

# ***IGLOO - Nano Starter Kit***

**Actel IGLOO FPGA AGL250V2-VQG100 Starter Kit**

## **Index**

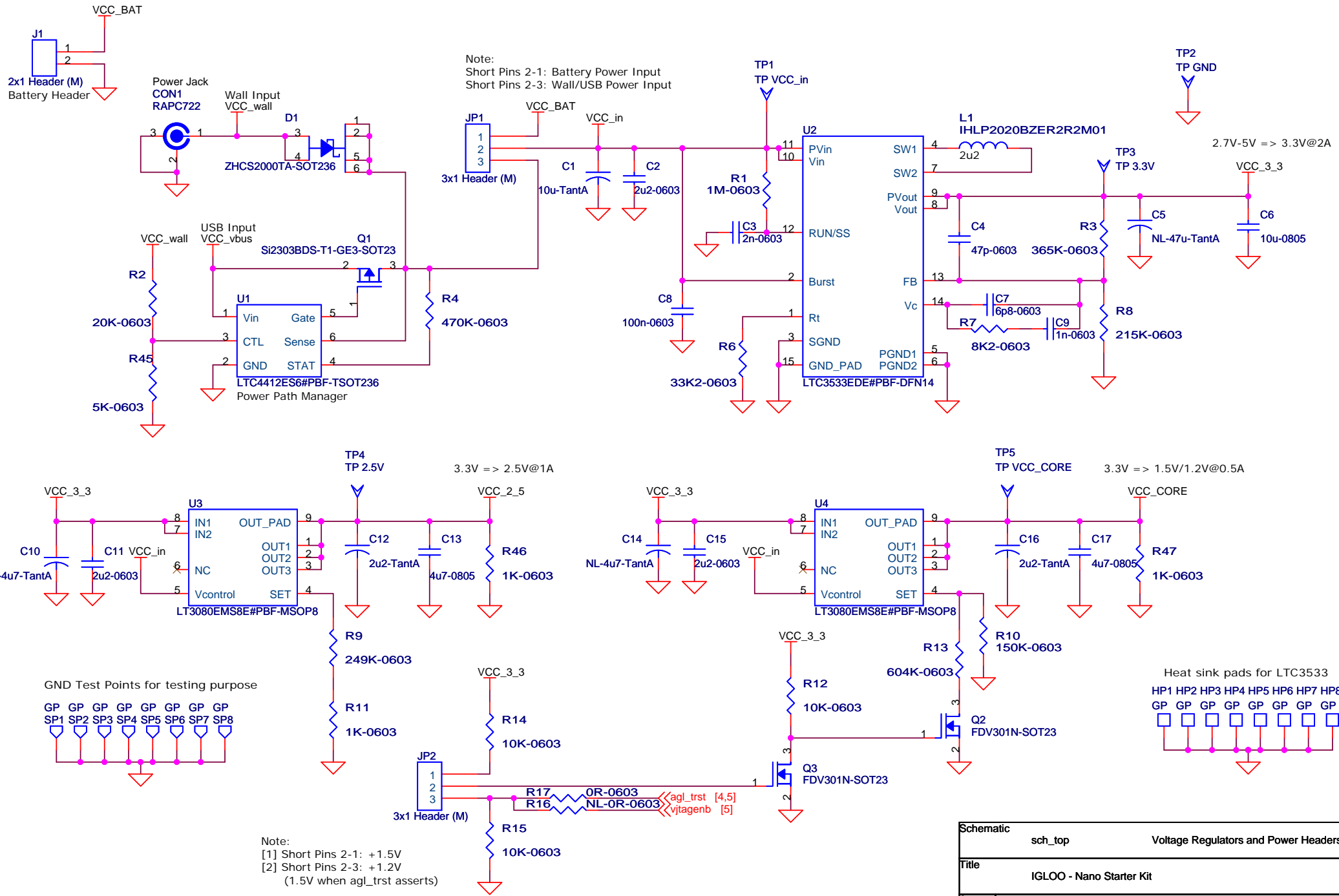
---

- Sheet #01 - Cover Page
- Sheet #02 - Voltage Regulators and Power Headers
- Sheet #03 - Current Measurement Headers
- Sheet #04 - Actel AGL250V2-VQG100 FPGA
- Sheet #05 - JTAG, Reset, Clock and Flash Freeze
- Sheet #06 - LED, Push Button and DIP Switches
- Sheet #07 - USB-to-UART
- Sheet #08 - GPIO Headers
- Sheet #09 - Manufacturing Points

*Copyright (C) 2008 Actel. All rights reserved.*

Schematic		sch_top		Cover Page	
Title					
IGLOO - Nano Starter Kit					
Size	Document Number			Rev	
A	SCH-AGLNNANO-0845-B1B			1B	
Date: Saturday, November 08, 2008					
Sheet 1 of 9					

