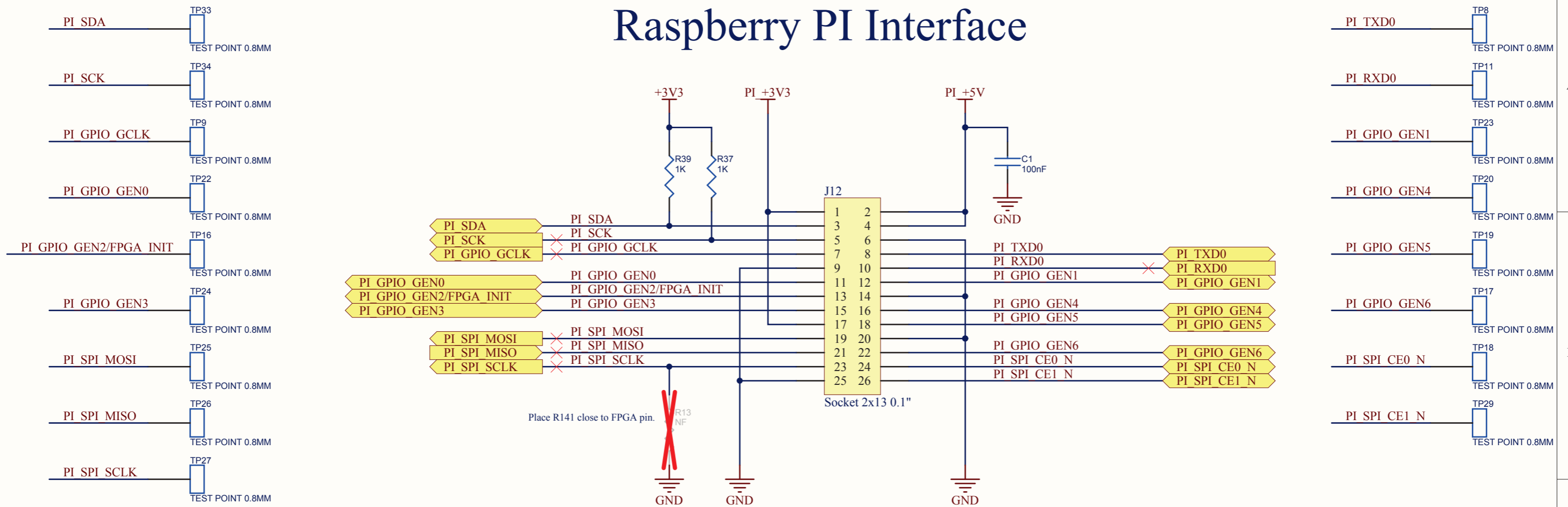
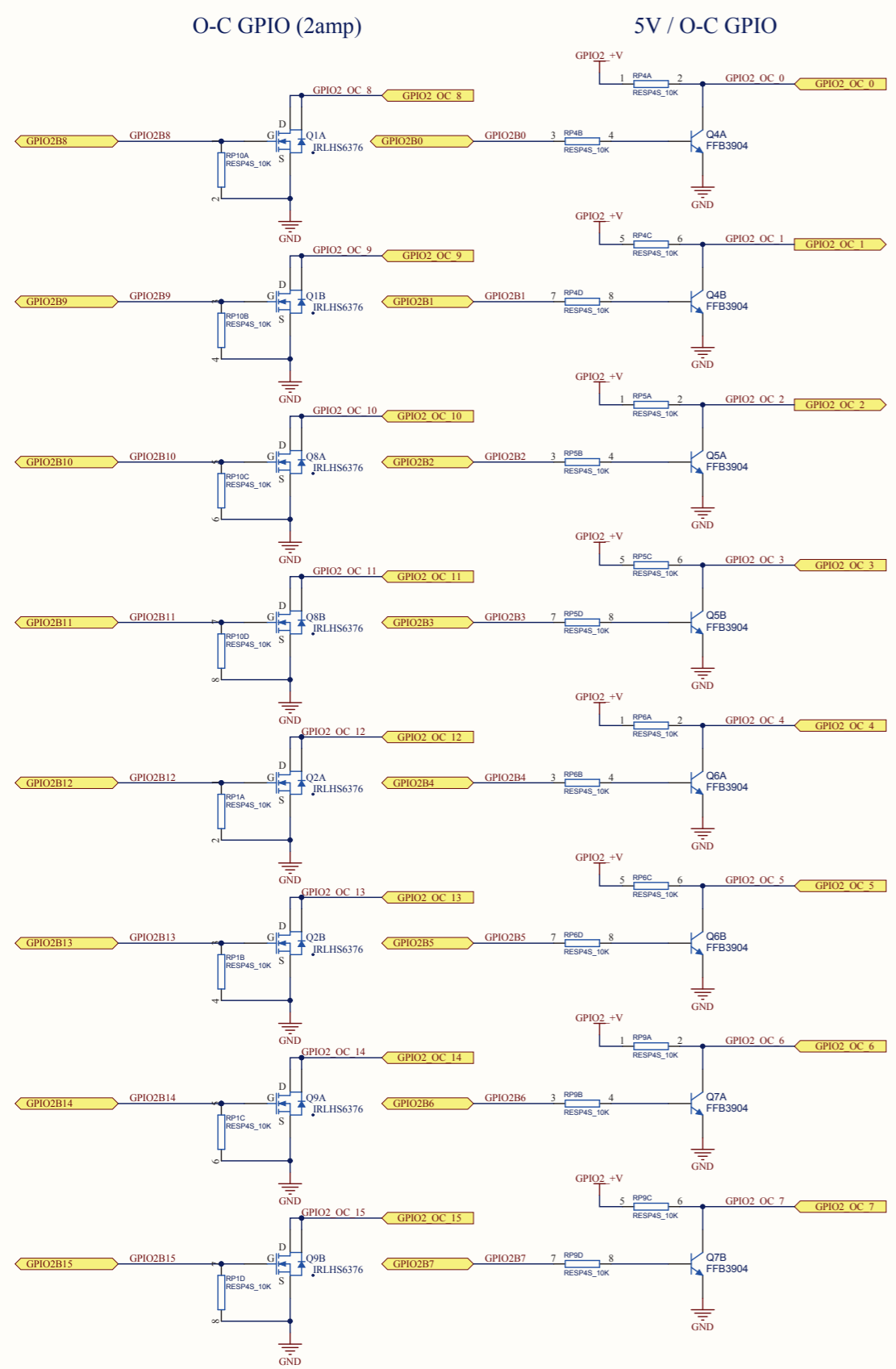


# Raspberry Pi Interface

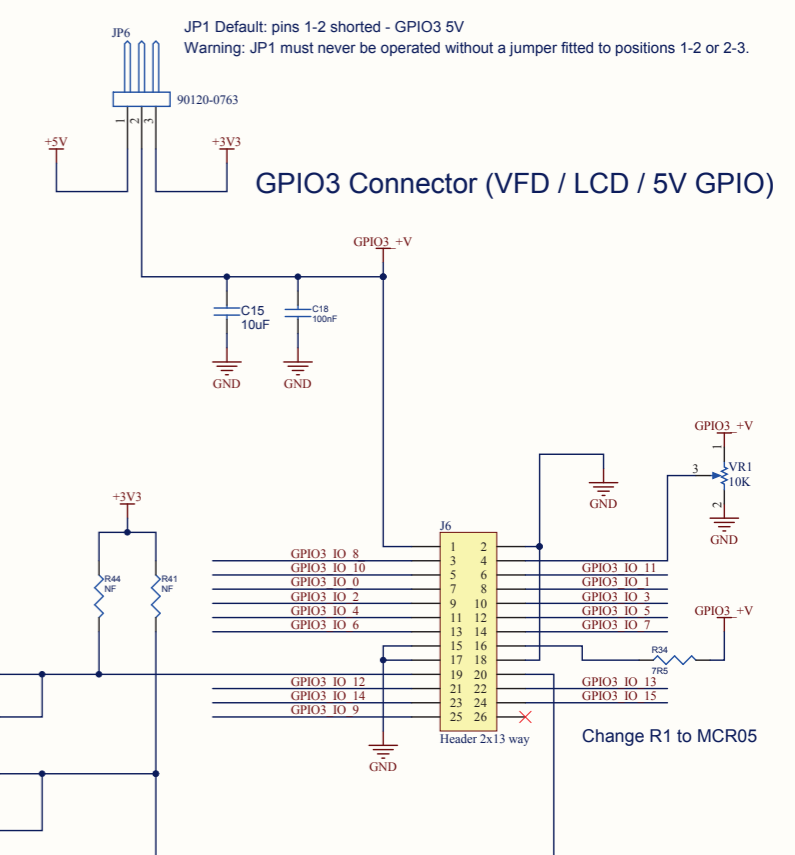
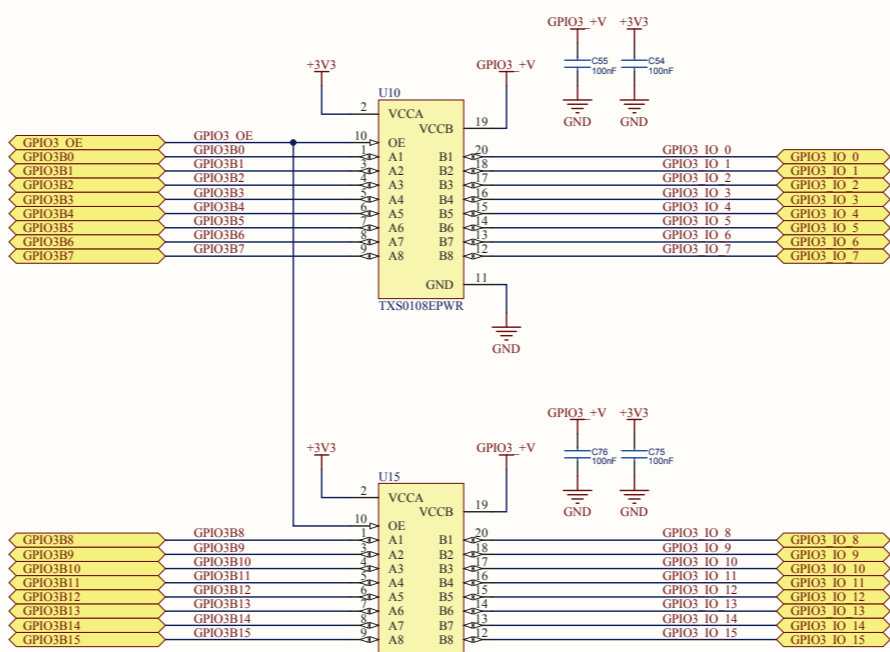
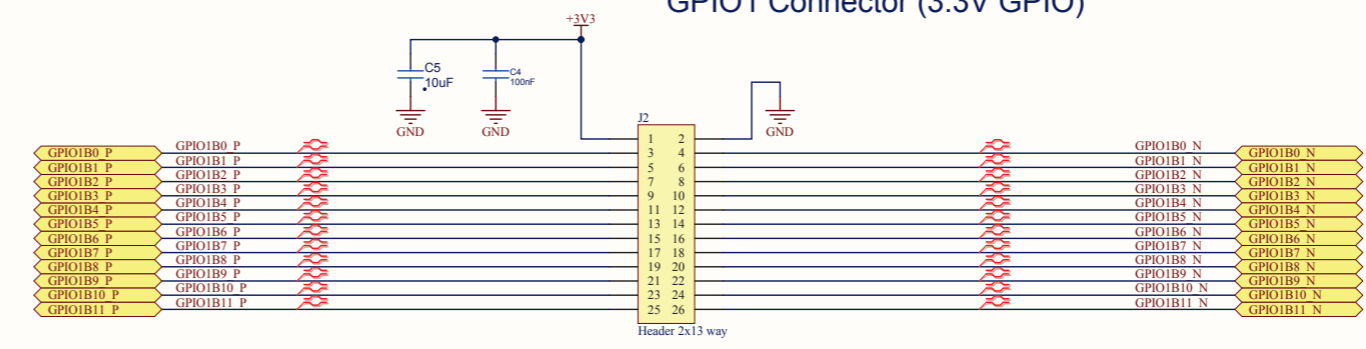


Note: P5 on Raspberry Pi board pinned for solder side mounting - hence swapped rows.

