

IDL\_14\_023\_XRM\_MOTHERBOARD\_REVA

Changed to SCROD REVB

Power levels for SCROD:

RAW1 : 1.87 Volts

RAW2: 3.15 Volts

RAW3: 4.33 Volts

Estimated Power Consumption (max)

CLK Fanout: 165 mA

Fans: 4 x 130mA = 520 mA

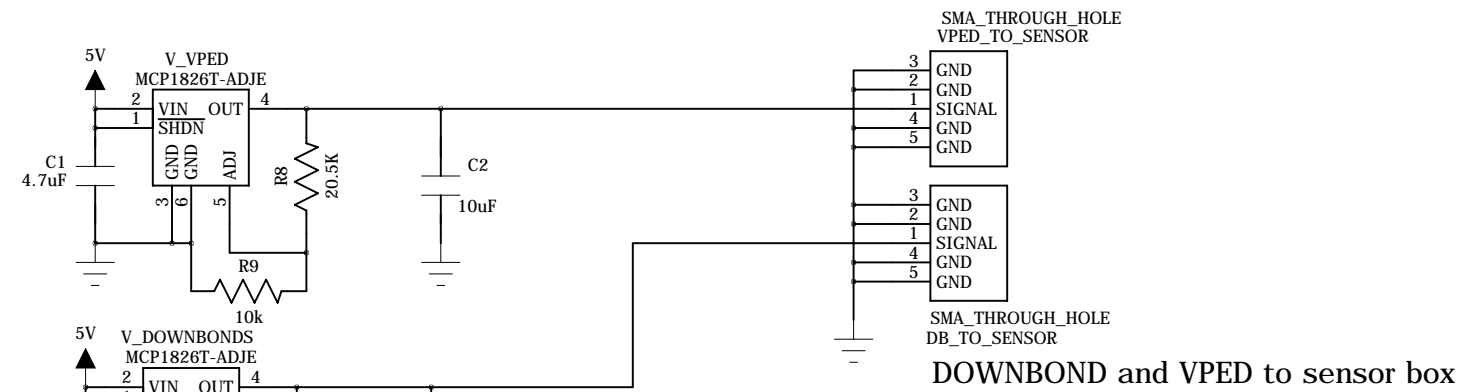
Carriers : 4 x 17.330 W = 69.32 W = 18.864 A

Amplifiers: 4 x 7.5 W = 30 W = 6 A

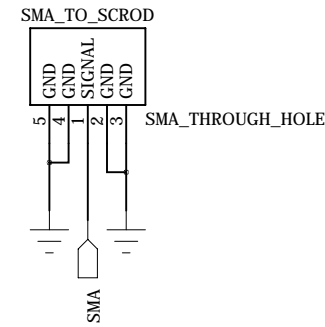
SCROD RevB :