**www.actel.com**  
**Actel Technical Support: +1 (800) 262-1060**



Note:  
Short Pins 2-1: Battery Power Input  
Short Pins 2-3: Wall/USB Power Input

Note:  
[1] Short Pins 2-1: +1.5V  
[2] Short Pins 2-3: +1.2V  
(1.5V when agl\_trst asserts)

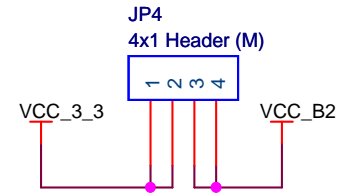
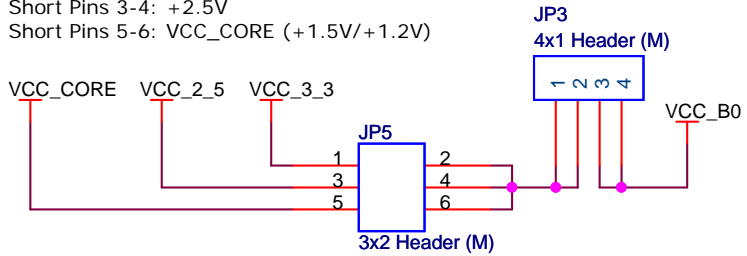
Schematic		sch_top		Voltage Regulators and Power Headers	
Title					
IGLOO - Nano Starter Kit					
Size	Document Number				Rev
Custom	SCH-AGLNNANO-0845-B1B				1B
Date: Saturday, November 08, 2008			Sheet 2 of 9		

Note:

Short Pins 1-2: +3.3V

Short Pins 3-4: +2.5V

Short Pins 5-6: VCC\_CORE (+1.5V/+1.2V)

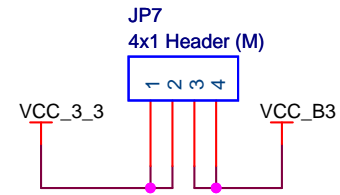
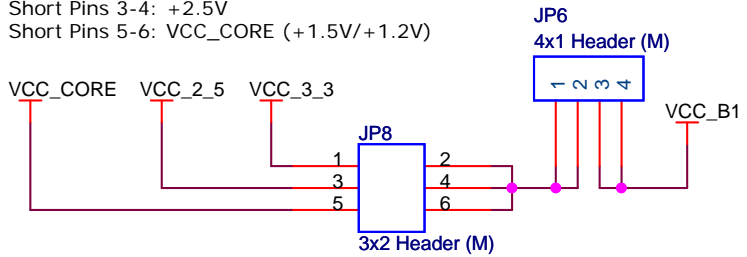


Note:

Short Pins 1-2: +3.3V

Short Pins 3-4: +2.5V

Short Pins 5-6: VCC\_CORE (+1.5V/+1.2V)

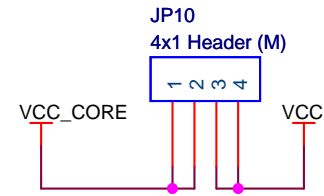
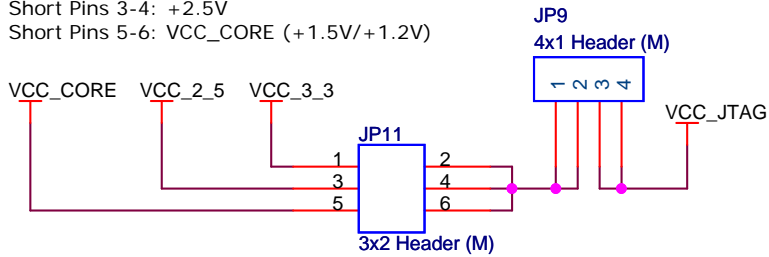


Note:

