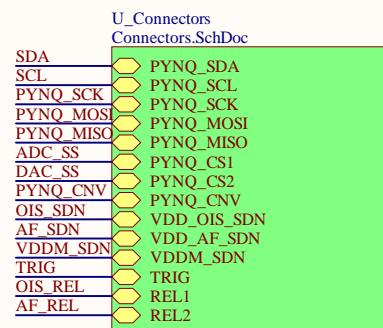
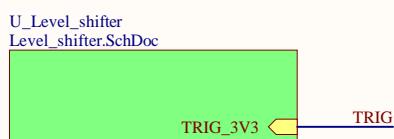
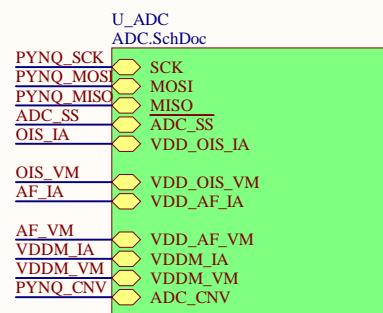
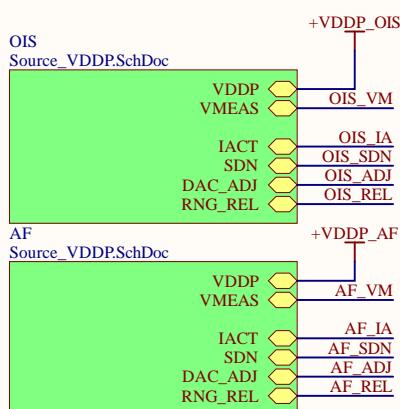


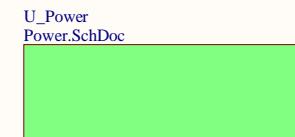
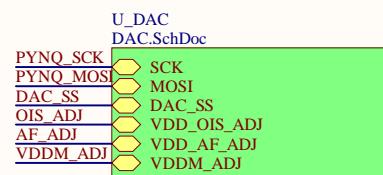
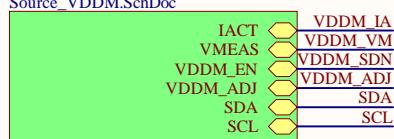
A



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C

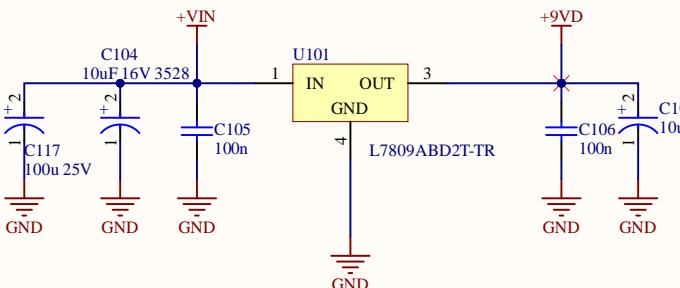


D

Title

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A 9V Regulator

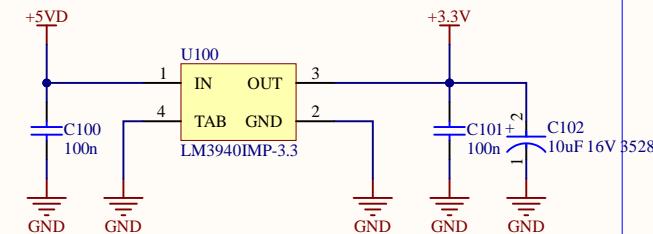


| BASIC CHARACTERISTICS | | |
|--|---|-----------------------------|
| Parameter | Condition | Min. Typ. Max. |
| Input Voltage Range | | Vout +3V 42VDC |
| Output Voltage Range | | 1.8VDC 15VDC |
| Minimum Load ⁽¹⁾ | | 0% - |
| Quiescent Current | | 1mA - |
| Internal Operating Frequency | | 280kHz 350kHz 420kHz |
| Output Ripple and Noise ⁽²⁾ | 20MHz BW Vin=24VDC Vout=1.8-15 full load | 75mVp-p 120mVp-p 30mVp-p |
| Max. Capacitive Load | with normal start-up time, no external components with <1 second start-up time + diode protection circuit | 470uF 6800uF |

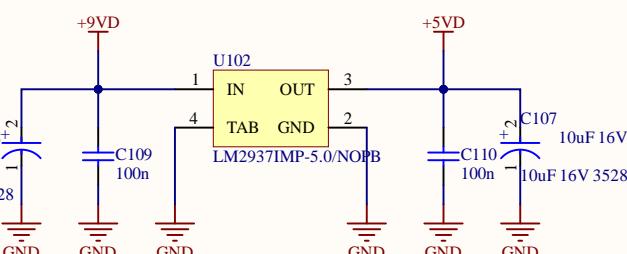
Notes:

- Note1: No load operation will not damage these devices, however they may not meet all specifications. A minimum load of 10mA is required.
- Note2: Measurements are made with a 10uF MLCC across output. (low ESR)

