

# RISC-V 操作系统支持矩阵概述与使用

测试团队

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# Section 1

## 简介

# 支持矩阵

- 支持矩阵目前是RISC-V开发板x操作系统的一个支持列表、安装文档和测试结果的一个集合体。
- 包含了市面上常见RISC-V开发板及其镜像的信息
- 拥有各类开发板系统镜像的安装教程
- 开发板开发环境搭建教程
- 对无法工作的镜像给予测试反馈和标明

仓库: <https://github.com/ruyisdk/support-matrix/>

| CPU             | IP Core                                    | Product/Model                | alpine | arch linux | amibian                    | bsdroot | debian | deepin | deepi | ewave | fedoras                          | gentoo | iradrian | linux | openanolis | opencloudos | openmuler | openylin | openuse | openwet | postmarketos | slackware | ubuntu                    | yocto                     |
|-----------------|--|------------------------------|--------|------------|----------------------------|---------|--------|--------|-------|-------|----------------------------------|--------|----------|-------|------------|-------------|-----------|----------|---------|---------|--------------|-----------|---------------------------|---------------------------|
| D1 (D1-H)       | XuanTie C066                               | AIOL Necha                   | -      | Basic      | -                          | -       | Good   | -      | -     | -     | Basic                            | -      | -        | -     | -          | -           | Basic     | -        | Basic   | Basic   | -            | -         | main: Basic<br>LTS: Basic | -                         |
| Key Stone K1    | SpaceT X80                                 | BIT-BRICK K1                 | -      | -          | Basic                      | -       | -      | -      | -     | -     | -                                | -      | -        | -     | -          | -           | -         | -        | -       | -       | -            | -         | -                         | -                         |
| Key Stone K1    | SpaceT X80                                 | BananaPi BPi-F3              | Basic  | -          | main: Basic<br>main: Basic | -       | -      | -      | -     | -     | Basic                            | -      | -        | -     | -          | -           | -         | Good     | -       | Basic   | -            | -         | -                         | -                         |
| TH1520          | XuanTie C010 + XuanTie C066 + XuanTie E002 | BeagleV Ahead                | -      | -          | -                          | -       | -      | -      | -     | -     | -                                | -      | -        | -     | -          | -           | -         | -        | CFT     | -       | -            | -         | CFT                       | CFT                       |
| MPF9205T        | Sifive U54 + Sifive E51                    | BeagleV Fire                 | -      | -          | -                          | -       | -      | -      | -     | -     | -                                | -      | -        | -     | -          | -           | -         | -        | -       | -       | -            | -         | -                         | CFT                       |
| K230            | XuanTie C066                               | CanMV K230                   | -      | -          | -                          | -       | Basic  | -      | -     | -     | Basic                            | -      | -        | -     | -          | -           | -         | -        | -       | -       | -            | -         | -                         | Basic                     |
| K310            | K310 (7)                                   | Canaan K310-CHB-V1.2 KIT     | -      | -          | -                          | Basic   | -      | -      | -     | -     | -                                | -      | -        | -     | -          | -           | -         | -        | -       | -       | -            | -         | -                         | -                         |
| D1s             | XuanTie C066                               | D1s Necha                    | -      | -          | -                          | -       | -      | -      | -     | -     | -                                | -      | -        | -     | -          | -           | -         | -        | -       | -       | -            | -         | -                         | main: CFT<br>LTS: CFT     |
| D1 (D1-H)       | XuanTie C066                               | DongtongPi Necha S1U         | -      | CFT        | -                          | CFT     | Basic  | -      | -     | -     | CFT                              | Basic  | -        | -     | -          | -           | -         | -        | -       | Basic   | Basic        | -         | -                         | -                         |
| U740            | Sifive U74 + Sifive S7                     | HFive Unmatched              | -      | -          | CFT                        | -       | Basic  | CFT    | -     | -     | Basic                            | -      | -        | -     | -          | -           | Good      | Good     | Basic   | Basic   | -            | -         | main: CFT<br>LTS: CFT     | -                         |
| CV1812H         | XuanTie C066                               | Huashan Pi                   | -      | -          | -                          | CFT     | -      | -      | -     | -     | -                                | -      | -        | -     | -          | -           | -         | -        | -       | -       | -            | -         | -                         | -                         |
| TH1520          | XuanTie C010 + XuanTie C066 + XuanTie E002 | Lichee Cluster 4A            | -      | -          | Basic                      | -       | -      | -      | -     | -     | Basic                            | -      | -        | -     | -          | -           | -         | Basic    | Basic   | Basic   | -            | -         | -                         | WP                        |
| D1 (D1-H)       | XuanTie C066                               | Lichee RV Dock               | -      | Basic      | -                          | -       | Good   | -      | -     | -     | -                                | -      | -        | Basic | Basic      | -           | Basic     | -        | Basic   | Basic   | -            | -         | -                         | main: Basic<br>LTS: Basic |
| TH1520          | XuanTie C010 + XuanTie C066 + XuanTie E002 | LicheePi 4A                  | -      | Good       | Basic                      | -       | Good   | -      | -     | -     | cheaper: Basic<br>minimal: Basic | -      | -        | Basic | -          | -           | Good      | Good     | -       | Basic   | -            | -         | -                         | WP                        |
