

## Annex A

# Software Developer's Agreement

All Products of ROCKEY.COM.MY. (Rockey) including, but not limited to, evaluation copies, diskettes, CD-ROMs, hardware and documentation, and all future orders, are subject to the terms of this Agreement. If you do not agree with the terms herein, please return the evaluation package to us, postage and insurance prepaid, within seven days of their receipt, and we will reimburse you the cost of the Product, less freight and reasonable handling charges.

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3. **Warranty** – Rocky warrants that the ROCKEY2 dongles and Software storage media are substantially free from significant defects of workmanship or materials for a time period of twelve (12) months from the date of delivery of the Product to you.
4. **Breach of Warranty** – In the event of breach of this warranty, Rocky's sole obligation is to replace or repair, at the discretion of Rocky, any Product free of charge. Any replaced Product becomes the property of Rocky.

Warranty claims must be made in writing to Rocky during the warranty period and within fourteen (14) days after the observation of the defect. All warranty claims must be accompanied by evidence of the defect that is deemed satisfactory by Rocky. Any Products that you return to Rocky, or a Rocky authorized distributor, must be sent with freight and insurance prepaid.

EXCEPT AS STATED ABOVE, THERE IS NO OTHER WARRANTY OR REPRESENTATION OF THE PRODUCT, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

5. **Limitation of Rocky's Liability** – Rocky's entire liability to you or any other party for any cause whatsoever, whether in contract or in tort, including negligence, shall not exceed the price you paid for the unit of the Product that caused the damages or are the subject of, or indirectly related to the cause of action. In no event shall Rocky be liable for any damages caused by your failure to meet your obligations, nor for any loss of data, profit or savings, or any other consequential and incidental damages, even if Rocky has been advised of the possibility of damages, or for any claim by you based on any third-party claim.
6. **Termination** – This Agreement shall terminate if you fail to comply with the terms herein. Items 2, 3, 4 and 5 shall survive any termination of this Agreement.

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## Chapter1 Brief Introduction

ROCKEY2 is a traditional secure storage dongle that is extremely simple to implement and low cost. It does not offer many of the advanced software protection methods available in ROCKEY4 or ROCKEY5.

ROCKEY2 feature include:

- Each ROCKEY2 has 2560 bytes of read-write memory. This is a much larger memory space that is available in most dongle products.
- ROCKEY2 is an HID device so there is no driver required for supported Linux or Windows platforms.
- Each ROCKEY2 has a globally unique hardware ID.
- Multiple ROCKEY2s can work together on the same computer.
- ROCKEY2 supports USB only.

## Chapter 2 ROCKEY2 Features

### User ID (UID) and Hardware ID (HID)

Each ROCKEY2 dongle contains a User ID (UID) as well as the globally unique Hardware ID (HID). Both the UID and HID are defined as 32-bit DWORD. The UID and HID are identifiers for the ROCKEY2 dongle.

The default UID is “0”. While the UID remains at default you may open and read/write to the dongle memory. But you cannot obtain the HID. The HID is shielded while the UID is set to the default. The shielded HID will return a value of “0”. The correct HID may be obtained only after the developer resets the UID.

The UID is reset by inserting a character string or seed code into a function that generates the UID. The seed code must have a length of 64 bytes or less. The UID is generated inside the dongle. The creation of the UID is entirely dependent on knowing the seed code. If a hacker is able to determine your UID, and have access to the UID generation program, and have a ROCKEY2 dongle – they will still not be able to recreate your UID because your UID can only be created with the seed code. The seed code must be kept secret. It is important to note that the value of the seed code cannot be determined from the UID.

### **ROCKEY2 Driver**

The ROCKEY2 dongle is a USB device that uses the driver native to the Windows and Linux operating systems. When the dongle is inserted into the USB port the operating system will prompt you for installing the new device. With Windows 98 you may need the Win98 installation CD-ROM. You will not need a CD-ROM or other storage media for Win Me/2000/XP – the driver will install automatically.

The operating system combines the UID and HID to identify the dongle and install its driver. When a dongle is first plugged into the computer you will need to go through the driver installation process. When you reset the UID the computer will see it as a new device and you will have to go through the process again. Once the UID is set the computer will record the new UID/HID combination and you will not have to reinstall the driver. Keep in mind that since each dongle has a unique HID, and the operating system looks at the combination of UID and HID, every new dongle inserted into the computer will require installation of its driver. However, once the driver is installed for a specific UID/ HID combination, the dongle may be removed and reinserted to the computer without reinstalling the driver.

