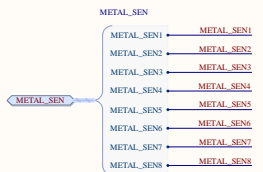
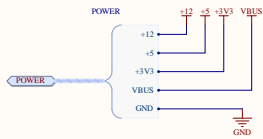
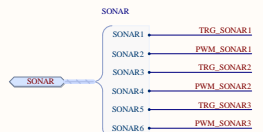


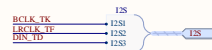
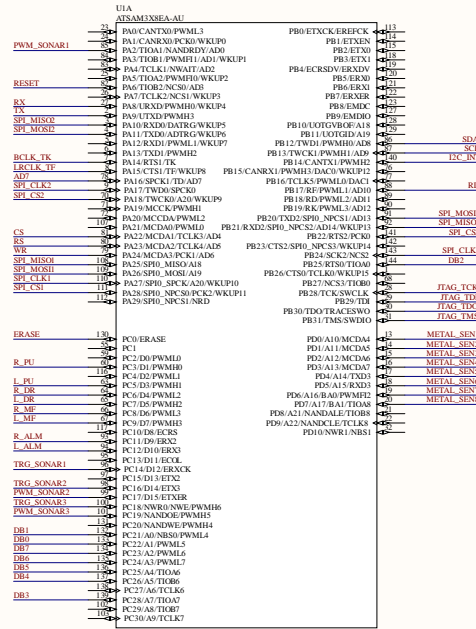
Title			Restaurant Robot
Size	Number	Revision	
A4	1-Top	REV 1	
Date:	5/30/2025	Sheet1 of 8	
File:	C:\Users\...\Top.SchDoc	Drawn By: Piumal	



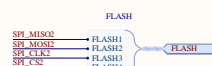
Signals to the Motor Driver



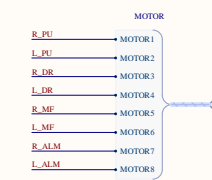
Signals to the Sonar Sensors



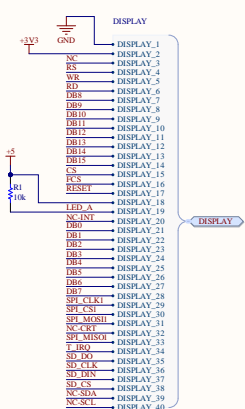
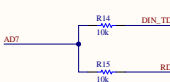
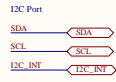
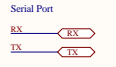
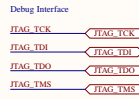
I2S line is used to transmit data to Sound DAC



Flash Memory with SPI



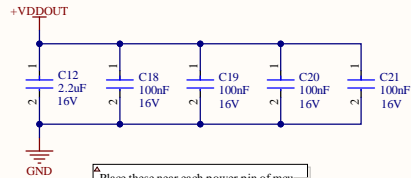
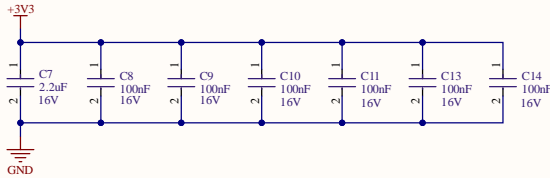
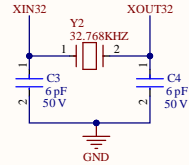
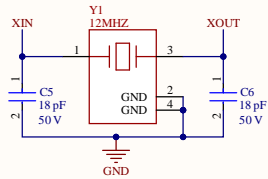
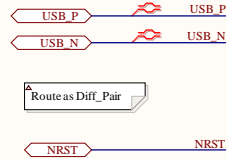
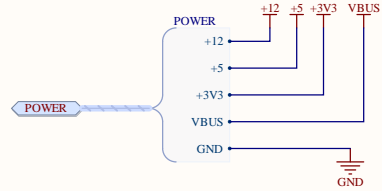
Signals to the Motor Driver