| 902002          | XuanTie C006 + ARM Cortex A33              | LicheeRV Nano                | Basic  | -          | -                          | Basic   | Basic  | -      | -     | -     | Basic                            | Basic  | Basic    | Basic | -          | -           | -         | -        | -       | -       | -            | -         | -                         | -                         |
| D1 (D1-H)       | XuanTie C066                               | MangoPi MQ Pro               | -      | CFT        | CFT                        | -       | Basic  | -      | -     | -     | Basic                            | Basic  | Basic    | Basic | -          | -           | -         | Basic    | Basic   | Basic   | Basic        | Basic     | Basic                     | -                         |
| 902002          | XuanTie C006 + ARM Cortex A33              | Mik-V Duo (256K)             | CFT    | Basic      | -                          | Basic   | Basic  | -      | -     | -     | Basic                            | -      | -        | Basic | -          | -           | Basic     | -        | Basic   | -       | -            | -         | Basic                     | Basic                     |
| CV1800H         | XuanTie C066                               | Mik-V Duo (512K)             | Basic  | Basic      | -                          | Basic   | Basic  | -      | -     | -     | Basic                            | -      | -        | Basic | -          | -           | Basic     | -        | CFT     | -       | -            | -         | Basic                     | Basic                     |
| 902002          | XuanTie C006 + ARM Cortex-A33              | Mik-V Duo S                  | -      | Basic      | -                          | Basic   | Basic  | -      | -     | -     | Basic                            | -      | -        | Basic | -          | -           | -         | -        | Basic   | -       | -            | -         | -                         | -                         |
| Key Stone K1/M1 | SpaceT X80                                 | Mik-V Jupiter                | -      | -          | -                          | -       | -      | -      | -     | -     | CFT                              | -      | -        | -     | -          | -           | -         | -        | -       | Basic   | -            | -         | -                         | CFT                       |
| J40110          | Sifive U74 + Sifive S7 + Sifive E24        | Mik-V Mars                   | -      | -          | -                          | Basic   | Basic  | Good   | -     | -     | -                                | -      | -        | -     | -          | -           | -         | -        | -       | -       | -            | -         | -                         | main: Basic<br>LTS: Basic |
| ECV7105X        | Sifive P550                                | Mik-V Megrez                 | -      | -          | -                          | -       | -      | -      | -     | -     | CFT                              | -      | -        | -     | -          | -           | -         | -        | -       | -       | -            | -         | -                         | -                         |
| 7SL100M         | Nucleo U0808                               | Mik-V Vega                   | -      | -          | -                          | CFT     | -      | -      | -     | -     | -                                | -      | -        | -     | -          | -           | -         | -        | -       | -       | -            | -         | -                         | -                         |
| PC68GX1000-VFCS | Sifive U54 + Sifive E51                    | PC68GX1000 Curiosity Kit     | -      | -          | -                          | -       | -      | -      | -     | -     | -                                | -      | -        | -     | -          | -           | -         | -        | -       | -       | -            | -         | main: CFT<br>LTS: CFT     |                           |
| 902042          | XuanTie C020                               | Pioneer Box                  | -      | -          | -                          | -       | Good   | -      | -     | -     | Good                             | -      | -        | -     | -          | WP          | Basic     | Good     | -       | -       | -            | -         | -                         | -                         |
| MPF9205T        | Sifive U54 + Sifive E51                    | PolarFire FPGA SoC Iocle Ki1 | -      | CFT        | -                          | Basic   | -      | -      | -     | -     | -                                | -      | -        | -     | -          | -           | -         | -        | -       | -       | -            | -         | main: CFT<br>LTS: CFT     | Basic                     |
| BL808           | XuanTie C006 + XuanTie E007 + XuanTie E002 | Speed M10 Dock               | -      | -          | -                          | Basic   | -      | -      | -     | -     | -                                | -      | -        | -     | -          | -           | -         | -        | -       | -       | -            | -         | -                         | -                         |
| J40110          | Sifive U74 + Sifive S7 + Sifive E24        | StarKit                      | -      | CFT        | CFT                        | CFT     | CFT    | CFT    | -     | -     | CFT                              | -      | -        | -     | -          | -           | CFT       | CFT      | CFT     | CFT     | -            | -         | -                         | CFT                       |
| J40110          | Sifive U74 + Sifive E24                    | VisionFire                   | CFT    | -          | Basic                      | Basic   | -      | Basic  | -     | -     | Good                             | -      | -        | -     | -          | -           | Good      | Good     | Basic   | Basic   | -            | -         | -                         | Basic                     |
| J40110          | Sifive U74 + Sifive S7 + Sifive E24        | VisionFire 2                 | Basic  | Basic      | Good                       | Basic   | Good   | Basic  | Basic | Basic | Good                             | Basic  | Basic    | Basic | -          | -           | Good      | Good     | Basic   | Basic   | -            | -         | -                         | main: Basic<br>LTS: Basic |

