

Adam Baird (s.a.baird@rl.ac.uk)
Rutherford Appleton Laboratory

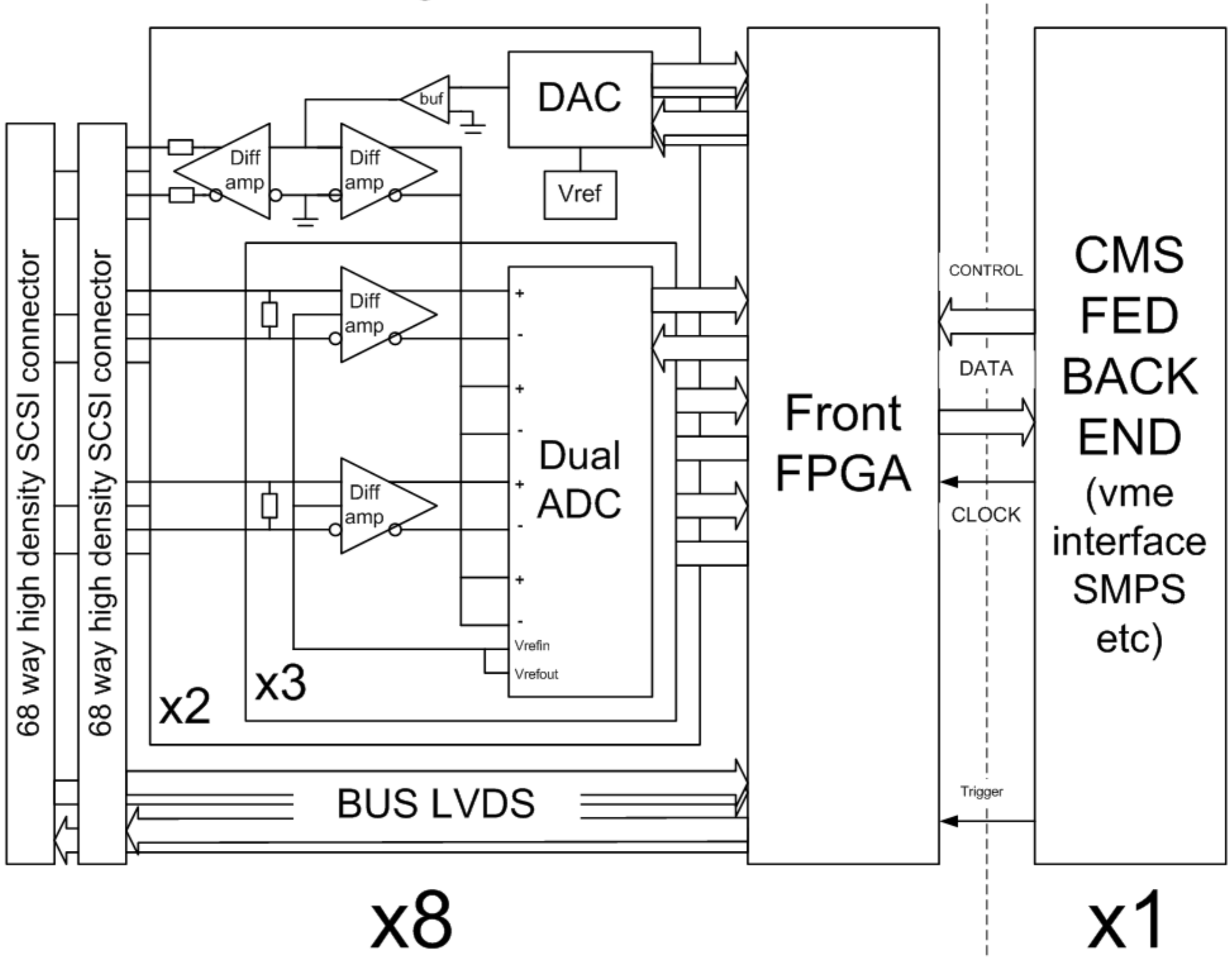
Status of Calice ECAL Readout Board.
17 March 2003

Circuit diagrams must be printed A3 to view fine detail.

This file is printed best when printer is set to "flip on short edge"

This version of the acrobate file is for printing. Some text is missing from the diagrams, which is present in the screen version.

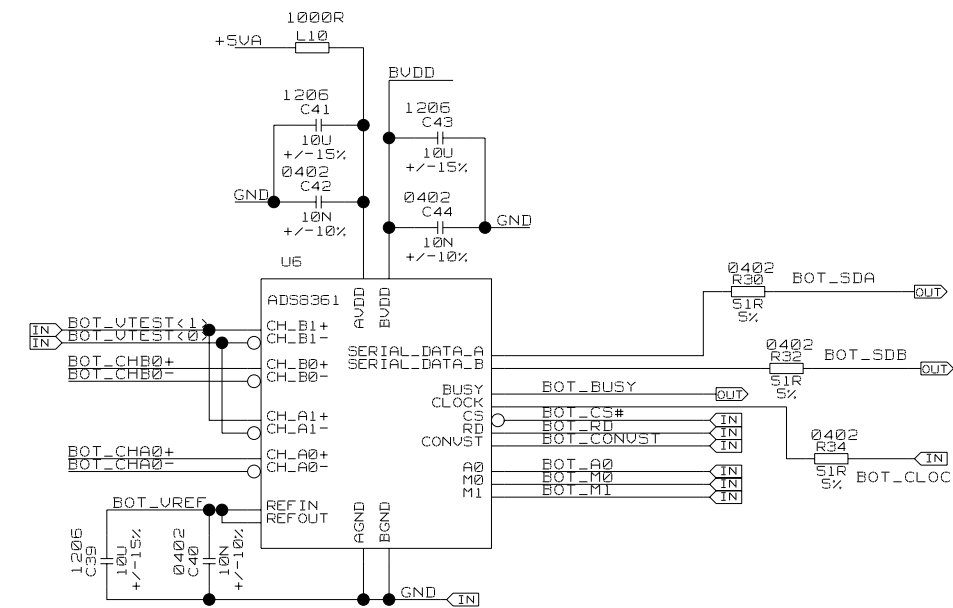
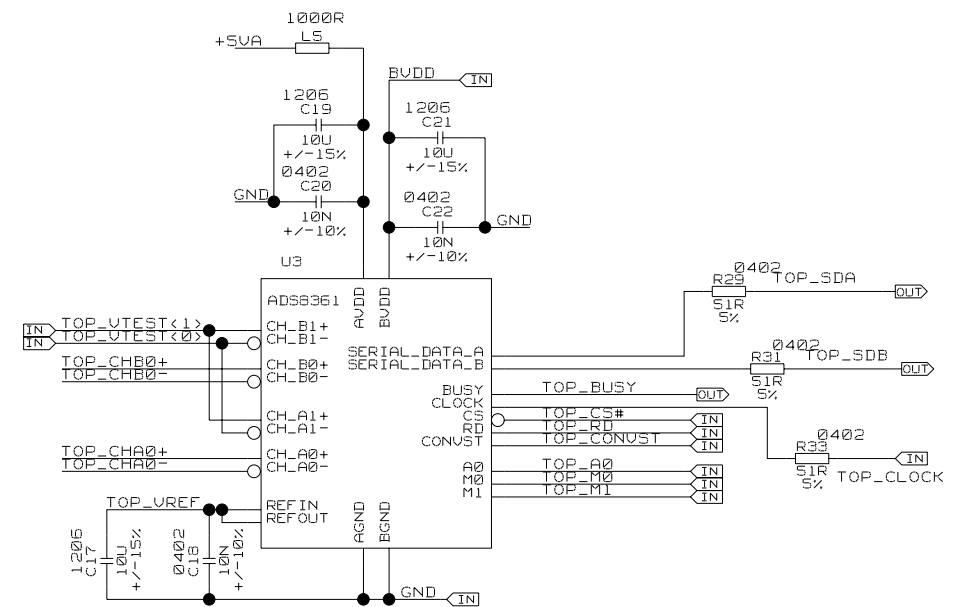
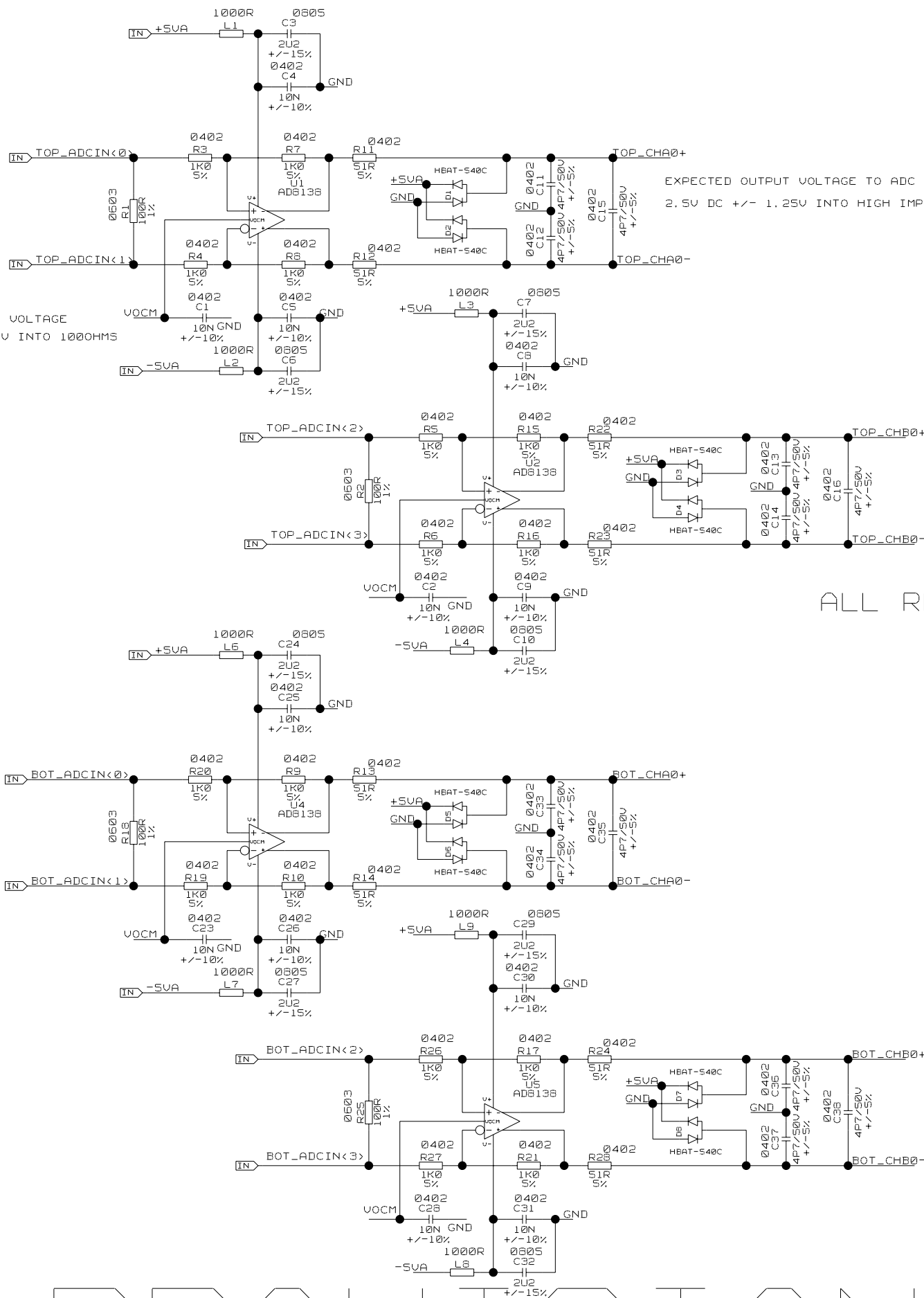
Block Diagram of Calice ECAL Readout board



