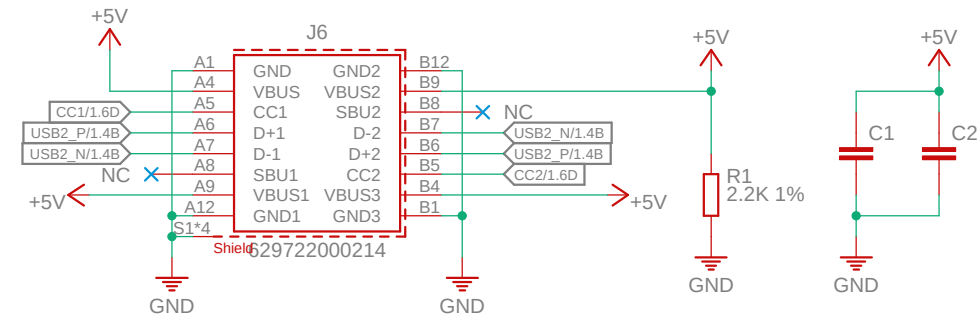
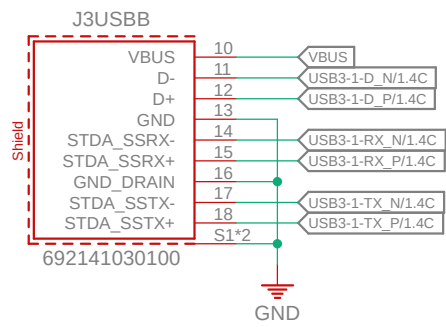
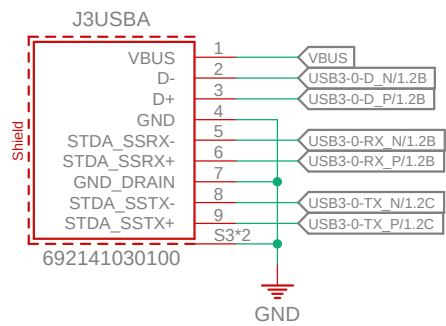


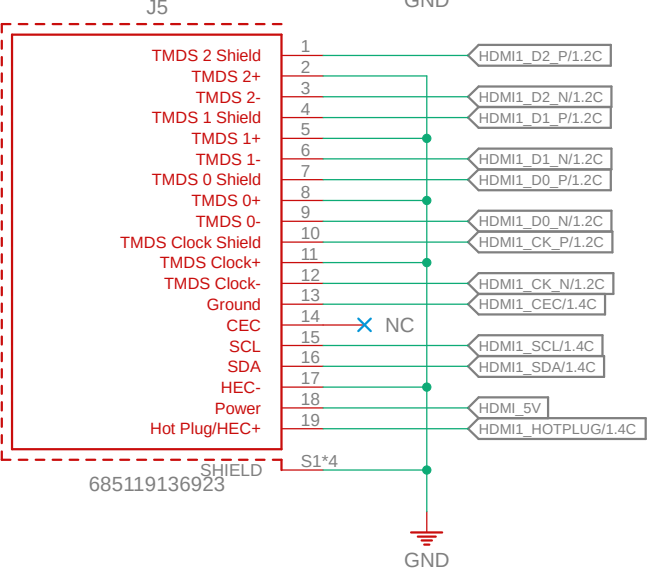
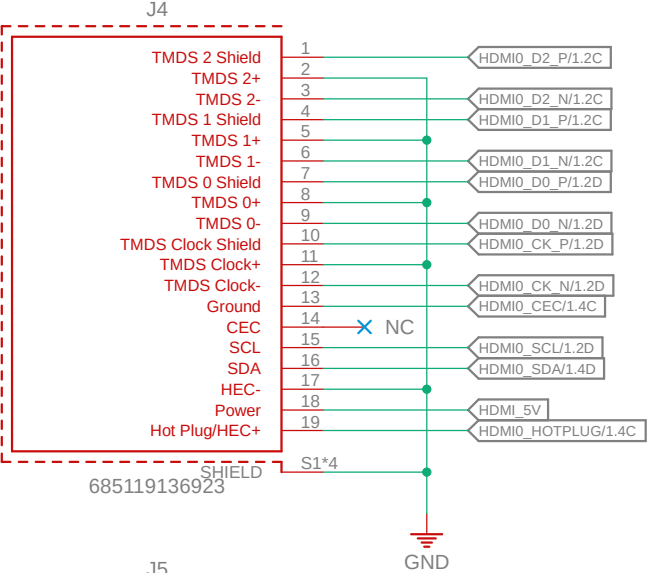
USB-C POWER CONNECTOR



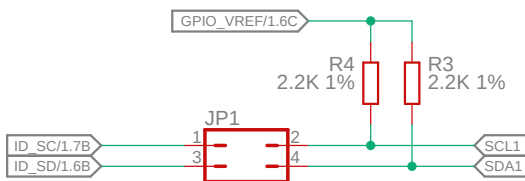
USB3 CONNECTORS



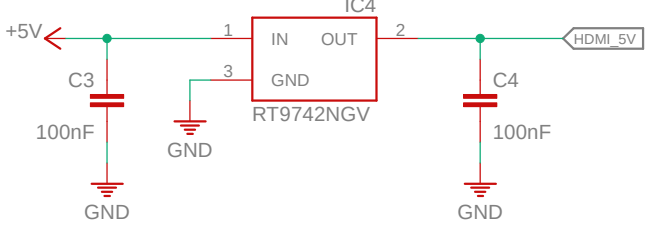
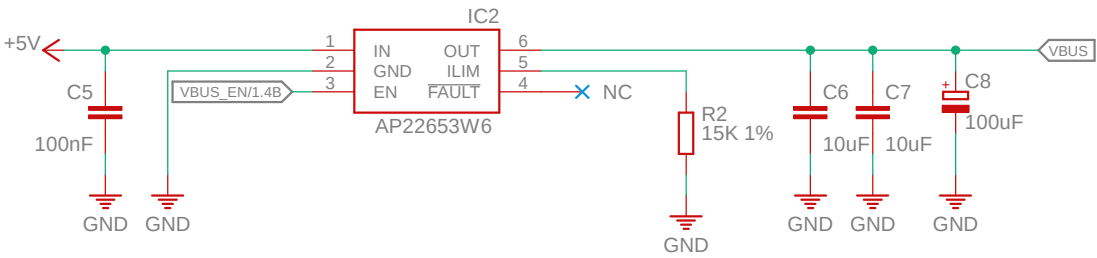
DUAL-HDMI CONNECTOR