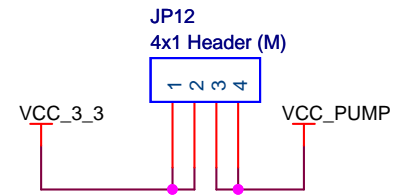
Short Pins 1-2: +3.3V

Short Pins 3-4: +2.5V

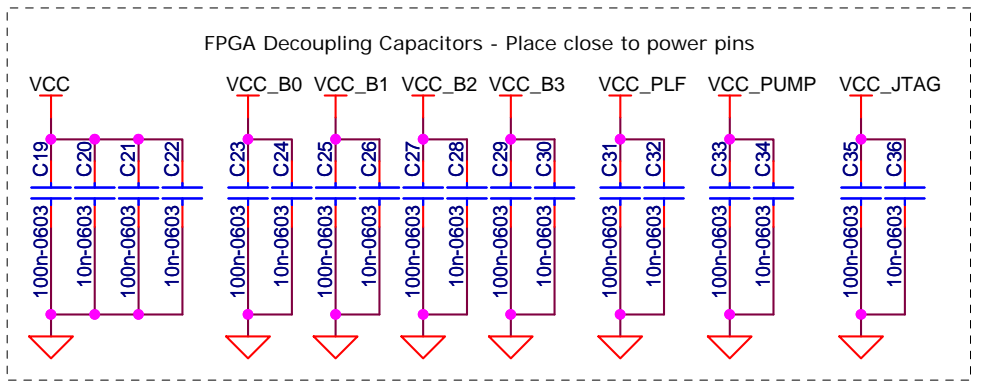
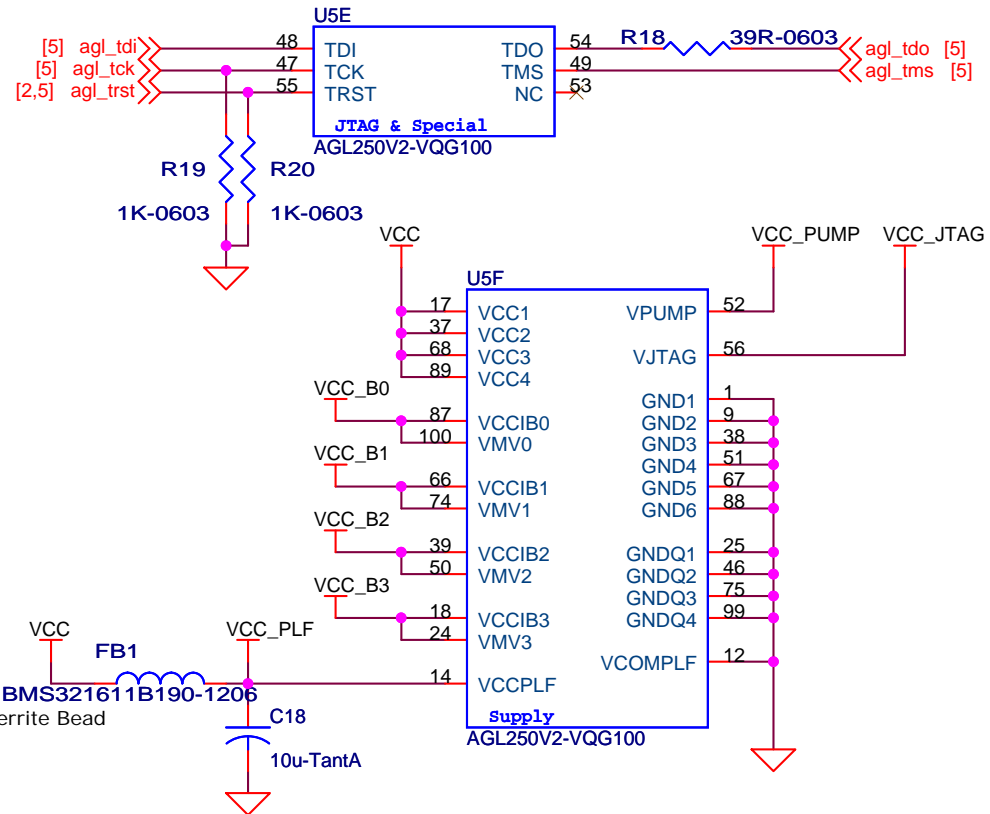