System total power consumption = 25.549 A = 128 W

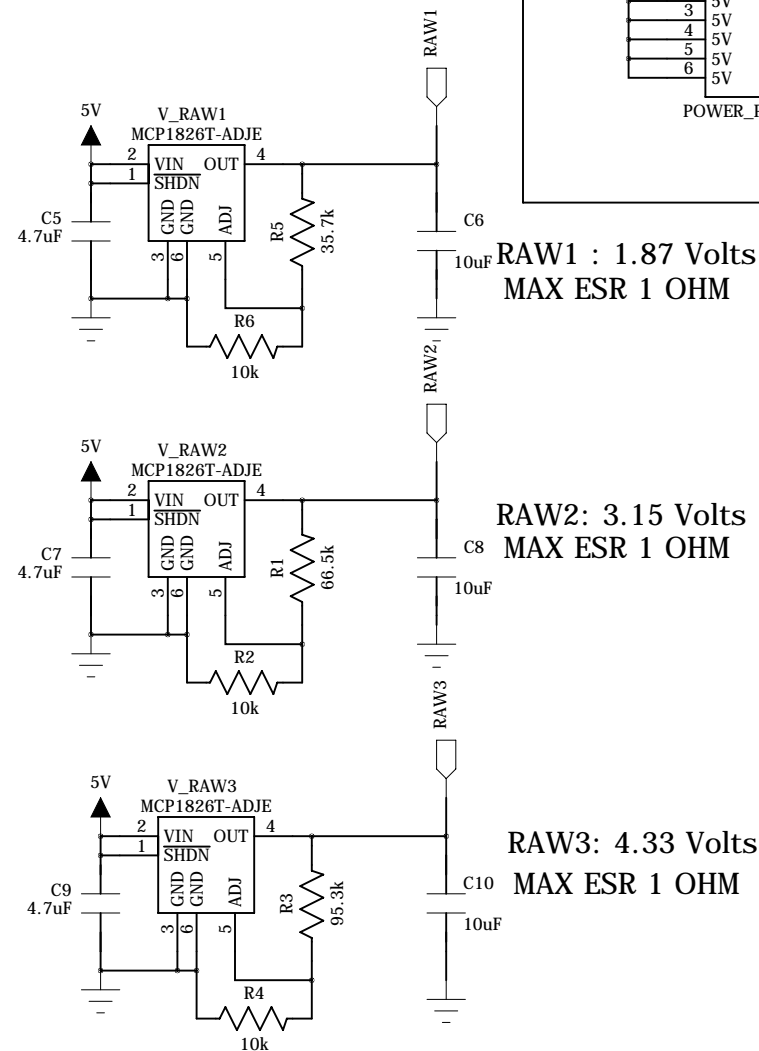
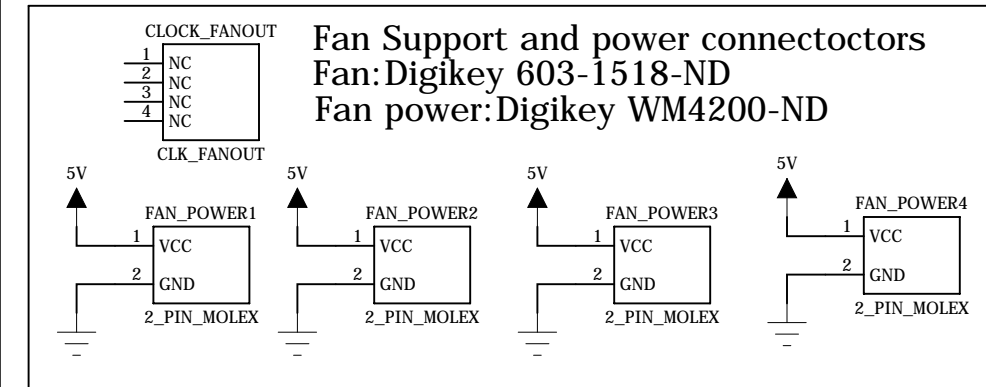
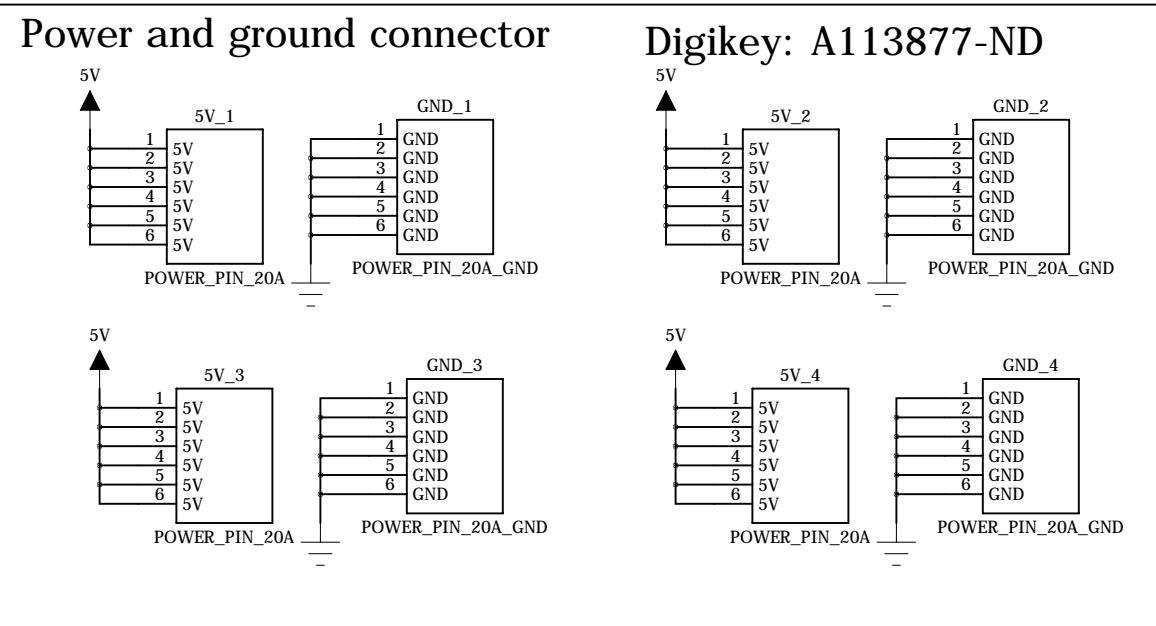
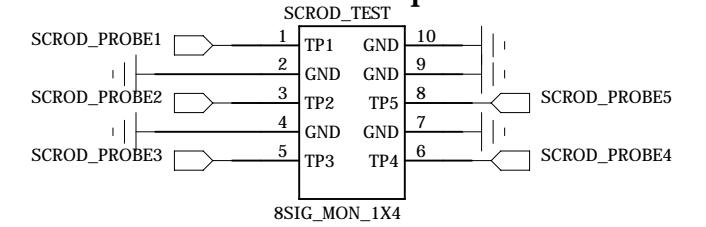
Institution	University of Hawai'i at Manoa High Energy Physics Group Instrumentation Development Lab
Title	XRM_Motherboard
Revision	B
IDLAB Design #	IDL_14_023
Circuit Design	JM/KPL
PCB Design	JM/KPL
Sheet #	1 of 5
Description	NOTES
Last Modified	14-APRIL-2015



