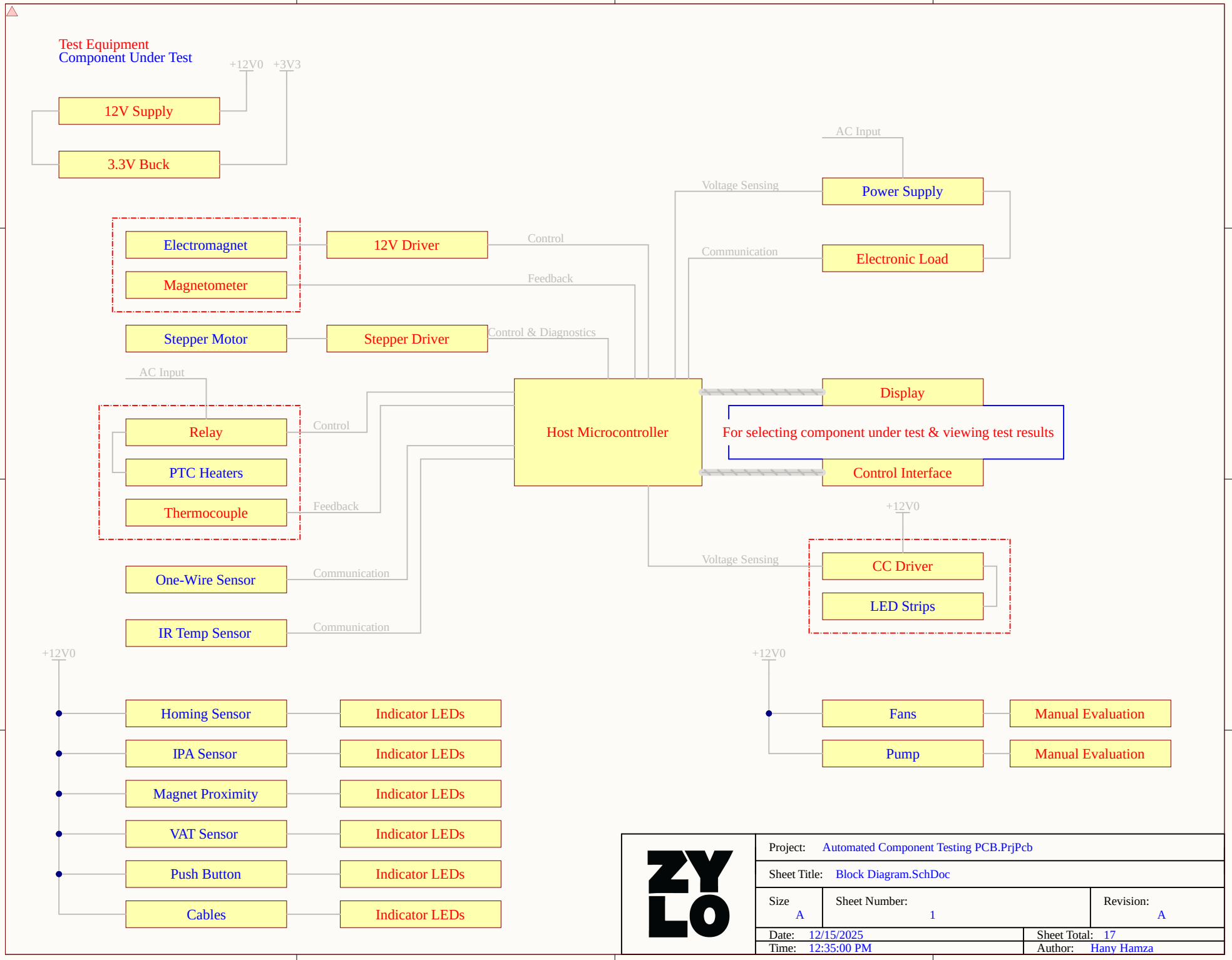
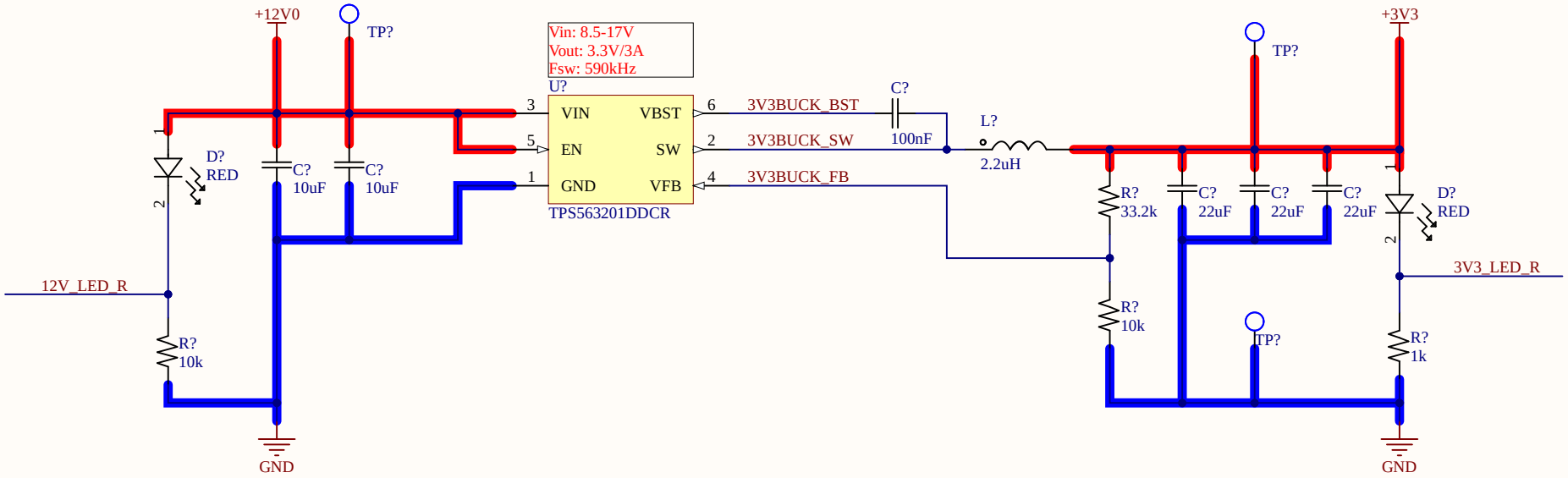
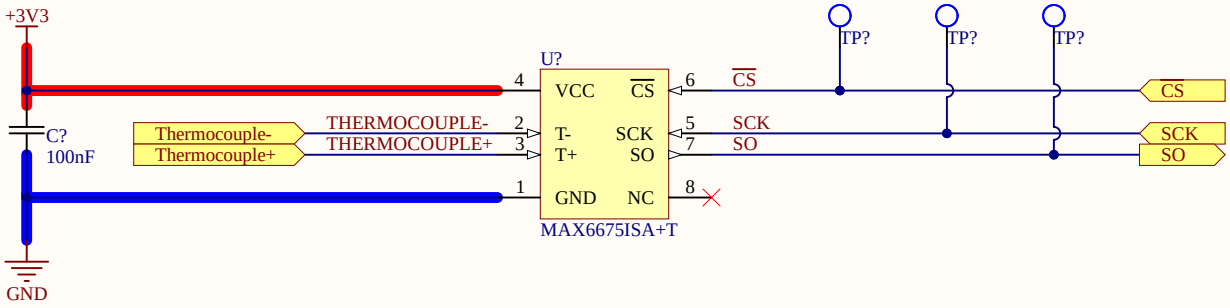
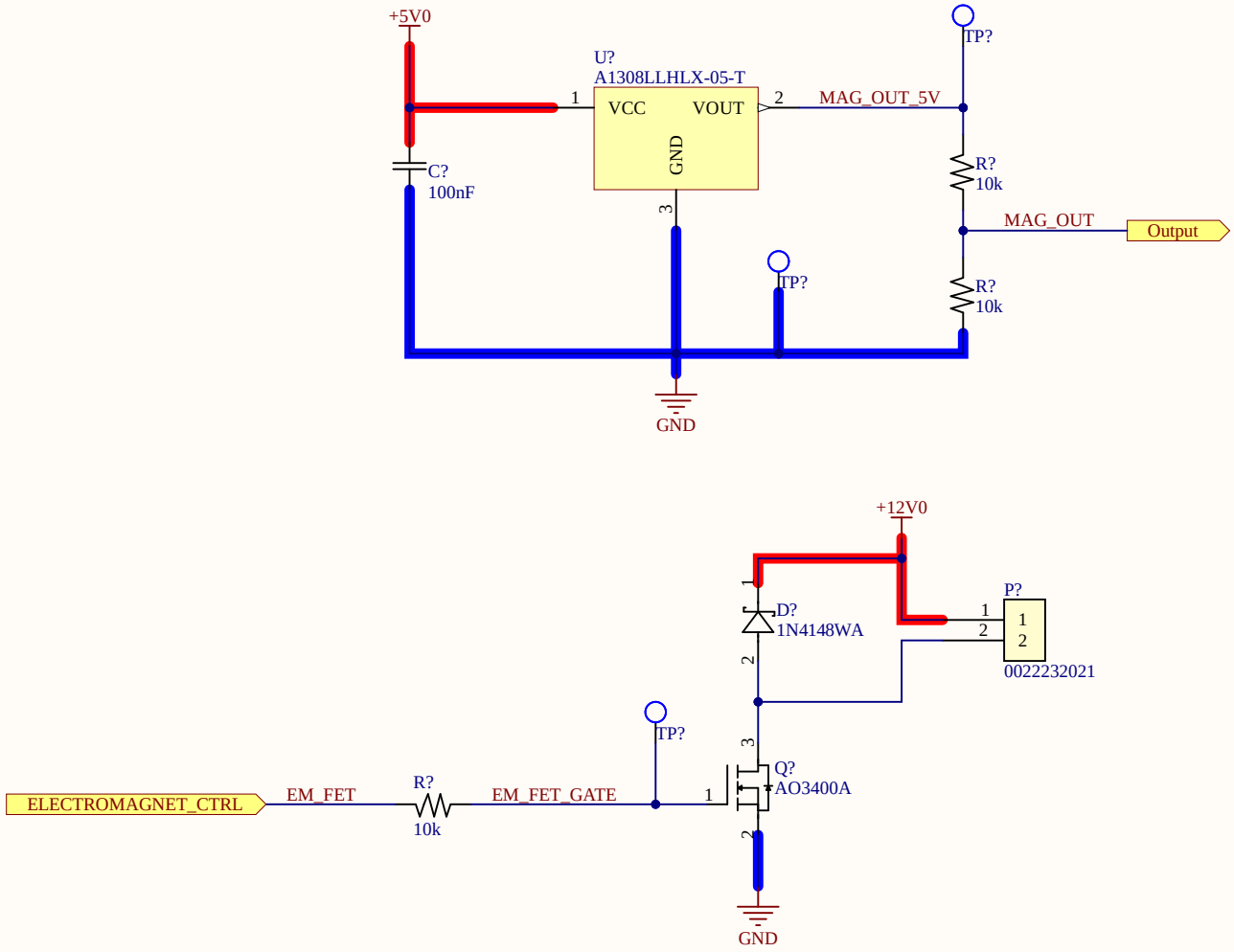

