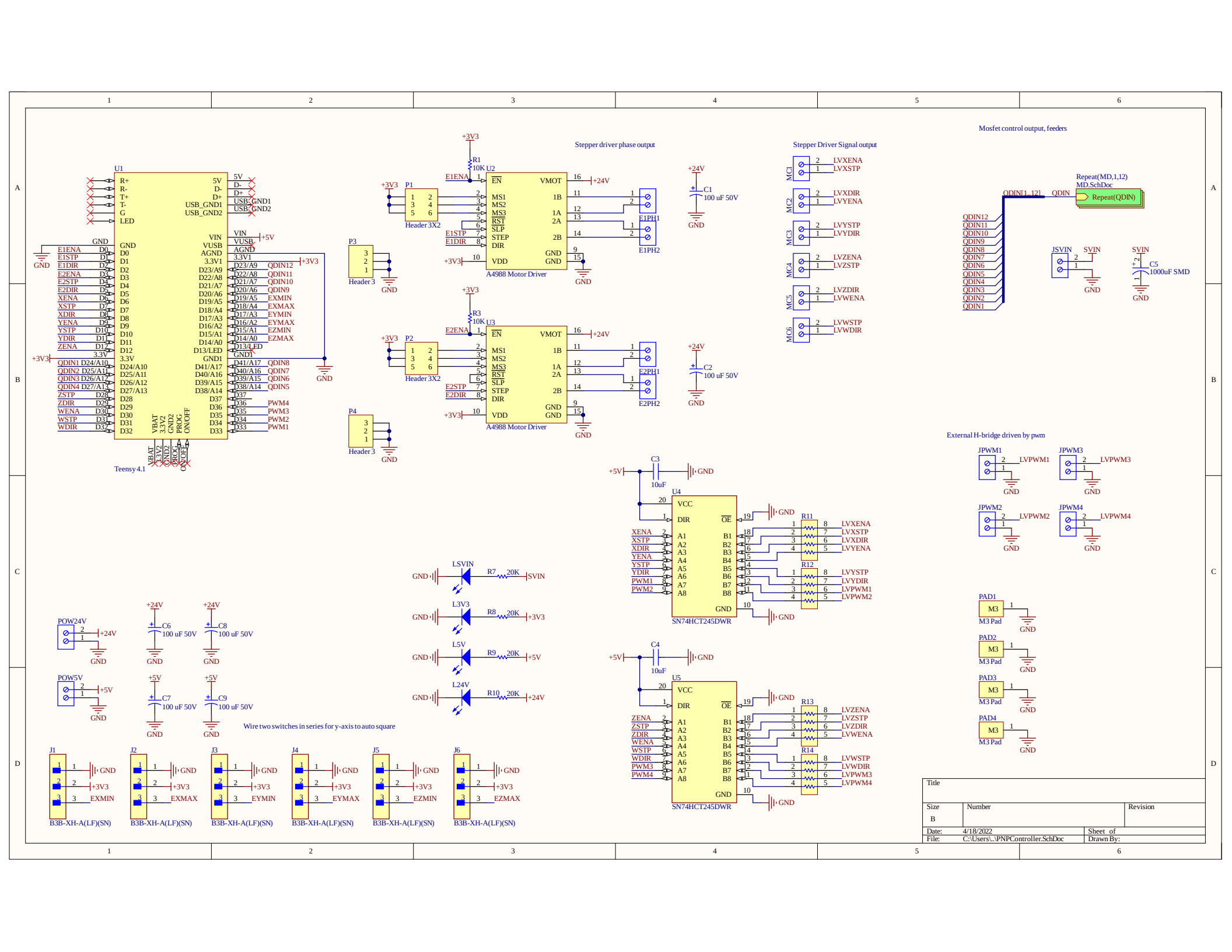
Stepper driver phase output
Stepper Driver Signal output
Mosfet control output, feeders
External H-bridge driven by pwm
Wire two switches in series for y-axis to auto square
Teensy 4.1
A4988 Motor Driver
SN74HCT245DWR
Header 3X2
Header 3
B3B-XH-A(LF)(SN)
Repeat(MD,1,12)
MD.SchDoc
Repeat(QDIN)
M3 Pad
Title
Size
B
Number
Revision
Date: 4/18/2022
File: C:\Users\..\PNPController.SchDoc
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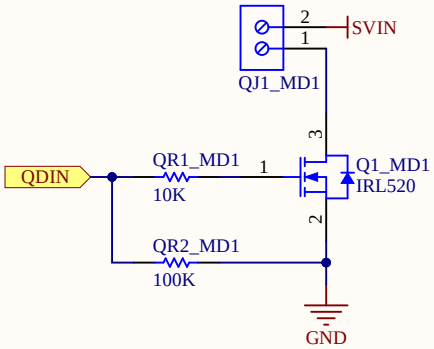

