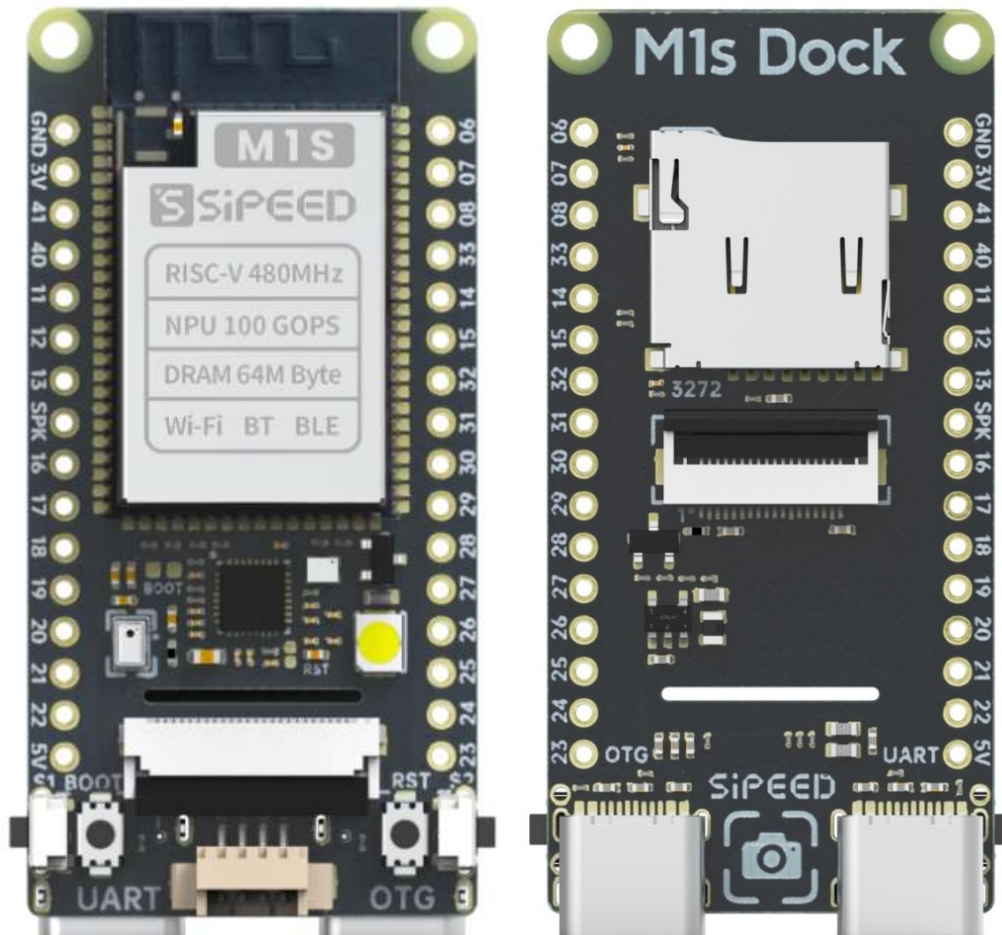


Sipeed M1s Dock Datasheet v1.0



Characteristic:

- BL808 RV64 480MHz + RV32 320MHz + NPU BLAI 100GOPS
- Onboard dual USB port (USB-UART port and USB-OTG port)
- Onboard display connector (Optional 1.69 "240x280 cap touch screen)
- Onboard MIPI camera connector (Optional 2M pixel camera)
- Support 2.4G WIFI / BT / BLE
- Onboard 1 MEMS analog Mic, 1 LED and 1 TF card slot

