

Rockchip Bug System User Guide

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Preface

Overview

The Rockchip Bug system (redMine) is designed to record the process and status of problems of customers, so that both sides can track the problem at the same time, making problems handling more timely and more efficiently. Following up specific technical questions, technical consultation, etc., require customers submit issues to this Bug system, Rockchip technical support team will promptly distribute, process and track the issues.

Product Version

Chipset
All Rockchip Soc platforms

Intended Audience

This document (this guide) is mainly intended for:

Technical support engineers

Software development engineers

Revision History

Version	Author	Date	Change Description
V1.0.0	LB	2017-12-27	Initial version
V1.0.1	LB	2020-04-28	Added search function
V1.0.2	LB	2023-03-24	Update the application process
V1.1.0	LB	2023-07-28	Update the format
V1.1.1	LB	2023-11-15	Add documentation on the system
V1.1.2	LB	2024-02-23	Add the Settings on the system

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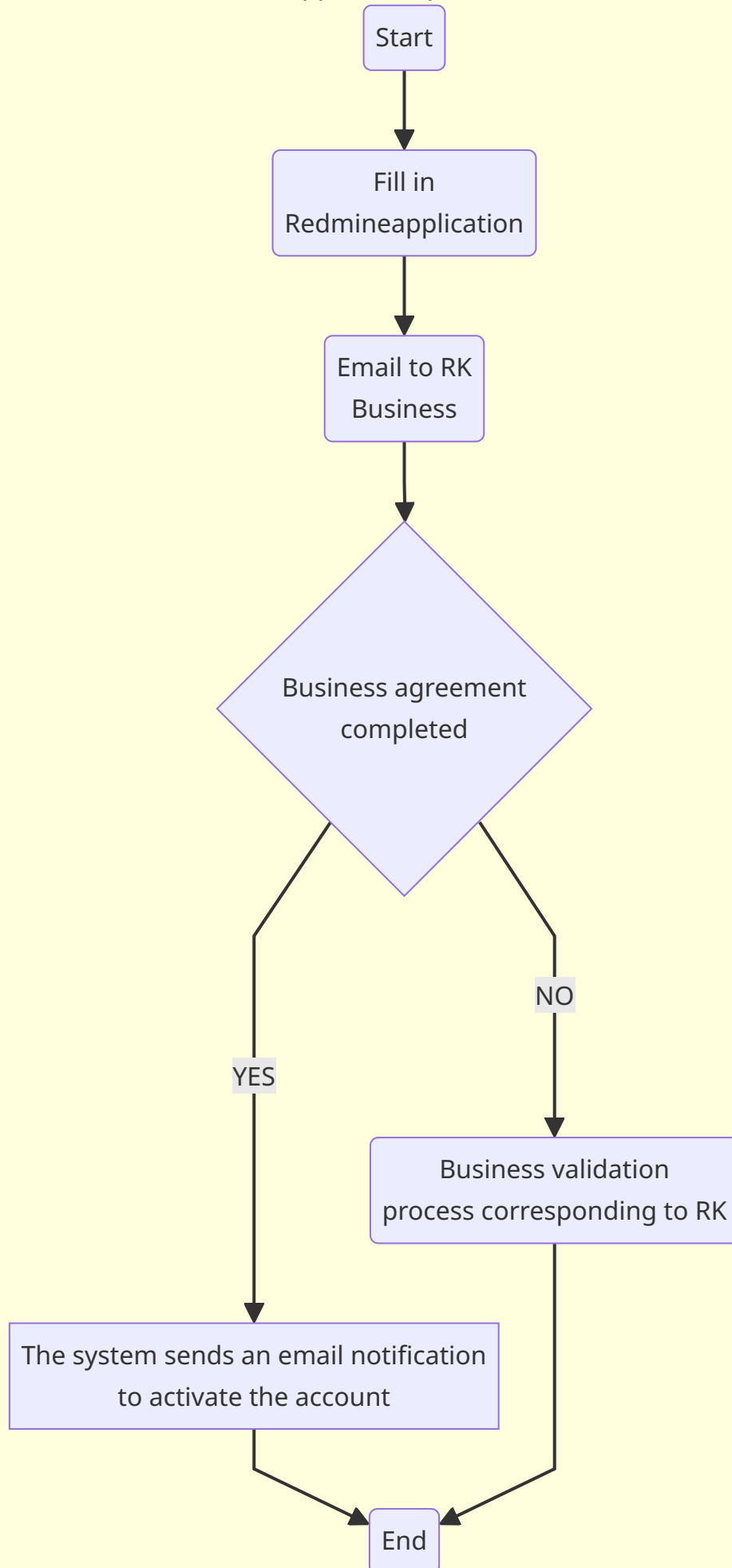
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1. Operating Manual

1.1 Application Process

Rockchip redmine system accesses website is: <https://redmine.rock-chips.com/>. Redmine accounts will be created by Rockchip system automatically, and the application process is as follows:

SDK Application process



As a rule, a user can only apply for one redmine account, and multiple redmine accounts can be opened according to special circumstances. For details, please communicate with the corresponding businesses or contacts of Rockchip, ask them to assist in applying and it will be opened after approval. For example: you have multiple Rockchip platform projects, or your department is large and relatively independent, which affects the inconvenient communication between us, etc..