EXPECTED INPUT VOLTAGE
0V DC +/- 1.25V INTO 100OHMS
DIFFERENTIAL

EXPECTED OUTPUT VOLTAGE TO ADC
2.5V DC +/- 1.25V INTO HIGH IMPEDANCE

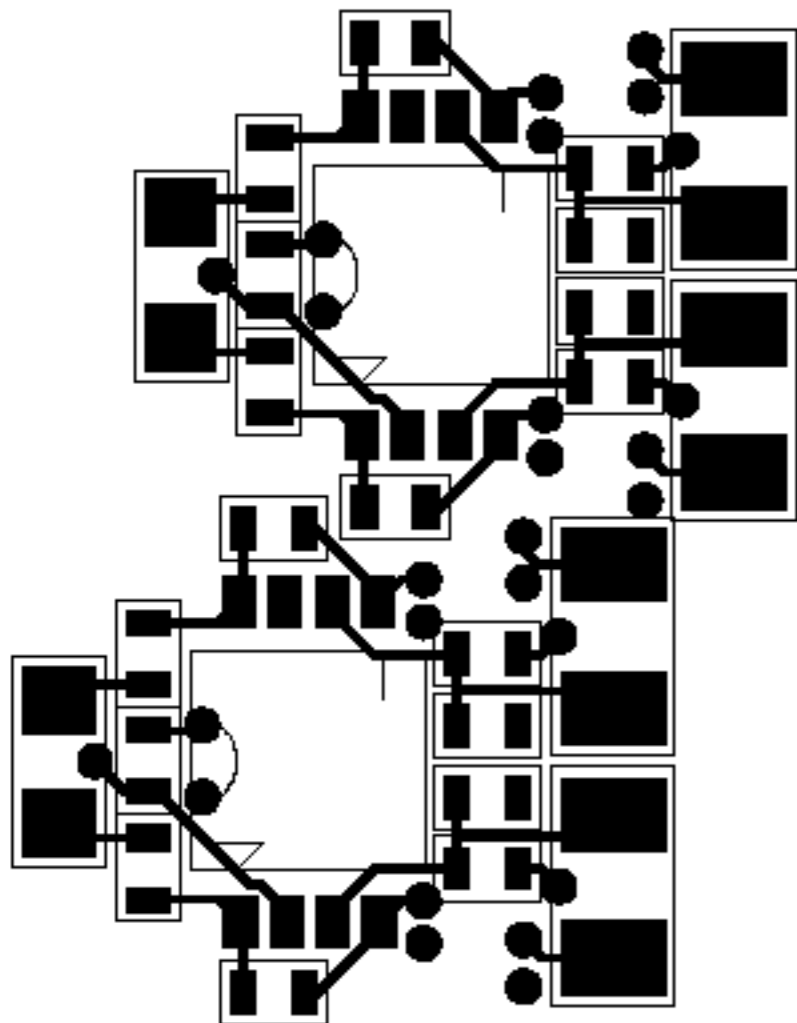
ALL RESISTORS MUST BE CHANGED TO 1% TOLERANCE



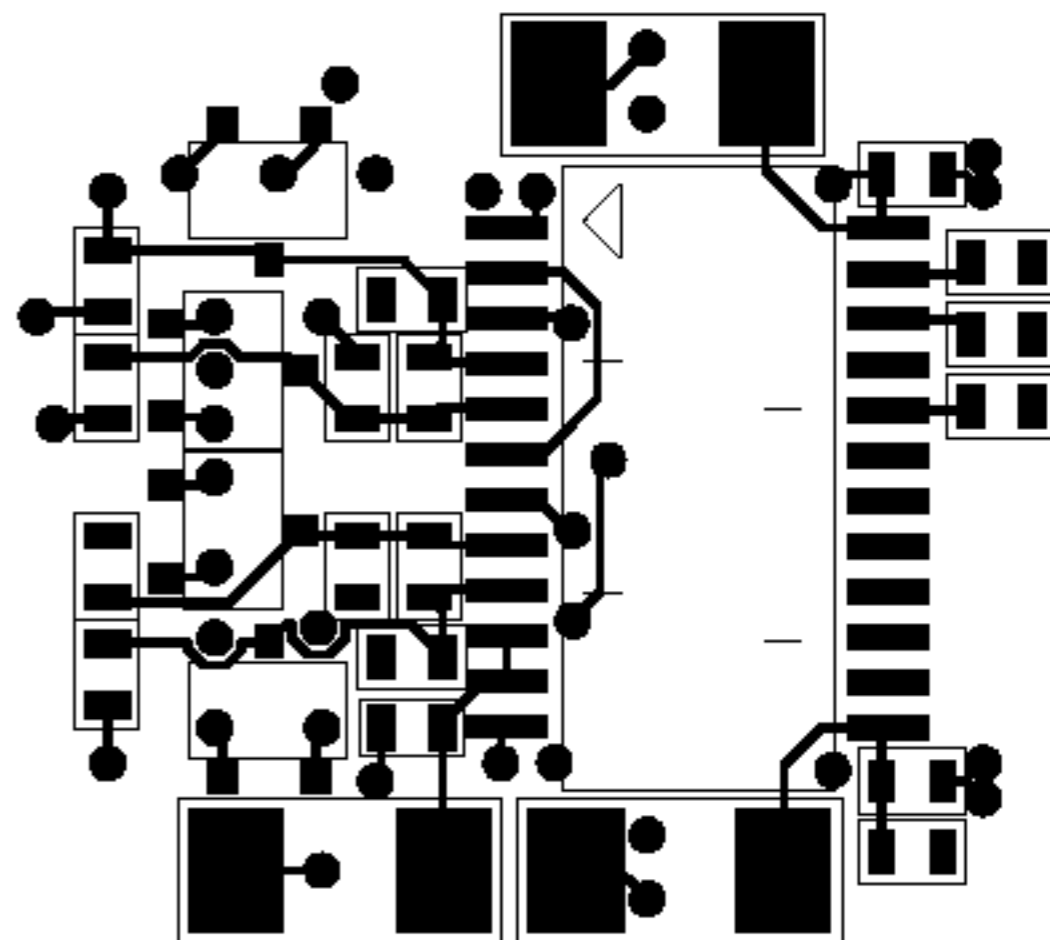
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USED ON						

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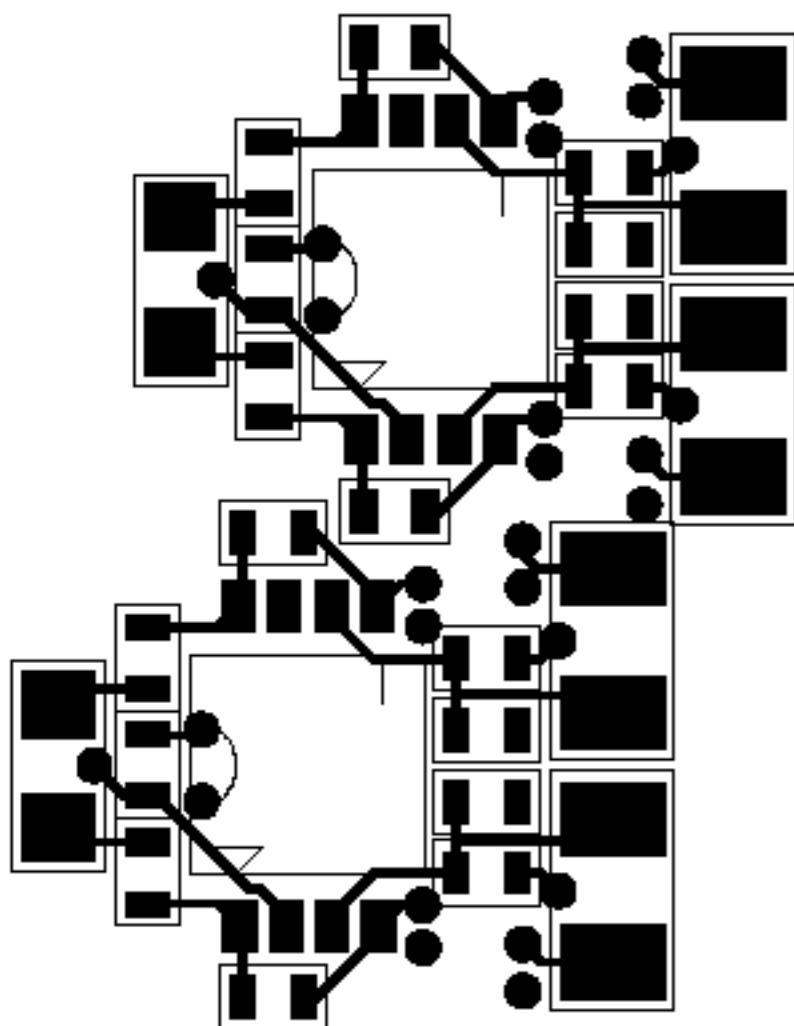
TITLE
 CALICE ADC DESIGN



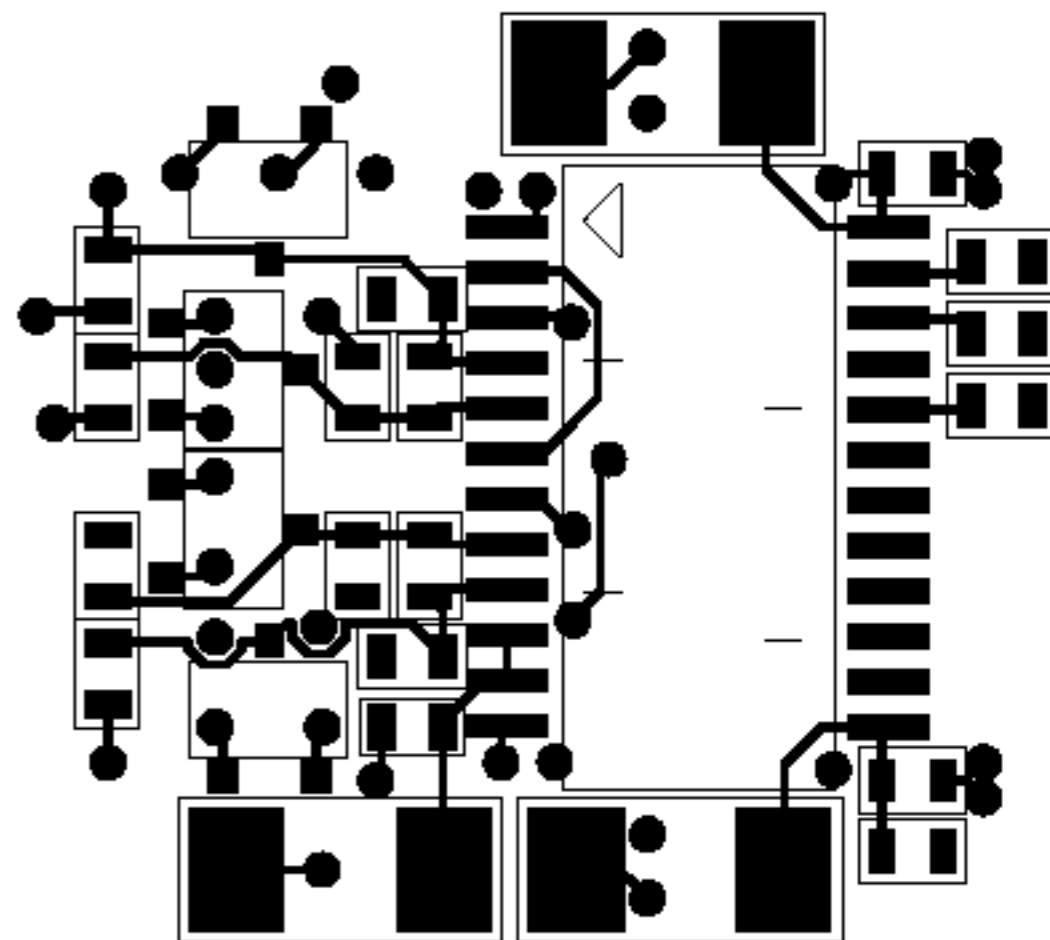
Top view
<-- dual pre-amp
and
dual ADC -->



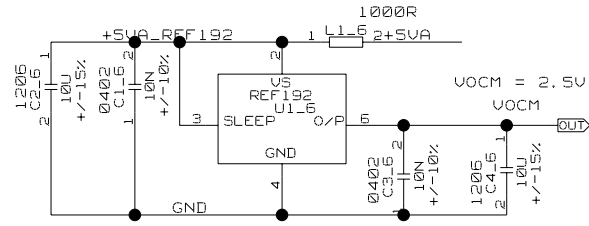
ADC Module



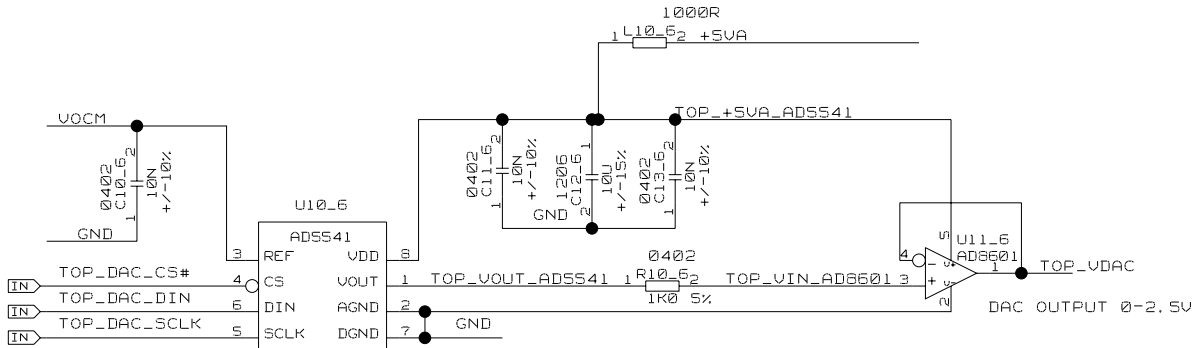
Bottom view
<-- dual pre-amp
and
dual ADC -->



