

USR Cortex-M7 Series

Serial to Ethernet Device Server

AT Command manual V2.0.0

USR-N510, USR-N520, USR-N540, USR-N580



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1. Introduction

This document provides a detailed specification and a comprehensive listing for the whole set of AT commands for the ARM Cortex M7 Series serial to Ethernet converter. This document applies to USR-N510,USR-N520,USR-N540,USR-N580 models.

2. AT Command Setting Approach

2.1. Network AT command mode

After the device is powered on and starts working,users can send AT commands through local network, that means the USR products must be in the same subnet with PC or any device that sends AT commands. The syntax and usage of the AT command are described in details later.

Send **WWW.USR.CN** strings through UDP broadcast to port 48899(the remote host is set to 255.255.255.255:48899). If the module and the PC are on the same network segment, the module replies. As shown below.

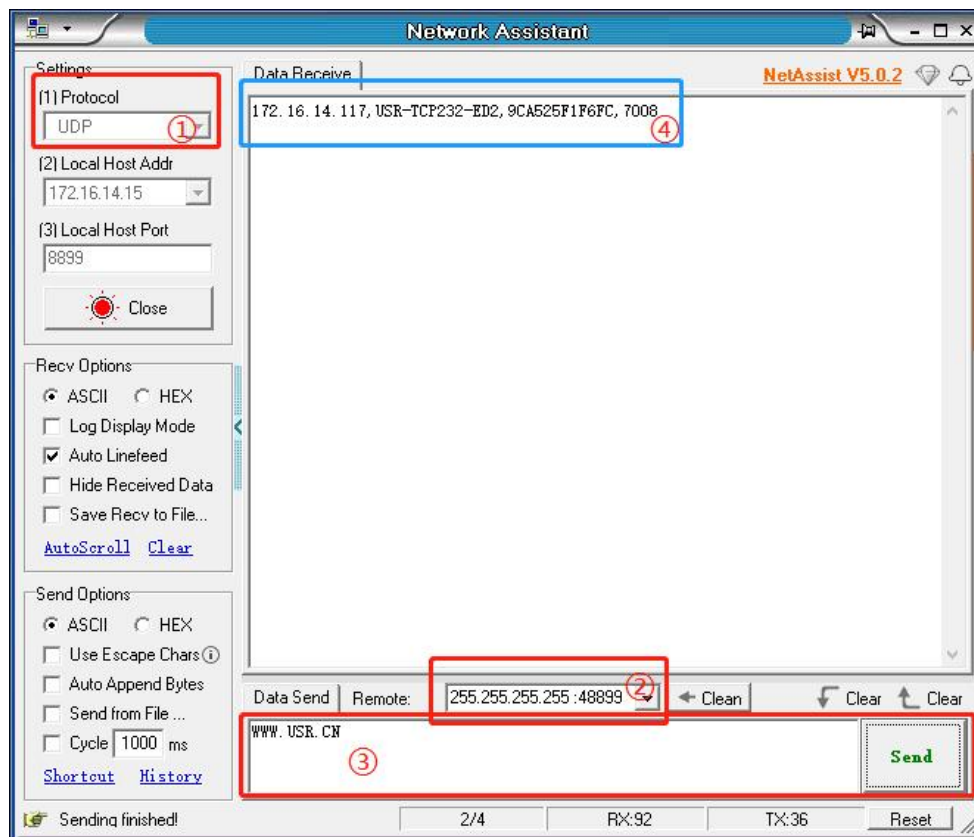


Figure 1 Enter Network AT Command Mode

AT this time, the module has entered the network AT command mode. If multiple devices respond at the same time, you only need to change the IP address of the remote host to be consistent with the IP address of the device to be set.

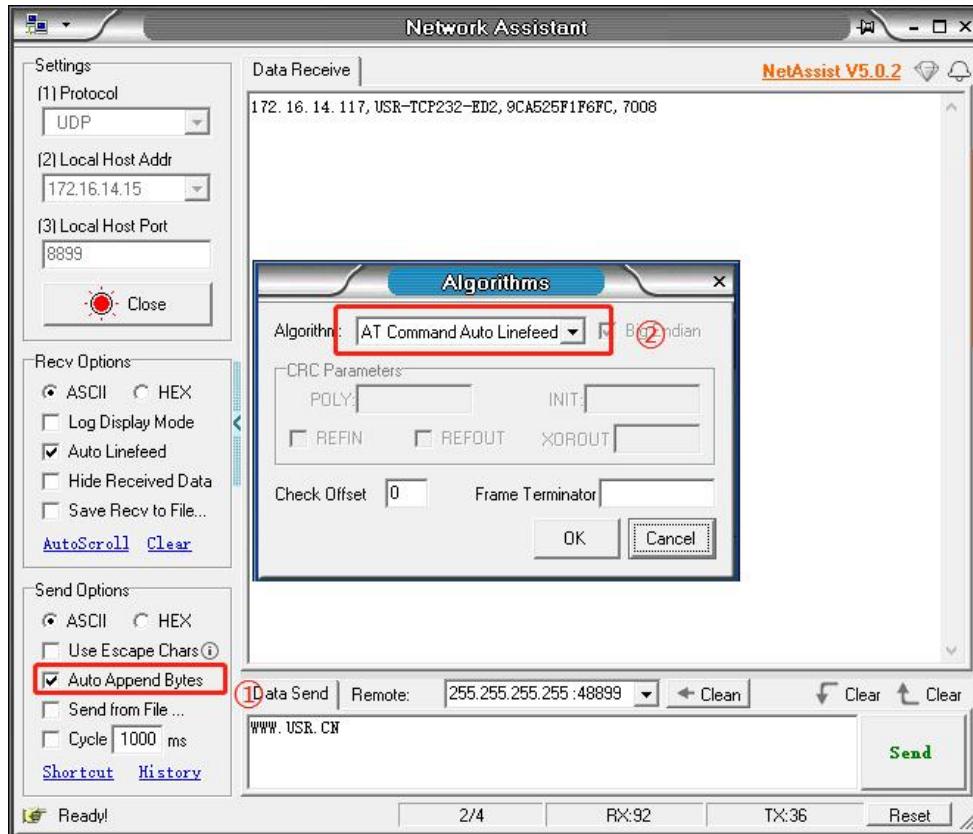


Figure 2 Check Auto Append Bytes

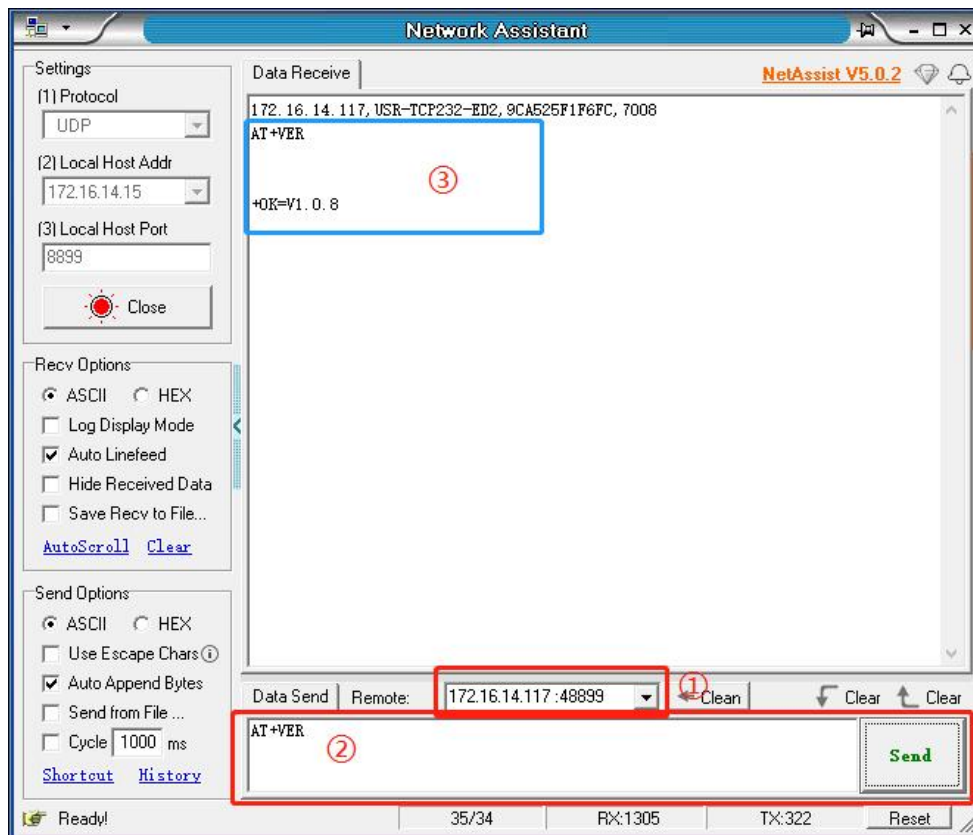


Figure 3 Send AT command

Now you can send AT command to the module. If no command is sent within 30 seconds, the module will automatically exit the Network AT command mode.

