WizFi360

AT Instruction Set

Version 1.0.0

http://www.wiznet.io/

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1 Document Revision History

Version	Date	Descriptions
Ver. 1.0.0	1AUG2019	Initial Release

2 AT Command Overview

2.1 AT Command Format

WizFi360 support AT command interface is a standard format of its AT command is fixed, AT commands must be capital letters, and always start with "AT", to "\r\n
" ending.

Overall WizFi360 AT commands are the following formats:

Command Type	Command Format	Functional Description
Detecting terminal	AT\r\n	Detecting whether the module is connected and the normal serial AT command mode
There are parameters command	AT+<command>=<para1>,<para2> [,<para3>] ... \r\n	Set the value of a particular parameter
Query	AT+<command>? \r\n	Queries the current setting of a particular parameter value
No command parameters	AT+<command>\r\n	Performs a specific function

Note:

1. *On the table <command> string identifier for the command must be uppercase letters;*
2. *On the table <para> command parameter value;*
3. *By a comma between each parameter setting command "," separated;*
4. *Parameter setting command with "[]" is to be the default parameters, the parameters may not be provided if not needed;*
5. *Parameter setting command with quotation marks is a character string data, when setting must be quoted*

2.2 AT command returns a list of values

Depending on the user input AT command, WizFi360 outputs corresponding return value, the return value of the format is as follows:

Return Type	return value	Explanation
Error Messages	\r\n ERROR\r\n	AT command AT command input error or execution error
Correct information	+<Command>: <para1><para2> .. \r\n \r\n OK\r\n	There are commands and query parameters command executed correctly
	\r\n OK \r\n	
Connection messages	\r\n ALREADY CONNECTED\r\n	If the TCP,UDP and SSL connection is already established, it response.

2.3 List of Messages

To facilitate use, in the process of the AT command input, serial output may prompt the necessary information, the user can perform the next operation according to the prompt information. WizFi360 output message shown in the following table.

Tips	Explanation
ready	Serial connection module and in normal AT command mode
WIFI CONNECTED	Station connected to the AP as WizFi360
WIFI GOT IP	WizFi360 obtain an IP address as Station
WIFI DISCONNECTED	WiFi connection disconnection WizFi360
busy s ...	WizFi360 indicates data is being sent, could not respond to the serial input of the contents of the current
busy p ...	It represents WizFi360 previous command is being processed, could not respond to the contents of the current serial input
<Link ID>, CONNECT	Established <link ID> network connection ID number
<Link ID>, CLOSED	<Link ID> number of network connectivity
+IPD	Receiving the network data
+STA_CONNECTED: <mac>	There Station even into WizFi360 SoftAP
+DIST_STA_IP: <mac>, <ip addr>	IP address WizFi360 SoftAP to even the distribution of the Station
+STA_DISCONNECTED: <smac>	Station disconnect the WizFi360 SoftAP

2.4 Enter AT command mode

There are two types of data transmission WizFi360: AT command to transfer data and data pass-through mode.
When WizFi360 in the AT command mode, the serial input terminal to which detection command "AT\r\n", as correctly received block AT \r & lt \ n, the respond to the \r\nOK\r\n.

When data is WizFi360 transparent mode, the serial input to any AT commands are invalid, and are treated as data transmission to the peer. At this time, the serial input thereto "+++", WizFi360 switches to the AT command mode.

Note:

1、 *If the time before entering the AT command mode to establish a TCP connection, then enter the AT command mode, the connection will be closed;*

2、 *"+++" input rule: three "+" must be continuously transmitted to the serial-time, and the characters were not any other "+++" before and after 1s, WizFi360 and switch to the correct response to the AT command mode;*

3、 *WizFi360 factory default is AT command mode*

3 AT Command Description

3.1 AT Command list

Command Type	Command Name	Features
System control commands	AT	Detecting terminal
	ATE	echo
	AT+RST	Restart Module
	AT+RESTORE	reset
	AT+UART_CUR	Set the serial port parameters are not saved to Flash
	AT+UART_DEF	Set the serial port parameters, save to Flash
WiFi command	AT+CWMODE_CUR	Set the operation mode, not saved to Flash
	AT+CWMODE_DEF	Set the operation mode, to save Flash
	AT+CWDHCP_CUR	Set DHCP function, not saved to Flash
	AT+CWDHCP_DEF	Set DHCP function, save to Flash
	AT+CIPDNS_CUR	DNS server settings are not saved to Flash
	AT+CIPDNS_DEF	Set DNS server, saved to Flash
	AT+CIPSTA_CUR	Set Station mode static IP information is not saved to Flash
	AT+CIPSTA_DEF	Set Station mode static IP information, saved to Flash
	AT+CIPSTAMAC_CUR	Set Station mode MAC address, not saved to Flash
	AT+CIPSTAMAC_DEF	Set Station mode MAC address, saved to Flash
	AT+CIPAPMAC_CUR	Set SoftAP MAC address mode, not saved to Flash
	AT+CIPAPMAC_DEF	Set SoftAP MAC address mode, to save Flash
	AT+CWLAP	AP scan information around
	AT+CWLAPOPT	AP scan results display settings
	AT+CWJAP_CUR	Temporary connection designated AP, is not saved to Flash
	AT+CWJAP_DEF	Connection designated AP, saved to Flash
	AT+CWAUTOCONN	Electrically connecting the set automatic AP
	AT+CWQAP	Disconnecting the connection with the AP

	AT+CIPAP_CUR	Set SoftAP mode of IP information is not saved to Flash
	AT+CIPAP_DEF	SoftAP mode setting IP information, saved to Flash
	AT+CWDHCPS_CUR	Set DHCP IP allocation under SoftAP model range, not saved to Flash
	AT+CWDHCPS_DEF	Set DHCP IP allocation under SoftAP mode range, saved to Flash
	AT+CWSAP_CUR	SoftAP establish and set parameters are not saved to Flash
	AT+CWSAP_DEF	SoftAP establish and set the parameters, save to Flash
	AT+CWLIF	Queries Station of the list of connected SoftAP
	AT+CWHOSTNAME	Stting the Name of Station
TCP / IP command	AT+CIPMODE	Setting data transmission
	AT+SAVETRANSLINK	Save the data pass-through mode is set to Flash
	AT+CIPMUX	Setting up connection mode
	AT+CIPSERVER	Establishing TCP Server
	AT+CIPSTART	Establish a connection TCP Client, or UDP transport establishment
	AT+CIPSSLSIZE	Setting up SSL cache size
	AT+CIPSTATUS	Query as network connection information in Station mode
	AT+CIPSEND	Setting the length of the transmission data / incoming data transparent mode
	AT+CIPSENDEX	Setting the length of the transmission data
	AT+CIPSENDBUF	TCP transmit buffer write data
	AT+CIPBUFRESET	Reset Count (TCP transmission buffer)
	AT+CIPBUFSTATUS	Query the status of the TCP send buffer
	AT+CIPCHECKSEQ	TCP send inquiry write cache of a package sent successfully
	AT+CIPDINFO	Receiving data format
	AT+CIPCLOSE	Close TCP, UDP
	AT+CIFSR	Query IP and MAC address information
	AT+CIPSTO	TCP Server communication connection is provided without disconnection time interval
Management Command	AT+GMR	Firmware version information
	AT+CIUPDATE	Firmware Upgrade

	AT+CIPDOMAIN	Use domain name resolution
	AT+PING	Use the Ping function
	AT+CIPSNTPCFG	Set time zone and SNTP function
	AT+CIPSNTPTIME	Query current network standard time

3.2 AT Command Description

3.2.1 System Control Commands

3.2.1.1 AT : Detecting Terminal

Command string		Function Description
AT		Check the terminal
Return Values and descriptions	\r\n OK\r\n Description: in AT command mode, you can configure	
Examples	Command: AT\r\n Reply:\r\n OK\r\n	

3.2.1.2 ATE ： AT Commands Echoing

Command string		Function Description
ATE<enable>		Switches echo on/off
Parameters and description	<enable>: Switches echo - 0: Switches echo off. - 1: Switches echo on.	
Return Values and descriptions	\r\n OK\r\n	
Examples	Command: ATE1\r\n Reply:\r\n OK\r\n	

Command Description: - This setting is not saved to the Flash, the next reboot / after power is invalid.

3.2.1.3 AT+RST ：Restart module

Command string		Function Description
AT+RST		Restart module
Parameters and description	no	

Return Values and descriptions	\r\n OK\r\n
Examples	Command: AT+RST\r\n Reply:\r\n OK\r\n

Command Description: The execution of this command will restore the settings not saved in flash and restart the WizFi360.

3.2.1.4 AT+RESTORE : Restore factory settings

Command string	Function Description
AT+RESTORE	reset

Parameters and description	no
Return Values and descriptions	\r\n OK\r\n
Examples	Command: AT+RESTORE\r\n Reply:\r\n OK\r\n

Command Description: The execution of this command will restore the factory default settings and restart the WizFi360.

