

# Maix Cube Datasheet\_EN

## v1.0



### 特性:

- AI module : M1n
- Download circuit : Connect USB Type-C cable to complete the download
- 1.3 inch TFT-LCD screen
- 0.5W 1609 Speaker and Electret microphone
- 200mAh Battery and Power management chip

Update	
V1.0	2020/3/25 Published original document

SPECIFICATION	
M1n module	Artificial intelligence IC: Kendryte K210 (Contain Neural Network Processor (KPU)) FLASH:GD25LQ128 (128Mbit) 3-channel DC-DC: RY1303A provide 0.9V,3.3V and 1.8V Camera connector: 24P 0.5mm FPC connector
Download circuit	Connect USB Type-C cable to complete the download
Display screen	1.3 inch 240x240 TFT-LCD screen 8bit parallel interface Driver IC : ST7789V
Camera	Equipped with OV7740 module (Can be replaced with other models)
Power supply	USB-typeC or 302530 Battery 200mAh
Enhanced Single Cell Li-Battery and Power System Management IC : AXP173	<ul style="list-style-type: none"> <li>• Maximum charging current up to 1.4A</li> <li>• Automatically adjust charging current according to system load</li> <li>• Provides rich power management information</li> <li>• Host Interface : TWSI interface</li> <li>• Support soft shutdown or hard shutdown</li> <li>• Support OVP/UVP/OCP/OTP</li> </ul>
Audio CODEC : ES8374	DAC : <ul style="list-style-type: none"> <li>• 24-bit , 8 to 96kHz sampling frequency</li> <li>• 95dB signal to noise ratio , -85dB THD+N</li> <li>• 1.25W mono class D speaker driver (Equipped with a 0.5W 1609 speaker)</li> </ul> ADC : <ul style="list-style-type: none"> <li>• 24-bit , 8 to 96kHz sampling frequency</li> <li>• 95dB signal to noise ratio , -85dB THD+N</li> <li>• Low noise pre-amplifier</li> <li>• Noise reduction filters</li> <li>• Auto level control (ALC) and noise gate</li> <li>• Support analog and digital microphone (Equipped with an Electret microphone )</li> </ul>

Digital Triaxial Accelerometer : MSA301	<ul style="list-style-type: none"> <li>• User selectable range : <math>\pm 2g</math> , <math>\pm 4g</math> , <math>\pm 8g</math> , <math>\pm 16g</math></li> <li>• I2C Interface</li> <li>• 14 bits resolution</li> </ul>
Storage expansion	TF card holder on board
IO expansion interface	One 4P-2.0mm connector One SPMOD connector (2x4P 2.54mm female connector) (Support many SPMOD standard modules )
LED	<ul style="list-style-type: none"> <li>• Two RGB LEDs next to the USB socket</li> <li>• A high-brightness fill light LED next to the camera</li> </ul>
Buttons	Positive side : 1 Reset button and 1 Power button Top side : 3-way button

### SOFTWARE FEATURES

FreeRtos & Standard SDK	Support FreeRtos and Standrad development kit
Serial Face recognition Firmware	Support simple serial firmware for Face recognition
IDE (Integrated Development Environment)	Maixpy IDE