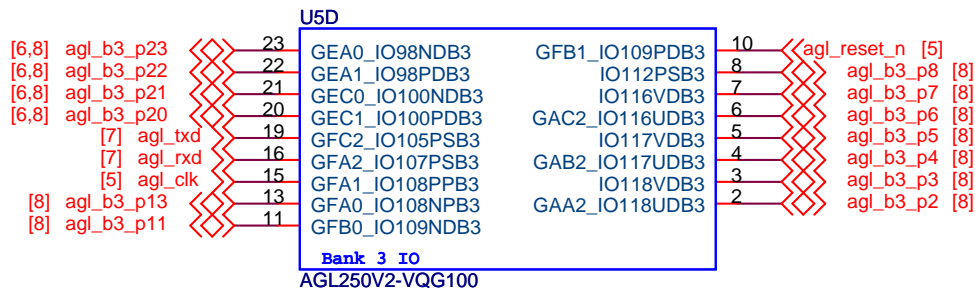
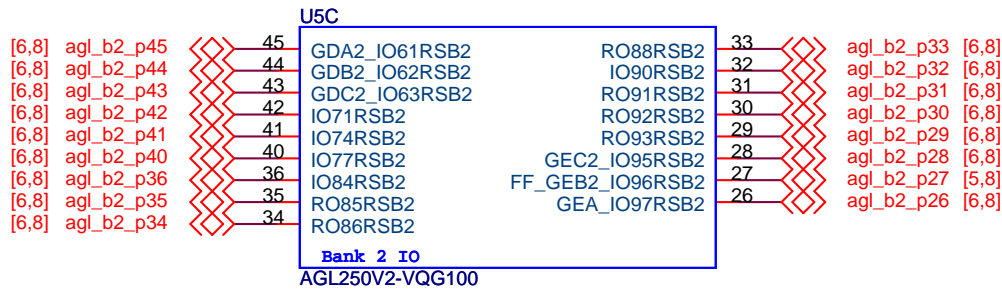
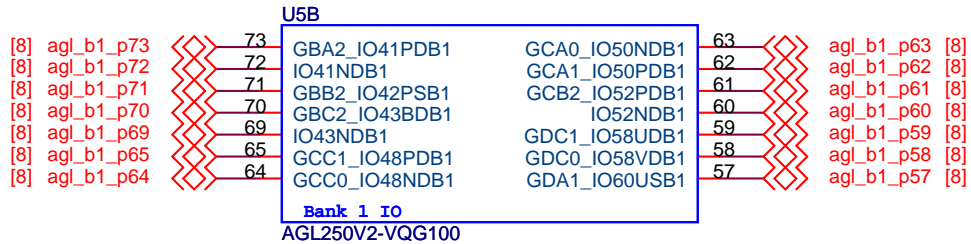
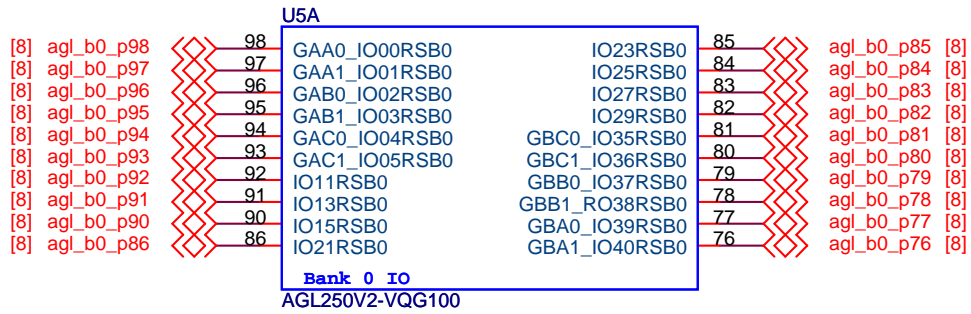
Short Pins 5-6: VCC\_CORE (+1.5V/+1.2V)



