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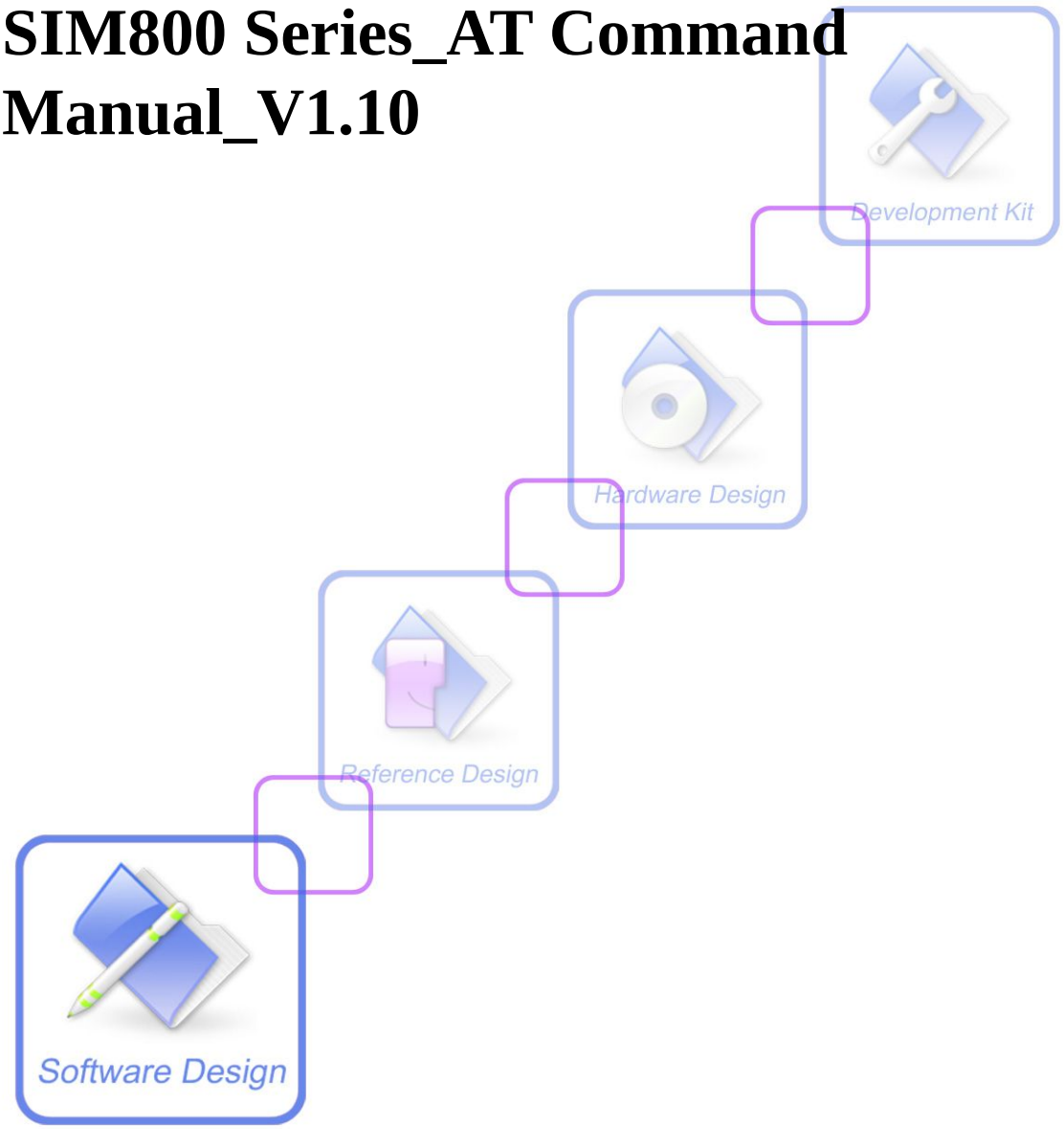
SIM800 Series_AT Command Manual_V1.10



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Version History

Version	Date	Chapter	What is new
V1.00			New version
V1.01	2013-07-23	All	Modify GSM 07.05 to 3GPP TS 27.005,modify GSM 07.07 to 3GPP TS 27.007
		1.1 Scope of the document	Add SIM800
		2.2.8 ATH	Delete ATH parameter [n]
		2.2.12 +++	Change "0.5 second" to "1 second"
		2.2.13 ATO	Change "NO CARRIER" to "ERROR"
		2.2.26 ATX	Change default value from 0 to 4
		2.2.32 AT&W	Add AT+CFGRI,AT+CSGS
		2.2.41.1 Auto-bauding	Disable DTR auto-bauding
		3.2.14 AT+CHLD	Delete parameter of CHLD
		3.2.18 AT+CLIP	Change URC parameter
		3.2.51 AT+CRSL	Delete reference Note
		3.2.7 AT+CEER	Change description of 34 (emergency call not possible)
		4.2.10 AT+CRES	Delete description of CSCB
		4.2.11 AT+CSAS	Delete description of CSCB
		6.2.4 AT+CMIC	Add reference Note
		6.2.11 AT+CFGRI	Add default value
		6.2.16 AT+CCVM	Modify Test Command response information and parameter description
		6.2.18 AT+CHF	Add URC
		6.2.26 AT+STTONE	Change <duration> supported range;delete reference note
		6.2.27 AT+SIMTONE	Modify last parameter of Test Command to 10-500000
		6.2.48 AT+SLEDS	Modify default value
		6.2.55 AT+CSGS	Add ATC
		6.2.56 AT+CMICBIAS	Add ATC
		8.2.2 AT+CIPSTART	Modify parameter
		8.2.15 AT+CIPHEAD	Modify parameter
		8.2.20 AT+CIPSRIP	Modify parameter
		8.2.23 AT+CIPCCFG	Modify write cmd parameters
		8.2.26 AT+CIPRXGET	Add "single IP & multi IP connection" information

		9.2.1 AT+SAPBR	Modify parameter
		12.2.23 AT+FTPLIST	Change "Execution Command" to "Write Command"
		14.2.8 AT+SMTPBODY	Change "Execution Command" to "Write Command"
		14.2.10 AT+SMTPSEND	Modify parameter
		14.2.11 AT+SMTPFT	Change "Execution Command" to "Write Command"
		15.2.15 AT+CMMSRECV	Change reference note
		15.2.21 AT+CMMSTIMEOUT	Change "milliseconds" to "seconds"
		15.2.25 AT+CMMSSCONT	Modify parameter of Execution Command
		17.2.1 AT+CREC	Add note
		18.2.2 AT+CTTSPARAM	Modify parameter;add note
		20.8 GPRS Commands	Modify the CGQREQ example
		20.17 RECORD Commands	Add example
		3.2.17 AT+CLCK	Add Max Response Time
		3.2.22 AT+COPS	Add Max Response Time
		3.2.29 AT+CPWD	Add Max Response Time
		3.2.28 AT+CPIN	Add Max Response Time
		3.2.41 AT+VTS	Add Max Response Time
		3.2.44 AT+CPOL	Add Max Response Time
		3.2.45 AT+COPN	Add Max Response Time
		3.2.54 AT+CPUC	Add Max Response Time
		6.2.7 AT+CADC	Add Max Response Time
		6.2.23 AT+CCID	Add Max Response Time
		7.2.1 AT+CGATT	Add Max Response Time
		7.2.5 AT+CGACT	Add Max Response Time
		3.2.24 AT+CPBF	Modify description of max response time
		3.2.25 AT+CPBR	Modify description of max response time
		4.2.1 CMGD	Modify description of max response time
		4.2.3 CMGL	Modify description of max response time
		6.2.25 CMGDA	Modify description of max response time
		15.2.8 AT+CMMSSEND	Modify description of max response time
		15.2.15 AT+CMMSRECV	Modify description of max response time
		2.2.16 ATS0	Add parameter saving mode
		2.2.20 ATS6	Add parameter saving mode
		2.2.21 ATS7	Add parameter saving mode

		2.2.22 ATS8	Add parameter saving mode
		2.2.26 ATX	Add parameter saving mode
		3.2.4 AT+CBST	Add parameter saving mode
		3.2.16 AT+CLCC	Add parameter saving mode
		3.2.12 AT+CSCS	Add parameter saving mode
		3.2.51 AT+CRSL	Add parameter saving mode
		3.2.52 AT+CLVL	Add parameter saving mode
		6.2.33 AT+CIURC	Add parameter saving mode
		6.2.53 AT_CSDT	Add parameter saving mode
		6.2.54 AT+CSMINS	Add parameter saving mode
		3.2.32 AT+CREG	Modify parameter save mode
		6.2.44 AT+SVR	Modify parameter save mode
		7.2.10 AT+CGREG	Modify parameter save mode
		3.2.24 AT+CPBS	Delete parameter save mode
		3.2.25 AT+CPBW	Delete parameter save mode
V1.02	2013-10-23	2.2.28 AT&C	Modify the format
		3.2.5 AT+CCFC	Change error word: <reads> to <reason>
		3.2.33 AT+CRLP	Add Save mode and reference
		3.2.36 AT+FCLASS	Modify information about +FCLASS
		3.2.47 AT+CCLK	Add note
		4.2.5 AT+CMGS	Add Note
		6.2.18 AT+CHF	Modify parameter range and note
		6.2.19 AT+CHFA	Add patameters of write command and test command,modify note
		6.2.20 AT+CSCLK	Add new parameter and note
		6.2.24 AT+CMTE	Increase the temperature range
		6.2.28 AT+CCPD	Set default value
		6.2.33 AT+CIURC	Set default value
		6.2.41 AT+SPWM	Modify parameter direction and note
		6.2.51 AT+CNETLIGHT	Add test and read command
		6.2.53 AT+CSDT	Modify note
		6.2.55 AT+CSGS	Modify parameter default value
		6.2.56 AT+CMICBIAS	Add default value and modify parameter description
		6.2.57 AT+DTAM	Add AT command
		6.2.58 AT+SJDR	Add AT command
		6.2.59 AT+CPCMCFG	Add AT command
		6.2.60 AT+CPCMSYNC	Add AT command

		6.2.61 AT+CANT	Add AT command
		6.2.62 AT+CAGCSET	Add AT command
		7.2.9 AT+CGEREP	Modify parameter description and add URC example
		8.2.7 AT+CIPSHUT	Add Max Response Time
		8.2.10 AT+CIICR	Add Max Response Time
		8.2.21 AT+CIPDPDP	Modify parameter's scope
		8.2.26 AT+CIPRXGET	Modify parameter options
		16.2.1 AT+DDET	Add parameter and URC description in write command,add note
		17.2.1 AT+CREC	Modify note
		17.2.2 AT+CRECORD	Add AT command
		18.2.2 AT+CTTSPARAM	Modify note and parameter default value
		20.16 AT+DDET	Modify AT+DDET example
		21.5 AT+CTTSPARAM	Add differences of some AT commands
		21.6 AT+CHFA	Add differences of some AT commands
		AT+CEXTHS,AT+CEXBUT	Delete
		All	Add or modify Parameter Saving Mode and Max Response Time
V1.03	2014-03-28	1.1 Scope of the document	Add SIM800G
		2.2.28 AT&C	Modify parameter format
		2.2.32 AT&W	Modify parameter stored by &W
		2.2.41 AT+IPR	Add parameter description
		3.2.6 AT+CCWA	Modify <status> decription
		3.2.24 AT+CPBS	Add "FD" phonebook
		3.2.46 AT+CALS	Add parameter <switch> for playing/stopping tone
		5.2.1 AT+STKTRS	Modify the length of parameter
		6.2.1 AT+SIDET	Extend parameter <channel>
		6.2.4 AT+CMIC	Extend parameter <channel>, add default value description in note
		6.2.5 AT+CALA	Modify indicate expired alarm
		6.2.13 AT+CLDTMF	Extend parameter <DTMF string> and add parameter <timeBase>, add the funcion that local DTMF tone can be played in call.
		6.2.56 AT+CMICBIAS	Add note description
		6.2.58 AT+SJDR	Modify format error
		6.2.63 AT+SD2PCM	Add AT command
		6.2.64 AT+SKPD	Add AT command

		6.2.65 AT+SIMTONEX	Add AT command
		6.2.66 AT+CROAMING	Add AT command
		6.2.67 AT+CNETSCAN	Add AT command
		8.2.23 AT+CIPCCFG	Modify wait time's interval
		12.2.24 AT+FTPGETTOFS	Add AT command
		16.2.1 AT+DDET	Modify description about <key> parameter, add <ssdet> parameter
		17.2.1 AT+CREC	Modify <location> and AT+CREC=8 description,add read length limit and AMR support description in note
		18.2.3 AT+CTTSRING	Add command AT+CTTSRING
		20.6 Audio command	Add AT+CLDTMF example
		20.11 PING Commands	Add other device ping to the modem
		21.6 AT+CHFA	Modify description
		21.7 AT+CMIC	Add difference desription
		21.8 AT+SIDET	Add difference desription
		AT+FCLASS AT+FMI AT+FMM AT+FMR	Delete
V1.04	2014-06-10	1.1 Scope of the document	Add SIM800W16, SIM840W16, SIM800-WB64, SIM808
		2.2.27 ATZ	Modify note
		2.2.30 AT&F	Modify note
		2.2.32 AT&W	Modify note
		3.2.46 AT+CALS	Modify <switch> descripton
		4.2.8 AT+CNMI	Add the " [alpha>], " string
		6.2.1 AT+SIDET	Modify note
		6.2.4 AT+CMIC	Modify note
		6.2.8 AT+CSNS	Modify parameter save mode
		6.2.13 AT+CLDTMF	Modify note
		6.2.17 AT+CBAND	Modify note
		6.2.18 AT+CHF	Modify note
		6.2.19 AT+CHFA	Modify note
		6.2.40 AT+SGPIO	Modify note
		6.2.41 AT+SPWM	Extend the scope of parameter <freq> to "0-100000"
		6.2.58 AT+SJDR	Modify note
		6.2.59 AT+CPCMCFG	Modify note

		6.2.60 AT+CPCMSYNC	Modify note
		6.2.62 AT+CANT	Modify note
		6.2.63 AT+SD2PCM	Modify note
		6.2.64 AT+SKPD	Modify note
		6.2.66 AT+CROAMING	Modify AT+CROAMING command's format
		6.2.67 AT+CNETSCAN	Modify AT+CNETSCAN command's function and note
		6.2.68 AT+CMNRP	Add AT command
		8.2.2 AT+CIPSTART	Modify max response time
		8.2.30 AT+CIPTKA	Add AT command
		10.2.4 AT+CIPBEIPING	Add AT command
		12.2.2 AT+FTPMODE	Modify test and write command
		12.2.14 AT+FTPGET	Modify note, Add "Manual quit" to <error>
		12.2.23 AT+FTPLIST	Modify note
		12.2.24 AT+FTPGETTOFS	Add read command
		12.2.25 AT+FTPPUTFRMFS	Add AT command
		12.2.26 AT+FTPEXTGET	Add AT command
		12.2.27 AT+FTPFILEPUT	Add AT command
		12.2.28 AT+FTPQUIT	Add AT command
		13.2.1 AT+CIPGSMLOC	Modify max response time
		16.2.1 AT+DDET	Modify response value of test command
		17.2.1 AT+CREC	Modify parameter description and note
		18	Modify note
		19.3 URC	Add URC of AT+CGREG,AT+CALA,AT+CIURC,AT+CNMI
		20.2 SIM commands	Modify response of AT+CPBS=?
		21	Modify ATC difference
		21.4 AT+CHFA	Add PCM channel in SIM800 and SIM800-WB64
V1.05	2014-07-31	All	Change SIM800-WB64 to SIM800M64
		6.2.21 AT+CENG	Add format description of part parameters
		6.2.40 AT+SGPIO	Extend the scope of parameter <GPIO> to "1-7"
		6.2.69 AT+CEGPRS	Add AT command
		12.2.24 AT+FTPGETTOFS	Modify description of <loc>
		14.2.14 AT+POP3IN	Add description of <code> value 69
		14.2.22 AT+POP3OUT	Add description of <code> value 69
		21.2 AT+CMIC	Modify

		21.5 AT+SGPIO	Modify difference
		21.9 AT+CADC	Add difference
		21.10 AT+CSCLK	Add difference
		21.13	Add GPIO difference
1.06	2014-10-28	6.2.52 AT+CWHITELIST	Extend the scope of parameter <mode> to "0-3"
		6.2.70 AT+CGPIO	Add AT command
		6.2.71 AT+CMEDPLAY	Add AT command
		6.2.72 AT+CMEDIAVOL	Add AT command
		8.2.14 AT+CDNSGIP	Add error code
		12.2	Modify max response time
		17.2.1 AT+CREC	Modify note
		19.3	Modify note
1.07	2014-12-19	1.1 Scope of the document	Add SIM800C
		2.2.16 ATS0	Modify note
		6.2.20 AT+CSCLK	Modify note
		6.2.73 AT+SNDLEVEL	Add AT command
		21	Add differences of SIM800C
1.08	2015-05-12	6.2.55 AT+CSGS	Extend the scope of parameter <mode> to "0-2"
		6.2.74 AT+ECHARGE	Add AT command
		6.2.75 AT+SIMTIMER	Add AT command
		6.2.76 AT+SPE	Add AT command
		17.2.1 AT+CREC	Modify note
		19.1	Change CME error codes from 810~824 to 600~614
		21.13	Add AT+ECHARGE,AT+SIMTIMER,AT+SPE
1.09	2015-08-03	1.1 Scope of the document	Add SIM800A, SIM800F, SIM800C-DS
		6.2.21 AT+CENG	Extend the scope of parameter <mode> to "0-4" and modify note
		6.2.65 AT+SIMTONEX	Modify note
		6.2.70 AT+CGPIO	Modify response value of test command
		6.2.71 AT+CMEDPLAY	Modify note
		6.2.77 AT+CCONCINDEX	Add AT command
		6.2.78 AT+SDMODE	Add AT command
		6.2.79 AT+SRSPT	Add AT command
		11.2.9 AT+HTTPHEAD	Add AT command
		15.2.6 AT+CMMSDOWN	Modify <type> parameter
		17.2.1 AT+CREC	Modify note
		19.3	Delete URC of "AT+CENG" when <mode>=3

		20.2 SIM commands	Add examples of "AT+CENG"
		21.11 AT+CMMSDOWN	Add difference of "AT+CMMSDOWN"
		21.12 AT+CFGRI	Add difference of "AT+CFGRI"
		21	Add differences of SIM800A,SIM800F and SIM800C-DS
1.10	2016-05-18	1.1 Scope of the document	Add SIM868
		3.2.17 AT+CLCK	Modify note
		3.2.52 AT+CBC	Modify note
		4.2.15 AT+CSMP	Modify note
		6.2.11 AT+CFGRI	Modify note
		6.2.12 AT+CLTS	Modify parameter <dst> and note
		6.2.21 AT+CENG	Modify note
		6.2.24 AT+CMTE	Modify range of <Temperature>
		6.2.58 AT+SJDR	Modify write command and note
		6.2.71 AT+CMEDPLAY	Modify note
		6.2.80 AT+CELLIST	Add AT command
		6.2.81 AT+CLIST	Add AT command
		6.2.82 AT+CBATCHK	Add AT command
		7.2.1 AT+CGATT	Modify max response time
		8.2.6 AT+CIPCLOSE	Modify note
		8.2.9 AT+CSTT	Modify note of parameters
		8.2.11 AT+CIFSR	Modify note
		11.2.5 AT+HTTPACTION	Extend the scope of parameter <Method> to "0-3"
		14.2.4 AT+SMTPAUTH	Modify response of test command
		15.2.17 AT+CMMSREAD	Add description of <name>
		16.2.1 AT+DDET	Modify value of <key>
		18.2.1 AT+CTTS	Modify description of <mode>
		20.2	Add examples of AT+CELLIST
		21.7 AT+CREC	Modify note
		21.13 AT+CLCK	Add difference
		21.4	Add difference

1 Introduction

1.1 Scope of the document

This document presents the AT Command Set for SIMCom SIM800 Series, including SIM800V, SIM840V, SIM800W, SIM840W, SIM800W16, SIM840W16, SIM800L, SIM800H, SIM800, SIM800M64, SIM800G, SIM808, SIM800C, SIM800A, SIM800F, SIM800C-DS and SIM868.

1.2 Related documents

You can visit the SIMCom Website using the following link:
http://www.sim.com

1.3 Conventions and abbreviations

In this document, the GSM engines are referred to as following term:
ME (Mobile Equipment);
MS (Mobile Station);
TA (Terminal Adapter);
DCE (Data Communication Equipment) or facsimile DCE (FAX modem, FAX board);

In application, controlling device controls the GSM engine by sending AT Command via its serial interface. The controlling device at the other end of the serial line is referred to as following term:
TE (Terminal Equipment);
DTE (Data Terminal Equipment) or plainly "the application" which is running on an embedded system;

1.4 AT Command syntax

The "AT" or "at" or “aT” or “At”prefix must be set at the beginning of each Command line. To terminate a Command line enter **<CR>**.
Commands are usually followed by a response that includes.
"<CR><LF><response><CR><LF>"
Throughout this document, only the responses are presented, **<CR><LF>** are omitted intentionally.

The AT Command set implemented by SIM800 Series is a combination of 3GPP TS 27.005, 3GPP TS 27.007 and ITU-T recommendation V.25ter and the AT commands developed by SIMCom.

Note: A HEX string such as "00 49 49 49 49 FF FF FF FF" will be sent out through serial port at the baud rate of 115200 immediately after SIM800 Series is powered on. The string shall be ignored since it is used for

synchronization with PC tool. Only enter AT Command through serial port after SIM800 Series is powered on and Unsolicited Result Code "RDY" is received from serial port. If auto-bauding is enabled, the Unsolicited Result Codes "RDY" and so on are not indicated when you start up the ME, and the "AT" prefix, or "at" prefix must be set at the beginning of each command line.

All these AT commands can be split into three categories syntactically: "**basic**", "**S parameter**", and "**extended**". These are as follows:

1.4.1 Basic syntax

These AT commands have the format of "**AT**<***x***><***n***>", or "**AT&**<**x**><**n**>", where "<***x***>"is the Command, and "<***n***>"is/are the argument(s) for that Command. An example of this is "**ATE**<***n***>", which tells the DCE whether received characters should be echoed back to the DTE according to the value of "<***n***>". "<***n***>" is optional and a default will be used if missing.

1.4.2 S Parameter syntax

These AT commands have the format of "**ATS**<***n***>=<***m***>", where "<***n***>" is the index of the **S** register to set, and "<***m***>"is the value to assign to it. "<***m***>" is optional; if it is missing, then a default value is assigned.

1.4.3 Extended Syntax

These commands can operate in several modes, as in the following table:

Table 1: Types of AT commands and responses

Test Command	AT+<*x*>=?	The mobile equipment returns the list of parameters and value ranges set with the corresponding Write Command or by internal processes.
Read Command	AT+<*x*>?	This command returns the currently set value of the parameter or parameters.
Write Command	AT+<x>=<…>	This command sets the user-definable parameter values.
Execution Command	AT+<x>	The execution command reads non-variable parameters affected by internal processes in the GSM engine.

1.4.4 Combining AT commands on the same Command line

You can enter several AT commands on the same line. In this case, you do not need to type the "**AT**" or "**at**" prefix before every command. Instead, you only need type "**AT**" or "**at**" the beginning of the command line. Please note to use a semicolon as the command delimiter after

an extended command; in basic syntax or S parameter syntax, the semicolon need not enter, for example: ATE1Q0S0=1S3=13V1X4;+IFC=0,0;+IPR=115200;&W.

The Command line buffer can accept a maximum of 556 characters (counted from the first command without “AT” or “at” prefix). If the characters entered exceeded this number then none of the Command will executed and TA will return "**ERROR**".

1.4.5 Entering successive AT commands on separate lines

When you need to enter a series of AT commands on separate lines, please Note that you need to wait the final response (for example OK, CME error, CMS error) of last AT Command you entered before you enter the next AT Command.

1.5 Supported character sets

The SIM800 Series AT Command interface defaults to the **IRA** character set. The SIM800 Series supports the following character sets:
GSM format
UCS2
HEX
IRA
PCCP
PCDN
8859-1
The character set can be set and interrogated using the "**AT+CSCS**" Command (3GPP TS 27.007). The character set is defined in GSM specification 3GPP TS 27.005.

The character set affects transmission and reception of SMS and SMS Cell Broadcast messages, the entry and display of phone book entries text field and SIM Application Toolkit alpha strings.

1.6 Flow control

Flow control is very important for correct communication between the GSM engine and DTE. For in the case such as a data or fax call, the sending device is transferring data faster than the receiving side is ready to accept. When the receiving buffer reaches its capacity, the receiving device should be capable to cause the sending device to pause until it catches up.

There are basically two approaches to achieve data flow control: software flow control and hardware flow control. SIM800 Series support both two kinds of flow control.
In Multiplex mode, it is recommended to use the hardware flow control.