3.2.1.5 AT+UART_CUR : Set the serial port parameters, Not saved to Flash

Command string	Function Description
AT+UART_CUR=<baudrate>,<databits>,<stopbits>,<parity>,<flow control>	Set the baudrate

Parameters and description	<baudrate>: baud rate parameter sets the baud rate support 16 common baud rate: 2000000,1500000,1000000,921600,406800,230400, 115200 (factory default), 57600,38400,19200, 14400, 9600,4800,2400,1800,1200,600 <databits>: data bits - 5: 5-bit data - 6: 6-bit data - 7: 7-bit data - 8: 8-bit data (factory default) <stopbits>: Stop Bits - 1: 1 bit stop bit (factory default) - 2: 2 bit stop bit

	<parity>: parity - 0: None (factory default) - 1: Odd - 2: Even <flow control>: flow control - 0: Off flow control (factory default) - 1: ON RTS / CTS hardware flow control
Return Values and descriptions	\r\n OK\r\n
Examples	Command: AT+UART_CUR=115200,8,1,0,0\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+UART_CUR?	Query the baudrate

Return Values and descriptions	Return Value: +UART_CUR:<baudrate>,<databits>,<stopbits>,<parity>,<flow control>\r\n OK\r\n Description: Parameter above
Examples	Command: AT+UART_CUR?\r\n Reply: +UART_CUR:115200,8,1,0,0\r\n OK\r\n

Command Description: This setting is not saved to the Flash, the next reboot / after power is invalid.

NOTE: If using WizFi360 hardware flow control, the user needs to access the flow control device of pin WizFi360, refer to the specific connection WizFi360 User Manual.

3.2.1.6 AT+UART_DEF : Set the serial port parameters, save to Flash

Command string	Function Description
AT+UART_DEF=<baudrate>,<databits>,<stopbits>,<parity>,<flow control>	Set the baudrate

Parameters and description	<baudrate>: baud rate parameter sets the baud rate support 16 common baud rate: 2000000,1500000,1000000,921600,406800,230400, 115200 (factory default), 57600,38400,19200,14400,9600,4800,2400,1800,1200,600

	<databits>: data bit parameter - 5: 5-bit data - 6: 6-bit data - 7: 7-bit data - 8: 8-bit data (factory default) <stopbits>: Stop Bit Parameter - 1: 1 bit stop bit (factory default) - 2: 2 bit stop bit <parity>: parity parameter - 0: None (factory default) - 1: Odd - 2: Even <flow control>: flow control parameter - 0: Off flow control (factory default) - 1: ON RTS / CTS hardware flow control
Return Values and descriptions	\r\n OK\r\n
Examples	Command: AT+UART_DEF=115200,8,1,0,0\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+UART_DEF?	Query the baudrate
Return Values and descriptions	Return Value: +UART_DEF:<baudrate>,<databits>,<stopbits>,<parity>,<flow control>\r\n OK\r\n Description: Parameter above
Examples	Command: AT+UART_DEF?\r\n Reply: +UART_DEF:115200,8,1,0,0\r\n OK\r\n

Command Description: This setting will be saved to Flash, after the next reboot / power still valid.

NOTE: If using WizFi360 hardware flow control, the user needs to access the flow control device of pin WizFi360, refer to the specific connection WizFi360 User Manual.

3.2.2 WiFi command

3.2.2.1 AT+CWMODE_CUR : Set the operating mode, Not saved to Flash

Command string	Function Description
AT+CWMODE_CUR=<mode>	Set the operation mode
Parameters and description	<mode>: - 1: Station mode (factory default) - 2: SoftAP mode - 3: Station + SoftAP mode
Return Values and descriptions	\r\n OK\r\n
Predecessors	no
Examples	Command: AT+CWMODE_CUR=1\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+CWMODE_CUR?	Query the operation mode
Return Values and descriptions	Return Value: +CWMODE_CUR:<mode>\r\n \r\n OK\r\n Description: Parameter above
Examples	Command: AT+CWMODE_CUR?\r\n Reply: AT+CWMODE_CUR:1\r\n \r\n OK\r\n

Command Description: - This setting is not saved to the Flash, the next reboot / after power is invalid.

3.2.2.2 AT+CWMODE_DEF : Set the operation mode, save to Flash

Command string	Function Description
AT+CWMODE_DEF=<mode>	Set the operation mode
Parameters and description	<mode>: - 1: Station mode (factory default) - 2: SoftAP mode

	- 3: Station + SoftAP mode
Return Values and descriptions	\r\n OK\r\n
Predecessors	no
Examples	Command: AT+CWMODE_DEF=1\r\n Reply: OK\r\n

Command string	Function Description
AT+CWMODE_DEF?	Query the operation mode
Return Values and descriptions	Return Value: +CWMODE_DEF:<mode>\r\n \r\n OK\r\n Description: Parameter above
Examples	Command: AT+CWMODE_DEF?\r\n Reply:+CWMODE_DEF:1\r\n \r\n OK\r\n

Command Description: This setting will be saved to Flash, after the next reboot / power still valid.

3.2.2.3 AT+CWDHCP_CUR : DHCP function settings, Not saved to Flash

Command string	Function Description
AT+CWDHCP_CUR=<mode>,<en>	Set the DHCP function
Parameters and description	<mode>: - 0: Sets softAP DHCP - 1: Sets Station DHCP - 2: Set both SoftAP DHCP and Station DHCP <en>: - 0: Disable DHCP - 1: Enable DHCP
Return Values and descriptions	\r\n OK\r\n
Predecessors	no
Examples	Command: AT+CWDHCP_CUR=1,1\r\n

	Reply:\r\n OK\r\n

Command string	Function Description
AT+CWDHCP_CUR?	Query the DHCP function

Return Values and descriptions	Return Value: +CWDHCP_CUR:<mode>\r\n \r\n OK\r\n Description: <mode>: the current setting value of the DHCP function - 0: Disable softAP DHCP and Station DHCP. - 1: Enable softAP DHCP and disable station DHCP. - 2: Disable softAP DHCP and enable station DHCP. - 3: Enable softAP DHCP and station DHCP. (factory default)
Examples	Command: AT+CWDHCP_CUR?\r\n Reply: +CWDHCP_CUR:1\r\n \r\n OK\r\n

Command Description:

- The setting is not saved to the Flash, the next reboot / after power is invalid;
- This Set Command interacts with commands related static IP. For example, if DHCP is enabled, static IP will be disabled and if static IP is enabled, DHCP will be disabled. The last configured command is set.

3.2.2.4 AT+CWDHCP_DEF : Setting DHCP function, save to Flash

Command string	Function Description
AT+CWDHCP_DEF=<mode>,<en>	Set the DHCP function

Parameters and description	<mode>: - 0: Sets softAP DHCP - 1: Sets Station DHCP - 2: Set both SoftAP DHCP and Station DHCP <en>: - 0: Disable DHCP - 1: Enable DHCP

Return Values and descriptions	\r\n OK\r\n
Predecessors	no
Examples	Command: AT+CWDHCP_DEF=1,1\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+CWDHCP_DEF?	Query the DHCP function

Return Values and descriptions	Return Value: +CWDHCP_CUR:<mode>\r\n \r\n OK\r\n Description: <mode>: the current setting value of the DHCP function - 0: Disable softAP DHCP and Station DHCP. - 1: Enable softAP DHCP and disable station DHCP. - 2: Disable softAP DHCP and enable station DHCP. - 3: Enable softAP DHCP and station DHCP. (factory default)
Examples	Command: AT+CWDHCP_DEF?\r\n Reply: +CWDHCP_DEF: 1\r\n \r\n OK\r\n

Command Description:

- the settings are saved to Flash, after the next reboot / power-up is still valid;
- This Set Command interacts with commands related static IP. For example, if DHCP is enabled, static IP will be disabled and if static IP is enabled, DHCP will be disabled. The last configured command is set.

3.2.2.5 AT+CIPDNS_CUR : DNS server settings, Not saved to Flash

Command string	Function Description
AT+CIPDNS_CUR=<enable>[,<DNS server0>,<DNS server1>]	Set the DNS server

Parameters and description	<enable>: - 0: Disable customize DNS server (factory default) - 1: Enable customize DNS server <DNS server0>: First DNS server address

	<DNS server1>: Second DNS server address Note: - In case <enable> is 0, <DNS server0> and <DNS server1> have to not fill, otherwise an error. DNS server will be used “208.67.222.222”. - If <enable> is 1 and <DNS server0> and <DNS server1> are not fill, DNS server will be used “208.67.222.222”. - The DNS server may change according to the router. - <DNS server0> and <DNS server1> cannot be set to the same.
Return Values and descriptions	\r\n OK\r\n
Predecessors	no
Example 1	Command: AT+CIPDNS_CUR=1,"114.114.114.114","8.8.8.8"\r\n Reply:\r\n OK\r\n
Example 2	Command: AT+CIPDNS_CUR=0\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+CIPDNS_CUR?	Query the DNS server

Return Values and descriptions	Return value: +CIPDNS_CUR:<DNS server0>\r\n \r\n OK\r\n or: +CIPDNS_CUR: <DNS server0>\r\n +CIPDNS_CUR: <DNS server1>\r\n \r\n OK\r\n Description: Parameter above
Examples	Command: AT+CIPDNS_CUR?\r\n Reply: +CIPDNS_CUR: 114.114.114.114\r\n

	+CIPDNS_CUR: 8.8.8.8\r\n \r\n OK\r\n

3.2.2.6 AT+CIPDNS_DEF : DNS server settings, save to Flash

Command string	Function Description
AT+CIPDNS_DEF=<enable>[,<DNS server0>,<DNS server1>]	Set the DNS server

Parameters and description	<enable>: - 0: Disable customize DNS server (factory default) - 1: Enable customize DNS server <DNS server0>: First DNS server address <DNS server1>: Second DNS server address Note: - In case <enable> is 0, <DNS server0> and <DNS server1> have to not fill, otherwise an error. DNS server will be used “208.67.222.222”. - If <enable> is 1 and <DNS server0> and <DNS server1> are not fill, DNS server will be used “208.67.222.222”. - The DNS server may change according to the router. - <DNS server0> and <DNS server1> cannot be set to the same.
Return Values and descriptions	\r\n OK\r\n
Predecessors	no
Example 1	Command: AT+CIPDNS_DEF=1,"114.114.114.114","8.8.8.8"\r\n Reply:\r\n OK\r\n
Example 2	Command: AT+CIPDNS_DEF=0\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+CIPDNS_DEF?	Query the DNS server

