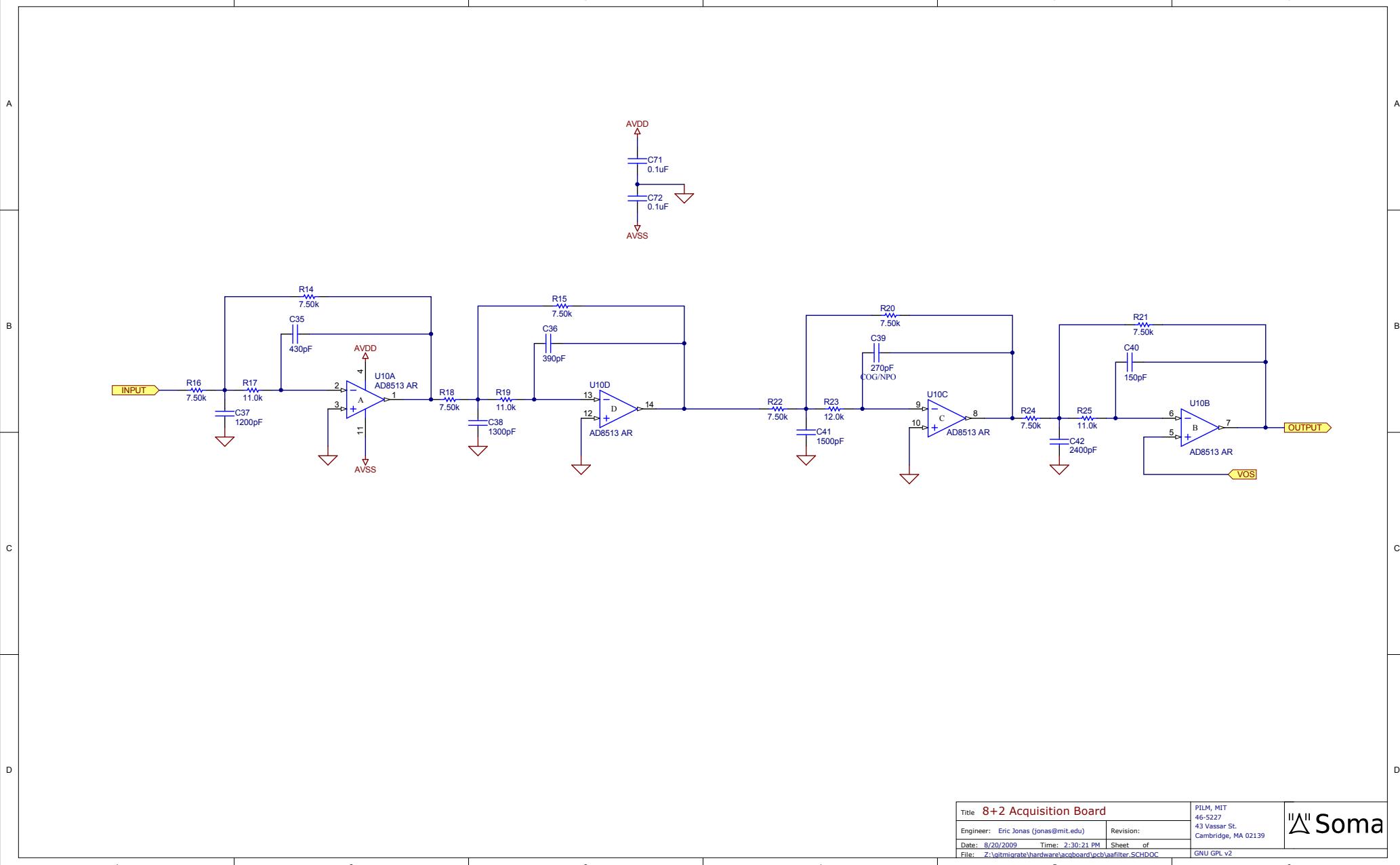


1 2 3 4 5 6



Title 8+2 Acquisition Board

Engineer: Eric Jonas (jonas@mit.edu)

PLTM, MIT
46-5227
43 Vassar St.
Cambridge, MA 02139

"Δ" Soma

Revision:

Date: 8/20/2009 Time: 2:30:21 PM Sheet of

File: Z:\git\migrate\hardware\acqboard\ucb\aafilter.SCHDOC GNU GPL v2

1 2 3 4 5 6

1 2 3 4 5 6

A

A

B

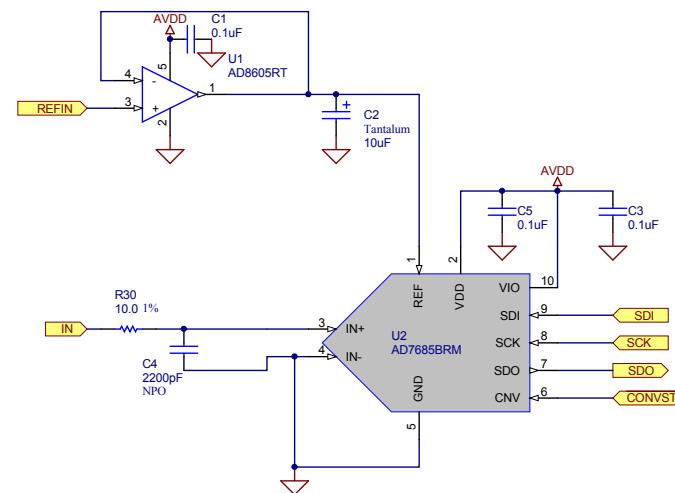
B

C

C

D

D



Title 8+2 Acquisition Board

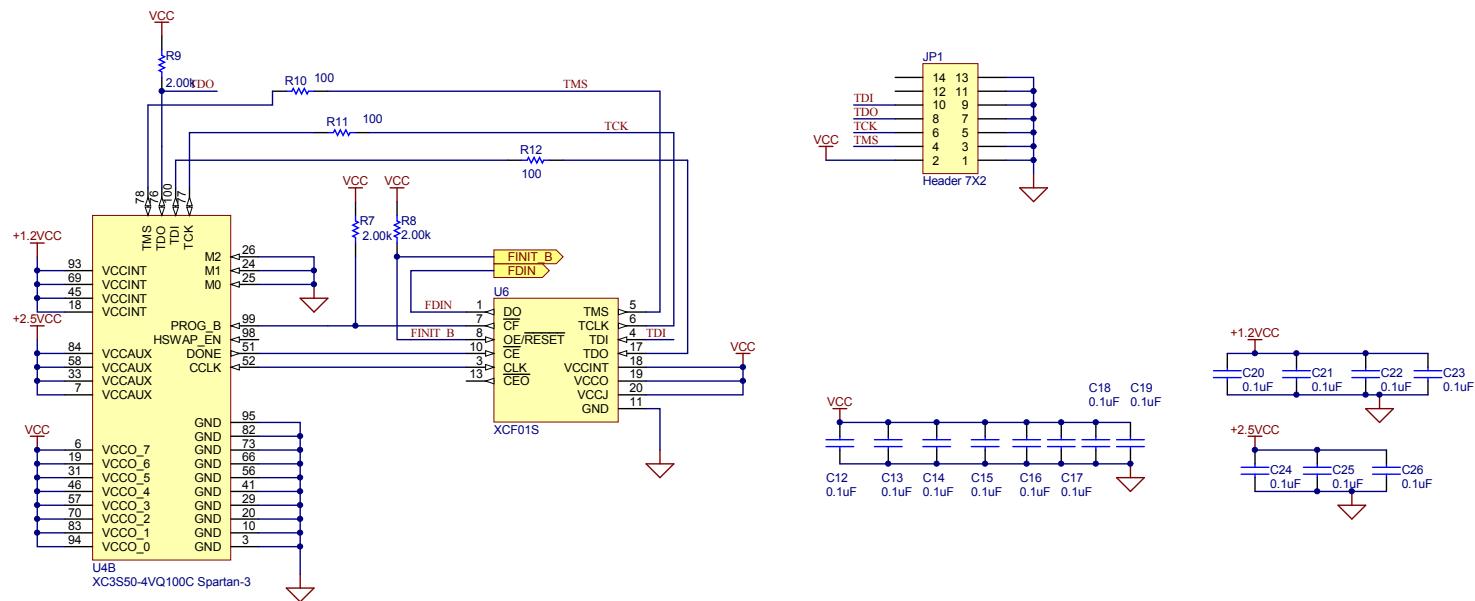
Engineer: Eric Jonas (jonas@mit.edu)

