M5STACK

M5StickC

SKU:K016-C

Description

M5StickC is a mini M5Stack, powered by ESP32. It is a portable, easy-to-use, open source, IoT development board. What it can do? This tiny block is able to realize your idea, enlighten your creativity, and help with your IoT prototying in a very short time. It will take away a lot of pains from the development process.M5stickC is one of the core devices in M5Stack product series.

It is built in a continually growing hardware and software ecosystem. It has a lot of compatible modules and units, as well as the open source code & engineering communities that will help you maximize your benefits in every step of the developing process.

Power switch operation：

- Power on ：Press power button for 2 seconds
- Power off ：Press power button for 6 seconds

Notice:

- Baud rate supported by M5StickC: 1200 ~115200, 250K, 500K, 750K, 1500K

Product Features

- ESP32-based
- Built-in 6-Axis IMU
- Red LED
- IR transmitter
- Microphone
- Buttons, LCD(0.96 inch)
- Built-in Lipo Battery
- Extendable Socket
- Wearable & Wall mounted
- Development Platform UIFlow, MicroPython, Arduino

Include

- 1x M5StickC
- 1x USB Type-C(20cm)

Applications

- Internet of things terminal controller
- Wearable devices
- Stem education product
- DIY creation

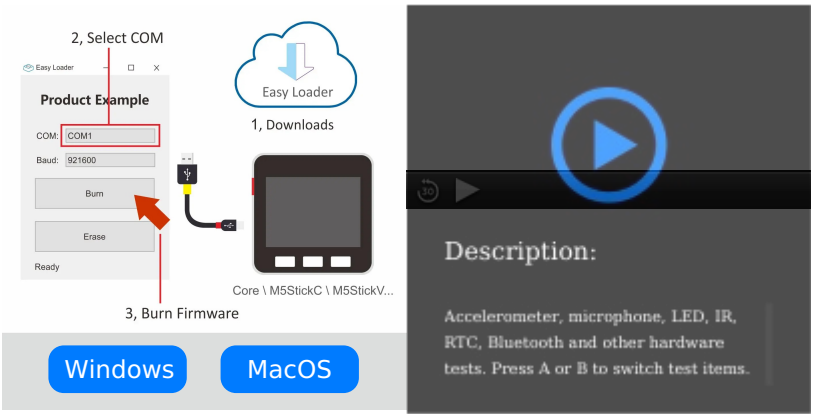
Specification

Resources	Parameter
ESP32	240MHz dual core, 600 DMIPS, 520KB SRAM, Wi-Fi, dual mode Bluetooth
Flash Memory	4MB
Power Input	5V @ 500mA
Port	TypeC x 1, GROVE(I2C+I/0+UART) x 1
LCD screen	0.96 inch, 80*160 Colorful TFT LCD, ST7735S
Button	Custom button x 2
LED	RED LED
MEMS	MPU6886
IR	Infrared transmission
MIC	SPM1423
RTC	BM8563
PMU	AXP192
Battery	95 mAh @ 3.7V
Antenna	2.4G 3D Antenna
PIN port	G0, G26, G36
Operating Temperature	32°F to 104°F (0°C to 40°C)
net weight	15.1g
Gross weight	33g
Product Size	48.2*25.5*13.7mm

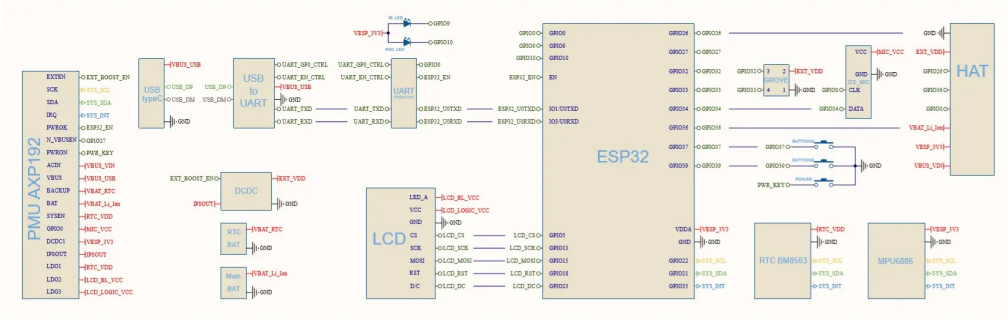
Package Size	55*55*20mm
Case Material	Plastic (PC)