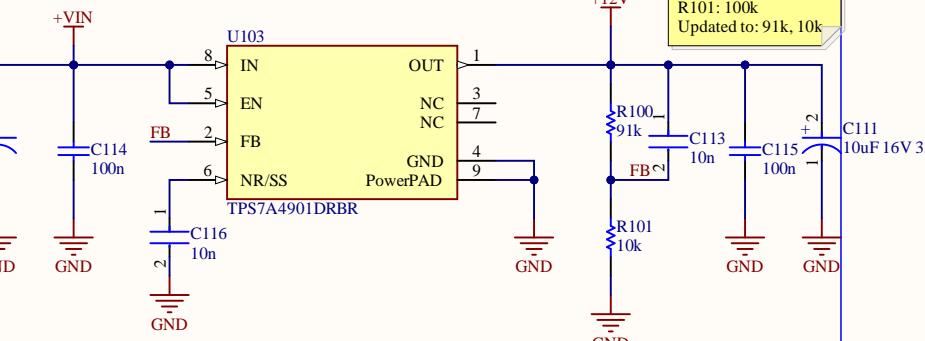
3.3V Regulator



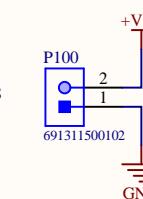
C 5V Regulator



D Instr. Amp. Supply



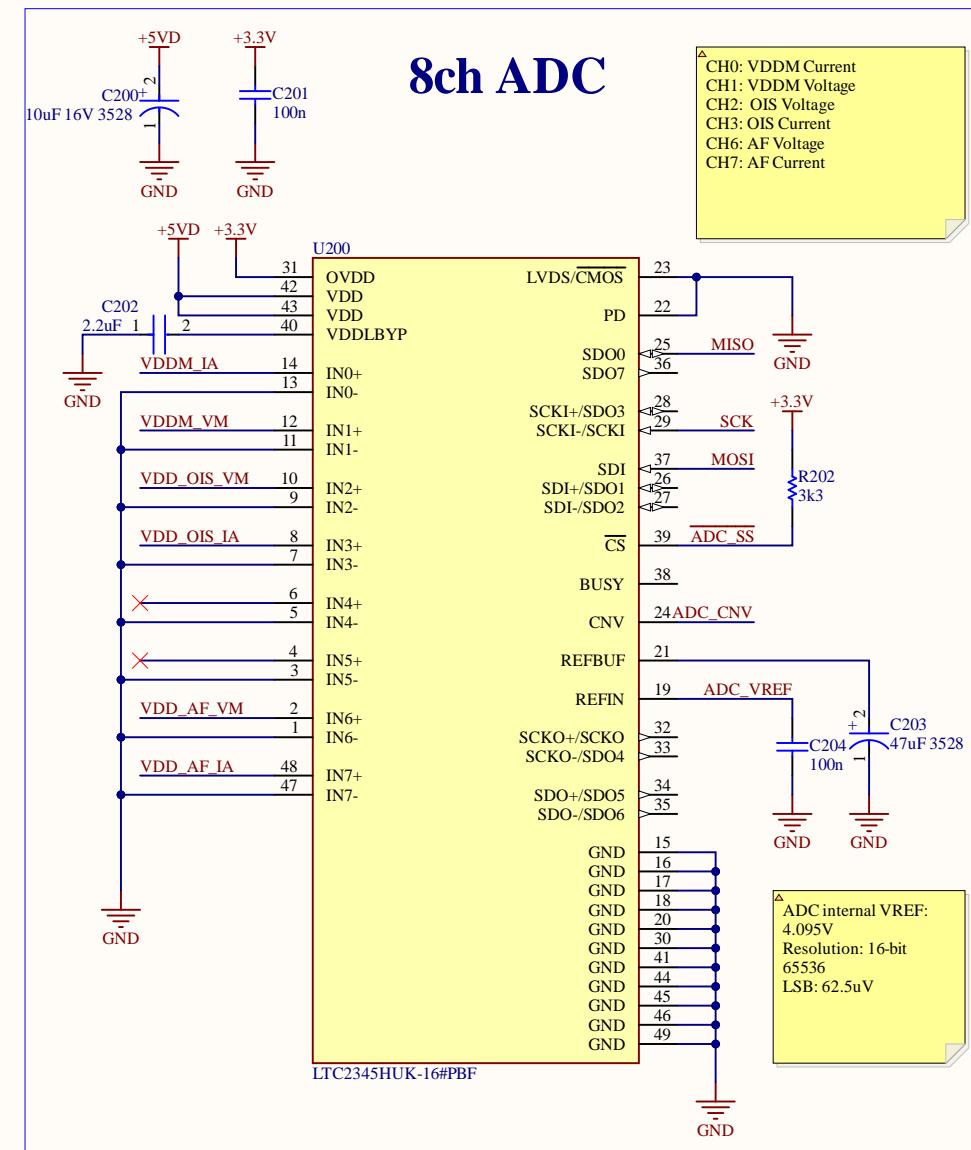
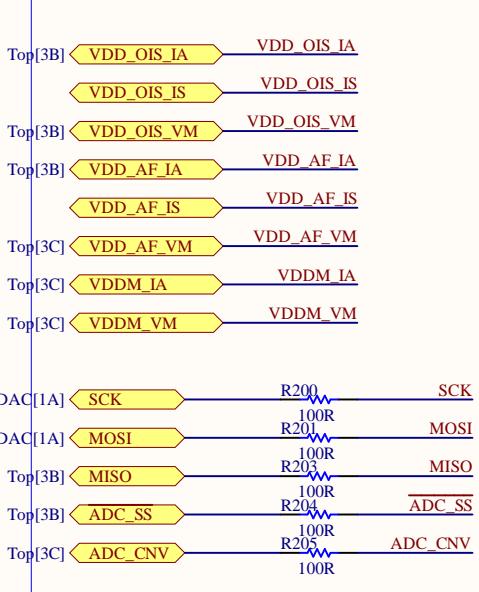
D VIN Connector



Title

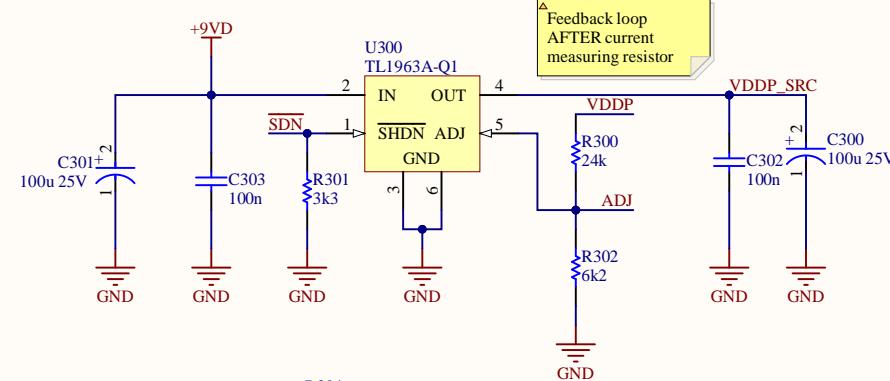
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| File: | C:\Users...\Power.SchDoc | Drawn By: |

Ports



| Title | | |
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| Size | Number | Revision |
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| Date: 9/19/2023 | Sheet of | |
| File: C:\Users\...\ADC.SchDoc | | Drawn By: |

