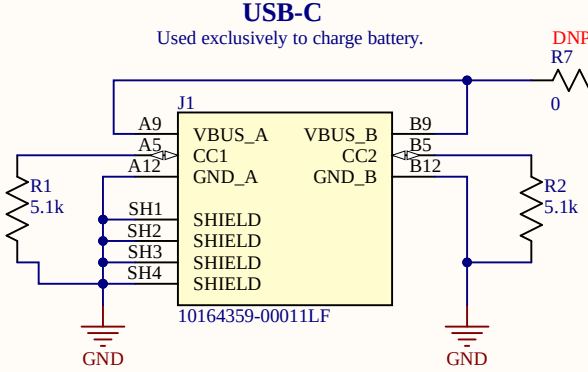
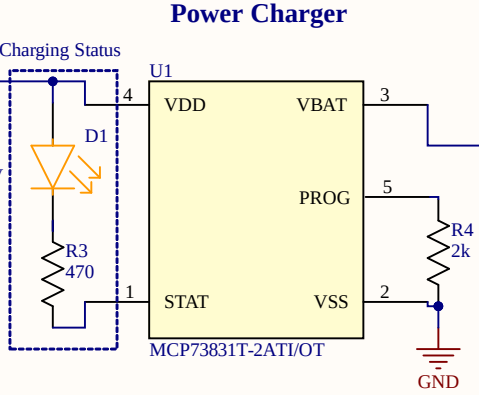
USB-C

Used exclusively to charge battery.



USB-C plug will be placed on edge of the PCB for access through housing.

Power Charger

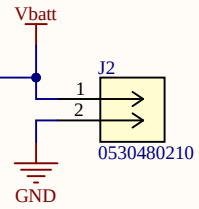


For best thermal performance, add vias from land area of EP to copper layer on opposite side of PCB

Power charger should be placed close to battery connector.

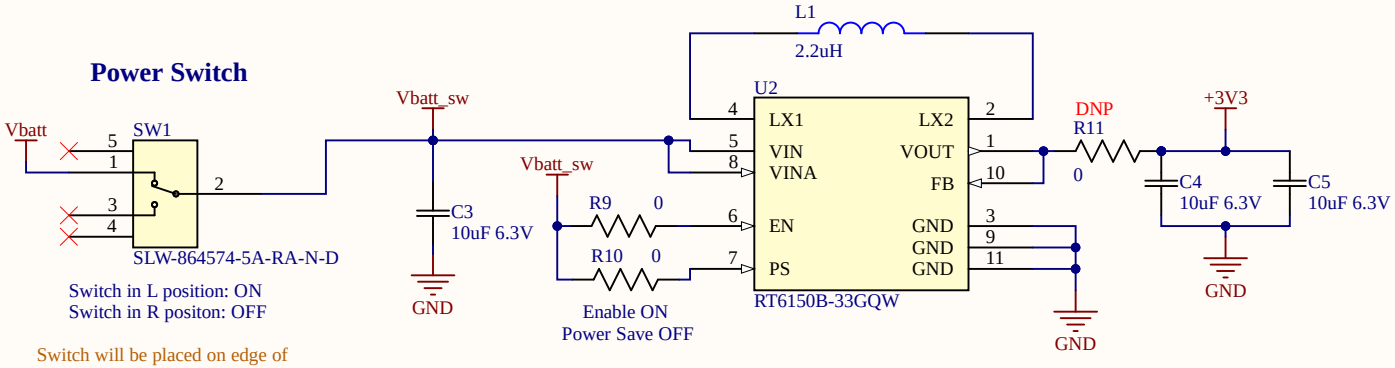
Li Ion Battery

LP384260JU+PCM+MOLEX 51021-0200 35MM



Connector will be placed on edge of the PCB to connect to battery located underneath.