Please note that the driver installation process is triggered by the dongle being inserted into the computer. When you change the UID please remove and reinsert the dongle to install the driver for the new UID/HID combination.

ROCKEY2 is initially configured with UID=0 and the HID shielded so that HID=0. The computer operating system will see these “out of the box” dongles as device “00”. You should reset the UID so that the operating system can see a unique UID/HID combination. The UID needs to be reset for multiple dongles to work together on the same computer. The UID should certainly be reset before the dongle is re-shipped and the UID generation call should not be included in the package sent to the end users.

# Chapter 3 ROCKEY2 API

## 1. RY2\_Find: Find ROCKEY2 dongles attached to the computer

```
EXTERN_C int WINAPI RY2_Find ();
```

Return Value	< 0	Error code
	= 0	No ROCKEY2 dongle is attached
	> 0	The number of attached ROCKEY2 dongle(s)

## 2. RY2\_Open: Open specified ROCKEY2 dongle

```
EXTERN_C int WINAPI RY2_Open (int mode, DWORD uid, DWORD* hid);
```

Input	mode	This parameter indicates the way to open the dongle mode = 0, open the first found ROCKEY2 dongle mode > 0, open the dongle according to the UID. The mode value is the dongle number, for example: uid=12345678, mode=2, this means it will open the second dongle with UID 12345678 mode = -1, open the dongle according to the HID, and *hid can not be 0 We defined two MACROS: AUTO_MODE=0 and HID_MODE=-1
	uid(UserID)	You need to specify the dongle UID and this UID is generated with RY2_GenUID
	hid(Hardware ID)	Open dongle with HID of *hid The dongle HID will be returned to *hid regardless of how the dongle was opened.
Return	>=0	Success. The opened dongle handle is returned.
	<=0	Error code. Please refer to the Chapter 4 Error Codes

## 3. RY2\_Close: Close specified ROCKEY2 dongle

```
EXTERN_C void WINAPI RY2_Close (int handle);
```

Input	ROCKEY2 dongle handle. It is the handle returned from RY2_Open
Return	Error code. Please refer to the Chapter 4 Error Codes

## 4. RY2\_GenUID: Generate User ID (UID)

```
EXTERN_C int WINAPI RY2_GenUID (int handle, DWORD* uid, char* seed, int isProtect)
```

Input	Handle	Dongle handle. It is the handle returned from RY2_Open
	Uid	Output parameter. The generated UID
	Seed	Seed to generate UID. It is a character string with the maximum length of 64 bytes
Return	Error code. Please refer to Chapter 4 Error Codes	

5. RY2\_Read: Read dongle content

EXTERN\_C int WINAPI RY2\_Read (int handle, int block\_index, char\* buffer512);

Input	handle	Dongle handle. It is the handle returned from RY2_Open
	block_index	Block index. Specify the block to read. The value range is 0-4
	buffer512	Read buffer. The buffer must be at least 512 bytes to accommodate the 512 byte block size.
Return	Error code. Please refer to Chapter 4 Error Codes	

6. RY2\_Write: Write to ROCKEY2 dongle

EXTERN\_C int WINAPI RY2\_Write (int handle, int block\_index, char\* buffer512);

Input	handle	Dongle handle. It is the handle returned from RY2_Open
	block_index	Block index. Specify the block to write. The value range is 0-4
	buffer512	Write buffer. The buffer must be at least 512 bytes to accommodate the 512 byte block size.
Return	Error code. Please refer to Chapter 4 Error Codes	

Tips!