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Cambridge, MA 02139

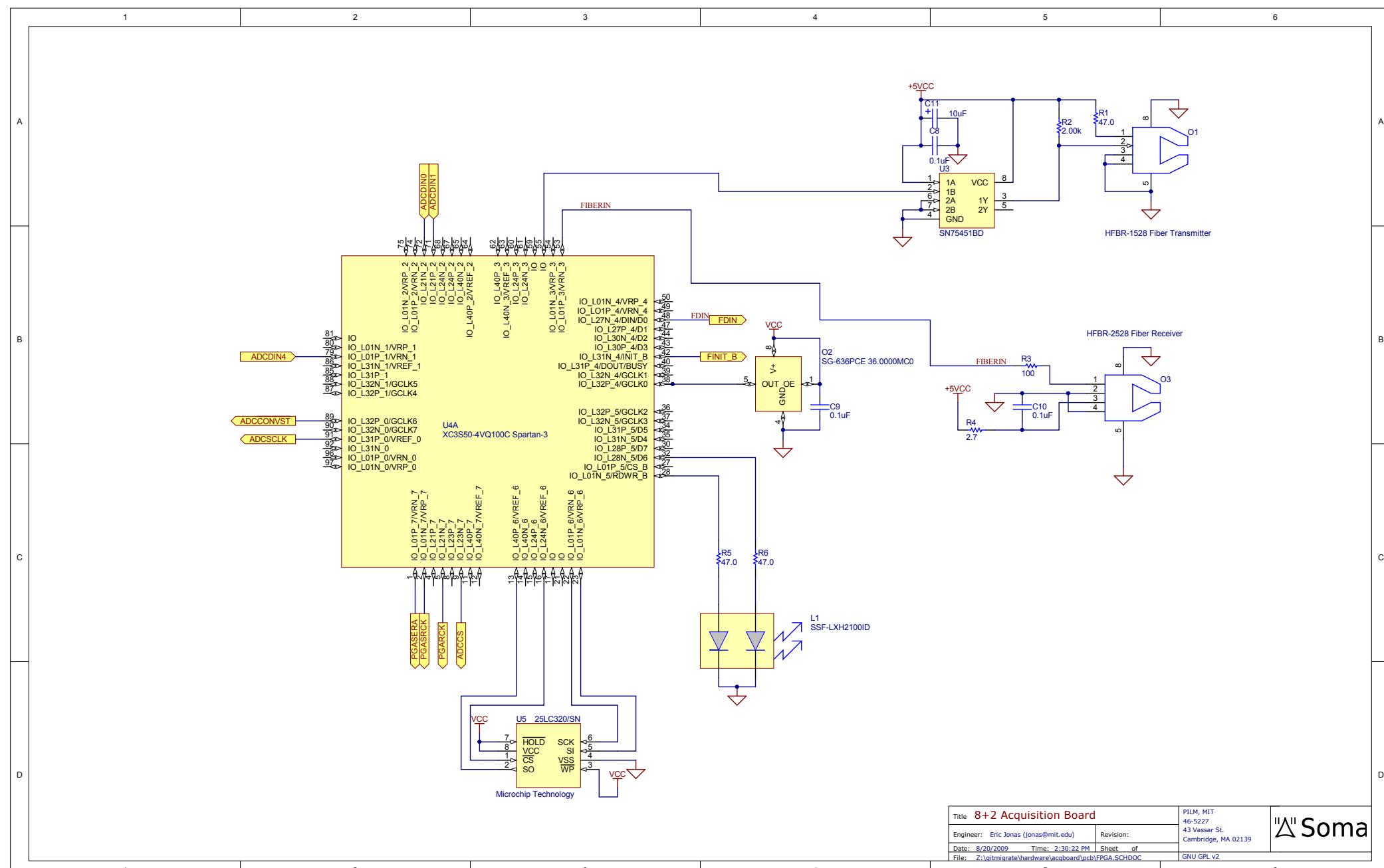
Revision:
Sheet of
File: Z:\git\migrate\hardware\acqboard\ucb\ADC.SCHDOC
GNU GPL v2

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1 2 3 4 5 6



Title 8+2 Acquisition Board		PILM, MIT 46-5227 43 Vassar St Cambridge, MA 02139
Engineer: Eric Jonas (jonas@mit.edu)	Revision:	
Date: 8/20/2009	Time: 2:30:22 PM	Sheet of 1
File: Z:\git\migrate\hardware\aqboard\ucb\FPGA Power.SCHDOC		GNU GPL v2

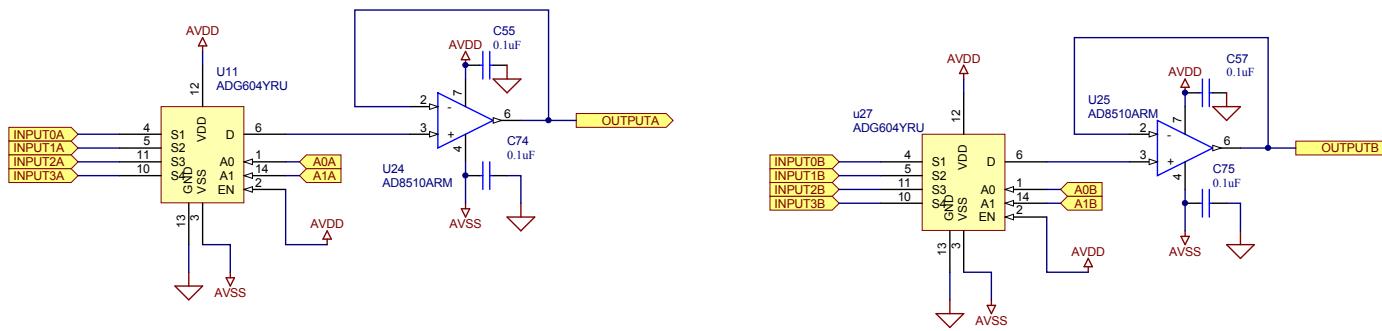


Title 8+2 Acquisition Board

Engineer: Eric Jonas (jonas@mit.edu) Revision:
Date: 8/20/2009 Time: 2:30:22 PM Sheet of
File: Z:\git\migrate\hardware\aqboard\ucb\FPGA.SCHDOC GNU GPL v2

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1 2 3 4 5 6



Title 8+2 Acquisition Board		PILM, MIT 46-5227 43 Vassar St. Cambridge, MA 02139
Engineer: Eric Jonas (jonas@mit.edu)	Revision:	
Date: 8/20/2009	Time: 2:30:22 PM	Sheet of
File: Z:\git\migrate\hardware\acqboard\ccb\inmux.SCHDOC		GNU GPL v2

1 2 3 4 5 6

Soma

A

A

B

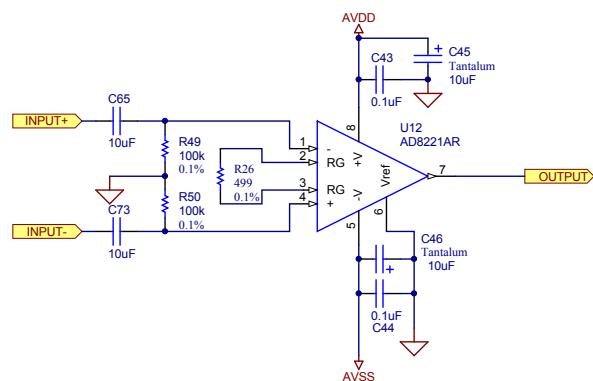
B

C

C

D

D



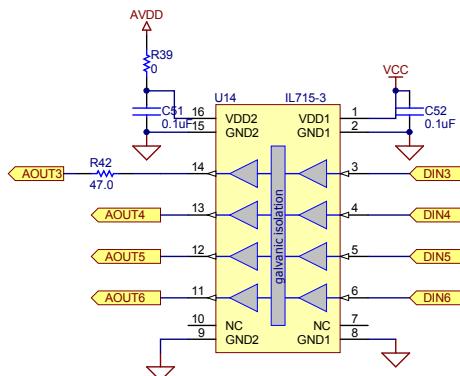
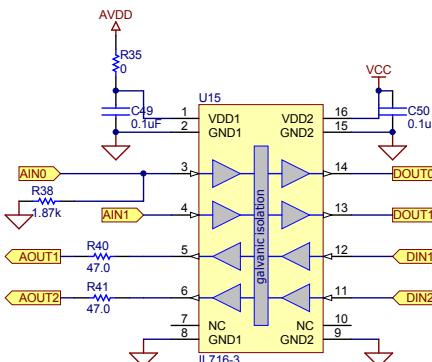
Title 8+2 Acquisition Board

Engineer: Eric Jonas (jonas@mit.edu)

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File: Z:\git\migrate\hardware\acqboard\ucb\input.SCHDOC