Test Equipment
Component Under Test
+12V0
+3V3
12V Supply
3.3V Buck
AC Input
Voltage Sensing
Power Supply
Communication
Electronic Load
Electromagnet
12V Driver
Control
Magnetometer
Feedback
Stepper Motor
Stepper Driver
Control & Diagnostics
AC Input
Relay
Control
PTC Heaters
Thermocouple
Feedback
Host Microcontroller
Display
For selecting component under test & viewing test results
Control Interface
+12V0
Voltage Sensing
CC Driver
LED Strips
One-Wire Sensor
Communication
IR Temp Sensor
Communication
+12V0
Homing Sensor
IPA Sensor
Magnet Proximity
VAT Sensor
Push Button
Cables
Indicator LEDs
+12V0
Fans
Pump
Manual Evaluation
Project: Automated Component Testing PCB.PrjPcb
Sheet Title: Block Diagram.SchDoc
Size A
Sheet Number: 1
Revision: A
Date: 12/15/2025
Time: 12:35:00 PM
Sheet Total: 17
Author: Hany Hamza



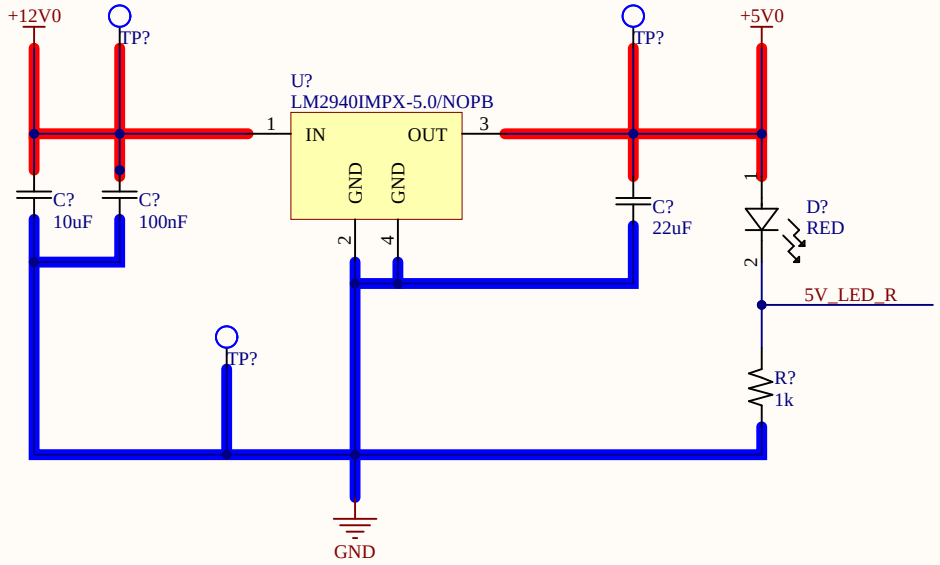
ZYLO	Project: Automated Component Testing PCB.PrjPcb		
	Sheet Title: 3.3V Buck Converter.SchDoc		
	Size: A	Sheet Number: 2	Revision: A
	Date: 12/15/2025	Sheet Total: 17	
	Time: 12:35:00 PM	Author: Hany Hamza	