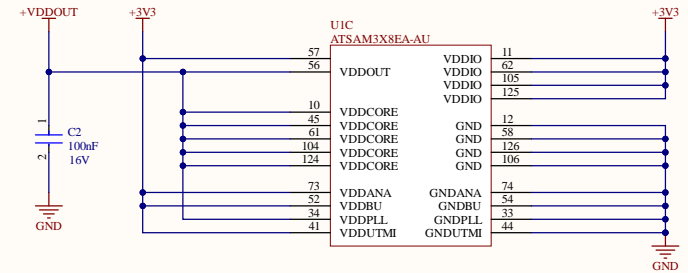
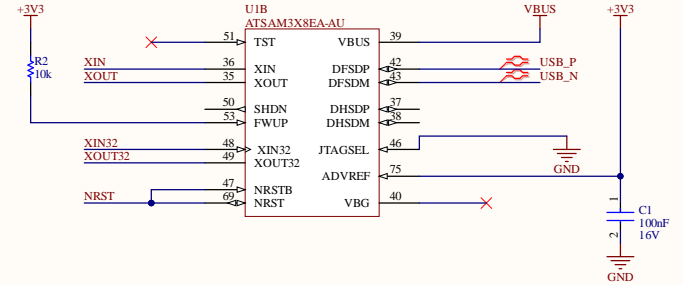
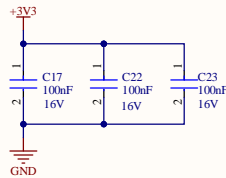
Display Connector

Need to add JTAG/SWD as alternating programming port. Read about ERASE pin and JTAGSEL. And what are needed to flash firmware into clean chip

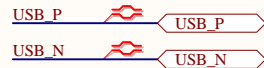
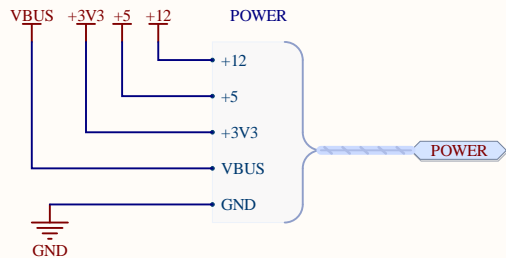
Title			
Restaurat Robot			
Size	Number	Revision	
A2	2-SAM3X_Main	REV 1	
Drawn	5/30/2025	Sheet of	3
File:	C:\Users\3AM3X\PCU\SchDoc	Drawn By:	Pinnaul



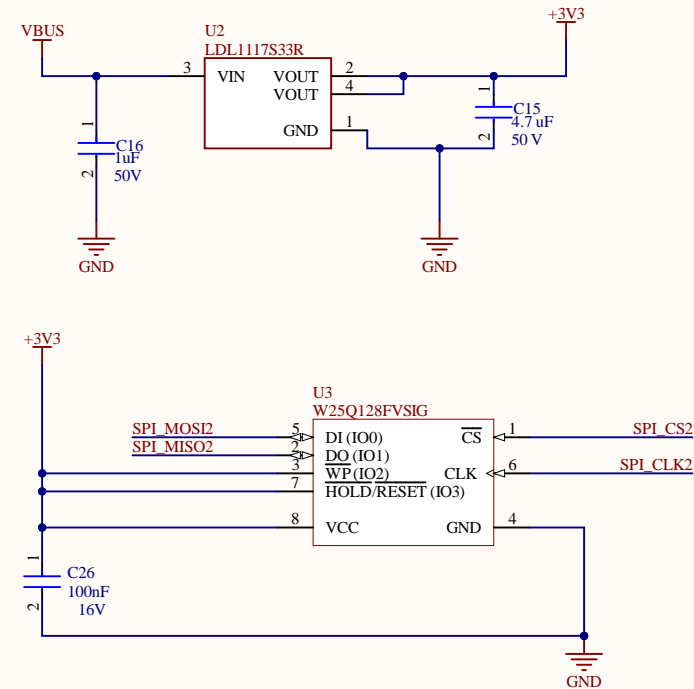
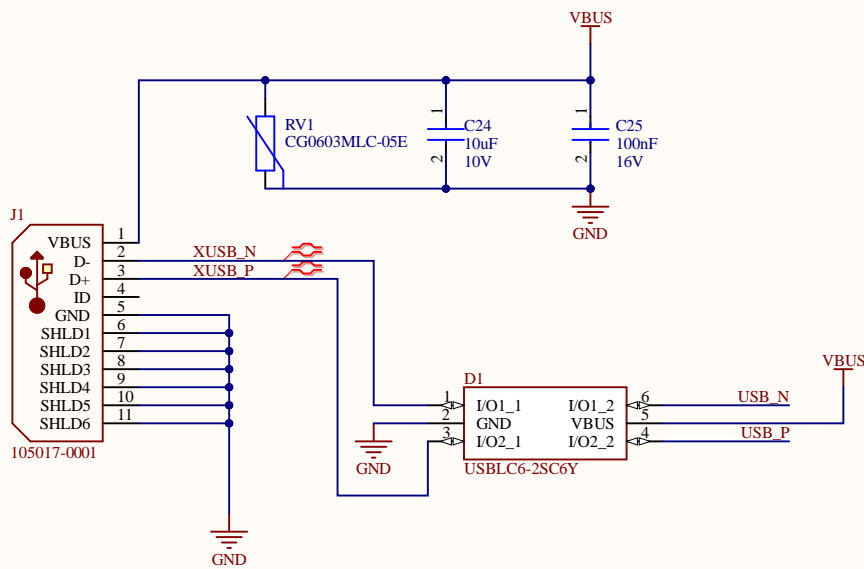
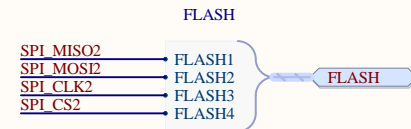
Place these near each power pin of mcu



