



StarFive
赛昉科技

StarFive VisionFive 2 Landing Page

Version: 1.0

Date: 2024/4/27

Legal Statements

Important legal notice before reading this documentation.

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Preface

About this guide and technical support information.

About this document

This landing page mainly provide users with all related resources and links about StarFive VisionFive 2 development board.

Audience

This landing page mainly serves all StarFive users, including information such as official commonly used tools, resources, and document links.






Revision History

Table 0-1 Revision History

Version	Released	Revision
1.0	2024/04/27	First official release.

Notes and notices

The following notes and notices might appear in this guide:

-  **Tip:**
Suggests how to apply the information in a topic or step.
-  **Note:**
Explains a special case or expands on an important point.
-  **Important:**
Points out critical information concerning a topic or step.
-  **CAUTION:**
Indicates that an action or step can cause loss of data, security problems, or performance issues.
-  **Warning:**
Indicates that an action or step can result in physical harm or cause damage to hardware.

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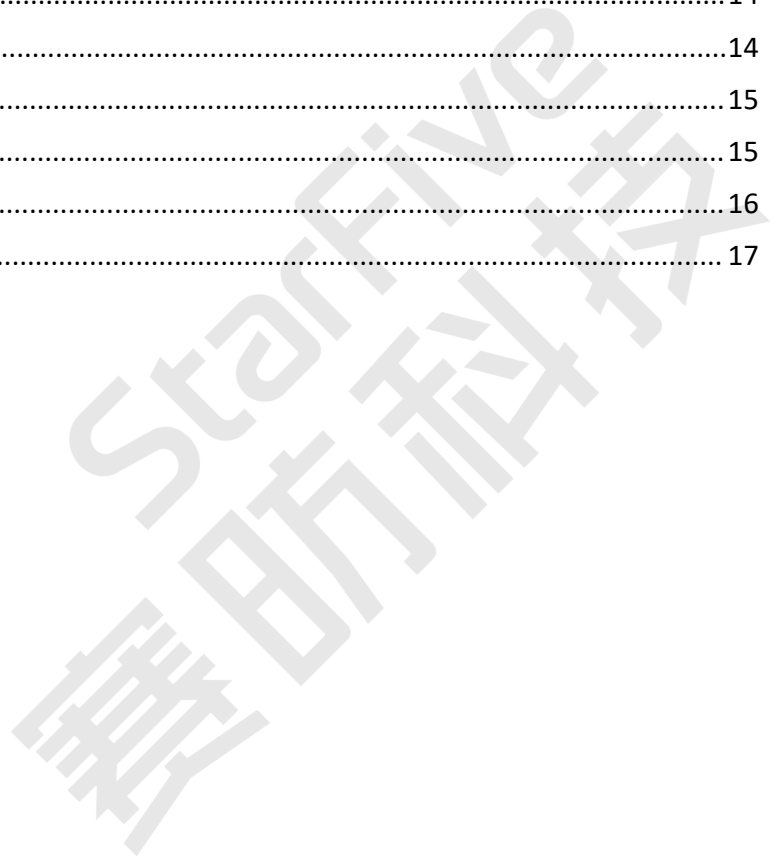
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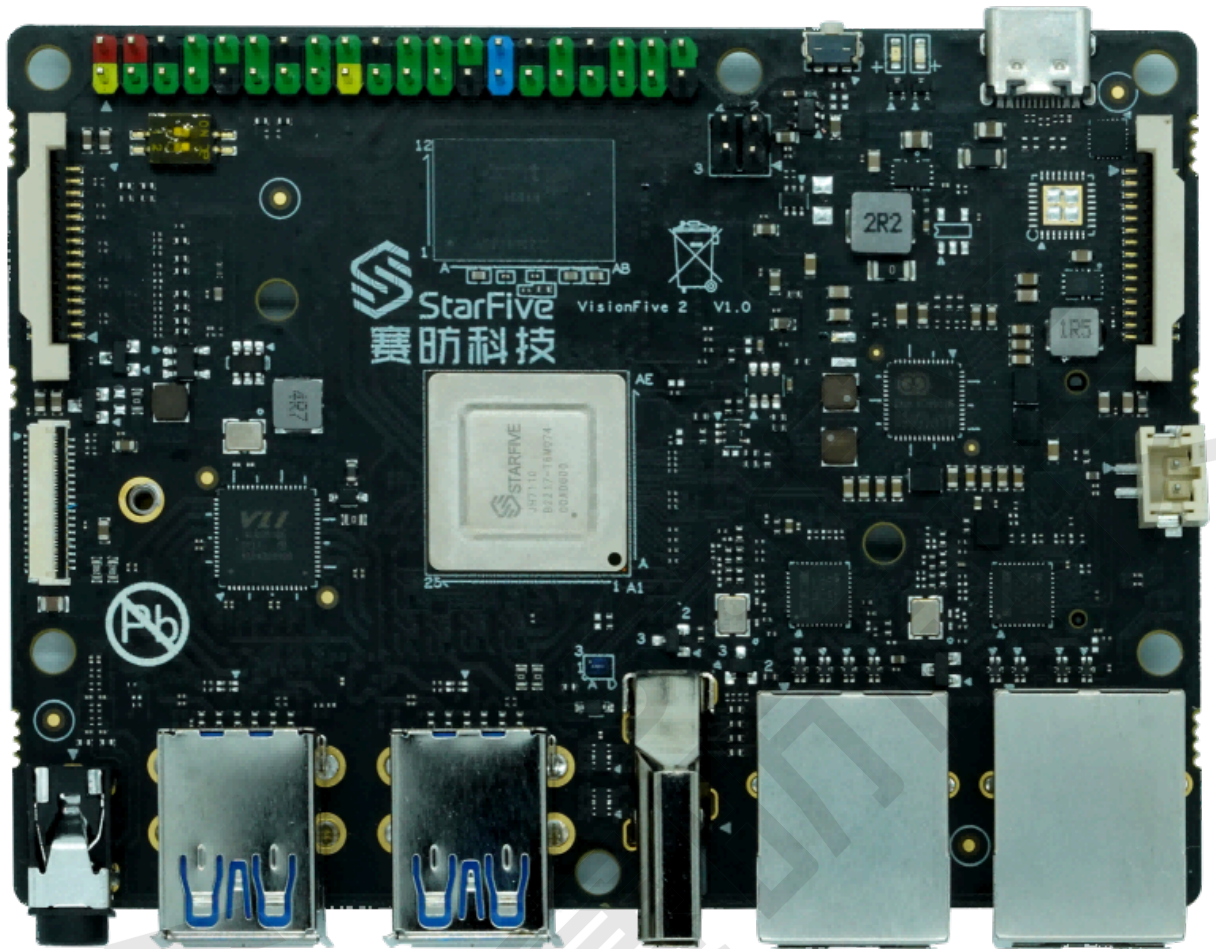


