

Revision History:

Date:	Revision:	Comments:
02-MAR-2023	A	Initial Revision Additional Notes:



Important Notes about this Schematic:

Notes in these schematics are shown in this Note object format.

Revision History and Table of Contents

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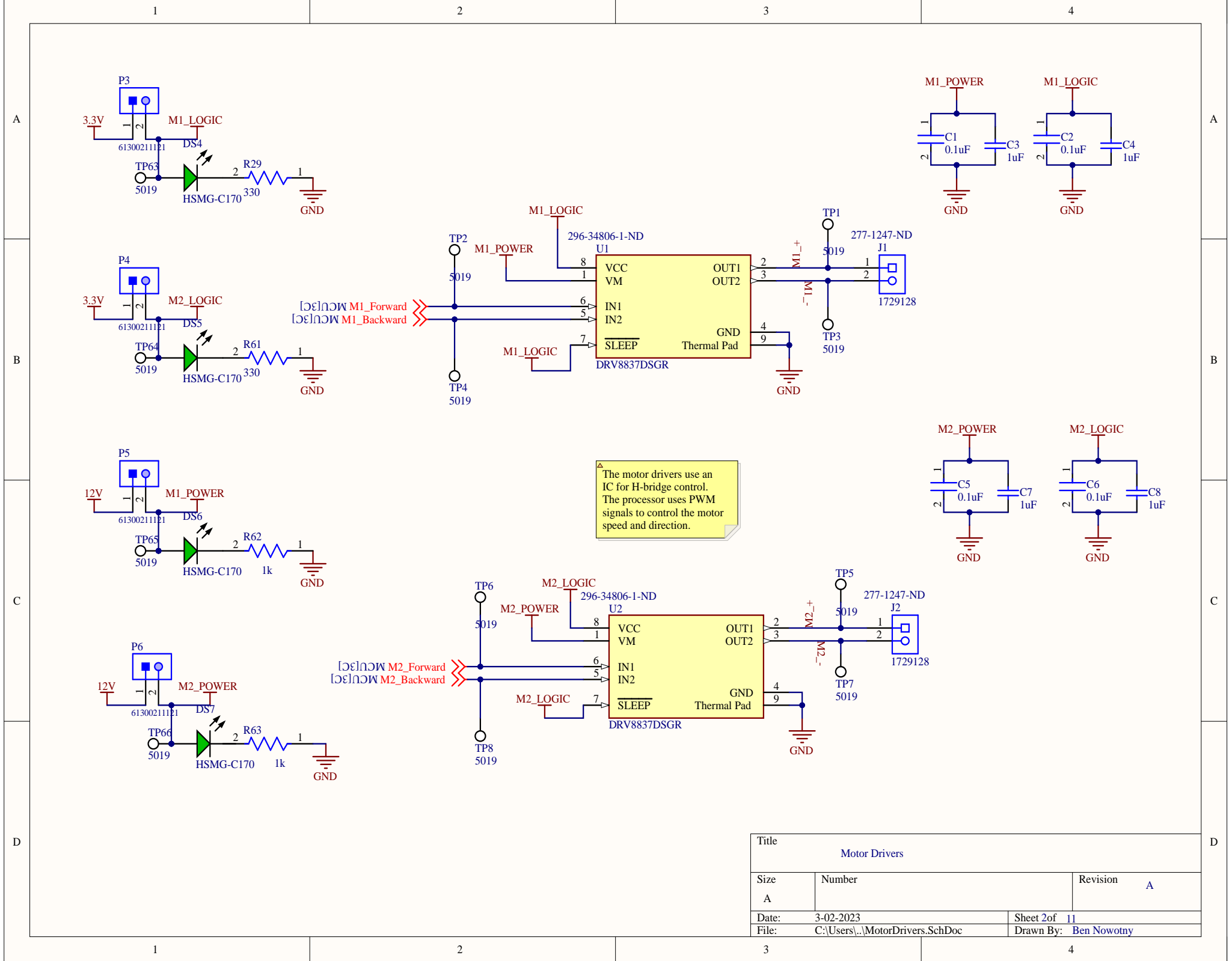
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REVISION HISTORY