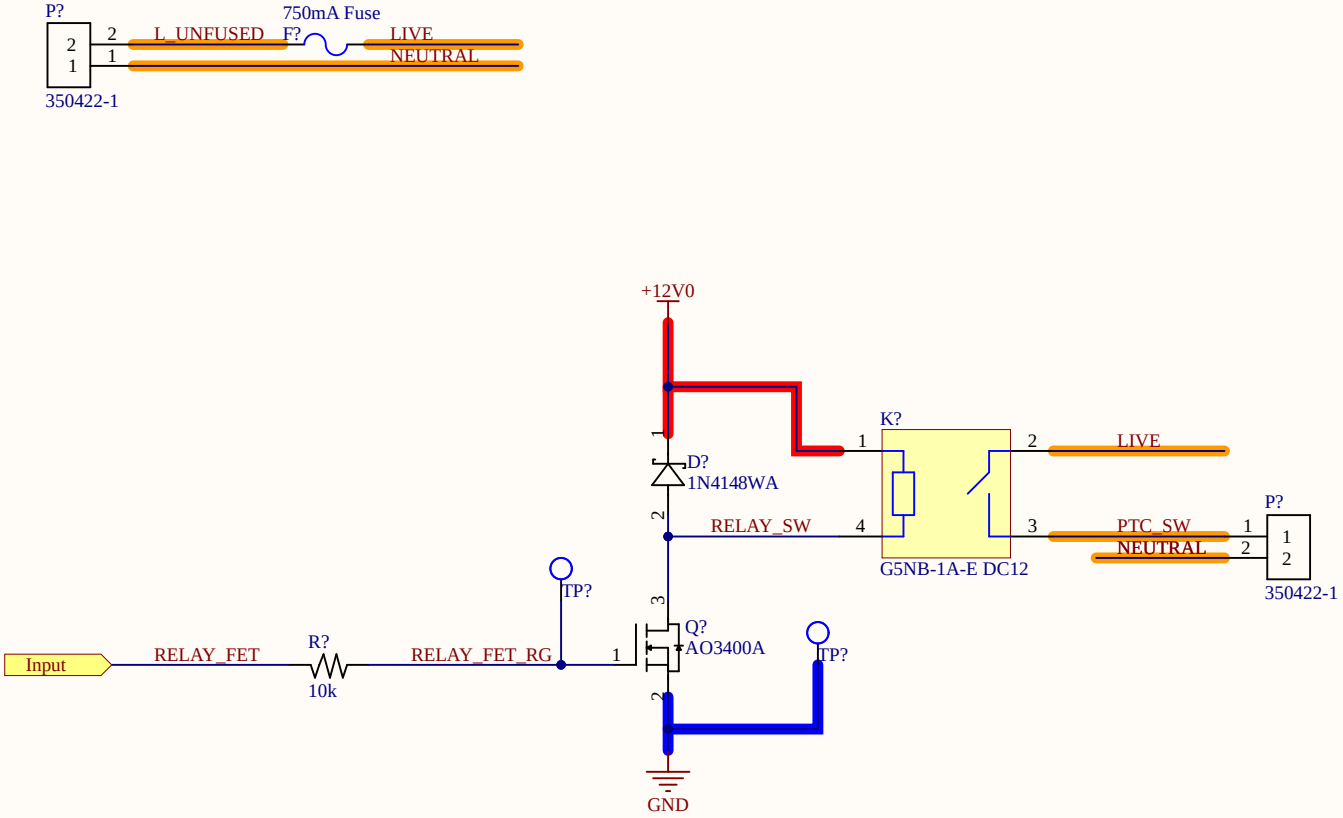
ZYLO	Project: Automated Component Testing PCB.PrjPcb	
	Sheet Title: Thermocouple to Digital Converter.SchDoc	
	Size: A	Sheet Number: 3 / Revision: A
	Date: 12/15/2025	Sheet Total: 17
	Time: 12:35:00 PM	Author: Hany Hamza



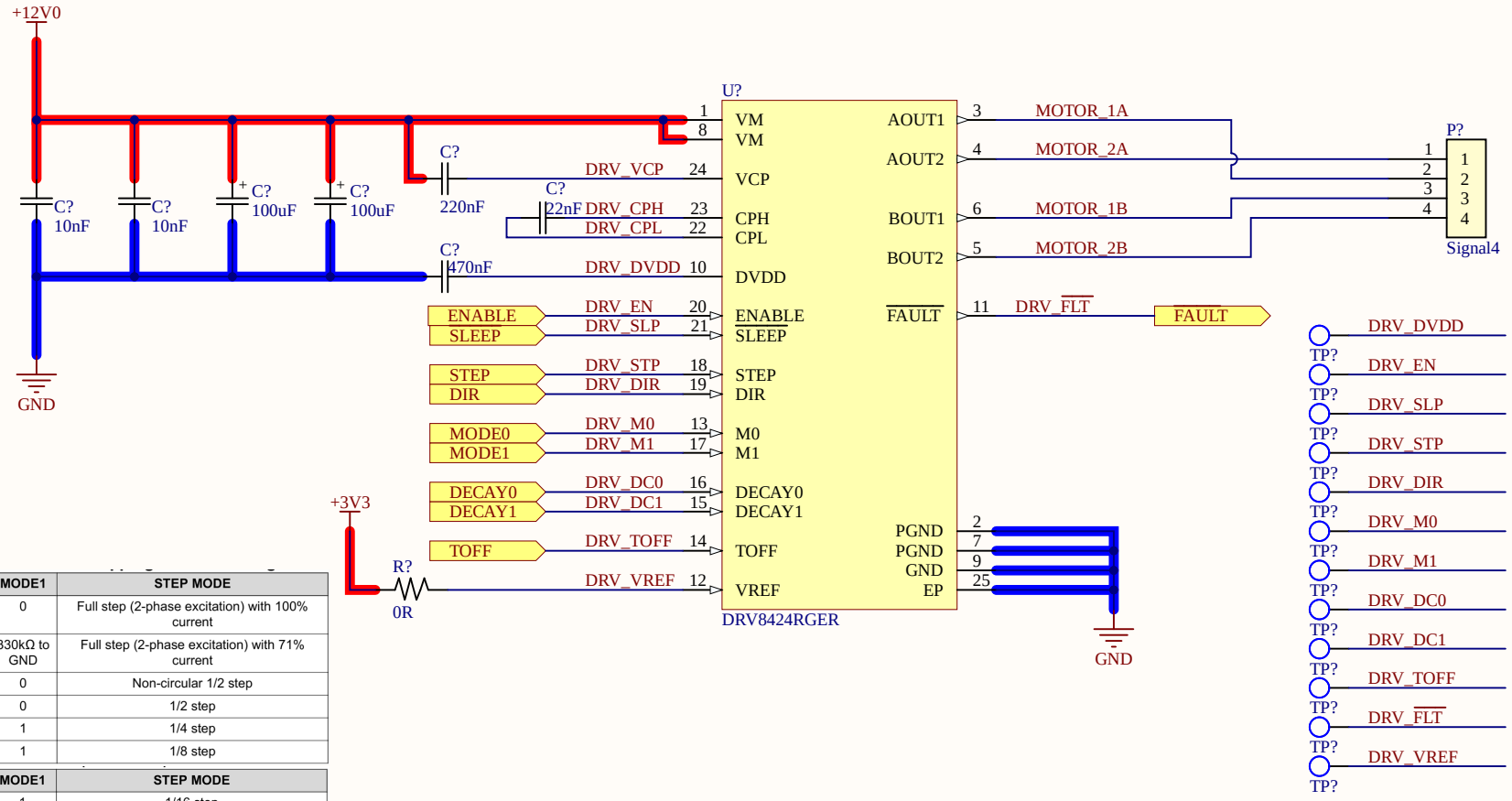
ZYLO	Project: Automated Component Testing PCB.PrjPcb		
	Sheet Title: Magnetometer and Electromagnet Driver.SchDoc		
	Size: A	Sheet Number: 4	Revision: A
	Date: 12/15/2025	Sheet Total: 17	
	Time: 12:35:00 PM	Author: Hany Hamza	



ZYLO	Project: Automated Component Testing PCB.PrjPcb		
	Sheet Title: 5V LDO.SchDoc		
	Size: A	Sheet Number: 5	Revision: A
	Date: 12/15/2025	Sheet Total: 17	
	Time: 12:35:00 PM	Author: Hany Hamza	



ZYLO	Project: Automated Component Testing PCB.PrjPcb		
	Sheet Title: PTC Heater Driver.SchDoc		
	Size: A	Sheet Number: 6	Revision: A
	Date: 12/15/2025	Sheet Total: 17	
	Time: 12:35:00 PM	Author: Hany Hamza	

