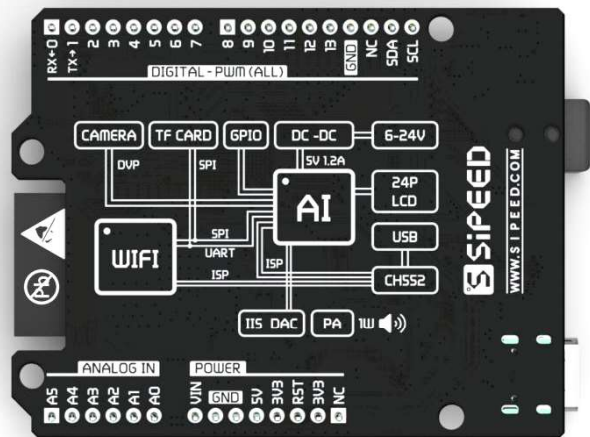
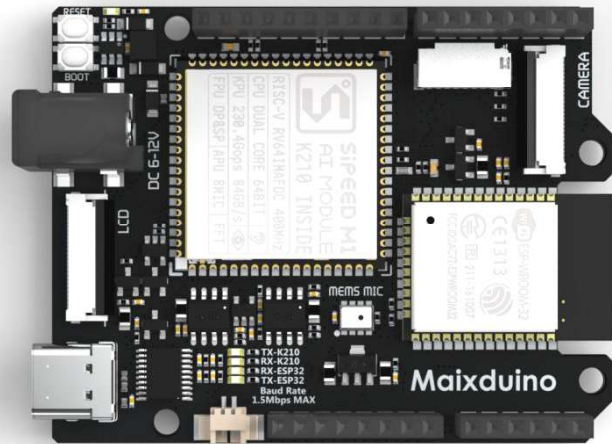


# Sipeed Maixduino Specifications v1.0

## Characteristic:

- CPU : RISC-V Dual Core  
64bit, with FPU, 400Mhz standard  
Frequency(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  
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**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 style="list-style-type: none"> <li>1. USB Type-C</li> <li>2. DC-DC step-down circuit:support 6-12V input;Provide 5V 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: <ol style="list-style-type: none"> <li>1. TM8211:16 bit dynamic range;Low harmonic distortion</li> <li>2. NS4150:3W output power;Up to 90% efficiency;</li> </ol>
ESP32 module	<ol style="list-style-type: none"> <li>1. Support 2.4G 802.11.b/g/n</li> <li>2. 802.11 n (2.4 GHz) speeds up to 150 Mbps</li> <li>3. 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 convoluntional neural network
Machine hearing	High performance microphone array processor