2.2. Serial AT command mode

After the device is powered on and starts working, you can send commands through the serial port to set device parameters. The syntax and usage of the AT command are described in details later.

The default parameters of the serial port are as follows: **Baud rate 115200, None Parity bit, 8 Data bits, 1 Stop bit.**

After the device is powered on and starts working, open the AT command debugging tool and set the serial port parameters. Click 'open' and click '+++a'. The data window on the right receives 'a+ok'. At this point, the device enters the command mode, and AT command parameters can be set.

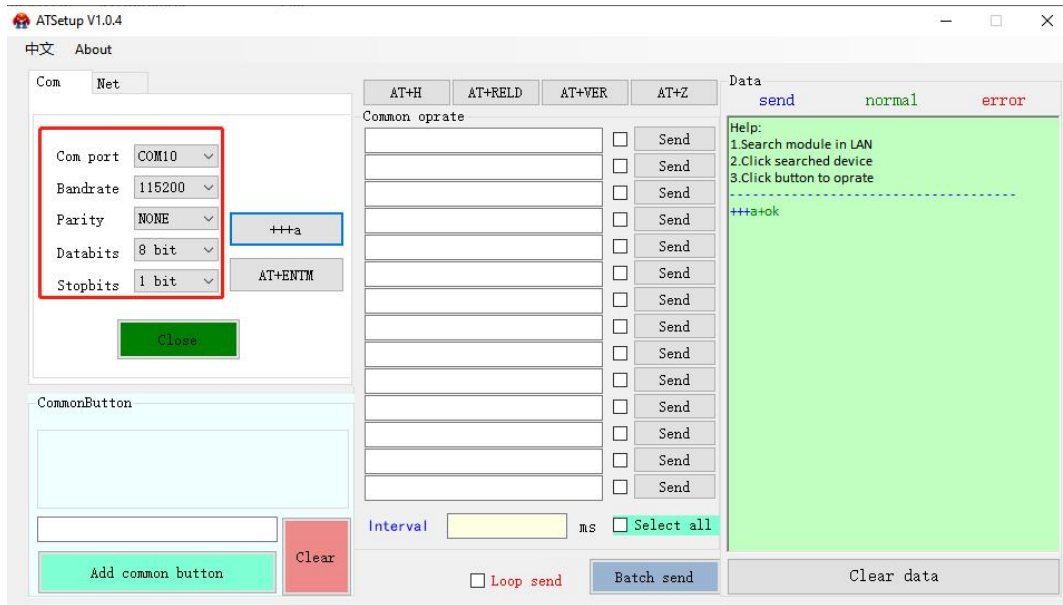


Figure 4 Enter Serial AT Command mode

To enter the AT command mode, input characters '+++' and 'a' need to meet certain timing requirements, as shown below.

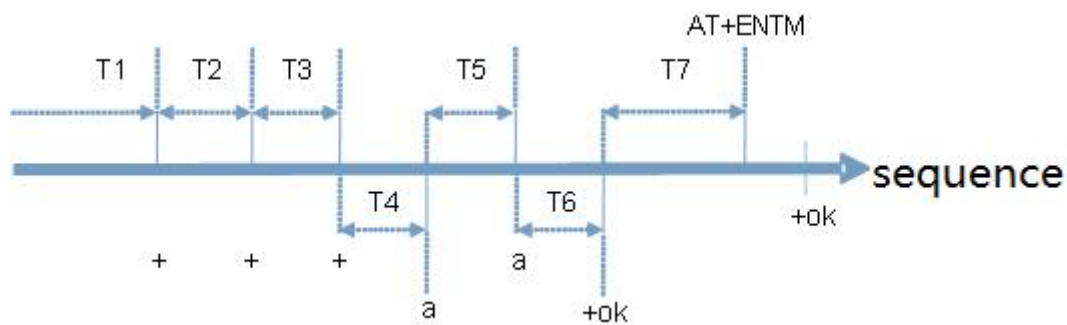


Figure 5 Timing sequence diagram

Timing sequence:

T1 > Serial port data packaging interval

T2 < 300ms

T3 < 300ms

T5 < 3s

To enter the command mode, the following procedure must be followed.

1. Start sending new packets, the device or tool send three continuous '+' to the USR module, and when the module receives '+++' sequence, it **replies with an 'a'**
2. When the device or tool receives an 'a', it must send back an 'a' to the USR module within 3 seconds

3. After receiving 'a', the USR module **sends '+ok'** to the device or tool and enters the AT instruction mode
4. After receiving '+ok', the device or tool knows that the USR module has entered AT instruction mode and can send AT commands to it.

To exit the command mode, the following steps are used.

1. The serial device or tool sends instructions AT+ENTM to the module
2. After receiving the command, the module returns '+ok' and returns to its previous working mode

AT command basic syntax: <AT+><CMD>[OP][para-1,para-2,para-3,para-4...]<CR>

Table 1 AT command syntax

Character	Definition	Required
<>	Name enclosed in angle brackets is a syntactical element, they must be included. Angle brackets do not appear on command line.	Yes
[]	Optional parameter of a command or an optional part of AT information response. Square brackets do not appear on command line.	No
AT+	AT command header	Yes
CMD	Command code	Yes
OP	Operator e.g. '=' indicates Setting, 'NULL' indicates No operator	No
para-n	Parameters when setting	No
CR	Carriage return character, command line terminator character, 0X0D in ASCII	Yes

Response basic syntax: <CR><LF>+<RSP>[para-1,para-2,para-3,para-4...][CR][LF]

Table 2 Response syntax

Character	Definition	Required
CR	Carriage return character, 0X0D in ASCII	Yes
LF	Linefeed character, 0X0A in ASCII	Yes
+RSP	Response +OK indicates success ERR indicates fail	Yes
para-n	Parameters	No
CR	Carriage return character	Yes
LF	Linefeed character	Yes

2.3. AT command error code

Table 3 Error Code Overview

Error code	Description
ERR1	Invalid command syntax
ERR2	Invalid command code
ERR3	Invalid operator
ERR4	Wrong parameter or missing arguments
ERR5	Operation not allowed
ERR6	No operation permission

2.4. AT command set

Table 4 AT command set

No.	Instruction	Description
General commands		
1	AT+E	Query/set echo status
2	AT+H	Help
3	AT+Z	Restart the module
4	AT+REBOOT	Restart the module
5	AT+CFGTF	Save the configuration as user defaults
6	AT+RELD	Restore the user default settings
7	AT+CLEAR	Restore the factory default settings
8	AT+VER	Query firmware version
9	AT+ENTM	Exit AT command mode
10	AT+MAC	Query MAC address
IP setting commands		
11	AT+WANN	Query/set WAN port parameters
12	AT+DNSTYPE	Query/set DNS obtained method
13	AT+DNS	Query/set preferred DNS Server
14	AT+SDNS	Query/set alternate DNS Server
Serial port setting commands		
15	AT+UARTN	Query/set serial port parameters of PortN
16	AT+UARTTLN	Query/set UART packaging mechanism of PortN
17	AT+RFCENN	Query/set RFC2217 baud rate synchronization of PortN
18	AT+UARTMN	Query/set serial port interface type of PortN (N520-H7-6)
Socket setting commands		
19	AT+SOCKMN	Query/set Socket M parameters of PortN
20	AT+SOCKLKMN	Query socket M connection status of PortN
21	AT+MAXSKN	Query/set maximum sockets no. supported in TCP server mode of PortN
22	AT+TCPSN	Query/set whether to receive new connection after

		exceeding maximum sockets NO.
23	AT+SOCKPORTAN	Query/set local port of SOCKA of PortN
24	AT+UDPONN	Do not filter remote IP or port in UDP mode of PortN
25	AT+MULTIENN	Query/set whether to enable UDP multicast in socket A of PortN
26	AT+SOCKSLN	Query/set whether to enable short-lived connection in TCP client mode of PortN
27	AT+SHORTON	Query/set short-lived connection timeout in Socket A of PortN
28	AT+SOCKTONN	Query/set time of no data traffic in socket to reconnect server of PortN
Heartbeat packet setting commands		
29	AT+HEARTENN	Query/set heartbeat packet status of PortN
30	AT+HEARTTPN	Query/set heartbeat packet direction of PortN
31	AT+HEARTTMN	Query/set the heartbeat packet sending interval of PortN
32	AT+HEARTDTN	Query/set user-defined heartbeat packets of PortN,only support ASCII
33	AT+HEARTUSERN	Query/set user-defined heartbeat packets of PortN,both ASCII and HEX are supported
Registration packet setting commands		
34	AT+REGENN	Query/set registration packet type of PortN
35	AT+REGTCPN	Query/set registration packet location of PortN
36	AT+REGUSRN	Query/set custom registration package of PortN,only support ASCII
37	AT+REGUSERN	Query/set custom registration package of PortN,both ASCII and HEX are supported
38	AT+REGCLOUDN	Query/set PUSR cloud device ID and password of PortN
HTTPD commands		
39	AT+HTPTPN	Query/set HTTP request methods of PortN
40	AT+HTPURLN	Query/set URL of PortN
41	AT+HTPHEADN	Query/set HTTP Header information of PortN
42	AT+HTPCHDN	Query/set whether to filter packet header of PortN
43	AT+HTPTON	Query/set http server response timeout
Modbus commands		
44	AT+MODTCPN	Query/set whether to enable modbus TCP of PortN
45	AT+MODPOLLN	Query/set whether to enable modbus poll of PortN
46	AT+MODTON	Query/set modbus slave response timeout of PortN
MQTT commands		
47	AT+MQTTEN	Query/set whether to enable MQTT