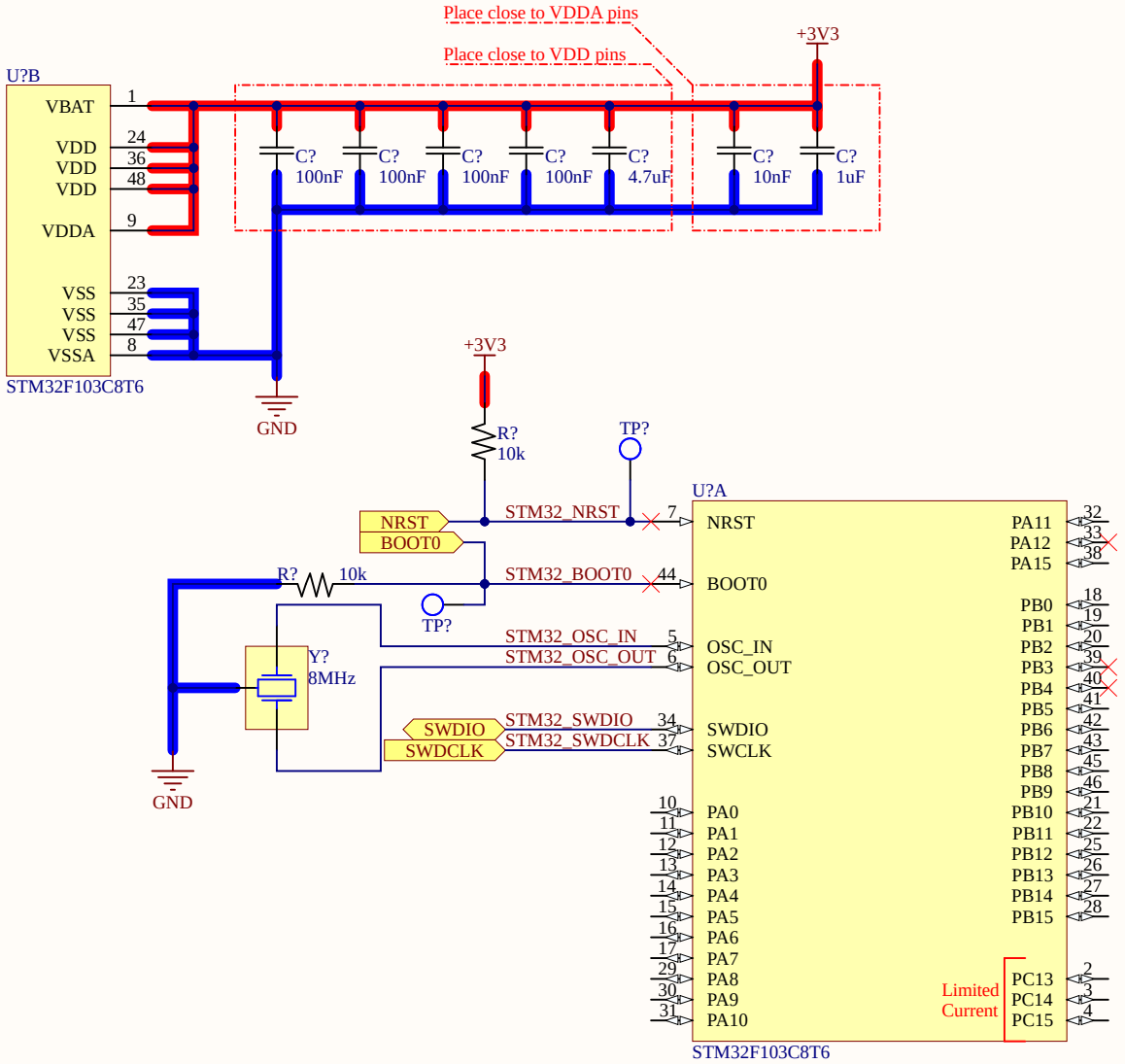


MODE0	MODE1	STEP MODE
0	0	Full step (2-phase excitation) with 100% current
0	330kΩ to GND	Full step (2-phase excitation) with 71% current
1	0	Non-circular 1/2 step
Hi-Z	0	1/2 step
0	1	1/4 step
1	1	1/8 step

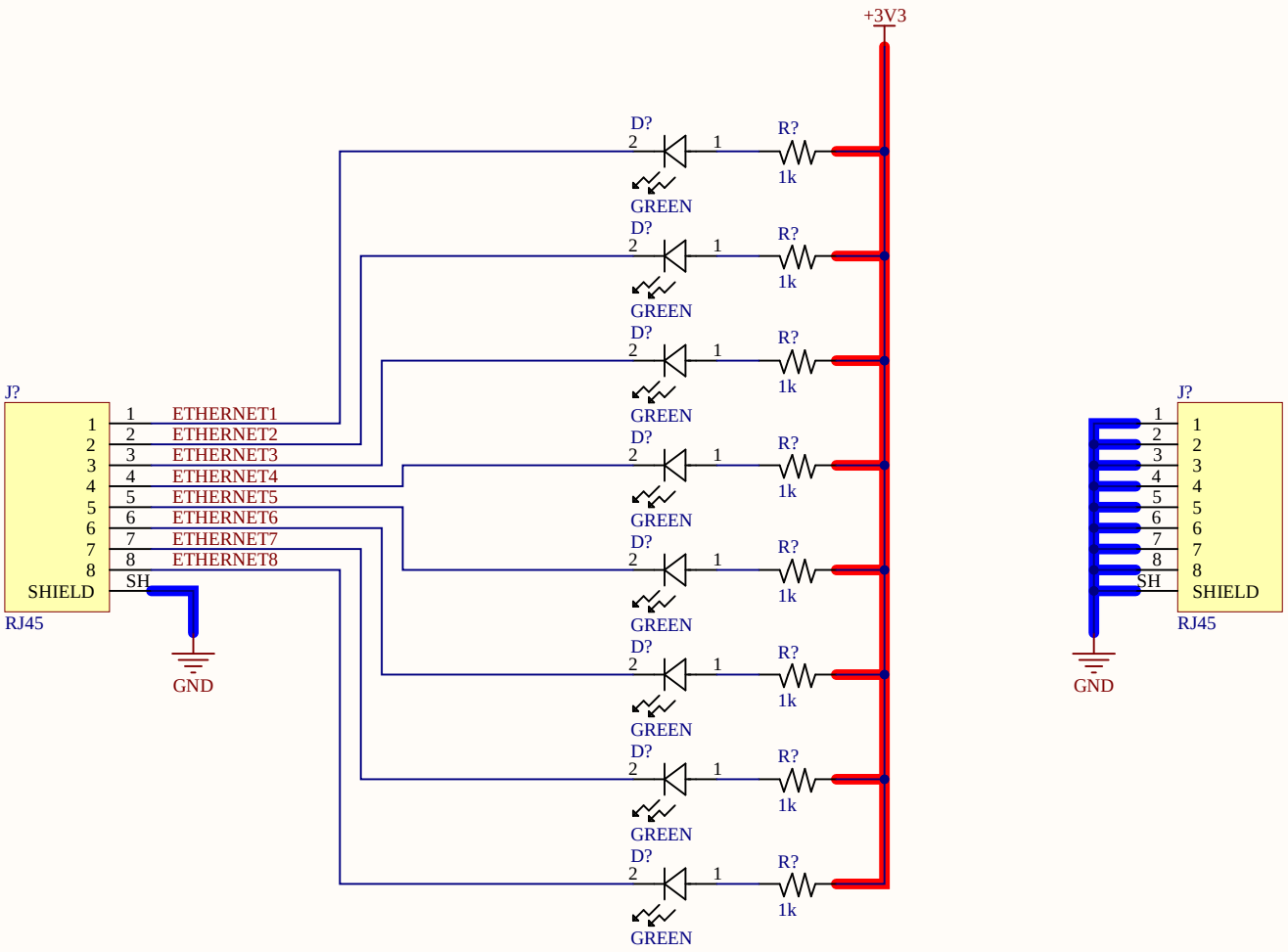
MODE0	MODE1	STEP MODE
Hi-Z	1	1/16 step
0	Hi-Z	1/32 step
Hi-Z	330kΩ to GND	1/64 step
Hi-Z	Hi-Z	1/128 step
1	Hi-Z	1/256 step

