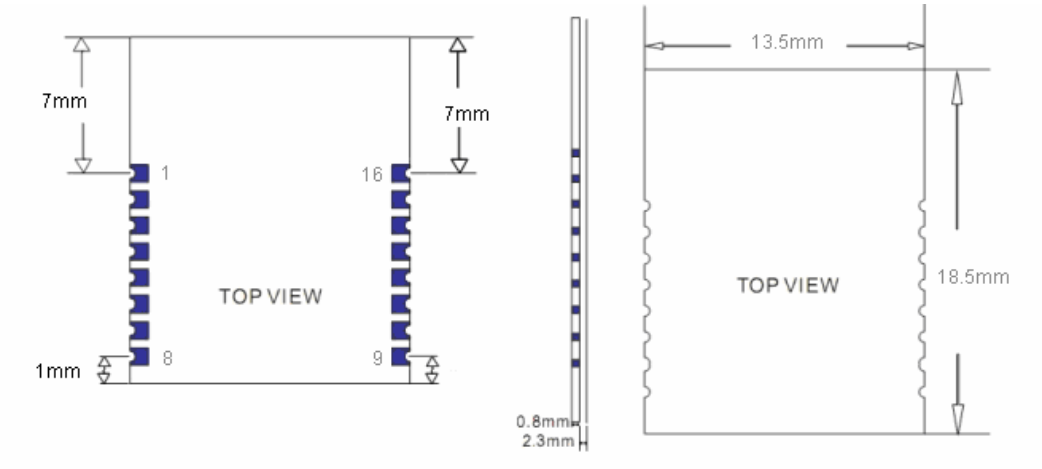
BLE Module User Manual

Features

Bluetooth version 4.0 BLE
Working frequency: 2.4GHz ISM band
Modulation method: GFSK (Gaussian Frequency Shift Keying)
RF Power: -23dbm, -6dbm, 0dbm, 6dbm (can be modified through AT Command AT+POWE)
Speed: Asynchronous: 1-6K Bytes
Synchronous: 1-6K Bytes
Security: Authentication and encryption
Service: Central & Peripheral UUID FFE0,FFE1
Power: +3.3VDC 50mA
No data byte limit for Send and receive
Long range: Open space have 100 Meters with iphone4s
Operating Current: In sleep mode **60uA~1.5mA**, Active mode **8.5mA.**
Working temperature: –5 to+65 Centigrade
Size: 18mm x 13.5mm x 2.2mm



No	Name	Description	CC2541
1	UART_RTS	UART interface	P1_5
2	UART_TX	UART interface	P1_6
3	UART_CTS	UART interface	P1_4

4	UART_RX	UART interface	P1_7
5	NC	NC	P2_1
6	NC	NC	P2_2
7	NC	NC	PIN2
8	NC	NC	PIN3
9	VCC	V3.3	VCC
10	NC	NC or VCC	
11	RESETB	Reset if low <100ms	RESET_N
12	GND	Ground	GND
13	PIO3	input/output pin	P1_1
14	PIO2	input/output pin/PWM	P1_0
15	PIO1	System LED	P0_7
16	PIO0	System KEY	P0_6

Sleep mode

Waking the module up from sleep mode

There are two ways to wake up module from sleep mode.

1. Send a string (Length > 80 bytes) e.g. “bla blaa blaaa blaa blaaa blaa blaaa bla blaa blaaa blaa blaaa blaa blaaa bla blaa blaaa blaa blaaa blaa blaaa bla blaa blaaa blaa blaaa…..”
   This string can wake the module up and you will receive “OK+WAKE” string through UART. Note: The input string should not include any AT commands.
2. Pull pin PIO0 to Ground for at least 1 second then pull it back to +3.3V
   Note: MangoCube BLE has this pin connected to+3.3V.

After waking up the module, you can send and receive AT commands.

Putting the module into sleep mode

In discoverable stage, send “AT+SLEEP” string through UART, if all is okay, the module will return “OK+SLEEP” string and will go into sleep mode.

