Power

LED_BUILTIN

SCK	GPIO6	D13			D12	GPIO4	CIPO
		+3V3			D11	GPIO7	COPI
	PA03	AREF			D10	GPIO5	
A0/DAC0	GPIO26	A0	D14		D9	GPIO21	
A1	GPIO27	A1	D15		D8	GPIO20	
A2	GPIO28	A2	D16		D7	GPIO19	
A3	GPIO29	A3	D17		D6	GPIO18	
A4	GPIO12	A4	D18		D5	GPIO17	
A5	GPIO13	A5	D19		D4	GPIO16	
A6		A6	D20		D3	GPIO15	
A7		A7	D21		D2	GPIO25	
		+5V			GND		
QSPI_CSn	RESET				RESET	RESET	
	GND				RX	GPIO1	
	VIN				TX	GPIO0	

Ground

Power

LED

Internal Pin

SWD Pin

Digital Pin

Analog Pin

Other Pin

Microcontroller's Port

Default

⚠ **MAXIMUM** I/O supply voltage is 3.63V

⚠ **MAXIMUM** GPIO input voltage is 3.3V

⚠ **MAXIMUM** sum of all current being sunk into GPIO and QSPI pins is 50mA
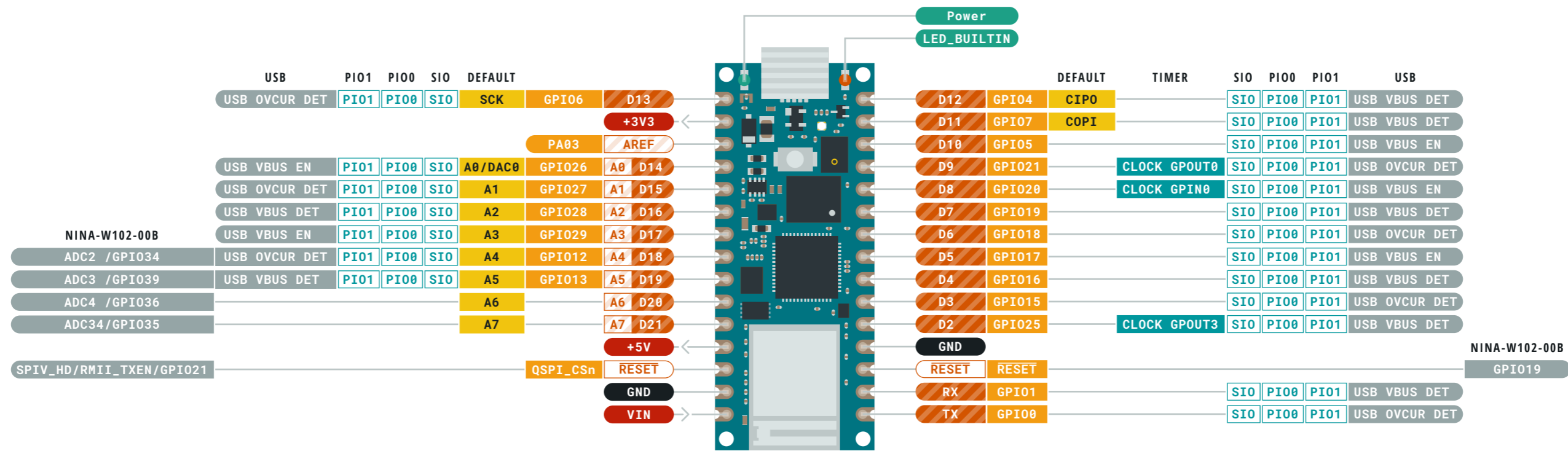
VIN Input voltage to the board.

