PWM BQ25120AYFPR

VBAT			BAT
NTC		NTC	TS
VIN_BQ25120			IN

PWM

PWM	ADC1	P0.02	A0
PWM	ADC2	P0.30	A1
PWM	SCLK	P0.11	SCLK
PWM	CIPO	P0.28	CIPO
PWM	COPI	P0.27	COPI
PWM	CS	P0.29	CS
			NC
PWM	GIPO0_EXT	P0.24	GPIO0

ANNAB112

NC			
VDDIO_EXT			
GND			

(i) **To power the Nicla Sense ME using VDDIO_EXT, disable the LS/LDO pin of BQ25120AYFPR**

GPIO3	P0.10		PWM
GPIO2/RX	P0.09		PWM
GPIO1/TX	P0.20		PWM
SCL1	P0.23	SCL	PWM
SDA1	P0.22	SDA	PWM

Ground
Power
LED
Internal Pin
SWD Pin

Digital Pin
Analog Pin
Other Pin
Microcontroller's Port
Default

Analog
Communication
Timer
Interrupt
Sercom

⚠ **WARNING** Total output current sunk by sum of all I/Os and control pins is 40 mA

⚠ **WARNING** Total output current sourced by sum of all I/Os and control pins is 40 mA

⚠ **WARNING** Output current sunk by any I/O and control pin is 10 mA

RGB LED Driver
U8 IS31FL3194

P0.16	SDA
P0.16	SCL
	VCC/V_PMID
red	OUT3
green	OUT2
blue	OUT1

| | RGB LED |

U9 BQ25120AYFPR

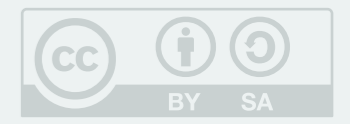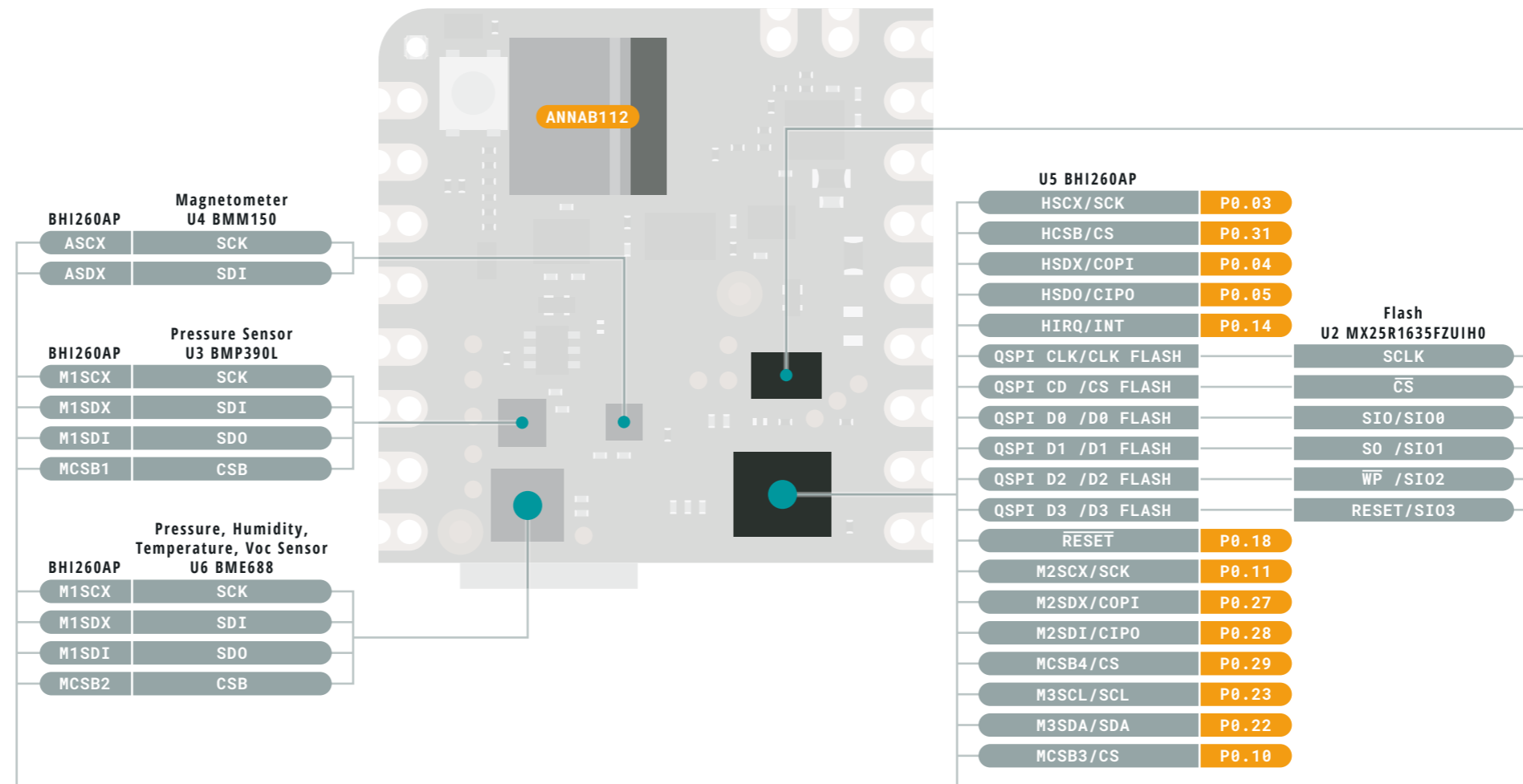| MR | RESET |
SCL	P0.16
SDA	P0.15
$\overline{CD}$	P0.25
LS/LDO	