"Δ" Soma

A



B

A

B

C

D

Title 8+2 Acquisition Board

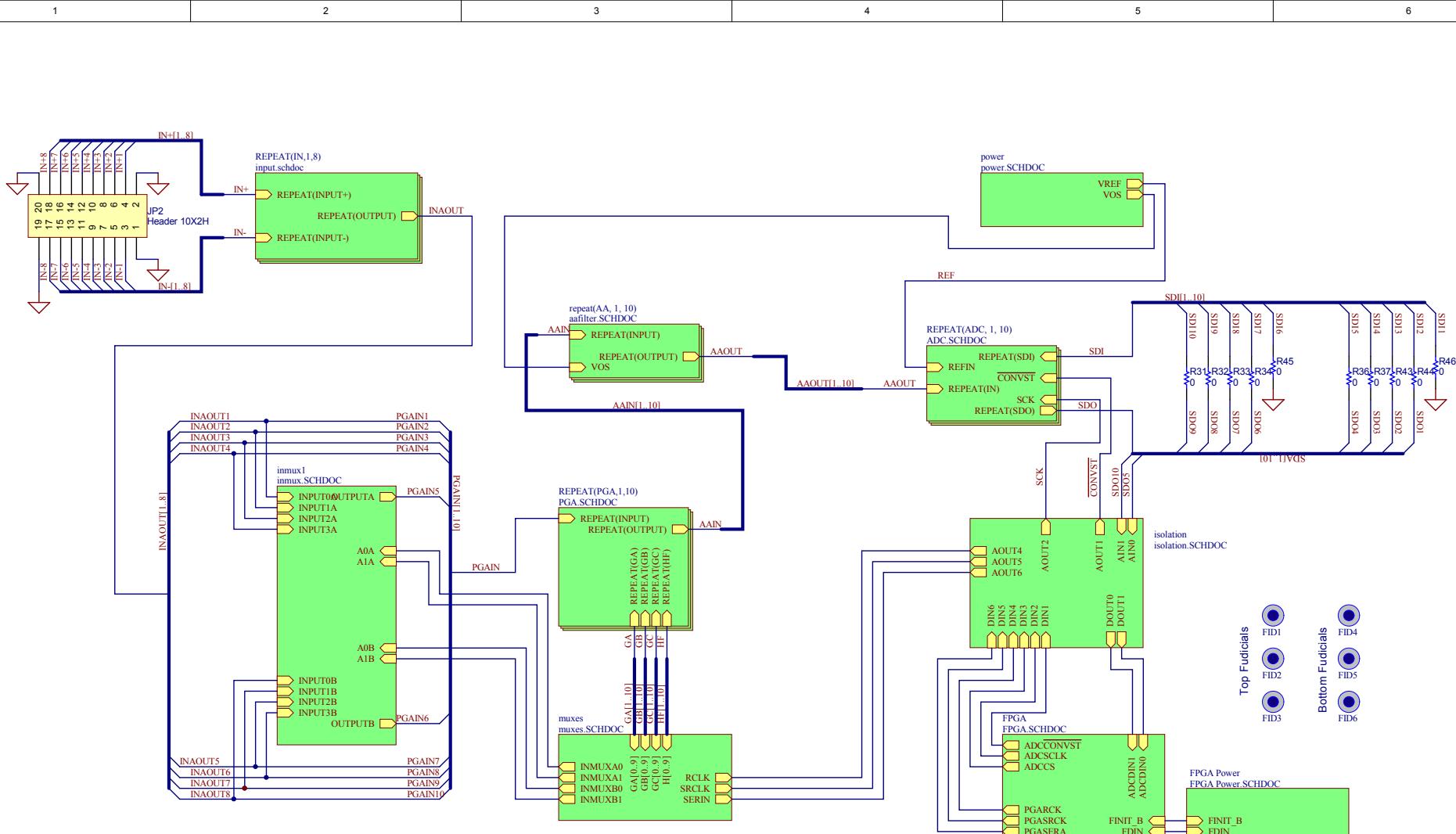
Engineer: Eric Jonas (jonas@mit.edu)

Date: 8/20/2009 Time: 2:30:22 PM

File: Z:\git\migrate\hardware\acqboard\ucb\isolation.SCHDOC

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Title 8+2 Acquisition Board

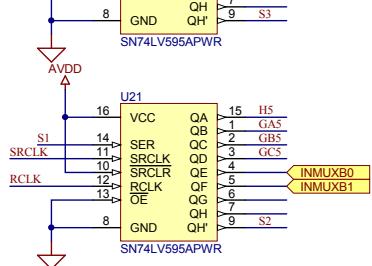
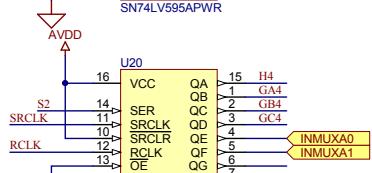
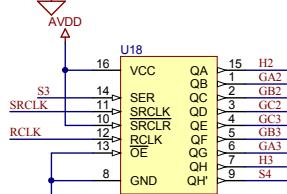
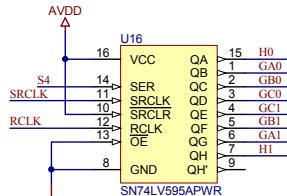
Engineer: Eric Jonas (jonas@mit.edu)

Date: 8/20/2009 Time: 2:30:22 PM

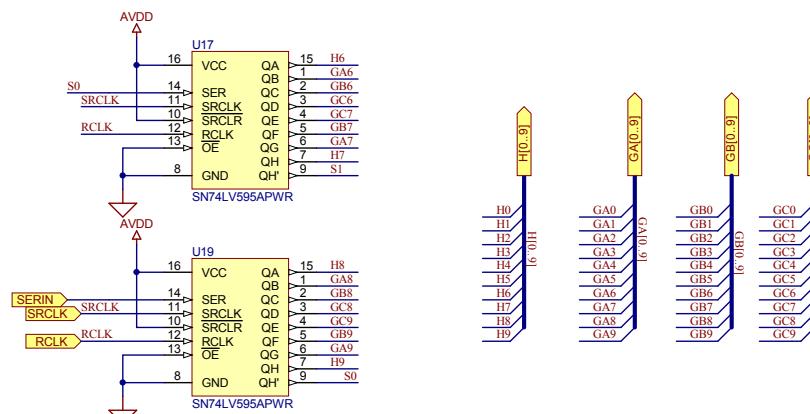
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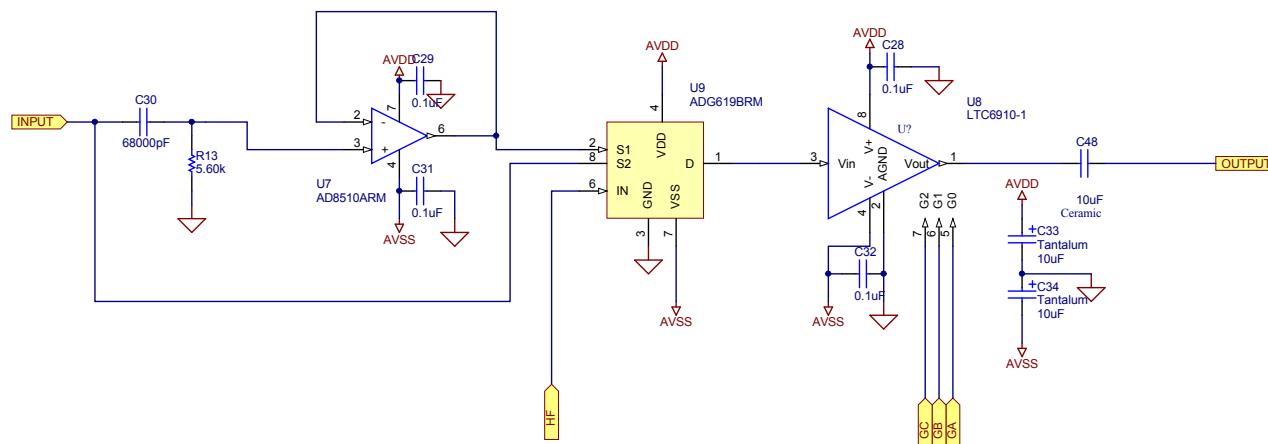
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Revision:
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GNU GPL v2

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CD74HC595M96 also work for the shift regs





Title 8+2 Acquisition Board

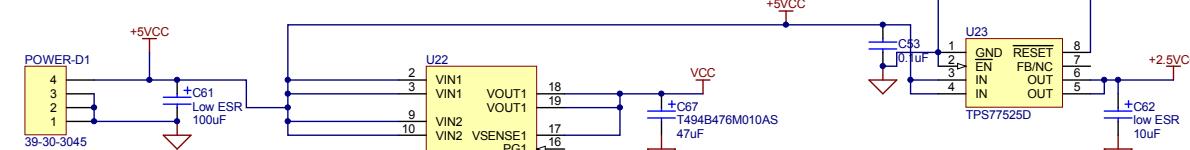
Engineer: Eric Jonas (jonas@mit.edu) Revision:
Date: 8/20/2009 Time: 2:30:22 PM Sheet of
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GNU GPL v2