ARDUINO.CC

Last update: 11/05/2021

Power

LED_BUILTIN

I2C	SPI	UART	PWM	DEFAULT			
I2C1 SDA	SPI0 SCK	UART1 CTS	PWM3 A	SCK	GPIO6	D13	
						+3V3	
				PA03		AREF	
I2C1 SDA	SPI1 SCK	UART1 CTS	PWM5 A	A0/DAC0	GPIO26	A0	D14
I2C1 SCL	SPI1 TX	UART1 RTS	PWM5 B	A1	GPIO27	A1	D15
I2C0 SDA	SPI1 RX	UART0 TX	PWM6 A	A2	GPIO28	A2	D16
I2C0 SCL	SPI1 CSn	UART0 RX	PWM6 B	A3	GPIO29	A3	D17
I2C0 SDA	SPI1 RX	UART0 TX	PWM6 A	A4	GPIO12	A4	D18
I2C0 SCL	SPI1 CSn	UART0 RX	PWM6 B	A5	GPIO13	A5	D19
				A6		A6	D20
				A7		A7	D21
						+5V	
				QSPI_CSn		RESET	
						GND	
						VIN	

		DEFAULT	PWM	UART	SPI	I2C
D12	GPIO4	CIPO	PWM2 A	UART1 TX	SPI0 RX	I2C0 SDA
D11	GPIO7	COPI	PWM3 B	UART1 RTS	SPI0 TX	I2C1 SCL
D10	GPIO5		PWM2 B	UART1 RX	SPI0 CSn	I2C0 SCL
D9	GPIO21		PWM2 B	UART1 RX	SPI0 CSn	I2C0 SCL
D8	GPIO20		PWM2 A	UART1 TX	SPI0 RX	I2C0 SDA
D7	GPIO19		PWM1 B	UART0 RTS	SPI0 TX	I2C1 SCL
D6	GPIO18		PWM1 A	UART0 CTS	SPI0 SCK	I2C1 SDA
D5	GPIO17		PWM0 B	UART0 RX	SPI0 CSn	I2C0 SCL
D4	GPIO16		PWM0 A	UART0 TX	SPI0 RX	I2C0 SDA
D3	GPIO15		PWM7 B	UART0 RTS	SPI1 TX	I2C1 SCL
D2	GPIO25		PWM4 B	UART1 RX	SPI1 CSn	I2C0 SCL
GND						
RESET	RESET					
RX	GPIO1		PWM0 B	UART0 RX	SPI0 CSn	I2C0 SCL
TX	GPIO0		PWM0 A	UART0 TX	SPI0 RX	I2C0 SDA

Legend		
⬛ Ground	◨ Digital Pin	⬛ Analog
🟥 Power	▢ Analog Pin	▨ Communication
🟩 LED	▢ Other Pin	⬛ Timer
⬜ Internal Pin	🟧 Microcontroller's Port	▢ GPIO
🟫 SWD Pin	🟨 Default	