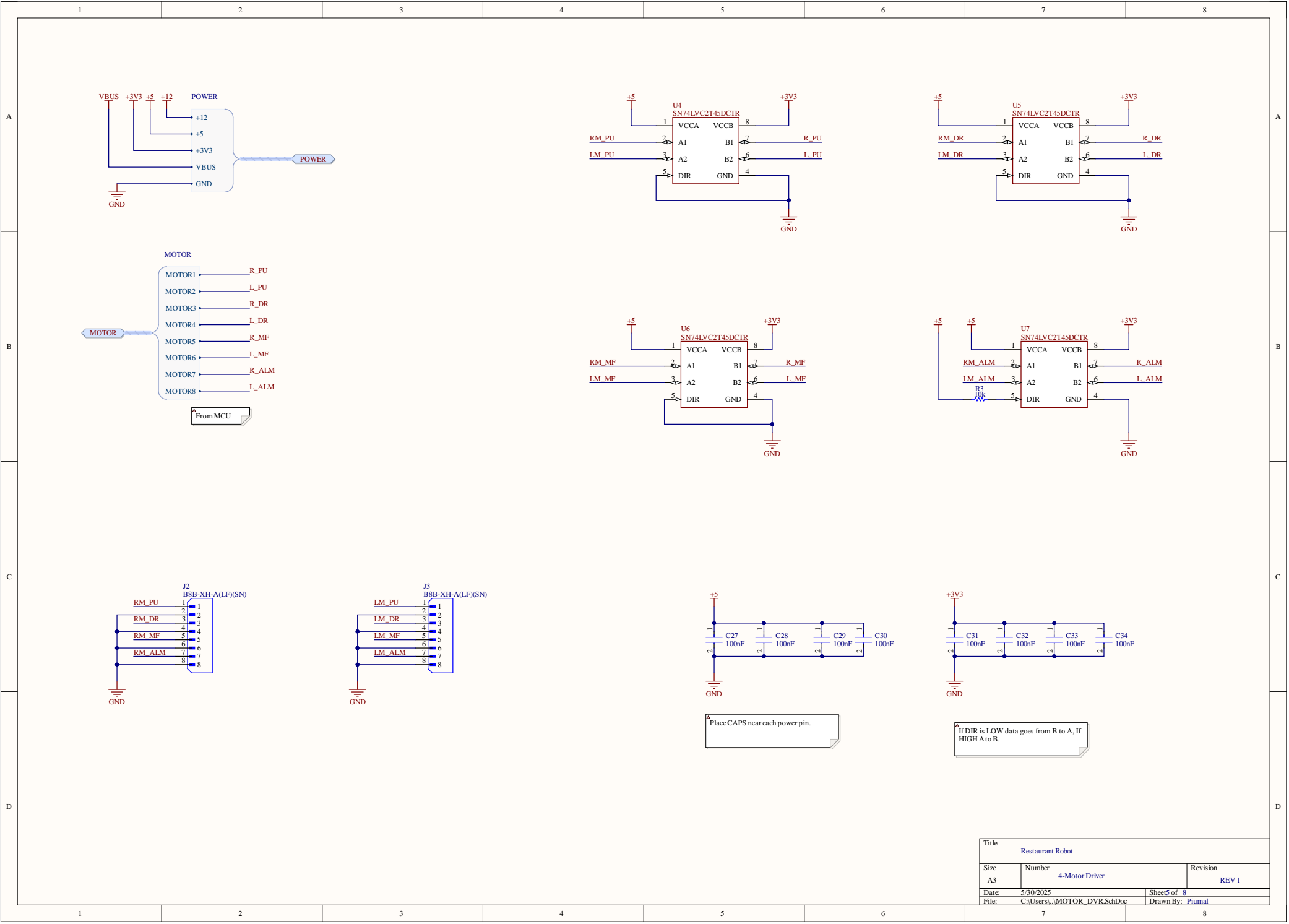
Title		
Restaurant Robot		
Size	Number	Revision
A3	2-SAM3X_Power and USB	REV 1
Date:	5/30/2025	Sheet3 of 8
File:	C:\Users\...\SAM3X_MCU2.SchDoc	Drawn By: Piumal