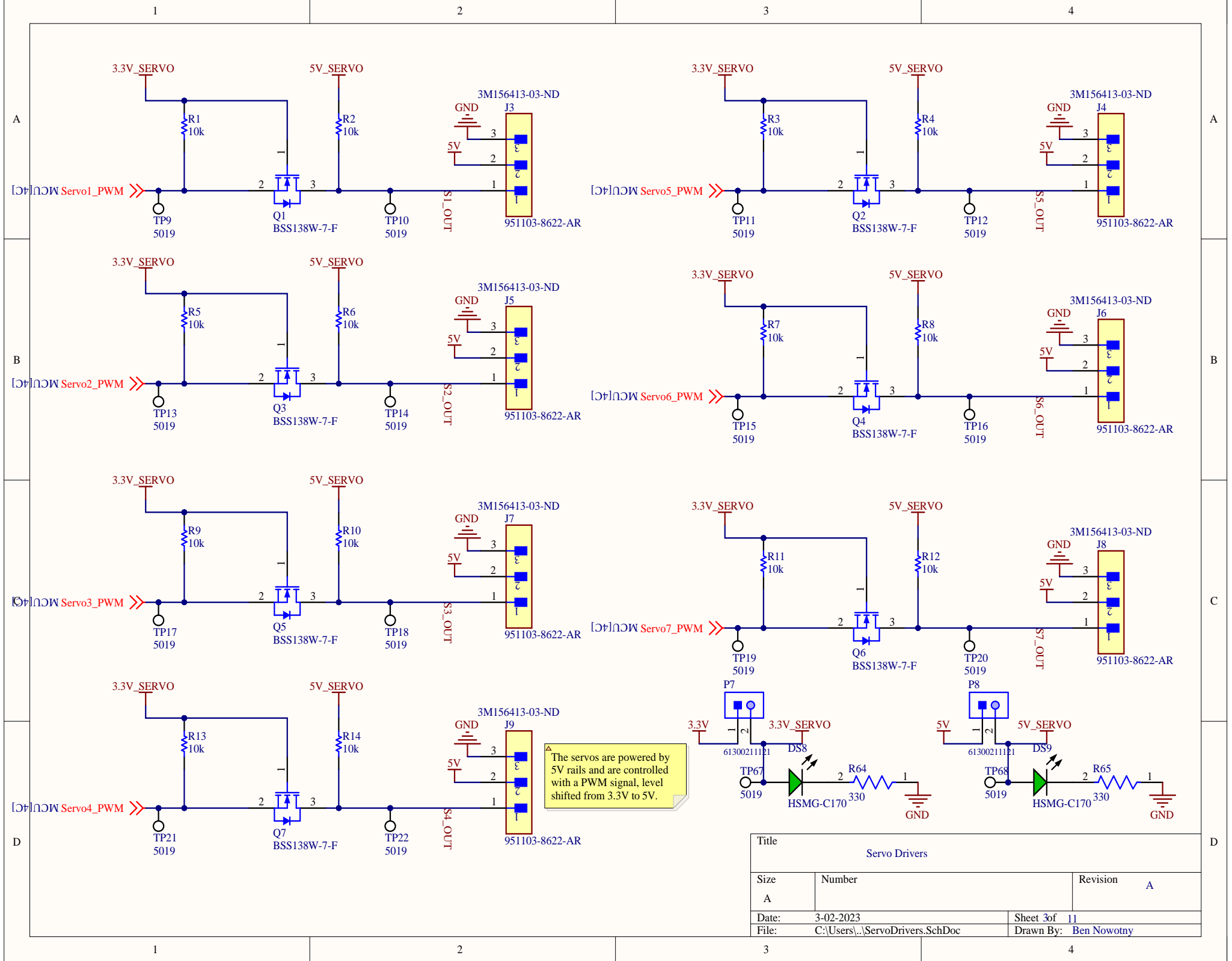
REV A: Initial Release



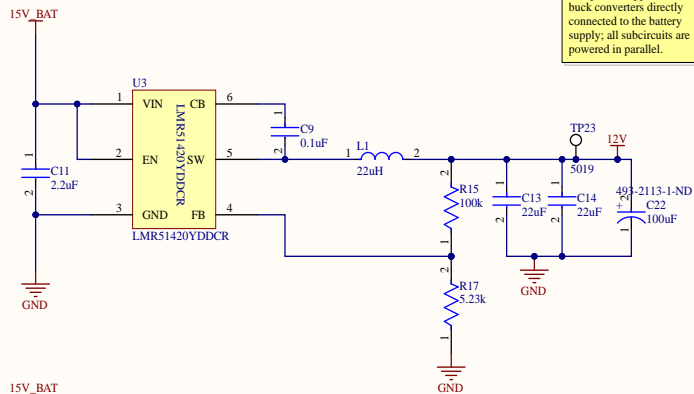
Title		
Table of Contents		
Size	Number	Revision
A		A
Date:	3-02-2023	Sheet 1 of 11
File:	C:\Users\...\00-Revision_History_and_Contents.Dwg	
Drawn By:	DumtruckUltra	



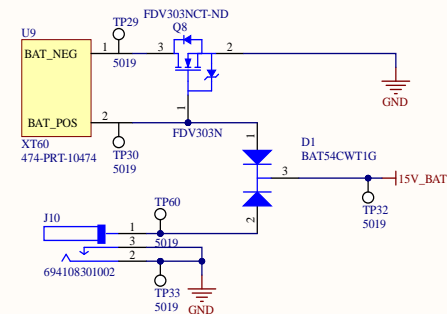
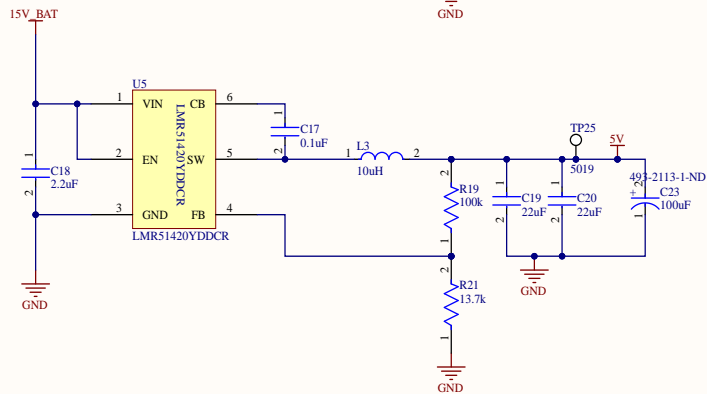