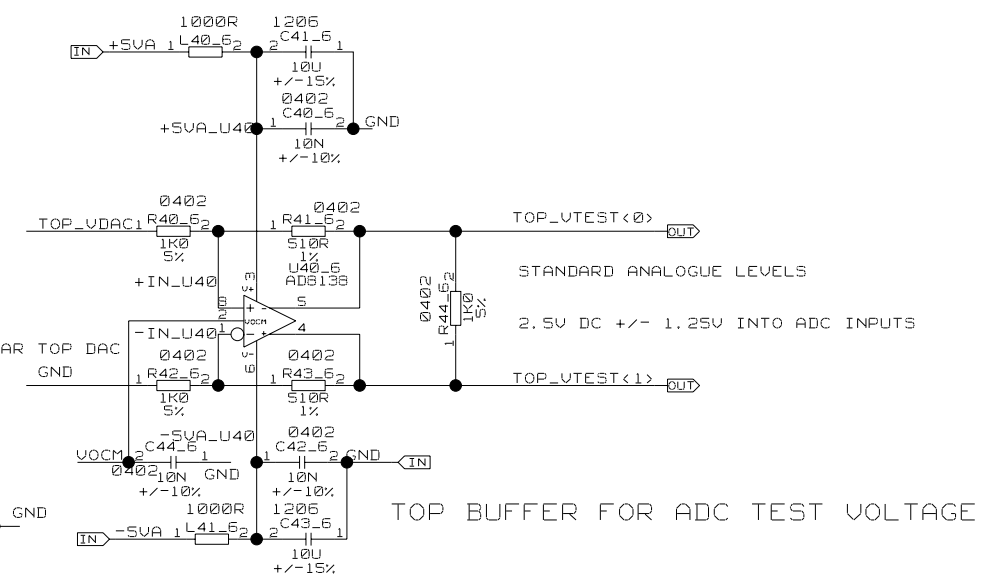
VOLTAGE REFERENCE



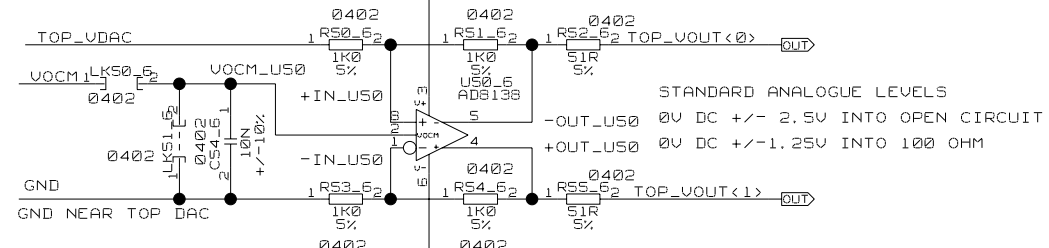
TOP DAC



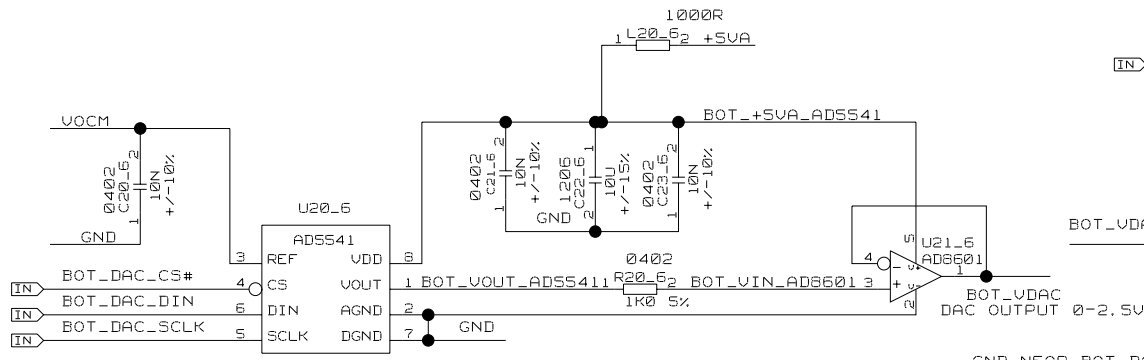
TOP BUFFER FOR ADC TEST VOLTAGE



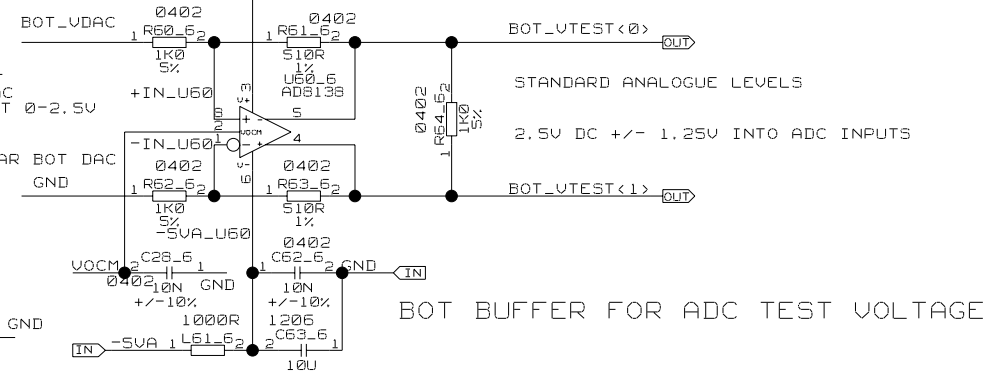
TOP BUFFER VFE ANALOGUE VOLTAGE



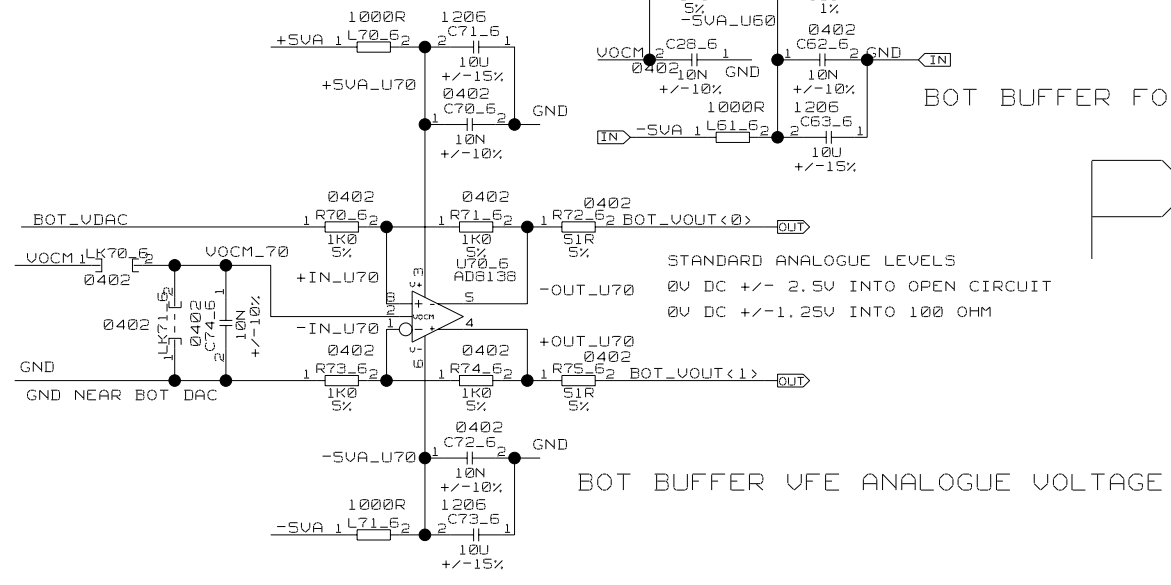
BOT DAC



BOT BUFFER FOR ADC TEST VOLTAGE



BOT BUFFER VFE ANALOGUE VOLTAGE

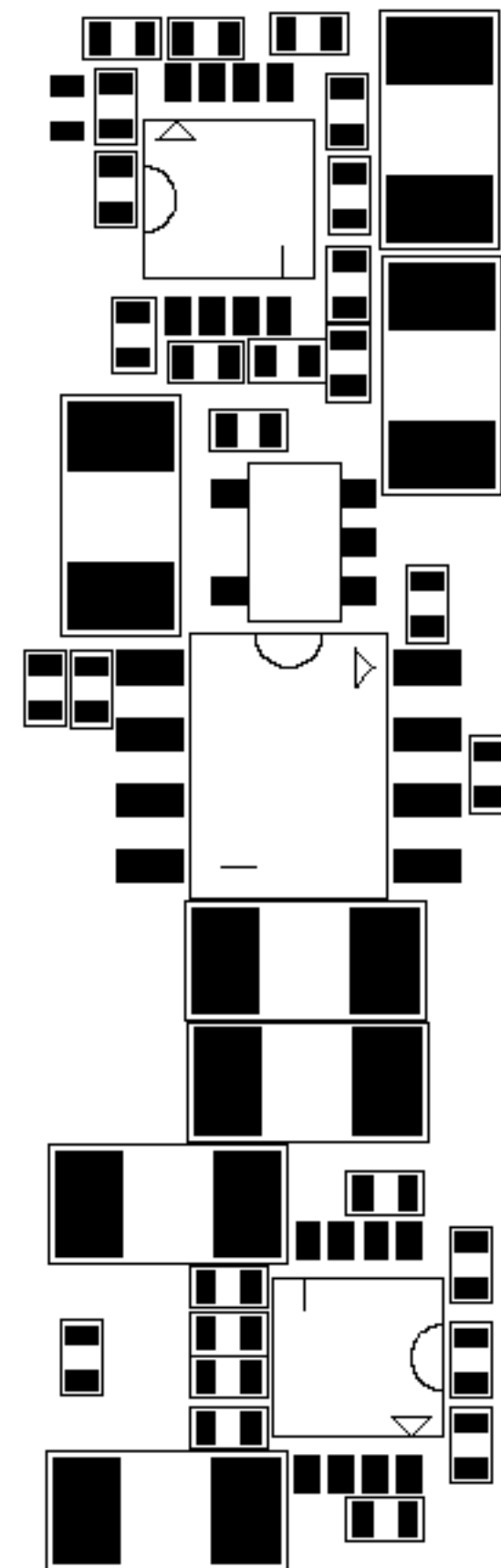
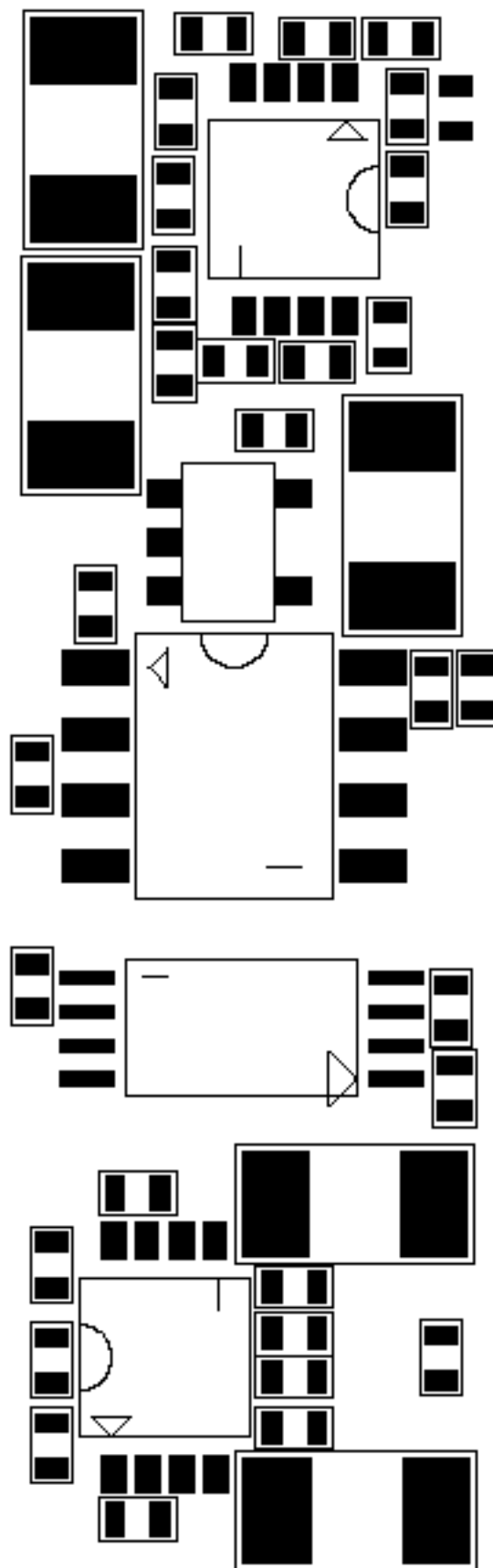


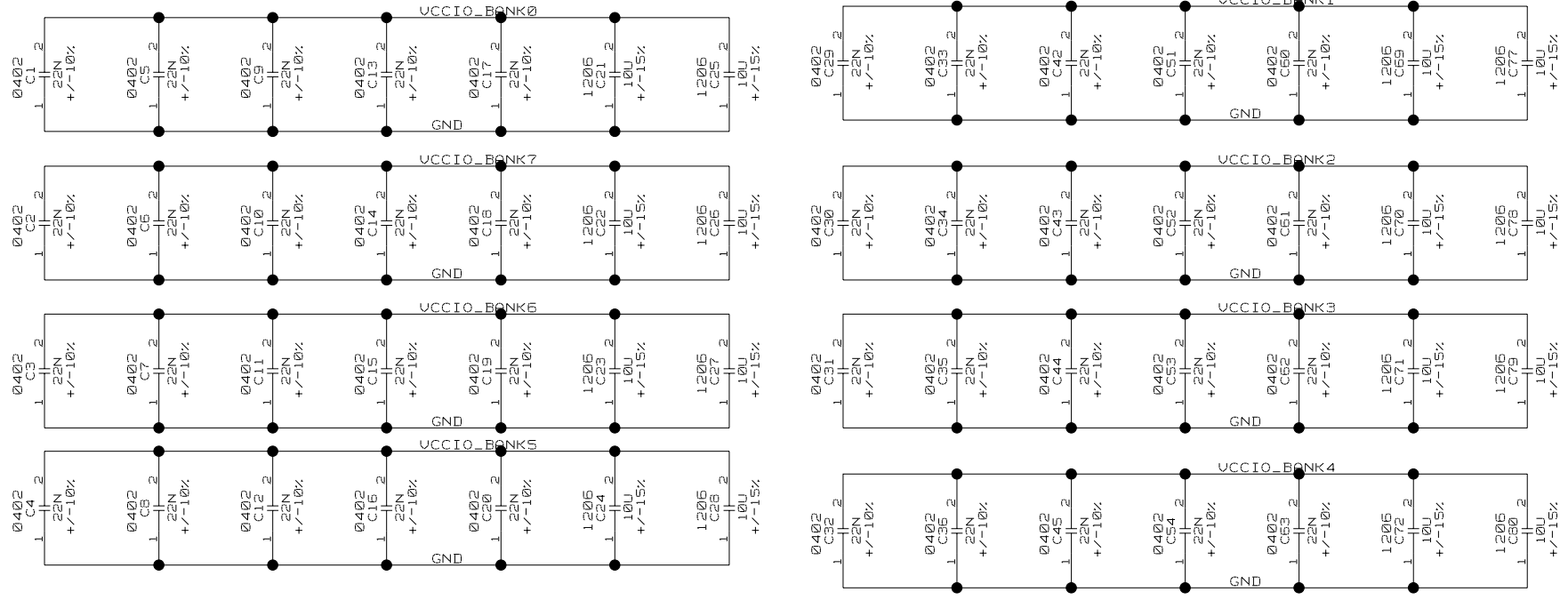
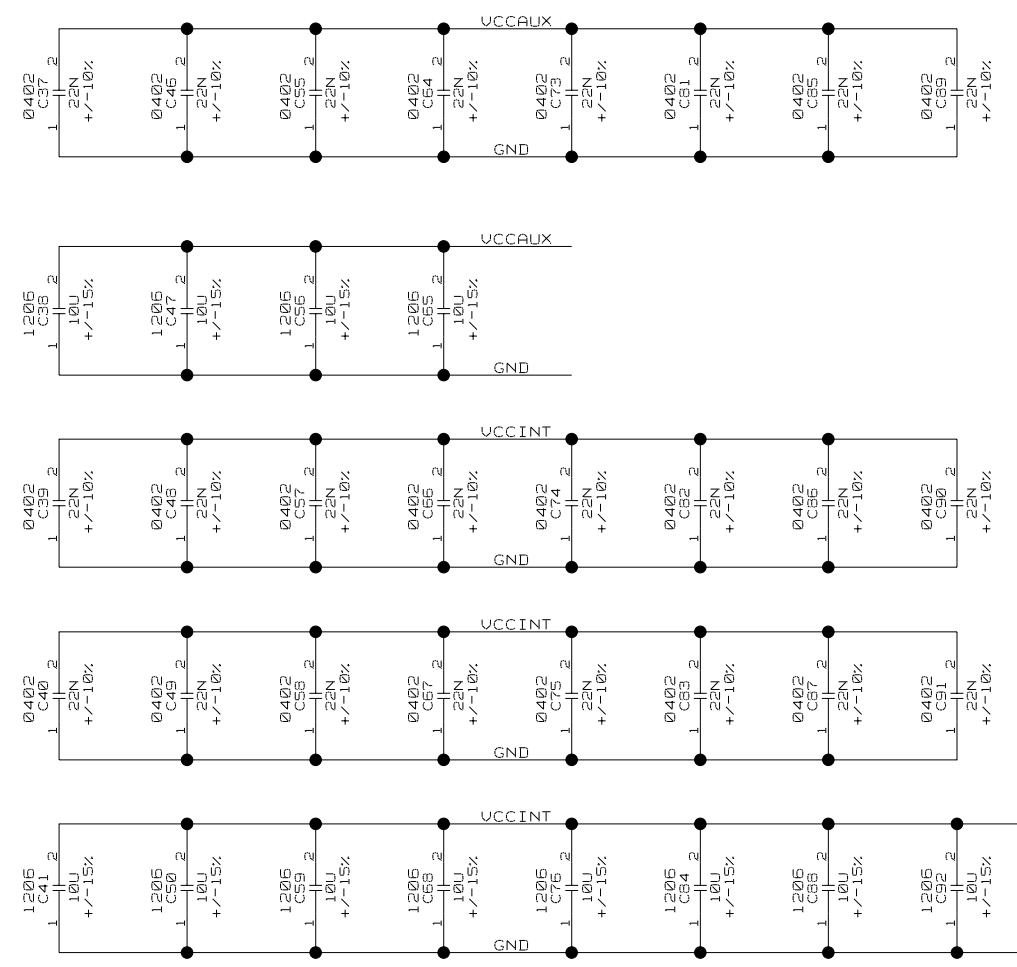
PROVISIONAL