1.2 Login Method

After you complete the above business process, Rockchip system will send an email notification "Rockchip Redmine account creation success" as follows:



Rockchip will send the created redmine account, initial password and associated email address to you by email, and then you can log in the redmine address directly.

1.3 Activate Account

Once you open the redmine link, use the login name and initial password provided by Rockchip to activate your account.



You have activated and logged in to your redmine through these steps, and then you can start your redmine journey.

1.4 Create a New Issue

After your account is activated, you can log in to Rockchip's redmine system and submit issues. The steps to create a new issue are as follows:

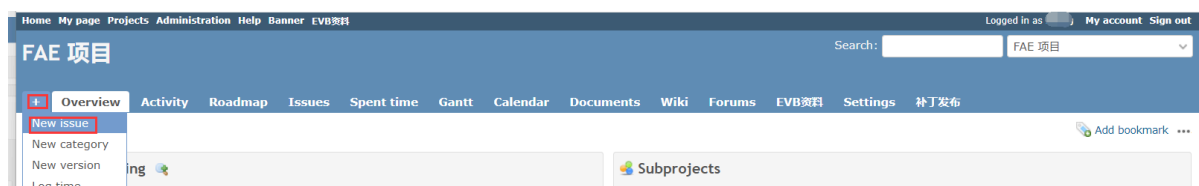
1.4.1 Select the FAE Project

Select "FAE Project" from the drop-down list at the top of the following page, as shown below:



1.4.2 Create a New Issue

a. In the following interface, click "+" in the red box "New question";



b. Then a text box "Redmine Notification" pops up. Please read the precautions carefully, which can improve your work efficiency; After reading, click the "确认" button to exit the notification text box;

[Redmine Notification]

[Redmine Notifications]

1. Before create a new issue

- A) Check the given document from SDK package. BaseDir/RKDoc.
- B) Do some research and check the answers of similar questions in record.
- C) Reproduce your issue (how the test was performed and where the defect occurred)

2. Create a new issue

, A) Please accurately describe the needs or phenomena, explain your analysis and troubleshooting process.

B) please provide logs, images or videos to help us understand this problem.

C) Please provide relevant driver code and profile

D) please provide relevant drawings for hardware issues.

3. After the issue is solved, please close it in time

If you resolve the problem through other channels or by yourself, please add detailed description of this issue and share your solutions with us.

4. Redmine document (next to new questions) has the following information for reference

A) DDR/FLASH/EMMC/CAMERA support list and related troubleshooting documents;

B) WIFI/BT/ETHERNET module support information

C) User instructions for other modules

5. Please send emails to us if you need to get access to below materials

A) Different SDK packages, need to apply separately to obtain synchronization permissions, please contact Zeng Yamin (sw.fae@rock-chips.com);

B) Software material requirements, SDK compression package copy, please contact Wei liujun (sw.fae@rock-chips.com);

C) For hardware information needs, please contact hw.fae@rock-chips.com.

Thanks for your kind cooperation!

确认

1.4.3 Fill in the Content of the Issue

When you enter the page of the created issue, you need to fill in the details of the problem, so that the technical personnel to solve the problem can understand the specific requirements of the problem only through this description, which can improve the work efficiency of both sides.

The screenshot shows the 'New issue' form in the FAE Project Management System. The form is organized into several sections: Project and Tracker information, Subject and Description (with a rich text editor), Status and Priority, Assignee and Category, Target version and RK chip dealer, Product type and Component_fae, Parent task, Start and Due dates, Estimated time, % Done, Name and Tel., and Probability of occurrence. There are also buttons for 'Create' and 'Create and add another'.

1.5 Attributes Introduction

Tracking : Contains defect, feature, support, and test. Please fill in the field according to the actual problem category.

Topic: Briefly describe the issue. Naming method: chip model +SDK version + summary description of the issue. For example, RK3588_Rockchip_Android13.0_SDK xx does not work.