Title		
Motor Drivers		
Size	Number	Revision
A		A
Date:	3-02-2023	Sheet 2 of 11
File:	C:\Users\...\MotorDrivers.SchDoc	Drawn By: Ben Nowotny



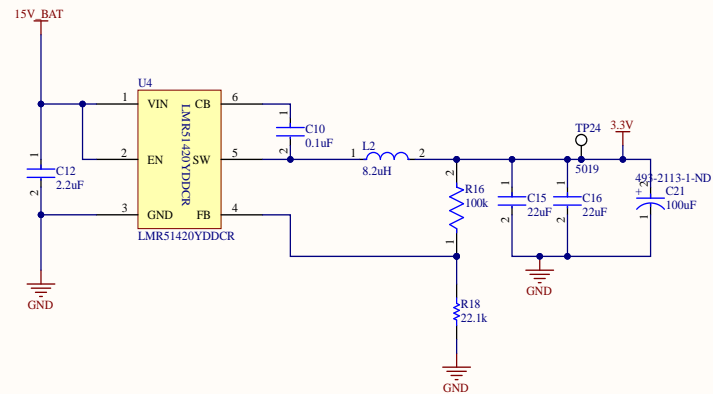
Title		
Servo Drivers		
Size	Number	Revision
A		A
Date:	3-02-2023	Sheet 3of 11
File:	C:\Users\...\ServoDrivers.SchDoc	Drawn By: Ben Nowotny