1. Introduction

This landing page mainly provide users with all related resources and links about StarFive VisionFive 2 development board.



2. Overview



VisionFive 2 is the world's first high-performance RISC-V single board computer (SBC) with an integrated GPU. Compared with its last generation, VisionFive 2 has been fully upgraded with significant improvements in the processor work frequency, multimedia processing capabilities, scalability, etc. Its superior performance and reasonable price make VisionFive 2 the best affordable RISC-V development board ever.

VisionFive 2 boasts a quad-core 64-bit SoC with RV64GC ISA, running up to 1.5 GHz, and integrated with IMG BXE-4-32 MC1, supporting OpenCL 3.0, OpenGL ES 3.2, and Vulkan 1.2. VisionFive 2 available with 2/4/8 GB LPDDR4 RAM options, provides rich I/O peripherals such as M.2 connector, eMMC socket, USB 3.0 ports, a 40-pin GPIO header, Gigabit Ethernet ports, a TF card slot, and many more. It has onboard audio and video processing capabilities and has MIPI-CSI and MIPI-DSI connectors as multimedia peripherals. The open source SBC also provides wide software compatibility including support for Debian, Ubuntu, OpenSUSE, OpenKylin, OpenEuler, Deepin and other software running on these operating systems.

2.1. Block Diagram

The following figure displays the block diagrams of VisionFive 2.