Return Values and descriptions	Return value: +CIPDNS_DEF:<DNS server0>\r\n \r\n OK\r\n

	or: +CIPDNS_DEF:<DNS server0>\r\n +CIPDNS_DEF:<DNS server1>\r\n \r\n OK\r\n Description: Parameter above
Examples	Command: AT+CIPDNS_DEF?\r\n Reply: +CIPDNS_DEF: 114.114.114.114\r\n +CIPDNS_DEF: 8.8.8.8\r\n \r\n OK\r\n

3.2.2.7 AT+CIPSTA_CUR : Setting IP information Station mode, Not saved to Flash

Command string	Function Description
AT+CIPSTA_CUR=<ip> [,<gateway>,<netmask>]	Set the static IP
Parameters and description	<ip>: static IP address of WizFi360 station <gateway>: Gateway <netmask>: Subnet Mask
Return Values and descriptions	\r\n OK\r\n
Predecessors	no
Example 1	Command: AT+CIPSTA_CUR="192.168.1.88","192.168.1.1","255.255.255.0"\r\n Reply:\r\n OK\r\n
Example 2	Command: AT+CIPSTA_CUR="192.168.1.88"\r\n Reply:\r\n OK\r\n
Command string	Function Description
AT+CIPSTA_CUR?	Query the static IP

Return Values and descriptions	Return Value: +CIPSTA_CUR:ip:<ip>\r\n +CIPSTA_CUR:gateway:<gateway>\r\n +CIPSTA_CUR:netmask:<netmask>\r\n \r\n OK\r\n Description: Parameter above
Examples	Command: AT+CIPSTA_CUR?\r\n Reply: +CIPSTA_CUR:ip:"192.168.1.88"\r\n +CIPSTA_CUR:gateway:"192.168.1.1"\r\n +CIPSTA_CUR:netmask:"255.255.255.0"\r\n \r\n OK\r\n Description: Parameter above

Command Description:

- The setting is not saved to the Flash, the next reboot / after power is invalid;
- This Set Command interacts with commands related DHCP. For example, if DHCP is enabled, static IP will be disabled and if static IP is enabled, DHCP will be disabled. The last configured command is set.

3.2.2.8 AT+CIPSTA_DEF : Setting IP information Station mode, save to Flash

Command string		Function Description
AT+CIPSTA_DEF=<ip>[,<gateway>,<netmask>]		Set the static IP
Parameters and description	<ip>: static IP address of WizFi360 station <gateway>: Gateway <netmask>: Subnet Mask	
Return Values and descriptions	\r\n OK\r\n	
Predecessors	no	
Example 1	Command: AT+CIPSTA_DEF="192.168.1.88","192.168.1.1","255.255.255.0"\r\n Reply:\r\n OK\r\n	

Example 2	Command: AT+CIPSTA_DEF="192.168.1.88"\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+CIPSTA_DEF?	Query the static IP

Return Values and descriptions	Return Value: +CIPSTA_DEF:ip:<ip>\r\n +CIPSTA_DEF:gateway:<gateway>\r\n +CIPSTA_DEF:netmask:<netmask>\r\n \r\n OK\r\n Description: Parameter above
Examples	Command: AT+CIPSTA_DEF?\r\n Reply: +CIPSTA_DEF:ip:”192.168.1.88"\r\n +CIPSTA_DEF:gateway:"192.168.1.1"\r\n +CIPSTA_DEF:netmask:"255.255.255.0"\r\n \r\n OK\r\n

Command Description:

- the settings are saved to Flash, after the next reboot / power-up is still valid;
- This Set Command interacts with commands related DHCP. For example, if DHCP is enabled, static IP will be disabled and if static IP is enabled, DHCP will be disabled. The last configured command is set.

3.2.2.9 AT+CIPSTAMAC_CUR : Set Station MAC address mode, Not saved to Flash

Command string	Function Description
AT+CIPSTAMAC_CUR=<mac>	Set the station MAC address

Parameters and description	<mac>: MAC address of WizFi360 Station. Note: - Bit 0 of WizFi360 Mac address byte cannot be 01. For example, MAC address cannot be "01:08:DC:11:12:13" and can be "00:08:dc:11:12:13". - The station MAC address is different from that of SoftAP. Please make sure that you do not set the same MAC address for both of them.

Return Values and descriptions	\r\n OK\r\n
Predecessors	no
Examples	Command: AT+CIPSTAMAC_CUR="00:08:DC:11:12:13"\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+CIPSTAMAC_CUR?	Query the station MAC address

Return Values and descriptions	Return Value: +CIPSTAMAC_CUR:<mac>\r\n \r\n OK\r\n Description: Parameter above
Examples	Command: AT+CIPSTAMAC_CUR?\r\n Reply: +CIPSTAMAC_CUR:"00:08:dc:11:12:13"\r\n \r\n OK\r\n

Command Description: This setting is not saved to the Flash, the next reboot / after power is invalid;

3.2.2.10 AT+CIPSTAMAC_DEF : Set Station MAC address mode, to save Flash

Command string	Function Description
AT+CIPSTAMAC_DEF=<mac>	Set the station MAC address

Parameters and description	<mac>: MAC address of WizFi360 Station. Note: - Bit 0 of WizFi360 Mac address byte cannot be 1. For example, MAC address cannot be "01:08:DC:11:12:13" and can be "00:08:dc:11:12:13". - The station MAC address is different from that of SoftAP. Please make sure that you do not set the same MAC address for both of them.
Return Values and descriptions	\r\n OK\r\n
Predecessors	no

Examples	Command: AT+CIPSTAMAC_DEF="00:08:DC:11:12:13"\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+CIPSTAMAC_DEF?	Query the station MAC address

Return Values and descriptions	Return Value: +CIPSTAMAC_DEF:<mac>\r\n \r\n OK\r\n Description: Parameter above
Examples	Command: AT+CIPSTAMAC_DEF?\r\n Reply: +CIPSTAMAC_DEF:"00:08:dc:11:12:13"\r\n \r\n OK\r\n

Command Description: This setting will be saved to Flash, after the next reboot / power-up is still valid

3.2.2.11 AT+CIPAPMAC_CUR : Set SoftAP MAC address mode, Not saved to Flash

Command string	Function Description
AT+CIPAPMAC_CUR=<mac>	Set the SoftAP MAC address

Parameters and description	<mac>: MAC address of WizFi360 softAP. Note: - Bit 0 of WizFi360 Mac address byte cannot be 01. For example, MAC address cannot be "01:08:DC:11:12:13" and can be "00:08:dc:11:12:13". - The SoftAP MAC address is different from that of Station. Please make sure that you do not set the same MAC address for both of them.
Return Values and descriptions	\r\n OK\r\n
Predecessors	no
Examples	Command: AT+CIPAPMAC_CUR="00:08:DC:11:12:13"\r\n Reply:\r\n OK\r\n

Command string	Function Description

AT+CIPAPMAC_CUR?	Query the SoftAP MAC address
Return Values and descriptions	Return Value: +CIPAPMAC_CUR:<mac>\r\n \r\n OK\r\n Description: Parameter above
Examples	Command: AT+CIPAPMAC_CUR?\r\n Reply: +CIPAPMAC_CUR:"00:08:dc:11:12:13"\r\n \r\n OK\r\n

Command Description: - This setting is not saved to the Flash, the next reboot / after power is invalid;

3.2.2.12 AT+CIPAPMAC_DEF : Set SoftAP MAC address mode, to save Flash

Command string	Function Description
AT+CIPAPMAC_DEF=<mac>	Set the SoftAP MAC address
Parameters and description	<mac>: MAC address of WizFi360 SoftAP. Note: - Bit 0 of WizFi360 Mac address byte cannot be 1. For example, MAC address cannot be "01:08:DC:11:12:13" and can be "00:08:dc:11:12:13". - The SoftAP MAC address is different from that of Station. Please make sure that you do not set the same MAC address for both of them.
Return Values and descriptions	\r\n OK\r\n
Predecessors	no
Examples	Command: AT+CIPAPMAC_DEF="00:08:DC:11:12:13"\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+CIPSTAMAC_DEF?	Query the SoftAP MAC address
Return Values and descriptions	Return Value: +CIPAPMAC_DEF:<mac>\r\n \r\n OK\r\n Description: Parameter above

Examples	Command: AT+CIPAPMAC_DEF?\r\n Reply: +CIPAPMAC_DEF:"00:08:dc:11:12:13"\r\n \r\n OK\r\n

Command Description: - This setting will be saved to Flash, after the next reboot / power-up is still valid

3.2.2.13 AT+CWLAP : Scanning Lists available AP information)

Command string	Function Description
AT+CWLAP	AP scan information around

Parameters and description	no
Return Values and descriptions	Return value: +CWLAP:([<ecn>,<ssid>,<rssi>,<mac>,<channel>])\r\n +CWLAP:([<ecn>,<ssid>,<rssi>,<mac>,<channel>])\r\n ... +CWLAP:([<ecn>,<ssid>,<rssi>,<mac>,<channel>])\r\n \r\n OK\r\n Description: The parameters displayed change according to the setting of CWLAPOPT command. <ecn>: encryption of the AP - 0: OPEN - 1: WEP - 2: WPA_PSK - 3: WPA2_PSK - 4: WPA_WPA2_PSK <ssid>: AP's SSID <rssi>: AP signal strength RSSI <mac>: AP MAC address <channel>: AP channel
Predecessors	no
Examples	Command: AT+CWLAP\r\n