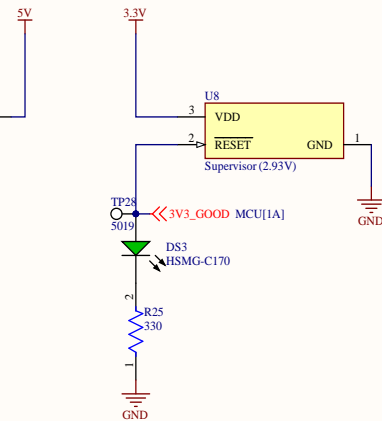
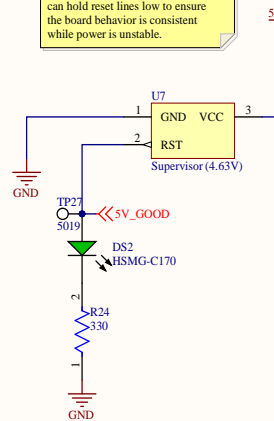
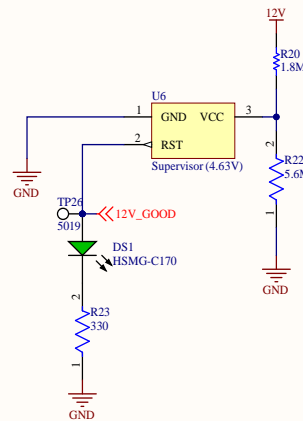
The power supplies are buck converters directly connected to the battery supply; all subcircuits are powered in parallel.



The circuit can be powered by either a 15V battery or a 12V wall adapter. Either way, the circuit sees power from the regulators.



The supervisor chips support power-good LEDs to visually inspect the state of the power and can hold reset lines low to ensure the board behavior is consistent while power is unstable.



Title		
Power Distribution		
Size	Number	Revision
B		A
Date:	3-02-2023	Sheet 4 of 11
File:	C:\Users\...PowerDistribution.SchDoc	Drawn By: Ben Nowotny