⚠ **MAXIMUM** I/O supply voltage is 3.63V

⚠ **MAXIMUM** GPIO input voltage is 3.3V

⚠ **MAXIMUM** sum of all current being sunk into GPIO and QSPI pins is 50mA
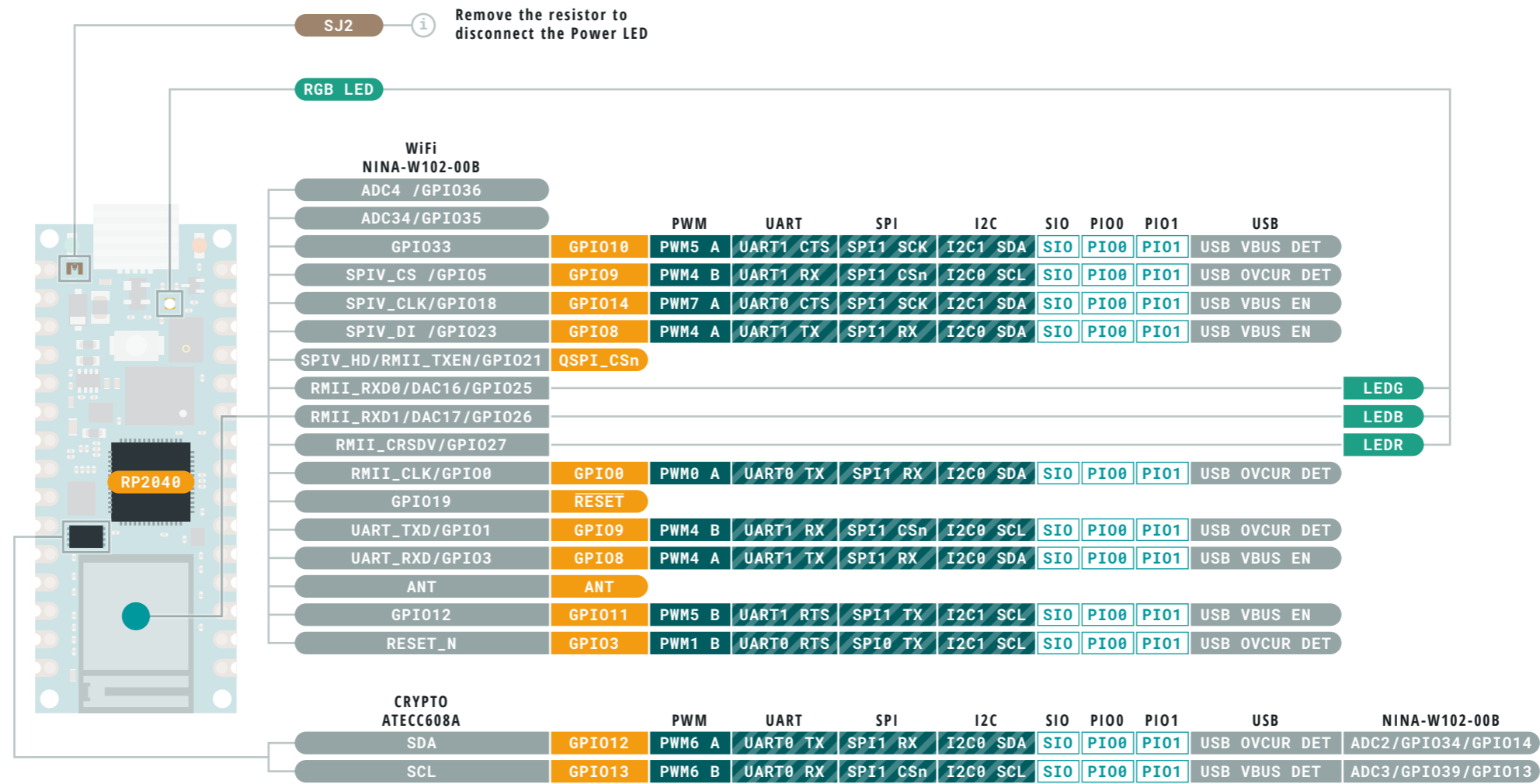
VIN Input voltage to the board.

