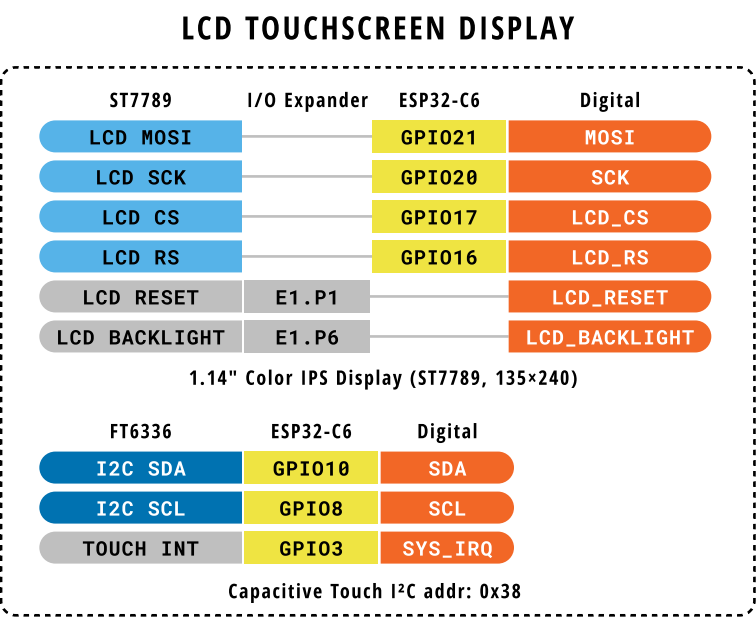
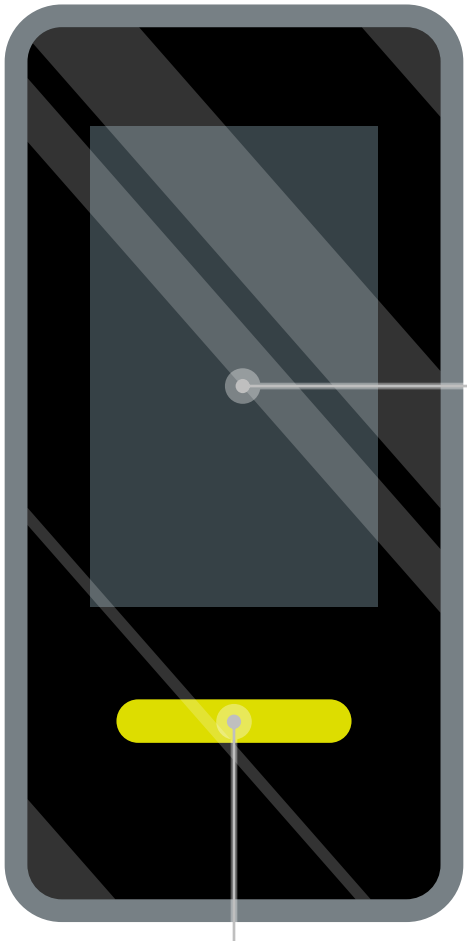
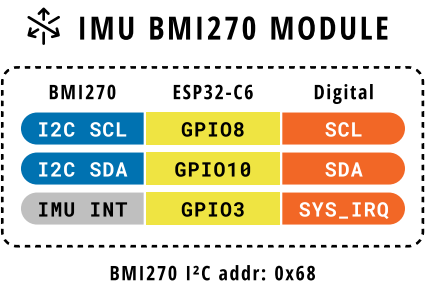




I/O Expanders (PI4IOE5V6408):

- E0 @ 0x43 (buttons & LoRa control)
- E1 @ 0x44 (power/UI: LCD reset/backlight, GROVE power, VIN detect, LED)

Legend :

Power

Ground

 Power Input

 Power Output

 GPIO Digital External

 Analog External

 Main Part

 Secondary Part

 Internal Component

 Other Pins (Reset, System Control, Debugging)

 I2C

 SPI

 UART/USART

 Other SERIAL

 Analog

 PWM/Timer

 Default

 Default

 Default

 Default

 Default

 LED

 RGB LED

WARNING All GPIO pins are 3.3V logic only and are not 5V tolerant.