Buck-Boost



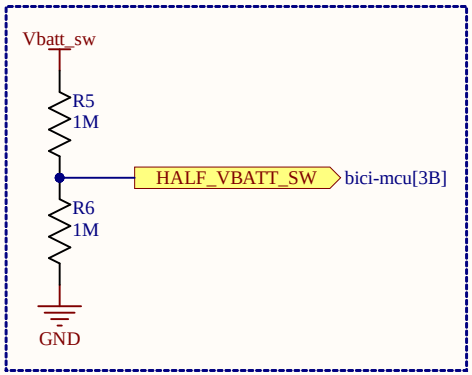
C3 should be placed as close as possible to Vin.
C4 and C5 should be placed as close as possible to Vout.
L1 should be connected to inductor by wide and short trace.

Power Switch

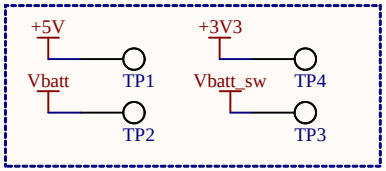
Switch in L position: ON
Switch in R positon: OFF

Switch will be placed on edge of the PCB for access through housing.

Low Power Detection



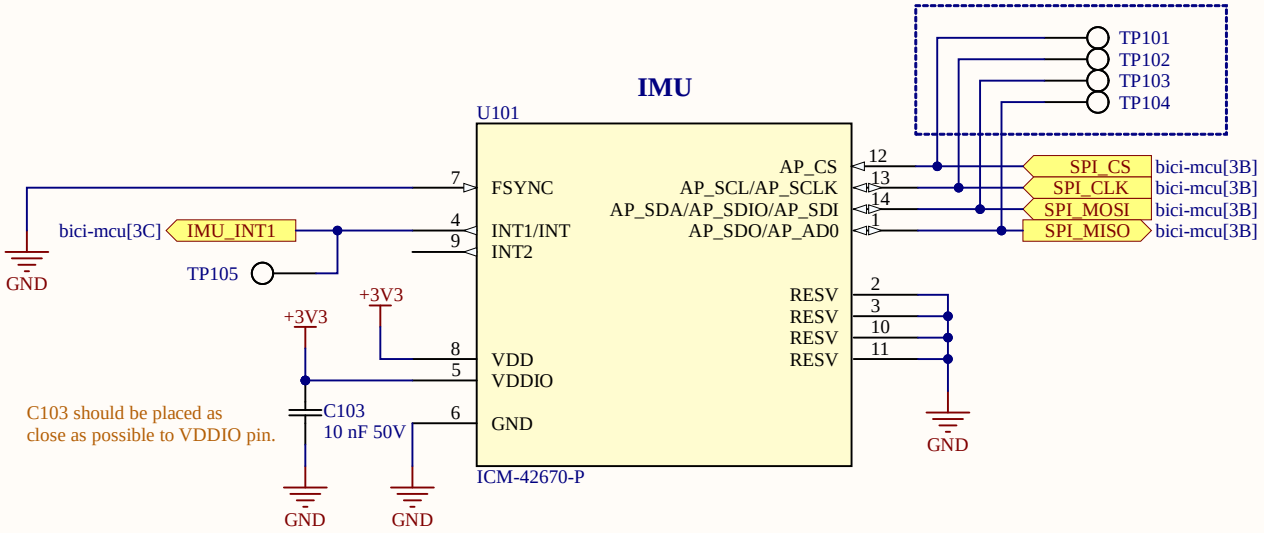
Test Points

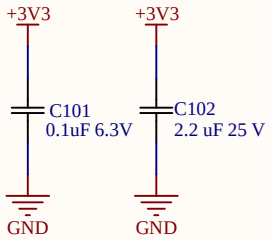


Title	**Bici: Power Management** Circuitry related to system power and charging.	
Size A	Number	Revision V3
Date:	12/09/2025	Sheet1 of 5
File:	C:\Users\..\bici-power.SchDoc	Drawn By: Team Bici