1.6.1 Software flow control (XON/XOFF flow control)

Software flow control sends different characters to stop (XOFF, decimal 19) and resume (XON, decimal 17) data flow. It is quite useful in some applications that only use three wires on the serial interface.

The default flow control approach of SIM800 Series is hardware flow control (RTS/CTS flow control), to enable software flow control in the DTE interface and within GSM engine, type the following AT Command:
AT+IFC=1, 1

This setting is stored volatile, for use after restart, **AT+IFC=1, 1** should be stored to the user profile with **AT&W**.

NOTE:
The AT commands listed in the table of **AT&W** chapter should be stored to user profile with **AT&W** for use after restart. Most other AT commands in V.25, 3GPP TS 27.005, 3GPP TS 27.007,GPRS will store parameters automatically and can be used after module restart.

Ensure that any communications software package (e.g. Hyper terminal) uses software flow control.

NOTE:
Software Flow control should not be used for data calls where binary data will be transmitted or received (e.g. TCP/IP) as the DTE interface may interpret binary data as flow control characters.

1.6.2 Hardware flow control (RTS/CTS flow control)

Hardware flow control achieves the data flow control by controlling the RTS/CTS line. When the data transfer should be suspended, the CTS line is set inactive until the transfer from the receiving buffer has completed. When the receiving buffer is ok to receive more data, CTS goes active once again.

To achieve hardware flow control, ensure that the RTS/CTS lines are present on your application platform.

1.7 Definitions

1.7.1 Parameter Saving Mode

For the purposes of the present document, the following syntactical definitions apply:

- **NO_SAVE**: The parameter of the current AT command will be lost if module is rebooted or current AT command doesn't have parameter.
- **AUTO_SAVE**: The parameter of the current AT command will be kept in NVRAM automatically, and it won't be lost if module is rebooted.
- **AT&W_SAVE**: The parameter of the current AT command will be kept in NVRAM by sending the command of "AT&W".

1.7.2 Max Response Time

Max response time is estimated maximum time to get response, the unit is seconds.
"-" means this AT command doesn’t care the response time.

2 AT Commands According to V.25TER

These AT Commands are designed according to the ITU-T (International Telecommunication Union, Telecommunication sector) V.25ter document.

2.1 Overview of AT Commands According to V.25TER

Command	Description
A/	Re-issues the last command given
ATA	Answer an incoming call
ATD	Mobile originated call to dial a number
ATD><N>	Originate call to phone number in current memory
ATD><STR>	Originate call to phone number in memory which corresponds to field <str>
ATDL	Redial last telephone number used
ATE	Set command echo mode
ATH	Disconnect existing connection
ATI	Display product identification information
ATL	Set monitor speaker loudness
ATM	Set monitor speaker mode
+++	Switch from data mode or ppp online mode to command mode
ATO	Switch from command mode to data mode
ATP	Select pulse dialling
ATQ	Set result code presentation mode
ATS0	Set number of rings before automatically answering the call
ATS3	Set command line termination character
ATS4	Set response formatting character
ATS5	Set command line editing character
ATS6	Pause before blind dialling
ATS7	Set number of seconds to wait for connection completion
ATS8	Set number of seconds to wait for comma dial modifier encountered in dial string of D command
ATS10	Set disconnect delay after indicating the absence of data carrier
ATT	Select tone dialing
ATV	TA response format
ATX	Set connect result code format and monitor call progress
ATZ	Reset default configuration
AT&C	Set DCD function mode
AT&D	Set DTR function mode

AT&F	Factory defined configuration
AT&V	Display current configuration
AT&W	Store active profile
AT+GCAP	Request complete TA capabilities list
AT+GMI	Request manufacturer identification
AT+GMM	Request TA model identification
AT+GMR	Request TA revision identification of software release
AT+GOI	Request global object identification
AT+GSN	Request TA serial number identification (IMEI)
AT+ICF	Set TE-TA control character framing
AT+IFC	Set TE-TA local data flow control
AT+IPR	Set TE-TA fixed local rate
AT+HVOIC	Disconnect voice call only

2.2 Detailed Description of AT Commands According to V.25TER

2.2.1 A/ Re-issues the Last Command Given

A/ Re-issues the Last Command Given	
Execution Command **A/**	Response Re-issues the previous Command
Reference V.25ter	Note

2.2.2 ATA Answer an Incoming Call

ATA Answer an Incoming Call	
Execution Command **ATA**	Response TA sends off-hook to the remote station. Note1: Any additional commands on the same Command line are ignored. Note2: This command may be aborted generally by receiving a character during execution. The aborting is not possible during some states of connection establishment such as handshaking. Response in case of data call, if successfully connected **CONNECT<text>** TA switches to data mode. Note: **<text>** output only if **ATX<value>** parameter setting with the **<value>**>0 When TA returns to Command mode after call release **OK** Response in case of voice call, if successfully connected

	OK Response if no connection **NO CARRIER**
Parameter Saving Mode	NO_SAVE
Max Response Time	20s(voice call) Timeout set with ATS7 (data call)
Reference V.25ter	Note See also **ATX**

2.2.3 ATD Mobile Originated Call to Dial A Number

ATD Mobile Originated Call to Dial A Number	
Execution Command **ATD<n>[<mgsm][;]**	Response This command can be used to set up outgoing voice, data or fax calls. It also serves to control supplementary services. Note: This command may be aborted generally by receiving an **ATH** Command or a character during execution. The aborting is not possible during some states of connection establishment such as handshaking. If error is related to ME functionality **+CME ERROR: <err>** If no dial tone and (parameter setting **ATX2** or **ATX4**) **NO DIALTONE** If busy and (parameter setting **ATX3** or **ATX4**) **BUSY** If a connection cannot be established **NO CARRIER** If the remote station does not answer **NO ANSWER** If connection successful and non-voice call. **CONNECT<text>** TA switches to data mode. Note: **<text>** output only if **ATX<value>** parameter setting with the **<value>** >0 When TA returns to command mode after call release **OK**

	If connection successful and voice call **OK**
	Parameters **<n>** String of dialing digits and optionally V.25ter modifiers dialing digits: **0-9, * , #, +, A, B, C** Following V.25ter modifiers are ignored: **,(comma), T, P, !, W, @** **Emergency call:** **<n>** Standardized emergency number 112 (no SIM needed) **<mgsm>** String of **GSM** modifiers: **I** Actives **CLIR** (Disables presentation of own number to called party) **i** Deactivates **CLIR** (Enable presentation of own number to called party) **G** Activates Closed User Group invocation for this call only **g** Deactivates Closed User Group invocation for this call only **<;>** Only required to set up voice call , return to Command state
Parameter Saving Mode	NO_SAVE
Max Response Time	20s(voice call) Timeout set with ATS7 (data call)
Reference V.25ter	Note Parameter "I" and "i" only if no *# code is within the dial string **<n>** is default for last number that can be dialed by **ATDL** *# codes sent with **ATD** are treated as voice calls. Therefore, the Command must be terminated with a semicolon ";" See **ATX** Command for setting result code and call monitoring parameters. Responses returned after dialing with **ATD** For voice call two different responses mode can be determined. **TA** returns "**OK**" immediately either after dialing was completed or after the call is established. The setting is controlled by **AT+COLP**. Factory default is **AT+COLP=0**, this cause the **TA** returns "**OK**" immediately after dialing was completed, otherwise **TA** will returns "**OK**", "**BUSY**", "**NO DIAL TONE**", "**NO CARRIER**". Using **ATD** during an active voice call: When a user originates a second voice call while there is already an active voice call, the first call will be automatically put on hold.

	The current states of all calls can be easily checked at any time by using the **AT+CLCC** Command.

2.2.4 ATD><n> Originate Call to Phone Number in Current Memory

ATD><n> Originate Call to Phone Number in Current Memory	
Execution Command **ATD><n>[<clir>][<cug>][;]**	Response This command can be used to dial a phone number from current phonebook memory. Note: This command may be aborted generally by receiving an **ATH** command or a character during execution. The aborting is not possible during some states of connection establishment such as handshaking. If error is related to ME functionality **+CME ERROR: <err>** If no dial tone and (parameter setting **ATX2** or **ATX4**) **NO DIALTONE** If busy and (parameter setting **ATX3** or **ATX4**) **BUSY** If a connection cannot be established **NO CARRIER** If the remote station does not answer **NO ANSWER** If connection successful and non-voice call. **CONNECT<text> TA** switches to data mode. Note: **<text>** output only if **ATX<value>** parameter setting with the **<value>** >0 When **TA** returns to command mode after call release **OK** If successfully connected and voice call **OK**
	Parameters **<n>** Integer type memory location should be in the range of locations available in the memory used **<mgsm>** String of **GSM** modifiers: **<clir>**

	I Override the CLIR supplementary service subscription default value for this call Invocation (restrict CLI presentation) **i** Override the CLIR supplementary service subscription default value for this call Suppression (allow CLI presentation) **<cug>** **G** Control the CUG supplementary service information for this call CUG Not supported **g** Control the CUG supplementary service information for this call CUG Not supported <;> Only required to set up voice call , return to command state
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note Parameter **"I"** and **"i"** only if no *# code is within the dial string *# codes sent with **ATD** are treated as voice calls. Therefore, the command must be terminated with a semicolon ";" See **ATX** Command for setting result code and call monitoring parameters.

2.2.5 ATD><str> Originate Call to Phone Number in Memory Which Corresponds to Field <str>

ATD><str> Originate Call to Phone Number in Memory Which Corresponds to Field <str>	
Execution Command **ATD><str>[<clir>][<cug>][;]**	Response This command make the **TA** attempts to set up an outgoing call to stored number. All available memories are searched for the entry **<str>**. Note: This command may be aborted generally by receiving an **ATH** Command or a character during execution. The aborting is not possible during some states of connection establishment such as handshaking. If error is related to ME functionality **+CME ERROR: <err>** If no dial tone and (parameter setting **ATX2** or **ATX4**) **NO DIALTONE** If busy and (parameter setting **ATX3** or **ATX4**)

	BUSY If a connection cannot be established **NO CARRIER** If the remote station does not answer **NO ANSWER** If connection successful and non-voice call. **CONNECT<text> TA** switches to data mode. Note: **<text>** output only if **ATX<value>** parameter setting with the **<value>** >0 When **TA** returns to command mode after call release **OK** If successfully connected and voice call **OK**
	Parameters **<str>** String type (string should be included in quotation marks) value ("**x**"), which should equal to an alphanumeric field in at least one phone book entry in the searched memories. <**str**> formatted as current **TE** character set specified by **+CSCS**. **<mgsm>** String of **GSM** modifiers: **I** Actives **CLIR** (Disables presentation of own number to called party) **i** Deactivates **CLIR** (Enable presentation of own number to called party) **G** Activates Closed User Group invocation for this call only **g** Deactivates Closed User Group invocation for this call only **<;>** Only required to set up voice call, return to Command state
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note Parameter **"I"** and **"i"** only if no "*#" code is within the dial string *# codes sent with **ATD** are treated as voice calls. Therefore, the Command must be terminated with a semicolon ";" See **ATX** Command for setting result code and call monitoring parameters.

2.2.6 ATDL Redial Last Telephone Number Used

ATDL Redial Last Telephone Number Used

Execution Command **ATDL**	Response This command redials the last voice and data call number used. Note: This command may be aborted generally by receiving an **ATH** Command or a character during execution. The aborting is not possible during some states of connection establishment such as handshaking. If error is related to ME functionality **+CME ERROR: <err>** If no dial tone and (parameter setting **ATX2** or **ATX4**) **NO DIALTONE** If busy and (parameter setting **ATX3** or **ATX4**) **BUSY** If a connection cannot be established **NO CARRIER** If the remote station does not answer **NO ANSWER** If connection successful and non-voice call. **CONNECT<text> TA** switches to data mode. Note: **<text>** output only if **ATX<value>** parameter setting with the **<value>** >0 When **TA** returns to Command mode after call release **OK** If successfully connected and voice call **OK**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note See **ATX** Command for setting result code and call monitoring parameters. Return the numbers and symbols which **ATD** supports if there is no last dialing context.

2.2.7 ATE Set Command Echo Mode

ATE Set Command Echo Mode

Execution Command **ATE<value>**	Response This setting determines whether or not the TA echoes characters received from TE during Command state. **OK**
	Parameters **<value>** 0 Echo mode off 1 Echo mode on
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference V.25ter	Note

2.2.8 ATH Disconnect Existing Connection

ATH Disconnect Existing Connection	
Execution Command **ATH**	Response Disconnect existing call by local TE from Command line and terminate call **OK** Note: OK is issued after circuit 109(DCD) is turned off, if it was previously on.
Parameter Saving Mode	NO_SAVE
Max Response Time	20s
Reference V.25ter	Note

2.2.9 ATI Display Product Identification Information

ATI Display Product Identification Information	
Execution Command **ATI**	Response TA issues product information text Example: SIM800 R11.08 **OK**
Parameter Saving Mode	NO_SAVE
Max Response	-

Time	
Reference V.25ter	Note

2.2.10 ATL Set Monitor speaker loudness

ATL Set Monitor speaker loudness	
Execution Command **ATL<value>**	Response **OK**
	Parameters **<value>** 0..9 Volume
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note No effect in GSM

2.2.11 ATM Set Monitor Speaker Mode

ATM Set Monitor Speaker Mode	
Execution Command **ATM<value>**	Response **OK**
	Parameters **<value>** 0..9 Mode
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note No effect in GSM

2.2.12 +++ Switch from Data Mode or PPP Online Mode to Command Mode

+++ Switch from Data Mode or PPP Online Mode to Command Mode	
Execution Command +++	Response The +++ character sequence causes the TA to cancel the data flow over the AT interface and switch to Command mode. This allows you to enter AT Command while maintaining the data connection to the remote server. **OK** To prevent the +++ escape sequence from being misinterpreted as data, it should comply to following sequence: No characters entered for T1 time (1 second)

	"+++" characters entered with no characters in between (1 second) No characters entered for T1 timer (1 second) Switch to Command mode, otherwise go to step 1.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note To return from Command mode back to data mode: Enter **ATO**.

2.2.13 ATO Switch from Command Mode to Data Mode

ATO Switch from Command Mode to Data Mode	
Execution Command **ATO[n]**	Response TA resumes the connection and switches back from command mode to data mode. **CONNECT** If connection is not successfully resumed **ERROR** else TA returns to data mode from command mode **CONNECT <text>** Note: <**text**> only if parameter setting **ATX>0**
	Parameter **<n>** 0 Switch from command mode to data mode.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note

2.2.14 ATP Select Pulse Dialling

ATP Select Pulse Dialling	
Execution Command **ATP**	Response **OK**
Parameter Saving Mode	NO_SAVE
Max Response Time	-

Reference	Note
V.25ter	No effect in GSM

2.2.15 ATQ Set Result Code Presentation Mode

ATQ Set Result Code Presentation Mode	
Execution Command **ATQ<n>**	Response This parameter setting determines whether or not the TA transmits any result code to the TE. Information text transmitted in response is not affected by this setting. If <**n**>=0: **OK** If <**n**>=1: (none)
	Parameters **<n>** 0 TA transmits result code 1 Result codes are suppressed and not transmitted
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference V.25ter	Note

2.2.16 ATS0 Set Number of Rings before Automatically Answering the Call

ATS0 Set Number of Rings before Automatically Answering the Call	
Read Command **ATS0?**	Response **<n>** **OK**
	Parameters See Write Command
Write Command **ATS0=<n>**	Response This parameter setting determines the number of rings before auto-answer. **OK** **ERROR**
	Parameters **<n>** 0 Automatic answering is disable. 1-255 Number of rings the modem will wait for before answering the phone if a ring is detected.
Parameter Saving Mode	AT&W_SAVE

Max Response Time	-
Reference V.25ter	Note If <**n**> is set too high, the calling party may hang up before the call can be answered automatically. If using cmux port, **ATH** and **AT+CHUP** can hang up the call (automatically answering) only in the CMUX channel 0. If using dual-physical serial port, **ATH** and **AT+CHUP** can hang up the call (automatically answering) only in UART1.

2.2.17 ATS3 Set Command Line Termination Character

ATS3 Set Command Line Termination Character	
Read Command **ATS3?**	Response **<n>** **OK**
	Parameters See Write Command
Write Command **ATS3=<n>**	Response This parameter setting determines the character recognized by TA to terminate an incoming command line. The TA also returns this character in output. **OK** **ERROR**
	Parameters **<n>** 13 Command line termination character
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference V.25ter	Note Default 13 = CR. It only supports default value.

2.2.18 ATS4 Set Response Formatting Character

ATS4 Set Response Formatting Character	
Read Command **ATS4?**	Response **<n>** **OK**
	Parameters See Write Command

Write Command **ATS4=<n>**	Response This parameter setting determines the character generated by the TA for result code and information text. **OK** **ERROR**
	Parameters **<n>** 10 Response formatting character
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference V.25ter	Note Default 10 = LF. It only supports default value.

2.2.19 ATS5 Set Command Line Editing Character

ATS5 Set Command Line Editing Character	
Read Command **ATS5?**	Response **<n>** **OK**
	Parameters See Write Command
Write Command **ATS5=<n>**	Response This parameter setting determines the character recognized by TA as a request to delete from the command line the immediately preceding character. **OK** **ERROR**
	Parameters **<n>** 0-8-127 Response formatting character
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference V.25ter	Note Default 8 = Backspace.

2.2.20 ATS6 Pause Before Blind Dialling

ATS6 Pause Before Blind Dialling	
Read Command **ATS6?**	Response **<n>** **OK**
Write Command **ATS6=<n>**	Response **OK** **ERROR**
	Parameters **<n>** 0..999 Time
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference V.25ter	Note No effect in GSM

2.2.21 ATS7 Set Number of Seconds to Wait for Connection Completion

ATS7 Set Number of Seconds to Wait for Connection Completion	
Read Command **ATS7?**	Response **<n>** **OK**
	Parameters See Write Command
Write Command **ATS7=<n>**	Response This parameter setting determines the amount of time to wait for the connection completion in case of answering or originating a call. **OK** **ERROR**
	Parameters **<n>** 1-60-255 Number of seconds to wait for connection completion
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference V.25ter	Note If called party has specified a high value for **ATS0=<n>**, call setup may fail. The correlation between **ATS7** and **ATS0** is important

	Example: Call may fail if **ATS7=30** and **ATS0=20**. **ATS7** is only applicable to data call.

2.2.22 ATS8 Set Number of Seconds to Wait for Comma Dial Modifier Encountered in Dial String of D Command

ATS8 Set Number of Seconds to Wait for Comma Dial Modifier Encountered in Dial String of D Command	
Read Command **ATS8?**	Response **<n>** **OK**
	Parameters See Write Command
Write Command **ATS8=<n>**	Response **OK** **ERROR**
	Parameters **<n>** 0-255 The value of this register determines how long the modem should pause when it sees a comma in the dialing string.
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference V.25ter	Note No effect in GSM

2.2.23 ATS10 Set Disconnect Delay after Indicating the Absence of Data Carrier

ATS10 Set Disconnect Delay after Indicating the Absence of Data Carrier	
Read Command **ATS10?**	Response **<n>** **OK**
	Parameters See Write Command
Write Command **ATS10=<n>**	Response This parameter setting determines the amount of time that the TA will remain connected in absence of data carrier. If the data carrier is once more detected before disconnecting, the TA remains connected. **OK** **ERROR**

	Parameters **<n>** 1-15-254 Number of tenths seconds of delay
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference V.25ter	Note

2.2.24 ATT Select Tone Dialing

ATT Select Tone Dialing	
Execution Command **ATT**	Response **OK**
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference V.25ter	Note

2.2.25 ATV TA Response Format

ATV TA Response Format	
Execution Command **ATV<value>**	Response This parameter setting determines the contents of the header and trailer transmitted with result codes and information responses. When <**value**>=0 **0** When <**value**>=1 **OK**
	Parameters **<value>** 0 Information response: **<text><CR><LF>** Short result code format: **<numeric code><CR>** 1 Information response: **<CR><LF><text><CR><LF>** Long result code format: **<CR><LF><verbose code><CR><LF>** The result codes, their numeric equivalents and brief descriptions of the use of each are listed in the following table.
Parameter Saving Mode	AT&W_SAVE

Max Response Time	-
Reference V.25ter	Note

ATV1	ATV0	Description
OK	0	Acknowledges execution of a Command
CONNECT	1	A connection has been established; the DCE is moving from Command state to online data state
RING	2	The DCE has detected an incoming call signal from network
NO CARRIER	3	The connection has been terminated or the attempt to establish a connection failed
ERROR	4	Command not recognized, Command line maximum length exceeded, parameter value invalid, or other problem with processing the Command line
NO DIALTONE	6	No dial tone detected
BUSY	7	Engaged (busy) signal detected
NO ANSWER	8	"@" (Wait for Quiet Answer) dial modifier was used, but remote ringing followed by five seconds of silence was not detected before expiration of the connection timer (S7)
PROCEEDING	9	An AT command is being processed
CONNECT <text>	Manufacturer-specific	Same as CONNECT, but includes manufacturer-specific text that may specify DTE speed, line speed, error control, data compression, or other status

2.2.26 ATX Set CONNECT Result Code Format and Monitor Call Progress

ATX Set CONNECT Result Code Format and Monitor Call Progress	
Execution Command **ATX<value>**	Response This parameter setting determines whether or not the TA detected the presence of dial tone and busy signal and whether or not TA transmits particular result codes. **OK** **ERROR**
	Parameters **<value>** 0 **CONNECT** result code only returned, dial tone and busy detection are both disabled. 1 **CONNECT<text>** result code only returned, dial tone and busy detection are both disabled. 2 **CONNECT<text>** result code returned, dial tone

	detection is enabled, busy detection is disabled. 3 **CONNECT<text>** result code returned, dial tone detection is disabled, busy detection is enabled. 4 **CONNECT<text>** result code returned, dial tone and busy detection are both enabled.
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference V.25ter	Note

2.2.27 ATZ Reset Default Configuration

ATZ Reset Default Configuration	
Execution Command **ATZ[<value>]**	Response TA sets all current parameters to the user defined profile. **OK** **ERROR**
	Parameters **<value>** 0 Restore profile 0
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note

Parameter impacted by Z command: refer to AT&W

NOTE:

Parameters related to uart operation, like csclk, ipr, icf, ifc and cmnrp, will not be reset to default configuration.

2.2.28 AT&C Set DCD Function Mode

AT&C Set DCD Function Mode	
Execution Command **AT&C<value>**	Response This parameter determines how the state of circuit 109 **(DCD)** relates to the detection of received line signal from the distant end. **OK** **ERROR**
	Parameters **<value>** 0 **DCD** line is always ON

	1 **DCD** line is ON only in the presence of data carrier
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference V.25ter	Note

2.2.29 AT&D Set DTR Function Mode

AT&D Set DTR Function Mode	
Execution Command **AT&D[<value>]**	Response This parameter determines how the TA responds when circuit 108/2 (DTR) is changed from the ON to the OFF condition during data mode. **OK** **ERROR**
	Parameters **<value>** 0 TA ignores status on DTR. 1 ON->OFF on DTR: Change to Command mode with remaining the connected call. 2 ON->OFF on DTR: Disconnect call, change to Command mode. During state DTR = OFF is auto-answer off.
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference V.25ter	Note

2.2.30 AT&F Factory Defined Configuration

AT&F Factory Defined Configuration	
Execution Command **AT&F[<value>]**	Response TA sets all current parameters to the manufacturer defined profile. **OK**
	Parameters **<value>** 0 Set all TA parameters to manufacturer defaults.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

V.25ter	

Parameter impacted by &F command: refer to AT&W

NOTE:

Parameters related to uart operation, like csclk, ipr, icf, ifc and cmnrp, will not be reset to default configuration.

2.2.31 AT&V Display Current Configuration

AT&V Display Current Configuration	
Execution Command **AT&V[<n>]**	Response TA returns the current parameter setting. <**current configurations text**> **OK** **ERROR**
	Parameters **<n>** 0 Responses in numeric format
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note

2.2.32 AT&W Store Active Profile

AT&W Store Active Profile	
Execution Command **AT&W[<n>]**	Response TA stores the current parameter setting in the user defined profile. **OK** **ERROR**
	Parameters **<n>** 0 Store the current configuration in profile 0
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note The user defined profile is stored in non volatile memory.