48	AT+MQTTVER	Query/set MQTT version
49	AT+MQTTCID	Query/set client ID
50	AT+MQTTSER	Query/set Host address and port
51	AT+MQTTLPORT	Query/set local port
52	AT+MQTTHEART TM	Query/set keep alive interval
53	AT+MQTTRECTM	Query/set MQTT connection timeout
54	AT+MQTTNDTRE CTM	Query/set MQTT reconnect period when no data flow in socket
55	AT+MQTTCS	Query/set whether to clean session
56	AT+MQTTAUTH	Query/set whether to enable user credential
57	AT+MQTTUSER	Query/set user name
58	AT+MQTTPSW	Query/set password
59	AT+MQTTLWTEN	Query/set whether to enable last will and testament
60	AT+MQTTLWTCF G	Query/set last will message
61	AT+MQTTSSL	Query/set whether to enable TLS/SSL
62	AT+MQTTPUBCU SEN	Query/set publishing method of message
63	AT+MQTTPUB	Query/set predefined topic message to publish
64	AT+MQTTSUB	Query/set topic message to subscribe
AWS IOT commands		
65	AT+AWSEN	Query/set whether to enable AWS IOT service
66	AT+AWSCID	Query/set client ID
67	AT+AWSSER	Query/set Host address and port
68	AT+AWSHEARTT M	Query/set keep alive interval
69	AT+AWSRECTM	Query/set MQTT connection timeout
70	AT+AWSNDTREC TM	Query/set MQTT reconnect period when no data flow in socket
71	AT+AWSCS	Query/set whether to clean session
72	AT+AWSSSL	Query/set whether to enable TLS/SSL
73	AT+AWSPUBCUS EN	Query/set whether to enable instant topic message transparent transmission
74	AT+AWSPUB	Query/set predefined topic message to publish
75	AT+AWSSUB	Query/set topic message to subscribe
PUSR cloud commands		
76	AT+USRCLDEN	Query/set whether to enable PUSR cloud service

77	AT+USRCLDTCO M	Query/set bonding serial ports
78	AT+USRCLDGTO P	Query/set whether to enable edge computing of PUSR cloud
Edge computing commands		
79	AT+EDGEEN	Query/set whether to enable edge computing gateway
System setting commands		
80	AT+MID	Query/set the module name
81	AT+WEBSOCKPO RT1	Query/set WebSocket port NO.
82	AT+WEBPOINT	Query/set websocket mapping direction
83	AT+WEBPORT	Query/Set the web server port number
84	AT+WEBU	Query/set web console username and password
85	AT+RSTIM	Query/set the no-data restart time
86	AT+UARTCLBUF	Query/set whether the serial port cache is enabled
87	AT+NETPRN	Query/set the network printing function of PortN
88	AT+SNMPEN	Query/set whether SNMP is enabled
89	AT+TELNETEN	Query/set whether TELNET is enabled
90	AT+TELNETPORT	Query/set TELNET port NO.
91	AT+NTPEN	Query/set whether NTP is enabled
92	AT+NTPSER	Query/set NTP server and timezone
93	AT+LOG	Query/set the LOG level
94	AT+P485CLT	Query/set RS485 anti-conflict function
Others		
95	AT+PDTIME	Query the production time
96	AT+SEARCH	Query/Set the search keywords and UDP port
97	AT+PLANG	Query/set the web language
98	AT+BTVER	Query Boot version
99	AT+PING	Test network connection
100	AT+UPTIME	Query the run time

2.5. AT command details

2.5.1. AT+E

- Function
 - Query/set echo status (The setting takes effect immediately)
- Format
 - ◆ Query
 - AT+E<CR>

<CR><LF>+OK=<on/off><CR><LF>

◆ Set

AT+E=<on/off><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

◆ on:enable command echo,send back command header and command code,<CR> not included.

◆ off:the command header and command code are not echoing

E.g.AT+E=ON

2.5.2. AT+H

➤ Function

Help

➤ Format

◆ Query

AT+H<CR>

<CR><LF>+OK=<CR><LF><ver><CR><LF>

➤ Parameter

◆ Ver: all commands will be printed

2.5.3. AT+Z

➤ Function

Restart the module

➤ Format

◆ Execute

AT+Z<CR>

<CR><LF>+OK<CR><LF>

➤ Parameter:none

<Note>:After the command is executed, the module restarts

2.5.4. AT+REBOOT

➤ Function

Restart the module

➤ Format

◆ Execute

AT+REBOOT<CR>

<CR><LF>+OK<CR><LF>

➤ Parameter:none

<Note>:After the command is executed, the module restarts

2.5.5. AT+CFGTF

➤ Function

Save the current parameters as user defaults

- Format
 - ◆ Set
AT+ CFGTF <CR>
<CR><LF>+OK=<sta><CR><LF>
- Parameter
 - ◆ Sta
saved: done
E.g.AT+CFGTF

2.5.6. AT+RELD

- Function
Restore the user default settings
- Format
 - ◆ Execute
AT+RELD<CR>
<CR><LF>+OK<CR><LF>
- Parameter: none

2.5.7. AT+CLEAR

- Function
Restore the factory default settings
- Format
 - ◆ Execute
AT+CLEAR<CR>
<CR><LF>+OK<CR><LF>
- Parameter: none

2.5.8. AT+VER

- Function
Query firmware version
- Format
 - ◆ Query
AT+VER<CR>
<CR><LF>+OK=<ver><CR><LF>
- Parameter
 - ◆ ver: firmware version

2.5.9. AT+ENTM

- Function
Exit AT command mode
- Format
 - ◆ Execute

```
AT+ENTM<CR>
<CR><LF>+OK<CR><LF>
```

- Parameter:none

2.5.10. AT+MAC

- Function
Query MAC address

- Format

- ◆ Query

```
AT+MAC<CR>
<CR><LF>+OK=<mac><CR><LF>
```

- Parameter

- ◆ mac: MAC address (e.g.9CA525C4F2F9)

2.5.11. AT+WANN

- Function
Query/set WAN port parameters

- Format

- ◆ Query

```
AT+WANN<CR>
<CR><LF>+OK=<mode,address,mask,gateway><CR><LF>
```

- ◆ Set

```
AT+WANN=<mode,address,mask,gateway><CR>
<CR><LF>+OK<CR><LF>
```

- Parameters

- ◆ mode:method of getting IP
 - static:static IP
 - DHCP:automatic (address,mask,gateway omitted)
- ◆ address: IP address
- ◆ mask:subnet mask
- ◆ gateway:gateway

E.g.AT+WANN=static,192.168.0.7,255.255.255.0,192.168.0.1

2.5.12. AT+DNSTYPE

- Function
Query/set DNS obtained method

- Format

- ◆ Query

```
AT+DNSTYPE<CR>
<CR><LF>+OK=<mode><CR><LF>
```

- ◆ Set

```
AT+DNSTYPE=<mode><CR>
```

```
<CR><LF>+OK<CR><LF>
```

➤ Parameter

◆ mode:

- AUTO: default
- Manual

E.g.AT+DNSTYPE=AUTO

2.5.13. AT+DNS

➤ Function

Query/set preferred DNS Server

➤ Format

◆ Query

```
AT+DNS<CR>
```

```
<CR><LF>+OK=< address ><CR><LF>
```

◆ Set

```
AT+DNS=< address ><CR>
```

```
<CR><LF>+OK<CR><LF>
```

➤ Parameter

◆ address: DNS server address

E.g.AT+DNS=208.67.222.222

<Note>: you should change DNSTYPE to manual first.

2.5.14. AT+SDNS

➤ Function

Query/set alternate DNS Server

➤ Format

◆ Query

```
AT+SDNS<CR>
```

```
<CR><LF>+OK=< address ><CR><LF>
```

◆ Set

```
AT+SDNS=< address ><CR>
```

```
<CR><LF>+OK<CR><LF>
```

➤ Parameter

◆ address: DNS server address

E.g.AT+SDNS=8.8.8.8

<Note>: you should change DNSTYPE to manual first.

