







Pycom LoPy4 MicroPython enabled development board (LoRa, Sigfox, WiFi, Bluetooth)

SKU 102991025



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Description

The LoPy4 is a compact quadruple network MicroPython enabled development board (LoRa, Sigfox, WiFi, Bluetooth). It's the perfect enterprise grade IoT platform for your connected Things. With the latest Espressif ESP32 chipset the LoPy4 offers a perfect combination of power, friendliness and flexibility. Create and connect you things everywhere. Fast.

The LoPy4 can act as a LoRa nano gateway and a multi-bearer (LoRa, Sigfox, WiFi and BLE) development platform suitable for all LoRa and Sigfox networks around the globe. It is programmable with MicroPython and the Pymakr plugins for fast IoT application development, easy programming in-field and extra resilience with network failover. You can also configure the LoPy4 in raw LoRa mode to send packets directly between LoPy4's. The best blend of speed to deployment and access to new LPWAN networks rolling out across Europe, USA, Africa and India. The LoPy4 is CE, FCC approved, LoRaWAN and Sigfox certified.

LoPy4 Features

- Powerful CPU, BLE and state of the art WiFi radio
- Can also double up as Nano LoRa gateway
- MicroPython enabled
- Fits in a standard breadboard (with headers)
- Ultra-low power usage: a fraction compared to other connected micro controllers

Processing

- Espressif ESP32 chipset
- Dual processor + WiFi radio System on chip
- Network processor handles the WiFi connectivity and the IPv6 stack
- Main processor is entirely free to run the user application
- An extra ULP-coprocessor that can monitor GPIOs, the ADC channels and control most of the internal peripherals during deep-sleep mode while only consuming 25uA

Technical Details

Dimensions	98.50mm x 68.50mm x 22mm
Weight	G.W 31g N.W 9g
Battery	Exclude
CPU	Xtensa® dual-core 32-bit LX6 microprocessor(s), up to 600 DMIPS / Hardware floating point acceleration / Python multi-threading / An extra ULP-coprocessor that can monitor GPIOs, the ADC channels and control most of the internal peripherals during deep-sleep mode while only consuming ~25uA.
RAM	520KB + 4MB
External flash	8MB
WiFi	802.11b/g/n 16mbps
Bluetooth	Low energy and classic
LoRa	LoRaWAN 1.0.2 stack - Class A and C devices / Node range: Up to 40km / Nano-gateway: Up to 22km (Capacity up to 100 nodes)
Sigfox	Class 0 device. Maximum Tx power: +14dBm(Europe), +20dBm (America), +20dBm (Australia and New Zealand) / Node range: Up to 50km
RTC	Running at 150kHz
Security	SSL/TLS support / WPA Enterprise security
Hash / encryption	SHA / MD5 / DES / AES
Security & Certifications	SSL/TLS support; WPA Enterprise security; FCC 2A/JMTLOPY4R; CE 0700
Power	
Input	3.3V - 5.5V
Output	3v3 output capable of sourcing up to 400mA
WiFi	12mA in active mode, 5uA in standby
LoRa	15mA in active mode, 1-uA in standby
Sigfox (Europe)	12mA in Rx mode, 42mA in Tx mode and 0.5uA in standby
Sigfox (Australia, New Zealand and South America)	12mA in Rx mode, 120 mA in Tx mode and 0.5uA in standby
Interfaces	
	2 x UART, SPI, 2 x I2C, I2S, micro SD card
	Analog channels: 8x12 bit ADCs
	Timers: 4x16 bit with PWM and input capture
	DMA on all peripherals
	GPIO: Up to 24

Part List

LoPy4 1.0 with Headers1

ECCN/HTS

ECCN 5A002.a.1
HSCODE8543709990

Documents

Spec

Questions and Answers

Have a question about this? Ask people who



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