Figure 2-1 VisionFive 2 Block Diagram - Top View

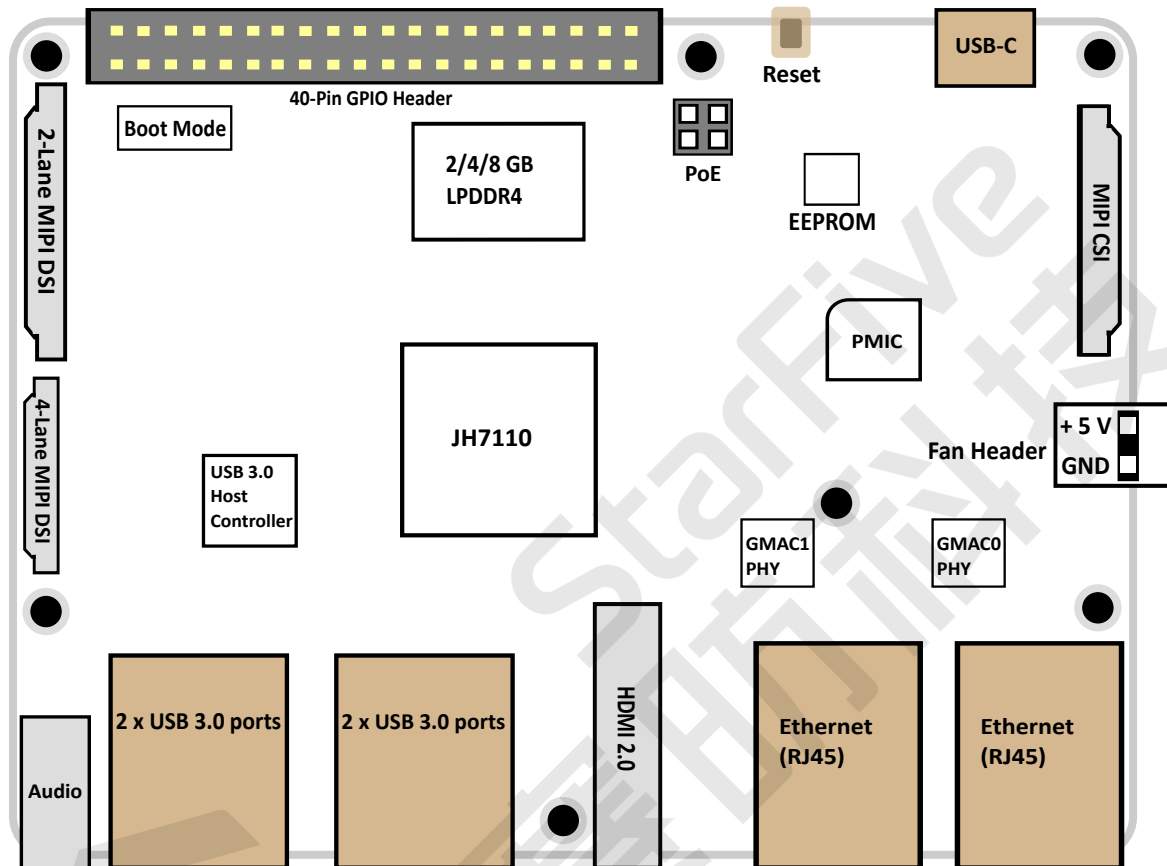
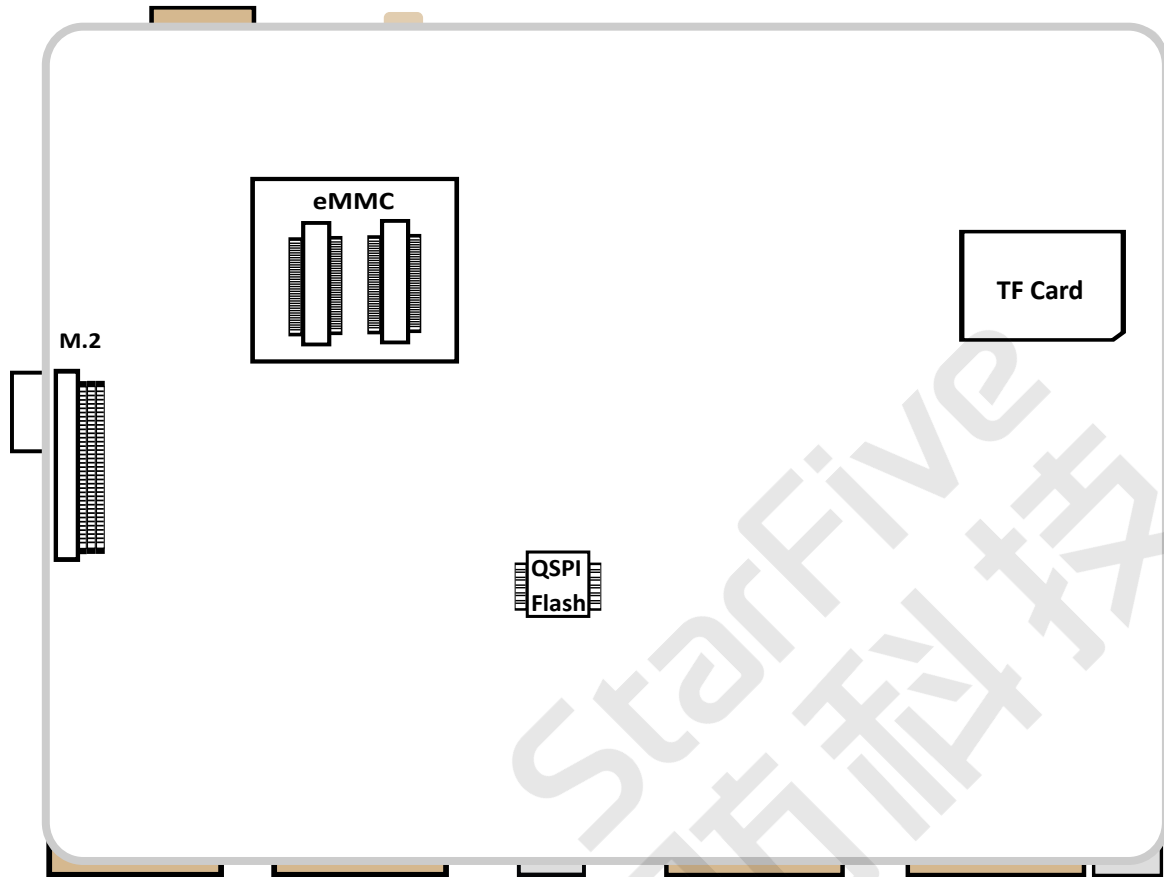


