**Sipeed MAIX Go development Kit for RISC-V AI + IoT**

**Sipeed’ s MAIX Go is a RISC-V 64 development board Kit(with camera, touch display and case) designed for AI + IoT applications.**

AI is pervasive today, from consumer to enterprise applications. With the explosive growth of connected devices, combined with a demand for privacy/confidentiality, low latency and bandwidth constraints, AI models trained in the cloud increasingly need to be run at the edge.

MAIX is Sipeed’ s purpose-built module designed to run AI at the edge. It delivers high performance in a small physical and power footprint, enabling the deployment of high-accuracy AI at the edge, and the competitive price make it possible embed to any IoT devices. Sipeed MAIX is quite like Edge TPU, but it acts as master controller, not an accelerator like Edge TPU, so it is more low cost and low power.

MAIX Go is a full function development board kit Sipeed released based on MAIX-I module Wi-Fi version. Except the development board, the camera, touch display, case, Wi-Fi antenna, USB cable and battery are also included. The parts of the kit can be assembled into a portable Edge AI device. The MAIX Go development board is 88x60mm, all pins out, with standard M12 lens DVP camera, and the Camera can be flipped from front to rear. The on board JTAG&UART based on STM32F103C8 enable developers debug M1 without extra J-link, the lithium battery manager chip with power path management function, the board can be powered with lithium battery and USB without conflict. I2S Mic, Speaker, RGB LED, Mic array connector, thumbwheel, TF card Slot are all included in the board.

About K210: the Kendryte K210 is a system-on-chip (SoC) that integrates machine vision and machine hearing. Using TSMC’s ultra-low-power 28-nm advanced process with dual core 64-bit processors for better power efficiency, stability and reliability. The SoC strives for "zero threshold" development and to be deployable in the user’s products in the shortest possible time, giving the product artificial intelligence.

**Features**

* CPU: RISC-V Dual Core 64bit, with FPU, 400MHz standard Frequency (Can be overclocked to 800MHz)
* QVGA@60FPS/VGA@30FPS image identification
* Onboard omnidirectional, bottom-ported, I2S digital output MEMS Microphone MSM261S4030H0
* Support Sipeed R6+1 Microphone Array board with FPC10 connector and 2x3W Speaker
* On board digital triaxial accelerometer MSA300, user selectable range: ±2g, ±4g, ±8g, ±16g
* On board 32.768k crystal connected with STM32F103
* MAIX-LCD board (with Resistive touch screen) is directly connected to the pin header
* Support 2.4G 802.11. b/g/n
* Support Self-elastic card holder; Three-way dial switch and one Reset push button
* All GPIOs connected to header 2\*20 2.54mm
* Charging current up to 2.5A; integrated dynamic path management
* Just connect the USB Type-C cable to complete the download
* Support FreeRTOS and Standard development kit.
* Support Micro Python on M1
* Machine vision based on convolutional neural network

**Applications**

* Smart Home applications like robot cleaners, smart speakers, electronic door locks, household monitoring etc.
* Medical Industry applications like Auxiliary diagnosis and treatment, medical image recognition, emergency alarm etc.
* Smart Industry applications like industrial machinery, intelligent sorting, monitoring of electrical equipment, etc.
* Education applications like educational robots, intelligent interactive platforms, educational efficiency inspection, etc.
* Agriculture applications like agricultural monitoring, pest and disease monitoring, automated control, etc.

**Key Search Terms**

Sipeed, MAIX, GO, RISC-V, Artificial Intelligence, AIoT, Edge, Kendryte K210, Neural Network Processor, Deep Learning, Machine Vision, Voice Recognition, TensorFlow, Yolo, Training model, Keras, Darknet

**Parts List**

* Sipeed MAIX GO dev. board x 1
* ACRYLIC Case x 2
* 2.8inch touch LCD x 1
* OV2640 with M12 4mm lens x 1
* Wi-Fi Antenna x 1
* Type-C USB cable x 1
* Li-ion Battery x 1
* Screw & Stud x 6