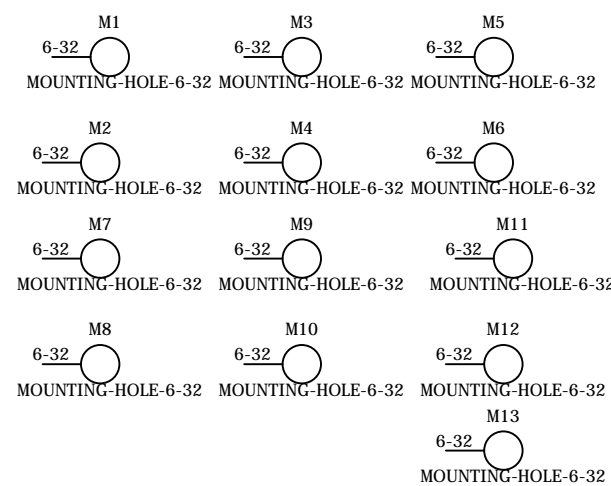
### Vertical SMA connector to SCROD



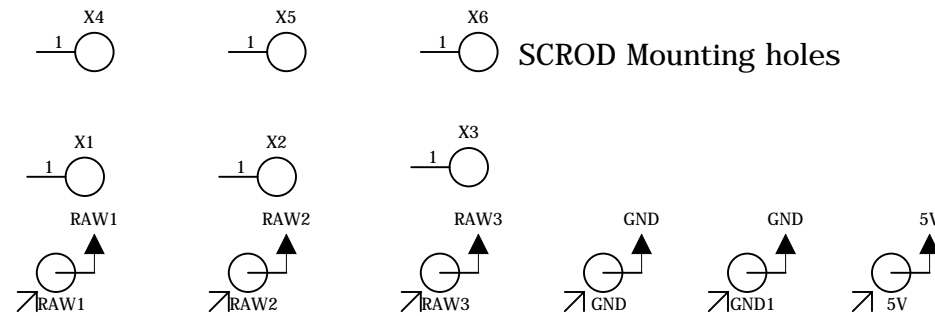
### SCROD Testpoints



### Board mounting holes

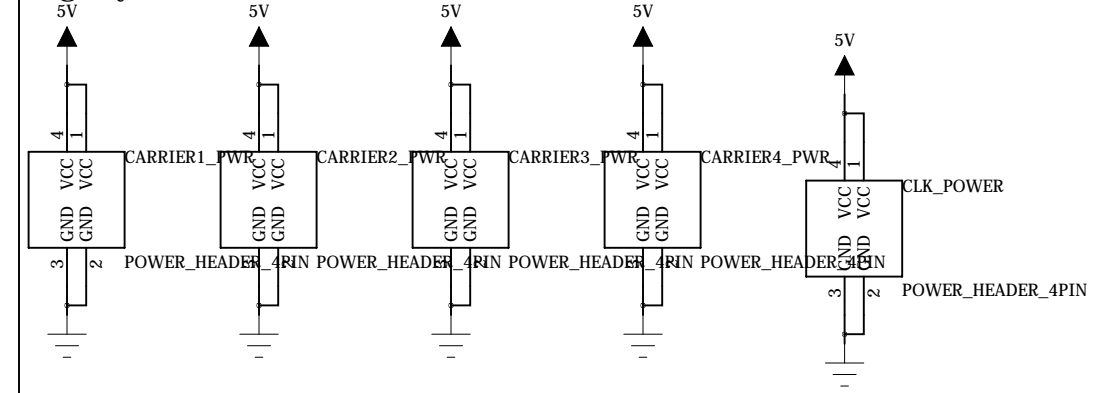


