M5NanoC6

SKU:C125

Tutorials & Quick Start

Arduino IDE

This tutorial will show you how to program and control M5NanoC6 devices through Arduino IDE

Description

The **M5NanoC6** is a miniature, **low-power** IoT development board within the M5Stack development kit series. It is equipped with an ESP32-C6FH4 as the MCU, supporting advanced wireless communication methods such as Wi-Fi 6 and Zigbee, along with a built-in infrared emitter for convenient control of infrared IoT devices. Its onboard ceramic antenna ensures a stable wireless communication connection. Additionally, the device is equipped with programmable RGB beads, adding personalized visual effects to projects. The inclusion of the Grove interface allows the M5NanoC6 to flexibly expand a variety of M5 devices (customizable for different types of devices, such as those using UART, I2C, and other communication protocols), providing developers with rich hardware expansion possibilities. It is suitable for fields such as smart homes, industrial automation, health monitoring, and IoT devices, offering a comprehensive development solution for innovative projects.

The burning program needs to enter the download mode: press and hold the key (GPIO9), and then connect the data cable to enter the download mode.

The M5NanoC6 is the first WiFi-6-enabled core control board that supports the 2.4GHz Wi-Fi 6 protocol (802.11ax) and is backward compatible with 802.11b /g/n. The WiFi 6 protocol has higher speed, greater capacity, lower latency, and stronger security than previous WiFi protocols.

Features

- Support 2.4Ghz Wi-Fi 6, Zigbee, and Thread, Matter wireless protocols.
- Built-in infrared LED and RGB
- Grove port
- Ceramic antenna
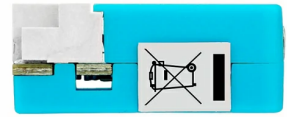- Small in size

Includes

- 1x M5NanoC6

Applications

- Intelligent housing system
- Industrial control system
- Environmental monitoring system
- Agricultural iot systems
- Medical treatment
- Consumer electronic
- Service robot

Specification

| Resources	Parameters
SoC	ESP32-C6FH4@RISC-V 160MHz, 4M Flash, Wi-Fi 6, Zigbee 3.0, Thread 1.3, Matter, CDC

WIFI protocol	2.4GHz Wi-Fi 6 protocol (802.11ax) and backward compatible with 802.11b /g/n
RGB	WS2812
IR remote control parameters	The infrared emission distance of < 0° is 632CM The infrared emission distance of < 45° is 83CM The infrared emission distance of < 90° is 29CM
Grove outputs maximum current	DC 5V@600mA(Output capacity depends on USB power supply)
Standby current (Deep Sleep Mode)	Type-C Power supply DC 5V@125.5uA Grove power supply DC 5V@50uA
Standby current (ULP Mode)	Type-C Power supply DC 5V@252uA Grove power supply DC 5V@201.5uA
Operating current	In WIFI mode: DC 5V@106.2mA
WI-FI stretch test (antenna back up, back alignment test)	54.9m
Operating temperature	0-40°C
Product Size	23.5*12*9.5mm
Package Size	110*81*11mm
Product Weight	2.5g
Package Weight	11.2g