1. **Make randomized calls to the Rockey API** – randomly scatter calls to the ROCKEY API from within your application. Call made to the API from time-to-time will make it very difficult to mimic the behavior of the protection method or hack the application.
2. **Do not repeatedly use the same protection method in your application** – If you use the same protection method several times in your application it will be easier for the cracker to find the rule and crack your application. Protection methods that are complex and rely on a number of different checks and calculations are the most difficult to crack.
3. **Use API encryption and Envelop encryption together** – The strongest protection method will have the developer first using a complex and dynamic implementation of the ROCKEY API, and then protecting this new file with the ROCKEY Envelop.
4. **Use a long Seed Code and keep it safely** – ROCKEY2 is using MD5 encryption which is impossible for someone who know your UID and reverse engineer to find your seed codes. A long seed code will definitely added more security for someone who can luckily strike it and do keep this seed code safely, else if anyone who know your seed code will be able to generate a ROCKEY2 with your UID.
5. **Make use of ROCKEY2 memory with your own encryption/decryption** – By Making use of ROCKEY2 memory will allow your application to verify some pre-configured settings that you have done on the ROCKEY2. However, you are advisable to add in your own encryption/decryption while reading/writing to ROCKEY2 memory as to increase the protection on Rockey2 memory content.
6. Try Rockey4 or Rockey6 smart for higher security expectation – If you do have higher security expectation, please contact our sales and request to try on ROCKEY other models which include ROCKEY4- Best selling software license dongle in Asia and ROCKEY6smart – World No.1 32-bit Smart Card based dongle.

# Chapter 4 - Rocky Envelope Encryption

The Rocky2 envelope program may be used for direct encryption of Win32 Portable Executable (PE) files (such as .exe, .dll or .arx). Envelope encryption is a good solution if you do not have the source code or the time to use the API functions. And Envelope encryption only works with 32-bit applications. The strongest software protection systems will use both the Envelope and API implementations.

Note: please back up your files before you encrypt them with the Envelope Program (Ryenv32.exe). If you plan to protect your software with both Envelope encryption and API encryption, please call the API first and then encrypt the software with the Envelope program.

Choose “Tools” folder in the directory. See Figure 4.1.

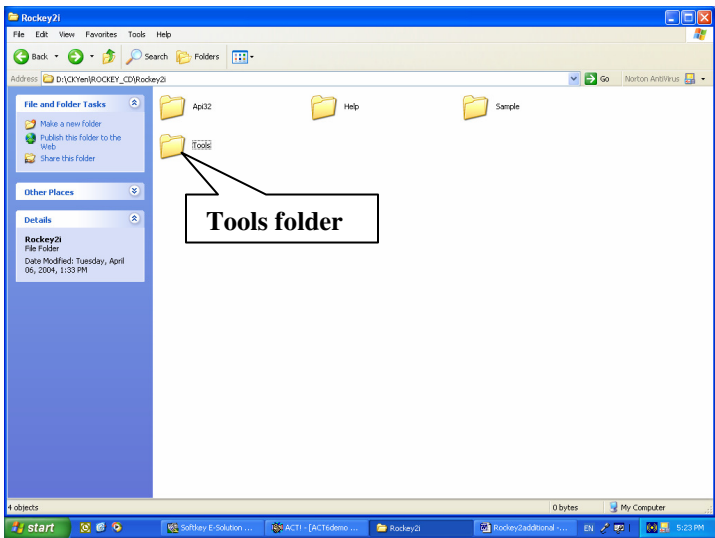


Figure 4.1

Ryenv32.exe under directory “Tools” is the Rocky4 Envelop encryption tool. See Figure4.2

