



AS7058

e014_AWS AS7058

e0143c1_AWS AS7058 EVK_Mainboard

Variant standard



AS7058

e0143c1_AWS AS7058 EVK_Mainboard

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Sheet 7: e0143c1_AWS AS7058 EVK_Mainboard_scm_05 (ECG/BIOZ)

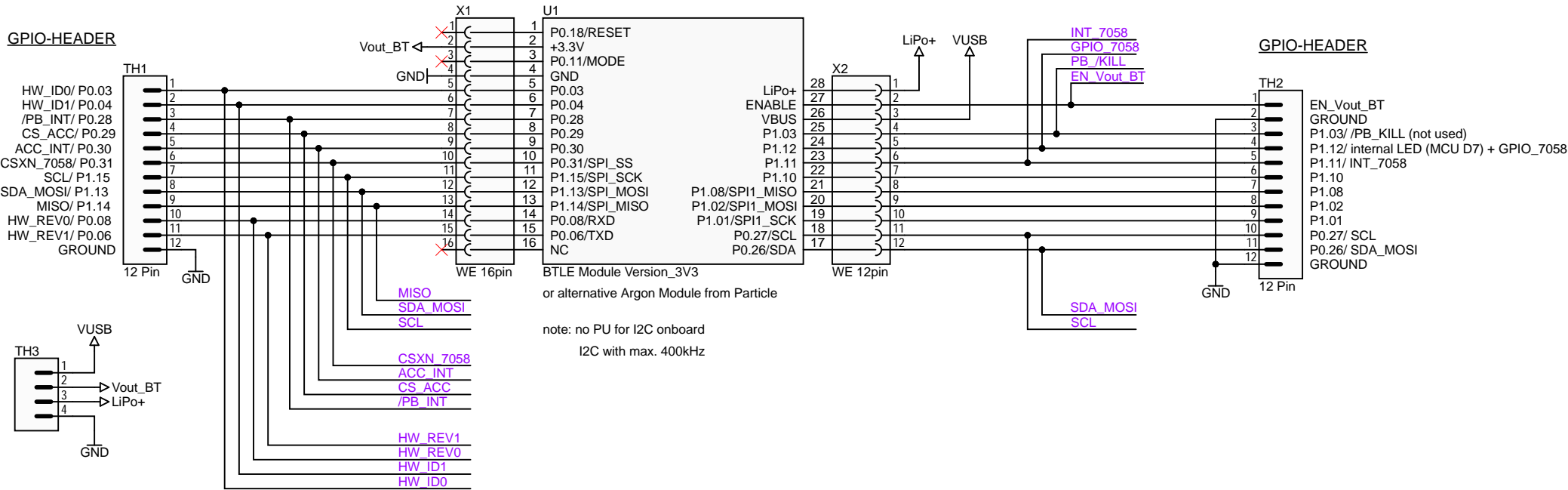
Revision History

Rev 1.0.0: Initial Release	Release Date: 08/03/2022
Rev 1.1.0: Update Release	Release Date: 07/06/2022
Rev 1.2.0: Update Release	Release Date: 21/07/2022

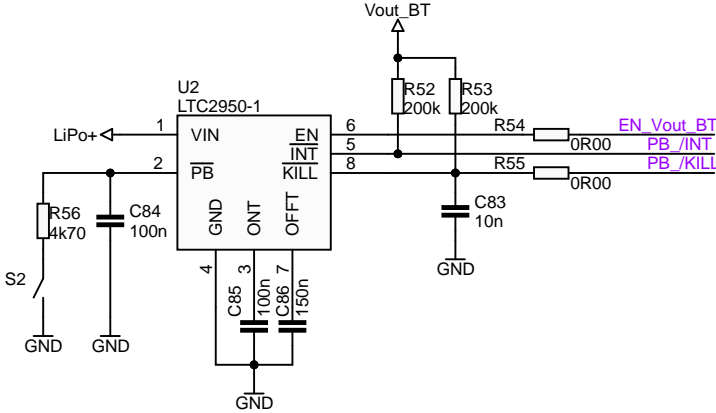
Design Changes

Rev 1.1.0: Update Release	new electrodes definiion for ECG/BIOZ add high side switch for VLED_IN
Rev 1.2.0: Update Release	page 4: X41 for selection AS7058 page 5: powersupply section U11/U12 page 6: testheader X8 page 7: testheader X30 update Jumper setting for ECG/BIOZ
Rev 1.2.1: Update Release	ECG-Filter: C2,C3,C6,C7, C5 not fitted BIOZ: 51K1 to 5K1 for R17/R21/R88/R89

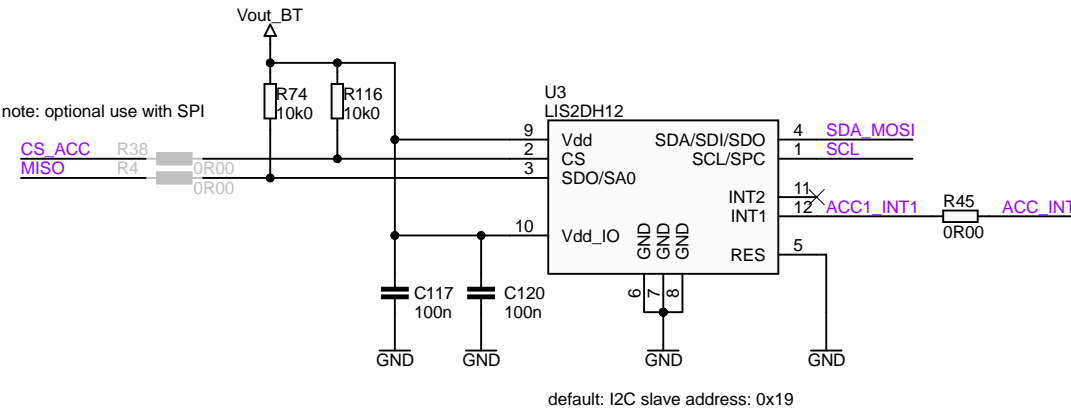
BLE Unit



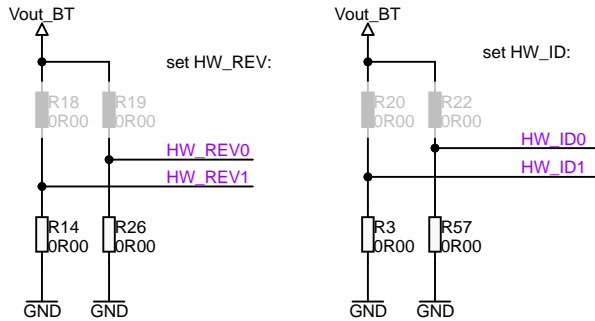
Pushbutton ON/Off Controller



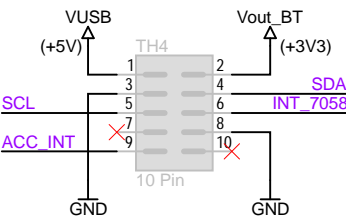
MEMS digital output motion sensor



Board HW Definitions



Test-Interface



Mounting material

M1	M2	M3	M4
Nylon_Standoff	Nylon_Standoff	NYLON, M3X6	NYLON, M3X6
M5	M6	M7	M8
Nylon_Standoff	Nylon_Standoff	NYLON, M3X6	NYLON, M3X6
M9	M10	M11	M12
Nylon_Standoff	Nylon_Standoff	NYLON, M3X6	NYLON, M3X6



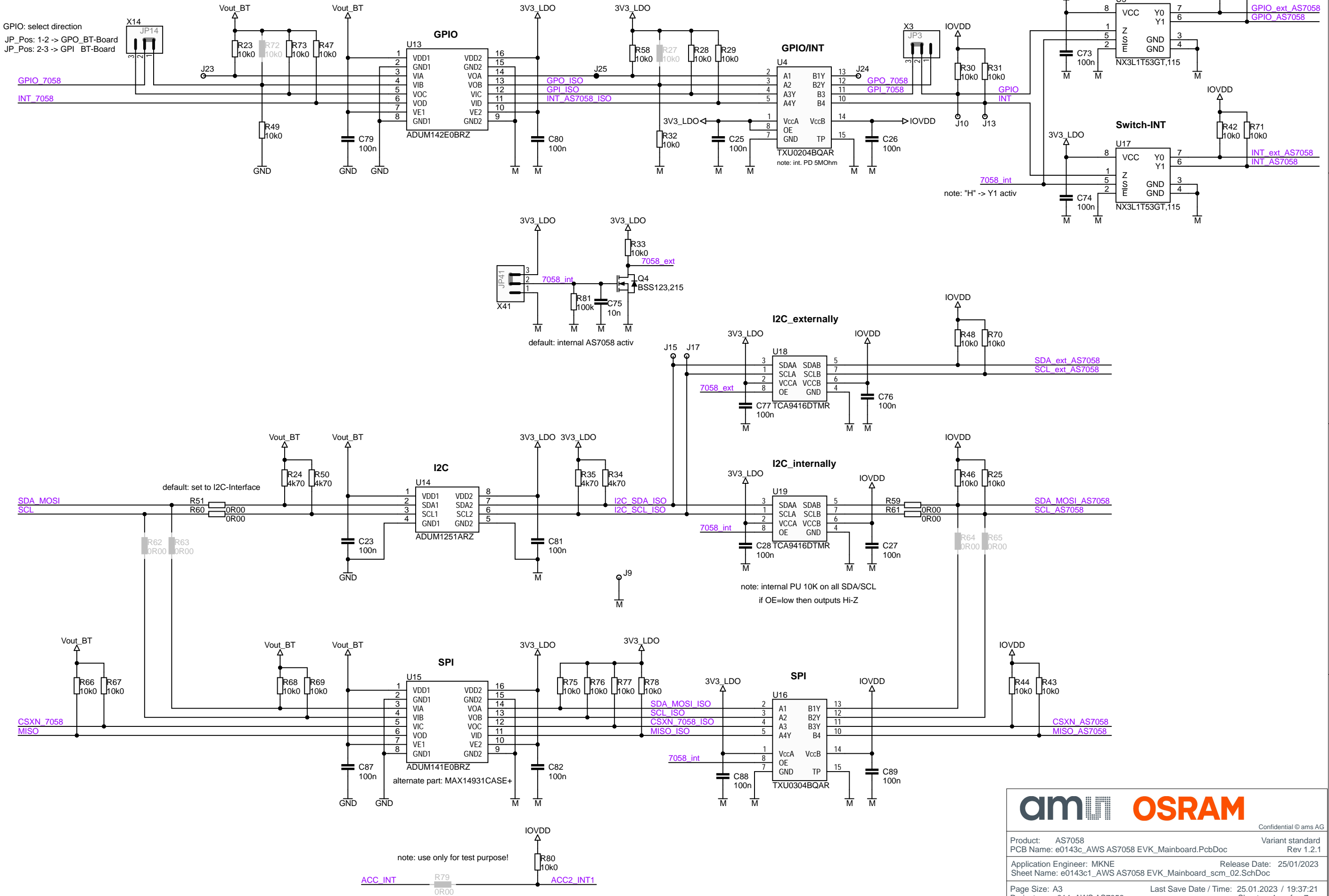
galvanic isolation

isolation barrier

Level-Shifter to IOVDD (1V8 or 1V2)