	Reply: +CWLAP: (4,"WIZnet",-57,"00:08:dc:6a:46:2e",1)\r\n +CWLAP: (3,"WIZNETSZ",-75,"00:08:dc:9c:ef:b6",12)\r\n \r\n OK\r\n

Command string	Function Description
AT+CWLAP[=<ssid>[,<mac>,<channel>]	Scan information designated AP

Parameters and description	Parameter above
Return Values and descriptions	+CWLAP:([<ecn>,<ssid>,<rssi>,<mac>,<channel>])\r\n \r\n OK\r\n
Predecessors	no
Examples	Command: AT+CWLAP="WIZNETSZ"\r\n Reply: +CWLAP:(3,"WIZNETSZ",-75,"00:08:dc:9c:ef:b6",12)\r\n \r\n OK\r\n
Example2	Command: AT+CWLAP=”WIZNETSZ”,”00:08:dc:9c:ef:b6”,12\r\n Reply: +CWLAP:(3,"WIZNETSZ",-75,"00:08:dc:9c:ef:b6",12)\r\n \r\n OK\r\n

3.2.2.14 AT+CWLAPOPT : AP scan results display settings

Command string	Function Description
AT+CWLAPOPT=<sort_enable>,<mask>	Set the AP scan result

Parameters and description	<sort_enable>: It sets whether the result of AT+CWLAP command is sorted according to RSSI. - 0: Do not sort according to RSSI (factory default) - 1: Sort according to RSSI <mask>: Set parameters to show in AT+CWLAP result. When Bit is 0 : Don’t showing

<table>
<tr><td></td><td>When Bit is 1 : Showing (factory default)
<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>-</td><td>-</td><td>-</td><td>CH</td><td>MAC</td><td>RSSI</td><td>SSID</td><td>ECN</td></tr></table>ECN: encryption of the AP
SSID: AP's SSID
RSSI: AP signal strength RSSI
MAC: AP MAC address
CH: AP channel</td></tr>
<tr><td>Return Values and descriptions</td><td>\r\n
OK\r\n</td></tr>
<tr><td>Predecessors</td><td>no</td></tr>
<tr><td>Examples</td><td>Command: AT+CWLAPOPT=1,31\r\n
Reply:\r\n
OK\r\n</td></tr>
</table>

Command Description: This setting is not saved to the Flash, the next reboot / after power is invalid.

3.2.2.15 AT+CWJAP_CUR : Connects to an AP, Not saved to Flash

<table>
<tr><th colspan="2">Command string</th><th>Function Description</th></tr>
<tr><td colspan="2">AT+CWJAP_CUR=<ssid>,<pwd>[,<bssid>]</td><td>Set the connection to AP</td></tr>
<tr><td>Parameters and description</td><td colspan="2"><ssid>: the SSID of the target AP.
<pwd>: the password of the target AP
(If the SSID or Password contains special characters such as ", \ and , you need an escape character)
<bssid>: optional parameter, the target AP’s MAC address, used when multiple APs have the same SSID.</td></tr>
<tr><td>Return Values and descriptions</td><td colspan="2">Return Value:
\r\n
OK\r\n
or
+CWJAP_CUR:<error code>
\r\n</td></tr>
</table>

	\r\n Fail\r\n Description: <error code>: -1: Connection timed out -2: Wrong password -3: Can not find the target AP -4: Connection Failed
Predecessors	AT+CWMODE_CUR=1\r\n
Examples	Eg, AP's SSID is "ab\,c", the password is "12345678"\" and MAC address is "00:08:DC:11:12:13",the command is as follows: Command: AT+CWMODE_CUR=1\r\n Reply:\r\n OK\r\n Command: AT+CWJAP_CUR="ab\\\,c","12345678 \"\\","00:08:DC:11:12:13"\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+CWJAP_CUR?	Query the information of AP connected

Return Values and descriptions	Return Value: +CWJAP_CUR:<ssid>,<bssid>,<channel>,<rssi>\r\n \r\n OK\r\n Description: <ssid>: SSID of AP connected <bssid>: MAC address of AP connected <channel>: Channel of AP connected <rssi>: RSSI MAC address of AP connected
Examples	Command: AT+CWJAP_CUR?\r\n

	Reply: +CWJAP_CUR="WIZNETSZ","00:08:dc:9c:ef:b6",12,-75\r\n \r\n OK\r\n

Command Description: This setting is not saved to the Flash, the next reboot / after power is invalid.

3.2.2.16 AT+CWJAP_DEF : Connects to an AP, save to Flash

Command string	Function Description
AT+CWJAP_DEF=<ssid>,<pwd>[,<bssid>]	Set the connection to AP
Parameters and description	<ssid>: the SSID of the target AP. <pwd>: the password of the target AP (If the SSID or Password contains special characters such as ", \ and , you need an escape character) <bssid>: optional parameter, the target AP's MAC address, used when multiple APs have the same SSID.
Return Values and descriptions	Return Value: \r\n OK\r\n or +CWJAP_DEF:<error code> \r\n \r\n Fail\r\n Description: <error code>: -1: Connection timed out -2: Wrong password -3: Can not find the target AP -4: Connection Failed
Predecessors	AT+CWMODE_DEF=1\r\n
Examples	Eg, AP's SSID is "ab\,c", the password is "12345678"\" and MAC address is "00:08:DC:11:12:13",the command is as follows: Command: AT+CWMODE_DEF=1\r\n

	Reply:\r\n OK\r\n Command: AT+CWJAP_DEF="ab\\\,c","12345678 \"\\","00:08:DC:11:12:13"\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+CWJAP_DEF?	Query the information of AP connected
Return Values and descriptions	Return Value: +CWJAP_DEF:<ssid>,<bssid>,<channel>,<rssi>\r\n \r\n OK\r\n Description: <ssid>: SSID of AP connected <bssid>: MAC address of AP connected <channel>: Channel of AP connected <rssi>: RSSI MAC address of AP connected
Examples	Command: AT+CWJAP_DEF?\r\n Reply: +CWJAP_CUR="WIZNETSZ","00:08:dc:9c:ef:b6",12,-75\r\n \r\n OK\r\n

Command Description: This setting will be saved to Flash, after the next reboot / power still valid.

3.2.2.17 AT+CWAUTOCONN : Automatic connection to AP

Command string	Function Description
AT+CWAUTOCONN=<enable>	Set the Automatic connection to AP
Parameters and description	<enable>: - 0: Do not automatically connect to AP on power-up - 1: Automatically connect to AP on power-up (factory default)
Return Values and descriptions	\r\n OK\r\n
Predecessors	AT+CWMODE_DEF=1\r\n

	AT+CWJAP_DEF="WIZNETSZ","12345678"\r\n
Examples	Command: AT+CWMODE_DEF=1\r\n Reply:\r\n OK\r\n Command: AT+CWJAP_DEF="WIZNETSZ","12345678"\r\n Reply:\r\n OK\r\n Command: AT+CWAUTOCONN=1\r\n Reply:\r\n OK\r\n

Command Description: - The settings are saved to Flash, after the next reboot / power-up is still valid;

3.2.2.18 AT+CWQAP : Disconnect from the AP

Command string	Function Description
AT+CWQAP	Disconnecting the connection with the AP
Parameters and description	no
Return Values and descriptions	\r\n OK\r\n
Predecessors	AT+CWMODE_DEF=1\r\n AT+CWJAP_DEF="WIZNETSZ","12345678"\r\n
Examples	Command: AT+CWMODE_DEF=1\r\n Reply:\r\n OK\r\n Command: AT+CWJAP_DEF="WIZNETSZ","12345678"\r\n Reply:\r\n OK\r\n Command: AT+CWQAP\r\n Reply:\r\n OK\r\n

3.2.2.19 AT+CIPAP_CUR : Setting IP information SoftAP mode, Not saved to Flash

Command string		Function Description
AT+CIPAP_CUR=<ip>[,<gateway>,<netmask>]		Set the static IP of SoftAP
Parameters and description	<ip>: IP address of WizFi360 SoftAP <gateway>: Gateway <netmask>: Subnet Mask	
Return Values and descriptions	\r\n OK\r\n	
Predecessors	no	
Example 1	Command: AT+CIPAP_CUR="192.168.0.1","192.168.0.1","255.255.255.0"\r\n Reply:\r\n OK\r\n	
Example 2	Command: AT+CIPAP_CUR="192.168.0.1"\r\n Reply:\r\n OK\r\n	
Command string		Function Description
AT+CIPAP_CUR?		Query the static IP of SoftAP
Return Values and descriptions	return value: +CIPAP_CUR:ip:<ip>\r\n +CIPAP_CUR:gateway:<gateway>\r\n +CIPAP_CUR:netmask:<netmask>\r\n \r\n OK\r\n	
Examples	Command: AT+CIPAP_CUR?\r\n Reply: +CIPAP_CUR:ip:"192.168.0.1"\r\n +CIPAP_CUR:gateway:"192.168.0.1"\r\n +CIPAP_CUR:netmask:"255.255.255.0"\r\n \r\n OK\r\n	

Command Description:

- The setting is not saved to the Flash, the next reboot / after power is invalid;

- This Set Command interacts with commands related DHCP. For example, if DHCP is enabled, static IP will be disabled and if static IP is enabled, DHCP will be disabled. The last configured command is set.