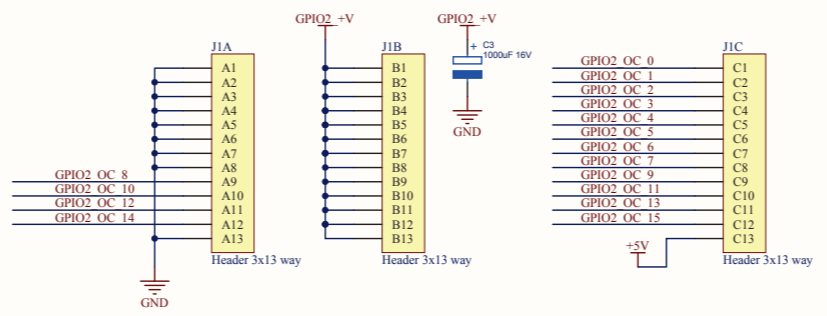
Sheet1.SchDoc		Template rev 1.1		Project:- <b>PIXI-200</b>		Title:- <b>Raspberry Pi I/F</b>					
COPYRIGHT © : This drawing is Confidential Information and the property of Astro Designs Limited. It shall not be reproduced or passed to third parties without written permission from Astro Designs Limited.		Astro Designs Limited,		Assembly Name		*		Drawn:	<b>R.M.</b>	Ch'kd:	*
				Assembly Variant		<b>Standard</b>		Date:	<b>09/02/2014</b>	Date:	
<b>CONFIDENTIAL INFORMATION</b>				Assembly No.		*		Revision		Drg. No.	
								<b>2.0 Draft G</b>		<b>AD-DRG-00005</b>	



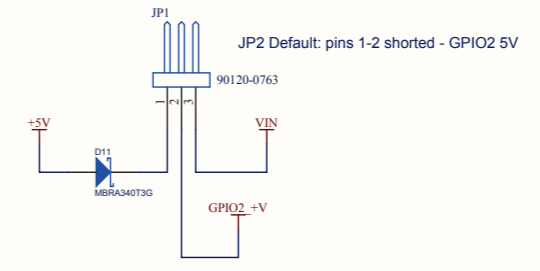
GPIO1 Connector (3.3V GPIO)

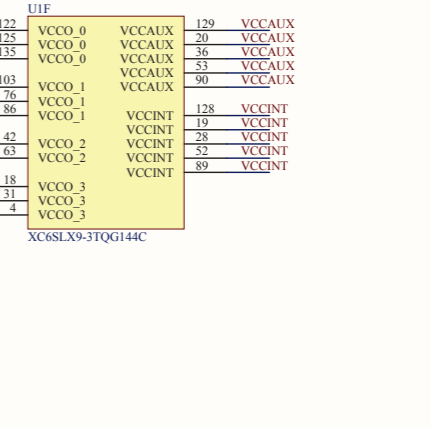
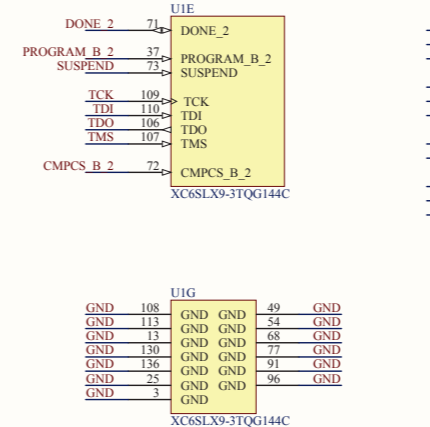
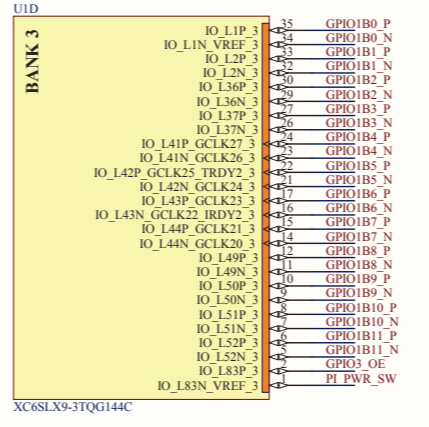
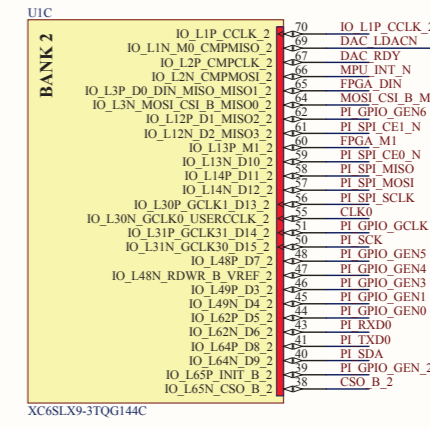
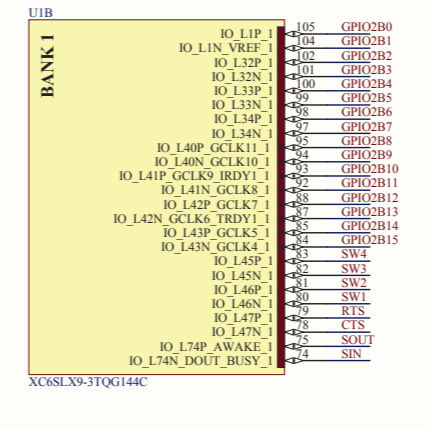
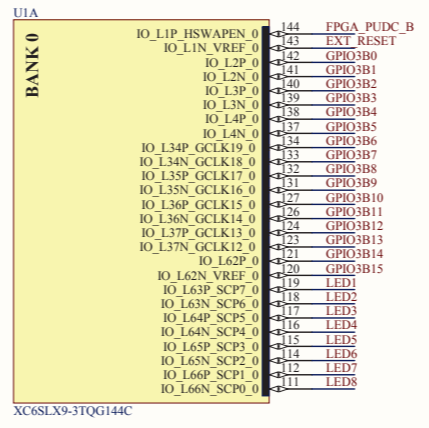
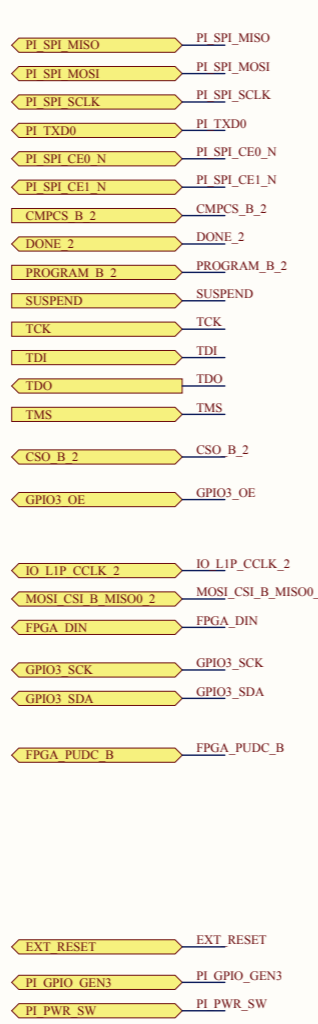
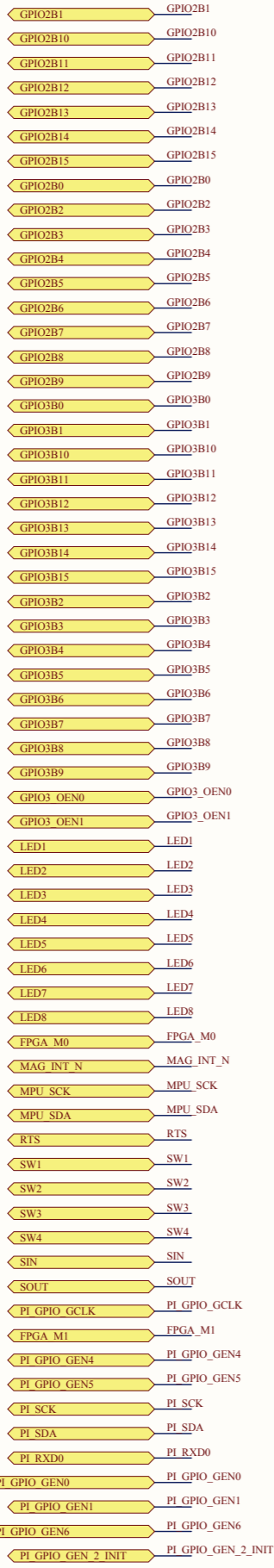
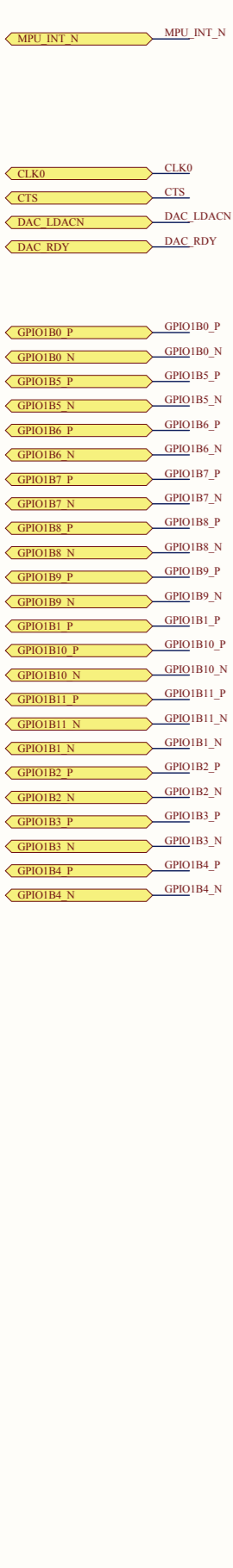


GPIO2 Connector (5V or 3.3V O-C O/Ps)

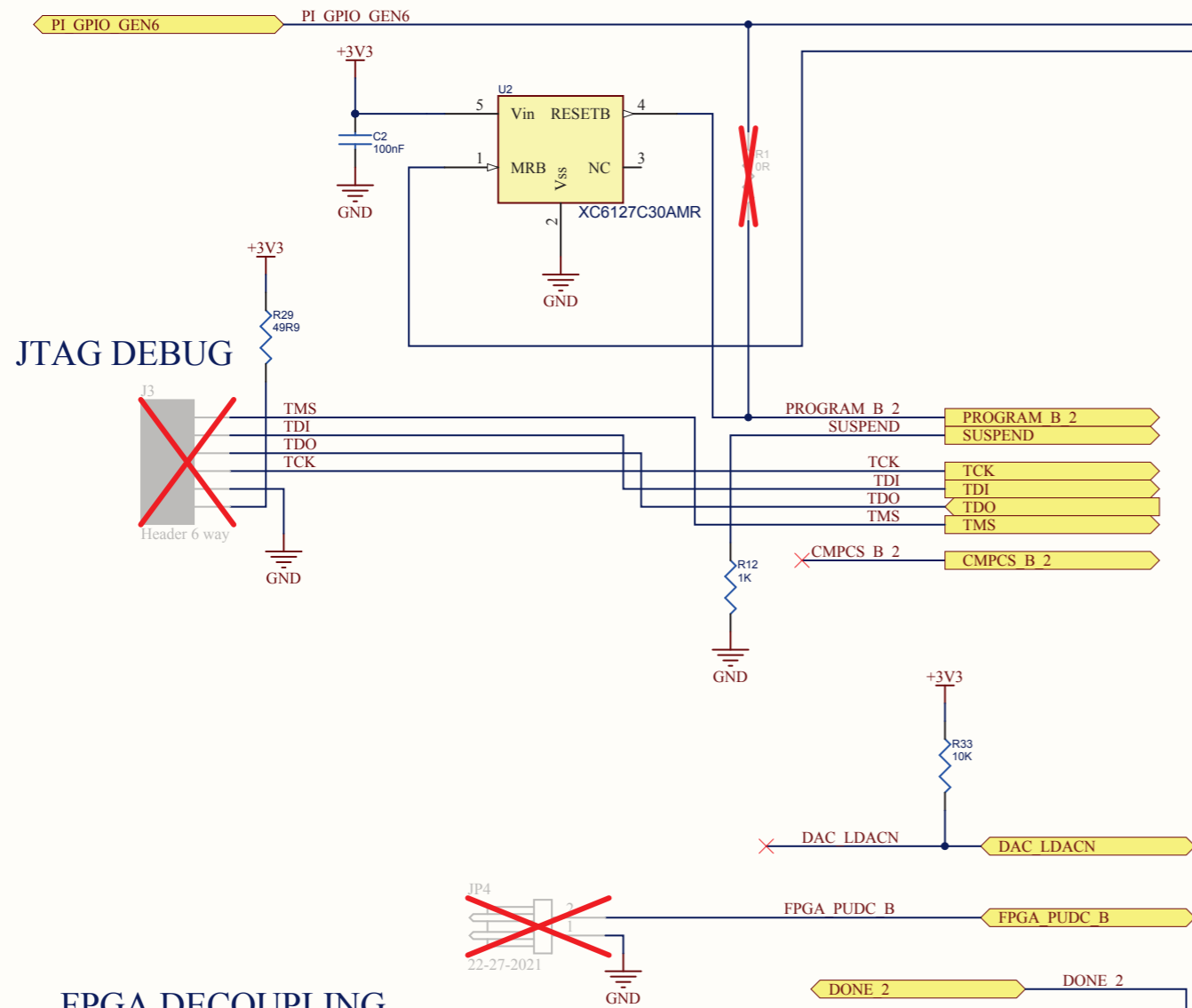


GPIO3 / LCD / VACUUM FLORESCENT DISPLAY (5V GPIO)