Figure 2-2 VisionFive 2 Block Diagram - Bottom View



3. Important Resources

This chapter has listed the important resources about VisionFive 2. You can rapidly get the information about VisionFive 2 by clicking the following links, and get start to use VisionFive 2.

Table 3-1 Important Resources

Resources	Path
RVspace Community	https://rvspace.org/en/home
About VisionFive 2	https://rvspace.org/en/homepage/product_center_sbc
Debian User Guide	https://wiki.rvspace.org/en/project/VisionFive2_Debian_User_Guide
Debian Download	https://debian.starfivetech.com/
Debian Release Notes	https://rvspace.org/en/project/Debian_Roadmap
SDK	https://github.com/starfive-tech/VisionFive2
Quick Start Guide	https://doc-en.rvspace.org/VisionFive2/Quick_Start_Guide/
SDK Quick Start Guide	https://doc-en.rvspace.org/VisionFive2/SDK_Quick_Start_Guide/
Software Technical Reference Manual	https://doc-en.rvspace.org/VisionFive2/SWTRM/
40-Pin GPIO Header User Guide	https://doc-en.rvspace.org/VisionFive2/40-Pin_GPIO_Header_UG/
Datasheet	https://doc-en.rvspace.org/VisionFive2/Datasheet/
Buy Accessories	https://rvspace.org/en/application/Accessories
FAQ	https://doc-en.rvspace.org/VisionFive2/FAQ/

4. Other All Resources

This chapter provides users with all relevant resources about VisionFive 2. Users can quickly access and browse all relevant information channels through the following links.

Table 4-1 Other All Resources

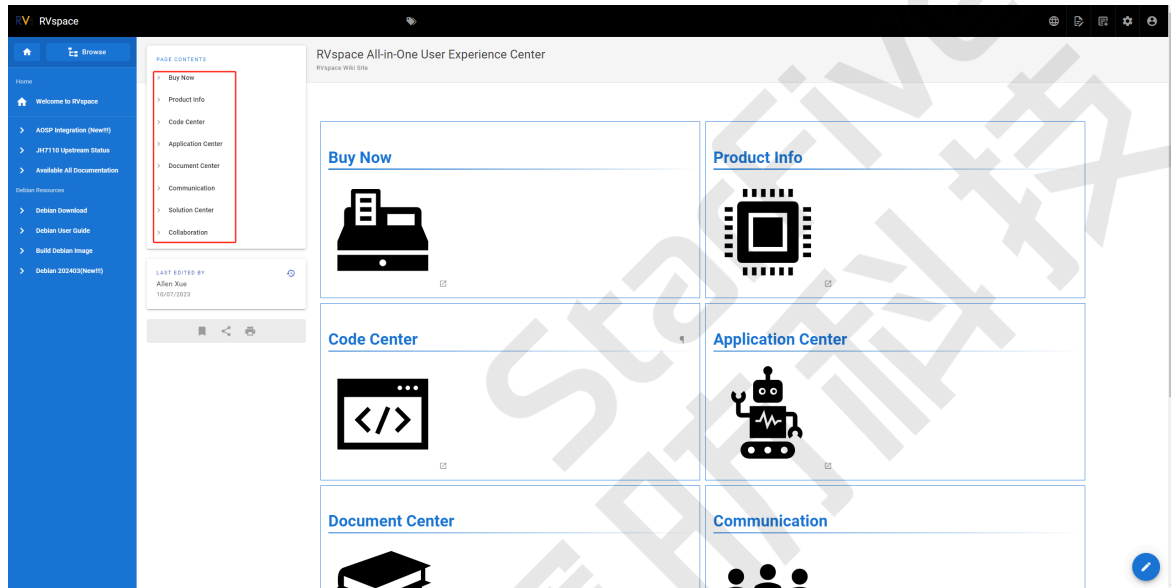
Resources	Path
RVspace Forum	https://forum.rvspace.org/
Application Center	https://rvspace.org/en/application/Application
Document Center	https://doc-en.rvspace.org/
Solution Center	https://rvspace.org/en/homepage/solution_center
Code Center	https://github.com/starfive-tech/
Collaboration	https://rvspace.org/en/homepage/sponsor_request
Available All Documentation	https://wiki.rvspace.org/en/project/Document_Publish_Status
Developing and Porting Guide	https://doc-en.rvspace.org/Doc_Center/sdk_developer_guide.html
Application Notes	https://doc-en.rvspace.org/Doc_Center/python_application_note.html
Object Detection Applications	https://doc-en.rvspace.org/VisionFive2_ApplicationNotes/link_AN_OB.html
Design Resources	https://doc-en.rvspace.org/Doc_Center/design_schematics.html