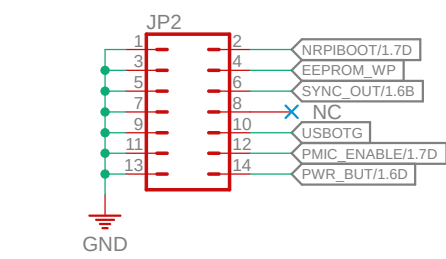
DPHY1 JUMPERS



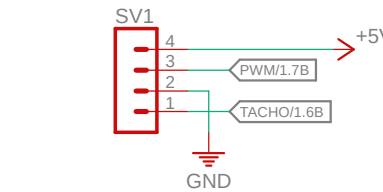
CURRENT LIMIT SWITCH



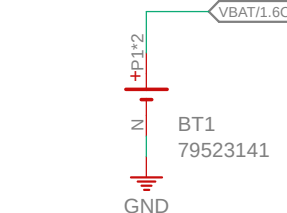
JUMPERS



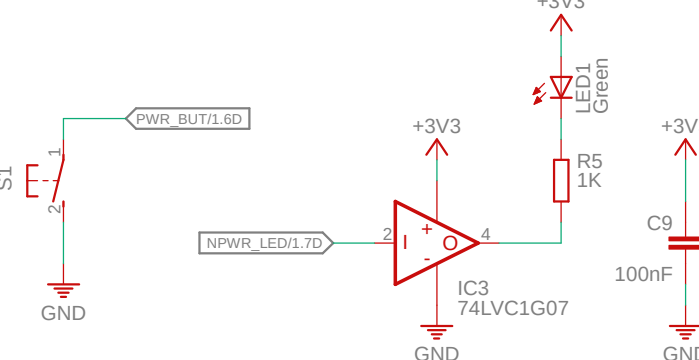
FAN CONNECTOR



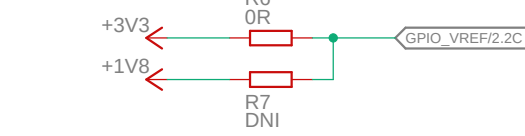
RTC BATTERY