3.2.2.20 AT+CIPAP_DEF : Setting IP information SoftAP mode, save to Flash

Command string		Function Description
AT+CIPAP_CUR=<ip> [,<gateway>,<netmask>]		Set the static IP of SoftAP
Parameters and description	<ip>: IP address, currently supports only Class C IP address <gateway>: Gateway <netmask>: Subnet Mask	
Return Values and descriptions	\r\n OK\r\n	
Predecessors	no	
Example 1	Command: AT+CIPAP_DEF="192.168.0.1","192.168.0.1","255.255.255.0"\r\n Reply:\r\n OK\r\n	
Example 2	Command: AT+CIPAP_DEF="192.168.0.1"\r\n Reply:\r\n OK\r\n	
Command string		Function Description
AT+CIPAP_CUR?		Query the static IP of SoftAP
Return Values and descriptions	return value: +CIPAP_DEF:ip:<ip>\r\n +CIPAP_DEF:gateway:<gateway>\r\n +CIPAP_DEF:netmask:<netmask>\r\n \r\n OK\r\n	
Examples	Command: AT+CIPAP_CUR?\r\n Reply: +CIPAP_DEF:ip:"192.168.0.1"\r\n +CIPAP_DEF:gateway:"192.168.0.1"\r\n	

	+CIPAP_DEF:netmask:"255.255.255.0"\r\n \r\n OK\r\n

Command Description:

- The settings are saved to Flash, after the next reboot / power-up is still valid;
- This Set Command interacts with commands related DHCP. For example, if DHCP is enabled, static IP will be disabled and if static IP is enabled, DHCP will be disabled. The last configured command is set.

3.2.2.21 AT+CWDHCPS_CUR : Setting IP allocated by WizFi360 DHCP(SoftAP), Not saved to Flash

Command string		Function Description
AT+CWDHCPS_CUR=<enable>,<lease time>,<start IP>,<end IP>		Sets the IP allocated by WizFi360 DHCP(softAP)
Parameters and description	<enable>: - 0: using the default IP address pool (xxx.xxx.xxx.2 ~ xxx.xxx.xxx.101) - 1: Enable setting the IP address range. The following parameters have to be set. <lease time>: lease time of the WizFi360 softAP. It is in the range of 1 to 2880, unit is minutes, and the default is 120 minutes. <start IP>: start IP of the WizFi360 softAP IP arrange. <end IP>: end IP of the WizFi360 softAP IP arrange. NOTE: WizFi360 IP address arrange can accommodate up to 101 IP addresses	
Return Values and descriptions	\r\n OK\r\n	
Predecessors	No	
Examples	Command: AT+CWMODE_CUR=2\r\n Reply:\r\n OK\r\n Command: AT+CWDHCP_CUR=0,1 r \ n Reply:\r\n OK\r\n Command: AT+CIPAP_CUR="192.168.0.1","192.168.0.1","255.255.255.0"\r\n Reply:\r\n OK\r\n	

	Command: AT+CWDHCPS_CUR=1,120,"192.168.0.100","192.168.0.200"\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+CWDHCPS_CUR?	Queries the IP allocated by WizFi360 DHCP(softAP)

Return Values and descriptions	Return Value: +CWDHCPS_CUR:<lease time>,<start IP>,<end IP>\r\n \r\n OK\r\n Description: Parameter above
Examples	Command: AT+CWDHCPS_CUR?\r\n Reply: +CWDHCPS_CUR: 120,"192.168.0.2","192.168.0.101"\r\n \r\n OK\r\n

Command Description:

- The setting is not saved to the Flash, the next reboot / after power is invalid;
- This AT command is enabled when WizFi360 runs as SoftAP, and when DHCP is enabled.
- - <start IP> and <end IP> must be the same network segment.

3.2.2.22 AT+CWDHCPS_DEF : Setting IP allocated by WizFi360 DHCP(SoftAP), saved to Flash

Command string	Function Description
AT+CWDHCPS_DEF=<enable>,<lease time>,<start IP>,<end IP>	Sets the IP allocated by WizFi360 DHCP(softAP)

Parameters and description	<enable>: - 0: using the default IP address pool (xxx.xxx.xxx.2 ~ xxx.xxx.xxx.101) - 1: Enable setting the IP address range. The following parameters have to be set. <lease time>: lease time of the WizFi360 softAP. It is in the range of 1 to 2880, unit is minutes, and the default is 120 minutes. <start IP>: start IP of the WizFi360 softAP IP arrange. <end IP>: end IP of the WizFi360 softAP IP arrange. NOTE: WizFi360 IP address arrange can accommodate up to 101 IP addresses
Return Values and descriptions	\r\n OK\r\n

Predecessors	
Examples	Command: AT+CWMODE_DEF=2\r\n Reply:\r\n OK\r\n Command: AT+CWDHCP_DEF=0,1\r\ n Reply:\r\n OK\r\n Command: AT+CIPAP_DEF="192.168.0.1","192.168.0.1","255.255.255.0"\r\n Reply:\r\n OK\r\n Command: AT+CWDHCPS_DEF=1,120,"192.168.0.100","192.168.0.200"\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+CWDHCPS_DEF?	Queries the IP allocated by WizFi360 DHCP(softAP)

Return Values and descriptions	Return Value: +CWDHCPS_DEF:<lease time>,<start IP>,<end IP>\r\n \r\n OK\r\n Description: Parameter above
Examples	Command: AT+CWDHCPS_DEF?\r\n Reply: +CWDHCPS_DEF:120,"192.168.0.2","192.168.0.102"\r\n \r\n OK\r\n

Command Description:

- The settings are saved to Flash, after the next reboot / power-up is still valid;
- This AT command is enabled when WizFi360 runs as SoftAP, and when DHCP is enabled.
- - <start IP> and <end IP> must be the same network segment.

3.2.2.23 AT+CWSAP_CUR : Configures the WizFi360 SoftAP mode, Not saved to Flash

Command string	Function Description
AT+CWSAP_CUR=<ssid>,<pwd>,<chl>,<ecn>[,<max conn>,<ssid hidden>]	Set the WizFi360 SoftAP mode

Parameters and description	<ssid>: SSID of WizFi360 SoftAP. A length of ssid is 1~32 byte. <pwd>: Password of WizFi360 SoftAP. A length of password is 8~64 byte. <ch>: channel number. optionally having 1 to channel 13 <ecn>: password encryption method - 0: OPEN - 2: WPA_PSK - 3: WPA2_PSK <max conn>: The maximum number of stations that can be connected to WizFi360. It can be set from 1 to 4, and the default value is set to 4. <ssid hidden>: enable or disable the information broadcast - 0: Enable broadcast (factory default) - 1: Disable broadcast
Return Values and descriptions	\r\n OK\r\n
Predecessors	AT+CWMODE_CUR=2\r\n
Example 1	Command: AT+CWMODE_CUR=2\r\n Reply:\r\n OK\r\n Command: AT+CWSAP_CUR="WizFi360","12345678",5,3,4,0\r\n Reply:\r\n OK\r\n
Example 2	Command: AT+CWMODE_CUR=2\r\n Reply:\r\n OK\r\n Command: AT+CWSAP_CUR="WizFi360","12345678",5,3\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+CWSAP_CUR?	Query the WizFi360 softAP mode

Return Values and descriptions	+CWSAP_CUR:<ssid>,<pwd>,<chl>,<ecn>,<max conn>,<ssid hidden>\r\n \r\n OK\r\n
Examples	Command: AT+CWSAP_CUR?\r\n Reply: +CWSAP_CUR="WizFi360","12345678",5,3,4,0\r\n \r\n OK\r\n

Command Description: This setting is not saved to the Flash, the next reboot / after power is invalid.

3.2.2.24 AT+CWSAP_DEF : Configures the WizFi360 SoftAP mode, save to Flash

Command string	Function Description
AT+CWSAP_DEF=<ssid>,<pwd>,<ch>,<ecn>[,max conn>,<ssid hidden>]	Set the WizFi360 SoftAP mode

Parameters and description	<ssid>: SSID of WizFi360 SoftAP. A length of ssid is 1~32 byte. <pwd>: Password of WizFi360 SoftAP. A length of password is 8~64 byte. <ch>: channel number. optionally having 1 to channel 13 <ecn>: password encryption method - 0: OPEN - 2: WPA_PSK - 3: WPA2_PSK <max conn>: The maximum number of stations that can be connected to WizFi360. It can be set from 1 to 4, and the default value is set to 4. <ssid hidden>: enable or disable broadcast - 0: Enable broadcast (factory default) - 1: Disable broadcast
Return Values and descriptions	\r\n OK\r\n
Predecessors	AT+CWMODE_DEF=2\r\n
Example 1	Command: AT+CWMODE_DEF=2\r\n Reply:\r\n OK\r\n Command: AT+CWSAP_DEF="WizFi360","12345678",5,3,4,0\r\n Reply:\r\n OK\r\n

Example 2	Command: AT+CWMODE_DEF=2\r\n Reply:\r\n OK\r\n Command: AT+CWSAP_DEF="WizFi360","12345678",5,3\r\n Reply:\r\n OK\r\n

Command string	Function Description
AT+CWSAP_DEF?	Query the WizFi360 SoftAP mode
Return Values and descriptions	+CWSAP_DEF:<ssid>,<pwd>,<chl>,<ecn>,<max conn>,<ssid hidden>\r\n \r\n OK\r\n
Examples	Command: AT+CWSAP_DEF?\r\n Reply: +CWSAP_DEF="WizFi360","12345678",5,3,4,0\r\n \r\n OK\r\n

Command Description: - This setting will be saved to Flash, after the next reboot / power still valid.