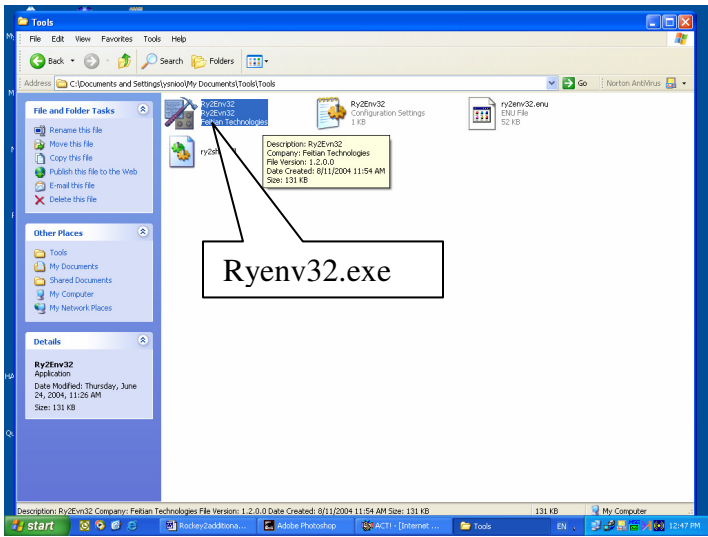


Figure4.2



The Rocky2 envelope program main interface is shown below in Figure 4.3

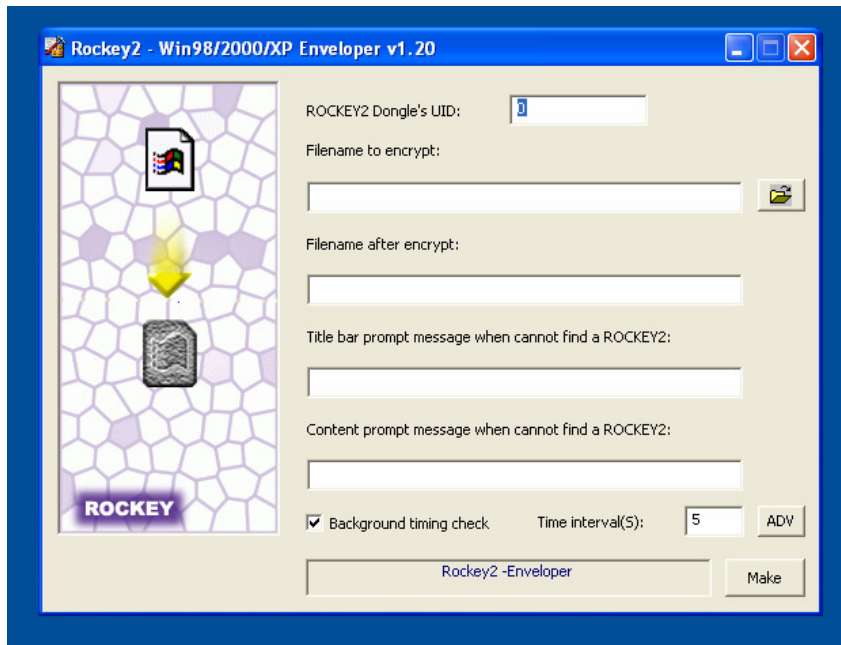


Figure 4.3

The Rocky2 Dongle’s UID must be entered into the fields shown in Figure 4.4. Select the file to be encrypted with “browse” button or enter its name in the “filename to encrypt:” field. Then enter the new encrypted file name and path into the “File name after encrypt:” field. The new encrypted file name is defaulted to “Encrypt\_filename.EXE”. Set the time interval if you activated the background timing check function. The program that is running will be automatically terminated if the Rocky2 dongle is unplugged- unsaved data may be lost.

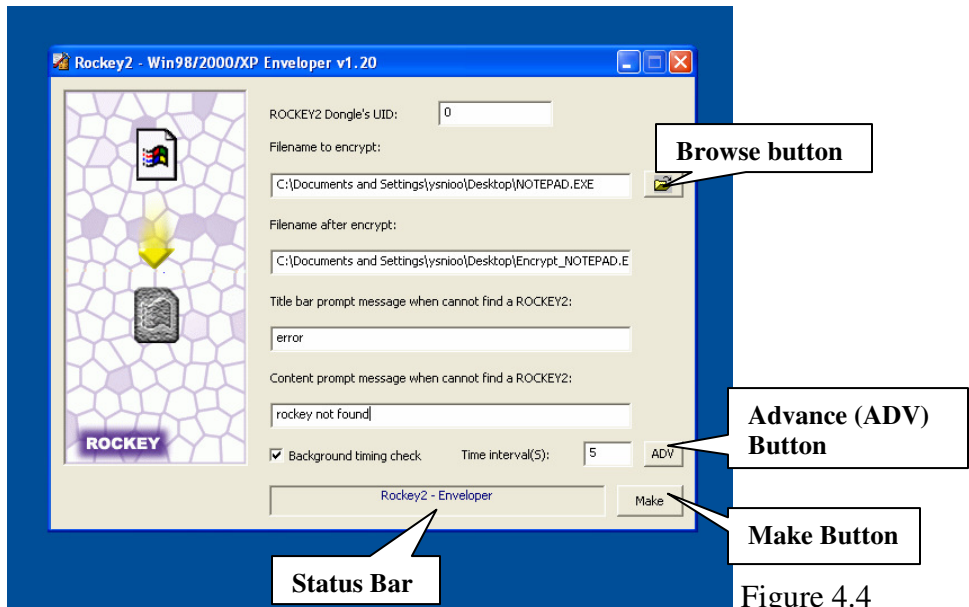


Figure 4.4

Click the “ADV” (Advance) button, which will appear a dialog box, which was offer advance option for developer to select the background timing check mode. That is two options, one is Timer Mode and another is Multi-Thread Mode. See Figure 4.5