5. Rvspace User Guide

RVspace is the first all-in-one RISC-V user experience center supported by StarFive Team as well as one of the most active RISC-V developer communities in the world.

1. Click this [link](#) to browse RVspace page.
2. The homepage is the 8 centers of RVspace, and you can click to browse the content you are interested in according to your needs.

Figure 5-1 8 Centers




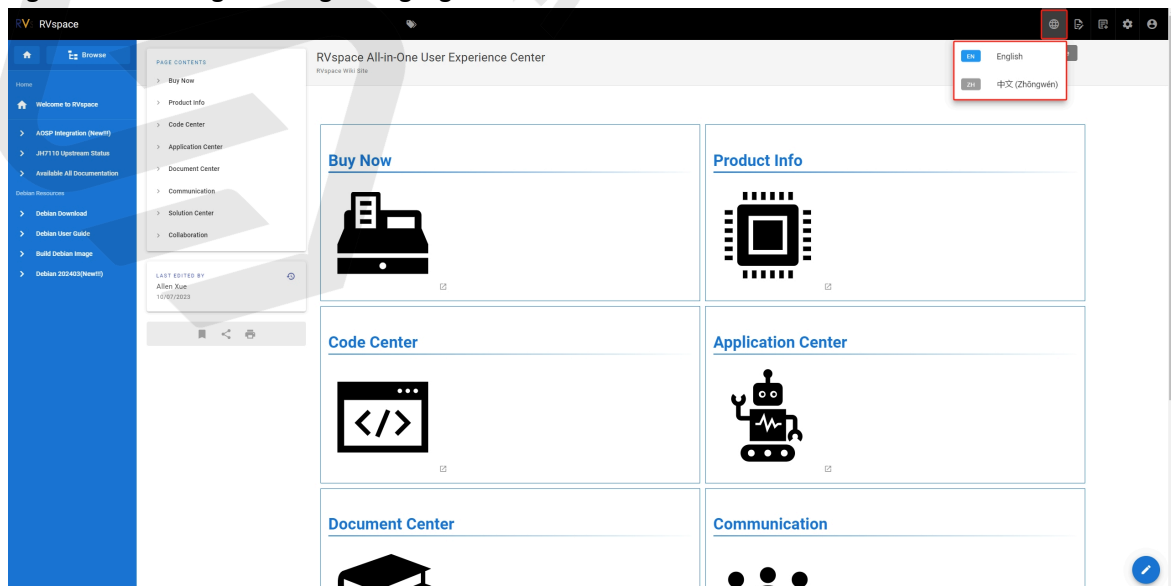
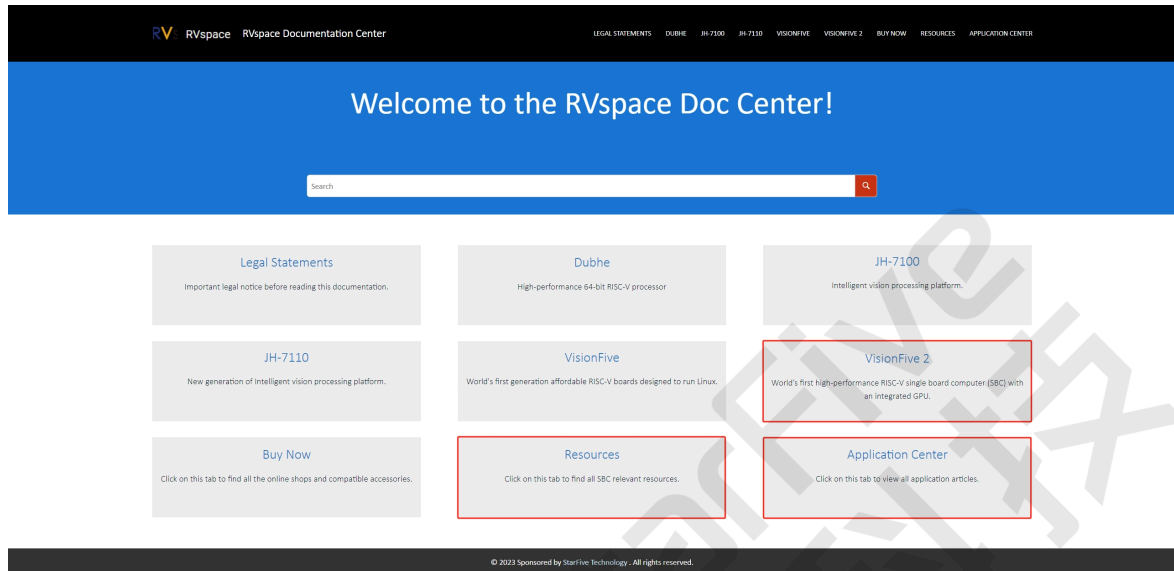
3. Language setting. You can choose your target language by choosing the  icon on upper right corner. You can choose Chinese or English language in RVspace.