System KEY (PIO0) function description

Pull pin PIO0 to Ground for at least 1 second then pull it back to +3.3V. The module will have one of the following responses;

1. If Module is in sleep mode;
   Module will wake up immediately, if AT+NOTI value is “1”, module will send “OK+WAKE” string through UART.
2. If Module has already connected to remote device;
   Module will disconnect from remote device.
3. If Module is in standby mode;
   Module will reset to default configuration. Then restart.

System LED (PIO1) function description

LED is turned off : Module is off or in sleep mode.
LED is blinking (High for 500 ms, Low for 500 ms): Module is powered on but not connected to other device.
LED is on (solid) : Module is connected to other device.

Working Modes

Mode 0 (Transmission mode)

By default the module works in Transmission mode. When the module is not in AT command/configuration stage, it can transfer the data to connected device using serial connection.

Mode 1(PIO acquisition mode)

In this mode the module can acquire input state of pins PIO2 and 3.

Mode 2(Remote control mode)

In this mode the module can output state of pins PIO2 and 3.

Role

- Peripheral
- Control

A Peripheral device can advertise, to let other devices know that it is there, but it is only a Central device that can actually send a connection request to establish a connection.

Default Setting

AT Commands

Name: MangoCube BLE; Baud: 115200, N, 8, 1; Pin code: 000000; Peripheral Role; transmit mode.

AT Command format

Uppercase AT command format in string, without any other symbol. (e.g. \r or \n).

e.g. AT+Command

AT commands

1. Test command/ AT command mode

Send	Receive	Parameter
AT	OK OK+LOST	None

If Module is not connected to remote device, it will receive: “OK”

If Module has connected, module will disconnected from remote device and if “AT+ NOTI” is setup to 1, it will receive: “OK+LOST”

2. Query module address

Send	Receive	Parameter
AT+ADDR?	OK+ADDR:MAC Address	None

3. Query/Set Advertising interval

Send	Receive	Parameter
AT+ADVI?	OK+ Get:[Para]	None

AT+ADVI[Para]	OK+ Set:[Para]	Para: 0 ~ F 0: 100ms 1: 152.5 ms 2: 211.25 ms 3: 318.75 ms 4: 417.5 ms 5: 546.25 ms 6: 760 ms 7: 852.5 ms 8: 1022.5 ms 9: 1285 ms A: 2000ms B: 3000ms C: 4000ms D: 5000ms E: 6000ms F: 7000ms Default: 0

4. Query/Set Advertising Type

Send	Receive	Parameter
AT+ADTY?	OK+ Get:[Para]	None
AT+ADTY[Para]	OK+ Set:[Para]	Para: 0 ~ 3 0: Advertising, Scan Response, Connectable 1: Only allow last device connect in 1.28 seconds 2: Only allow Advertising and Scan Response. 3: Only allow Advertising Default: 0

5. Query/Set ANCS switch

Send	Receive	Parameter
AT+ANCS?	OK+ Get:[Para]	None
AT+ANCS[Para]	OK+ Set:[Para]	Para: 0 ~ 1 0: Off 1: On Default: 0

Note1: Please send AT+RESET to restart the module if you set the value to 1.
Note2: Must execute AT+TYPE3 at first.

6. Query/Set whitelist switch

Send	Receive	Parameter
AT+ALLO?	OK+ Get:[Para]	None
AT+ALLO[Para]	OK+ Set:[Para]	Para: 0 ~ 1 0: Off 1: On Default: 0

Note: White List allows three mac addresses to be linked to module. Please use AT+AD command to set whitelist mac address.

7. Query/Set whitelist mac address

Send	Receive	Parameter
AT+AD[para1]??	OK+ Get:[Para2]	None
AT+ALLO[Para1][Para2]	OK+ Set:[Para2]	Para1: 1, 2, 3 Para2: MAC address

E.g. Send : AT+ID1001122334455
Receive : OK+Set:001122334455

8. Query/Set Module pin output state, after power supplied

Send	Receive	Parameter
AT+BEFC?	OK+ Get:[Para]	None

AT+BEFC[Para]	OK+ Set:[Para]	Para: 000~ 3FF Default: 000

3FF == 001111111111, left to right side is map to PIO0~PIOB, PIO0 and PIO1 is used by system. Only PIO2~PIOB pins is available.

e.g. Set PIO2~PIOB all output HIGH after power up.