Power

LED_BUILTIN

USB	PIO1	PIO0	SIO	DEFAULT				DEFAULT	TIMER	SIO	PIO0	PIO1	USB
USB OVCUR DET	PIO1	PIO0	SIO	SCK	GPIO6	D13		D12	GPIO4	CIPO		SIO	PIO0	PIO1	USB VBUS DET
						+3V3		D11	GPIO7	COPI		SIO	PIO0	PIO1	USB VBUS DET
				PA03	AREF			D10	GPIO5			SIO	PIO0	PIO1	USB VBUS EN
USB VBUS EN	PIO1	PIO0	SIO	A0/DAC0	GPIO26	A0 D14		D9	GPIO21		CLOCK GPOUT0	SIO	PIO0	PIO1	USB OVCUR DET
USB OVCUR DET	PIO1	PIO0	SIO	A1	GPIO27	A1 D15		D8	GPIO20		CLOCK GPIN0	SIO	PIO0	PIO1	USB VBUS EN
USB VBUS DET	PIO1	PIO0	SIO	A2	GPIO28	A2 D16		D7	GPIO19			SIO	PIO0	PIO1	USB VBUS DET
USB VBUS EN	PIO1	PIO0	SIO	A3	GPIO29	A3 D17		D6	GPIO18			SIO	PIO0	PIO1	USB OVCUR DET
USB OVCUR DET	PIO1	PIO0	SIO	A4	GPIO12	A4 D18		D5	GPIO17			SIO	PIO0	PIO1	USB VBUS EN
USB VBUS DET	PIO1	PIO0	SIO	A5	GPIO13	A5 D19		D4	GPIO16			SIO	PIO0	PIO1	USB VBUS DET
				A6		A6 D20		D3	GPIO15			SIO	PIO0	PIO1	USB OVCUR DET
				A7		A7 D21		D2	GPIO25		CLOCK GPOUT3	SIO	PIO0	PIO1	USB VBUS DET
					+5V			GND							
				QSPI_CSn	RESET			RESET	RESET						
					GND			RX	GPIO1			SIO	PIO0	PIO1	USB VBUS DET
					VIN			TX	GPIO0			SIO	PIO0	PIO1	USB OVCUR DET

NINA-W102-00B

| ADC2 /GPIO34 | USB OVCUR DET | PIO1 | PIO0 | SIO |
| ADC3 /GPIO39 | USB VBUS DET | PIO1 | PIO0 | SIO |
| ADC4 /GPIO36 |
| ADC34/GPIO35 |