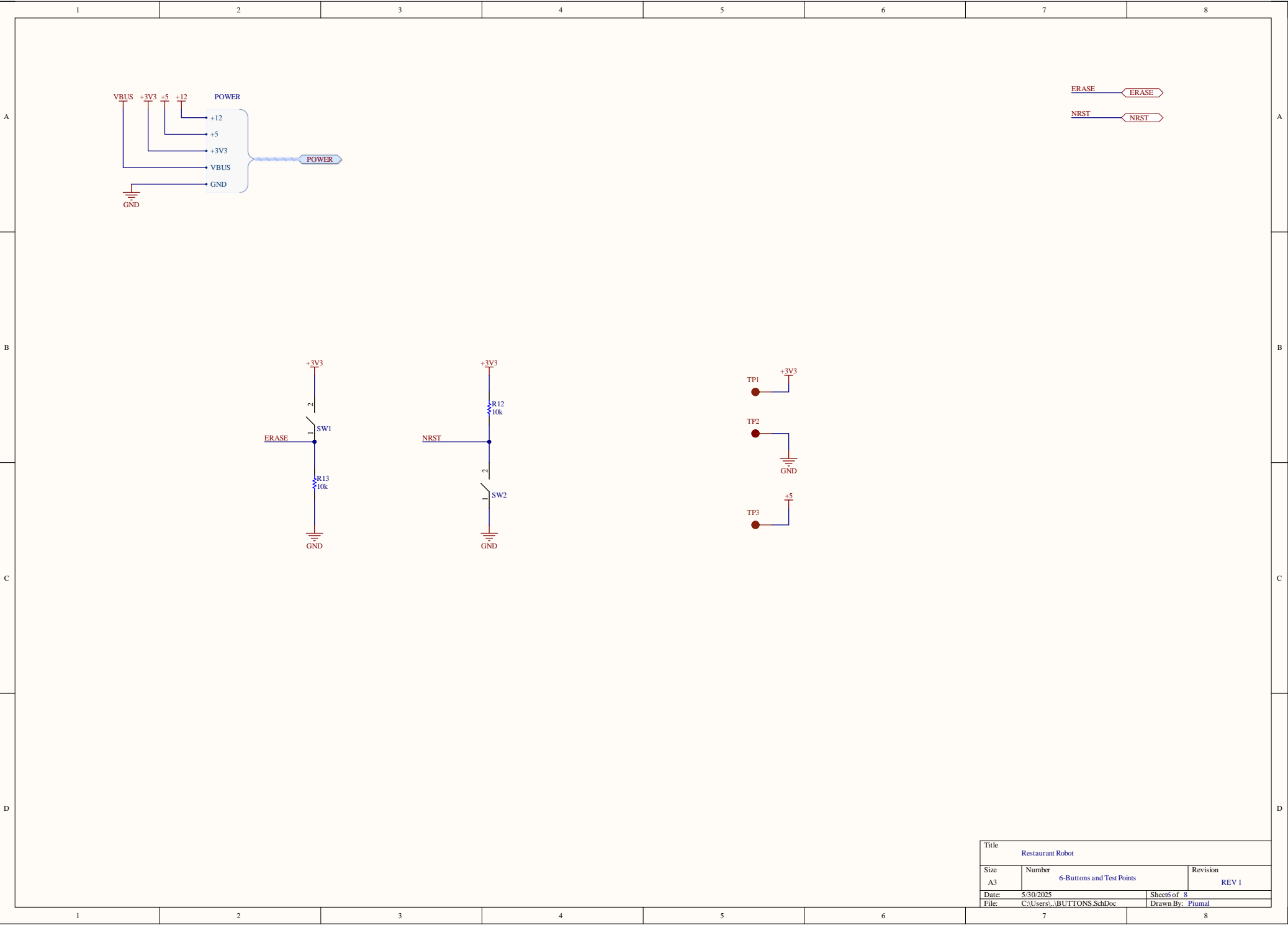


Route as Diff\_Pair

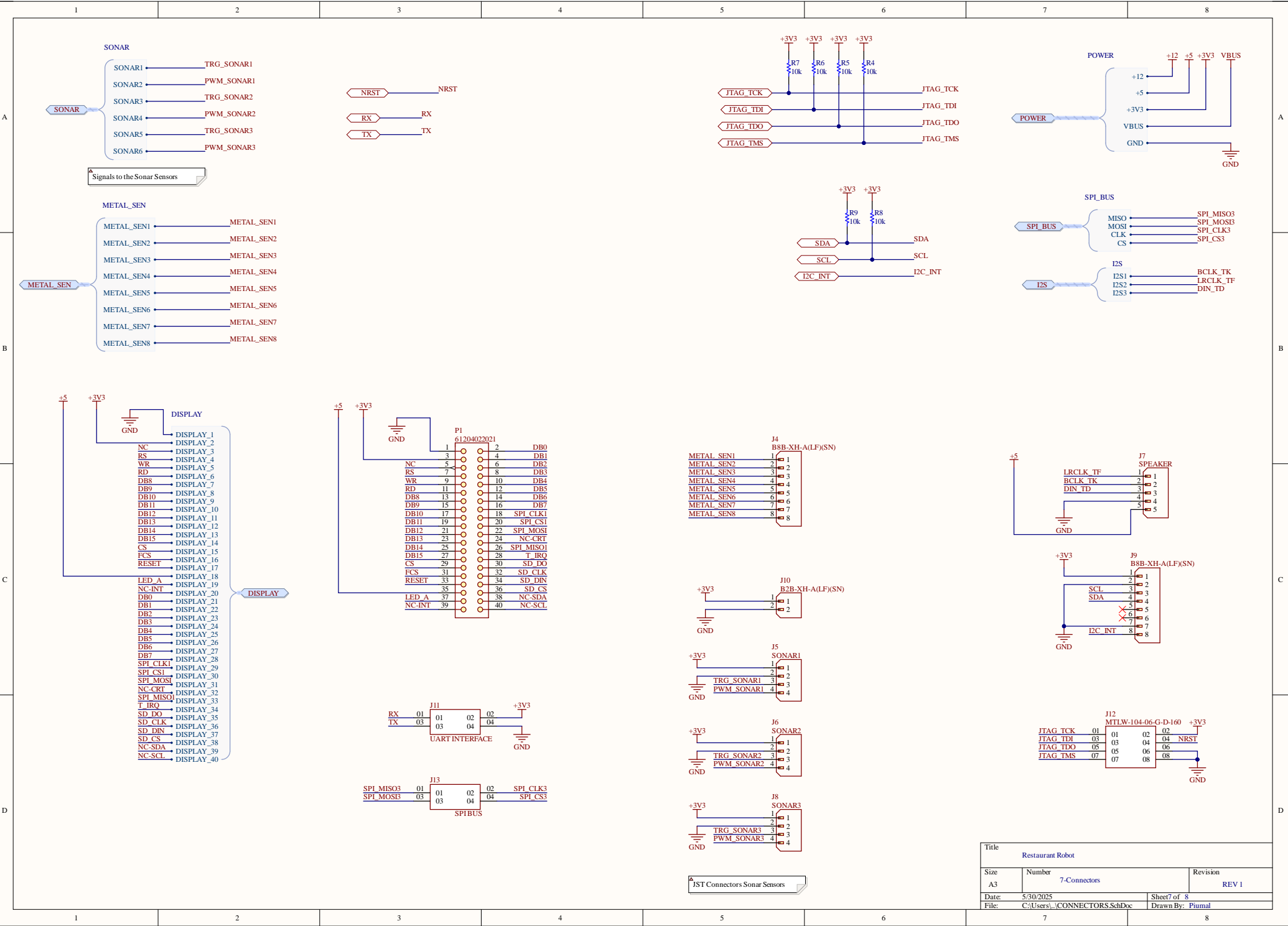


Title Restaurant Robot		
Size A4	Number 4-USB	Revision REV 1
Date: 5/30/2025	Sheet4 of 8	
File: C:\Users\...\USB.SchDoc	Drawn By: Piumal	