ALL RESISTORS SHOULD BE CHANGED TO 1% TOLERANCE

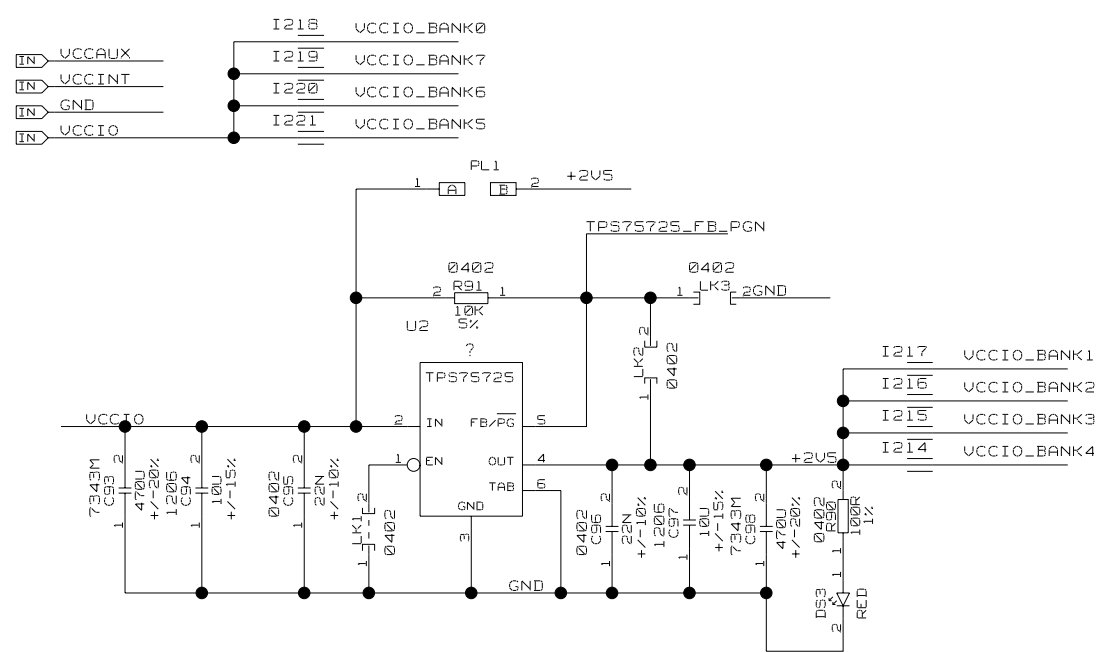
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TITLE CALICE DAC DESIGN						
A2						

DAC Module
top view left
bottom view right

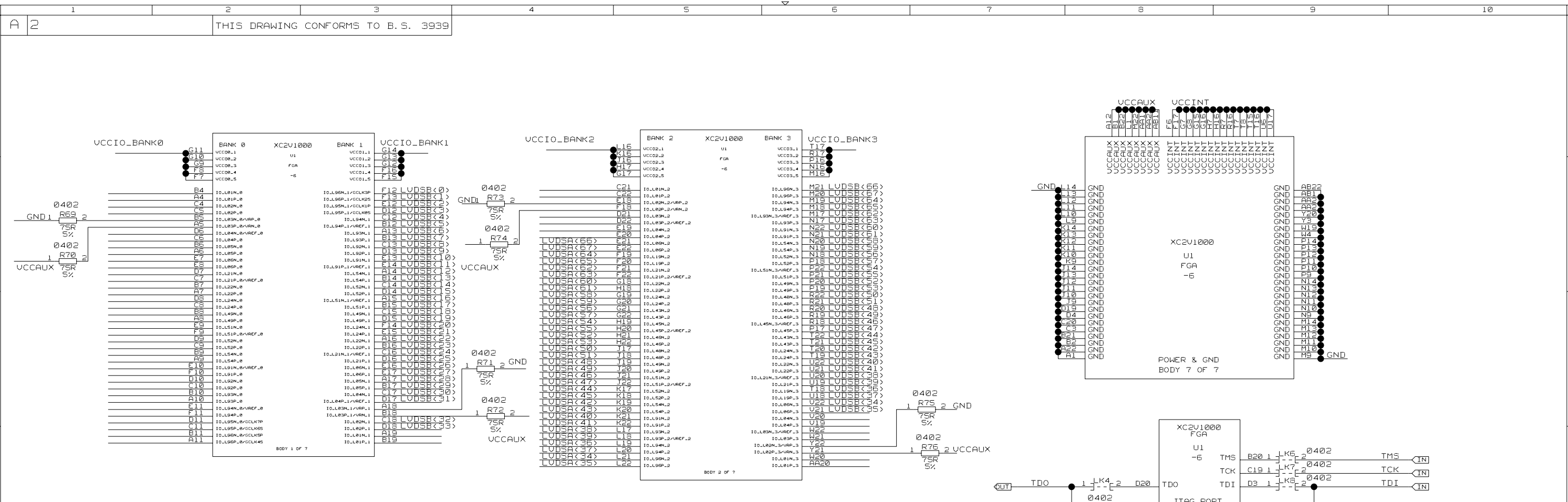




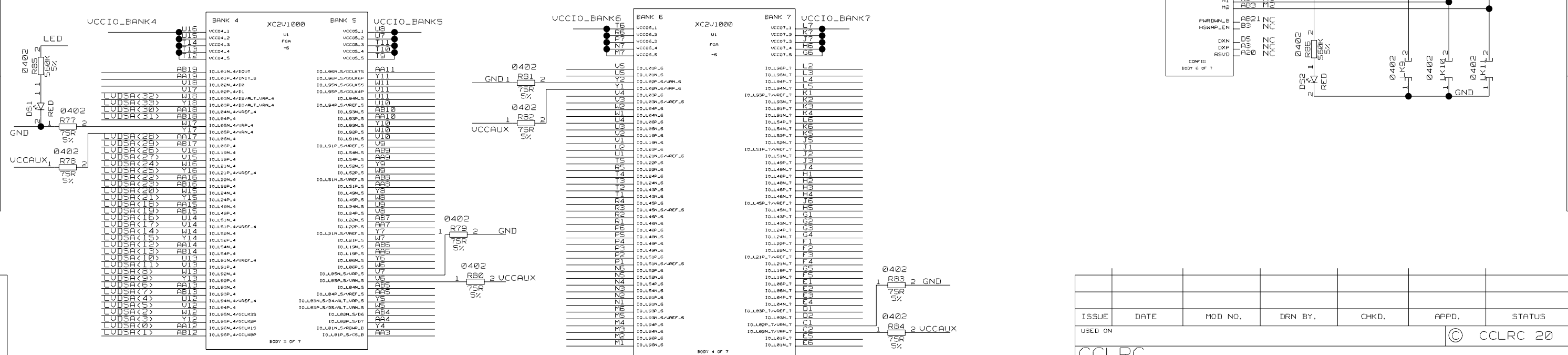
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TITLE FPGA DECOUPLING AND 2V5 LVDS UCCIO PSU						