Description: Please describe the issue in detail as much as possible: detailed steps for reproducing abnormal problems, detailed data of comparison, target data, status, preliminary analysis results, etc. Please provide log, screenshots, on-site photos or videos, etc. as attachments which cannot exceed 10M. If it exceeds 10M, please provide by other ways (like cloud storage link, etc.) to Rockchip for analysis;

State : 7 states including New, Confirmed, Feedback, Resolved, Closed, Hangup and Reopen are respectively:

- New: The issue you created;
- Confirmed: The issue has been assigned to the engineer to follow up, and the engineer is dealing with the problem.
- Feedback: Engineers provide feasible suggestions on the issue, not sure whether you accept or not;
- Resolved: The engineer believes that the issue has been resolved and awaits your verification.
- Closed: The problem is verified and solved. The issue is closed.
- Hungup: There is no very effective solution to the issue;
- Reopen: The issue is resolved and reappears later and needs to be reopened.

Priority: Divided into low, normal, emergency, immediate;

Target version : Please select the SDK version number used for this project;

RK chip dealer : The specific agent/distributor, if not clear, please consult the relevant person in charge;

Product type : Specific product type;

Component_fae : Select a module. If not sure, select others.

Seriousness : Severity of the problem, including Fatal, Serious, Bad, and Warning.

Problem-type : common issue, special issue, general issue, simple issue;

Contact information name & tel. : Please fill in the contact information of the engineer who submitted this problem, so as to further communicate and confirm the information and status of the issue;

Probability of occurrence: probability of occurrence;

After you submit the issue, Rockchip engineers will handle it. After the issue is fixed, please close the problem in time and change status of the issue to "Closed". If there are too many "unresolved" issues (e.g., you did not update the issue status after the solution provided by Rockchip), it will affect the processing speed of all issues you submit to the Redmine system..

1.6 Search Function

Rockchip has extracted common issues in the Bug system, making it easy for you to autonomously search and learn issues that have already been handled by Rockchip platform at any time. The link is: <https://redmine.rock-chips.com/projects/redmine-issues/issues>

1.7 Hardware Review

The first project you imported with Rockchip platform or the key project confirmed by Rockchip business, **It is strongly recommended to provide the schematic diagram and PCB layout diagram of this project for review by the Rockchip hardware engineers (these two files are required to provide original drawings, so that the review engineer can improve work efficiency and prevent omissions)** In the case of no special requirements of the project, Rockchip only checks once in principle (schematic and PCB Layout should be reviewed together). If you have special requirements, please send an email to the corresponding Rockchip contact person or business, and ask them to push the corresponding staff to cooperate.

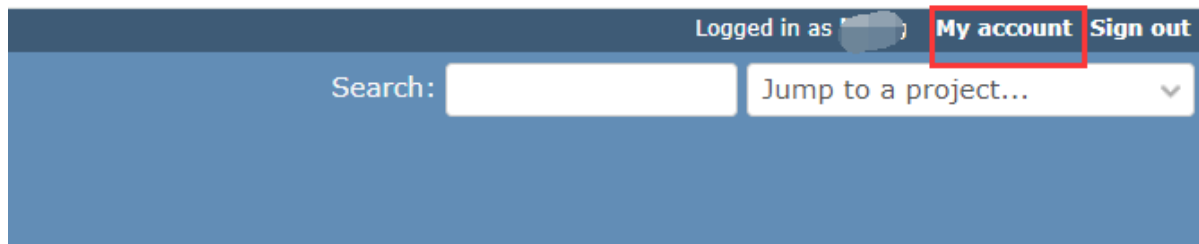
It is strongly recommended customers to use the DDR template provided by Rockchip (direct copy without any modification) , the DDR template provided is simulated, and has been produced by customers in large quantities, to ensure the stability and reliability of the system. Any changes must be submitted to Rockchip for confirmation, and contact Rockchip business coordination resource simulation, so as not to affect the progress of your project development

If you cannot provide the original documents of schematic diagram and PCB Layout for special reasons such as confidentiality, you can arrange the engineer to bring the drawings to Rockchip office for on-site review (This requires booking in advance: because the engineers who cooperate with the review of drawings may be assigned to Shenzhen, Fuzhou or Shanghai).

2. Multi-user

2.1 Brief Introduction

This paper introduces the personal account Settings of Redmine system, such as setting the basic information of personal account, language, simultaneous use of multiple emails, email notification status, etc. In the upper right corner of any Redmine interface, click on 'My Account';



Then enter the following "My account" setting page.