Note:  
Current Measurement Jumpers:  
Short Pins 2-3 for normal operation.



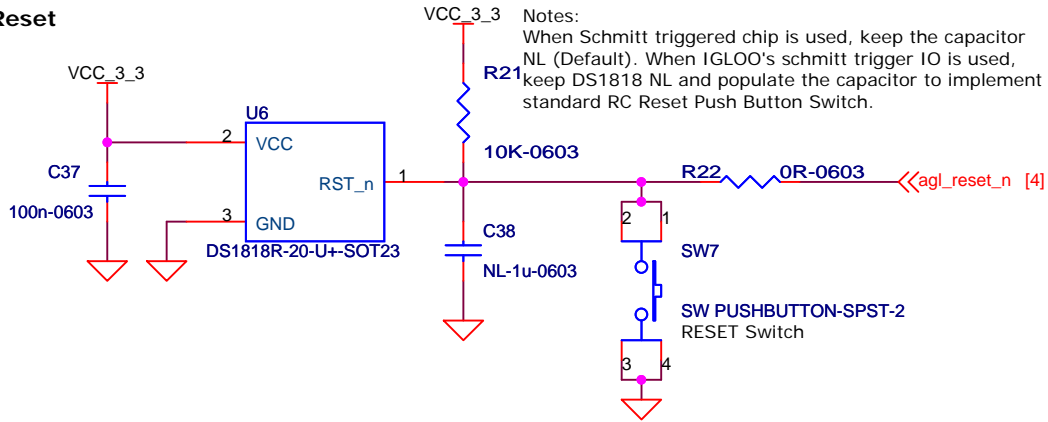
Schematic		sch_top		Current Measurement Headers	
Title					
IGLOO - Nano Starter Kit					
Size	Document Number				Rev
A	SCH-AGLNNANO-0845-B1B				1B
Date:		Saturday, November 08, 2008		Sheet	3 of 9



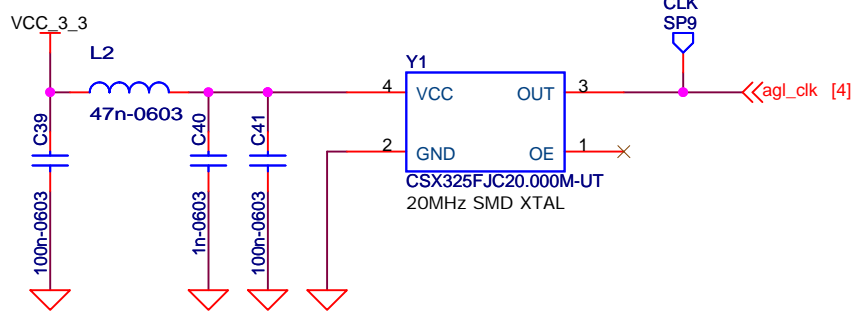
agl\_b2\_p27 << agl\_ff [5,8]