Send : AT+BEFC3FF

Receive : OK+Set:3FF

When next time power up, the module will output HIGH on PIO2~PIOB.

Note: Query PIO pins current state please use AT+PIO?? command.

Note: Please don't use this command when "AT+MODE1" is setup.

9. Query/Set Module pin output state, after connection is established

Send	Receive	Parameter
AT+AFTC?	OK+ Get:[Para]	None
AT+AFTC[Para]	OK+ Set:[Para]	Para: 000~ 3FF Default: 000

3FF == 001111111111, Left to right side is map to PIO0~PIOB, PIO0 and PIO1 is used by system. Only PIO2~PIOB pins is available.

e.g. Set PIO2~PIOB all output high when connection is established.

Send : AT+AFTC3FF

Received : OK+Set:3FF

When Bluetooth connection is established, module PIO2~PIOB will output high.

Note: Query PIO pins current state please use "AT+PIO??" command.

Note: Please don't use this command when "AT+MODE1" is setup.

10. Query/Set battery monitor switch

Send	Receive	Parameter
AT+BATC?	OK+ Get:[Para]	None
AT+BATC[Para]	OK+ Set:[Para]	Para: 0 ~ 1 0: Off 1: On Default: 0

11. Query battery information

Send	Receive	Parameter
AT+BATT?	OK+BATT:[Para]	Para: 000~100

There are two ways to get battery information:
a. Before establishing a connection, Send “AT+BATT?” through UART.
b. After establishing a connection, in Mode 1 or 2, remote side send “AT+BATT?”

Battery information has included in scan response data package, one hour update once. You can use Android or IOS discovery module, when module has been discovered, you can get it from scan result array.

12. Query/Set Bit format

Send	Receive	Parameter
AT+BIT7?	OK+Get:[para1]	Para1: bit7 switch.
AT+BIT7[para1]	OK+Set:[para1]	0-----Not compatible 1-----Compatible Default: 0

This command is used only for compatible uses 7 data bits, 2 stop bit device.

13. Query/Set baud rate

Send	Receive	Parameter
AT+BAUD?	OK+Get:[para1]	Para1: Baud rate No. 0---------9600 1---------19200 2---------38400 3---------57600 4---------115200 5---------4800 6---------2400 7---------1200 8---------230400 Default: 0(9600)
AT+BAUD[para1]	OK+Set:[para1]	

e.g.
Query baud:
Send: AT+BAUD?

Receive: OK+Get:0

Setup baud:
Send: AT+BAUD1
Receive: OK+Set:1

Note: If set to Value 7, after next power up, the module will not support any AT Commands, until PIO0 is pressed, Module will change Baud to 9600.

14. Query/Set Characteristic

Send	Receive	Parameter
AT+CHAR?	OK+Get:[para1]	Para1: 0x0001~0xFFFE
AT+CHAR[para1]	OK+Set:[para1]	Default: 0xFFE1

e.g. change characteristic value to 0xAAA0
Send : AT+CHAR0xAAA0
Received : OK+Set:0xAAA0

15. Clear Last Connected device address

Send	Receive	Parameter
AT+CLEAR	OK+CLEAR	None

Notice: Only Central role is used.

16. Try connect to last succeeded device

Send	Receive	Parameter
AT+CONNL	OK+CONN[Para1]	Para1: L, E, F, N L: Connecting E: Connect error F: Connect Fail N: No Address

Notice: Only Central role is used. Must set up AT+IMME1 and AT+ROLE1 first.
If remote device has already connected to other device or shut down, “OK+CONNF” will be received after about 10 seconds.

