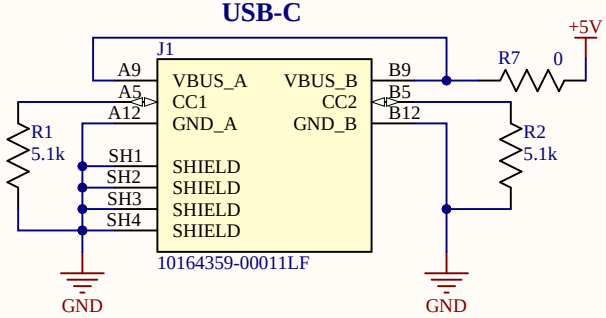
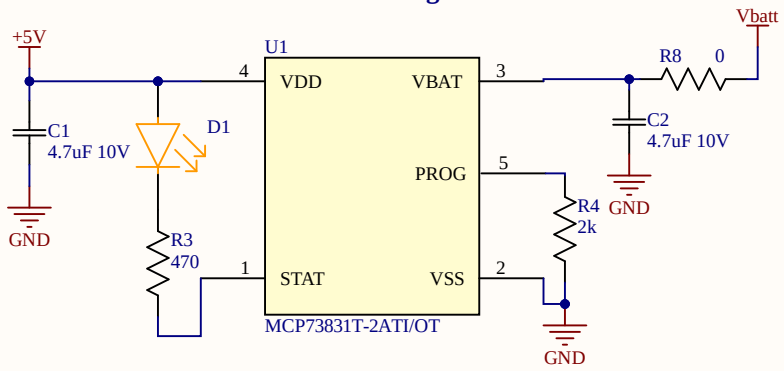
USB-C

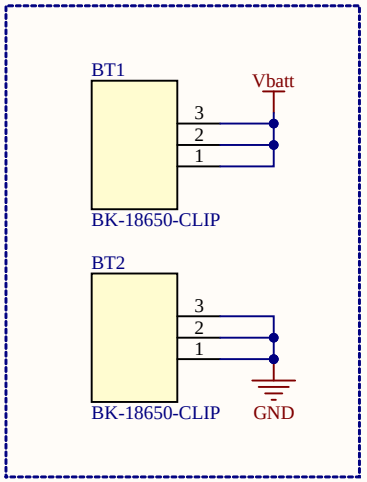


Power Charger



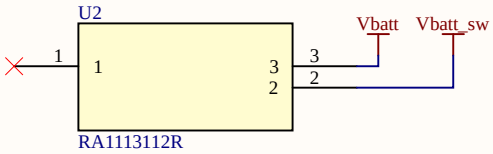
For best thermal performance, add vias from land area of EP to copper layer on opposite side of PCB