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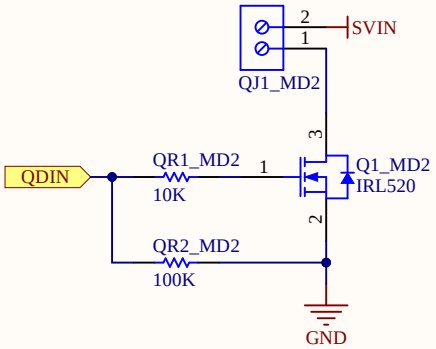

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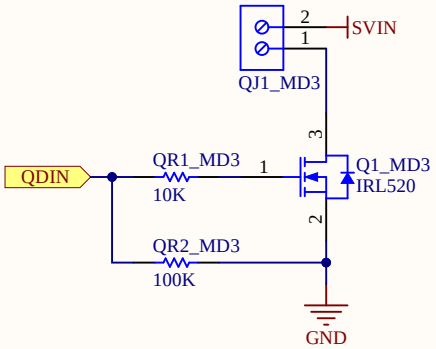

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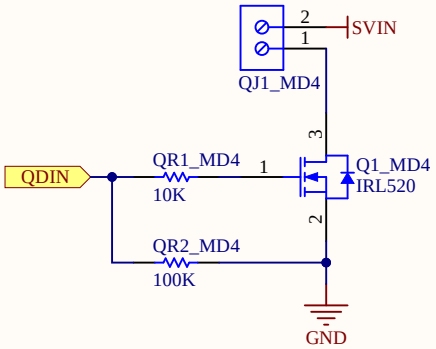

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Date: 4/18/2022		Sheet of
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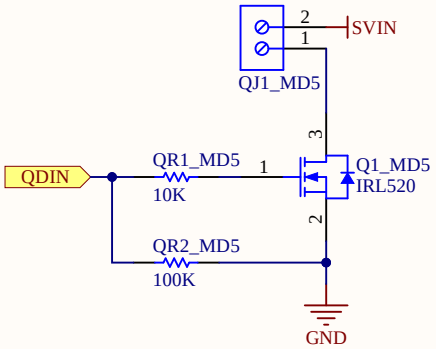

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Date: 4/18/2022		Sheet of
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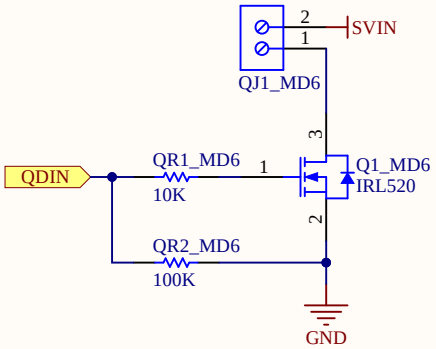

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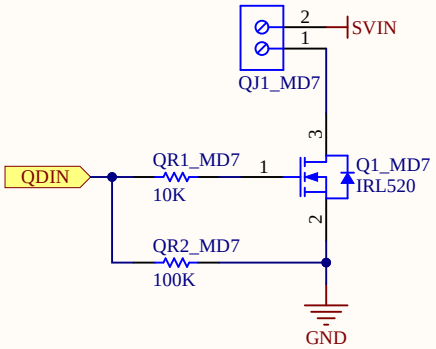

