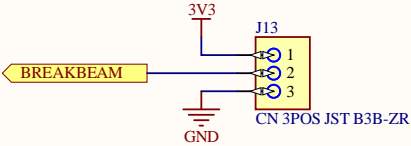
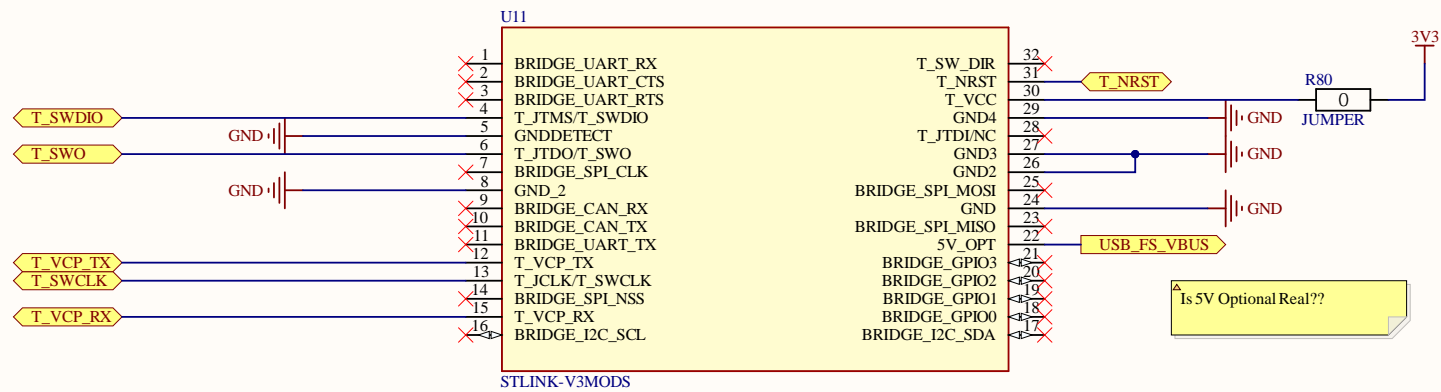


Breakbeam Interface



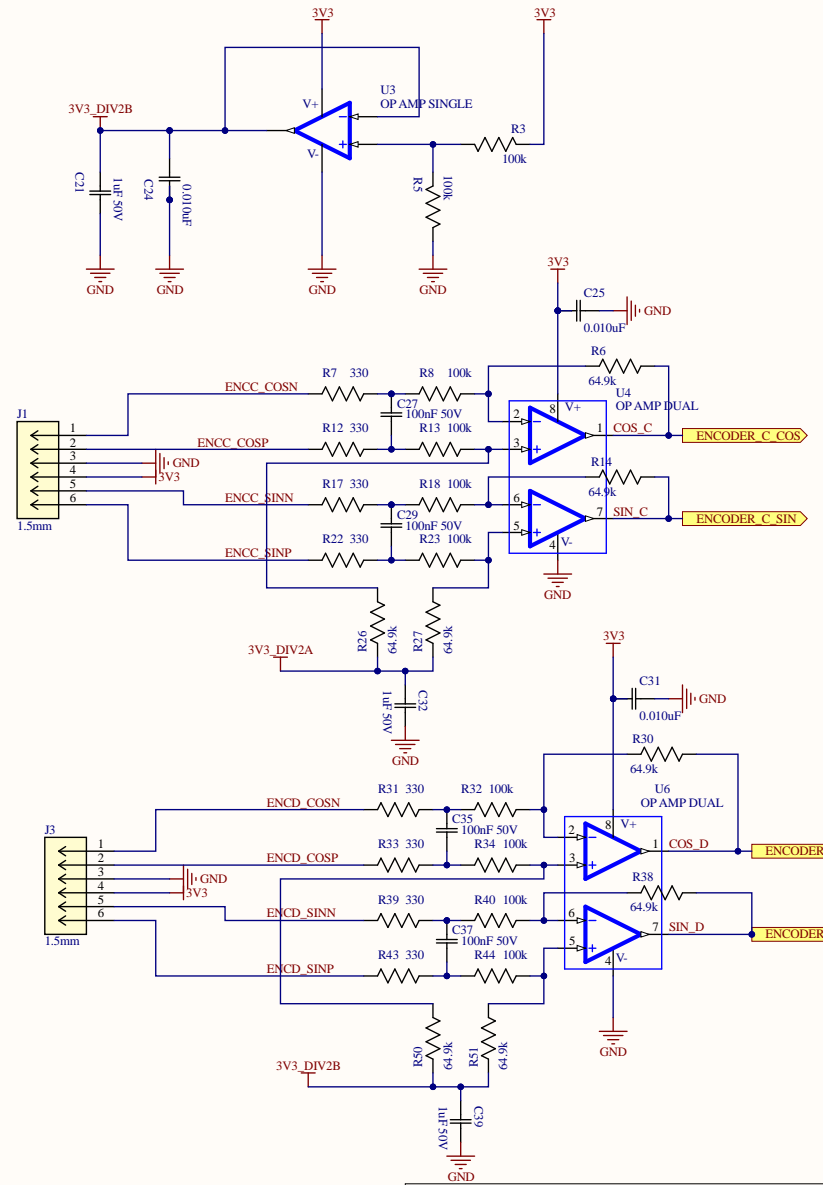
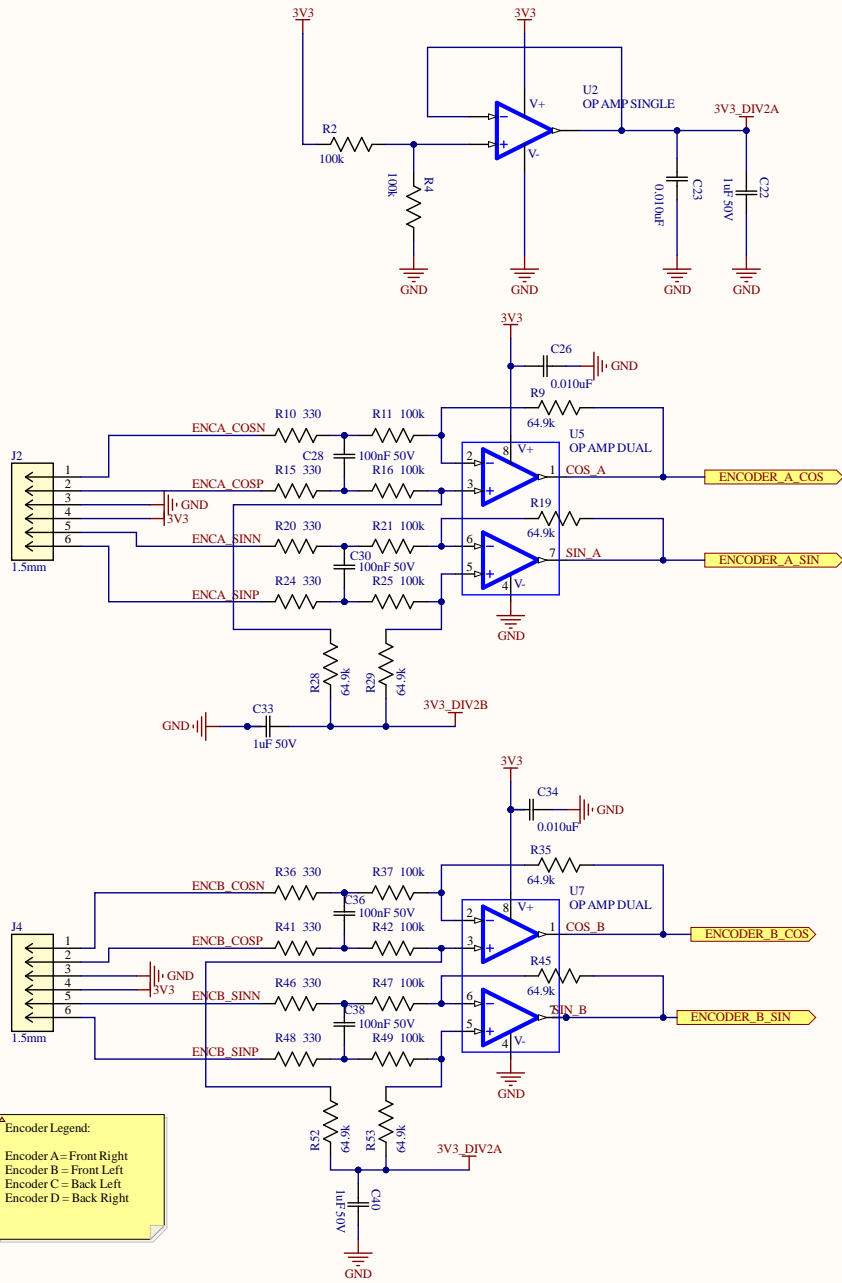
Title		
Size A4	Number	Revision
Date: 5/14/2021	Sheet of 1	
File: D:\Users\...\Mainboard_Breakbeam_Interface.sch	De.Sch. By: [Signature]	