Parameter stored by &W

Command	**Parameter name**	**Displayedby &V**

ATS0	<num>	Y
ATS3	<char>	Y
ATS4	<char>	Y
ATS5	<char>	Y
ATS6	<short>	Y
ATS7	<time>	Y
ATS8	<time>	Y
ATS10	<time>	Y
AT+CBST	<speed>,<name>,<ce>	Y
AT+CRLP	<iws>,<mws>,<T1>,<N2>	Y
ATV	<format>	Y
ATE	<echo>	Y
ATQ	<result>	Y
ATX	<result>	Y
AT&C	<behavior>	Y
AT&D	<behavior>	Y
AT+CLTS	<timestamp>	Y
AT+CREG	<n>	Y
AT+CGREG	<n>	Y
AT+CMEE	<n>	Y
AT+CSCLK	<n>	Y
AT+CIURC	<mode>	Y
AT+CFGRI	<mode>	Y
AT+CMTE	<mode>	Y
AT+CANT	<mode>,<UrcEnable>,<timer>	Y
AT+STKPCIS	<switch>	Y
AT+CMGF	<mode>	Y
AT+CNMI	<mode>,<mt>,<bm>,<ds>,<bfr>	Y
AT+CSCS	<chest>	Y
AT+VTD	<n>	Y
AT+CALS	<n>	Y
AT+CHF	<ind>	Y
AT+CAAS	<mode>	Y
AT+CBUZZERRING	<mode>	Y
AT+DDET	<n>	Y
AT+MORING	<mode>	Y
AT+SVR	<voice_rate_coding>	Y
AT+CCPD	<mode>	Y

AT+CSGS	<mode>	Y
AT+CNETLIGHT	<mode>	Y
AT+SLEDS	<mode>,<timer_on>,<timer_off>	Y
AT+CSDT	<mode>	Y
AT+CSMINS	<n>	Y
AT+EXUNSOL	<exunsol>	Y
AT+IPR	<n>	Y
AT+IFC	<TA_by_TE>, <TE_by_TA>	Y
AT+ICF	<format>,<parity>	Y
AT+SD2PCM	<mode>	Y
AT+CMNRP	<mode>	Y
AT+ECHARGE	<n>	Y
AT+SIMTIMER	<time>	Y
AT+CSNS	<mode>	Y
AT+FSHEX	<n>	Y

2.2.33 AT+GCAP Request Complete TA Capabilities List

AT+GCAP Request Complete TA Capabilities List	
Execution Command **AT+GCAP**	Response TA reports a list of additional capabilities. **+GCAP:** list of supported **<name>**s **OK**
	Parameters **<name>** +CGSM GSM function is supported
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note

2.2.34 AT+GMI Request Manufacturer Identification

AT+GMI Request Manufacturer Identification	
Test Command **AT+GMI=?**	Response **OK**
	Parameters

Execution Command **AT+GMI**	TA reports one or more lines of information text which permit the user to identify the manufacturer. **SIMCOM_Ltd** **OK**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note

2.2.35 AT+GMM Request TA Model Identification

AT+GMM Request TA Model Identification	
Test Command **AT+GMM=?**	Response **OK**
Execution Command **AT+GMM**	TA reports one or more lines of information text which permit the user to identify the specific model of device. **<model>** **OK**
	Parameters **<model>** Product model identification text
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note

2.2.36 AT+GMR Request TA Revision Identification of Software Release

AT+GMR Request TA Revision Identification of Software Release	
Test Command **AT+GMR=?**	Response **OK**
Execution Command **AT+GMR**	TA reports one or more lines of information text which permit the user to identify the revision of software release. **Revision: <revision>**

	OK
	Parameters **<revision>** Revision of software release
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note

2.2.37 AT+GOI Request Global Object Identification

AT+GOI Request Global Object Identification	
Test Command **AT+GOI=?**	Response **OK**
Execution Command **AT+GOI**	Response TA reports one or more lines of information text which permit the user to identify the device, based on the ISO system for registering unique object identifiers. **<Object Id>** **OK**
	Parameters **<Object Id>** Identifier of device type see X.208, 209 for the format of <Object Id>
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note

2.2.38 AT+GSN Request TA Serial Number Identification (IMEI)

AT+GSN Request TA Serial Number Identification(IMEI)	
Test Command **AT+GSN=?**	Response **OK**
Execution Command **AT+GSN**	Response TA reports the IMEI (international mobile equipment identifier) number in information text which permit the user to identify the individual ME device. **<sn>**

	OK
	Parameters **<sn>** IMEI of the telephone(International Mobile station Equipment Identity)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note The serial number (IMEI) is varied by individual ME device.

2.2.39 AT+ICF Set TE-TA Control Character Framing

AT+ICF Set TE-TA Control Character Framing	
Test Command **AT+ICF=?**	Response **+ICF: (**list of supported **<format>**s**),(**list of supported **<parity>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+ICF?**	Response **+ICF: <format>,<parity>** **OK**
	Parameters See Write Command
Write Command **AT+ICF=<format>[,<parity>]**	Response This parameter setting determines the serial interface character framing format and parity received by TA from TE. **OK**
	Parameters **<format>** 1 8 data 0 parity 2 stop 2 8 data 1 parity 1 stop 3 8 data 0 parity 1 stop 4 7 data 0 parity 2 stop 5 7 data 1 parity 1 stop 6 7 data 0 parity 1 stop **<parity>** 0 odd 1 even 3 space (0)
Parameter Saving	AT&W_SAVE

Mode	
Max Response Time	-
Reference V.25ter	Note The Command is applied for Command state; In **<format>** parameter, "0 parity" means no parity; The **<parity>** field is ignored if the **<format>** field specifies no parity and string "**+ICF: <format>,255**" will be response to "**AT+ICF**? " Command.

2.2.40 AT+IFC Set TE-TA Local Data Flow Control

AT+IFC Set TE-TA Local Data Flow Control	
Test Command **AT+IFC=?**	Response **+IFC: (**list of supported **<dce_by_dte>**s**),(**list of supported **<dte_by_dce>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+IFC?**	Response **+IFC: <dce_by_dte>,<dte_by_dce>** **OK**
	Parameters See Write Command
Write Command **AT+IFC=<dce_by_dte>[,<dte_by_dce>]**	Response This parameter setting determines the data flow control on the serial interface for data mode. **OK**
	Parameters **<dce_by_dte>** Specifies the method will be used by TE at receive of data from TA 0 No flow control 1 Software flow control 2 Hardware flow control **<dte_by_dce>**Specifies the method will be used by TA at receive of data from TE 0 No flow control 1 Software flow control 2 Hardware flow control
Parameter Saving Mode	AT&W_SAVE

Max Response Time	-
Reference V.25ter	Note

2.2.41 AT+IPR Set TE-TA Fixed Local Rate

AT+IPR Set TE-TA Fixed Local Rate	
Test Command **AT+IPR=?**	Response **+IPR: (**list of supported auto detectable <**rate**>s**),(**list of supported fixed-only <**rate**>s**)** **OK**
	Parameters See Write Command
Read Command **AT+IPR?**	Response **+IPR: <rate>** **OK**
	Parameters See Write Command
Write Command **AT+IPR=<rate>**	Response This parameter setting determines the data rate of the TA on the serial interface. The rate of Command takes effect following the issuance of any result code associated with the current Command line. **OK**
	Parameters **<rate>** Baud rate per second 0 (Auto-bauding) 1200 2400 4800 9600 19200 38400 57600 115200 230400 460800
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-

Reference	Note
V.25ter	Factory setting is "**AT+IPR=0**"(auto-bauding).

2.2.41.1 Auto-bauding

Synchronization between DTE and DCE ensure that DTE and DCE are correctly synchronized and the baud rate used by the DTE is detected by the DCE (= ME).To allow the baud rate to be synchronized, simply issue an "AT" string. This is necessary when you start up the module while auto-bauding is enabled. It is recommended to wait 3 to 5 seconds before sending the first AT character. Otherwise undefined characters might be returned.

If you want to use auto-bauding and auto-answer at the same time, you can easily enable the DTE-DCE synchronization, when you activate auto-bauding first and then configure the auto-answer mode.

Restrictions on auto-bauding operation

The serial interface has to be operated at 8 data bits, no parity and 1 stop bit (factory setting).
Only the strings "AT" or "at" can be detected when auto-bauding is enabled.
AT+IPR=0 setting to auto-bauding will take effect after module resets.
Unsolicited Result Codes that may be issued before the ME detects the new baud rate (by receiving the first AT Command string) will be sent at the previously detected baud rate.The Unsolicited Result Codes "RDY" and so on are not indicated when you start up the ME while auto-bauding is enabled.

It is not recommended to switch to auto-bauding from a baud rate that cannot be detected by the auto-bauding mechanism (e.g. 300 baud). Responses to +IPR=0 and any commands on the same line might be corrupted.

Auto-bauding and baud rate after restart

The most recently detected baud rate can not be stored when module is powered down.

2.2.42 AT+HVOIC Disconnect Voice Call Only

AT+HVOIC Disconnect Voice Call Only	
Execution Command **AT+HVOIC**	Response Disconnect existing voice call by local TE from Command line and terminate call with existing PPP or CSD connection on. **OK**
Parameter Saving Mode	NO_SAVE
Max Response Time	20s
Reference V.25ter	Note

3 AT Commands According to 3GPP TS 27.007

3.1 Overview of AT Command According to 3GPP TS 27.007

Command	Description
AT+CACM	Accumulated call meter(ACM) reset or query
AT+CAMM	Accumulated call meter maximum(ACM max) set or query
AT+CAOC	Advice of charge
AT+CBST	Select bearer service type
AT+CCFC	Call forwarding number and conditions control
AT+CCWA	Call waiting control
AT+CEER	Extended error report
AT+CGMI	Request manufacturer identification
AT+CGMM	Request model identification
AT+CGMR	Request TA revision identification of software release
AT+CGSN	Request product serial number identification (identical with +GSN)
AT+CSCS	Select TE character set
AT+CSTA	Select type of address
AT+CHLD	Call hold and multiparty
AT+CIMI	Request international mobile subscriber identity
AT+CLCC	List current calls of ME
AT+CLCK	Facility lock
AT+CLIP	Calling line identification presentation
AT+CLIR	Calling line identification restriction
AT+CMEE	Report mobile equipment error
AT+COLP	Connected line identification presentation
AT+COPS	Operator selection
AT+CPAS	Phone activity status
AT+CPBF	Find phonebook entries
AT+CPBR	Read current phonebook entries
AT+CPBS	Select phonebook memory storage
AT+CPBW	Write phonebook entry
AT+CPIN	Enter PIN
AT+CPWD	Change password
AT+CR	Service reporting control
AT+CRC	Set cellular result codes for incoming call indication
AT+CREG	Network registration
AT+CRLP	Select radio link protocol parameters

AT+CRSM	Restricted SIM access
AT+CSQ	Signal quality report
AT+VTD	Tone duration
AT+VTS	DTMF and tone generation
AT+CMUX	Multiplexer control
AT+CNUM	Subscriber number
AT+CPOL	Preferred operator list
AT+COPN	Read operator names
AT+CFUN	Set phone functionality
AT+CCLK	Clock
AT+CSIM	Generic SIM access
AT+CALM	Alert sound mode
AT+CALS	Alert sound select
AT+CRSL	Ringer sound level
AT+CLVL	Loud speaker volume level
AT+CMUT	Mute control
AT+CPUC	Price per unit and currency table
AT+CCWE	Call meter maximum event
AT+CBC	Battery charge
AT+CUSD	Unstructured supplementary service data
AT+CSSN	Supplementary services notification

3.2 Detailed Descriptions of AT Command According to 3GPP TS 27.007

3.2.1 AT+CACM Accumulated Call Meter (ACM) Reset or Query

AT+CACM Accumulated Call Meter(ACM) Reset or Query	
Test Command **AT+CACM=?**	Response **OK**
Read Command **AT+CACM?**	Response TA returns the current value of ACM. **+CACM: <acm>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<acm>** String type (string should be included in quotation marks); three bytes of the current ACM value in hexa-decimal format (e.g. "00001E" indicates decimal value 30) 000000 – FFFFFF

Write Command **AT+CACM=<passwd>**	Response TA resets the Advice of Charge related accumulated call meter (ACM) value in SIM file EF (ACM). ACM contains the total number of home units for both the current and preceding calls. **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<passwd>** String type (string should be included in quotation marks): SIM PIN2
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.2 AT+CAMM Accumulated Call Meter Maximum (ACM max) Set or Query

AT+CAMM Accumulated Call Meter Maximum(ACM max) Set or Query	
Test Command **AT+CAMM=?**	Response **OK**
Read Command **AT+CAMM?**	Response TA returns the current value of ACM max. **+CAMM: <acmmax>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+CAMM=<acmmax>[,<passwd>]**	Response TA sets the Advice of Charge related accumulated call meter maximum value in SIM file EF (ACM max). ACM max contains the maximum number of home units allowed to be consumed by the subscriber. **OK** **ERROR** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<acmmax>** String type (string should be included in quotation marks); three bytes of the max. ACM value in hex-decimal format (e.g.

	"00001E" indicates decimal value 30) 000000 disable ACMmax feature 000001-FFFFFF **<passwd>** String type (string should be included in quotation marks) SIM PIN2
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.3 AT+CAOC Advice of Charge

AT+CAOC Advice of Charge	
Test Command **AT+CAOC=?**	Response **+CAOC: (**list of supported **<mode>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CAOC?**	Response **+CAOC: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CAOC=<mode>**	Response TA sets the Advice of Charge supplementary service function mode. If <**mode**>=0, TA returns the current call meter value **+CAOC: <ccm>** **OK** If <**mode**>=1, TA deactivates the unsolicited reporting of CCM value **OK** If <**mode**>=2, TA activates the unsolicited reporting of CCM value **OK** **ERROR** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<mode>** 0 Query CCM value

	1 Deactivate the unsolicited reporting of CCM value 2 Activate the unsolicited reporting of CCM value **<ccm>** String type (string should be included in quotation marks); three bytes of the current CCM value in hex-decimal format (e.g. "00001E" indicates decimal value 30); bytes are similarly coded as ACMmax value in the SIM 000000-FFFFFF
Execution Command **AT+CAOC**	Response **+CAOC: <ccm>** **OK**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.4 AT+CBST Select Bearer Service Type

AT+CBST Select Bearer Service Type	
Test Command **AT+CBST=?**	Response **+CBST: (**list of supported **<speed>**s**),(**list of supported **<name>**s**),(**list of supported **<ce>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CBST?**	Response **+CBST: <speed>,<name>,<ce>** **OK**
	Parameters See Write Command
Write Command **AT+CBST=<speed>[,<name>[,<ce>]]**	Response TA selects the bearer service **<name>** with data rate **<speed>**, and the connection element **<ce>** to be used when data calls are originated. **OK** **ERROR**
	Parameters **<speed>** 0 Auto-bauding (automatic selection of the speed; this setting is possible in case of 3.1kHz modern and non-transparent service) 4 2400 bps (V.22bis)

		5 2400 bps (V.26ter) 6 4800 bps (V.32) 7 9600 bps (V.32) 12 9600 bps (V.34) 14 14400 bps (V.34) 68 2400 bps (V.110 or X.31 flag stuffing) 70 4800 bps (V.110 or X.31 flag stuffing) 71 9600 bps (V.110 or X.31 flag stuffing) 75 14400 bps (V.110 or X.31 flag stuffing)
	<name>	0 Data circuit asynchronous (UDI or 3.1 kHz modem) 4 Data circuit asynchronous (RDI)
	<ce>	0 Transparent_ 1 Non-transparent 2 Both, transparent prefered 3 Both, non-transparent prefered
Parameter Saving Mode	AT&W_SAVE	
Max Response Time	-	
Reference 3GPP TS 27.007 [14]	Note GSM 02.02[1]: lists the allowed combinations of the sub parameters.	

3.2.5 AT+CCFC Call Forwarding Number and Conditions Control

AT+CCFC Call Forwarding Number and Conditions Control	
Test Command **AT+CCFC=?**	Response **+CCFC: (**list of supported **<reason>**s**)** **OK**
	Parameters See Write Command
Write Command **AT+CCFC=<reason>,<mode>[,<number>[,<type>[,<class>[,<subaddr>[,<satype>[,time]]]]]]**	Response TA controls the call forwarding supplementary service. Registration, erasure, activation, deactivation, and status query are supported. Only ,<**reads**> and <**mode**> should be entered with mode (0-2,4) If <**mode**>≠2 and Command successful **OK** If <**mode**>=2 and Command successful (only in connection with <reason> 0 –3) For registered call forwarding numbers: when <**mode**>=2 and command successful: **+CCFC:** **<status>,<class1>[,<number>,<type>[,<subaddr>,<satype>[,<time>]]]**

	[<CR><LF>+CCFC: <status>,<class2>[,<number>,<type>[,<subaddr>,<satype>[,<time>]]][…] **OK** If no call forwarding numbers are registered (and therefore all classes are inactive): **+CCFC: <status>, <class>** **OK** where <**status**>=0 and <**class**>=7 If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<reason>** 0 Unconditional 1 Mobile busy 2 No reply 3 Not reachable 4 All call forwarding 5 All conditional call forwarding **<mode>** 0 Disable 1 Enable 2 Query status 3 Registration 4 Erasure **<number>** String type (Phone number of forwarding address in format specified by <**type**>) **<type>** Type of address **<subaddr>** String type (subaddress of format specified by <**satype**>) **<satype>** Type of sub-address in integer **<class>** 1 Voice (telephony) 2 Data (refers to all bearer services; with <**mode**>=2 this may refer only to some bearer service if TA does not support values 16, 32, 64 and 128) 4 Fax (facsimile services) 7 All classes **<time>** 1..30 When "no reply" is enabled or queried, this gives the time in seconds to wait before call is forwarded, default value is 20.Supported only if it is multiples of 5. **<status>** 0 Not active 1 Active
Parameter Saving Mode	NO_SAVE

Max Response Time	15s
Reference 3GPP TS 27.007	Note

3.2.6 AT+CCWA Call Waiting Control

AT+CCWA Call Waiting Control	
Test Command **AT+CCWA=?**	Response **+CCWA: (**list of supported **<n>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CCWA?**	Response **+CCWA: <n>** **OK**
	Parameters See Write Command
Write Command **AT+CCWA=<n>[,<mode>[,<class>]]**	Response TA controls the Call Waiting supplementary service. Activation, deactivation and status query are supported. If <**mode**>≠2 and Command successful **OK** If <**mode**>=2 and Command successful **+CCWA:** **<status>,<class1>[<CR><LF>+CCWA:<status>,<class2>[...]]** **OK** **ERROR** If error is related to ME functionality: **+CME ERROR: <err>** Note: <**status**>=0 should be returned only if service is not active for any <**class**> i.e. +CCWA: 0, 7 will be returned in this case. When mode=2, all active call waiting classes will be reported. In this mode the Command is aborted by pressing any key.
	Parameters **<n>** 0 Disable presentation of an unsolicited result code 1 Enable presentation of an unsolicited result code **<mode>** When <**mode**> parameter not given, network is not interrogated 0 Disable

	1 Enable 2 Query status **<class>** Is a sum of integers each representing a class of information 1 Voice (telephony) 2 Data (refers to all bearer services; with <**mode**>=2 this may refer only to some bearer service if TA does not support values 16, 32, 64 and 128 4 Fax (facsimile services) 7 Default(1+2+4) **<status>** 0 Not active 1 Active
	Unsolicited result code **RING** **+CCWA: <number>,<type>,<class>[,<alpha>]**
	Parameters **<number>** String type (string should be included in quotation marks) phone number of calling address in format specified by <**type**> **<type>** Type of address octet in integer format; 129 Unknown type 161 National number type 145 International number type 177 Network specific number **<alpha>** Optional string type (string should be included in quotation marks) alphanumeric representation of <**number**> corresponding to the entry found in phone book.
Parameter Saving Mode	NO_SAVE
Max Response Time	15s
Reference 3GPP TS 27.007	Note

3.2.7AT+CEER Extended Error Report

AT+CEER Extended Error Report	
Test Command **AT+CEER=?**	Response **+CEER: (**list of supported **<n>**s**)** **OK**
	Parameters See Write Command
Read Command	Response

AT+CEER?	**+CEER: <n>** **OK**
	Parameters See Write Command
Write Command **AT+CEER=<n>**	Response **OK**
	Parameter **<n>** 0 The reason for last call release as text code 1 The reason for last call release as number code
Execution Command **AT+CEER**	Response TA returns an extended report of the reason for the last call release. **+CEER: <report>** **OK**
	Parameters **<report>** If **AT+CEER=0**, return <s> **<s>** a string that represents the Cause If **AT+CEER=1**, return **Cause:<c>** **<c>** number representing the Cause
	Parameters **<c>(number)** **<s>(string)** 0 (No cause) 1 (unassigned (unallocated) number) 3 (no route to destination) 6 (channel unacceptable) 8 (operator determined barring) 16 (normal call clearing) 17 (user busy) 18 (no user responding) 19 (user alerting, no answer) 21 (call rejected) 22 (number changed) 26 (non-selected user clearing) 27 (destination out of order) 28 (invalid number format (incomplete number)) 29 (facility rejected) 30 (response to STATUS ENQUIRY)

	31 (normal, unspecified) 34 (emergency call not possible) 38 (network out of order) 41 (temporary failure) 42 (switching equipment congestion) 43 (access information discarded) 44 (requested circuit/channel not available) 47 (resource unavailable, unspecified) 49 (quality of service unavailable) 50 (Requested facility not subscribed) 55 (Incoming calls barred within the CUG) 57 (bearer capability not authorized) 58 (bearer capability not presently available) 63 (service or option not available, unspecified) 68 (ACM equal to or greater than ACMmax) 65 (bearer service not implemented) 69 (Requested facility not implemented) 70 (only restricted digital information bearer capability is available) 79 (service or option not implemented,unspecified) 81 (invalid transaction identifier value) 87 (user not member of CUG) 88 (incompatible destination) 91 (invalid transit network selection) 95 (semantically incorrect message) 96 (invalid mandatory information) 97 (message type non-existent or not implemented) 98 (message type not compatible with protocol state) 99 (information element non-existent or not implemented) 100 (conditional IE error) 101 (message not compatible with protocol state) 102 (recovery on timer expiry) 111 (protocol error, unspecified) 127 (interworking, unspecified)

Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.8 AT+CGMI Request Manufacturer Identification

AT+CGMI Request Manufacturer Identification	
Test Command **AT+CGMI=?**	Response **OK**
Execution Command **AT+CGMI**	Response TA returns manufacturer identification text. **<manufacturer>** **OK**
	Parameters **<manufacturer>** The ID of manufacturer
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.9 AT+CGMM Request Model Identification

AT+CGMM Request Model Identification	
Test Command **AT+CGMM=?**	Response **OK**
Execution Command **AT+CGMM**	Response TA returns product model identification text. **<model>** **OK**
	Parameters **<model>** Product model identification text
Parameter Saving Mode	NO_SAVE
Max Response	-

Time	
Reference 3GPP TS 27.007 [13]	Note

3.2.10 AT+CGMR Request TA Revision Identification of Software Release

AT+CGMR Request TA Revision Identification of Software Release	
Test Command **AT+CGMR=?**	Response **OK**
Execution Command **AT+CGMR**	Response TA returns product software version identification text. **Revision: <revision>** **OK**
	Parameters **<revision>** Product software version identification text
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.11 AT+CGSN Request Product Serial Number Identification (Identical with +GSN)

AT+CGSN Request Product Serial Number Identification (Identical with +GSN)	
Test Command **AT+CGSN=?**	Response **OK**
Execution Command **AT+CGSN**	Response see +GSN **<sn>** **OK**
	Parameters **<sn>** International mobile equipment identity (IMEI)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007	Note

[13]	

3.2.12 AT+CSCS Select TE Character Set

AT+CSCS Select TE Character Set	
Test Command **AT+CSCS=?**	Response **+CSCS: (**list of supported **<chset>**s**)** **OK**
	Parameters **<chset>** "GSM" GSM 7 bit default alphabet (3GPP TS 23.038); "UCS2" 16-bit universal multiple-octet coded character set (ISO/IEC10646); UCS2 character strings are converted to hexadecimal numbers from 0000 to FFFF; e.g. "004100620063" equals three 16-bit characters with decimal values 65, 98 and 99 "IRA" International reference alphabet (ITU-T T.50) "HEX" Character strings consist only of hexadecimal ers from 00 to FF; "PCCP" PC character set Code "PCDN" PC Danish/Norwegian character set "8859-1" ISO 8859 Latin 1 character set
Read Command **AT+CSCS?**	Response **+CSCS: <chset>** **OK**
	Parameters See Test Command
Write Command **AT+CSCS=<chset>**	Response Sets which character set **<chset>** are used by the TE. The TA can then convert character strings correctly between the TE and ME character sets. **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Test Command
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.13 AT+CSTA Select Type of Address

AT+CSTA Select Type of Address	
Test Command **AT+CSTA=?**	Response **+CSTA: (**list of supported **<type>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CSTA?**	Response **+CSTA: <type>** **OK**
	Parameter **<type>** Current address type setting.
Write Command **AT+CSTA=<type>**	Response **OK** If <**type**> is not in the parameter range: **ERROR**
	Parameters **<type>** Type of address octet in integer format; 129 Unknown type 161 National number type 145 International number type 177 Network specific number
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note The ATD Command overrides this setting when a number is dialed.