Variable Voltage Source

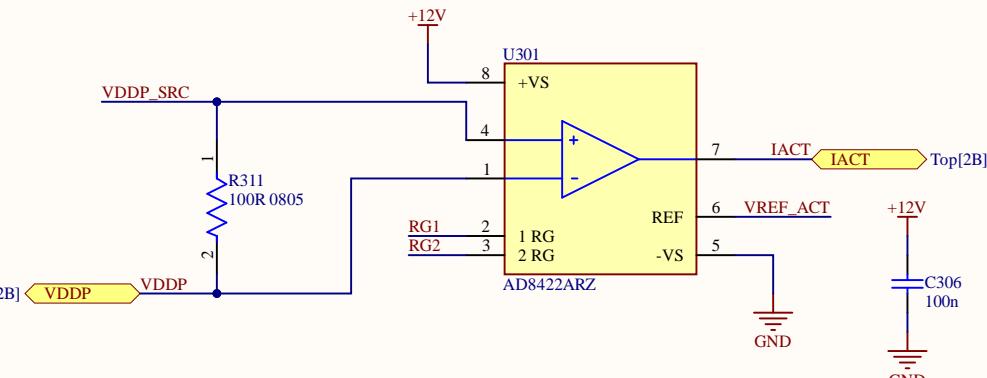


Feedback loop
AFTER current measuring resistor

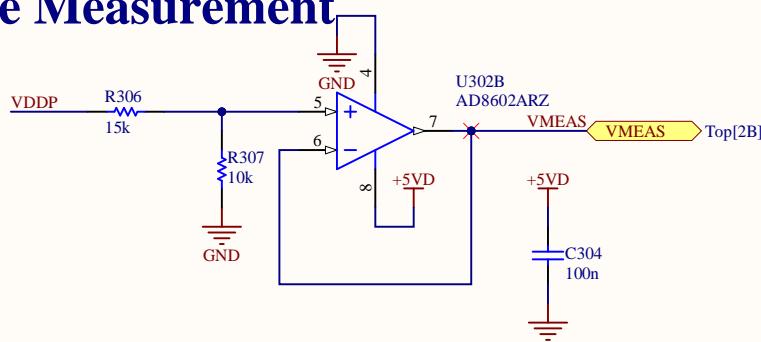
△ Switching current range
100R nominally
0.2R with relay active

△ Active gain: 10
Resistor value:
2.2k for 10 gain

Current Measurement

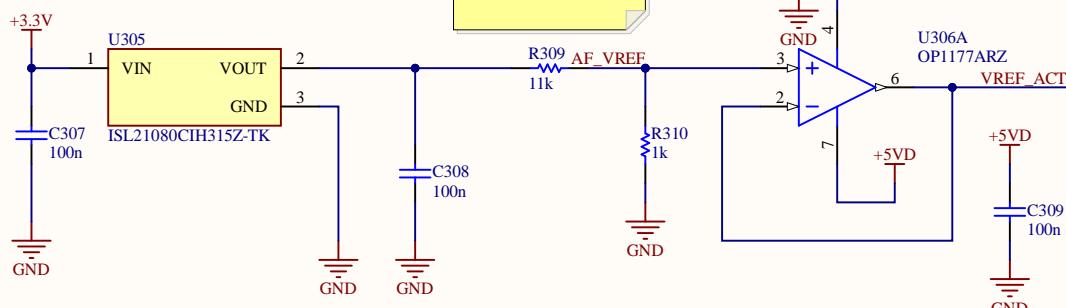


Voltage Measurement



△ Change measurement resistor connection : one resistor
should be in circuit at all time
(100R)

Reference Voltage



△ VREF value:
 $1.5V \times 1k/(1k+12k) = 125mV$

△ Static gain: ~3
Resistor: 10k
High precision ERA3ARB
series resistor

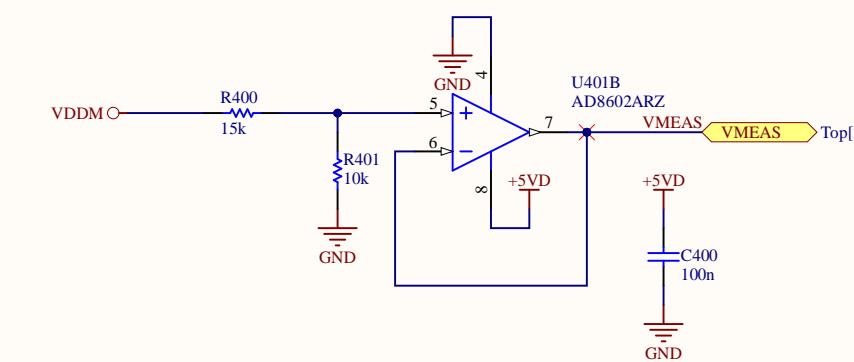
The transfer function of the AD8422 is

$$V_{OUT} = G \times (V_{IN+} - V_{IN-}) + V_{REF}$$
where:

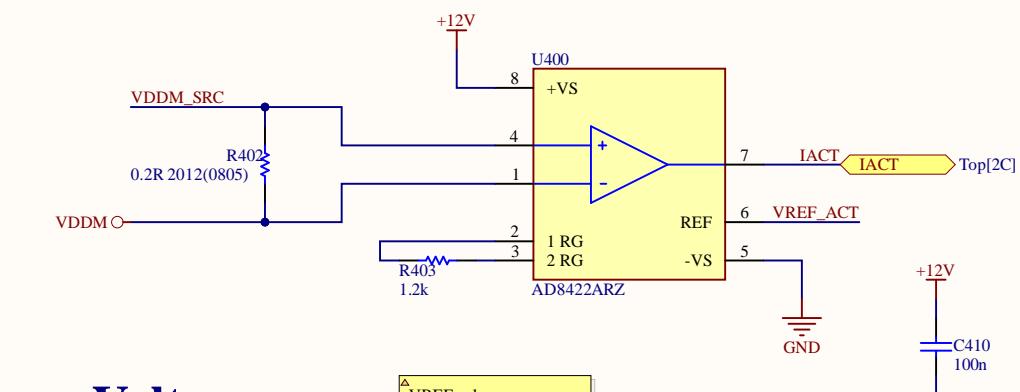
$$G = 1 + \frac{19.8k\Omega}{R_G}$$

| Title | | |
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| Size | Number | Revision |
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| Date: | 9/19/2023 | Sheet of |
| File: | C:\Users...\Source_VDDP.SchDoc | Drawn By: |