Debug Interface



Title		
Size	Number	Revision
A4		
Date:	5/14/2021	Sheet of
File:	D:\Users\Mainboard_Debug_Interface	Drawn By:

Encoder Interface

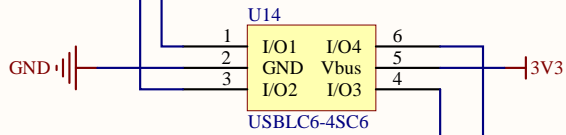


Encoder Legend:
Encoder A = Front Right
Encoder B = Front Left
Encoder C = Back Left
Encoder D = Back Right

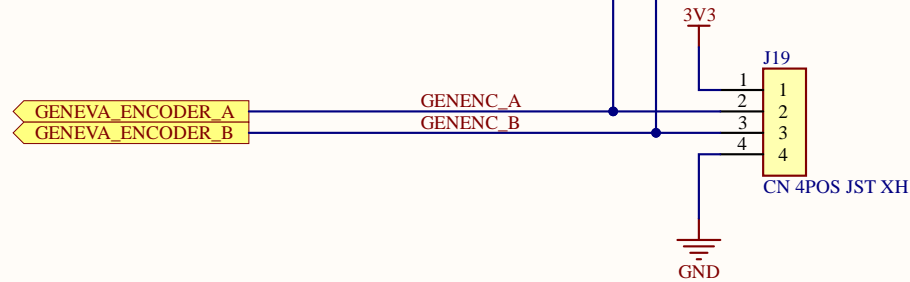
Title		
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A4		
Date:	5/14/2021	Sheet of
File:	D:\Users\...\Mainboard_Encoder_Interface_SchDoc	By:

Geneva Interface

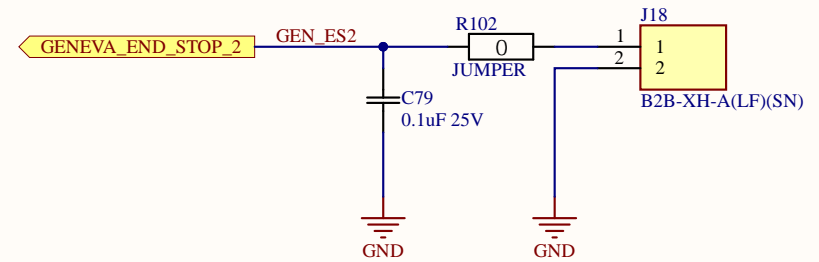
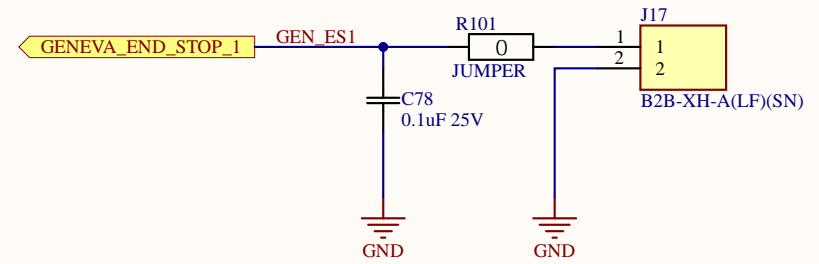
DC Driver Interface



Encoder Interface

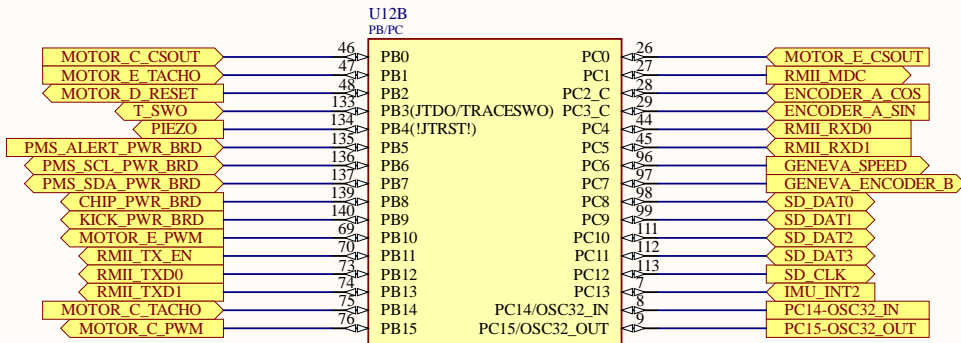


Endstop Connectors

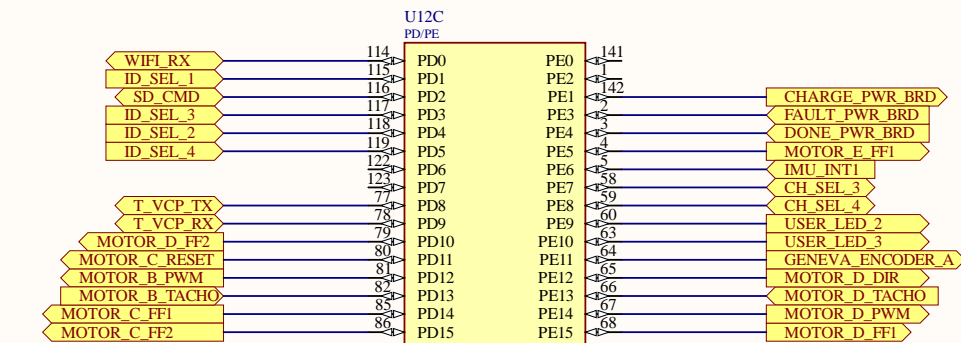


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A		
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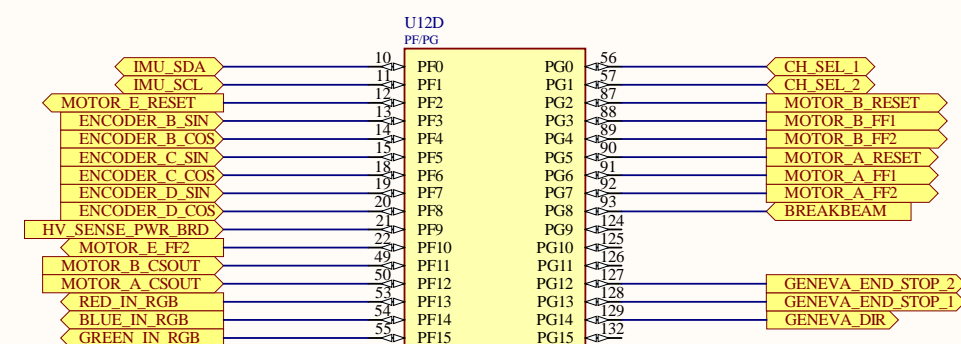
MCU Breakout



