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## Sipeed Maixduino for RISC-V AI + IoT

SKU 102991184

★★★★★

Based on MAIX Module, the Maixduino is a RISC-V 64 development board for AI + IoT applications. Different with other Sipeed MAIX dev. boards, Maixduino was designed in an Arduino Uno form factor, with ESP32 module on board together with MAIX AI module.

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Tags:   Sipeed   MAIX   Maixduino   RISC-V   Artificial Intelligence   AIoT   Edge   ESP32   Kendryte K210   Neural Network Processor   Deep Learning   Machine Vision   Voice Recognition   TensorFlow   Yolo   Training model   Keras   Darknet   MaixPy IDE   OpenMV IDE   Arduino IDE   PlatformIO IDE

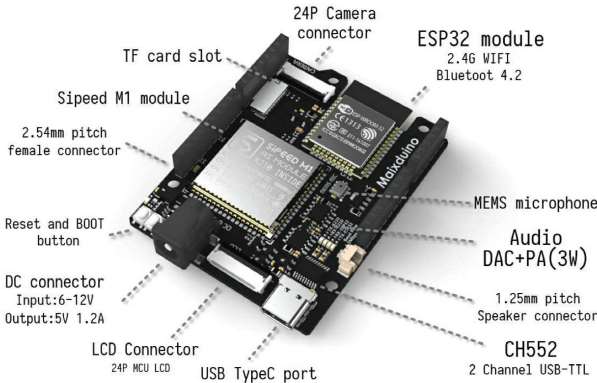**Description**    Documents    Learn    Reviews    FAQS

Based on MAIX Module, the Maixduino is a RISC-V 64 development board for AI + IoT applications. Different with other Sipeed MAIX dev. boards, Maixduino was designed in an Arduino Uno form factor, with ESP32 module on board together with MAIX AI module.



24P Camera connector
ESP32 module 2.4G WIFI Bluetoot 4.2
TF card slot
Sipeed M1 module
2.54mm pitch female connector
MEMS microphone
Reset and BOOT button
Audio DAC+PA(3W)
DC connector Input:6-12V Output:5V 1.2A
1.25mm pitch Speaker connector
LCD Connector 24P MCU LCD
CH552 2 Channel USB-TTL
USB TypeC port

### Features

CPU: RISC-V Dual Core 64bit, with FPU; 400MHz neural network processor

QVGA@60FPS/VGA@30FPS image identification

Onboard ESP32 module support 2.4G 802.11. b/g/n and Bluetooth 4.2

Arduino Uno form factor, Arduino compatible interface

Onboard omnidirectional I2S digital output MEMS Microphone

24P 0.5mm FPC connector for DVP Camera

8bit MCU LCD 24P 0.5mm FPC connector

Support self-elastic micro SD card holder

Reset and boot button; 3W DAC+PA Audio output

Just connect the USB Type-C cable to complete the download

Machine vision based on convolutional neural network

High performance microphone array processor for machine hearing

Support MaixPy IDE, Arduino IDE, OpenMV IDE, and PlatformIO IDE

Support Tiny-Yolo, Mobilenet and TensorFlow Lite for deep learning



Arduino IDE    PlatformIO IDE    MicroPython    OpenMV IDE    Grove    TensorFlow

MAIX is Sipeed' s purpose-built product series designed to run AI at the edge. Move AI models from cloud down to devices on the edge of the network where they can run faster, at lower cost, and with greater privacy.

MAIX isn't just a hardware solution, it combines custom hardware, open software, and state-of-the-art AI algorithms. Different kinds of dev. boards, kits, peripherals as well as wide compatibility enable rapid and agile prototype development, make AIoT projects much easier. And thanks to MAIX' s performance, small footprint, low power, and low cost, it enables the broad deployment of high-quality Edge AI.

### 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.

### Specification

| | |
|---|---|
| Master module | Sipeed MAIX-I AIoT module |
| Power input | USB Type-C DC-DC step-down circuit:support 6-12V input;Provide 5V 1.2A output |
| Micro SD card (TF card) slot | Support Self-elastic card holder |
| Onboard MEMS microphone | MSM261S4030H0 is an omnidirectional, Bottom-ported, I2S digital output MEMS Microphone. It has high performance and Reliability. |
| DVP Camera interface | 24P 0.5mm FPC connector |

| | |
|---|---|
| LCD connector | 8bit MCU LCD 24P 0.5mm FPC connector |
| Audio output | DAC+PA:<br>TM8211:16 bit dynamic range;Low harmonic distortion<br>NS4150:3W output power;Up to 90% efficiency; |
| ESP32 module | Support 2.4G 802.11.b/g/n<br>802.11 n (2.4 GHz) speeds up to 150 Mbps<br>Bluetooth v4.2 full standard, including traditional Bluetooth (BR/EDR) and Bluetooth Low Energy (BLE) |
| Supply voltage of external power supply | 4.8V ~ 5.2V |
| Supply current of external power supply | >600mA |
| Temperature rise | <30K |
| Range of working temperature | -30℃ ~ 85℃ |
| MCU: ESP8285 | Tensilica L106 32-bit MCU |
| Wireless Standard | 802.11 b/g/n |
| Frequency Range | 2400Mhz - 2483.5Mhz |
| TX Power(Conduction test) | 802.11.b : +15dBm<br>802.11.g : +10dBm(54Mbps)<br>802.11.n : +10dBm (65Mbps) |
| Antenna Connector | IPEX 3.0x3.0mm |
| Wi-Fi mode | Station/SoftAP/SoftAP+Station |

**Part List**

1 x Maixduino dev. board

1 x OV2640 camera module

**ECCN/HTS**

| | |
|---|---|
| ECCN | 5A002.a.1 |
| HSCODE | 8543709990 |

**Bundle Sales**



☐ This item: Sipeed Maixduino for RISC-V AI + IoT
☐ Base Shield V2
☐ Grove - Universal 4 Pin Buckled 20cm Cable (5 PCs pack)
☐ Grove - Servo
☐ Grove - 4-Digit Display
☐ Grove - Temperature, Humidity, Pressure and Gas Sensor (BME680)
☐ Grove - Light Sensor v1.2
☐ Grove - Air quality sensor v1.3
☐ Grove - 3-Axis Digital Accelerometer(±1.5g)

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