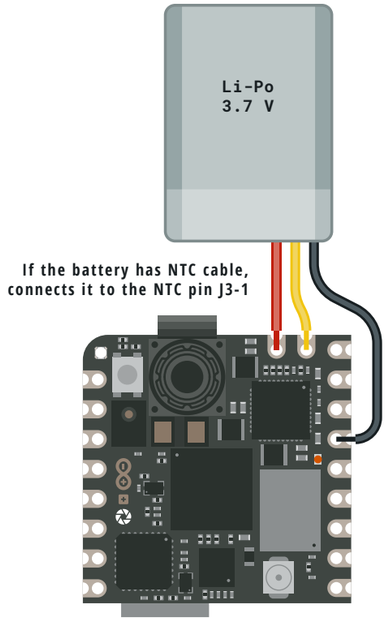
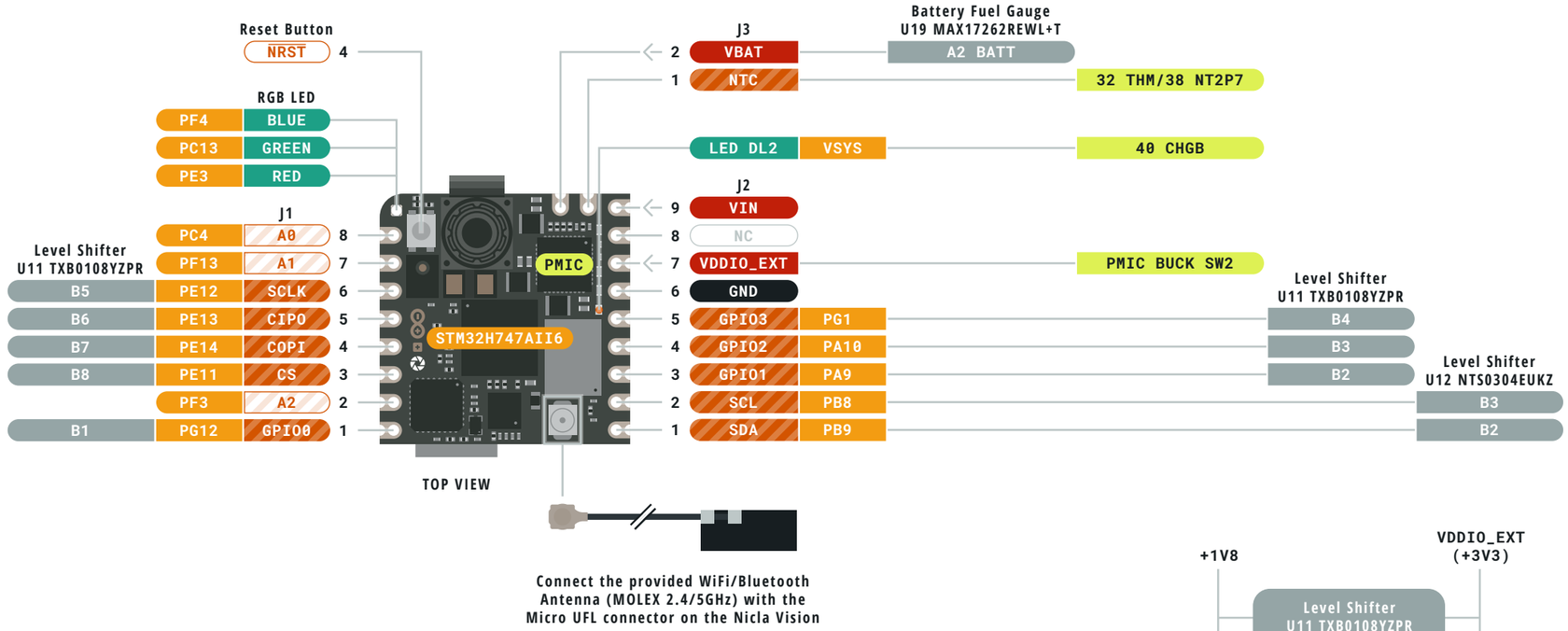


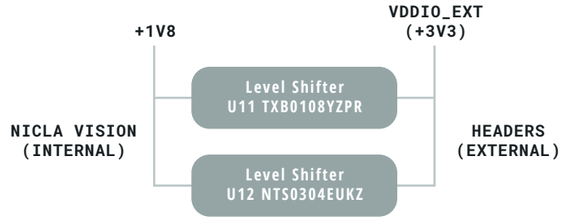
If the battery has NTC cable, connects it to the NTC pin J3-1