Switch-GPIO

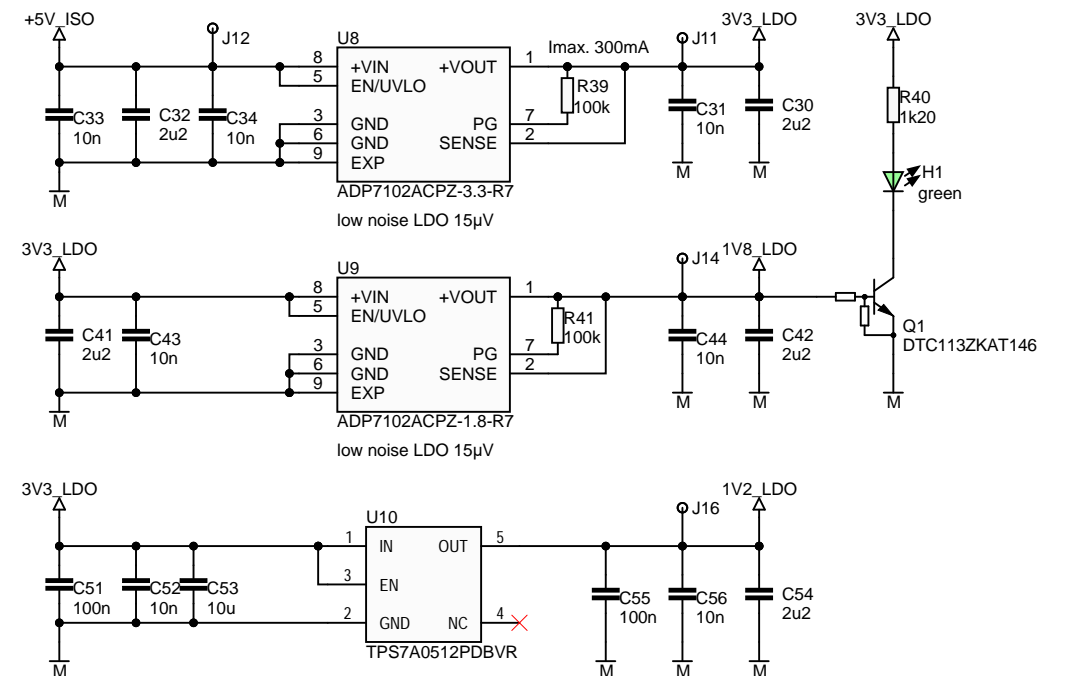
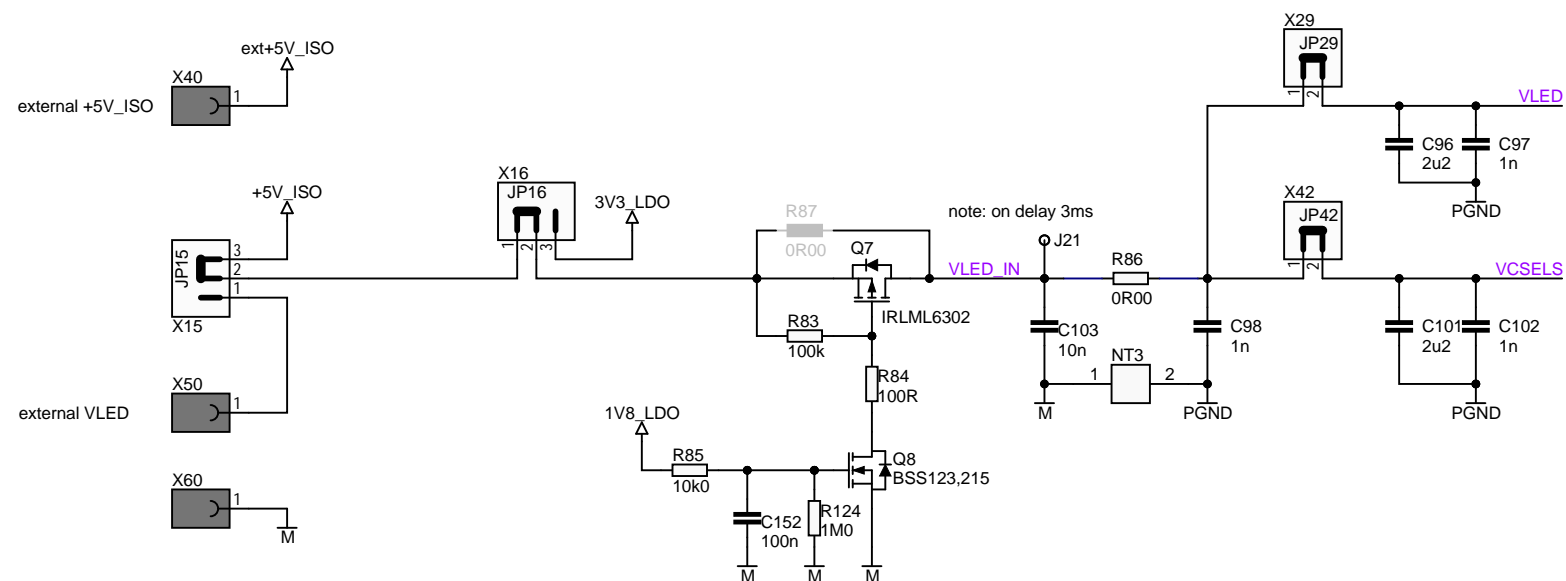
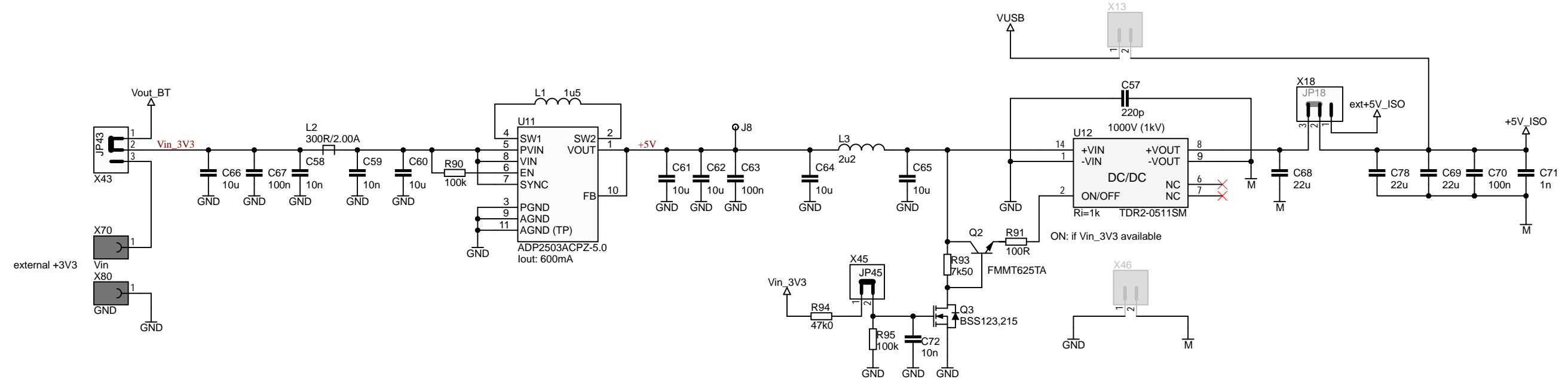
Switch-INT



ams OSRAM

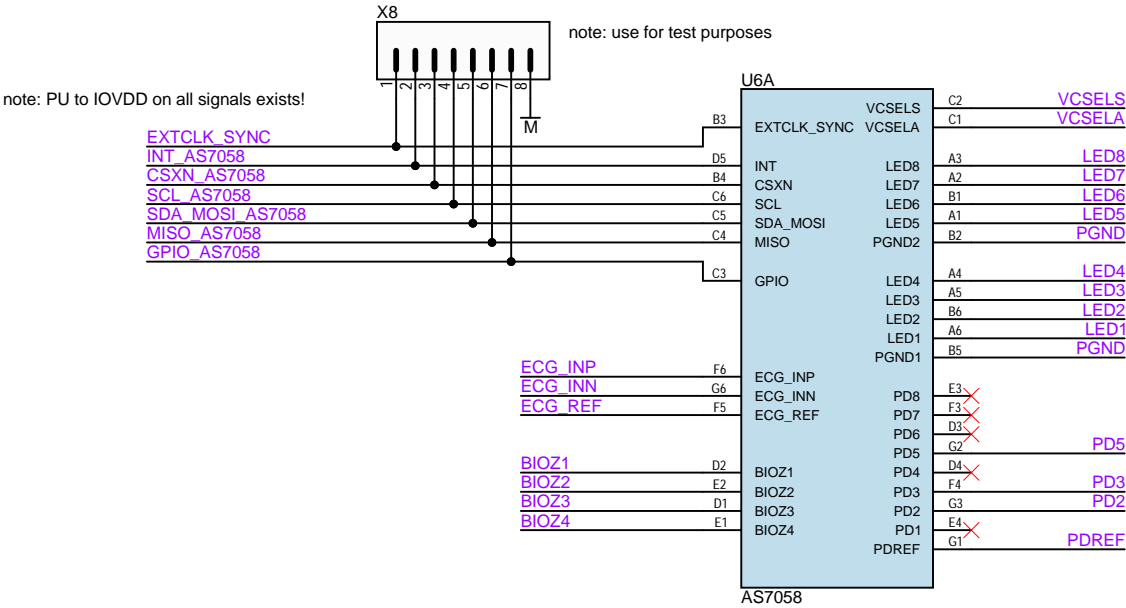
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Product: AS7058 Variant standard
PCB Name: e0143c_AWS AS7058 EVK_Mainboard.PcbDoc Rev 1.2.1
Application Engineer: MKNE Release Date: 25/01/2023
Sheet Name: e0143c1_AWS AS7058 EVK_Mainboard_scm_02.SchDoc
Page Size: A3 Last Save Date / Time: 25.01.2023 / 19:37:21
Project: e014_AWS AS7058 Sheet 4 of 7

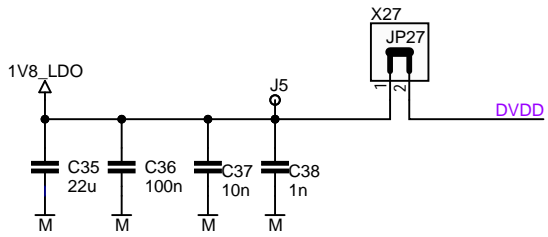
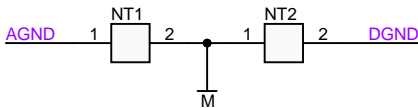
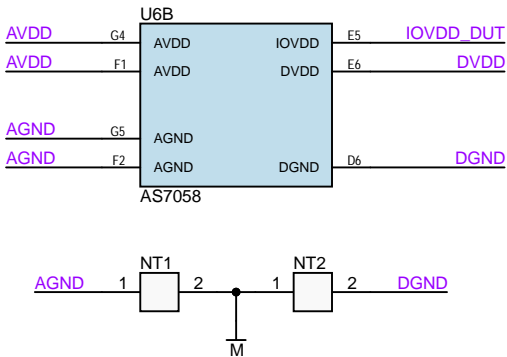
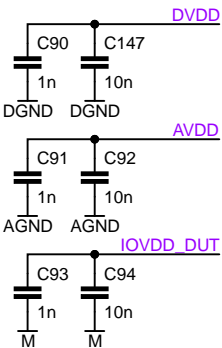
Powersupply Board/AFE/LED

AFE AS7058

note: PU to IOVDD on all signals exists!