DECAY0	DECAY1	INCREASING STEPS	DECREASING STEPS
0	0	Smart tune Dynamic Decay	Smart tune Dynamic Decay
0	1	Smart tune Ripple Control	Smart tune Ripple Control
1	0	Mixed decay: 30% fast	Mixed decay: 30% fast
1	1	Slow decay	Mixed decay: 30% fast
Hi-Z	0	Mixed decay: 60% fast	Mixed decay: 60% fast
Hi-Z	1	Slow decay	Slow decay

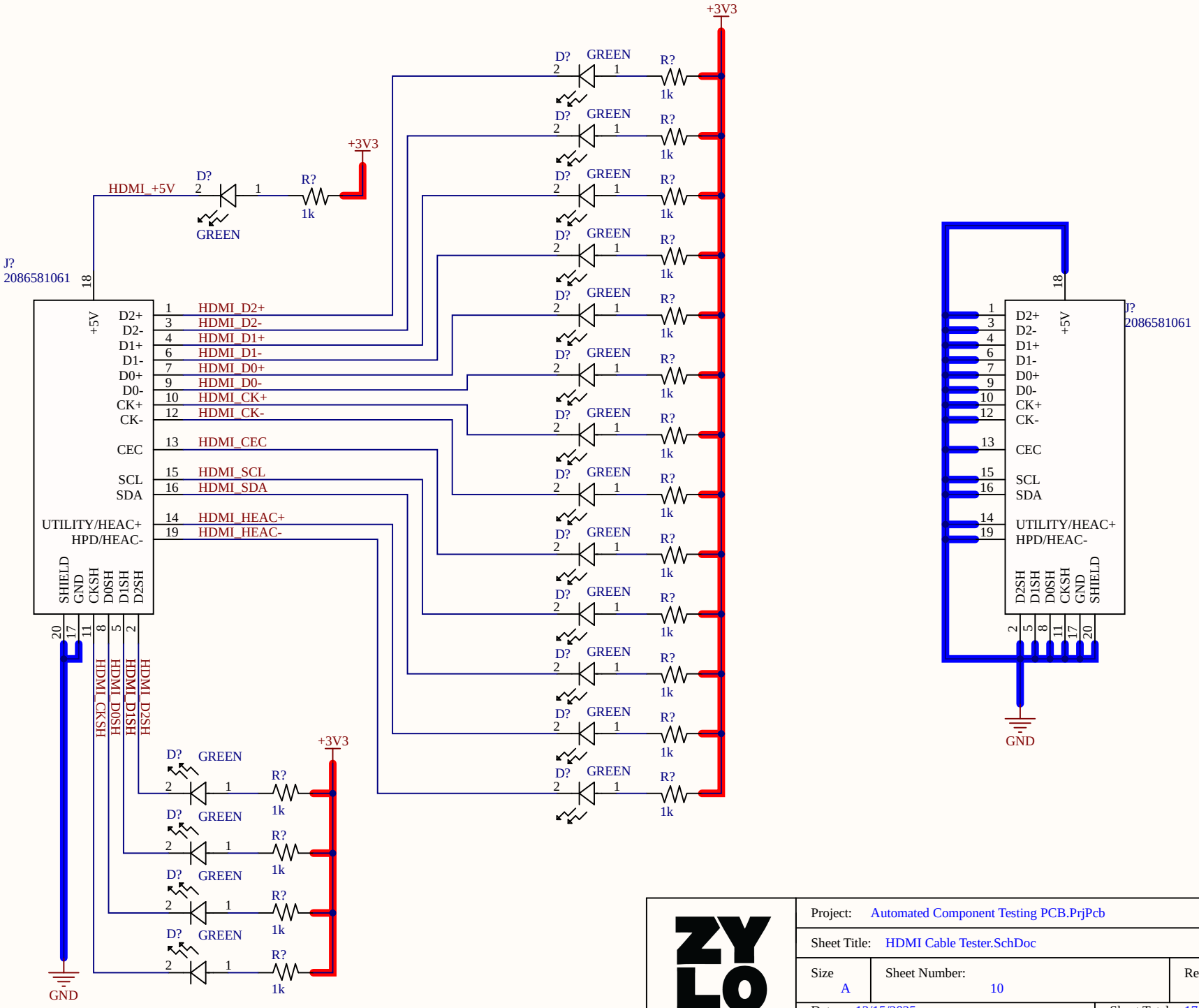
ZYLO	Project: Automated Component Testing PCB.PrjPcb		
	Sheet Title: Stepper Driver.SchDoc		
	Size: A	Sheet Number: 7	Revision: A
	Date: 12/15/2025	Sheet Total: 17	
	Time: 12:35:00 PM	Author: Hany Hamza	



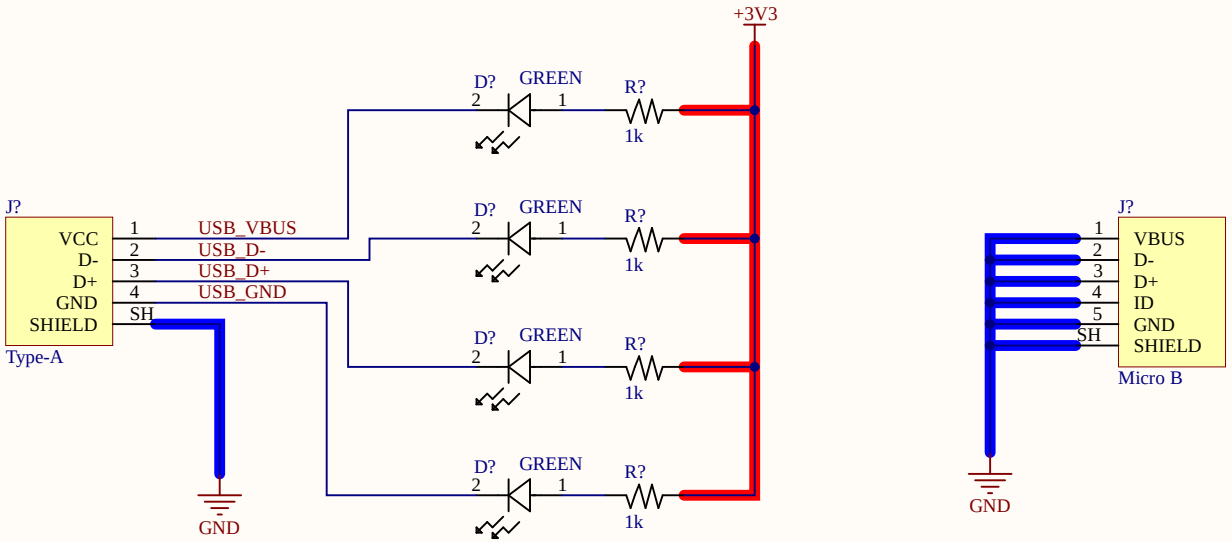
ZYLO	Project: Automated Component Testing PCB.PrjPcb		
	Sheet Title: STM32F103C8T6 MCU.SchDoc		
	Size: A	Sheet Number: 8	Revision: A
	Date: 12/15/2025	Sheet Total: 17	
	Time: 12:35:00 PM	Author: Hany Hamza	