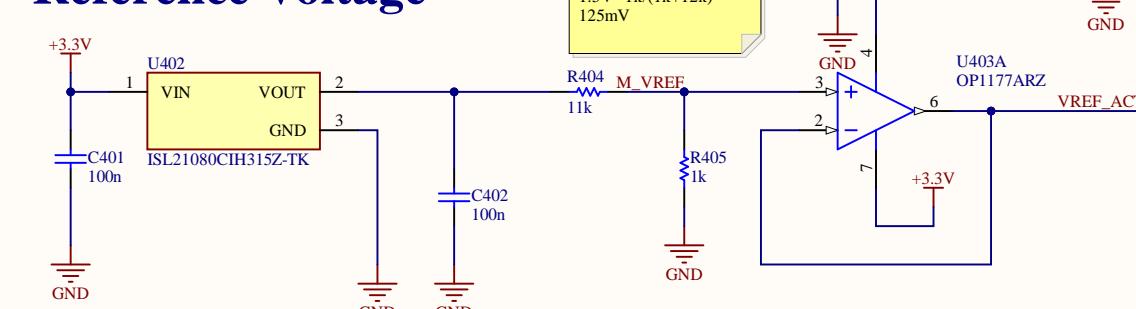
Voltage measurement



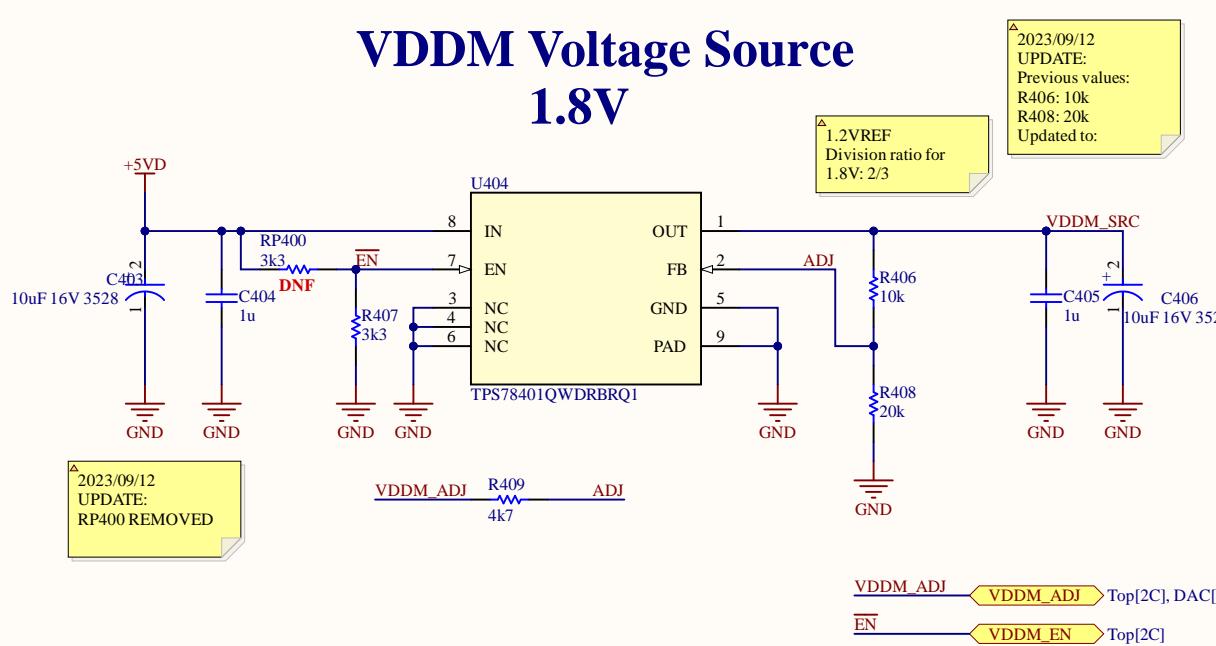
Active current measurement



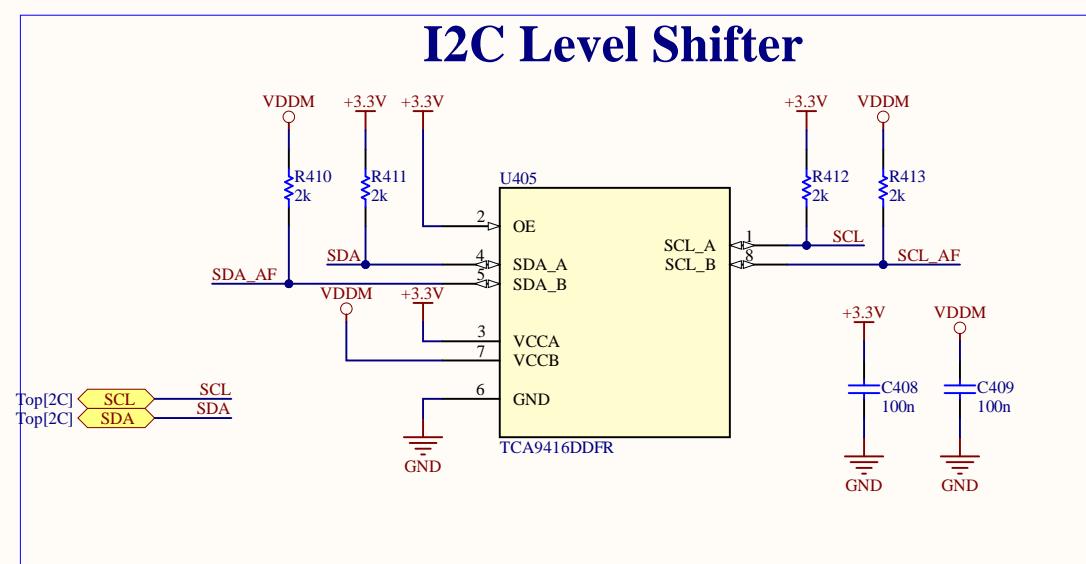
Reference Voltage



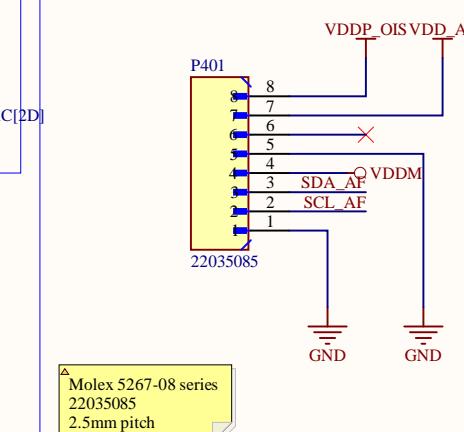
VDDM Voltage Source 1.8V



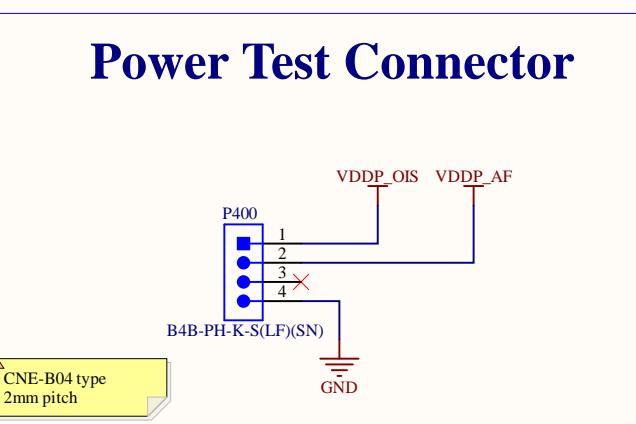