Schematic	
sch_top Actel AGL250V2-VQG100 FPGA	
Title	
IGLOO - Nano Starter Kit	
Size	Document Number
A	SCH-AGLNNANO-0845-B1B
Date:	Saturday, November 08, 2008
Sheet	4 of 9
Rev	1B

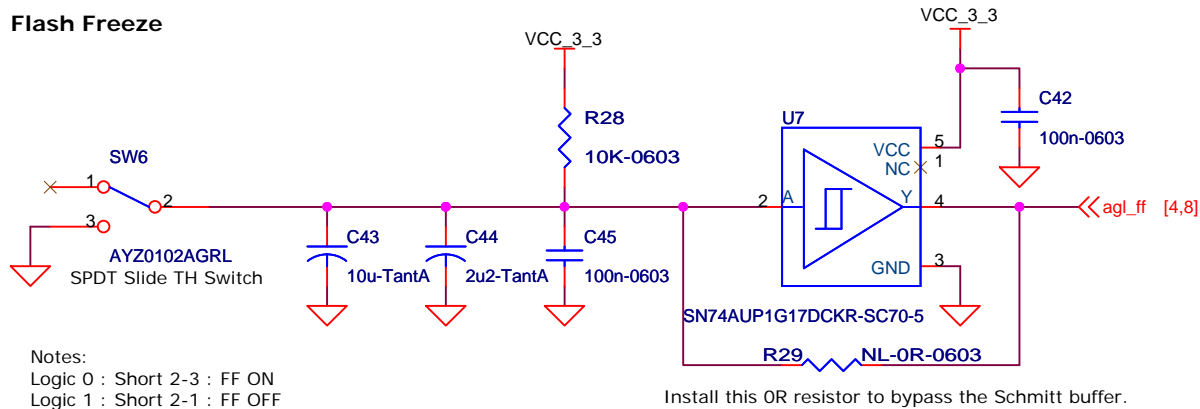
### Reset



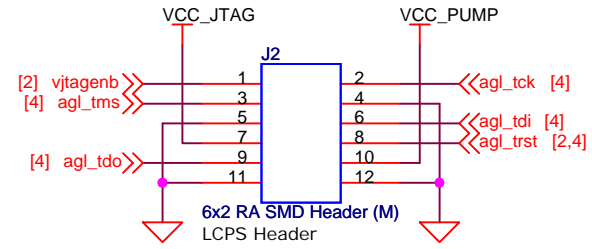
### Clock Oscillator



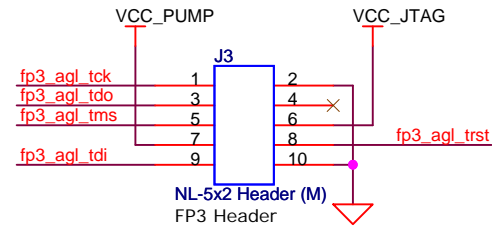
### Flash Freeze



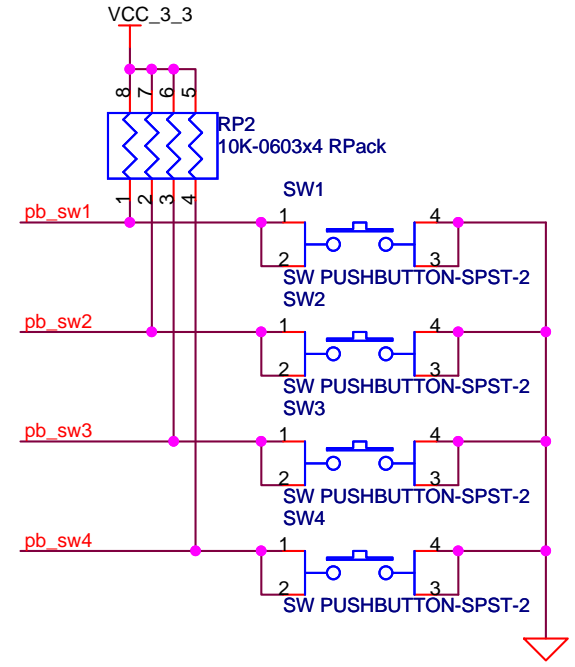
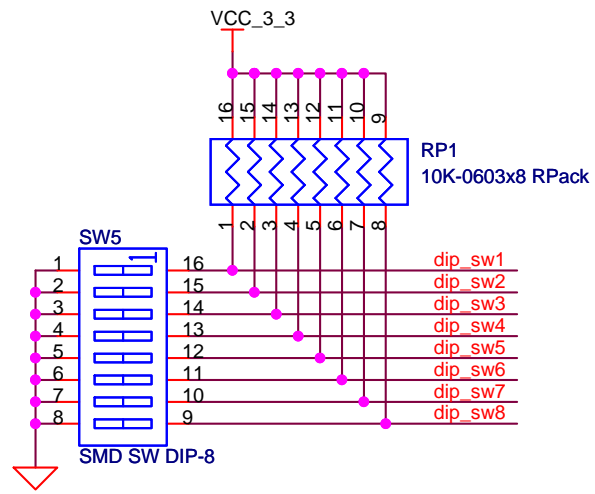
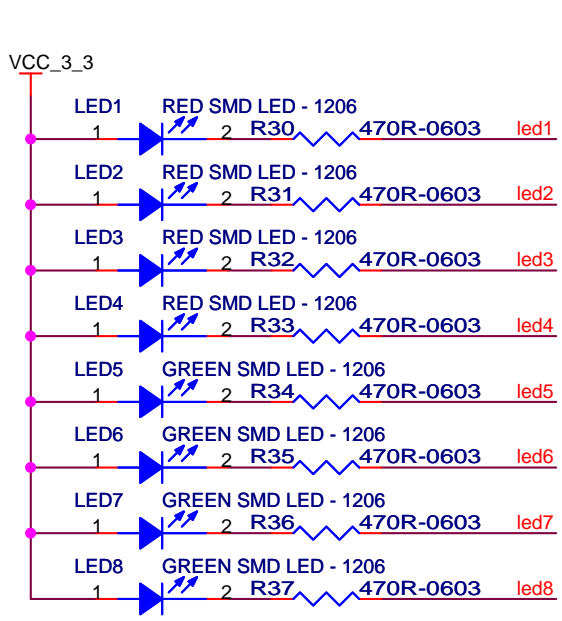
### FPGA Programming Headers



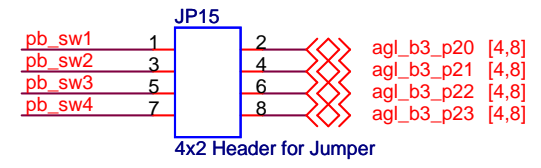
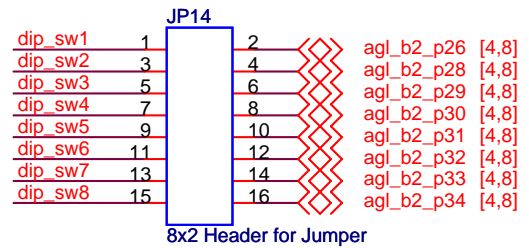
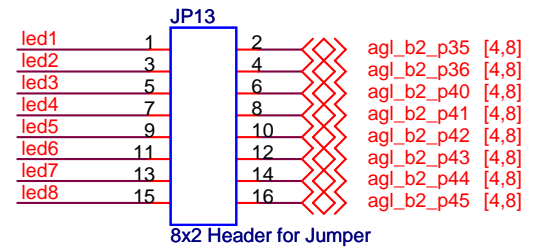
Note:  
Place these isolation resistors close to the LCPS Header so that stub length on JTAG lines is reduced when the entire FP3 interface is NL along with the isolation resistors (Default).