2.5.15. AT+UARTN(N:Serial port number,1~8)

➤ Function

Query/set serial port parameters of PortN

- Format
 - ◆ Query


```
AT+UARTN<CR>
<CR><LF>+OK=<baudrate,data_bits,stop_bit,parity,flowctrl ><CR><LF>
```
 - ◆ Set


```
AT+UARTN=<baudrate,data_bits,stop_bit,parity,flowctrl ><CR><LF>
<CR><LF>+OK<CR><LF>
```
- Parameters
 - ◆ baudrate
 - 600~921.6K(bps)
 - ◆ data_bits:7,8
 - ◆ stop_bits:1,2
 - ◆ parity:
 - NONE
 - EVEN
 - ODD
 - ◆ flowctrl
 - NFC: none
 - FCR: software control flow XON,XOFF
 - FCH: hardware control flow(only RS232 and UART TTL support)

E.g.AT+UART1=115200,8,1,NONE,NFC

2.5.16. AT+UARTTLN

- Function

Query/set UART packaging mechanism of PortN
- Format
 - ◆ Query


```
AT+ UARTTLN<CR>
<CR><LF>+OK=<time,length><CR><LF>
```
 - ◆ Set


```
AT+ UARTTLN=<time,length> <CR>
<CR><LF>+OK<CR><LF>
```
- Parameters
 - ◆ time: Byte interval between packets,0 ~ 255 ms.
 - ◆ length: Maximum length of a packet,0 ~ 1460 byte. If the interval is not reached and the received packet length reaches the maximum, the packet is packed and sent.

E.g.AT+UARTTL1=0,0

2.5.17. AT+RFCENN

- Function

Query/set RFC2217 baud rate synchronization of PortN

- Format
 - ◆ Query
AT+RFCENN<CR>
<CR><LF>+OK=<status><CR><LF>
 - ◆ Set
AT+ RFCENN =<status><CR>
<CR><LF>+OK<CR><LF>
- Parameter
 - ON: enable.default
 - OFF: disable

E.g.AT+RFCEN1=ON

2.5.18. AT+UARTMN

- Function
Query/set serial port interface type of PortN (N520-H7-6)
- Format
 - ◆ Query
AT+UARTMN <CR>
<CR><LF>+OK=<status><CR><LF>
 - ◆ Set
AT+UARTMN =<status><CR>
<CR><LF>+OK<CR><LF>
- Parameter
 - ◆ status
 - 232: default
 - 485

E.g.AT+UARTM1=485

2.5.19. AT+SOCKMN(M:socket number,A~H.N:Serial port number,1~8)

- Function
Query/set Socket M parameters of PortN
- ◆ Query
AT+SOCKMN<CR>
<CR><LF>+OK=<protocol,IP,port ><CR><LF>
- ◆ Set
AT+SOCKMN=< protocol,IP,port ><CR>
<CR><LF>+OK<CR><LF>
- Parameter
 - ◆ Protocol
 - TCPS TCP Server
 - TCPC TCP Client

- UDPS UDP Server
- UDPC UDP Client
- HTPC Httpd Client
- ◆ IP: When the module is set to Client, the IP address is the server IP address
- ◆ Port: 0~65535,0 means random

E.g.AT+SOCKA1=TCPC,192.168.0.201,8234

2.5.20. AT+SOCKLKMN

- Function
 - Query socket M connection status of PortN
 - ◆ Query
 - AT+ SOCKLKMN<CR>
 - <CR><LF>+OK=<sta><CR><LF>
- Parameter
 - ◆ Sta
 - IDLE: Initialization status
 - LISTEN: When the module works as a TCP Server, it is listening for connection access
 - CONNECTING: The module is building a connection to the TCP Server
 - CONNECTED: The TCP connection to TCP server of the module has been established
 - CONNECTED (n) : Number of TCP clients connected to the module
 - ERROR: The module is abnormally disconnected

E.g.AT+SOCKLKA1

2.5.21. AT+MAXSKN

- Function
 - Query/set maximum sockets no. supported in TCP server mode of PortN
- Format
 - ◆ Query
 - AT+MAXSKN<CR>
 - <CR><LF>+OK=<num><CR><LF>
 - ◆ Set
 - AT+MAXSKN<CR>
 - <CR><LF>+OK =<num><CR><LF>
- Parameter
 - ◆ num: 1-16. maximum sockets supported in TCP server,default 8

E.g.AT+MAXSK1=8

2.5.22. AT+TCPSEN

- Function
 - Query/set whether to receive new connection after exceeding maximum sockets NO.
 - ◆ Query

```
AT+ TCPSEN<CR>
<CR><LF>+OK=<sta><CR><LF>
```

◆ Set

```
AT+TCPSEN<CR>
<CR><LF>+OK =<sta><CR><LF>
```

➤ Parameter

◆ Sta

- KICK: receive new socket connection and kick out the first connection.default
- KEEP: do not receive new socket connection

E.g.AT+TCPSE1=KICK

2.5.23. AT+SOCKPORTAN

➤ Function

Query/set local port of SOCKA of PortN

➤ Format

◆ Query

```
AT+SOCKPORTAN<CR>
<CR><LF>+OK=<port><CR><LF>
```

◆ Set

```
AT+SOCKPORTAN<CR>
<CR><LF>+OK =<port><CR><LF>
```

➤ Parameter

- ◆ port: local port NO. ,0~65535,default 0 random

E.g.AT+SOCKPORTA1=8899

2.5.24. AT+UDPONN

➤ Function

Do not filter remote IP or port in UDP mode of PortN

➤ Format

◆ Query

```
AT+ UDPONN <CR>
<CR><LF>+OK=<sta><CR><LF>
```

◆ Set

```
AT+ UDPONN =<sta><CR>
<CR><LF>+OK<CR><LF>
```

➤ Parameter

◆ sta

- ON: Do not filter remote IP or port
- OFF: filter remote IP or port.default

E.g.AT+UDPON1=ON

2.5.25. AT+MULTIENN

- Function
 - Query/set whether to enable UDP multicast in socket A of PortN
 - ◆ Query
 - AT+ MULTIENN<CR>
 - <CR><LF>+OK=<sta><CR><LF>
 - ◆ Set
 - AT+MULTIENN<CR>
 - <CR><LF>+OK =<sta><CR><LF>
 - Parameter
 - ◆ Sta
 - ON: enable.
 - OFF: disable.default.
- E.g.AT+MULTIEN1=OFF

2.5.26. AT+SOCKSLN

- Function
 - Query/set whether to enable short-lived connection in TCP client mode of PortN
 - Format
 - ◆ Query
 - AT+ SOCKSLN <CR>
 - <CR><LF>+OK=<sta><CR><LF>
 - ◆ Set
 - AT+ SOCKSLN =<sta><CR>
 - <CR><LF>+OK<CR><LF>
 - Parameter
 - ◆ sta
 - ON: enable
 - OFF: disable.default.
- E.g.AT+SOCKSL1 =ON

2.5.27. AT+SHORTON

- Function
 - Query/set short-lived connection timeout in Socket A of PortN
- Format
 - ◆ Query
 - AT+ SHORTON <CR>
 - <CR><LF>+OK=<time><CR><LF>
 - ◆ Set
 - AT+ SHORTON =<time><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

- ◆ time: 3-255s.default 3s.