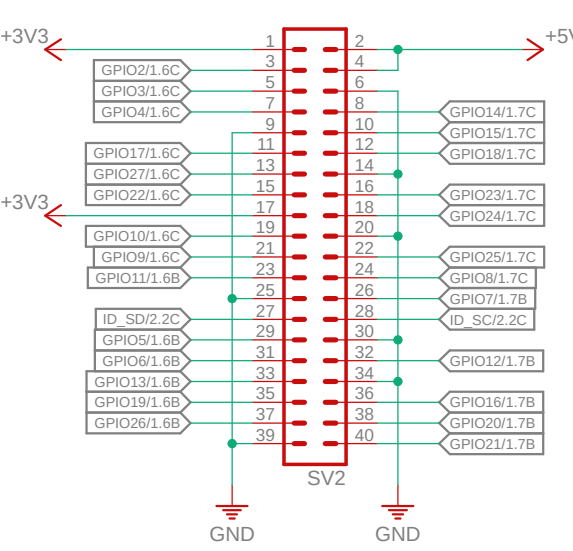
POWER BUTTON AND LED



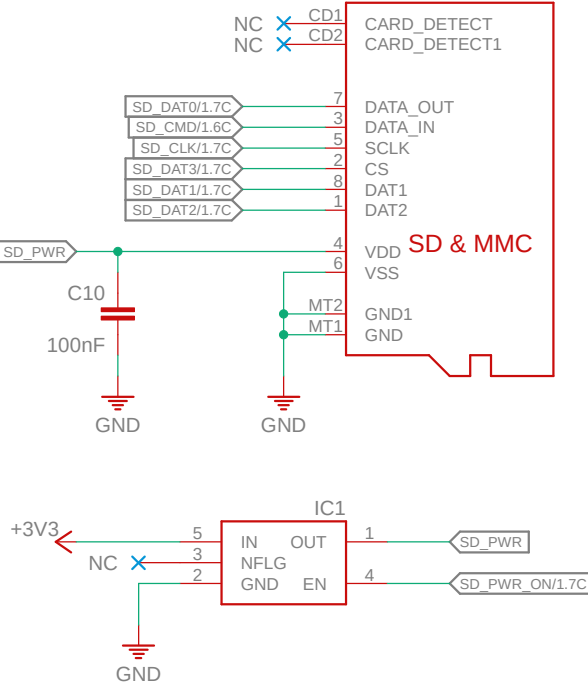
GPIO VOLTAGE SELECT



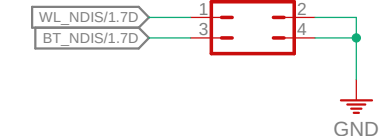
40-PIN GPIO HEADER



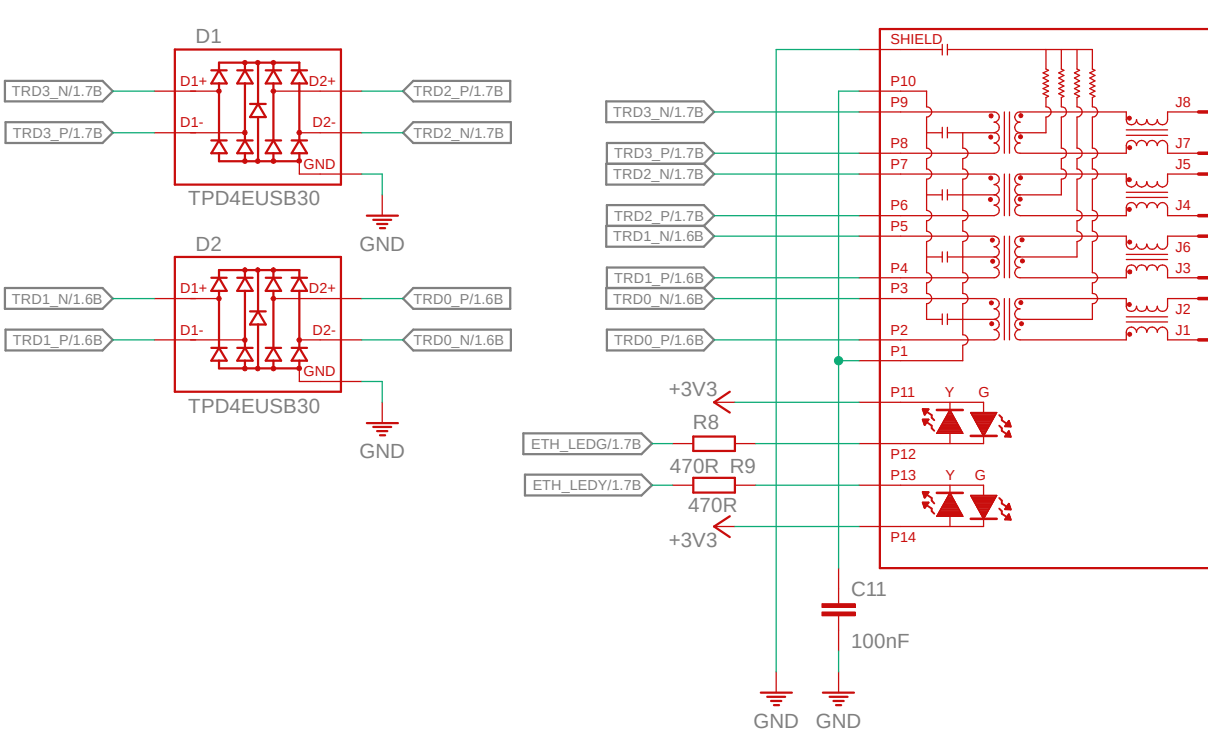
MICRO-SD SOCKET



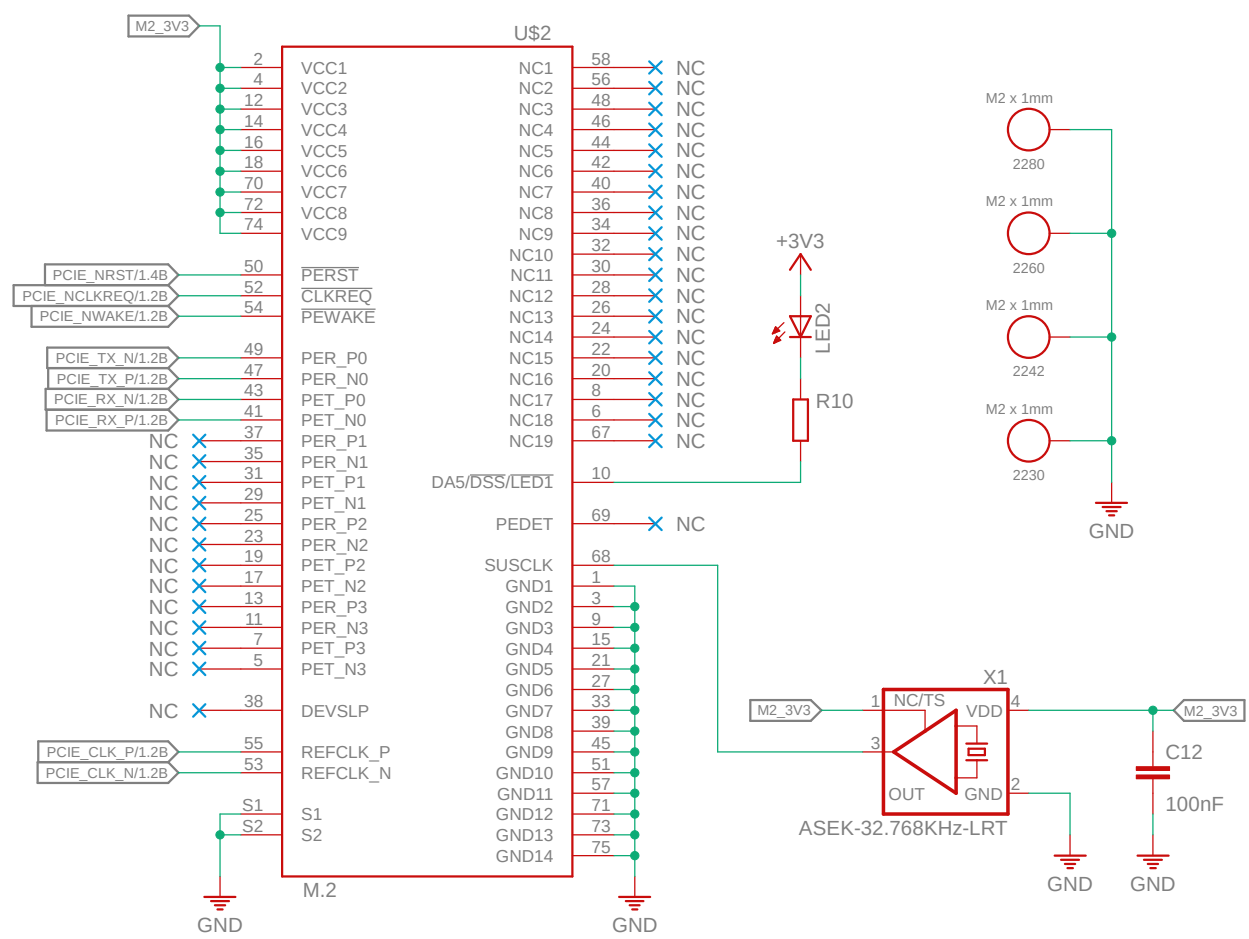
RF DISABLE



