

The CM32M433R MCU

Original post: <https://www.rvmcu.com/quickstart-show-id-13.html>

1. Chip introduction

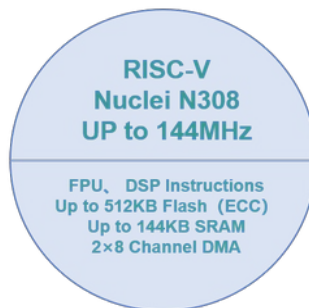
The CM32M4xxR series chips are the first low-power and large-capacity microcontrollers based on RISC-V architecture launched by China Mobile Xinsheng Technology. This series of MCUs has the characteristics of high performance, high reliability, high security, and low power consumption, and can be widely used in smart door locks, IoT gateways, interactive panels, measurement and control terminals, student education, consumer electronics and other related fields.

CONNECTIVITY

- ✓ 3×SPI, 1×QSPI
- ✓ 7×U(S)ART
- ✓ 2×CAN2.0B
- ✓ 4×I2C
- ✓ 2×I2S

SECURITY

- ✓ TRNG
- ✓ DES/AES
- ✓ SHA/MD5
- ✓ SM3/SM4



TIMER

- ✓ 2×16bit advanced timer
- ✓ 2×16bit basic timer
- ✓ 4×16bit timer
- ✓ 2×64bit systick

ANALOG

- ✓ 4×12bit 5Mps ADC
- ✓ 2×12bit 1Mps DAC
- ✓ 4×op-amps
- ✓ 7×comparators
- ✓ 1×temperature sensor

- Core: Nuclei N308 (RV32IMACFP)
- Main frequency: 144MHz
- Memory: built-in 512KB Flash, 144KB SRAM
- Operating voltage: 1.8V ~ 3.6V
- Built-in cryptographic algorithm hardware acceleration engine
- Peripheral Resources: timers (General Purpose Timer, Advanced Timer, Basic Timer), SPI, I2S, QSPI, I2C, USART, UART, CAN, ADC, DAC, TSC, GPIO

2. Related documents

- CM32M433R reference manual: <https://www.rvmcu.com/app/quickstart/skins/default/doc/CM32M4xxR-user-guide-V1.4.pdf>
- CM32M433R data sheet: <https://www.rvmcu.com/app/quickstart/skins/default/doc/CM32M4xxR-datasheet-V1.4.pdf>
- Nuclei N-level Instruction Architecture Manual: <https://www.rvmcu.com/quickstart-show-id-1.html>.

- Nuclei N300 series processor core databook:
<https://www.nucleisys.com/upload/file/2020/02/1582893657-2424.pdf>

3. Purchase links

Retail purchase

Taobao: <https://item.taobao.com/item.htm?id=677606472384>

Volume Purchase

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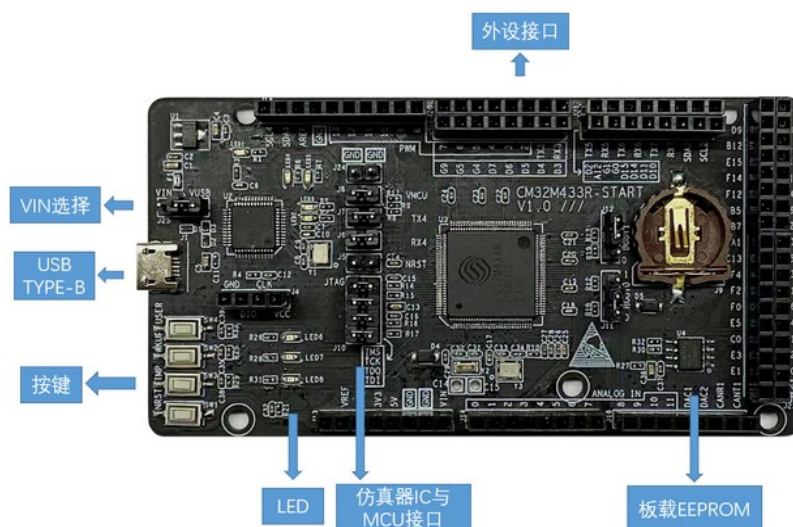
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The CM32M433R-START development board

Original post: <https://www.rvmcu.com/quickstart-show-id-14.html>

1. Introduction

CM32M433R-START is a RISC-V development board based on China Mobile's CM32M433R MCU. It features an on-board emulator and Arduino-compatible female headers.



CM32M433R-START development board features:

- Microcontroller: CM32M433R
 - Core: Nuclei N308 (RV32IMACFP)
 - Main frequency: 144MHz
 - Memory: 512KB Flash, 144KB SRAM
 - Working voltage: 1.8~3.6V

- Peripheral resources: Timers (4 general-purpose timers, 2 advanced timers, 2 basic timers) SPI3, I2S2, QSPI1, I2C4, UART4, CAN2, ADC2, DAC2
- Power supply mode: USB or 5V DC external power supply
- Size: 10.1*5.3cm
- Peripherals and interfaces:
 - USB Micro-B interface: download, debug, power supply
 - Arduino-compatible standard single row 2.54mm female headers
 - JTAG interface: MCU and debugger can be separated to work independently
 - Reset button
 - 3 user buttons
 - 3 user LED

2. Related documents

Introduction to the CM32M433R: see previous chapter

CM32M433R-START development board schematic:

<https://www.rvmcu.com/app/quickstart/skins/default/doc/cm32m433r-start-sch.pdf>

CM32M433R-START development board user manual:

<https://www.rvmcu.com/app/quickstart/skins/default/doc/CM32M433R-START-User-Manual-V1.pdf>

3. Purchase links

Taobao: <https://item.taobao.com/item.htm?id=671656606437>

Aliexpress: <https://www.aliexpress.com/item/1005004333840765.html>