

Security Classification:

Most Confidential() Confidential() Internal() Public()

Rockchip Keybox Burning Guide

(Technical Department, Product 1 Team)

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Revision History

Ver. No	Author	Revised Date	Note for Revision	Remark
V1.0	LY	2017-12-12	Initial Released	
V1.1	ZW	2018-01-29	Add support for RK3328 Chip	
V1.2	ZW	2018-03-15	Add support for widevine	

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1 Preface

This document introduces keybox burning scheme on Rockchip platform, including how to generate keybox, Rockchip KeyboxWriter Burning Tool Usage, and common problem treatments.

1.1 Applicable Products

Chip Type
RK3126C
RK3328
RK3368
RK3399
RK3229

1.2 Applicable Readers

1. Production and Technical personnel

2 Keybox Generation

2.1 Introduction

Rockchip rkpacker tool converts a set of keyboxes provided by Google to a ".kdb" file that can be burned:

```
rkpacker test_keybox.xml -o keybox.kdb
```

The first parameter: test_keybox.xml specifies the keybox data file to be converted;

The second parameter:-o parameter specifies directory of the output file after converted, if not specified, the output file named "result.kdb" will be generated in the current directory.

3 KeyboxWrite Tool Usage

3.1 KeyboxWrite Tool

Note:

Key's burning position is specified by "DestPosition" parameter of config.ini file.

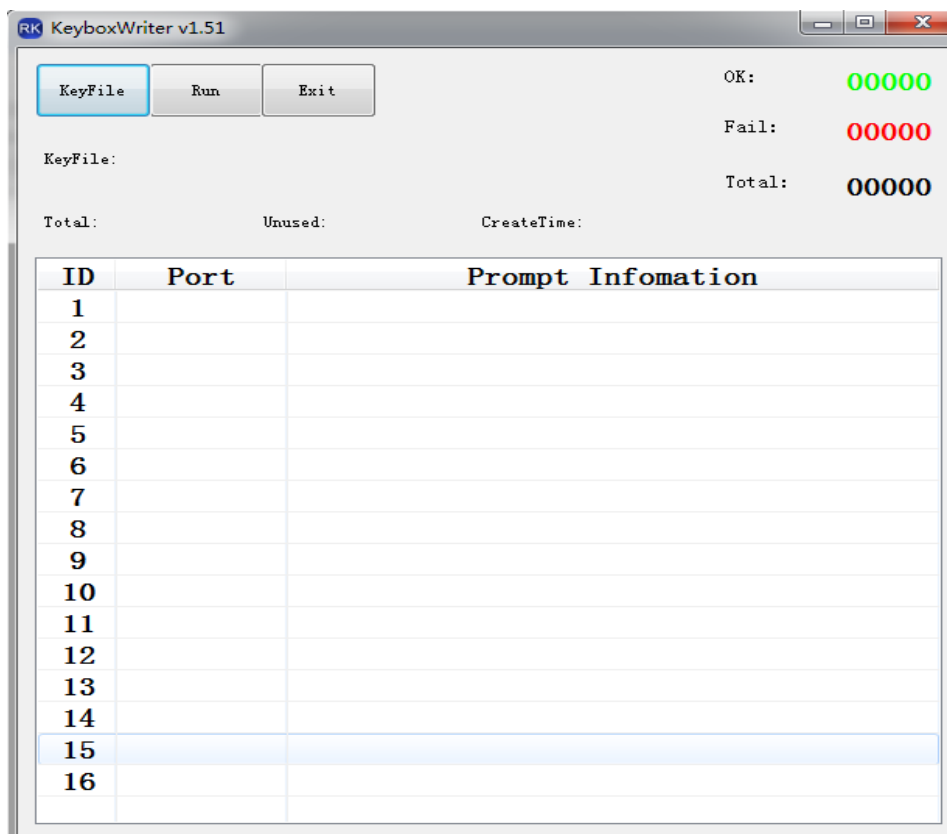
Burning attestation key

#DestPosition = 1:write key to misc;

Burning widevine key

#DestPosition = 2:write key to vendor storage;

#DestPosition = other value:write key to old vendor;



Use steps:

1. Click "KeyFile" button, select the keybox file.
2. Click "Run" button, it will automatically detect Loader device.
3. After the loader device is detected, select a key from the keybox file and burn it.

it.