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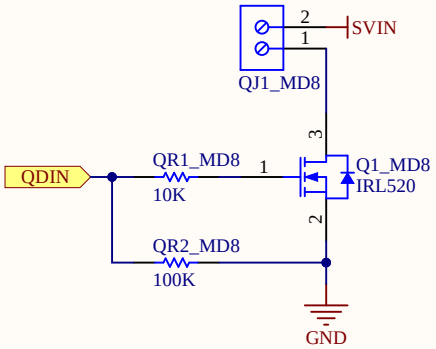

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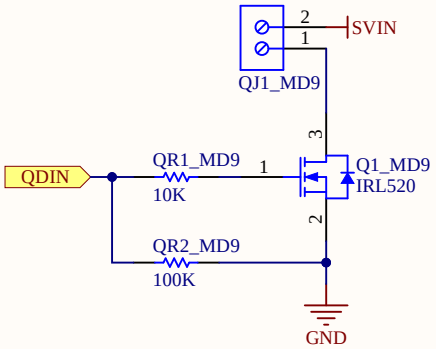

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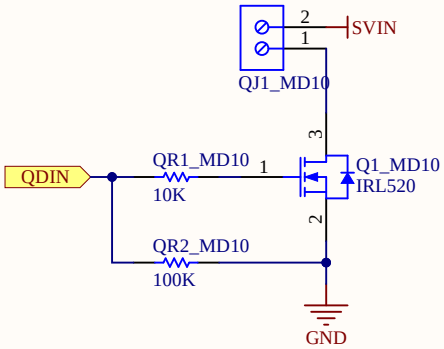

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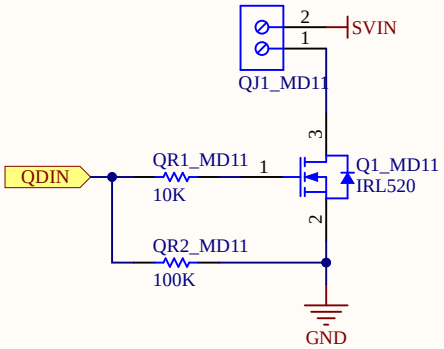

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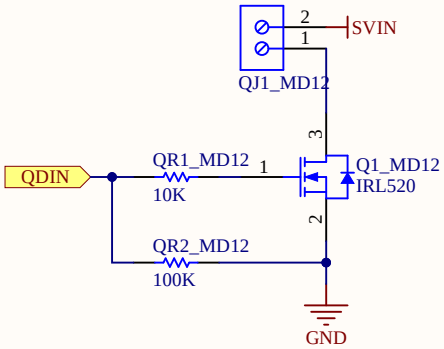