SPIV_HD/RMII_TXEN/GPIO21

NINA-W102-00B

GPIO19

Ground
Power
LED
Internal Pin
SWD Pin

Digital Pin
Analog Pin
Other Pin
Microcontroller's Port
Default

Analog
Communication
Timer
GPIO

⚠ **MAXIMUM** I/O supply voltage is 3.63V

⚠ **MAXIMUM** GPIO input voltage is 3.3V

⚠ **MAXIMUM** sum of all current being sunk into GPIO and QSPI pins is 50mA
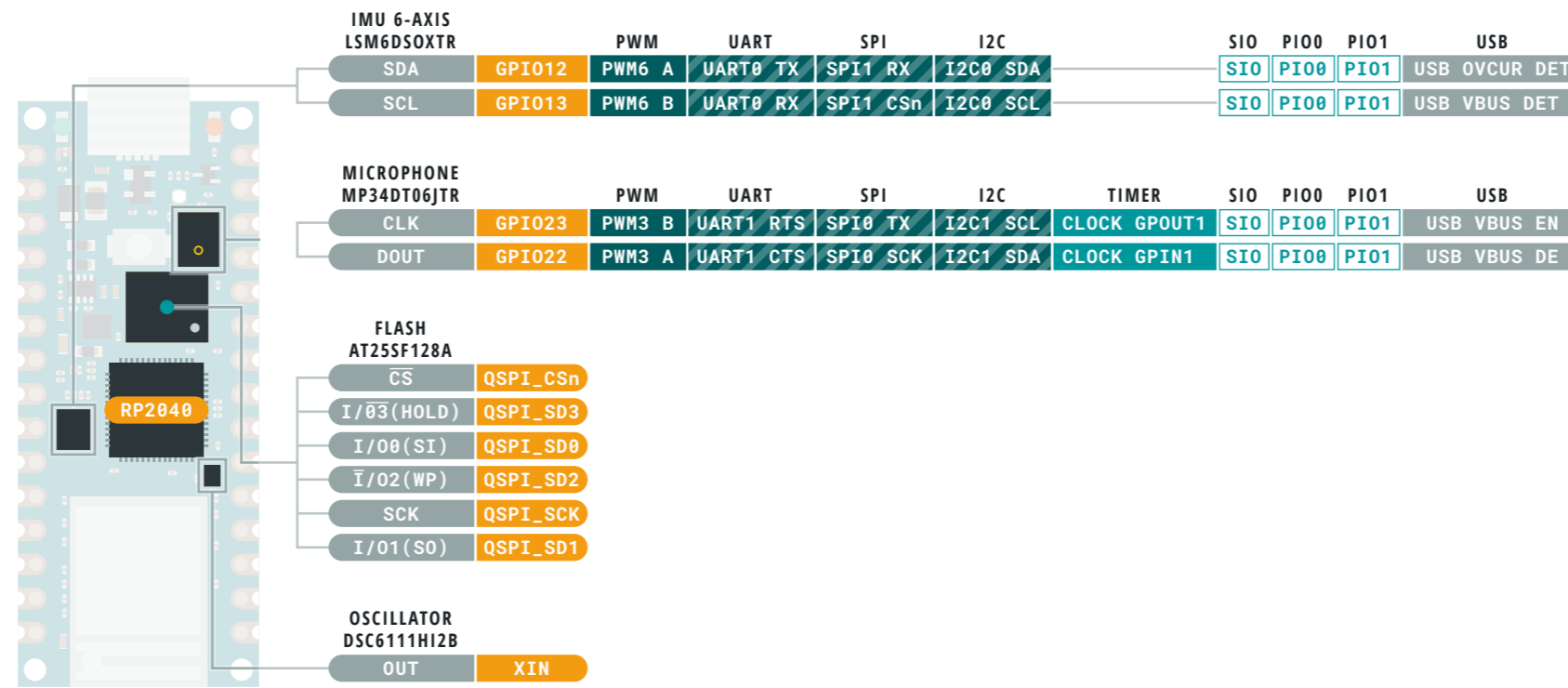
VIN Input voltage to the board.

SJ2   ⓘ   **Remove the resistor to disconnect the Power LED**

RGB LED

**WiFi
NINA-W102-00B**

		PWM	UART	SPI	I2C	SIO	PIO0	PIO1	USB	
ADC4 /GPIO36										
ADC34/GPIO35										
GPIO33	GPIO10	PWM5 A	UART1 CTS	SPI1 SCK	I2C1 SDA	SIO	PIO0	PIO1	USB VBUS DET	
SPIV_CS /GPIO5	GPIO9	PWM4 B	UART1 RX	SPI1 CSn	I2C0 SCL	SIO	PIO0	PIO1	USB OVCUR DET	
SPIV_CLK/GPIO18	GPIO14	PWM7 A	UART0 CTS	SPI1 SCK	I2C1 SDA	SIO	PIO0	PIO1	USB VBUS EN	
SPIV_DI /GPIO23	GPIO8	PWM4 A	UART1 TX	SPI1 RX	I2C0 SDA	SIO	PIO0	PIO1	USB VBUS EN	
SPIV_HD/RMII_TXEN/GPIO21	QSPI_CSn									
RMII_RXD0/DAC16/GPIO25										LEDG
RMII_RXD1/DAC17/GPIO26										LEDB
RMII_CRSDV/GPIO27										LEDR
RMII_CLK/GPIO00	GPIO0	PWM0 A	UART0 TX	SPI1 RX	I2C0 SDA	SIO	PIO0	PIO1	USB OVCUR DET	
GPIO19	RESET									
UART_TXD/GPIO1	GPIO9	PWM4 B	UART1 RX	SPI1 CSn	I2C0 SCL	SIO	PIO0	PIO1	USB OVCUR DET	
UART_RXD/GPIO3	GPIO8	PWM4 A	UART1 TX	SPI1 RX	I2C0 SDA	SIO	PIO0	PIO1	USB VBUS EN	
ANT	ANT									
GPIO12	GPIO11	PWM5 B	UART1 RTS	SPI1 TX	I2C1 SCL	SIO	PIO0	PIO1	USB VBUS EN	
RESET_N	GPIO3	PWM1 B	UART0 RTS	SPI0 TX	I2C1 SCL	SIO	PIO0	PIO1	USB OVCUR DET	

