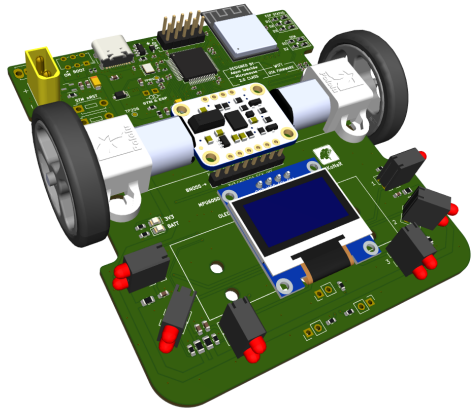
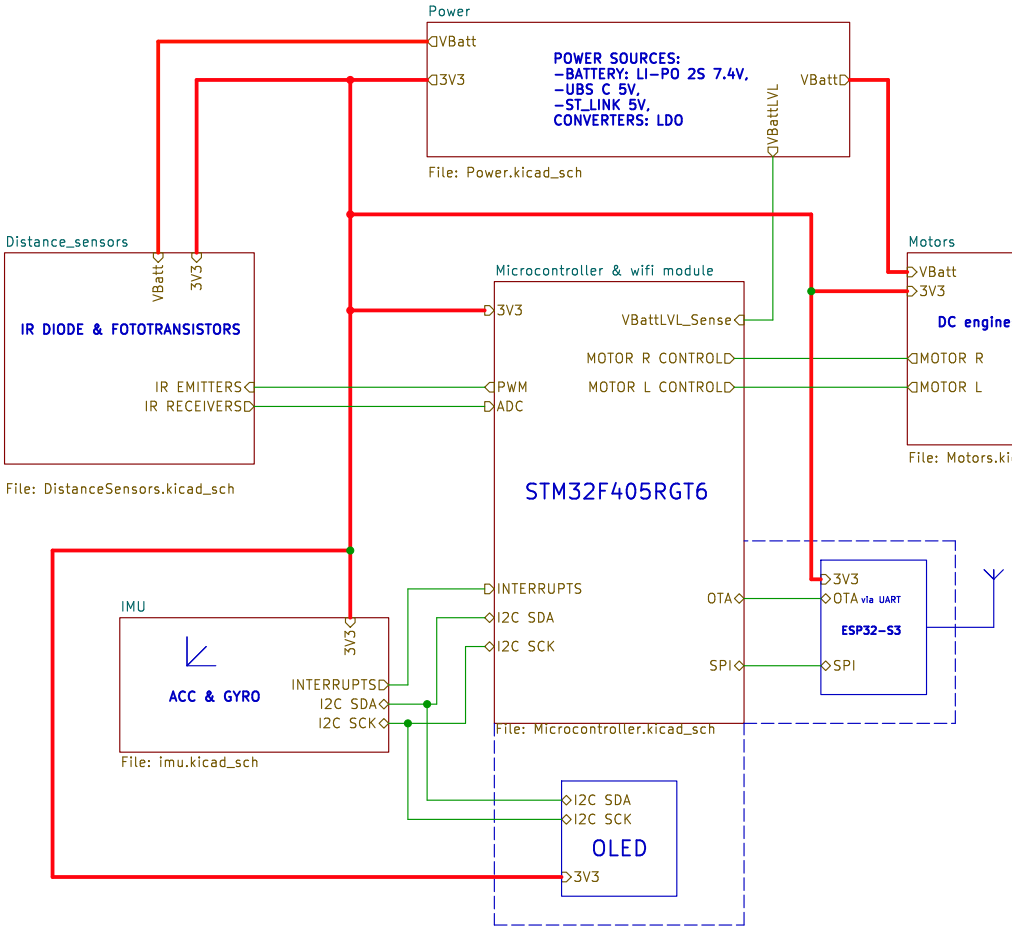
[1] Micromouse – Top level Schematic