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



TOP VIEW

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

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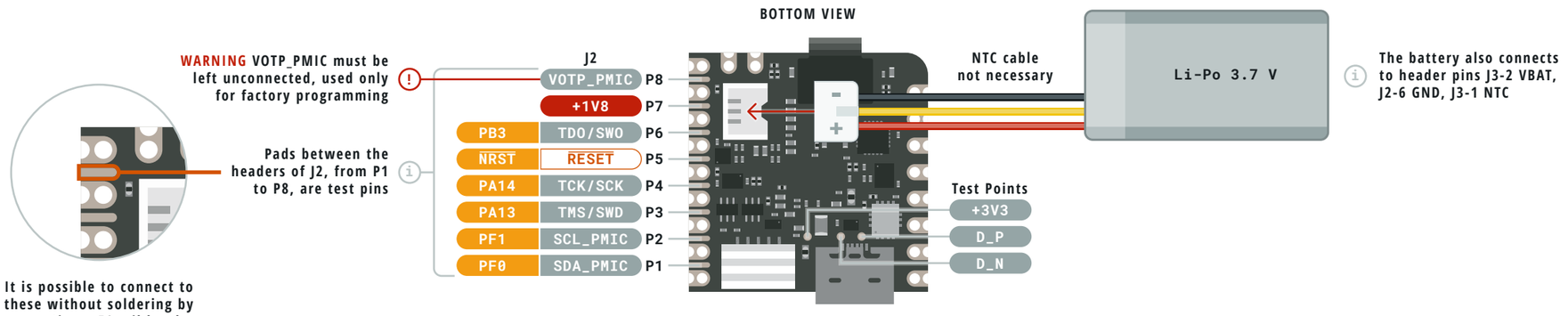
Last update: Feb 8, 2022



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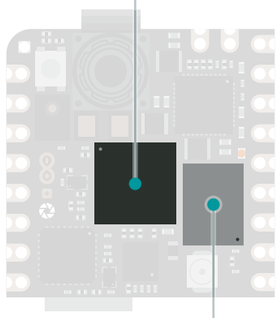
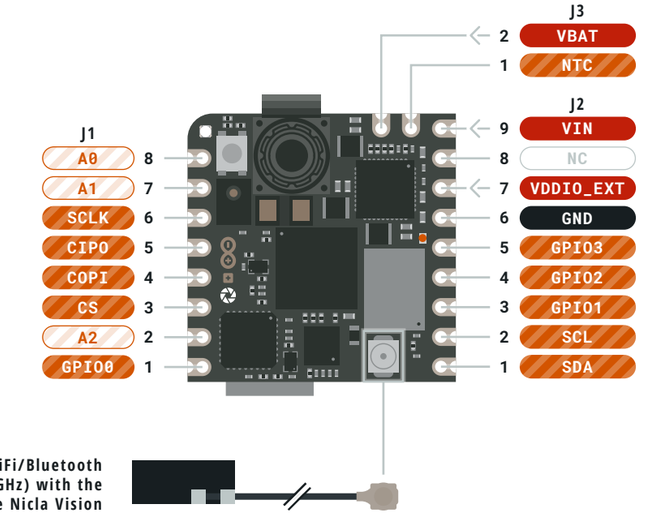
ARDUINO NICLA VISION



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					TIM1_CH3	HRTIM_CHC2	
PA13									
PA9	J2-3 GPIO1	U11-A2					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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Analog
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Timer
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Debug/Clock

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Last update: Feb 8, 2022

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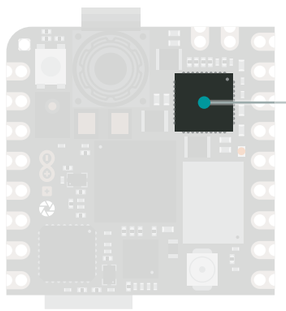


PMIC U10 MC34PF1550A0EP		PAD		Pin Name	I2C/I2S	Battery Fuel Gauge U19 MAX17262REWL+T	OR-ING with Ideal Diodes U2, U7 LM66100DCKR
37	VBUSIN						6 VOUT
33	VBATT1					B3 SYS	
34	VBATT2					B3 SYS	
2	SDA	PF0			I2C2_SDA		
3	SCL	PF1			I2C2_SCL		
10	RESETBMCU	NRST			JTAG_NRST		
9	INTB	PE8					
38	INT2P7			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