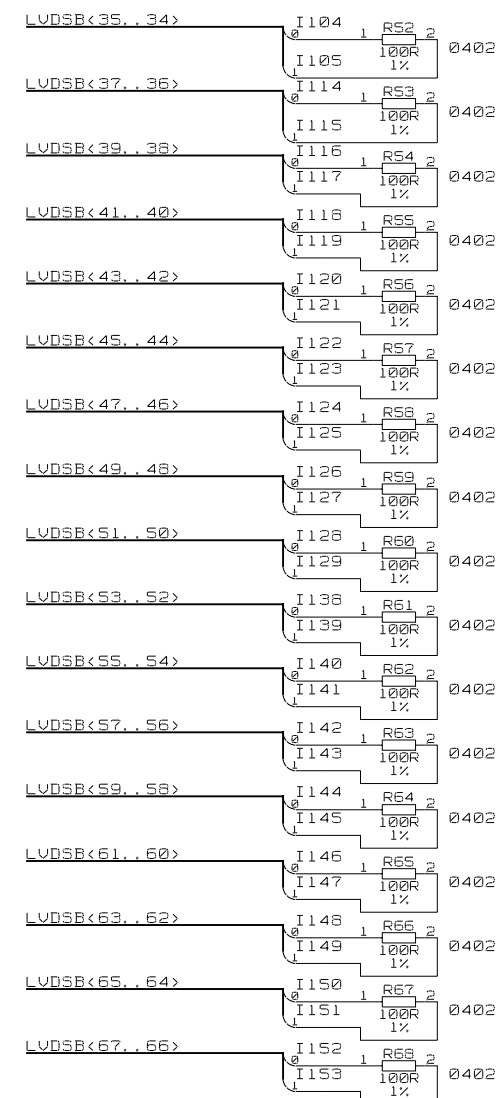
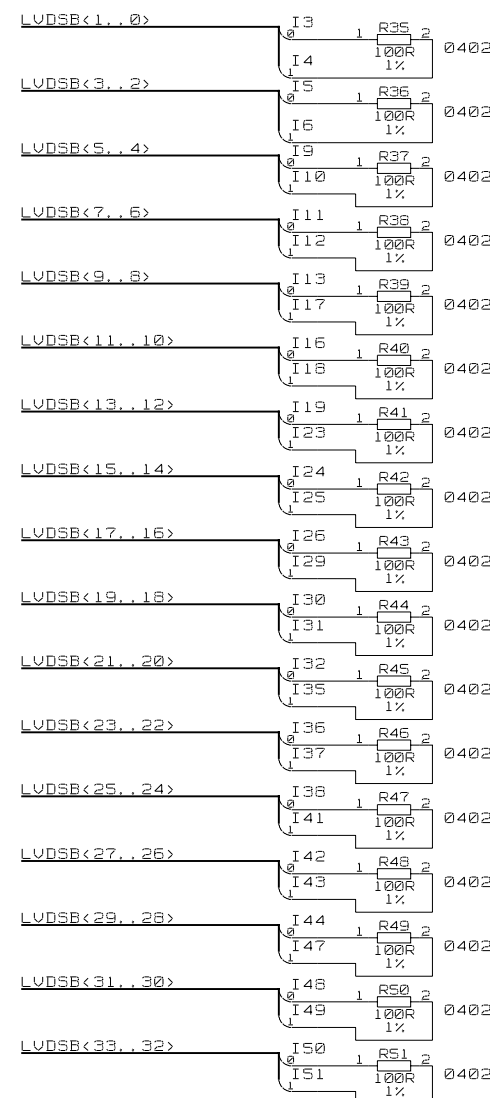
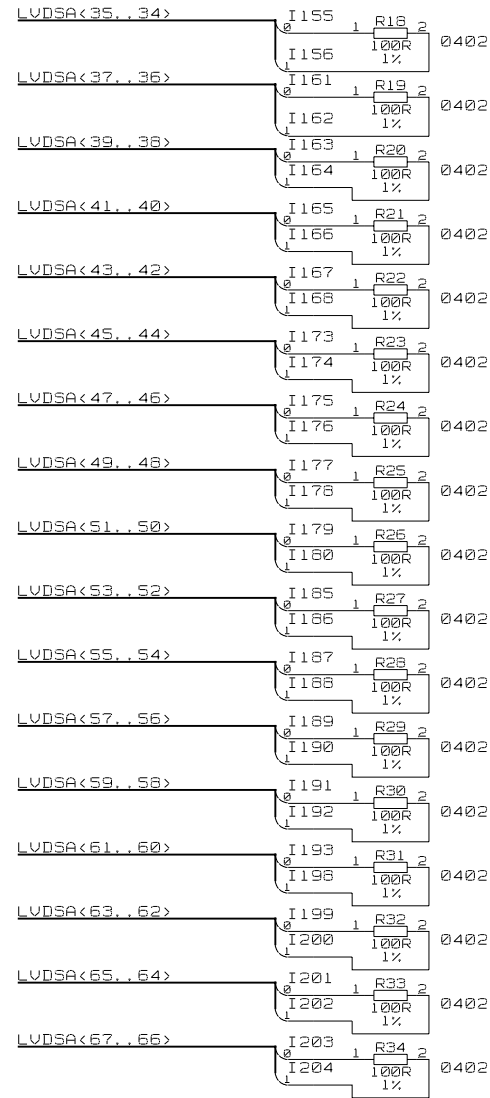
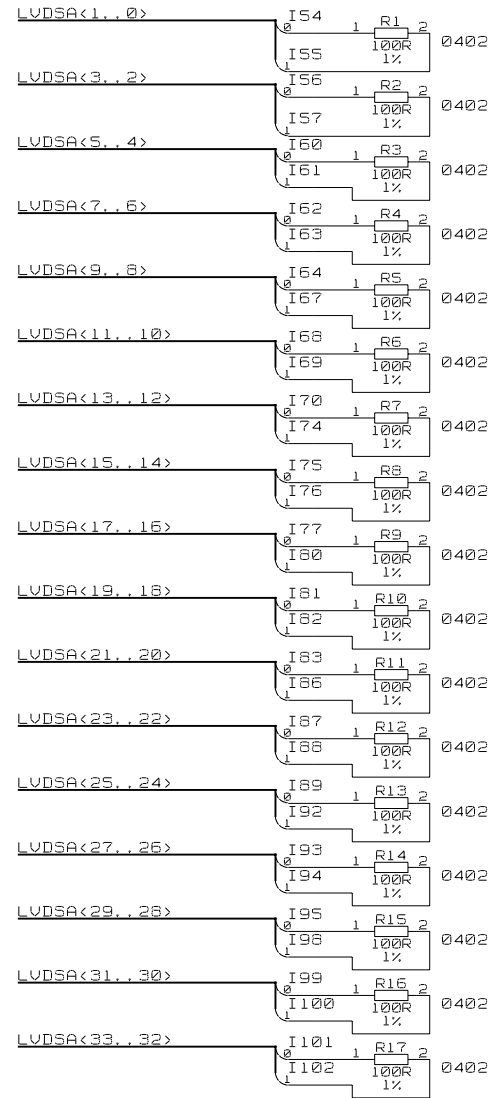
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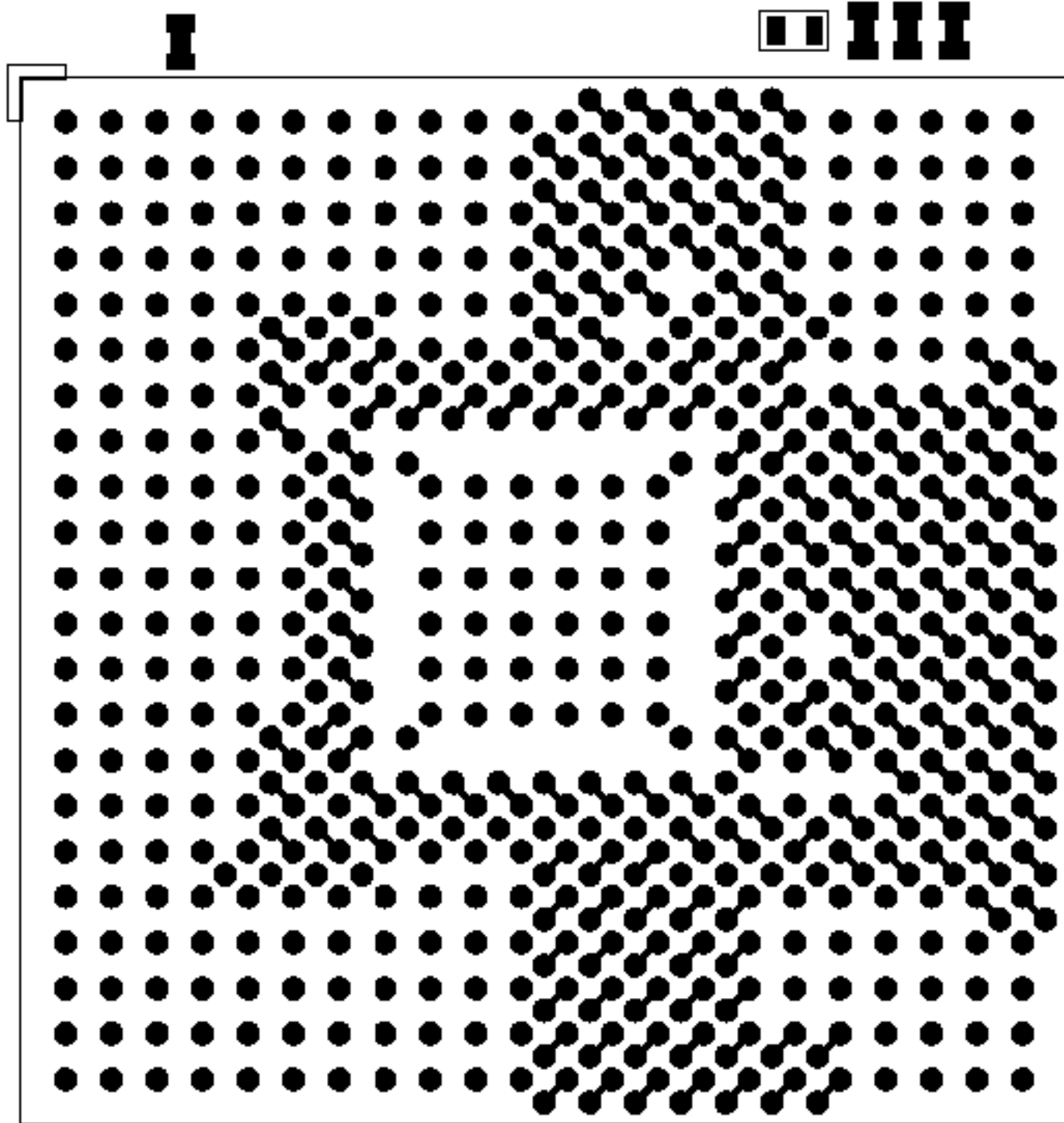
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TITLE
 FRONT FPGA

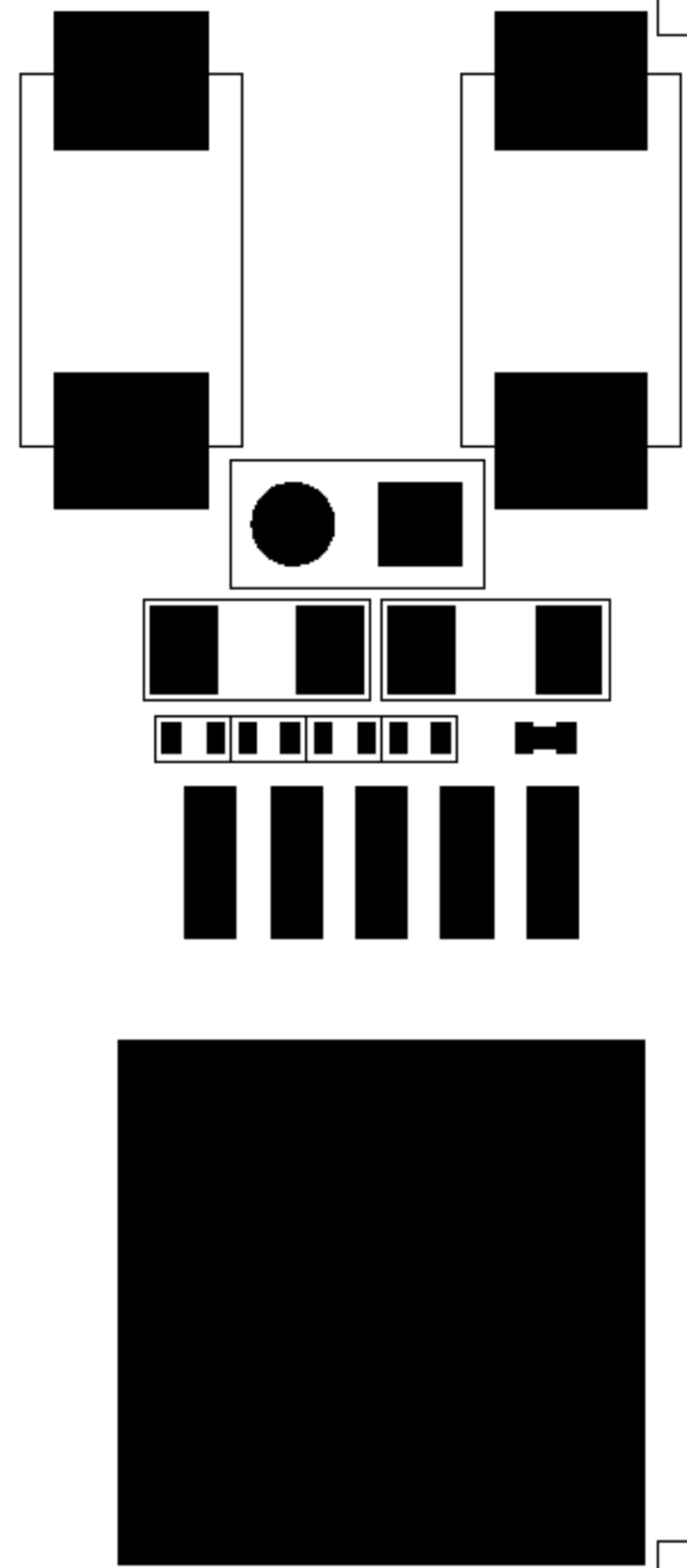


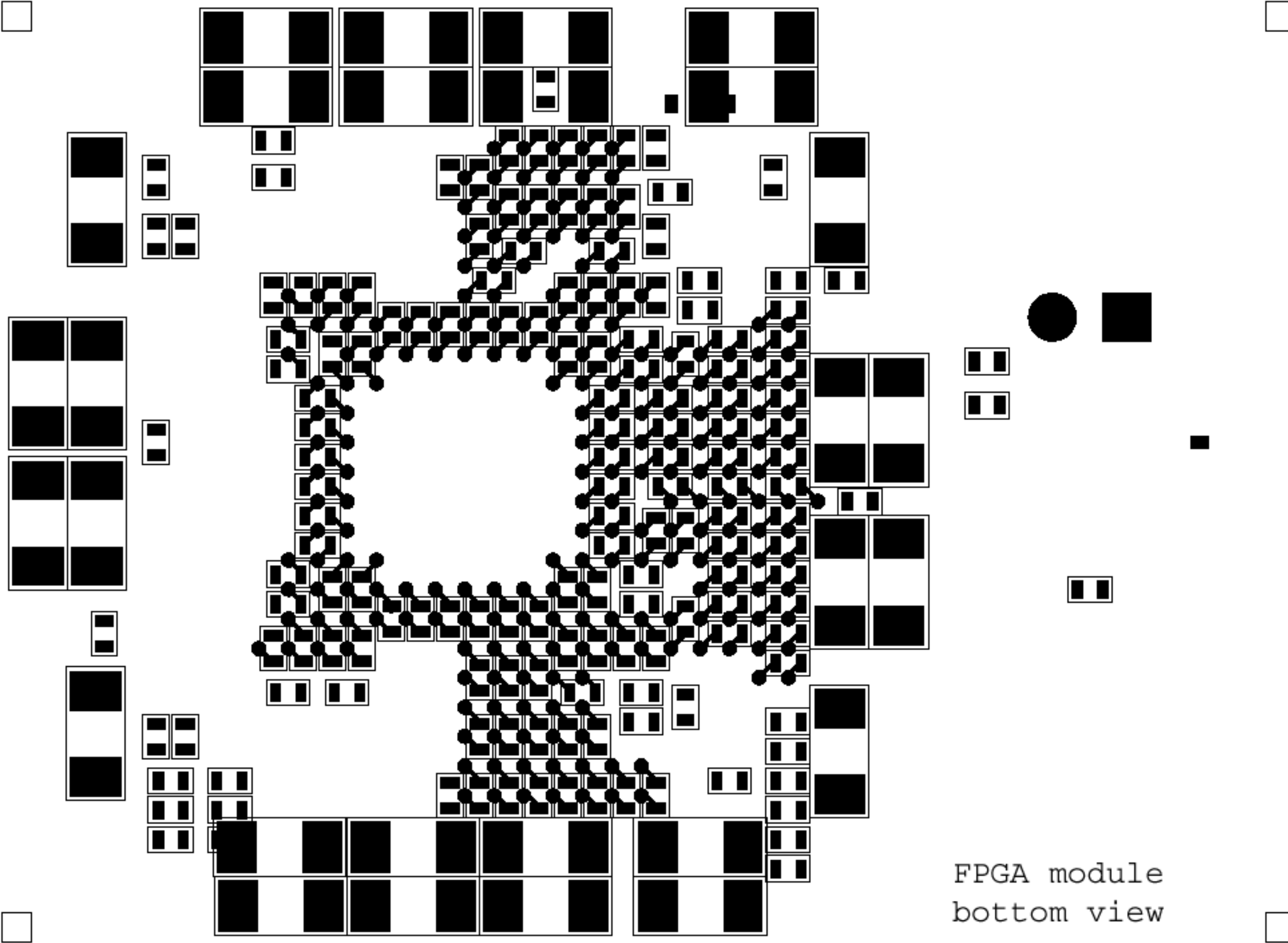
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TITLE LVDS TERMINATIONS						
A2						