E.g.AT+SHORTO1=3

2.5.28. AT+SOCKTONN

➤ Function

Query/set time of no data traffic in socket to reconnect server of PortN

➤ Format

- ◆ Query

AT+ SOCKTONN <CR>

<CR><LF>+OK=<time><CR><LF>

- ◆ Set

AT+ SOCKTONN =<time><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

- ◆ time: range 0~99999s, default 0s,close reconnection

E.g.AT+SOCKTONN =86400

2.5.29. AT+HEARTENN

➤ Function

Query/set heartbeat packet status of PortN

➤ Format

- ◆ Query

AT+ HEARTENN <CR>

<CR><LF>+OK=< status><CR><LF>

- ◆ Set

AT+ HEARTENN =< status><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

- ◆ status

- ON: enable
- OFF: disable,default

E.g.AT+HEARTEN1=ON

2.5.30. AT+HEARTTMN

➤ Function

Query/set the heartbeat packet sending interval of PortN

➤ Format

- ◆ Query

AT+ HEARTTMN<CR>

<CR><LF>+OK=< time><CR><LF>

◆ Set

AT+ HEARTTMN=< time><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

◆ time: default 30s,range 1 ~ 65535s

E.g.AT+HEARTTM1=30

2.5.31. AT+HEARTTPN

➤ Function

Query/set heartbeat packet direction of PortN

➤ Format

◆ Query

AT+ HEARTTP <CR>

<CR><LF>+OK=< type><CR><LF>

◆ Set

AT+ HEARTTP =< type ><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

◆ status

- NET: send to Ethernet port
- COM: send to serial port

E.g.AT+HEARTTP1=NET

2.5.32. AT+HEARTDTN

➤ Function

Query/set user-defined heartbeat packets of PortN,only support ASCII

➤ Format

◆ Query

AT+ HEARTDT <CR>

<CR><LF>+OK=< data><CR><LF>

◆ Set

AT+ HEARTDT =< data><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

◆ data: up to 40 characters

E.g.AT+HEARTDT1=www.usr.cn

2.5.33. AT+HEARTUSERN

➤ Function

Query/set user-defined heartbeat packets of PortN,both ASCII and HEX are supported

- Format
 - ◆ Query


```
AT+ HEARTUSERN <CR>
<CR><LF>+OK=< data,type ><CR><LF>
```
 - ◆ Set


```
AT+ HEARTUSERN =< data,type ><CR>
<CR><LF>+OK<CR><LF>
```
- Parameters
 - ◆ data: user-defined heartbeat packets, up to 40 characters in ASCII, up to 40 characters in HEX
 - ◆ type: format ,ASCII or HEX

E.g. AT+HEARTUSERN = 01020305,HEX

2.5.34. AT+REGENN

- Function

Query/set registration packet type of PortN
- Format
 - ◆ Query


```
AT+REGENN <CR>
<CR><LF>+OK=<status><CR><LF>
```
 - ◆ Set


```
AT+REGENN =<status><CR>
<CR><LF>+OK<CR><LF>
```
- Parameter
 - ◆ status
 - USR: User-defined registration package, up to 40 characters
 - MAC: MAC address
 - CLOUD: PUSR cloud ID and password
 - OFF: disable this function

E.g. AT+REGEN1=USR

2.5.35. AT+REGTCPN

- Function

Query/set registration packet location of PortN
- Format
 - ◆ Query


```
AT+REGTCPN<CR>
<CR><LF>+OK=< status><CR><LF>
```
 - ◆ Set


```
AT+REGTCPN =< status><CR>
<CR><LF>+OK<CR><LF>
```
- Parameter

- ◆ status
 - First:A registration package is sent only the first time you connect to the server
 - Every:Add a registration packet before each packet sent to the server
 - ALL: both are supported

E.g.AT+REGTCP1=all

2.5.36. AT+REGUSRN

- Function

Query/set custom registration package of PortN,only support ASCII
- Format
 - ◆ Query


```
AT+ REGUSRN<CR>
<CR><LF>+OK=<data><CR><LF>
```
 - ◆ Set


```
AT+ REGUSRN =<data><CR>
<CR><LF>+OK<CR><LF>
```
- Parameter
 - ◆ data: up to 40 characters

E.g.AT+REGUSR1=12345

2.5.37. AT+REGUSERN

- Function

Query/set custom registration package of PortN,both ASCII and HEX are supported
- Format
 - ◆ Query


```
AT+ REGUSERN <CR>
<CR><LF>+OK=< data,type ><CR><LF>
```
 - ◆ Set


```
AT+ REGUSERN =< data,type ><CR>
<CR><LF>+OK<CR><LF>
```
- Parameters
 - ◆ data:custom registration package,up to 40 characters in ASCII,up to 40 characters in HEX
 - ◆ type:format ,ASCII or HEX

E.g.AT+REGUSERN=01020305,HEX

2.5.38. AT+REGCLOUDN

- Function

Query/set PUSR cloud device ID and password of PortN
- Format
 - ◆ Query


```
AT+REGCLOUDN<CR>
```

```
<CR><LF>+OK=<ID,CODE><CR><LF>
```

◆ Set

```
AT+REGCLOUDN=<ID,CODE><CR>
```

```
<CR><LF>+OK<CR><LF>
```

➤ Parameter

◆ ID: device ID, 20 characters

◆ CODE: password, 8 characters

E.g.AT+REGCLOUD1=12345678901234567890, 12345786

2.5.39. AT+HTPTPN

➤ Function

Query/set HTTP request methods of PortN

➤ Format

◆ Query

```
AT+HTPTPN<CR>
```

```
<CR><LF>+OK=< status><CR><LF>
```

◆ Set

```
AT+HTPTPN=< status><CR>
```

```
<CR><LF>+OK<CR><LF>
```

➤ Parameter

◆ status

- GET: request method get

- POST:request method post

E.g.AT+HTPTP1=GET

2.5.40. AT+HTPURLN

➤ Function

Query/set URL of PortN

➤ Format

◆ Query

```
AT+HTPURLN<CR>
```

```
<CR><LF>+OK=<URL><CR><LF>
```

◆ Set

```
AT+HTPURLN =<URL><CR>
```

```
<CR><LF>+OK<CR><LF>
```

➤ Parameter

◆ URL:up to 99 characters。

E.g.AT+HTPURL1=/1.php?

2.5.41. AT+HTPHEADN

➤ Function

Query/set HTTP Header information of PortN

➤ Format

◆ Query

```
AT+HTPHEADN<CR>
<CR><LF>+OK=<string><CR><LF>
```

◆ Set

```
AT+HTPHEADN=<string><CR>
<CR><LF>+OK<CR><LF>
```

➤ Parameter

◆ string: up to 180 characters

Note: Carriage return newlines are represented by <<CRLF>> escape characters

E.g. AT+HTPHEAD1=Accept:text<<CRLF>>

2.5.42. AT+HTPCHDN

➤ Function

Query/set whether to filter packet header of PortN

➤ Format

◆ Query

```
AT+ HTPCHDN <CR>
<CR><LF>+OK=<sta><CR><LF>
```

◆ Set

```
AT+ HTPCHDN =<sta><CR>
<CR><LF>+OK<CR><LF>
```

➤ Parameter

◆ Sta

- ON: enable, default
- OFF: disable

E.g. AT+HTPCHD1=ON

2.5.43. AT+HTPTON

➤ Function

Query/set http server response timeout

◆ Query

```
AT+ HTPTON<CR>
<CR><LF>+OK=<time><CR><LF>
```

◆ Set

```
AT+HTPTON<CR>
<CR><LF>+OK=<time><CR><LF>
```

➤ Parameter

◆ time: 3-255s, default 10s

E.g. AT+HTPTO1=20

2.5.44. AT+MODTCPN

- Function
Query/set whether to enable modbus TCP of PortN
- Format
 - ◆ Query
AT+ MODTCPN<CR>
<CR><LF>+OK=<sta><CR><LF>
 - ◆ Set
AT+ MODTCPN=<sta><CR>
<CR><LF>+OK<CR><LF>
- Parameter
 - ◆ Sta
 - ON: enable
 - OFF: disable,default

E.g.AT+MODTCP1=ON

2.5.45. AT+MODPOLLN

- Function
Query/set whether to enable modbus poll of PortN
- Format
 - ◆ Query
AT+ MODPOLLN<CR>
<CR><LF>+OK=<sta><CR><LF>
 - ◆ Set
AT+ MODPOLLN=<sta><CR>
<CR><LF>+OK<CR><LF>
- Parameter
 - ◆ Sta
 - ON: enable
 - OFF: disable,default

E.g.AT+MODPOLL1=ON

2.5.46. AT+MODTON

- Function
Query/set modbus slave response timeout of PortN
- ◆ Query
AT+ MODTON<CR>
<CR><LF>+OK=<time><CR><LF>
- ◆ Set
AT+MODTON<CR>

<CR><LF>+OK =<time><CR><LF>

➤ Parameter

- ◆ time: 10-9999ms,default 200ms

E.g.AT+MODT01=200

2.5.47. AT+MQTTEN

➤ Function

Query/set whether to enable MQTT

➤ Format

- ◆ Query

AT+MQTTEN<CR>

<CR><LF>+OK=<sta><CR><LF>

- ◆ Set

AT+MQTTEN=<sta><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

- ◆ sta

- ON: enable
- OFF:disable.default.

E.g.AT+MQTTEN=ON

2.5.48. AT+MQTTVER

➤ Function

Query/set MQTT version

➤ Format

- ◆ Query

AT+MQTTVER<CR>

<CR><LF>+OK=<ver><CR><LF>

- ◆ Set

AT+MQTTVER=<ver><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

- ◆ ver

- 3: V3.1.0
- 4:V3.1.1.default.