A screenshot of the 'My account' settings page in Redmine. The page has a title 'My account' and two sub-sections: 'Emails' and 'Change password'. The 'Information' section, highlighted with a red box, contains fields for 'First name *' (xx), 'Last name *' (x), 'Email *' (xx@xx.com), and 'Language' (English), with a 'Save' button below. The 'Email notifications' section, also highlighted with a red box, includes a dropdown for 'Only for things I watch or I'm involved in', a checkbox for 'I don't want to be notified of changes that I make myself', and a 'Preferences' section with options for 'Hide my email address', 'Time zone' (GMT+08:00 Beijing), 'Display comments' (In chronological order), 'Warn me when leaving a page with unsaved text' (checked), 'Font used for text areas' (Default font), 'Number of recently used projects in jump box' (3), and 'Issue's history default tab' (Notes).

2.2 Usage Method

2.2.1 Setting Basic Information

At the bottom of the "My Account" screen, you can set your first name, last name, and email address.

Information

First name * xx

Last name * x

Email * xx@xx.com

Language English

Save

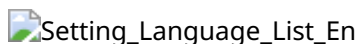
Note: Please use your specific company name and work email address to facilitate Rockchip identification and maintenance, so as not to affect the use of your company's account

2.2.2 Setting System Language

a. At the bottom of the "My account" screen, click and select the "Language" you want.



b. Select a specific language from the "Language" drop-down list and click "Save".



2.2.3 Setting Email Notification

You can set the content of Redmine system push email notification according to your project requirements.

a. On the right side of the "My account" interface, click "Email notification" from the drop-down list;

My account

Emails Change password

Information

First name * xx

Last name * x

Email * xx@xx.com

Language English

Save

Email notifications

Only for things I watch or I'm involved in

☐ I don't want to be notified of changes that I make myself

Preferences

Hide my email address ☐

Time zone (GMT+08:00) Beijing

Display comments In chronological order

Warn me when leaving a page with unsaved text ☒

Font used for text areas Default font

Number of recently used projects in jump box 3

Issue's history default tab Notes

b. According to your requirements, select the corresponding email notification. The following options are available:

- For any event on all my projects
- For any event on the selected projects only
- Only for things I watch or I'm involved in
- Only for things I watch or I am assigned to
- Only for things I watch or I am the owner of
- No events

The screenshot shows the 'My account' page with a 'Save' button and a 'Email notifications' dropdown menu. The dropdown menu is open, showing several options. The option 'Only for things I watch or I'm involved in' is highlighted in blue. Below the dropdown menu, there are several other settings: 'Time zone' (GMT+08:00 Beijing), 'Display comments' (In chronological order), 'Warn me when leaving a page with unsaved text' (checked), 'Font used for text areas' (Default font), 'Number of recently used projects in jump box' (3), and 'Issue's history default tab' (Notes).

c. If you do not need to be notified of your own submitted changes, select "Do not send notifications of my own submitted changes" as follows.

The screenshot shows the 'Email notifications' section with a dropdown menu set to 'Only for things I watch or I'm involved in'. Below the dropdown menu, there is a checkbox labeled 'I don't want to be notified of changes that I make myself' which is checked. The checkbox and its label are highlighted with a red border.

2.2.4 Setting Multiple Users

One Redmine account can be used by multiple people at the same time, so that multiple mailboxes can receive an update information of "Issues" at the same time, so that they can know the progress in time and speed up the efficiency of solving problems.

a. In the upper right corner of the "My account" interface, click on "Emails".

My account 📧 Emails 🔑 Change password

Information

First name *

Last name *

Email *

Language

Email notifications

Only for things I watch or I'm involved in

☒ I don't want to be notified of changes that I make myself

Preferences

Hide my email address ☐

Time zone

Display comments

Warn me when leaving a page with unsaved text ☒

Font used for text areas

Number of recently used projects in jump box

Issue's history default tab

b. Then the following interface will pop up, please add email, click "Add" to save.

Emails ✕

Add email address

c. After the email address is added successfully, the dynamic information of "Issues" can be received in the main email address of "Email address", and the email address in the following "Email" list can obtain this information;

My account 📧 Emails 🔑 Change password

Information

First name *

Last name *

Email *

Language

Email notifications

Only for things I watch or I'm involved in

☒ I don't want to be notified of changes that I make myself

Preferences

Hide my email address ☐

Time zone

Display comments

Warn me when leaving a page with unsaved text ☒

Font used for text areas

Number of recently used projects in jump box

Issue's history default tab

Emails ✕

xx@xx.com	📧	🗑️ Delete
xtest@xx.com	📧	🗑️ Delete
xtest1@xx.com	📧	🗑️ Delete
xtest2@xx.com	📧	🗑️ Delete
xtest3@xx.com	📧	🗑️ Delete

Add email address

d After the addition is successful, the email address set in [2.2.1 Setting Basic Information](#) will receive an email notification.