3.2.14 AT+CHLD Call Hold and Multiparty

AT+CHLD Call Hold and Multiparty	
Test Command **AT+CHLD=?**	Response **+CHLD: (**list of supported **<n>**s**)** **OK**
	Parameters See Write Command

Write Command **AT+CHLD=<n>**	Response TA controls the supplementary services Call Hold, Multiparty and Explicit Call Transfer. Calls can be put on hold, recovered, released, added to conversation, and transferred. Note These supplementary services are only applicable to tele service 11 (Speech: Telephony). **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<n>** 0 Releases all held calls or sets User Determined User Busy (UDUB) for a waiting call 1 Releases all active calls (if any exist) and accepts the other (held or waiting) call. 1x Releases a specific call x 2 Place all active calls on hold (if any) and accept the other (held or waiting) call. 2x Places all active calls on hold except call X with which communication shall be supported. 3 Adds a held call to the conversation. 4 Connects the two calls and disconnects the subscriber from both calls(ECT)
Parameter Saving Mode	NO_SAVE
Max Response Time	20s
Reference	Note

3.2.15 AT+CIMI Request International Mobile Subscriber Identity

AT+CIMI Request International Mobile Subscriber Identity	
Test Command **AT+CIMI=?**	Response **OK**
Execution Command **AT+CIMI**	Response TA returns <**IMSI**>for identifying the individual SIM which is attached to ME. **<IMSI>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**

	Parameters **<IMSI>** International Mobile Subscriber Identity (string without double quotes)
Parameter Saving Mode	NO_SAVE
Max Response Time	20s
Reference 3GPP TS 27.007 [13]	Note

3.2.16 AT+CLCC List Current Calls of ME

AT+CLCC List Current Calls of ME	
Test Command **AT+CLCC=?**	Response **+CLCC: (0,1)** **OK**
	Parameters See Write Command
Read Command **AT+CLCC?**	Response **+CLCC: <n>** **OK**
	Parameters See Write Command
Write Command **AT+CLCC=<n>**	Response **OK**
	Parameters **<n>** 0 Don't report a list of current calls of ME automatically when the current call status changes. 1 Report a list of current calls of ME automatically when the current call status changes.
Execution Command **AT+CLCC**	Response TA returns a list of current calls of ME. Note: If Command succeeds but no calls are available, no information response is sent to TE. **[+CLCC: <id1>,<dir>,<stat>,<mode>,<mpty>[,<number>,<type>,<alphaID>]** **[<CR><LF>+CLCC: <id2>,<dir>,<stat>,<mode>,<mpty>[,<number>,<type>,<alphaID>][...]]]** **OK**

	If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<idx>** 1..7 Call identification number This number can be used in +CHLD command operations **<dir>** 0 Mobile originated (MO) call 1 Mobile terminated (MT) call **<stat>** State of the call: 0 Active 1 Held 2 Dialing (MO call) 3 Alerting (MO call) 4 Incoming (MT call) 5 Waiting (MT call) 6 Disconnect **<mode>** Bearer/tele service: 0 Voice 1 Data 2 Fax **<mpty>** 0 Call is not one of multiparty (conference) call parties 1 Call is one of multiparty (conference) call parties **<number>** String type (string should be included in quotation marks) phone number in format specified by <**type**>. **<type>** Type of address **<alphaId>** String type (string should be included in quotation marks) alphanumeric representation of <**number**> corresponding to the entry found in phone book.
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13][14]	Note

3.2.17 AT+CLCK Facility Lock

AT+CLCK Facility Lock	
Test Command **AT+CLCK=?**	Response **+CLCK: (**list of supported **<fac>**s**)** **OK**
	Parameters See Write Command

Write Command **AT+CLCK=<fac>,<mode>[,<passwd>[,<class>]]**	Response This Command is used to lock, unlock or interrogate a ME or a network facility <**fac**>. Password is normally needed to do such actions. When querying the status of a network service (<**mode**>=2) the response line for 'not active' case (<**status**>=0) should be returned only if service is not active for any <**class**>. If <**mode**>≠2 and Command is successful **OK** If <**mode**>=2 and Command is successful **+CLCK: <status>[,<class1>[<CR><LF>+CLCK: <status>,<class2>[…]]** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<fac>** "AO" BAOC (Barr All Outgoing Calls) "OI" BOIC (Barr Outgoing International Calls) "OX" BOIC-exHC (Barr Outgoing International Calls except to Home Country) "AI" BAIC (Barr All Incoming Calls) "IR" BIC-Roam (Barr Incoming Calls when Roaming outside the home country) "FD" SIM card or active application in the UICC (GSM or USIM) fixed dialling memory feature (if PIN2 authentication has not been done during the current session, PIN2 is required as <passwd>) "SC" SIM (lock SIM/UICC card) (SIM/UICC asks password in MT power-up and when this lock command issued) Correspond to PIN1 code. "PN" Network Personalization, Correspond to NCK code "PU" Network subset Personalization Correspond to NSCK code "PP" Service Provider Personalization Correspond to SPCK code **<mode>** 0 unlock 1 lock 2 query status **<passwd>** String type (Shall be the same as password specified for the facility from the MT user interface or with command Change Password +CPWD) **<class>** 1 Voice (telephony) 2 Data refers to all bearer services; with <mode>=2 this

	may refer only to some bearer service if TA does not support values 16, 32, 64 and 128) 4 Fax (facsimile services) 7 All classes **<status>** 0 Not active 1 Active
Parameter Saving Mode	NO_SAVE
Max Response Time	15s
Reference 3GPP TS 27.007 [14]	Note ● CME errors if SIM not inserted or PIN is not entered. ● Part of the projects supported by this AT command, please refer to chapter 21 for details.

3.2.18 AT+CLIP Calling Line Identification Presentation

AT+CLIP Calling Line Identification Presentation	
Test Command **AT+CLIP=?**	Response **+CLIP: (**list of supported **<n>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CLIP?**	Response **+CLIP: <n>, <m>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+CLIP=<n>**	Response TA enables or disables the presentation of the CLI at the TE. It has no effect on the execution of the supplementary service CLIP in the network. **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<n>** 0 Disable +CLIP notification. 1 Enable +CLIP notification. **<m>** 0 CLIP not provisioned 1 CLIP provisioned

	2 Unknown (e.g. no network, etc.)
	Unsolicited Result Code When the presentation of the CLI at the TE is enabled (and calling subscriber allows), an unsolicited result code is returned after every RING (or **+CRING: <type>**) at a mobile terminating call. **+CLIP: <number>,<type>[,<subaddr>,<satype>,<alphaId>,<CLI validity>]** Parameters **<number>** String type (string should be included in quotation marks) phone number of calling address in format specified by <type>. **<type>** Type of address octet in integer format; 129 Unknown type 161 National number type 145 International number type 177 Network specific number **<subaddr>** String type (subaddress of format specified by <satype>) **<satype>** Integer type (type of subaddress) **<alphaId>** String type (string should be included in quotation marks) alphanumeric representation of <number> corresponding to the entry found in phone book. **<CLI validity>** 0 CLI valid 1 CLI has been withheld by the originator. 2 CLI is not available due to interworking problems or limitations of originating network.
Parameter Saving Mode	NO_SAVE
Max Response Time	15s
Reference	Note

3.2.19 AT+CLIR Calling Line Identification Restriction

AT+CLIR Calling Line Identification Restriction	
Test Command **AT+CLIR=?**	Response **+CLIR: (**list of supported **<n>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CLIR?**	Response **+CLIR: <n>, <m>**

	OK If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+CLIR=<n>**	Response TA restricts or enables the presentation of the CLI to the called party when originating a call. The Command overrides the CLIR subscription (default is restricted or allowed) when temporary mode is provisioned as a default adjustment for all following outgoing calls. This adjustment can be revoked by using the opposite Command. **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<n>** (parameter sets the adjustment for outgoing calls): 0 Presentation indicator is used according to the subscription of the CLIR service. 1 CLIR invocation 2 CLIR suppression **<m>** (parameter shows the subscriber CLIR service status in the network): 0 CLIR not provisioned 1 CLIR provisioned in permanent mode 2 Unknown (e.g. no network, etc.) 3 CLIR temporary mode presentation restricted 4 CLIR temporary mode presentation allowed
Parameter Saving Mode	NO_SAVE
Max Response Time	15s
Reference	Note

3.2.20 AT+CMEE Report Mobile Equipment Error

AT+CMEE Report Mobile Equipment Error	
Test Command **AT+CMEE=?**	Response **+CMEE: (**list of supported **<n>**s**)** **OK**

	Parameters See Write Command
Read Command **AT+CMEE?**	Response **+CMEE: <n>** **OK**
	Parameters See Write Command
Write Command **AT+CMEE=[<n>]**	Response TA disables or enables the use of result code **+CME ERROR: <err>** as an indication of an error relating to the functionality of the ME. **OK** If error is related to ME functionality: **+CME ERROR:<err>**
	Parameters **<n>** 0 Disable **+CME ERROR: <err>** result code and use ERROR instead. 1 Enable **+CME ERROR: <err>** result code and use numeric <**err**> 2 Enable **+CME ERROR: <err>** result code and use verbose <**err**> values
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.21 AT+COLP Connected Line Identification Presentation

AT+COLP Connected Line Identification Presentation	
Test Command **AT+COLP=?**	Response **+COLP: (**list of supported **<n>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+COLP?**	Response **+COLP: <n>,<m>** **OK** If error is related to ME functionality:

	+CME ERROR: <err>
	Parameters See Write Command
Write Command **AT+COLP=<n>**	Response TA enables or disables the presentation of the COL (Connected Line) at the TE for a mobile originated call. It has no effect on the execution of the supplementary service COLR in the network. Intermediate result code is returned from TA to TE before any **+CR** or V.25ter responses. **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<n>** (parameter sets/shows the result code presentation status in the TA): 0 Disable +COLP notification 1 Enable +COLP notification **<m>** (parameter shows the subscriber COLP service status in the network): 0 COLP not provisioned 1 COLP provisioned 2 Unknown (e.g. no network, etc.)
	Intermediate result code When enabled (and called subscriber allows), an intermediate result code is returned before any +CR or V.25ter responses: **+COLP: <number>,<type>[,<subaddr>,<satype> ,<alphaId>]**
	Parameters **<number>** String type (string should be included in quotation marks) phone number of format specified by <type> **<type>** Type of address octet in integer format; 129 Unknown type 161 National number type 145 International number type 177 Network specific number **<subaddr>** String type (string should be included in quotation marks) sub address of format specified by <**satype**> **<satype>** Type of sub address octet in integer format (refer GSM 04.08 [8] sub clause 10.5.4.8) **<alphaId>** String type (string should be included in quotation marks) alphanumeric representation of <**number**> corresponding to the entry found in phone book.
Parameter Saving Mode	NO_SAVE

Max Response Time	-
Reference	Note

3.2.22 AT+COPS Operator Selection

AT+COPS Operator Selection	
Test Command **AT+COPS=?**	Response TA returns a list of quadruplets, each representing an operator present in the network. Any of the formats may be unavailable and should then be an empty field. The list of operators shall be in order: home network, networks referenced in SIM, and other networks. **+COPS: (**list of supported**<stat>,**long alphanumeric**<oper>,**short alphanumeric**<oper>,**numeric **<oper>)**s**[,,(**list of supported **<mode>**s**),** **(**list of supported **<format>**s**)]** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Read Command **AT+COPS?**	Response TA returns the current mode and the currently selected operator. If no operator is selected, <**format**> and <**oper**> are omitted. **+COPS: <mode>[,<format>, <oper>]** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+COPS=<mode>,[<format>[,<oper>]]**	Response TA forces an attempt to select and register the GSM network operator. If the selected operator is not available, no other operator shall be selected (except <**mode**>=4). The selected operator name format shall apply to further read commands (**AT+COPS?**). **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<stat>** 0 Unknown

	1 Operator available 2 Operator current 3 Operator forbidden **<oper>** Refer to [27.007] operator in format as per <**format**> **<mode>** 0 Automatic mode; <**oper**> field is ignored 1 Manual (<**oper**> field shall be present, and <**AcT**> optionally) 2 manual deregister from network 3 set only <**format**> (for read Command **+COPS?**) - not shown in Read Command response 4 Manual/automatic (<**oper**> field shall be present); if manual selection fails, automatic mode (<**mode**>=0) is entered **<format>** 0 Long format alphanumeric <**oper**> 1 Short format alphanumeric <**oper**> 2 Numeric <**oper**>; GSM Location Area Identification number
Parameter Saving Mode	AUTO_SAVE
Max Response Time	Test command: 45 seconds Write command: 120 seconds
Reference 3GPP TS 27.007 [14]	Note

3.2.23 AT+CPAS Phone Activity Status

AT+CPAS Phone Activity Status	
Test Command **AT+CPAS=?**	Response **+CPAS: (**list of supported **<pas>**s**)** **OK**
	Parameters See Execution Command
Execution Command **AT+CPAS**	Response TA returns the activity status of ME. **+CPAS: <pas>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<pas>** 0 Ready (MT allows commands from TA/TE)

	2 Unknown (MT is not guaranteed to respond to ıructions) 3 Ringing (MT is ready for commands from TA/TE, but the ringer is active) 4 Call in progress (MT is ready for commands from TA/TE, a call is in progress)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.24 AT+CPBF Find Phonebook Entries

AT+CPBF Find Phonebook Entries	
Test Command **AT+CPBF=?**	Response **+CPBF:** maximum length of field **<nlength>,**maximum length of field **<tlength>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+CPBF=[<find text>]**	Response TA returns phone book entries(from the current phone book memory storage selected with +CPBS) which contains alphanumeric string <findtext>. **[+CPBF:<index1>,<number>,<type>,<text>]** **[[…]<CR><LF>+CBPF:<index2>,<number>,<type>,<text>]** **OK**
	Parameters **<findtext>** String type(string should be included in quotation marks) field of maximum length <**tlength**> in current TE character set specified by +CSCS. **<index1>** Integer type values in the range of location numbers of phone book memory **<index2>**Integer type values in the range of location numbers of phone book memory **<number>** String type (string should be included in quotation marks)

	phone number of format <**type**> **<type>** Type of address octet in integer format ; 129 Unknown type 145 International number type **<text>** String type (string should be included in quotation marks) field of maximum length <**tlength**> in current TE character set specified by **+CSCS**. **<nlength>** Integer type value indicating the maximum length of field <**number**> **<tlength>** Integer type value indicating the maximum length of field <**text**>
Parameter Saving Mode	NO_SAVE
Max Response Time	30 seconds (complete reading of a 250 records full phonebook) 3 seconds(string present in a 250 records full phonebook) 1 second(string not present) We use the China Mobile sim cards for testing, which produced by Axalto at 2010 for Shanghai. Use other sim cards may have different results.
Reference 3GPP TS 27.007 [13]	Note

3.2.25 AT+CPBR Read Current Phonebook Entries

AT+CPBR Read Current Phonebook Entries	
Test Command **AT+CPBR=?**	Response TA returns location range supported by the current storage as a compound value and the maximum lengths of <**number**> and <**text**> fields. **+CPBR: (**list of supported **<index>**s**), <nlength>, <tlength>** **OK**
	Parameters **<index>** Location number **<nlength>** Max. length of phone number **<tlength>** Max. length of text for number
Write Command **AT+CPBR=<index1>[,<index2>]**	Response TA returns phone book entries in location number range <**index1**>... <**index2**> from the current phone book memory storage selected with **+CPBS**. If <**index2**> is left out, only location <**index1**> is returned. **+CPBR:<index1>,<number>,<type>,<text>** **[[…]<CR><LF>+CPBR: <index2>, <number>, <type>, <text>]**

	OK
	Parameters **<index1>** Read as of this location number **<index2>** Read to this location number **<number>** Phone number **<type>** Type of number **<text>** Text for phone number in current TE character set specified by **+CSCS**.
Parameter Saving Mode	NO_SAVE
Max Response Time	3 seconds (single reading) 30 seconds (complete reading of a 250 records full phonebook. We use the China Mobile sim cards for testing, which produced by Axalto at 2010 for Shanghai. Use other sim cards may have different results.
Reference 3GPP TS 27.007 [13]	Note

3.2.26 AT+CPBS Select Phonebook Memory Storage

AT+CPBS Select Phonebook Memory Storage	
Test Command **AT+CPBS=?**	Response **+CPBS: (**list of supported **<storage>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CPBS?**	Response **+CPBS: <storage>,<used>,<total>** **OK**
	Parameters See Write Command
Write Command **AT+CPBS=<storage>**	Response TA selects current phone book memory storage, which is used by other phone book commands. **OK**
	Parameters **<storage>** "ON" SIM (or MT) own numbers (MSISDNs) list (reading of this storage may be available through +CNUM also). When storing information in the SIM/UICC, if a SIM card is present or if a UICC with an active GSM application

	is present, the information in EFMSISDN under DFTelecom is selected. "SM" SIM/UICC phonebook. If a SIM card is present or if a UICC with an active GSM application is present, the EFADN under DFTelecom is selected. "ME" ME phonebook "FD" SIM fix dialing-phone book. If a SIM card is present or if a UICC with an active GSM application is present, the information in EFFDN under DFTelecom is selected **<used>** Integer type value indicating the total number of used locations in selected memory **<total>** Integer type value indicating the total number of locations in selected memory
Parameter Saving Mode	NO_SAVE
Max Response Time	3 seconds
Reference 3GPP TS 27.007 [13]	Note

3.2.27 AT+CPBW Write Phonebook Entry

AT+CPBW Write Phonebook Entry	
Test Command **AT+CPBW=?**	Response TA returns location range supported by the current storage, the maximum length of <**number**> field, supported number formats of the storage, and the maximum length of <**text**> field. **+CPBW: (**list of supported **<index>**s**), <nlength>, (**list of supported **<type>**s**), <tlength>** **OK**
	Parameters See Write Command
Write Command **AT+CPBW=<index>[,<number>,[<type>,[<text>]]]**	Response TA writes phone book entry in location number <**index**> in the current phone book memory storage selected with **+CPBS**. Entry fields written are phone number <**number**> (in the format <**type**>) and text <**text**> associated with the number. If those fields are omitted, phone book entry is deleted. If <**index**> is left out, but <number> is given, entry is written to the first free location in the phone book. **OK**

	Parameters **<nlength>** Max length of phone number **<tlength>** Max length of text for number **<index>** Location number **<number>** Phone number **<type>** Type of number; 129 National number type 145 International number type **<text>** String type (string should be included in quotation marks): text for phone number in current TE character set specified by **+CSCS**. Note: The following characters in <**text**> must be entered via the escape sequence: GSM char. Seq. Seq.(hex) Note \ \5C 5C 35 43 (backslash) " \22 5C 32 32 (string delimiter) BSP \08 5C 30 38 (backspace) NULL \00 5C 30 30 (GSM null) '0' (GSM null) may cause problems for application layer software when reading string lengths.
Parameter Saving Mode	NO_SAVE
Max Response Time	3 seconds
Reference 3GPP TS 27.007 [13]	Note

3.2.28 AT+CPIN Enter PIN

AT+CPIN Enter PIN	
Test Command **AT+CPIN=?**	Response **OK**
Read Command **AT+CPIN?**	Response TA returns an alphanumeric string indicating whether some password is required or not. **+CPIN: <code>** **OK**

	Parameters **<code>** READY MT is not pending for any password SIM PIN MT is waiting SIM PIN to be given SIM PUK MT is waiting for SIM PUK to be given PH_SIM PIN ME is waiting for phone to SIM card (antitheft) PH_SIM PUK ME is waiting for SIM PUK (antitheft) SIM PIN2 PIN2, e.g. for editing the FDN book possible only if preceding Command was acknowledged with +CME ERROR:17 SIM PUK2 Possible only if preceding Command was acknowledged with error +CME ERROR: 18.
Write Command **AT+CPIN=<pin>[,<new pin>]**	Response TA stores a password which is necessary before it can be operated (SIM PIN, SIM PUK, PH-SIM PIN, etc.). If the PIN required is SIM PUK or SIM PUK2, the second pin is required. This second pin, <**new pin**>, is used to replace the old pin in the SIM. **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<pin>** String type; password **<new pin>** String type; If the PIN required is SIM PUK or SIMPUK2: new password
Parameter Saving Mode	NO_SAVE
Max Response Time	5s
Reference 3GPP TS 27.007 [13]	Note

3.2.29 AT+CPWD Change Password

AT+CPWD Change Password	
Test Command **AT+CPWD=?**	Response TA returns a list of pairs which present the available facilities and the maximum length of their password. **+CPWD: (**list of supported **<fac>**s, list of supported **<pwdlength>**s**)** **OK**
	Parameters **<fac>** See Write Command **<pwdlength>** Integer max. length of password

Write Command **AT+CPWD=<fac>,<oldpwd>,<newpwd>**	Response TA sets a new password for the facility lock function. **OK**
	Parameters **<fac>** "AO" BAOC (Barr All Outgoing Calls) "OI" BOIC (Barr Outgoing International Calls) "OX" BOIC-exHC (Barr Outgoing International Calls except to Home Country) "AI" BAIC (Barr All Incoming Calls) "IR" BIC-Roam (Barr Incoming Calls when Roaming outside the home country) "AB" All Barring services "P2" SIM PIN2 "SC" SIM (lock SIM/UICC card) (SIM/UICC asks password in MT power-up and when this lock command issued) Correspond to PIN1 code. **<oldpwd>** String type (string should be included in quotation marks): password specified for the facility from the user interface or with command. If an old password has not yet been set, <oldpwd> is not to enter. **<newpwd>** String type (string should be included in quotation marks): new password
Parameter Saving Mode	NO_SAVE
Max Response Time	15s
Reference 3GPP TS 27.007 [13]	Note

3.2.30 AT+CR Service Reporting Control

AT+CR Service Reporting Control	
Test Command **AT+CR=?**	Response **+CR: (**list of supported **<mode>**s) **OK**
	Parameters See Write Command
Read Command **AT+CR?**	Response **+CR: <mode>** **OK**

	Parameters See Write Command
Write Command **AT+CR=[<mode>]**	Response TA controls whether or not intermediate result code **+CR: <serv>** is returned from the TA to the TE at a call set up. **OK**
	Parameters **<mode>** 0 Disable 1 Enable
	Intermediate result code If enabled, an intermediate result code is transmitted at the point during connect negotiation at which the TA has determined which speed and quality of service will be used, before any error control or data compression reports are transmitted, and before any final result code (e.g. **CONNECT**) is transmitted. **+CR:<serv>**
	Parameters **<serv>** ASYNC Asynchronous transparent SYNC Synchronous transparent REL ASYNC Asynchronous non-transparent REL SYNC Synchronous non-transparent GPRS For GPRS
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.31 AT+CRC Set Cellular Result Codes for Incoming Call Indication

AT+CRC Set Cellular Result Codes for Incoming Call Indication	
Test Command **AT+CRC=?**	Response **+CRC: (**list of supported **<mode>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CRC?**	Response **+CRC: <mode>** **OK**

	Parameters See Write Command
Write Command **AT+CRC=[<mode>]**	Response TA controls whether or not the extended format of incoming call indication is used. **OK**
	Parameters **<mode>** 0 Disable extended format 1 Enable extended format Omitted Use previous value
	Unsolicited Result Code When enabled, an incoming call is indicated to the TE with unsolicited result code **+CRING: <type>** instead of the normal **RING**.
	Parameters **<type>** ASYNC Asynchronous transparent SYNC Synchronous transparent REL ASYNC Asynchronous non-transparent REL SYNC Synchronous non-transparent FAX Facsimile VOICE Voice
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.32 AT+CREG Network Registration

AT+CREG Network Registration	
Test Command **AT+CREG=?**	Response **+CREG: (**list of supported **<n>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CREG?**	Response TA returns the status of result code presentation and an integer <**stat**> which shows whether the network has currently indicated the registration of the ME. Location information elements <**lac**> and <**ci**> are returned only when <**n**>=2 and ME is registered in the network. **+CREG: <n>,<stat>[,<lac>,<ci>]**

	OK If error is related to ME functionality: **+CME ERROR: <err>**
Write Command **AT+CREG=[<n>]**	Response TA controls the presentation of an unsolicited result code **+CREG: <stat>** when <**n**>=1 and there is a change in the ME network registration status. **OK**
	Parameters **<n>** 0 Disable network registration unsolicited result code 1 Enable network registration unsolicited result code +CREG: <**stat**> 2 Enable network registration unsolicited result code with location information **+CREG: <stat>[,<lac>,<ci>]** **<stat>** 0 Not registered, MT is not currently searching a new operator to register to 1 Registered, home network 2 Not registered, but MT is currently searching a new operator to register to 3 Registration denied 4 Unknown 5 Registered, roaming **<lac>** String type (string should be included in quotation marks); two byte location area code in hexadecimal format **<ci>** String type (string should be included in quotation marks); two byte cell ID in hexadecimal format
	Unsolicited Result Code If <**n**>=1 and there is a change in the MT network registration status **+CREG: <stat>** If <**n**>=2 and there is a change in the MT network registration status or a change of the network cell: **+CREG: <stat>[,<lac>,<ci>]**
	Parameters See Write Command
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.33 AT+CRLP Select Radio Link Protocol Parameters