WARNING Handle the internal LiPo battery with care. Do not puncture, short-circuit, expose to high temperatures.

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Connection point for the detachable external LoRa antenna, linking it to the internal SX1262 LoRa module.

LoRa MMCX Connector

LoRa SX1262 MODULE

LoRa SX1262	I/O Expander	ESP32-C6	Digital
LORA MOSI		GPI021	MOSI
LORA SCK		GPI020	SCK
LORA CS		GPI023	LORA_CS
LORA MISO		GPI022	MISO
LORA BUSY		GPI019	LORA_BUSY
LORA IRQ		GPI015	LORA_IRQ
LORA RESET	E0.P7		LORA_ENABLE
LORA ANTENNA SWITCH	E0.P6		LORA_ANTENNA_SWITCH
LORA LNA ENABLE	E0.P5		LORA_LNA_ENABLE

USER BUTTON

E0.P1 KEY2
I/O Expander Digital

LoRa Antenna
850-960 MHz

Connect to the main board MMCX connector, enabling long-range communication in the 850-960 MHz frequency band



WARNING always use the LoRa radio module with its antenna connected, not using the antenna can damage the LoRa module.

I/O Expanders (PI4IOE5V6408):



- E0 @ 0x43 (buttons & LoRa control)
- E1 @ 0x44 (power/UI: LCD reset/backlight, GROVE power, VIN detect, LED)

Legend :

Power Power Input
Ground Power Output

GPIO Digital External
Analog External
Main Part
Secondary Part
Internal Component
Other Pins (Reset, System Control, Debugging)

I2C Default
SPI Default
UART/USART Default
Other SERIAL
Analog Default
PWM/Timer

LED
RGB LED



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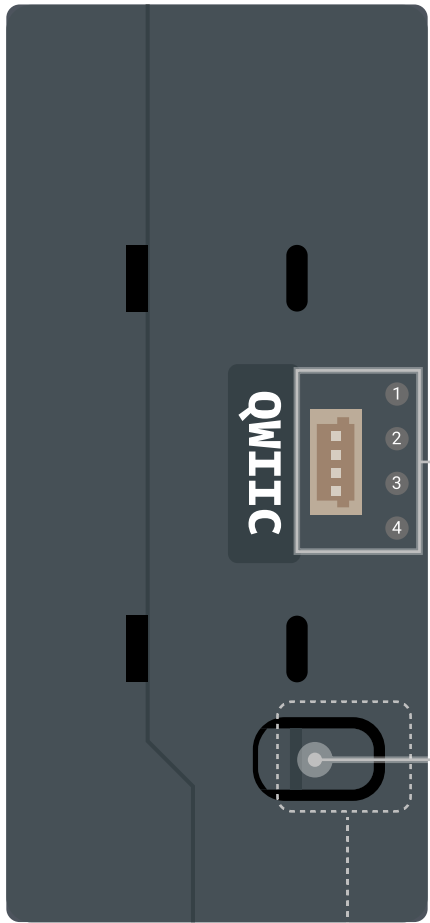
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BUZZER

GPIO11

BEEP_PIN

ESP32-C6Digital



QWIIC CONNECTOR

1	GND	
2	+3V3	OUT
3	SDA	GPIO10
4	SCL	GPIO8
	Digital	ESP32-C6

Power On / Reset / Power Off

POWER	E1.P0	POWEROFF
Function	I/O Expander	Digital

Power on: in the off state, click the power button to turn on
Reset: in the power-on state, click the power button to reset
Power Off: double-click the power button to shut down
Bootloader mode: When powered on, press and hold to enter Bootloader mode

BUILTIN LED (GREEN)

E1.P7	LED_BUILTIN	
I/O Expander	Digital	

I/O Expanders (PI4IOE5V6408):

- E0 @ 0x43 (buttons & LoRa control)
- E1 @ 0x44 (power/UI: LCD reset/backlight, GROVE power, VIN detect, LED)

Legend :

Power	IN Power Input
Ground	OUT Power Output

GPIO Digital External
Analog External
Main Part
Secondary Part
Internal Component
Other Pins (Reset, System Control, Debugging)

I2C	Default
SPI	Default
UART/USART	Default
Other SERIAL	
Analog	Default
PWM/Timer	

LED
RGB LED

- WARNING** All GPIO pins are 3.3V logic only and are not 5V tolerant.
- WARNING** Handle the internal LiPo battery with care. Do not puncture, short-circuit, expose to high temperatures.