VDDIO_EXT

Disabling the LS/LDO pin it is possible to power the Nicla Sense ME using VDDIO_EXT pin on the header

If LS/LDO pin is enabled, it is possible to configure the Nicla Sense ME to work at +3V3 or +1V8, depending on the configuration of the maximum input voltage

Y1 SIT1532AI

| P0.00 | CLK |

U7 MX25R1635FZUIH0

SCLK/SCK	P0.03
$\overline{CS}$	P0.26
SIO/SIO0/COPI	P0.04
SO /SIO1/CIPO	P0.05

ANNAB112

Legend

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

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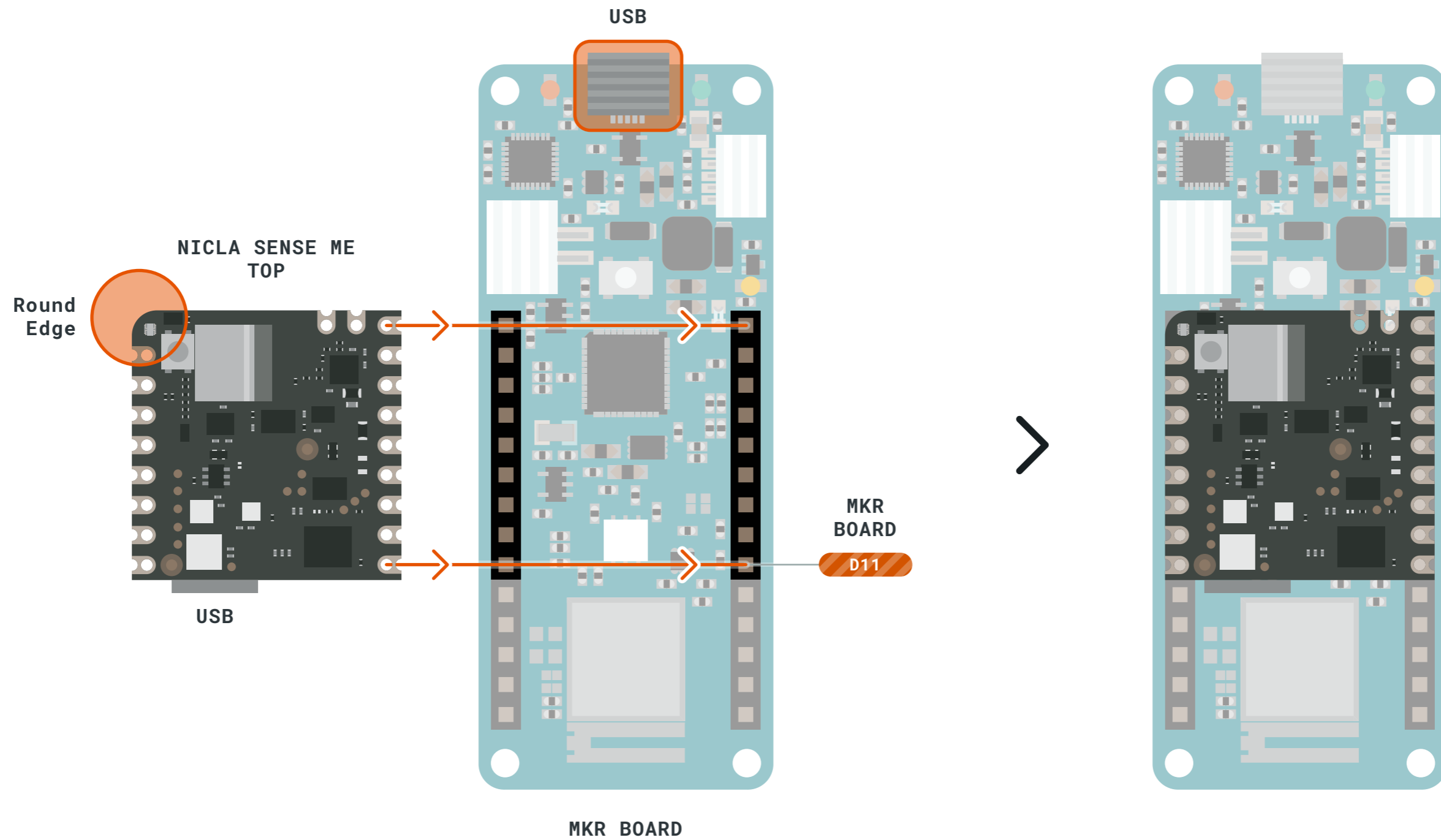⚠ **WARNING** Output current sunk by any I/O and control pin is 10 mA

ANNAB112

Magnetometer
U4 BMM150

BHI260AP	
ASCX	SCK
ASDX	SDI

Pressure Sensor
U3 BMP390L

BHI260AP	
M1SCX	SCK
M1SDX	SDI
M1SDI	SDO
MCSB1	CSB

Pressure, Humidity,
Temperature, Voc Sensor
U6 BME688

BHI260AP	
M1SCX	SCK
M1SDX	SDI
M1SDI	SDO
MCSB2	CSB

U5 BHI260AP

HSCX/SCK	P0.03
HCSB/CS	P0.31
HSDX/COPI	P0.04
HSDO/CIPO	P0.05
HIRQ/INT	P0.14
QSPI CLK/CLK FLASH	
QSPI CD /CS FLASH	
QSPI D0 /D0 FLASH	
QSPI D1 /D1 FLASH	
QSPI D2 /D2 FLASH	
QSPI D3 /D3 FLASH	
$\overline{RESET}$	P0.18
M2SCX/SCK	P0.11
M2SDX/COPI	P0.27
M2SDI/CIPO	P0.28
MCSB4/CS	P0.29
M3SCL/SCL	P0.23
M3SDA/SDA	P0.22
MCSB3/CS	P0.10