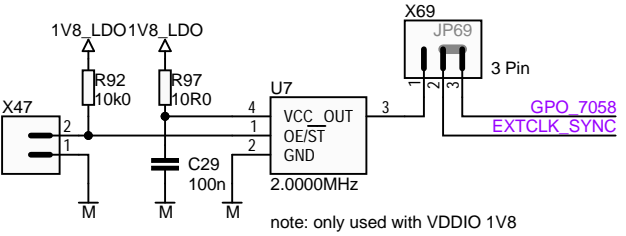
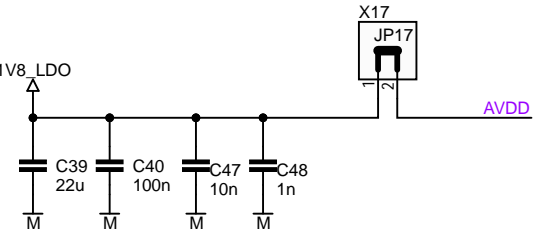


pcb-note: C's placed closed as possible to AS7058

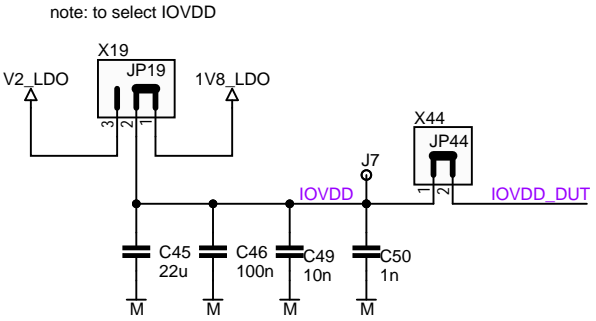


pcb note: place all jumpers close as to AS7058

note: use to measure current on AS7058

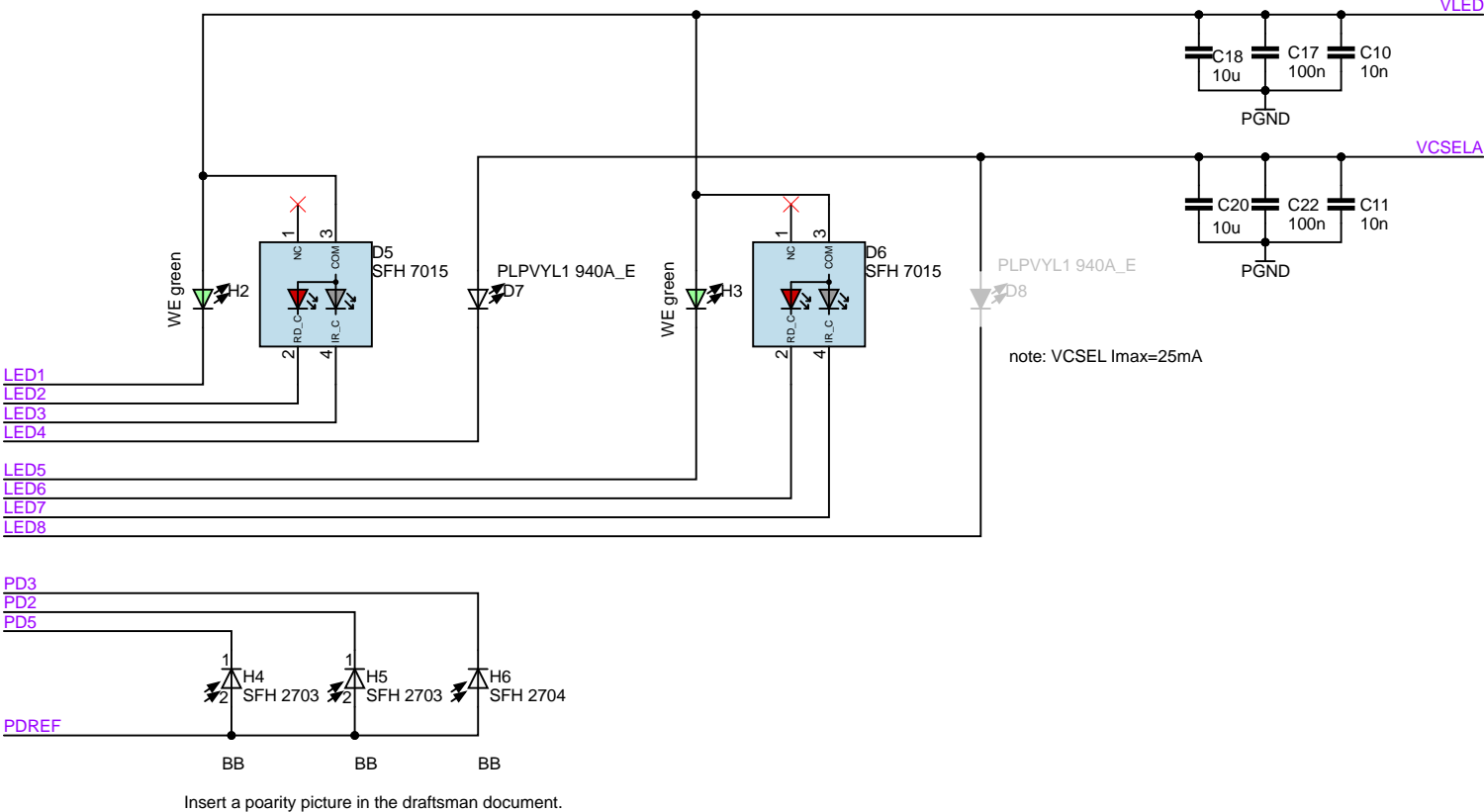


note: only used with VDDIO 1V8



note: to select IOVDD

optical setup

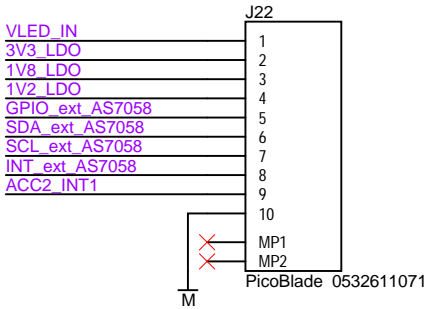


external Interface

note: Interface 1V8 supported

accelerometer slave address 0x18h (SA0=0)

PU to IOVDD on all signals exists!



