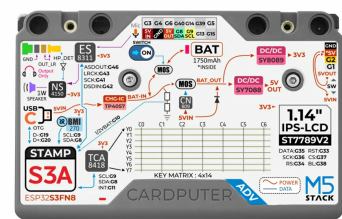
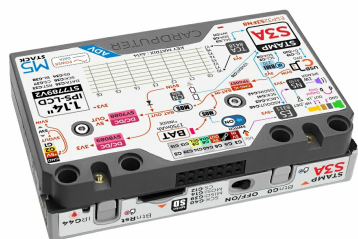
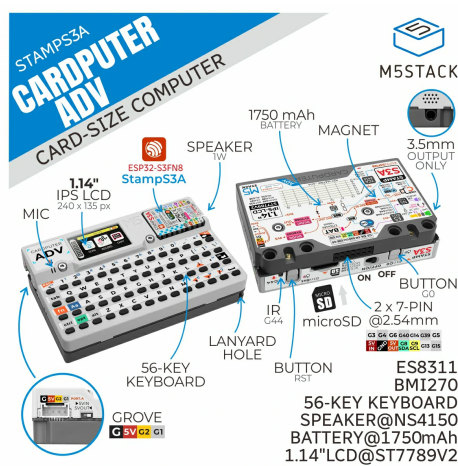


Cardputer-Adv

SKU:K132-Adv





Description

Cardputer-Adv is a programmable card-sized computer powered by the Stamp-S3A core module (based on ESP32-S3FN8). It integrates a 1.14" LCD display and a 56-key minimalist keyboard for convenient interaction and input operations. In terms of audio, it features an ES8311 audio codec, a high SNR MEMS microphone, an NS4150B amplifier, and a 1W speaker, providing high-quality audio input and output capabilities. Additionally, it has a 3.5mm audio output jack for connecting external headphones or speakers. Internally, it is equipped with a 1750mAh high-capacity lithium battery, combined with a low-power design and an independent power switch to ensure good battery life. It integrates a 6-axis motion sensor BMI270, an infrared emitter, a microSD card slot, and also provides an HY2.0-4P Grove port and an EXT 2.54-14P expansion bus for connecting sensors and other peripherals. The base contains magnets for metal attachment and is compatible with LEGO hole extensions. This product is suitable for quick function prototyping, industrial control, home automation, and other scenarios.

Tutorial



UiFlow2

This tutorial demonstrates how to control the Cardputer-Adv device with the UiFlow2 graphical programming platform.



Arduino IDE

This tutorial will introduce how to program and control the Cardputer-Adv device through Arduino IDE

Features

- Stamp-S3A core controller
- 56-key keyboard
- 1.14" LCD display
- 160gf comfortable keypress feel
- ES8311 audio codec
- High SNR MEMS microphone
- NS4150B amplifier + 1W speaker
- 3.5mm audio output interface
- Infrared emitter
- 6-axis motion sensor BMI270
- HY2.0-4P Grove port
- EXT 2.54-14P expansion bus
- microSD card slot
- Built-in 1750mAh battery
- Magnetic back design
- LEGO hole compatible
- Development Platform
 - Arduino
 - UiFlow2
 - ESP-IDF
 - PlatformIO

Includes

- 1 x Cardputer-Adv

Applications

- Rapid prototyping and functional verification
- Industrial control and automation
- Embedded systems development and learning
- Wireless communication and IoT projects