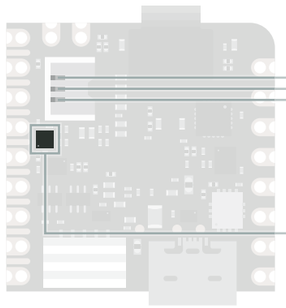
U2

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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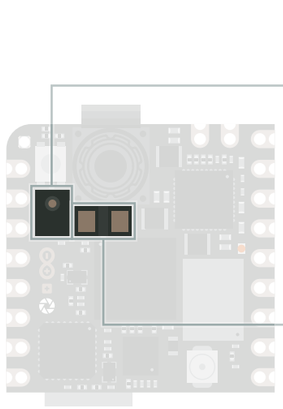


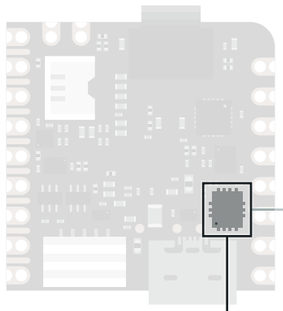
Microphone
U6 MP34DT06JTR

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

Time of Fligth
U4 VL53L1CBV0FY/1

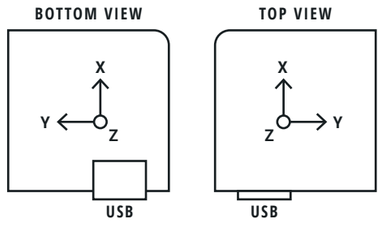
5	XSHUT	PG10	
10	SCL	PF1	I2C2_SCL
9	SDA	PF0	I2C2_SDA
7	GPIO1	PD8	
1	+2V8A AVDDVCSEL		
11	+2V8A AVDD		

BOTTOM VIEW

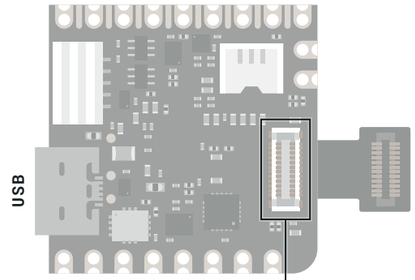


IMU 6-Axis
U3 LSM6DSOXTR

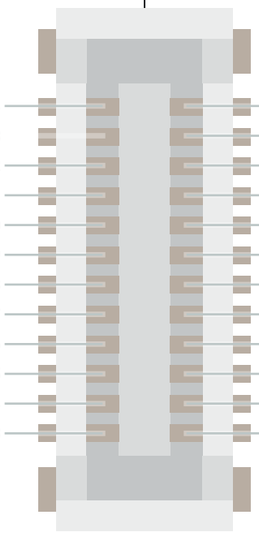
1	SDO/SA0	PF8	SPI5_CIPO
14	SDA	PF11	SPI5_COPI
13	SCL	PF7	SPI5_SCLK
12	CS	PF6	SPI5_CS
4	INT1	PA1	
9	INT2	PD4	
8	+1V8 VDD		
5	+1V8 VDDIO		



BOTTOM VIEW



The Camera Connector J8 works with the Module Camera Arducam GC2145



DCMI / J8 Camera Connector 13-24

D7	PE6	D7	24	
D6	PE5	D6	23	
D5	PD3	D5	22	
D4	PE4	D4	21	
D3	PE1	D3	20	
D2	PE0	D2	19	
D1	PC7	D1	18	
D0	PC6	D0	17	
PIXCLK	PA6	PCLK	16	
		GND	15	
	PA7	CAM_CLK	14	
		GND	13	

J8 Camera Connector 1-12

1	GND			
2	+2V8A			
3	GND			
4	CAM_NC4	PD0		
5	CAM_VS	PG9	I2C	VSYNC
6	CAM_HS	PA4	I2C	HSYNC
7	SCL	PA8	I2C3_SCL	
8	SDA	PC9	I2C3_SDA	
9	CAM_NC9	PG15		
10	GND			
11	+1V8CAM_IO			
12	+1V8CAM_CORE			

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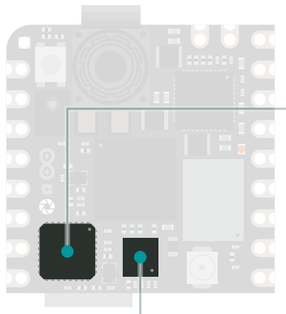


