RYRR30D AT COMMAND Guide

THE SEQUENCE OF USING AT COMMAND

1. The module will start working after power is provided.

2. Use "**AT+APPLE**" and "**AT+GOOGLE**" commands to enter <ID> and <Key> to activate Apple® Wallet VAS & Google® SmartTap® pass.

3. Install the correct Apple® Wallet VAS & Google® SmartTap® pass in your smartphone wallet.

4. When the mobile phone containing the correct Apple® Wallet VAS & Google® SmartTap® pass in the wallet approaches the RYRR30D sensing area, RYRR30D will decode the RAW data in the Apple® Wallet VAS & Google® SmartTap® pass, These RAW data will be output through UART and USB Keyboard interface.

5. You can use "**AT+CTYPE**" command to select the protocols you need to decode.

AT Command Set

It is required to key in "\r\n" or "0x0D 0x0A" in the end of all AT Command.
It is required to wait until the module replies +OK to execute the next AT command.

1. **AT** Test if the module can respond to Commands.

Syntax	Response
AT	+OK

2. **Software RESET**

Syntax	Response
AT+RESET	+RESET
	+READY

3. **AT+MODE** Set the work mode.

Syntax	Response
AT+MODE=<Parameter> <Parameter>Range from 1 to 2 1：Command Mode(default) 2：Standalone Mode 1: In Command mode: you can execute AT Command to set various parameters. . 2: Standalone Mode: In this mode, only AT+MODE commands are accepted, will depend on the Command mode setting's Apple® Wallet VAS & Google® SmartTap pass ID and Key, as well as AT+SCAN setting's protocol Scan Pass and TAG Example: Set to Standalone Mode: AT+MODE=2 *The settings will be memorized in Flash.	+OK
AT+MODE? 'When MODE=1	+MODE=1

4. **AT+IPR** Set the UART baud rate.

Syntax	Response
AT+IPR=<rate> <rate> is the UART baud rate： 4800 9600 19200 28800 38400 57600 115200(default) Example: Set the Baud Rate as 9600： AT+IPR=9600 *The settings will be memorized in Flash.*	+OK
AT+IPR?	+IPR=9600

5. **AT+APPLE** Set Apple® Wallet VAS parameters

Syntax	Response
AT+APPLE=<Number>,<ID>,<Key> 1.<Number>: Serial number, 1~6 represents the order. Each serial number has its own corresponding ID and Key of Apple® Wallet VAS. 2.<ID>: Merchant ID is generally 64 characters. 3.<key>: Key matching the Merchant ID, usually 64 characters. Example: <ID> and <Key> set as the 1st group of serial numbers AT+APPLE=1,0123456789012345678901234567890123456789012345678901234567890123,23456789012345678901234567890123456789012345678901234567890123456789012345 *The settings will be memorized in Flash.*	+OK
Confidentiality issue, no inquiry instructions	

6. **AT+GOOGLE** Set Google® SmartTap pass parameters

Syntax	Response
AT+GOOGLE=<Number>,<ID>,<Key> 1.<Number>: Serial number, 1~6 represents the order. Each serial number has its own corresponding ID and Key of Google® SmartTap pass. 2.<ID>: Collector ID is generally 8 characters. 3.<key>: Key matching the Collector ID, usually 64 characters. Example: <ID> and <Key> set as the 2nd group of serial numbers AT+GOOGLE=2,01234567,23456789012345678901234 56789012345678901234567890123456789012345 *The settings will be memorized in Flash.*	+OK
Confidentiality issue, no inquiry instructions	

7. **AT+CTYPE** Set the protocols that can be scanned

Syntax	Response
AT+CTYPE=<Protocols> <Protocols> The range is binary from 0000000000000000 to 1111111111111111<default>. When the bit value of the protocol is 1, the scan is started, and when the bit value of the protocol is 0, the scan is turned off. The list is as follows: <table><tr><td>Bit15</td><td>Bit14</td><td>Bit13</td><td>Bit12</td><td>Bit11</td><td>Bit10</td><td>Bit9</td><td>Bit8</td></tr><tr><td>Apple ID 1</td><td>Google ID 1</td><td>Apple ID 2</td><td>Google ID 2</td><td>Apple ID 3</td><td>Google ID 3</td><td>Apple ID 4</td><td>Google ID 4</td></tr></table> <table><tr><td>Bit7</td><td>Bit6</td><td>Bit5</td><td>Bit4</td><td>Bit3</td><td>Bit2</td><td>Bit1</td><td>Bit0</td></tr><tr><td>Apple ID 5</td><td>Google ID 5</td><td>Apple ID 6</td><td>Google ID 6</td><td>Felica</td><td>ISO14443B</td><td>ISO14443A</td><td>ISO15693</td></tr></table> Example: Scan Apple ID 1 and Google ID1 and ISO14443A. So Bit15~Bit0 are 1100000000000010 in sequence, so the command is AT+CTYPE=1100000000000010 When returning to AT+MODE=2 Standalone mode, protocols will be scanned in this order. *The settings will be memorized in Flash.*	+OK
AT+CTYPE?	+CTYPE=1100000000000010