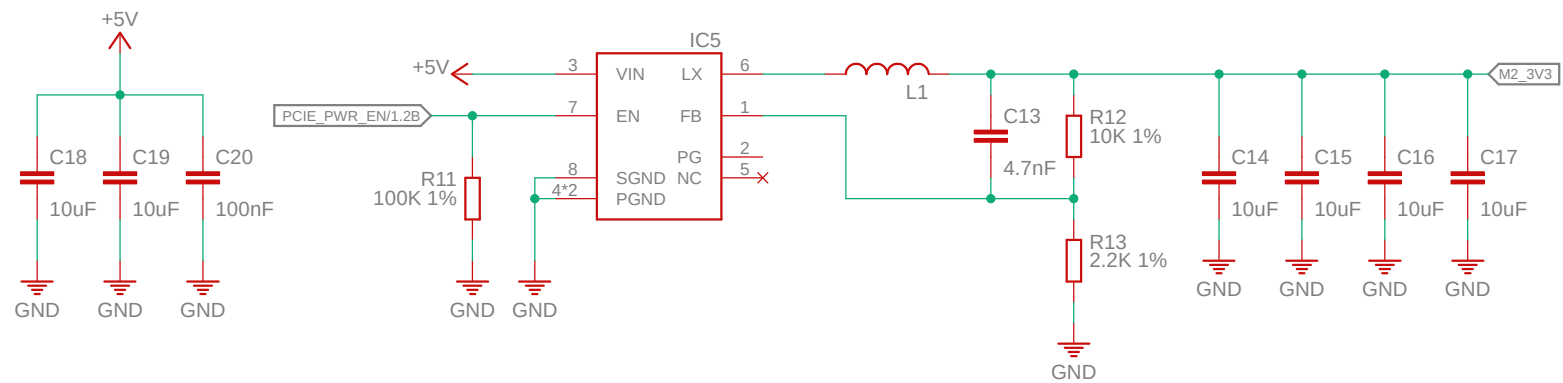
1000 BASE ETHERNET



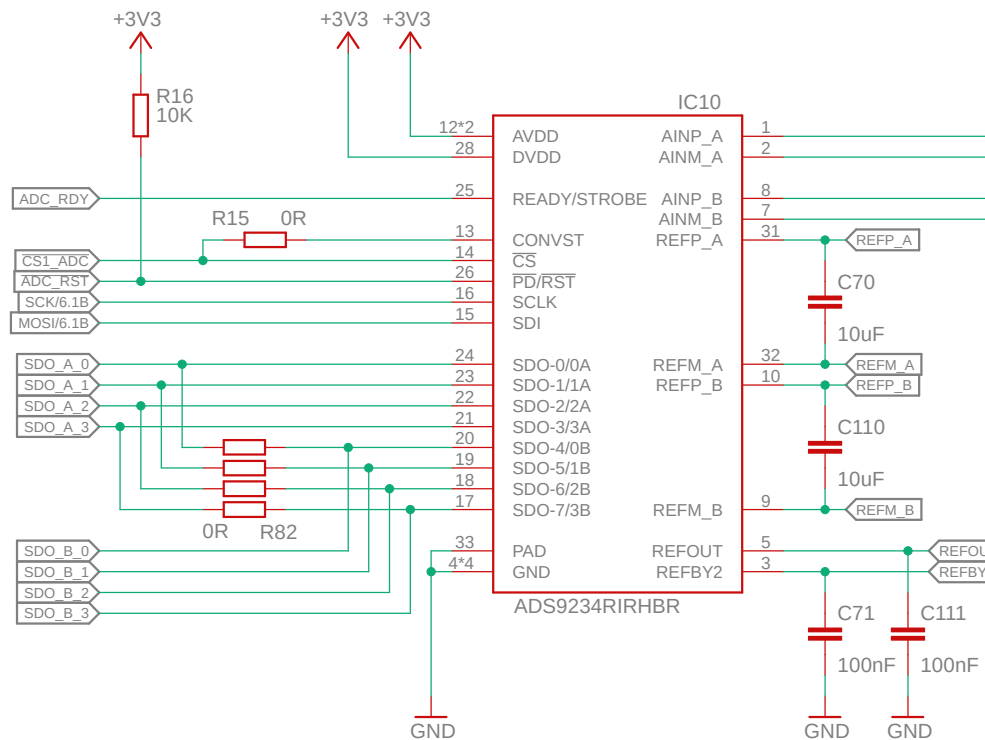
PCIE-M.2 M-KEY CONNECTOR



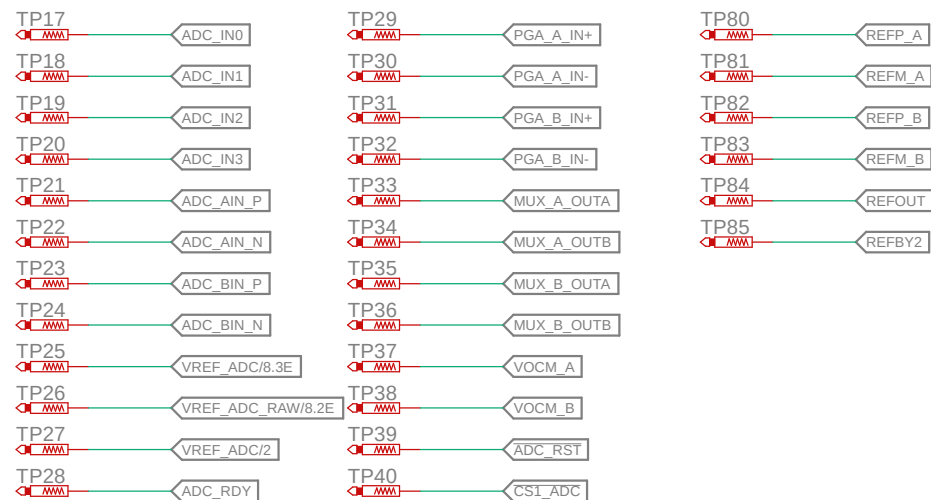
PCIE POWER SUPPLY



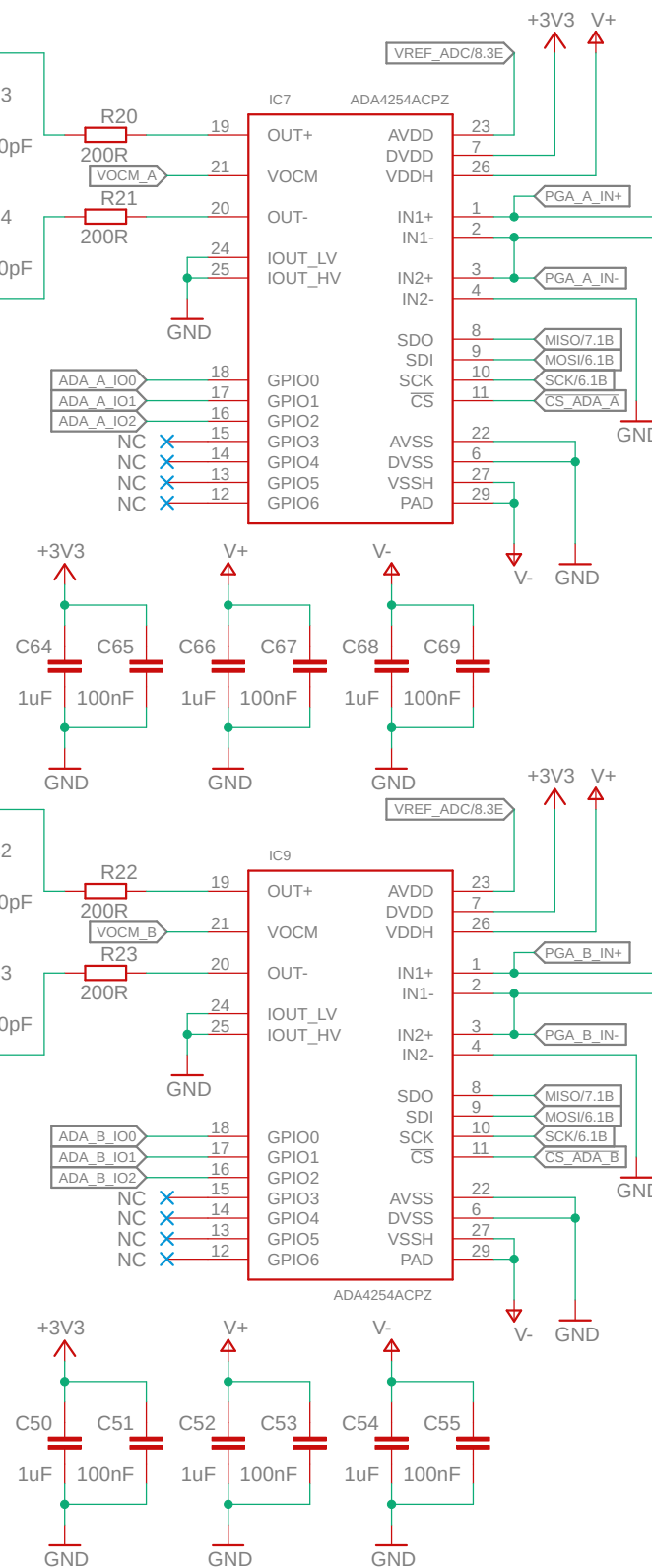
ADS9234R ADC



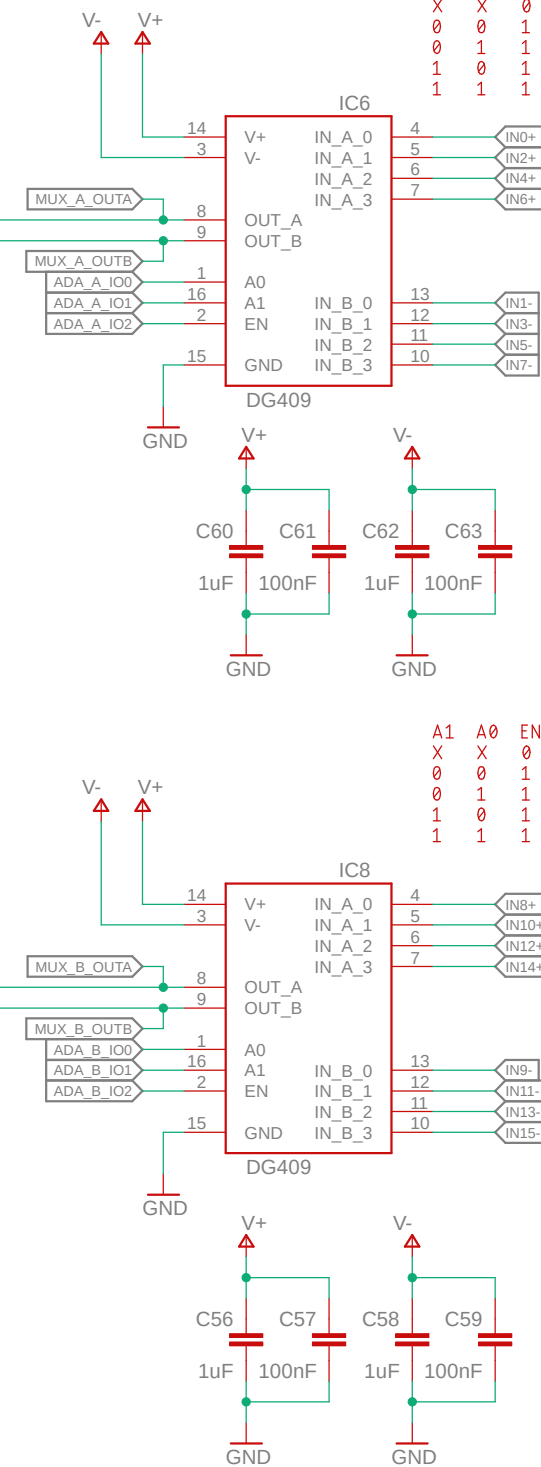
ANALOG-IN TESTPOINTS



PGA



INPUT MULTIPLEXER



A1	A0	EN	ON
X	X	0	-
0	0	1	OUT0 IN0+ AND IN1-
0	1	1	OUT1 IN2+ AND IN3-
1	0	1	OUT2 IN4+ AND IN5-
1	1	1	OUT3 IN6+ AND IN7-

A1	A0	EN	ON
X	X	0	-
0	0	1	OUT0 IN8+ AND IN9-
0	1	1	OUT1 IN10+ AND IN11-
1	0	1	OUT2 IN12+ AND IN13-
1	1	1	OUT3 IN14+ AND IN15-