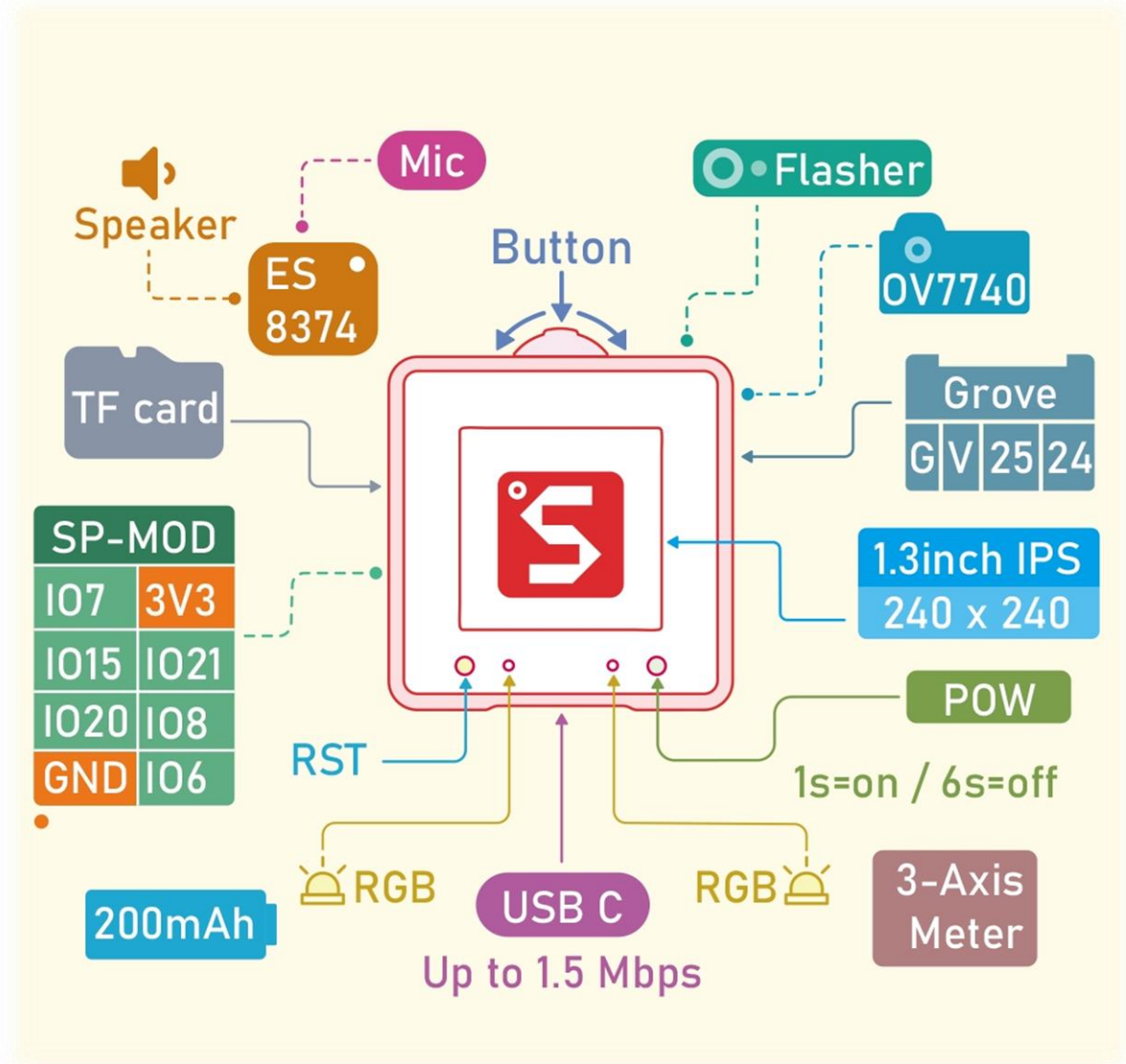
### HARDWARE FEATURES

USB port power requirements	Voltage: 4.8-5.2V (Recommend 5.0V) (We must provide a very stable USB power supply to the CUBE, such as connecting to a USB port on the motherboard or using an externally powered USB HUB) Current: >500mA
Battery port power requirements	Voltage : 3.6-4.2V Current: >500mA
Temperature rise	<50K
Range of working temperature	-30°C ~ 50°C

## Maix Cube pin out



### Maix Cube function indication



Size information (Plastic shell)	
Length	40mm
Wide	40mm
Thickness	18.6 mm

RESOURCES	
Official Website	<a href="http://www.sipeed.com">www.sipeed.com</a>
Github	<a href="https://github.com/sipeed">https://github.com/sipeed</a>
BBS	<a href="http://bbs.sipeed.com">http://bbs.sipeed.com</a>
Wiki	<a href="http://maixpy.sipeed.com">maixpy.sipeed.com</a>
Sipeed Model Store	<a href="https://maixhub.com/">https://maixhub.com/</a>
SDK Reference	<a href="http://dl.sipeed.com/MAIX/SDK">dl.sipeed.com/MAIX/SDK</a>
HDK Reference	<a href="http://dl.sipeed.com/MAIX/HDK">dl.sipeed.com/MAIX/HDK</a>
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