KoNaR

Schematics drawn by: Adam Iwachów

Sheet: /
File: Micromouse.kicad_sch

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Size: A4	Date:	**Rev:**
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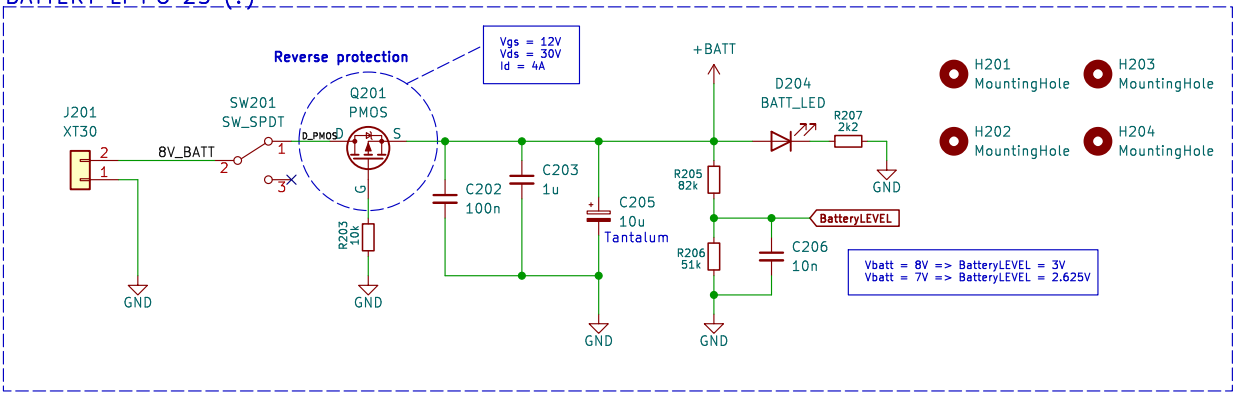
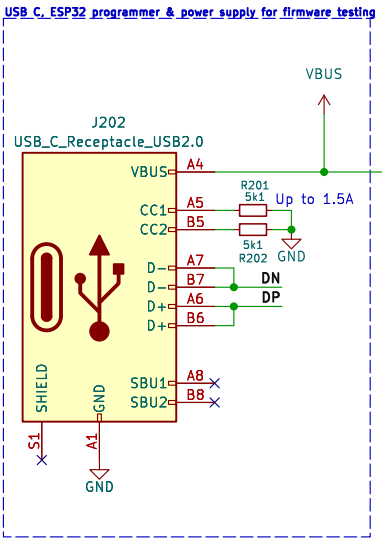
[2] POWER SUPPLY

There are 3 possible ways to power board
1. via USB
2. via ST-LINK
3. via BATTERY

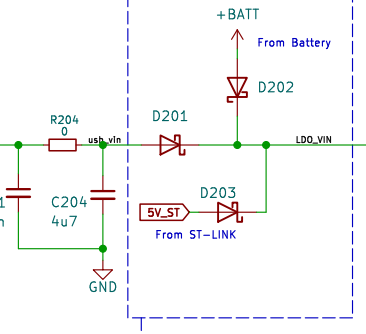
BATTERY LI PO 2S (?)



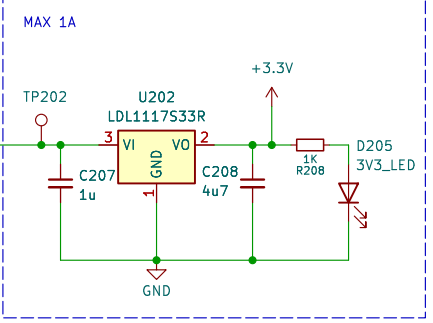
USB C, ESP32 programmer & power supply for firmware testing