17. Try connecting an address

Send	Receive	Parameter
AT+CO[P0][P1]	OK+CO[P0][P0][P2]	P0: N, 1 N: Normal Address 1: Dual module Addr P1: Address Like: 0017EA090909 P2: A, E, F A: Connecting E: Connect error F: Connect Fail

Notice: Only central role is used. Must set up AT+IMME1 and AT+ROLE1 first.
If remote device has already connected to other device or shut down, "OK+CONNF" will received after about 10 Seconds.
e.g. Try to connect an device which MAC address is 00:17:EA:09:09:09
Send: AT+CON0017EA090909
May receive a reply:

OK+CONNA ========= Accept request, connecting
OK+CONNE ========= Connect error
OK+CONN ========= Connected, if AT+NOTI1 is setup
OK+CONNF ========= Connect Failed, after 10 seconds

18. Query PIO02~PIO03 input (output) state

Send	Receive	Parameter
AT+COL??	OK+ Col:[Para1]	Para1: 0x00~0xFF

Para1 is a byte, has 8 bits, bit 7 ~ bit 0 is map to the PIO4 ~ PIO11.

19. Query/Set PIO collection rate

Send	Receive	Parameter
AT+CYC??	OK+ Get:[para1]	Para1: 00~99

AT+CYC[para1]	OK+ Set:[para1]	Unit: seconds Default: 10

In mode 1, when PIO state is changed, module will send OK+Col:[xx] to UART or remote side. This command is set send interval.

20. Start a device discovery scan

Send	Receive	Parameter
AT+DISC?	OK+DIS[P0][P1]	P0: C,0, 1, 2 C: Common string 0~2: Address type P1: S, E, [MAC String] S: Start discovery E: End discovery MAC String : Device MAC string

Note: Please set AT+ROLE1 and AT+IMME1 first.
e.g.
Send : AT+DISC?
Received : OK+DISCS
Received : OK+DIS[P0]:123456789012 (discovered device address information) If AT+SHOW1 is setup, you will receive then Name information as follow
Received : OK+NAME: xxx
After send Name value, will send two extra "\r\n" value ASCII byte
Received : OK+DIS[P0]:234567890123
Received : OK+NAME: xxx
After send Name value, will send two extra "\r\n" value ASCII byte (Before V535 max results is 6, Since V535 not limit)
Received : OK+DISCE

Connect use array index:
Connect to a discovered device: AT+CONN0, AT+CONN1……AT+CONN5

Connect use MAC string: AT+CON[MAC String]

21. Connect to a Discovered device

Send	Receive	Parameter
AT+CONN[para1]	OK+CONN[para2]	Para1: 0~5 Para2: E, F, 0~5 0~5: Try to connect E: Link error F: Link failed 0~5: Try to connect

This command is use after execute AT+DISC? This command will clear all discovery data.

22. Query/Set iBeacon deploy mode

Send	Receive	Parameter
AT+DELO[para1]	OK+DELO[para1]	Para1: 1, 2 1: Allowed to broadcast and scanning 2: Only allow broadcast

After receive OK+DELO[para1], module will reset after 500ms. This command will let module into non-connectable status until next power on.

23. Remove bond information

Sen	Receive	Parameter
AT+ERASE	OK+ERASE	

24. Set advertising data FLAG byte

Send	Receive	Parameter
AT+FLAG[P1]	OK+ Set:[P1]	P1: 0~FF (one byte)

Note: This command added in V530. Please refer to AT+BATT? command.

25. Query/Set flow control switch

Send	Receive	Parameter
AT+FIOW?	OK+ Get:[para1]	Para1: 0, 1

AT+FlOW[para1]	OK+ Set:[para1]	0: Off 1: On Default: 0

26. Query/Set module RX gain

Send	Receive	Param
AT+GAIN?	OK+ Get:[P1]	P1: 0, 1 0: No RX gain 1: Open RX gain Default: 0
AT+GAIN[P1]	OK+ Set:[P1]	

Note: This command is added since V535

27. System Help Information

Send	Receive	Parameter
AT+HELP?	Help Information	None

28. Query/Set Module work type

Send	Receive	Param
AT+IMME?	OK+ Get:[para1]	Para1: 0, 1 1: When module is powered on, only respond to the AT Command. Don't do anything. Until AT + START, AT+CON, AT+CONNL commands is received. 0: When power on, work immediately Default: 0
AT+IMME[para1]	OK+ Set:[para1]	

Note: This command is only used for Central role.