Test Points

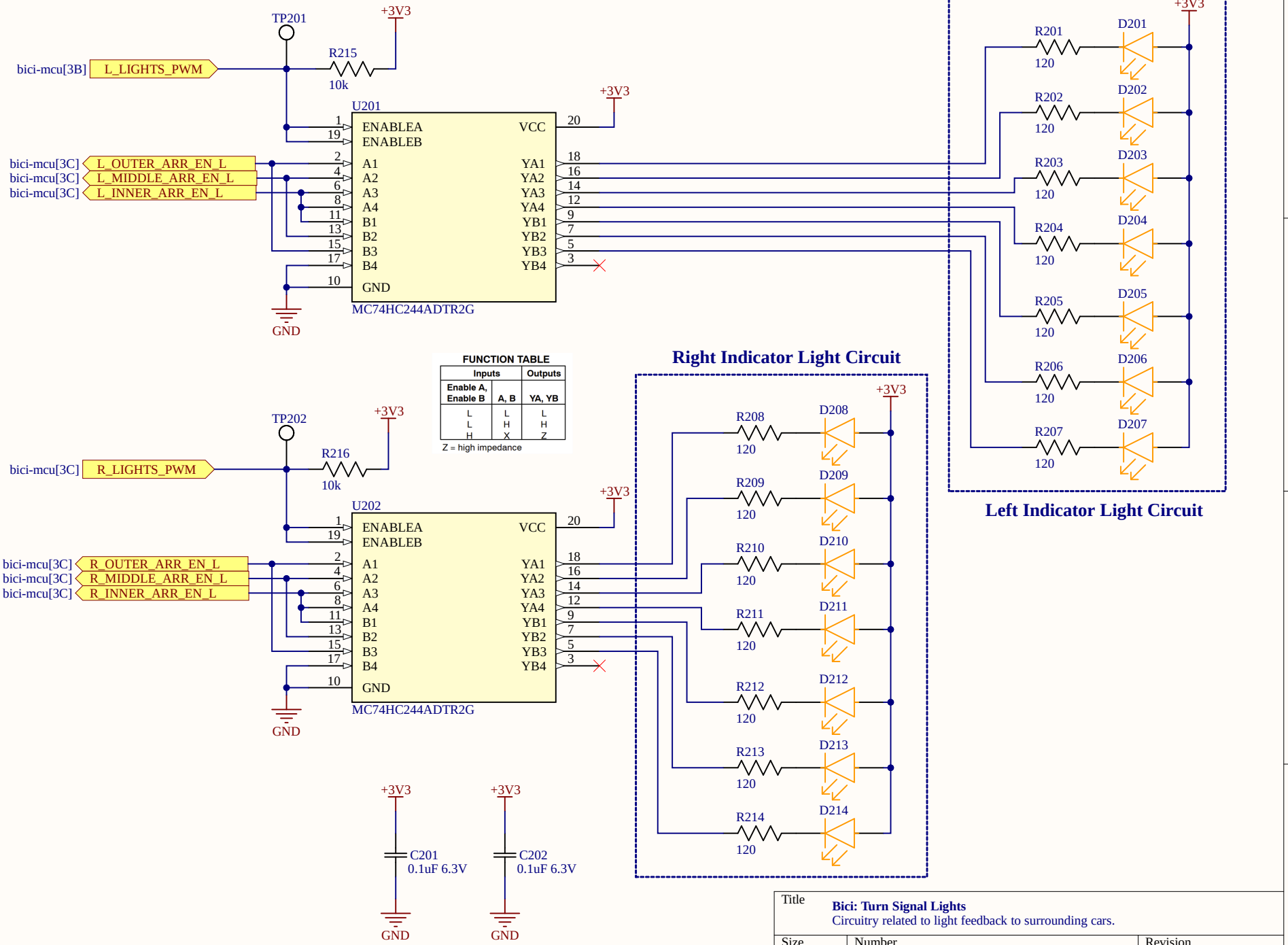
Test points should be placed close to IMU.