Figure 1: Linux 发行版

| CPU             | IP Core                                    | Product/Model        | bianbu | redleafos | revyos        | rockos | tina-linux |
|-----------------|--|----------------------|--------|-----------|---------------|--------|------------|
| D1 (D1-H)       | XuanTie C906                               | AWOL Nezha           | -      | -         | -             | -      | Basic      |
| Key Stone K1    | SpacemiT X60                               | BIT-BRICK K1         | Good   | -         | -             | -      | -          |
| Key Stone K1    | SpacemiT X60                               | BananaPI BPI-F3      | Basic  | -         | -             | -      | -          |
| TH1520          | XuanTie C910 + XuanTie C906 + XuanTie E902 | BeagleV-Ahead        | -      | -         | CFT           | -      | -          |
| D1s             | XuanTie C906                               | D1s NeZha            | -      | -         | -             | -      | CFT        |
| D1s             | XuanTie C906                               | DongShanPI D1s       | -      | -         | -             | -      | CFT        |
| D1 (D1-H)       | XuanTie C906                               | DongshanPI-Nezha STU | -      | -         | -             | -      | Basic      |
| TH1520          | XuanTie C910 + XuanTie C906 + XuanTie E902 | Lichee Cluster 4A    | -      | -         | sipeed: Basic | -      | -          |
|                 |  |                      |        |           | lpi4a: Basic  |        |            |
|                 |  |                      |        |           | main: Basic   |        |            |
| TH1520          | XuanTie C910 + XuanTie C906 + XuanTie E902 | Lichee Console 4A    | -      | -         | Good          | -      | -          |
| D1 (D1-H)       | XuanTie C906                               | Lichee RV Dock       | -      | -         | -             | -      | Basic      |
| TH1520          | XuanTie C910 + XuanTie C906 + XuanTie E902 | LicheePi 4A          | -      | -         | Good          | -      | -          |
| D1 (D1-H)       | XuanTie C906                               | MangoPi MQ Pro       | -      | -         | -             | -      | CFT        |
| D1s             | XuanTie C906                               | Mangopi MQ           | -      | -         | -             | -      | CFT        |
| Key Stone K1/M1 | SpacemiT X60                               | Milk-V Jupiter       | Good   | -         | -             | -      | -          |
| EIC7700X        | SiFive P550                                | Milk-V Megrez        | -      | -         | -             | Good   | -          |
| TH1520          | XuanTie C910 + XuanTie C906 + XuanTie E902 | Milk-V Meles         | -      | -         | Good          | -      | -          |
| SG2042          | XuanTie C920                               | Pioneer Box          | -      | -         | Good          | -      | -          |

Figure 2: 定制 Linux 发行版

| CPU       | IP Core                             | Product/Model                 | freebsd | netbsd | openbsd |
|-----------|-------------------------------------|-------------------------------|---------|--------|---------|
| D1 (D1-H) | XuanTie C906                        | DongshanPI-Nezha STU          | Basic   | -      | -       |
| U740      | SiFive U74 + SiFive S7              | HiFive Unmatched              | Basic   | -      | Basic   |
| D1 (D1-H) | XuanTie C906                        | MangoPi MQ Pro                | Basic   | CFT    | -       |
| MPFS250T  | SiFive U54 + SiFive E51             | PolarFire FPGA SoC Icicle Kit | -       | -      | CFT     |
| JH7100    | SiFive U74 + SiFive E24             | VisionFive                    | -       | -      | Basic   |
| JH7110    | SiFive U74 + SiFive S7 + SiFive E24 | VisionFive 2                  | WIP     | Basic  | Basic   |