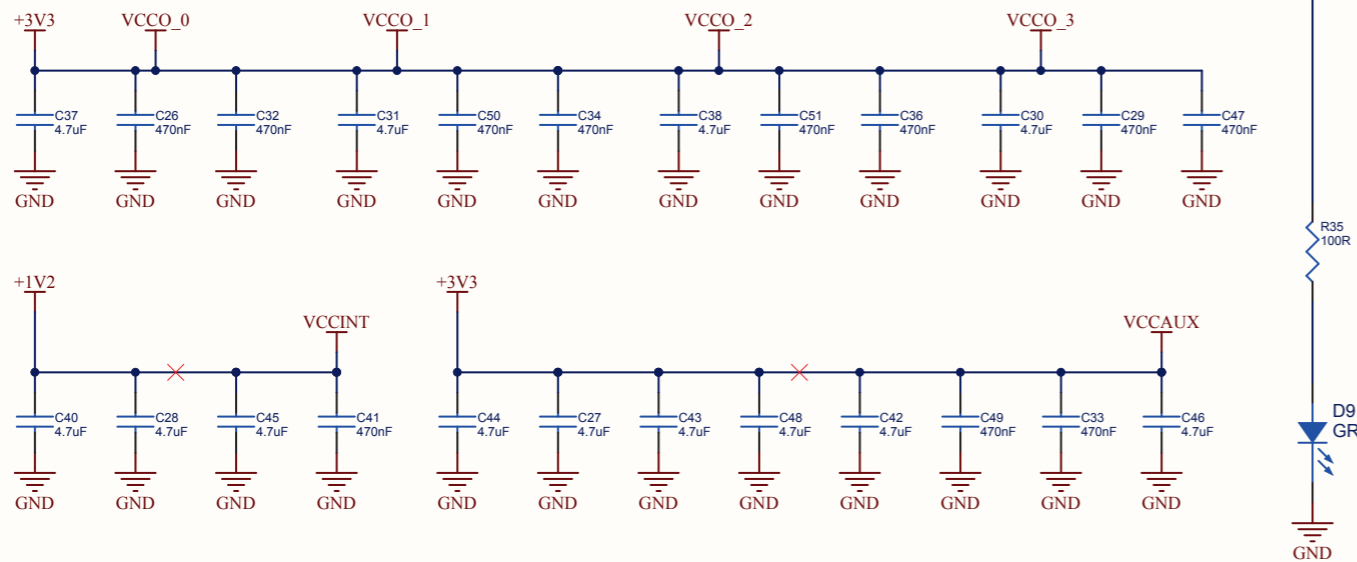




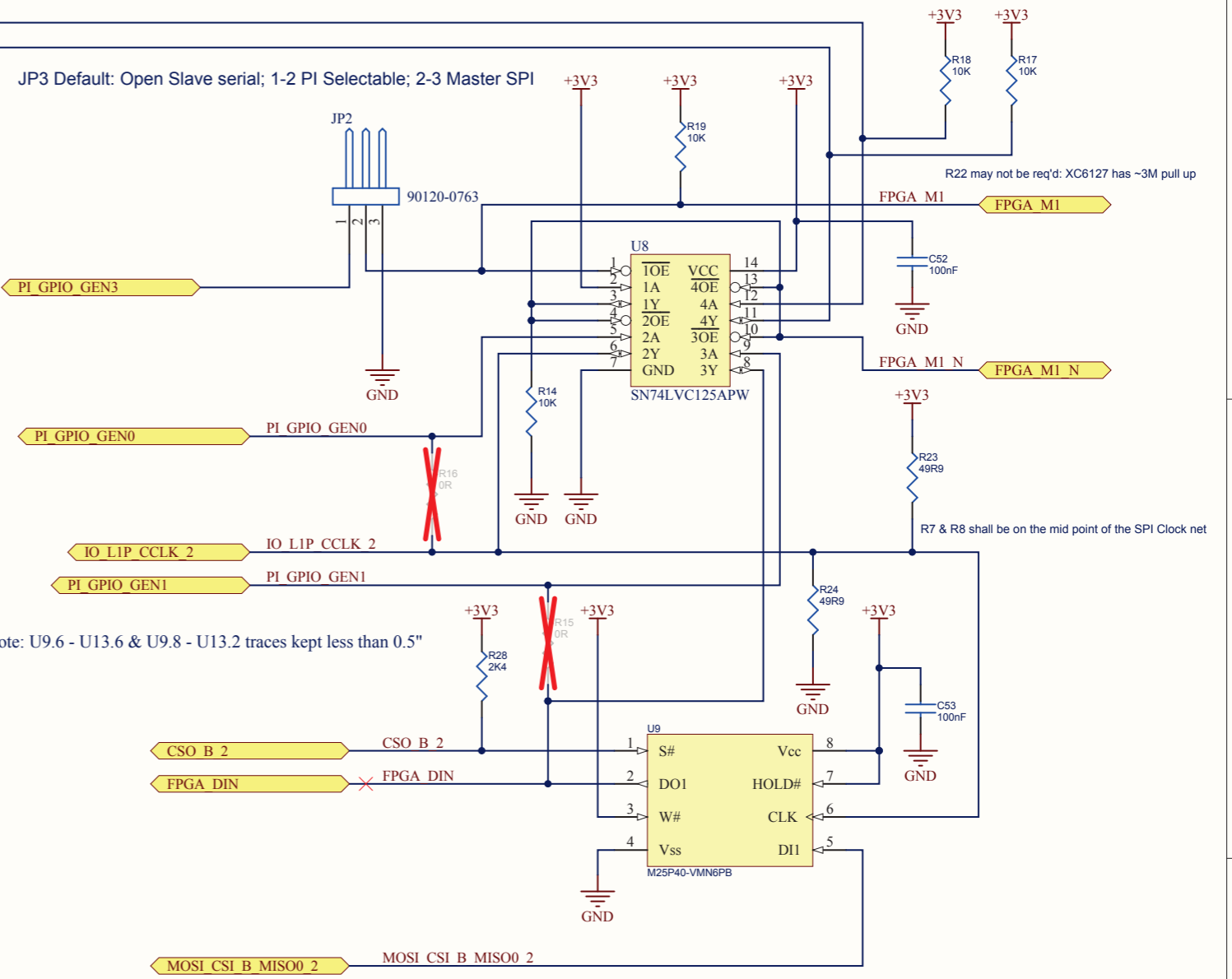
~~GND~~ GND  
~~VCCAUX~~ VCCAUX  
~~VCCINT~~ VCCINT  
~~VCC0\_0~~ VCC0\_0  
~~VCC0\_1~~ VCC0\_1  
~~VCC0\_2~~ VCC0\_2  
~~VCC0\_3~~ VCC0\_3



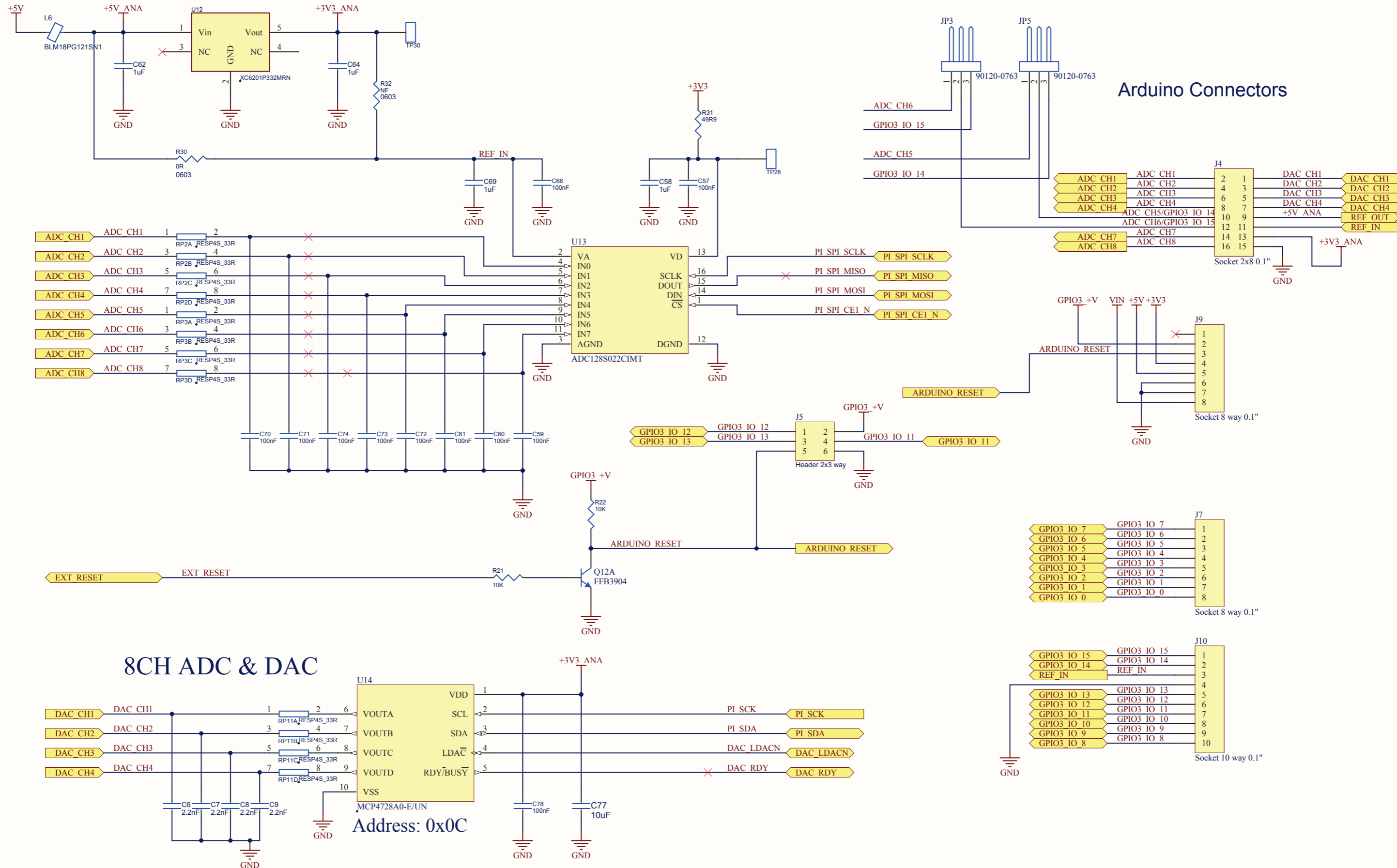
**FPGA DECOUPLING**



JP3 Default: Open Slave serial; 1-2 PI Selectable; 2-3 Master SPI



Note: U9.6 - U13.6 & U9.8 - U13.2 traces kept less than 0.5"

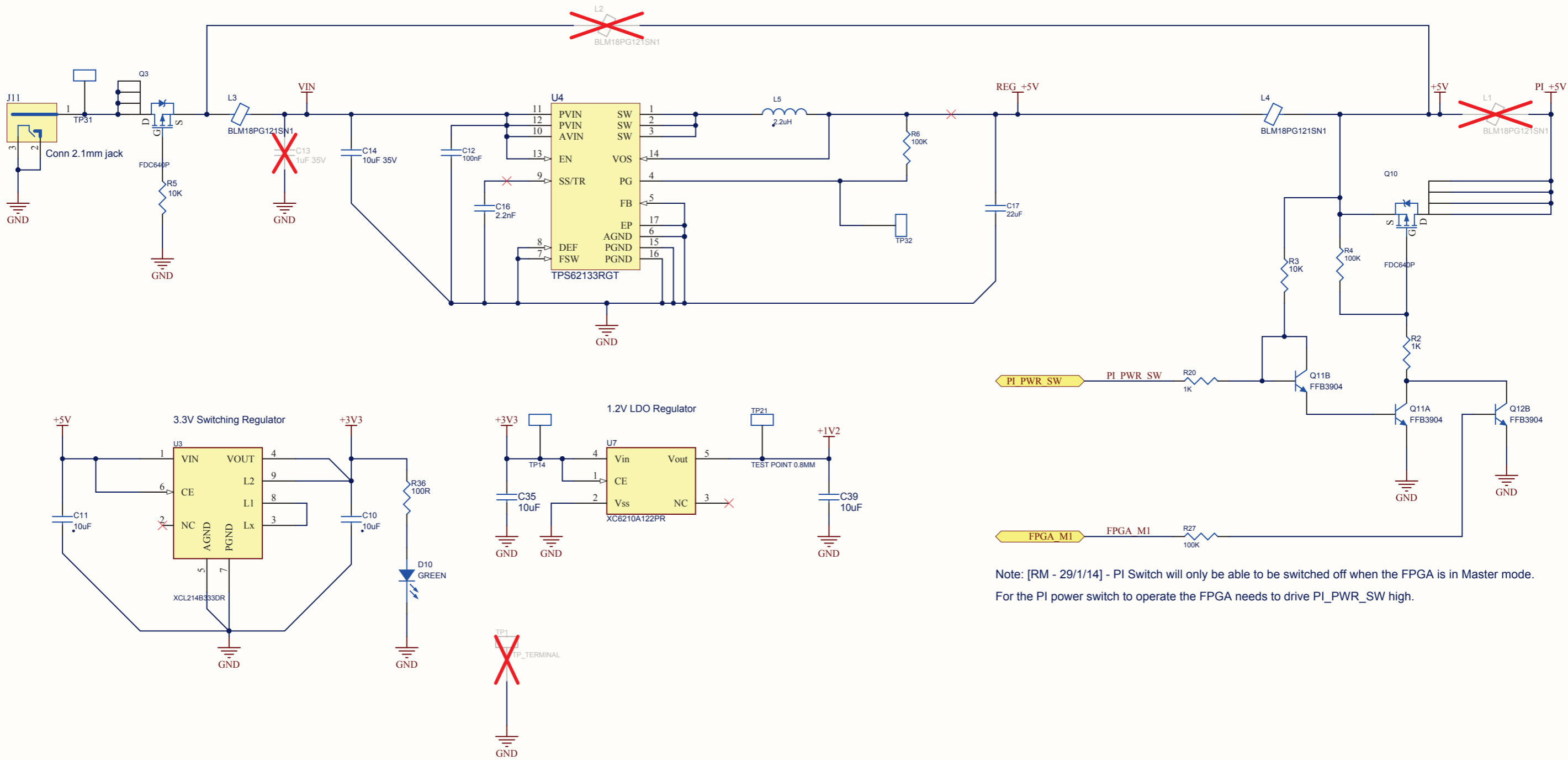


### 8CH ADC & DAC

Address: 0x0C

### Arduino Connectors

Sheet5.SchDoc		Template rev 1.1		Project:- <b>PIXI-200</b>		Title:- <b>Sensors</b>					
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						Assembly Variant	<b>Standard</b>	Date	<b>09/02/2014</b>	Date	
				Assembly No.	*	Revision	<b>2.0 Draft G</b>	Drg. No.	AD-DRG-00005	Sheet Number	5 of 8



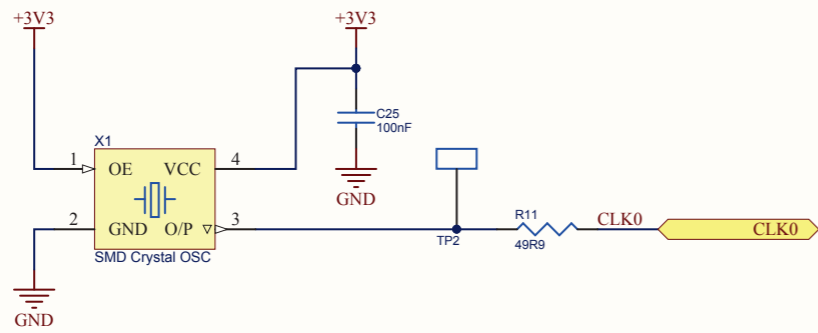
Note: [RM - 29/1/14] - PI Switch will only be able to be switched off when the FPGA is in Master mode.  
 For the PI power switch to operate the FPGA needs to drive PI\_PWR\_SW high.

MH1 MH2  
 CHASSIS (ISOLATED!)