8. +APPLE Actively prompt Apple® Wallet VAS to receive information

Response
+APPLE=<Number>,<DATA> 1.<Number>: Serial number, 1~6 represents the order. Each serial number has its own corresponding ID of Apple® Wallet VAS and DATA decoded by Key. 2. <DATA> : Data from Apple® Wallet VAS. The maximum length of data is 63 bytes.
Example: +APPLE=1,ABCDEFG

9. +GOOGLE Proactively prompt Google® SmartTap pass to receive information

Response
+GOOGLE=<Number>,<DATA> 1.<Number>: Serial number, 1~6 represents the order. Each serial number has its own corresponding ID of Google® SmartTap pass and DATA decoded by Key. 2. <DATA> : Data from Google® SmartTap pass. The maximum length of data is 138 bytes.
Example: +GOOGLE=1,ABCDEFG

10. +FeliCa Actively prompt to analyze the UID of FeliCa

Response
+FELICA=<UID> +<Type>:<Payload> 1.<UID>: Unique serial number, unique UID serial number on FeliCa TAG. 2.<Type>: NFC Forum NDEF Record Types. 3.<Payload>: NFC Forum NDEF Record Payload. *If the TAG does not contain NDEF data, the <Type> and <Payload> fields will not be displayed.*
Example: (TAG contain NDEF data) +FELICA=0011223344556677 +Text:Reyax Test Tag (TAG not contain NDEF data) +FELICA=0011223344556677

11. +ISO14443B Actively prompt to analyze the UID of ISO14443B

Response
+ ISO14443B=<UID> +<Type>:<Payload> 1.<UID>: Unique serial number, unique UID serial number on ISO14443B TAG. 2.<Type>: NFC Forum NDEF Record Types. 3.<Payload>: NFC Forum NDEF Record Payload. *If the TAG does not contain NDEF data, the <Type> and <Payload> fields will not be displayed.*
Example: (TAG contain NDEF data) +ISO14443B=ABCDEFGH +URI: (http://www.)tiananxin.com (TAG not contain NDEF data) +ISO14443B=ABCDEFGH

12. +ISO14443A Actively prompt to analyze the UID of ISO14443A

Response
+ ISO14443A=<UID> +<Type>:<Payload> 1.<UID>: Unique serial number, unique UID serial number on ISO14443A TAG. 2.<Type>: NFC Forum NDEF Record Types. 3.<Payload>: NFC Forum NDEF Record Payload. *If the TAG does not contain NDEF data, the <Type> and <Payload> fields will not be displayed.*
Example:(TAG contain NDEF data) +ISO14443A=AABBCCDDEEFFGG +Text:Reyax Test Tag (TAG not contain NDEF data) +ISO14443A=AABBCCDDEEFFGG

13. +ISO15693 Actively prompt to analyze the UID of ISO15693

Response
+ ISO15693=<UID>   +<Type>:<Payload>   1.<UID>: Unique serial number, unique UID serial number on ISO15693 TAG.   2.<Type>: NFC Forum NDEF Record Types.   3.<Payload>: NFC Forum NDEF Record Payload.   *If the TAG does not contain NDEF data, the <Type> and <Payload> fields will not be displayed.*
Example: (TAG contain NDEF data)   + ISO15693=0011223344556677   +Text:Reyax Test Tag   (TAG not contain NDEF data)   +ISO14443A=0011223344556677

14. + ST25TB Actively prompt to analyze the UID of ST25TB

Response
+ ST25TB=<UID>   1.<UID>: Unique serial number, unique UID serial number on ST25TB TAG.
Example: +ST25TB=0011223344556677

15. **AT+UID?** To inquire module's unique serial number '

Syntax	Response
AT+UID? 12 Bytes Unique ID	+UID=164738323135383200100025

16. **AT+VER?** To inquire the firmware version.

Syntax	Response
AT+VER?	+VER=RYRR30D-Vx.x.x

17. **AT+ IAP** Update FW through UART interface.

Syntax	Response
AT+ IAP When the module sends "C" continuously, it means the module is in YMODEM mode. The module enters the status of F/W update. * Only valid in MODE=1	+IAP ======================== ======================== = (C) Reyax Inc. = = By Huck = ======================== ======================== CCCC

18. **Error result codes**

Narrative	Response
There is not "CR/LF" or 0x0D 0x0A in the end of the AT Command.	+ERR=1
The head of AT command is not "AT" string.	+ERR=2
Unknown command./Command given in incorrect state.	+ERR=4

CERTIFICATION INFORMATION
• FCC compliance

Notice:
Any changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

Notice:
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
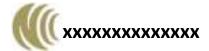(1)　this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

For a host using a certified modular with a standard fixed label, if (1) the module's FCC ID is not visible when installed in the host, or (2) if the host is marketed so that end users do not have straightforward commonly used methods for access to remove the module so that the FCC ID of the module is visible; then an additional permanent label referring to the enclosed module: "Contains Transmitter Module FCC ID: QLYRYRR30D" or "Contains FCC ID: QLYRYRR30D" must be used.　The host OEM user manual must also contain clear instructions on how end users can find and/or access the module and the FCC ID.

• NCC compliance

「取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。」

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