18650 Battery

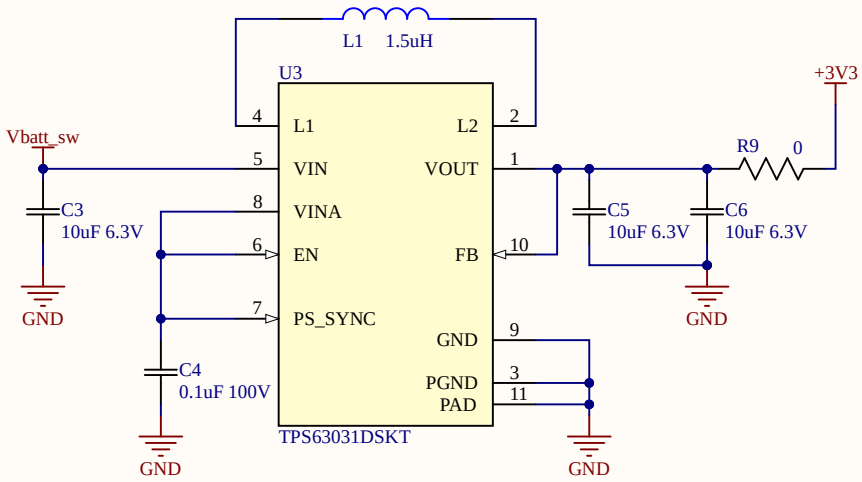


BT1 and BT2 will need to be placed inline, 2560 mils apart + tolerance

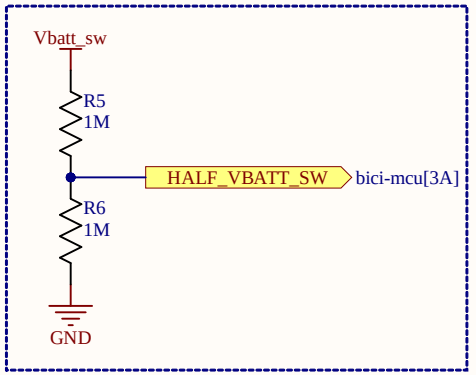
Power Switch



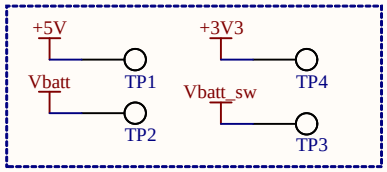
Buck-Boost



Low Power Detection

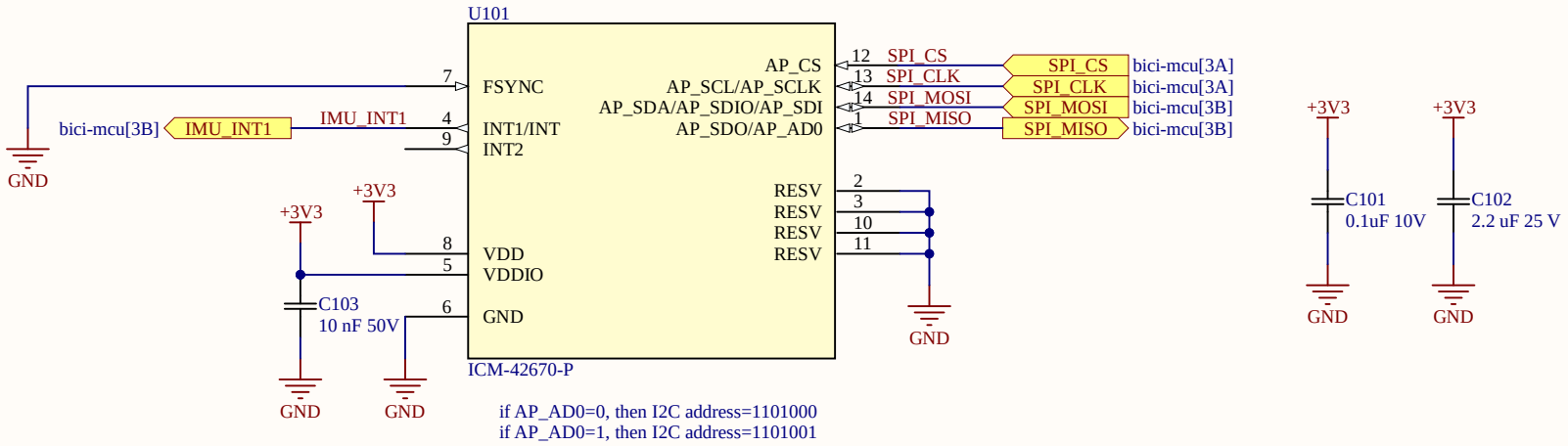


Test Points

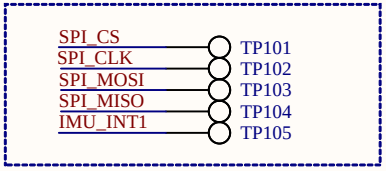


Title	**Bici: Power Management** Circuitry related to system power and charging.	
Size A	Number	Revision V2
Date: 11/17/2025		Sheet1 of 5
File: C:\Users\..\bici-power.SchDoc		Drawn By: Team Bici

