RYBG21x AT COMMAND

Apply for

1. RYBG210。
2. RYBG211。

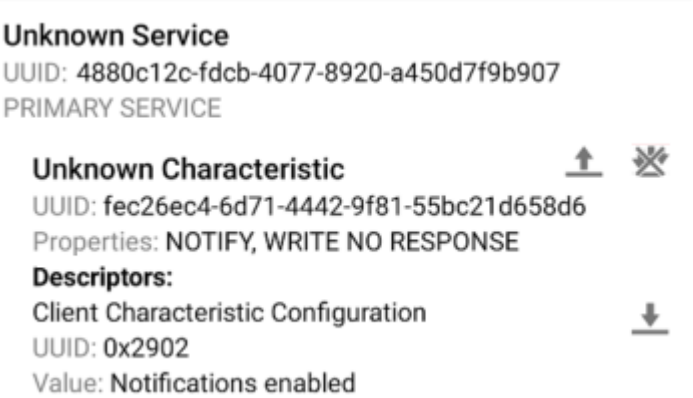
APP UUID

Service UUID:

4880c12c-fdcb-4077-8920-a450d7f9b907

Write & Notification UUID:

fec26ec4-6d71-4442-9f81-55bc21d658d6



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AT Command Set

It is required to key in "enter" 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. **AT+RESET** Software RESET

Syntax	Response
AT+RESET	+RESET +READY

3. **AT+IPR** set the UART Baud rate

Syntax	Response
AT+IPR=<rate> <rate>is the UART Baud Rate: : 9600(default) 19200 38400 57600 Example: Set the Baud Rate as 9600 : AT+IPR=9600 *The setting will be memorized in Flash. * It will work after RESET.	+OK
Inquire current setting AT+IPR?	+IPR=9600

4. **AT+ADDR?** Reading MAC address

Syntax	Response
AT+ADDR?	+ADDR=84:2E:14:A1:BD:6D

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5. **AT+NAME** Modify Broadcast name

Syntax	Response
AT+NAME=< Length>,<Data> < Length>Name, maximin 20 bytes <Data>ASCII Data Format Example：Change the name to REYAX AT+NAME=5,REYAX * The setting will be memorized in Flash. * It will work after RESET.	+OK
Inquire current name AT+NAME?	+NAME=REYAX

6. **AT+SEND** Send data to specified connection

Syntax	Response
AT+SEND=<Connection>,< Length>,<Data> < connection >1~8, BLE connection number. < Length>Data, maximin 244 bytes (depending on cell phone) <Data>ASCII Data Format Example：Send "HELLO" to connection 1 AT+SEND=1,5,HELLO	+OK
Inquire the last transmitted data AT+SEND?	+SEND=1,5,HELLO

7. **+RCV** Receive data

Syntax	Response
+RCV=<Connection>,< <Data> < connection >1~8, BLE connection number <Data> ASCll Data Format	Example： +RCV=1,HELLO

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8. **AT+CRFOP** to set the RF broadcasting output power

Syntax	Response
AT+CRFOP=<Power> <Power>range 20 to -20 20=20dBm 19=19dBm 10=10dBm(default) . . . -19=-19dBm -20=-20dBm Example：set the output power as 5dBm AT+CRFOP=5 *The setting will be memorized in Flash * It will work after RESET.	+OK
AT+CRFOP?	+CRFOP=10

9. **AT+CNE** to set the BLE can be connected or not

Syntax	Response
AT+CNE=<Connect> <Connect>set the BLE can be connected or not 0：Reject other Bluetooth devices connecting. 1：Accept other Bluetooth devices connecting. (default) Example：Reject other Bluetooth devices connecting. AT+CNE=0 * It will be memorized in Flash after setting and RESET.	+OK
AT+CNE?	+CNE=0

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10. AT+PERIOD Setting the BLE broadcasting period

Syntax	Response
AT+PERIOD =<Parameter> <Parameter>range 32 to 65535 Time = <Parameter> x 0.625ms 32 : 20ms 80 : 50ms 160 : 100ms (default) 320 : 200ms 800 : 500ms 1600 : 1s 3200 : 2s 16000 : 10s Example：Setting the BLE broadcasting period Is 500ms in 1second. AT+PERIOD=800 * The setting will be memorized in Flash * It will work after RESET.	+OK
AT+PERIOD?	+PERIOD=160

11. AT+CFUN to set the BLE broadcast (Advertising) ON/OFF

Syntax	Response
AT+CFUN=<Advertising> <Advertising>is the switch of BLE broadcast 0：BLE broadcast off 1：BLE broadcast on (default) Example：Setting the BLE broadcast off. AT+CFUN=0	+OK
AT+CFUN?	+CFUN=0

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12. AT+LRANG to set the BLE Long range mode ON/OFF

Syntax	Response
AT+LRANG=<Long rang mode> <Long range mode> is the switch of BLE Long range mode 0 : Long range mode off (default) 1 : Long range mode on * **The setting will be memorized in Flash** Example : Turn Long range mode on AT+ LRANG =1	+OK
AT+ LRANG?	+ LRANG =1

13. AT+SCAN to scan the Peripherals near by the Central

Syntax	Response
AT+SCAN Example : Scan the Peripherals nearby which can be connected with RYBG21x.	+Scanning +<NO.>,<MAC>,<rssi>, <Name> ... +Found <Quantity> <NO.>item number of Peripherals: 1~5 <MAC>MAC address <rssi> output power of Peripherals dBm <Name>name of Peripherals <Quantity> quantity of found Peripherals; the maximum is 5. +Scanning +1: 8471279CB541, -52, RYBG21x +Found 1

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14. AT+LSCAN use long range mode to scan the peripherals near by the central.

