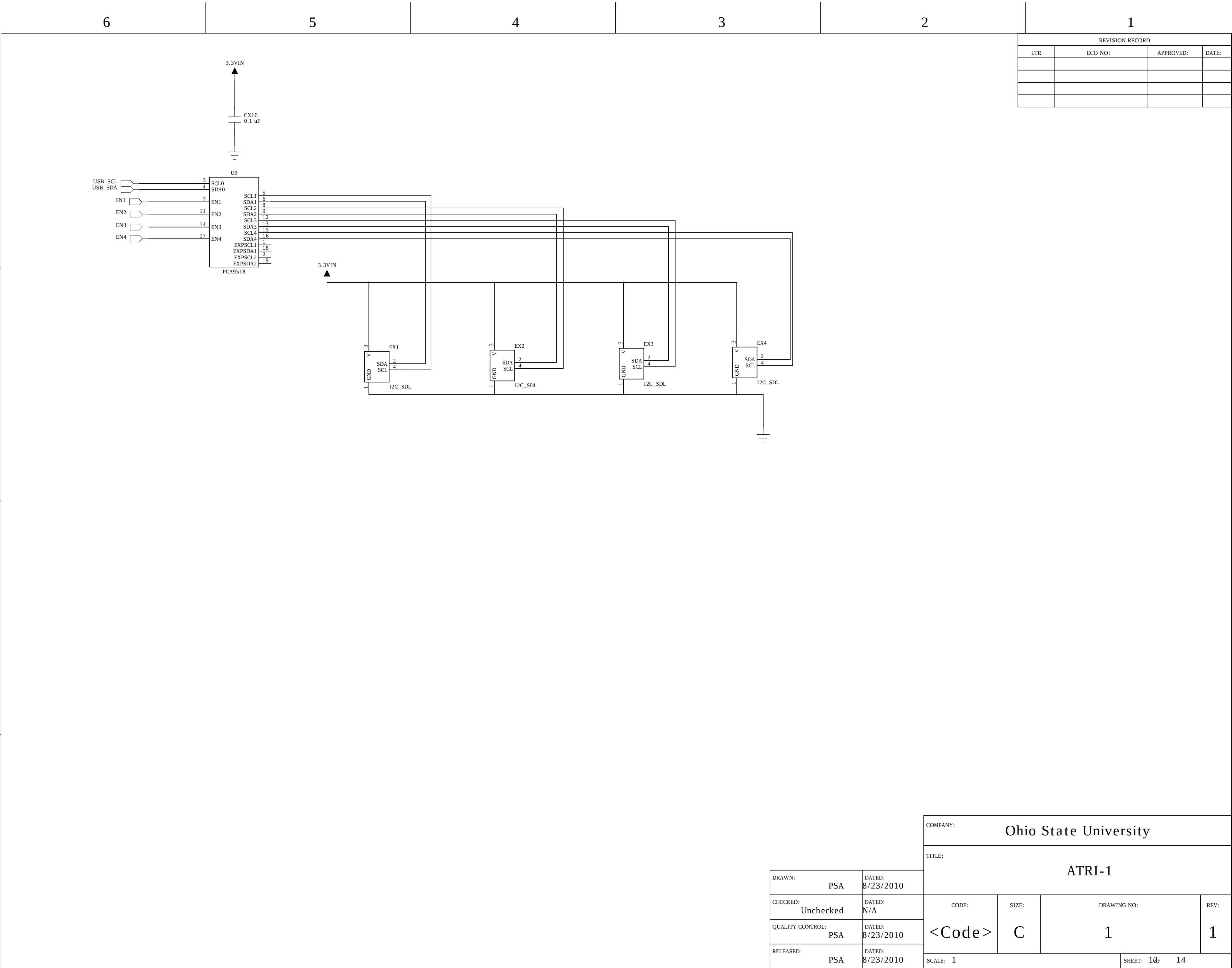
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| COMPANY: Ohio State University |         |               |        |
| TITLE: ATRI-1                  |         |               |        |
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| RELEASED: PSA        | DATED: 8/23/2010 |



| REVISION RECORD |         |           |       |
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| RELEASED: PSA        |  | DATED: 8/23/2010 |  | SCALE: 1                       |         |               | SHEET: 1 of 14 |

