GPy 1.0

With WiFi, BLE and cellular LTE-CAT M1/NB1, the GPy is the latest Pycom triple-bearer MicroPython enabled micro controller on the market today – the perfect enterprise grade IoT platform for your connected Things. Create and connect your things everywhere, fast.

GPy Features

- Powerful CPU
- 1KM Wifi Range
- MicroPython enabled
- Fits in a standard breadboard (with headers)
- Ultra-low power usage: a fraction compared to other connected micro controllers

LTE-M Operating Frequencies

- 34 bands supported from 699Mhz to 2690Mhz (Total world-wide support)

LTE-M Specification

- One single chip for both CAT M1 and NB1 (yes, only one chip)
- 3GPP release 13 LTE Advanced Pro
- Supports narrowband LTE UE categories M1/NB1
- Integrated baseband, RF, RAM memory and power management
- Reduced Tx power class option
- Peak power estimations: TX current = 420mA peak @1.5Watt RX current = 330mA peak @1.2Watt
- Data rates:
    - 300 kbps DL
    - 375 kbps UL (LTE Cat M1 in 1.4 Mhz, HD-FDD)
    - 40 kbps DL
    - 55 kbps UL (LTE Cat M2 in 200 kHz, HD-FDD)

Interfaces

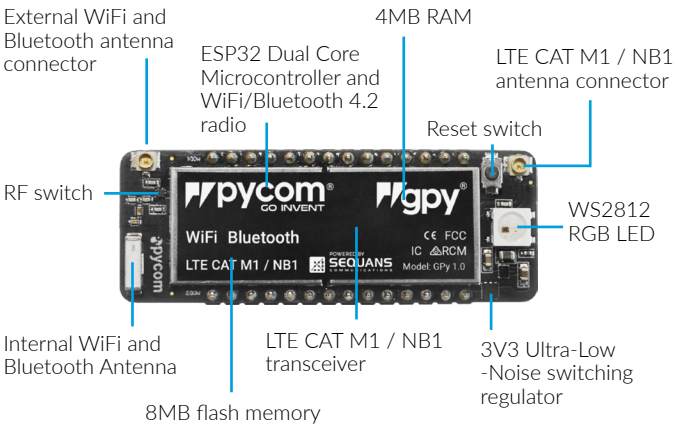
- 2 x UART, 2 x SPI, I2C, I2S, micro SD card
- Analog channels: 8x12 bit ADCs, 2x8 bit DAC
- Timers: 2x64 bit with PWM with up to 16 channels
- DMA on all peripherals

Power

- Voltage Input: 3.3V - 5.5V
- 3v3 output capable of sourcing up to 400mA

Mechanical

Size: 55mm x 20mm x 3.5mm



Processing

- Espressif ESP32 SoC
- 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

Security & Certifications

- SSL/TLS support up to 1.2
- WPA Enterprise security
- AES encryption engine

Memory

- RAM: 4MB
- Flash Memory: 8MB
- GPIO: Up to 22
- Hardware floating point acceleration
- Python multi-threading

Hash / encryption

SHA, MD5, DES, AES

WiFi Networking

802.11b/g/n 16mbps

Bluetooth

Low energy and classic

RTC

Running at 32KHz

Use the Pymakr IDE

Super easy code editor to write your Python scripts

Easy Upload

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

Locally or remotely

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

Made in UK