Related Link

- ESP32-C6 Datasheet

Schematic

SoC:ESP32-C6FH4

Type-C

LDO 3.3V

Grove

Button

RGB LED

IR&LED
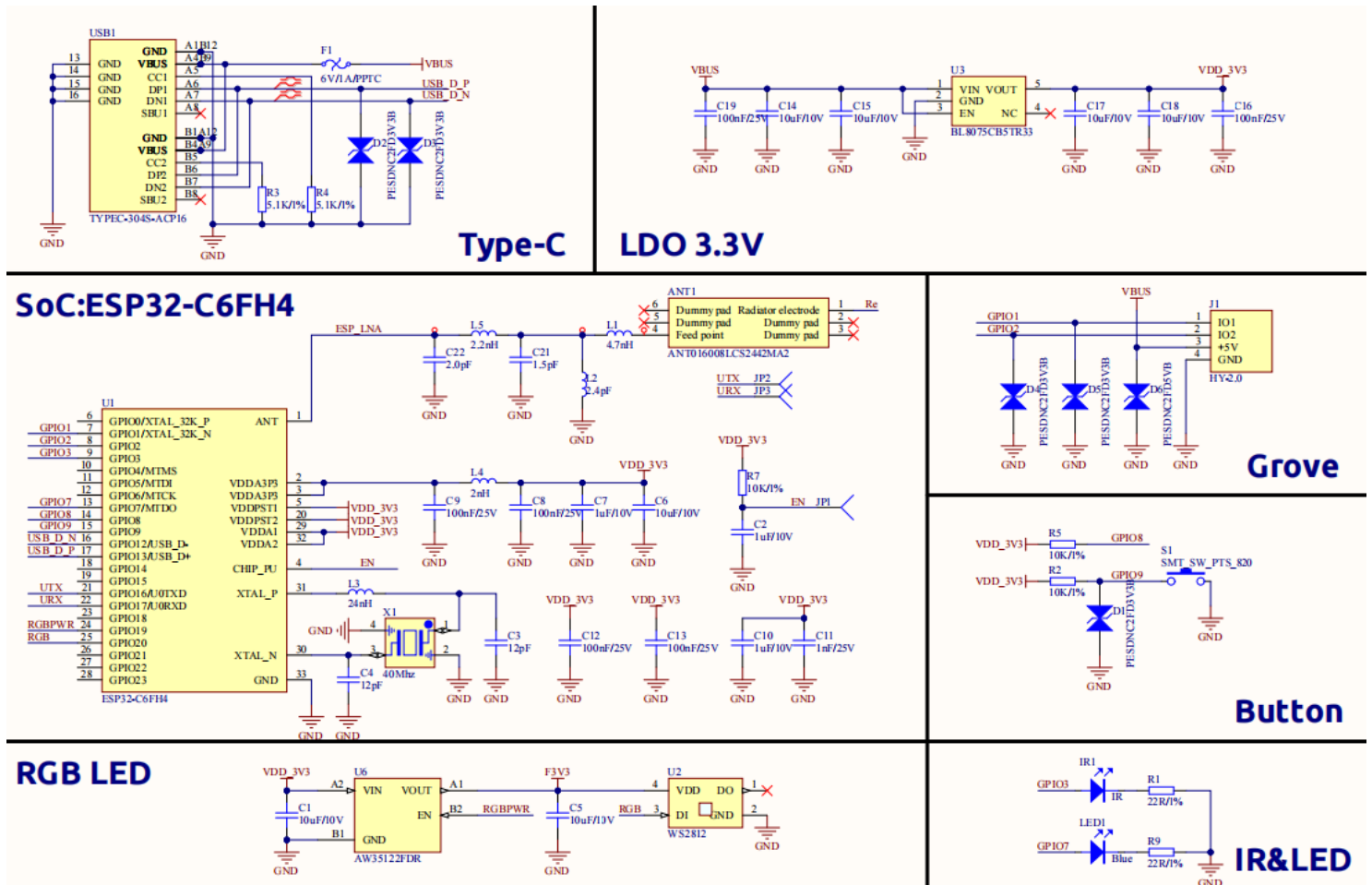
PinMap

ESP32-C6FH4	GPIO1	GPIO2	VCC	GND
GROVE	G1	G2	5V	GND

ESP32-C6FH4	GPIO3	GPIO20	GPIO19	GPIO9	GPIO7
IR	IR				
WS2812		WS2812	EN(RGBPWR)		
BUTTON				BUTTON	
LED(Blue)					LED(Blue)

> When using RGB, remember to turn on the RGB power supply switch, that is, the GPIO19 pin should be set to high level