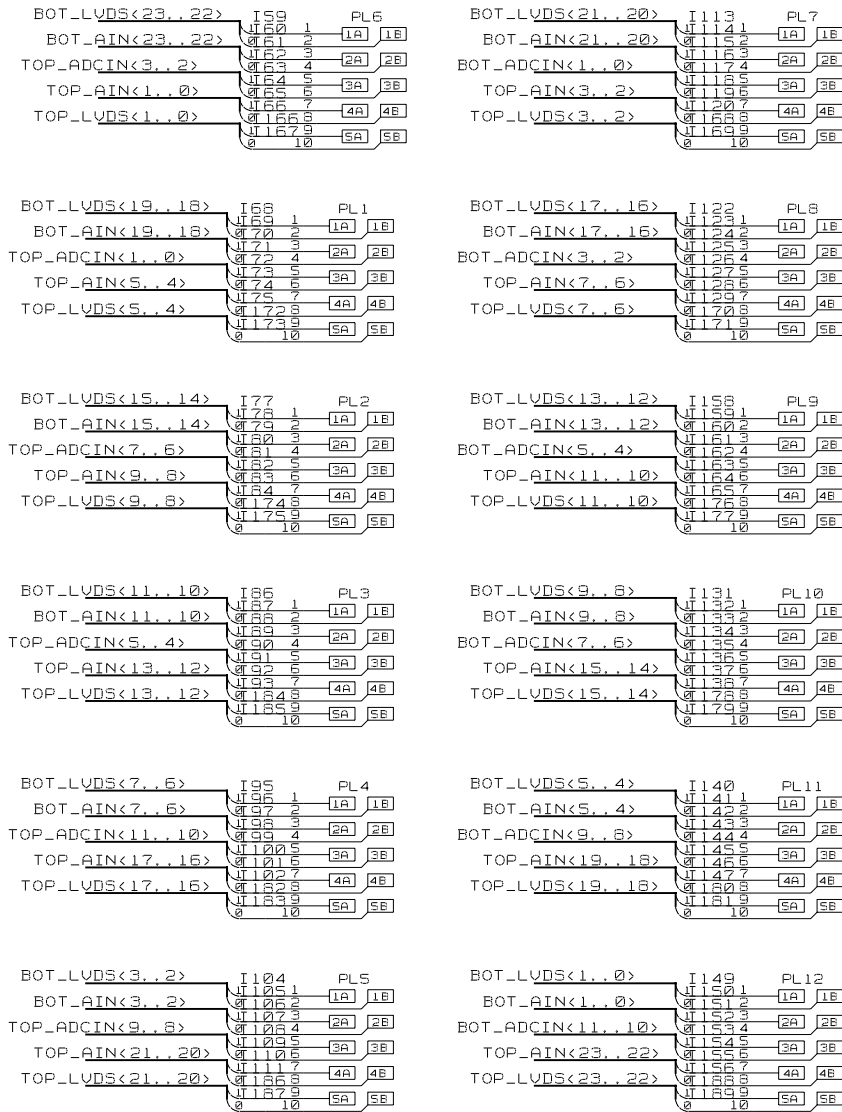
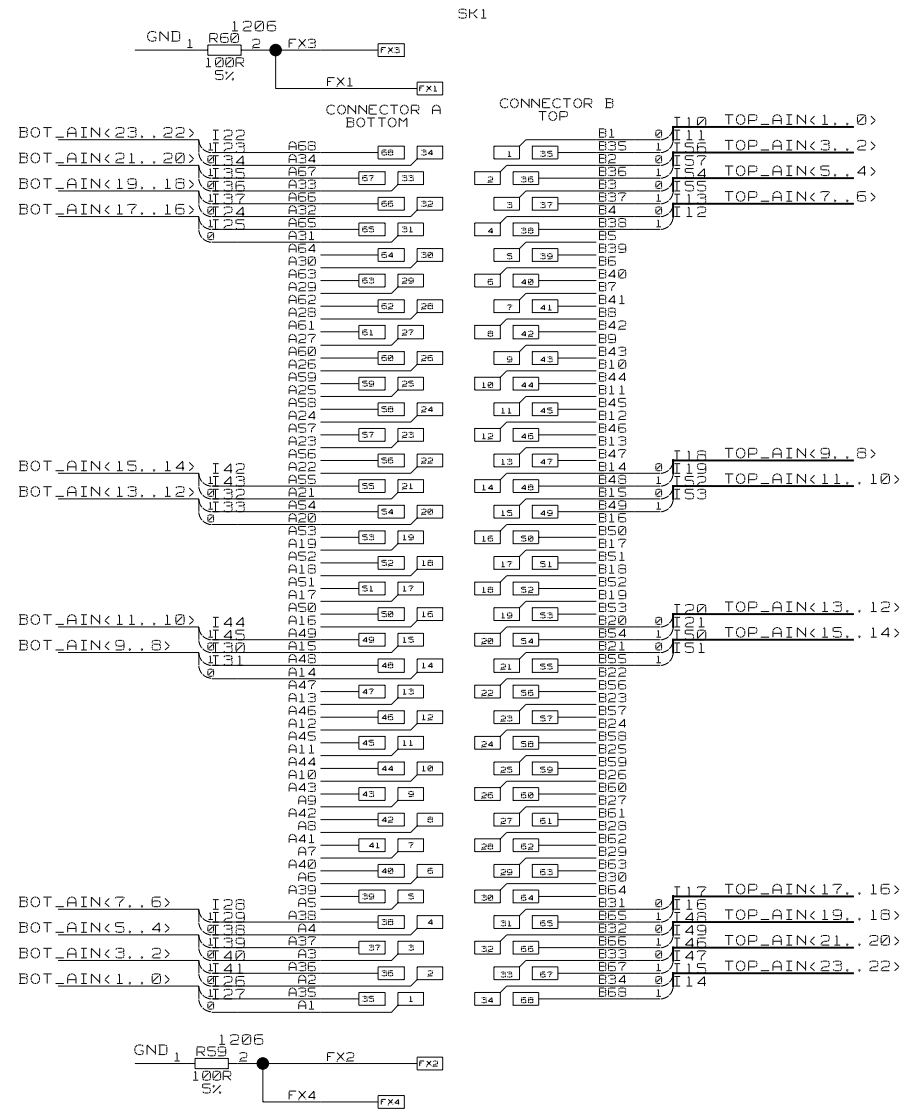
FPGA module top view





FPGA module
bottom view

THIS PINOUT WILL CHANGE



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TITLE						
SCSI CONNECTOR AND SELECTION JUMPERS						
A2						

A

B

C

D

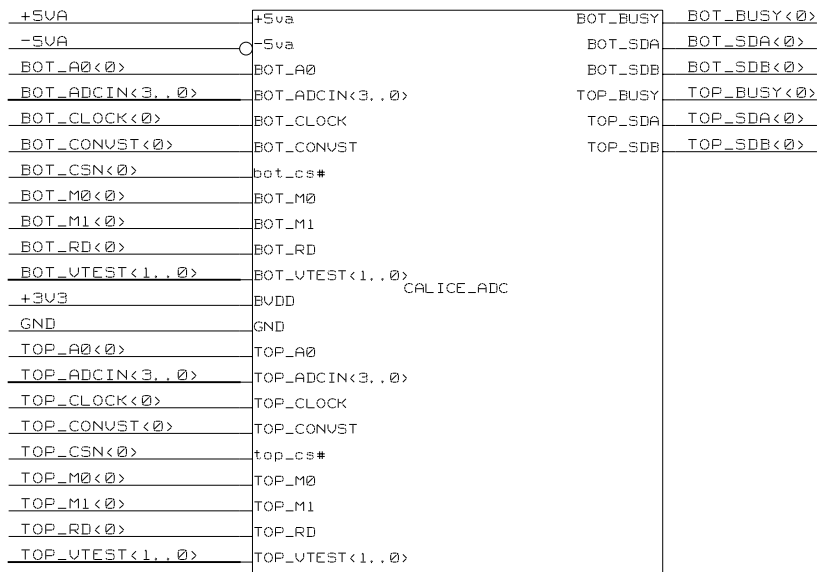
E

F

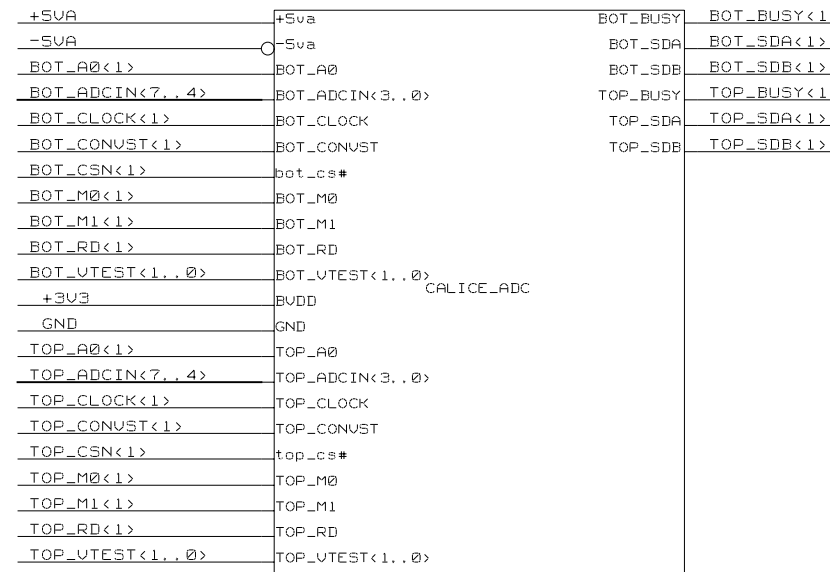
A 2

A

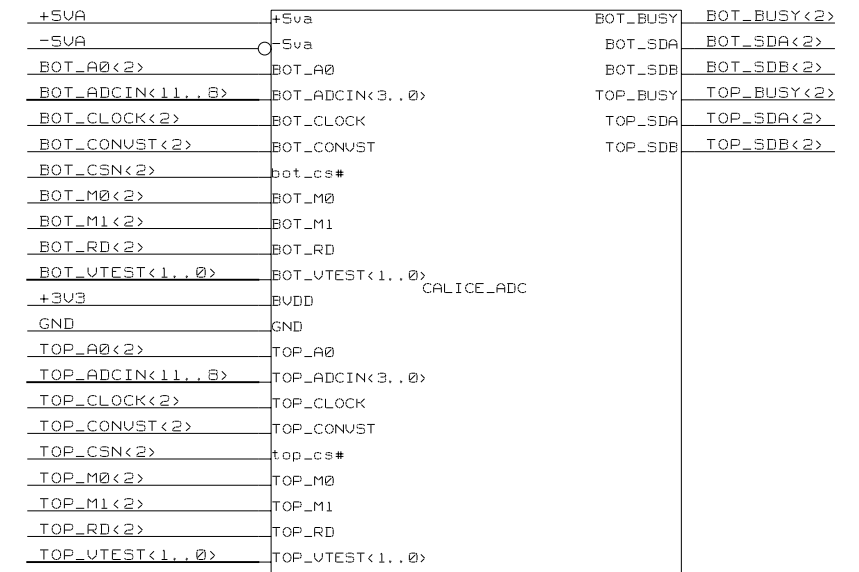
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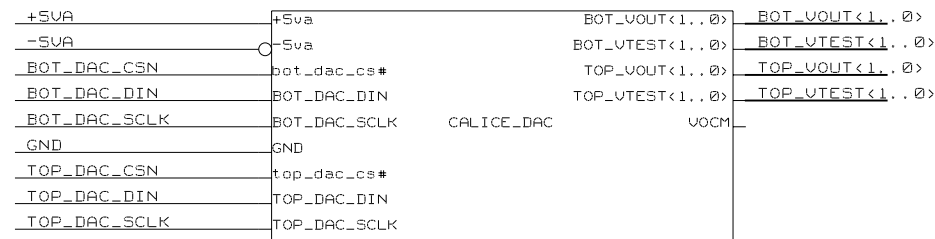
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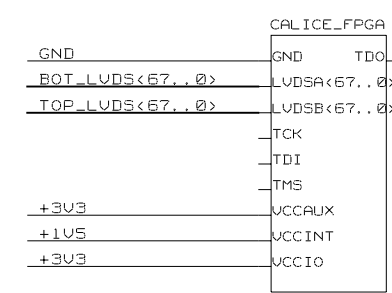
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I2