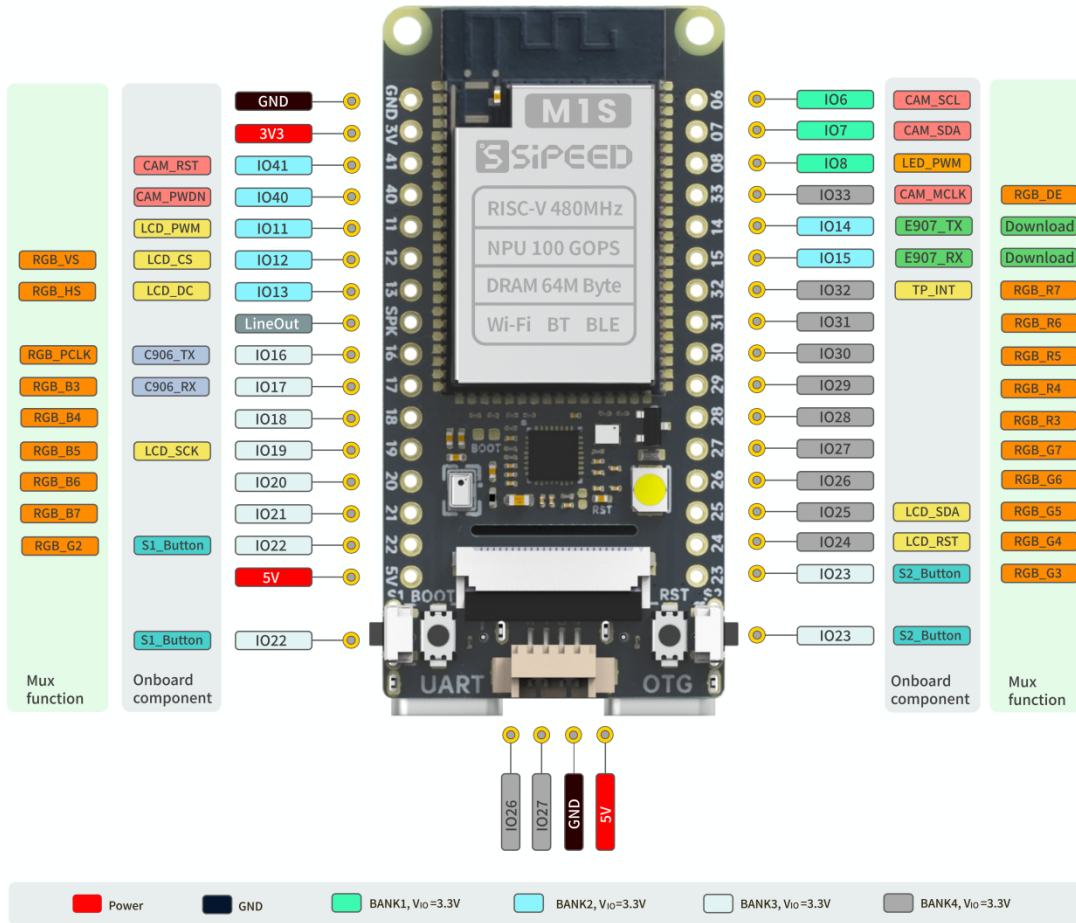
Update record of this document	
V1.0	Edited on November 14, 2022; Original document

Hardware overview	
BL808 processor	Trinuclear isomeric RISC-V CPUs: RV64GCV 480MHz + RV32GCP 320MHz + RV32EMC 160MHz
	AI NN (Universal Hardware Accelerator) NPU BLAI-100(For video/audio detection/recognition, 100GOPS computing power)
	Built-in 768KB SRAM + 64MB UHS PSRAM
	Encoding and decoding: - MJPEG and H264(Baseline/Main) - 1920x1080@30fps + 640x480@30fps
	Interface: - Camera : DVP and MIPI-CSI - Display: SPI, DBI, DPI(RGB)
	Wireless: - Support Wi-Fi 802.11 b/g/n - Support Bluetooth 5.x Dual-mode(BT+BLE) - Support Wi-Fi / Bluetooth Coexistence
	USB 2.0 HS OTG
Onboard component	Onboard USB to dual UART IC (It can be used to download firmware and serial communication)
	Onboard display connector (Optional 1.69 "240x280 cap touch screen)
	Onboard MIPI camera connector (Optional 2M pixel camera)
	Onboard 1 MEMS analog Mic, 1 LED and 1 TF card slot