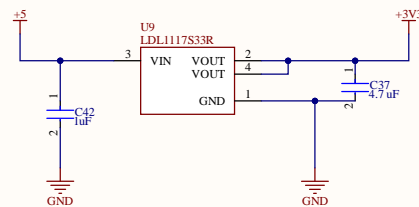
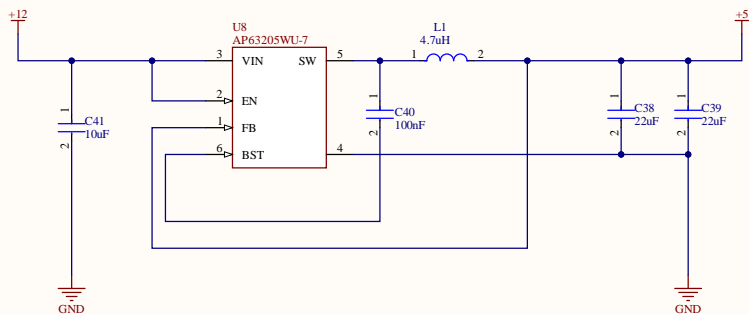
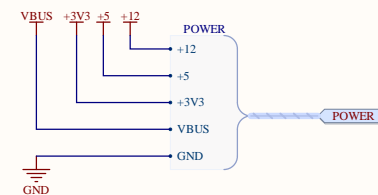
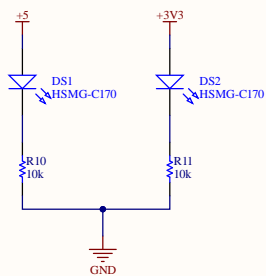
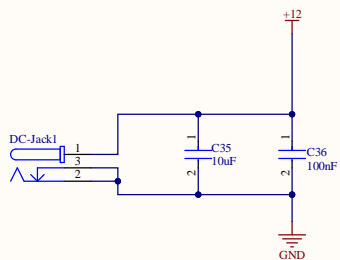




Title		
Restaurant Robot		
Size	Number	Revision
A3	6-Buttons and Test Points	REV 1
Date:	5/30/2025	Sheet6 of 8
File:	C:\Users\...\BUTTONS.SchDoc	Drawn By: Piumal