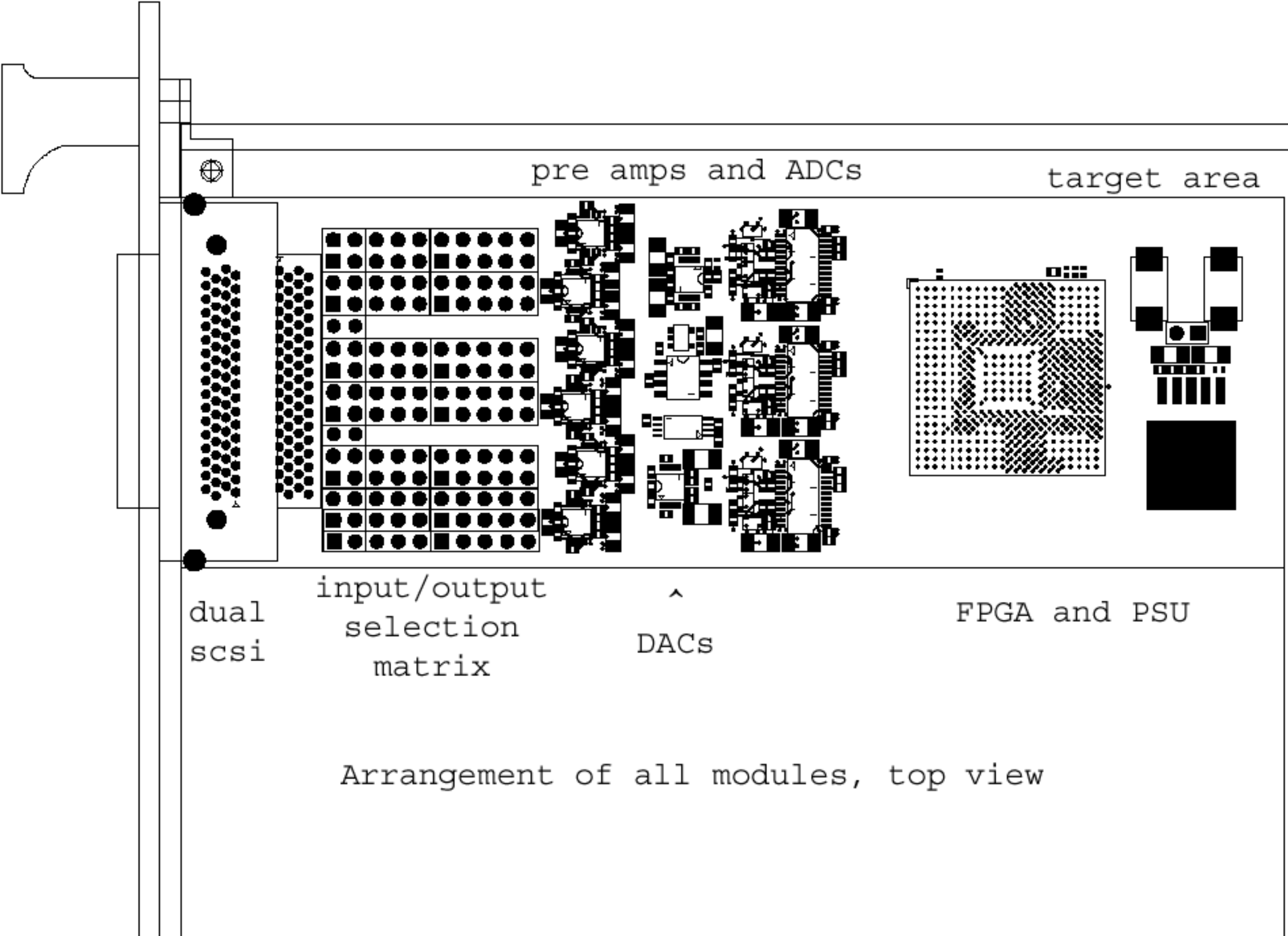


I38



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TITLE ALL MODULES						
A2						



pre amps and ADCs

target area

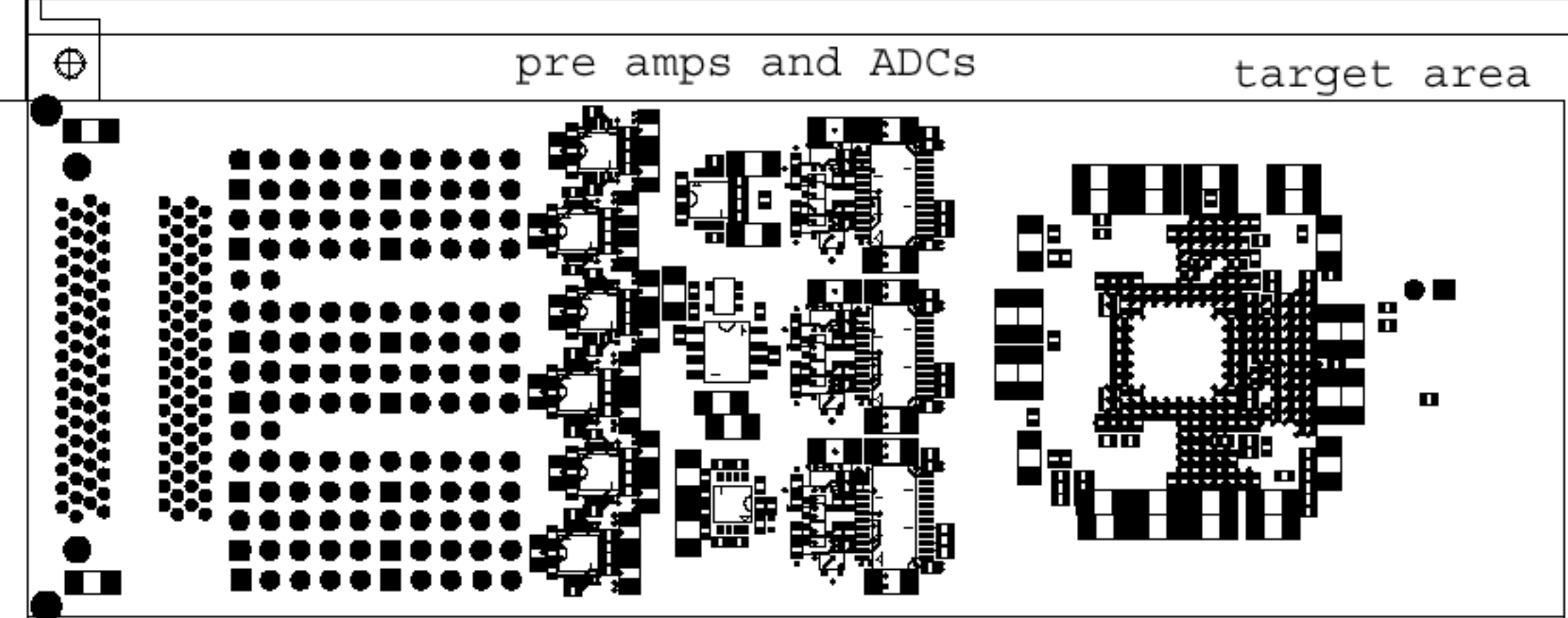
dual
scsi

input/output
selection
matrix

DACs

FPGA and PSU

Arrangement of all modules, top view



pre amps and ADCs

target area

dual
scsi

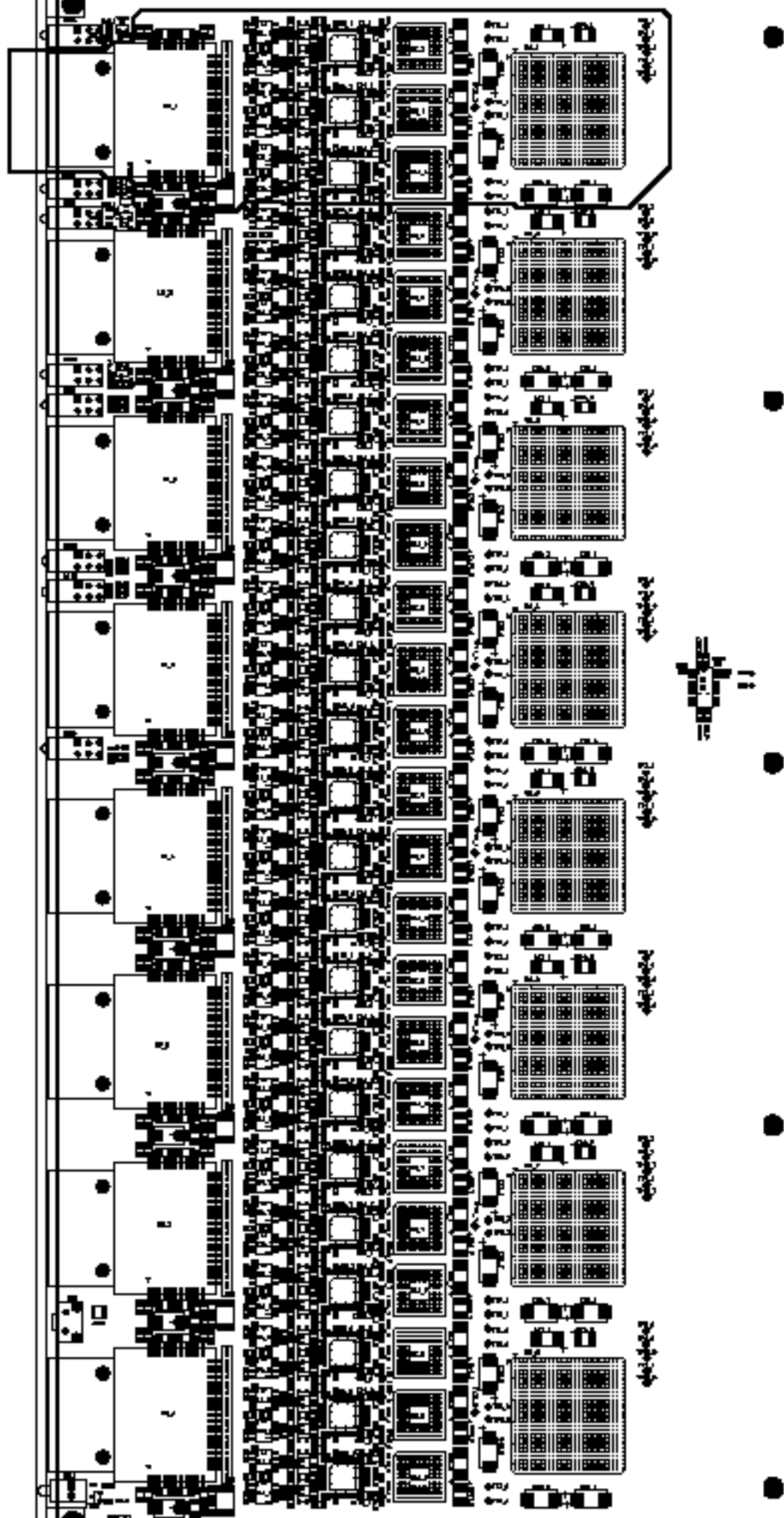
input/output
selection
matrix

^
DACs

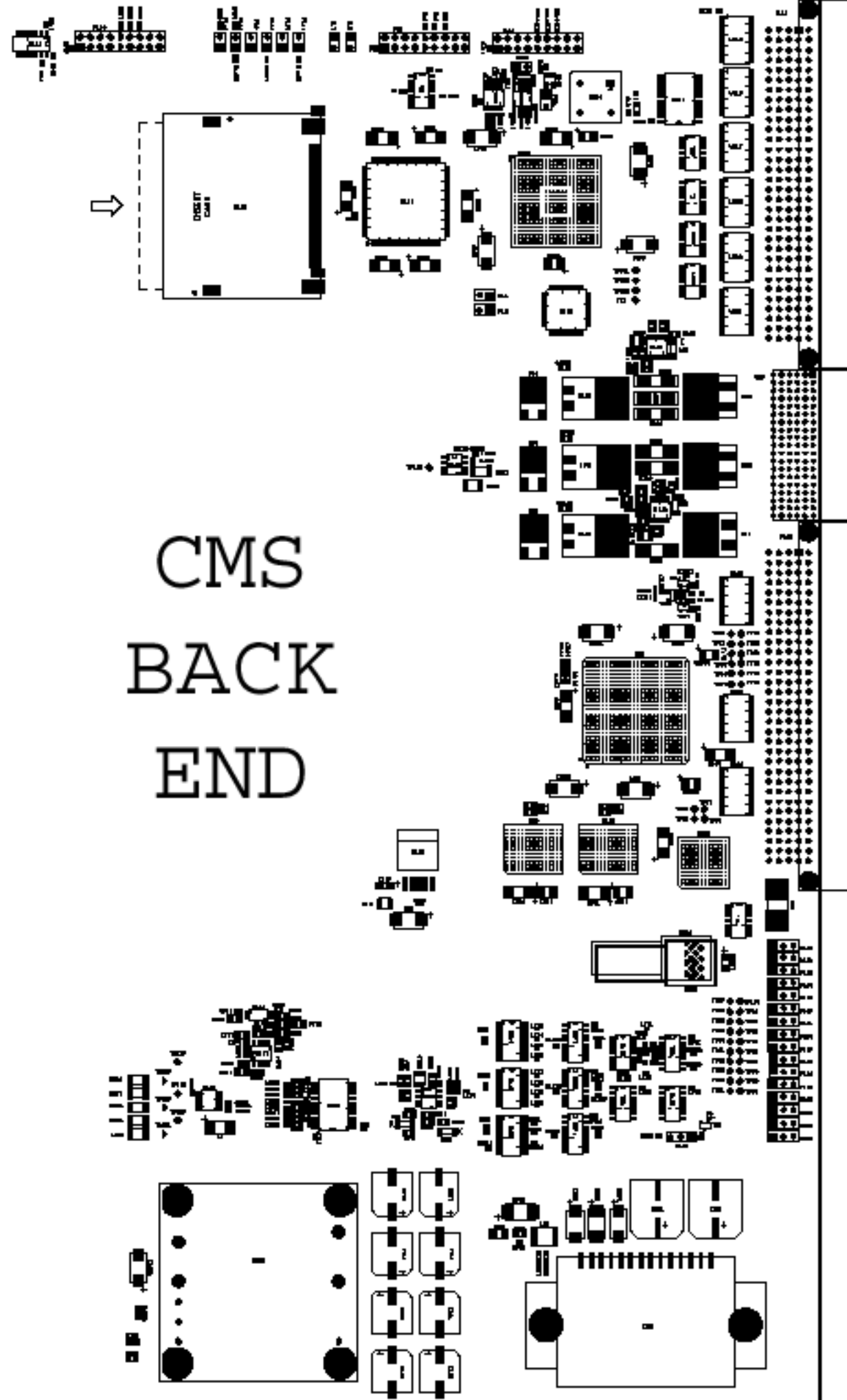