Flash
U2 MX25R1635FZUIH0

SCLK
$\overline{CS}$
SIO/SIO0
SO /SIO1
$\overline{WP}$ /SIO2
RESET/SIO3

Legend

- ◼ Ground
- ◼ Power
- ◼ LED
- ◼ Internal Pin
- ◼ SWD Pin
- ◼ Digital Pin
- ◻ Analog Pin
- ◻ Other Pin
- ◼ Microcontroller's Port
- ◼ Default

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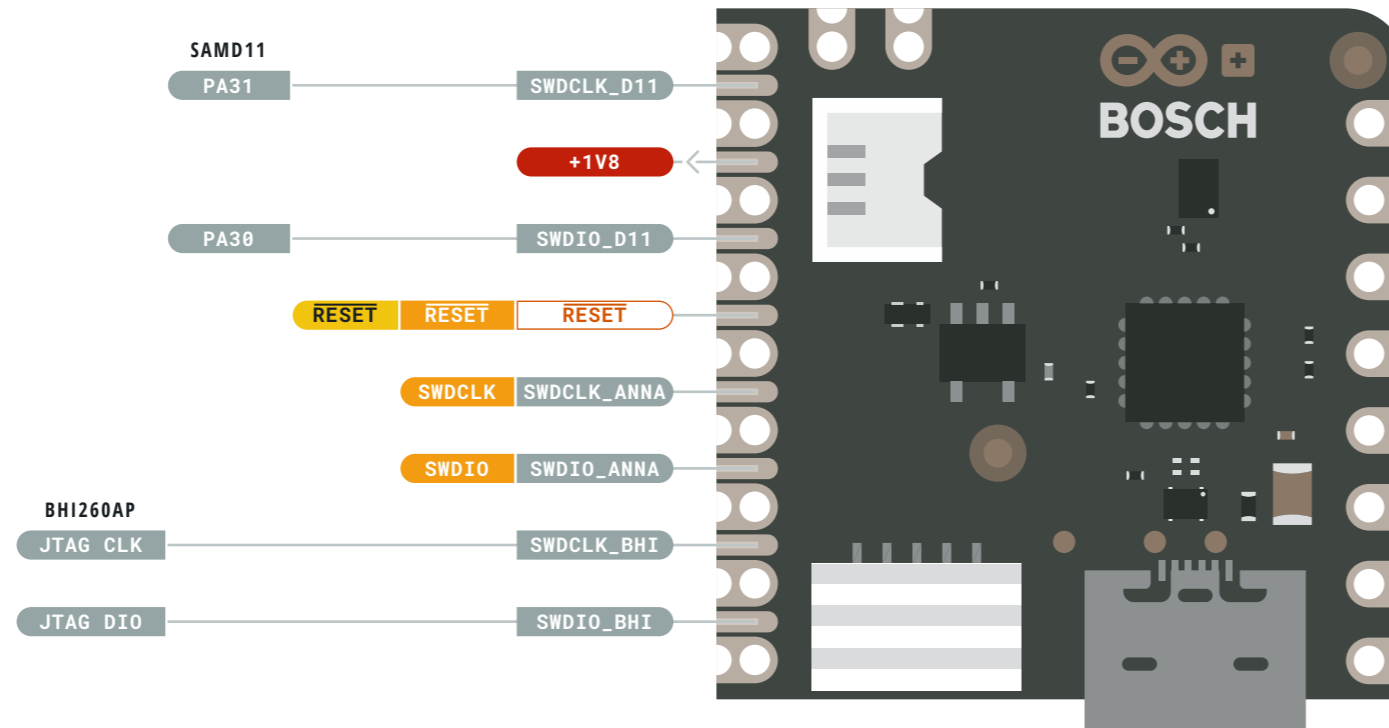⚠ **WARNING** Output current sunk by any I/O and control pin is 10 mA

