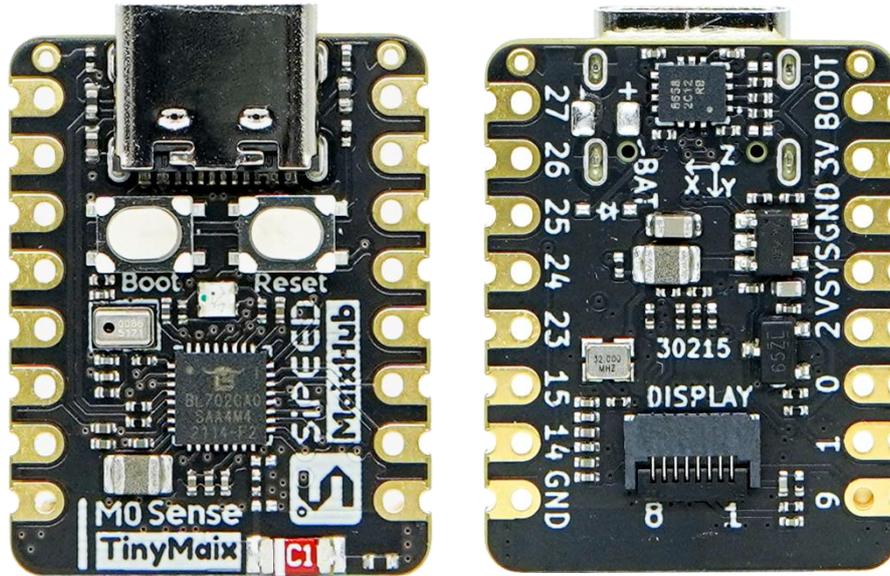


Sipeed M0sense Datasheet v1.2



Features:

- Chip BL702 RISC-V 144Mhz
- Support Bluetooth 5.0 / BLE
- 1 x Display connector(Optional 0.96" 80x160 LCD)
- 1 x Analog microphone, 1 x RGB LED,
- 1 x inertial measurement unit (IMU)
- 1 x USB Type-C connector (USB 2.0 FS)

Update history	
V1.0	Edited on October 25,2022;Original document
V1.1	Edited on January 11,2023;Fix the 3V3 and GND issue in the Pinouts diagram
V1.2	Edited on February 2,2023;Fix header issues and some minor changes

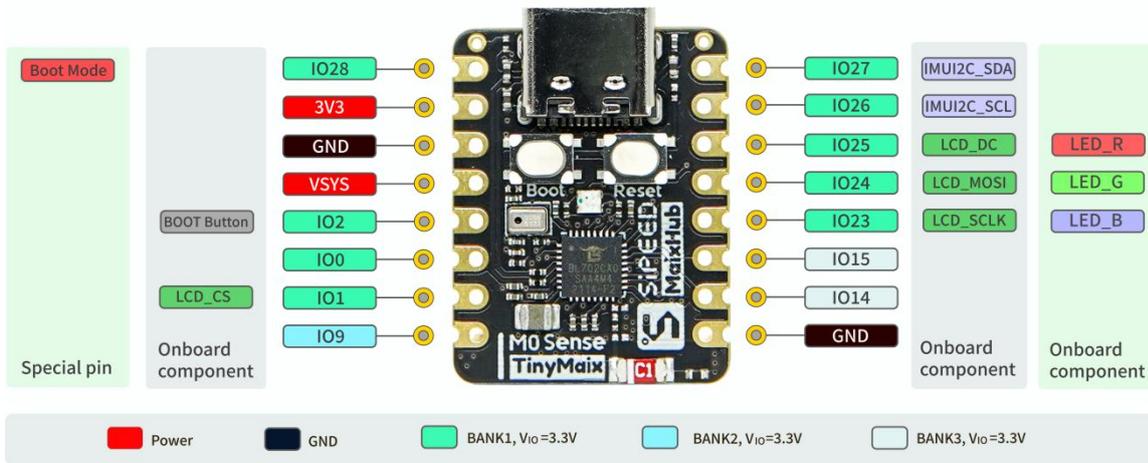
Hardware Overview	
BL702	32-Bit RISC-V with FPU (Freq 1Mhz to 144Mhz)
	132KB RAM, 192KB ROM, 512KB Flash
	<ul style="list-style-type: none"> - 2 x 32-Bit Universal timer - 8 x DMA Channel - 1 x SPI Master/Slave - 2 x UART - 1 x I2C Master - 1 x I2S Master/Slave - 5 x PWM Channel - 1 x 12-Bit Universal ADC - 1 x 10-Bit Universal DAC
	Wireless: - Support 2.4Ghz Bluetooth 5.0 / BLE 1Mbps or 2Mbps
	USB 2.0 FS(Extend to USB Type-C,upload firmware with this USB)
Onboard	Display connector(Optional 0.96" 80x160 LCD)
	1 x Analog microphone, 1 x RGB LED, 1 x Inertial measurement unit (QMI8658A)