ECG/BIOZ/GSR

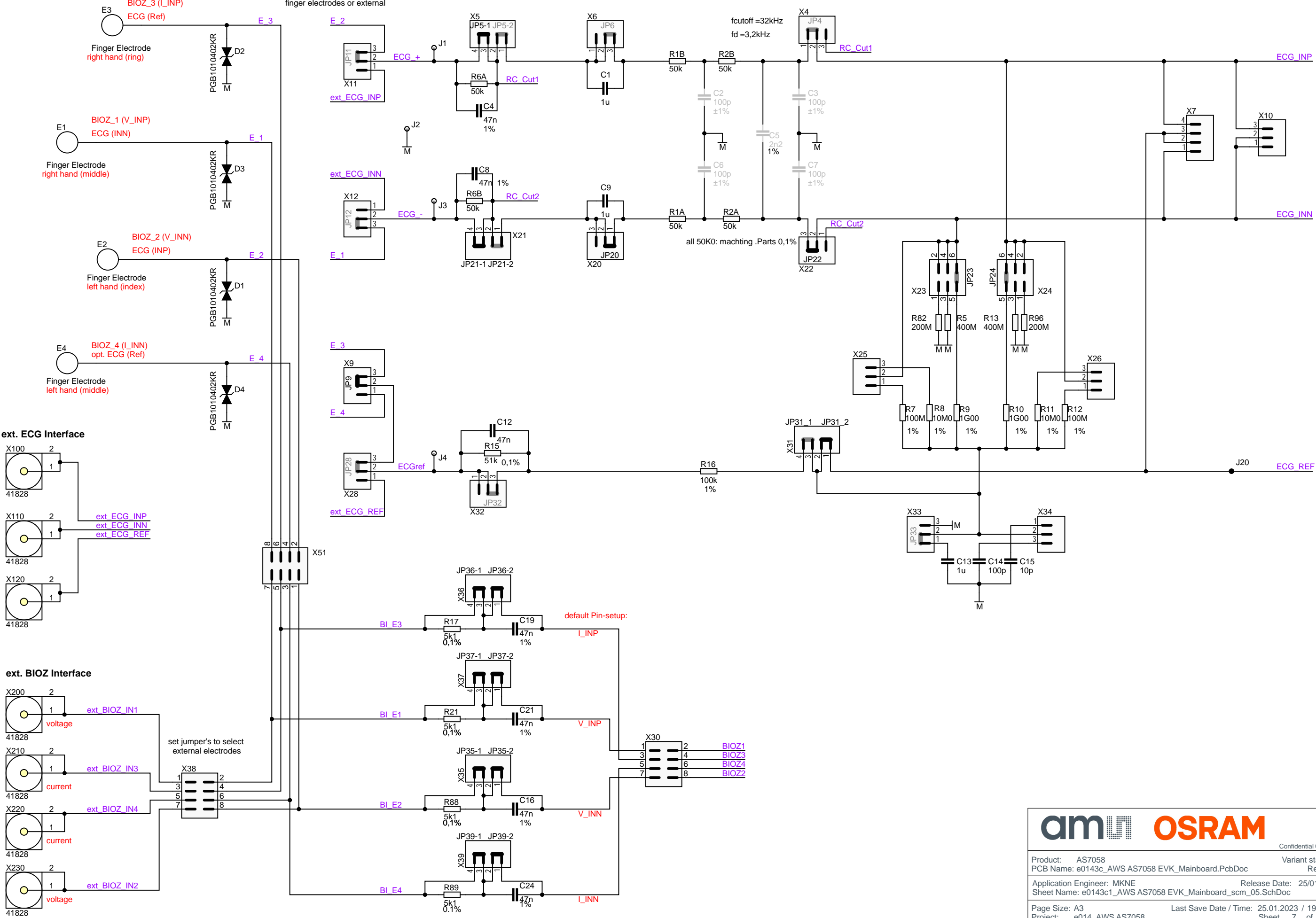
note: electrodes placed as on real pcba

note: electrodes placed as on real pcba

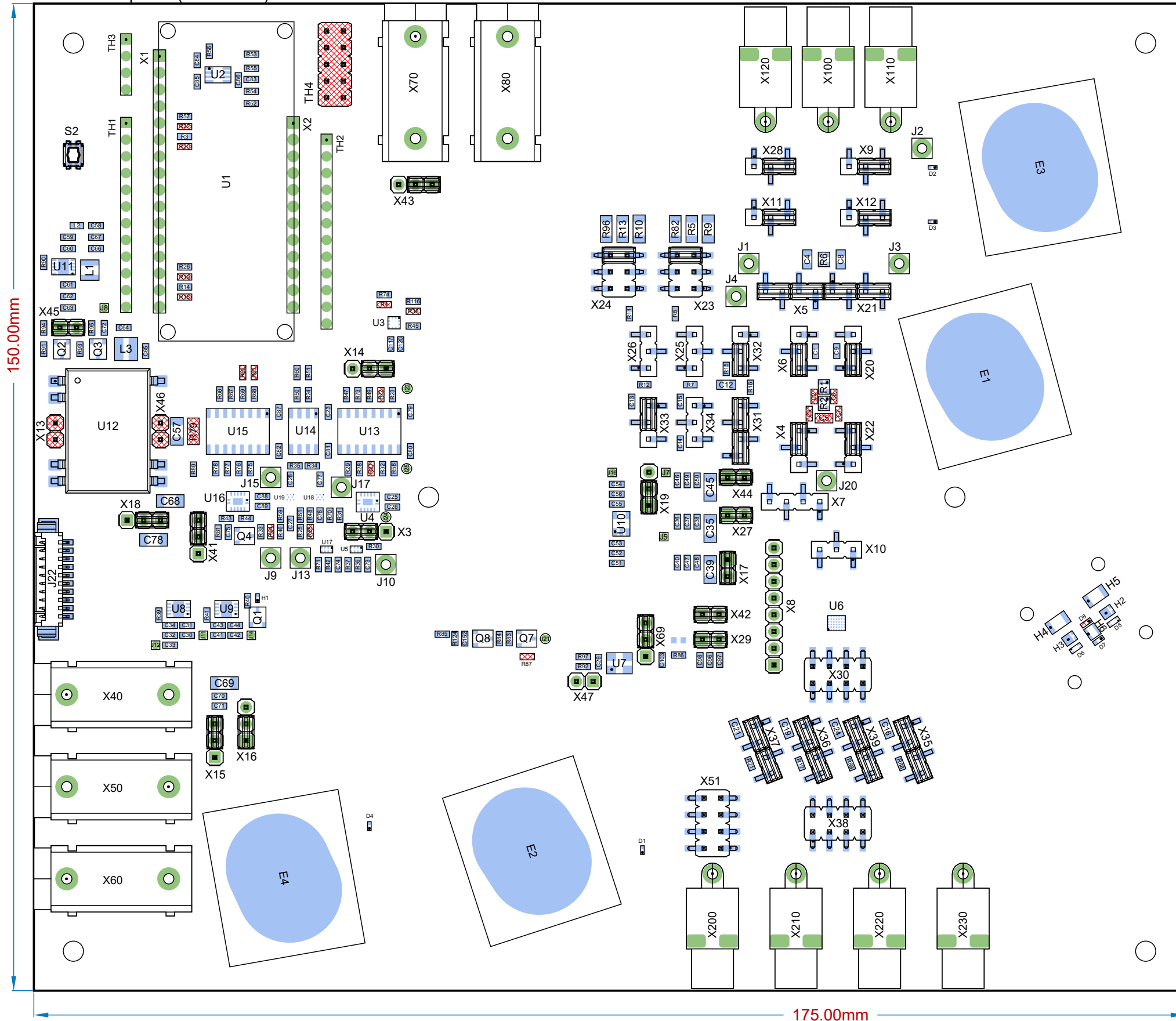
set jumper's to select Input ECG-Signal
finger electrodes or external

note: 3x skin electrode contact model

note: patient protection resistor + EMI/RFI 2nd order low pass filter



View from Top side (Scale 1.5:1)



e0143c_AWS AS7058 EVK_Mainboard.PcbDoc PCB Spezification:

- 1.6mm $\pm 10\%$ 6-Layer FR4 (MLL6); HDI; stacked via
- manufactured with IPC Claas 2
- Technology: 150 μ m TrackWith/TrackTrack smallest drill: 150 μ m
- Prepreg and Core Tickness is free to defined
- outline is milled and v-cutted
- finished surface is ENIG
- Silkscreen color is white and made in high resuluion (more than 200 μ m)
- Solder Mask color is green standard
- check Gerber files against the IPC-D-356A.ipc netlist file; Net GND, M and PDREF is shorten by NetTies
- Questions to:
ams Sensors Germany GmbH
Fernando Hädrich
e-mail: fernando.haedrich@ams.com
Phone: +49 3641 280935



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Product: AS7058

Variant standard

PCB Name: e0143c_AWS AS7058 EVK_Mainboard.PcbDoc

Rev 1.2.1

Application Engineer: MKNE

Release Date: 25/01/2023

Sheet Name: e0143c0_AWS AS7058 EVK_Mainboard.PCBDwf

Page Size: A3

Last Save Date / Time: 25.01.2023 / 19:37

Doc. Scale:

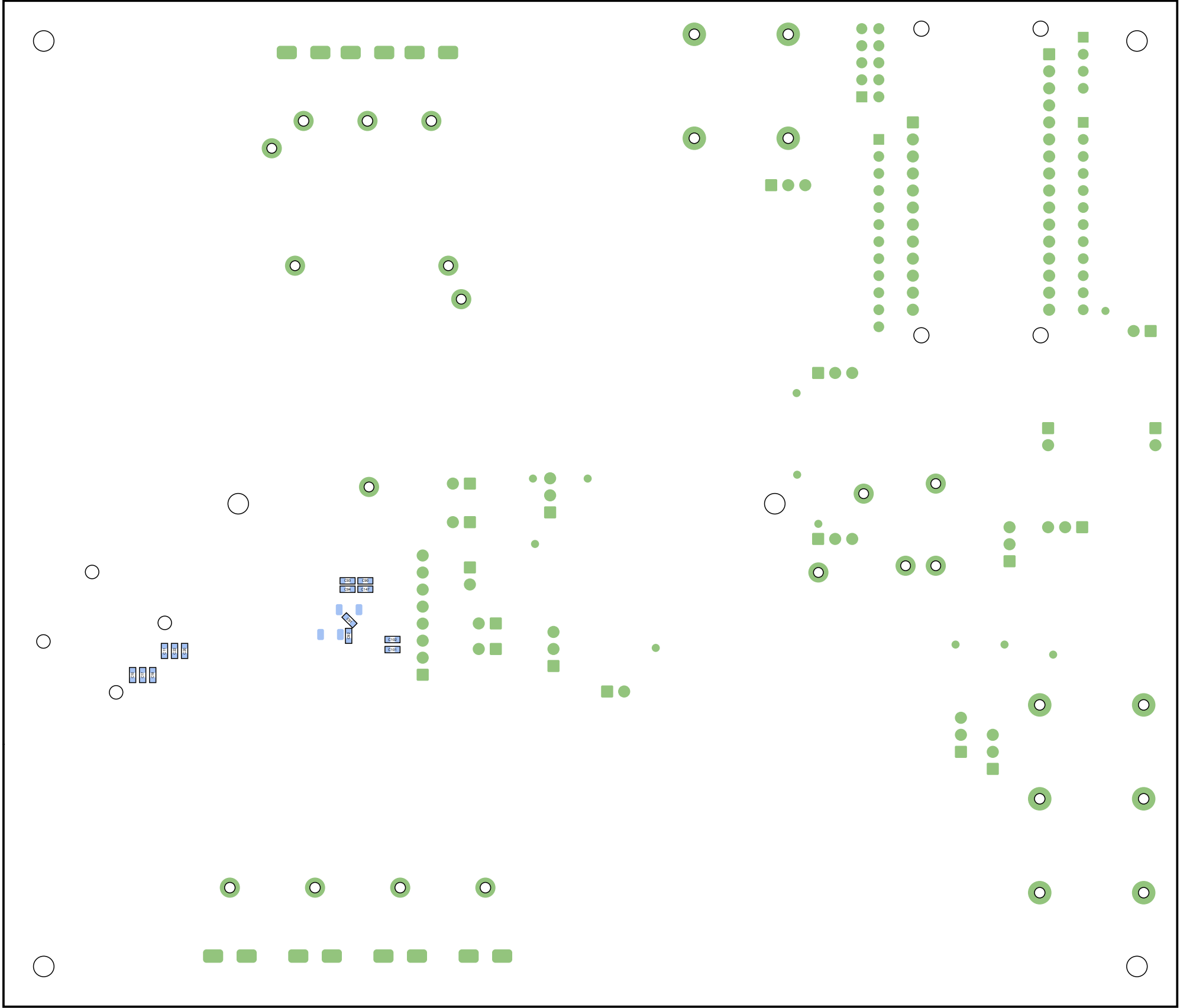
Project: e014_AWS AS7058

Sheet 1 of 3

1:1

Millimeters

View from Bottom side (Scale 1.5:1)



Drill Table

Symbol	Count	Hole Size	Plated	Hole Tolerance
⊞	91	0.10mm	Plated	
☆	101	0.20mm	Plated	
✕	275	0.25mm	Plated	
⊞	11	0.80mm	Plated	
⊞	28	0.86mm	Plated	
○	53	1.00mm	Plated	
◇	38	1.10mm	Plated	
◇	14	1.40mm	Plated	+0.25mm/-0.00mm
☆	10	1.60mm	Plated	
☆	10	1.70mm	Plated	
◎	7	1.70mm	Plated	+0.25mm/-0.00mm
□	4	2.15mm	Non-Plated	
✕	4	2.40mm	Non-Plated	
▽	6	3.20mm	Non-Plated	
	652 Total			



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Product: AS7058 Variant standard

PCB Name: e0143c_AWS AS7058 EVK_Mainboard.PcbDoc Rev 1.2.1

Application Engineer: MKNE Release Date: 25/01/2023

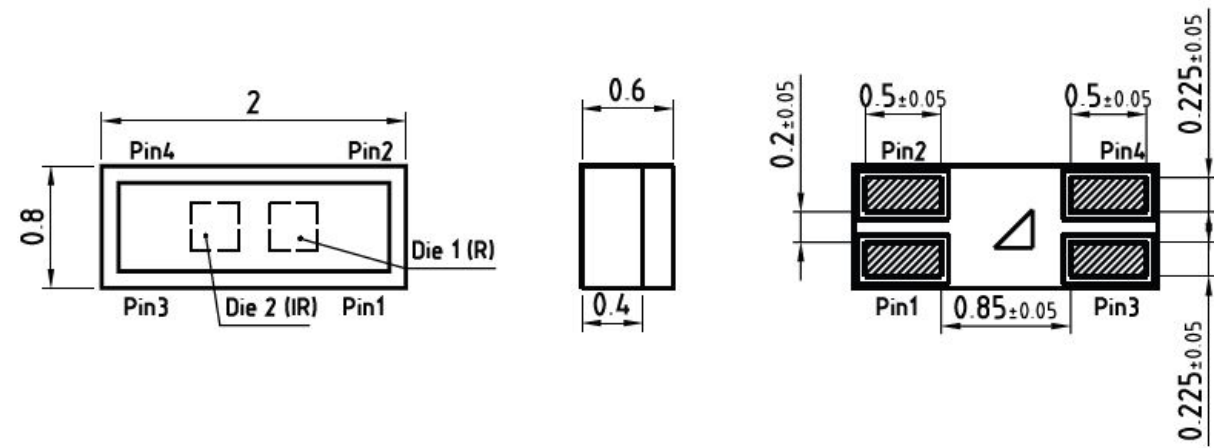
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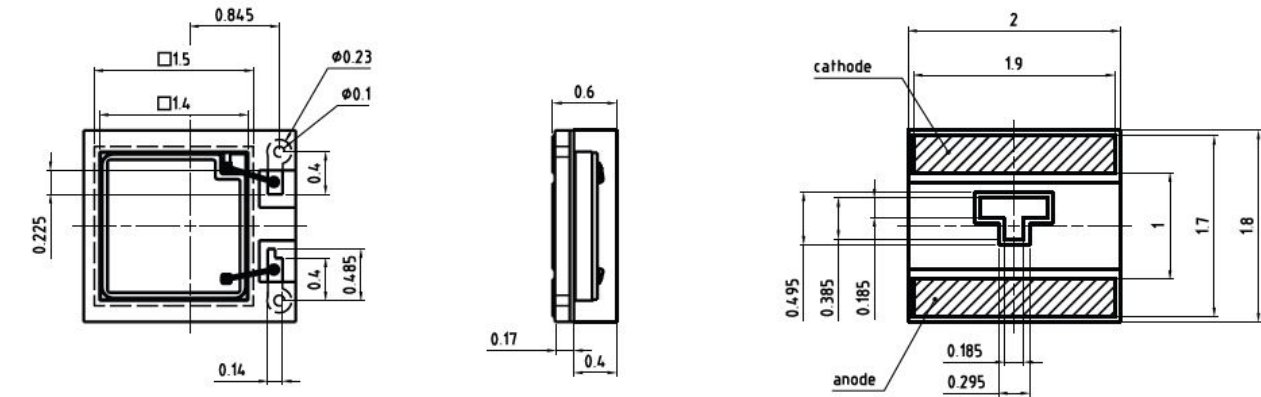
Project: e014_AWS AS7058 Sheet 2 of 3 1:1