### SCROD Mounting holes



### Voltage testpoints

### Carrier and CLK Fanout power connectors

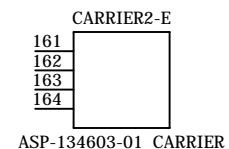
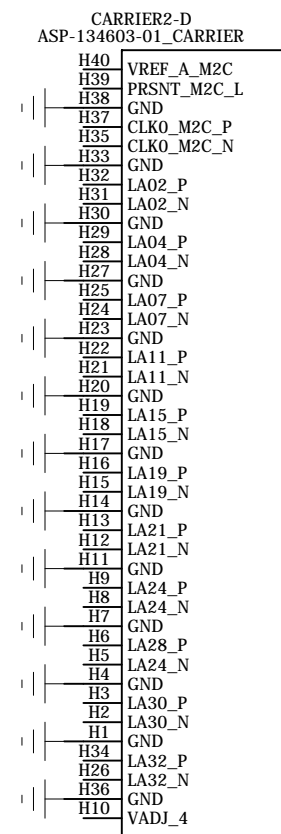
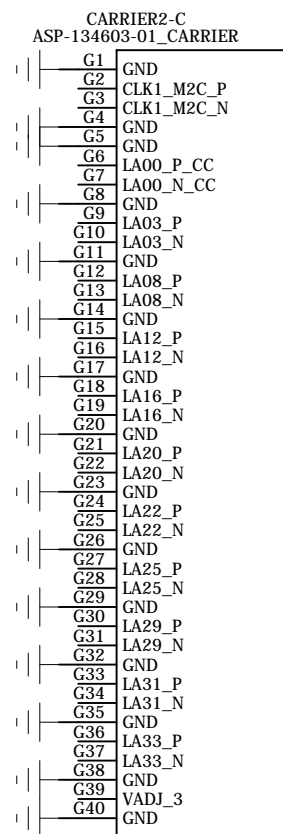
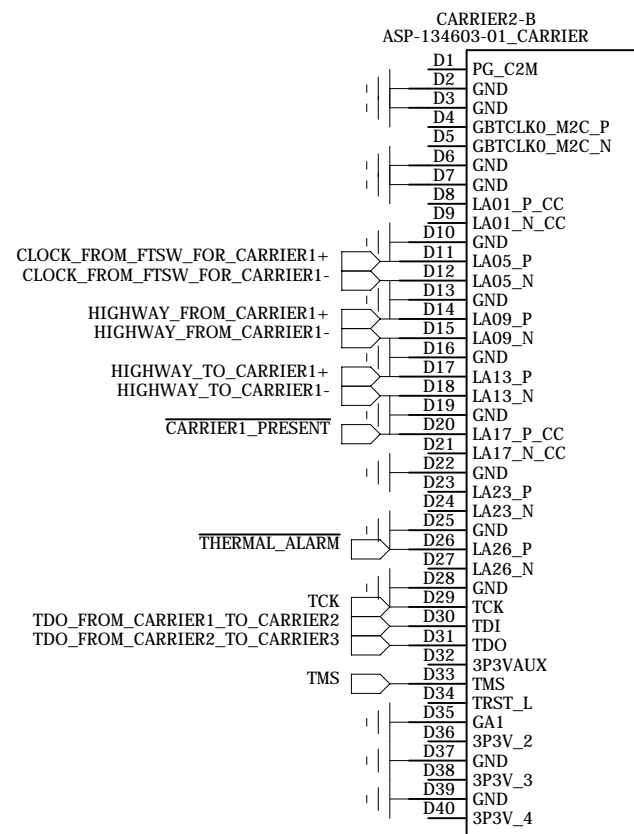