**Figure 3: \*BSD 系统**

| CPU               | IP Core                                    | Product/Model                 | freertos                  | liteos | melis | nuttx | rt-thread                       | threadx | uc/os-ii | uniprotom | zephyr |
|-------------------|--|-------------------------------|---------------------------|--------|-------|-------|---------------------------------|---------|----------|-----------|--------|
| V853              | XuanTie E907 + ARM Cortex-A7               | 100ASK-V853-PRO               | -                         | -      | CFT   | -     | -                               | -       | -        | -         | -      |
| D1 (D1-H)         | XuanTie C906                               | AWOL Nezha                    | -                         | -      | -     | -     | CFT                             | -       | -        | -         | -      |
| V853              | XuanTie E907 + ARM Cortex-A7               | AIWinner V853                 | -                         | -      | CFT   | -     | -                               | -       | -        | -         | -      |
| CH32V103          | QingKe V3A                                 | CH32V103-EVT                  | main: Basic<br>pio: Basic | -      | -     | -     | Basic                           | -       | -        | -         | -      |
| CH32V203          | QingKe V4B                                 | CH32V203-EVT                  | Basic                     | -      | -     | -     | Basic                           | -       | -        | -         | -      |
| CH32V206          | QingKe V4C                                 | CH32V206-EVT                  | Basic                     | Basic  | -     | -     | Basic                           | -       | -        | -         | -      |
| CH32V303          | QingKe V4F                                 | CH32V303-EVT                  | Basic                     | -      | -     | -     | Basic                           | -       | -        | -         | -      |
| CH32V305          | QingKe V4F                                 | CH32V305-EVT                  | Basic                     | -      | -     | -     | Basic                           | -       | -        | -         | -      |
| CH32V307          | QingKe V4F                                 | CH32V307-EVT                  | Basic                     | Basic  | -     | -     | Basic                           | -       | -        | -         | -      |
| CH573F            | QingKe V3A                                 | CH573F-EVT                    | CFT                       | -      | -     | -     | CFT                             | -       | -        | -         | -      |
| CH582F            | QingKe V4A                                 | CH582F-EVT                    | Basic                     | -      | -     | -     | Basic                           | -       | -        | -         | -      |
| CH592K            | QingKe V4C                                 | CH592K-EVT                    | Basic                     | -      | -     | -     | Basic                           | -       | -        | -         | -      |
| CM32M433R         | Nuclei N308                                | CM32M433R-START               | CFT                       | -      | -     | -     | CFT                             | -       | -        | -         | -      |
| K230              | XuanTie C906                               | CanMV K230                    | -                         | -      | -     | Basic | Basic                           | -       | -        | -         | -      |
| D1s               | XuanTie C906                               | D1s Nezha                     | -                         | -      | -     | -     | CFT                             | -       | -        | -         | -      |
| D1s               | XuanTie C906                               | DongshanPI D1s                | -                         | -      | -     | -     | CFT                             | -       | -        | -         | -      |
| D1 (D1-H)         | XuanTie C906                               | DongshanPI-Nezha STU          | -                         | -      | -     | -     | CFT                             | -       | -        | -         | -      |
| U740              | SiFive U74 + SiFive S7                     | HiFive Unmatched              | -                         | -      | -     | -     | -                               | -       | -        | -         | Basic  |
| D1 (D1-H)         | XuanTie C906                               | Lichee RV Dock                | -                         | -      | -     | -     | CFT                             | -       | -        | -         | -      |
| SG2002            | XuanTie C906 + ARM Cortex-A53              | LicheeRV Nano                 | Basic                     | -      | -     | -     | -                               | -       | -        | -         | -      |
| GD32VF103         | Nuclei Bumblebee                           | Longan Nano                   | Basic                     | -      | -     | -     | Basic                           | Basic   | Basic    | -         | Basic  |