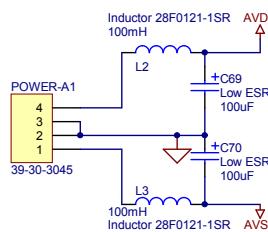
Soma

1 2 3 4 5 6

A



Low-pass filter for digital supply on analog side



B

Inductor 28F0121-1SR 100mH

POWER-A1 39-30-3045

Inductor 28F0121-1SR 100mH

C70 Low ESR 100uF

POWER-D1 39-30-3045

Inductor 28F0121-1SR 100mH

C61 Low ESR 100uF

C

AVDD

C27 0.1uF

U28 LM4140CCM-4.1

GND GND GND GND

EN

C47 0.1uF

±C7 47uF

R48 11.0k

VREF

RESISTOR 0

C66 0.1uF

±C64 10uF

C6

0.1uF

C54 10uF

±C56 0.1uF

R28 30.0k

0.1% 25 ppm/C

R27 11.0k

0.1% 25 ppm/C

R29 10.0k

LPF resistor

11.0k

C63 10uF

±C60 1uF

C58 0.1uF

C59 0.1uF

±C62 1uF

C77 0.1uF

AVDD

C76 0.1uF

AVSS

VOS

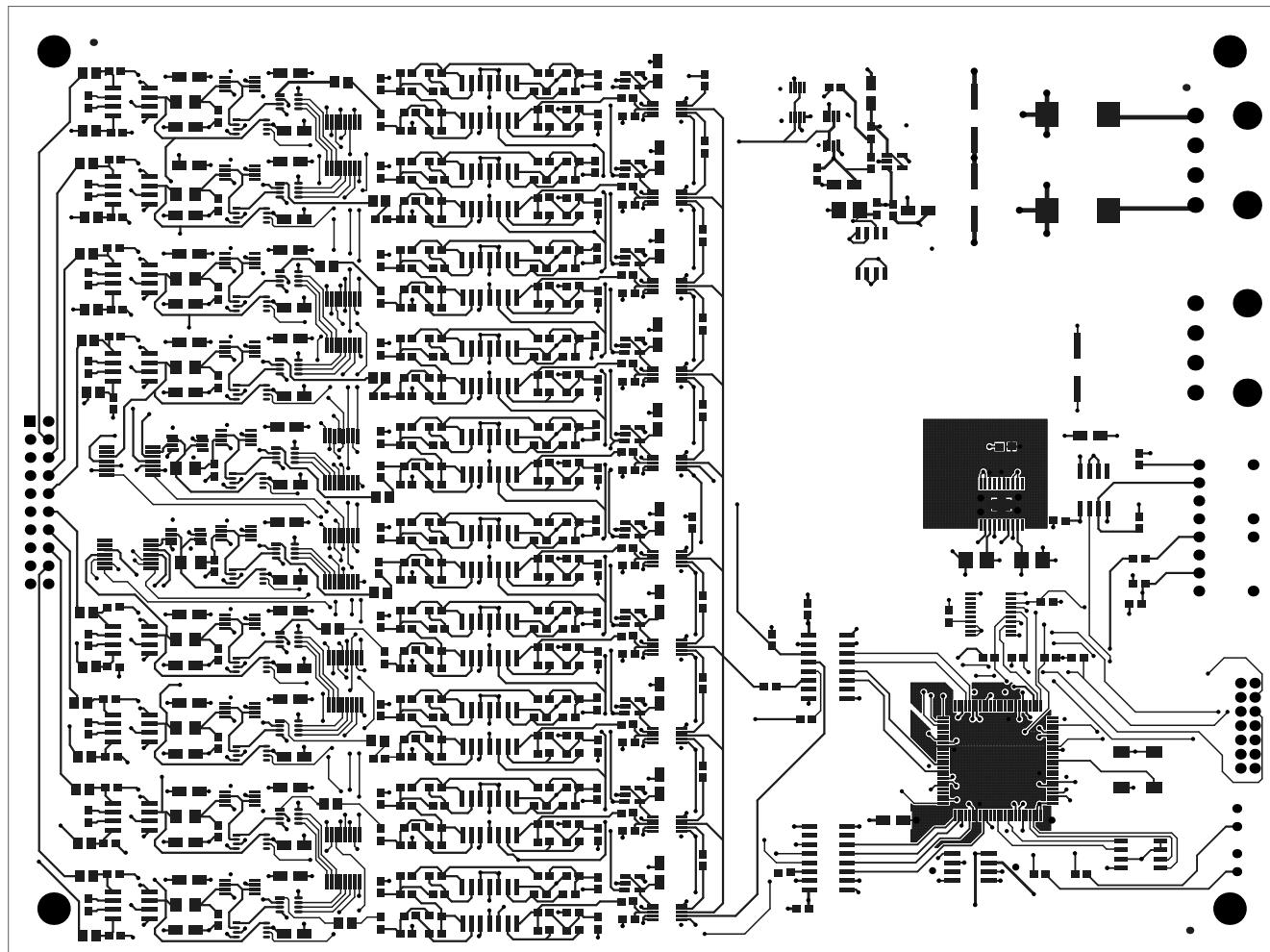
Only populate one VOS buffer amp

D

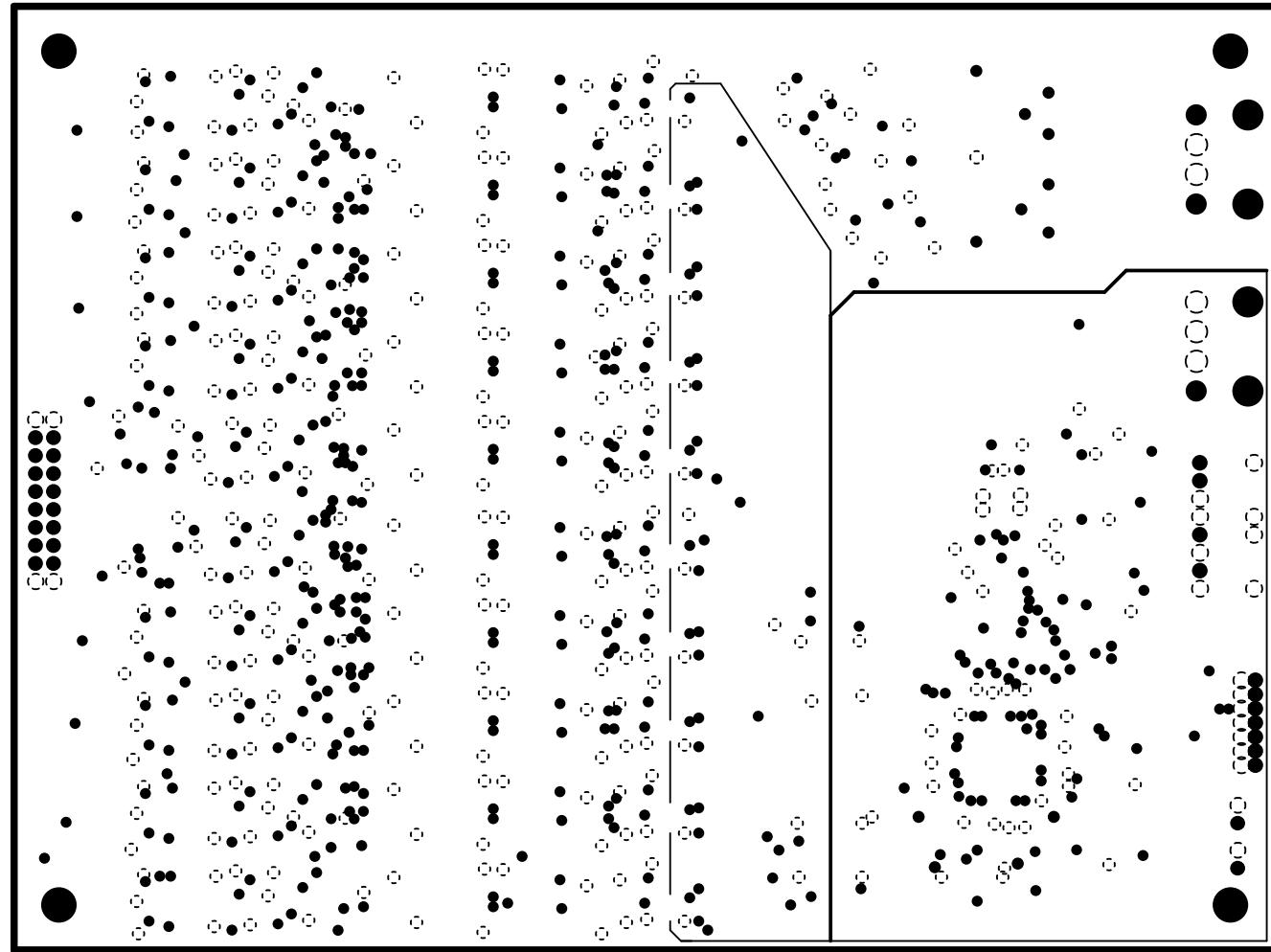
Title 8+2 Acquisition Board

PLIM, MIT
46-5227
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Cambridge, MA 02139
File: Z:\git\migrate\hardware\acqboard\ucb\power.SCHDOCEric Jonas (jonas@mit.edu)
Revision:
Date: 8/20/2009 Time: 2:30:23 PM Sheet of
GNU GPL v2