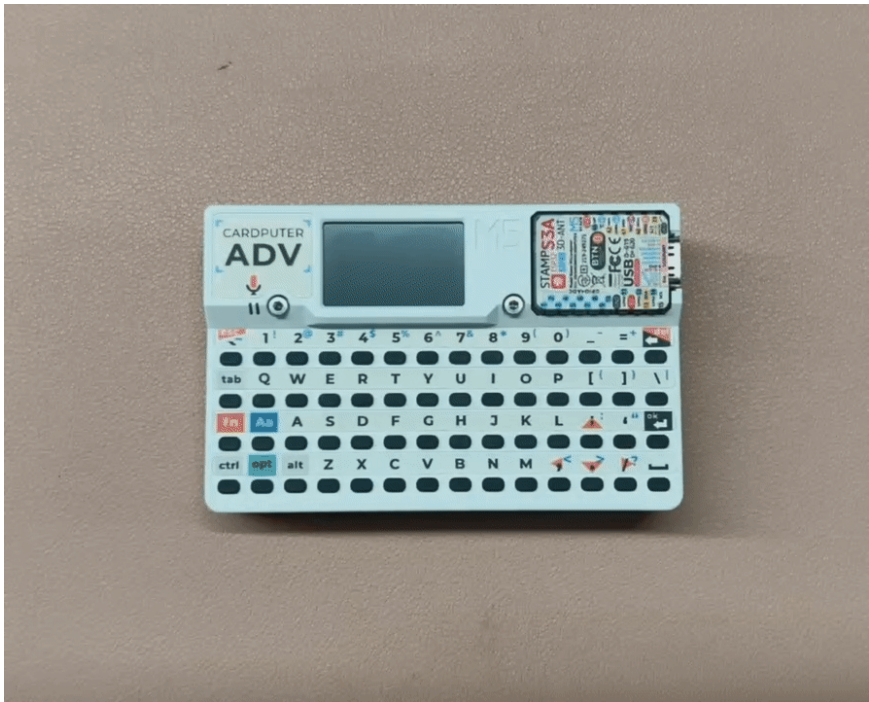
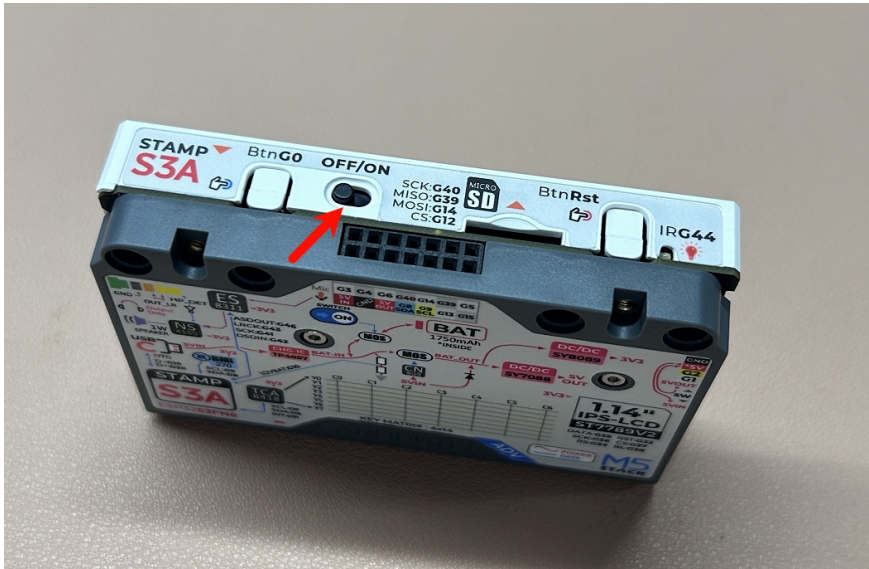
Specifications

Specification	Parameter
SoC	ESP32-S3FN8 @ Xtensa® 32-bit LX7 dual-core processor, clock frequency 240MHz
Flash	8MB
External Storage	microSD
Display	ST7789V2@1.14", 240 x 135px
Keyboard	56 keys (4 x 14)
Key Actuation	160gf
Expansion Ports	HY2.0-4P + EXT 2.54-14P
IR	1x IR emitter
Audio Codec	ES8311
Speaker	NS4150B amplifier + 8Ω@1W speaker
Microphone	MEMS microphone, SNR: 65 dB
IMU	BMI270
Battery Capacity	1750mAh
Operating Temp.	0 ~ 40°C
Standby Current (Power Switch Set to OFF)	DC4.2V@0.23uA
Operating Current	DC4.2V@120.2mA
Wi-Fi Operating Current	DC4.2V@132.3mA
BLE Operating Current	DC4.2V@154.6mA
Product Size	84.0 x 54.0 x 19.6mm
Product Weight	81.0g
Package Size	145.7 x 95.0 x 20.7mm
Gross Weight	98.5g

Learn

Download Mode

To enter download mode, set the side power switch of the Cardputer-Adv to the **OFF** position. Then, before powering on, hold the **G0** button, apply power to the device, and release it afterward. The device will then enter download mode.