Figure 5-2 Choosing Your Target Language



4. VisionFive 2Resource entrance. You can click **Document Center** and enter the homepage. In the below image, you can find the related resources about VisionFive 2 in **VisionFive 2, Resources and Application Center**.

Figure 5-3 Homepage




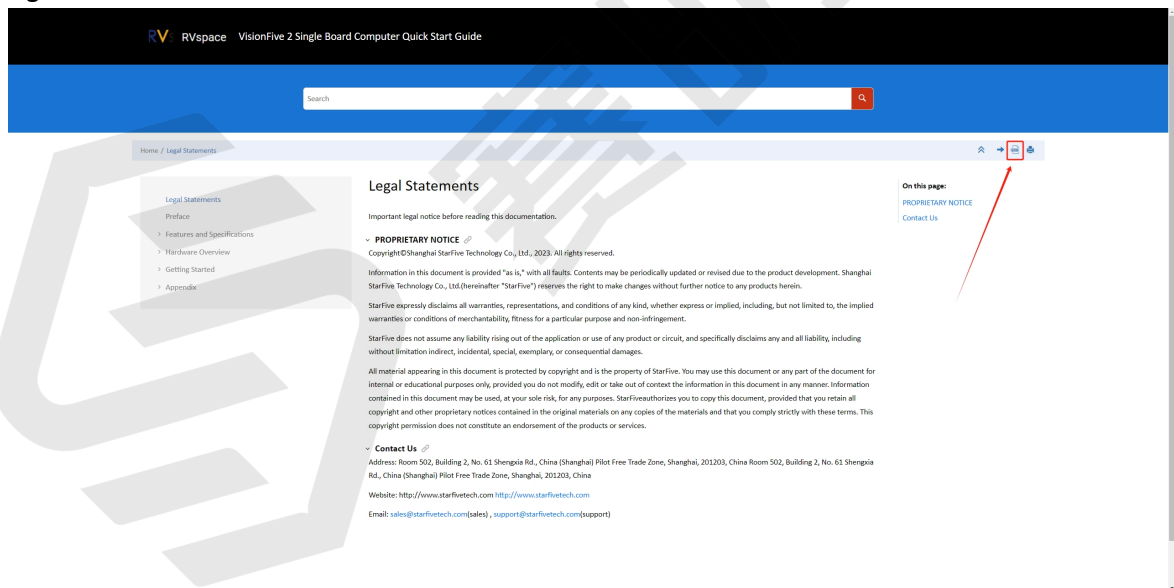
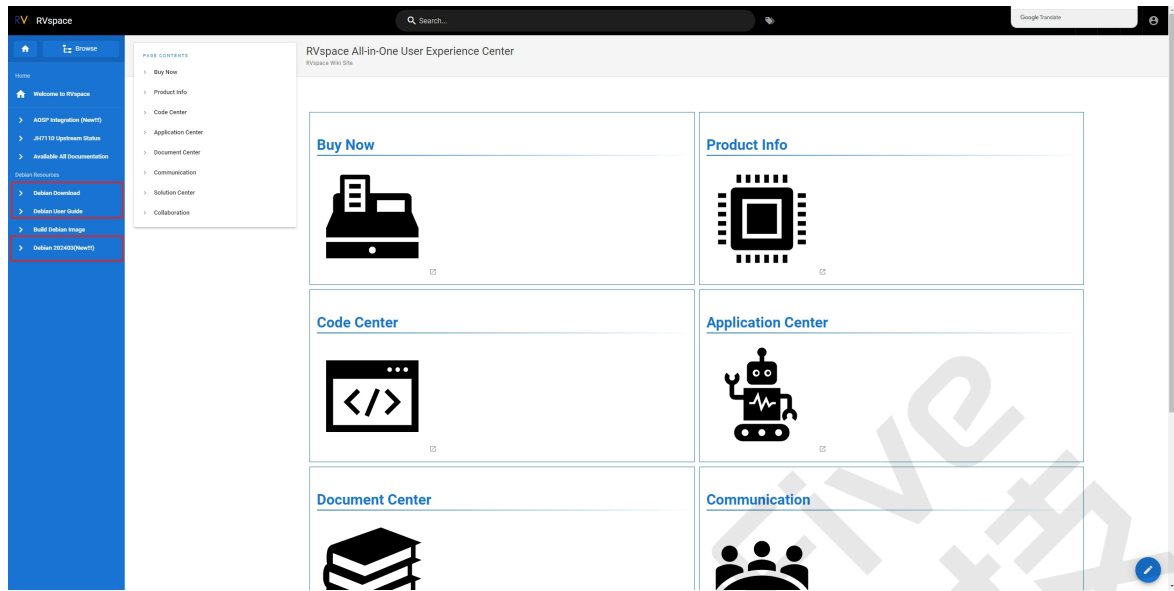
5. Download PDF document. After finding the document you need, click on the  icon in the upper right corner of the page to download the PDF document.