AT+CRLP Select Radio Link Protocol Parameters	
Test Command **AT+CRLP=?**	Response TA returns values supported. RLP versions 0 and 1 share the same parameter set. **+CRLP: (**list of supported **<iws>**s**),(**list of supported **<mws>**s**),(**list of supported <**T1**>s**),(**list of supported <**N2**>s**),(**list of supported <**T4**>s**)** **OK**
	Parameters See Write Command
Read Command **AT+CRLP?**	Response TA returns current settings for RLP version. RLP versions 0 and 1 share the same parameter set. **+CRLP: <iws>,<mws>,<T1>,<N2>,<T4>** **OK**
	Parameters See Write Command
Write Command **AT+CRLP=<iws>[,<mws>[,<T1>[,<N2>[,<T4>]]]]**	Response TA sets radio link protocol (RLP) parameters used when non-transparent data calls are setup. **OK**
	Parameters **<iws>** 0-61 Interworking window size (IWF to MS) **<mws>** 0-61 Mobile window size(MS to IWF) **<T1>** 44-255 Acknowledgment timer T1 in 10 ms units **<N2>** 1-255 Retransmission attempts N2 **<T4>** 7 Re-sequencing period in integer format, in units of 10 ms.
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Simcom redefine param`s value range

3.2.34 AT+CRSM Restricted SIM Access

AT+CRSM Restricted SIM Access	
Test Command **AT+CRSM=?**	Response **OK**

Write Command **AT+CRSM=<Command>[,<fileId>[,<P1>,<P2>,<P3>[,<data>]]]**	Response **+CRSM: <sw1>, <sw2>[,<response>]** **OK** **ERROR** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<Command>** 176 READ BINARY 178 READ RECORD 192 GET RESPONSE 214 UPDATE BINARY 220 UPDATE RECORD 242 STATUS All other values are reserved; refer GSM 11.11. **<fileId>** Integer type; this is the identifier for an elementary data file on SIM. Mandatory for every Command except STATUS **<P1>,<P2>,<P3>** Integer type, range 0 – 255 Parameters to be passed on by the ME to the SIM; refer GSM 11.11. **<data>** Information which shall be written to the SIM (hex-decimal character format) **<sw1>, <sw2>** Integer type, range 0 - 255 Status information from the SIM about the execution of the actual Command. These parameters are delivered to the TE in both cases, on successful or failed execution of the Command; refer GSM 11.11. **<response>** Response of a successful completion of the Command previously issued (hexadecimal character format)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 GSM 11.11	Note

3.2.35 AT+CSQ Signal Quality Report

AT+CSQ Signal Quality Report	
Test Command **AT+CSQ=?**	Response **+CSQ: (**list of supported **<rssi>**s**),(**list of supported **<ber>**s**)**

	OK
Execution Command **AT+CSQ**	Response **+CSQ: <rssi>,<ber>** **OK** If error is related to ME functionality: **+CME ERROR: <err>** Execution Command returns received signal strength indication <**rssi**> and channel bit error rate <**ber**> from the ME. Test Command returns values supported by the TA.
	Parameters **<rssi>** 0 -115 dBm or less 1 -111 dBm 2...30 -110... -54 dBm 31 -52 dBm or greater 99 not known or not detectable **<ber>** (in percent): 0...7 As RXQUAL values in the table in GSM 05.08 [20] subclause 7.2.4 99 Not known or not detectable
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.36 AT+VTD Tone Duration

AT+VTD Tone Duration	
Test Command **AT+VTD=?**	Response **+VTD: (**list of supported <**n**>s**)** **OK**
	Parameters See Write Command
Read Command **AT+VTD?**	Response **+VTD: <n>** **OK**
	Parameters

	See Write Command
Write Command **AT+VTD=<n>**	Response This command refers to an integer <**n**> that defines the length of tones emitted as a result of the **+VTS** command. This does not affect the D command. **OK**
	Parameters **<n>** 1-255 Duration of the tone in 1/10 seconds
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.37 AT+VTS DTMF and Tone Generation

AT+VTS DTMF and Tone Generation	
Test Command **AT+VTS=?**	Response **+VTS: (**list of supported **<dtmf>**s**),(**list of supported **<duration>**s**)** **OK**
	Parameters See Write Command
Write Command Generate tone Duration is set by +VTD **AT+VTS=<dtmf-string>**	Response This command allows the transmission of DTMF tones and arbitrary tones in voice mode. These tones may be used (for example) when announcing the start of a recording period. Note: D is used only for dialing. **OK** If error is related to ME functionality: **+CME ERROR: <err>** Note: The Command is writing only. Parameters **<dtmf-string>** Which has a max length of 20 characters, must be entered between double quotes ("") and consists of combinations of the following separated by commas. But a single character does not require quotes. 1) **<dtmf>** A single ASCII characters in the set 0-9, #,*, A-D. This is interpreted as a sequence of DTMF tones whose duration is set by the **+VTD** Command. 2) {**<dtmf>**, **<duration>**} This is interpreted as a DTMF tone

	whose duration is determined by <**duration**>. **<duration>** Duration of the tone in 1/10 seconds range :1-255
Parameter Saving Mode	NO_SAVE
Max Response Time	Number of DTMF characters*duration.
Reference 3GPP TS 27.007 [13]	Note

3.2.38 AT+CMUX Multiplexer Control

AT+CMUX Multiplexer Control	
Test Command **AT+CMUX=?**	Response **+CMUX: (0)** **OK**
	Parameters See Write Command
Read Command **AT+CMUX?**	Response: **+CMUX:[<mode>[,<subset>[,<port_speed>[,<N1>[,<T1>[,<N2>[,<T2>[,<T3>[,<k>]]]]]]]]** **OK** **ERROR**
	Parameters **<mode>** Multiplexer transparency mechanism 0 Basic option **<subset>** The way in which the multiplexer control channel is set up 0 UIH frames used only **<port_speed>** Transmission rate 1 9600 bits/t 2 19200 bits/t 3 38400 bits/t 4 57600 bits/t 5 115200 bit/s 6 230400 bits/t 7 460800 bits/t Proprietary values, available if MUX NEW PORT SPEED FTR is activated **<N1>** Maximum frame size 1-255 Default: 127 **<T1>** Acknowledgement timer in units of ten milliseconds 1-255 Default:10 (100 ms)

	<N2> Maximum number of re-transmissions 0-100 Default:3 **<T2>** Max Response Timer for the multiplexer control channel in units of ten milliseconds 2-255 Default:30 **<T3>** Wake up Max Response Timers in seconds 1-255 Default:10 **<k>** Window size, for Advanced operation with Error Recovery options 1-7 Default:2
Write Command **AT+CMUX=<mode>**	Response If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<mode>** Multiplexer transparency mechanism 0 Basic option
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note The multiplexing transmission rate is according to the current serial baud rate. It is recommended to enable multiplexing protocol under 115200 bit/s baud rate Multiplexer control channels are listed as follows: **Channel Number** **Type** **DLCI** None Multiplexer Control 0 1 3GPP TS 27.007 and 005 1 2 3GPP TS 27.007 and 005 2 3 3GPP TS 27.007 and 005 3 4 3GPP TS 27.007 and 005 4

3.2.39 AT+CNUM Subscriber Number

AT+CNUM Subscriber Number	
Test Command **AT+CNUM=?**	Response **OK**
Execution Command **AT+CNUM**	Response **+CNUM: [<alpha1>],<number1>,<type1>[,<speed>,<service>]** **[<CR><LF>+CNUM:[<alpha2>],<number2>,<type2>[,<speed>,<service>]** **[...]]**

	OK If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters <**alphax**> Optional alphanumeric string associated with <**numberx**>; used character set should be the one selected with Command Select TE Character Set **+CSCS** <**numberx**> String type (string should be included in quotation marks) phone number of format specified by <**typex**> <**typex**> Type of address octet in integer format (refer GSM04.08[8] subclause 10.5.4.7) <**speed**> As defined by the **+CBST** Command **<service>** (service related to the phone number:) 0 Asynchronous modem 1 Synchronous modem 2 PAD Access (asynchronous) 3 Packet Access (synchronous) 4 Voice 5 Fax
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.40 AT+CPOL Preferred Operator List

AT+CPOL Preferred Operator List	
Test Command **AT+CPOL=?**	Response **+CPOL: (**list of supported **<index>**s**),(**list of supported **<format>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CPOL?**	Response **+CPOL: <index1>,<format>,<oper1>** **[<CR><LF>+CPOL: <index2>,<format>,<oper2>[…]]** **OK** If error is related to ME functionality: **+CME ERROR: <err>**

	Parameters See Write Command
Write Command **AT+CPOL=<index>[,<format>,<oper>]**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<index>** Integer type: order number of operator in SIM preferred operator list **<format>** Indicates whether alphanumeric or numeric format used (see **+COPS** Command) 0 Long format alphanumeric <**oper**> 1 Short format alphanumeric <**oper**> 2 Numeric <**oper**> **<oper>** String type(string should be included in quotation marks)
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.41 AT+COPN Read Operator Names

AT+COPN Read Operator Names	
Test Command **AT+COPN=?**	Response **OK**
Execution Command **AT+COPN**	Response **+COPN: <numeric1>,<alpha1>** **[<CR><LF>+COPN: <numeric2>,<alpha2>** **[…]]** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<numeric*n*>** String type (string should be included in quotation marks): operator in numeric format (see **+COPS**) **<alpha*n*>** String type (string should be included in quotation marks): operator in long alphanumeric format (see **+COPS**)
Parameter Saving Mode	NO_SAVE

Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.42 AT+CFUN Set Phone Functionality

AT+CFUN Set Phone Functionality	
Test Command **AT+CFUN=?**	Response **+CFUN: (**list of supported **<fun>**s**),(**list of supported **<rst>**s**)** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Read Command **AT+CFUN?**	Response **+CFUN: <fun>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+CFUN=<fun>[,<rst>]**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<fun>** 0 Minimum functionality 1 Full functionality (Default) 4 Disable phone both transmit and receive RF circuits. **<rst>** 1 Reset the MT before setting it to <**fun**> power level.
Parameter Saving Mode	AUTO_SAVE
Max Response Time	10s
Reference 3GPP TS 27.007 [13]	Note Minimum functionality mode (**AT+CFUN=0**)and RF disabled functionality mode (**AT+CFUN=4**) cannot be switched to each other. The <**fun**> power level will be written to flash except minimum functionality.

	AT+CFUN=1,1 can be used to reset module purposely at minimum/full functionality mode. Response string "**OK**" will be returned after module resets if baud rate is set to fixed baud rate.

3.2.43 AT+CCLK Clock

AT+CCLK Clock	
Test Command **AT+CCLK=?**	Response **OK**
Read Command **AT+CCLK?**	Response **+CCLK: <time>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+CCLK=<time>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<time>** String type(string should be included in quotation marks) value; format is "yy/MM/dd,hh:mm:ss±zz", where characters indicate year (two last digits),month, day, hour, minutes, seconds and time zone (indicates the difference, expressed in quarters of an hour, between the local time and GMT; range -47...+48). E.g. 6th of May 2010, 00:01:52 GMT+2 hours equals to "10/05/06,00:01:52+08".
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note Only time zone is auto saved.

3.2.44 AT+CSIM Generic SIM Access

AT+CSIM Generic SIM Access	
Test Command **AT+CSIM=?**	Response **OK**

Write Command **AT+CSIM=<length>,<Command>**	Response **+CSIM: <length>,<response>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<length>** Integer type: length of characters sent to the TE in <**Command**> or <**response**> (i.e. twice the number of octets in the raw data). **<Command>** String type (string should be included in quotation marks): hex format: GSM 11.11 SIM Command sent from the ME to the SIM. **<response>** String type(string should be included in quotation marks): hex format: GSM 11.11 response from SIM to <**Command**>.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.45 AT+CALM Alert Sound Mode

AT+CALM Alert Sound Mode	
Test Command **AT+CALM=?**	Response **+CALM: (**list of supported **<mode>**s**)** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Read Command **AT+CALM?**	Response **+CALM: <mode>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command

Write Command **AT+CALM=<mode>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<mode>** 0 Normal mode 1 Silent mode (all sounds from ME are prevented)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note If **CALM** is set to silent mode before, when user sets **CALM** to normal mode during an incoming call, the module maintains silent this time. But next time the normal mode works.

3.2.46 AT+CALS Alert Sound Select

AT+CALS Alert Sound Select	
Test Command **AT+CALS=?**	Response **+CALS**: (list of supported <**n**>s),(list of supported <**switch**>s) **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Read Command **AT+CALS?**	Response **+CALS: <n>,<switch>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+CALS=<n>[,<switch>]**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<n>** 0-19 Alert sound type <**switch**> 0 stop playing ring tone 1 start to play ring tone

Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note

3.2.47 AT+CRSL Ringer Sound Level

AT+CRSL Ringer Sound Level	
Test Command **AT+CRSL=?**	Response **+CRSL: (**list of supported **<level>**s**)** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameter See Write Command
Read Command **AT+CRSL?**	Response **+CRSL: <level>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+CRSL=<level>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<level>** integer type value (0-100) with manufacturer specific range
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.48 AT+CLVL Loud Speaker Volume Level

AT+CLVL Loud Speaker Volume Level

Test Command **AT+CLVL=?**	Response **+CLVL: (**list of supported **<level>**s**)** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Read Command **AT+CLVL?**	Response **+CLVL: <level>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameter See Write Command
Write Command **AT+CLVL=<level>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<level>** 0-100 Integer type value with manufacturer specific range (smallest value represents the lowest sound level).
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.49 AT+CMUT Mute Control

AT+CMUT Mute Control	
Test Command **AT+CMUT=?**	Response **+CMUT: (**list of supported **<n>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CMUT?**	Response **+CMUT: <n>**

	OK If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+CMUT=<n>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<n>** 0 Mute off 1 Mute on
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note Only during a call this command can be set successfully.

3.2.50 AT+CPUC Price Per Unit and Currency Table

AT+CPUC Price Per Unit and Currency Table	
Test Command **AT+CPUC=?**	Response **OK**
Read Command **AT+CPUC?**	Response **+CPUC: <currency>,<ppu>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+CPUC=<currency>,<ppu>[,<passwd>]**	Response **OK** **+CME ERROR: <err>**
	Parameters **<currency>** String type (string should be included in quotation marks); three-character currency code (e.g. "GBP", "DEM");character set as specified by "**AT+CSCS**" command **<ppu>** String type (string should be included in quotation marks); price

	per unit; dot is used as a decimal separator(e.g. "2.66") **<passwd>** String type (string should be included in quotation marks); SIM PIN2
Parameter Saving Mode	NO_SAVE
Max Response Time	5s
Reference 3GPP TS 27.007 [13]	Note

3.2.51 AT+CCWE Call Meter Maximum Event

AT+CCWE Call Meter Maximum Event	
Test Command **AT+CCWE=?**	Response **+CCWE: (**list of supported **<mode>**s**)** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Read Command **AT+CCWE?**	Response **+CCWE: <mode>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+CCWE=<mode>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<mode>** 0 Disable call meter warning event 1 Enable call meter warning event
	Unsolicited result codes supported: **+CCWV** Shortly before the ACM (Accumulated Call Meter) maximum value is reached, an unsolicited result code **+CCWV** will be sent, if enabled by this command. The warning is issued approximately when 5 seconds call time remains. It is also issued when starting a call if less than 5 s call time remains.

Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note 3GPP TS 27.007 specifies 30 seconds, so SIMCom deviates from the specification.

3.2.52 AT+CBC Battery Charge

AT+CBC Battery Charge	
Test Command **AT+CBC=?**	Response **+CBC: (**list of supported **<bcs>**s**),(**list of supported **<bcl>**s**),(<voltage>)** **OK**
	Parameters See Execution Command
Execution Command **AT+CBC**	Response **+CBC: <bcs>, <bcl>,<voltage>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<bcs>** Charge status 0 ME is not charging 1 ME is charging 2 Charging has finished **<bcl>** Battery connection level 1...100 battery has 1-100 percent of capacity remaining vent **<voltage>** Battery voltage(mV)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.007 [13]	Note

3.2.53 AT+CUSD Unstructured Supplementary Service Data

AT+CUSD Unstructured Supplementary Service Data

Test Command **AT+CUSD=?**	Response **+CUSD: (**list of supported **<n>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CUSD?**	Response **+CUSD: <n>** **OK**
	Parameters See Write Command
Write Command **AT+CUSD=<n>[,<str>[,<dcs>]]**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<n>** A numeric parameter which indicates control of the unstructured supplementary service data 0 disable the result code presentation in the TE 1 enable the result code presentation in the TE 2 cancel session (not applicable to read Command response) **<str>** String type (string should be included in quotation marks) USSD-string **<dcs>** Cell Broadcast Data Coding Scheme in integer format (default 0)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference GSM 03.38 [25]	Note When ussd is not suport or return error,TE will print +CUSD:4.

3.2.54 AT+CSSN Supplementary Services Notification

AT+CSSN Supplementary Services Notification	
Test Command **AT+CSSN=?**	Response **+CSSN: (**list of supported **<n>**s**),(**list of supported **<m>**s**)** **OK**
	Parameters See Write Command
Read Command	Response

AT+CSSN?	**+CSSN: <n>,<m>** **OK**
	Parameters See Write Command
Write Command **AT+CSSN=<n>[,<m>]**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<n>** A numeric parameter which indicates whether to show the **+CSSI:<code1>[,<index>]** result code presentation status after a mobile originated call setup 0 disable 1 enable **<m>** A numeric parameter which indicates whether to show the **+CSSU: <code2>** result code presentation status during a mobile terminated call setup or during a call, or when a forward check supplementary service notification is received. 0 disable 1 enable **<code1>** 0 Unconditional call forwarding is active 1 Some of the conditional call forwarding are active 2 Call has been forwarded 3 Call is waiting 4 This is a CUG call (also <**index**> present) 5 Outgoing calls are barred 6 Incoming calls are barred 7 CLIR suppression rejected **<index>** Closed user group index **<code2>** 0 This is a forwarded call 1 This is a CUG call (also <**index**> present) (MT call setup) 2 Call has been put on hold (during a voice call) 3 Call has been retrieved (during a voice call) 4 Multiparty call entered (during a voice call) 5 Call on hold has been released (this is not a SS notification) (during a voice call) 6 Forward check SS message received (can be received whenever) 7 Call is being connected (alerting) with the remote party in alerting state in explicit call transfer operation (during a voice call) 8 Call has been connected with the other remote party in explicit call transfer operation (also number and subaddress parameters

	may be present) (during a voice call or MT call setup) 9 This is a deflected call (MT call setup)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

4 AT Commands According to 3GPP TS 27.005

The 3GPP TS 27.005 commands are for performing SMS and CBS related operations. SIM800 Series supports both Text and PDU modes.

4.1 Overview of AT Commands According to 3GPP TS 27.005

Command	Description
AT+CMGD	Delete SMS message
AT+CMGF	Select SMS message format
AT+CMGL	List SMS messages from preferred store
AT+CMGR	Read SMS message
AT+CMGS	Send SMS message
AT+CMGW	Write SMS message to memory
AT+CMSS	Send SMS message from storage
AT+CNMI	New SMS message indications
AT+CPMS	Preferred SMS message storage
AT+CRES	Restore SMS settings
AT+CSAS	Save SMS settings
AT+CSCA	SMS service center address
AT+CSCB	Select cell broadcast SMS messages
AT+CSDH	Show SMS text mode parameters
AT+CSMP	Set SMS text mode parameters
AT+CSMS	Select message service

4.2 Detailed Descriptions of AT Commands According to 3GPP TS 27.005

4.2.1 AT+CMGD Delete SMS Message

AT+CMGD Delete SMS Message	
Test Command **AT+CMGD=?**	Response **+CMGD: (**list of supported **<index>**s**),(**list of supported **<delflag>**s**)** **OK**
	Parameters See Write Command
Write Command **AT+CMGD=<index>[,<delflag>]**	Response TA deletes message from preferred message storage <**mem1**> location <**index**>. **OK**

	ERROR If error is related to ME functionality: **+CMS ERROR: <err>**
	Parameters **<index>** Integer type; value in the range of location numbers supported by the associated memory **<delflag>** 0 Delete the message specified in <**index**> 1 Delete all read messages from preferred message storage, leaving unread messages and stored mobile originated messages (whether sent or not) untouched 2 Delete all read messages from preferred message storage and sent mobile originated messages, leaving unread messages and unsent mobile originated messages untouched 3 Delete all read messages from preferred message storage, sent and unsent mobile originated messages leaving unread messages untouched 4 Delete all messages from preferred message storage including unread messages
Parameter Saving Mode	NO_SAVE
Max Response Time	5s（delete 1 message） 25s（delete 50 messages） 25s（delete 150 messages）
Reference 3GPP TS 27.005	Note

4.2.2 AT+CMGF Select SMS Message Format

AT+CMGF Select SMS Message Format	
Test Command **AT+CMGF=?**	Response **+CMGF: (**list of supported **<mode>**s**)** **OK**
	Parameter See Write Command
Read Command **AT+CMGF?**	Response **+CMGF: <mode>** **OK**
	Parameter See Write Command
Write Command	Response

AT+CMGF=[<mode>]	TA sets parameter to denote which input and output format of messages to use. **OK**
	Parameter **<mode>** 0 PDU mode 1 Text mode
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference 3GPP TS 27.005	Note

4.2.3 AT+CMGL List SMS Messages from Preferred Store

AT+CMGL List SMS Messages from Preferred Store	
Test Command **AT+CMGL=?**	Response **+CMGL: (**list of supported **<stat>**s**)** **OK**
	Parameter See Write Command
Write Command **AT+CMGL=<stat>[,<mode>]**	Parameters 1) If text mode: **<stat>** "REC UNREAD" Received unread messages "REC READ" Received read messages "STO UNSENT" Stored unsent messages "STO SENT" Stored sent messages "ALL" All messages **<mode>** 0 Normal 1 Not change status of the specified SMS record 2) If PDU mode: **<stat>** 0 Received unread messages 1 Received read messages 2 Stored unsent messages 3 Stored sent messages 4 All messages **<mode>** 0 Normal 1 Not change status of the specified SMS record
	Response TA returns messages with status value <**stat**> from message storage <**mem1**> to the TE. If status of the message is 'received unread', status in the storage changes to 'received read'.