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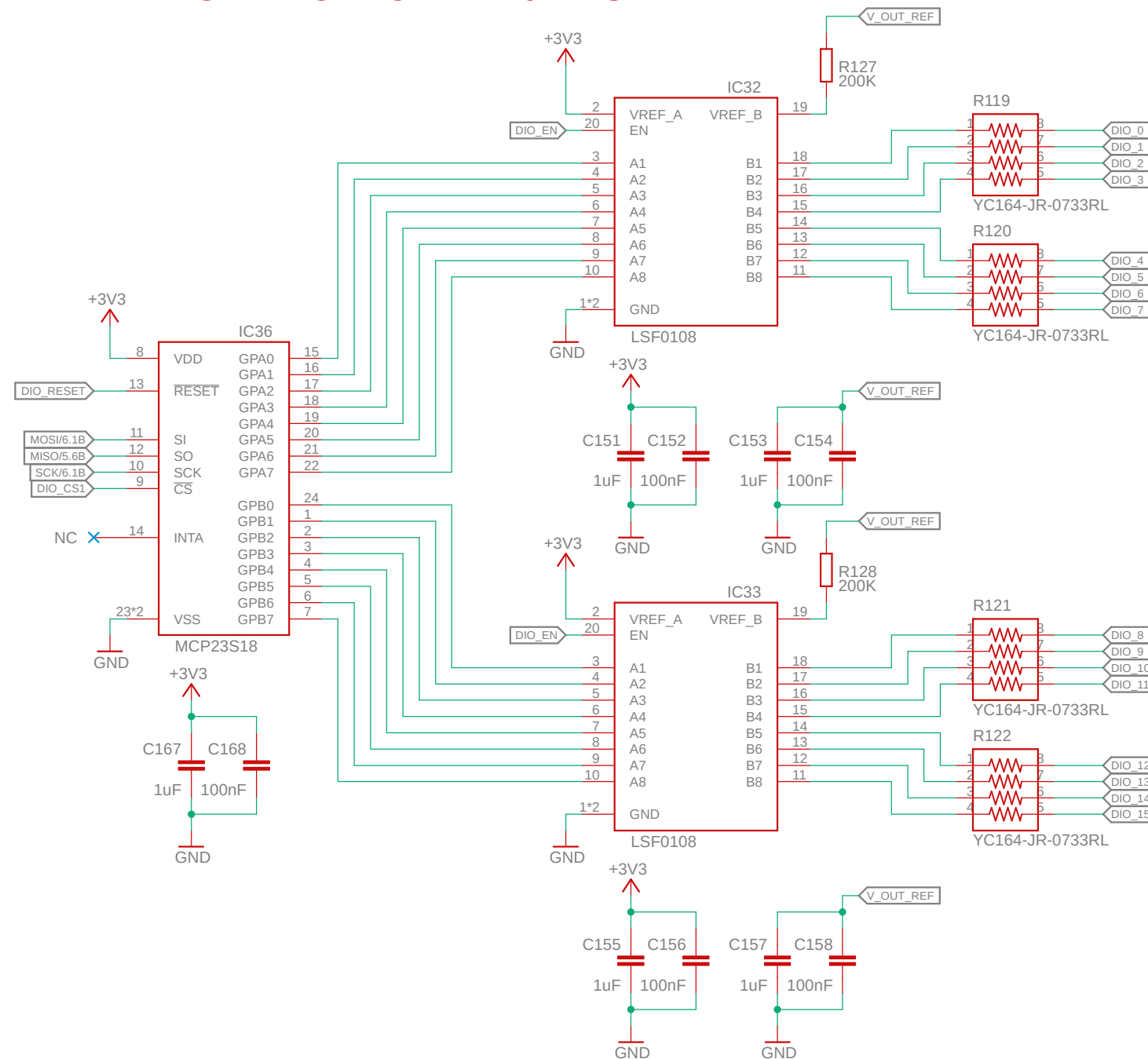
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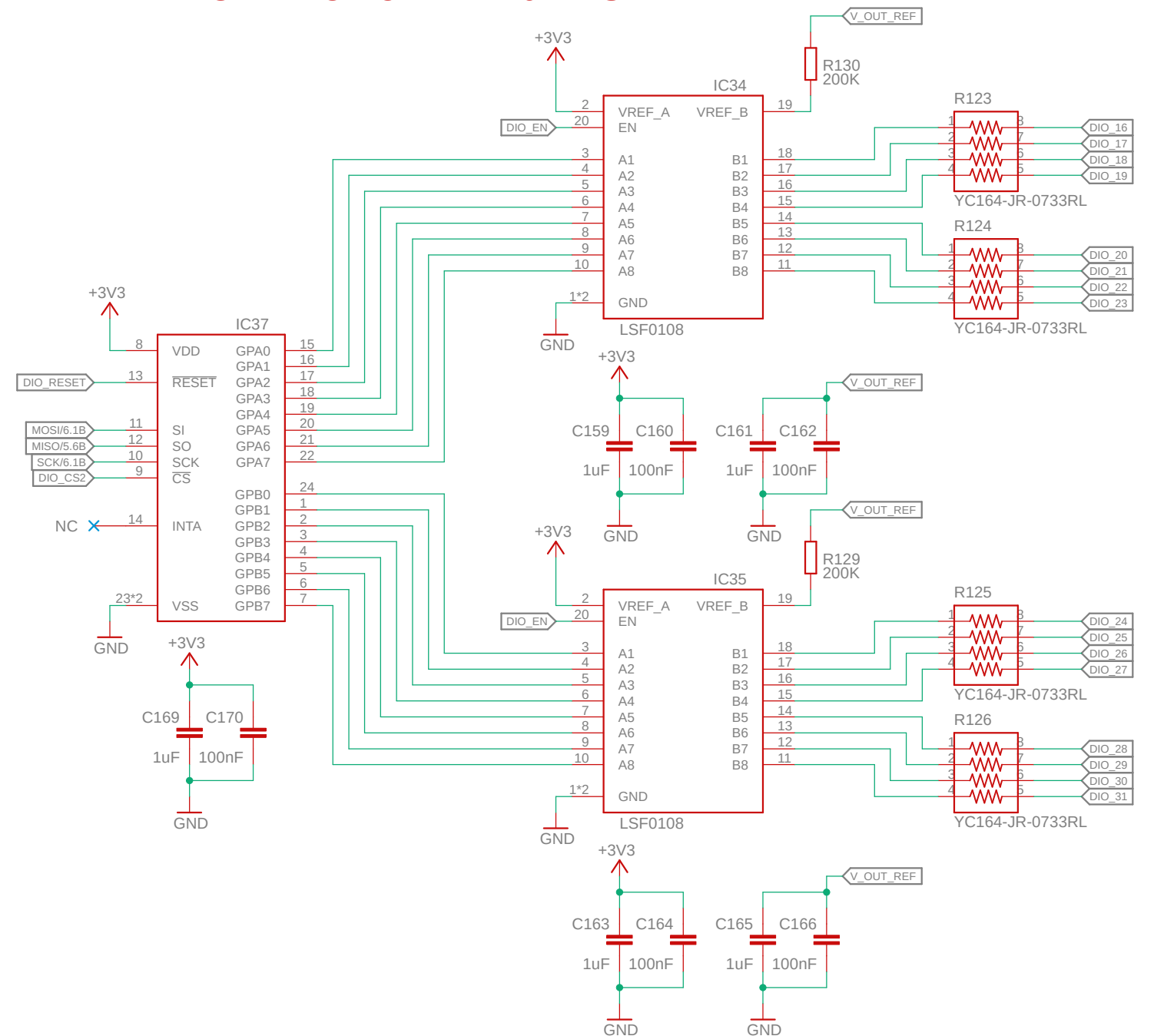
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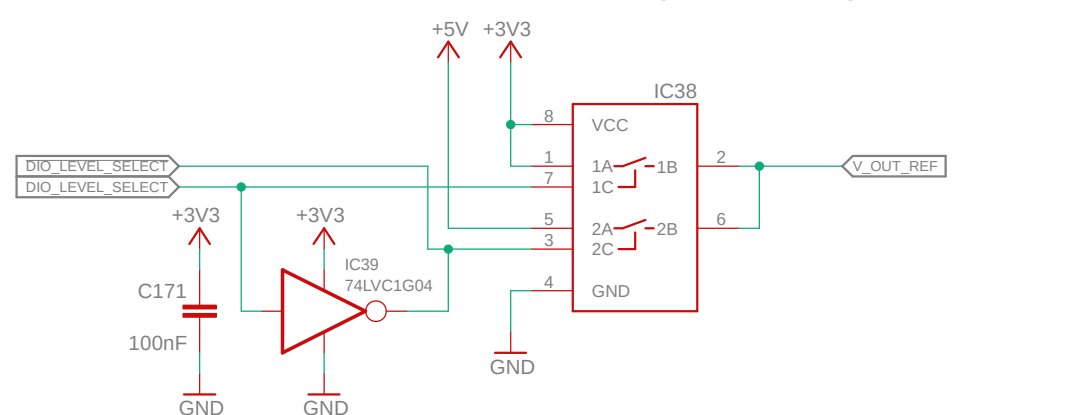
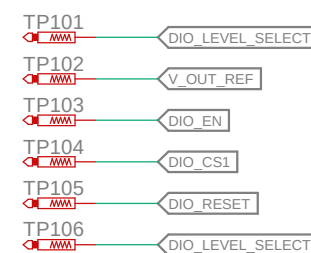
DIGITAL IO - LOWER 16 BITS



