

EMB1082 BLE AT command

This article introduces: AT instruction set supported by EMB1082 AT firmware.

AT instruction format

AT+ The instruction uses the ASCII-based command line and has the following format:

1. Format description

- a) <>: indicates the part that must be included
- b) []: indicates optional parts

2. Command format

```
AT+<CMD>[op][para-1,para-2,para-3,.....]\r\n
```

- a) AT+:Command message prefix
- b) CMD:Instruction string
- c) [op]:instruction operator. Can be:
 - 1, "=":means parameter setting, or query the specified parameter
 - 2, "?":means query system parameters
 - 3, "无":indicates the execution instruction
 - 4 "=?"; Represents the parameters set by the query user
- d) [para-n]:represents the parameter value set, or the parameter of the specified query
- e) \r: Carriage return character, ASCII code 0x0d
- f) \n: newline character, ASCII code: 0x0a

3. Response message format

```
[\r\n][+CMD:][para-1,para-2,para-3,.....]<\r\n><STATUS><\r\n>
```

- a) \r:: Carriage return character, ASCII code: 0x0d
- b) \n: newline character, ASCII code: 0x0a

- c) [+CMD:]: corresponding command string
- d) [para-n]: Parameters returned during query
- e) [STATUS]: The execution of the instruction is successful, there are two cases:
 - (1) OK: indicates correct implementation;
 - (2) ERROR: Indicates an execution error.

AT command details

AT

Function: Test instruction

format:	AT
response:	OK
parameter:	None

AT + RESET

Function: Module reset and restart

format:	AT+RESET
response:	OK
parameter:	None

AT + VERSION

Function: query version number

format:	AT+VERSION
response:	+VERSION =<Param>
parameter:	无
Explanation:	Param: patch version(8 characters)+app version(8 characters)Patch. The app version is 32-bit, and the response of the version is in the form of string

AT + LADDR

Function: Query Bluetooth device address

format:	AT+LADDR
response:	+LADDR=<Param>
parameter:	no
Explanation:	Param: Bluetooth address of the module

AT + NAME

Function: Set / Query module name:

Format:	AT+NAME=<Param>
response:	Param: Module Name(default: "MXHCIP")
Query format:	AT+NAME
response:	+NAME=<Param>

AT + PIN

Function: Set / Query pairing code

format:	AT+PIN=<Param>
response:	+PIN=<Param> OK

AT + BAUD

Function: query / set serial port parameters

Format:	AT+BAUD=<Param>
response:	+BAUD=<Param>OK
parameter:	Param: Baudrate, Set value: 2400 4800 9600 19200 38400 57600 115200 921600 default: 9600
Query format:	AT+BAUD
response:	+BAUD=<Param>

AT + ADVCFG

Function: query / set Bluetooth broadcast parameters

Format:	AT+ADVMOD=<Param>
response:	+ADVMOD =<Param>OK
Query format:	AT+ADVMOD
response:	None

AT + ADVINT

Function: On / Off—Broadcast

Format:	AT+ADVINT=<Param>
response:	+ ADVINT =<Param>OK
parameter:	Param: XXXX Default: 320(200ms)
Query format:	AT+ ADVINT
response:	+ ADVINT =<Param>

AT + POWER

Function: query / set the maximum transmit power of Bluetooth

Format:	AT+POWER=<Param>
response:	+ POWER =<Param> OK
parameter:	Param (-20,0,3,4,8) :
	-20: -20dBm
	0: 0dBm
	3: 3dBm
	4: 4dBm
	8: 8dBm

	1: Auto-boardcast. Default: 0
Query format:	AT+ POWER
response:	+ POWER =<Param>

AT + ADVDAT

Function: Set / Query—Broadcast data: (BEACON mode is valid)

Format:	AT+ADVDDAT=<Param>
response:	+ ADVDDAT =<Param>OK
parameter:	Param: Less than 31*2 Character strings
Query format:	AT+ADVDDAT
response:	+ ADVDDAT =<Param>