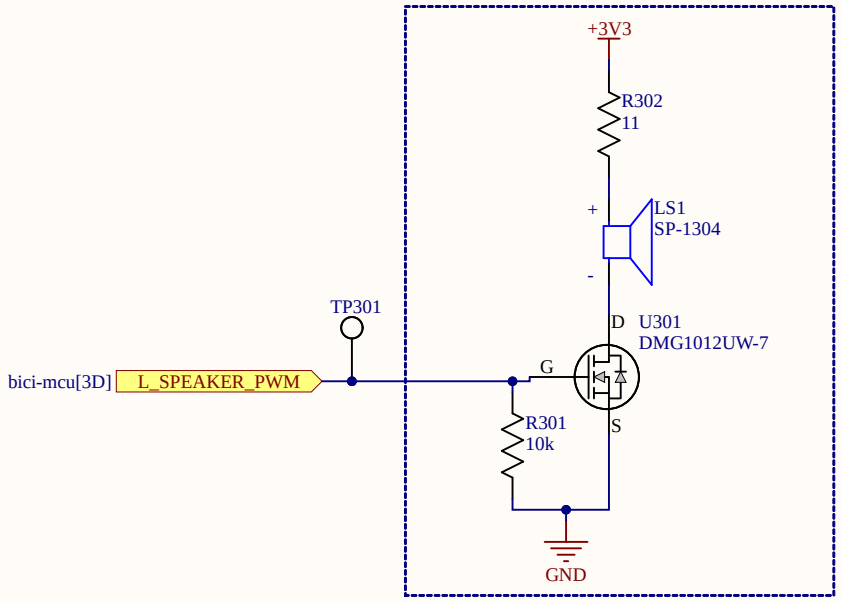


C101 and C102 should be placed as close as possible to VDD pin, with C101 closest to pin.

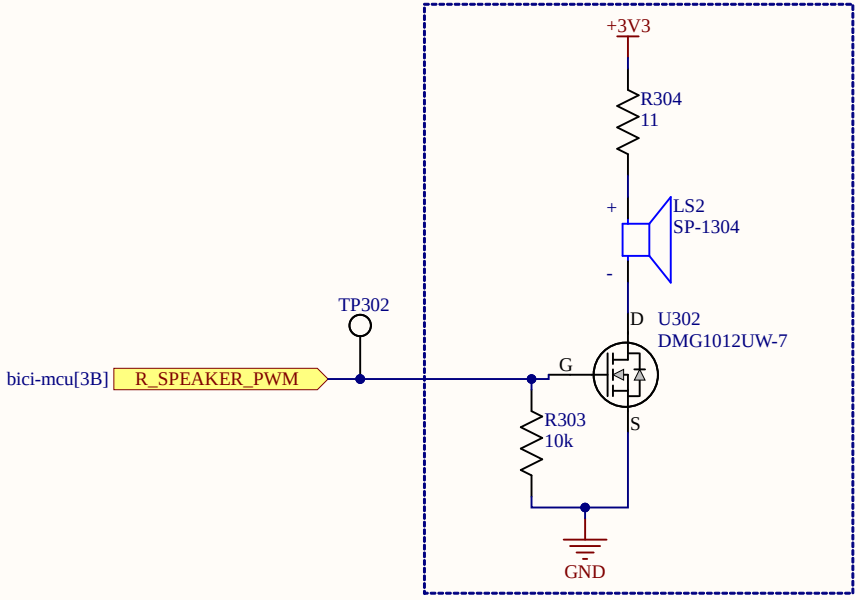
Title	**Bici: IMU** Circuitry related to IMU.	
Size A	Number	Revision V3
Date: 12/09/2025		Sheet2 of 5
File: C:\Users\..\bici-imu.SchDoc		Drawn By: Team Bici