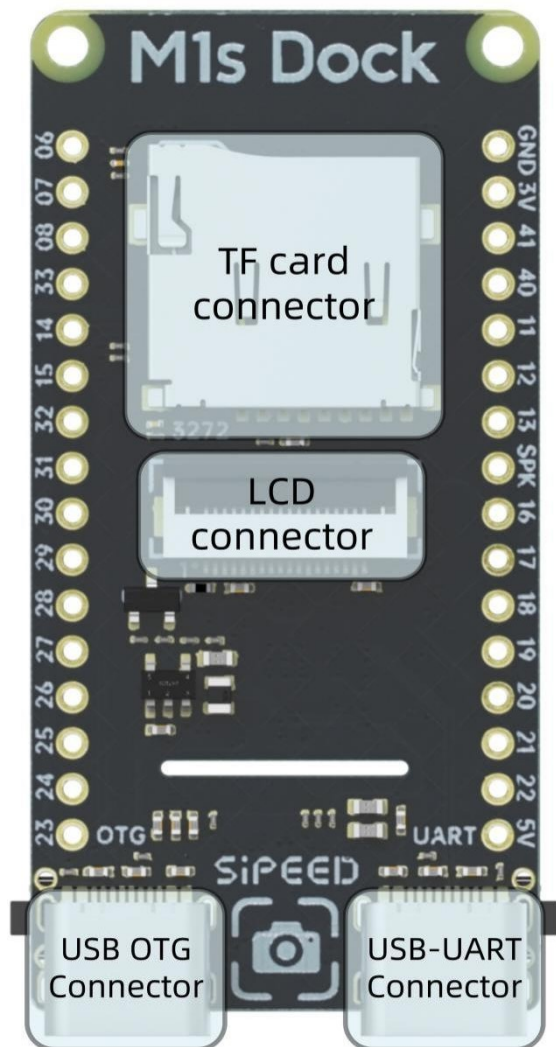
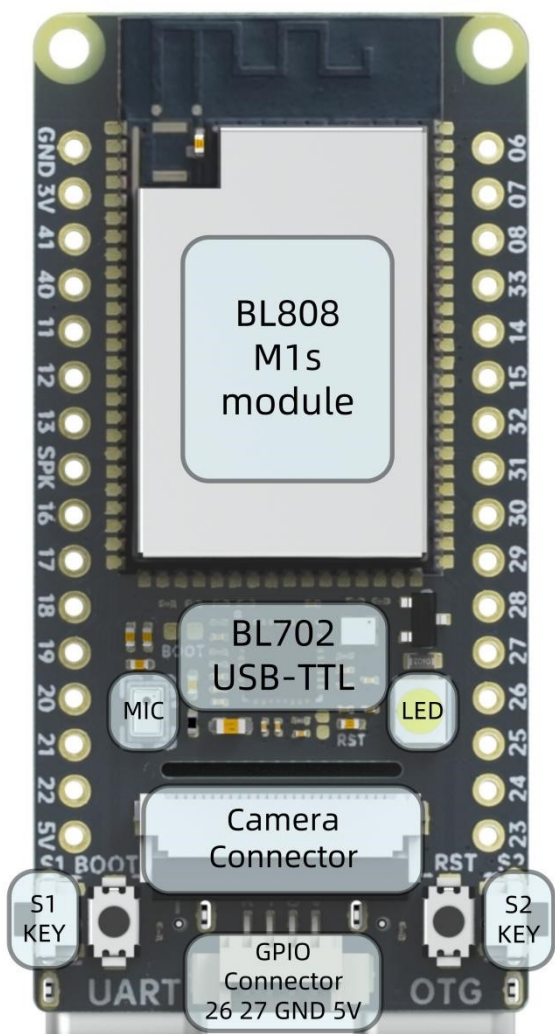
Software overview	
Operating system	Complete support FreeRTOS, Basic support Linux
Development language	C SDK, MaixHAL C module, pikascript python script
Firmware download method	UART download Virtual disk drag and drop update
AI Reasoning framework	Support the BLAI accelerated reasoning engine of the original SDK Support the general TinyMaix reasoning engine
AI Model download	Download from MaixHub Support face recognition, pose detection, gesture detection, etc
Sipeed Reference example	https://github.com/sipeed

