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lopy⁴

⚠ Absolute MAX per pin 12mA
recommended 6mA

WS2812 LED

LoRa (433 MHz) Antenna — ○
LoRa (868/915 MHz) / Sigfox Antenna
Reset Button

WiFi Bluetooth LoRa Sigfox — pycom GO INVENT lopy⁴ ®
IC: 22263-LOPY4R
FCC ID: 2AJMTLOPY4R
Model: LoPy4

Left side pins:

		RST						ChipPU	9	
PROGRAM Port	RX0	P0			CLKOUT2			U0RXD		GPIO3	40
	TX0	P1			CLKOUT3			U0TXD	EMACRXD2	GPIO1	41
		P2	RGB_LED		CLKOUT1	Touch1	RTCIO11	ADC2_1	EMACTXCLK	GPIO0	23
	TX1	P3	HS2DATA1	SDDATA1	HSPIHD	Touch0	RTCIO10	ADC2_0	EMACTXER	GPIO4	24
	RX1	P4	HS2CMD	SDCMD	HSPICS0	MTD0	Touch3	RTCIO13	ADC2_3	EMACRXD3	GPIO15	21
		CLK	HS1DATA6			VSPICS0			EMACRXCLK	GPIO5	34
Connected to LoRa / Sigfox module ⚠		MOSI					Touch7	RTCIO17	ADC2_7	EMACRXDV	GPIO27	16
		MISO				VSPIQ			U0CTS	EMACTXD0	GPIO19	38
		P8	SDDATA0	HSPIWP		Touch2	RTCIO12	ADC2_2		GPIO2	22
	SDA	P9	HS2DATA2	SDDATA2	HSPIQ	MTDI	Touch5	RTCIO15	ADC2_5	EMACTXD3	GPIO12	18
	CLK	SCL	P10	HS2DATA3	SDDATA3	HSPIID	MTCK	Touch4	RTCIO14	ADC2_4	EMACRXER	GPIO13	20
	MOSI	P11				VSPIWP			U0RTS	EMACTXD1	GPIO22	39
	MISO	P12				VSPIHD				EMACTXEN	GPIO21	42

WiFi / Bluetooth External Antenna Connector

Right side pins:

Vin (3.5–5.5V)
GND
3V3 ⚠ Up to 1.2–A Maximum Load Capability. Output ONLY.

17	GPIO14	EMACTXD2	ADC2_6	RTCIO16	Touch6	MTMS	HSPICLK	SDCLK	HS2CLK	P23
14	GPIO25	EMACRXD0	ADC2_8	RTCIO6				DAC_1	P22
15	GPIO26	EMACRXD1	ADC2_9	RTCIO7			DAC_2	P21
13	GPIO33		ADC1_5	RTCIO8	Touch8	XTAL32	P20
12	GPIO32		ADC1_4	RTCIO9	Touch9	XTAL32	P19
10	GPIO34		ADC1_6	RTCIO4	VDET1	P18
11	GPIO35		ADC1_7	RTCIO5	VDET2	P17
8	GPIO39	ADCPA	ADC1_3	RTCIO3	SensVN	P16 ☠
7	GPIO38		ADC1_2	RTCIO2	SensCN	P15 ☠
6	GPIO37		ADC1_1	RTCIO1	SensCP	P14 ☠
5	GPIO36	ADCPA	ADC1_0	RTCIO0	SensVP	P13 ☠

Only Input pins!
No pullup/pulldown ⚠
internal resistance

Hack your LoPy4
☠ Connect to a 10nF capacitor to enable Touch Pin function

Legend

- 🟥 Power
- ⬛ GND
- 🟦 Serial Pin
- 🟩 Analog Pin
- 🟨 Control
- ⬜ Physical Pin
- 🟫 Port Pin
- 🟪 Touch Pin
- 🟧 DAC Pin
- ∿• PMW Pin

Low Level Bootloader

P2 + GND

Boot modes and safe boot

P12 + 3V3

1-3 sec Safe boot, latest firmware is selected
4-6 sec Safe boot, previous user update selected
7-9 sec Safe boot, the factory firmware is selected

Internal Functions

35	GPIO18		VSPICLK	HS1DATA7	LoRa / Sigfox Reset
25	GPIO16	EMACCLKOUT	U2RXD	HS1DATA4	External Antenna Switch
36	GPIO23		VSPIID	HS1STROBE	LoRa / Sigfox Interrupt
27	GPIO17	EMACCO180	U2TXD	HS1DATA5	LoRa / Sigfox Select

23/11/17