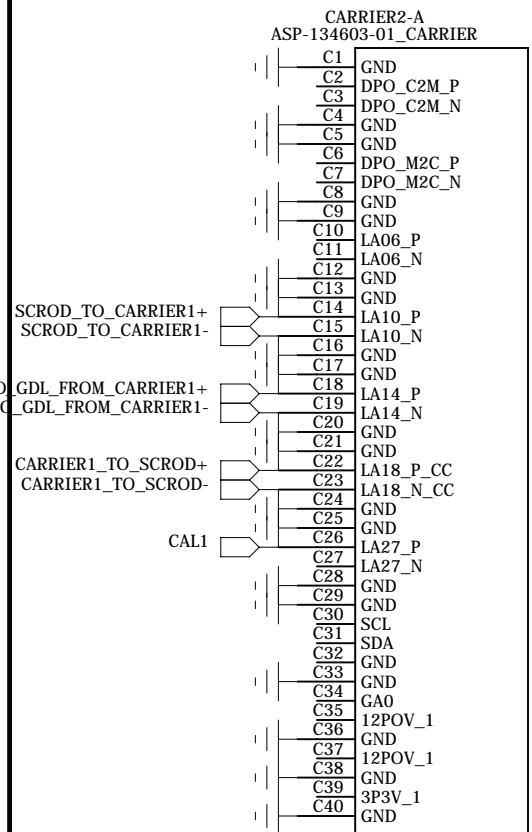
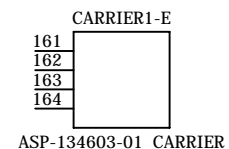
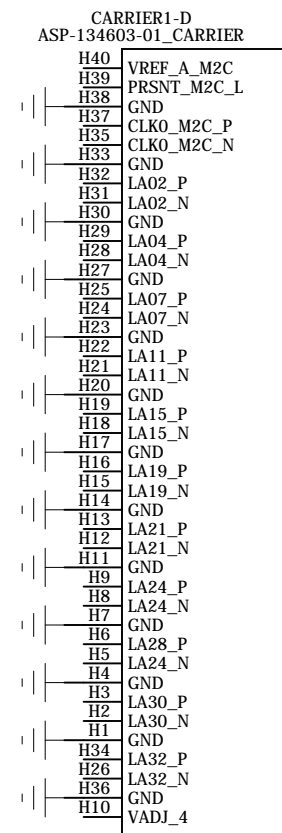
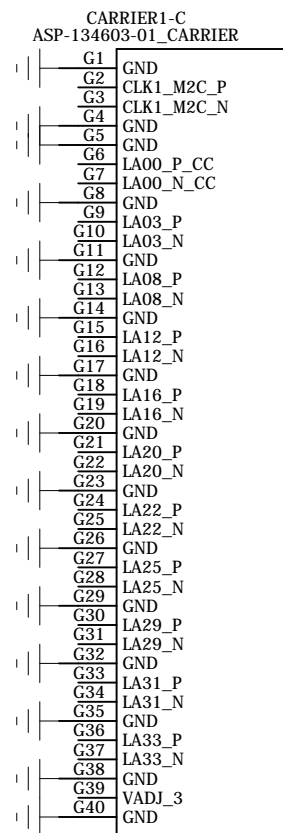
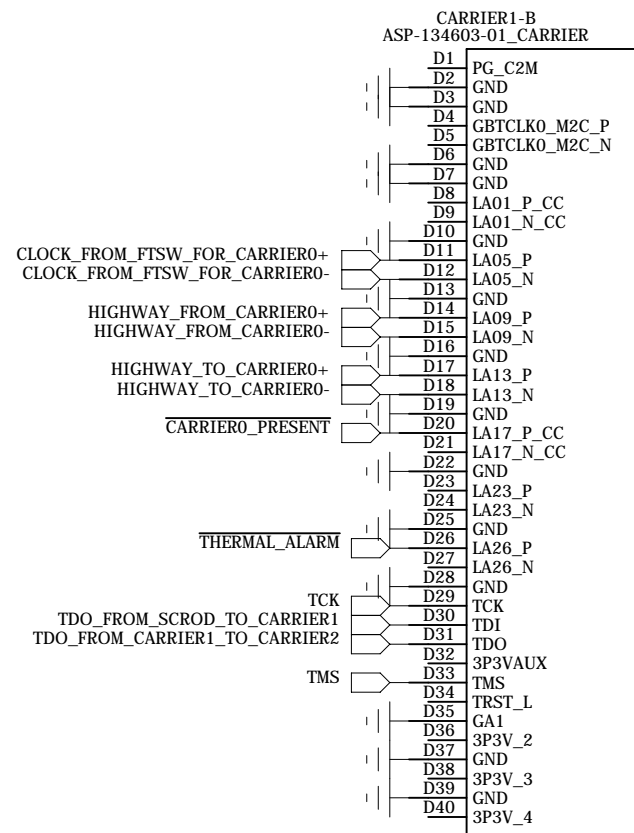
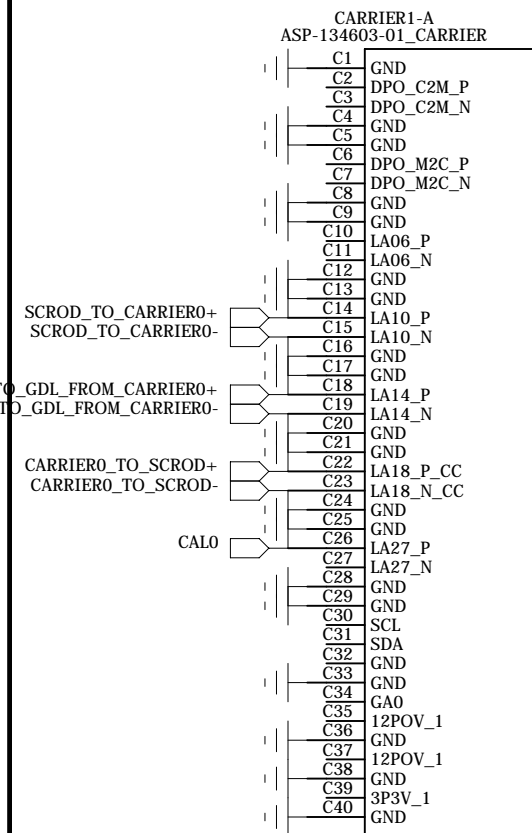