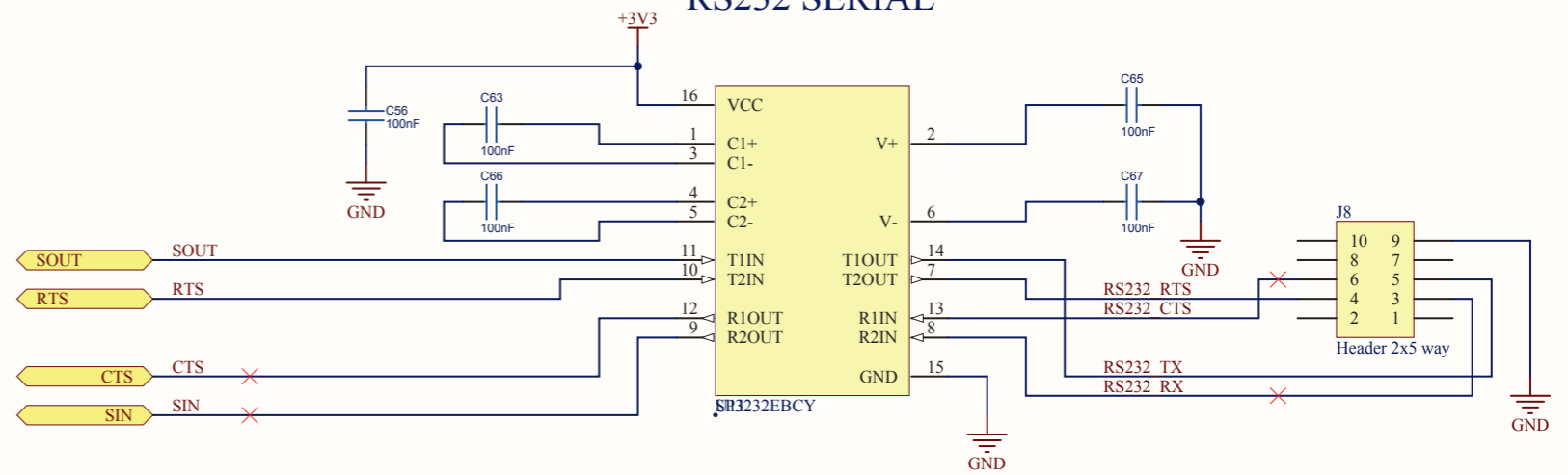
Sheet6.SchDoc		Template rev 1.1		Project:- <b>PIXI-200</b>			Title:- <b>Power Supplies</b>			
COPYRIGHT © : This drawing is Confidential Information and the property of Astro Designs Limited. It shall not be reproduced or passed to third parties without written permission from Astro Designs Limited.		Astro Designs Limited,		<b>CONFIDENTIAL INFORMATION</b>			Assembly Name *		Drawn <b>R.M.</b> Ch'kd. *	
							Assembly Variant <b>Standard</b>		Date <b>09/02/2014</b> Date	
							Assembly No. *		Revision <b>2.0 Draft G</b> Drg. No. AD-DRG-00005	



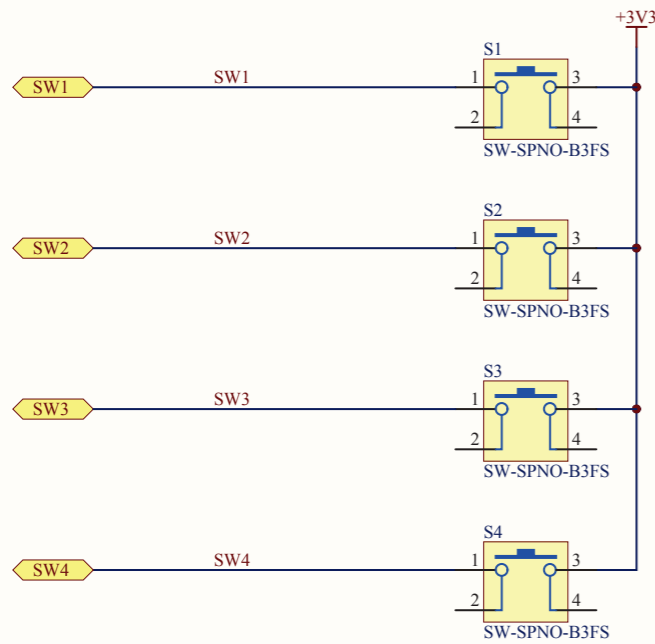
### 32MHZ OSCILLATOR



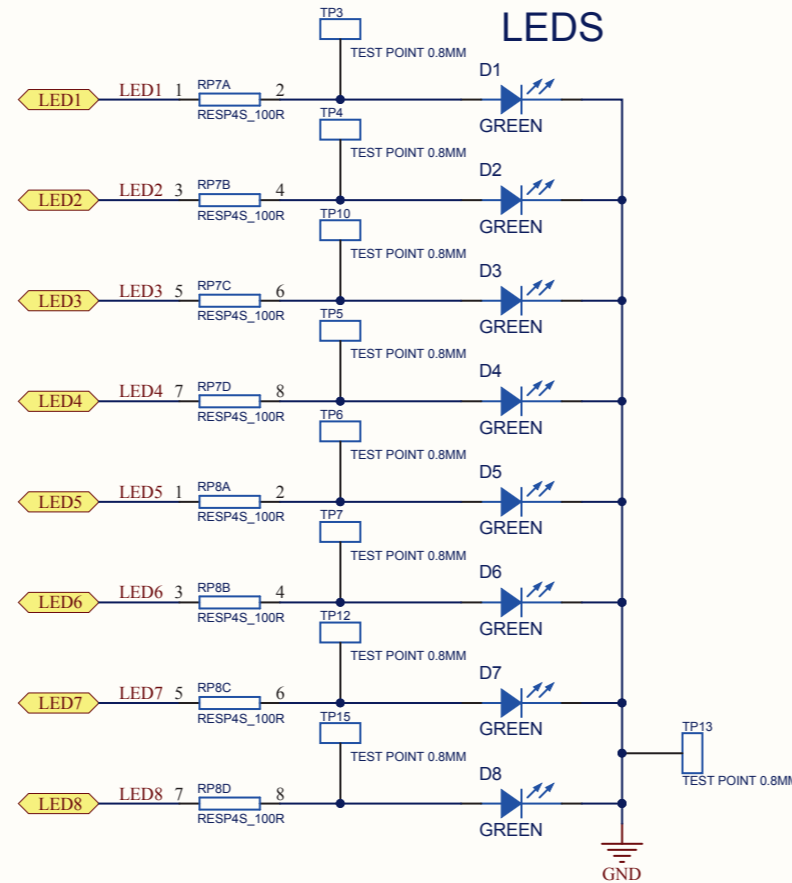
### RS232 SERIAL



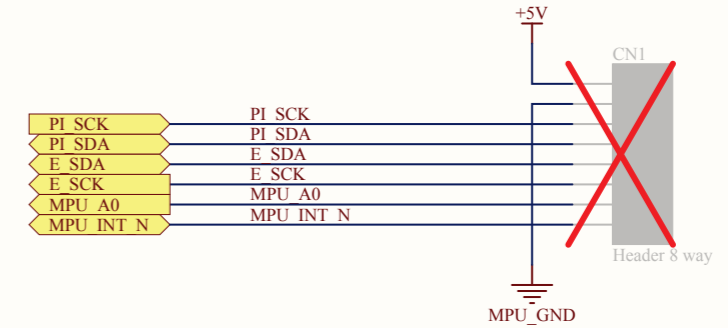
### SWITCHES



### LEDS



### MPU external I/F Connector



sheet7.SchDoc

Astro Designs Limited,

Template rev 1.1

**CONFIDENTIAL INFORMATION**

Project:- **PIXI-200**

Title:-

**Expansion Port & Misc.**

Assembly Name

\*

Drawn **R.M.**

Ch'kd. \*

Assembly Variant

**Standard**

Date **09/02/2014**

Date

Assembly No.

\*

Revision  
**2.0 Draft G**

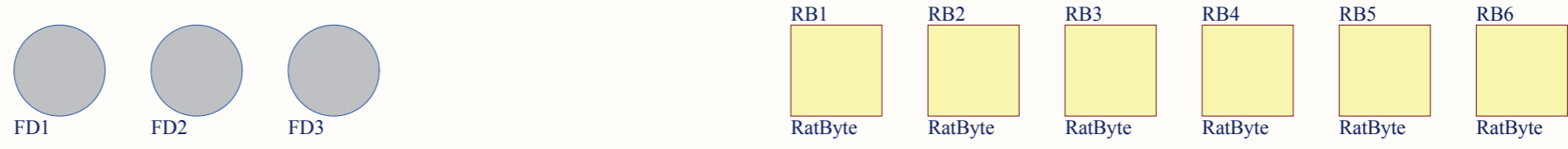
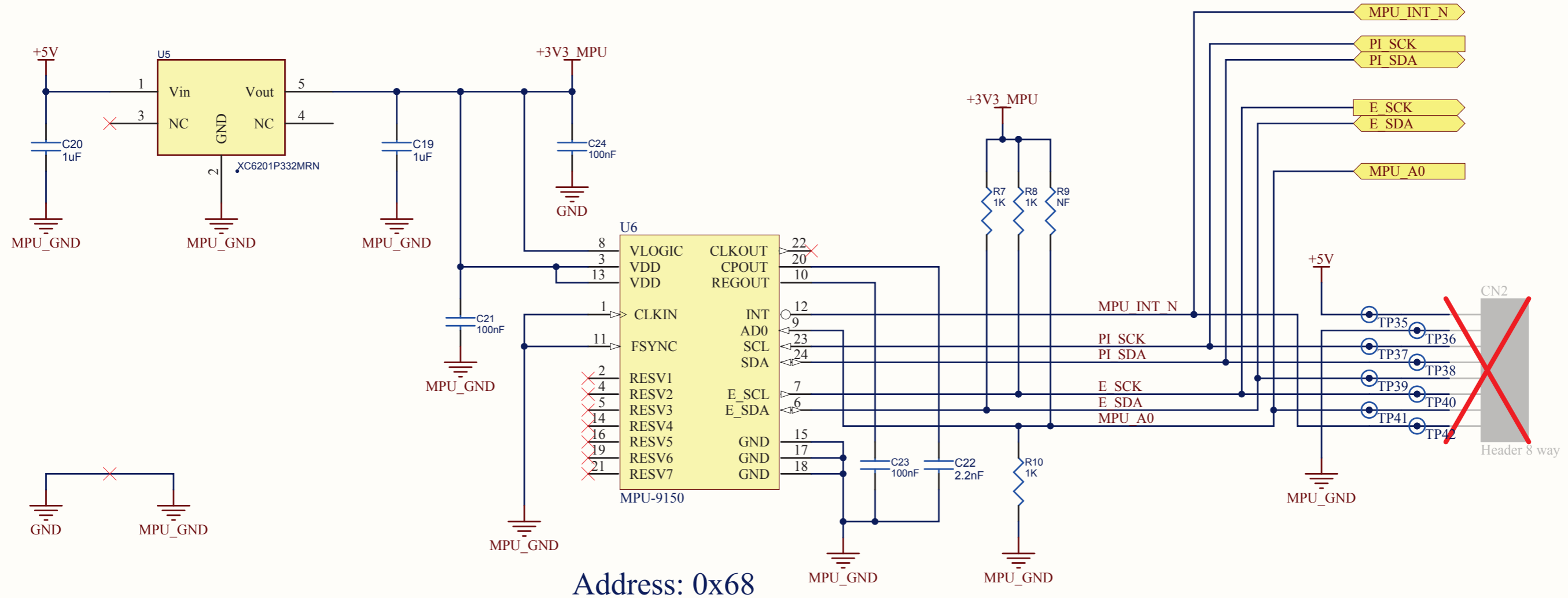
Drg. No.

AD-DRG-00005

Sheet Number  
7 of 8

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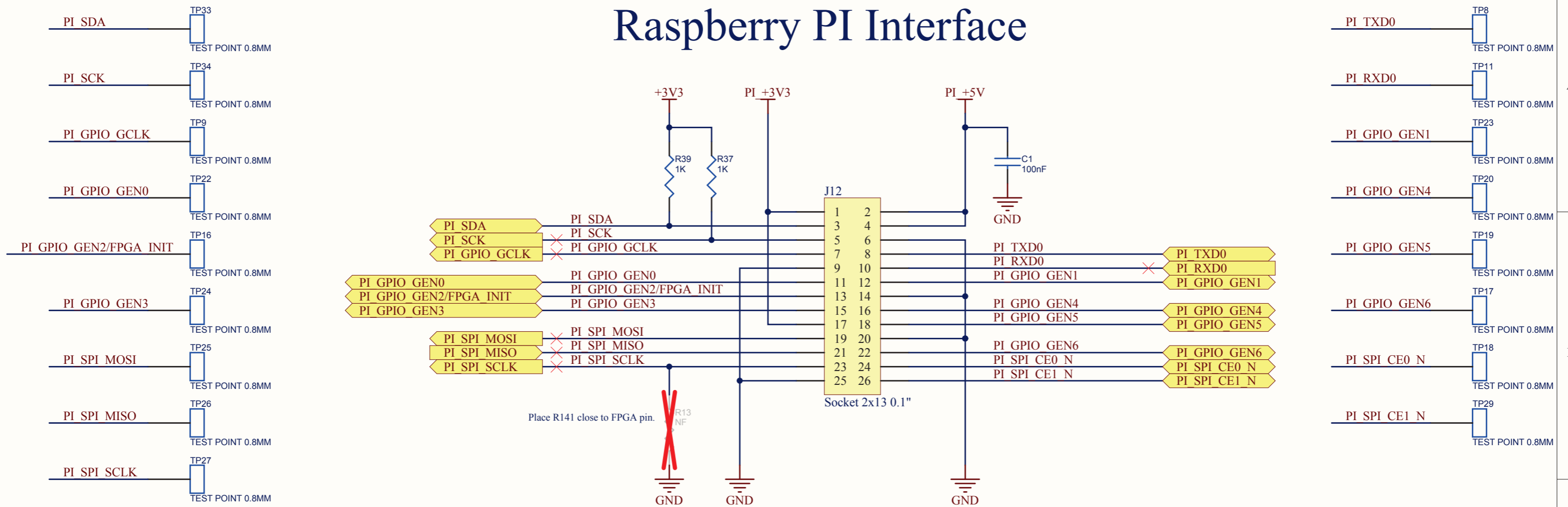
# 9-AXIS MOTION TRACKING DEVICE



Sheet8.SchDoc		Template rev 1.1		Project:- <b>PIXI-200</b>		Title:- <b>Motion Sensor</b>					
COPYRIGHT © : This drawing is Confidential Information and the property of Astro Designs Limited. It shall not be reproduced or passed to third parties without written permission from Astro Designs Limited.		Astro Designs Limited,		Assembly Name		*		Drawn: <b>R.M.</b>		Ch'kd: *	
				Assembly Variant		<b>Standard</b>		Date: <b>09/02/2014</b>		Date:	
<b>CONFIDENTIAL INFORMATION</b>				Assembly No.		*		Revision <b>2.0 Draft G</b>		Drg. No. <b>AD-DRG-00005</b>	
								Sheet Number <b>8 of 8</b>			