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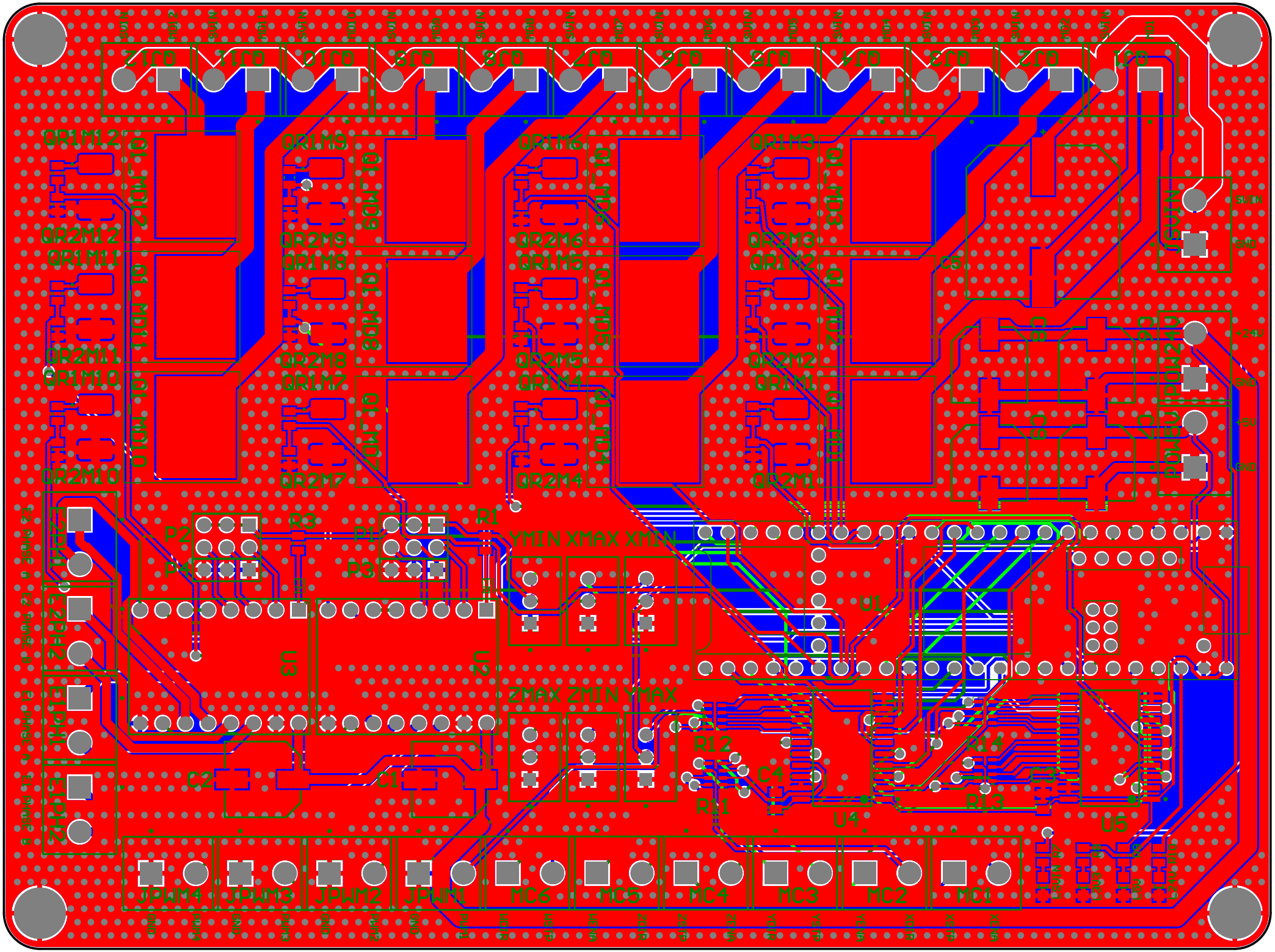
Z1O
Z2O
Y1O
Y2O
X1O
X2O
SUIN
GND
Q1_MD12
Q1_MD11
Q1_MD10
Q1_MD9
Q1_MD8
Q1_MD7
Q1_MD6
Q1_MD5
Q1_MD4
Q1_MD3
Q1_MD2
Q1_MD1
QR1M12
QR1M11
QR1M10
QR1M9
QR1M8
QR1M7
QR1M6
QR1M5
QR1M4
QR1M3
QR1M2
QR1M1
QR2M12
QR2M11
QR2M10
QR2M9
QR2M8
QR2M7
QR2M6
QR2M5
QR2M4
QR2M3
QR2M2
QR2M1
P1
P2
P3
P4
R1
YMIN XMAX XMIN
ZMAX ZMIN YMAX
U1
U2
U3
U4
U5
C1
C2
C3
C4
C5
C6
R11
R12
R13
R14
+24U
+5U
JPWM4
JPWM3
JPWM2
JPWM1
MC6
MC5
MC4
MC3
MC2
MC1
PWM
ENA
DIR