RGB LED Power Supply

RGB LED Power Supply Instructions

The device uses **Stamp-S3A** as its main controller. To optimize overall power consumption, Stamp-S3A adds an independent electronic switch for the RGB LED power supply compared with the previous Stamp-S3. Before controlling the RGB LED in software, set GPIO38, which controls this switch, to a high level.

Charging Notes

When charging the Cardputer-Adv, please switch the power to **ON**.

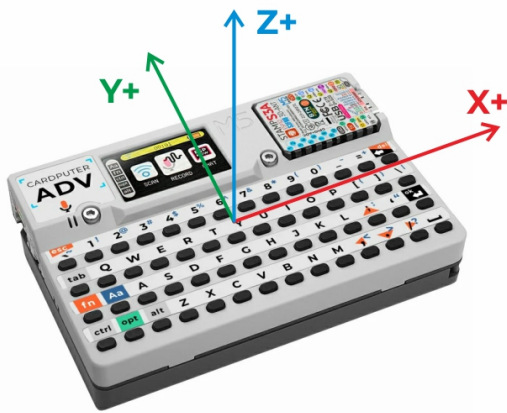


Speaker Feature

Note

When a 3.5mm headphone jack is inserted, the speaker amplifier will be disabled.

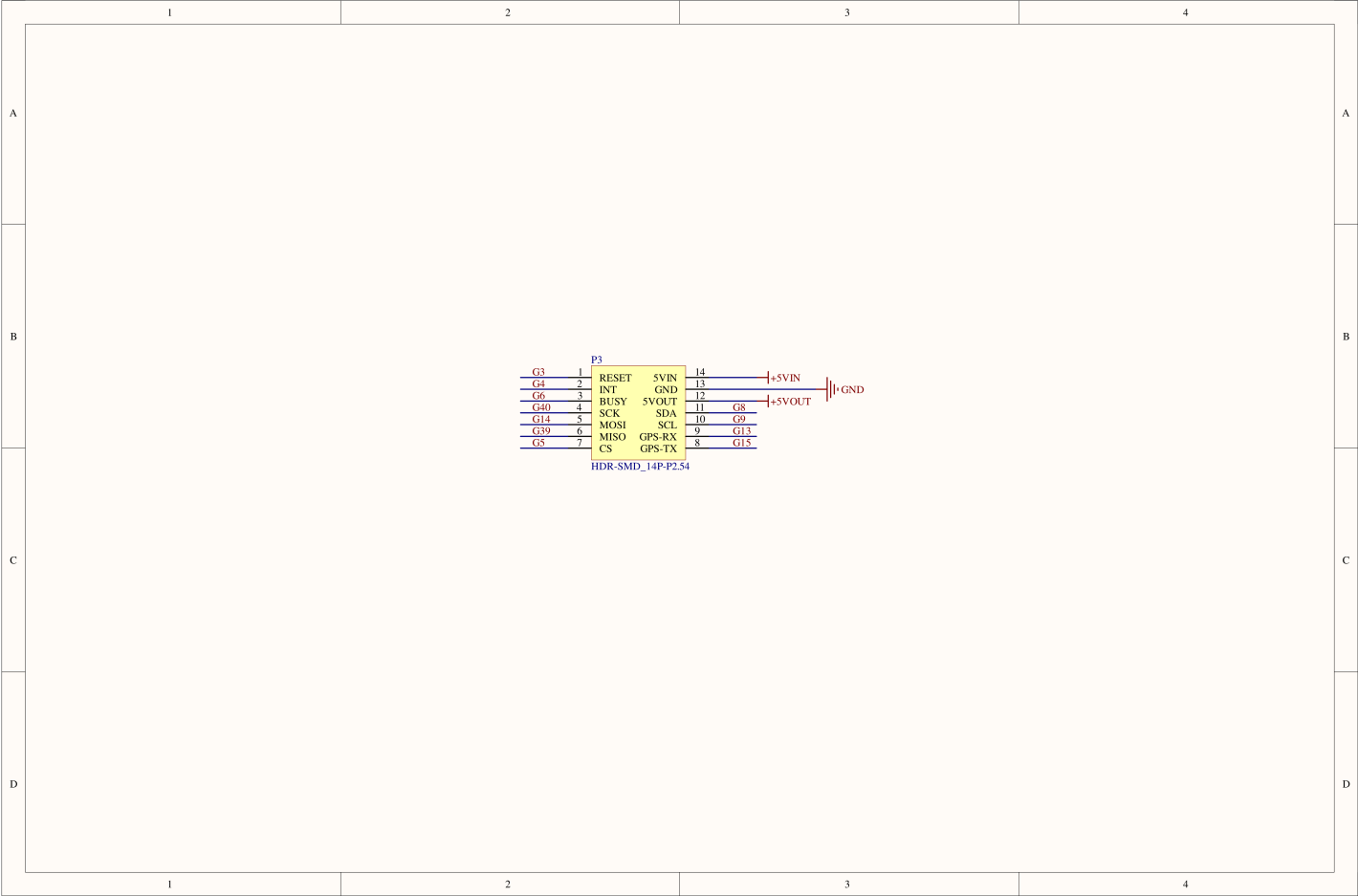
IMU Triaxial Direction Schematic Diagram