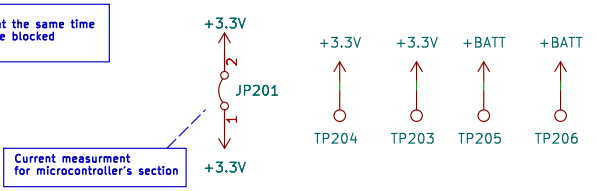
Reverse protection



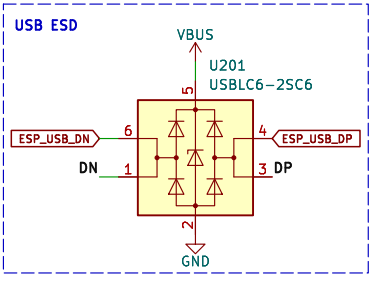
PWR only for digital part



If USB or ST-LINK is plugged and at the same time VBatt is provide, Vbus and ST_5V are blocked



USB ESD



Drawn by: Adam Iwachów

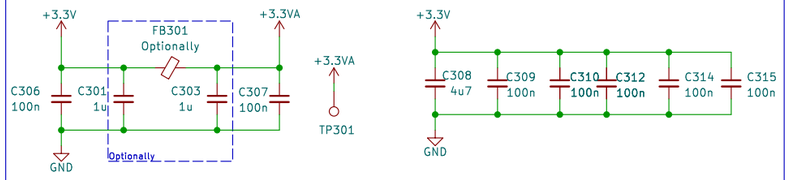
Sheet: /Power/
File: Power.kicad_sch

Title:

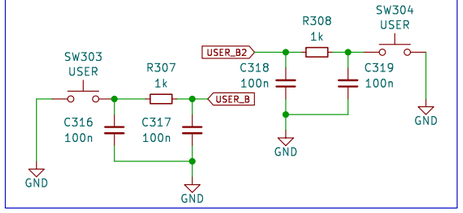
Size: User	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.8		Id: 2/6