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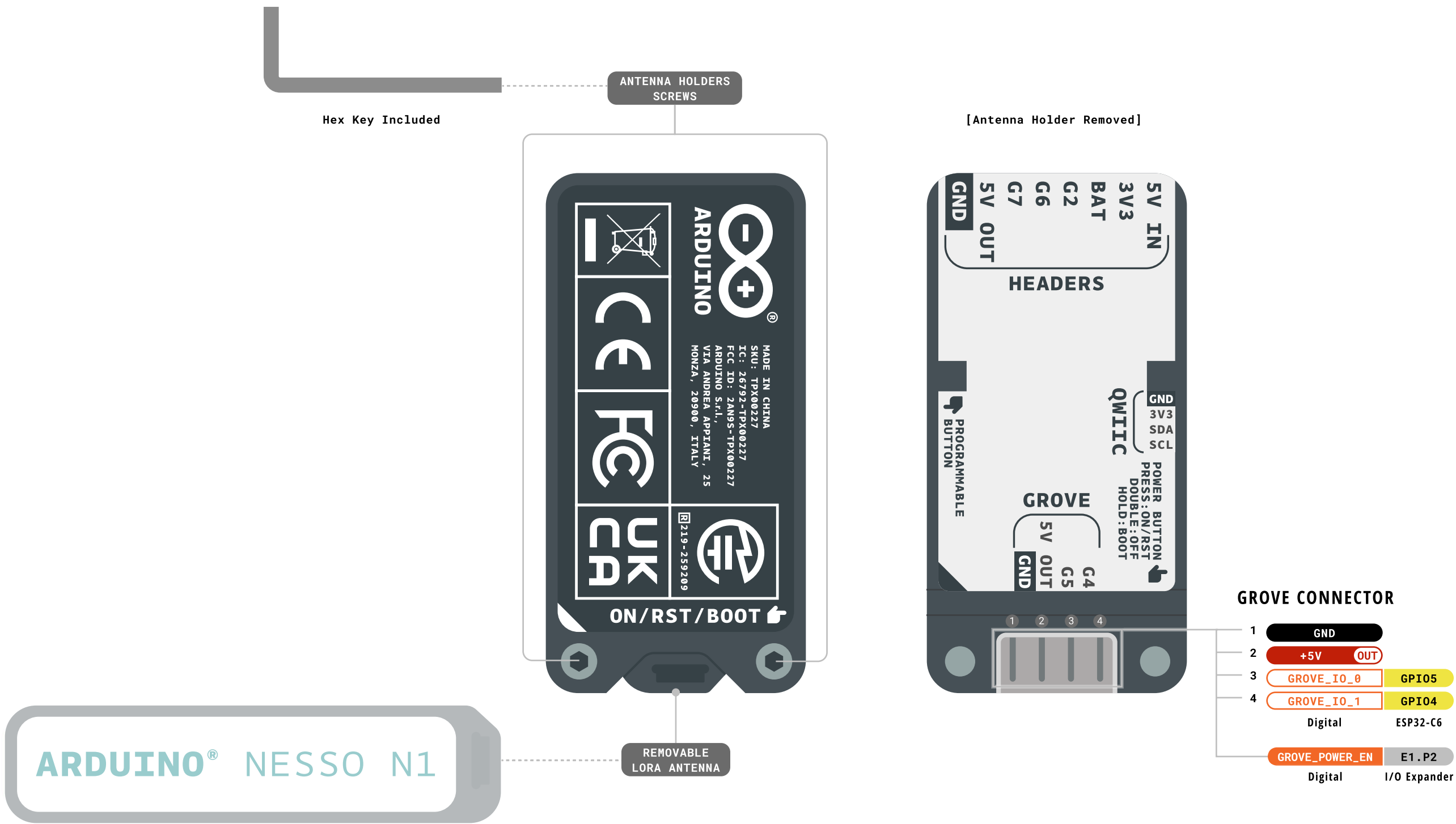
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I/O Expanders (PI4IOE5V6408):