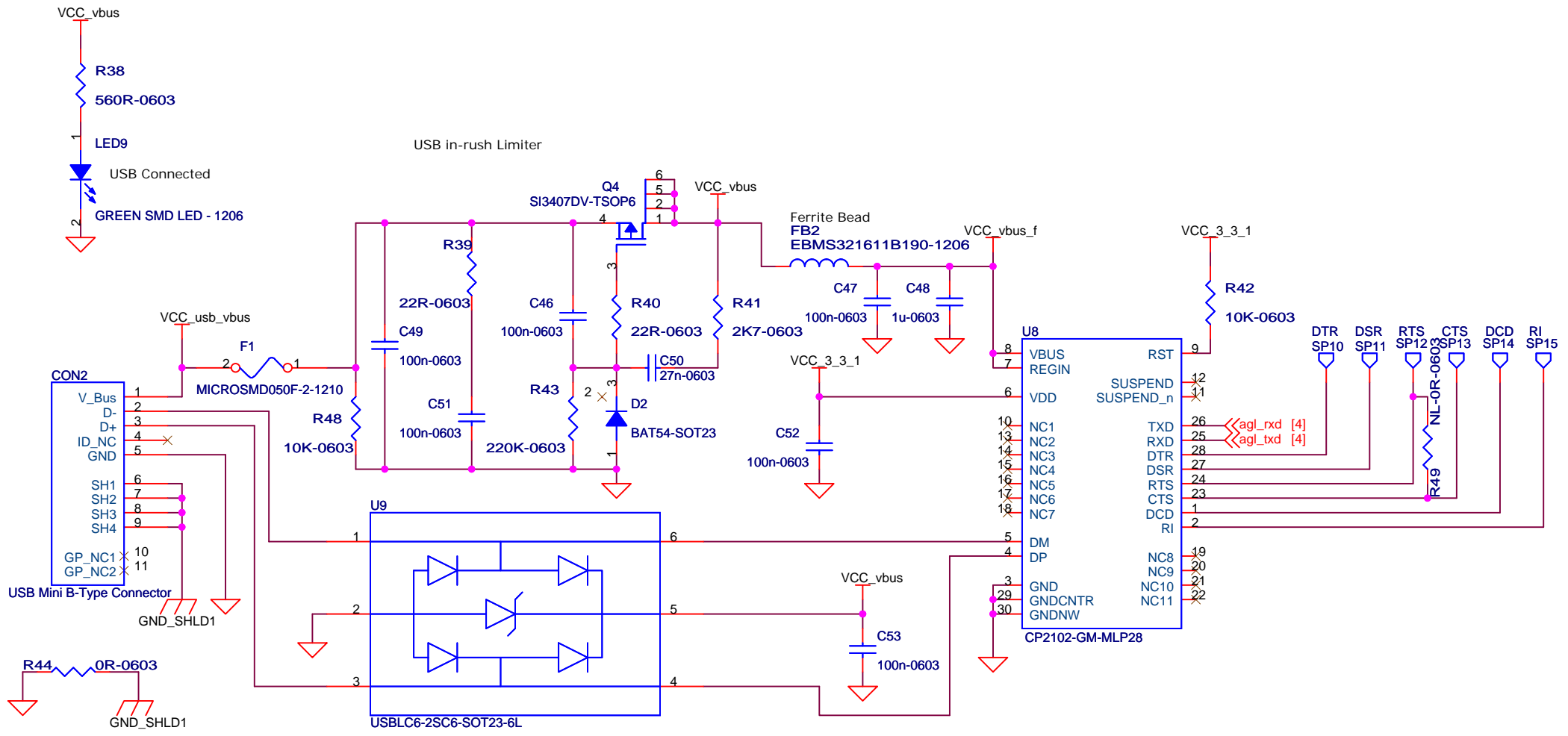
Schematic		sch_top		JTAG, Reset, Clock and Flash Freeze	
Title					
IGLOO - Nano Starter Kit					
Size	Document Number				Rev
Custom	SCH-AGLNNANO-0845-B1B				1B
Date:		Saturday, November 08, 2008		Sheet	5 of 9



