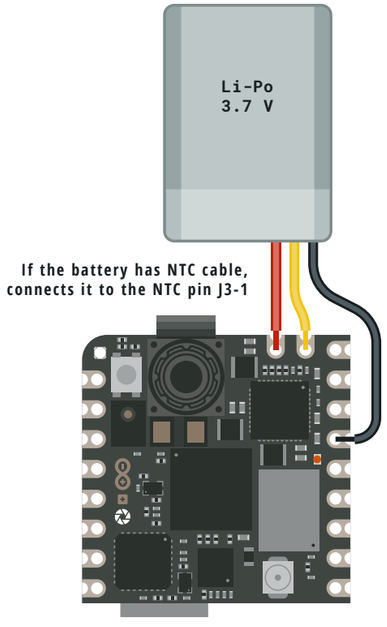
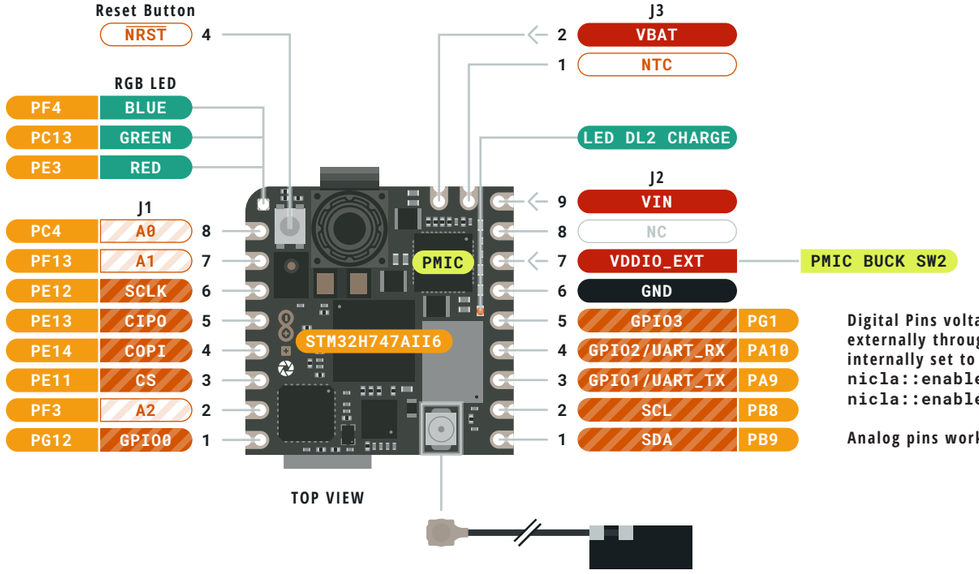


The battery also connects with the Battery Connector J4 on the bottom of the board



TOP VIEW

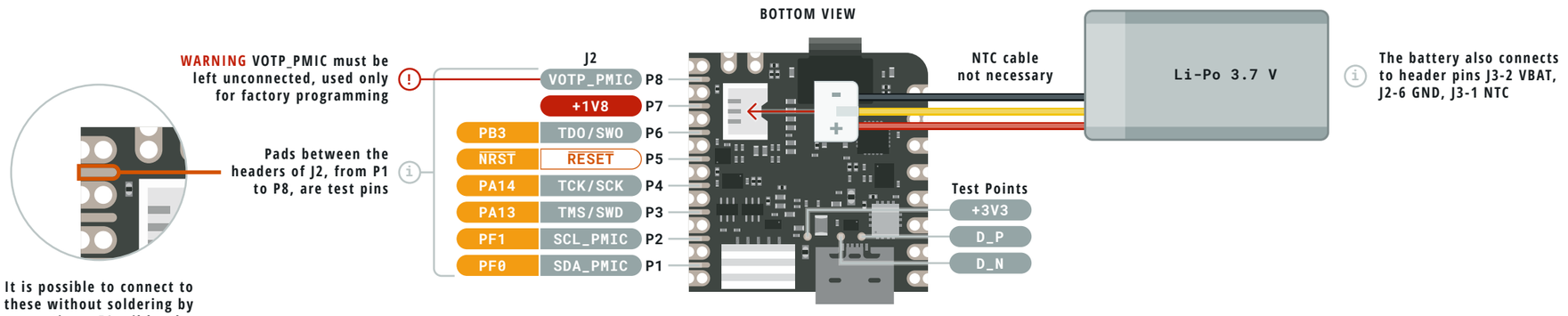
Digital Pins voltage level can be forced externally through VDDIO_EXT or internally set to 3.3V or 1.8V with: `nicla::enable3V3LDO()` and `nicla::enable1V8LDO()` respectively.