[3] Microcontroller & WIFI module

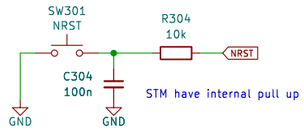
DECOUPLING



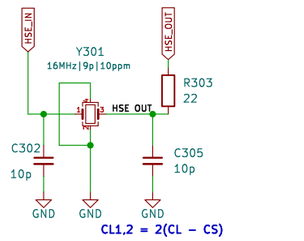
USER BUTTON



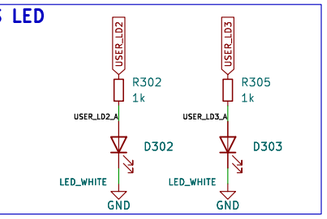
nRST



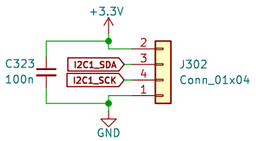
HSE

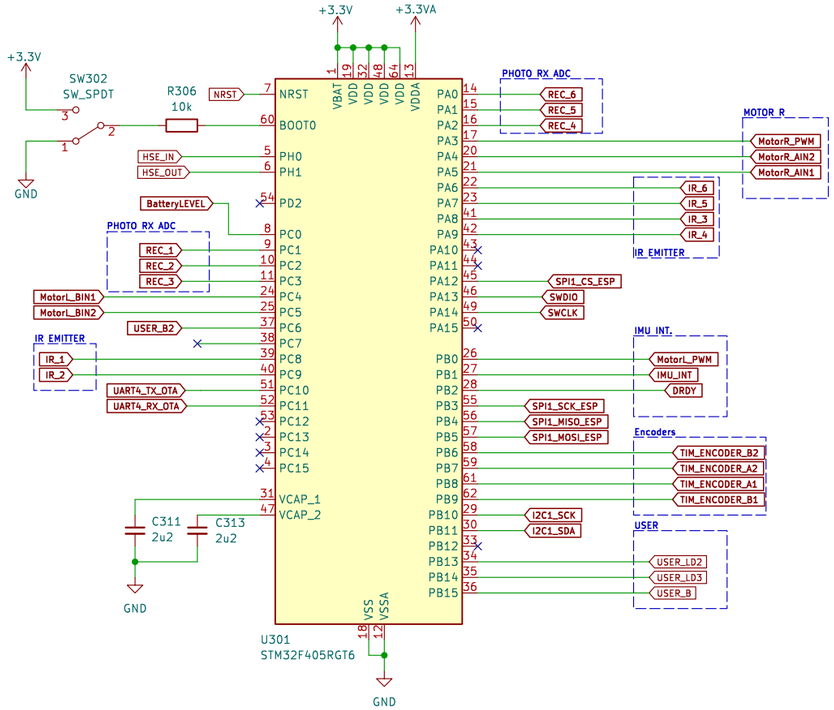


STATUS LED

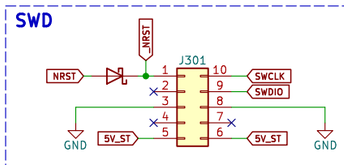


OLED

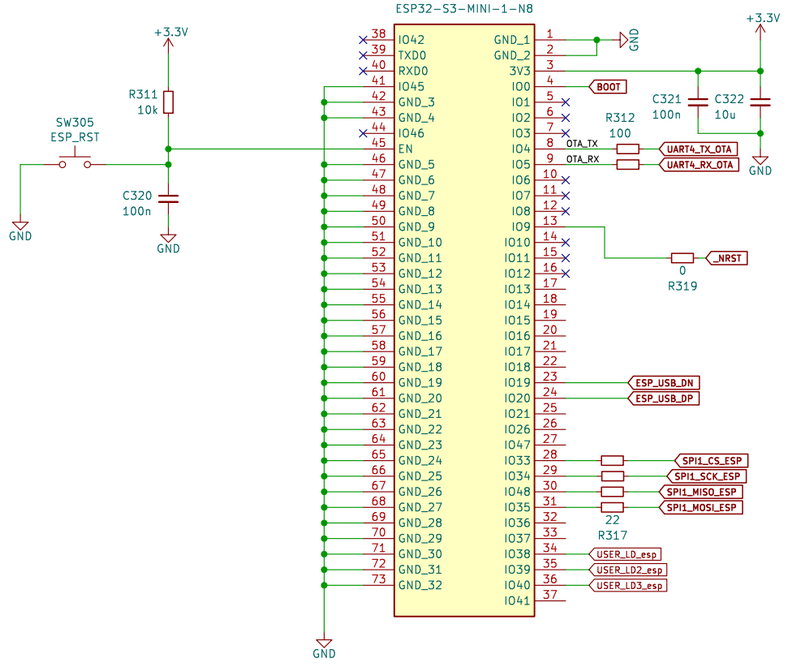




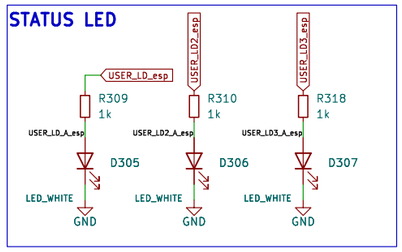
SWD

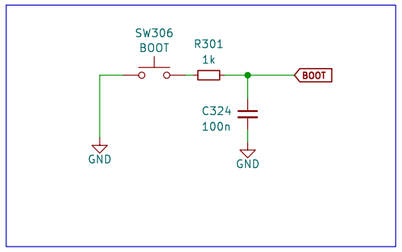


ESP32 WIFI MODULE