3.2.2.25 AT+CWLIF : WizFi360 SoftAP list of connected Station

Command string	Function Description
AT+CWLIF	Query the list of connected station
Parameters and description	no
Return Values and descriptions	Return Value: <ip>,<mac>\r\n \r\n OK\r\n Description: <ip>: IP address of Station connected WizFi360 <mac>: MAC address of Station connected WizFi360
Predecessors	AT+CWMODE_DEF=2\r\n AT+CWSAP_DEF="WIZNETSZ","12345678",1,2\r\n

Examples	Command: AT+CWMODE_DEF=2\r\n Reply:\r\n OK\r\n Command: AT+CWSAP_DEF="WizFi360","12345678",1,2\r\n Reply:\r\n OK\r\n Command: AT+CWLIF\r\n Reply: "192.168.4.2","18:cf:5e:c5:ce:76"\r\n \r\n OK\r\n

Command Description:

- This command can not query a static IP address;
- This command is only valid when both DHCPs of the SoftAP, and of the Station to which WizFI360 is connected, are enabled.

3.2.2.26 AT+CWHOSTNAME : Setting the Name of Station

Command string	Function Description
AT+CWHOSTNAME=<hostname>	Set the name of WizFi360 station
Parameters and description	<hostname>: Set the host name of WizFi360 Station(The maximum length is 32 bytes.)
Return Values and descriptions	\r\n OK\r\n
Predecessors	AT+CWMODE_CUR=1\r\n
Example 1	Command: AT+CWMODE_CUR=1\r\n Reply:\r\n OK\r\n Command: AT+CWHOSTNAME="WizFi360_1234"\r\n Reply:\r\n OK\r\n
Command string	Function Description

AT+CWHOSTNAME?	Query the name of WizFi360 station
Return Values and descriptions	+CWHOSTNAME:<host name>\r\n \r\n OK\r\n If the Station mode is not enabled, the command will return: +CWHOSTNAME:<NULL>\r\n \r\n OK\r\n
Examples	Command: AT+CWHOSTNAME?\r\n +CWHOSTNAME:"WizFi360_FF6179"\r\n \r\n OK\r\n

Command Description: - This setting is not saved to the Flash, the next reboot / after power is invalid.

3.2.3 TCP / IP command

3.2.3.1 AT+CIPMODE : Setting transmission mode

Command string		Function Description
AT+CIPMODE=<mode>		Set the transmission mode
Parameters and description	<mode>: data transmission - 0: AT command transmission mode (factory default) - 1: transparent transmission mode (single communication)	
Return Values and descriptions	\r\n OK\r\n	
Predecessors	no	
Examples	Command: AT+CIPMODE=1\r\n Reply:\r\n OK\r\n	

Command string		Function Description
AT+CIPMODE?		Query the transmission mode
Return Values and descriptions	+CIPMODE:<mode>\r\n OK\r\n	
Examples	Command: AT+CIPMODE=1\r\n Reply: +CIPMODE:1\r\n OK\r\n	

Command Description:

- This setting is not saved to Flash, after the next reboot / power-invalid;
- In the transparent mode the data, and when WizFi360 as TCP Client.
  If the TCP connection is disconnected, WizFi360 continually tries to reconnect; as a TCP Sever.
  If the TCP connection is disconnected, WizFi360 reestablished listening, waiting for a client connection.
  If +++ is input to exit the transmission, AT command can send from UART to WizFi360.

3.2.3.2 AT+SAVETRANSLINK : Stored data set to transparent mode Flash

a. Save the data transparent mode (TCP single link) to Flash

Command string	Function Description

AT+SAVETRANSLINK=<mode>,<remote IP>,<remote port>[,<type>,<TCP keep alive>]	Set the transmission mode in TCP
Parameters and description	<mode>: -0: The AT command transmission mode is set on boot -1: The transparent transmission mode is set on boot <remote IP>: Destination IP address or domain name <remote Port>: Destination port number <type>: TCP(default) or UDP <TCP Keep alive>: TCP Keep-alive function - 0: Disable the TCP Keep-alive function (factory default) - 1~ 7200: Enable the TCP Keep-alive function, and set the Keep-alive packet transmission time interval, unit is second.
Return Values and descriptions	\r\n OK\r\n
Predecessors	no
Examples	Command: AT+SAVETRANSLINK=1,"192.168.2.2",5000,"TCP",5\r\n Reply:\r\n OK\r\n

b. Save the data transparent mode (UDP transport) to Flash

Command string	Function Description
AT+SAVETRANSLINK=<mode>,<remote IP>,<remote port>[,<type>,<UDP Local port>]	Set the transmission mode in UDP
Parameters and description	<mode>: - 0: The AT command transmission mode is set on boot -1: The transparent transmission mode is set on boot <remote IP>: Destination IP address or domain address <remote port>: Destination port number <type>: TCP(default) or UDP <UDP Local port>: local port number

Return Values and descriptions	\r\n OK\r\n
Predecessors	
Examples	Command: AT+SAVETRANSLINK=1,"192.168.2.2",5000,"UDP",6000\r\n Reply:\r\n OK\r\n

3.2.3.3 AT+CIPMUX : Multi-connection mode setting

Command string		Function Description
AT+CIPMUX=<mode>		Select single/multi connection mode
Parameters and description	<mode>: connection mode - 0: single connection mode (the default value) -1: Multi-connection mode	
Return Values and descriptions	\r\n OK\r\n	
Predecessors	no	
Examples	Command: AT+CIPMUX=1\r\n Reply:\r\n OK\r\n	
Command string		Function Description
AT+CIPMUX?		Confirm single/multi connection mode
Return Values and descriptions	+CIPMUX:<mode>\r\n \r\n OK\r\n	
Examples	Command: AT+CIPMUX?\r\n Reply: +CIPMUX:1\r\n \r\n OK\r\n	

Command Description:

- Only in the AT command mode data transmission (AT+CIPMODE=0), can be set to a multi-connection mode;

- This mode can only be changed after all connections are disconnected
- If the TCP server is running, it must be deleted (AT+CIPSERVER=0) before the single connection mode is activated.

3.2.3.4 AT+CIPSERVER : Established TCP Server

Command string		Function Description
AT+CIPSERVER=<mode>[,<port>]		Delete/Create TCP Server
Parameters and description	<mode>: Create or Delete TCP server -0: Delete TCP server -1: Create TCP server <port>: local port, in the range of 1 ~ 65535 (The default local port number is 333, the registered local port numbers should be avoided, see Appendix 1.)	
Return Values and descriptions	\r\n OK\r\n	
Predecessors	AT+CIPMUX=1	
Examples	Command: AT+CIPMUX=1\r\n Reply:\r\n OK\r\n Command: AT+CIPSERVER=1,5000\r\n Reply:\r\n OK\r\n	

Command Description:

- TCP Server only can be opened in Multi-connection mode (AT+CIPMUX=1).
- When a TCP client access, it automatically assigned a network connection ID.

3.2.3.5 AT+CIPSTART (established TCP Client / SSL connection established or UDP transport)

a. establish a TCP Client connection

Command string		Function Description
AT+CIPSTART=[<ID>,]<type>,<remote IP>,<remote port>[,<TCP keep alive>]		TCP Client Open
Parameters and description	<ID>: Network connection ID (0 ~ 4), it is used in case of multiple connection <type>: connection type, it should select the "TCP", "UDP" or ”SSL”, if select TCP, it establish the TCP Client	

	<remote IP>: destination IP address or domain name <remote port>: Destination port number, in the range of 1 ~ 65535 (The default local port number is 333, the registered local port numbers should be avoided, see Appendix 1) <TCP Keep alive>: about Keep Alive packet, it only operates <type> is “TCP” -0: Don’t use Keep Alive packet (factory default) -1 to 7200: Keep alive packet transmission time interval in 1s
Return Values and descriptions	\r\n OK\r\n or \r\n ERROR\r\n or \r\n ALREADY CONNECTED\r\n (If the TCP connection is already established.)
Predecessors	-
Example 1	Command: AT+CIPSTART="TCP","192.168.1.99",5000\r\n Reply:\r\n OK\r\n
Example 2	Command: AT+CIPSTART=1,"TCP","www.iwiznet.cn",5000,10\r\n Reply:\r\n OK\r\n

b. Establish communication UDP

Command string		Function Description
AT+CIPSTART=[<ID>,]<type>,<remote IP>,<remote port>[,<UDP local port>,<UDP mode>]		UDP Open
Parameters and description	<ID>: Network connection ID (0 ~ 4), it is used in case of multiple connection <type>: connection type, it should select the "TCP", "UDP" or ”SSL”, <remote IP>: destination IP address or domain name <remote Port>: Destination port number, in the range of 1 ~ 65535 (The default local port number is 333, the registered local port numbers should be avoided, see Appendix 1 <UDP Local port>: Local port number, in the range of 1 ~ 65535 (The default local port number is 333, the registered local port numbers should be avoided, see Appendix 1) <UDP mode>: UDP transparent transmission, if the data transparent mode, then this parameter must be 0 - 0: the destination peer entity of UDP will not change; this is the default setting. – - 1: the destination peer entity of UDP can change once. - 2: the destination peer entity of UDP is allowed to change. Note: The use of <UDP mode> Parameter must configure <UDP Local port> Parameter	
Return Values and descriptions	\r\n OK\r\n or \r\n ERROR\r\n or \r\n ALREADY CONNECTED\r\n (If the UDP communication is established)	
Predecessors	no	
Example 1	Command: AT+CIPSTART="UDP","192.168.1.99",5000\r\n Reply:\r\n OK\r\n	
Example 2	Command: AT+CIPSTART=1,"UDP","www.iwiznet.cn",5000,6000,2\r\n	