Figure 5-4 Download PDF Document



6. Debian usage. You can find the download link of Debian in RVspace homepage, and choose different functions according to your needs.

Figure 5-5 Debian Usage



7. SDK usage. You can click the **Code Center** in RVspace homepage and enter the StarFive official SDK page.

Figure 5-6 SDK Usage

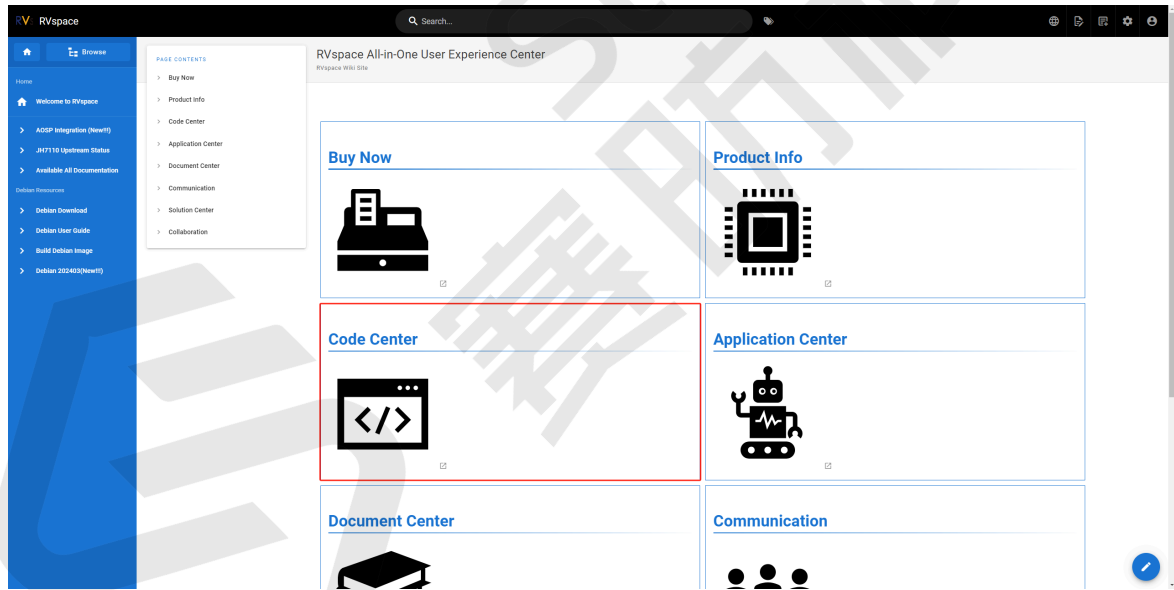


Figure 5-7 SDK Usage

The screenshot shows the GitHub repository page for `VisionFive2`. The repository is public and has 54 watches, 64 forks, and 386 stars. The current branch is `JH7110_VisionFi...` with 2 branches and 16 tags. The `Code` button is highlighted with a red box and an arrow pointing to the `Clone source code` button in the `Clone` dialog. The `Clone` dialog shows options for cloning via `HTTPS`, `SSH`, and `GitHub CLI`. The `SSH` option is selected, and the URL is `git@github.com:starfive-tech/VisionFive2.g...`. The `Clone` dialog is also highlighted with a red box and an arrow pointing to the `Clone source code` button. The `Tags` button is highlighted with a red box and an arrow pointing to the `Change version` text. The `Tags` dropdown menu is open, showing a list of tags: `VF2_6.1_v3.8.2`, `VF2_6.1_v3.7.5`, `VF2_v3.8.2`, `VF2_v3.7.5`, `VF2_v3.6.1`, `VF2_v3.4.5`, `VF2_v3.1.5`, `VF2_v3.0.4`, `VF2_v2.11.5`, and `VF2_v2.10.4`. The `Releases` section is highlighted with a red box and an arrow pointing to the `Check all release notes` text. The `Releases` section shows 13 releases, with the latest release being `VisionFive2 Software v3.9.3` (Latest) from last month. The `Check current version` text is also highlighted with a red box and an arrow pointing to the `VisionFive2 Software v3.9.3` release. The `README` button is highlighted with a red box and an arrow pointing to the `How to use SDK` text. The `README` section shows a list of files: `build.sh`, `build_soft_3rdpart.sh`, `fsz.sh`, `genimage.sh`, `post-build.sh`, and `pre-build.sh`. The `README` section also shows a list of commits: `Merge branch 'CR_1605_build_script' of 192.168.110.45:sd...`, `Building: modify build_soft_3rdpart.sh to add into rootfs image`, `Init first freedom-u-sdk for starlight`, `sdcard.img: generate sdcard image file for visionfive2`, `post build release script`, and `http://192.168.110.82/redmine/issues/1606`. The `Contributors` section shows 16 contributors. The `Languages` section shows a bar chart with `Makefile` at 64.5% and `Shell` at 35.5%.