Analog pins work only at 1.8V

Connect the provided WiFi/Bluetooth Antenna (MOLEX 2.4/5GHz) with the Micro UFL connector on the Nicla Vision

- Ground
- Power
- LED
- Internal Pin
- SWD Pin
- Digital Pin
- Analog Pin
- Other Pin
- Microcontroller's Port
- PMIC MC34PF1550A0EP's Port

WARNING GPIOs are driven by bidirectional translators powered by VDDIO_EXT. These translators are meant for low power and can only drive very limited current. Please check translator datasheet for details.
VDDIO_EXT is software programmable between 1.8 and 3.3V



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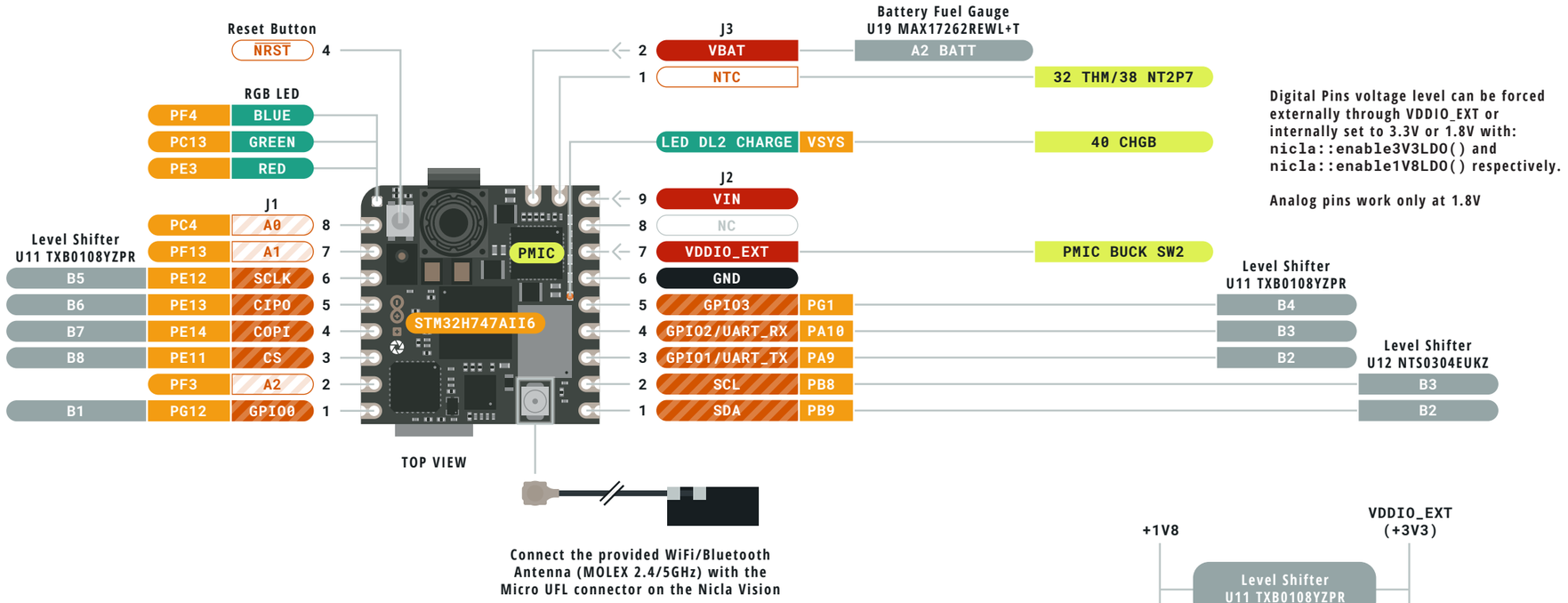
WARNING!