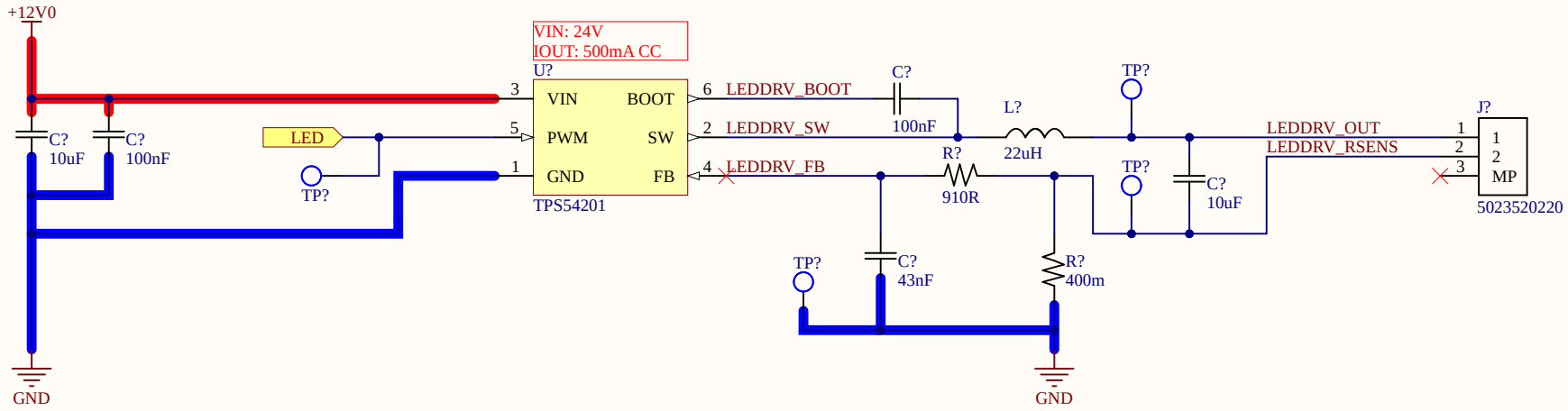
ZYLO	Project: Automated Component Testing PCB.PrjPcb		
	Sheet Title: Ethernet Cable Tester.SchDoc		
	Size: A	Sheet Number: 9	Revision: A
	Date: 12/15/2025	Sheet Total: 17	
	Time: 12:35:01 PM	Author: Hany Hamza	



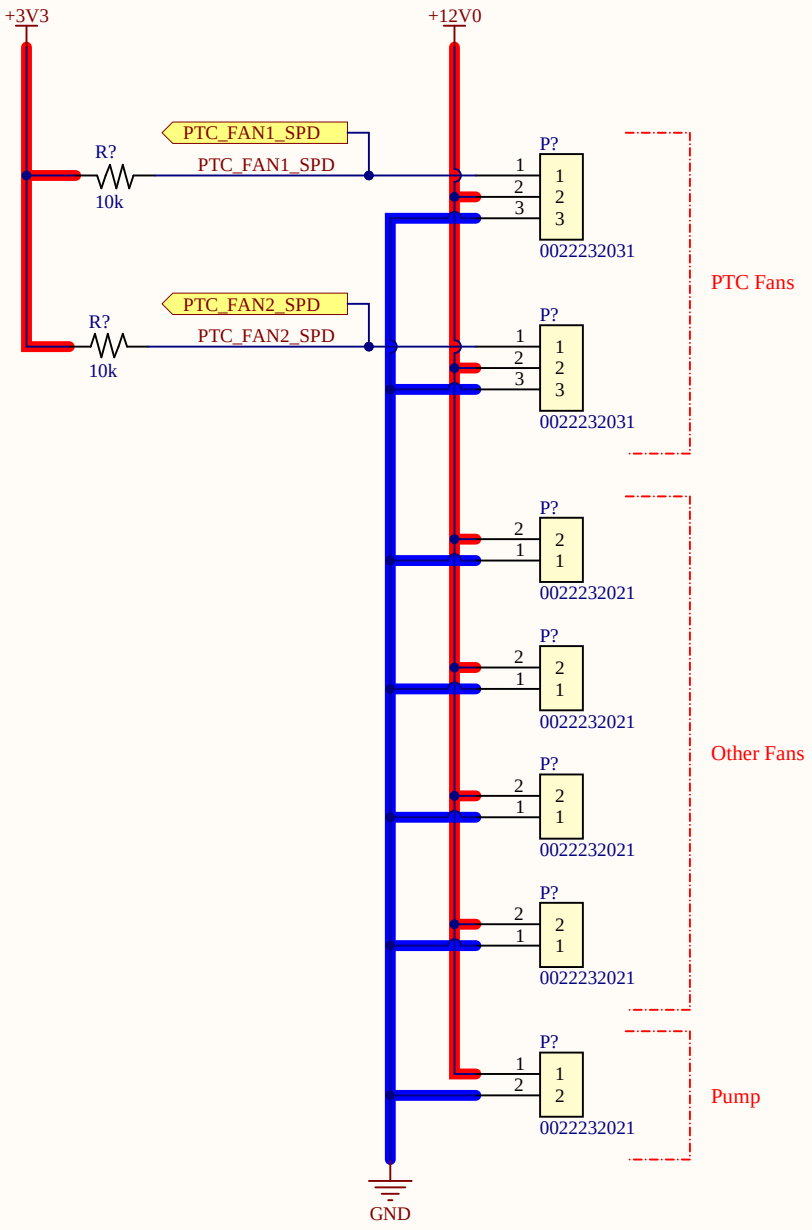
Project: Automated Component Testing PCB.PrjPcb		
Sheet Title: HDMI Cable Tester.SchDoc		
Size: A	Sheet Number: 10	Revision: A
Date: 12/15/2025	Sheet Total: 17	
Time: 12:35:01 PM	Author: Hany Hamza	



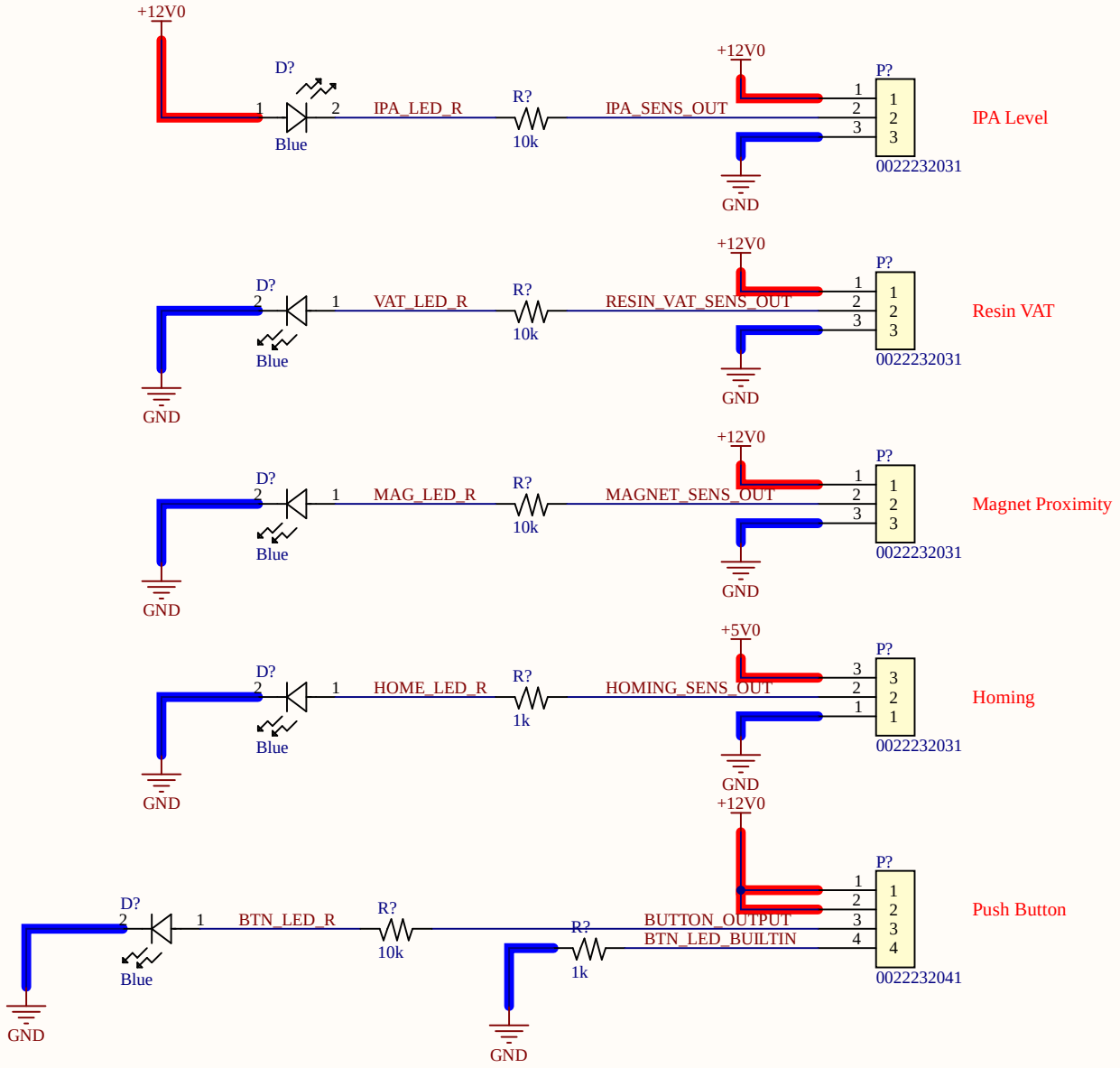
ZYLO	Project: Automated Component Testing PCB.PrjPcb		
	Sheet Title: USB Cable Tester.SchDoc		
	Size: A	Sheet Number: 11	Revision: A
	Date: 12/15/2025	Sheet Total: 17	
	Time: 12:35:01 PM	Author: Hany Hamza	