TP201
+3V3
bici-mcu[3B] L_LIGHTS_PWM
R215
10k
U201
ENABLEA
ENABLEB
VCC
A1
A2
A3
A4
B1
B2
B3
B4
GND
YA1
YA2
YA3
YA4
YB1
YB2
YB3
YB4
MC74HC244ADTR2G
bici-mcu[3C] L_OUTER_ARR_EN_L
bici-mcu[3C] L_MIDDLE_ARR_EN_L
bici-mcu[3C] L_INNER_ARR_EN_L
R201
R202
R203
R204
R205
R206
R207
120
D201
D202
D203
D204
D205
D206
D207
Left Indicator Light Circuit
FUNCTION TABLE
Inputs
Outputs
Enable A, Enable B
A, B
YA, YB
Z = high impedance
Right Indicator Light Circuit
TP202
R216
bici-mcu[3C] R_LIGHTS_PWM
bici-mcu[3C] R_OUTER_ARR_EN_L
bici-mcu[3C] R_MIDDLE_ARR_EN_L
bici-mcu[3C] R_INNER_ARR_EN_L
R208
R209
R210
R211
R212
R213
R214
D208
D209
D210
D211
D212
D213
D214
C201
0.1uF 6.3V
C202
0.1uF 6.3V
C202 should be placed as close as possible to U202 VCC pin.
C201 should be placed as close as possible to U201 VCC pin.
Title
Bici: Turn Signal Lights
Circuitry related to light feedback to surrounding cars.
Size
A
Number
Revision
V3
Date: 12/09/2025
Sheet3 of 5
File: C:\Users\..\bici-turn-lights.SchDoc
Drawn By: Team Bici

Left Indicator Audio Feedback Circuit



LS1 should be placed at the edge of the PCB on the left arrow point (to accomodate speaker placement in housing).

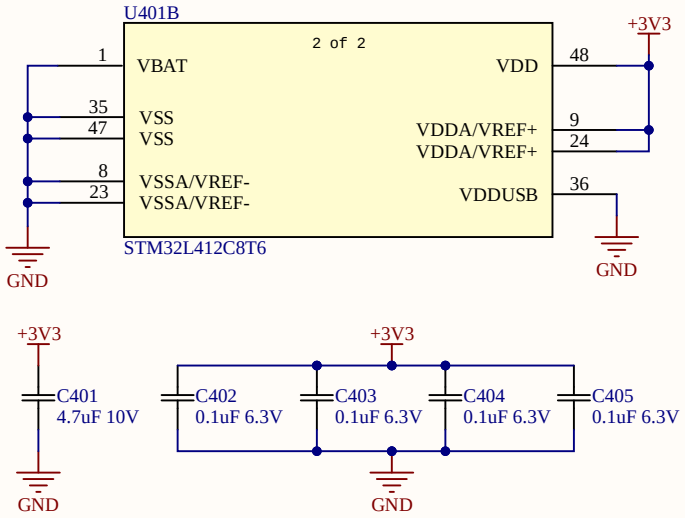


LS2 should be placed at the edge of the PCB on the right arrow point (to accomodate speaker placement in housing).

Right Indicator Audio Feedback Circuit

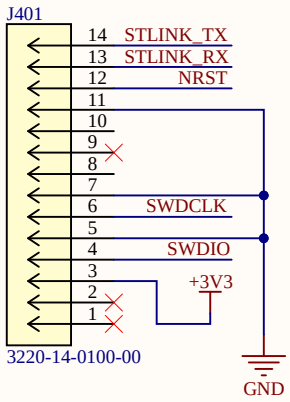
Title	**Bici: Turn Signal Audio** Circuitry related to audio feedback to user.	
Size A	Number	Revision V3
Date:	12/09/2025	Sheet4 of 5
File:	C:\Users\..\bici-turn-audio.SchDoc	Drawn By: Team Bici