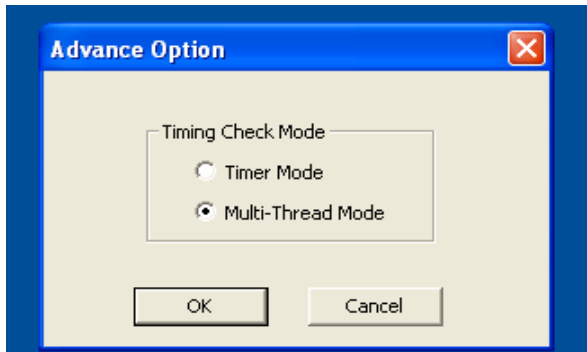


Figure 4.5



Click the “Make” button. Then the “Encryption succeeded” message will appear in status bar after a successful encryption. See Figure 4.6

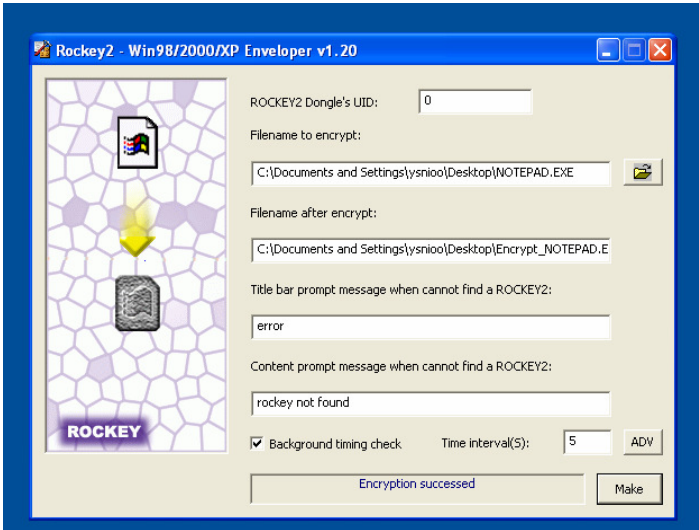
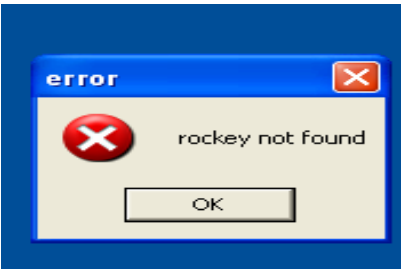


Figure 4.6

Note: The dialog box below will appear if you execute the program without the correct Rocky2 dongle attached to the computer. When the correct Rocky2 is not found the prompt message title is “error” and the prompt message content is “rockey not found”(according to the preset content by developer or else it will defaulted the prompt message title is “Rockey2 Dongle ” and the prompt message content is “Rockey2 not found ”)



If no dongle or wrong UID dongle attached, the enveloping process are not successful and the error message “Cannot find ROCKEY2 with this UID” in red word will appear in status bar. See Figure4.7