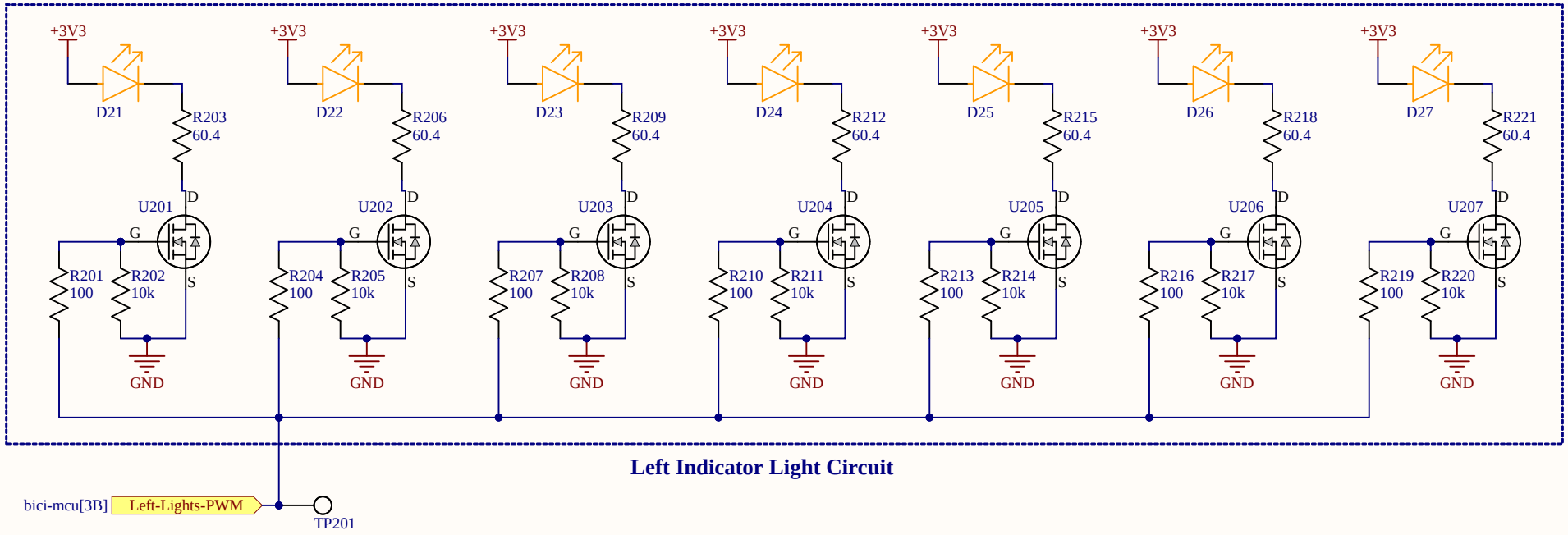
IMU



Test Points

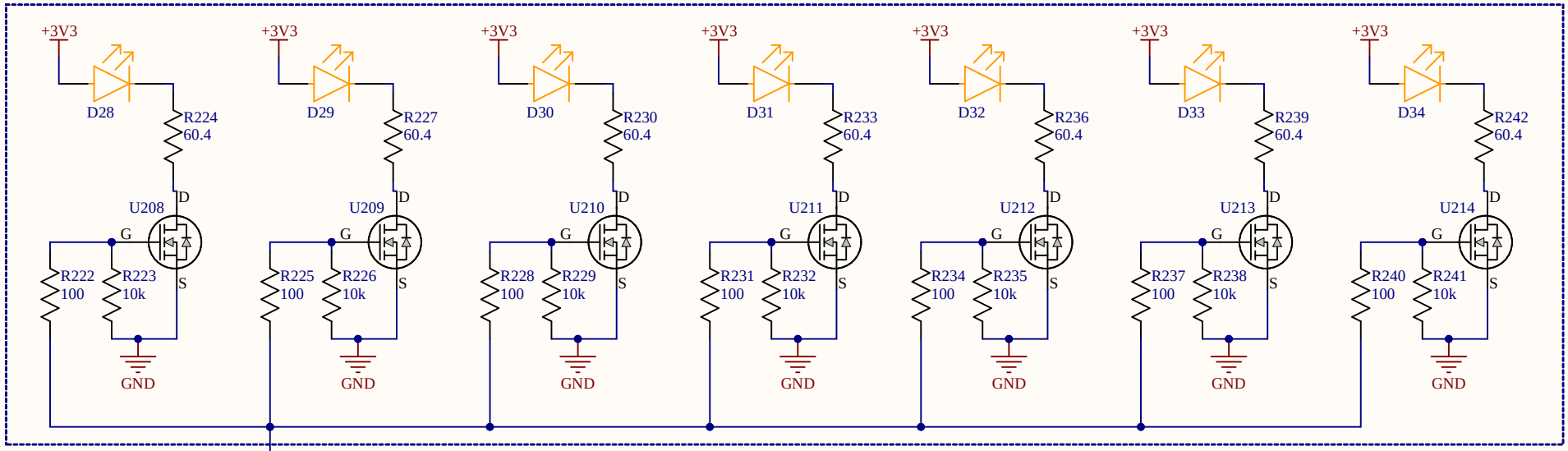


Title	**Bici: IMU** Circuitry related IMU.	
Size A	Number	Revision V2
Date: 11/17/2025		Sheet2 of 5
File: C:\Users\..\bici-imu.SchDoc		Drawn By: Team Bici