	1) If text mode (**+CMGF=1**) and Command successful: for SMS-SUBMITs and/or SMS-DELIVERs: **+CMGL: <index>,<stat>,<oa/da>[,<alpha>][,<scts>]** **[,<tooa/toda>,<length>]<CR><LF><data>** **[<CR><LF>+CMGL: <index>,<stat>,<da/oa>** **[,<alpha>][,<scts>][,<tooa/toda>,<length>]<CR><LF><data>[...]]** for SMS-STATUS-REPORTs: **+CMGL: <index>,<stat>,<fo>,<mr>[,<ra>][,<tora>],<scts>,<dt>,<st>** **[<CR><LF>+CMGL: <index>,<stat>,<fo>,<mr>** **[,<ra>][,<tora>],<scts>,<dt>,<st>[...]]** for SMS-COMMANDs: **+CMGL: <index>,<stat>,<fo>,<ct>[<CR><LF>** **+CMGL: <index>,<stat>,<fo>,<ct>[...]]** for CBM storage: **+CMGL:<index>,<stat>,<sn>,<mid>,<page>,<pages>** **<CR><LF><data>** **<CR><LF>+CMGL: <index>,<stat>,<sn>,<mid>,<page>,<pages>** **<CR><LF><data>[...]]** **OK** 2) If PDU mode (**+CMGF=0**) and Command successful: **+CMGL:<index>,<stat>[,<alpha>],<length>** **<CR><LF><pdu><CR><LF>** **+CMGL: <index>,<stat>[,alpha],<length>** **<CR><LF><pdu>[...]]** **OK** 3)If error is related to ME functionality: **+CMS ERROR: <err>**
	Parameters **<alpha>** String type(string should be included in quotation marks) alphanumeric representation of <**da**> or <**oa**> corresponding to the entry found in MT phonebook; implementation of this feature is manufacturer specific; used character set should be the one selected with Command Select TE Character Set **+CSCS** (see definition of this Command in 3GPP TS 27.007) **<da>** GSM 03.40 TP-Destination-Address Address-Value field in string format; BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (refer Command **+CSCS** in 3GPP TS 27.007); type of address given by <**toda**>

	<data> In the case of SMS: GSM 03.40 TP-User-Data in text mode responses; format: - if <**dcs**> indicates that GSM 03.38 default alphabet is used and <**fo**> indicates that GSM 03.40 TPUser-Data-Header-Indication is not set: - if TE character set other than "HEX" (refer Command Select TE Character Set +CSCS in 3GPP TS 27.007):ME/TA converts GSM alphabet into current TE character set according to rules of Annex A - if TE character set is "HEX": ME/TA converts each 7-bit character of GSM alphabet into two IRA character long hexadecimal number (e.g. character P (GSM 23) is presented as 17 (IRA 49 and 55)) - if <**dcs**> indicates that 8-bit or UCS2 data coding scheme is used, or <**fo**> indicates that GSM 03.40 TP-User-Data-Header-Indication is set: ME/TA converts each 8-bit octet into two IRA character long hexadecimal number (e.g. octet with integer value 42 is presented to TE as two characters 2A (IRA 50 and 65)) In the case of CBS: GSM 03.41 CBM Content of Message in text mode responses; format: - if <**dcs**> indicates that GSM 03.38 default alphabet is used: - if TE character set other than "HEX" (refer Command +CSCS in 3GPP TS 27.007): ME/TA converts GSM alphabet into current TE character set according to rules of Annex A - if TE character set is "HEX": ME/TA converts each 7-bit character of GSM alphabet into two IRA character long hexadecimal number - if <**dcs**> indicates that 8-bit or UCS2 data coding scheme is used: ME/TA converts each 8-bit octet into two IRA character long hexadecimal number **<length>** Integer type value indicating in the text mode (**+CMGF=1**) the length of the message body <**data**> (or <**cdata**>) in characters; or in PDU mode (**+CMGF=0**), the length of the actual TP data unit in octets (i.e. the RP layer SMSC address octets are not counted in the length) **<index>** Integer type; value in the range of location numbers supported by the associated memory **<oa>** GSM 03.40 TP-Originating-Address Address-Value field in string format; BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (refer Command **+CSCS** in 3GPP TS 27.007); type of address given by <tooa> **<pdu>** In the case of SMS: GSM 04.11 SC address followed by GSM 03.40 TPDU in hexadecimal format: ME/TA converts each octet of TP data unit into two IRA character long hexadecimal number (e.g. octet with integer value 42 is presented to TE as two characters 2A (IRA 50 and

	65)). In the case of CBS: GSM 03.41 TPDU in hexadecimal format. **<scts>** GSM 03.40 TP-Service-Center-Time-Stamp in time-string format (refer <**dt**>) **<toda>** GSM 04.11 TP-Destination-Address Type-of-Address octet in integer format (when first character of <**da**> is + (IRA 43) default is 145, otherwise default is 129) **<tooa>** GSM 04.11 TP-Originating-Address Type-of-Address octet in integer format (default refer<**toda**>)
Execution Command **AT+CMGL**	1) If text mode: the same as **AT+CMGL="REC UNREAD"**, received unread messages 2) If PDU mode: the same as **AT+CMGL=0**, received unread messages See more messages please refer to Write Command.
	Parameters See Write Command
Parameter Saving Mode	NO_SAVE
Max Response Time	20s(list 50 messages) 20s(list 150 messages)
Reference 3GPP TS 27.005	Note

4.2.4 AT+CMGR Read SMS Message

AT+CMGR Read SMS Message	
Test Command **AT+CMGR=?**	Response **OK**
Write Command **AT+CMGR=<index>[,<mode>]**	Parameters **<index>** Integer type; value in the range of location numbers supported by the associated memory **<mode>** 0 Normal 1 Not change status of the specified SMS record
	Response TA returns SMS message with location value <**index**> from message storage <**mem1**> to the TE. If status of the message is 'received unread', status in the storage changes to 'received read'. 1) If text mode (**+CMGF=1**) and Command successful: for SMS-DELIVER: **+CMGR: <stat>,<oa>[,<alpha>],<scts>[,<tooa>,<fo>,<pid>,<dcs>** **,<sca>,<tosca>,<length>]<CR><LF><data>** for SMS-SUBMIT:

	+CMGR: <stat>,<da>[,<alpha>][,<toda>,<fo>,<pid>,<dcs>[,<vp>] ,<sca>,<tosca>,<length>]<CR><LF><data> for SMS-STATUS-REPORTs: **+CMGR: <stat>,<fo>,<mr>[,<ra>][,<tora>],<scts>,<dt>,<st>** for SMS-COMMANDs: **+CMGR: <stat>,<fo>,<ct>[,<pid>[,<mn>][,<da>][,<toda>] ,<length><CR><LF><cdata>]** for CBM storage: **+CMGR: <stat>,<sn>,<mid>,<dcs>,<page>,<pages><CR><LF><data>** 2) If PDU mode (+CMGF=0) and Command successful: **+CMGR: <stat>[,<alpha>],<length><CR><LF><pdu>** **OK** 3) If error is related to ME functionality: **+CMS ERROR: <err>**
	Parameters **<alpha>** String type (string should be included in quotation marks) alphanumeric representation of <**da**> or <**oa**> corresponding to the entry found in MT phonebook; implementation of this feature is manufacturer specific **<da>** GSM 03.40 TP-Destination-Address Address-Value field in string format; BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (specified by **+CSCS** in 3GPP TS 27.007); type of address given by <**toda**> **<data>** In the case of SMS: GSM 03.40 TP-User-Data in text mode responses; format: - if <**dcs**> indicates that GSM 03.38 default alphabet is used and <**fo**> indicates that GSM 03.40 TPUser-Data-Header-Indication is not set: - if TE character set other than "HEX" (refer Command Select TE Character Set +CSCS in 3GPP TS 27.007):ME/TA converts GSM alphabet into current TE character set according to rules of Annex A - if TE character set is "HEX": ME/TA converts each 7-bit character of GSM alphabet into two IRA character long hexadecimal number (e.g. character P (GSM 23) is presented as 17 (IRA 49 and 55)) - if <**dcs**> indicates that 8-bit or UCS2 data coding scheme is used, or <**fo**> indicates that GSM 03.40 TP-User-Data-Header-Indication is set: ME/TA converts each 8-bit octet into two IRA character long hexadecimal number

(e.g. octet with integer value 42 is presented to TE as two characters 2A (IRA 50 and 65)) In the case of CBS: GSM 03.41 CBM Content of Message in text mode responses; format:
- if <**dcs**> indicates that GSM 03.38 default alphabet is used:
- if TE character set other than "HEX" (refer Command +CSCS in 3GPP TS 27.007): ME/TA converts GSM alphabet into current TE character set according to rules of Annex A
- if TE character set is "HEX": ME/TA converts each 7-bit character of GSM alphabet into two IRA character long hexadecimal number
- if <**dcs**> indicates that 8-bit or UCS2 data coding scheme is used: ME/TA converts each 8-bit octet into two IRA character long hexadecimal number

<dcs> Depending on the Command or result code: GSM 03.38 SMS Data Coding Scheme (default 0), or Cell Broadcast Data Coding Scheme in integer format

<fo> Depending on the Command or result code: first octet of GSM 03.40 SMS-DELIVER, SMS-SUBMIT (default 17), SMS-STATUS-REPORT, or SMS-COMMAND (default 2) in integer format

<length> integer type value indicating in the text mode (**+CMGF=1**) the length of the message body <**data**> (or <**cdata**>) in characters; or in PDU mode (**+CMGF=0**), the length of the actual TP data unit in octets (i.e. the RP layer SMSC address octets are not counted in the length)

<mid> GSM 03.41 CBM Message Identifier in integer format

<oa> GSM 03.40 TP-Originating-Address Address-Value field in string format; BCD numbers (or GSM default alphabet characters) are converted characters of the currently selected TE character set (specified by +CSCS in 3GPP TS 27.007); type of address given by <**tooa**>

<pdu> In the case of SMS: GSM 04.11 SC address followed by GSM 03.40 TPDU in hexadecimal format: ME/TA converts each octet of TP data unit into two IRA character long hexadecimal number (e.g. octet with integer value 42 is presented to TE as two characters 2A (IRA 50 and 65)). In the case of CBS: GSM 03.41 TPDU in hexadecimal format.

<pid> GSM 03.40 TP-Protocol-Identifier in integer format (default 0)

<sca> GSM 04.11 RP SC address Address-Value field in string format; BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (specified by +CSCS in 3GPP TS 27.007); type of address given by <**tosca**>

<scts> GSM 03.40 TP-Service-Centre-Time-Stamp in time-string format (refer <**dt**>)

<stat> 0 "REC UNREAD" Received unread messages
1 "REC READ" Received read messages

	2 "STO UNSENT" Stored unsent messages 3 "STO SENT" Stored sent messages 4 "ALL" All messages **<toda>** GSM 04.11 TP-Destination-Address Type-of-Address octet in integer format (when first character of <**da**> is + (IRA 43) default is 145, otherwise default is 129) **<tooa>** GSM 04.11 TP-Originating-Address Type-of-Address octet in integer format (default refer<**toda**>) **<tosca>** GSM 04.11 RP SC address Type-of-Address octet in integer format (default refer <**toda**>) **<vp>** Depending on SMS-SUBMIT <**fo**> setting: GSM 03.40 TP-Validity-Period either in integer format (default 167) or in time-string format (refer <**dt**>)
Parameter Saving Mode	NO_SAVE
Max Response Time	5s
Reference 3GPP TS 27.005	Note

4.2.5 AT+CMGS Send SMS Message

AT+CMGS Send SMS Message	
Test Command **AT+CMGS=?**	Response **OK**
Write Command 1) If text mode (+CMGF=1): **+CMGS=<da>[,<toda>]** **<CR>text is entered** **<ctrl-Z/ESC>** ESC quits without sending 2) If PDU mode (+CMGF=0): **+CMGS=<length>** **<CR>PDU is given** **<ctrl-Z/ESC>**	Parameters **<da>** GSM 03.40 TP-Destination-Address Address-Value field in string format(string should be included in quotation marks); BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (specified by **+CSCS** in 3GPP TS 27.007); type of address given by <**toda**> **<toda>** GSM 04.11 TP-Destination-Address Type-of-Address octet in integer format (when first character of <**da**> is + (IRA 43) default is 145, otherwise default is 129) **<length>** Integer type value (not exceed 160 bytes) indicating in the text mode (**+CMGF=1**) the length of the message body <**data**> (or <**cdata**>) in characters; or in PDU mode (+CMGF=0), the length of the actual TP data unit in octets (i.e. the RP layer SMSC address octets are not counted in the length)
	Response TA sends message from a TE to the network (SMS-SUBMIT). Message reference value <**mr**> is returned to the TE on successful message delivery. Optionally (when **+CSMS <service>** value is 1 and network supports) <**scts**> is returned. Values can be used to identify message upon unsolicited

	delivery status report result code. 1) If text mode(**+CMGF=1**) and sending successful: **+CMGS: <mr>** **OK** 2) If PDU mode(**+CMGF=0**) and sending successful: **+CMGS: <mr>** **OK** 3)If error is related to ME functionality: **+CMS ERROR: <err>**
	Parameter **<mr>** GSM 03.40 TP-Message-Reference in integer format
Parameter Saving Mode	NO_SAVE
Max Response Time	60s
Reference 3GPP TS 27.005	Note ● In text mode, the maximum length of an SMS depends on the used coding scheme: It is 1024 characters if the 7 bit GSM coding scheme is used. ● Reject incoming call when sending messages.

4.2.6 AT+CMGW Write SMS Message to Memory

AT+CMGW Write SMS Message to Memory	
Test Command **AT+CMGW=?**	Response **OK**
Write Command 1) If text mode (+CMGF=1): **AT+CMGW=<oa/da>[,<tooa/toda>][,<stat>]** <CR> **text is entered** **<ctrl-Z/ESC>** <ESC> quits without sending	Response TA transmits SMS message (either SMS-DELIVER or SMS-SUBMIT) from TE to memory storage <**mem2**>. Memory location <**index**> of the stored message is returned. By default message status will be set to 'stored unsent', but parameter <**stat**> allows also other status values to be given. If writing is successful: **+CMGW: <index>** **OK** If error is related to ME functionality: **+CMS ERROR: <err>**
2) If PDU mode (+CMGF=0): **AT+CMGW=<length>[,<stat>]**	Parameters **<oa>** GSM 03.40 TP-Originating-Address Address-Value field in string format(string should be included in quotation marks); BCD numbers (or GSM default alphabet characters) are converted to characters of the

<CR>PDU is given <ctrl-Z/ESC>	currently selected TE character set (specified by +CSCS in 3GPP TS 27.007);type of address given by <**tooa**> **<da>** GSM 03.40 TP-Destination-Address Address-Value field in string format(string should be included in quotation marks); BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (specified by **+CSCS** in 3GPP TS 27.007); type of address given by <**toda**> **<tooa>** GSM 04.11 TP-Originating-Address Type-of-Address octet in integer format (default refer <**toda**>) **<toda>** GSM 04.11 TP-Destination-Address Type-of-Address octet in integer format (when first character of <**da**> is + (IRA 43) default is 145, otherwise default is 129) 129 Unknown type(IDSN format number) 161 National number type(IDSN format) 145 International number type(ISDN format) 177 Network specific number(ISDN format) **<length>** Integer type value (not exceed 160 bytes) indicating in the text mode (**+CMGF=1**) the length of the message body <**data**> (or <**cdata**>) in characters; or in PDU mode (**+CMGF=0**), the length of the actual TP data unit in octets (i.e. the RP layer SMSC address octets are not counted in the length) **<stat>** in the text mode (**+CMGF=1**): "STO UNSENT" Stored unsent messages "STO SENT" Stored sent messages in PDU mode (**+CMGF=0**): 0 Received unread messages 1 Received read messages 2 Stored unsent messages 3 Stored sent messages **<pdu>** In the case of SMS: GSM 04.11 SC address followed by GSM 03.40 TPDU in hexadecimal format: ME/TA converts each octet of TP data unit into two IRA character long hexadecimal number (e.g. octet with integer value 42 is presented to TE as two characters 2A (IRA 50 and 65)). In the case of CBS: GSM 03.41 TPDU in hexadecimal format. **<index>** Index of message in selected storage <**mem2**>
Execution Command **AT+CMGW**	Response TA transmits SMS message (either SMS-DELIVER or SMS-SUBMIT) from TE to memory storage <**mem2**>. Memory location <**index**> of the stored message is returned. By default message status will be set to 'stored unsent', but parameter <**stat**> allows also other status values to be given. If writing is successful: **+CMGW: <index>**

	OK If error is related to ME functionality: **+CMS ERROR: <err>**
Parameter Saving Mode	NO_SAVE
Max Response Time	5s
Reference 3GPP TS 27.005	Note

4.2.7 AT+CMSS Send SMS Message from Storage

AT+CMSS Send SMS Message from Storage	
Test Command **AT+CMSS=?**	Response **OK**
Write Command **AT+CMSS=<index>[,<da>,<toda>]**	Response TA sends message with location value <**index**> from message storage <**mem2**> to the network (SMS-SUBMIT). If new recipient address <**da**> is given, it shall be used instead of the one stored with the message. Reference value <**mr**> is returned to the TE on successful message delivery. Values can be used to identify message upon unsolicited delivery status report result code. 1) If text mode(**+CMGF=1**) and sending successful: **+CMSS: <mr>** **OK** 2) If PDU mode(**+CMGF=0**) and sending successful: **+CMSS: <mr>** **OK** 3)If error is related to ME functionality: **+CMS ERROR: <err>**
	Parameters **<index>** Integer type; value in the range of location numbers supported by the associated memory **<da>** GSM 03.40 TP-Destination-Address Address-Value field in string format(string should be included in quotation marks); BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (specified by **+CSCS** in 3GPP TS 27.007); type of address given by <**toda**> **<toda>** GSM 04.11 TP-Destination-Address Type-of-Address octet in integer format (when first character of <**da**> is + (IRA 43) default is 145, otherwise default is 129)

	<mr> GSM 03.40 TP-Message-Reference in integer format
Parameter Saving Mode	NO_SAVE
Max Response Time	60s
Reference 3GPP TS 27.005	Note

4.2.8 AT+CNMI New SMS Message Indications

AT+CNMI New SMS Message Indications	
Test Command **AT+CNMI=?**	Response **+CNMI: (**list of supported **<mode>**s**),(**list of supported **<mt>**s**),(**list of supported **<bm>**s**),(**list of supported **<ds>**s**),(**list of supported **<bfr>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CNMI?**	Response **+CNMI: <mode>,<mt>,<bm>,<ds>,<bfr>** **OK**
	Parameters See Write Command
Write Command **AT+CNMI=<mode>[,<mt>[,<bm>[,<ds>[,<bfr>]]]]**	Response TA selects the procedure for how the receiving of new messages from the network is indicated to the TE when TE is active, e.g. DTR signal is ON. If TE is inactive (e.g. DTR signal is OFF), message receiving should be done as specified in GSM 03.38. **OK** **ERROR**
	Parameters **<mode>** 0 Buffer unsolicited result codes in the TA. If TA result code buffer is full, indications can be buffered in some other place or the oldest indications may be discarded and replaced with the new received indications. 1 Discard indication and reject new received message unsolicited result codes when TA-TE link is reserved (e.g. in on-line data mode). Otherwise forward them directly to the TE. 2 Buffer unsolicited result codes in the TA when TA-TE link is reserved (e.g. in on-line data mode) and flush them to the TE after reservation. Otherwise forward them directly to the TE.

	3 Forward unsolicited result codes directly to the TE. TA-TE link specific inband technique used to embed result codes and data when TA is in on-line data mode. **<mt>** (the rules for storing received SMs depend on its data coding scheme (refer GSM 03.38 [2]), preferred memory storage (+CPMS) setting and this value): 0 No SMS-DELIVER indications are routed to the TE. 1 If SMS-DELIVER is stored into ME/TA, indication of the memory location is routed to the TE using unsolicited result code: +CMTI: <mem>,<index> 2 SMS-DELIVERs (except class 2) are routed directly to the TE using unsolicited result code: **+CMT: [<alpha>],<length><CR><LF><pdu>** (PDU mode enabled) or **+CMT: <oa>,[<alpha>],<scts>** **[,<tooa>,<fo>,<pid>,<dcs>,<sca>,<tosca>,<length>]<CR><LF><data>** (text mode enabled; about parameters in italics, refer Command Show Text Mode Parameters +CSDH). Class 2 messages result in indication as defined in <**mt**>=1. 3 Class 3 SMS-DELIVERs are routed directly to TE using unsolicited result codes defined in <**mt**>=2. Messages of other classes result in indication as defined in <**mt**>=1. **<bm>** (the rules for storing received CBMs depend on its data coding scheme (refer GSM 03.38 [2]), the setting of Select CBM Types (+CSCB) and this value): 0 No CBM indications are routed to the TE. 2 New CBMs are routed directly to the TE using unsolicited result code: **+CBM: <length><CR><LF><pdu>** (PDU mode enabled) or **+CBM: <sn>,<mid>,<dcs>,<page>,<pages><CR><LF><data>** (text mode enabled). **<ds>** 0 No SMS-STATUS-REPORTs are routed to the TE. 1 SMS-STATUS-REPORTs are routed to the TE using unsolicited result code: **+CDS:<length><CR><LF><pdu>** (PDU mode enabled) or **+CDS: <fo>,<mr>[,<ra>][,<tora>],<scts>,<dt>,<st>** (text mode enabled) **<bfr>** 0 TA buffer of unsolicited result codes defined within this Command is flushed to the TE when <**mode**> 1...3 is entered (OK response shall be given before flushing the codes). 1 TA buffer of unsolicited result codes defined within this command is cleared when <**mode**> 1…3 is entered
	Unsolicited result code 1. Indicates that new message has been received If <**mt**>=1: **+CMTI: <mem3>, <index>**

	If <**mt**>=2 (PDU mode enabled): **+CMT: [<alpha>],<length><CR><LF><pdu>** If <**mt**>=2 (text mode enabled): **+CMT: <oa>, <scts>[, <tooa>, <fo>, <pid>, <dcs>, <sca>, <tosca>, <length>]<CR><LF><data>** 2. Indicates that new cell broadcast message has been received If <**bm**>=2 (PDU mode enabled): **+CBM: <length><CR><LF><pdu>** If <**bm**>=2 (text mode enabled): **+CBM: <sn>, <mid>, <dcs>, <page>, <pages><CR><LF><data>** 3. Indicates that new SMS status report has been received If <**ds**>=1 (PDU mode enabled): **+CDS: <length><CR><LF><pdu>** If <**ds**>=1 (text mode enabled): **+CDS: <fo>, <mr>[, <ra>][, <tora>], <scts>, <dt>, <st>**
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference 3GPP TS 27.005	Note

4.2.9 AT+CPMS Preferred SMS Message Storage

AT+CPMS Preferred SMS Message Storage	
Test Command **AT+CPMS=?**	Response **+CPMS: (**list of supported **<mem1>**s**),(**list of supported **<mem2>**s**),(**list of supported **<mem3>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CPMS?**	Response **+CPMS: <mem1>,<used1>,<total1>,<mem2>,<used2>,<total2>, <mem3>,<used3>,<total3>** **OK** **ERROR**
	Parameters See Write Command
Write Command	Response

AT+CPMS=<mem1>[,<mem2>[,<mem3>]]	TA selects memory storages <mem1>, <mem2> and <mem3> to be used for reading, writing, etc. **+CPMS: <used1>,<total1>,<used2>,<total2>,<used3>,<total3>** **OK** **ERROR**
	Parameters **<mem1>** Messages to be read and deleted from this memory storage "SM" SIM message storage "ME" Phone message storage "SM_P" SM message storage preferred "ME_P" ME message storage preferred "MT" SM or ME message storage (SM preferred) **<mem2>** Messages will be written and sent to this memory storage "SM" SIM message storage "ME" Phone message storage "SM_P" SM message storage preferred "ME_P" ME message storage preferred "MT" SM or ME message storage (SM preferred) **<mem3>** Received messages will be placed in this memory storage if routing to PC is not set ("+CNMI") "SM" SIM message storage "ME" Phone message storage "SM_P" SM message storage preferred "ME_P" ME message storage preferred "MT" SM or ME message storage (SM preferred) **<usedx>** Integer type; Number of messages currently in <memx> **<totalx>** Integer type; Number of messages storable in <memx>
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.005	Note

4.2.10 AT+CRES Restore SMS Settings

AT+CRES Restore SMS Settings	
Test Command **AT+CRES=?**	Response **+CRES: (**list of supported **<profile>**s**)** **OK**
	Parameter See Write Command

Write Command **AT+CRES=<profile>**	Response Execution command restores message service settings from non-volatile memory to active memory. A TA can contain several profiles of settings. Settings specified in commands Service Centre Address +CSCA and Set Message Parameters +CSMP are restored. Certain settings may not be supported by the storage (e.g. (U)SIM SMS parameters) and therefore can not be restored. **OK** **ERROR**
	Parameter **<profile>** 0 Restore SM service settings from profile 0 1 Restore SM service settings from profile 1 2 Restore SM service settings from profile 2 3 Restore SM service settings from profile 3
Execution Command **AT+CRES**	Response Same as **AT+CRES=0**. **OK** If error is related to ME functionality: **+CMS ERROR <err>**
Parameter Saving Mode	NO_SAVE
Max Response Time	5s
Reference 3GPP TS 27.005	Note

4.2.11 AT+CSAS Save SMS Settings

AT+CSAS Save SMS Settings	
Test Command **AT+CSAS=?**	Response **+CSAS: (**list of supported **<profile>**s**)** **OK**
	Parameter See Write Command
Write Command **AT+CSAS=<profile>**	Response Execution command saves active message service settings to a non-volatile memory. Settings specified in commands Service Centre Address +CSCA and Set Message Parameters +CSMP are saved. Certain settings may not be supported by the storage (e.g. (U)SIM SMS parameters) and therefore can not be saved. **OK** **ERROR**

	Parameter **<profile>** 0 Save SM service setting in profile 0 1 Save SM service setting in profile 1 2 Save SM service setting in profile 2 3 Save SM service setting in profile 3
Execution Command **AT+CSAS**	Response Same as **AT+CSAS=0** **OK** If error is related to ME functionality: **+CMS ERROR <err>**
Parameter Saving Mode	NO_SAVE
Max Response Time	5s
Reference 3GPP TS 27.005	Note

4.2.12 AT+CSCA SMS Service Center Address

AT+CSCA SMS Service Center Address	
Test Command **AT+CSCA=?**	Response **OK**
Read Command **AT+CSCA?**	Response **+CSCA: <sca>,<tosca>[,<scaAlpha>]** **OK**
	Parameters See Write Command
Write Command **AT+CSCA=<sca>[,<tosca>]**	Response TA updates the SMSC address, through which mobile originated SMS are transmitted. In text mode, setting is used by send and writes commands. In PDU mode, setting is used by the same commands, but only when the length of the SMSC address coded into <pdu> parameter equals zero. Note: The Command writes the parameters in NON-VOLATILE memory. **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<sca>** GSM 04.11 RP SC address Address-Value field in string format(string should be included in quotation marks); BCD numbers (or GSM default alphabet characters) are converted to characters of the

	currently selected TE character set (specified by +CSCS in 3GPP TS 27.007); type of address given by <tosca> **<tosca>** Service center address format GSM 04.11 RP SC address Type-of-Address octet in integer format (default refer <toda>) **<scaAlpha>** String type(string should be included in quotation marks) Service center address alpha data
Parameter Saving Mode	NO_SAVE
Max Response Time	5s
Reference 3GPP TS 27.005	Note

4.2.13 AT+CSCB Select Cell Broadcast SMS Messages

AT+CSCB Select Cell Broadcast SMS Messages	
Test Command **AT+CSCB=?**	Response **+CSCB: (**list of supported **<mode>**s**)** **OK**
	Parameter See Write Command
Read Command **AT+CSCB?**	Response **+CSCB: <mode>,<mids>,<dcss>** **OK**
	Parameters See Write Command
Write Command **AT+CSCB=<mode>[,<mids>[,<dcss>]]**	Response TA selects which types of CBMs are to be received by the ME. Note: The Command writes the parameters in NON-VOLATILE memory. **OK** If error is related to ME functionality: **+CMS ERROR: <err>**
	Parameters **<mode>** 0 Message types specified in <**mids**> and <**dcss**> are accepted 1 Message types specified in <**mids**> and <**dcss**> are not accepted. **<mids>** String type (string should be included in quotation marks); all different possible combinations of CBM message identifiers (refer <**mid**>)

	(default is empty string); e.g. "0,1,5,320,922". Total 15 different <**mids**> values can be supported. <**mids**> values cannot be written consecutively, such as "100-200" **<dcss>** String type(string should be included in quotation marks); all different possible combinations of CBM data coding schemes (refer <**dcs**>) (default is empty string); e.g. "0,5". Total 5 different <dcss> values can be supported. <**dcss**> values cannot be written consecutively, such as "0-5".
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.005	Note AT+CSCB=0 will reset <**mids**> and <**dcss**> and select no <**mids**> and no <**dcss**>. AT+CSCB=1 means all <**dcss**> are accepted but this command has no effect on the list of the <mids> accepted. "0-255" means all <**dcss**> are accepted. AT+CSCB=0, <**mids**> will add the <**mids**> values in the <**mids**> current list handled by module. AT+CSCB=0, <**dcss**> will add the <**dcss**> values in the <**dcss**> current list handled by module. If AT+CSCB=0, <**mids**> is received while the list of <**mids**> is full, OK is returned and new value is not added.