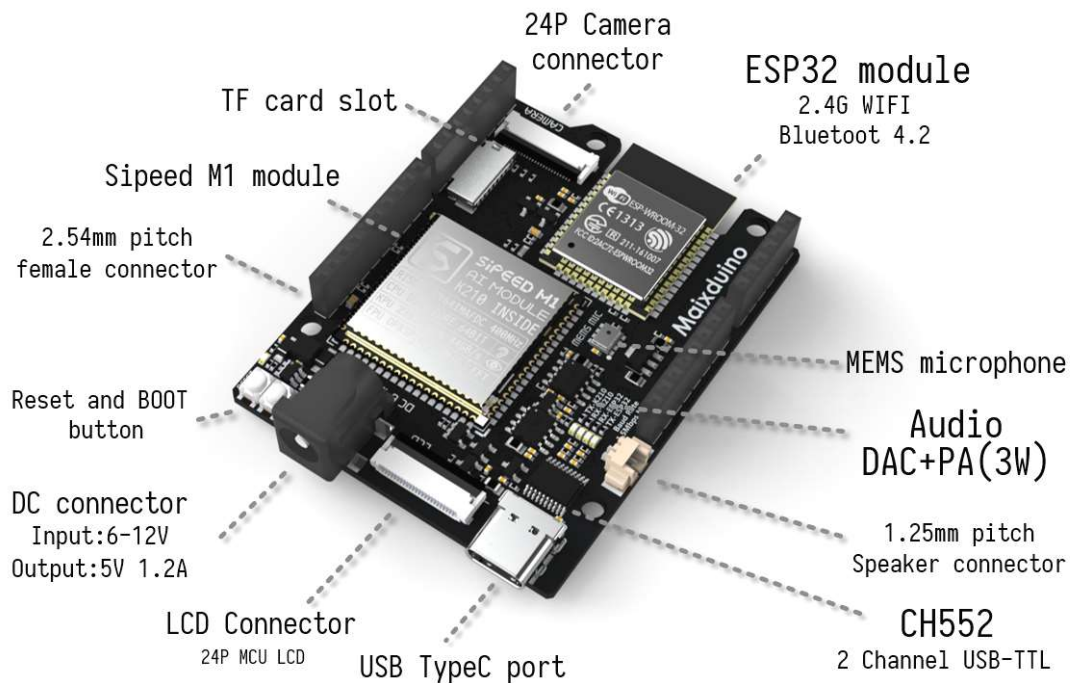
### HARDWARE FEATURES

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
	I00		JTAG_TCK		3.3V
	I01		JTAG_TDI		
	I02		JTAG_TMS		
13	I03		JTAG_TDO		
RX←0	I04		K210_RX		
TX→1	I05		K210_TX		
	I06	I01	ESP32_U0TX		
	I07	I03	ESP32_U0RX		
	I08	Dedicated pin	ESP32_EN		
	I09	I025	ESP32_READY		
12	I010				
11	I011				
10	I012		LED_G		
9	I013		LED_R		
8	I014		LED_B		
7	I015				
	I016		K210_BOOT	10K pull up	
	I017		LCD_Backlight	10K pull down(on)	
	I018		MIC_BCK	MEMS microphone	
	I019		MIC_WS		
	I020		MIC_DAT3		
2	I021				
3	I022				
4	I023				
5	I024				
	I025	I05	ESP32_SPI_CS		
	I026	I023	SPI0_MISO	TF card	
	I027	I018	SPI0_SCLK		
	I028	I014	SPI0_MOSI		
	I029		SPI0_CS0		
SCL	I030		I2C_SCL	4.7K pull up	
SDA	I031		I2C_SDA		
6	I032				
	I033		I2S_WS	Audio DAC	
	I034		I2S_DA		
	I035		I2S_BCK		
	I036		LCD_CS		
	I037		LCD_RST		
	I038		LCD_DC		
	I039		LCD_WR		
	I040		DVP_SDA	4.7K pull up	
	I041		DVP_SCL		
	I042		DVP_RST		
	I043		DVP_VSYNC		
	I044		DVP_PWDN		
	I045		DVP_HSYNC		
	I046		DVP_XCLK		
	I047		DVP_PCLK		
A0		I033	ADC1_CH5		
A1		I032	ADC1_CH4		
A2		I035	ADC1_CH7		
A3		I034	ADC1_CH6		
A4		I039	ADC1_CH3		
A5		I036	ADC1_CH0		

Resource	
Website	<a href="http://www.sipeed.com">www.sipeed.com</a>
Github	<a href="https://github.com/Lichee-Pi">https://github.com/Lichee-Pi</a>
BBS	<a href="http://bbs.sipeed.com">http://bbs.sipeed.com</a>
Wiki	<a href="http://maixpy.sipeed.com">maixpy.sipeed.com</a>
SDK Relevant information	<a href="http://dl.sipeed.com/MAIX/SDK">dl.sipeed.com/MAIX/SDK</a>
HDK Relevant information	<a href="http://dl.sipeed.com/MAIX/HDK">dl.sipeed.com/MAIX/HDK</a>
E-mail(Technical Support and Business Cooperation)	<a href="mailto:support@sipeed.com">support@sipeed.com</a>
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