Left Indicator Light Circuit

bici-mcu[3B] Left-Lights-PWM TP201

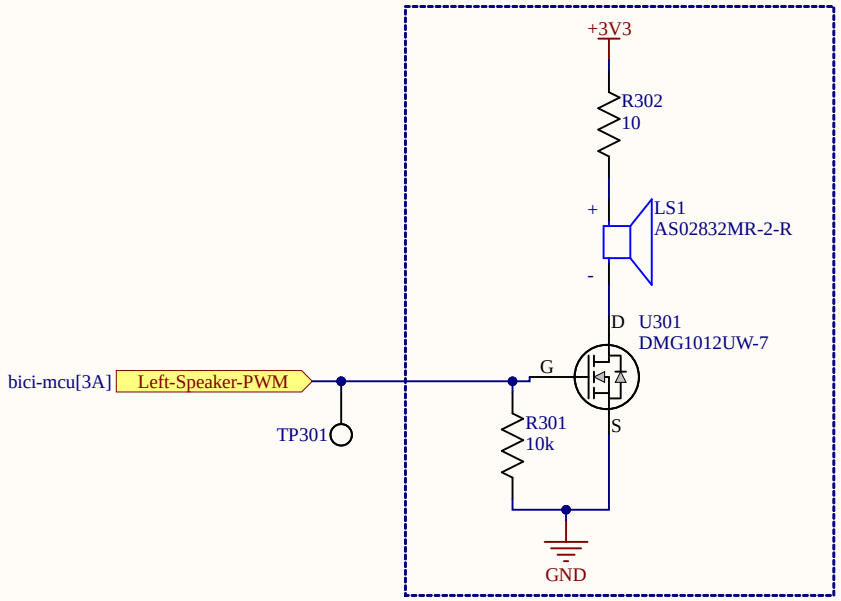


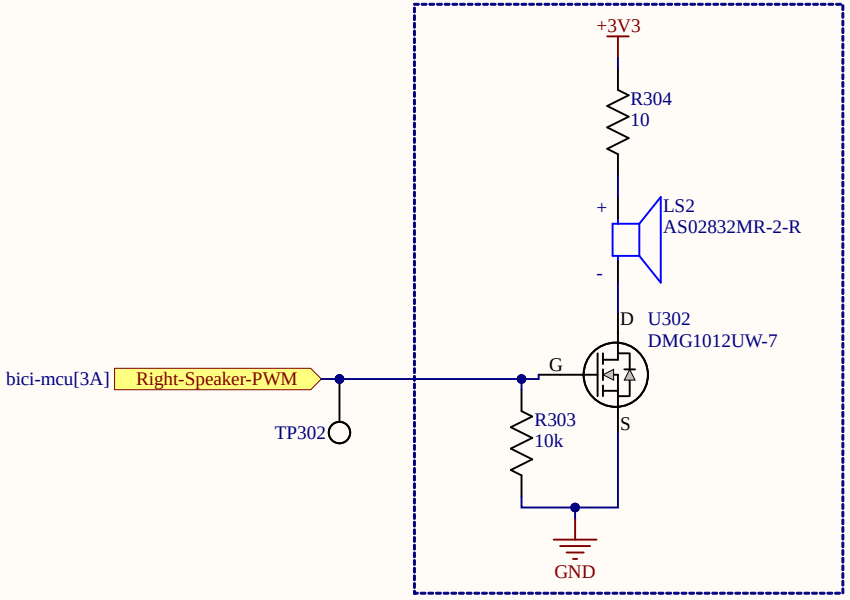
Right Indicator Light Circuit

bici-mcu[3B] Right-Lights-PWM TP202

Title	**Bici: Turn Signal Lights** Circuitry related to light feedback to user and surrounding cars.	
Size A	Number	Revision V2
Date:	11/17/2025	Sheet3 of 5
File:	C:\Users\..\bici-turn-lights.SchDoc	Drawn By: Team Bici