Advanced Section

The following information is for advanced use only and may not be officially supported by Arduino software



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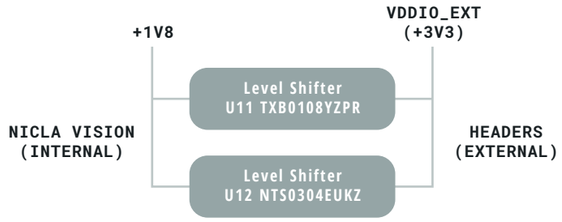

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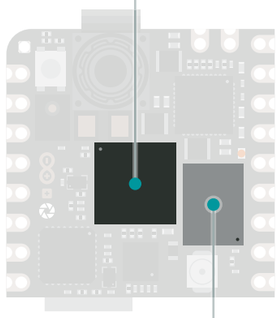
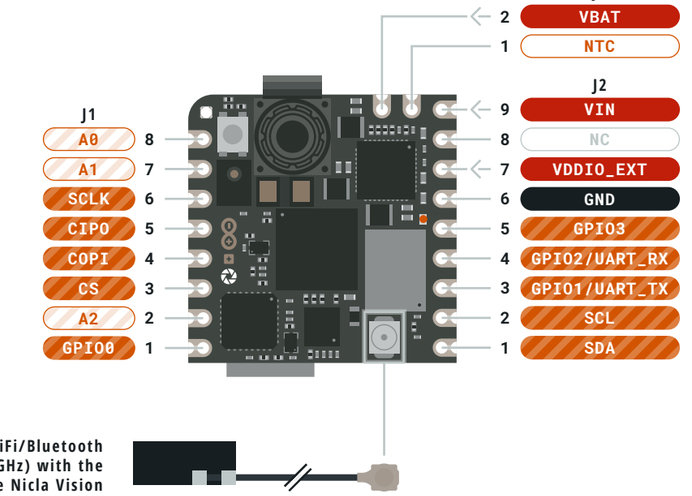


Microcontroller U1H STM32H747AII6		LEVEL SHIFTERS	ADC/DAC	I2C/I2S	SPI	UART/USART	TIMER	HRTIM (high resolution timer)	LPTIM (low power timer)
NRST									
PB3							TIM2_CH2	HRTIM_FLT4	
PG1	J2-5 GPIO3	U11-A4							
PA14									
PA10	J2-4 GPIO2	U11-A3				UART1_RX	TIM1_CH3	HRTIM_CHC2	
PA13									
PA9	J2-3 GPIO1	U11-A2				UART1_TX	TIM1_CH2	HRTIM_CHC1	
PF1									
PB8	J2-2 SCL	U12-A3		I2C1_SCL		UART4_RX	TIM16_CH1/TIM4_CH3		
PF0									
PB9	J2-1 SDA	U12-A2		I2C1_SDA		UART4_TX	TIM17_CH1/TIM4_CH4		
PC4	J1-8 A0		ADC12_INP4						
PF13	J1-7 A1		ADC2_INP2						
PE12	J1-6 SCLK	U11-A5			SPI4_SCK		TIM1_CH3N		
PE13	J1-5 CIPO	U11-A6			SPI4_CIPO		TIM1_CH3		
PE14	J1-4 COPI	U11-A7			SPI4_COPI		TIM1_CH4		
PE11	J1-3 CS	U11-A8			SPI4_NSS		TIM1_CH2		
PF3	J1-2 A2		ADC3_INP5						
PG12	J1-1 GPIO0	U11-A1						HRTIM_EEV5	LPTIM1_IN1

WiFi/BLE U9 LBEE5KL1DX-883			I2C/I2S	UART/USART
2	RX	PB6		USART1_TX
3	TX	PB7		USART1_RX
4	CTS	PA12		USART1_RTS
5	RTS	PA11		USART1_CTS
8	BT_PCMSYNC	PA15	I2S3_WS	
9	BT_PCMIN	PB2	I2S3_SDO	
10	BT_PCMOUT	PC11	I2S3_SDI	
11	BT_PCMCLK	PC10	I2S3_CK	
24	DATA0	PB14		
26	DATA1	PB15		
23	DATA2	PG11		
25	DATA3	PB4		
20	CLK	PD6		
22	CMD	PD7		
37	LPO IN	PC14-OSC32_IN		
27	WL_WAKE_H	PD15		
39	BT_WAKE_D	PE9		
38	BT_WAKE_H	PD14		
41	ANT	J6-U.FL-R-SMT-1		
14	BT_ON	PF14		
28	WL_ON	PG4		