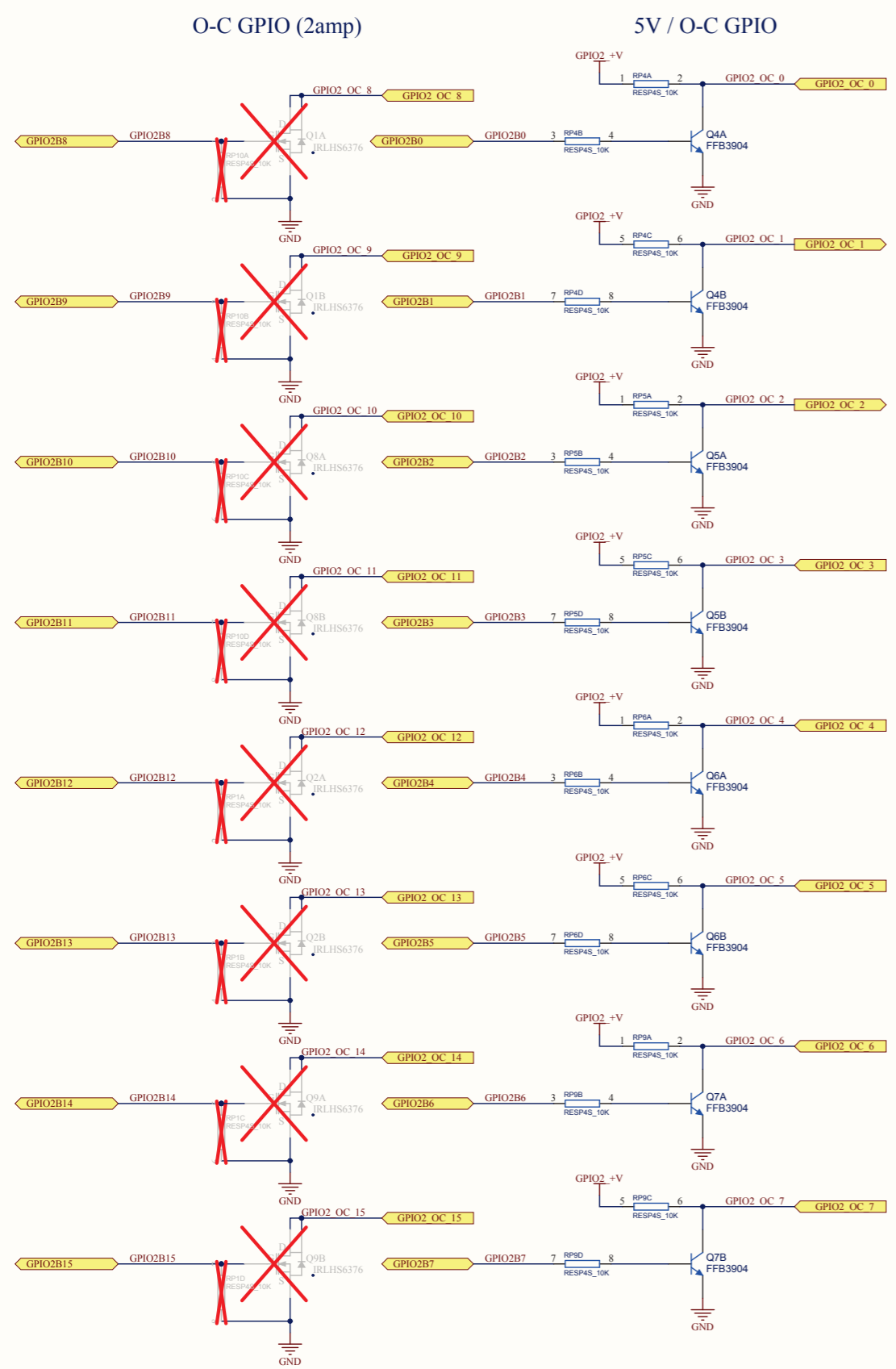


# Raspberry Pi Interface

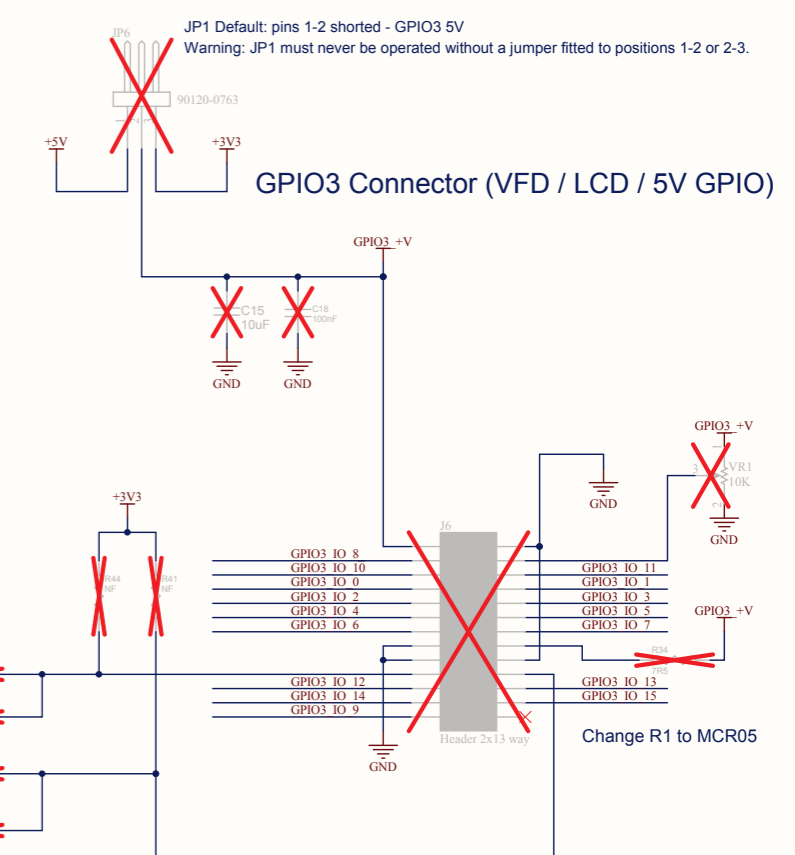
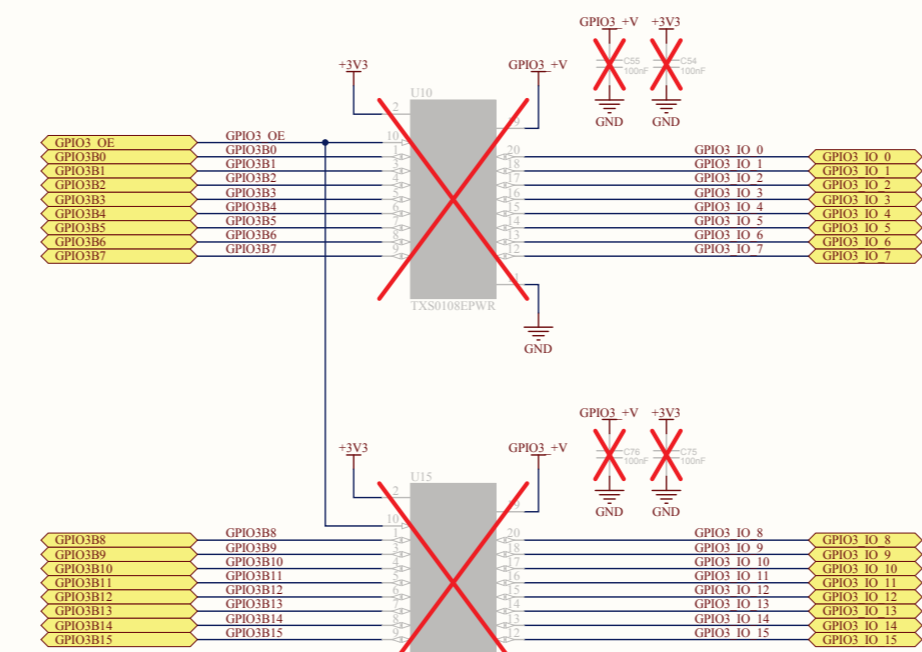
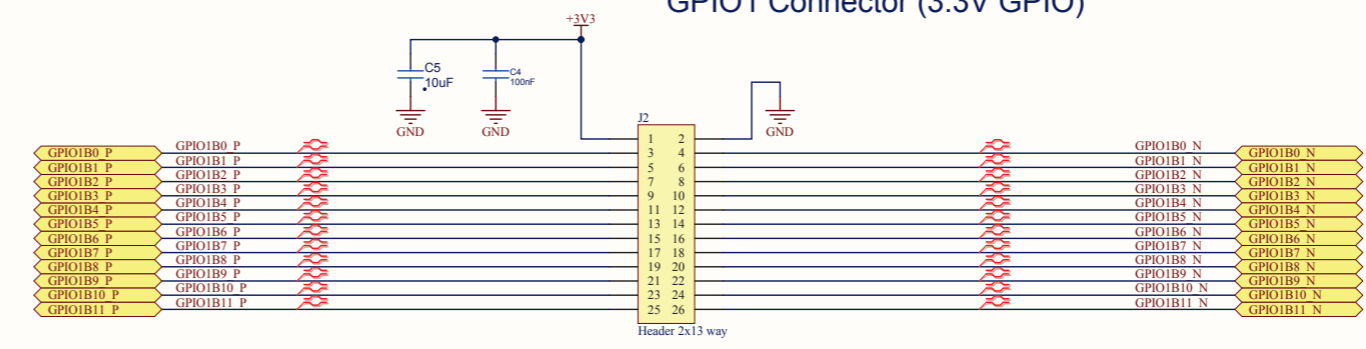


Note: P5 on Raspberry Pi board pinned for solder side mounting - hence swapped rows.

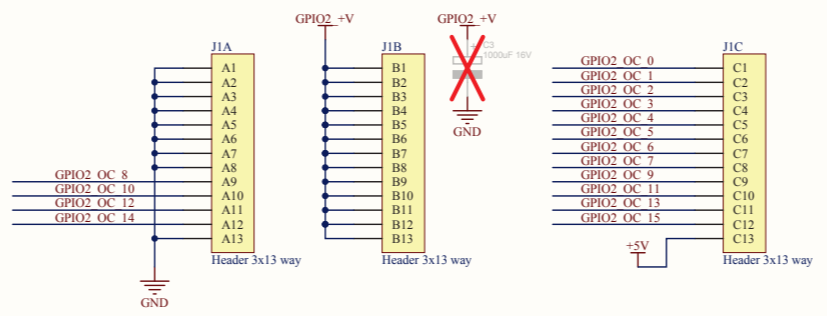
Sheet1.SchDoc		Template rev 1.1		Project:- <b>PIXI-200</b>		Title:- <b>Raspberry Pi I/F</b>					
COPYRIGHT © : This drawing is Confidential Information and the property of Astro Designs Limited. It shall not be reproduced or passed to third parties without written permission from Astro Designs Limited.		Astro Designs Limited,		Assembly Name		*		Drawn:	<b>R.M.</b>	Ch'kd:	*
				Assembly Variant		<b>Lite Model</b>		Date:	<b>09/02/2014</b>	Date:	
<b>CONFIDENTIAL INFORMATION</b>				Assembly No.		*		Revision		Drg. No.	
								<b>2.0 Draft G</b>		<b>AD-DRG-00005</b>	



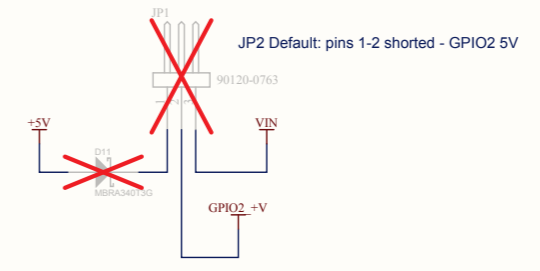
GPIO1 Connector (3.3V GPIO)