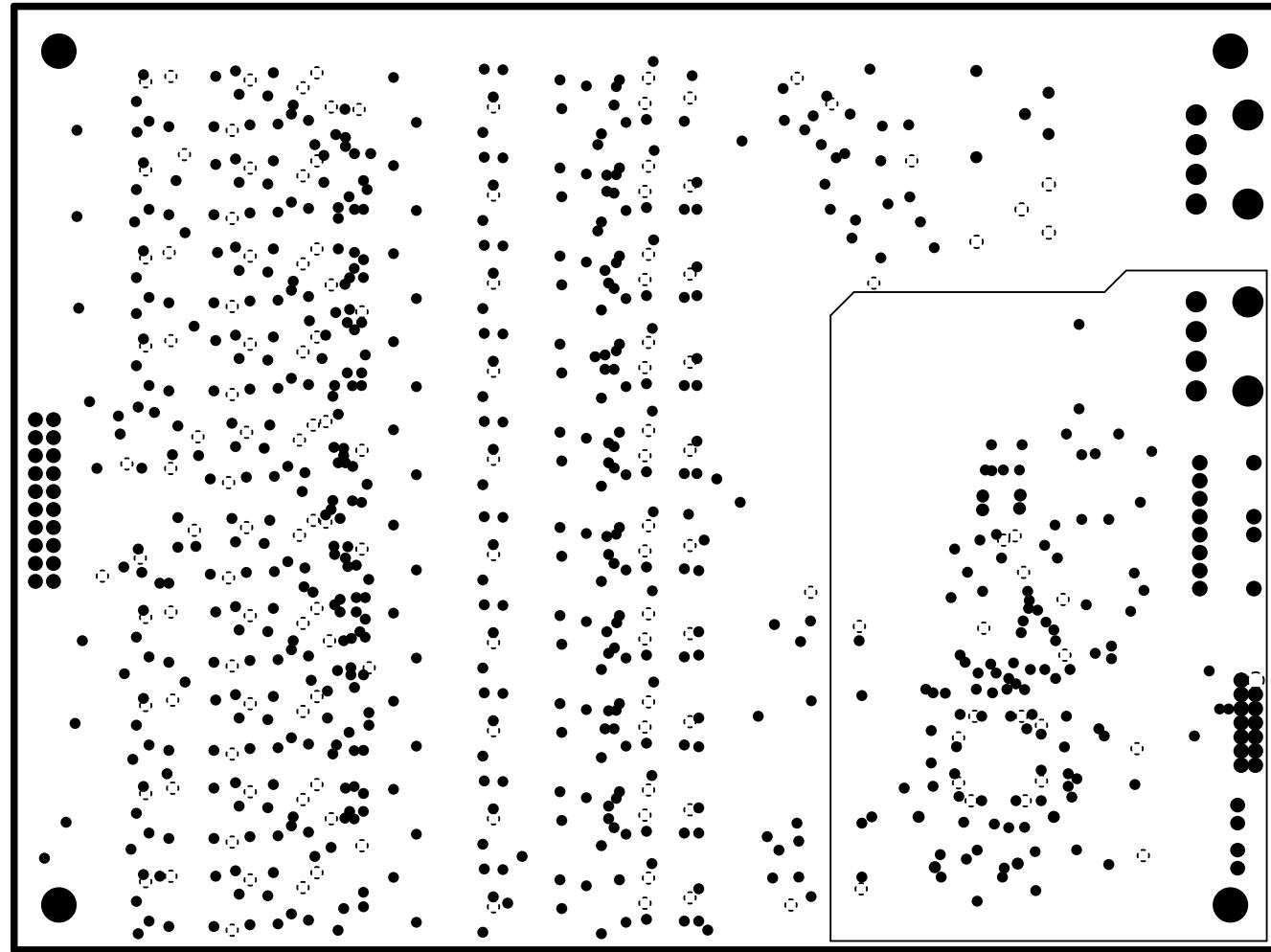
1 2 3 4 5 6



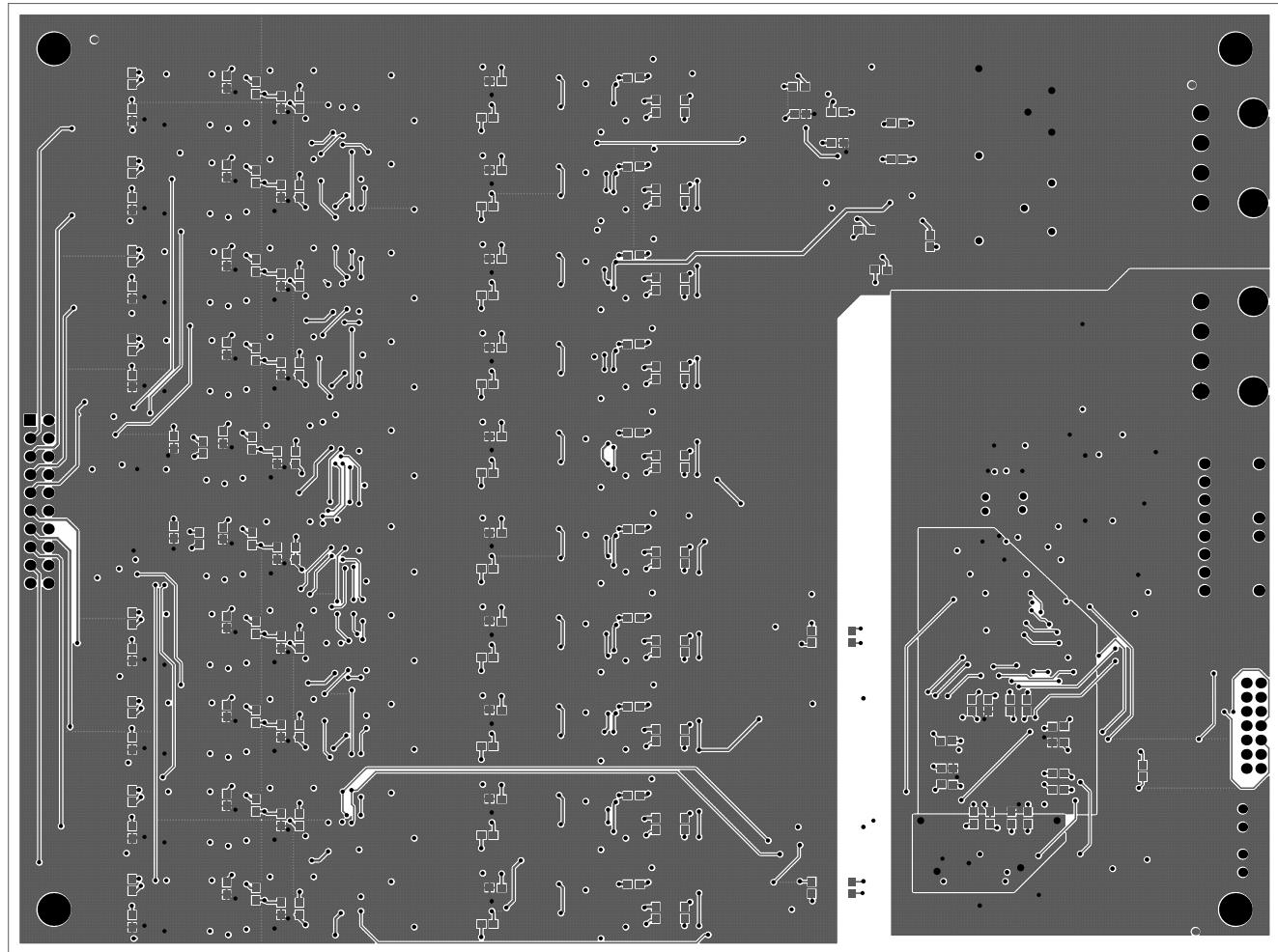
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