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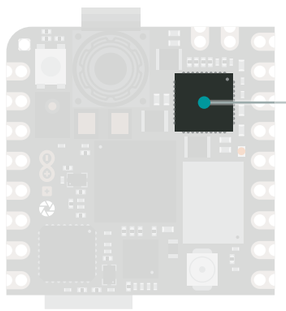


PMIC U10 MC34PF1550A0EP		PAD		Pin Name	I2C/I2S	Battery Fuel Gauge U19 MAX17262REWL+T	OR-ING with Ideal Diodes U2, U7 LM66100DCKR
37	VBUSIN						6 VOUT
33	VBATT1					B3 SYS	
34	VBATT2					B3 SYS	
2	SDA	PF0			I2C2_SDA		
3	SCL	PF1			I2C2_SCL		
10	RESETBMCU	NRST			JTAG_NRST		
9	INTB	PE8					
38	INT2P7			J3-1 NTC			
32	THM			J3-1 NTC			
40	CHGB			LED DL2			
35	VSYS1	VSYS	VSYS				
36	VSYS2	VSYS	VSYS				
30	VSNVS	+VSNVS					
12	VLDO3		+1V8CAM_CORE				
19	VLDO2		+1V8CAM_IO				
29	VLDO1		+2V8A				
13	SW3LX		+3V3				
18	SW2LX			J2-7 VDDIO			
25	SW1LX		+1V8				
26	SW1IN		VSYS				
17	SW2IN		VSYS				
14	SW3IN		VSYS				
28	VLDO1IN		+3V3				
20	VLDO2IN		+3V3				
11	VLDO3IN		+3V3				
5	VDDOTP			J2-P8 VOTP_PMIC			

WARNING VOTP_PMIC must be left unconnected, used only for factory programming

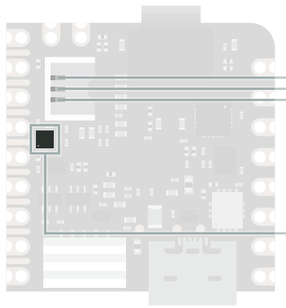
U2

VUSB

VESLOV

U7

VIN



J4 Battery Connector

3	GND
2	NTC
1	VBAT

Battery Fuel Gauge U19 MAX17262REWL+T

38 INT2P7

A2

Battery Fuel Gauge U19 MAX17262REWL+T

A2	BATT		Pin Name	J3-2 VBAT
B2	$\overline{\text{ALRT}}$	PE8		
B1	SCL	PF1	I2C/I2S	I2C2_SCL
C1	SDA	PF0		I2C2_SDA
B3	SYS			

33 VBATT1/34 VBATT2

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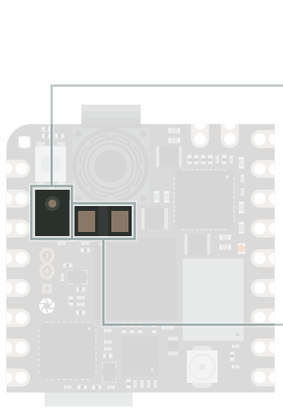


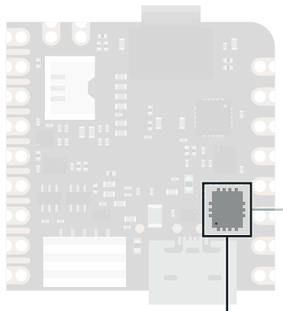
Microphone
U6 MP34DT06JTR

3	CLK	PD10	CK
4	DOUT	PE7	D0
1	+1V8 VDD		

Time of Fligth
U4 VL53L1CBV0FY/1

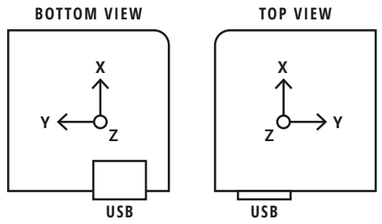
5	XSHUT	PG10	
10	SCL	PF1	I2C2_SCL
9	SDA	PF0	I2C2_SDA
7	GPIO1	PD8	
1	+2V8A AVDDVCSEL		
11	+2V8A AVDD		