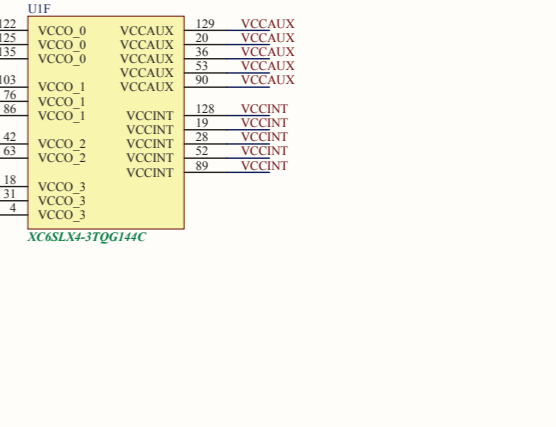
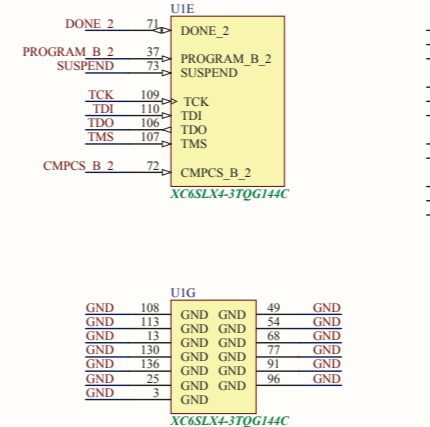
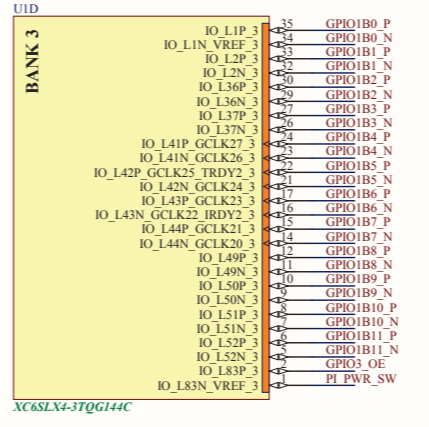
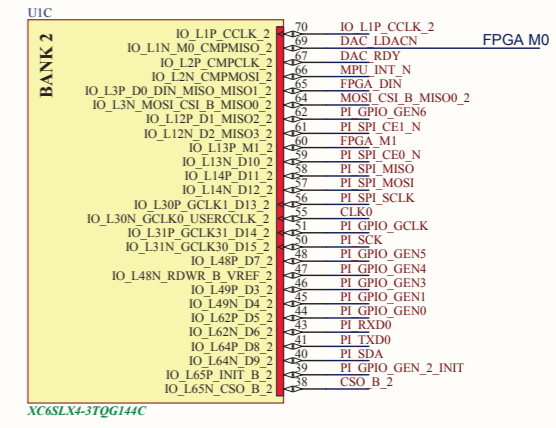
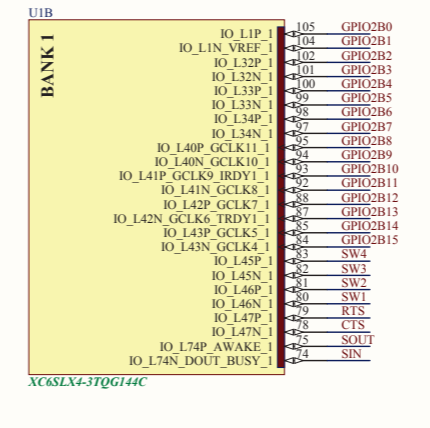
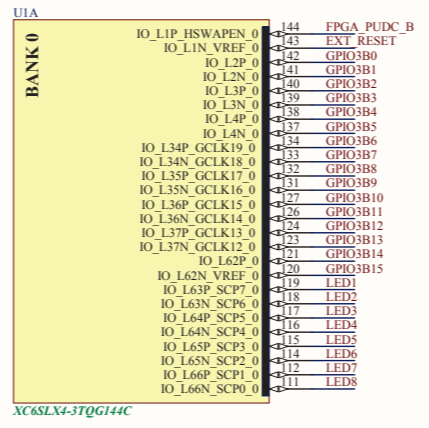
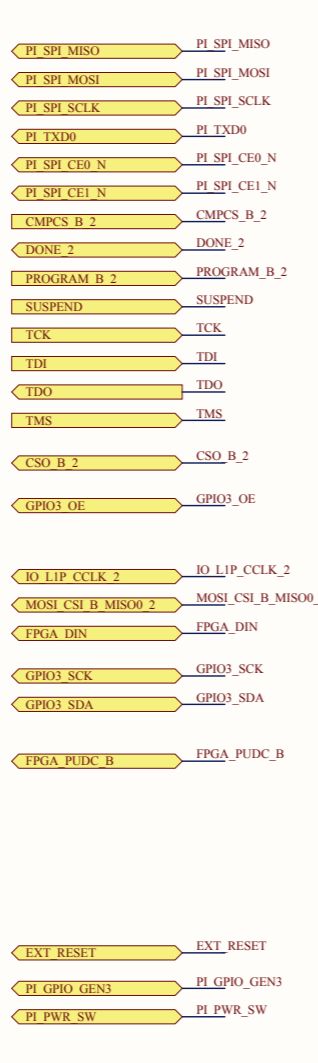
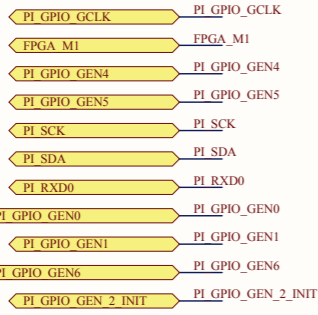
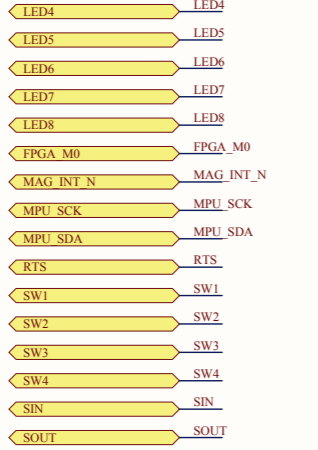
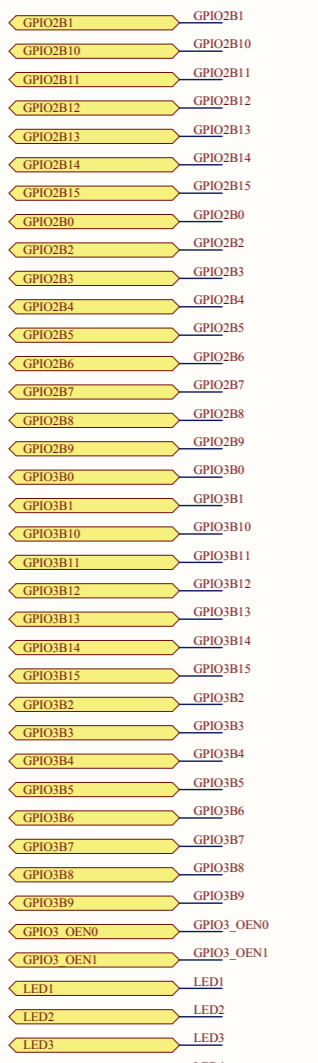
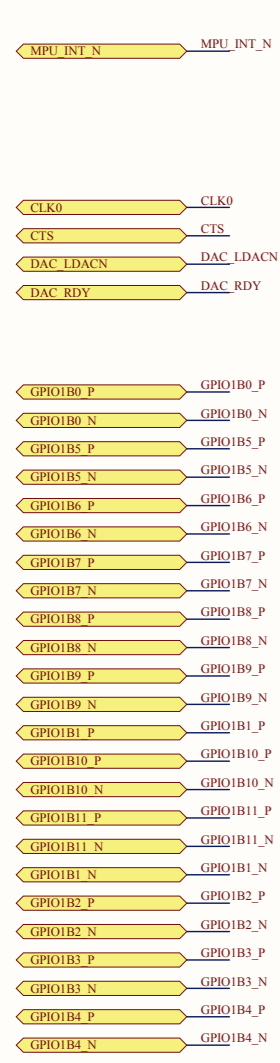


GPIO2 Connector (5V or 3.3V O-C O/Ps)

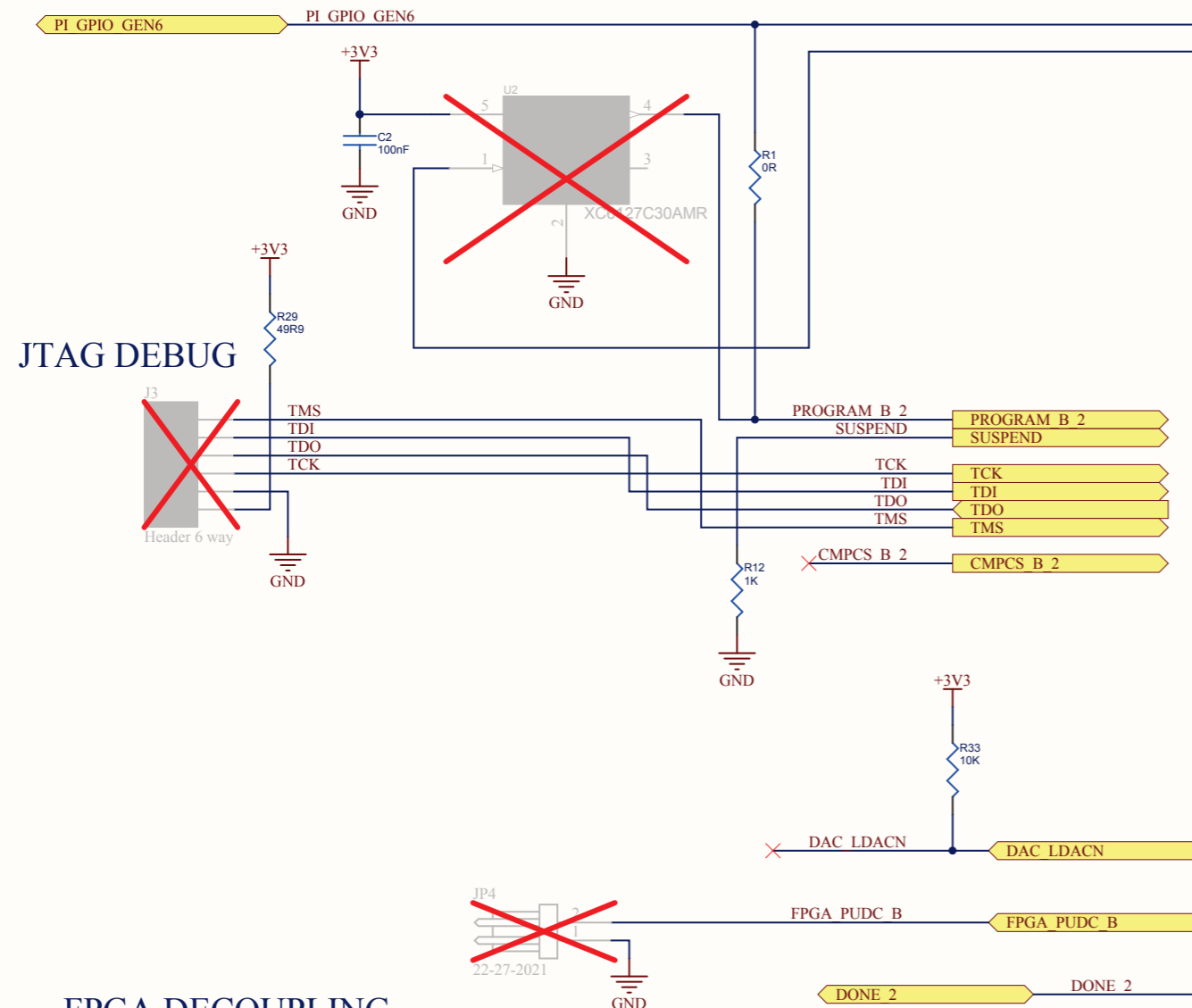


GPIO3 / LCD / VACUUM FLORESCENT DISPLAY (5V GPIO)

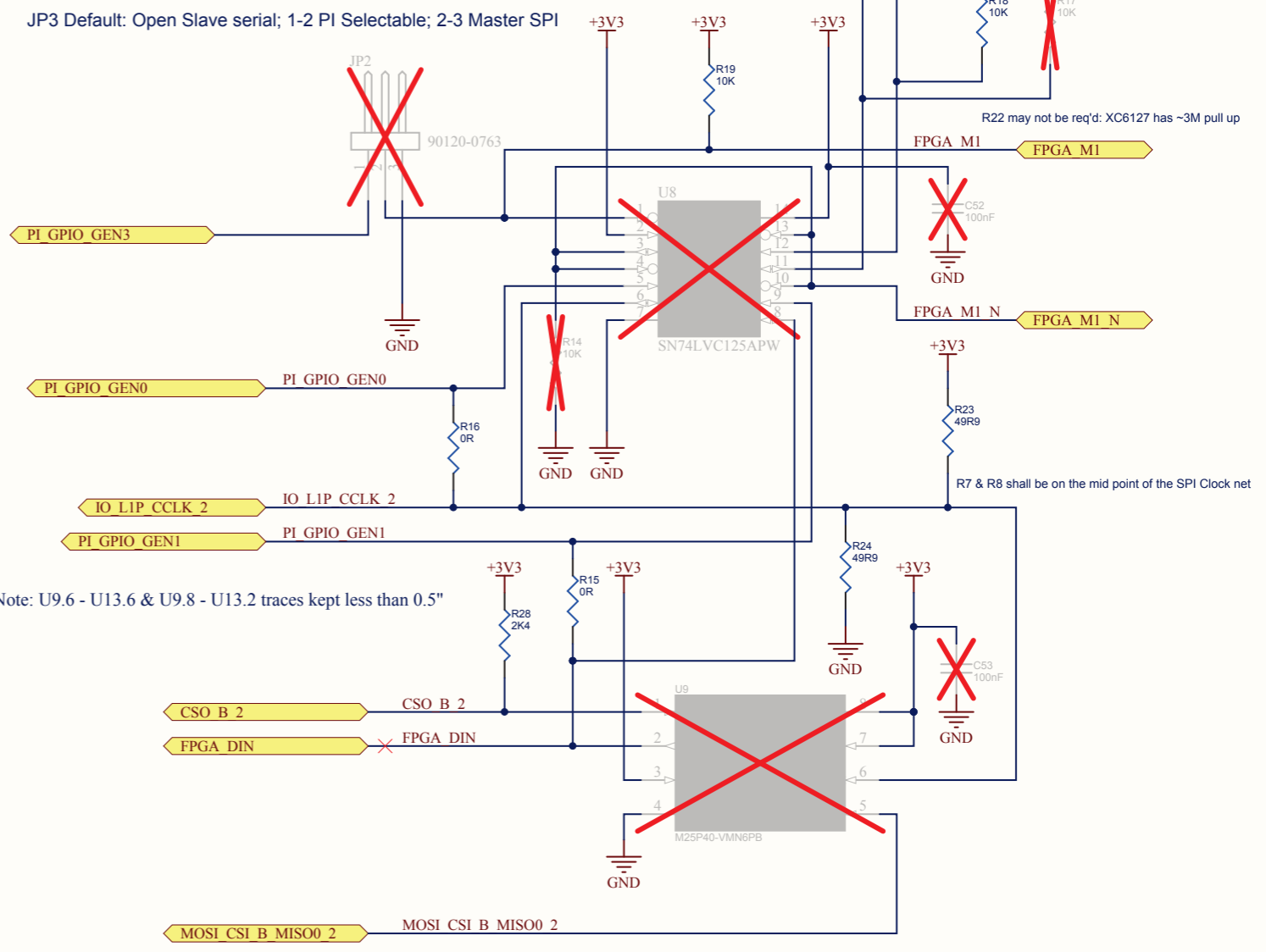
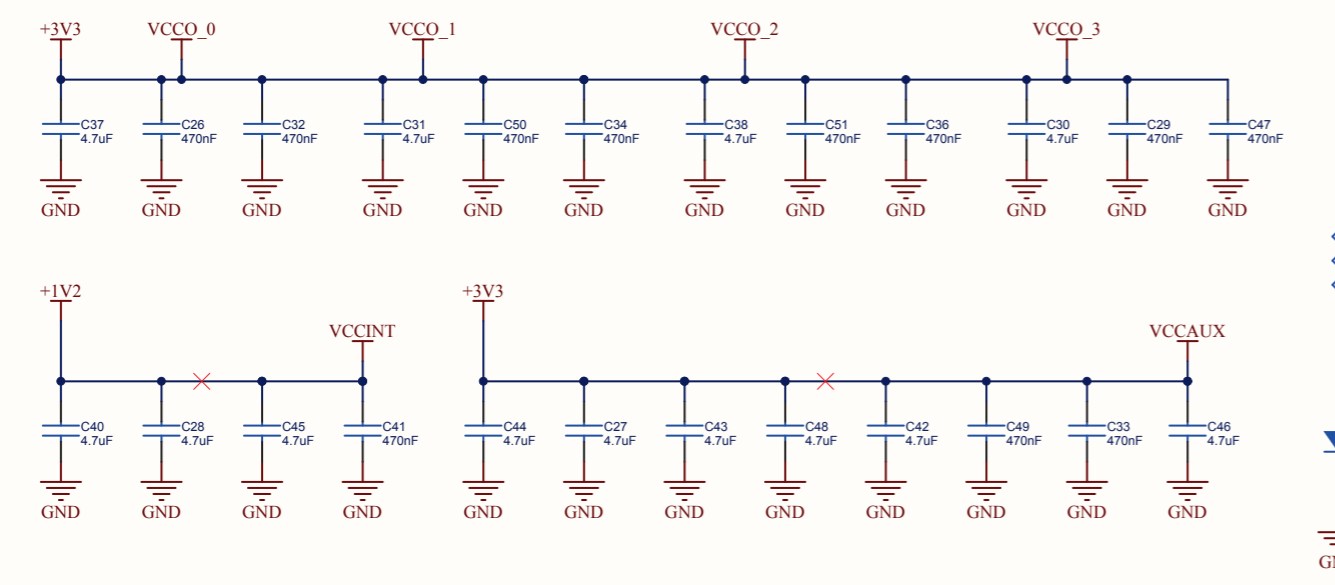