**CRYPTO
ATECC608A**

		PWM	UART	SPI	I2C	SIO	PIO0	PIO1	USB	NINA-W102-00B
SDA	GPIO12	PWM6 A	UART0 TX	SPI1 RX	I2C0 SDA	SIO	PIO0	PIO1	USB OVCUR DET	ADC2/GPIO34/GPIO14
SCL	GPIO13	PWM6 B	UART0 RX	SPI1 CSn	I2C0 SCL	SIO	PIO0	PIO1	USB VBUS DET	ADC3/GPIO39/GPIO13

RP2040

Legend

■ Ground	▨ Digital Pin
■ Power	▨ Analog Pin
■ LED	▨ Other Pin
■ Internal Pin	■ Microcontroller's Port
■ SWD Pin	■ Default

■ Analog	
▨ Communication	
■ Timer	
□ GPIO	

⚠ **MAXIMUM** I/O supply voltage is 3.63V

⚠ **MAXIMUM** GPIO input voltage is 3.3V

⚠ **MAXIMUM** sum of all current being sunk into GPIO and QSPI pins is 50mA
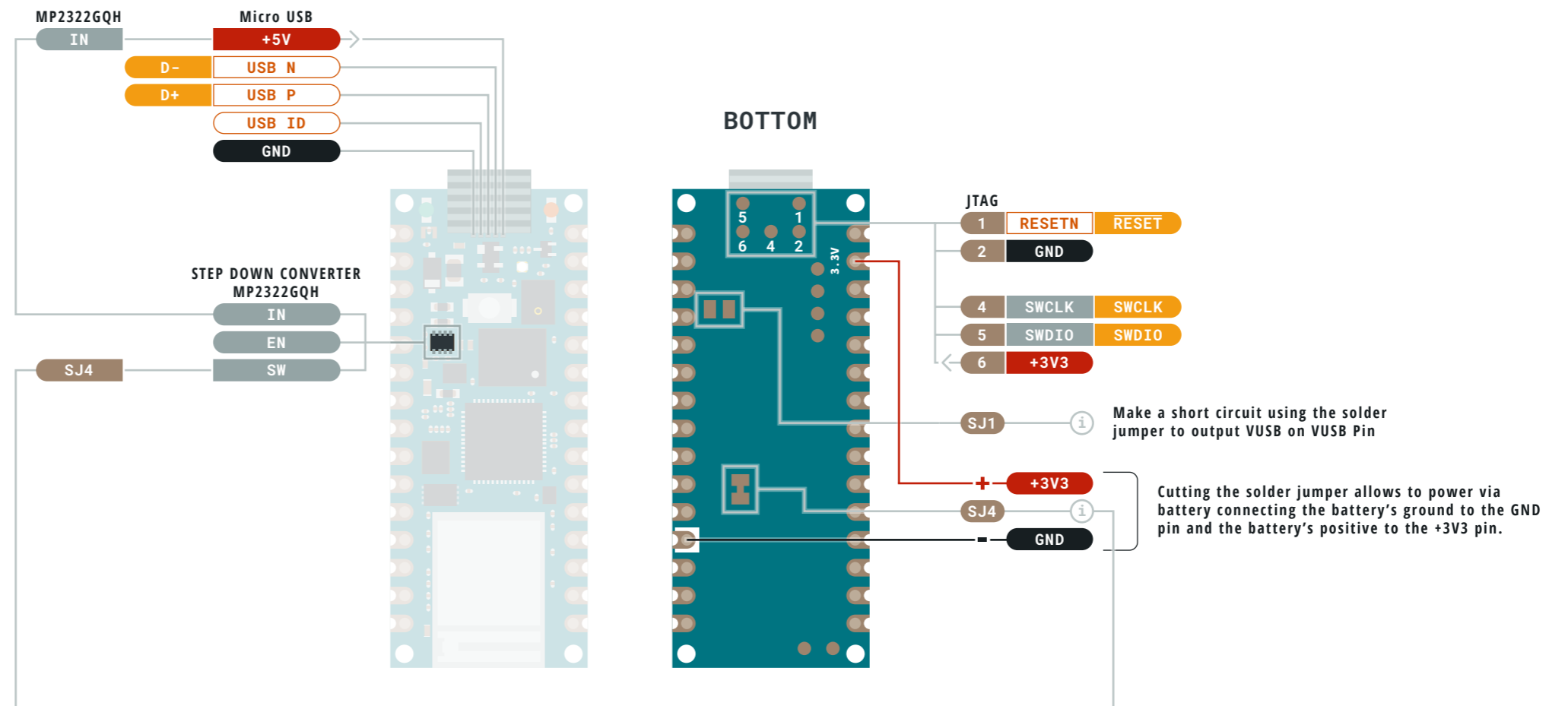
VIN Input voltage to the board.