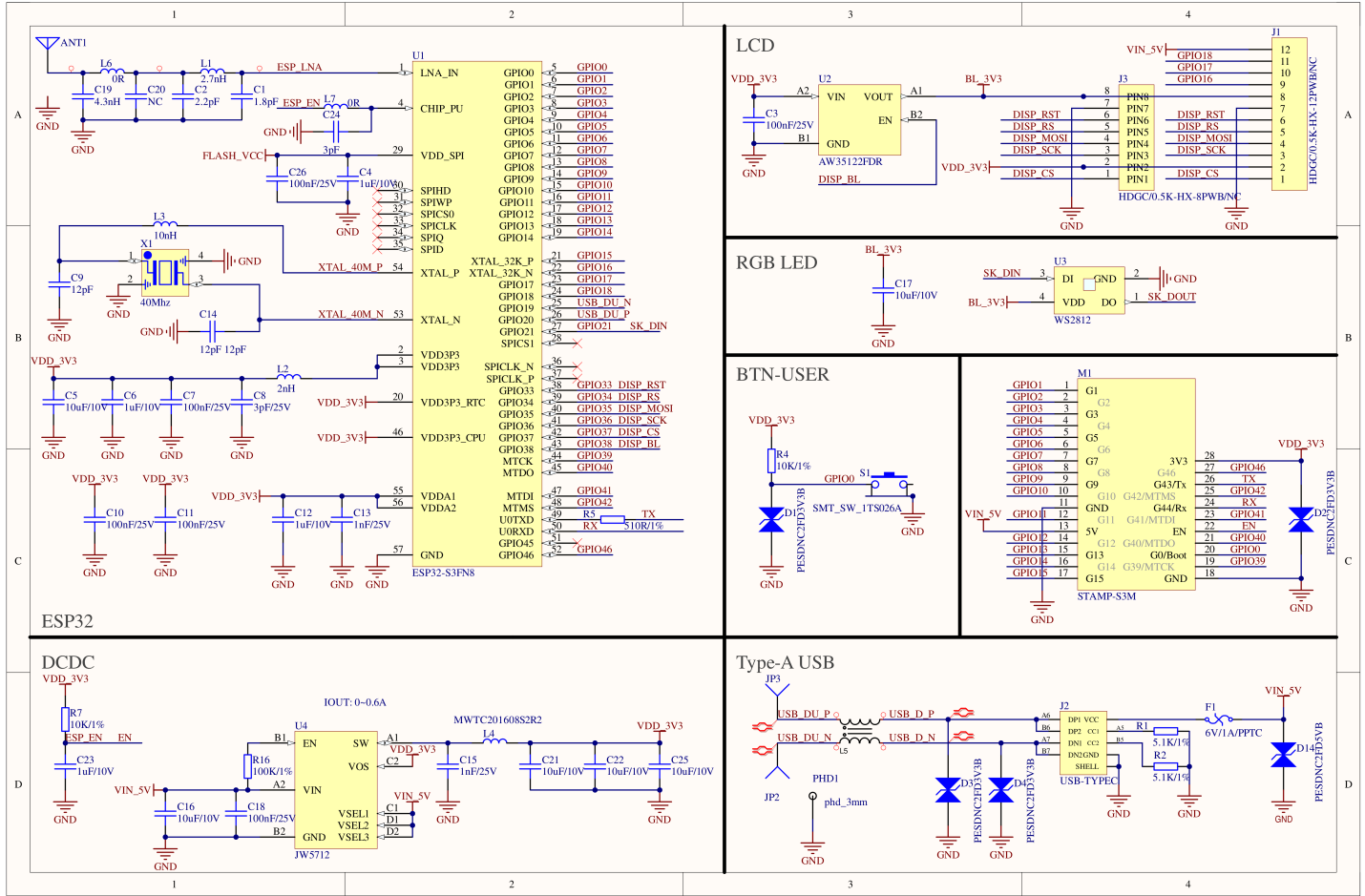


IMU ORIENTATION OF AXES

Schematics

- [Cardputer-Adv Schematics PDF](#)
- [Stamp-S3A Schematics PDF](#)





PinMap

LCD

Stamp-S3A	G38	G33	G34	G35	G36	G37
ST7789V2	DISP_BL	RST	RS	DAT	SCK	CS
RGB LED	PWR_EN					

Audio

Stamp-S3A	G8	G9	G41	G46	G43	G42
ES8311	SDA	SCL	SCLK	ASDOUT	LRCK	DSDIN