AT + SCANRSP

Function: Set / Query—SCAN Response data: (BEACON mode is valid))

Format:	AT+SCANRSP=<Param>
response:	+ SCANRSP =<Param>OK
parameter:	Param: Less than 31*2 Character strings
Query format:	AT+ SCANRSP
response:	+SCANRSP =<Param>

AT + ROLE

Function: Set / Query—Master / Slave Mode

Format:	AT+ROLE=<Param>
response:	+ROLE=<Param>OK

parameter:	Param(0, 1): 0: Slave 1: Master 2: beacon Default: 0
Query format:	AT+ROLE
response:	+ROLE=<Param>

AT + PHY2M

Function: Set / Query—2M Mode:

Format:	AT+PHY2M=<Param>
response:	+PHY2M =<Param>OK
parameter:	Param(0, 1): 0: 1M 1: 2M Default: 0
Query format:	AT+PHY2M
response:	+PHY2M =<Param>

AT + SLEEP

Function: Enter DLPS

Format:	AT+SLEEP
response:	+SLEEP OK
parameter:	Note: disconnected mode. Any command wakes up.

AT + PAIR

Function: Set / Query-Pairing Mode

Query format:	AT+PAIR=<Param>
response:	+PAIR =<Param>OK
parameter:	Param (0, 1, 2, 3)
	0: NO PASS WORD
	1: JUST WORK
	2: PASS_WORD

	3: PASS_WORD_BOND
	Default: 1

AT + INQ

Function: Search for Bluetooth devices (master mode command)

format:	AT+FACTORY<CR>
response:	OK +INQS
	0:<NAME> <MAC>
	1:<NAME> <MAC>
	2:<NAME> <MAC>
parameter:	NAME: The name of the module. MAC: the MAC address of the module

AT + SINQ

Function: Stop searching for Bluetooth devices (main mode command)

format:	AT+SINQ
response:	+INQE
parameter:	None

AT + SCANRLT

Function: find the Bluetooth address according to the number query (main mode command):

Query format:	AT+SCANRLT=<Param>
response:	+SCANLT=<Param>:<MAC>
parameter:	Param: Serial number of the found module
	MAC: MAC address of the found module

AT + CONN

Function: connect remote device (main mode command):

Query format:	AT+CONN=<Param>
response:	OK
	+CONNS
	+CONNECTED>> <MAC> (Remote device connected)
parameter:	Param: Device serial number of the found transparent module (0 – 9)
	MAC: MAC address of connected Bluetooth device

AT + FC

Function: Set / Query—UART Flow Control:

Query format:	AT+FC=<Param>
response:	+FC=<Param>OK
	Param(0, 1)
	0: Disable UART flow control
	1: Enable UART flow control
	Default: 0
Query format:	AT+BTFC
response:	+ BTFC =<Param>

AT + DEFAULT

Function: Software reset (restore default settings, restart after 500ms):

Query format:	AT+DEFAULT
response:	OK

AT + SERVUID

Function: Set/Check service UUID:

Set format:	AT+SERVUUID=<Param>
response:	+SERVUUID=<Param>OK
Parameter:	Param: UUID (16bit or 128bit); shown with 4 bytes or 32 bytes, example: 1B7E8251287741C3B46ECF057C562023

Query format:	AT+SERVUUID
response:	+SERVUUID=<Param>

AT + RXUUID

Function: Set/Check RX port UUID:

Set format:	AT+RXUUID=<Param>
response:	+RXUUID=<Param>OK
Parameter:	Param: UUID (16bit); shown with 4 bytes, example: FFE1

Query format:	AT+RXUUID
response:	+RXUUID=<Param>

AT + TXUUID

Function: Set/Check TX port UUID:

Set format:	AT+TXUUID=<Param>
response:	+TXUUID=<Param>OK
Parameter:	Param: UUID (16bit); shown with 4 bytes, example: FFE1

Query format:	AT+TXUUID
response:	+TXUUID=<Param>

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