E.g.AT+MQTTVER=4

2.5.49. AT+MQTTCID

➤ Function

Query/set client ID

➤ Format

- ◆ Query
 - AT+MQTTCID<CR>
 - <CR><LF>+OK=< clientid><CR><LF>
- ◆ Set
 - AT+MQTTCID=< clientid><CR>
 - <CR><LF>+OK<CR><LF>
- Parameter
 - ◆ clientid: up to 128 characters
 - E.g. AT+MQTTCID=1c5b47ea8b6648d5adc2cb77365ede92

2.5.50. AT+MQTTSER

- Function
 - Query/set Host address and port
- Format
 - ◆ Query
 - AT+MQTTSER<CR>
 - <CR><LF>+OK=< address,port><CR><LF>
 - ◆ Set
 - AT+MQTTSER=< address,port><CR>
 - <CR><LF>+OK<CR><LF>
- Parameter
 - ◆ address: broker address, up to 128 characters
 - ◆ Port: 1-65535, default 1883
 - E.g. AT+MQTTSER=mqtt.eclipse.org,1883

2.5.51. AT+MQTTLPOR

- Function
 - Query/set local port
- Format
 - ◆ Query
 - AT+MQTTLPOR<CR>
 - <CR><LF>+OK=<port><CR><LF>
 - ◆ Set
 - AT+MQTTLPOR<CR>
 - <CR><LF>+OK =<port><CR><LF>
- Parameter
 - ◆ port: local port NO. ,0-65535, default 0, random
 - E.g. AT+MQTTLPOR=8000

2.5.52. AT+MQTTHEARTTM

- Function

Query/set keep alive interval

- Format
 - ◆ Query
AT+MQTTHEARTTM<CR>
<CR><LF>+OK=<time><CR><LF>
 - ◆ Set
AT+MQTTHEARTTM=<time><CR>
<CR><LF>+OK<CR><LF>
- Parameter
 - ◆ time: default 60s, range 0 ~ 65535s, 0 means disable
E.g. AT+MQTTHEARTTM=30

2.5.53. AT+MQTTRECTM

- Function
Query/set MQTT connection timeout
- Format
 - ◆ Query
AT+MQTTRECTM<CR>
<CR><LF>+OK=<time><CR><LF>
 - ◆ Set
AT+MQTTRECTM=<time><CR>
<CR><LF>+OK<CR><LF>
- Parameter
 - ◆ time: default 1s, range 1 ~ 65535s.
E.g. AT+MQTTRECTM=10

2.5.54. AT+MQTTNDTRECTM

- Function
Query/set MQTT reconnect period when no data flow in socket
- Format
 - ◆ Query
AT+MQTTNDTRECTM<CR>
<CR><LF>+OK=<time><CR><LF>
 - ◆ Set
AT+MQTTNDTRECTM=<time><CR>
<CR><LF>+OK<CR><LF>
- Parameter
 - ◆ time: default 0 means disable, range 0 ~ 65535s.
E.g. AT+MQTTNDTRECTM=3600

2.5.55. AT+MQTTCS

- Function
Query/set whether to clean session
- Format
 - ◆ Query
AT+MQTTCS<CR>
<CR><LF>+OK=<sta><CR><LF>
 - ◆ Set
AT+MQTTCS=<sta><CR>
<CR><LF>+OK<CR><LF>
- Parameter
 - ◆ sta
 - ON: enable
 - OFF:disable.default.

E.g.AT+MQTTCS=ON

2.5.56. AT+MQTTAUTH

- Function
Query/set whether to enable user credential
- Format
 - ◆ Query
AT+MQTTAUTH<CR>
<CR><LF>+OK=<sta><CR><LF>
 - ◆ Set
AT+MQTTAUTH=<sta><CR>
<CR><LF>+OK<CR><LF>
- Parameter
 - ◆ sta
 - ON: enable
 - OFF:disable.default.

E.g.AT+MQTTAUTH=ON

2.5.57. AT+MQTTUSER

- Function
Query/set user name
- Format
 - ◆ Query
AT+MQTTUSER<CR>
<CR><LF>+OK=<user><CR><LF>
 - ◆ Set


```
AT+MQTTUSER<CR>
<CR><LF>+OK =<user><CR><LF>
```

- Parameters
 - ◆ user: up to 128 characters, can't be NULL
- E.g. AT+MQTTUSER=admin

2.5.58. AT+MQTTPSW

- Function
Query/set password
 - Format
 - ◆ Query

```
AT+MQTTPSW<CR>
<CR><LF>+OK=<password><CR><LF>
```
 - ◆ Set

```
AT+MQTTPSW<CR>
<CR><LF>+OK =<password><CR><LF>
```
 - Parameters
 - ◆ password: up to 128 characters, can't be NULL
- E.g. AT+MQTTPSW=admin

2.5.59. AT+MQTTLWTEN

- Function
Query/set whether to enable last will and testament
 - Format
 - ◆ Query

```
AT+MQTTLWTEN<CR>
<CR><LF>+OK=<sta><CR><LF>
```
 - ◆ Set

```
AT+MQTTLWTEN=<sta><CR>
<CR><LF>+OK<CR><LF>
```
 - Parameter
 - ◆ sta
 - ON: enable
 - OFF: disable.default.
- E.g. AT+MQTTLWTEN=ON

2.5.60. AT+MQTTLWTCFG

- Function
Query/set last will message
- ◆ Query

```
AT+MQTTLWTCFG<CR>
```

<CR><LF>+OK=<topic,Qos,retained,payload><CR><LF>

◆ Set

AT+MQTTLWTCFG=<topic,Qos,retained,payload><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

◆ topic:0-128 characters,default /will

◆ Qos: 0,1,2.default 0.

◆ retained

● ON: enable

● OFF:disable.default.

◆ payload:0-128 characters,default offline

E.g.AT+MQTTLWTCFG=/will,0,ON,offline

2.5.61. AT+MQTTSSL

➤ Function

Query/set whether to enable TLS/SSL

◆ Query

AT+MQTTSSL<CR>

<CR><LF>+OK=<sslen,sslver,sslmod><CR><LF>

◆ Set

AT+MQTTSSL=<sslen,sslver,sslmod><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

◆ sslen

● ON: enable

● OFF:disable.default.

◆ sslver: protocol version

● 1: TLS1.0

● 2:TLS1.2

◆ sslmod

● 0: do not verify certificate

● 1: only verify server certificate

● 2: verify server and client certificate

E.g.AT+MQTTSSL=ON,1,0

2.5.62. AT+MQTTPUBCUSEN

➤ Function

Query/set publishing method of message

➤ Format

◆ Query

AT+MQTTPUBCUSEN<CR>

<CR><LF>+OK=<sta><CR><LF>

◆ Set

AT+MQTTPUBCUSEN=<sta><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

◆ sta

- ON: enable custom topic message transparent transform. Format: topic,Qos,retain,payload.
- OFF:using predefined topic.default.

E.g.AT+MQTTPUBCUSEN=ON

2.5.63. AT+MQTTPUB

➤ Function

Query/set predefined topic message to publish

◆ Query

AT+MQTTPUB<CR>

<CR><LF>+OK=<pubnum,puben,topic,mode,symbol,Qos,retained,comn><CR><LF>

◆ Set

AT+MQTTPUB=<pubnum,puben,topic,mode,symbol,Qos,retained,comn><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

- ◆ pubnum:1~16, each serial port support maximum 16 topics.
- ◆ puben
 - ON: enable.this topic message can be published to server.
 - OFF:disable.default.
- ◆ topic:0~128 characters,do not support wildcards,default /PubTopicn
- ◆ mode
 - 0: send to all topics.default.
 - 1: send to specified topic.format:symbol,payload.
- ◆ symbol: topic alias,maximum 16 characters,default same to pubnum.
- ◆ Qos: 0,1,2.default 0.
- ◆ retained
 - ON: enable
 - OFF:disable.default.
- ◆ comn:serial port number.

E.g.AT+MQTTPUB=1,ON,/PubTopic1,0,1,0,OFF,1

2.5.64. AT+MQTTSUB

➤ Function

Query/set topic message to subscribe

◆ Query

AT+MQTTSUB<CR>

<CR><LF>+OK=<subnum,suben,topic,mode,Qos,cut,comn><CR><LF>

◆ Set

AT+MQTTSUB=<subnum,suben,topic,mode,Qos,cut,comn><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

- ◆ subnum:1~16, each serial port support maximum 16 topics.
- ◆ puben
 - ON: enable.subscribe this topic message from server.
 - OFF:disable.default.
- ◆ topic:maximum 128 characters
- ◆ mode
 - 0: only send payload to serial port.default.
 - 1: topic and payload are sent to serial port.
- ◆ Qos: 0,1,2.default 0.
- ◆ cut: separator or delimiter between topic and payload. e.g. , represent comma.
- ◆ comn:serial port number. 1~n.

E.g.AT+MQTTSUB=1,ON,/SubTopic1,1,0,,,1

2.5.65. AT+AWSEN

➤ Function

Query/set whether to enable AWS IOT service

➤ Format

◆ Query

AT+AWSEN<CR>

<CR><LF>+OK=<sta><CR><LF>

◆ Set

AT+AWSEN=<sta><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

◆ sta

- ON: enable
- OFF:disable.default.