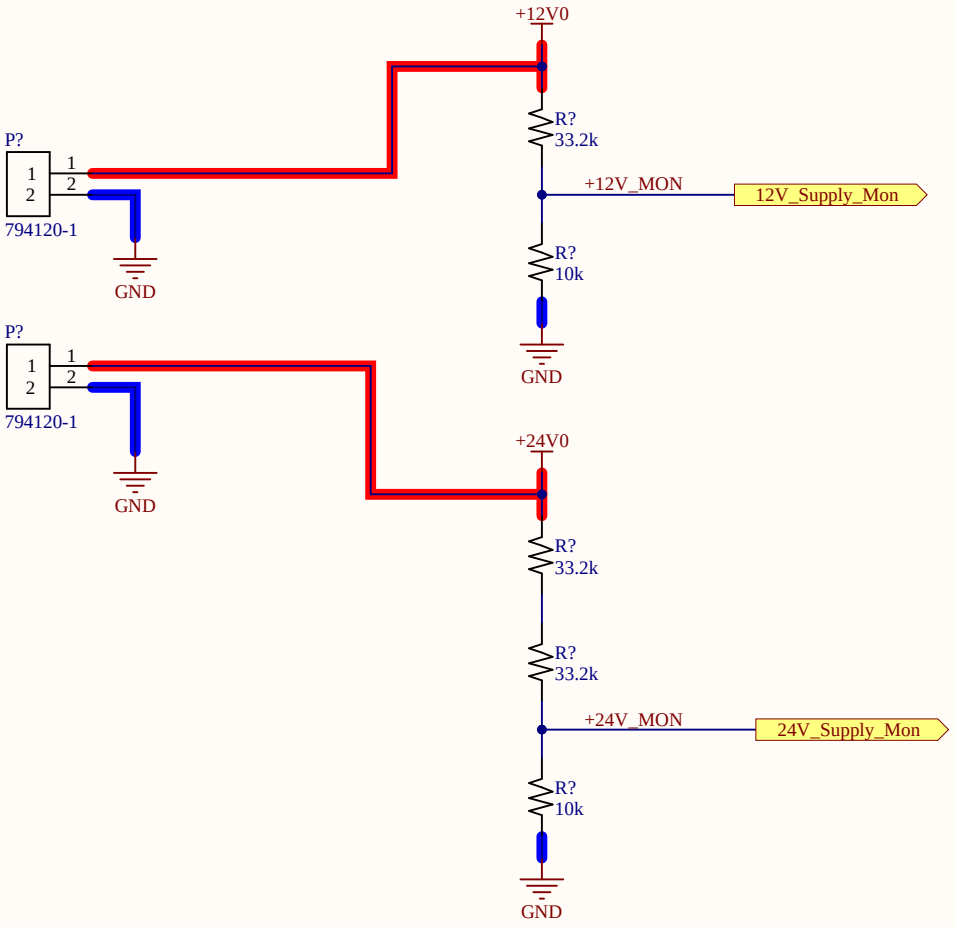
ZYLO	Project: Automated Component Testing PCB.PrjPcb		
	Sheet Title: CC Led Driver.SchDoc		
	Size: A	Sheet Number: 12	Revision: A
	Date: 12/15/2025	Sheet Total: 17	
	Time: 12:35:01 PM	Author: Hany Hamza	



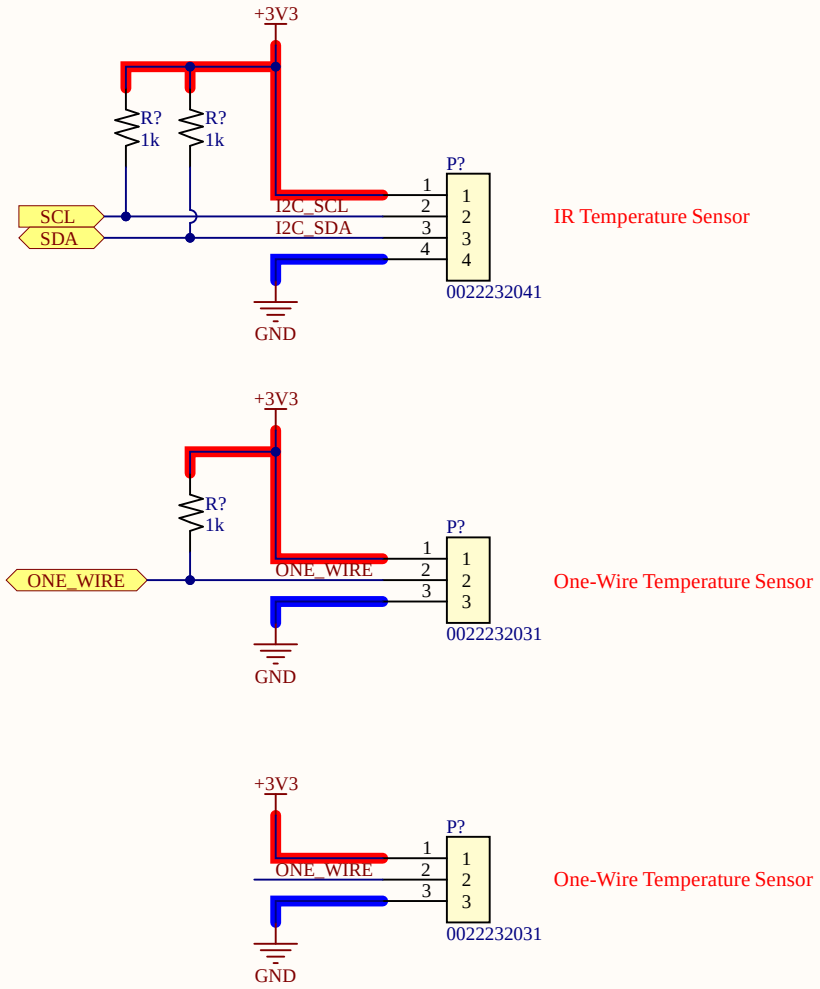
ZYLO	Project: Automated Component Testing PCB.PrjPcb		
	Sheet Title: Fan and Pump Headers.SchDoc		
	Size: A	Sheet Number: 13	Revision: A
	Date: 12/15/2025	Sheet Total: 17	
	Time: 12:35:01 PM	Author: Hany Hamza	



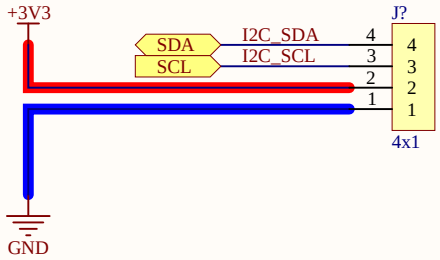
	Project: Automated Component Testing PCB.PrjPcb	
	Sheet Title: Sensors Test.SchDoc	
Size: A	Sheet Number: 14	Revision: A
Date: 12/15/2025		Sheet Total: 17
Time: 12:35:01 PM		Author: Hany Hamza



ZYLO	Project: Automated Component Testing PCB.PrjPcb		
	Sheet Title: Power Supply Test.SchDoc		
	Size: A	Sheet Number: 15	Revision: A
	Date: 12/15/2025	Sheet Total: 17	
	Time: 12:35:01 PM	Author: Hany Hamza	



Project: Automated Component Testing PCB.PrjPcb		
Sheet Title: Temperature Sensors.SchDoc		
Size: A	Sheet Number: 16	Revision: A
Date: 12/15/2025	Sheet Total: 17	
Time: 12:35:01 PM	Author: Hany Hamza	



I2C Display

Control Interface buttons or encoder?