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

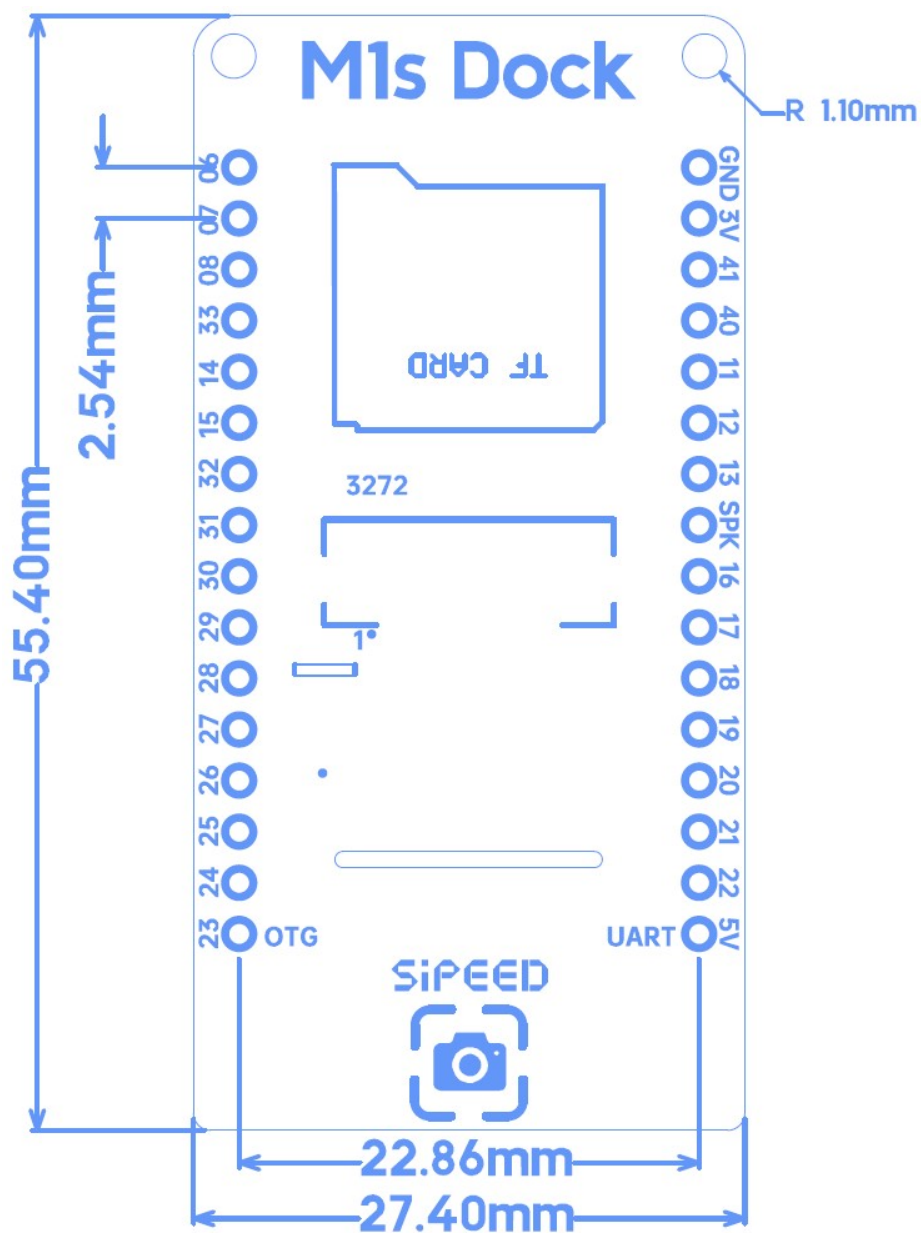
Pinout



Functional annotation



Dimension information	
Length	55.4 mm
Width	27.4mm
Thickness	Please check the 3D drawing



Matters needing attention	
ESD protection	<p>Please pay attention to avoid static electricity hitting PCBA</p> <p>Please release the static electricity from the handle before contacting PCBA</p> <p>When designing the PCB board, you must take the following measures to protect M1s module : Series resistance, Use ESD diode, etc</p>
Tolerance voltage	<p>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</p>
FPC connector	<p>When connecting FPC flexible cable, please ensure that the cable is completely inserted into the cable without offset;</p>
Plugging	<p>Please disconnect the power completely before plugging in and out the camera</p>
Avoid short circuit	<p>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</p>

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



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