BOTTOM VIEW



IMU 6-Axis
U3 LSM6DSOXTR

1	SDO/SA0	PF8	SPI5_CIPO
14	SDA	PF11	SPI5_COPI
13	SCL	PF7	SPI5_SCLK
12	CS	PF6	SPI5_CS
4	INT1	PA1	
9	INT2	PD4	
8	+1V8 VDD		
5	+1V8 VDDIO		



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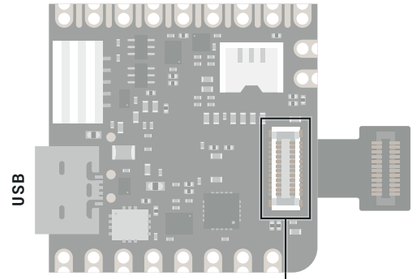

The Camera Connector J8 works with the Module Camera Arducam GC2145

DCMI		J8 Camera Connector 13-24		J8 Camera Connector 1-12			
D7	PE6	D7	24	1	GND		
D6	PE5	D6	23	2	+2V8A		
D5	PD3	D5	22	3	GND		
D4	PE4	D4	21	4	CAM_NC4	PD0	
D3	PE1	D3	20	5	CAM_VS	PG9	VSYNC
D2	PE0	D2	19	6	CAM_HS	PA4	HSYNC
D1	PC7	D1	18	7	SCL	PA8	I2C3_SCL
D0	PC6	D0	17	8	SDA	PC9	I2C3_SDA
PIXCLK	PA6	PCLK	16	9	CAM_NC9	PG15	
		GND	15	10	GND		
	PA7	CAM_CLK	14	11	+1V8CAM_IO		
		GND	13	12	+1V8CAM_CORE		

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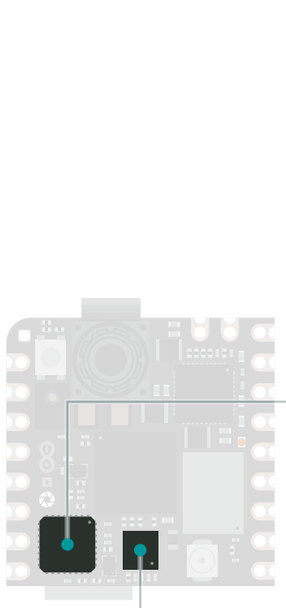


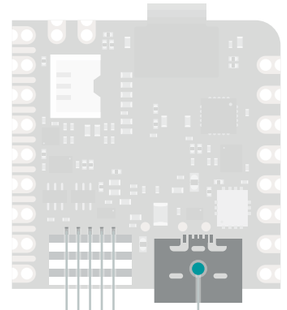
USB Physical
U5 USB3320C-EZK-TR

			USB OTG
2	NXT	PC3_C	NXT
31	DIR	PC2_C	DIR
29	STP	PG0	STP
1	CLKOUT	PA5	CK
13	D7	PB5	D7
10	D6	PB13	D6
9	D5	PB12	D5
7	D4	PB11	D4
6	D3	PB10	D3
5	D2	PB1	D2
4	D1	PB0	D1
3	D0	PA3	D0
32	VDDIO	+1V8	
21	VBAT	+3V3	
20	VDD3.3	+3V3	
30	VDD1.8	+1V8	
8	REFSEL0	+1V8	
11	REFSEL1	+1V8	
14	REFSEL2	GND	
26	REFCLK	OUT	Oscilator U15 DSC6151HI2B-027.0000T
22	VBUS	22 VBUS	USB Physical U5 USB3320C-EZK-TR
19	DM	19 DM	
18	DP	18 DP	
23	ID	23 ID	

Flash 128Mb
U13 AT25QL128A-UUE-T

E3	I/O0(SI)	PD11
C4	I/O1(SO)	PF9
DA	I/O2(WP)	PE2
C3	I/O3(HOLD)	PD13
B4	CS	PG6
D3	SCK	PF10

BOTTOM VIEW



WARNING VESLOV is an INPUT voltage to the board, that provides max 5V

Level Shifter
U12 NTS0304EUKZ

TIMER	UART/USART	I2C/I2S			J5 ESLOV	
			B4	PD9	VESLOV	1
TIM16_CH1/TIM4_CH3	UART4_RX	I2C1_SCL	B3	PB8	INT ESLOV_EXT	2
TIM17_CH1/TIM4_CH4	UART4_TX	I2C1_SDA	B2	PB9	SCL_EXT/RX	3
					SDA_EXT/TX	4
					GND	5