Software overview	
Operating system	FreeRTOS
Firmware upload	USB Serial upload or USB mass storage device mode upload
Develop with	C SDK,Pikascript
AI Inference framework	TinyMaix Inference framework
AI Model download	MaixHub,Support Keyword Wakeup, Gesture Detection etc
Sipeed examples	https://github.com/sipeed

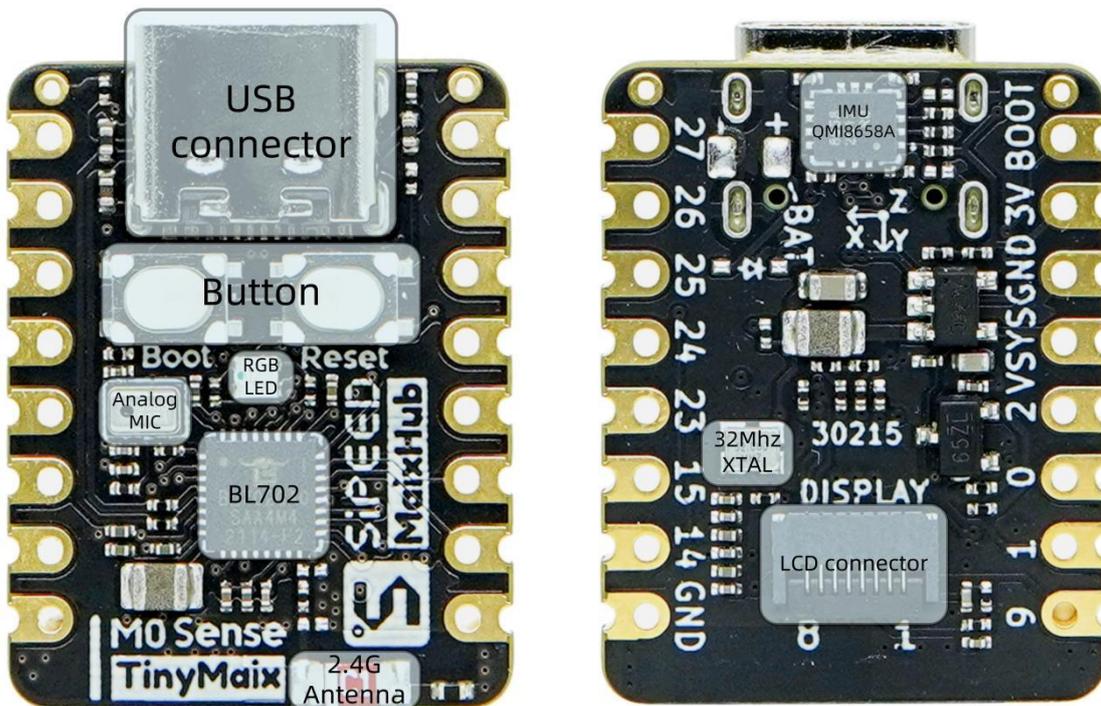
Working conditions

Power supply demand	Type-C: 5V±10% 0.5A
Temperature rise	<30K
Operating ambient temperature range	-10°C ~ 65°C