Comment	Description	Designator	Footprint	LibRef	Quantity
100 uF 50V	Aluminum Electrolytic Capacitor, 100 uF, +/- 20%, 50 V, -55 to 105 degC, 2-Pin SMD, RoHS, Tape and Reel	C1, C2, C6, C7, C8, C9	NIC-UWT1H101MNL1GS_L	CMP-2000-07373-1	6
CC0805KKX7R6BB105	CAP CER 1UF 10V X7R 0805	C3, C4	FP-CC0805-0_85-MFG	CMP-03422-000182-1	2
1000uF SMD	CAP ALUM 1000UF 20% 50V SMD	C5	FP-FK-J16-MFG	CMP-05427-000011-1	1
Screw Terminal Block 2 Position	TERM BLK 2POS SIDE ENTRY 5MM PCB	E1PH1, E1PH2, E2PH1, E2PH2, JPWM1, JPWM2, JPWM3, JPWM4, JSVIN, MC1, MC2, MC3, MC4, MC5, MC6, POW5V, POW24V, QJ1_MD1, QJ1_MD2, QJ1_MD3, QJ1_MD4, QJ1_MD5, QJ1_MD6, QJ1_MD7, QJ1_MD8, QJ1_MD9, QJ1_MD10, QJ1_MD11, QJ1_MD12	TECO-282836-2_V	CMP-002-00072-1	29
B3B-XH-A(LF)(SN)	CONN HEADER VERT 3POS 2.5MM	J1, J2, J3, J4, J5, J6	FP-B3B-XH-A_LF_SN-MFG	CMP-17439-000014-2	6
150080SS75000	SMD mono-color Chip LED, WL-SMCW, Super Red	L3V3, L5V, L24V, LSVIN	0805_A	CMP-1426-00010-1	4
Header 3X2	Header, 3-Pin, Dual row	P1, P2	HDR2X3	Header 3X2	2
Header 3	Header, 3-Pin	P3, P4	HDR1X3	Header 3	2
M3 Pad	Through-hole pad for M3 bolts	PAD1, PAD2, PAD3, PAD4	M3 Pad-Footprint-1	CMP-000005-2	4
IRL520	Hexfet 9.2A 100V TO-220 50PCS/TUBE	Q1_MD1, Q1_MD2, Q1_MD3, Q1_MD4, Q1_MD5, Q1_MD6, Q1_MD7, Q1_MD8, Q1_MD9, Q1_MD10, Q1_MD11, Q1_MD12	IRL520-Footprint-1	CMP-013-00034-2	12
CRCW0805000Z0EA		QR1_MD1, QR1_MD2, QR1_MD3, QR1_MD4, QR1_MD5, QR1_MD6, QR1_MD7, QR1_MD8, QR1_MD9, QR1_MD10, QR1_MD11, QR1_MD12, QR2_MD1, QR2_MD2, QR2_MD3, QR2_MD4, QR2_MD5, QR2_MD6, QR2_MD7, QR2_MD8, QR2_MD9, QR2_MD10, QR2_MD11, QR2_MD12, R1, R3, R7, R8, R9, R10	RESC2013X50X30LL20T20	CMP-2001-04896-1	30
CAT16-103J4LF	CAT / CAY 16 Series - Chip Resistor Array, 10 KOhm, +/- 5%, 50 V, -55 to 125 degC, 8-Pin SMD, RoHS, Tape and Reel	R11, R12, R13, R14	BOUR-CAT16-103J4LF_L	CMP-2000-06067-1	4
Teensy 4.1	RT1062 Teensy 4.1 i.MX ARMÂ® CortexÃ®-M7 MPU Embedded Evaluation Board	U1	DEV-16771	CMP-024-0000-4	1
A4988 Motor Driver	Stepper Motor Driver Carrier, 3 to 5.5 V, 2 A, 16-Pin THD	U2, U3	Polo-A4988 Motor Driver_V	CMP-00024-00002-1	2
SN74HCT245DWR	IC TXRX NON-INVERT 5.5V 20SOIC	U4, U5	FP-DW0020A-MFG	CMP-1620-00207-3	2