STM32H743ZIT6



STM32H743ZIT6

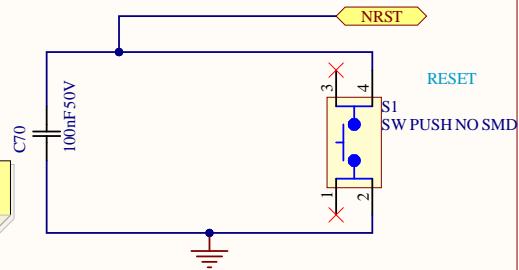


MCU Function

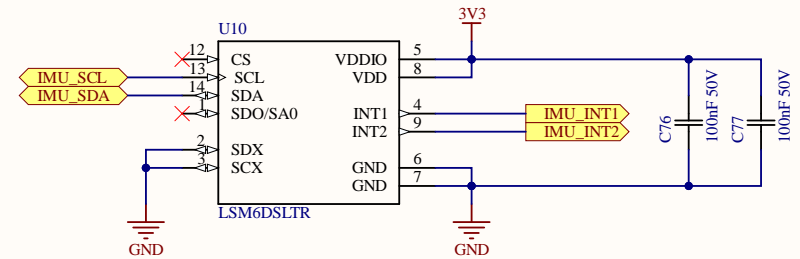
RESET FUNCTION

NRST

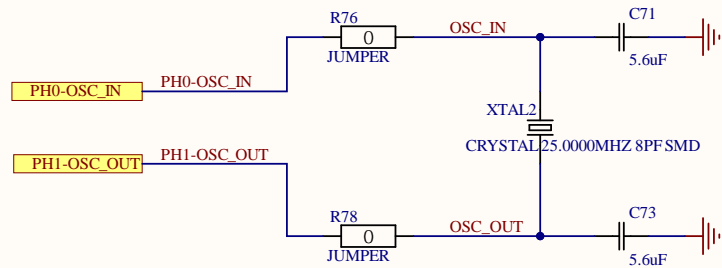
Place capacitor close to MCU pad



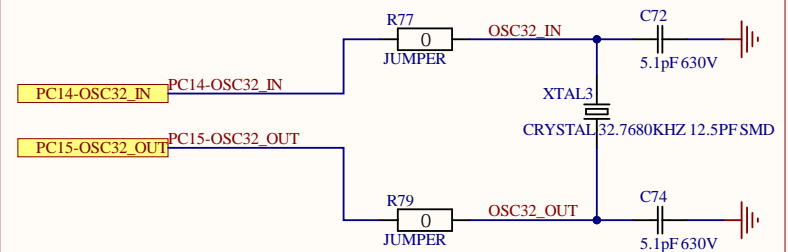
ACCELEROMETER, GYROSCOPE, THERMOMETER + OTHER SENSORS



EXTERNAL HSE CLK

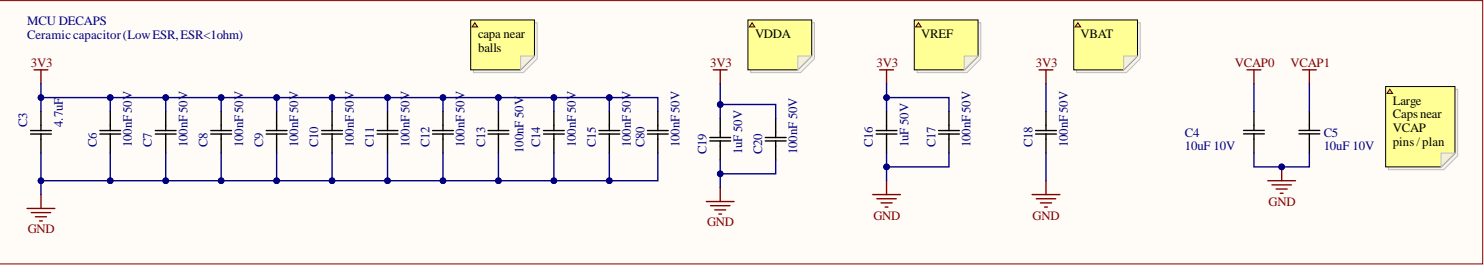
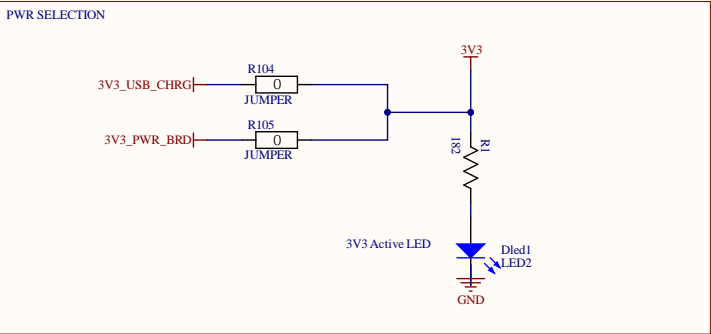
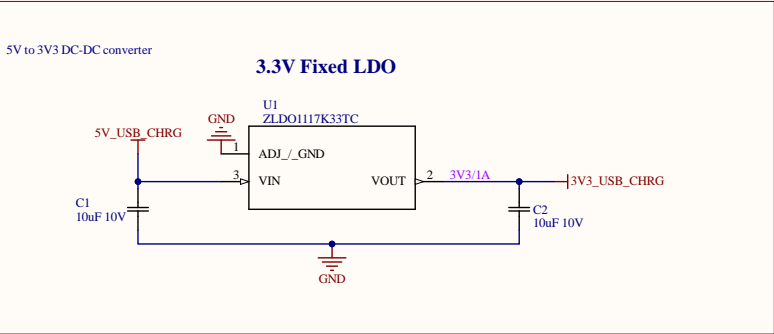
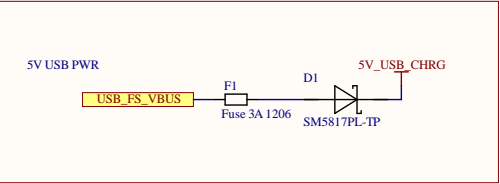


EXTERNAL LSE CLK



Title		
Size	Number	Revision
A4		
Date:	5/14/2021	Sheet of
File:	D:\Users\...\Mainboard_MCU_Func.SchDoc	Drawn By:

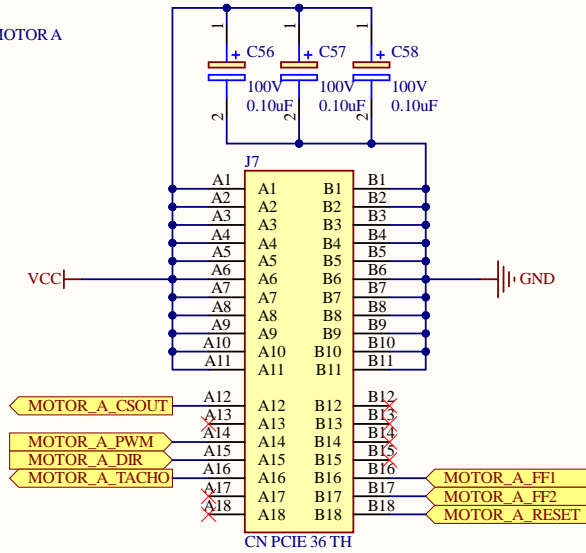
MCU Power



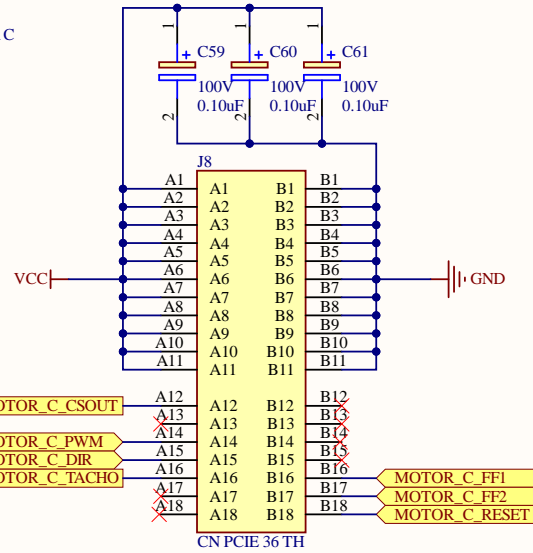
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Date: 5/14/2021	Sheet of	
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Motordriver Interface

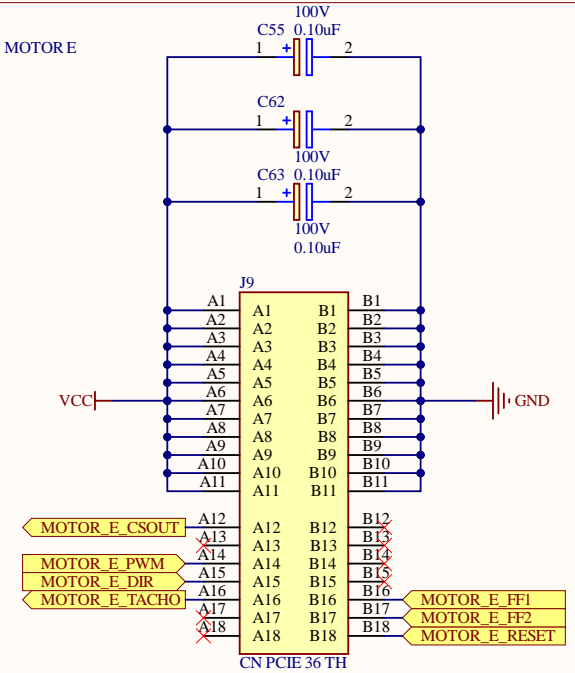
MOTOR A



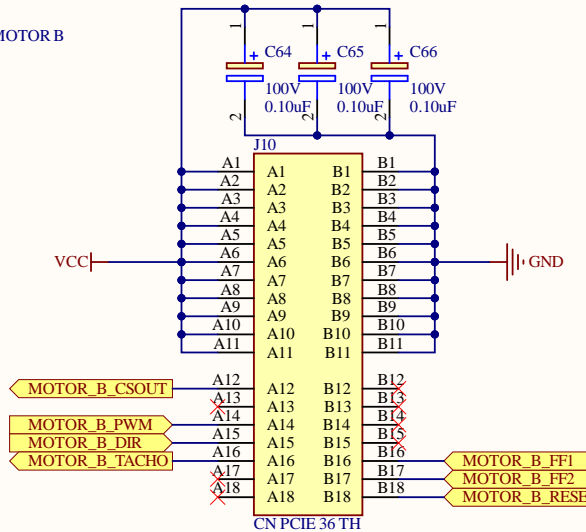
MOTOR C



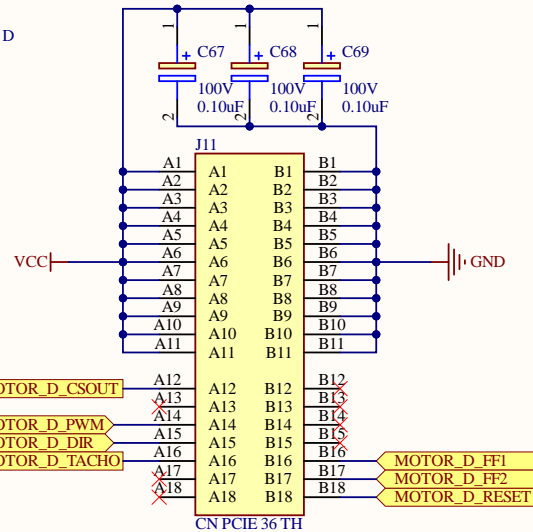
MOTOR E



MOTOR B



MOTOR D



Motor Driver Legend:
 Motor A = Back Left
 Motor B = Front Left
 Motor C = Dribbler
 Motor D = Back Right
 Motor E = Front Right