IMU

Stamp-S3A	G8	G9
BMI270	SDA	SCL

IR

Stamp-S3A	G44
IR TX	TX

Battery

Stamp-S3A	G10
Battery	ADC

Keyboard

Stamp-S3A	G8	G9	G11
TCA8418RTWR	SDA	SCL	INT

microSD

Stamp-S3A	G12	G14	G40	G39
microSD	CS	MOSI	CLK	MISO

HY2.0-4P

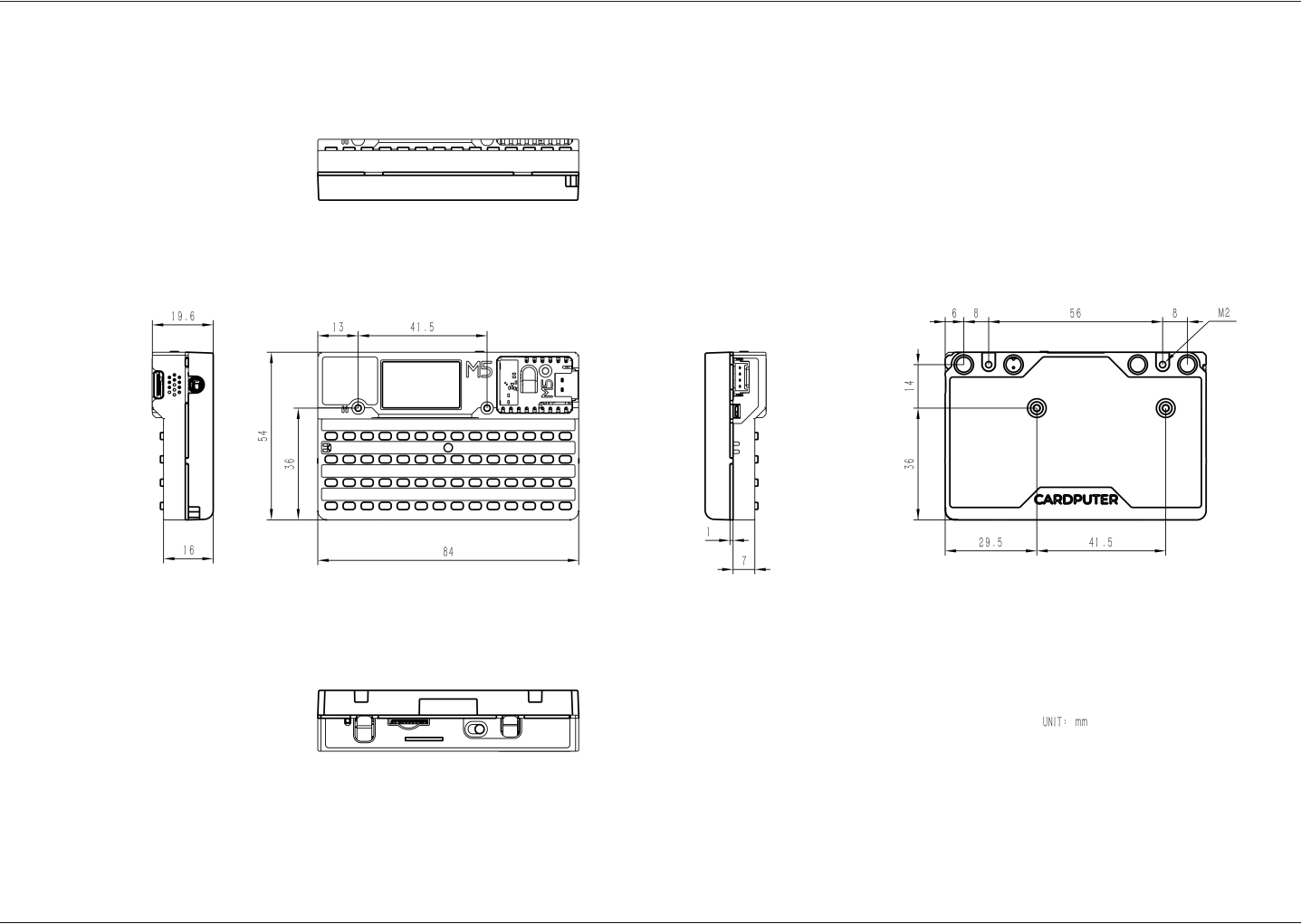
HY2.0-4P	Black	Red	Yellow	White
PORT.CUSTOM	GND	5V	G2	G1