Millimeters

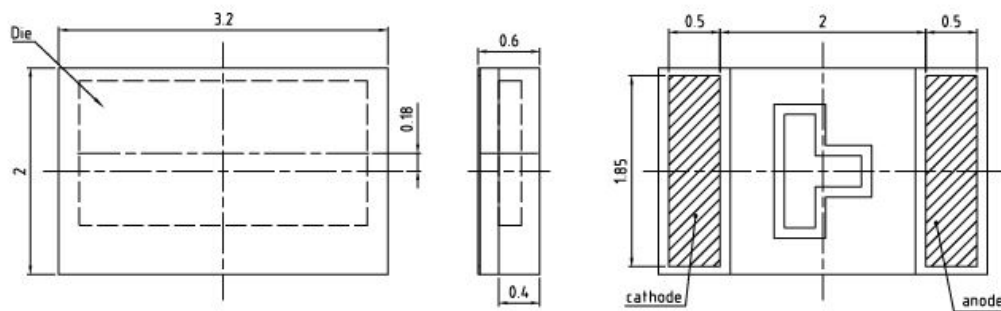
D5; D6:

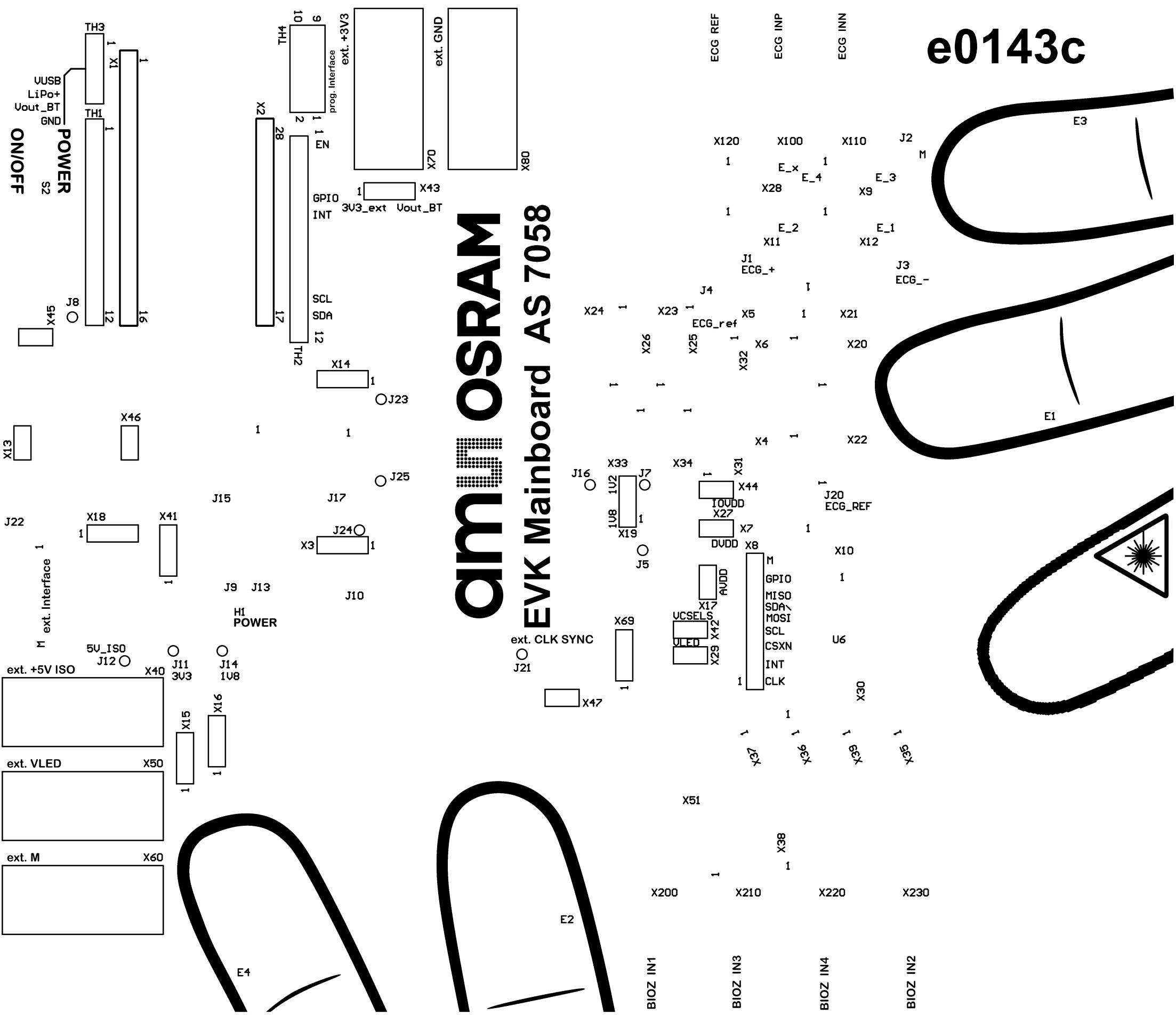


H6:

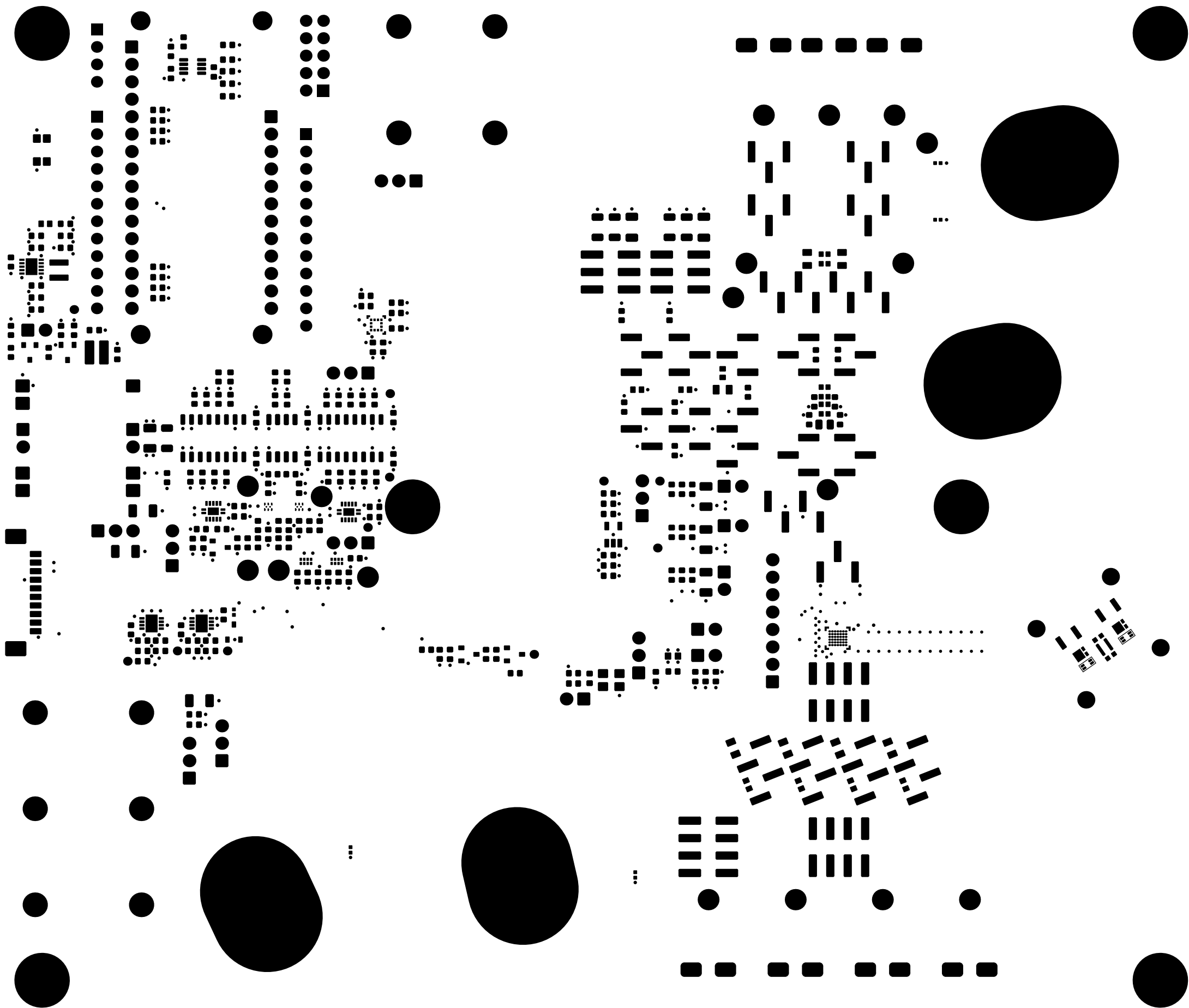


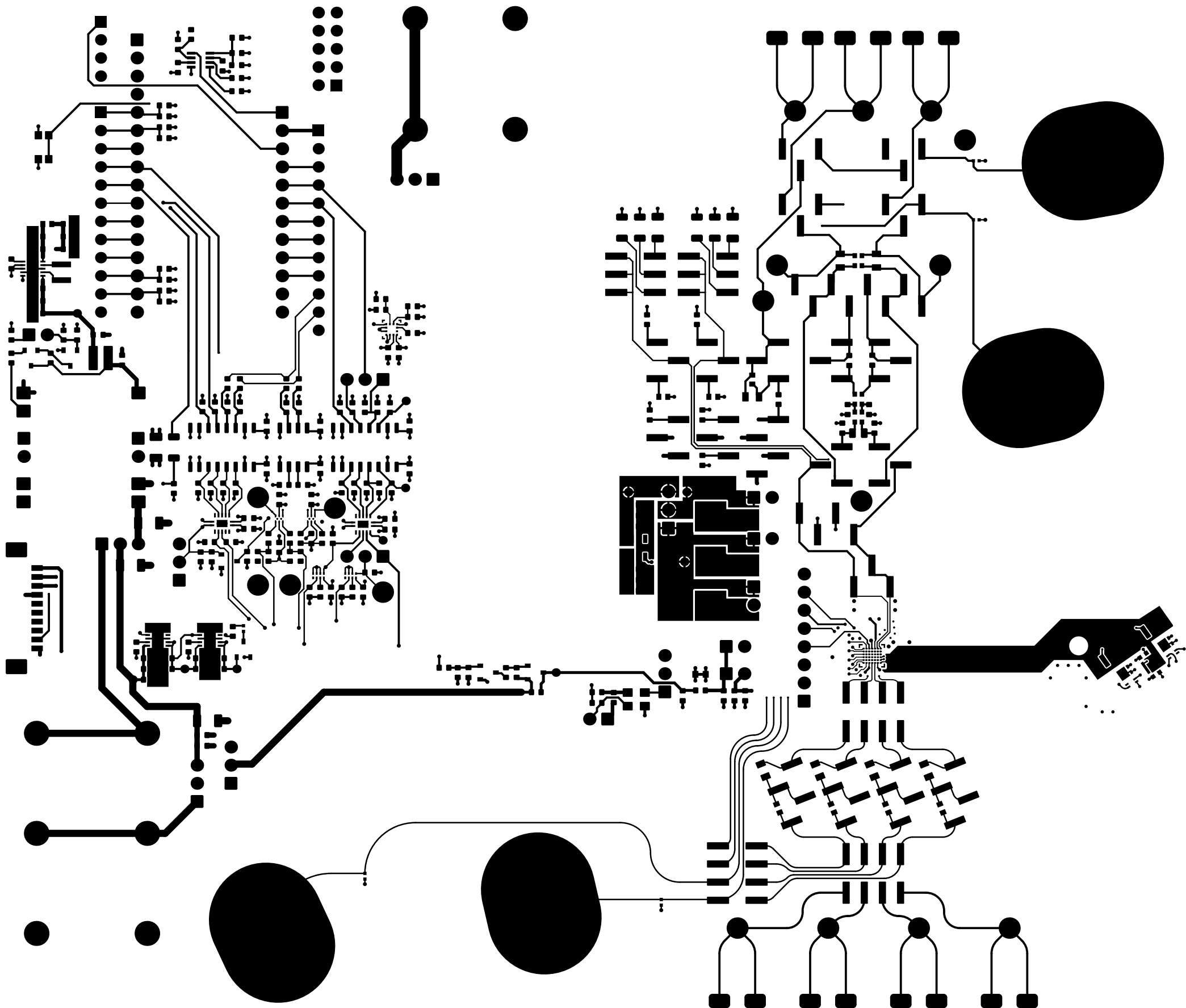
H4; H5:

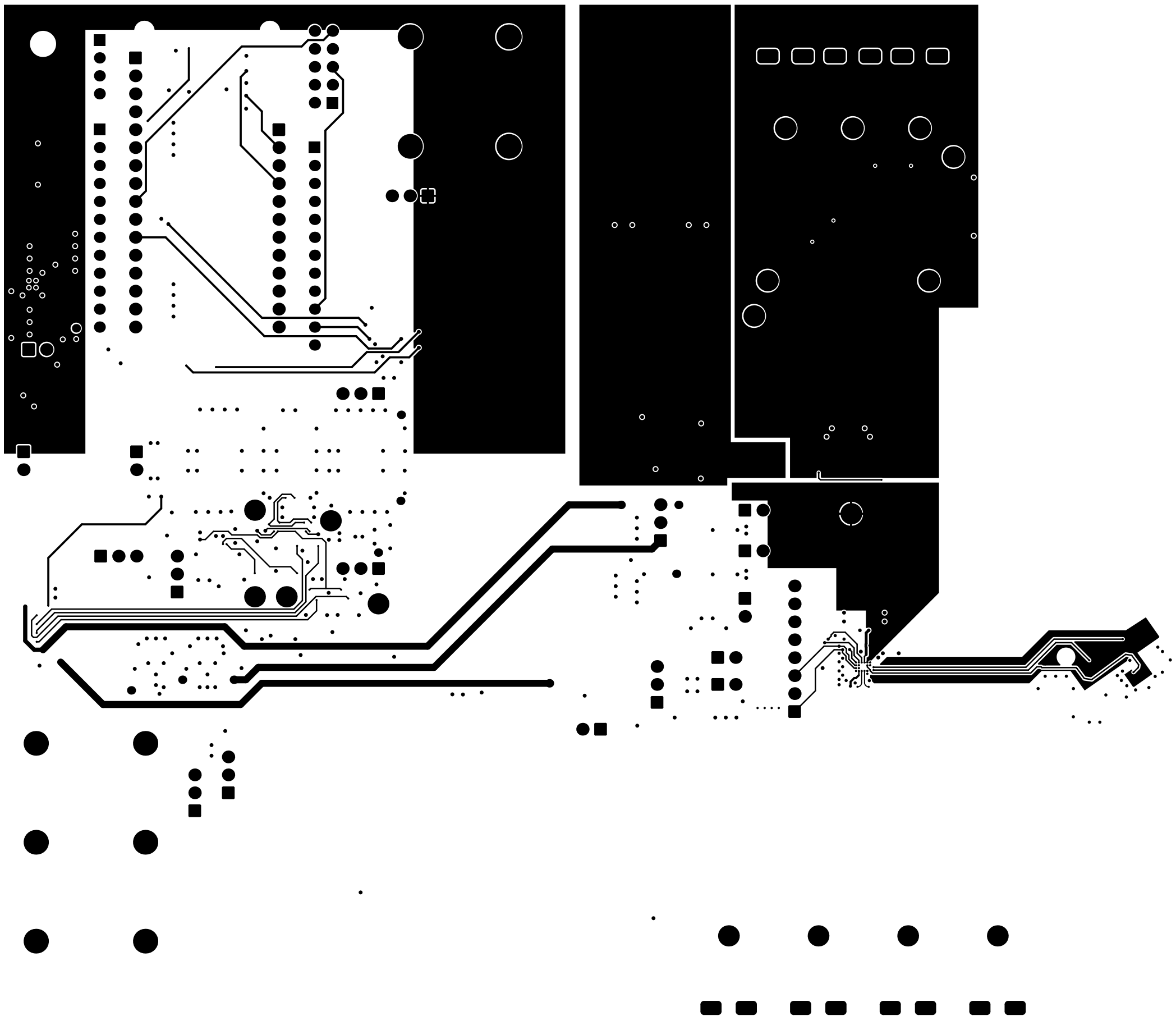


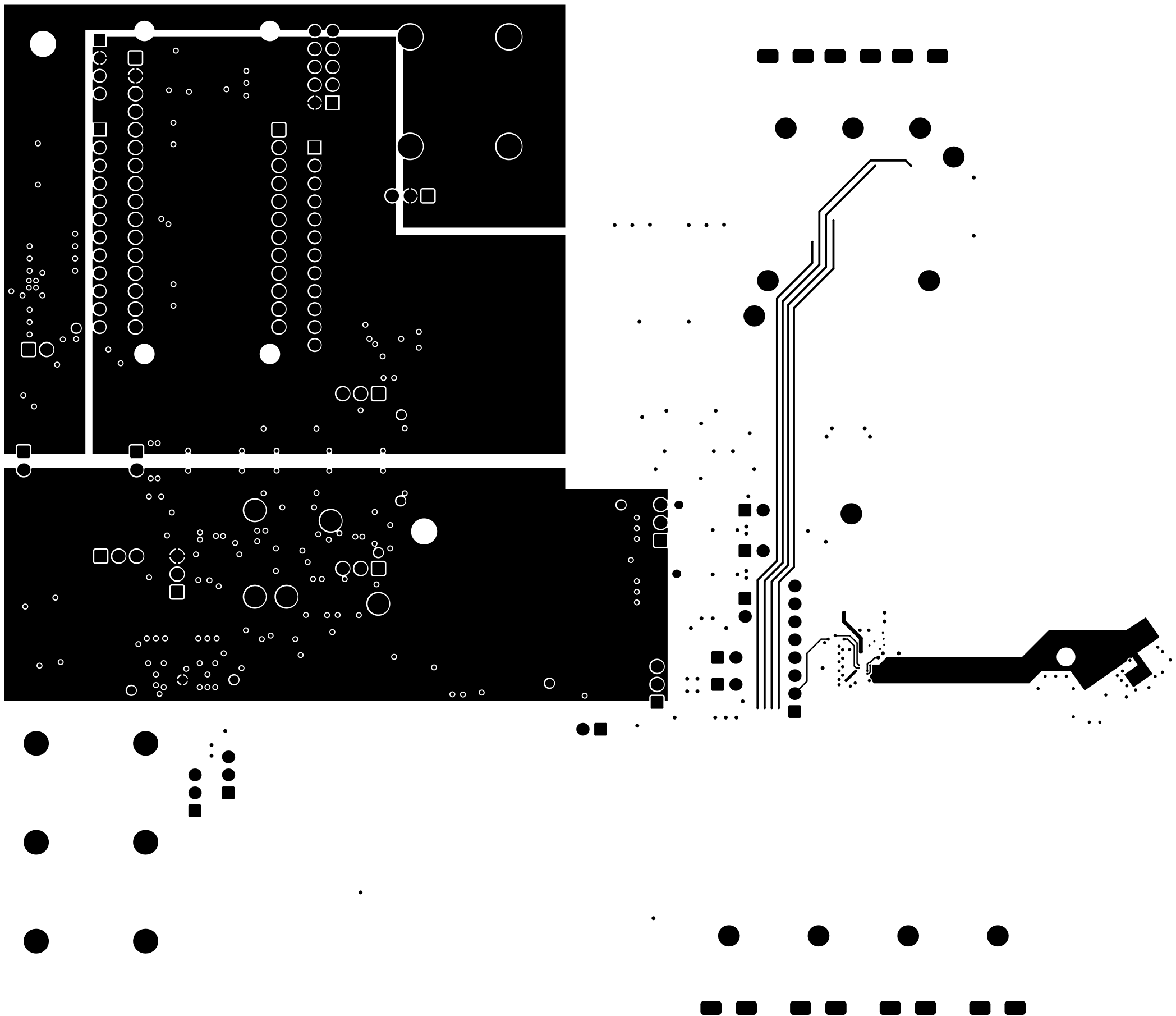


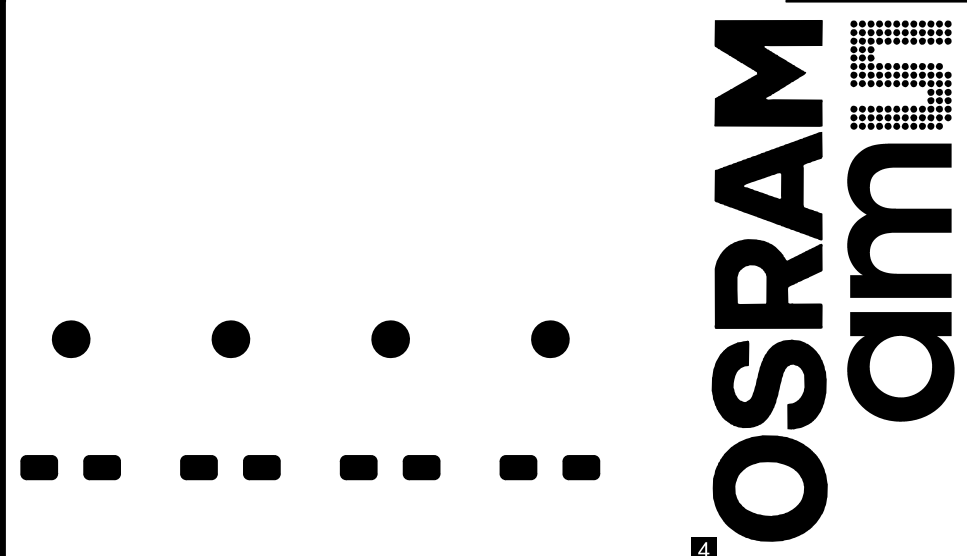
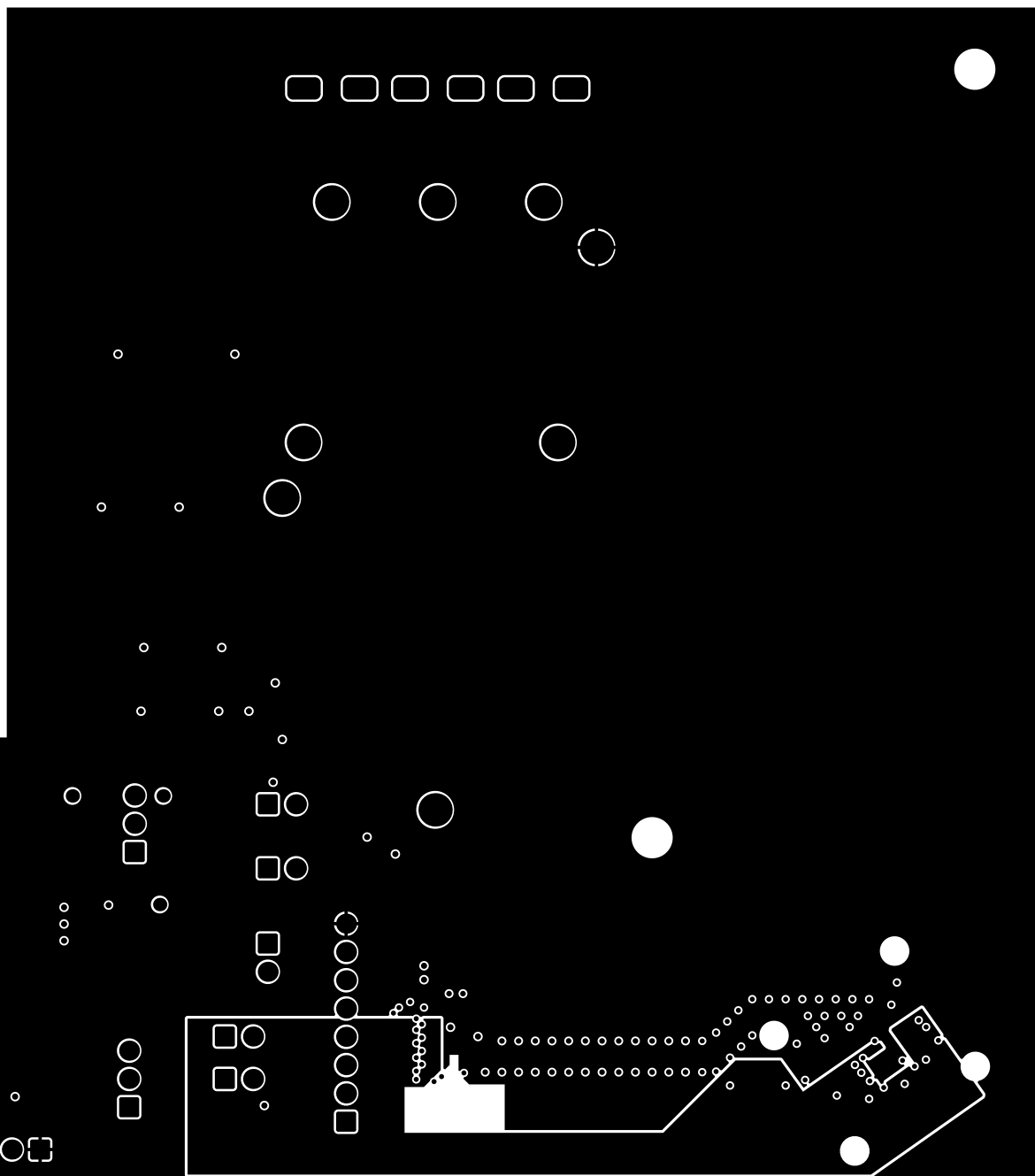
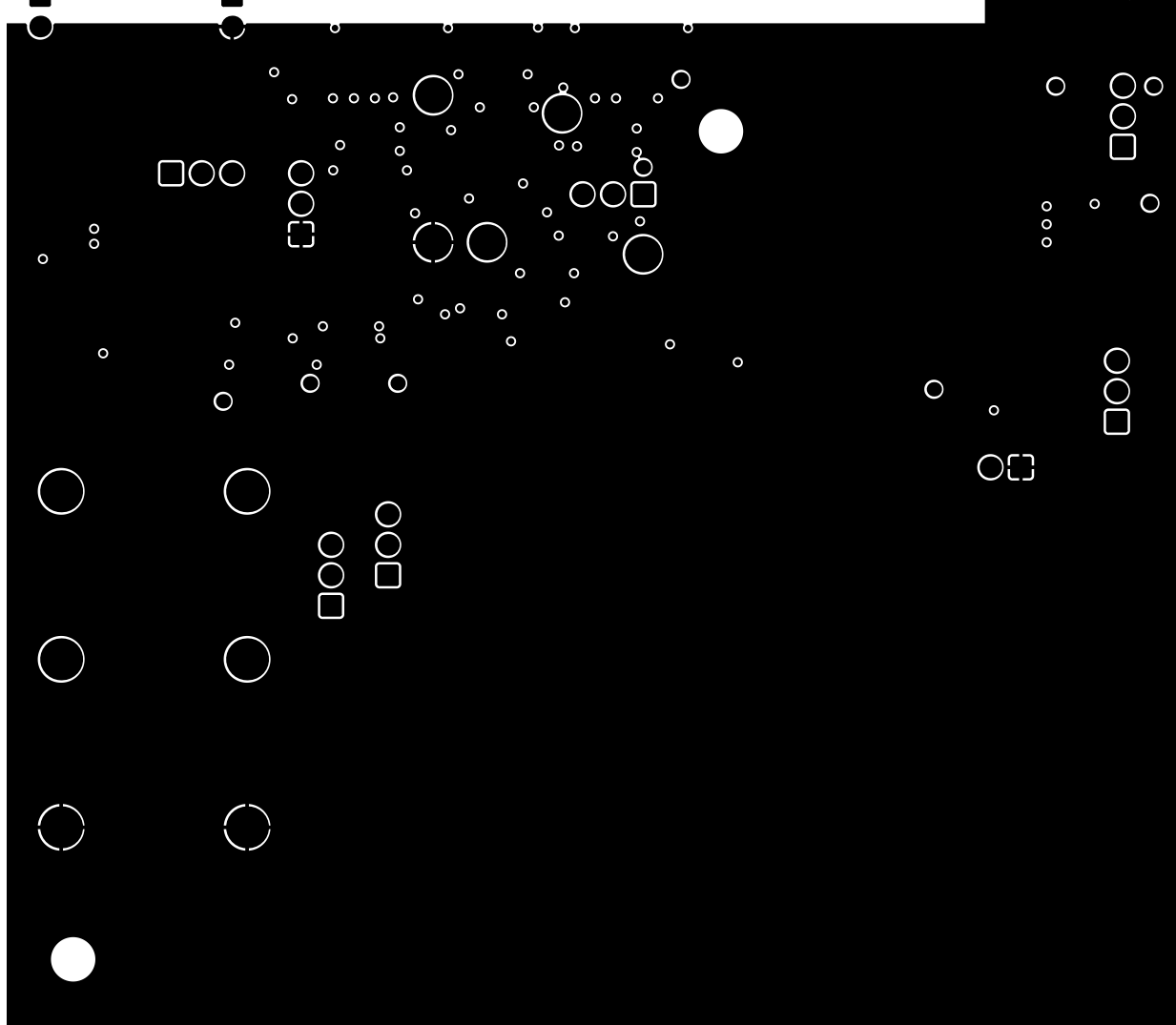
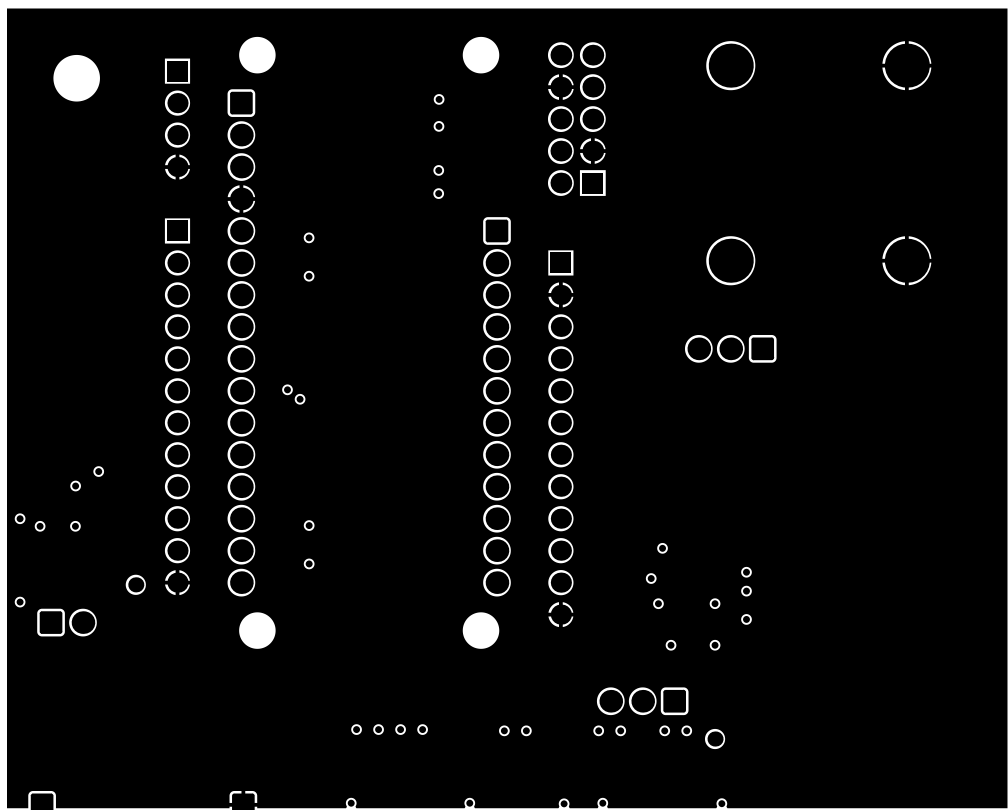