STATUS LED





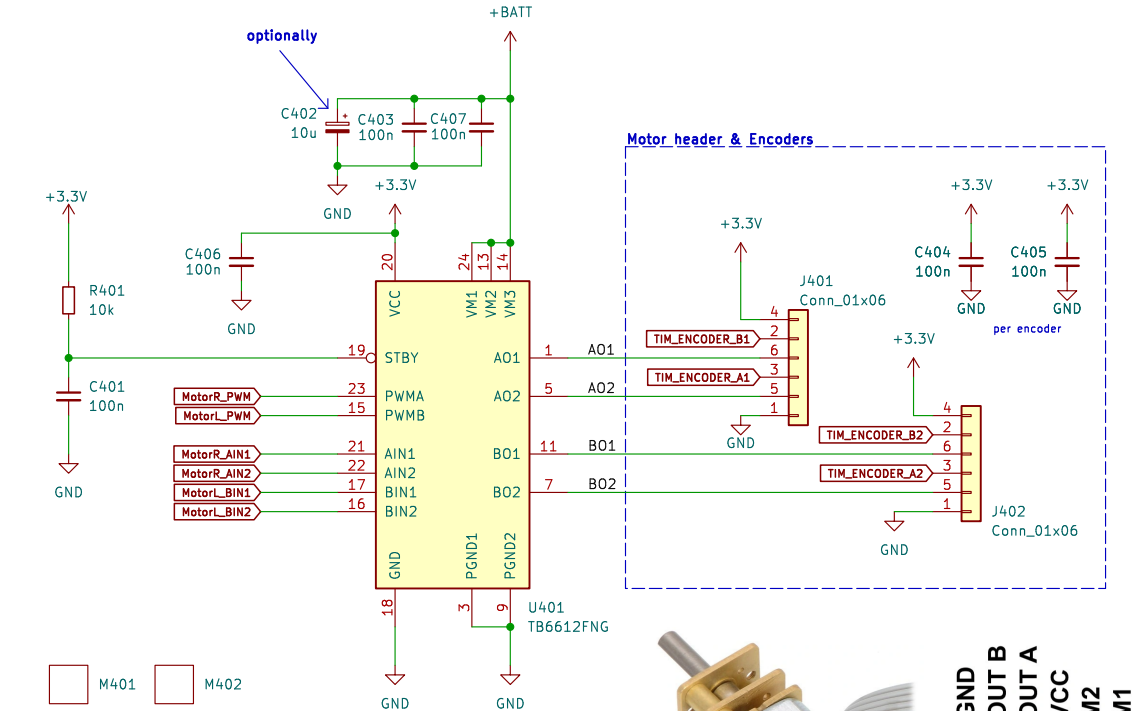
Drawn by: Adam Iwachów

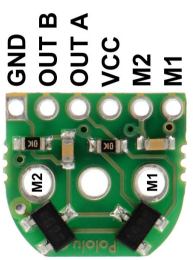
Sheet: /Microcontroller & wifi module/
File: Microcontroller.kicad_sch

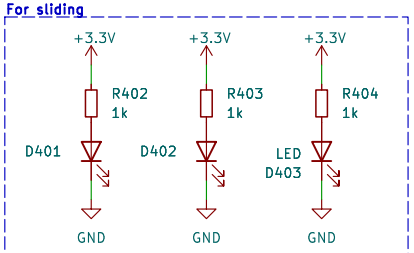
Title:

Size: A3 | Date: | **Rev:**
KiCad E.D.A. kicad 7.0.8 | Id: 3/6

[4] MOTORS DRIVER







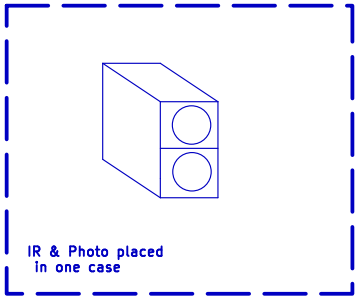
Drawn by: Adam Iwachów

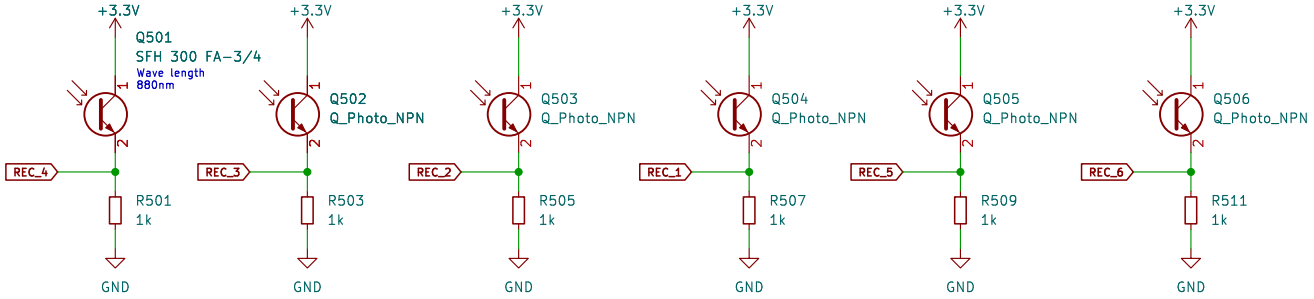
Sheet: /Motors/
File: Motors.kicad_sch

Title:

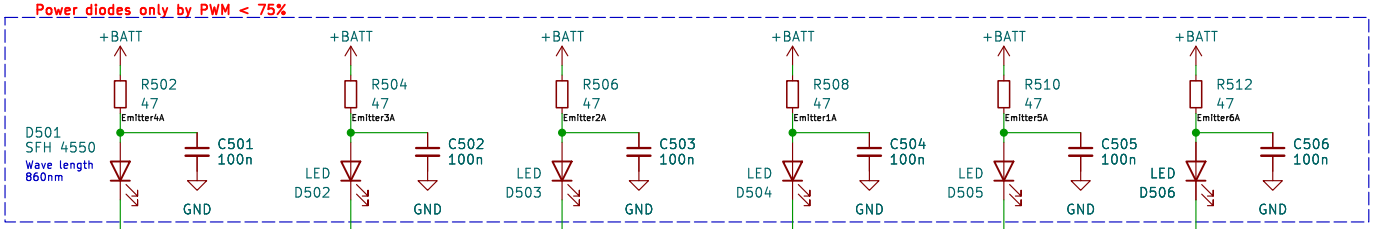
Size: User	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.8		Id: 4/6

[5] IR RECEIVERS & EMITTERS

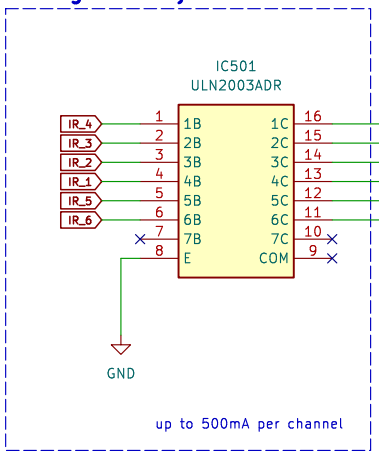




Diode max dc current = 100mA
Id = 6.5V/47ohm = 0.14A
Power diodes only by PWM < 75%



Darlington array



Emitter_4
Emitter_3
Emitter_2
Emitter_1
Emitter_5
Emitter_6

IMPORTANT Note*
IR DIODES ARE POWERED ONLY IF VBATT IS PLUGED IN

Drawn by: Adam Iwachów

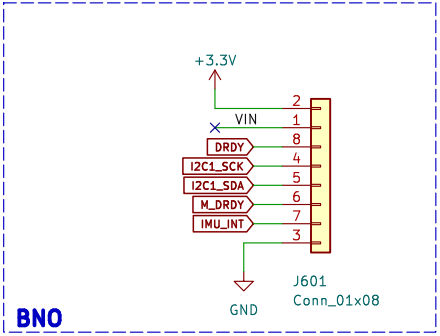
Sheet: /Distance_sensors/
File: DistanceSensors.kicad_sch

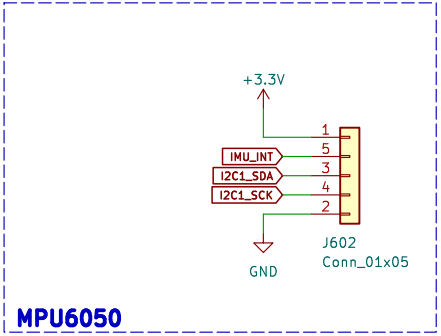
Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.8		Id: 5/6

[6] Accelerometer & gyroscope

Note*
There are two possible imu's modules to choose
Each of them have internal I2C pull ups





Drawn by: Adam Iwachów

Sheet: /IMU/
File: imu.kicad_sch

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KiCad E.D.A. kicad 7.0.8		Id: 6/6