

## LoPy 1.0

With LoRa, Wifi and BLE, the LoPy is the only triple bearer MicroPython enabled micro controller on the market today – the perfect enterprise grade IoT platform for your connected Things. With the latest Espressif chipset the LoPy offers a perfect combination of power, friendliness and flexibility. Create and connect your things everywhere. Fast.

### LoPy Features

- Powerful CPU, BLE and state of the art WiFi radio. 1KM Wifi Range
- Can also double up as a Nano LoRa gateway
- MicroPython enabled, the Linux o IoT for fast deployment
- 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.

### Operating Frequencies

- 868 MHz (Europe) at +14dBm maximum
- 915 MHz (North and South America, Australia and New Zealand) at +20dBm maximum

### Range Specification

- Node range: Up to 40km
- Nano-Gateway: Up to 22km
- Nano-Gateway Capacity: Up to 100 nodes

### Use the Pymakr IDE

Super easy code editor to write your Python scripts

### Quick Verification

For easy and fast debugging use the interactive shell that is accessible through telnet or one of the serial ports

### Easy Upload

Upload your scripts, and any other files you want to the LoPy via the FTP server

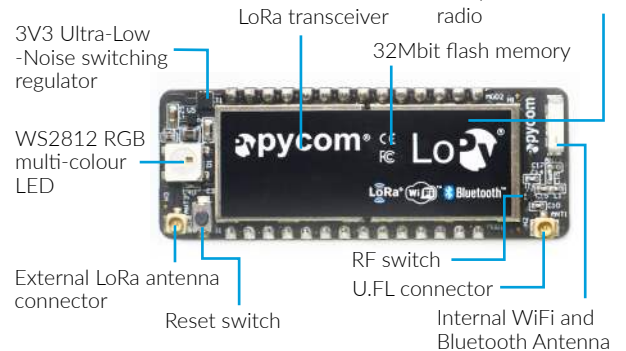
### Locally or remotely

Reset the LoPy (you can do it locally, or remotely via Telnet)

## Mechanical

Size: 55mm x 20mm x 3.5mm

Operating temperature:  
-40 to 85 degrees celsius



## Interfaces

- 2 x UART, 2 x SPI, 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

### Security & Certifications

- SSL/TLS support
- WPA Enterprise security
- FCC - 2AJMTWIPY2R
- CE 0700

### Memory

- RAM: 512KB
- External flash 4MB
- Hardware floating point acceleration.
- Python multi-threading.

## Power

- Input: 3.3V - 5.5V
- 3v3 output capable of sourcing up to 400mA
- Wi-Fi: 12mA in active mode, 5uA in standby
- Lora: 15mA in active mode, 10uA in standby

## LoRa Specification

- Semtech LoRa transceiver SX1272
- LoRaWAN stack
- Class A and C devices

With dozens of ready to use templates and libraries soon to be available on the Pycom Exchange, developing a new IoT solution is now easier and faster.

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