Syntax	Response
AT+LSCAN Example : Scan the Peripherals nearby which can be connected with RYBG21x.	+Scanning +<NO.>,<MAC>,<rssi>, <Name> ... +Found <Quantity> <NO.>item number of Peripherals: 1~5 <MAC>MAC address <rssi> output power of Peripherals dBm <Name>name of Peripherals <Quantity> quantity of found Peripherals; the maximum is 5. +Scanning +1: 8471279CB541, -52, RYBG21x +Found 1

15. AT+CON the Central connect to a Peripheral by MAC address

Syntax	Response
AT+CON=<MAC> <MAC>MAC address Example：The Central connect to the Peripheral whose MAC address is 123456ABCDEF AT+CON=123456ABCDEF	+++++<Role><NO.> <Role> "H" represent "Host"； "C" represent "Client" <N0.> is the number of BLE connection +++++H1

16. AT+LCON the Central use long range mode to connect to a peripheral by MAC address

Syntax	Response
AT+LCON=<MAC> <MAC>MAC address Example：The Central connect to the Peripheral whose MAC address is 123456ABCDEF AT+CON=123456ABCDEF	+++++<Role><NO.> <Role> "H" represent "Host"； "C" represent "Client" <N0.> is the number of BLE connection +++++H1

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17. AT+CONT The Central connect to a Peripheral by the item number from AT+SCAN

Syntax	Response
AT+CONT=<Scan Result No.> < Scan Result No.> number of the Peripherals Example：The Central connect to the Peripheral whose item number is 2 from AT+SCAN. AT+CONT=2	+++++<Role><NO.> <Role> "H" represent "Host"； "C" represent "Client" <N0.> is the number of BLE connection +++++H2

18. AT+LCONT Under the long-range mode, the central will connect to peripheral by the item number from AT+LSCAN

Syntax	Response
AT+LCONT=<Scan Result No.> < Scan Result No.> number of the Peripherals Example：The Central connect to the Peripheral whose item number is 2 from AT+SCAN. AT+CONT=2	+++++<Role><NO.> <Role> "H" represent "Host"； "C" represent "Client" <N0.> is the number of BLE connection <MAC>Mac address +++++H2

19. AT+DCON initiative disconnected

Syntax	Response
AT+DCON=<NO.> <NO.>is the number of BLE connection Maximin 8 Example：BLE protocol port 1 disconnected AT+DCON=1	+-----<Role><No> <Role> "H" represent "Host"； "C" represent "Client" <N0.>is the number of BLE connection +-----H1

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20. AT+CONNECT? to inquire the connection status

Syntax	Response
AT+CONNECT?	+CONNECT=<L1>,<L2>...,<L8> <Ln> the status of BLE protocol port 0 : Unconnected 1 : Connecting, represent "Host" 2 : Connecting, represent "Client"
AT+CONNECT?	+CONNECT=1,0,0,0,0,0,0,0

21. AT+CSCS using ASCII code for data input

Syntax	Response
AT+CSCS=<on/off> < on/off > 0= ASCII to Hex disable(default) 1= ASCII to Hex enable Since CR/LF (0D0A) needs to be added at the end of the AT command, If there is a need to input 0D0A in the data, you can enable the CSCS function and convert the data to ASCII format for input. This function is only valid for the "+SEND", and the data length must keep original. This function has no effect on output data (+RCV). Example : AT+CSCS=1	+OK
AT+CSCS?	+CSCS=0

22. AT+MODE Close the UART interface

Syntax	Response
AT+MODE=<on/off> < on/off > 0= UART enable (default) 1= UART disable Example : AT+MODE=1	+OK
AT+MODE?	+MODE=0

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23. **AT+DINFO** Modify the information of the local Bluetooth device

Syntax	Response
AT+DINFO=< Item>,< Length>,<Data>,< Item> 1= manufacturer name 2= model name 3= model version < Length>Character, maximin 20 bytes <Data> ASCII Data Format Example：Modify model version to V2.0 AT+DINFO=3,4,V2.0 ** It will be memorized in EEPROM after setting*	+OK *** It will work after RESET.**
Inquire current setting AT+DINFO?	+DINFO=REYAX,RYBG21x,V0.1.0

24. AT+VER? Read FW version information

Syntax	Response
AT+VER?	+VER=RYBG21x_V1.0.0

25. Other Response Messages

Syntax	Response
After RESET	+RESET +READY
After BLE connection +++++<Role><Connection> +MTU:<Size> <Role> “H” represents “Host”; “C” represents “Client” <Connection> the connection number <Size> the maximum data size of a single packet Example: When iPhone APP built the connection, the role is Client, the data can be delivered by a single packet is 182 Bytes	+++++C1 +MTU:182
BLE disconnection -----#<Connection> <Connection> the connection number	-----#1

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26. Error Result Codes

Syntax	Response
The head of AT command is not "AT" string	+ERR=2
Unknown command	+ERR=4
Wrong parameter length	+ERR=12
The parameter length is too long	+ERR=13
Connection failure	+ERR=14
CSCS command data error	+ERR=16
The Broadcast is not allowed to be turned on	+ERR=17
Command parameter error	+ERR=18
Remote GATT not responding	+ERR=20

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