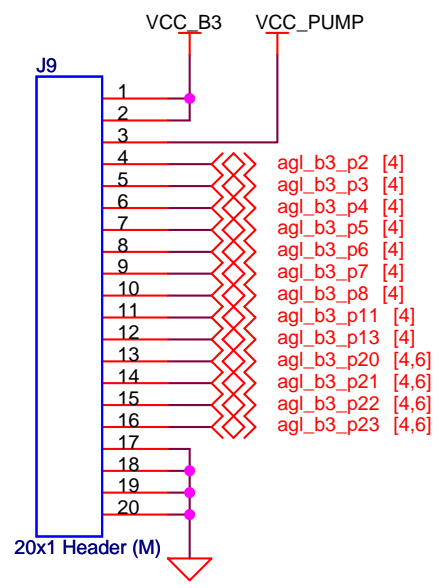
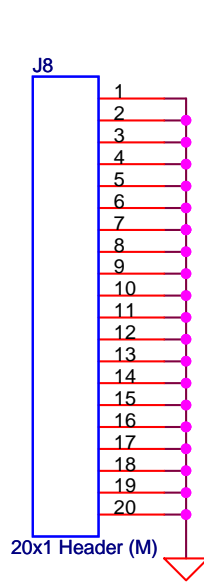
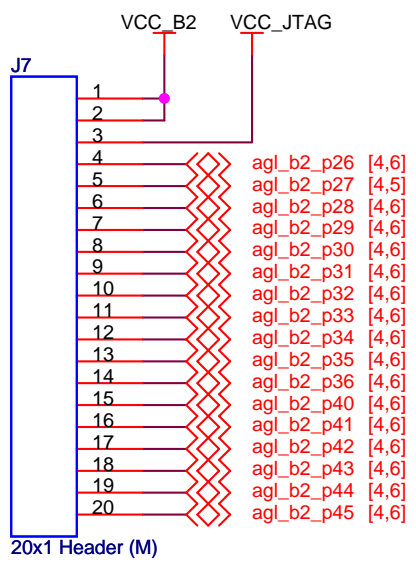
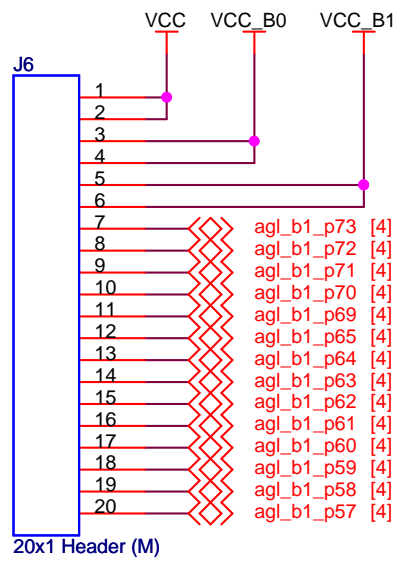
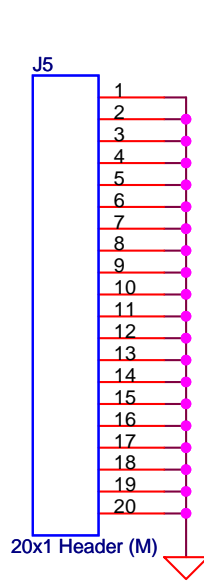
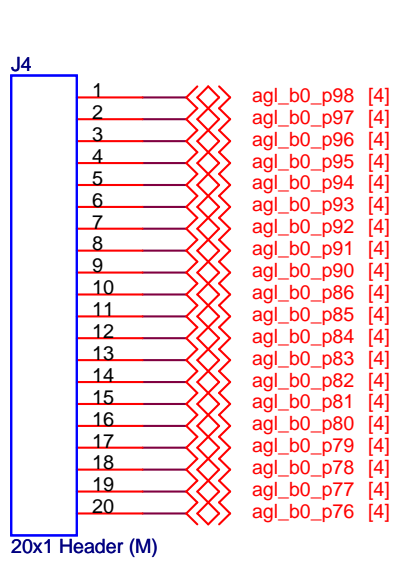
Note:  
Remove Jumper from these headers to detach the peripheral from the FPGA IO and use the header IO.



Schematic		sch_top		LED, Push Button and DIP Switches	
Title					
IGLOO - Nano Starter Kit					
Size	Document Number				Rev
A	SCH-AGLNNANO-0845-B1B				1B
Date: Saturday, November 08, 2008			Sheet	6	of 9




Schematic		sch_top		USB-to-UART	
Title					
IGLOO - Nano Starter Kit					
Size	Document Number				Rev
Custom	SCH-AGLNNANO-0845-B1B				1B
Date: Saturday, November 08, 2008					
				Sheet	7 of 9







Schematic		sch_top		GPIO Headers	
Title					
IGLOO - Nano Starter Kit					
Size	Document Number				Rev
A	SCH-AGLNNANO-0845-B1B				1B
Date: Saturday, November 08, 2008		Sheet	8	of	9







### Shorting Links for Jumpers

SL1 Shorting Link 	SL2 Shorting Link 	SL3 Shorting Link 	SL4 Shorting Link 
SL5 Shorting Link 	SL6 Shorting Link 	SL7 Shorting Link 	SL8 Shorting Link 
SL9 Shorting Link 	SL10 Shorting Link 	SL11 Shorting Link 	SL12 Shorting Link 
SL13 Shorting Link 	SL14 Shorting Link 	SL15 Shorting Link 	SL16 Shorting Link 
SL17 Shorting Link 	SL18 Shorting Link 	SL19 Shorting Link 	SL20 Shorting Link 
SL21 Shorting Link 	SL22 Shorting Link 	SL23 Shorting Link 	SL24 Shorting Link 
SL25 Shorting Link 	SL26 Shorting Link 	SL27 Shorting Link 	SL28 Shorting Link 
SL29 Shorting Link 	SL30 Shorting Link 	SL31 Shorting Link 	SL32 Shorting Link 









### Board fiducials

M1  Fiducial	M2  Fiducial	M3  Fiducial	M4  Fiducial
--	---	---	---

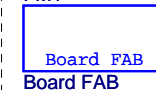
### FPGA fiducials

M5  Fiducial	M6  Fiducial	M7  Fiducial	M8  Fiducial
--	---	---	---

### Board Stand Offs

M9  Mounting-Hole	M10  Mounting-Hole	M11  Mounting-Hole	M12  Mounting-Hole
M13  Rubber_Foot	M14  Rubber_Foot	M15  Rubber_Foot	M16  Rubber_Foot

FM1



CB1



Schematic		sch_top		Manufacturing Points	
Title					
IGLOO - Nano Starter Kit					
Size	Document Number				Rev
A	SCH-AGLNNANO-0845-B1B				1B
Date: Saturday, November 08, 2008			Sheet	9	of 9