| D1 (D1-H)         | XuanTie C906                               | MangoPI MQ Pro                | -                         | -      | -     | -     | CFT                             | -       | -        | -         | -      |
| D1s               | XuanTie C906                               | Mangopi MQ                    | -                         | -      | -     | -     | CFT                             | -       | -        | -         | -      |
| SG2002            | XuanTie C906 + ARM Cortex-A53              | Mik-V Duo (256M)              | Basic                     | -      | -     | -     | standard: Basic<br>smart: Basic | -       | -        | -         | Basic  |
| CV1800B           | XuanTie C906                               | Mik-V Duo (64M)               | Basic                     | -      | -     | -     | standard: Basic<br>smart: Basic | Basic   | -        | Basic     | Basic  |
| SG2000            | XuanTie C906 + ARM Cortex-A53              | Mik-V Duo S                   | Basic                     | -      | -     | Basic | standard: Basic<br>smart: Basic | -       | -        | -         | Basic  |
| JH7110            | SiFive U74 + SiFive S7 + SiFive E24        | Mik-V Mms                     | -                         | -      | -     | CFT   | -                               | -       | -        | -         | -      |
| GD32VF103         | Nuclei Bumblebee                           | Nuclei D0R200T                | CFT                       | -      | -     | -     | CFT                             | -       | -        | -         | -      |
| PIC64GX1000-VIFCS | SiFive U54 + SiFive E51                    | PIC64GX Curiosity Kit         | -                         | -      | -     | -     | -                               | -       | -        | -         | CFT    |
| MPFS250T          | SiFive U54 + SiFive E51                    | PolarFire FPGA SoC Isicle Kit | CFT                       | -      | -     | -     | CFT                             | -       | -        | -         | CFT    |
| R128-S2           | XuanTie C906                               | R128-EVT                      | CFT                       | -      | -     | -     | -                               | -       | -        | -         | -      |
| GD32VF103         | Nuclei Bumblebee                           | RV-STAR                       | CFT                       | -      | -     | -     | CFT                             | -       | -        | -         | -      |
| BL702             | SiFive E24                                 | Speed M0 sense                | Basic                     | -      | -     | -     | Basic                           | -       | -        | -         | -      |
| BL618             | XuanTie E907                               | Speed M0P Dock                | Basic                     | -      | -     | -     | -                               | -       | -        | -         | -      |
| BL616             | XuanTie E907                               | Speed M0s Dock                | Basic                     | -      | -     | -     | -                               | -       | -        | -         | -      |
| BL808             | XuanTie C906 + XuanTie E907 + XuanTie E902 | Speed M1s Dock                | Basic                     | -      | -     | -     | -                               | -       | -        | -         | -      |
| K210              | K210 (?)                                   | Speed Mail-Bit                | Basic                     | -      | -     | Basic | Basic                           | -       | -        | -         | -      |
| JH7110            | SiFive U74 + SiFive S7 + SiFive E24        | Star64                        | -                         | -      | -     | CFT   | -                               | -       | -        | -         | -      |
| GD32VF103         | Nuclei Bumblebee                           | TYGO T-Display-GD32           | Basic                     | -      | -     | -     | Basic                           | Basic   | Basic    | -         | -      |
| AE350             | AndesCore AX45MP                           | Tang Mega 138K                | Basic                     | -      | -     | -     | Basic                           | -       | -        | -         | CFH    |
| V851se            | XuanTie E907 + ARM Cortex-A7               | TinyVision                    | -                         | -      | -     | CFT   | -                               | -       | -        | -         | -      |
| JH7110            | SiFive U74 + SiFive S7 + SiFive E24        | VisionFive 2                  | -                         | -      | -     | Basic | Basic                           | -       | -        | -         | CFH    |
| V851s             | XuanTie E907 + ARM Cortex-A7               | YuzukiHD-Lizard               | -                         | -      | -     | CFI   | -                               | -       | -        | -         | -      |



## Section 2

**前端**

# 支持矩阵前端展示

目前，支持矩阵新的前端已经编写完成。网址目前为：<https://verforte.vercel.app/>

该前端目前支持：

- 支持矩阵的展示
- 开发板、芯片、镜像搜索
- 最近更新动态
- i18n文档
- ...

## Section 3

### 刷写演示

# 支持矩阵演示

当前支持矩阵中新增了 openHarmony SDK 的支持，可以根据文档在 BPI-F3 上编译、刷写并启动。

演示

同时，对于某些系统，其本身并未提供镜像，而是需要手动进行构建组装。如 Milk-V Duo256m 上的 openEuler 就可以从这种方式中编译出现。

演示