- E0 @ 0x43 (buttons & LoRa control)
- E1 @ 0x44 (power/UI: LCD reset/backlight, GROVE power, VIN detect, LED)

Legend :

Power	Power Input	GPIO Digital External	I2C	Default	LED
Ground	Power Output	Analog External	SPI	Default	RGB LED
		Main Part	UART/USART	Default	
		Secondary Part	Other SERIAL		
		Internal Component	Analog	Default	
		Other Pins (Reset, System Control, Debugging)	PWM/Timer		

WARNING All GPIO pins are 3.3V logic only and are not 5V tolerant.

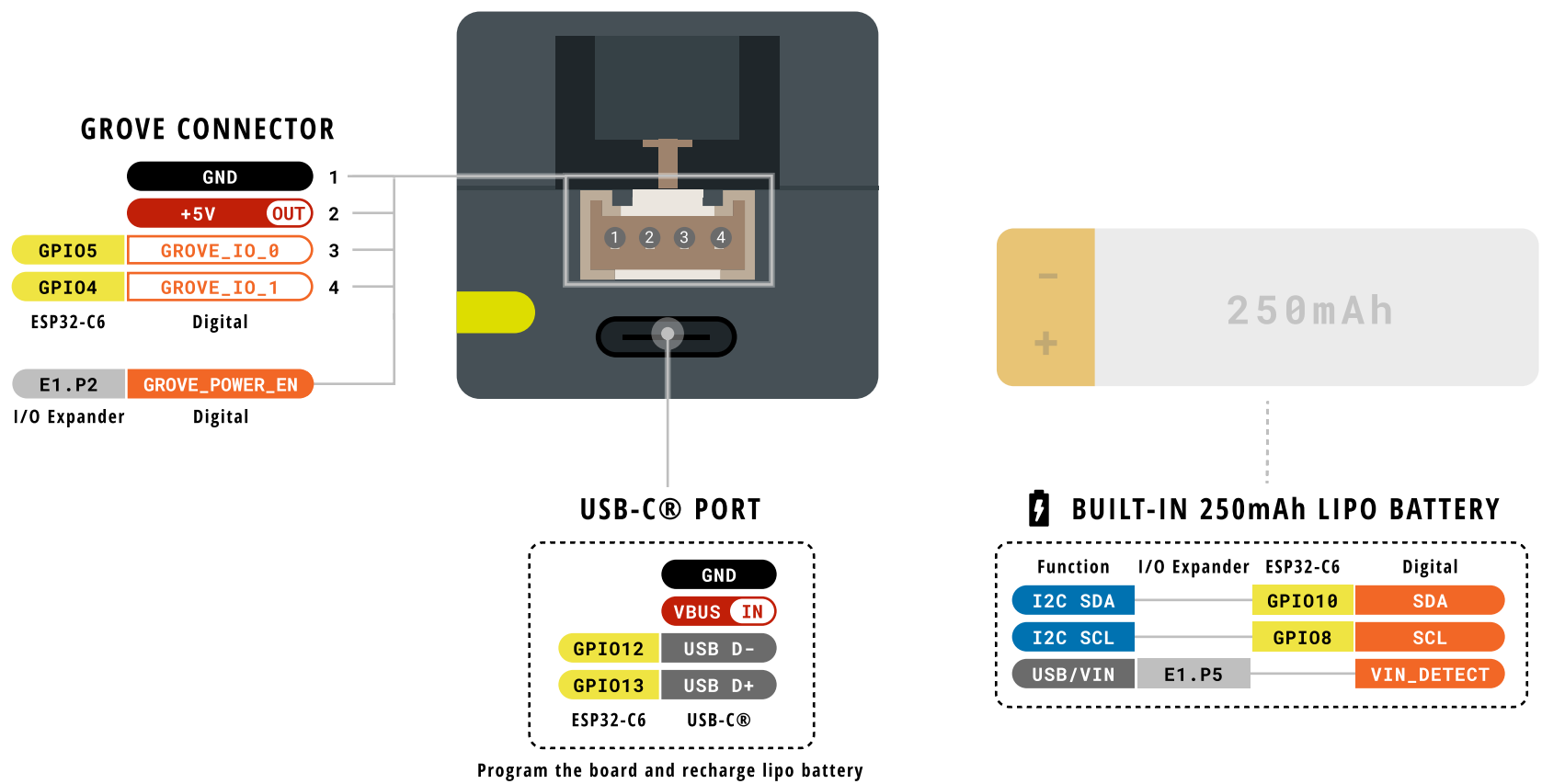
WARNING Handle the internal LiPo battery with care. Do not puncture, short-circuit, expose to high temperatures.