Left Indicator Audio Feedback Circuit

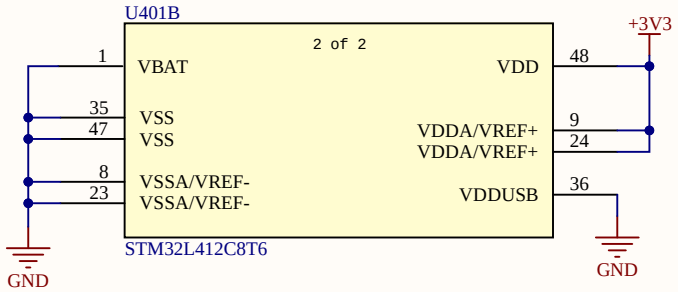




Right Indicator Audio Feedback Circuit

Title	**Bici: Turn Signal Audio** Circuitry related to audio feedback to user.	
Size A	Number	Revision V2
Date: 11/17/2025		Sheet4 of 5
File: C:\Users\..\bici-turn-audio.SchDoc		Drawn By: Team Bici

STM Power



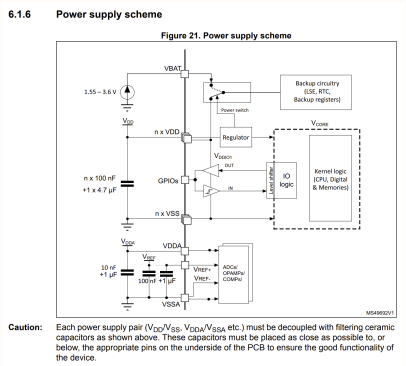
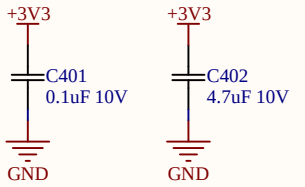