IMU 6-AXIS LSM6DSOXTR

		PWM	UART	SPI	I2C		SIO	PIO0	PIO1	USB
SDA	GPIO12	PWM6 A	UART0 TX	SPI1 RX	I2C0 SDA		SIO	PIO0	PIO1	USB OVCUR DET
SCL	GPIO13	PWM6 B	UART0 RX	SPI1 CSn	I2C0 SCL		SIO	PIO0	PIO1	USB VBUS DET

MICROPHONE MP34DT06JTR

		PWM	UART	SPI	I2C	TIMER	SIO	PIO0	PIO1	USB
CLK	GPIO23	PWM3 B	UART1 RTS	SPI0 TX	I2C1 SCL	CLOCK GPOUT1	SIO	PIO0	PIO1	USB VBUS EN
DOUT	GPIO22	PWM3 A	UART1 CTS	SPI0 SCK	I2C1 SDA	CLOCK GPIN1	SIO	PIO0	PIO1	USB VBUS DE

FLASH AT25SF128A

CS	QSPI_CSn
I/O3(HOLD)	QSPI_SD3
I/O0(SI)	QSPI_SD0
I/O2(WP)	QSPI_SD2
SCK	QSPI_SCK
I/O1(SO)	QSPI_SD1

OSCILLATOR DSC6111HI2B

OUT	XIN

Ground
Power
LED
Internal Pin
SWD Pin

Digital Pin
Analog Pin
Other Pin
Microcontroller's Port
Default

Analog
Communication
Timer
GPIO

⚠ **MAXIMUM** I/O supply voltage is 3.63V

⚠ **MAXIMUM** GPIO input voltage is 3.3V

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VIN Input voltage to the board.

MP2322GQH

IN

Micro USB

| +5V |
D−	USB N
D+	USB P
	USB ID
	GND

BOTTOM

STEP DOWN CONVERTER
MP2322GQH

| IN |
| EN |
| SJ4 | SW |

JTAG

1	RESETN	RESET
2	GND
4	SWCLK	SWCLK
5	SWDIO	SWDIO
6	+3V3

SJ1

ⓘ Make a short circuit using the solder jumper to output VUSB on VUSB Pin

+	+3V3
SJ4	ⓘ
−	GND

Cutting the solder jumper allows to power via battery connecting the battery's ground to the GND pin and the battery's positive to the +3V3 pin.

Legend

- ⬛ Ground
- 🟥 Power
- 🟩 LED
- ⬜ Internal Pin
- 🟫 SWD Pin
- 🟧 Digital Pin
- ⬜ Analog Pin
- ⬜ Other Pin
- 🟧 Microcontroller's Port
- 🟨 Default

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VIN Input voltage to the board.