4. Multiple loader devices can be connected at the same time, and be burned parallely

4 Q&A

4.1 Get the Random Key Failed

The screenshot shows the RK KeyboxWriter v1.51 application window. At the top, there are buttons for 'KeyFile', 'Stop', and 'Exit'. The 'KeyFile' field displays 'D:\KeyBoxWrite_v1.51_0109\result.kdb'. On the right side, statistics are shown: 'OK: 00000' in green, 'Fail: 00002' in red, and 'Total: 00002'. Below this, it shows 'Total:1', 'Unused:0', and 'CreateTime:2017-07-13 09:33:41'. A table at the bottom lists key attempts with columns for ID, Port, and Prompt Information. Row 10 is highlighted in red, indicating a failure.

ID	Port	Prompt Infomation
1		
2		
3		
4		
5		
6		
7		
8		
9		
10	1-6-3-4	Fail to get random key
11		

Reason:All keys in the Keybox file are used up.

4.2 Key Exceeds the Allocated Space

KeyboxWriter v1.51

KeyFile: D:\KeyBoxWrite_v1.51_0109\result.kdb

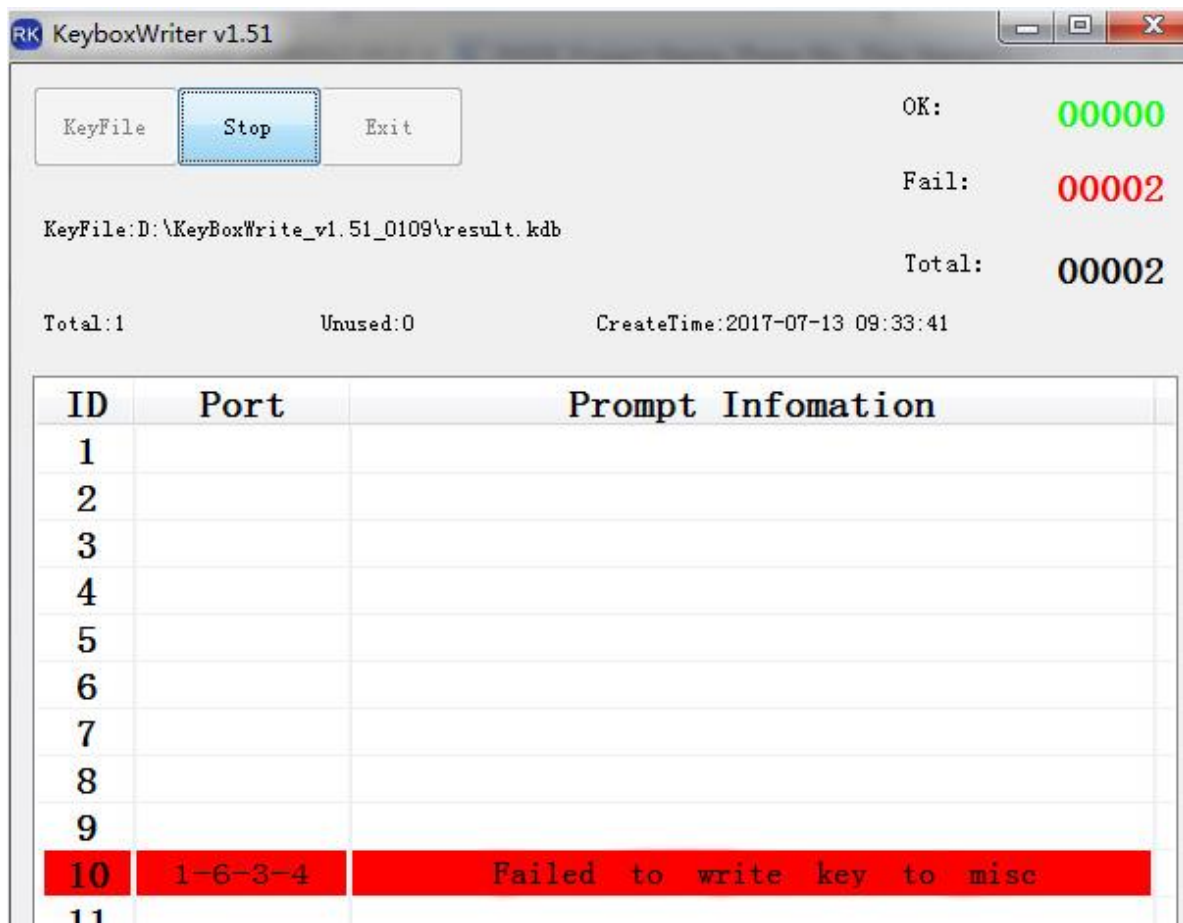
Total: 1 Unused: 0 CreateTime: 2017-07-13 09:33:41