[Rockchip Redmine] Security notification ☆

Rockchip Redmine

发件人: Rockchip Redmine<trac@rock-chips.com>

时间: 2024年2月23日 (周五) 11:26

大小: 4 KB

Email xtest3@xx.com was added.

[My account](#)

User: [REDACTED]

IP address: 1 [REDACTED]











Date: **02/23/2024 11:26 AM**

You have received this notification because you have either subscribed to it, or are involved in it.

To change your notification preferences, please click here: <https://redmine.rock-chips.com/my/account>

e. In case of staff changes such as resignation of email users, please delete them from the list in time to avoid occupation of the mailing list and confidentiality of the project.

Emails

xx@xx.com			Delete
xtest@xx.com			Delete
xtest1@xx.com			Delete
xtest2@xx.com			Delete
xtest3@xx.com			Delete

Add email address

Add

f. After the deletion is successful, the email address set in [2.2.1 Setting Basic Information](#) will receive an email notification.

[Rockchip Redmine] Security notification ☆

Rockchip Redmine

发件人: Rockchip Redmine<trac@rock-chips.com>

时间: 2024年2月23日 (周五) 15:35

大小: 4 KB

Email xx1@test.com was removed.

[My account](#)

User: [REDACTED]

IP address: 1 [REDACTED]

Date: **02/23/2024 03:35 PM**

You have received this notification because you have either subscribed to it, or are involved in it.

To change your notification preferences, please click here: <https://redmine.rock-chips.com/my/account>

2.2.5 Change Password

a. On the right side of the "My account" interface, click the button "Change password", and the UI will pop up;

Change password

Password *

New password *

Must be at least 8 characters long.

Confirmation *

Apply

b. After you enter the current password and new password, click "Apply" button and the following interface will pop up, that is, the change is successful.

✓ Password was successfully updated.

My account

Emails Change password

Information

First name *

xx

Last name *

xx

Email *

xx@xx.com

Language

English

Save

Email notifications

Only for things I watch or I'm involved in

☐ I don't want to be notified of changes that I make myself

Preferences

Hide my email address

☐

Time zone

(GMT+08:00) Beijing

Display comments

In chronological order

Warn me when leaving a page with unsaved text

☒

Font used for text areas

Default font

Number of recently used projects in jump box

3

Issue's history default tab

Notes

c. At the same time, you will receive the following notification via email.

[Rockchip Redmine] Security notification

Rockchip Redmine

2024-02-23 11:52 隐藏信息

发件人: Rockchip Redmine<trac@rock-chips.com>

时间: 2024年2月23日 (周五) 11:52

大小: 4 KB

Your password has been changed.

[Change password](#)

User:

IP address:

Date: 02/23/2024 11:52 AM

You have received this notification because you have either subscribed to it, or are involved in it.

To change your notification preferences, please click here: <https://redmine.rock-chips.com/my/account>

2.2.6 Retrieve password

If you forget your password during use, you can set the email retrieval password in [2.2.1 Setting Basic Information](#).

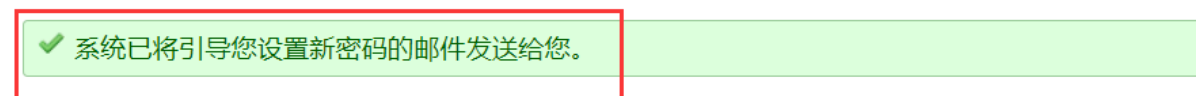
a. Open the official Rockchip address: <https://redmine.rock-chips.com/login> and click the button "Forgot password".



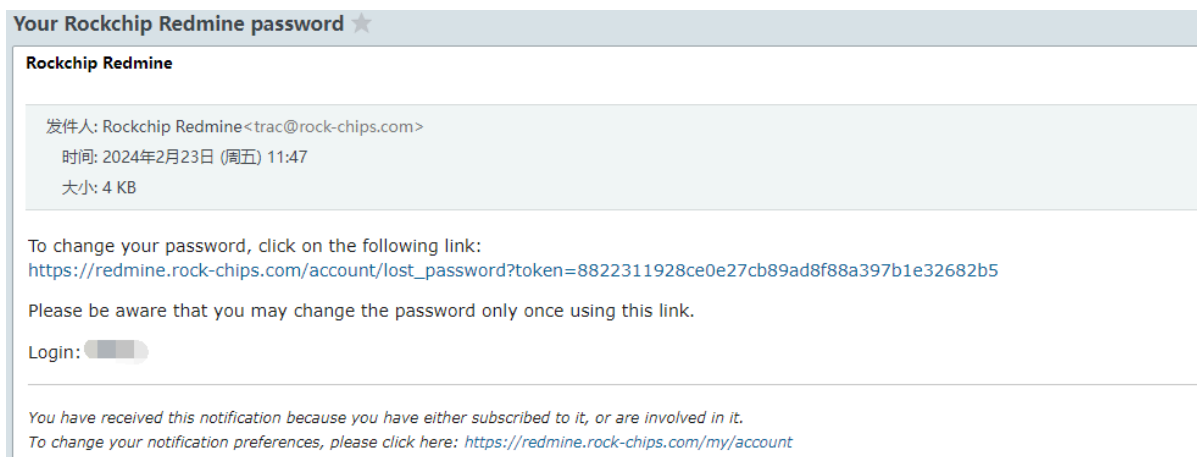
b. On the following interface, fill in the email of [2.2.1 Setting Basic Information](#) and click the button "Submit".