USB

**NICLA SENSE ME
TOP**

**Round
Edge**

USB

MKR BOARD

**MKR
BOARD**

D11

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

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⚠ **WARNING** Output current sunk by any
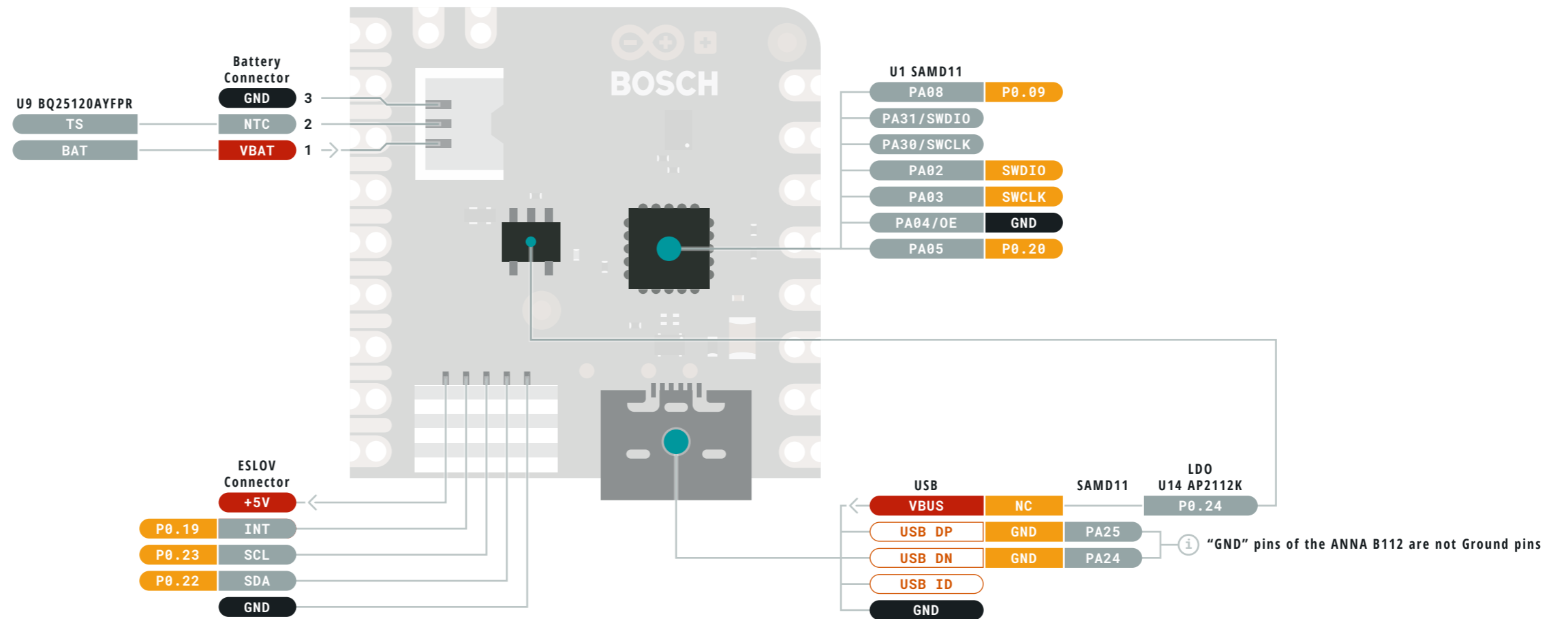I/O and control pin is 10 mA

