Sipeed Maixduino Datasheet

v1.0

Key Features:

- CPU: RISC-V Dual Core 64bit, with FPU， 400Mhz-500Mhz, Neural network processor
- Connector: Compatible with Arduino 24P LCD connector, 24P Camera connector, TF card slot, Speaker connector, Compatible with Arduino interface
- Development environment : Arduino IDE
- USB or DC connector(6-12V input;5V 1.2A output)
- Download circuit: USB Type-C cable to complete the download
- Wireless Function(Optional): Support 2.4G 802.11.b/g/n, Bluetooth 4.2
- MEMS microphone and 3W speaker output

UPDATE	
V1.0	2019/3/16 Published original document

SPECIFICATION	
Master module	Sipeed M1 or M1W AIOT module(For details, please refer to the following specification: Sipeed M1 Datasheet V1.11.pdf 偶 or Sipeed M1W Datasheet V1.11.pdf)
Power input	1. USB Type-C 2. 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 with excellent performance and reliability.
DVP Camera interface	24P 0.5mm FPC connector;Support OV2640,5640,etc.
LCD interface	24P 0.5mm FPC connector;Support MCU LCD
Audio output	DAC+PA: 1. TM8211:16 bit dynamic range;Low harmonic distortion 2. NS4150:3W output power;Up to 90% efficiency;
ESP32 module	1. Support 2.4G 802.11.b/g/n 2. 802.11 n (2.4 GHz) speeds up to 150 Mbps 3. Bluetooth v4.2 full standard, including traditional Bluetooth (BR/EDR) and Bluetooth Low Energy (BLE)

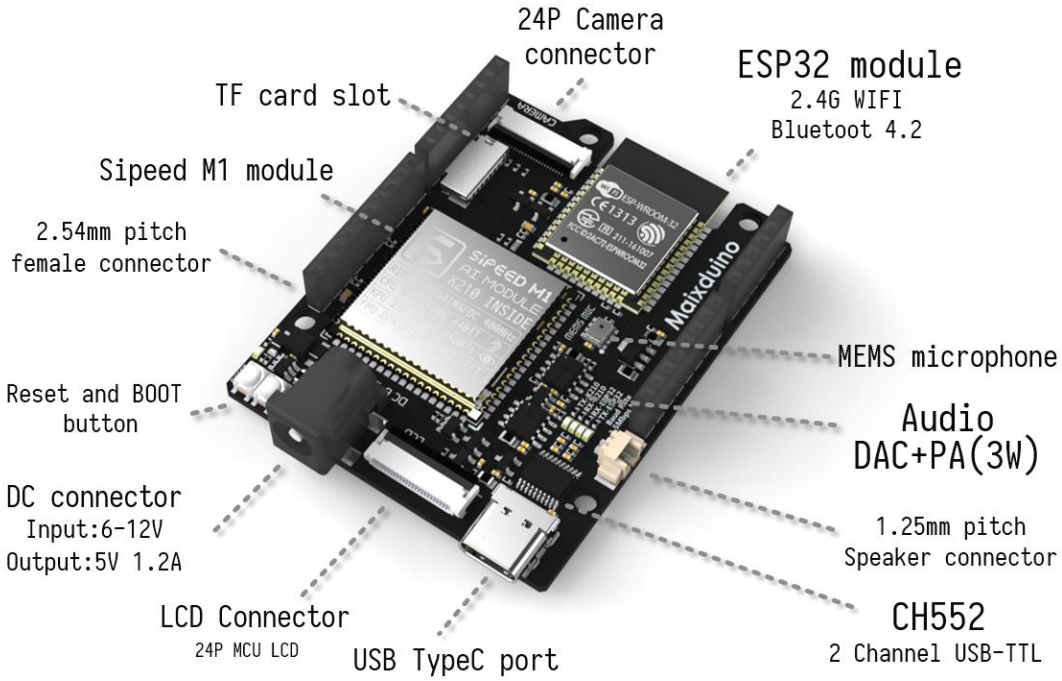
SOFTWARE FEATURES	
FreeRtos & Standard SDK	Support FreeRtos and Standrad development kit.
MicroPython Support	Support MicroPython on M1
Machine vision	Machine vision based on convolutional neural network
Machine hearing	High performance microphone array processor