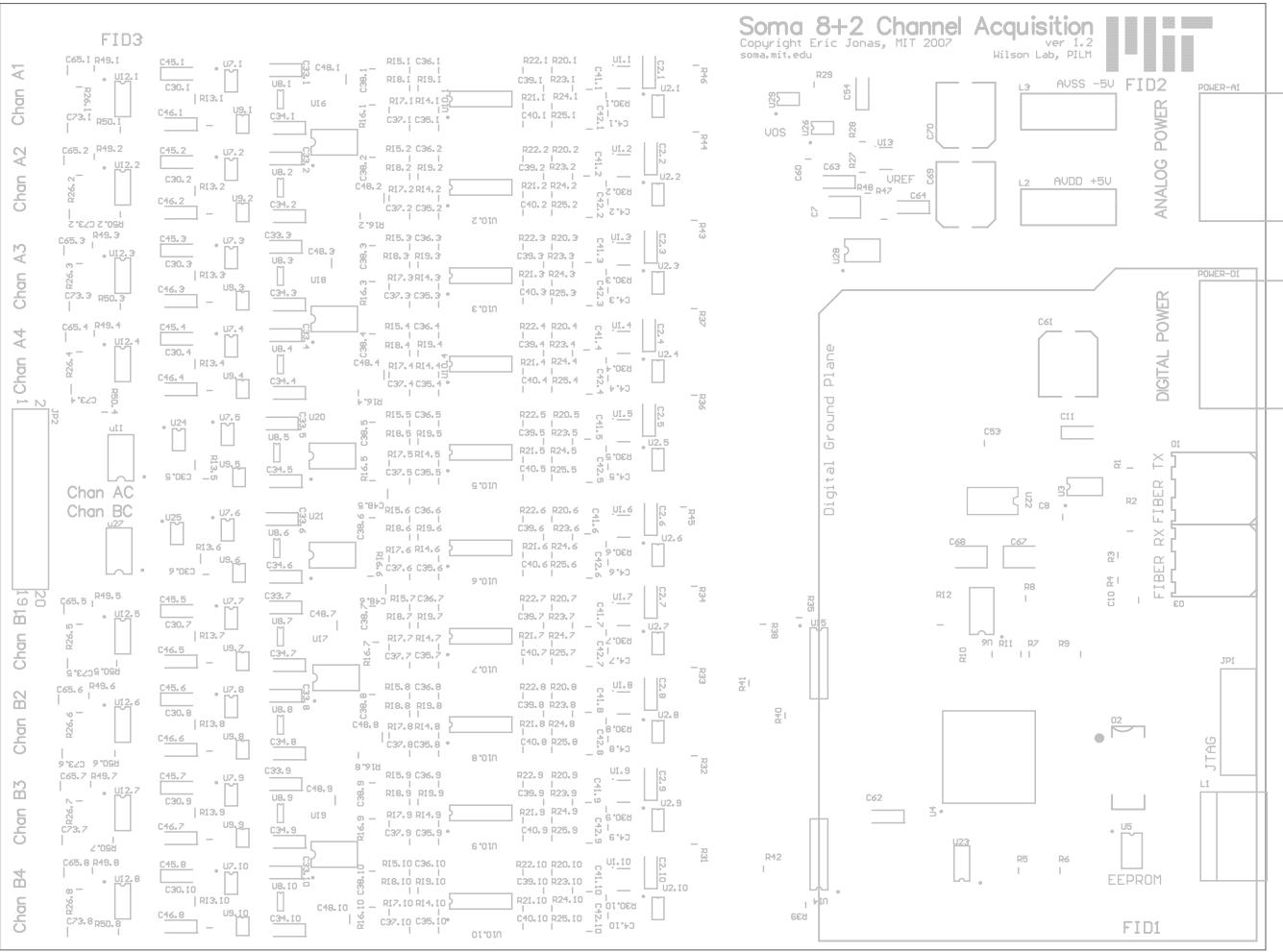
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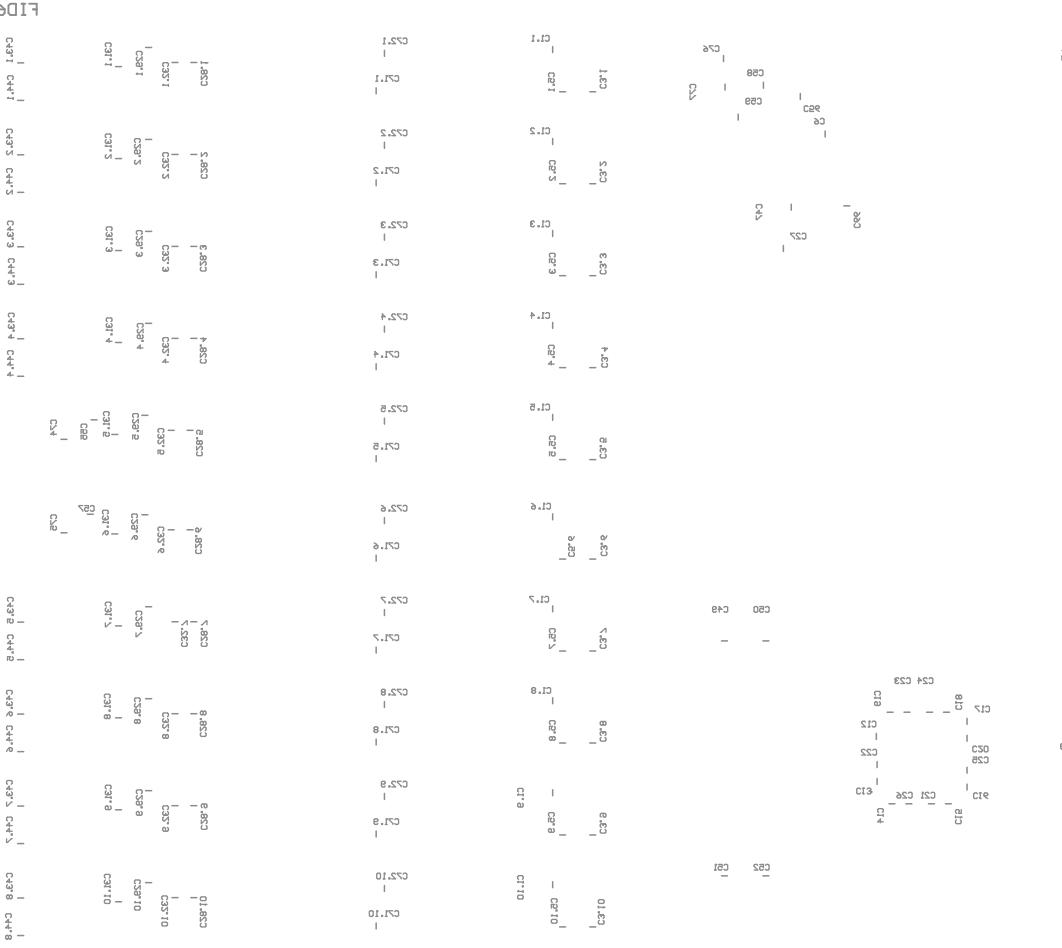
Layer 3