c. After submission is successful, the following message is displayed:



d. If you view the email address of [2.2.1 Setting Basic Information](#), you will receive the following link with the login name.



e. After opening the link above, enter a new password for the account.

Change password

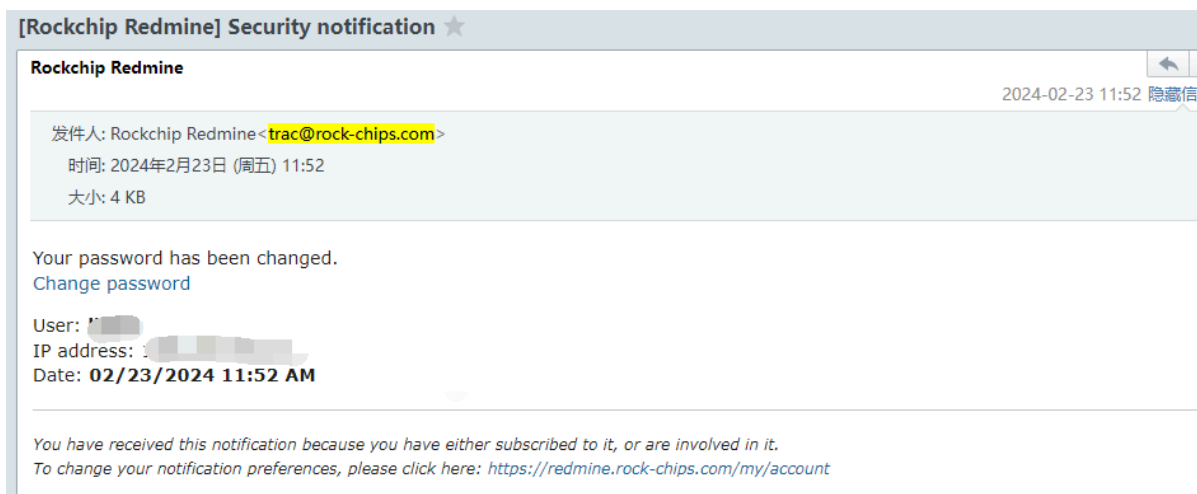
Form for changing password:

Password *

New password *
Must be at least 8 characters long.

Confirmation *

g. After the above password is set, go to the login page to log in again, and the email address of [2.2.1 Setting Basic Information](#) will receive the following message:



3. Introduction to Materials on the System

In this system, some Rockchip platform materials are separated and placed on Redmine and corresponding FTP, convenient for customers to check in a time, please refers to : <https://redmine.rockchip.com.cn/projects/fae/documents>. Mainly including: platform technical change notification, platform key materials (Flash, DDR, eMMC, Wi-Fi and Camera) support list, etc. :

3.1 FTP Server

In the FTP, (FTP address :<ftp://www.rockchip.com.cn> ; account name: rkwifi; password: Cng9280H8t) stores the common materials of the platform, as follows:

- Wi-Fi support list, drivers, and authentication tools can be obtained through this FTP. When debugging Wi-Fi/BT, you can refer to the attachment, analysis and troubleshoot related problems; (01-Wifi, 02-BT, 11-Linux platform)
- Customized function patches; (05-patch: multi-window, color temperature adjustment, multi-U disk multi-partition mounting, echo cancellation and noise reduction patch, HDMI_IN, a2dpsink Bluetooth speaker patch, etc.)
- Application source code; (06- All kinds of source code: player, pcba test, stress test, Wifidisplay, OtaUpdate, etc.)
- Datasheet for mainstream chip platforms; (08-Datasheet)
- Materials about Linux platform; (11-Linux platform: including DPDK, the source code for various applications such as Wi Fi and BT supported by Linux platform)
- Google security patches for Android platform; (10-Security_Patch)
- RKIVE hardware acceleration module documentation and patch; (12-Rockchip_RKIVE_Simulator_release)
- SDK version and corresponding SDK release documents of mainstream platforms; (13-Rockchip_SDK_Release_Note)