I2C Level Shifter



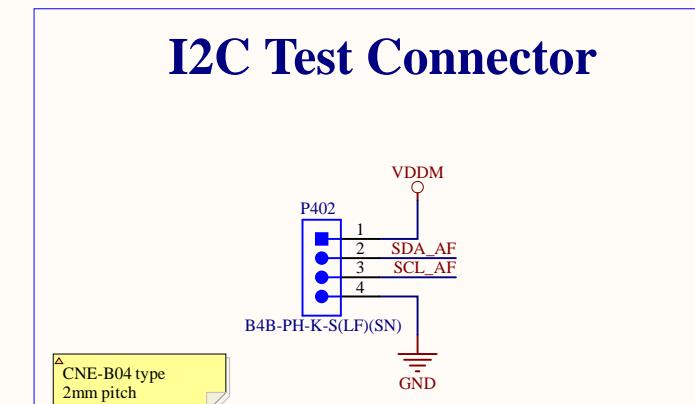
Device connector



Power Test Connector

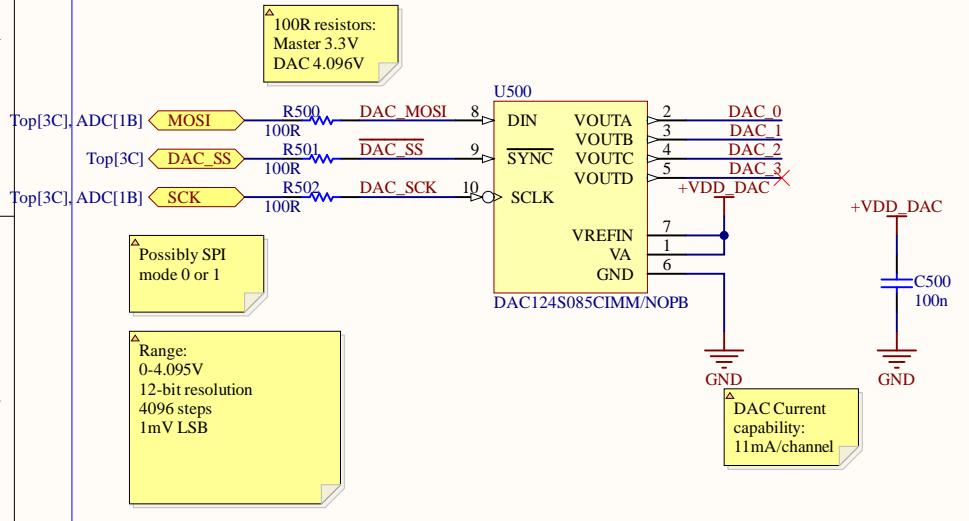


I2C Test Connector

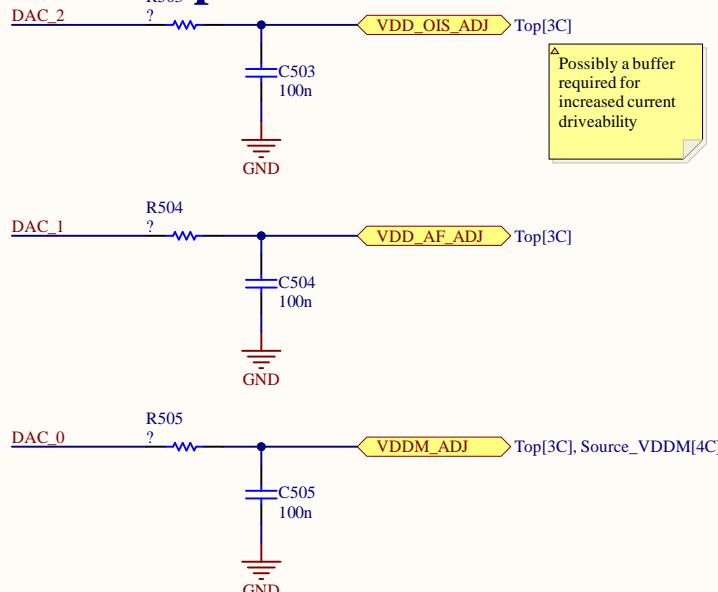


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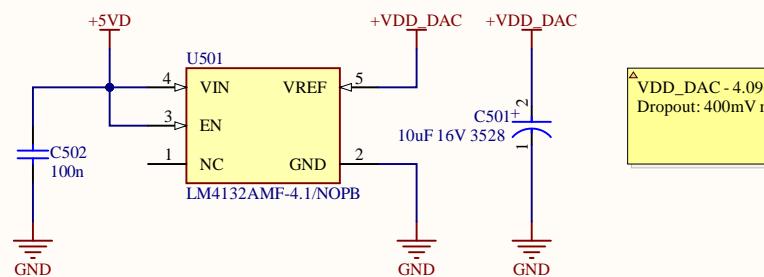
DAC