Module Size
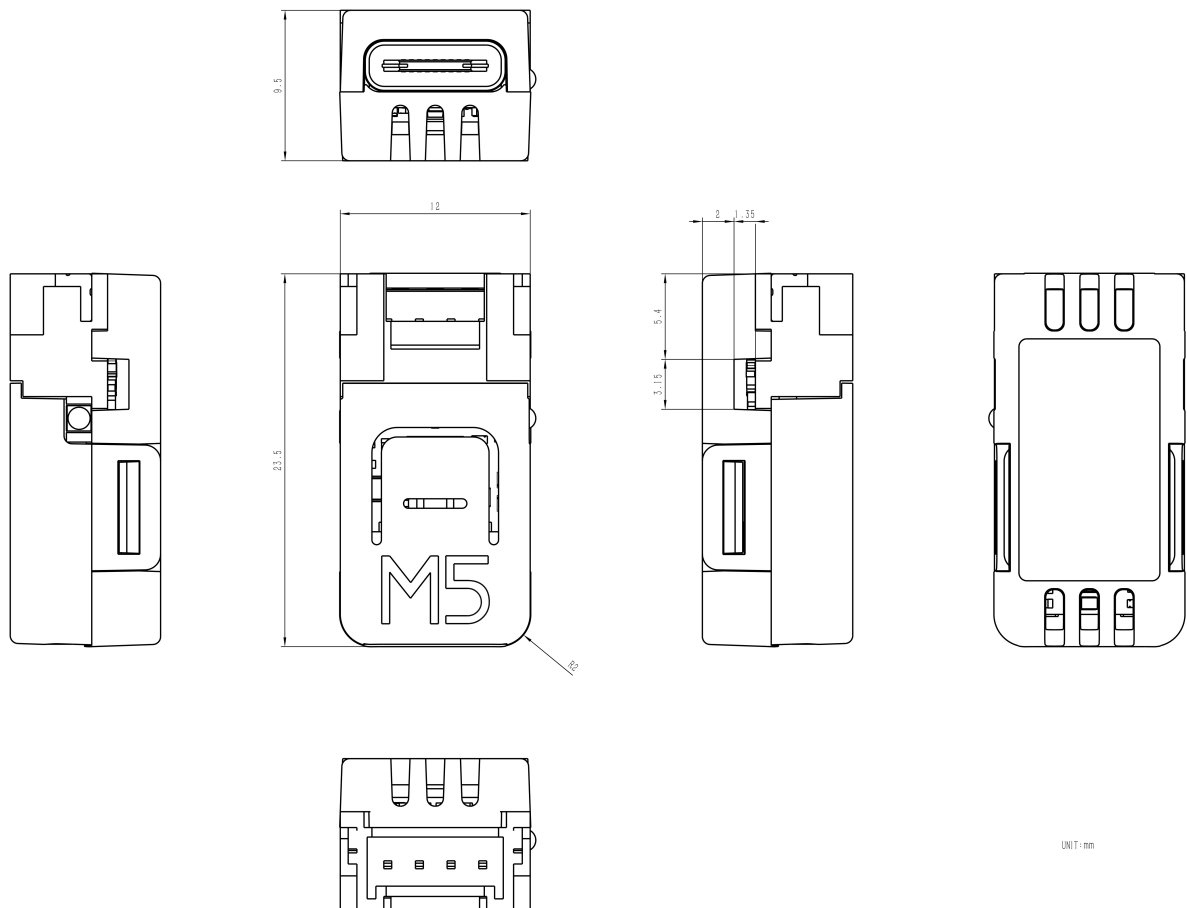
Examples

Arduino

- [NanoC6 Arduino Demo- Button](#)

- [NanoC6 Arduino Demo- ir_nec](#)

- [NanoC6 Arduino Demo- led](#)

- [NanoC6 Arduino Demo- rgb_led](#)

Video

- NanoC6 product introduction and application

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