29. Query/Set Module iBeacon switch

Send	Receive	Parameter
AT+IBEA?	OK+Get:[para1]	Para1: 0, 1
AT+IBEA[para1]	OK+Set:[para1]	0: Turn off iBeacon 1: Turn on iBeacon Default: 0

iBeacon UUID is: 74278BDA-B644-4520-8F0C-720EAF059935.

30. Query/Set iBeacon UUID

Send	Receive	Parameter
AT+IBE0?	OK+Get:[para1]	Para1: 00000001~ FFFFFFFE Default: 74278BDA
AT+IBE0[para1]	OK+Set:[para1]	

iBeacon UUID is: 74278BDA-B644-4520-8F0C-720EAF059935. This command can change red colour string in iBeacon UUID.
e.g. Send: AT+IBE012345678 change iBeacon UUID red colour string to "12345678"

31. Query/Set iBeacon UUID

Send	Receive	Parameter
AT+IBE1?	OK+Get:[para1]	Para1: 00000001~ FFFFFFFE Default: B6444520
AT+IBE1[para1]	OK+Set:[para1]	

iBeacon UUID is: 74278BDA-B644-4520-8F0C-720EAF059935. This command can change red colour string in iBeacon UUID.
e.g. Send: AT+IBE112345678 change iBeacon UUID red colour string to "12345678"

32. Query/Set iBeacon UUID

Send	Receive	Parameter
AT+IBE2?	OK+Get:[para1]	Para1: 00000001~FFFFFFFE Default: 8F0C720E
AT+IBE2[para1]	OK+Set:[para1]	

iBeacon UUID is: 74278BDA-B644-4520-8F0C-720EAF059935. This command can change red colour string in iBeacon UUID.
e.g. Send: AT+IBE112345678 change iBeacon UUID red colour string to "12345678"

33. Query/Set iBeacon UUID

Send	Receive	Parameter
AT+IBE3?	OK+Get:[para1]	Para1: 00000001~ FFFFFFFE Default: AF059935
AT+IBE3[para1]	OK+Set:[para1]	

iBeacon UUID is: 74278BDA-B644-4520-8F0C-720EAF059935. This command can change red colour string in iBeacon UUID. This command is added since V520 version.

e.g.: Send: AT+IBE112345678 change iBeacon UUID red colour string to "12345678"

34. Query/Set Module iBeacon Major version

Send	Receive	Parameter
AT+MARJ?	OK+Get:[para1]	Para1: 0x0001, 0xFFFE Default: 0xFFE0
AT+MARJ[para1]	OK+Set:[para1]	

e.g. Change major version to 0x0102
Send: AT+MARJ0x0102, if all is okay, module will send back OK+Set:0x0102

35. Query/Set Module iBeacon minor

Send	Receive	Parameter
AT+MINO?	OK+Get:[para1]	Para1: 0x0001, 0xFFFE Default: 0xFFE1
AT+MINO[para1]	OK+Set:[para1]	

36. Query/Set Module iBeacon Measured power

Send	Receive	Parameter
AT+MEAS?	OK+Get:[para1]	Para1: 0x0001, 0xFFFE Default: 0xFFE1
AT+MEAS[para1]	OK+Set:[para1]	

37. Query/Set Module Work Mode

Send	Receive	Parameter
AT+MODE?	OK+Get:[para1]	Para1: 0, 1, 2 0: Transmission Mode 1: PIO collection Mode + Mode 0 2: Remote Control Mode + Mode 0 Default: 0
AT+MODE[para1]	OK+Set:[para1]	

Mode 0:
Before establishing a connection, you can use the AT command to configure the module through UART. After establishing a connection, you can send data to remote side from each other.