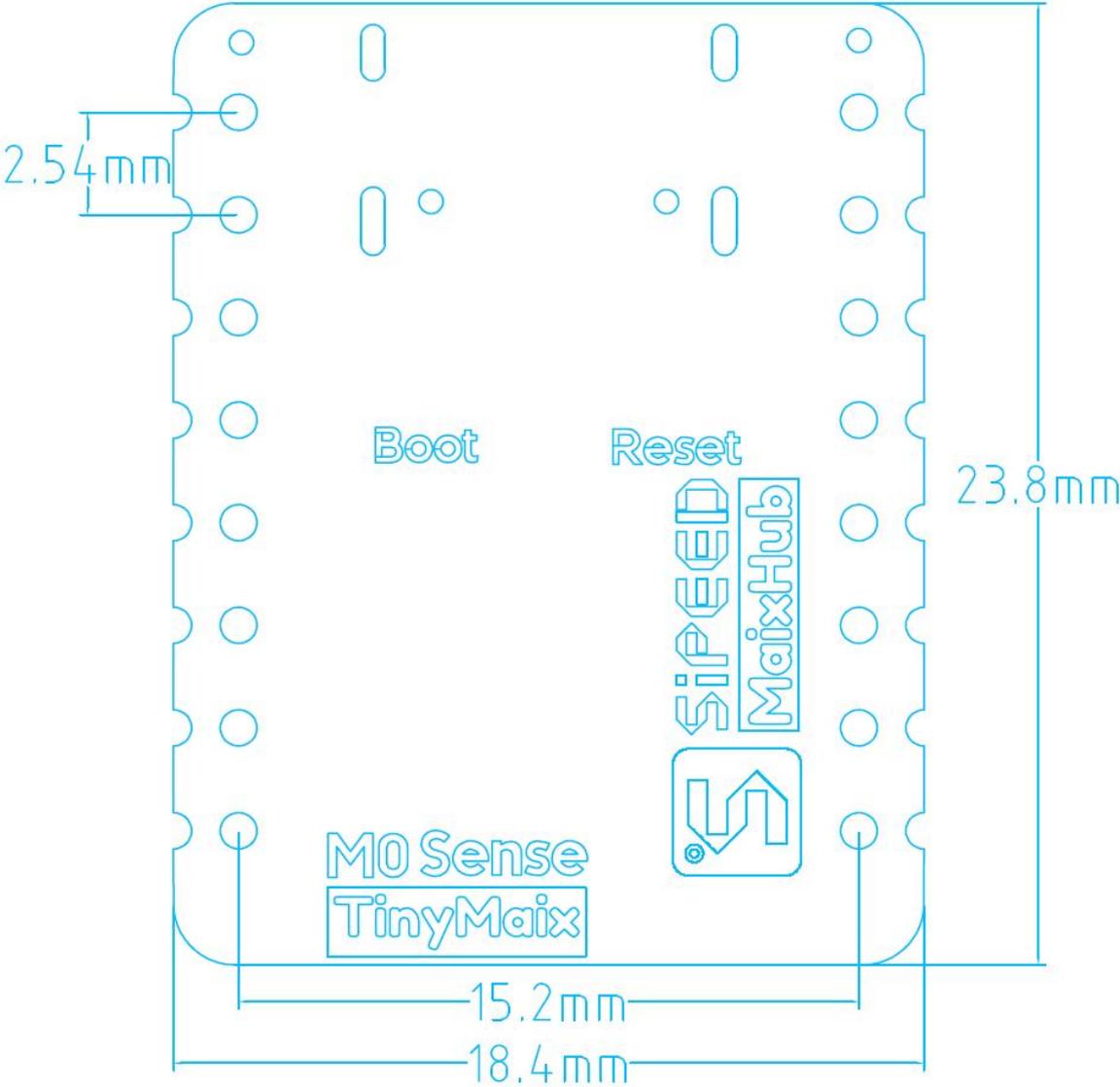
Pinouts



Function annotation



Dimension information	
Length	23.8 mm
Width	18.4mm
Thickness	Please check the 3D drawing



Matters needing attention	
ESD protection	Please pay attention to avoid static electricity hitting PCBA Please release the static electricity from the handle before contacting PCBA
Tolerance voltage	The working voltage of each GPIO has been marked in the schematic. Please do not let the actual working voltage of GPIO exceed the rated value, otherwise it will cause permanent damage to PCBA
FPC Socket	When connecting the FPC flexible cable, please make sure that the cable is inserted into the socket completely without offset
Mount display	Please completely power off before screen plugging operation
Avoid short circuit	Please avoid any liquid or metal touching the pads of components on PCBA during power on, otherwise it will cause short circuit and burn PCBA

Resources	
Official website	http://www.sipeed.com
Github	http://github.com/Sipeed
BBS	http://bbs.sipeed.com
Wiki	http://wiki.sipeed.com
Sipeed Model platform	http://maixhub.com/
SDK/HDK information	http://dl.sipeed.com/
Bouffalolab document	http://dev.bouffalolab.com/home/
E-mail(Technical support and business cooperation)	support@sipeed.com



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