	Reply:\r\n OK\r\n

Command string	Function Description

c. establish an SSL connection

Command string	Function Description
AT+CIPSTART=[<ID>,]<type>,<remote IP>,<remote port>[,<Keep alive>]	SSL Connection
Parameters and description	<ID>: Network connection ID (0 ~ 4), for the case of multiple connections <type>: connection type, it should select the "TCP", "UDP" or ”SSL”, <remote IP>: destination IP address or domain name <remote port>: Destination port number, in the range of 1 ~ 65535 (The default local port number is 333, the registered local port numbers should be avoided, see Appendix 1 <TCP Keep alive>: about Keep Alive packet, it only operates <type> is “TCP” -0: Don’t use Keep Alive packet (factory default) -1 to 7200: Keep alive packet transmission time interval in 1s
Return Values and descriptions	\r\n OK\r\n or \r\n ERROR\r\n If the SSL connection is already established, the response is: \r\n ALREADY CONNECTED\r\n
Predecessors	no
Examples	Command: AT+CIPSTART="SSL","www.iwiznet.cn",5000\r\n Reply: OK\r\n

Command Description:

- WizFi360 only support to establish an SSL connection, if SSL connection operate, it doesn’t support data transparent mode;
- SSL will occupy more cache, if the cache size exceeds, it can cause restart. Users can increase the memory size by AT+CIPSSLSIZE command.

3.2.3.6 AT+CIPSSLSIZE : Provided SSL cache size

Command string	Function Description
AT+CIPSSLSIZE=<size>	SSL size
Parameters and description	<size>: Set SSL cache size, in the range: 2048 - 4096
Return Values and descriptions	\r\n OK\r\n
Predecessors	no
Examples	Command: AT+CIPSSLSIZE=4096\r\n Reply:\r\n OK\r\n

3.2.3.7 AT+CIPSTATUS : Gets the Connection Status

Command string	Function Description
AT+CIPSTATUS	Gets the Connection Status
Parameters and description	no
Return Values and descriptions	Return Value: STATUS:<state>\r\n +CIPSTATUS:<ID>,<type>,<remote IP>,<remote port>,<local port>,<tcptype>\r\n \r\n OK\r\n Description: <state>: WizFi360 as a network in the connection information mode Station - 2: WizFi360 Station is connected to the AP and is assigned IP - 3: TCP or UDP Communication is connected. - 4: TCP or UDP Communication is disconnected. - 5: WizFi360 Station is not connected to the AP. <ID>: Network connection ID (0 ~ 4), it is used in case of multiple connection <type>: connection type, "TCP" or "UDP"

	<remote IP>: destination IP address <remote Port>: Destination port number <local port>: local port number <tcptype>: - 0: Client mode - 1: Server mode
Predecessors	no
Example1	Command: AT+CIPSTATUS\r\n Reply: STATUS:2\r\n
Example2	Command: AT+CIPSTATUS\r\n Reply: STATUS:3\r\n +CIPSTATUS:1,"TCP","192.168.4.2",5000,6000,1\r\n \r\n OK\r\n

3.2.3.8 AT+CIPSEND : Size of the transmit data / incoming data transparent mode

a. data transparent mode

Command string		Function Description
AT+CIPSEND		Incoming data transparent mode
Return Values and descriptions	After receiving the command to wrap Back>. Entering transparent mode data transmission, up to 2048 bytes per packet, or the packet data at every 20ms intervals distinction. However, when a single input packet "+++", return to the AT command mode. When sending "+++",then wait at least 1s issued an AT command. The commands must be the transparent mode If it is UDP transparent transmission, AT+CIPSTART of <UDP mode> parameter must be 0	
Predecessors	no	
Examples	Command: AT+CIPSEND\r\n Reply:>	

b. length (AT command mode) transmission data set

Command string		Function Description
AT+CIPSEND=[<ID>,]<length>[,<remote IP>,<remote Port>]		Set the data size and transmit the data
Parameters and description	<ID>: Network connection ID (0 ~ 4), it is used in case of multiple connection <length>: data length (1 ~ 2048) <remote IP>: destination IP address (It can be set in UDP mode) <remote Port>: destination port number (It can be set in UDP mode)	
Return Values and descriptions	If this command is set successfully, return the following. And WizFi360 waits for the data to be transmitted. When data input is completed by the length set in <length>, WizFi360 starts data transmission. \r\n OK\r\n > If the connection is disconnected or the connection is not established, return the following: \r\n ERROR\r\n If the data is sent successfully, return the following: \r\n SEND OK\r\n If it failed, return the following: \r\n SEND FAIL\r\n	
Predecessors		
Example 1	Command: AT+CIPSEND=1220\r\n Reply: \r\n OK\r\n >	
Example 2	Command: AT+CIPSEND=0,1220,”192.168.0.10”,50000\r\n Reply:	

	\r\n OK\r\n >

3.2.3.9 AT+CIPSENDEX : Size of the transmit data

Command string	Function Description
AT+CIPSENDEX=[<ID>,]<length>[,<remote IP>,<remote Port>]	Set the data size and transmit the data
Parameters and description	<ID>: Network connection ID (0 ~ 4), it is used in case of multiple connection <length>: data length (1 ~ 2048) <remote IP>: destination IP address (It can be set in UDP mode) <remote Port>: destination port number (It can be set in UDP mode)
Return Values and descriptions	If this command is set successfully, return the following. And WizFi360 waits for the data to be transmitted. When data input is completed by the length set in <length> or \0 is input in data, WizFi360 starts data transmission. \r\n OK\r\n > If the connection is disconnected or the connection is not established, return the following: \r\n ERROR\r\n If the data is sent successfully, return the following: \r\n SEND OK\r\n If it failed, return the following: \r\n SEND FAIL\r\n
Predecessors	no
Example 1	Command: AT+CIPSENDEX=1220\r\n Reply: \r\n OK\r\n

	>
Example 2	Command: AT+CIPSENDEX=0,1220,”192.168.0.10”,50000\r\n Reply: \r\n OK\r\n >

3.2.3.10 AT+CIPSENDBUF : Writes Data into the TCP Send buffer

Command string	Function Description
AT+CIPSENDBUF=<length>	Set the data size and transmit the data
Parameters and description	<ID>: Network connection ID (0 ~ 4), it is used in case of multiple connection <length>: to write TCP transmission data length, the length of the discarded data exceeds
Return Values and descriptions	If this command is set successfully, return the following. And WizFi360 waits for the data to be transmitted. When data input is completed by the length set in <length>, WizFi360 starts data transmission. The segment ID assigned to each data packet, starting from 1 and increases by 1 every time a data packet is written into the buffer. <current segment ID>,<segment ID successfully sent>\r\n \r\n OK\r\n > If the data length over the value of <length>, the data will be discarded, and return the following: \r\n busy\r\n If the connection is disconnected, or the connection is not established, the buffer is full, error occurs, return the following: \r\n ERROR\r\n In single connection mode (AT+CIPMUX=0), if the data is sent successfully, return the following: \r\n <segment ID>,SEND OK\r\n

	In multi-connection mode (AT+CIPMUX=1), if the data is sent successfully, return the following: \r\n <ID>,<segment ID>,SEND OK\r\n If it failed, return the following: \r\n SEND FAIL\r\n
Predecessors	no
Example1	Command: AT+CIPSENDBUF=1024\r\n Reply:0\r\n \r\n OK\r\n >
Example2	Command: AT+CIPSENDBUF=0,1024 Reply:0,0\r\n \r\n OK\r\n >

Command Description:

- This command can not be used for SSL connections.

3.2.3.11 AT+CIPBUFRESET : Resets the Segment ID Count

Command string	Function Description
AT+CIPBUFRESET[=<ID>]	Reset the segment ID
Parameters and description	<ID>: Network connection ID (0 ~ 4), it is used in case of multiple connection
Return Values and descriptions	Return Value: \r\n OK\r\n Description: Reset the segment ID used by AT + CIPSENDBUF.

Predecessors	no
Example1	Command: AT+CIPBUFRESET\r\n Reply:\r\n OK\r\n
Example2	Command: AT+CIPBUFRESET=1\r\n Reply:\r\n OK\r\n

3.2.3.12 AT+CIPBUFSTATUS : Check status TCP send buffer

Command string	Function Description
AT+CIPBUFSTATUS[=<ID>]	Check status TCP Send buffer
Parameters and description	<ID>: Network connection ID (0 ~ 4), it is used in case of multiple connection
Return Values and descriptions	Return Value: <next segment ID>,<segment ID sent>,< segment ID successfully sent>,<remain buffer size>,<queue>\r\n OK\r\n Description: <next segment ID>: the next segment ID obtains by AT+CIPSENDBUF <segment ID sent>: TCP segment ID of last sent when <next segment ID> - <segment ID sent>=1 , AT+CIPBUFRESET is executed. <segment ID successfully sent>: TCP segment ID of last successfully sent <remain buffer size>: remain size of TCP send buffer <queue>: Available TCP queue number. But it is not reliable and only used for reference.
Predecessors	no
Examples	Command: AT+CIPBUFSTATUS\r\n Reply: \r\n 20,15,10,200,7\r\n \r\n OK\r\n

	Reply Description: • 20: means that the latest segment ID is 19 when AT+CIPSENDBUF command use the next time, the segment ID returned is 20 • 15: means that the TCP segment ID 15 is the last segment sent, but this segment may not be successfully sent • 10: means that the TCP segment ID 10 was sent successfully • 200: means that the remaining size of the TCP-send-buffer is 200 bytes • 7: the available TCP queue number; it is not reliable and should be used as a reference only. when the queue number is 0, no TCP data can be sent.