3.2 Redmine Document Bar

Document bar on redmine: <https://redmine.rock-chips.com/projects/fae/documents>, which lists the key material list, the SDK platform support list, released platform patch and technical change notification, Now, we will provide a detailed introduction as follows:

3.2.1 List of Hardware Reference Design

Redmine access path: <https://redmine.rock-chips.com/documents/116>, which includes hardware design versions and DDR templates and versions supported by various chip platforms. If you get a resource lower than this version, please apply for the latest version from RK materials obtaining window.

3.2.2 Technical Change Notification

The redmine access path is: <https://redmine.rock-chips.com/projects/fae/boards/6>

3.2.3 Patch Release

The redmine access path is: https://redmine.rock-chips.com/projects/rockchip_patch/issues

3.2.4 Nand Flash Support List

The redmine access path is: <https://redmine.rock-chips.com/documents/46>

3.2.5 DDR Support List

The redmine access path is: <https://redmine.rock-chips.com/documents/49>

3.2.6 eMMC Support List

The redmine access path is: <https://redmine.rock-chips.com/documents/50>

3.2.7 Wi-Fi Support List

The redmine access path is: <https://redmine.rockchip.com.cn/documents/52>, which is associated with Wi-Fi support list, driving, authentication tools, etc., can be obtained through FTP, this is the address: <ftp://www.rockchip.com.cn>; Account name: rkwifi; Password: Cng9280H8t.

3.2.8 Camera Support List

The redmine access path is: <https://redmine.rockchip.com.cn/documents/53>

3.2.9 SDK Supported Versions and Release Documents

The redmine access path is :<https://redmine.rock-chips.com/documents/117>

Key materials for your first version of hardware(Flash, eMMC, DDR and Wi-Fi) must be in the list of RK AVL, otherwise, if the system cannot run after the PCB returns, It's very difficult for us to fix the problem. In the future, if you want Rockchip to co-work and verify some compatible materials (such as Flash, DDR, eMMC, Wi-wi and Camera), please send an email to the corresponding business or interface person of Rockchip for application.

4. On-site Technical Support

Depending on customers' project schedule and the status of the specific problem, Rockchip will arrange for the appropriate engineer to provide technical support services on site. On-site technical support here includes two ways: customers come to Rockchip for on-site support and Rockchip engineers comes to customer company for on-site support.

4.1 On-site Support in Rockchip

In the following cases, you can apply to Rockchip for on-site support:

- On-site review diagrams (schematic diagram and PCB Layout diagram);
- Requires Rockchip hardware or laboratory for testing;
- Requires the special software and hardware platform of Rockchip to solve problems;
- Problems that can no longer be solved through the communication of the Bug system need on-site cooperation, such as building a reproducing environment;
- Requires a special hardware platform to cooperate;
- The processing speed of the Bug system can no longer meet the current project progress;
- Key projects need urgent work.

All these problems need to be made at least one day in advance (working days) to Rockchip on-site processing, the appointment method is to communicate with the corresponding Rockchip business or technical interface person, After they agree, Rockchip will arrange the appropriate engineers in Shanghai, Shenzhen or Fuzhou to support on-site according to the customer's specific problem.

4.2 On-site Support in Customers' Company

In the following cases, you can apply for Rockchip engineers going to your company for on-site support.

- Review drawings, mainly requires Rockchip to review drawings together(schematic diagram and PCB Layout);
- Requires Rockchip engineers go to your laboratory for testing and verification;
- Requires your special software and hardware platform to solve problems;
- Problems that cannot be solved through the Bug system communication, and need on-site cooperation, such as problems in the production line and building a reproducing environment;
- Requires a special hardware platform to cooperate;
- The processing speed of the Bug system can no longer meet the current progress of the project;
- Key projects need urgent tackling.

All these problems, you need to make an appointment at least two days in advance (working days) to apply for Rockchip to deal with these problems on site. The appointment method is to communicate with the corresponding business or technical interface person of Rockchip first, after they agree, Rockchip will arrange the appropriate engineers in Shanghai, Shenzhen or Fuzhou to support on-site according to the customer's specific problem. Generally, it is recommended that customers go to Rockchip for on-site support. Due to the limited personnel available to the customer company, and limited problems that can be solved on site.

5. Complaints and Suggestions

If the issue you submitted is handled slowly or has not been followed up for a long time, which can no longer meet the project progress requirement of your company, please send an email to the Rockchip technical interface person (and cc emails corresponding business of Rockchip) or telephone reminder.