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3

2

1

D

C

B

A

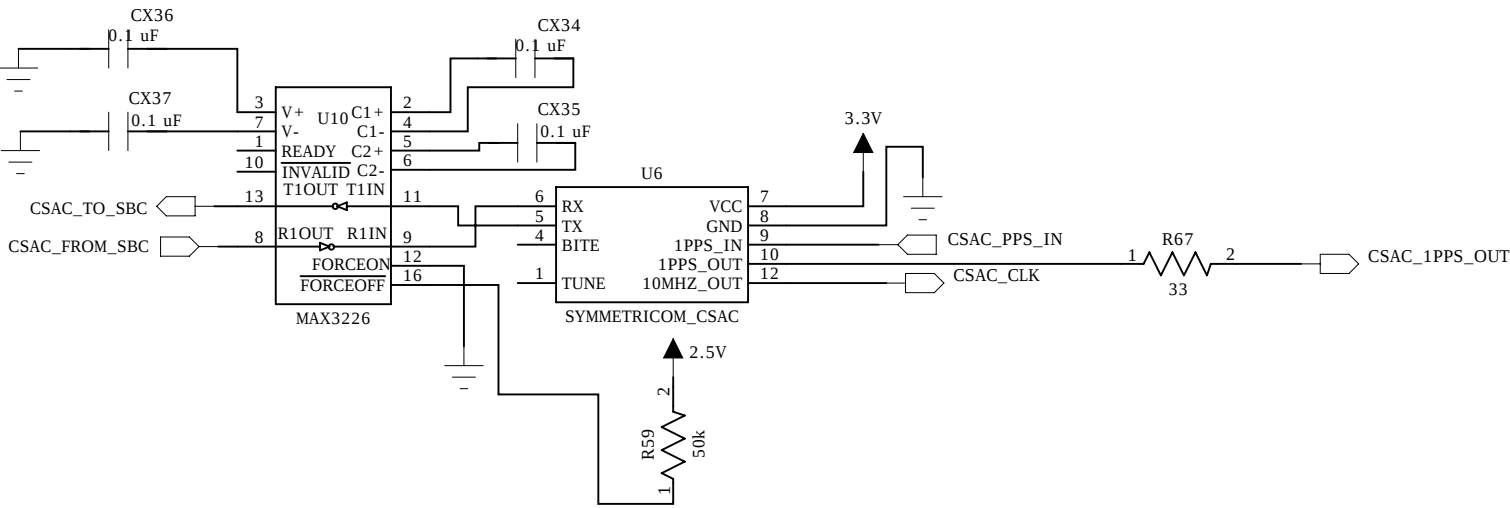
D

C

B

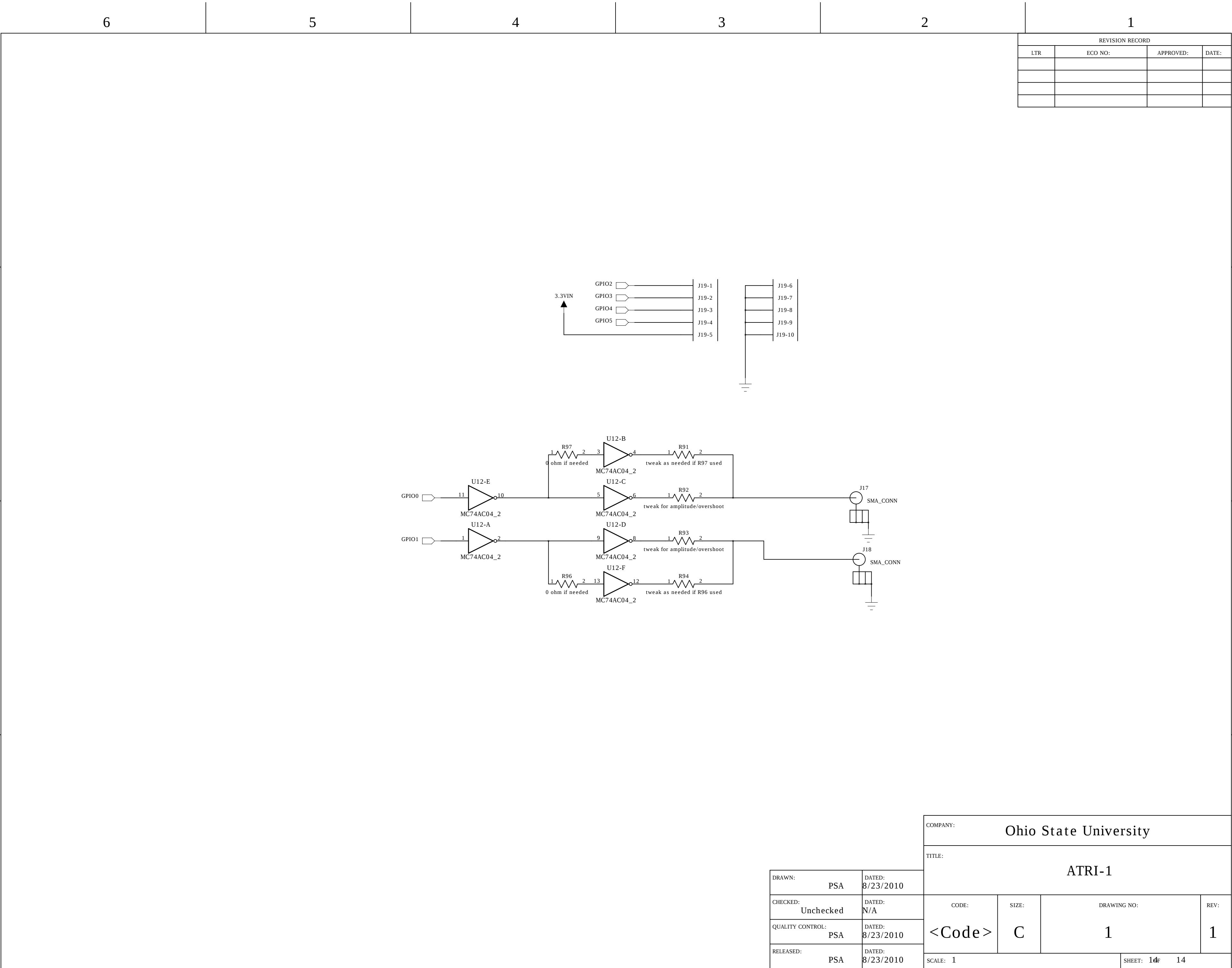
A

| REVISION RECORD |         |           |       |
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| DRAWN:           | PSA       | DATED: | 8/23/2010 |
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| QUALITY CONTROL: | PSA       | DATED: | 8/23/2010 |
| RELEASED:        | PSA       | DATED: | 8/23/2010 |

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|--------------------------------|-------|-----------------|------|
| COMPANY: Ohio State University |       |                 |      |
| TITLE: ATRI-1                  |       |                 |      |
| CODE:                          | SIZE: | DRAWING NO:     | REV: |
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| SCALE: 1                       |       | SHEET: 13 of 14 |      |



| REVISION RECORD |         |           |       |
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| DRAWN: PSA           |  | DATED: 8/23/2010 |  | COMPANY: Ohio State University |         |               |                |
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