USB Physical
U5 USB3320C-EZK-TR

			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		
19	DM		
18	DP		
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

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

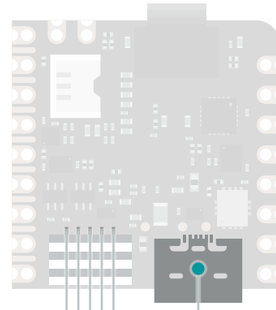
Level Shifter
U12 NTS0304EUKZ

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

BOTTOM VIEW



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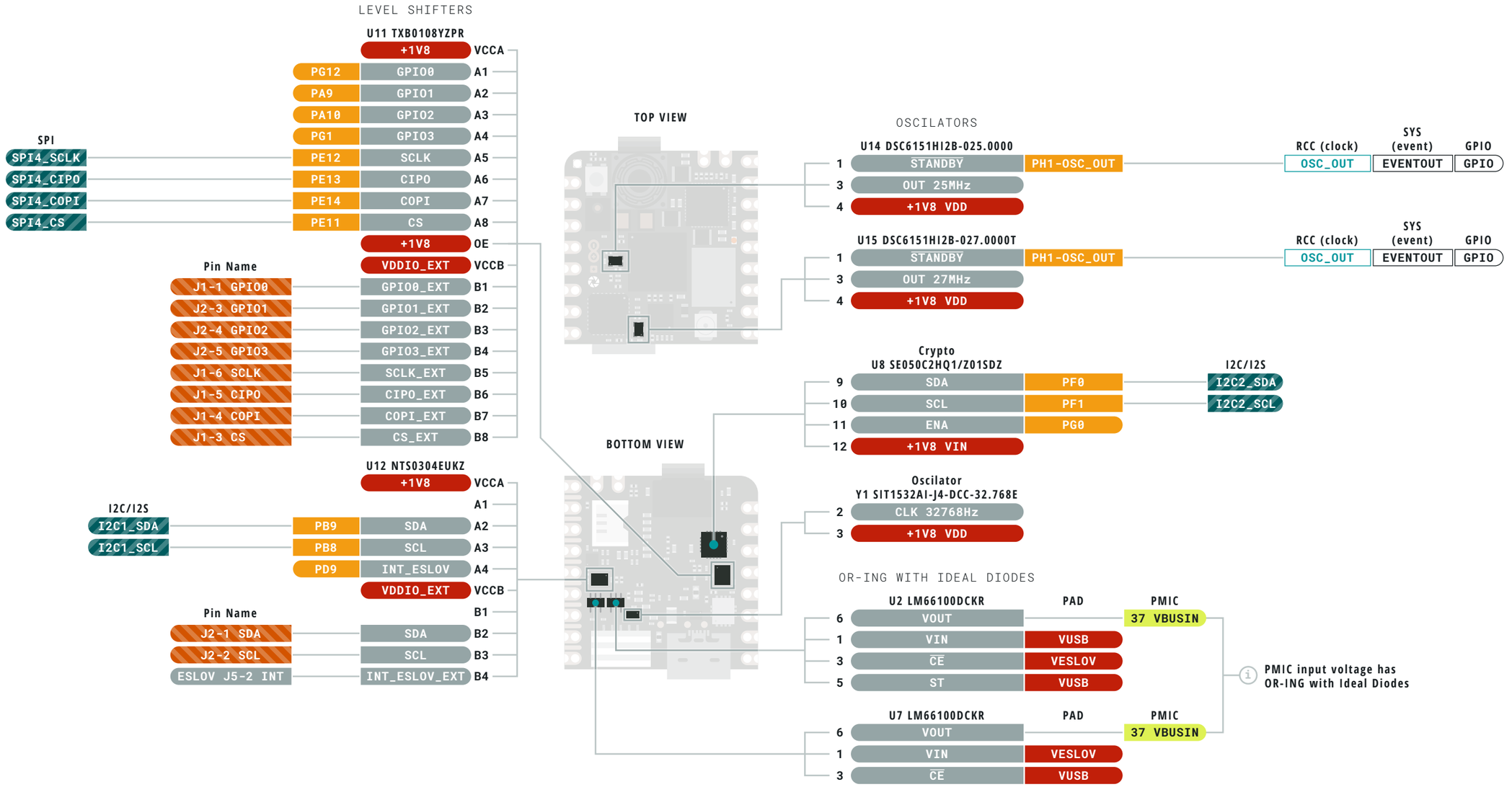

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