6.1.6 Power supply scheme

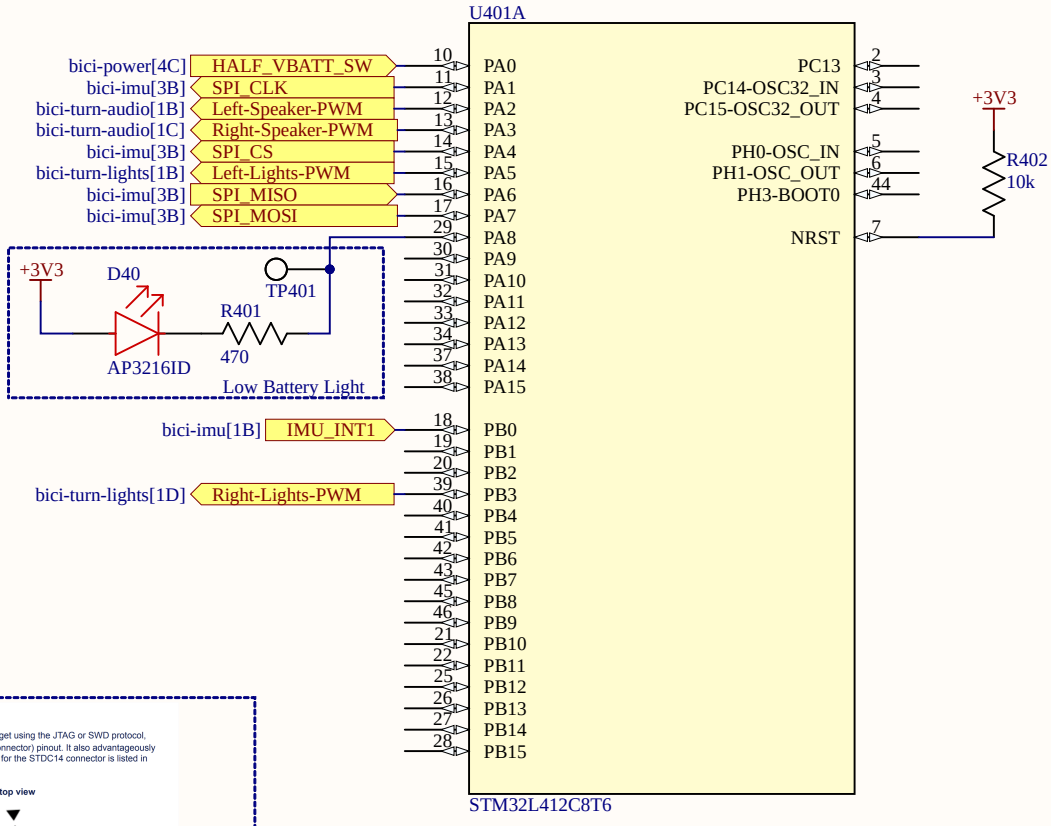
Figure 21. Power supply scheme

Caution: Each power supply pair (V_{DD}/V_{SS}, V_{DDA}/V_{SSA} etc.) must be decoupled with filtering ceramic capacitors as shown above. These capacitors must be placed as close as possible to, or below, the appropriate pins on the underside of the PCB to ensure the good functionality of the device.



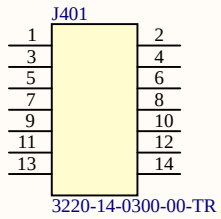
C401: There are supposed to be n of these per datasheet but I cannot figure out what n is.

STM I/O



U401A:
- PA0 is ADC in (for low battery detection)
- PA8 is active-low output for low battery light
- PA2 and PA3 are associated with TIM15 for PWM
- PA5 and PB3 are associated with TIM2 for PWM
- PB0 configured as EXTI0 (external interrupt input) for IMU_INT1

Programming/Debugging Connector



6.3 STDC14 connector (CN4)

The STDC14 connector (CN4) enables the connection to an STM32 target using the JTAG or SWD protocol, respecting from pin 3 to pin 12 the MIPI10 (Arm® Cortex® debugging connector) pinout. It also advantageously provides two UART signals for the Virtual COM port. The related pinout for the STDC14 connector is listed in Table 4.

Figure 6. STDC14 connector (CN4) top view

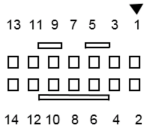


Table 4. STDC14 connector (CN4) pinout

STDC14 pin number	MIPI10 pin number	Pin description	Type
1	-	Reserved(1)	-
2	-	Reserved(1)	-
3	1	T_VCC	I
4	2	T_JTMS/T_SWDIO	I/O
5	3	GND	S
6	4	T_JCLK/T_SWCLK	O
7	5	GND	S
8	6	T_JTDO/T_SWO(2)	I
9	7	Reserved(1)	-
10	8	T_JTDI/NC(3)	O
11	9	GNDDETECT	O
12	10	T_NRST	O
13	-	T_VCP_RX	O
14	-	T_VCP_TX	I

1. Do not connect on target.
2. SWO is optional, required only for Serial Wire Viewer (SWV) trace.
3. NC means is not required for SWD connection.

J401: To the right is the only pinout I can find on the STLink-V3Minie datasheet and I'm really confused on how to actually connect everything. Would love some guidance!! https://www.st.com/resource/en/user_manual/um2910-stlinkv3minie-debuggerprogrammer-tiny-probe-for-stm32-microcontrollers-stmicroelectronics.pdf

Title	**Bici: MCU** Circuitry related to embedded MCU.	
Size A	Number	Revision V2
Date:	11/17/2025	Sheet5 of 5
File:	C:\Users\..\bici-mcu.SchDoc	Drawn By: Team Bici