If you have better suggestions on how to improve the system during use, please contact us in the following ways.

Contact Information Name	Email	contact number
FAE	fae@rock-chips.com	0755-86690899
sw.fae	sw.fae@rock-chips.com	0755-86690899
hw.fae	hw.fae@rock-chips.com	0755-86690899

Note:

If you need software materials of Rockchip platform, such as software documentation, platform tools, patch or source code, please send email to sw.fae@rock-chips.com and cc emails the corresponding business person of Rockchip.

If you need Rockchip platform chip datasheet, hardware reference design and other hardware information, please send an email to hw.fae@rock-chips.com and cc emails the corresponding business person of Rockchip.

6. Q&A

6.1 Submit an Example of a Software Case

In order to solve the problem as soon as possible and reduce the communication cost, here is an example.

6.1.1 Information Required to Submit a Question

a. logcat and kernel log;

logcat Information : serial port or adb shell enter the command logcat -v time (If there is a lot of interference information, it is best to run the logcat -c before capturing valid log, for example, an exception occurs when starting an apk. Then a good log is to execute logcat -c before starting the apk, then logcat -v time, and then start the apk, so that the information obtained is easier to find the key information);

kernel Information: Output directly from the serial port or adb shell to run the dmesg command.

If the application is unresponsive or forcibly closed, provide a trace file (data/arn/trace.txt).

b. The basic operating process, which Rockchip engineers can replicate according to instructions, and reproduce the problem;

c. Confirmation of sdk version information;

- Take RK3588 Linux SDK for example :

```
~/linux_rk3588/.repo/manifests$ ls rk3588_*
rk3588_linux_release.xml rk3588_nvr_linux.xml

rk3588_linux:
RK3588_Linux5.10_SDK_Note.md rk3588_linux_beta_v0.1.1_20220421.xml
rk3588_linux_release_v1.0.2_20220820.xml
rk3588_linux_release_v1.0.5_20221120.xml
rk3588_linux_release_v1.1.1_20230520.xml
rk3588_linux_alpha_v0.0.1_20220115.xml rk3588_linux_release_v1.0.0_20220520.xml
rk3588_linux_release_v1.0.3_20220920.xml
rk3588_linux_release_v1.0.6_20221220.xml
rk3588_linux_release_v1.2.0_20230620.xml
rk3588_linux_beta_v0.1.0_20220414.xml rk3588_linux_release_v1.0.1_20220620.xml
rk3588_linux_release_v1.0.4_20221020.xml
rk3588_linux_release_v1.1.0_20230420.xml
rk3588_linux_release_v1.2.1_20230720.xml

rk3588_nvr_linux:
rk3588_linux_nvr_release_v1.0.0_20220304.xml
rk3588_linux_nvr_release_v1.3.0_20220805.xml
rk3588_linux_nvr_release_v1.5.0_20230105.xml
rk3588_linux_nvr_release_v1.1.0_20220418.xml
rk3588_linux_nvr_release_v1.4.0_20221015.xml
rk3588_linux_nvr_release_v1.6.0_20230510.xml
rk3588_linux_nvr_release_v1.2.0_20220610.xml
rk3588_linux_nvr_release_v1.4.1_20221114.xml RK3588_Linux_NVR_SDK_Note.md
```

When submitting a issue, in addition to selecting the correct version of the SDK, please also tell us the updated minor version of the SDK: rk3588_linux_release_v1.2.1_20230720.xml or rk3588_linux_nvr_release_v1.6.0_20230510.xml.

- Take RK3588 Android13 for example :

```
~/rockchip_android13.0_sdk_release/.repo/manifests/include$ ls
partner_gms_express.xml rk3326_repository.xml rk3528_repository.xml
rk356x_repository.xml rk_checkout_repository.xml
partner_modules_express.xml rk3399_repository.xml rk3562_repository.xml
rk3588_repository.xml rk_modules_repository.xml`
```

AS above, when submitting a issue, in addition to selecting the correct version of the SDK, please also tell us the updated minor version of the SDK: such as rk3588_repository.xml or rk3399_repository.xml.

- Check the Android version of RK maintenance as follows:


```
~/rockchip_android13.0_sdk_release/.repo/manifests/include$ cat
rk3588_repository.xml
<?xml version="1.0" encoding="UTF-8"?>
<manifest>
  <project path="device/rockchip/rk3588" name="rk/device/rockchip/rk3588"
remote="rk" revision="refs/tags/android-13.0-mid-rkr5" />
</manifest>
```

The "android-13.0-mid-rkr5" here is the RK3588 android13 R5 version.