4.2.14 AT+CSDH Show SMS Text Mode Parameters

AT+CSDH Show SMS Text Mode Parameters	
Test Command **AT+CSDH=?**	Response **+CSDH: (**list of supported **<show>**s**)** **OK**
	Parameter See Write Command
Read Command **AT+CSDH?**	Response **+CSDH: <show>** **OK**
	Parameter See Write Command
Write Command **AT+CSDH=[<show>]**	Response TA determines whether detailed header information is shown in text mode result codes. **OK**
	Parameter

	<show> 0 Do not show header values defined in commands +CSCA and +CSMP (<sca>, <tosca>, <fo>, <vp>, <pid> and <dcs>) nor <length>, <toda> or <tooa> in +CMT, +CMGL, +CMGR result codes for SMS-DELIVERs and SMS-SUBMITs in text mode 1 Show the values in result codes
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.005	Note

4.2.15 AT+CSMP Set SMS Text Mode Parameters

AT+CSMP Set SMS Text Mode Parameters	
Test Command **AT+CSMP=?**	Response **+CSMP: (**list of supported **<fo>**s**),(**list of supported **<vp>**s**),(**list of supported **<pid>**s**),(**list of supported **<dcs>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CSMP?**	Response **+CSMP: <fo>,<vp>,<pid>,<dcs>** **OK**
	Parameters See Write Command
Write Command **AT+CSMP=[<fo>[,<vp>,<pid>,<dcs>]]**	Response TA selects values for additional parameters needed when SM is sent to the network or placed in a storage when text mode is selected (+CMGF=1). It is possible to set the validity period starting from when the SM is received by the SMSC (<**vp**> is in range 0... 255) or define the absolute time of the validity period termination (<**vp**> is a string). Note: The Command writes the parameter <fo> in NON-VOLATILE memory. **OK**
	Parameters **<fo>** Depending on the command or result code: first octet of GSM 03.40 SMS-DELIVER, SMS-SUBMIT (default 17), SMS-STATUS-REPORT, or SMS-COMMAND (default 2) in integer format. SMS status report is supported under text mode if <**fo**> is set to 49.

	<vp> Depending on SMS-SUBMIT <**fo**> setting: GSM 03.40 TP-Validity-Period either in integer format (default 167) or in time-string format (refer <**dt**>) **<pid>** GSM 03.40 TP-Protocol-Identifier in integer format (default 0). **<dcs>** GSM 03.38 SMS Data Coding Scheme in Integer format.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.005	Note

4.2.16 AT+CSMS Select Message Service

AT+CSMS Select Message Service	
Test Command **AT+CSMS=?**	Response **+CSMS: (**list of supported **<service>**s**)** **OK**
	Parameter See Write Command
Read Command **AT+CSMS?**	Response **+CSMS: <service>,<mt>,<mo>,<bm>** **OK**
	Parameters See Write Command
Write Command **AT+CSMS=<service>**	Response **+CSMS: <mt>,<mo>,<bm>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<service>** 0 GSM 03.40 and 03.41 (the syntax of SMS AT commands is compatible with 3GPP TS 27.005 Phase 2 version 4.7.0; Phase 2+ features which do not require new Command syntax may be supported (e.g. correct routing of messages with new Phase 2+ data coding schemes)) 1 GSM 03.40 and 03.41 (the syntax of SMS AT commands is compatible with 3GPP TS 27.005 Phase 2+ version; the requirement of <service> setting 1 is mentioned under corresponding command descriptions) **<mt>** Mobile Terminated Messages:

	0 Type not supported 1 Type supported **<mo>** Mobile Originated Messages: 0 Type not supported 1 Type supported **<bm>** Broadcast Type Messages: 0 Type not supported 1 Type supported
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference 3GPP TS 27.005	Note

5 AT Commands for SIM Application Toolkit

5.1 Overview

Command	Description
AT+STKTRS	This command is used to send STK terminal response
AT+STKENVS	This command is used to send STK envelope command
AT+STKCALL	Trigger STK call
AT+STKSMS	Trigger STK SMS
AT+STKSS	Trigger STK SS
AT+STKUSSD	Trigger STK USSD
AT+STKDTMF	Trigger STK DTMF
+STKPCI	This unsolicited result code is used to indicate proactive command Indication.
AT+STKMENU	Show STK main menu
AT+STKPCIS	Switch STK URC string

5.2 Detailed Descriptions of Commands

5.2.1 AT+STKTRS STK Terminal Response

AT+STKTRS STK Terminal Response.	
Test Command **AT+STKTRS=?**	Response **+STKTRS: <result_length>,<text_length>** **OK**
	Parameter See Write Command
Read Command **AT+STKTRS?**	Response **OK**
Write Command **AT+STKTRS=<result>[,<text>]**	Response **OK** **ERROR**

	Parameter <**result**> HEX string type --specified in GSM11.14[12.12] - '00' = Command performed successfully; - '10' = Proactive SIM session terminated by the user; - '11' = Backward move in the proactive SIM session requested by the user; … - '2000' = ME currently unable to process command, No specific cause can be given; - '2001' = ME currently unable to process command, Screen is busy; … <**text**> Hex String type If response to **GET INPUT** or **GET INKEY** --specified in GSM11.14[12.15] -text string, the first 2 char is Data coding scheme If response to **SELECT ITEM** --specified in GSM11.134[12.10] -Identifier of item chosen
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note For more detail used, can refer "**AT+STKTR**" command

5.2.2 AT+STKENVS STK Envelope Command

AT+STKENVS STK Envelope Command	
Test Command **AT+STKENVS=?**	Response **+STKENVS: <command_length>,<data_length>** **OK**
	Parameter See Write Command
Read Command **AT+STKENVS?**	Response **OK**
	Parameter See Write Command
Write Command **AT+STKENVS=<command>[,<data**	Response **OK** **ERROR**

>]	Parameter <**command**> HEX string type --specified in GSM11.14[13.1] - 'D3' = Menu Selection; - 'D6' =Event download; <**data**> Hex string type If command is 'D3' --specified in GSM11.14[8.2] -Item identifier of main menu If command is 'D6' --specified in GSM11.14[11] -event list - '04' = User activity - '05' = Idle screen available - '07' = Language selection
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note For more detail used, can refer "**AT+STKENV**" command

5.2.3 AT+STKCALL STK call setup

AT+STKCALL STK call setup	
Test Command **AT+STKCALL=?**	Response **OK**
	Parameter See Write Command
Write Command **AT+STKCALL=<command>**	Response **OK** **ERROR** Parameter **<command>** stk call command 0 Trigger modem to send STK CALLSETUP 4 Trigger modem to send STK CALLSETUP but icon cannot be displayed 16 Proactive session terminated by user 18 No response from user 32 ME currently unable to process this command 34 User reject setup call 50 Command data not understood by ME Note: Above are the possible terminal response value needed to be responded by application. It's modem's responsibility to response for other terminal response value.
Parameter Saving Mode	NO_SAVE

Max Response Time	-
Reference	Note According to spec 11.14, 0x12 ("No response from user") is not a possible terminal response value for STK CALLSETUP. So we will translate 0x12("No response from user") to 0x20 ("ME currently unable to process this command").

5.2.4 AT+STKSMS STK SMS delivery

AT+STKSMS STK SMS delivery	
Test Command **AT+STKSMS=?**	Response **OK**
	Parameter See Write Command
Write Command **AT+STKSMS=<command>**	Response **OK** **ERROR** Parameter **<command>** stk sms command 0 Trigger modem to send STK SMS 4 Trigger modem to send STK SMS but icon cannot be displayed
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note Above are the possible terminal response value needed to be responded by application. It's modem's responsibility to response for other terminal response value

5.2.5 AT+STKSS STK SS setup

AT+STKSS STK SS setup	
Test Command **AT+STKSS=?**	Response **OK**
	Parameter See Write Command
Write Command **AT+STKSS=<command>**	Response **OK** **ERROR** Parameter **<command>** stk SS command 0 Trigger modem to send STK SS 4 Trigger modem to send STK SS but icon cannot be

	displayed 50 Command data not understood by ME
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note Above are the possible terminal response value needed to be responded by application. It's modem's responsibility to response for other terminal response value.

5.2.6 AT+STKUSSD STK USSD setup

AT+STKUSSD STK USSD setup	
Test Command **AT+STKUSSD=?**	Response **OK**
	Parameters See Write Command
Write Command **AT+STKUSSD=<command>**	Response **OK** **ERROR**
	Parameters **<command>** STK SS command 0 Trigger modem to send STK USSD 4 Trigger modem to send STK USSD but icon cannot be displayed 50 Command data not understood by ME
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note Above are the possible terminal response value needed to be responded by application. It's modem's responsibility to response for other terminal response value.

5.2.7 AT+STKDTMF STK sending DTMF

AT+STKDTMF STK sending DTMF	
Test Command **AT+STKDTMF=?**	Response **OK**
	Parameters See Write Command
Write Command **AT+STKDTMF=<**	Response **OK**

command>	**ERROR**
	Parameters **<command>** STK DTMF command 0 Trigger modem to send STK DTMF 4 Trigger modem to send STK DTMF but icon cannot be displayed 32 ME currently unable to process command
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note Above are the possible terminal response value needed to be responded by application.It's modem's responsibility to response for other terminal response value.

5.2.8 +STKPCI STK Proactive Command Indication

+STKPCI STK Proactive Command Indication	
	+STKPCI: <pci_type>[,<proactive_command>,…]
	Parameter **<pci_type>** 0 The SAT command is handled by TE. 1 The SAT command is handled by ME. 2 No other command (end of session) **<proactive command>** DISPLAY TEXT,<**Command Qualifier**>,<**text string**> GET INKEY, <**Command Qualifier**>,<**text string**> GET INPUT, <**Command Qualifier**>,<**text string**>,<**Min length**>,<**Max length**> PLAY TONE,<**alpha id**>,<**tone**>,<**Time unit**>,<**Time interval**> SET UP MENU,<**the number of item**>,<**alpha id**> SELECT ITEM, <**the number of item**>,<**alpha id**> ITEM,<**index**>,<**id**>,<**item string**> SEND SHORT MESSAGE,<**alpha id**>,<**addr**>,<**sms tpdu**> SEND SS,<**alpha id**>,<**ss string**> SEND USSD,<**alpha id**>,<**ussd string**> SETUP CALL,<**alpha id**>,<**addr**> SET UP IDLE MODE TEXT,<**text string**> SEND DTMF,<**alpha id**>,<**dtmf string**>. If <**alpha id**>= 0, the alpha id is null If <**addr**>= 0, the addr is null
Parameter Saving Mode	NO_SAVE

Max Response Time	-
Reference	Note For detail introduction, please refer to SIM800 Series_STK_Application Note.

5.2.9 AT+STKMENU STK Main menu command

AT+STKMENU STK Main menu command	
Test Command **AT+STKMENU =?**	Response **OK**
	Parameters See Read Command
Read Command **AT+STKMENU ?**	Response **[+STKMENU: <index>,<id>,<text>]** **[+STKMENU: <index>,<id>,<text>]** **[+STKMENU: <index>,<id>,<text>]** **[…]** **OK**
	Parameters <**index**> The menu's index, begin 1 <**id**> The item identifier <**text**> The content of item, code by EFADN
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note When stkpci is off, read command response will null.

5.2.10 AT+STKPCIS STK URC switch command

AT+STKPCIS STK URC switch command	
Test Command **AT+STKPCIS=?**	Response **+STKPCIS: (0-1)** **OK**
	Parameters See Write Command
Read Command **AT+STKPCIS?**	Response **+STKPCIS: <switch>** **OK**

	Parameters
Write Command **AT+STKPCIS=<switch>**	Response **OK** **ERROR**
	Parameters <**switch**> The switch of STK URC 0 The STK URC is off 1 The STK URC is ON
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note

6 AT Commands Special for SIMCom

6.1 Overview

Command	Description
AT+SIDET	Change the side tone gain level
AT+CPOWD	Power off
AT+SPIC	Times remained to input SIM PIN/PUK
AT+CMIC	Change the microphone gain level
AT+CALA	Set alarm time
AT+CALD	Delete alarm
AT+CADC	Read ADC
AT+CSNS	Single numbering scheme
AT+CDSCB	Reset cell broadcast
AT+CMOD	Configure alternating mode calls
AT+CFGRI	Indicate RI when using URC
AT+CLTS	Get local timestamp
AT+CLDTMF	Local DTMF tone generation
AT+CDRIND	CS voice/data call termination indication
AT+CSPN	Get service provider name from SIM
AT+CCVM	Get and set the voice mail number on the SIM
AT+CBAND	Get and set mobile operation band
AT+CHF	Configure hands free operation
AT+CHFA	Swap the audio channels
AT+CSCLK	Configure slow clock
AT+CENG	Switch on or off engineering mode
AT+SCLASS0	Store class 0 SMS to SIM when received class 0 SMS
AT+CCID	Show ICCID
AT+CMTE	Set critical temperature operating mode or query temperature
AT+CMGDA	Delete all SMS
AT+STTONE	Play SIM toolkit tone
AT+SIMTONE	Generate specific tone
AT+CCPD	Enable or disable alpha string
AT+CGID	Get SIM card group identifier
AT+MORING	Show state of mobile originated call
AT+CMGHEX	Enable or disable sending non-ascii character SMS
AT+CCODE	Configure SMS code mode
AT+CIURC	Enable or disable initial URC presentation

AT+CPSPWD	Change PS super password
AT+EXUNSOL	Enable or disable proprietary unsolicited indications
AT+CGMSCLASS	Change GPRS multislot class
AT+CDEVICE	View current flash device type
AT+CCALR	Call ready query
AT+GSV	Display product identification information
AT+SGPIO	Control the GPIO
AT+SPWM	Generate the pulse-width-modulation
AT+ECHO	Echo cancellation control
AT+CAAS	Control auto audio switch
AT+SVR	Configure voice coding type for voice calls
AT+GSMBUSY	Reject incoming call
AT+CEMNL	Set the list of emergency number
AT*CELLLOCK	Set the list of ARFCN which needs to be locked
AT+SLEDS	Set the timer period of net light
AT+CBUZZERRING	Use the buzzer sound as the incoming call ring
AT+CEXTERNTONE	Close or open the microphone
AT+CNETLIGHT	Close the net light or open it to shining
AT+CWHITELIST	Set the white list
AT+CSDT	Switch on or off detecting SIM card
AT+CSMINS	SIM inserted status reporting
AT+CSGS	Netlight indication of GPRS status
AT+CMICBIAS	Close or open the MICBIAS
AT+DTAM	Set TTS and record play mode in call
AT+SJDR	Set jamming detection fuction
AT+CPCMCFG	Set PCM parameter
AT+CPCMSYNC	Set PCM sync parameter
AT+CANT	Antenna detecting
AT+CAGCSET	Close or open AGC function
AT+SD2PCM	SD and PCM switch function
AT+SKPD	Keypad detecting function
AT+SIMTONEX	Custom tones
AT+CROAMING	Roaming state
AT+CNETSCAN	Performing a net survey to show all the cells' information
AT+CMNRP	Dual serial port feature
AT+CEGPRS	Switch on or off EDGE
AT+CGPIO	Control the GPIO by PIN index
AT+CMEDPLAY	Play audio file

AT+CMEDIAVOL	Control the volume when playing audio file
AT+SNDLEVEL	Set the sound level of special AT command
AT+ECHARGE	Charge control
AT+SIMTIMER	Modify the poll interval time requested by SIM card
AT+SPE	Speech enhancement control
AT+CCONCINDEX	Report concatenated SMS index
AT+SDMODE	SD and PCM switch function
AT+SRSPT	Control SMS retransmission
AT+CELLIST	Perform a net survey to show sll the cells' information
AT+CLIST	Query AT
AT+CBATCHK	Set VBAT checking feature ON/OFF

6.2 Detailed Descriptions of Commands

6.2.1 AT+SIDET Change the Side Tone Gain Level

AT+SIDET Change the Side Tone Gain Level	
Test Command **AT+SIDET=?**	Response **+SIDET: (**list of supported <**channel**>s**),(**list of supported <**gainlevel**>s**)** **OK**
	Parameters See Write Command
Read Command **AT+SIDET?**	Response **+SIDET: (**<**channel0**>**,**<**gainlevel0**>**),…, (**<**channel*n*>**,**<**gainlevel*n*>**)** **OK**
	Parameters See Write Command
Write Command **AT+SIDET=<channel>,<gainlevel>**	Response **OK** **ERROR**
	Parameters **<channel>** 0 Main audio channel 1 Aux audio channel 2 Main audio channel hand free mode 3 Aux audio channel hand free mode **<gainlevel>** Int: 0-16
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-

Reference	Note ● <**gainlevel***n*> value of read command is related to <**channel**> specific. ● Scope of parameter <**channel**> is different among SIM800 series project, please refer to chapter 21 for details.

6.2.2 AT+CPOWD Power off

AT+CPOWD Power Off	
Write Command **AT+CPOWD=<n>**	Response **[NORMAL POWER DOWN]**
	Parameter **<n>** 0 Power off urgently (Will not send out NORMAL POWER DOWN) 1 Normal power off (Will send out NORMAL POWER DOWN)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

6.2.3 AT+SPIC Times Remained to Input SIM PIN/PUK

AT+SPIC Times Remained to Input SIM PIN/PUK	
Execution Command **AT+SPIC**	Response Times remained to input SIM PIN **+SPIC: <pin1>,<pin2>,<puk1>,<puk2>** **OK**
	Parameters **<pin1>** Times remained to input chv1 **<pin2>** Times remained to input chv2 **<puk1>** Times remained to input puk1 **<puk2>** Times remained to input puk2
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

6.2.4 AT+CMIC Change the Microphone Gain Level

AT+CMIC Change the Microphone Gain Level

Test Command **AT+CMIC=?**	Response **+CMIC: (**list of supported **<channel>**s**),(**list of supported **<gainlevel>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CMIC?**	Response **+CMIC: (<channel0>,<gainlevel0>),…,(<channel*n*>,<gainlevel*n*>)** **OK**
	Parameters See Write Command
Write Command **AT+CMIC=<channel>,<gainlevel>**	Response **OK** **ERROR**
	Parameters **<channel>** 0 Main audio channel 1 Aux audio channel 2 Main audio channel hand free mode 3 Aux audio channel hand free mode **<gainlevel>** Int: 0 – 15 0 0dB 1 +1.5dB 2 +3.0 dB 3 +4.5 dB 4 +6.0 dB 5 +7.5 dB 6 +9.0 dB 7 +10.5 dB 8 +12.0 dB 9 +13.5 dB 10 +15.0 dB 11 +16.5 dB 12 +18.0 dB 13 +19.5 dB 14 +21.0 dB 15 +22.5 dB
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note

	● <**gainlevel***n*> value is related to <**channel**> specific. ● The default gain level of main audio channel is 10. ● Scope of parameter <**channel**> is different among SIM800 series project, please refer to chapter 21 for details.

6.2.5 AT+CALA Set Alarm Time

AT+CALA Set Alarm Time	
Test Command **AT+CALA=?**	Response **+CALA: ("yy/mm/dd,hh:mm:ss","hh:mm:ss"),(1-5),(0-7)** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Read Command **AT+CALA?**	Response **[+CALA: <time>,<n1>[,<recurr>]** **[<CR><LF> +CALA: <time>,<n2>[,<recurr>]** …**]]** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+CALA=<time>[,<n>[,<recurr>]]**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>** Unsolicited Result Code Indicate expired alarm. **ALARM RING** **+CALV: <n>**
	Parameters **<time>** A string parameter(string should be included in quotation marks) which indicates the time when alarm arrives. The format is "yy/MM/dd,hh:mm:ss" where characters indicate the last two digits of year, month, day, hour, minute, second. **<n>** Index of the alarm (range 1 to 5 for now). **<recurr>** "0", "1"---"7" String type value indicating day of week for the alarm in one of the following formats: "<1..7>[,<1..7>[…]]" – Set a recurrent alarm for one or more days in the week. The digits 1 to 7 correspond to the days in the week, Monday (1), …, Sunday (7).

	Example: The string "1,2,3,4,5" may be used to set an alarm for all weekdays. "0" – Set a recurrent alarm for all days in the week.
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note If user sets recurr function, the string of <**time**> should not enter "yy/MM/dd", for example: set Monday to Friday alarm at the time of 16PM of alarm 2. AT+CALA="16:00:00",2,1,2,3,4,5

6.2.6 AT+CALD Delete Alarm

AT+CALD Delete Alarm	
Test Command **AT+CALD=?**	Response **+CALD: (**list of supported **<n>**s**)** **OK**
	Parameters See Write Command
Write Command **AT+CALD=<n>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters <**n**> Integer type value indicating the index of the alarm; default vaule is manufacturer specific (range from 1 to 5 now).
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

6.2.7 AT+CADC Read ADC

AT+CADC Read ADC	
Test Command **AT+CADC=?**	Response **+CADC: (**list of supported **<status>**s**),(**list of supported **<value>**s**)** **OK**
	Parameters **<status>** 1 Success

	0 Fail **<value>** Integer 0-2800
Read Command **AT+CADC?**	Response **+CADC: <status>,<value>** **OK**
	Parameters See Test Command
Parameter Saving Mode	NO_SAVE
Max Response Time	2s
Reference	Note

6.2.8 AT+CSNS Single Numbering Scheme

AT+CSNS Single Numbering Scheme	
Test Command **AT+CSNS=?**	Response **+CSNS: (**list of supported **<mode>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CSNS?**	Response **+CSNS: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CSNS=<mode>**	Response **OK** **ERROR**
	Parameters **<mode>** 0 Voice 2 Fax 4 Data
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note

6.2.9 AT+CDSCB Reset Cell Broadcast

AT+CDSCB Reset Cell Broadcast	
Execution Command **AT+CDSCB**	Response **OK**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note Please also refer to **AT+CSCB**.

6.2.10 AT+CMOD Configure Alternating Mode Calls

AT+CMOD Configure Alternating Mode Calls	
Test Command **AT+CMOD=?**	Response **+CMOD: (0)** **OK**
	Parameters See Write Command
Read Command **AT+CMOD?**	Response **+CMOD: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CMOD=[<mode>]**	Response **OK** **ERROR**
	Parameters **<mode>** 0 Only single mode is supported
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

6.2.11 AT+CFGRI Indicate RI When Using URC

AT+CFGRI Indicate RI When Using URC	
Test Command **AT+CFGRI=?**	Response **+CFGRI: (0-2)** **OK**
	Parameters See Write Command
Read Command **AT+CFGRI?**	Response **+CFGRI: <status>** **OK**
	Parameters See Write Command
Write Command **AT+CFGRI=<status>**	Response **OK** **ERROR**
	Parameters **<status>** 0 Off 1 On(TCPIP, FTP and URC control RI pin) 2 On(only TCPIP control RI pin)
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note ● RI pin can not controll by "**AT+CFGRI**" command when module has call service or receiving SMS. ● Default value of parameter **<status>** is different among SIM800 series project, please refer to chapter 21 for details.