$$V_{out} = 0.41 * ((R3 + R4) / R4)$$

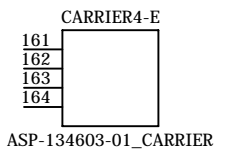
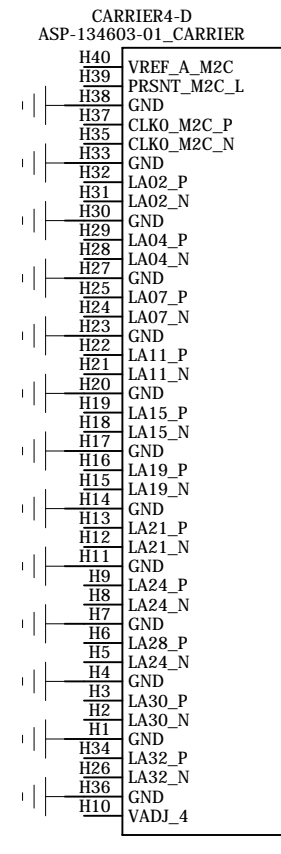
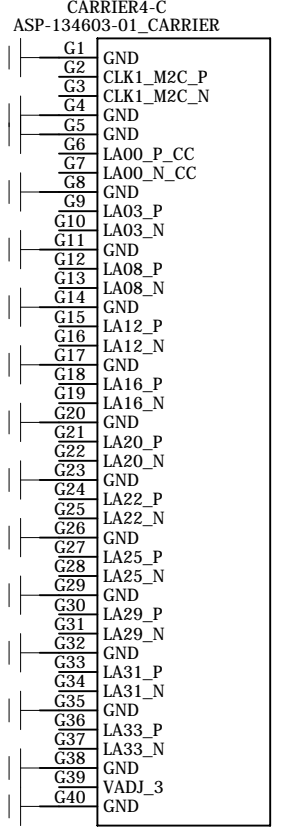
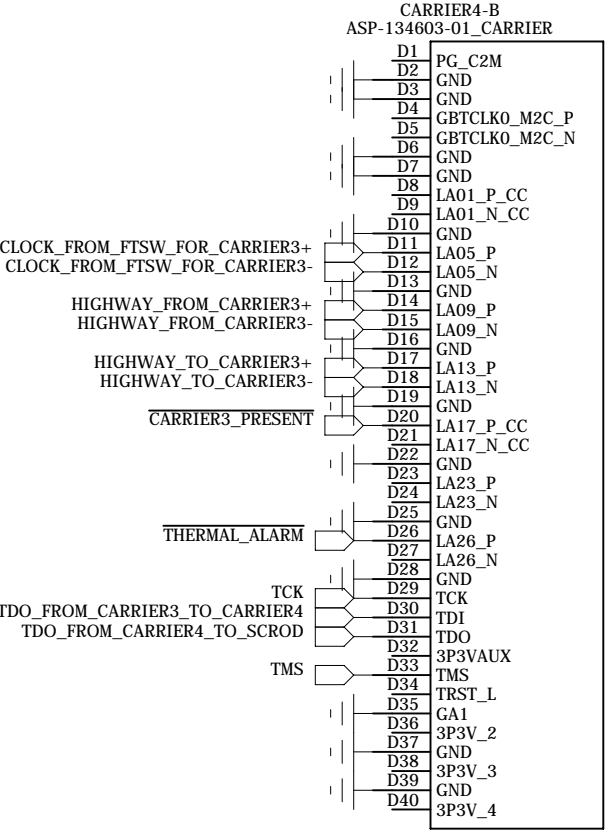
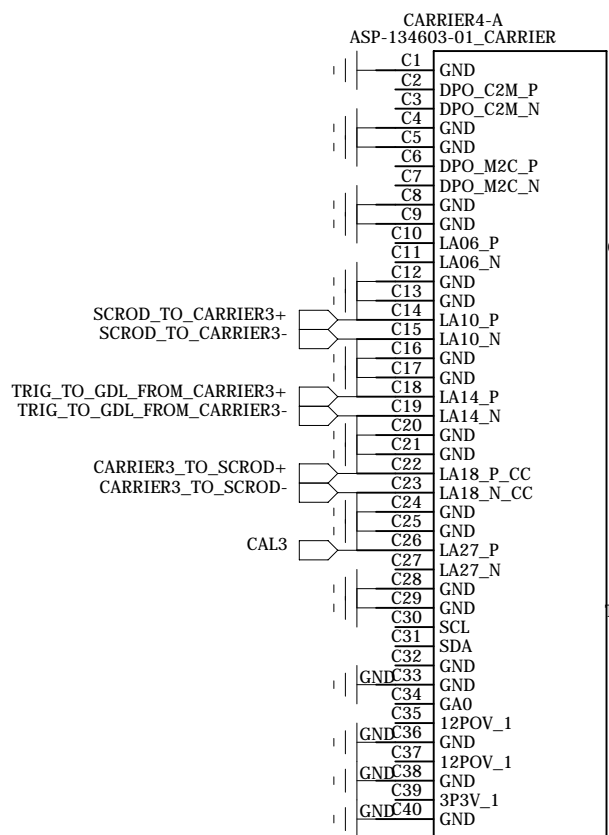
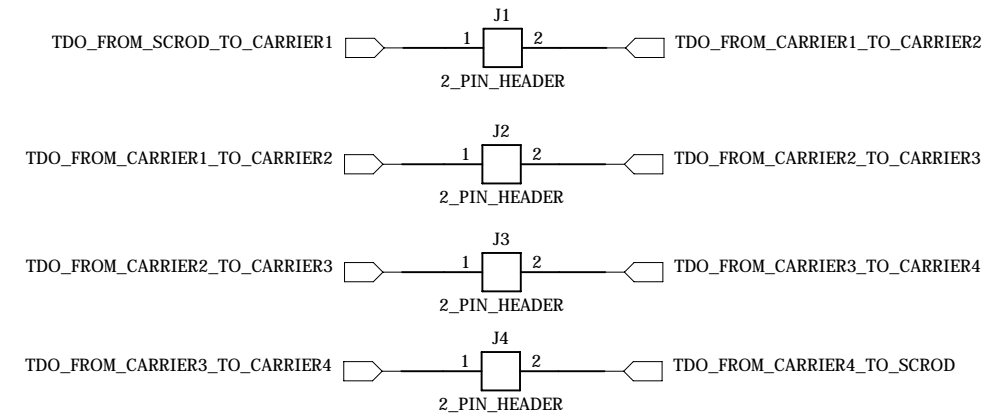
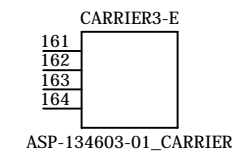
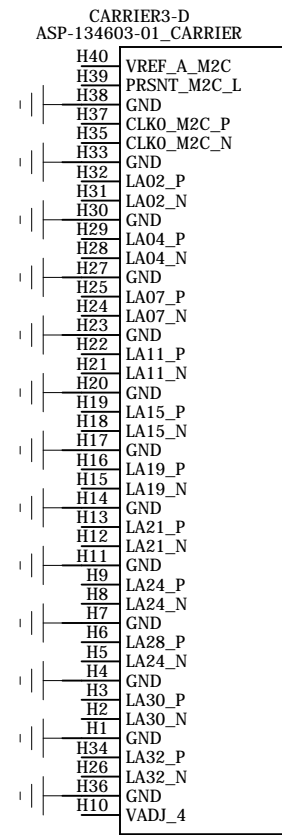