Output filters



DAC Supply



Title

Size

A4

Number

Revision

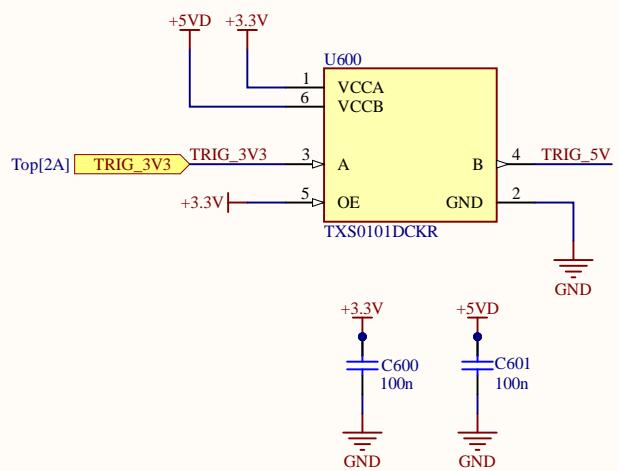
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File: C:\Users\...\DAC.SchDoc

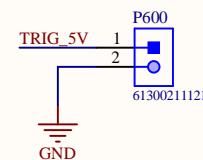
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Level Shifter

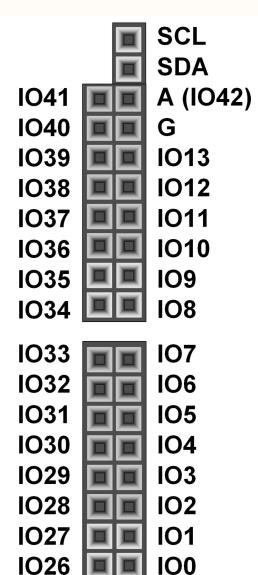
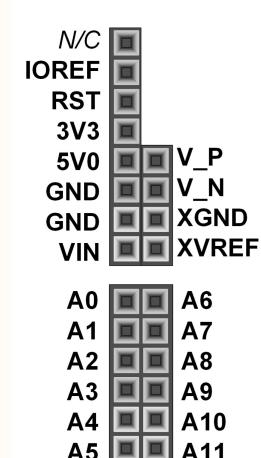
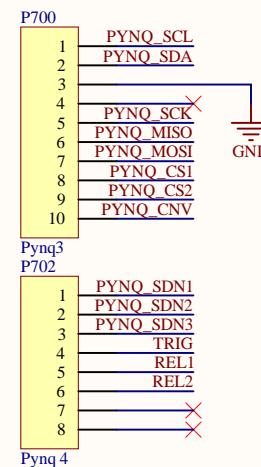
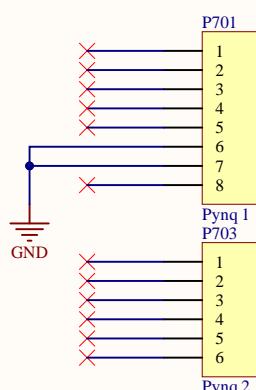
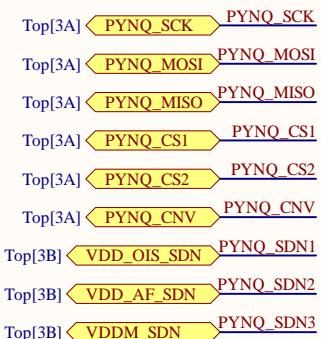
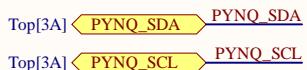
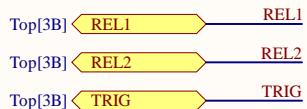


Advantec (PCIe Card) Connector



| Title | | | |
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| Date: | 9/19/2023 | Sheet of |
| File: | C:\Users\...\Connectors.SchDoc | Drawn By: |

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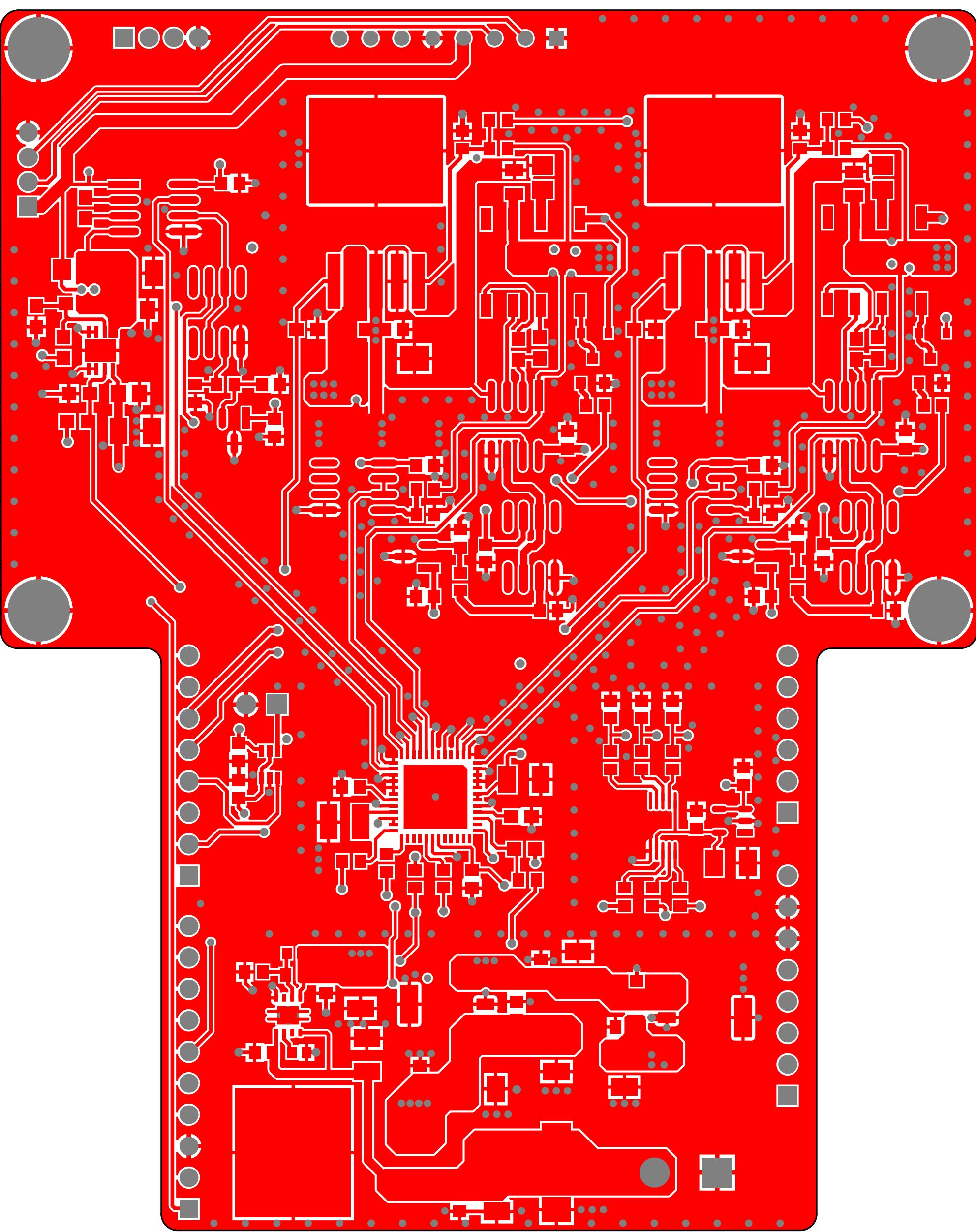
**M.G.
REV 2.0
2023**