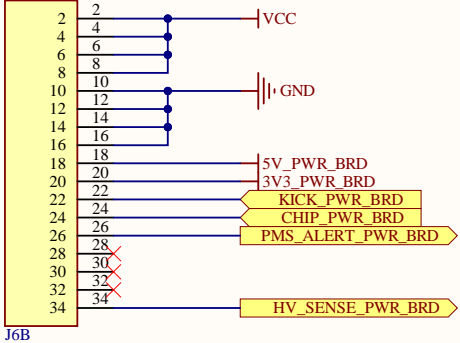
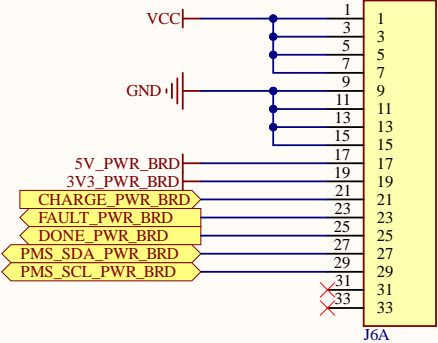
Pin Description:
 CSOUT: ADC
 PWM/DIR: TIMER/GPIO
 TACHO: TIMER
 FF1/FF2/RESET: GPIO

Title		
Size	Number	Revision
A4		
Date:	5/14/2021	Sheet of
File:	D:\Users\Mainboard_Motordriver_Interface	Doc

Power Board Interface

CHARGE/FAULT/DONE 3.3V logic signals. From charge control IC. Send to MCU.

PMS_SDA/SCL I2C communication wires. Send to MCU.



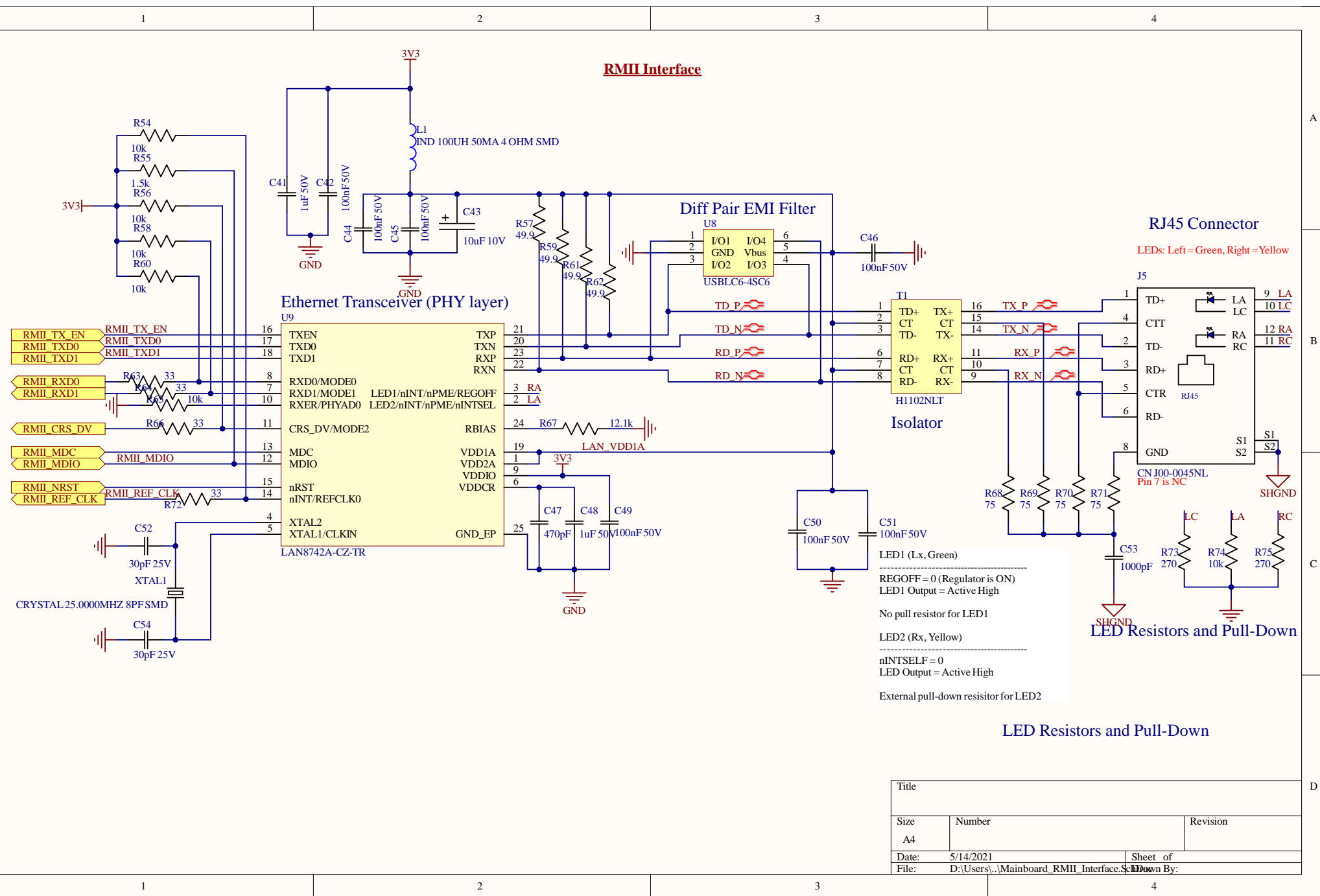
Battery voltage for the motordrivers.

KICK/CHIP_PWR_BRD logic level signals. Send to MCU.