Project: Automated Component Testing PCB.PrjPcb		
Sheet Title: Control Interface.SchDoc		
Size: A	Sheet Number: 17	Revision: A
Date: 12/15/2025	Sheet Total: 17	
Time: 12:35:01 PM	Author: Hany Hamza	

Comment	Description	Designator	Footprint	LibRef	Quantity
1uF	25V 1uF X7R±10% 0603 Ceramic Capacitors ROHS	C?	C0603	Cap_cer	1
4.7uF	10V 4.7uF X7R±10% 0603 Ceramic Capacitors ROHS	C?	C0603	Cap_cer	1
10nF	CAP CER 10nF 50V X7R 0603	C?	C0603	Cap_cer	3
10uF	CAP CER 10uF 25V X7R 1206	C?	C1206	Cap_cer	5
22nF	CAP CER 22nF 50V X7R 0603	C?	C0603	Cap_cer	1
22uF	CAP CER 22uF 10V X7R 1206	C?	C1206	Cap_cer	4
43nF	CAP CER 0.047UF 50V X7R 0603	C?	C0603	Cap_cer	1
100nF	CAP CER 100nF 50V X7R 0603	C?	C0603	Cap_cer	10
100uF	CAP ALUM 100uF ±20% 16V TH	C?	CAP THTD6.3mm	Cap_alu	2
220nF	CAP CER 220nF 50V X7R 0603	C?	C0603	Cap_cer	1
470nF	CAP CER 470nF 50V X7R 0603	C?	C0603	Cap_cer	1
1N4148WA	DIODE GP 75V 150mA SOD-123W	D?	SOD-123W	PMEG4020ETR-QX	2
Blue	LED BLUE WATER CLEAR 0805 SMD	D?	LED0805 BLUE	LED	5
GREEN	LED EMERALD GREEN WATER CLEAR 0805 SMD	D?	LED0805 GREEN	LED	30
RED	LED RED WATER CLEAR 0805 SMD	D?	LED0805 RED	LED	3
750mA Fuse	FUSE BRD MNT 750mA 250VAC/VDC 2410	F?	2410 Fuse	JFC2410-0750FS Fuse	1
4x1	CONN SOCKET 4POS 2.54mm SINGLE ROW TH	J?	Female Header 4x1 2.54mm	Pin Header Female 4x1 2.54mm	1
2086581061	CONN RCPT HDMI V2.1 19POS SMD RA	J?	HDMI	HDMI	2
5023520220	White 2P 1x2P Tin 2mm Copper Alloy 125V 2.3A 1.Surface Mount,Vertical SMD,P=2mm Headers, Male Pins ROHS	J?	5600200220	5023520202	1
Micro B	CONN RCPT USB 2.0 Micro-B 5POS SMD	J?	USB Micro THT Mounting Holes	USB Micro THT Mounting Holes	1
RJ45	CONN MOD JACK RJ45 TH R/A SHIELDED	J?	RJ45 Shielded No LED	RJ45 Shielded No LED	2
Type-A	CONN RCPT USB 2.0 Type-A 4POS TH R/A	J?	USB Type-A Right Angle THT	USB Type-A Right Angle	1
G5NB-1A-E DC12	PCB Power Relay with 1-pole, 3A/5A Switching Capability and 10kV Impulse Withstand Voltage	K?	G5NB-1A-E DC12 Relay	G5NB-1A-E DC12 Relay	1
2.2uH	FIXED IND 2.2uH 9.5A 11.2mΩ SMD,7.2x6.6mm	L?	Coil 7.2x6.6	Coil	1
22uH	FIXED IND 22uH 3A 130mΩ SMD,6.6x7.1mm	L?	Coil 9.7x9.2	Coil	1
350422-1	PCB Mount Header, Vertical, Wire-to-Board, 2 Position, 5.08 mm [.2 in] Centerline, Fully Shrouded, Pre-Tin, Commercial MATE-N-LOK	P?	POWER2-5.08	Power2	2
794120-1	PCB Mount Header, Right Angle, Wire-to-Board, 2 Position, 5.08 mm [.2 in] Centerline, Fully Shrouded, Pre-Tin, Commercial MATE-N-LOK	P?	POWER2-5.08 right angle	Power2	2
0022232021	SignalConnector, 2 leads	P?	Signal2	Signal2	6
0022232031	SignalConnector, 3 leads	P?	Signal3	Signal3	8
0022232041	SignalConnector, 4 leads	P?	Signal4	Signal4	2
Signal4	SignalConnector, 4 leads	P?	Signal4	Signal4	1
AO3400A	MOSFET N-CH 30V SOT-23-3L	Q?	SOT23-3	AO3400A	2
0R	RES 0Ω ±5% 100mW 0603	R?	R0603	Res	1
1k	RES 1kΩ ±5% 100mW 0603	R?	R0603	Res	37
10k	RES 10kΩ ±1% 100mW 0603	R?	R0603	Res	16
33.2k	RES 33.2kΩ ±1% 100mW 0603	R?	R0603	Res	4
400m	400mΩ 1W ±100ppm/°C Thin Film Resistor ±1% 1206 Chip Resistor - Surface Mount ROHS	R?	R1206	Res	1
910R	RES 910 OHM 1% 1/10W 0603	R?	R0603	Res	1
A1308LLHLX-05-T	SOT-23W Linear 0.5mV/Gauss, Compass (IC's) RoHS	U?	SOT23-3	A1308LLHLX-05-T Magnetometer	1
DRV8424RGER	Stepper Drivers With Integrated Current Sense, 1/256 Microstepping, STEP/DIR Interface and smart tune Technology	U?	DRV8425RGER	DRV8424RGER	1
LM2940IMPX-5.0/NOPB	72dB@(120Hz) Positive Fixed 5V SOT-223-4 Voltage Regulators - Linear, Low Drop Out (LDO) Regulators ROHS	U?	SOT-223	LM2940IMPX-5.0/NOPB	1
MAX6675ISA+T	Cold-Junction-Compensated K-Thermocouple-to-Digital Converter	U?	SOIC-8	MAX6675ISA+T	1
STM32F103C8T6	ARM MCU 72MHz 128kb Flash 20Kb SRAM LQFP-48(7x7) Microcontrollers ROHS	U?	STM32-LQFP48	STM32F103C8T6	2
TPS54201	IC REG BUCK ADJ 1.5A TSOT23-6	U?	SOT23-6	TPS54201	1
TPS563201DDCR	580kHz 3A Buck Adjustable 768mV~7V 1 SOT-23-THIN-6 Voltage Regulators - DC/DC Switching Regulators ROHS	U?	SOT23-6	TPS563201DDCR	1
8MHz	8MHz 10pF 40Ω SMD3213-3P Resonators ROHS	Y?	Resonator-SMD3213-3P	Resonator	1