OK: 00000
Fail: 00002
Total: 00002

ID	Port	Prompt Infomation
1		
2		
3		
4		
5		
6		
7		
8		
9		
10	1-6-3-4	Key is larger than room
11		

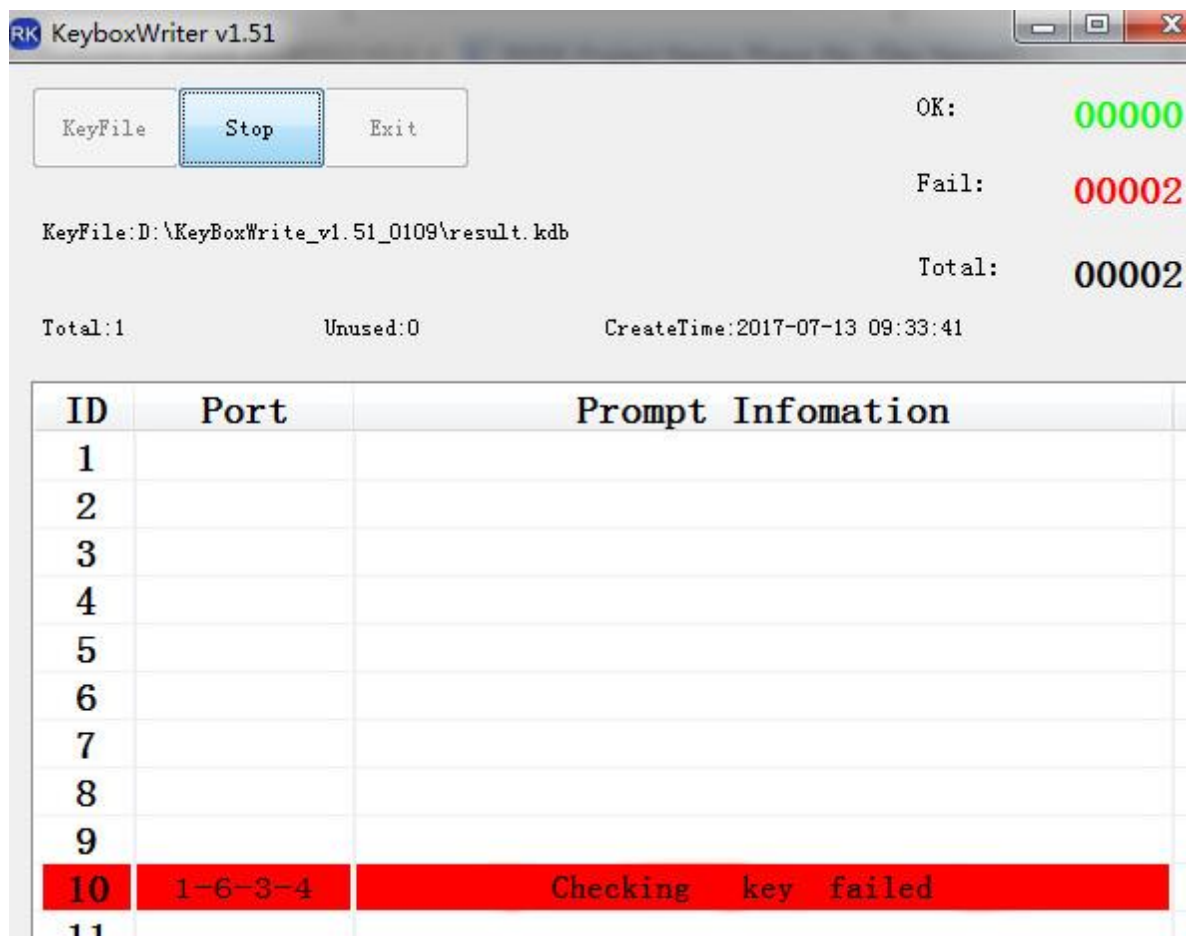
Reason: The size of the Key is over 64k.

4.3 Write key to Misc Partition Failed



Reason: The device does not answer, check whether the loader supports key burning.

4.4 Verify Key Failed



Reason: Read key data back from the loader device and check key failed, confirm whether the loader of the device supports keybox burning.