6. SYS Toolbox command

6.1 SYS command set list

Command	Description
AT+CSYSHEAP	Check remain RAM size
AT+CSYSFLASH	View total available sectors
AT+CSYSWRITE	Write FLASH specific sectors
AT+CSYSREAD	Read FLASH specific sectors
AT+CSYSERASE	Erase FLASH specific sectors
AT+CSYSTFTP	Download file from tftp server, save to FLASH
AT+CSYSNTP	Query time
AT+CSYSNTPSET	Configure NTP server

6.1.1 AT+CSYSHEAP Check remain RAM size

AT+CSYSHEAP Check remain RAM size	
Execute command AT+CSYSHEAP	Response +CSYSHEAP: <bytes> OK
	Parameters <bytes>: integer, means remain RAM size, unit: byte.

6.1.2AT+CSYSFLASH View total available sectors

AT+CSYSHEAP Check remain RAM size	
Execute command AT+CSYSFLASH	Response +CSYSFLASH: <bytes> OK
	Parameters <sum>: integer, means available total sectors.

6.1.3AT+CSYSERASE Erase FLASH specific sectors

AT+CSYSERASE Erase FLASH specific sectors	
Set command AT+CSYSERASE=<start>,<num>	Response OK
	Parameters <start>: start sector, range[0,sum-1] <num>:begin from start sector, total sectors to be erased, range[1,sum]. sum: total available sectors
Example	AT+CSYSERASE=0,2

6.1.4AT+CSYSWRITE Write FLASH Specific Sectors

AT+CSYSWRITE Write FLASH specific sectors	
Set command AT+CSYSWRITE=<sector>,<data_length>	Response > OK
	Parameters <sector>:FLASH sectors, range[0,sum-1] <data_length>: user data length, unit: byte, range [1,4096] sum: total available sectors
Description	1.When the module output'>', please enter user data, then the module will not continue response AT command until it finish receiving user data, if the dataflow exceed <data_length>, the transmission of this time will be invalid, and the module will return an error. 2.Before write FLASH, please execute AT+CSYSERASE command to erase FLASH related sectors. 3.The default timeout is 60s. If there still no dataflow after 60s, or the dataflow is less than <data_length>, the module will return an error.
Example	User enters command：AT+CSYSWRITE=1,10 The module notices： > Then user enters dataflow: 1234567890 The module notices：OK

6.1.5AT+CSYSREAD Read FLASH Specific Sectors

AT+CSYSREAD Read FLASH specific sectors	
Set command AT+CSYSREAD=<sector>,<offset>,<length>	Response <data> OK
	Parameters <sector>: FLASH sectors, range [0,sum-1] <offset>: starting address, range [0,4095] <length>: offset, range [1,4096] <data>: data sum: total available sectors
Description	Size of each sector is 4KB, the range read should be within one sector
Example	AT+CSYSREAD=1,0,1024

6.1.6 AT+CSYSTFTP Download file from tftp server, save to FLASH

AT+CSYSTFTP Download file from tftp server,save to FLASH	
Set command AT+CSYSTFTP=<tftp_server>, <file_name>,<start_sector>, <timeout>	Response <file_size> OK
	Parameters <tftp_server>: string parameter, tftp server domain or ip <file_name>: string parameter, the name of the downloaded file, the length should not exceed 40 bytes. <start_sector>: the file will save from start _sector, range [0,sum-1] <timeout>: the timeout of downloading the file, unit: second <file_size>: file size, unit: byte sum: total available sectors
Description	1.Connect ESP8266 to AP before executing this command. 2.file_size will be saved to the position that fourth consecutive bytes after <start_sector> (Low byte --> High byte), the stored file contents start from the fifth byte in the sector. 3.when downloading file by tftp, the file size

	should not exceed (sum-start_sector)*4K-4 bytes 4.If the file size exceeds (sum-start_sector)*4K-4 bytes, the module will return an error and erase all the sectors already used starting from <start_sector>
Example	AT+CSYSTFTP=”192.168.1.143”,”test.bin”,0,50

6.1.7AT+CSYSNTP Query time

AT+CSYSNTP Query time	
Execute command AT+CSYSNTP	Response <time> OK
	Parameters <time>:GMT time
Description	User can execute AT+CSYSNTP command to re-configure NTP server
Notes	Connect ESP8266 to AP before executing this command
Example	AT+CSYSNTP

6.1.8 AT+CSYSNTPSET Configure NTP server

AT+CSYSNTPSET Configure NTP server	
Set command AT+CSYSNTPSET=<ntp_server>	Response OK
	Parameters <ntp_server>: string parameter, NTP server domain or ip
Description	1.The default NTP server the module connects to is: "us.pool.ntp.org", usually users do not need to reconfigure a new one. 2.After reconfiguring NTP server, the module will connect to the NTP server that have configured; if connection failed, it will auto-connect to default NTP server”us.pool.ntp.org”.
Example	AT+CSYSNTPSET=”ntp.sjtu.edu.cn”

7. IO toolbox AT commands

7.1 IO toolbox command list

IO toolbox commands	
Command	Description
AT+CIOADC	Read ADC
AT+CIOWRITE	Set IO status
AT+CIOREAD	Read IO status

7.1.1 AT+CIOADC Read ADC

AT+CIOADC Read ADC	
Execute command AT+CIOADC	Response <adc> OK
	Parameters <adc>:integer, A/D conversion result, unit:1/1024V
Description	1.ADC input voltage range: 0-1V 2.ADC conversion result [0,1024], 10 bit accuracy
Example	AT+CIOADC

7.1.2 AT+CIOWRITE Set IO Status

AT+CIOWRITE Set IO Status	
Set command AT+CIOWRITE=<gpio>,<status>	Response OK
	Parameter <gpio>:ESP8266 GPIO number, range : 0,2,4,5,12,13,14 <status>:1 or 0
Description	When gpio writes operation, it auto configures as output mode
Example	AT+CIOWRITE=13,1

7.1.3 AT+CIOREAD Read IO Status

AT+CIOREAD Read IO Status

Set command AT+CIOREAD=<gpio>	Response <status> OK
	Parameter <gpio>:ESP8266 GPIO number, range：0,2,4,5,12,13,14 <status>:1 or 0
Description	When gpio reads operation, it auto configures as output mode
Example	AT+CIOREAD=13