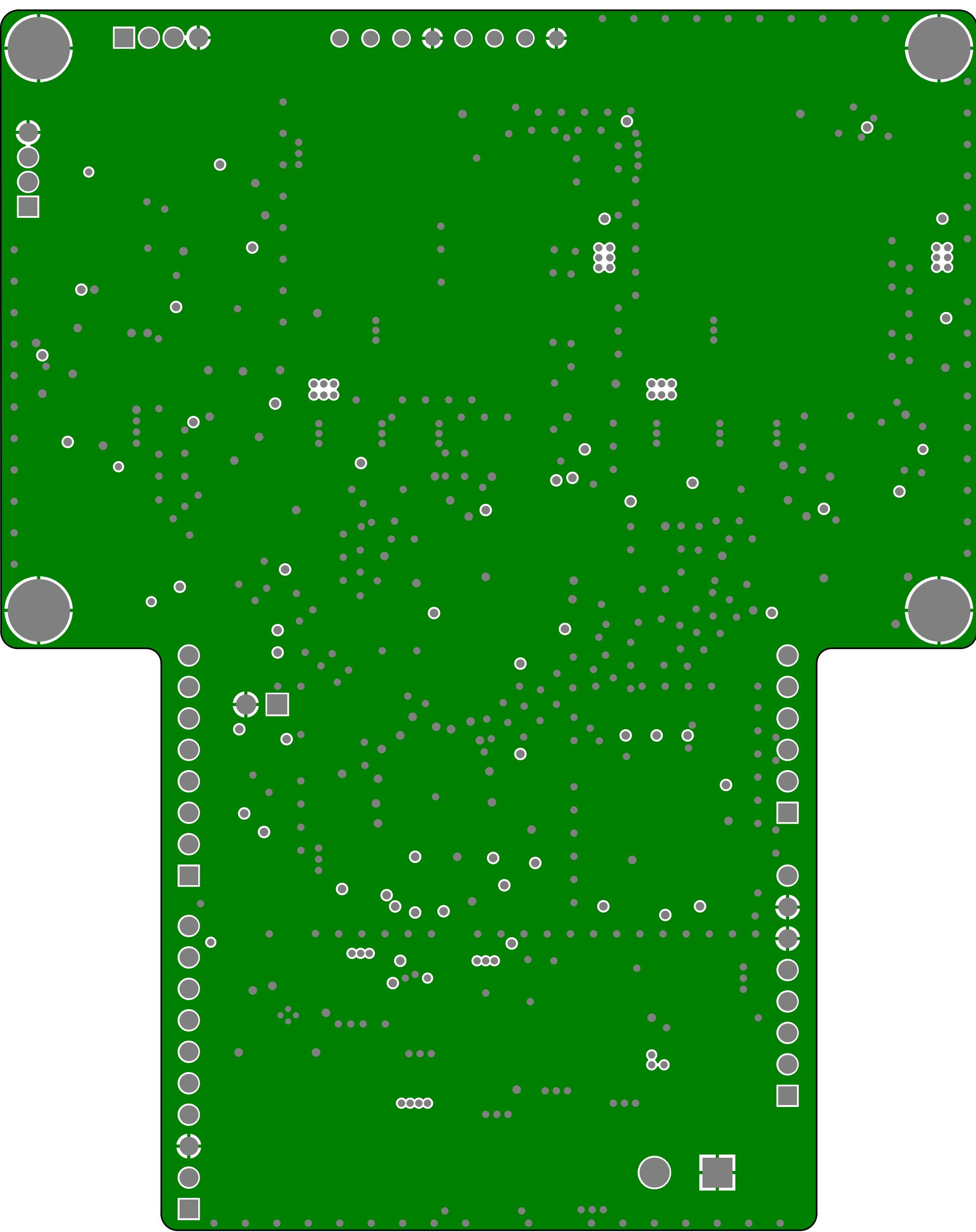
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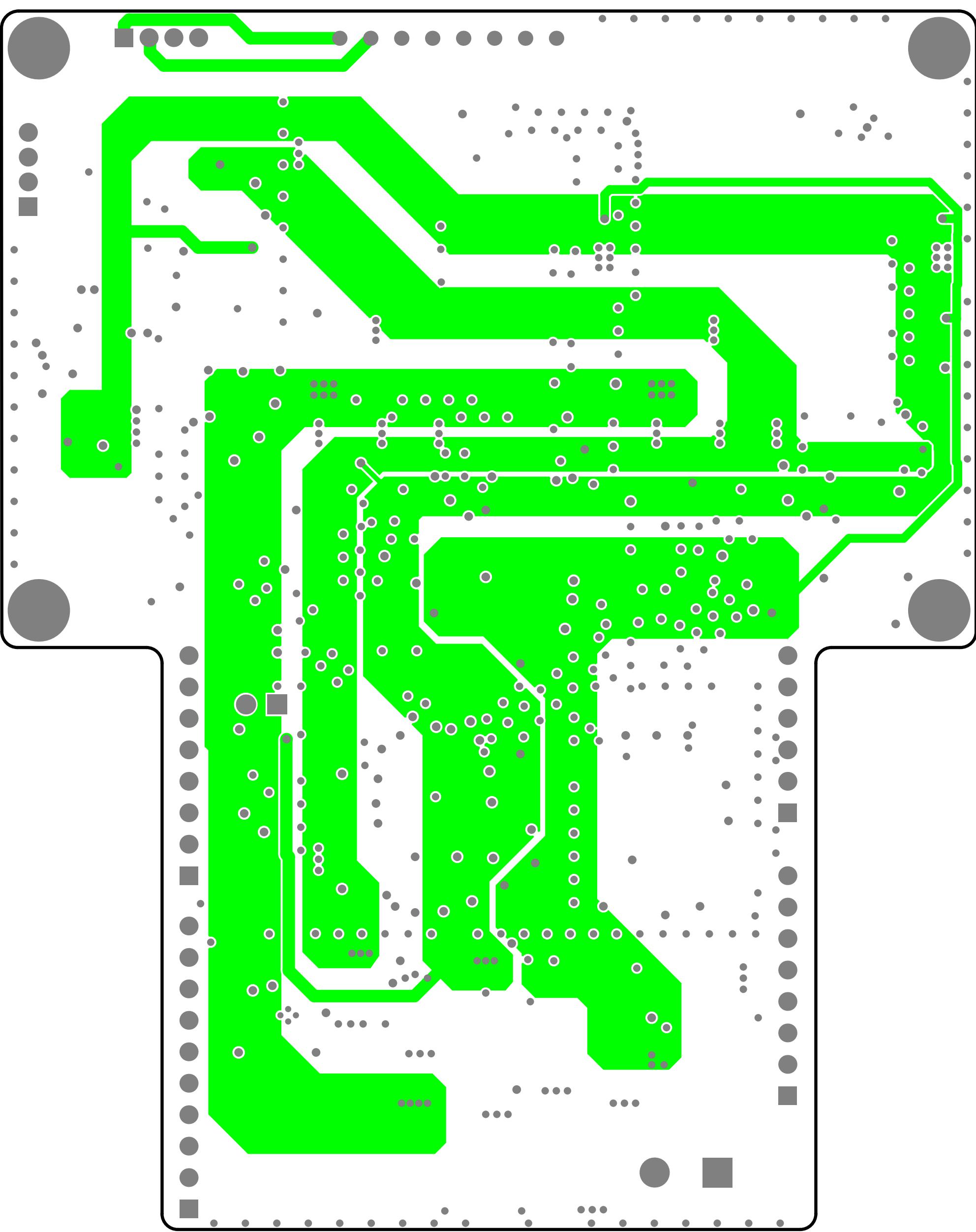