DIGITAL IO - UPPER 16 BITS



ANALOG-OUT TESTPOINTS



Positive Output (Vout_pos = 14V):

- Given:
- R1 = 976 kΩ
- Calculated R2 ≈ 102.3 kΩ
- Nearest E96 Standard Value:
- R2 = 102 kΩ
- Resulting Output Voltage:
- Vout = 1.213 × (1 + R1 / R2)
- Vout = 1.213 × (1 + 976 / 102) ≈ 13.98 V
- Final Pair:
- R1 = 976 kΩ
- R2 = 102 kΩ

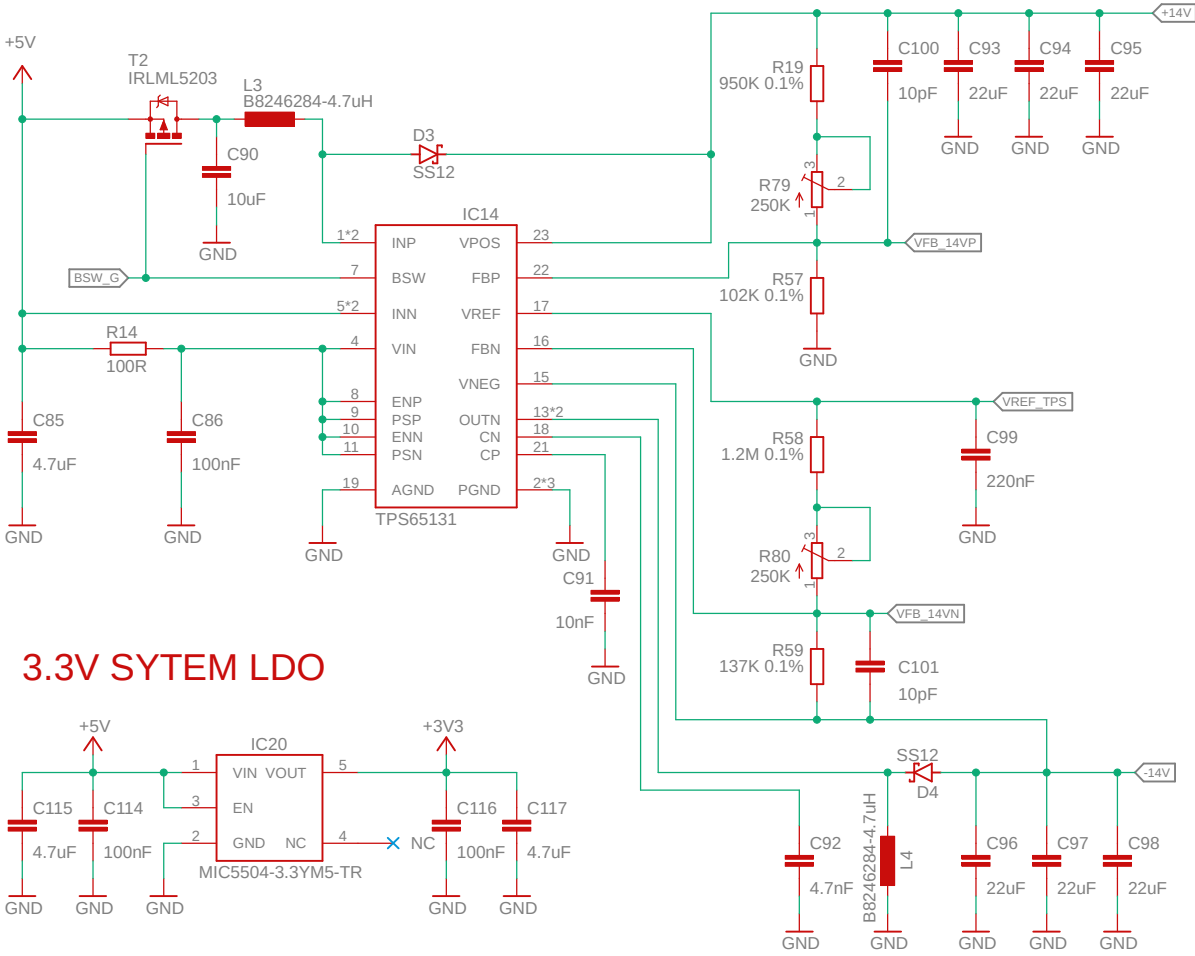
- Positive Channel:
- Target VOUTP = 14 V,
 - adjustment range: 12.6 V to 15.4 V.
 - Configuration:
 - R2P = 102 kΩ (fixed).
 - R1P = 950 kΩ (fixed) + 250 kΩ (trimmer).
 - Adjustment Range:
 - R1P = 950 kΩ to 1200 kΩ.

Negative Output (Vout_neg = -14V):

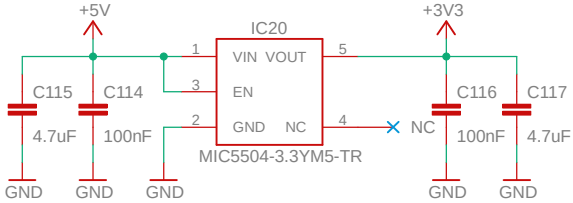
- Given:
- R1 = 1.3 MΩ
- Calculated R2 ≈ 136.3 kΩ
- Nearest E96 Standard Value:
- R2 = 137 kΩ
- Resulting Output Voltage:
- Vout = 1.213 × (1 + R1 / R2)
- Vout = 1.213 × (1 + 1300 / 137) ≈ 14.01 V
- Final Pair:
- R1 = 1.3 MΩ
- R2 = 137 kΩ

- Negative Channel:
- Target VOUTN = -14 V,
 - adjustment range: -12.6 V to -15.4 V.
 - Configuration:
 - R2N = 137 kΩ (fixed).
 - R1N = 1.2 MΩ (fixed) + 250 kΩ (trimmer).
 - Adjustment Range:
 - R1N = 1.2 MΩ to 1.45 MΩ.