E.g.AT+AWSEN=ON

2.5.66. AT+AWSCID

➤ Function

Query/set client ID

➤ Format

◆ Query

AT+ AWSCID<CR>

<CR><LF>+OK=< clientid><CR><LF>

- ◆ Set
AT+AWSCID=< clientid><CR>
<CR><LF>+OK<CR><LF>

- Parameter

- ◆ clientid: up to 128 characters

E.g. AT+AWSCID=1c5b47ea8b6648d5adc2cb77365ede92

2.5.67. AT+AWSSER

- Function

Query/set Host address and port

- Format

- ◆ Query

```
AT+AWSSER<CR>  
<CR><LF>+OK=< address,port><CR><LF>
```

- ◆ Set

```
AT+AWSSER=< address,port><CR>  
<CR><LF>+OK<CR><LF>
```

- Parameter

- ◆ address: broker address, up to 128 characters
- ◆ Port: 1~65535, default 8883

E.g. AT+AWSSER=amazonaws.com.cn,8883

2.5.68. AT+AWSHEARTTM

- Function

Query/set keep alive interval

- Format

- ◆ Query

```
AT+AWSHEARTTM<CR>  
<CR><LF>+OK=< time><CR><LF>
```

- ◆ Set

```
AT+AWSHEARTTM=< time><CR>  
<CR><LF>+OK<CR><LF>
```

- Parameter

- ◆ time: default 60s, range 30 ~ 1200s

E.g. AT+AWSHEARTTM=30

2.5.69. AT+AWSRECTM

- Function

Query/set MQTT connection timeout

- Format

- ◆ Query

```
AT+ AWSRECTM<CR>
<CR><LF>+OK=<time><CR><LF>
```

- ◆ Set

```
AT+ AWSRECTM=<time><CR>
<CR><LF>+OK<CR><LF>
```

- Parameter

- ◆ time:default 5s,range 1 ~ 65535s.

E.g.AT+AWSRECTM=10

2.5.70. AT+AWSNDTRECTM

- Function

Query/set MQTT reconnect period when no data flow in socket

- Format

- ◆ Query

```
AT+ AWSNDTRECTM<CR>
<CR><LF>+OK=<time><CR><LF>
```

- ◆ Set

```
AT+ AWSNDTRECTM=<time><CR>
<CR><LF>+OK<CR><LF>
```

- Parameter

- ◆ time:default 0 means disable,range 0 ~ 65535s.

E.g.AT+AWSNDTRECTM=3600

2.5.71. AT+AWSCS

- Function

Query/set whether to clean session

- Format

- ◆ Query

```
AT+AWSCS<CR>
<CR><LF>+OK=<sta><CR><LF>
```

- ◆ Set

```
AT+AWSCS=<sta><CR>
<CR><LF>+OK<CR><LF>
```

- Parameter

- ◆ sta

- ON: enable
- OFF:disable.default.

E.g.AT+AWSCS=ON

2.5.72. AT+AWSSSL

- Function

Query/set whether to enable TLS/SSL

◆ Query

```
AT+AWSSSL<CR>
<CR><LF>+OK=<sslens,sslver,sslmod><CR><LF>
```

◆ Set

```
AT+AWSSSL=<sslens,sslver,sslmod><CR>
<CR><LF>+OK<CR><LF>
```

➤ Parameter

◆ sslens

- ON: enable
- OFF:disable.

◆ sslver: protocol version

- 2:TLS1.2

◆ sslmod

- 2: verify server and client certificate

E.g.AT+AWSSSL=ON,2,2

2.5.73. AT+AWSPUBCUSEN

➤ Function

Query/set whether to enable instant topic message transparent transmission

➤ Format

◆ Query

```
AT+AWSPUBCUSEN<CR>
<CR><LF>+OK=<sta><CR><LF>
```

◆ Set

```
AT+AWSPUBCUSEN=<sta><CR>
<CR><LF>+OK<CR><LF>
```

➤ Parameter

◆ sta

- ON: enable custom topic message transparent transform. Format: topic,Qos,retain,payload.
- OFF:using predefined topic.default.

E.g.AT+AWSPUBCUSEN=ON

2.5.74. AT+AWSPUB

➤ Function

Query/set predefined topic message to publish

◆ Query

```
AT+AWSPUB<CR>
<CR><LF>+OK=<pubnum,puben,topic,mode,symbol,Qos,retained,comn><CR><LF>
```

◆ Set

```
AT+AWSPUB=<pubnum,puben,topic,mode,symbol,Qos,retained,comn><CR>
```

<CR><LF>+OK<CR><LF>

➤ Parameter

- ◆ pubnum:1~16, each serial port support maximum 16 topics.
- ◆ puben
 - ON: enable.this topic message can be published to server.
 - OFF:disable.default.
- ◆ topic:0~128 characters,do not support wildcards
- ◆ mode
 - 0: send to all topics.default.
 - 1: send to specified topic.format:symbol,payload.
- ◆ symbol: topic alias,maximum 16 characters,default same to pubnum.
- ◆ Qos: 0,1.default 0.
- ◆ retained
 - ON: enable
 - OFF:disable.default.
- ◆ comn:serial port number.

E.g.AT+AWSPUB=1,ON,/PubTopic1,0,1,0,OFF,1

2.5.75. AT+AWSSUB

➤ Function

Query/set topic message to subscribe

◆ Query

AT+AWSSUB<CR>

<CR><LF>+OK=<subnum,suben,topic,mode,Qos,cut,comn><CR><LF>

◆ Set

AT+AWSSUB=<subnum,suben,topic,mode,Qos,cut,comn><CR>

<CR><LF>+OK<CR><LF>

➤ Parameter

- ◆ subnum:1~16, each serial port support maximum 16 topics.
- ◆ puben
 - ON: enable.subscribe this topic message from server.
 - OFF:disable.default.
- ◆ topic:maximum 128 characters
- ◆ mode
 - 0: only send payload to serial port.default.
 - 1: topic and payload are sent to serial port.
- ◆ Qos: 0,1.default 0.
- ◆ cut: separator or delimiter between topic and payload. e.g. , represent comma.
- ◆ comn:serial port number 1~n.

E.g.AT+AWSSUB=1,ON,/SubTopic1,1,0,,,1

2.5.76. AT+USRCLDEN

- Function
Query/set whether to enable PUSR cloud service
- Format
 - ◆ Query
AT+USRCLDEN<CR>
<CR><LF>+OK=<sta><CR><LF>
 - ◆ Set
AT+USRCLDEN=<sta><CR>
<CR><LF>+OK<CR><LF>
- Parameter
 - ◆ sta
 - ON: enable
 - OFF:disable.default.

E.g.AT+USRCLDEN=ON

2.5.77. AT+USRCLDTCOM

- Function
Query/set bonding serial ports
- Format
 - ◆ Query
AT+USRCLDTCOM<CR>
<CR><LF>+OK=<com1,com2,...><CR><LF>
 - ◆ Set
AT+USRCLDTCOM<CR>
<CR><LF>+OK =<com1,com2,...><CR><LF>
- Parameter
 - ◆ com1,com2,...: serial port number 1~n

E.g.AT+USRCLDTCOM=1,2

2.5.78. AT+USRCLDGTOP

- Function
Query/set whether to enable edge computing of PUSR cloud
- Format
 - ◆ Query
AT+USRCLDGTOP<CR>
<CR><LF>+OK=<sta><CR><LF>
 - ◆ Set
AT+USRCLDGTOP=<sta><CR>
<CR><LF>+OK<CR><LF>

- Parameter
 - ◆ sta
 - ON: enable
 - OFF:disable.default.
- E.g.AT+USRCLDGTOP=ON

2.5.79. AT+EDGEEN

- Function

Query/set whether to enable edge computing gateway
 - Format
 - ◆ Query
AT+EDGEEN<CR>
<CR><LF>+OK=<sta><CR><LF>
 - ◆ Set
AT+EDGEEN=<sta><CR>
<CR><LF>+OK<CR><LF>
 - Parameter
 - ◆ sta
 - ON: enable
 - OFF:disable.default.
- E.g.AT+EDGEEN=ON

2.5.80. AT+MID

- Function

Query/set the module name
 - Format
 - ◆ Query
AT+ MID <CR>
<CR><LF>+OK=< name ><CR><LF>
 - ◆ Set
AT+ MID =< name ><CR>
<CR><LF>+OK<CR><LF>
 - Parameter
 - ◆ name:up to 32 characters,can't be null
- E.g.AT+MID =USR-N540

2.5.81. AT+WEBSOCKETPORT1

- Function

Query/set WebSocket port NO.
- Format
 - ◆ Query

```
AT+ WEBSOCKETPORT1<CR>
<CR><LF>+OK=<port><CR><LF>
```

◆ Set

```
AT+ WEBSOCKETPORT1=<port> <CR>
<CR><LF>+OK<CR><LF>
```

➤ Parameter

- ◆ port:listen port NO. Range 1-65535.