- GND | X | GND
- VCCAUX | X | VCCAUX
- VCCINT | X | VCCINT
- VCCO\_0 | X | VCCO\_0
- VCCO\_1 | X | VCCO\_1
- VCCO\_2 | X | VCCO\_2
- VCCO\_3 | X | VCCO\_3



**FPGA DECOUPLING**

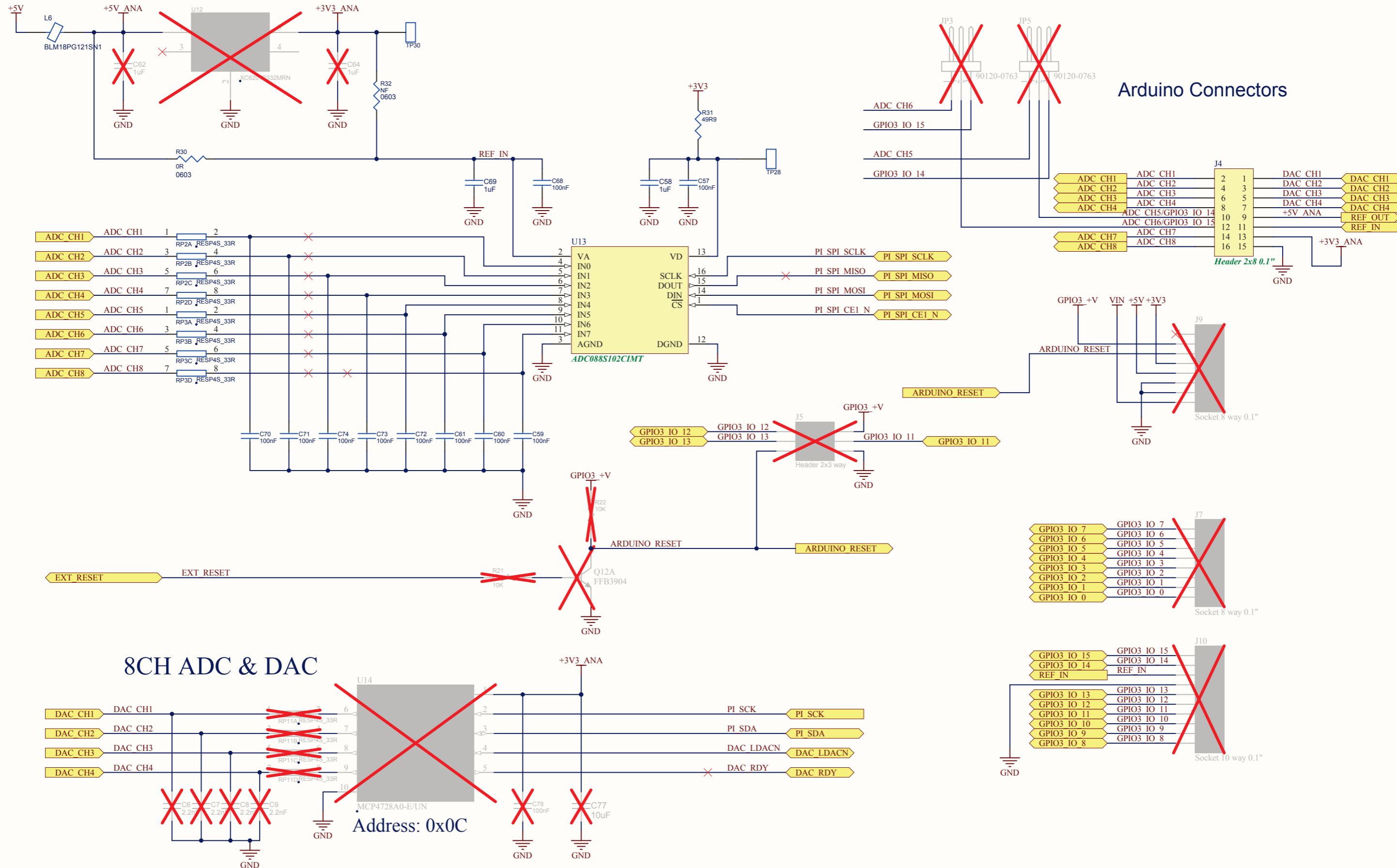


Note: U9.6 - U13.6 & U9.8 - U13.2 traces kept less than 0.5"

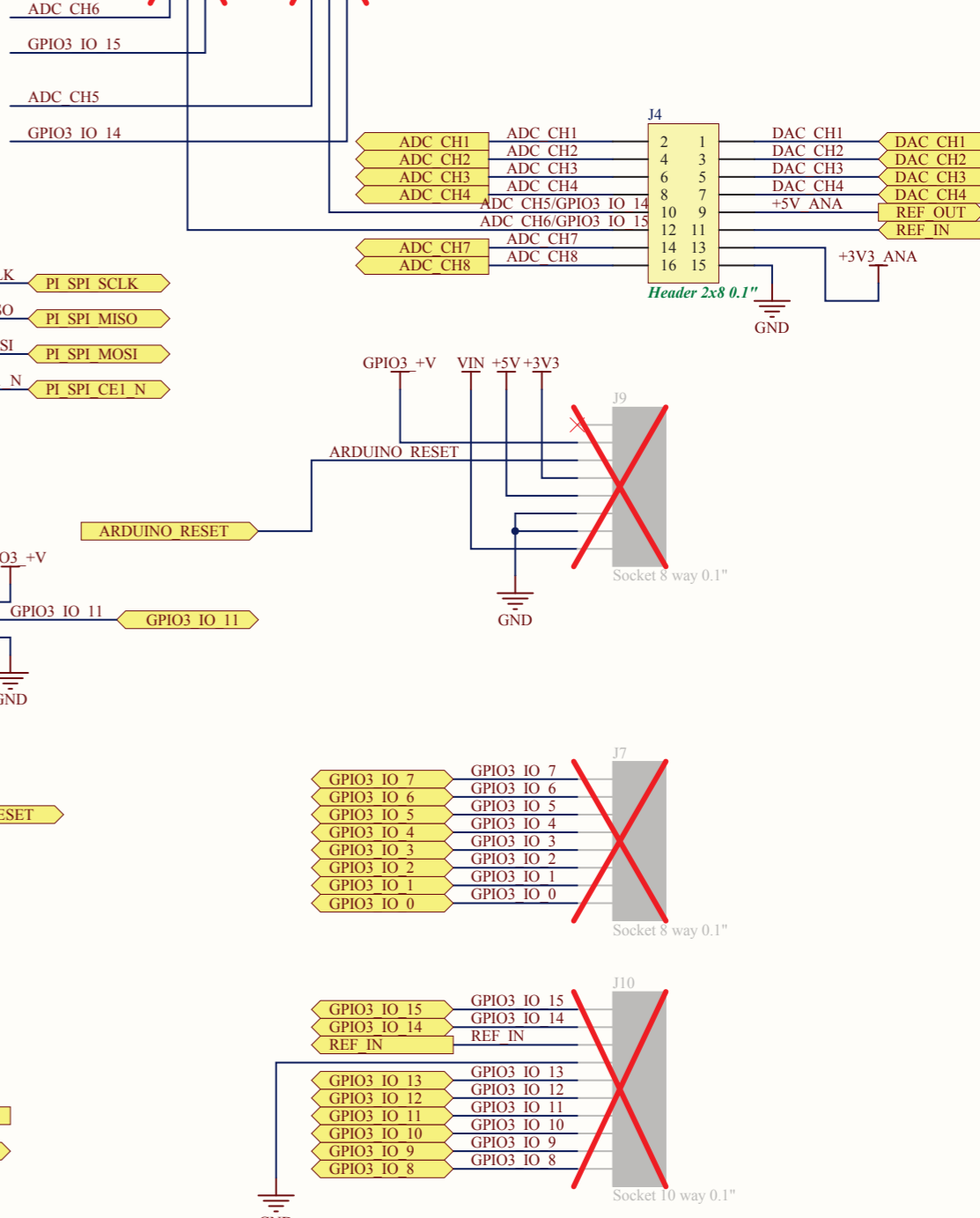
R7 & R8 shall be on the mid point of the SPI Clock net

R22 may not be req'd: XC6127 has ~3M pull up

Sheet4.SchDoc		Template rev 1.1		Project:- <b>PIXI-200</b>		Title:- <b>FPGA Power</b>	
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						Assembly Variant <b>Lite Model</b>	
				Assembly No. *		Date <b>09/02/2014</b> Date	
						Revision <b>2.0 Draft G</b> Drg. No. AD-DRG-00005	
						Sheet Number 4 of 8	



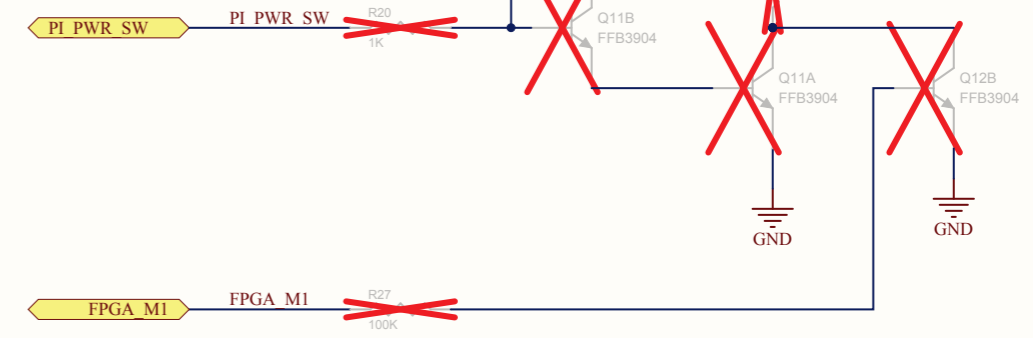
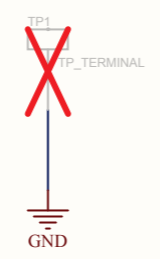
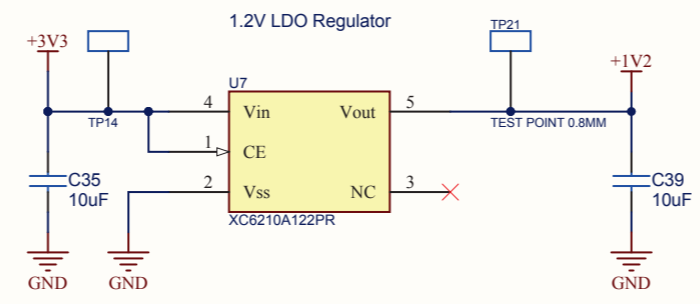
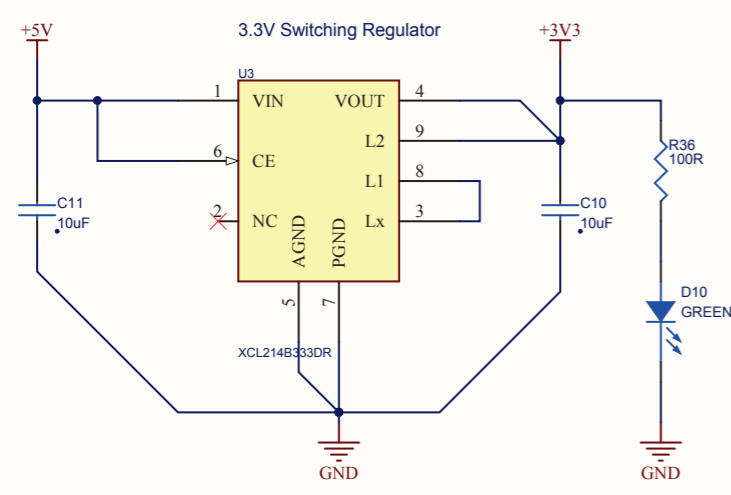
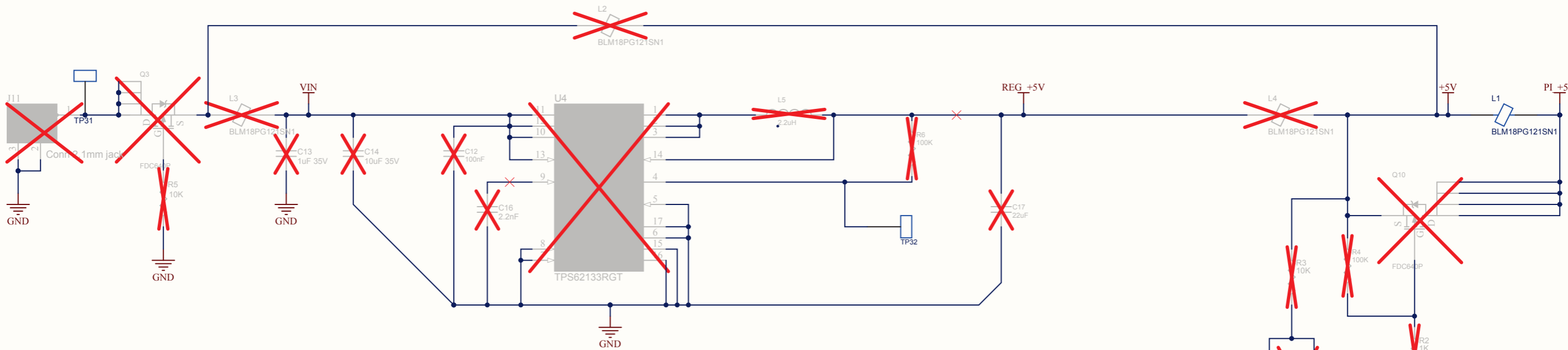
### Arduino Connectors