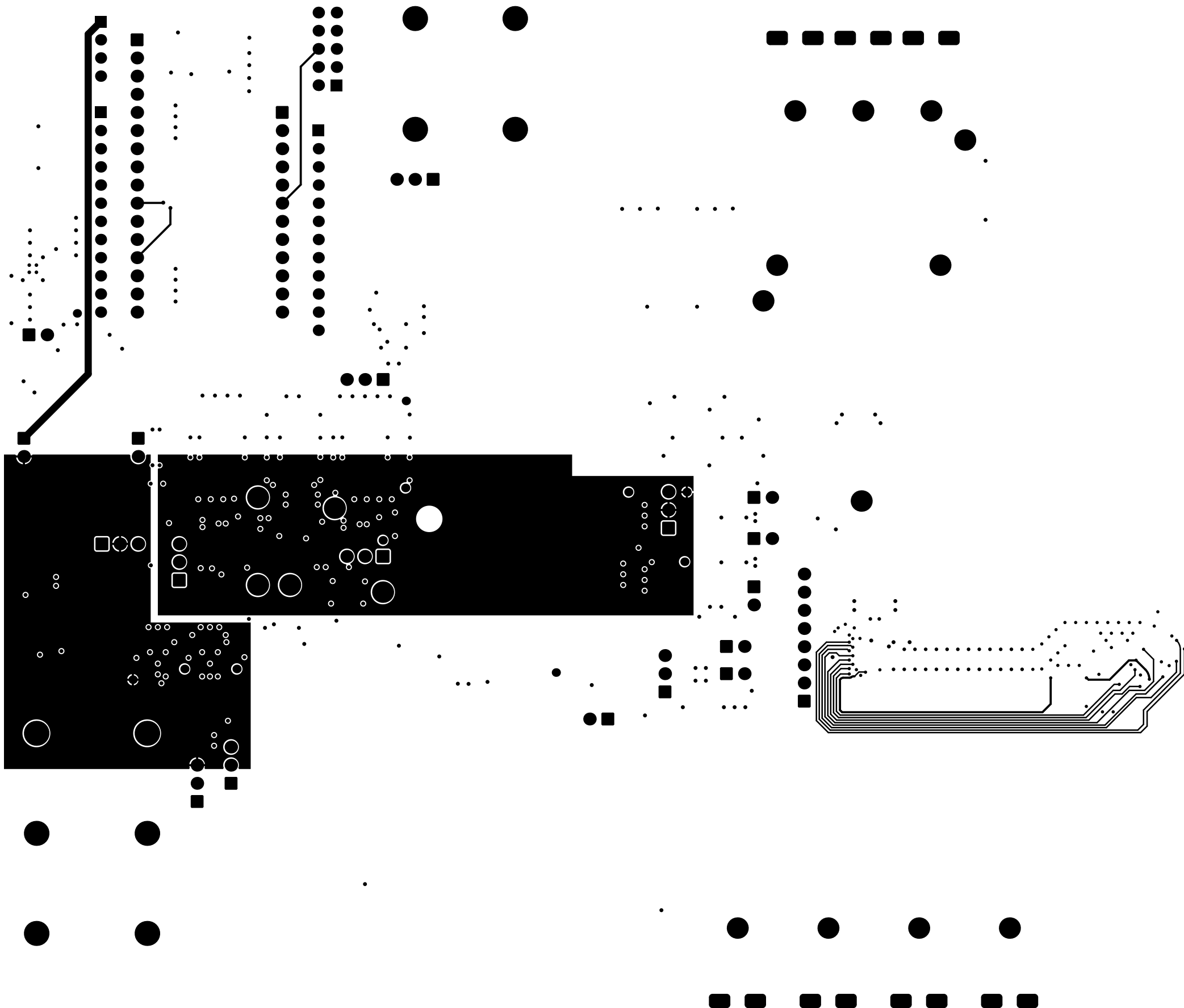


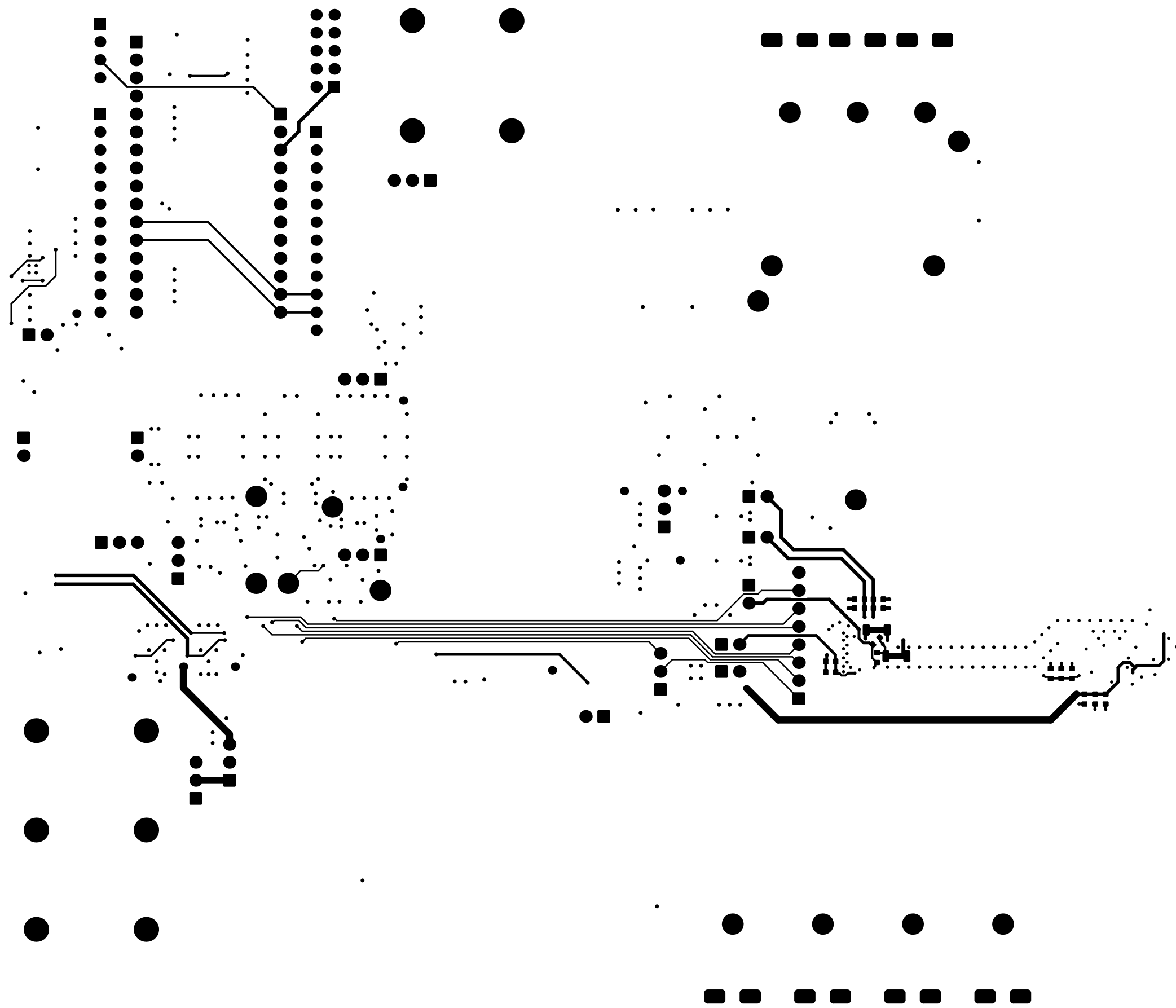


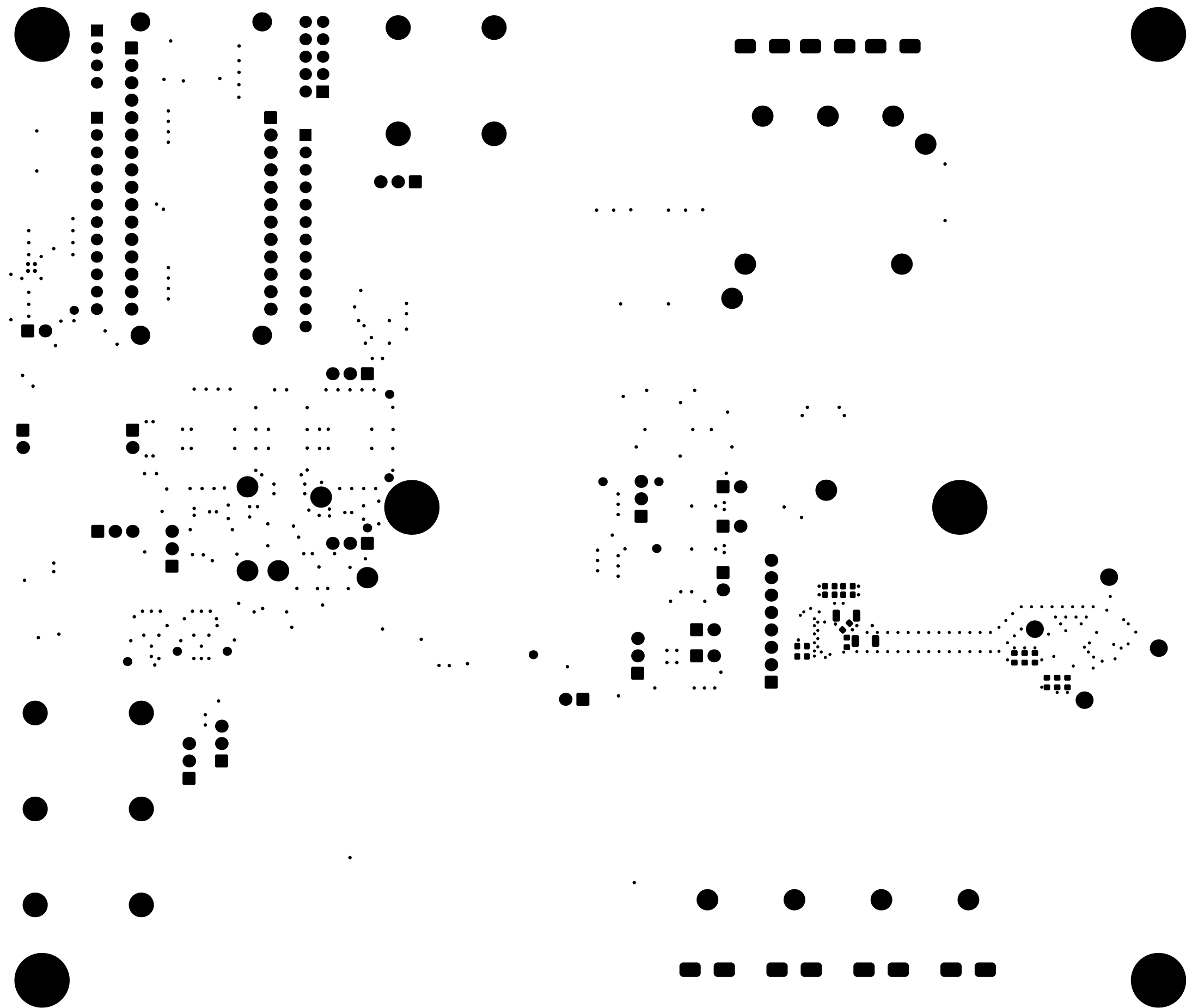


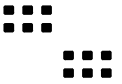
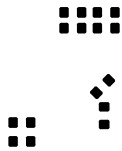












MARZO jun

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