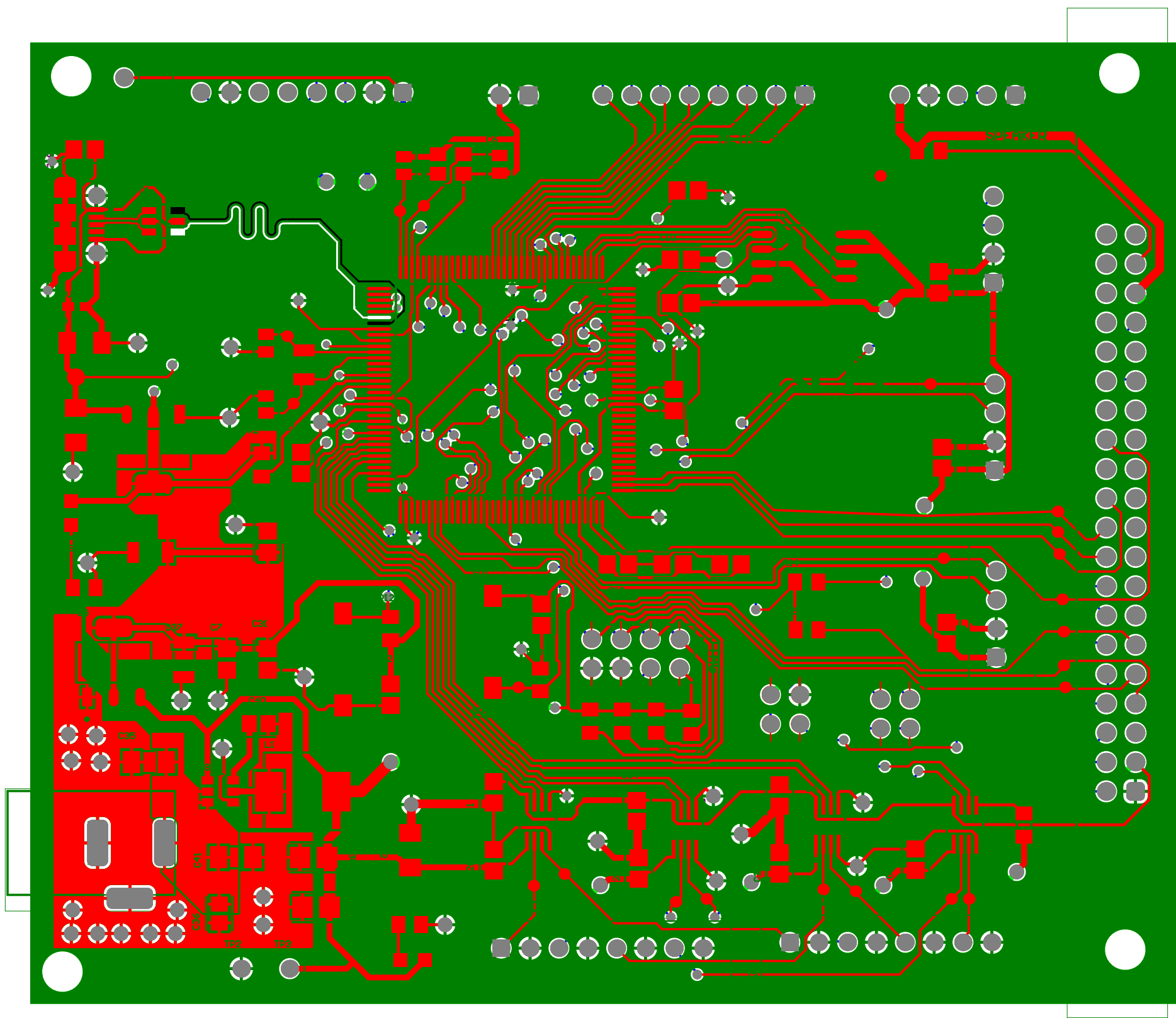


Title			
Restaurant Robot			
Size	Number	Revision	
A3	7-Connectors	REV 1	
Date:	5/30/2025	Sheet7 of 8	
File:	C:\Users\...CONNECTORS.SchDoc	Drawn By: Piumal	



Title			
Restaurant Robot			
Size	Number	Revision	
A3	8-Power	REV 1	
Date:	5/30/2025	Sheet8 of 8	
File:	C:\Users\...\POWER.SchDoc	Drawn By: Piumal	