HARDWARE FEATURES	
Supply voltage of external power supply	6.0V ~ 12V

Supply current of external power supply	>3W
Temperature rise	<30K
Range of working temperature	-30℃ ~ 85℃

RF FEATURES（M1w-Dock Only）	
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(±2dBm) 802.11.g : +10dBm(±2dBm)(54Mbps) 802.11.n : +10dBm(±2dBm) (65Mbps)
Antenna Connector	IPEX 3.0x3.0mm
Wi-Fi mode	Station/SoftAP/SoftAP+Station

SIZE	
Length	68mm
Width	54mm
(Refer to DXF for accurate size)	



Maixduino (PIN ASSIGNMENT TABLE)					
Maixduino **Slik**	K210 IO	ESP32 IO	**Function**	**Remark**	IO **Voltage**
RST	Dedicated pin		K210_RST	10K pull up	1.8V
	IO0		JTAG_TCK		3.3V
	IO1		JTAG_TDI		
	IO2		JTAG_TMS		
13	IO3		JTAG_TDO		
RX←0	IO4		K210_RX		
TX→1	IO5		K210_TX		
	IO6	IO1	ESP32_U0TX		
	IO7	IO3	ESP32_U0RX		
	IO8	Dedicated pin	ESP32_EN		
	IO9	IO25	ESP32_READY		
12	IO10				
11	IO11				
10	IO12		LED_G		
9	IO13		LED_R		
8	IO14		LED_B		
7	IO15				
	IO16		K210_BOOT	10K pull up	
	IO17		LCD_Backlight	10K pull down(on)	
	IO18		MIC_BCK	MEMS MIC	
	IO19		MIC_WS		
	IO20		MIC_DAT3		
2	IO21				
3	IO22				
4	IO23				
5	IO24				
	IO25	IO5	ESP32_SPI_CS		
	IO26	IO23	SPI0_MISO	TF Card	
	IO27	IO18	SPI0_SCLK		
	IO28	IO14	SPI0_MOSI		
	IO29		SPI0_CS0		
SCL	IO30		I2C_SCL	4.7K pull up	
SDA	IO31		I2C_SDA		
6	IO32				
	IO33		I2S_WS	Audio DAC	
	IO34		I2S_DA		
	IO35		I2S_BCK		
	IO36		LCD_CS		1.8V
	IO37		LCD_RST		
	IO38		LCD_DC		
	IO39		LCD_WR		
	IO40		DVP_SDA	4.7K pull up	
	IO41		DVP_SCL		
	IO42		DVP_RST		
	IO43		DVP_VSYNC		
	IO44		DVP_PWDN		
	IO45		DVP_HSYNC		
	IO46		DVP_XCLK		
	IO47		DVP_PCLK		
A0		IO33	ADC1_CH5		
A1		IO32	ADC1_CH4		
A2		IO35	ADC1_CH7		
A3		IO34	ADC1_CH6		
A4		IO39	ADC1_CH3		
A5		IO36	ADC1_CH0		

RESOURCES	
Official Website	www.sipeed.com
Github	https://github.com/Lichee-Pi
BBS	http://bbs.sipeed.com
Wiki	maixpy.sipeed.com
Sipeed Model Store	https://maixhub.com/
SDK Reference	dl.sipeed.com/MAIX/SDK
HDK Reference	dl.sipeed.com/MAIX/HDK
E-mail (Technical Support)	support@sipeed.com
Telegram Link	https://t.me/sipeed
QQ Group	878189804

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.