Command Description:

- This command does not support SSL connection;
- TCP buffer size is 21900 byte.

3.2.3.13 AT+CIPCHECKSEQ : TCP transmit buffer is written inquiry of a package sent successfully

Command string	Function Description
AT+CIPCHECKSEQ=[<ID>,]<segment ID>	Check transmission of specific segment

Parameters and description	<ID>: Network connection ID (0 ~ 4), it is used in case of multiple connection <segment ID>: segment ID when CIPSENDBUF command use.
Return Values and descriptions	Return Value in single connection mode: <segment ID>,<status>\r\n \r\n OK\r\n Return Value in multi-connection mode: <ID>,<segment ID>,<status>\r\n \r\n OK\r\n Description:

	<status>: Send Status -FALSE: Failed to send -TRUE: Send success
Predecessors	no
Example1	Command: AT+CIPCHECKSEQ=20\r\n Reply: 20,TRUE\r\n \r\n OK\r\n
Example2	Command: AT+CIPCHECKSEQ=1,20\r\n Reply: 1,20,TRUE\r\n \r\n OK\r\n

+IPD

3.2.3.14 AT+CIPDINFO : Received data format

Command string	Function Description
AT+CIPDINFO=<mode>	Information of Received data
Parameters and description	<mode>: -0: Don't display the Destination IP address and port number -1: Display the Destination IP address and port number (factory default)
Return Values and descriptions	\r\n OK\r\n
Predecessors	no
Examples	Command: AT+CIPDINFO=1\r\n Reply:\r\n OK\r\n

3.2.3.15 AT+CIPCLOSE : Close TCP / UDP connections

Command string	Function Description
AT+CIPCLOSE[=<ID>]	Close TCP/UDP connection

Parameters and description	<ID>: Network connection ID (0 ~ 4), it is used in case of multiple connection. When the ID is 5, close all connections. (In TCP Server mode, ID 5 is invalid)
Return Values and descriptions	\r\n OK\r\n
Predecessors	no
Example1	Command: AT+CIPCLOSE\r\n Reply:\r\n OK\r\n
Example 2	Command: AT+CIPCLOSE=0\r\n Reply:\r\n OK\r\n

3.2.3.16 AT+CIFSR : IP and MAC address information

Command string	Function Description
AT+CIFSR	Check IP and MAC address information

Return Values and descriptions	return value: +CIFSR:APIP,<softAP IP address>\r\n +CIFSR:APMAC,<softAP MAC address>\r\n +CIFSR:STAIP,<station IP address>\r\n +CIFSR:STAMAC,<station MAC address>\r\n \r\n OK\r\n Description: <softAP IP address>: The SoftAP IP address of WizFi360 <softAP MAC address>: The SoftAP MAC address of WizFi360 <station IP address>: The Station IP address of WizFi360 <station MAC address>: The Station MAC address of WizFi360
Predecessors	no
Examples	Command: AT+CIFSR\r\n

	Reply: +CIFSR:APIP, 192.168.4.1\r\n +CIFSR:APMAC,"02:08:dc:11:1213"\r\n +CIFSR:STAIP,"192.168.1.88"\r\n +CIFSR:STAMAC,"00:08:dc:11:12:13"\r\n \r\n OK\r\n

3.2.3.17 AT+CIPSTO : Sets the TCP Server Timeout

Command string	Function Description
AT+CIPSTO=<time>	Set the TCP server Timeout
Parameters and description	<time>: TCP server timeout period in the range of 0 ~ 7200s
Return Values and descriptions	\r\n OK\r\n
Predecessors	AT+CIPMUX=1\r\n AT+CIPSERVER=1,1001\r\n
Examples	Command: AT+CIPMUX=1\r\n Reply: \r\n OK\r\n Command: AT+CIPSERVER=1,1001\r\n Reply: \r\n OK\r\n Command: AT+CIPSTO=10\r\n Reply: \r\n OK\r\n

Command string	Function Description
AT+CIPSTO?	Query the TCP server Timeout
Return Values and descriptions	+CIPSTO:<time>\r\n \r\n OK\r\n

Examples	Command: AT+CIPSTO?\r\n Reply: +CIPSTO:180\r\n \r\n OK\r\n

3.2.4 Management Command

3.2.4.1 AT+GMR : Firmware version

Command string		Function Description
AT+GMR		Firmware Version
Return Values and descriptions	Return Value: <AT Version>\r\n <SDK Version>\r\n <Compile time>\r\n \r\n OK\r\n Description: <AT Version>: AT command version number in the format "AT version: xxxx (Month Date Year Hour: Minute: Second)" <SDK Version>: SDK version number in the format "SDK version: xxx (Checksum)" <Compile time>: compile time, the format is "compile time: (Month Date Year Hour: Minute: Second)"	
Examples	Command: AT+GMR\r\n Reply: AT version: 1.0.1.0 (Jun 6 2019 17:49:31)\r\n SDK version: 3.0.0 (a0ffff9f)\r\n compile time: Jun 6 2019 17:49:31\r\n \r\n OK\r\n	

3.2.4.2 AT+CIUPDATE : Update the Software Through Wi-Fi

Command string		Function Description
AT+CIUPDATE		Update the Software Through Wi-Fi
Parameters and description	NO	

Return Values and descriptions	Return Value: +CIPUPDATE: <n>\r\n \r\n OK Description: <n> : update status - 1: find the server. - 2: connect to server. - 3: get the software version. - 4: start updating.
Predecessors	no
Examples	Command: AT+CIUPDATE\r\n Reply: +CIPUPDATE:<1>\r\n \r\n OK\r\n

3.2.4.3 AT+CIPDOMAIN : DNS Function

Command string	Function Description
AT+CIPDOMAIN=<domain name>	DNS Function
Parameters and description	<domain name>: The domain name, to support the length of less than 64
Return Values and descriptions	Return Value: +CIPDOMAIN:<ip address>\r\n \r\n OK\r\n or DNS Fail\r\n \r\n ERROR\r\n

	Description: <ip address>: IP address corresponding to the domain name
Predecessors	no
Examples	Command: AT+CIPDOMAIN="www.iwiznet.cn"\r\n Reply: +CIPDOMAIN:"104.24.105.177"\r\n \r\n OK\r\n

3.2.4.4 AT+PING : Ping Packets

Command string	Function Description
AT+PING=<IP address>	Send Ping packet
Parameters and description	<IP address>: IP address or domain name
Return Values and descriptions	Return Value: +<Time>\r\n \r\n OK\r\n or \r\n ERROR\r\n Description: <Time>: response time of ping
Predecessors	no
Examples	Command: AT+PING=”www.google.com"\r\n Reply: +46\r\n \r\n OK\r\n

3.2.4.5 AT+CIPSNTPCFG : SNTP and time zone setting function

Command string	Function Description

AT+CIPSNTPCFG=<enable>[,<timezone>,<SNTP server0>,<SNTP server1>,<SNTP server2>]	SNTP and Time zone setting
Parameters and description	<enable>: -0: Disable SNTP function (factory default) -1: Enable SNTP function <timezone>: time zone, in the range of -11 to 13; If SNTP is enabled, the <timezone> has to be set <SNTP server0>: The first a SNTP server <SNTP server1>: The second SNTP server <SNTP server2>: The third SNTP server If you set enable and <SNTP server> parameter are not set, servers "cn.ntp.org.cn", "ntp.sjtu.edu.cn", "us.pool.ntp .org" will be used by default
Return Values and descriptions	\r\n OK\ r\ n
Predecessors	no
Examples	Command: AT+CIPSNTPCFG=1,8,"cn.ntp.org.cn","ntp.sjtu.edu.cn","us.pool.ntp.org"\r\n Reply: OK\r\n

Command string	Function Description
AT+CIPSNTPCFG?	SNTP and time zone information
Return Values and descriptions	+CIPSNTPCFG:<enable>,<timezone>,<SNTP server1>[,<SNTPserver2>,<SNTP server3>]\r\n OK\r\n
Examples	Command: AT+CIPSNTPCFG?\r\n Reply: +CIPSNTPCFG:1,8,"cn.ntp.org.cn"\r₩n OK\r\n

3.2.4.6 AT+CIPSNTPTIME : Checks the SNTP Time

Command string	Function Description
AT+CIPSNTPTIME?	Query the SNTPTIME
Return Values and descriptions	Return Value: +CIPSNTPTIME:<time>\r\n

	OK\r\n Description: <time>: format "Week Month Date Hour: Minute: Second Year"
Predecessors	no
Examples	Command: AT+CIPSNTPTIME?\r\n Reply: +CIPSNTPTIME: Thu Jan 01 00:00:00 1970\r\n

4 Appendix

TCP / IP protocol in the default list of ports that are already occupied

Protocol	Port
Retention	0
TCP port multi-channel server	1
Retention	2
ECHO	7
Retention	9
Retention	11
Retention	13
network status	15
FTP	20
FTP	21
TELNET	23
SMTP	25
Printer	35
Time Server	37
Name Server	42
Retention	43
Log host protocol	49
DNS	53
DHCP	67
DHCP	68
TETP	69
Gopler	70
Finger	79
HTTP	80
Remotely TELNET	107
SUN	111

NNTP	119
NTP	123
SNMP	161
SNMP	162
IPX	213
Retention	160-223

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