8. RVspace technical forum. You can click **Communication** in RVspace homepage to enter StarFive official technical forum.

Figure 5-8 Forum Homepage

The screenshot displays the RVspace Forum Homepage. At the top, there is a navigation bar with the RVspace logo on the left and search, menu, and user profile icons on the right. Below the navigation bar, there are several filter buttons: 'all categories', 'all tags', 'Categories', 'Top', and 'Latest'. To the right of these buttons are a dropdown menu and a '+ New Topic' button.

The main content area is divided into two columns: 'Category' and 'Latest'. The 'Category' column lists several forum categories with their respective topic counts and unread/new topic counts. The 'Latest' column shows a list of recent posts with their titles, authors, and timestamps.

Category	Topics	Latest
VisionFive 2 (English Forum) Discussions around VisionFive 2. VisionFive 2 documentation: https://doc-en.rvspace.org/ ; VisionFive 2 Repository: https://github.com/starfive-tech/VisionFive2 ; Debian Image: https://debian.starfivetech.com/	608 87 unread 2 new	Welcome to RVspace 0 Sep '21
昉·星光 2 (中文论坛) VisionFive 2 category for Chinese speakers, and the posts and topics will be written in Chinese. 昉·星光 2 单板计算机的发布内容以及讨论均在此分类中进行。昉·星光 2 的代码仓库见以下地址: https://github.com/starfive-tech/VisionFive2 ; JH7110及昉·星光 2 的文档手册见以下地址: https://doc.rvspace.org/ ; 操作系统下载: https://debian.starfivetech.com/	214 14 unread 2 new	No output while trying Zephyr on VisionFive 2 2 1m ■ VisionFive 2 (English Forum) visionfive2, zephyr
Ecosystem Updates (生态双周报) Showcase the Ecosystem Updates every two weeks including news from StarFive, Collaboration with the community, and social media Internet updates.	39	Which SD card speeds does the VisionFive 2 support? 1 1h ■ VisionFive 2 (English Forum)
VisionFive (English Forum) For all topics and discussions around VisionFive Single Board Computer. VisionFive Wiki, please visit: RVspace Wiki Page ; VisionFive GitHub, please visit: StarFive GitHub ;	95 2 unread	VisionFive 2 Debian 202403 Released 13 2h ■ VisionFive 2 (English Forum) visionfive2, debian
昉·星光 (中文论坛) This is VisionFive category for Chinese speakers, and the posts and topics will be written in Chinese. 昉·星光	84	VF2-2403工程版Chromium103浏览器的汉字输入方法 0 11h ■ 昉·星光 2 (中文论坛) visionfive2, debian
		OpenPLC web page issue in VisionFive2 0 2d ■ VisionFive 2 (English Forum)
		VisionFive2中openplc页面问题 0 2d ■ 昉·星光 2 (中文论坛)