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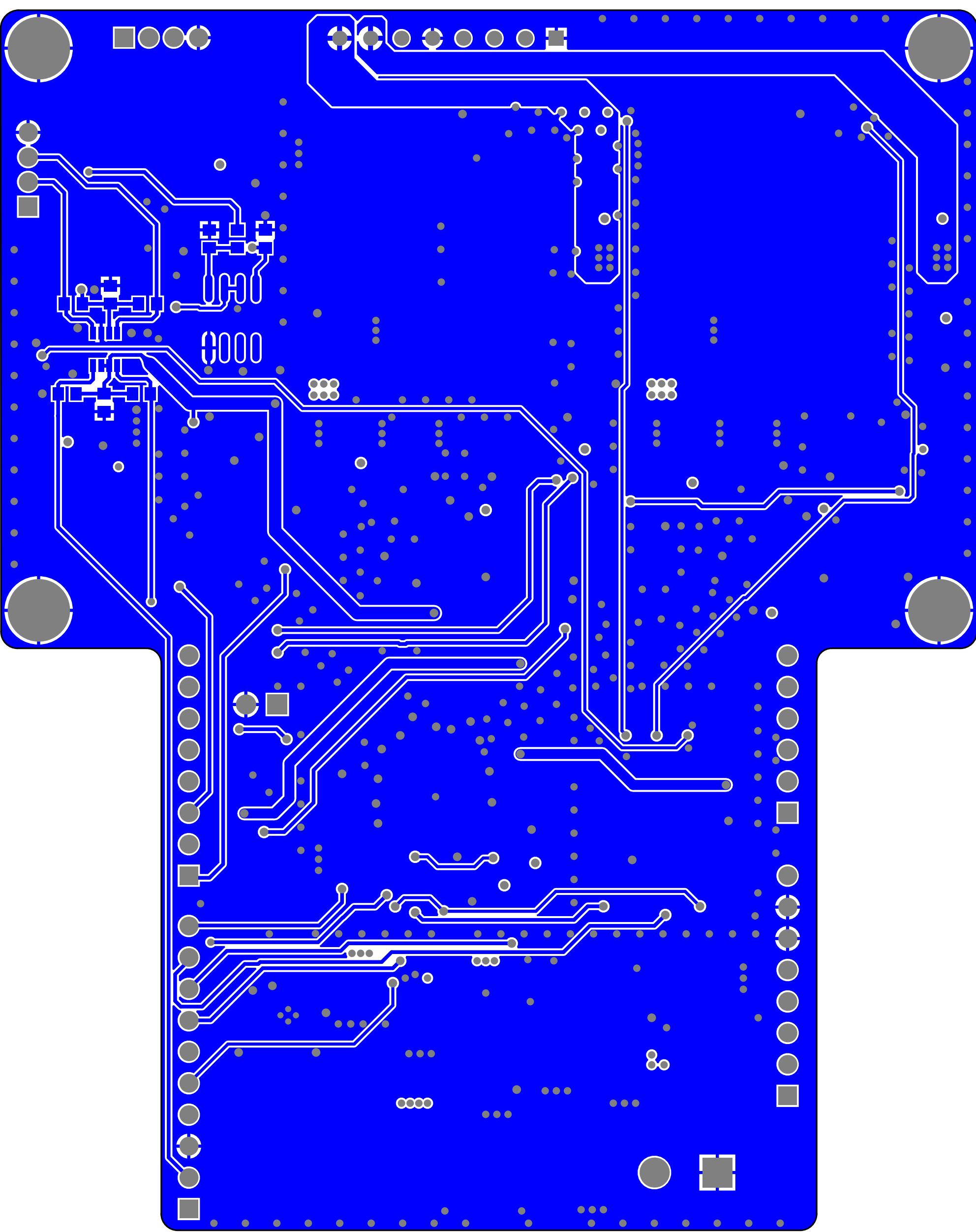
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PWR P100









M.G.
REV 2.0
2023