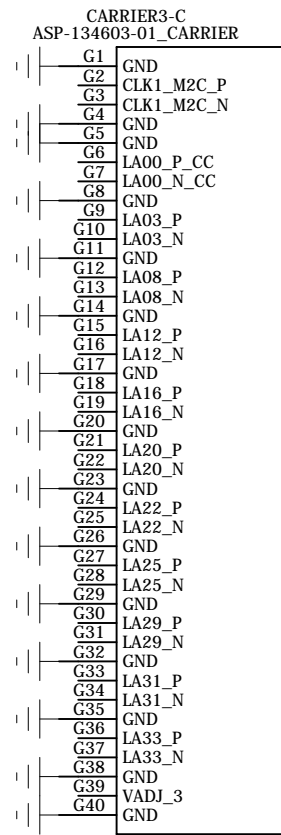
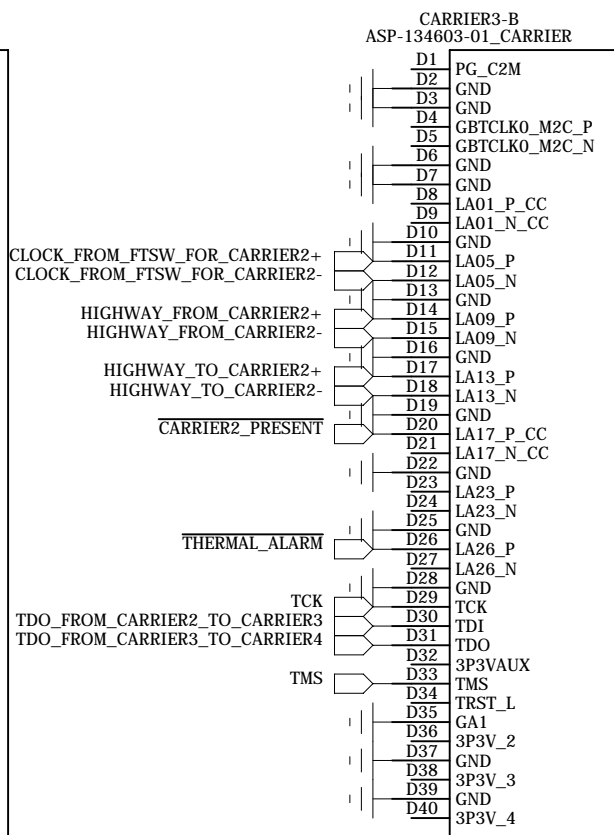
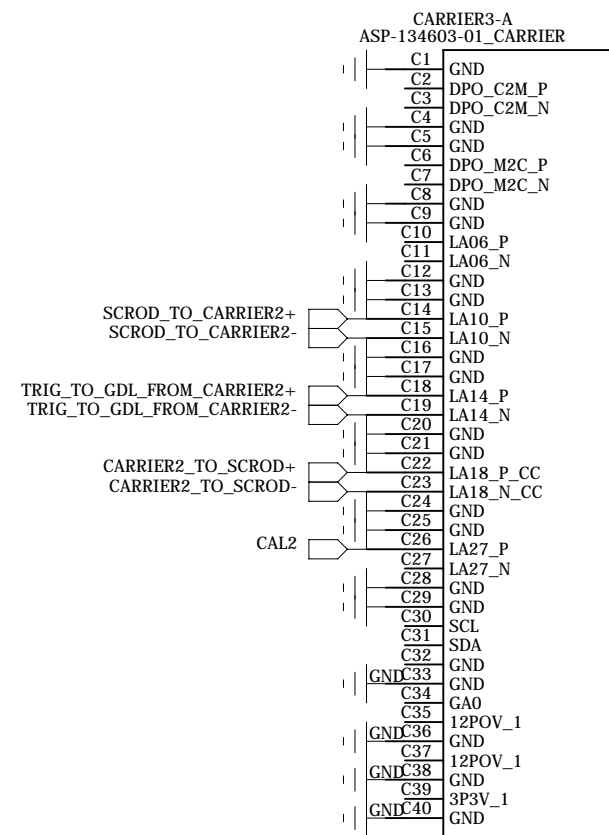
Keep R4 between 10k - 200k

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Sheet #	2 of 5
Description	Power & testpoints
Last Modified	14-APRIL-2015





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IDLAB Design #	IDL_14_023
Circuit Design	JM/KPL
PCB Design	JM/KPL
Sheet #	4 of 5
Description	Carrier 1 and 2 connectors
Last Modified	14-APRIL-2015



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IDLAB Design #	IDL_14_023
Circuit Design	JM/KPL
PCB Design	JM/KPL
Sheet #	5 of 5
Description	Carrier 3 and 4 connectors
Last Modified	14-APRIL-2015