Mode 1:
Before establishing a connection, you can use the AT command configuration module through UART. After established a connection, you can send data to remote side. Remote side can do the followings:

Send AT command configuration module.
Collect PIO03 pins input state.
Remote control PIO2 pin output state.

Send data to module UART port (not include any AT command and per package must less than 20 bytes).

Mode 2:
Before establishing a connection, you can use the AT command to configure the module through UART.

After established a connection, you can send data to remote side. Remote side can do fellows:
Send AT command configuration module.

Remote control PIO2, PIO3 pins output state.
Send data to module UART port (not include any AT command and per package must less than 20 bytes).

38. Query/Set Notify information

Send	Receive	Parameter
AT+NOTI?	OK+Get:[para1]	Para1: 0, 1

AT+NOTI[para1]	OK+Set:[para1]	0: Don't Notify 1: Notify Default: 0

If this value is set to 1, when link established or lost the module will send OK+CONN or OK+LOST string through UART.

39. Query/Set notify mode

Send	Receive	Parameter
Q: AT+NOTP?	OK+ Get[P1]	P1: 0, 1; default: 0 0: without address 1: with address
Q: AT+NOTP[P1]	OK+ Set[P1]	

This command must work with "AT+NOTI1", if this switch is open, when the module connects, the prompt string will include the remote address.
OK+CONN: 001122334455 String "001122334455" is the MAC address string

40. Query/Set Module name

Send	Receive	Parameter
AT+NAME?	OK+NAME[para1]	Para1: module name, Max length is 12. Default: Mangocube
AT+NAME[para1]	OK+Set[para1]	

e.g. change module name to MyName
Send : AT+NAMEMyName
Receive: OK+SetName:MyName

41. Query/Set output driver power

Send	Receive	Parameter
Query: AT+PCTL?	OK+Get:[para1]	None

Set: AT+PCTL[para1]	OK+Set:[para1]	Para1: 0,1 0:Normal power output 1:Max power output Default: 1

Note: Added in V527

42. Query/Set Parity bit

Send	Receive	Parameter
Query: AT+PARI?	OK+Get:[para1]	None
Set: AT+PARI[para1]	OK+Set:[para1]	Para1: 0,1,2 0:None 1:EVEN 2:ODD Default: 0 (None)

43. Query/Set PIO1 output status (System LED)

Send	Receive	Parameter
AT+PIO1?	OK+Get:[para1]	Para1: 0, 1 0: Unconnected Output 500ms High 500ms Low, Connected output High. 1: Unconnected output Low, Connected output High. Default: 0
AT+ PIO1 [para1]	OK+Set:[para1]	

44. Query/Set PIO pins output high or low (Only this time, when module next power on, this value is not be used)

Send	Receive	Parameter
AT+PIO[para1]?	OK+PIO:[para1][para2]	Para1: 2~3, ?

AT+PIO[para1][para2]	OK+PIO:[para1][para2]	Para2: 0, 1, ? MangoCube BLE has only has 4 pins. Para1 is which PIO pin you want to Query/Set Value: 2,3. Para2 is Query or setup value. “0” is low and “1” is high and “?” is query

e.g. To Query PIO2,

Send: AT+PIO2?

To Setup PIO2 output high,

Send : AT+PIO21

Receive : OK+PIO21

MangoCube BLE version: para1 value is 2, 3

V525 added PIO2 PWM function, Para2 value is 0~9

0: output low

1: output high

2: output 100ms PWM

3: output 200ms PWM

……

9: output 800ms PWM

V527 added AT+PIO?? Format query all pins output state.

45. Query/Set Pin Code

Send	Receive	Parameter
AT+PASS?	OK+Get:[para1]	Para1 is Pin Code, 000000~999999 Default: 000000
AT+PIN[para1]	OK+Set:[para1]	

e.g. To Query Pin Code,

Send : AT+PIN?