Line #	Name	Description	Designator	Revision ID	Revision Status	Quantity	Manufacturer 1	Manufacturer Part Number 1	Manufacturer Lifecycle 1	Supplier 1	Supplier Part Number 1	Supplier Unit Price 1	Supplier Subtotal 1
	CL21B104KOMNMC	CL21 Series 0805 104K 47K 10% Tolerance X7R Multilayer Ceramic Chip Capacitor C1, C2, C8, C9, C10, C11, C13, C14, C17, C18, C19, C20, C21, C22, C23, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34				25	Samsung	CL21B104KOMNMC	Volume Production				
	0805C120B6GCTU	CAP CER 120F 50V 0805X7R0805 C1, C4, C5, C6				4	HEMET	0805C120B6GCTU	Volume Production	Farnell	1414666	0.04389	0.43888
	CL21A229CF7NNG	CL21 Series 0805 2.2uF 16V ±10% Tolerance X7R Multilayer Ceramic Chip Capacitor C7, C12				2	Samsung	CL21A229CF7NNG	Volume Production				
	CC1206KXX7R9BB475	CAP CER 4.7UF 50V X7R 1206 C15, C37				2	Pagco	CC1206KXX7R9BB475	Volume Production	Arrow Electronics	CC1206KXX7R9BB475	0.3612	0.7224
	1206C100KAT2A	General Purpose Ceramic Capacitor, 1206, 1uF, 10%, X7R, 10%, 50V				2	Wipacora AVX	1206C109KAT2A	Volume Production	Newark	1096014	0.096	0.192
	1206Z0106KAT2A	General Purpose Ceramic Capacitor, 1206, 10uF, 10%, X5R, 10%, 10V				3	Wipacora AVX	1206Z0106KAT2A	Volume Production	Farnell	1327730	0.30179	1.51
	104H	Automotive Ceramic Capacitor, 0805, 100uF, 10%, X7R, 10%, 100V				2	Wipacora AVX	0805C1104KAT2A	Volume Production	Digley	478 484Z1K072A104MUCT- ND	0.28	0.56
	C3216XSR1E22M160AB	Ceramic Capacitors 22uF ±20% 25V X5R SMD 1206				2	TDK	C3216XSR1E22M160AB	Volume Production	Newark	0403296	0.4	0.8
	USBLCA-23CAY	TV Clamp SA 80/20uF Top Tin Diode Surface Mount 902-23.4				1							
	494106301002	IC-Back1				1	Würth Electronics	494106301002	Volume Production	Digley	732-5935-ND	0.92	0.92
	HMGC-C170	Chip, LED, Green, 2.2V, 40 to 80 deg., 2-Pin SMD, Pb-Free, Tape and Reel				2	Broadcom Avago	HMGC-C170	Volume Production	Mouser	430-HMGC-C170	0.28	0.56
	105017-0001	Micro-USB B Receptacle, Right Angle, Bottom Mount, Surface Mount, with Solder Tabs, 30 to 85 deg., 5-Pin USB, RoHS, Tape and Reel				1	Molex	1050170001	Volume Production	Arrow Electronics	1050170001	0.3241	0.3241
	BBB-XH-ADJ(DN)	Connector Header Through Hole 8 position 0.098 (2.50mm)				4							
	SCNA01	Connector Header Through Hole 4 position 0.098 (2.50mm)				1							
	SCNA02	Connector Header Through Hole 4 position 0.098 (2.50mm)				1							
	SPEAKER	Connector Header Through Hole 1 position 0.098 (2.50mm)				1							
	SCNA03	Connector Header Through Hole 4 position 0.098 (2.50mm)				1							
	B2B-XH-ADJ(DN)	Connector Header Through Hole 2 position 0.098 (2.50mm)				1							
	UART INTERFACE	Connector Header Through Hole 4 position 0.100 (2.54mm)				1							
	MTLW-104-06-G-D-160					1							
	MTLW-102-XX-X-D-XXX	Connector Header Through Hole 4 position 0.100 (2.54mm)				1							
	H4J2525DER467M01	Commercial Induction, High Saturation Series 4.7uH 4.5A 33mΩ 20%				1	Wahy Dale	H4J2525DER467M01	Volume Production	Newark	55A4308	0.544	0.544
	61204022021					1	Würth Electronics	61204022021	Volume Production	Digley	732-5435-ND	2.79	2.79
	RC0805LR-0710KL	Chip Resistor 10 KOhm, ±1%, 0.125 W, 55 to 155 deg., 0805, 2013 Mating, RoHS, Tape and Reel				15	Pagco	RC0805LR-0710KL	Volume Production	Mouser	463-RC0805LR-0710KL	0.011	0.165
	CG603MLC-05E	ESD Protector 5 V Supply, 40 to 85 deg., 1.4 x 0.8 x 4 0.55 mm SMD, RoHS, Tape and Reel				1	Bourns	CG603MLC-05E	Not Recommended for New Design	Mouser	463-CG603MLC-05E	0.25	0.25
	SWITCH	SWITCH TACTILE SPST NO/NC 0.054 12V				2							
	8000	End Point Miniature 10uH M 300 Nylon 46 Insulated Bead Phosphorus/Silver Epoxym Electronics 5000				3							
	AT5A0306EA-AU	5A03A ARM Cortex-M33 Flash- based Microcontroller, 512 KB Flash, 96 KB SRAM, 103 User I/Os, 1.42 to 3.6 V, 40 to 85 deg., 144-Pin QFP, BGA5				1	Microchip	AT5A0306EA-AU	Volume Production	Mouser	556-AT5A0306EA-AU	13.15	13.15
	DL1117533R	IC REG LREG AR 1.3V 1.2A 502223 12V				2	STMicroelectronics	DL1117533R	Volume Production	Newark	144CA965	0.115	0.23
	W25Q128FVSG	1V 128M Bit Serial Flash Memory with Dual/Quad SPI & QPI, 2.7 to 3.6 V, 40 to 85 deg., 8-Pin SOIC, RoHS, Tape and Reel				1	Winbond	W25Q128FVSG	Obsolete				
	SN74VUC2745DCTR	IC TRN5 TR BU50V5C7404 SMB				4	Texas Instruments	SN74VUC2745DCTR	Volume Production	Arrow Electronics	SN74VUC2745DCTR	0.3586	1.43
	AP43D05WU-7	IC REG BACK-UP 2A 750723				1	Diodes	AP43D05WU-7	Volume Production	Mouser	621-AP43D05WU-7	0.71	0.71
	12MHZ	Crystal 12MHz ±30ppm (Typ) ±30ppm Stability F100 1202 4-Pin SMD 128				1	Abrakon	ABM8G-12.000MHZ-18-D2Y-T		Mouser	815-ABM8G-12.18D2Y	0.48	0.48
	32.768KHZ	13.768-KTD-MJA 14 Parallel - Fundamental Quartz Crystal, 0.032768MHz Ream				1	NEC	NX32155A-32.768K-STD-MJA-14	Volume Production	Mouser	344-NX32155A32768K14	0.68	0.68