EXT 2.54-14P

FUNC	PIN	LEFT	RIGHT	PIN	FUNC
RESET	G3	1	2	5VIN	
INT	G4	3	4	GND	
BUSY	G6	5	6	5VOUT	
SCK	G40	7	8	G8	I2C_SDA
MOSI	G14	9	10	G9	I2C_SCL
MISO	G39	11	12	G13	UART_RX
CS	G5	13	14	G15	UART_TX

Model Size

- [Cardputer-Adv Model Size PDF](#)



Structure

- [Cardputer-Adv Structure Files](#)

Softwares

Arduino

- [Cardputer-Adv Arduino Quick Start](#)
- [Cardputer-Adv Arduino Driver Library](#)

UiFlow2

- [Cardputer-Adv UiFlow2 Quick Start](#)

PlatformIO

```
[env:m5stack-cardputer]
platform = espressif32@6.7.0
board = esp32-s3-devkitc-1
framework = arduino
upload_speed = 1500000
build_flags =
    -DESP32S3
    -DCORE_DEBUG_LEVEL=5
    -DARDUINO_USB_CDC_ON_BOOT=1
    -DARDUINO_USB_MODE=1

lib_deps =
    M5Cardputer=https://github.com/m5stack/M5Cardputer
```

ESP-IDF

- [Cardputer-Adv Factory Firmware](#)

Easyloader

Easyloader	Download	Note
Cardputer-Adv Factory Easyloader	download	/

Video

- [Cardputer-Adv Product Introduction and Use Cases](#)

[K132-Adv-Cardputer-Adv-video-en.mp4](#)

Product Comparison

Product	  		
	Cardputer-Adv	Cardputer v1.1	Cardputer
Core Module	Stamp-S3A	Stamp-S3A	Stamp-S3
RGB LED Logic	Shares power with display backlight, optimized control logic	Shares power with display backlight, optimized control logic	Powered directly
Antenna Design	Optimized antenna design for better reception	Optimized antenna design for better reception	Standard antenna
Battery Capacity	1750mAh	120mAh + 1400mAh	120mAh + 1400mAh
Audio Solution	ES8311 + NS4150B	NS4168 + SPM1423	NS4168 + SPM1423
Audio Port	3.5mm audio jack	/	/
IMU	BMI270	/	/
Keyboard IO Exp.	TCA8418RTWR	74HC138	74HC138
Expansion Ports	HY2.0-4P + EXT 2.54-14P	HY2.0-4P	HY2.0-4P
Lanyard Hole	Yes	No	No

To compare information on the Cardputer series products, you can visit the [Product Selection Table](#), check the target products, and get the comparison results. The selection table covers key information such as core parameters and functional features, and supports comparison of multiple products simultaneously.