Receive : OK+PIN:000000

To Setup Pin Code 001234

Send : AT+PIN001234

Receive : OK+Set:001234

46. Query/Set Module Power

Send	Receive	Parameter
AT+POWE?	OK+Get:[para1]	None
AT+ POWE [para1]	OK+Set:[para1]	Para: 0 ~ 3 0: -23dbm 1: -6dbm 2: 0dbm 3: 6dbm Default: 2

47. Query/Set Module sleep type

Send	Receive	Parameter
AT+PWRM?	OK+Get:[para1]	None
AT+PWRM[para1]	OK+Set:[para1]	Para1: 0~1 0:Auto sleep 1:don't auto sleep Default: 1

Note: Only supports peripheral role.

48. Query/Set reliable advertising mode

Send	Receive	Param
AT+RELI?	OK+ Get:[para1]	Para1: 0, 1 0: Normal advertising 1: Reliable advertising Default: 0
AT+RELI[para1]	OK+ Set:[para1]	

Note: This command is added since V530

49. Restore all setup value to factory setup

Send	Receive	Parameter
AT+RENEW	OK+RENEW	None

50. Restart module

Send	Receive	Parameter
AT+RESET	OK+RESET	None

51. Query/Set Master and Slaver Role

Send	Receive	Parameter
AT+ROLE?	OK+Get:[para1]	Para1: 0, 1 0: Peripheral 1: Central Default: 0
AT+ROLE[para1]	OK+Set:[para1]	

52. Query RSSI Value

Send	Receive	Parameter
AT+RSSI?	OK+RSSI:[para1]	None

Require: AT+MODE value > 0

Note: This command only used by Remote device to query when connected.

53. Query Last Connected Device Address

Send	Receive	Parameter
AT+RADD?	OK+RADD:MAC Address	None

54. Query/Set Stop bit

Send	Receive	Parameter
AT+STOP?	OK+Get:[para1]	None
AT+STOP[para1]	OK+Set:[para1]	Para1:0, 1 0: One stop bit 1: Two stop bit Default: 0 (One stop bit)

55. Work immediately

Send	Receive	Parameter
AT+START	OK+START	None

This command is only used when AT+IMME1 is setup.

56. Query Module into sleep mode

Send	Receive	Parameter
AT+SLEEP	OK+SLEEP	None

Note: Only support Peripheral role.

57. Query/Set save Module connected address parameters

Send	Receive	Parameter
AT+SAVE?	OK+Get:[para1]	None
AT+SAVE[para1]	OK+Set:[para1]	Para1: 0~1 0:Save when connected 1:Don't Save Default: 0

58. Query/Set discovery parameter

Send	Receive	Parameter
AT+SHOW?	OK+Get:[para1]	None

AT+SHOW[para1]	OK+Set:[para1]	Para1: 0~1 0:Don't show name 1:Show name Default: 0

Note: Please execute AT+FILT0 first. If AT+SHOW1 is setup, AT+DISC? Command will show you the name information included into scan result package.

59. Query/Set module connect remote device timeout value

Send	Receive	Parameter
AT+TCON?	OK+TCON:[para1]	None
AT+TCON[para1]	OK+Set:[para1]	Para1 is timeout value. When time out the module will not connect to this address anymore, then enter search mode. Para1 allowed value: 000000~999999 Unit is ms. Default: 000000 Connect forever

This value is only used for Central Role, when module has Last Connected address.

60. Query/Set Module Bond/Security Mode

Send	Receive	Parameter
AT+TYPE?	OK+Get:[para1]	None
AT+TYPE[para1]	OK+Set:[para1]	Para1: 0~2 0:Not need PIN Code 1:Auth not need PIN 2:Auth with PIN 3:Auth and bond Default: 0

61. Query/Set service UUID

Send	Receive	Parameter
AT+UUID?	OK+Get:[para1]	Para1: 0x0001~0xFFFE Default: 0xFFE0
AT+UUID[para1]	OK+Set:[para1]	

e.g. Change UUID value to 0xAAA0,

Send : AT+UUID0xAAA0

Receive: OK+Set:0xAAA0

62. Query Software Version

Send	Receive	Parameter
AT+VERR?	Version Information	None