E.g.AT+WEBSOCKETPORT1=81

2.5.82. AT+WEBPOINT

➤ Function

Query/set websocket mapping direction

➤ Format

◆ Query

```
AT+WEBPOINT<CR>
<CR><LF>+OK=<sta><CR><LF>
```

◆ Set

```
AT+WEBPOINT=<sta><CR>
<CR><LF>+OK<CR><LF>
```

➤ Parameter

◆ sta

- OFF: disable
- UARTn:Serial port n Establish a Websocket connection
- LOG: monitoring equipment operation.log information

E.g.AT+WEBPOINT=UART1

2.5.83. AT+WEBPORT

➤ Function

Query/Set the web server port number

➤ Format

◆ Query

```
AT+WEBPORT<CR>
<CR><LF>+OK=<port><CR><LF>
```

◆ Set

```
AT+WEBPORT<CR>
<CR><LF>+OK =<port><CR><LF>
```

➤ Parameter

- ◆ port:port NO. of web server,default 80

E.g.AT+WEBPORT=8080

2.5.84. AT+WEBU

- Function
Query/set web console username and password
- Format
 - ◆ Query
AT+WEBU<CR>
<CR><LF>+OK=<username,password><CR><LF>
 - ◆ Set
AT+WEBU<CR>
<CR><LF>+OK =<username,password><CR><LF>
- Parameters
 - ◆ username: up to 16 characters, can't be NULL
 - ◆ password: up to 16 characters, can't be NULLE.g. AT+WEBU=admin,admin

2.5.85. AT+RSTIM

- Function
Query/set the no-data restart time
- Format
 - ◆ Query
AT+ RSTIM <CR>
<CR><LF>+OK=<time><CR><LF>
 - ◆ Set
AT+ RSTIM =<time><CR>
<CR><LF>+OK<CR><LF>
- Parameter
 - ◆ time: default 0 disable, range 60-65535sE.g. AT+RSTIM =3600

2.5.86. AT+UARTCLBUF

- Function
Query/set whether the serial port cache is enabled
- Format
 - ◆ Query
AT+ UARTCLBUF <CR>
<CR><LF>+OK=<sta><CR><LF>
 - ◆ Set
AT+ UARTCLBUF =<sta><CR>
<CR><LF>+OK<CR><LF>
- Parameter

- ◆ sta
 - ON: enable
 - OFF:disable

E.g.AT+UARTCLBUF =ON

2.5.87. AT+NETPRN

- Function
Query/set the network printing function of PortN
 - Format
 - ◆ Query
AT+ NETPRN <CR>
<CR><LF>+OK=<sta><CR><LF>
 - ◆ Set
AT+ NETPRN =<sta><CR>
<CR><LF>+OK<CR><LF>
 - Parameter
 - ◆ sta
 - ON: enable
 - OFF: disable
- E.g.AT+NETPR1=ON

2.5.88. AT+SNMPEN

- Function
Query/set whether SNMP is enabled
 - Format
 - ◆ Query
AT+SNMPEN<CR>
<CR><LF>+OK=<sta><CR><LF>
 - ◆ Set
AT+SNMPEN=<sta><CR>
<CR><LF>+OK<CR><LF>
 - Parameter
 - ◆ sta
 - ON: enable
 - OFF:disable.default.
- E.g.AT+SNMPEN=ON

2.5.89. AT+TELNETEN

- Function
Query/set whether TELNET is enabled
- Format

- ◆ Query
AT+TELRNETEN<CR>
<CR><LF>+OK=<sta><CR><LF>
 - ◆ Set
AT+TELRNETEN=<sta><CR>
<CR><LF>+OK<CR><LF>
 - Parameter
 - ◆ sta
 - ON: enable
 - OFF:disable.default.
- E.g.AT+TELRNETEN=ON

2.5.90. AT+TELRNETPORT

- Function
Query/set TELNET port NO.
 - Format
 - ◆ Query
AT+TELRNETPORT<CR>
<CR><LF>+OK=<port><CR><LF>
 - ◆ Set
AT+TELRNETPORT<CR>
<CR><LF>+OK =<port><CR><LF>
 - Parameter
 - ◆ port:port NO. of TELNET,default 22
- E.g.AT+TELRNETPORT=8022

2.5.91. AT+NTPEN

- Function
Query/set whether NTP is enabled
 - Format
 - ◆ Query
AT+NTPEN<CR>
<CR><LF>+OK=<sta><CR><LF>
 - ◆ Set
AT+NTPEN=<sta><CR>
<CR><LF>+OK<CR><LF>
 - Parameter
 - ◆ sta
 - ON: enable
 - OFF:disable.default.
- E.g.AT+NTPEN=ON

2.5.92. AT+NTPSER

- Function
Query/set Host address and port
- Format
 - ◆ Query
`AT+NTPSER<CR>`
`<CR><LF>+OK=< address,timezone><CR><LF>`
 - ◆ Set
`AT+NTPSER=< address,timezone><CR>`
`<CR><LF>+OK<CR><LF>`
- Parameter
 - ◆ address: server address, up to 128 characters
 - ◆ timezone: -12~12, default 8E.g. `AT+NTPSER=cn.ntp.org.cn,8`

2.5.93. AT+LOG

- Function
Query/set the LOG level
- Format
 - ◆ Query
`AT+LOG<CR>`
`<CR><LF>+OK=<out_limit,save_limit,save_imm_limit><CR><LF>`
 - ◆ Set
`AT+LOG=<out_limit,save_limit,save_imm_limit><CR>`
`<CR><LF>+OK<CR><LF>`
- Parameter
 - ◆ Out_limit: filtering log print level, 0~7, default 6
 - ◆ Save_limit: log stored level, 0~7, default 3
 - ◆ Save_imm_limit: log immediately stored level, 0~7, default 1E.g. `AT+LOG=6,3,1`

2.5.94. AT+P485CLT

- Function
Query/set RS485 anti-conflict function
- Format
 - ◆ Query
`AT+P485CLT<CR>`
`<CR><LF>+OK=<sta,time><CR><LF>`
 - ◆ Set
`AT+P485CLT=< sta,time><CR>`

<CR><LF>+OK<CR><LF>

➤ Parameter

◆ sta:

- ON: enable
- OFF:disable.default.

◆ time:idle time,0-2500ms

E.g.AT+P485CLT=OFF

2.5.95. AT+PDTIME

➤ Function

Query the production time

➤ Format

◆ Query

AT+PDTIME<CR>

<CR><LF>+OK=<time><CR><LF>

➤ Parameter

- ◆ time: production time e.g.2021-10-18 11:20:02

2.5.96. AT+SEARCH

➤ function

Query/Set the search keywords and UDP port

➤ Format

◆ Query

AT+SEARCH<CR>

<CR><LF>+OK=<port,keywords><CR><LF>

◆ Set

AT+SEARCH =<port,keywords><CR><LF>

<CR><LF>+OK<CR><LF>

➤ Parameters

- ◆ port: UDP port,default 48899
- ◆ keywords: default WWW.USR.CN(up to 20 characters)

E.g.AT+SEARCH=48899, WWW.USR.CN

2.5.97. AT+PLANG

➤ Function

Query/set the web language

➤ Format

◆ Query

AT+ PLANG <CR>

<CR><LF>+OK=<language><CR><LF>

◆ Set


```
AT+PLANG =<language><CR>
<CR><LF>+OK<CR><LF>
```

➤ Parameter

◆ language

- CN Chinese
- EN English

E.g.AT+PLANG=CN

2.5.98. AT+BTVER

➤ Function

Query Boot version

➤ Format

◆ Query

```
AT+BTVER<CR>
<CR><LF>+OK=<ver><CR><LF>
```

➤ Parameter

◆ ver: boot version

2.5.99. AT+PING

➤ Function

Test network connection

➤ Format

◆ Set

```
AT+ PING=<ip><CR>
<CR><LF>+OK<CR><LF>
```

➤ Parameter

- ◆ IP:Destination IP address or domain name. The maximum length of domain name is 30 bytes

E.g.AT+PING=www.google.com

2.5.100. AT+UPTIME

➤ Function

Query the run time

➤ Format

◆ Query

```
AT+UPTIME<CR>
<CR><LF>+OK=<time><CR><LF>
```

➤ Parameter

- ◆ time: e.g.day:0,hour:0,min:9

3. Contact Us

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5. Revision History

Version	Date	Author	Description
1.0.0	2022.3.30	Dean,Gao	Initial
2.0.0	2022.5.30	Dean,Gao	Add MQTT gateway function, AWS IOT , and some other commands