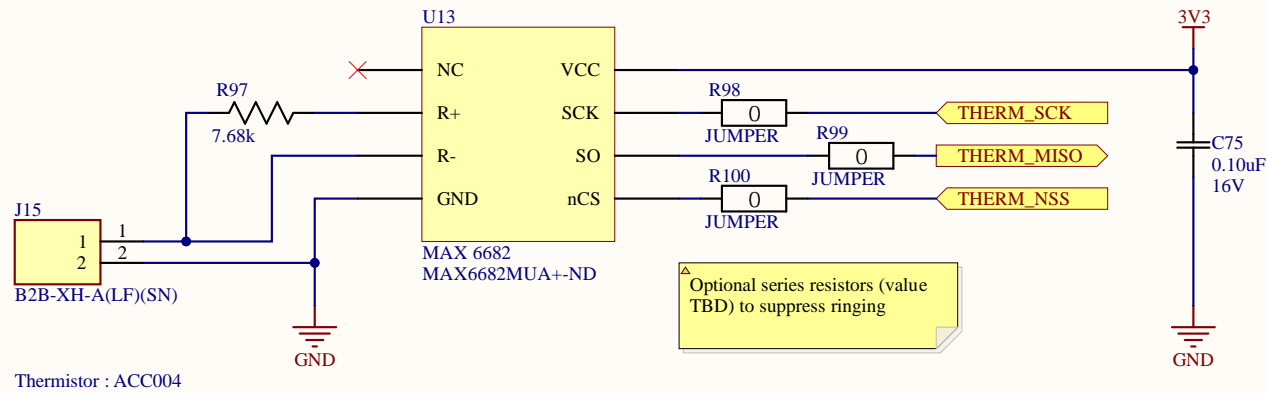
PMS_ALERT_PWR_BRD logic level fault pin. Send to MCU.

HV_SENSE analog feedback from the capbank voltage (0-3.3V). Send to MCU.

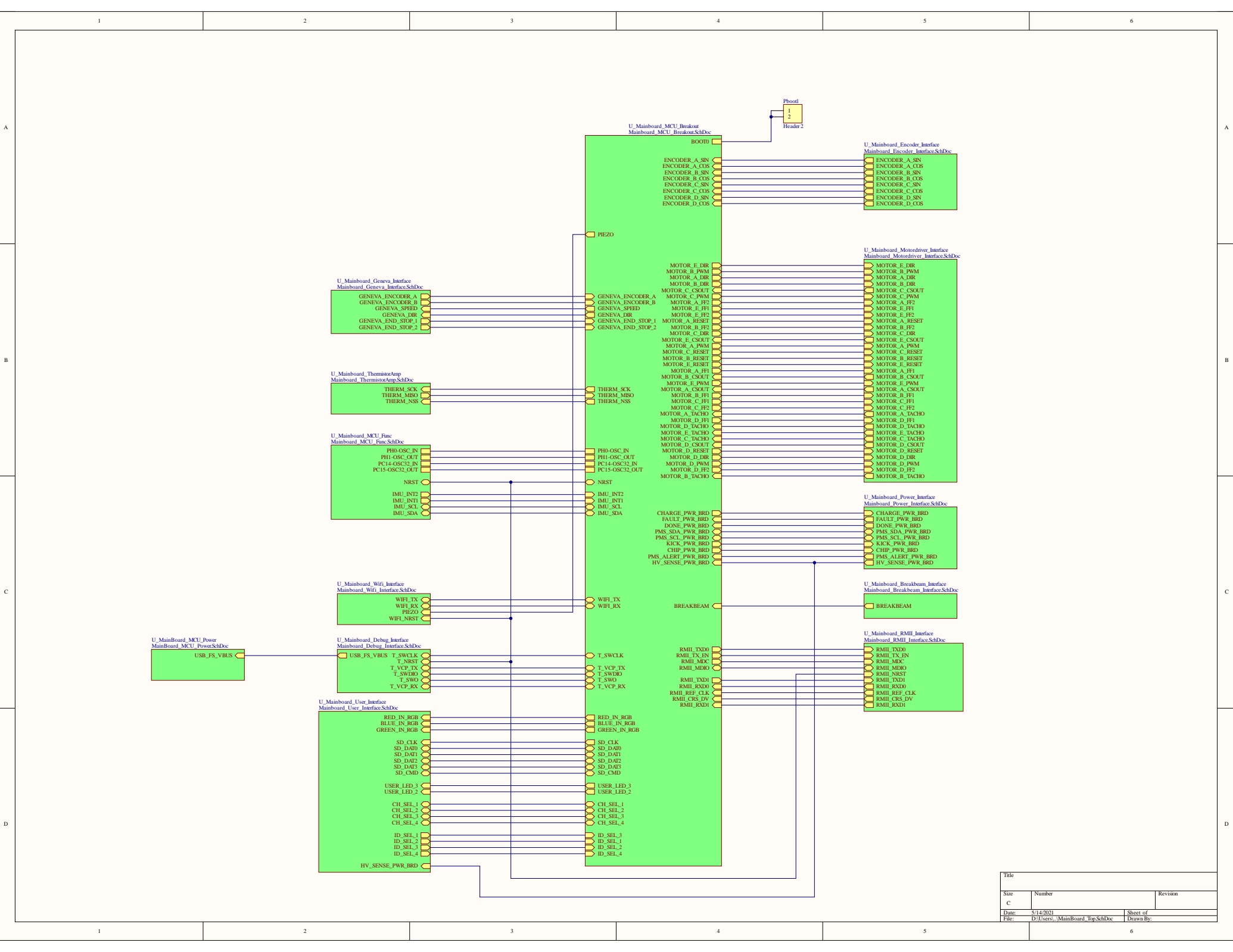
Title		
Size	Number	Revision
A4		
Date:	5/14/2021	Sheet of
File:	D:\Users\...\Mainboard_Power_Interface	Sub: Drawn By:



Thermistor Amplifier



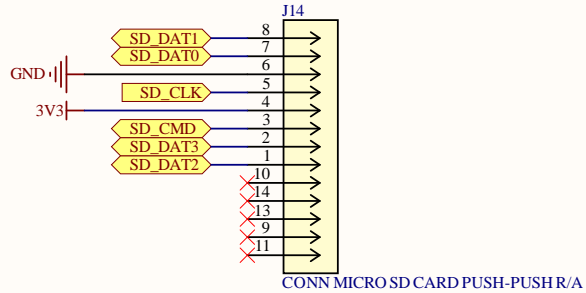
Title		
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A		
Date:	5/14/2021	Sheet of
File:	D:\Users\..\Mainboard_ThermistorAmp.SchDoc	Drawn By:



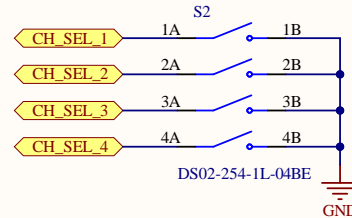
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Size	Number	Revision
C		
Date	5/14/2021	Sheet of
File	D:\Users\Mainboard_Top.SchDoc	Drawn By:

User Interface

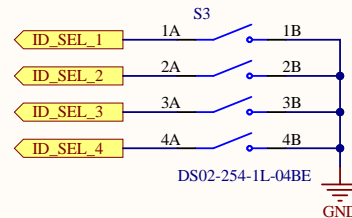
SD Connector



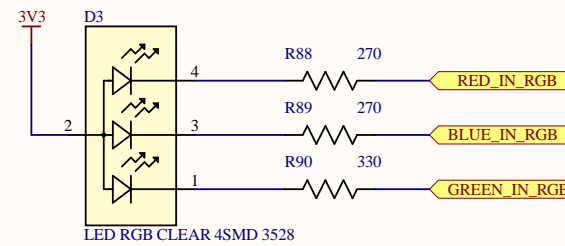
Channel Select



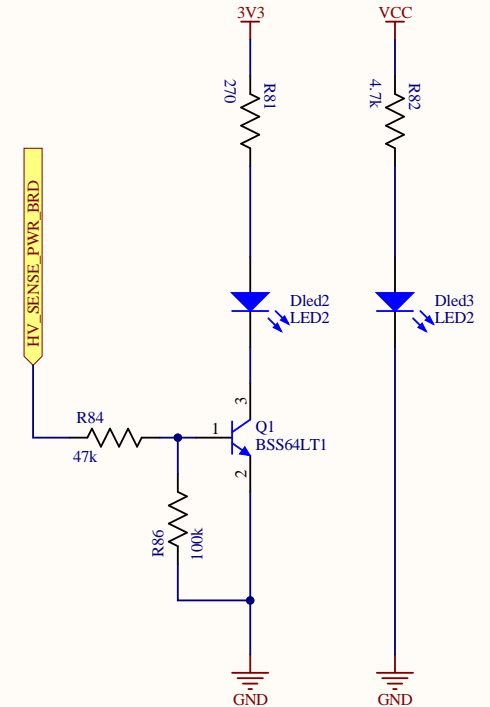
Robot ID Select



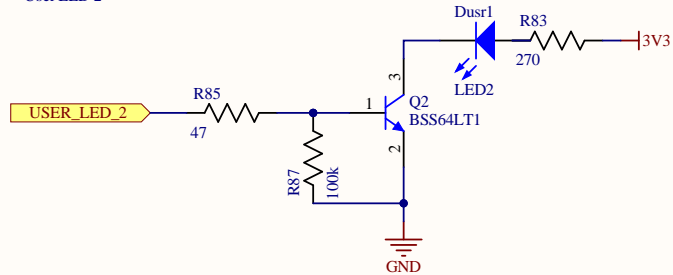
RGB LED



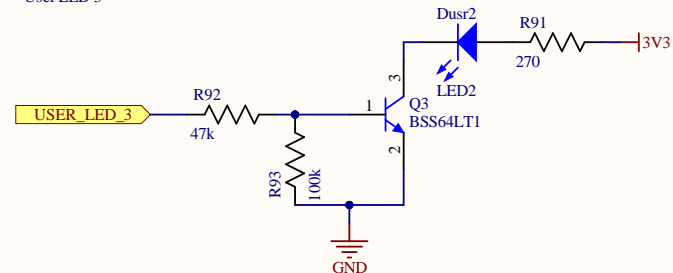
Non-MCU Power Indicator LEDs



User LED 2



User LED 3



Title		
Size	Number	Revision
A4		
Date:	5/14/2021	Sheet of
File:	D:\Users\...\Mainboard_User_Interface.Sch	Drawn By:

1

2

3

4

A

A

B

B

C

C

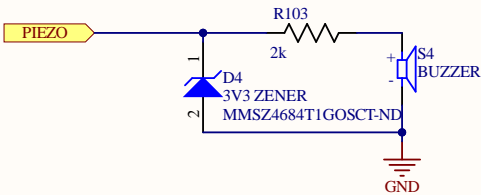
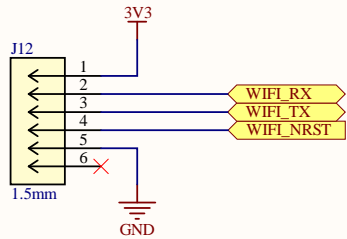
D

D

Wifi Interface

Piezo Buzzer

Wifi Interface Header



Title		
Size	Number	Revision
A4		
Date:	5/14/2021	Sheet of
File:	D:\Users\...\Mainboard_Wifi_Interface.Sch	Down By:

1

2

3

4