STM Power

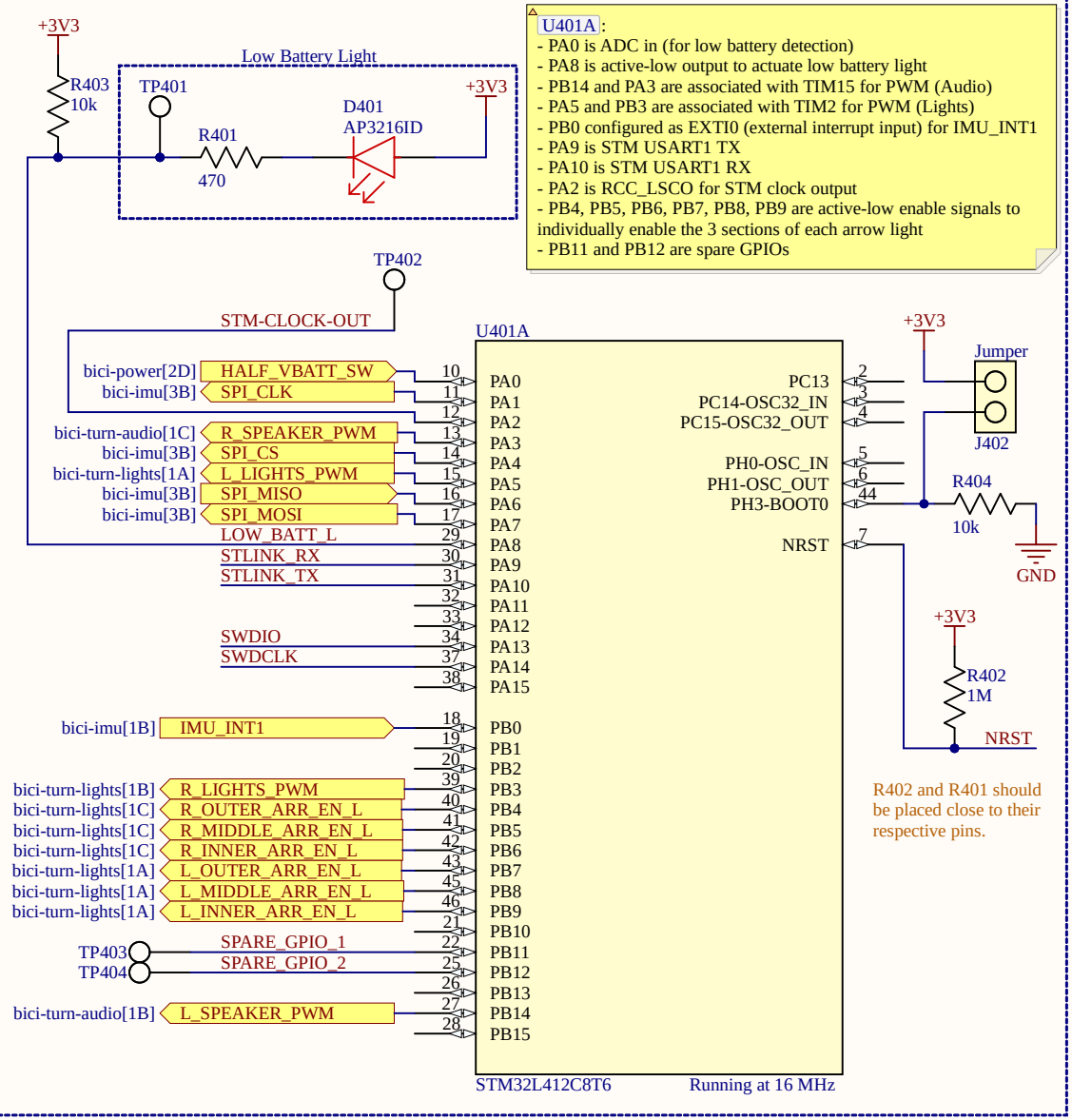


Decoupling caps C402, C403, C404, and C405 should be placed 1 each per pair of VCC/VSS pins on MCU, close to these pins.

Programming/Debugging Connector



STM I/O



R402 and R401 should be placed close to their respective pins.

Title	**Bici: MCU** Circuitry related to embedded MCU.	
Size A	Number	Revision V3
Date:	12/09/2025	Sheet5 of 5
File:	C:\Users\..\bici-mcu.SchDoc	Drawn By: Team Bici