Layer 4



FID4



C1

C2

C3

C4

C5

C6

C7

C8

C9

C10

C11

C12

C13

C14

C15

C16

C17

C18

C19

C20

C21

C22

C23

C24

C25

C26

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C32

C33

C34

C35

C36

C37

C38

C39

C40

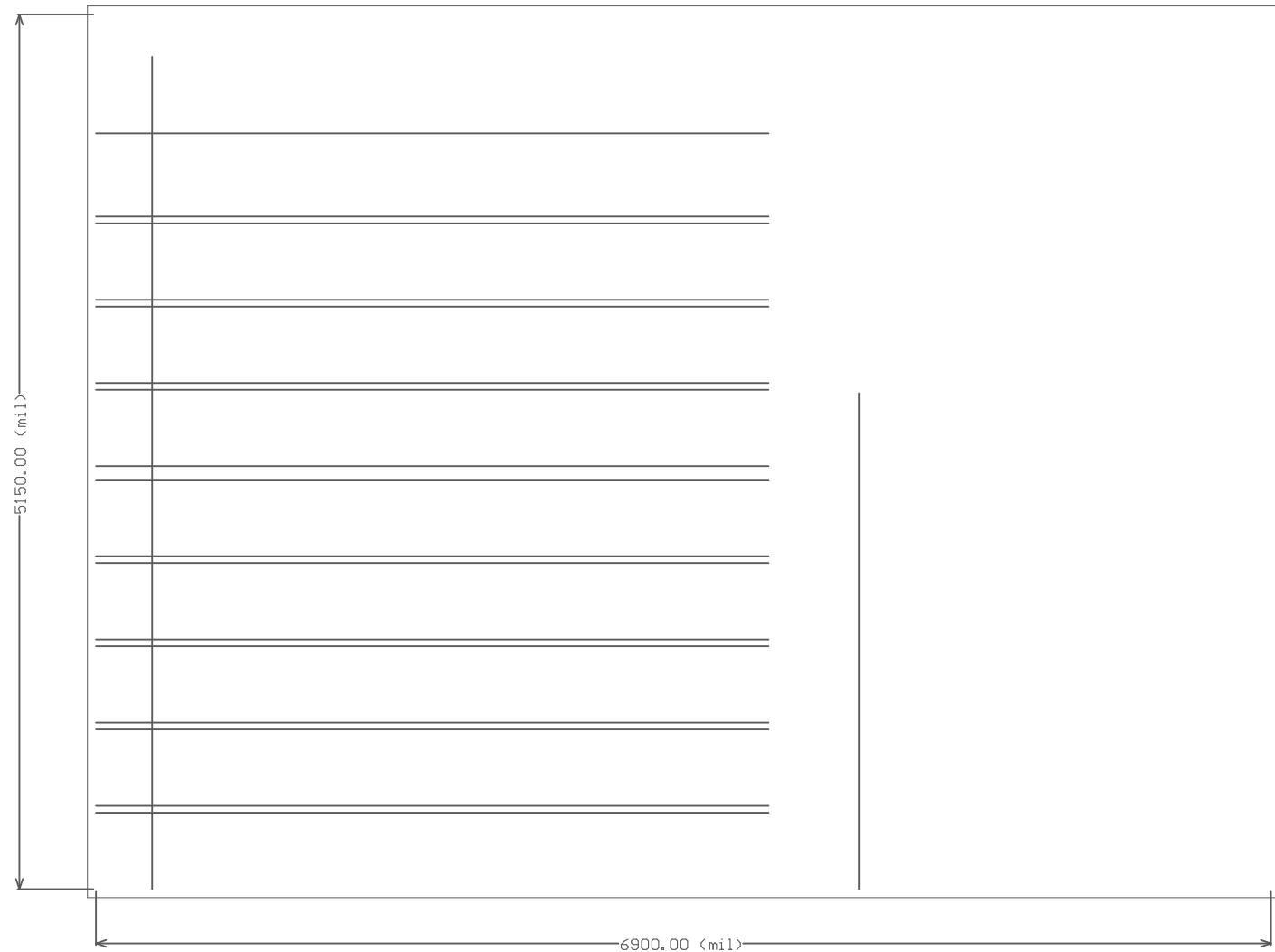
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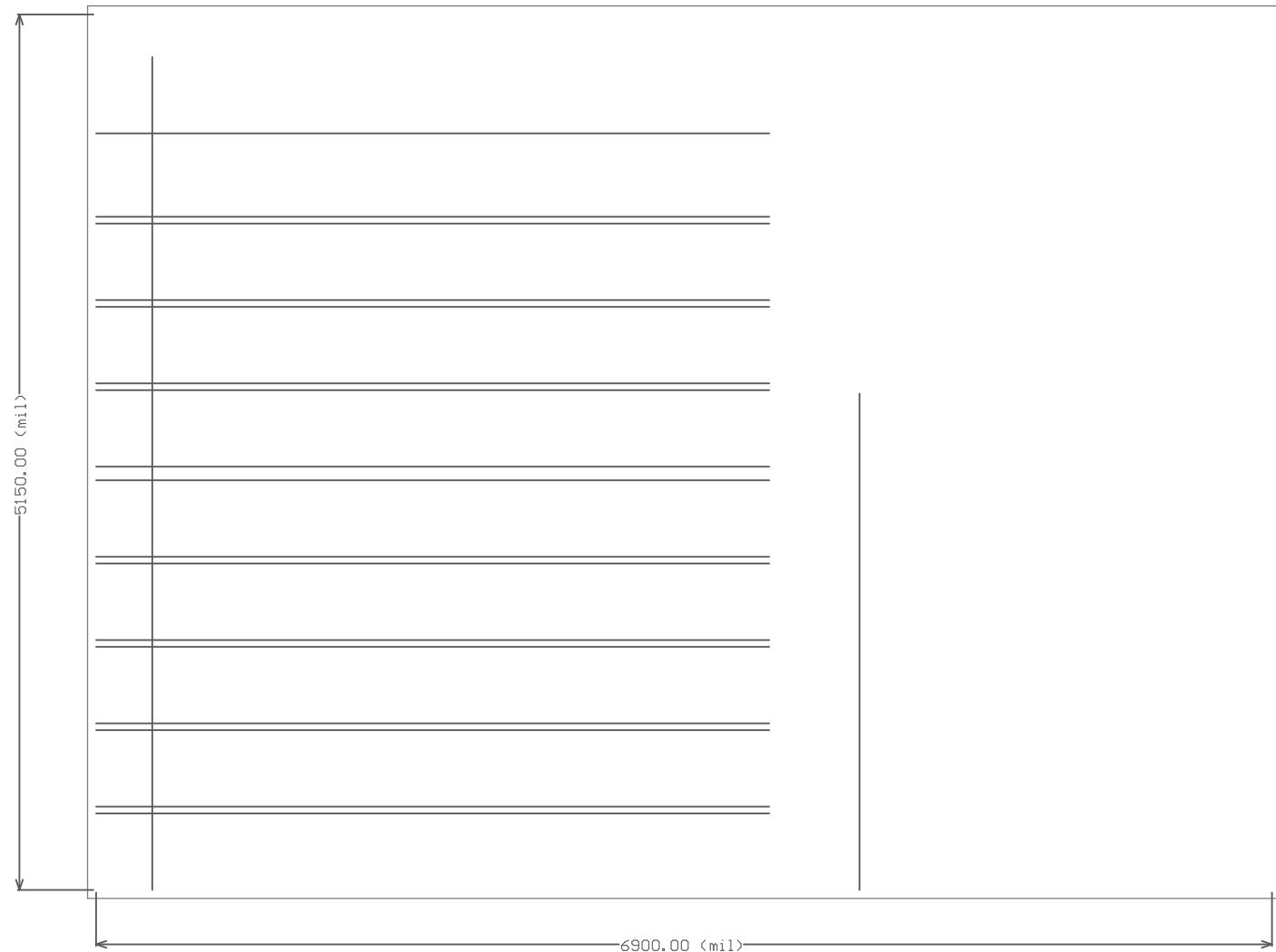
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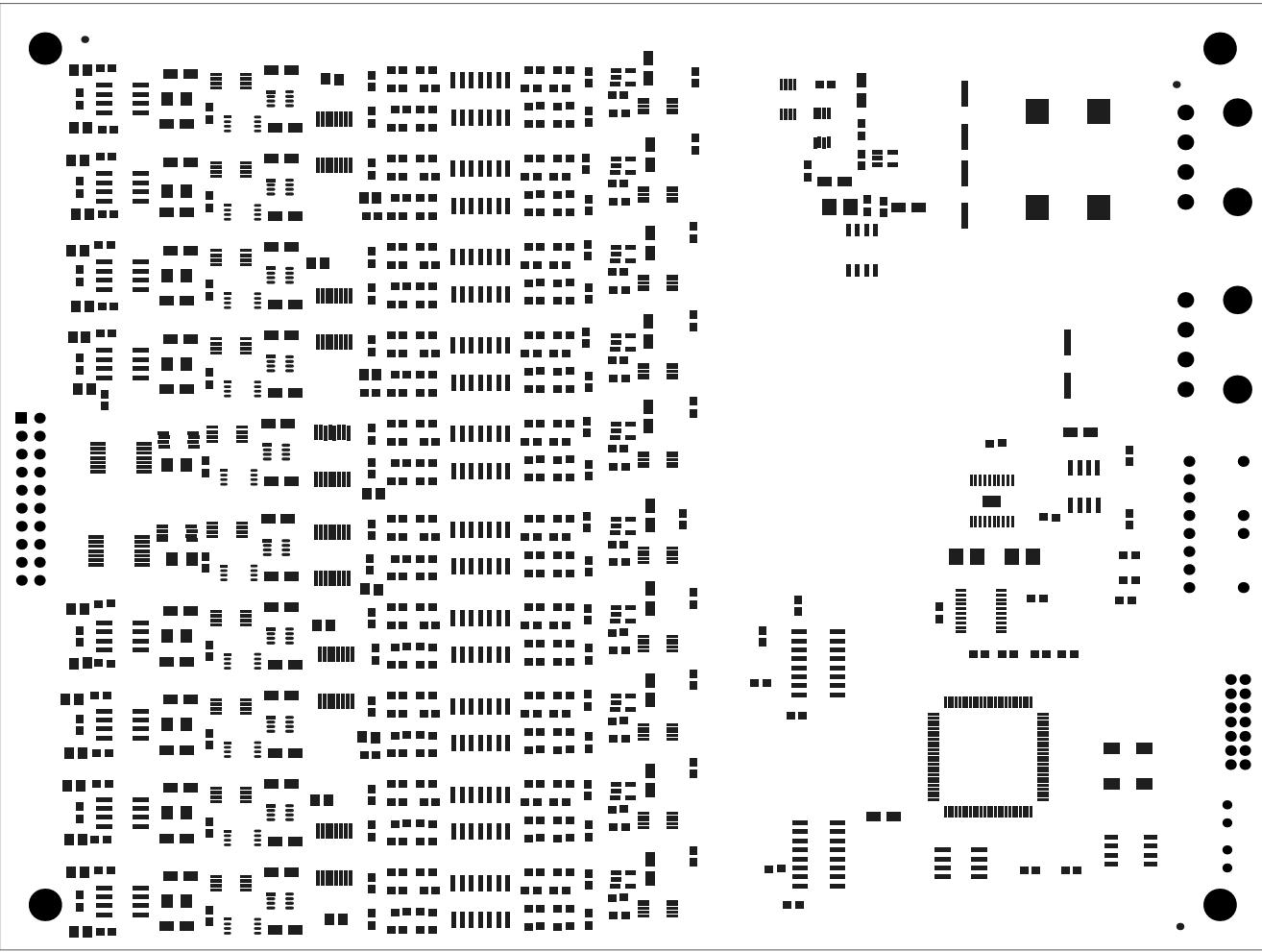
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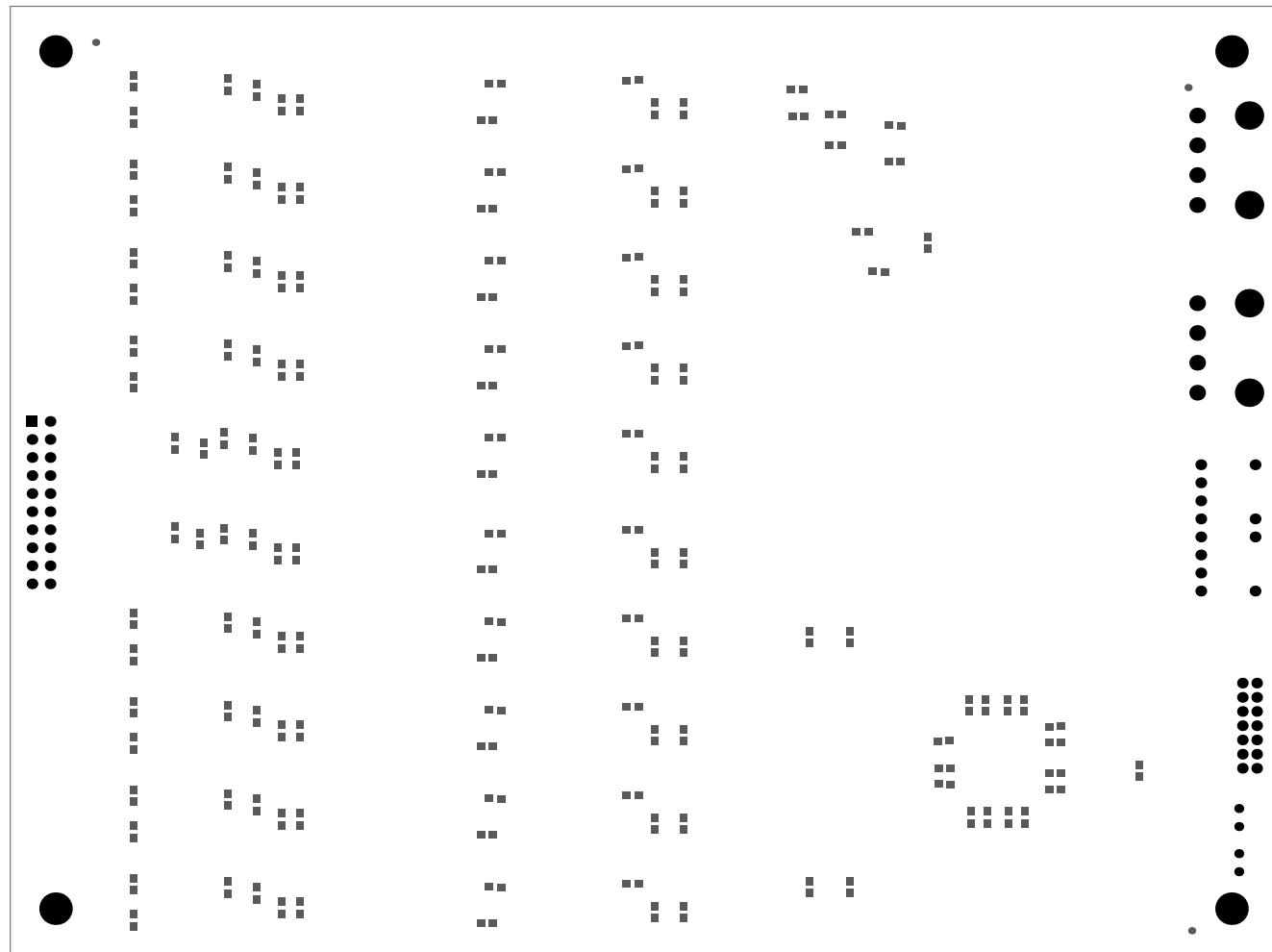
