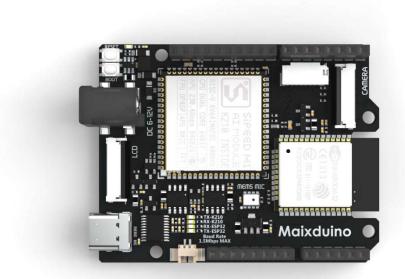
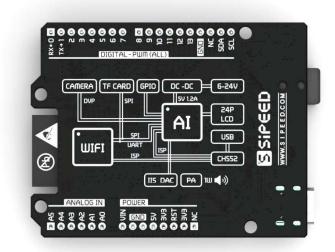
# Sipeed Maixduino Specifications v1.0

# **Characteristic:**

- CPU: RISC-V Dual Core 64bit, with FPU, 400Mhz standard Frequence(Can be overclocked), Neural network processor
- Connector:
   Compatible with Arduino
   24P LCD connector
   24P Camera connector
   TF card slot
   Speaker connector
   Compatible with Arduino interface
- Development environment: Support Arduino IDE
- Power input:
   USB or DC connector(6-12V input;5V 1.2A output)
- Download circuit:
  Just connect the USB typeC cable to
  complete the download(K210 and ESP32)
- Audio Function:
  MEMS microphone and 3W speaker output
- Wireless Function(Optional): Support 2.4G 802.11.b/g/n Support Bluetooth 4.2







Version 1.0
Sipeed
Copyright © 2019
www.sipeed.com



Update record	
V1.0	Edited on May 9, 2019 ; Original document

FEATURES OVERVIEW		
Master module	Sipeed M1 AIOT module(For details, please refer to the following specification:Sipeed Maix-1 Specifications_EN V1.0.pdf)	
Power input	<ol> <li>USB Type-C</li> <li>DC-DC step-down circuit:support 6-12V input;Provide</li> <li>1.2A output</li> </ol>	
Micro SD card (TF card) slot	Support Self-elastic card holder	
Onboard MEMS microphone	MSM261S4030H0 is an omnidirectional, Bottom-ported, I 2 S digital output MEMS Microphone. It has high performance and Reliability.	
DVP Camera interface	24P 0.5mm FPC connector	
LCD interface	Maix-LCD board (with Resistive touch screen) is directly connected to the pin header	
Audio output	DAC+PA:  1. TM8211:16 bit dynamic range;Low harmonic distortion  2. NS4150:3W output power;Up to 90% efficiency;	
ESP32 module	<ol> <li>Support 2.4G 802.11.b/g/n</li> <li>802.11 n (2.4 GHz) speeds up to 150 Mbps</li> <li>Bluetooth v4.2 full standard, including traditional Bluetooth (BR/EDR) and Bluetooth Low Energy (BLE)</li> </ol>	

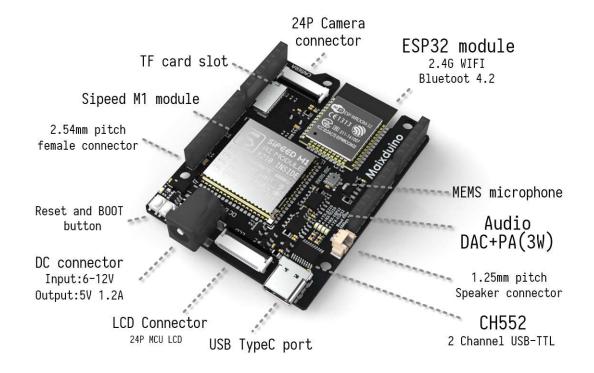
SOFTWARE FEATURES	
FreeRtos & Standard SDK	Support FreeRtos and Standrad development kit.
MicroPython Support	Support MicroPython on M1
Machine vision	Machine vision based on convolutional neural network
Machine hearing	High performance microphone array processor