BOTTOM

SAMD11

| PA31 | SWDCLK_D11 |

| +1V8 |

| PA30 | SWDIO_D11 |

| RESET | RESET | RESET |

| SWDCLK | SWDCLK_ANNA |

| SWDIO | SWDIO_ANNA |

BHI260AP

| JTAG CLK | SWDCLK_BHI |

| JTAG DIO | SWDIO_BHI |

BOSCH

Ground

Power

LED

Internal Pin

SWD Pin

Digital Pin

Analog Pin

Other Pin

Microcontroller's Port

Default

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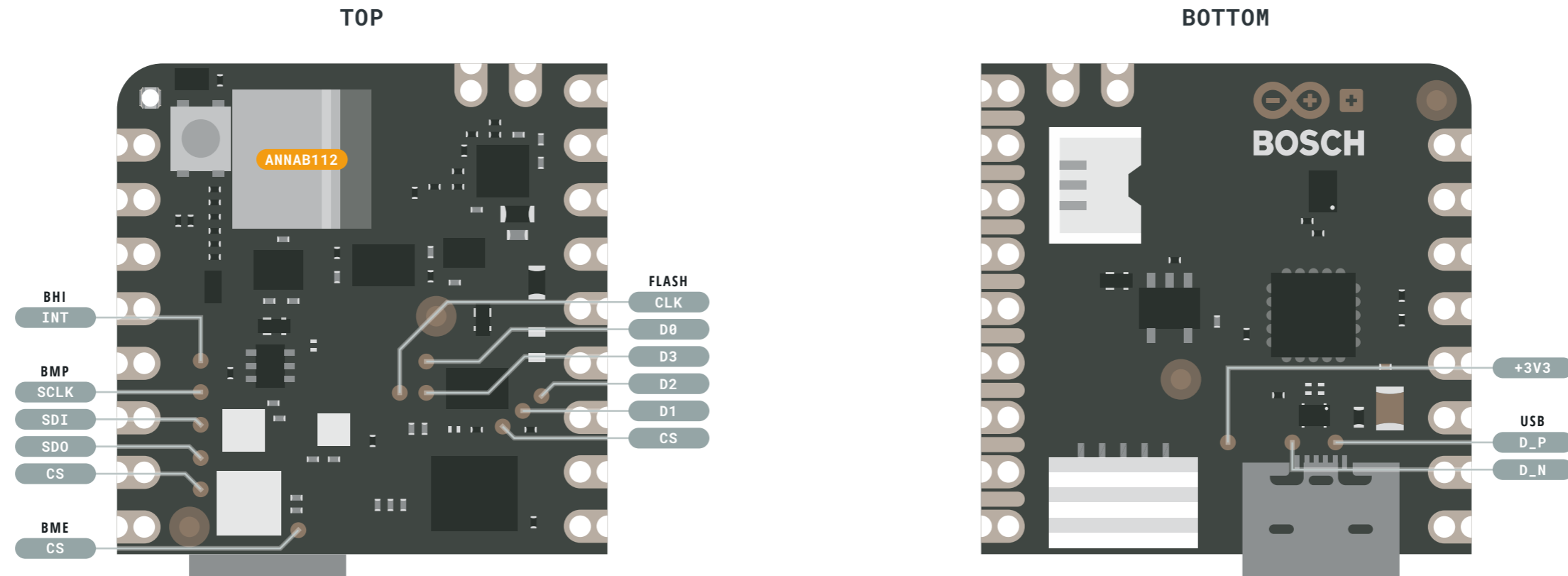⚠ **WARNING** Output current sunk by any I/O and control pin is 10 mA

BOTTOM

U9 BQ25120AYFPR

| TS |
| BAT |

Battery Connector

GND	3
NTC	2
VBAT	1

U1 SAMD11

PA08	P0.09
PA31/SWDIO	
PA30/SWCLK	
PA02	SWDIO
PA03	SWCLK
PA04/OE	GND
PA05	P0.20

BOSCH

ESLOV Connector

	+5V
P0.19	INT
P0.23	SCL
P0.22	SDA
	GND

USB

VBUS	NC
USB DP	GND	PA25
USB DN	GND	PA24
USB ID	
GND	

SAMD11

LDO U14 AP2112K

| P0.24 |

(i) "GND" pins of the ANNA B112 are not Ground pins

Legend

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

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Test Points

TOP

BHI
INT

BMP
SCLK
SDI
SDO
CS

BME
CS

FLASH
CLK
D0
D3
D2
D1
CS

BOTTOM

BOSCH

+3V3

USB
D_P
D_N

Legend

- **Ground**
- **Power**
- **LED**
- **Internal Pin**
- **SWD Pin**
- **Digital Pin**
- **Analog Pin**
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- **Microcontroller's Port**
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