### 8CH ADC & DAC

Address: 0x0C

Sheet5.SchDoc		Template rev 1.1		Project:- <b>PIXI-200</b>		Title:- <b>Sensors</b>						
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						Assembly Variant	<b>Lite Model</b>	Date	<b>09/02/2014</b>	Date		
						Assembly No.	*	Revision	<b>2.0 Draft G</b>	Drg. No.	AD-DRG-00005	Sheet Number



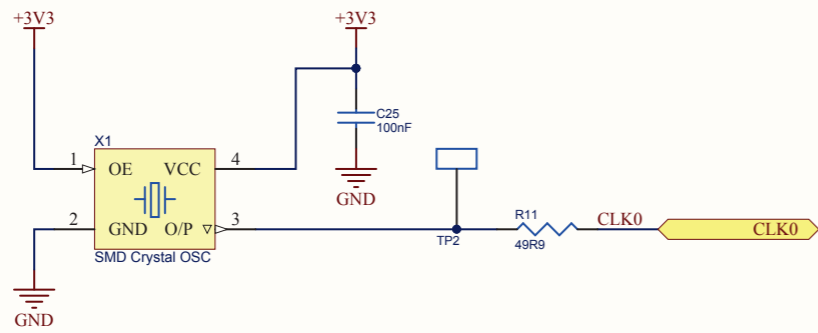
Note: [RM - 29/1/14] - PI Switch will only be able to be switched off when the FPGA is in Master mode.  
For the PI power switch to operate the FPGA needs to drive PI\_PWR\_SW high.

MH1 MH2  
CHASSIS (ISOLATED!)

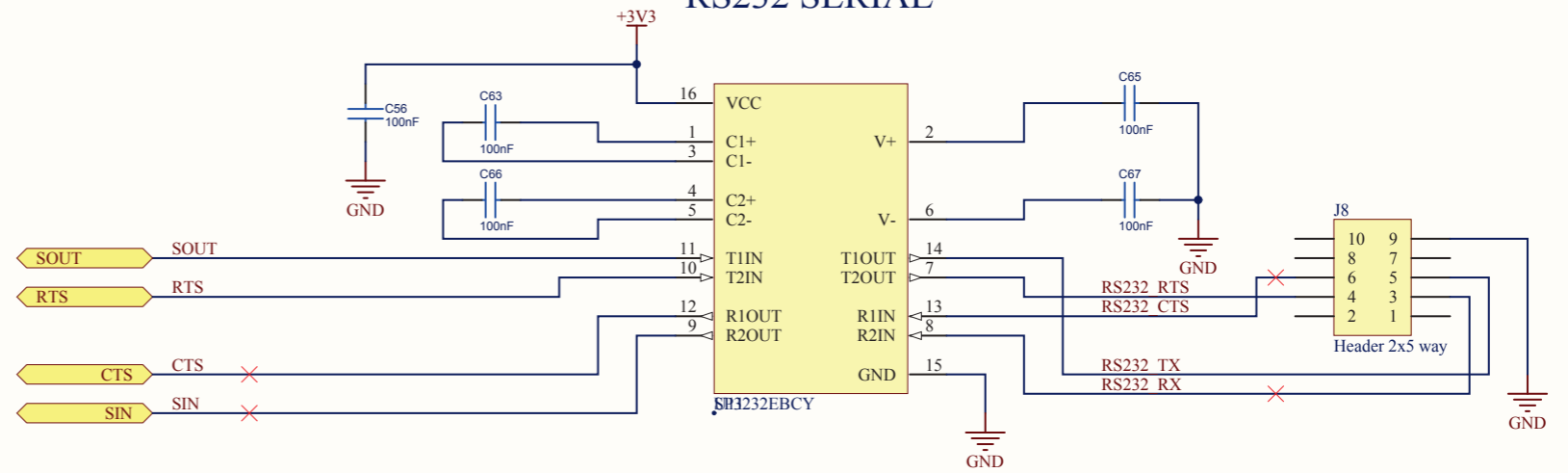
Sheet6.SchDoc		Template rev 1.1		Project:- <b>PIXI-200</b>			Title:- <b>Power Supplies</b>			
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							Assembly Variant		<b>Lite Model</b>	
							Date		<b>09/02/2014</b>	
							Revision		<b>2.0 Draft G</b>	
							Drg. No.		AD-DRG-00005	
							Sheet Number		6 of 8	



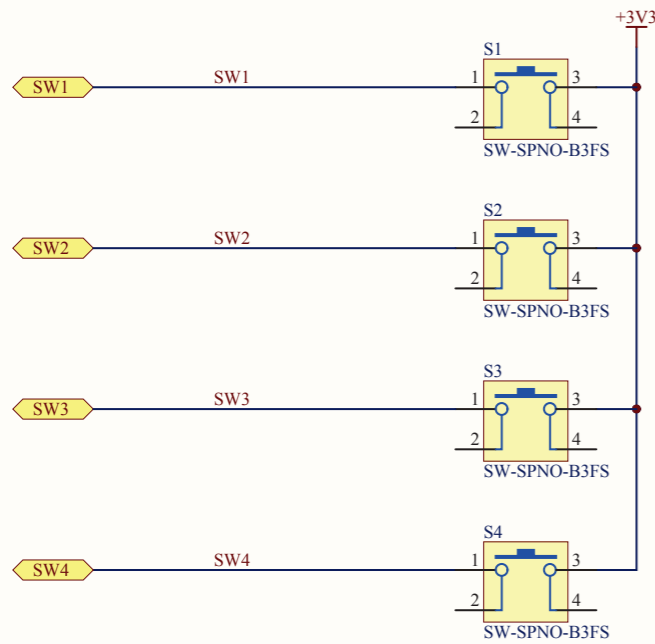
### 32MHZ OSCILLATOR



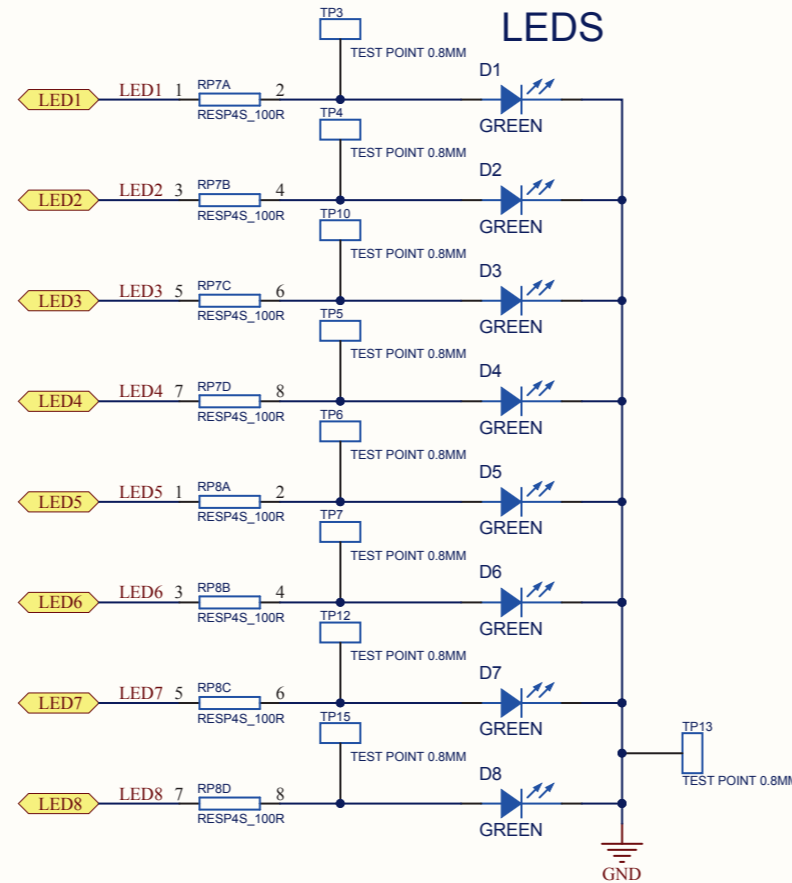
### RS232 SERIAL



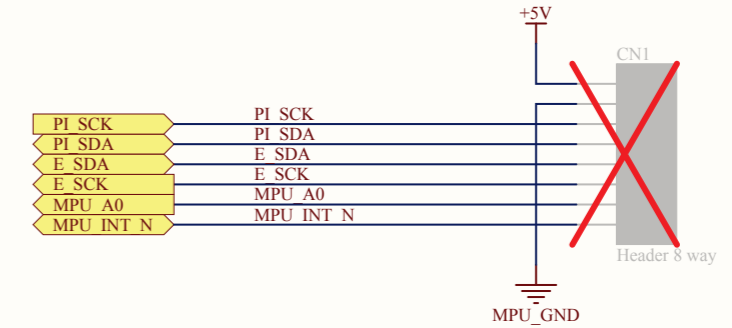
### SWITCHES



### LEDS



### MPU external I/F Connector



sheet7.SchDoc

Astro Designs Limited,

Template rev 1.1

**CONFIDENTIAL INFORMATION**

Project:- **PIXI-200**

Title:- **Expansion Port & Misc.**

Assembly Name

\*

Drawn **R.M.**

Ch'kd. \*

Assembly Variant

**Lite Model**

Date **09/02/2014**

Date

Assembly No.

\*

Revision **2.0 Draft G**

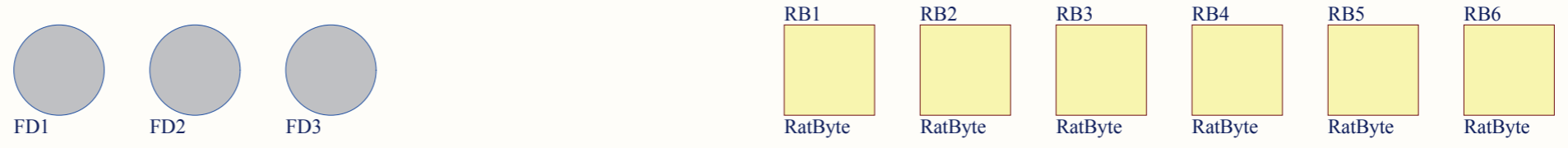
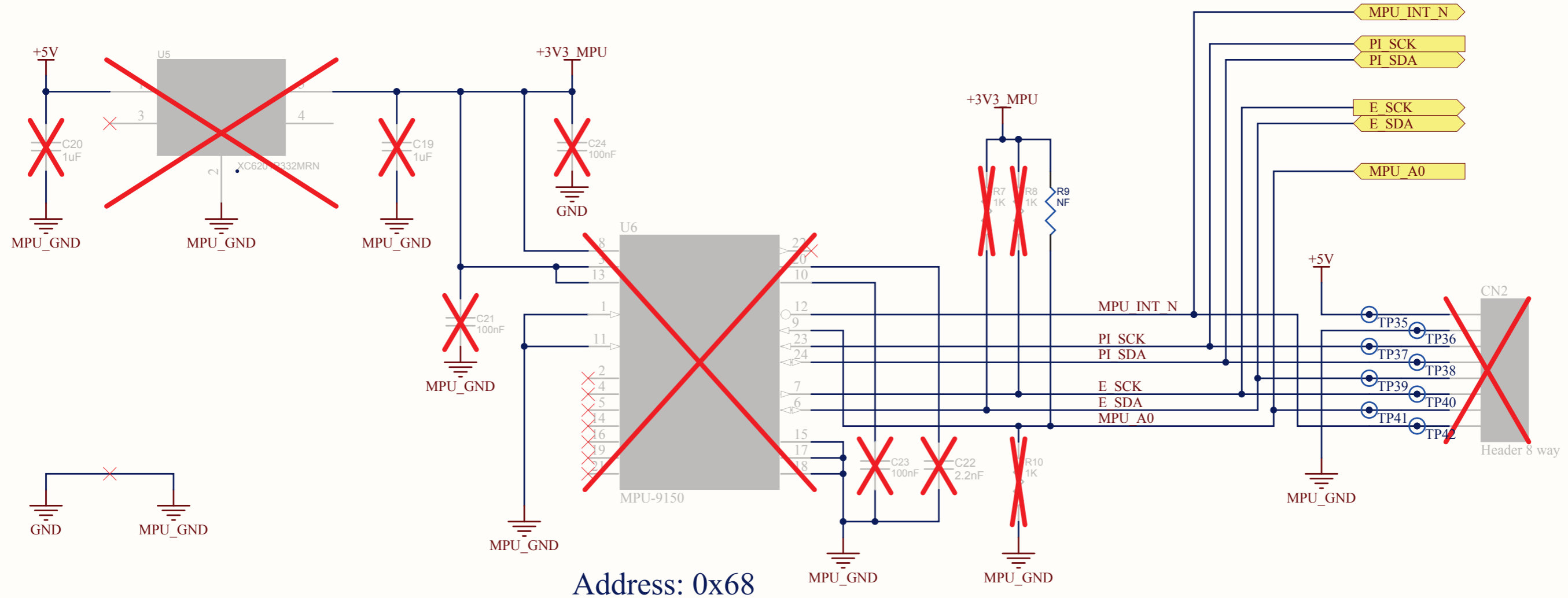
Drg. No.

AD-DRG-00005

Sheet Number  
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# 9-AXIS MOTION TRACKING DEVICE



Sheet8.SchDoc		Template rev 1.1		Project:- <b>PIXI-200</b>			Title:- <b>Motion Sensor</b>					
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					Assembly Variant		<b>Lite Model</b>		Date:	<b>09/02/2014</b>	Date:	
CONFIDENTIAL INFORMATION					Assembly No.		*		Revision		Drg. No.	Sheet Number
									2.0 Draft G		<b>AD-DRG-00005</b>	8 of 8