EasyLoader

> EasyLoader is a concise and fast program writer, which has a built-in case program related to the product. It can be burned to the main control by simple steps to perform a series of function verification. Please install the corresponding driver according to the device type. M5Core host Please click here to view the CP210X driver installation tutorial, M5StickC/V/T/ATOM series can be used without driver)



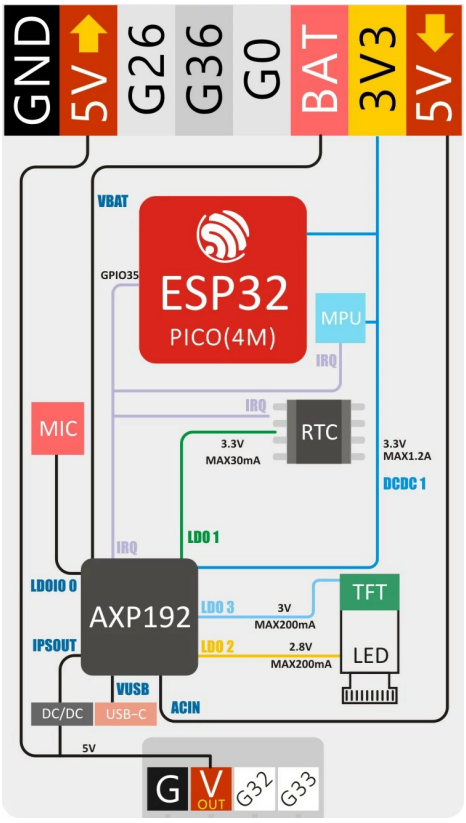
Schematic



- PDF Download

PinMap

Power structure block diagram



RED LED & IR Transmitter & BUTTON A & BUTTON B

ESP32	GPIO10	GPIO9	GPIO37	GPIO39
RED LED	LED Pin			
IR Transmitter		Transmitter Pin		
BUTTON A			Button Pin	
BUTTON B				Button Pin

TFT LCD

Driver IC：ST7735S

Resolution：80 * 160

ESP32	GPIO15	GPIO13	GPIO23	GPIO18	GPIO5
TFT LCD	TFT_MOSI	TFT_CLK	TFT_DC	TFT_RST	TFT_CS

GROVE PORT

ESP32	GPIO33	GPIO32	5V	GND
GROVE port	SCL	SDA	5V	GND

MIC (SPM1423)

ESP32	GPIO0	GPIO34
MICPHONE	SCL	SDA

6-Axis posture sensor (SH200Q/MPU6886) & power management IC (AXP192)

ESP32	GPIO22	GPIO21
6-Axis IMU sensor	SCL	SDA
power management IC	SCL	SDA

AXP192

Microphone	RTC	TFT backlight	TFT IC	ESP32/3.3V MPU6886/SH200Q	5V GROVE
LDOio0	LDO1	LDO2	LDO3	DC-DC1	IPSOUT

Related Link

- **datasheet**
  - ESP32-PICO
  - ST7735SV
  - BM8563
  - MPU6886
  - SH200Q
  - AXP192
  - SPM1423

structural-design-file

> click here for open source architecture design files

Version Change

2019.3 Initial public release /
2019.8 SH200Q changed to MPU6886 /
2019.10 Upgrade the bottom and add copper nuts /
2020.3 Battery capacity changed from 80mAh to 95mAh /

Example

Arduino

- M5StickC facory test code
- M5StickC Vending Machine

UIFlow

For a tutorial on uiflow, see here

Video