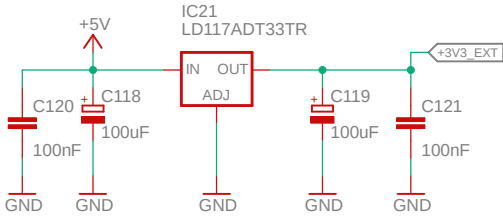
5V to +/-14V BOOST CONVERTER



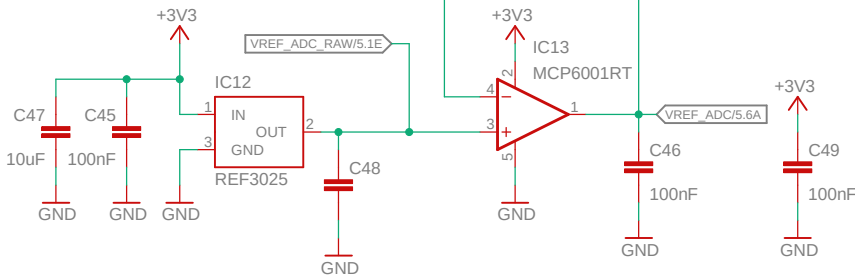
3.3V SYTEM LDO



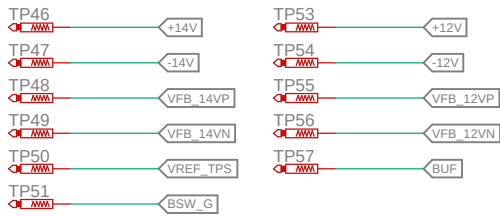
3.3V TARGET LDO



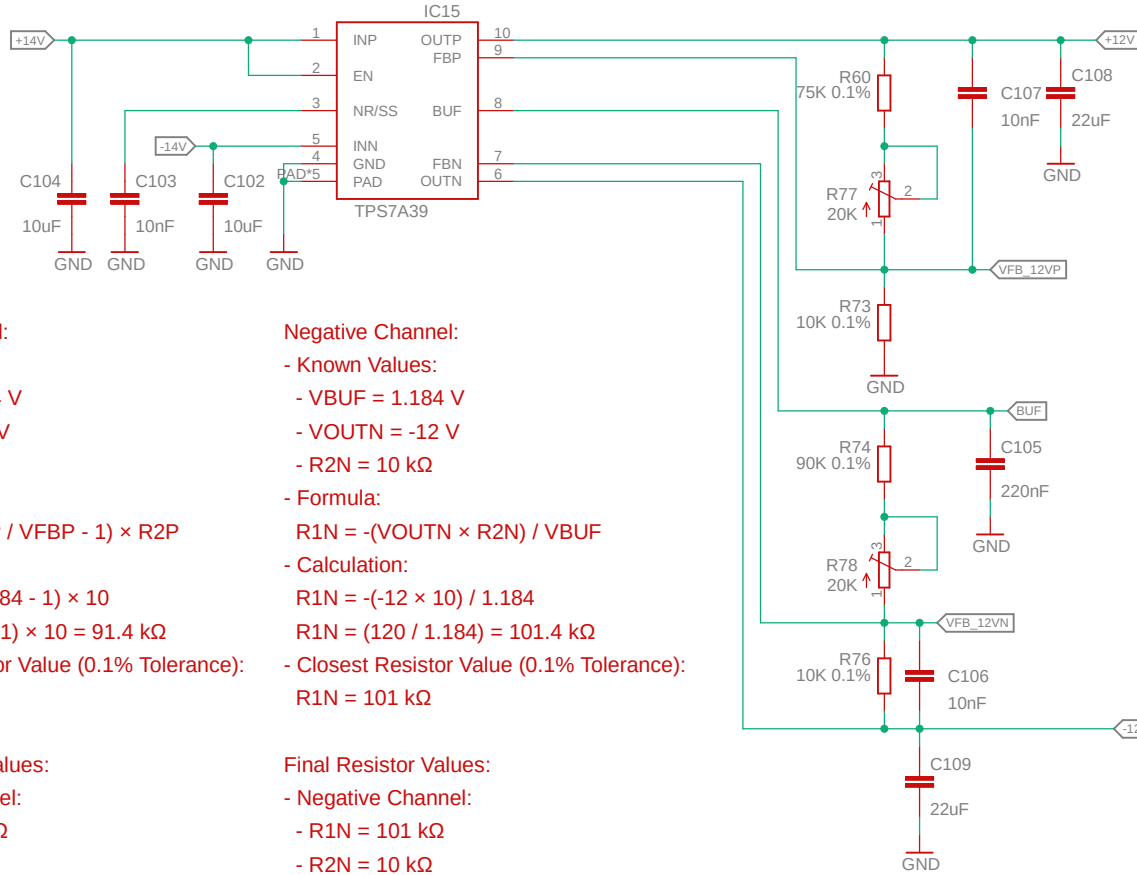
2.5V VREF



TESTPOINTS POWER



+/-14V to +/-12V LDO



Positive Channel:

- Known Values:
- VFBP = 1.184 V
- VOUTP = 12 V
- R2P = 10 kΩ
- Formula:
- $R1P = (VOUTP / VFBP - 1) \times R2P$
- Calculation:
- $R1P = (12 / 1.184 - 1) \times 10$
- $R1P = (10.14 - 1) \times 10 = 91.4 \text{ k}\Omega$
- Closest Resistor Value (0.1% Tolerance):
- $R1P = 91.5 \text{ k}\Omega$

Final Resistor Values:

- Positive Channel:
- R1P = 91.5 kΩ
- R2P = 10 kΩ
- Calculated VOUTP ≈ 12.0 V

Positive Channel:

- Target VOUTP = 12 V,
- adjustment range: 10.8 V to 13.2 V.
- Feedback Resistor Configuration:
- R2P = 10 kΩ (fixed).
- R1P = 75 kΩ (fixed) + 20 kΩ (trimmer).
- Adjustment Range:
- R1P = 81.2 kΩ to 101.5 kΩ.

Negative Channel:

- Known Values:
- VBUF = 1.184 V
- VOUTN = -12 V
- R2N = 10 kΩ
- Formula:
- $R1N = -(VOUTN \times R2N) / VBUF$
- Calculation:
- $R1N = -(-12 \times 10) / 1.184$
- $R1N = (120 / 1.184) = 101.4 \text{ k}\Omega$
- Closest Resistor Value (0.1% Tolerance):
- $R1N = 101 \text{ k}\Omega$

Final Resistor Values:

- Negative Channel:
- R1N = 101 kΩ
- R2N = 10 kΩ
- Calculated VOUTN ≈ -12.0 V

Negative Channel:

- Target VOUTN = -12 V,
- adjustment range: -10.8 V to -13.2 V.
- Feedback Resistor Configuration:
- R2N = 10 kΩ (fixed).
- R1N = 90 kΩ (fixed) + 20 kΩ (trimmer).
- Adjustment Range:
- R1N = 91.2 kΩ to 111.5 kΩ.

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