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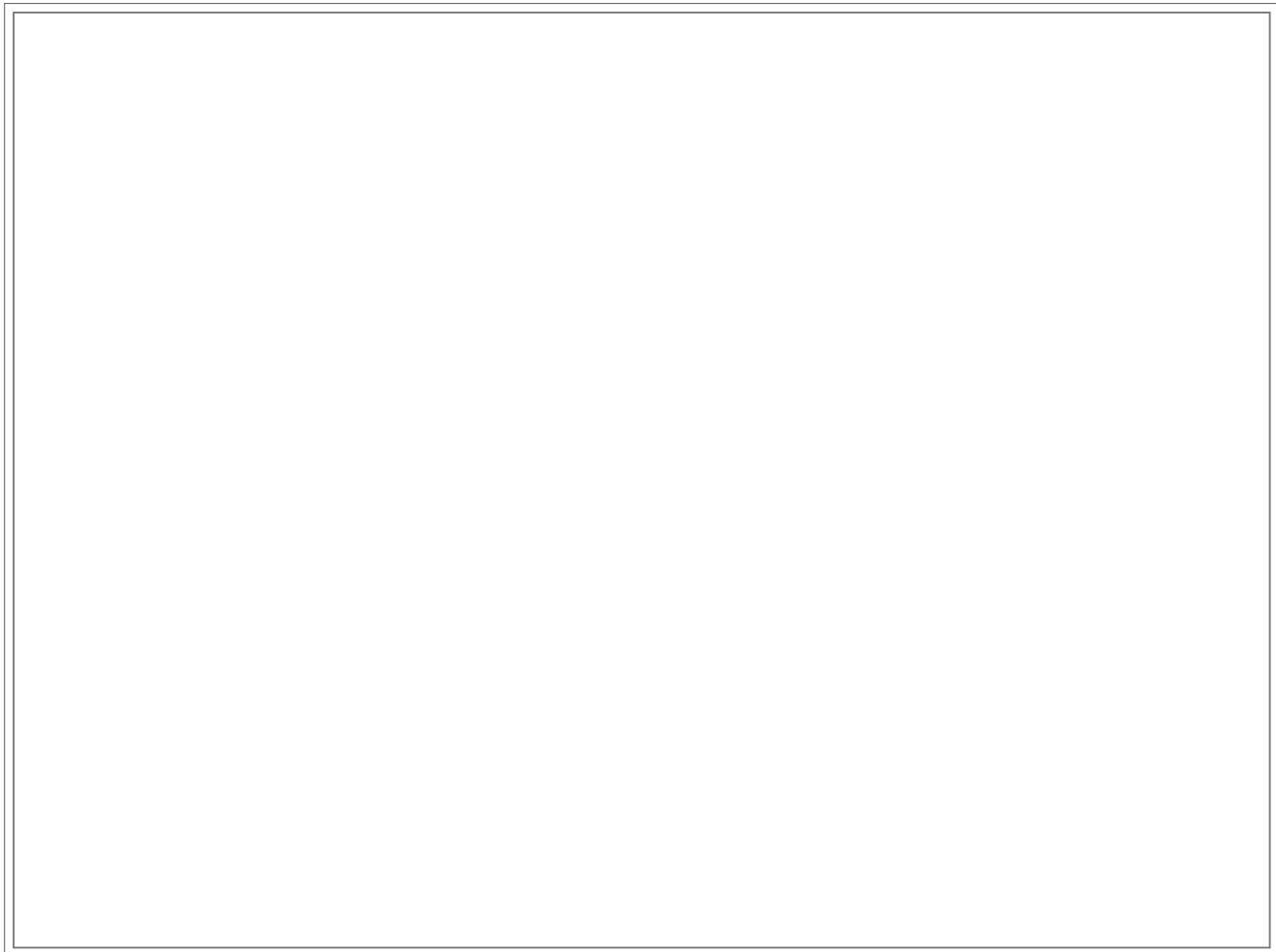
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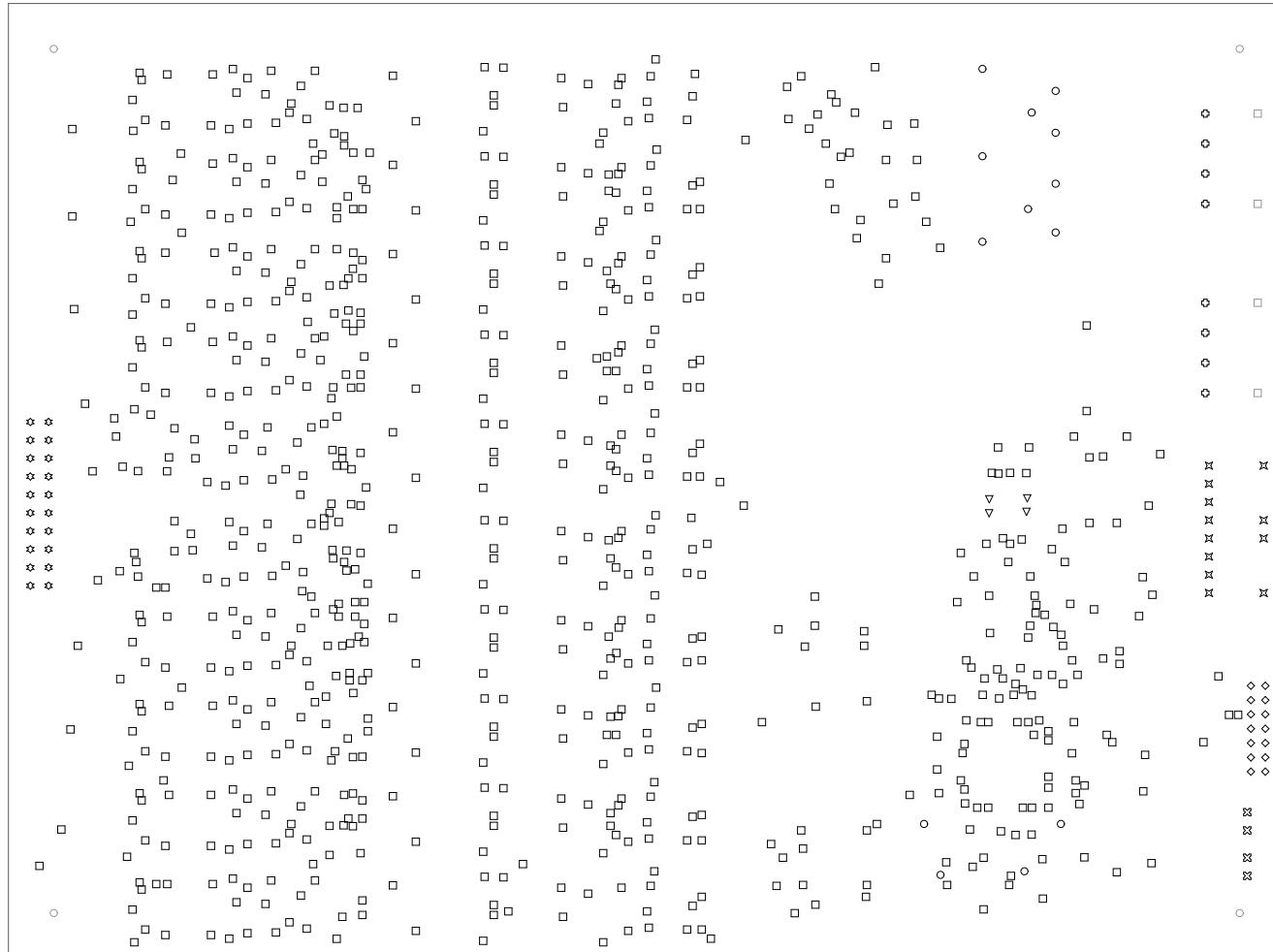












Symbol	Hit Count	Tool Size	Plated	Hole Type
□	768	13.5mil (0.3429mm)	PTH	Round
○	13	20mil (0.508mm)	PTH	Round
▽	4	25mil (0.635mm)	PTH	Round
×	4	35mil (0.889mm)	PTH	Round
◊	20	35.433mil (0.9mm)	PTH	Round
◇	14	39.37mil (1mm)	PTH	Round
✗	12	40mil (1.016mm)	PTH	Round
◎	8	70.866mil (1.8mm)	PTH	Round
□	4	125.984mil (3.2mm)	PTH	Round
○	4	150mil (3.81mm)	NPTH	Round
851 Total				