FPGA and PSU

Arrangement of all modules, bottom view

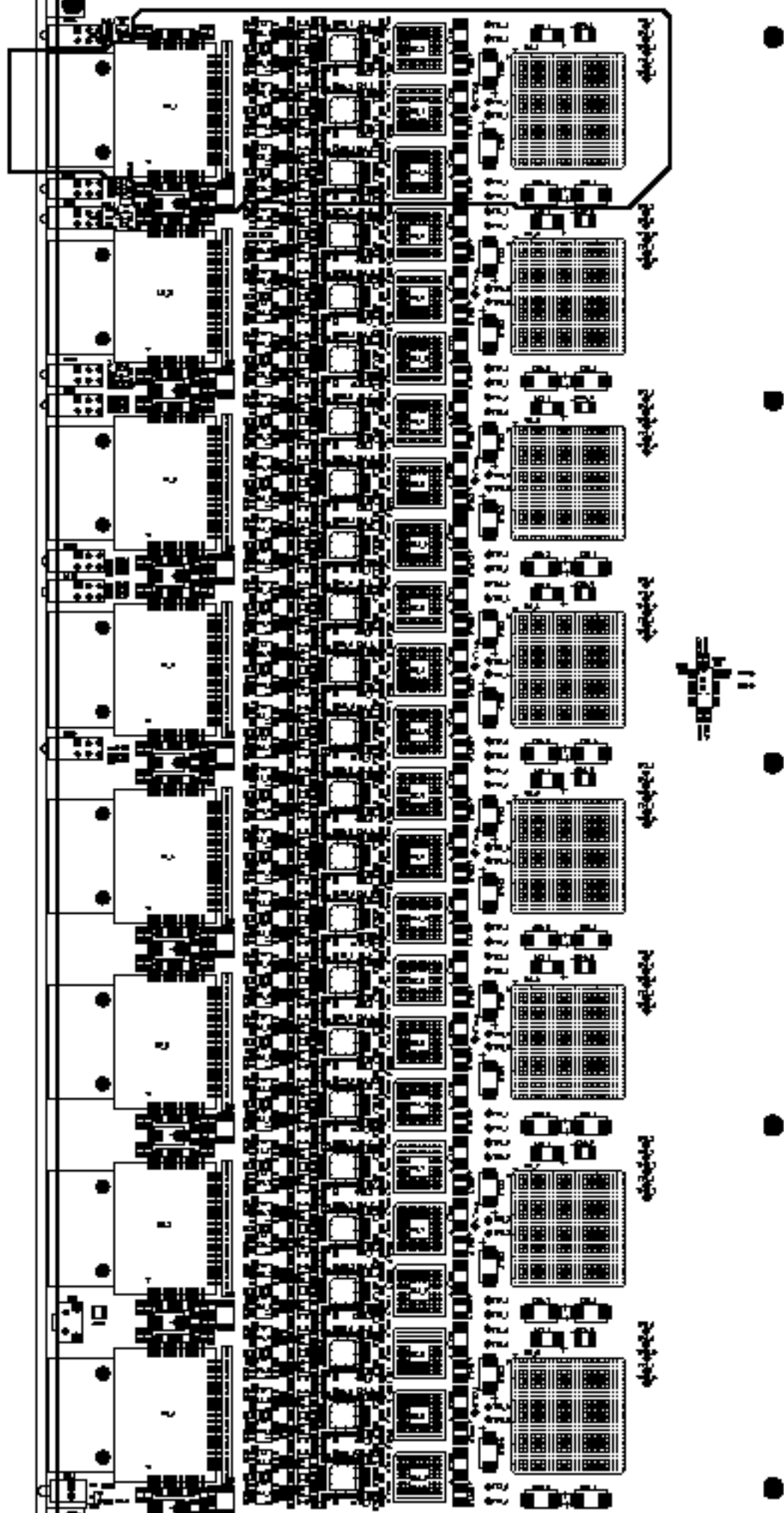
Front end to be removed



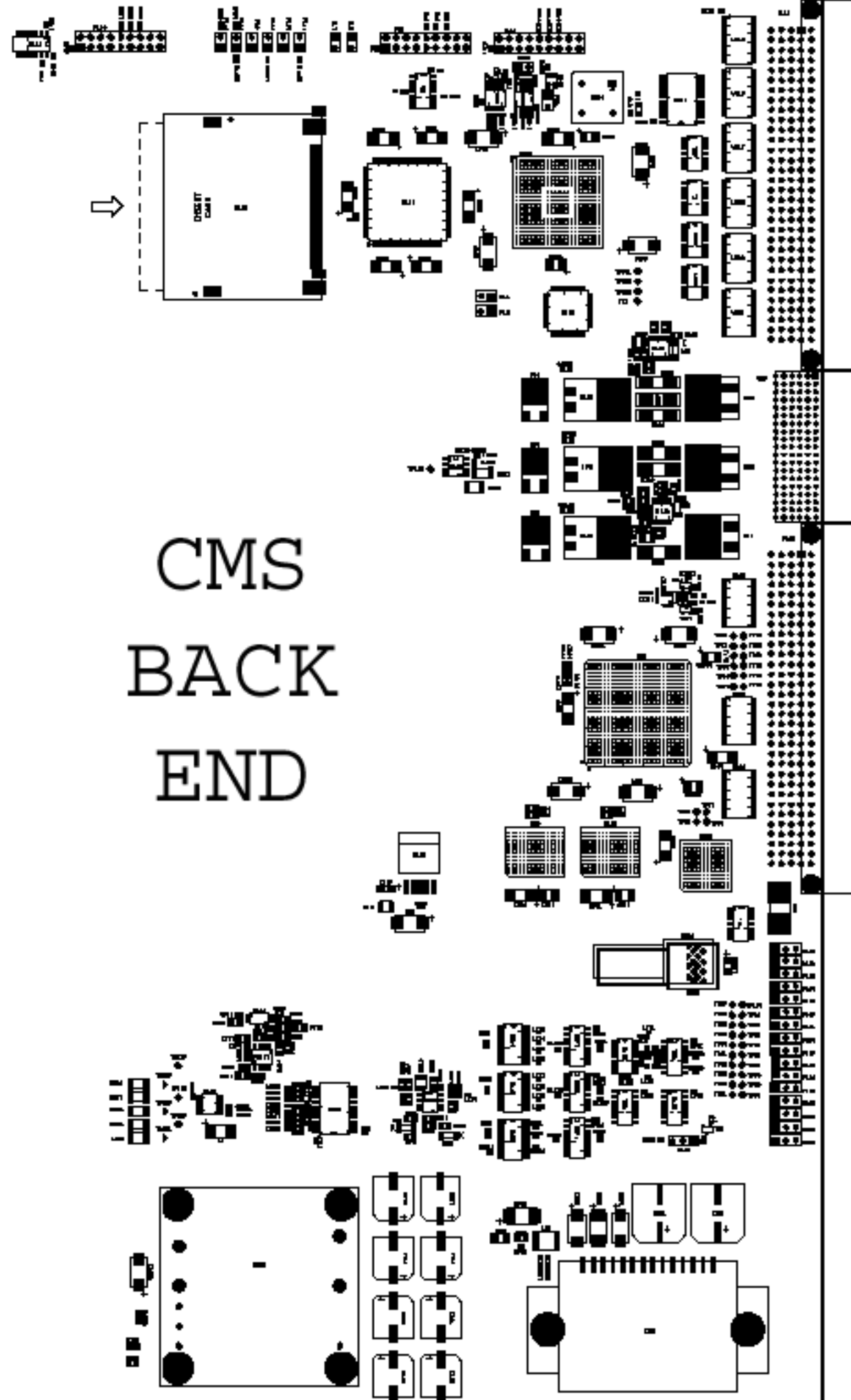
top view

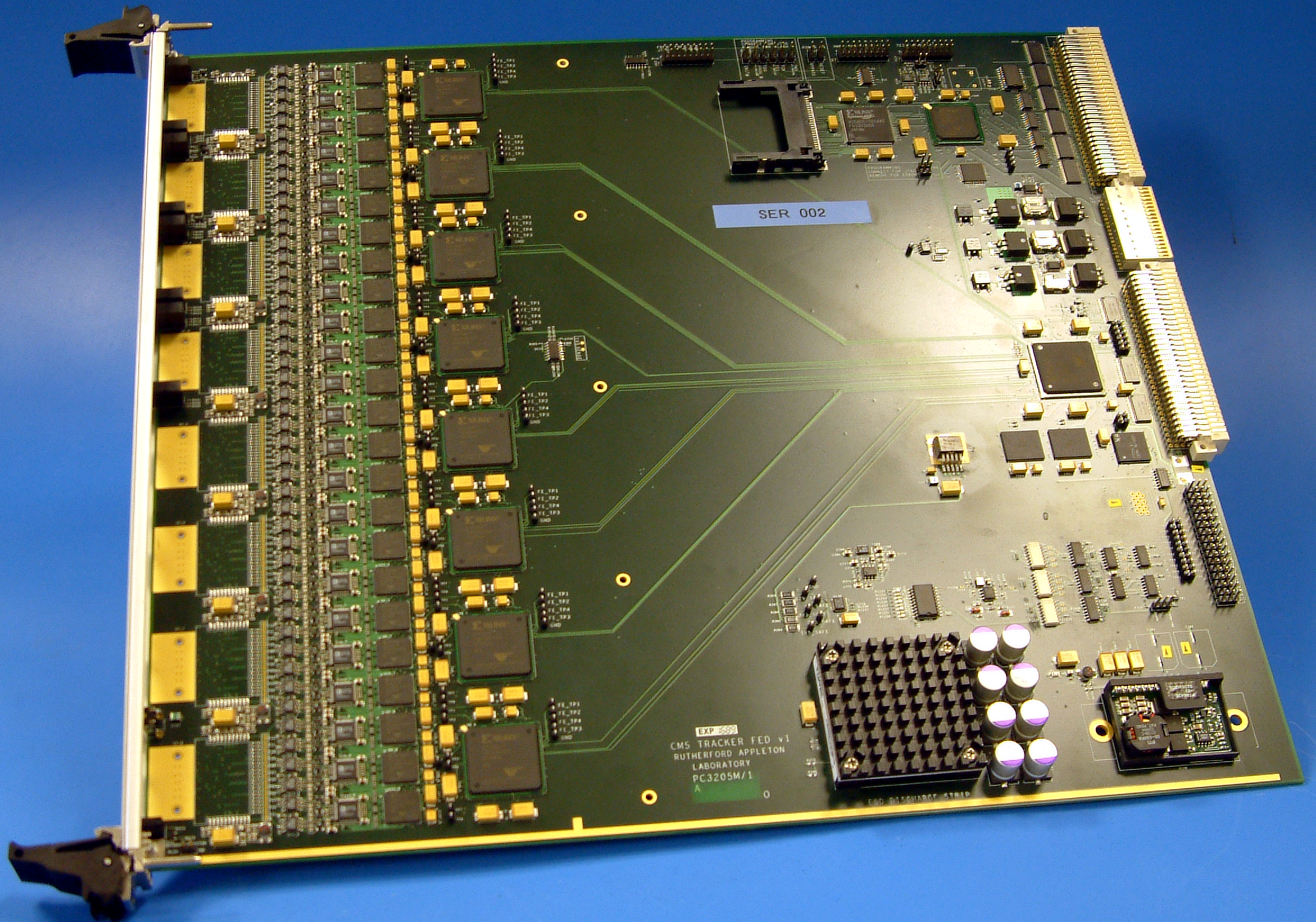


Front end to be removed



top view

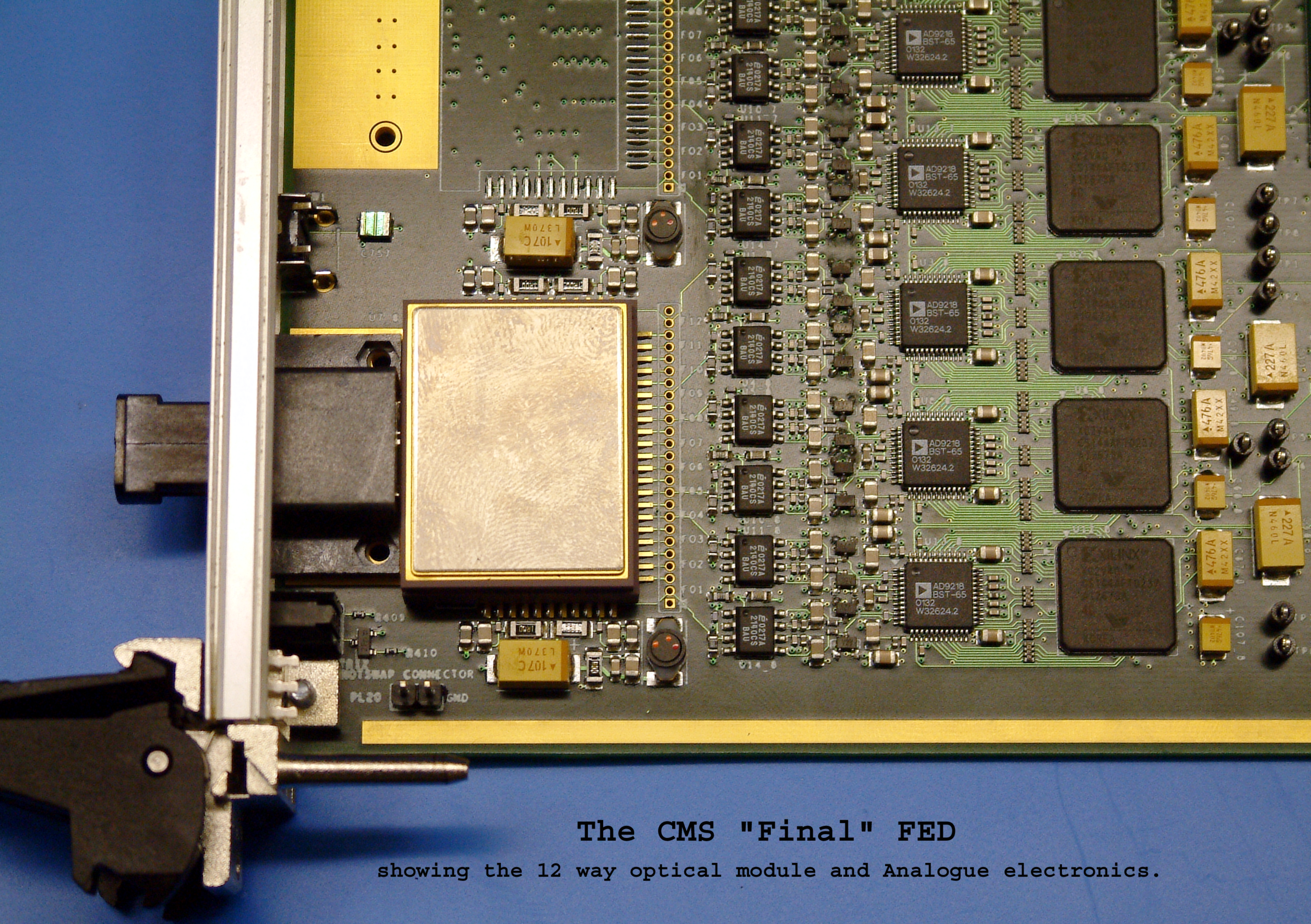




SER 002

EXP 2550
CMS TRACKER FED v1
RUTHERFORD APPLETON
LABORATORY
PC3205M/1
A

The CMS "Final" FED



The CMS "Final" FED

showing the 12 way optical module and Analogue electronics.