A

A

B

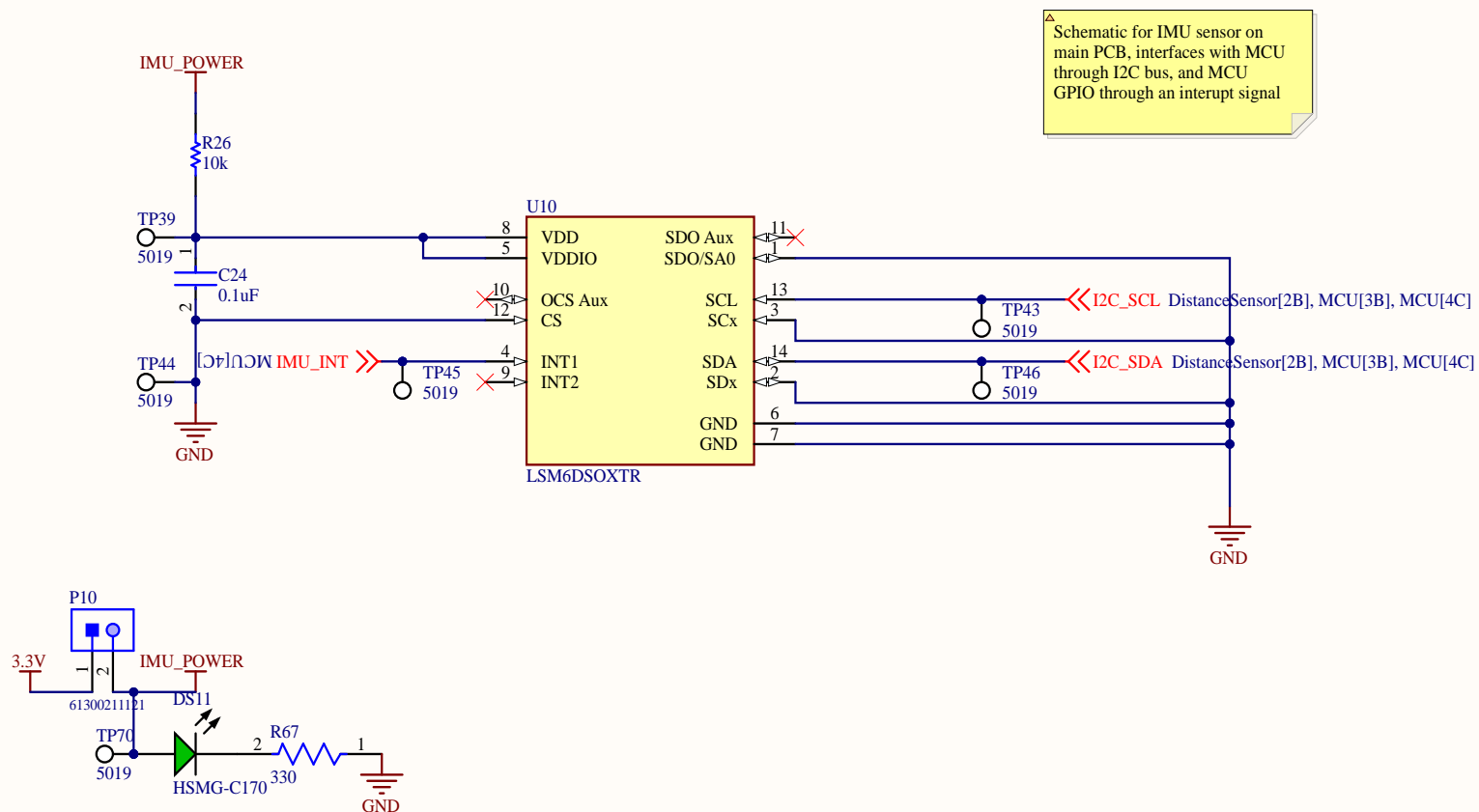
B

C

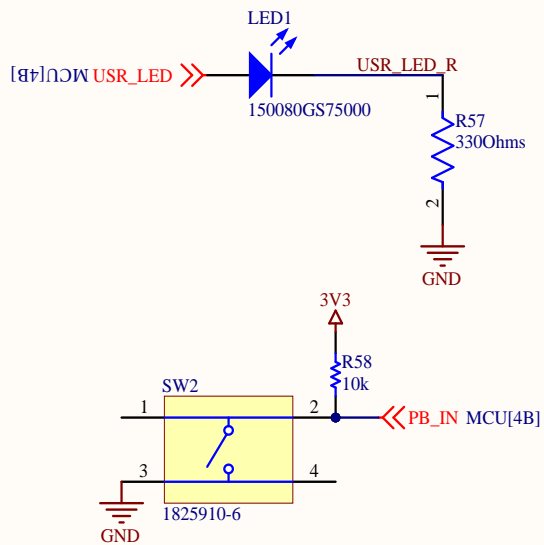
C

D

D

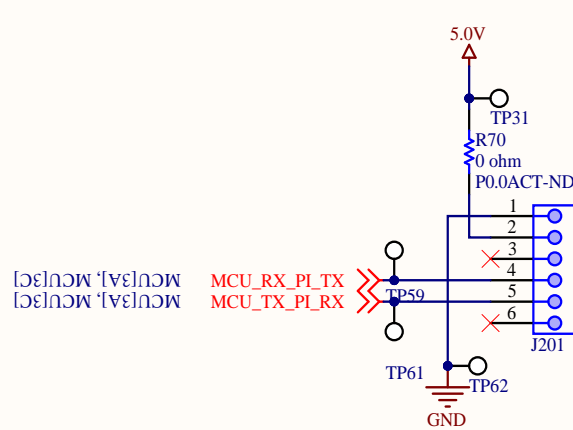


Title		
IMU		
Size	Number	Revision
A		A
Date:	3-02-2023	Sheet 6of 11
File:	C:\Users\...\IMU.SchDoc	Drawn By: Abishek Kannan



These components serve to help debug the processor and work with GPIO pins without other complicated hardware. During normal operation, the button can be unpopulated.

Title			
Microprocessor Debug			
Size	Number		Revision
A			A
Date:	3-02-2023	Sheet 8 of 11	
File:	C:\Users\...\MCUDebug.SchDoc	Drawn By:	Sushanth Rao



This is the 6 Position Header connector between the UART and the microprocessor. We label Pins 4 and 5 as our transmit and receive pins, connect two pins to ground and 5.0V, and disable the other two pins since the UART is only used to communicate with the Raspberry Pi.