HARDWARE FEATURES	
Supply voltage of external power supply	6.0V ~ 12V
Rated power of external power supply	>3W
Temperature rise	<30K
Range of working temperature	-30°C ~ 85°C

RF FEATURES	
MCU : ESP32-D0WDQ6	Xtensa 32-bit MCU
Wireless Standard	802.11 b/g/n
Frequency Range	2400Mhz - 2483.5Mhz
TX Power(Conduction test)	802.11.b: +15dBm(±2dBm) 802.11.g: +10dBm(±2dBm)(54Mbps) 802.11.n: +10dBm(±2dBm)s (65Mbps)
Antenna Connector	IPEX 3.0x3.0mm
Wi-Fi mode	Station/SoftAP/SoftAP+Station

# Overall description



### Outlook information

Board size: 68 x 54 mm (Accurate size reference DXF)

Maixduino silk	K210 IO	ESP32 IO	Function	Remark	IO Voltage
RST	Dedicated pin		K210_RST	10K pull up	1.8V
	100		JTAG_TCK		
	101		JTAG_TDI		
	102		JTAG_TMS		-
13	103		JTAG_TD0		_
RX←0	104		K210_RX		
TX→1	105		K210_TX		
	106	I01	ESP32_U0TX		_
	107	103	ESP32_U0RX		
	108	Dedicated pin	ESP32_EN		
	109	1025	ESP32_READY		_
12	1010				_
11	1011				
10	1012		LED_G		
9	1013		LED_R		
8	1014		LED_B		
7	1015		LOSO DOOT	401/ 11	_
	1016		K210_B00T	10K pull up	-
	1017		LCD_Backlight	10K pull down(on)	3.3V
	IO18 IO19		MIC_BCK MIC_WS	MEMC migraphana	
	1019		MIC_DAT3	MEMS microphone	
2	1020		MIC_DATS		
3	1022				-
4	1023				-
5	1024				
, , ,	1025	105	ESP32_SPI_CS		
	1026	1023	SPI0_MIS0		
	1027	1018	SPI0_SCLK		
	1028	1014	SPI0_MOSI	TF card	
	1029		SPIO_CS0		
SCL	1030		I2C_SCL	/ F1/ 11	-
SDA	1031		I2C_SDA	4.7K pull up	
6	1032				
	1033		I2S_WS		
	1034		I2S_DA	Audio DAC	
	1035		I2S_BCK		
	1036		LCD_CS		
	1037		LCD_RST		
	1038		LCD_DC		
	1039		LCD_WR		
	1040		DVP_SDA	4.7K pull up	
	1041		DVP_SCL		1.8V
	1042 1043		DVP_RST DVP_VSYNC		
	1043		DVP_VSYNC DVP_PWDN		
	1044		DVP_PWDN DVP_HSYNC		
	1045		DVP_HSTNC DVP_XCLK		
	1048		DVP_PCLK		
	1047		Dil I OLIK		
Α0		1033	ADC1_CH5		
A1		1032	ADC1_CH4		
A2		1035	ADC1_CH7		
A3		1034	ADC1_CH6		
A4		1039	ADC1_CH3		
A5		1036	ADC1_CH0		

Resource	
Website	www.sipeed.com
Github	https://github.com/Lichee-Pi
BBS	http://bbs.sipeed.com
Wiki	maixpy.sipeed.com
SDK Relevant information	dl.sipeed.com/MAIX/SDK
HDK Relevant information	dl.sipeed.com/MAIX/HDK
E-mail(Technical Support and Business Cooperation)	support@sipeed.com
telgram link	https://t.me/sipeed



## Disclaimer and copyright notice

The information in this document, including the URL address for reference, is subject to change without notice.

The documentation is provided by Sipeed™ without warranty of any kind, including any warranties of merchantability, and any proposal, specification or sample referred to elsewhere. This document is not intended to be a liability, including the use of information in this document to infringe any patent rights.

Copyrights © 2018 Sipeed Limited. All rights reserved.