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I/O Expanders (PI4IOE5V6408):

- E0 @ 0x43 (buttons & LoRa control)
- E1 @ 0x44 (power/UI: LCD reset/backlight, GROVE power, VIN detect, LED)

Legend :

Power Power Input Power Output

Ground

GPIO Digital External

Analog External

Main Part

Secondary Part

Internal Component

Other Pins (Reset, System Control, Debugging)

I2C

SPI

UART/USART

Other SERIAL

Analog

PWM/Timer

Default

Default

Default

Default

LED

RGB LED

WARNING All GPIO pins are 3.3V logic only and are not 5V tolerant.

WARNING Handle the internal LiPo battery with care. Do not puncture, short-circuit, expose to high temperatures.

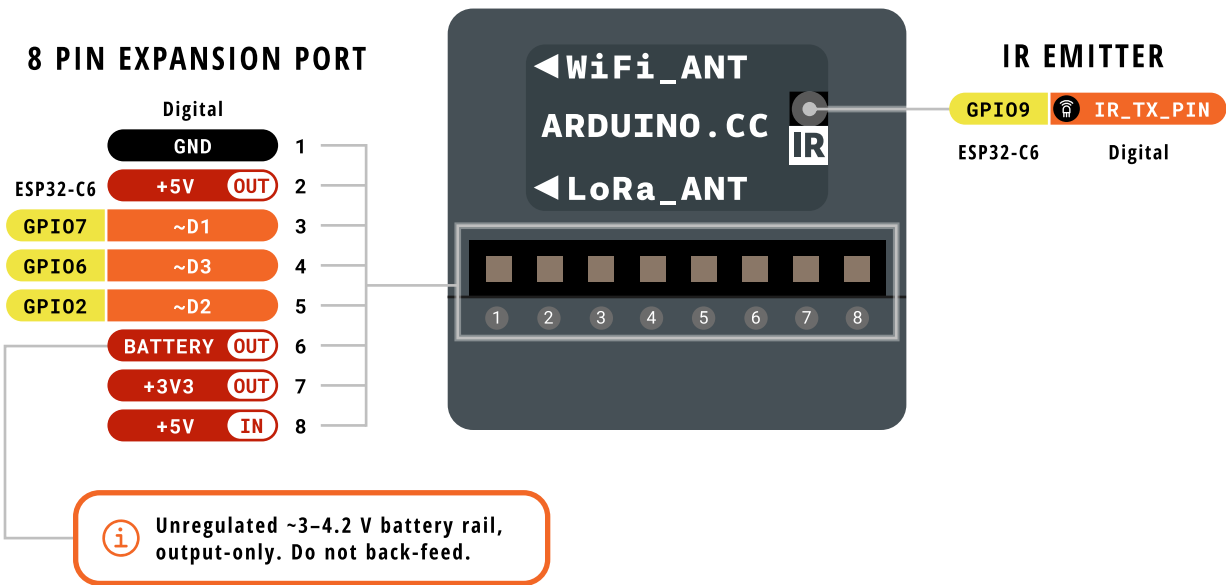
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8-pin expansion port compatible with the M5StickC HAT series

Legend :

Power	Power Input	GPIO Digital External	I2C	Default	LED
Ground	Power Output	Analog External	SPI	Default	RGB LED
		Main Part	UART/USART	Default	
		Secondary Part	Other SERIAL		
		Internal Component	Analog	Default	
		Other Pins (Reset, System Control, Debugging)	PWM/Timer		

WARNING All GPIO pins are 3.3V logic only and are not 5V tolerant.

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