USB Physical U5 USB3320C-EZK-TR		J7 Micro USB Connector	
22 VBUS		VBUS	1
19 DM		D-	2
18 DP		D+	3
23 ID	PD9	ID	4
		GND	5

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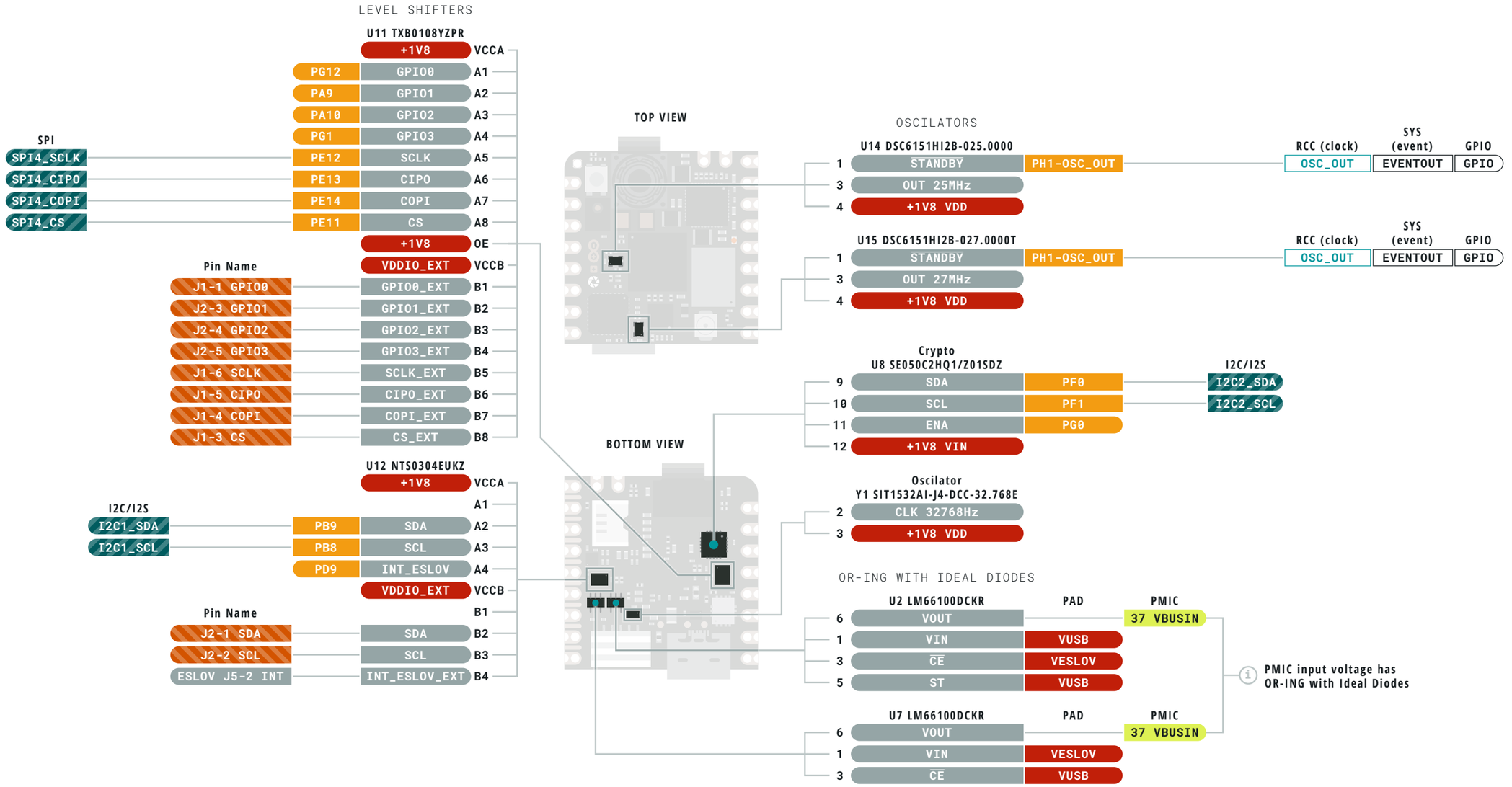

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