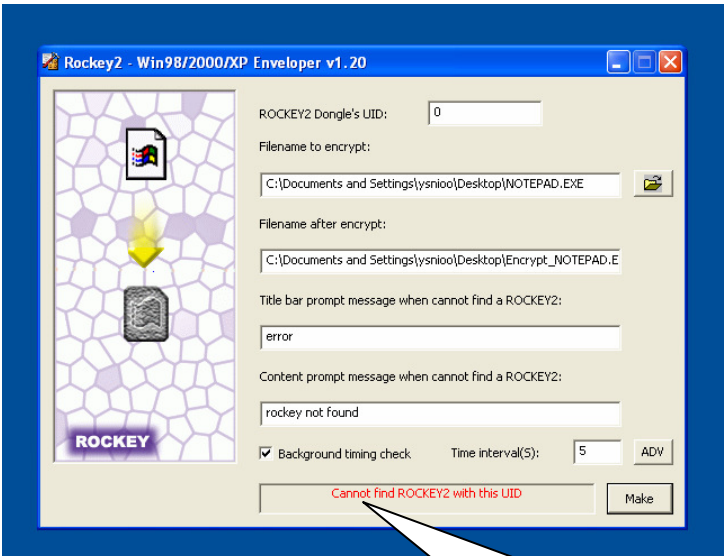


Figure4.7

Cannot find ROCKEY2 with this UID

If the file to be encrypted not is the supported file format, then an error message “The specified file is not a Win32 PE file” in red word will appear in status bar. See Figure 4.8

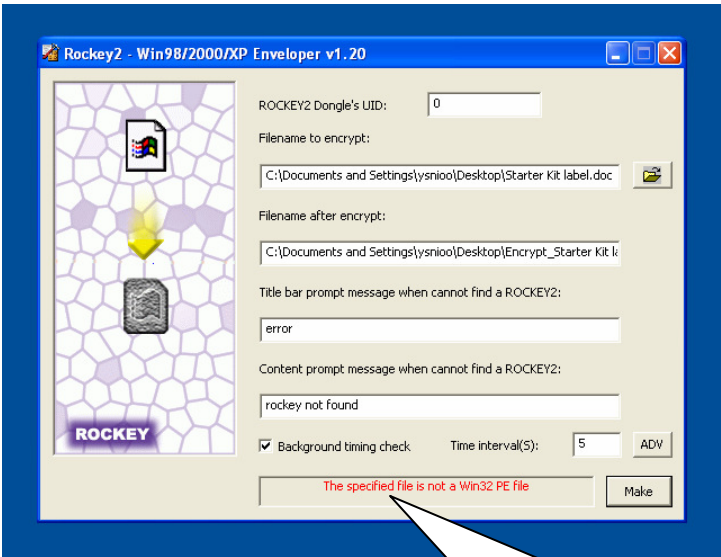


Figure 4.8

The specified file is not a Win32 PE file

## Chapter 5 Error Codes

MACRO	Value	Description
RY2ERR_SUCCESS	0 Success	
RY2ERR_NO_SUCH_DEVICE	0xA0100001	Specified dongle is not found (parameter error)
RY2ERR_NOT_OPENED_DEVICE	0xA0100002	Need to call RY2_Open first to open the dongle, then call this function (operation error)
RY2ERR_WRONG_UID	0xA0100003	Wrong UID(parameter error)
RY2ERR_WRONG_INDEX	0xA0100004	Block index error (parameter error)
RY2ERR_TOO_LONG_SEED	0xA0100005 Seed character	string is longer than 64 bytes when calling GenUID (parameter error)
RY2ERR_OPEN_DEVICE	0xA0100007	Open device error (Windows error)
RY2ERR_READ_REPORT	0xA0100008	Read record error(Windows error)
RY2ERR_WRITE_REPORT	0xA0100009	Write record error(Windows error)
RY2ERR_SETUP_DI_GET_DEVICE_INTERFACE_DETAIL	0xA010000A	Internal error (Windows error)
RY2ERR_GET_ATTRIBUTES	0xA010000B	Internal error (Windows error)
RY2ERR_GET_PREPARSED_DATA	0xA010000C	Internal error (Windows error)
RY2ERR_GETCAPS	0xA010000D	Internal error (Windows error)
RY2ERR_FREE_PREPARED_DATA	0xA010000E	Internal error (Windows error)
RY2ERR_FLUSH_QUEUE	0xA010000F	Internal error (Windows error)
RY2ERR_SETUP_DI_CLASS_DEVS	0xA0100010	Internal error (Windows error)
RY2ERR_GET_SERIAL	0xA0100011	Internal error (Windows error)
RY2ERR_GET_PRODUCT_STRING	0xA0100012 Internal	error (Windows error)
RY2ERR_TOO_LONG_DEVICE_DETAIL	0xA0100013	Internal error
RY2ERR_WRONG_REPORT_LENGTH	0xA0100020	Unknown device(hardware error)
RY2ERR_VERIFY	0xA0100021	Verification error(hardware error)
RY2ERR_UNKNOWN_ERROR	0xA010FFFF	Unknown error(hardware error)