Title			Pi UART	
Size	Number		Revision	
A			A	
Date:	3-02-2023		Sheet 10 of 11	
File:	C:\Users\...\UART.SchDoc		Drawn By:	Paul Pak

A

B

C

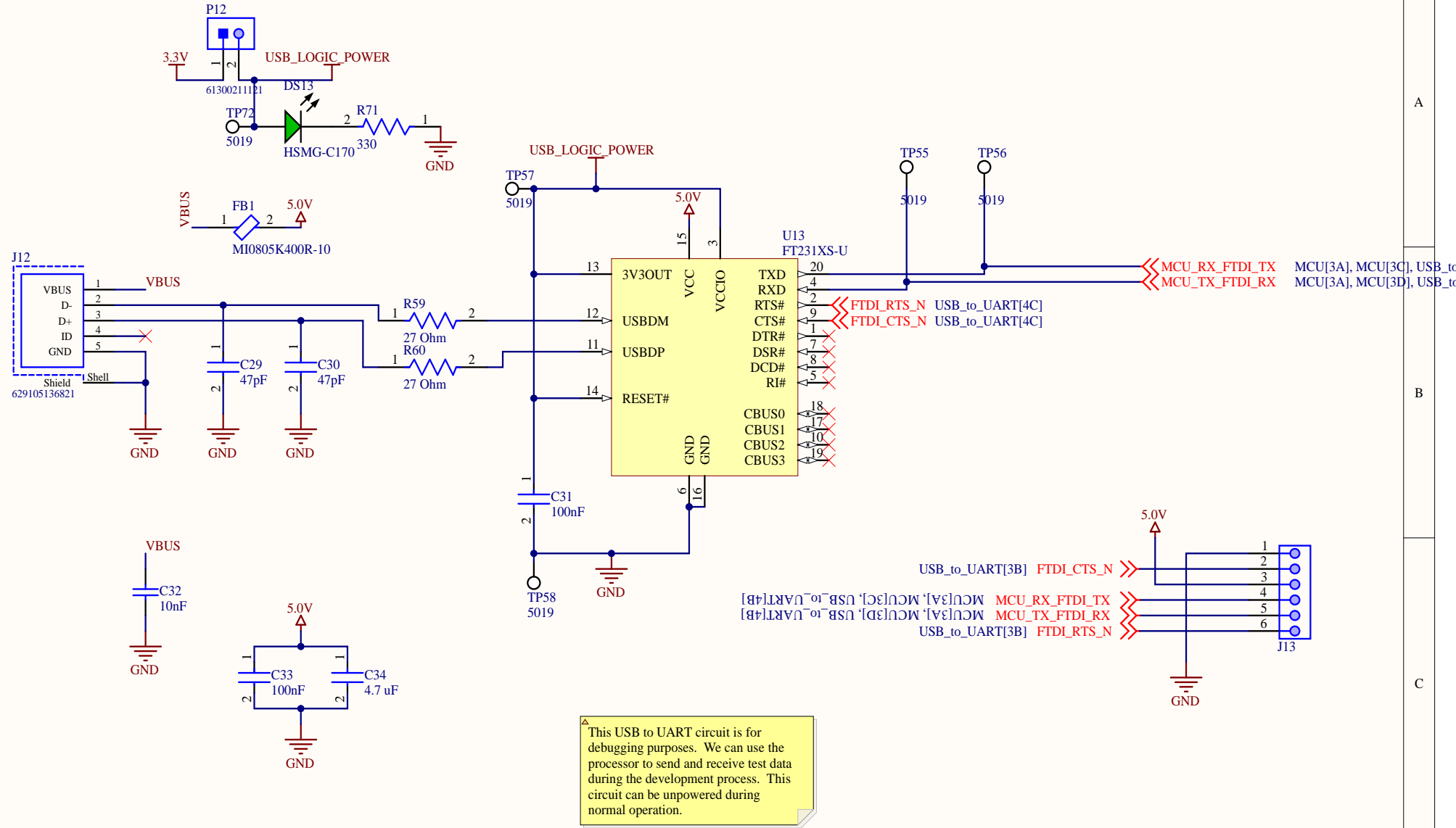
D

A

B

C

D



Title		
USB to UART - DEBUG		
Size	Number	Revision
A		A
Date:	3-02-2023	Sheet 1 of 11
File:	C:\Users\...\USB_to_UART.SchDoc	Drawn By: Sushanth Rao