6.2.12 AT+CLTS Get Local Timestamp

AT+CLTS Get Local Timestamp	
Test Command **AT+CLTS=?**	Response **+CLTS: "yy/MM/dd,hh:mm:ss+/-zz"** **OK**
Read Command **AT+CLTS?**	Response **+CLTS: <mode>** **OK**
Write Command	Response

AT+CLTS=<mode>	**OK** **ERROR**
	Parameters **<mode>** 0 Disable 1 Enable
	Unsolicited Result Code When "get local timestamp" function is enabled, the following URC may be reported if network sends the message to the MS to provide the MS with subscriber specific information. 1. Refresh network name by network: ***PSNWID: "<mcc>", "<mnc>", "<full network name>", <full network name CI>, "<short network name>",<short network name CI>** 2. Refresh time and time zone by network: This is UTC time, the time queried by AT+CCLK command is local time. ***PSUTTZ: <year>, <month>, <day>, <hour>, <min>, <sec>, "<time zone>", <dst>** 3. Refresh network time zone by network: **+CTZV: "<time zone>"** 4. Refresh Network Daylight Saving Time by network: **DST: <dst>**
	Parameters **<mcc>** String type; mobile country code **<mnc>** String type; mobile network code **<full network name>** String type; name of the network in full length. **<full network name CI>** Integer type; indicates whether to add CI. 0 The MS will not add the initial letters of the Country's Name to the text string. 1 The MS will add the initial letters of the Country's Name and a separator (e.g. a space) to the text string. **<short network name>** String type; abbreviated name of the network **<short network name CI>** Integer type; indicates whether to add CI. 0 The MS will not add the initial letters of the Country's Name to the text string. 1 The MS will add the initial letters of the Country's Name and a separator (e.g. a space) to the text string. **<year>** 4 digits of year (from network)

	<month> Month (from network) **<day>** Day (from network) **<hour>** Hour (from network) **<min>** Minute (from network) **<sec>** Second (from network) **<time zone>** String type; network time zone. If the network time zone has been adjusted for Daylight Saving Time, the network shall indicate this by including the <dst> (Network Daylight Saving Time) **<dst>** Network Daylight Saving Time; the content of this indicates the value that used to adjust the network time zone 0 No adjustment for Daylight Saving Time 1 +1 hour adjustment for Daylight Saving 2 +2 hours adjustment for Daylight Saving Time others Reserved
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note Support for this Command will be network dependent. Set **AT+CLTS=1**, it means user can receive network time updating and use **AT+CCLK** to show current time. ***PSUTTZ** may report twice.

6.2.13 AT+CLDTMF Local DTMF Tone Generation

AT+CLDTMF Local DTMF Tone Generation	
Test Command **AT+CLDTMF=?**	Response **+CLDTMF: (1-100),(0-9,A,B,C,D,E,F,*,#),(10-500)** OK
Write Command **AT+CLDTMF=<n>,<DTMF string>[<timeBase>]**	Response **OK** **ERROR**
	Parameters **<n>** A numeric parameter (1-100) which indicates the duration of all DTMF tones. **<DTMF -string>** A string parameter (string should be included in quotation marks) which has a max length of 20 chars of form <**DTMF**>, separated by commas. **<DTMF>** A single ASCII chars in the set 0-9, #,*, A-D. In addition, E and F is supported too. E represents single frequency 1400HZ sound, F represents single frequency 2300HZ sound. **<timeBase>** timeBase to generate DTMF sound.the DTMF on time is

	<**n**>*<**timeBase**>, DTMF off time is timeBase,the default value is 100ms.
Execution Command **AT+CLDTMF**	Response **OK** Abort any DTMF tone currently being generated and any DTMF tone sequence.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note Local DTMF tone can be played in call, play mode is controlled by **AT+DTAM**.

6.2.14 AT+CDRIND CS Voice/Data Call Termination Indication

AT+CDRIND CS Voice/Data Call Termination Indication	
Test Command **AT+CDRIND=?**	Response **+CDRIND: (**list of supported **<n>**s**)** **OK**
	Parameter See Write Command
Read Command **AT+CDRIND?**	Response **+CDRIND: <n>** **OK**
	Parameter See Write Command
Write Command **AT+CDRIND=<n>**	Response **OK** **ERROR**
	Parameter **<n>** A numeric parameter to enable an unsolicited event code indicating whether a CS voice call, CS data has been terminated. 0 Disable 1 Enable
	Unsolicited result code When enabled, an unsolicited result code is returned after the connection has been terminated **+CDRIND: <type>**
	Parameter **<type>** Connection type 0 CSV connection

	1 CSD connection 2 PPP connection
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

6.2.15 AT+CSPN Get Service Provider Name from SIM

AT+CSPN Get Service Provider Name from SIM	
Read Command **AT+CSPN?**	Response **+CSPN: <spn>,<display mode>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<spn>** String type(string should be included in quotation marks); service provider name on SIM **<display mode>** 0 Not display PLMN. Already registered on PLMN 1 Display PLMN
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note CME errors occur if SIM is not inserted.

6.2.16 AT+CCVM Get and Set the Voice Mail Number on the SIM

AT+CCVM Get and Set the Voice Mail Number on the SIM	
Test Command **AT+CCVM=?**	Response **+CCVM:** maximum length of field **<vm number>,** maximum length of field **<alpha string>** **OK**
	Parameters See Write Command
Read Command **AT+CCVM?**	Response If voice mail number is not set: **OK** If voice mail number is set:

	+CCVM: <vm number>[,<alpha string>] **OK**
	Parameters See Write Command
Write Command **AT+CCVM=<vm number>[,<alpha string>]**	Response **OK** **ERROR** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<vm number>** String type,The voice mail number to write to the SIM <**alpha string**> String type,The alpha-string to write to the SIM
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note

6.2.17 AT+CBAND Get and Set Mobile Operation Band

AT+CBAND Get and Set Mobile Operation Band	
Test Command **AT+CBAND=?**	Response **+CBAND: (**list of supported **<op_band>**s**)** **OK**
	Parameter See Write Command
Read Command **AT+CBAND?**	Response **+CBAND: <op_band>[,<ALL_BAND>]** **OK**
	Parameter See Write Command
Write Command **AT+CBAND=<op_band>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameter **<op_band>** A string parameter which indicate the operation band. And the following strings should be included in quotation marks.

	EGSM_MODE PGSM_MODE DCS_MODE GSM850_MODE PCS_MODE EGSM_DCS_MODE GSM850_PCS_MODE EGSM_PCS_MODE ALL_BAND
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note ● Radio settings are stored in non-volatile memory. ● The value of parameter **<op_band>** is different among SIM800 series project, please refer to chapter 21 for details.

6.2.18 AT+CHF Configure Hands Free Operation

AT+CHF Configure Hands Free Operation	
Test Command **AT+CHF=?**	Response **+CHF: (**list of supported **<ind>**s**),(**list of supported **<state>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CHF?**	Response **+CHF: <ind>,<state>** **OK**
	Parameters See Write Command
Write Command **AT+CHF=<ind>[,<state>]**	Response **OK** **ERROR** If error is related to ME functionality: **+CME ERROR: <err>**
	Unsolicited Result Code **+CHF: <state>**
	Parameters **<ind>** 0 Unsolicited result code disabled 1 Unsolicited result code enabled

	(non-volatile) **<state>** 0 Main audio channel 1 Aux audio channel 2 Main audio channel hand free mode 3 Aux audio channel hand free mode 4 PCM channel
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note This command is related to the actual module, **<state>** don't support power off save.

6.2.19 AT+CHFA Swap the Audio Channels

AT+CHFA Swap the Audio Channels	
Test Command **AT+CHFA=?**	Response **+CHFA: (0=NORMAL_AUDIO, 1=AUX_AUDIO, 2=HANDFREE_AUDIO, 3=AUX_HANDFREE_AUDIO, 4=PCM_AUDIO)** **OK**
Read Command **AT+CHFA?**	Response **+CHFA: <n>** **OK**
	Parameter See Write Command
Write Command **AT+CHFA=<n>**	Response **OK** If error is related to ME functionality: **+CME ERROR:** <err>
	Parameter **<n>** 0 Main audio channel 1 Aux audio channel 2 Main audio channel hand free mode 3 Aux audio channel hand free mode 4 PCM channel
Parameter Saving Mode	NO_SAVE
Max Response Time	-

Reference	Note ● This Command swaps the audio channels among different channels. ● Scope of parameter **<channel>** is different among SIM800 series project, please refer to chapter 21 for details. ● Main audio channel hand free mode is the same with main audio channel; aux audio channel hand free mode is the same with aux audio channel. Channel 2, 3 is virtual channel.

6.2.20 AT+CSCLK Configure Slow Clock

AT+CSCLK Configure Slow Clock	
Test Command **AT+CSCLK=?**	Response **+CSCLK: (**list of supported **<n>**s**)** **OK**
	Parameter See Write Command
Read Command **AT+CSCLK?**	Response **+CSCLK: <n>** **OK**
	Parameter See Write Command
Write Command **AT+CSCLK=<n>**	Response **OK** **ERROR**
	Parameter **<n>** 0 Disable slow clock, module will not enter sleep mode. 1 Enable slow clock, it is controlled by DTR. When DTR is high, module can enter sleep mode. When DTR changes to low level, module can quit sleep mode. 2 Enable slow clock automatically. When there is no interrupt (on air and hardware such as GPIO interrupt or data in serial port), module can enter sleep mode. Otherwise, it will quit sleep mode.
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note ● There are two caveats when you want to quit sleep mode in mode 2: 1, You should input some characters (at least one) to awake module 2, An interval time of 100ms more is necessary between waking characters

	and following AT commands,otherwise the waking characters will not be discarded completely,and messy codes will be produced which may leads to UART baudrate re-adaptation. ● The **+CSCLK** value can not be reset by **AT&F** or **ATZ** command.

6.2.21 AT+CENG Switch on or off Engineering Mode

AT+CENG Switch on or off Engineering Mode	
Test Command **AT+CENG=?**	Response TA returns the list of supported modes. **+CENG: (**list of supported <**mode**>s**),(**list of supported <**Ncell**>s**)** **OK**
	Parameters See Write Command
Read Command **AT+CENG?**	Response Engineering Mode is designed to allow a field engineer to view and test the network information received by a handset, when the handset is either in idle mode or dedicated mode (that is: with a call active). In each mode, the engineer is able to view network interaction for the "serving cell" (the cell the handset is currently registered with) or for the neighboring cells. TA returns the current engineering mode. The network information including serving cell and neighboring cells are returned. <**cell**> carry with them corresponding network interaction. **+CENG: <mode>,<Ncell>** **[+CENG:** **<cell>,"<bcch>,<rxl>,<rxq>,<mcc>,<mnc>,<bsic>,<cellid>,<rla>,** **<txp>,<lac>,<TA>[<dbm>,<c1>,<c2>,<tch>,<ts>,<maio>,<hsn>,<rxq_sub>,<rxq_full>,<ch_mod>]"<CR><LF>+CENG:** **<cell>,"<bcch>,<rxl>,<bsic>[,<cellid>,]<mcc>,<mnc>,<lac>"…]** **OK** if <**mode**>=3 **+CENG: <mode>,<Ncell>** **[+CENG:** **<cell>,<mcc>,<mnc>,<lac>,<cellid>,<bsic>,<rxl><CR><LF>+CENG:** **<cell>,<mcc>,<mnc>,<lac>,<cellid>,<bsic>,<rxl>…]** **OK**

	if <**mode**>=4 **+CENG: <mode>,<Ncell>** **[+CENG:** **<cell>,"<bcch>,<rxl>,<rxq>,<mcc>,<mnc>,<bsic>,<cellid>,<rla>,** **<txp>,<lac>,<TA>,<dbm>,<c1>,<c2>,<tch>,<ts>,<maio>,<hsn>,<rxq_sub>,<rxq_full>,<ch_mod>"<CR><LF>+CENG:** **<cell>,"<bcch>,<rxl>,<bsic>,<cellid>,<mcc>,<mnc>,<lac>,<c1>,<c2>"** **…]** **OK**
	Parameters See Write Command
Write Command **AT+CENG=<mode>[,<Ncell>]**	Response Switch on or off engineering mode. It will report +CENG: (network information) automatically if <**mode**>=2. **OK** **ERROR**
	Parameters **<mode>** 0 Switch off engineering mode 1 Switch on engineering mode 2 Switch on engineering mode, and activate the URC report of network information 3 Switch on engineering mode, with limited network information 4 Switch on engineering mode, with extern information **<Ncell>** 0 Un-display neighbor cell ID 1 Display neighbor cell ID If <**mode**> = 3, ignore this parameter. **<cell>** 0 The serving cell 1-6 The index of the neighboring cell **<arfcn>** Absolute radio frequency channel number, in decimal format **<bcch>** ARFCN(Absolute radio frequency channel number) of BCCH carrier, in decimal format **<rxl>** Receive level, in decimal format **<rxq>** Receive quality, in decimal format **<mcc>** Mobile country code, in decimal format **<mnc>** Mobile network code, in decimal format **<bsic>** Base station identity code, in decimal format **<cellid>** Cell id, in hexadecimal format **<lac>** Location area code, in hexadecimal format **<rla>** Receive level access minimum, in decimal format **<txp>** Transmit power maximum CCCH, in decimal format

	<TA> Timing Advance, in decimal format <**dbm**> Receiving level in dBm **<c1>** C1 value **<c2>** C2 value <**tch**> ARFCN of the TCH carrier, in decimal format **<ts>** Timeslot number **<maio>** MAIO value **<hsn>** HSN value **<rxq_sub>** Receiving quality (sub), range is 0 - 7 **<rxq_full>** Receiving quality (full), range is 0 – 7 <**ch_mod**> Speech channel type, in string format
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● Engineering mode can been switch on and taken effect after excuting "**AT+CFUN=1**". ● Engineering mode only query one SIM card information. ● <**lac**> and <**cellid**> are in hex, <**ch_mod**> is string, and others are in DEC. ● If network supports frequency hopping, then <**tch**> is invalid, value is 0. ● Under non-dedicated mode: **<tch>,<ts>,<maio>,<hsn>,<rxq_sub>,<rxq_full>,<ch_mod>** parameters are invalid, shown in "x". ● Under dedicated mode, <**c1**> and<**c2**> in service cell are invalid, either all neighbor cell parameters. ● Parameter <**rssi**> value of "**AT+CSQ**" is half of <**rxl**>. The sum of <**dbm**> and <**rxl**> is 113. That is to say, <**rssi**> = <**rxl**>/2 and <**dbm**>=113-<**rxl**>.

6.2.22 AT+SCLASS0 Store Class 0 SMS to SIM When Received Class 0 SMS

AT+SCLASS0 Store Class 0 SMS to SIM When Module Received Class 0 SMS	
Test Command **AT+SCLASS0=?**	Response **+SCLASS0: (0, 1)** **OK**
	Parameters See Write Command
Read Command **AT+SCLASS0?**	Response **+SCLASS0: <mode>**

	OK
	Parameters See Write Command
Write Command **AT+SCLASS0=<mode>**	Response **OK** **ERROR**
	Parameters **<mode>** 0 Disable to store Class 0 SMS to SIM when module receives Class 0 SMS 1 Enable to store Class 0 SMS to SIM when module receives Class 0 SMS
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

6.2.23 AT+CCID Show ICCID

AT+CCID Show ICCID	
Test Command **AT+CCID=?**	Response **OK**
Execution Command **AT+CCID**	Response **Ccid data** [ex. 898600810906F8048812] **OK**
Parameter Saving Mode	NO_SAVE
Max Response Time	2s
Reference	Note

6.2.24 AT+CMTE Set Critical Temperature Operating Mode or Query Temperature

AT+CMTE Set Critical Temperature Operating Mode or Query Temperature	
Read Command **AT+CMTE?**	Response **+CMTE: <mode>,<Temperature>** **OK**

	Parameters See Write Command
Write Command **AT+CMTE=<mode>**	Response **OK** **ERROR**
	Parameters **<mode>** 0 Disable temperature detection 1 Enable temperature detection **<Temperature>** range from -40.00 to 85.00
Parameter Saving Mode	AT&W_SAVE
Max Response Time	2s
Reference	Note ● When temperature is extremely high or low, product will power off. ● URCs indicating the alert level "1" or "-1" are intended to enable the user to take appropriate precautions, such as protecting the module from exposure to extreme conditions, or saving or backing up data etc. Level "2" or "-2" URCs are followed by immediate shutdown.

6.2.25 AT+CMGDA Delete All SMS

AT+CMGDA Delete All SMS	
Test Command **AT+CMGDA=?**	Response **+CMGDA: (**list of supported **<type>**s**)** **OK** **+CMS ERROR: <err>**
	Parameter See Write Command
Write Command **AT+CMGDA=<type>**	Response **OK** **ERROR** **+CMS ERROR: <err>**
	Parameter **<type>** 1) If text mode: "DEL READ" Delete all read messages "DEL UNREAD" Delete all unread messages "DEL SENT" Delete all sent SMS "DEL UNSENT" Delete all unsent SMS "DEL INBOX" Delete all received SMS

	"DEL ALL" Delete all SMS 2) If PDU mode: 1 Delete all read messages 2 Delete all unread messages 3 Delete all sent SMS 4 Delete all unsent SMS 5 Delete all received SMS 6 Delete all SMS
Parameter Saving Mode	NO_SAVE
Max Response Time	5s（delete 1 message） 25s（delete 50 messages） 25s（delete 150 messages）
Reference	Note

6.2.26 AT+STTONE Play SIM Toolkit Tone

AT+STTONE Play SIM Toolkit Tone	
Test Command **AT+STTONE=?**	Response **+STTONE: (**list of supported **<mode>**s**),(**list of supported **<tone>**s**),(**list of supported **<duration>**s**)** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+STTONE=<mode>,<tone>,<duration>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Unsolicited Result Code The playing is stopped or completed. **+STTONE: 0**
	Parameters **<mode>** 0 Stop playing tone 1 Start playing tone **<tone>** Numeric type 1 Dial Tone 2 Called Subscriber Busy 3 Congestion

	4 Radio Path Acknowledge 5 Radio Path Not Available / Call Dropped 6 Error / Special information 7 Call Waiting Tone 8 Ringing Tone 16 General Beep 17 Positive Acknowledgement Tone 18 Negative Acknowledgement or Error Tone 19 Indian Dial Tone 20 American Dial Tone **<duration>** Numeric type, in milliseconds. Max requested value = 255*60*1000 = 15300000ms (supported range = 10-15300000)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

6.2.27 AT+SIMTONE Generate Specifically Tone

AT+SIMTONE	**Generate Specifically Tone**
Test Command **AT+SIMTONE=?**	Response **+SIMTONE: (0,1),(20-20000),(200-25500),(0,100-25500),(10-500000)** **OK**
	Parameters See Write Command
Write Command **AT+SIMTONE=<mode>,<frequency>,<periodOn>,<periodOff>[,<duration>]**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Unsolicited Result Code The playing is stopped or completed. **+SIMTONE: 0**
	Parameters **<mode>** 0 Stop playing tone 1 Start playing tone **<frequency>** The frequency of tone to be generated **<periodOn>** The period of generating tone, must be multiple of 100 **<periodOff>** The period of stopping tone, must be multiple of 100 **<duration>** Duration of tones in milliseconds

Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

6.2.28 AT+CCPD Enable or Disable Alpha String

AT+CCPD Enable or Disable Alpha String	
Test Command **AT+CCPD=?**	Response **+CCPD: (0,1)** **OK**
	Parameter See Write Command
Read Command **AT+CCPD?**	Response **+CCPD: <mode>** **OK**
	Parameter See Write Command
Write Command **AT+CCPD=<mode>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameter **<mode>** 0 Disable to present alpha string 1 Enable to present alpha string
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note

6.2.29 AT+CGID Get SIM Card Group Identifier

AT+CGID Get SIM Card Group Identifier	
Execution Command **AT+CGID**	Response **+GID: <gid1>,<gid2>**

	OK If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<gid1>** Integer type of SIM card group identifier 1 **<gid2>** Integer type of SIM card group identifier 2
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note If the SIM supports GID files, the GID values will be retuned. Otherwise 0xff is retuned.

6.2.30 AT+MORING Show State of Mobile Originated Call

AT+MORING Show State of Mobile Originated Call	
Test Command **AT+MORING=?**	Response **+MORING: (0,1)** **OK**
	Parameter See Write Command
Read Command **AT+MORING?**	Response **+MORING: <mode>** **OK**
	Parameter See Write Command
Write Command **AT+MORING=<mode>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameter **<mode>** 0 Not show call state of mobile originated call 1 Show call state of mobile originated call. After the call number is dialed, the URC strings of MO RING will be sent if another call is alerted and the URC strings of MO CONNECTED will be sent if the call is established.
	Unsolicited Result Code **MO RING** The call is alerted.

	MO CONNECTED The call is established.
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note

6.2.31 AT+CMGHEX Enable or Disable Sending Non-ASCII Character SMS

AT+CMGHEX Enable or Disable Sending Non-ASCII Character SMS	
Test Command **AT+CMGHEX=?**	Response **+CMGHEX: (**list of supported **<mode>**s**)** **OK**
	Parameter See Write Command
Read Command **AT+CMGHEX?**	Response **+CMGHEX: <mode>** **OK**
	Parameter See Write Command
Write Command **AT+CMGHEX=<mode>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameter **<mode>** 0 Send SMS in ordinary way 1 Enable to send SMS varying from 0x00 to 0x7f except 0x1a and 0x1b under text mode and GSM character set
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note Only be available in TEXT mode and **AT+CSCS="GSM"**.

6.2.32 AT+CCODE Configure SMS Code Mode

AT+CCODE Configure SMS Code Mode	
Test Command	Response

AT+CCODE=?	**+CCODE: (0,1)** **OK**
	Parameter See Write Command
Read Command **AT+CCODE?**	Response **+CCODE:<mode>** **OK**
	Parameter See Write Command
Write Command **AT+CCODE=<mode>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameter **<mode>** 0 Code mode compatible with NOKIA 1 Code mode compatible with SIEMENS
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

6.2.33 AT+CIURC Enable or Disable Initial URC Presentation

AT+CIURC Enable or Disable Initial URC Presentation	
Test Command **AT+CIURC=?**	Response **+CIURC: (0,1)** **OK**
	Parameters See Write Command
Read Command **AT+CIURC?**	Response **+CIURC:<mode>** **OK**
	Parameters See Write Command
Write Command **AT+CIURC=<mode>**	Response **OK** If error is related to ME functionality:

	+CME ERROR: <err>
	Parameters **<mode>** 0 Disable URC presentation. 1 Enable URC presentation
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note When module is powered on and initialization procedure is over. URC "Call Ready" will be presented if <**mode**> is 1.

6.2.34 AT+CPSPWD Change PS Super Password

AT+CPSPWD Change PS Super Password	
Write Command **AT+CPSPWD=<oldpwd>,<newpwd>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<oldpwd>** String type(string should be included in quotation marks). Old password and length should be 8. **<newpwd>** String type(string should be included in quotation marks). New password and length should be 8.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● Default value of <**oldpwd**> is "12345678". ● If module is locked to a specific SIM card through AT+CLCK and password lost or SIM state is PH-SIM PUK, user can use the super password to unlock it. ● It is not supported temporarily.

6.2.35 AT+EXUNSOL Enable or Disable Proprietary Unsolicited Indications

AT+EXUNSOL Enable or Disable Proprietary Unsolicited Indications	
Test Command **AT+EXUNSOL=?**	Response **+EXUNSOL: (**list of supported **<exunsol>**s**)** **OK**
	Parameters See Write Command

Write Command **AT+EXUNSOL=<exunsol>,<mode>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<exunsol>** String type(string should be included in quotation marks). values are currently reserved by the present document "SQ" Signal Quality Report Displays signal strength and channel bit error rate (similar to **AT+CSQ**) in form **+CSQN: <rssi>,<ber>**when values change. **<mode>** 0 Disable 1 Enable 2 Query
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note

6.2.36 AT+CGMSCLASS Change GPRS Multislot Class

AT+CGMSCLASS Change GPRS Multislot Class	
Test Command **AT+CGMSCLASS=?**	Response **MULTISLOT CLASS: (2,4,8,9,10,12)** **OK**
	Parameter See Write Command
Read Command **AT+CGMSCLASS?**	Response **MULTISLOT CLASS: <class>** **OK**
	Parameter See Write Command
Write Command **AT+CGMSCLASS=<class>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameter **<class>** GPRS multi-slot class

Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note

6.2.37 AT+CDEVICE View Current Flash Device Type

AT+CDEVICE View Current Flash Device Type	
Read Command **AT+CDEVICE?**	Response **Device Name: Current flash device type** **OK**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference V.25ter	Note

6.2.38 AT+CCALR Call Ready Query

AT+CCALR Call Ready Query	
Test Command **AT+CCALR=?**	Response **+CCALR: (**list of supported **<mode>**s**)** **OK**
	Parameter **<mode>** A numeric parameter which indicates whether the module is ready for phone call. 0 Module is not ready for phone call 1 Module is ready for phone call
Read Command **AT+CCALR?**	Response ME returns the status of result code presentation and an integer <n> which shows whether the module is currently ready for phone call. **+CCALR: <mode>** **OK**
	Parameter See Test Command
Parameter Saving Mode	NO_SAVE

Max Response Time	-
Reference	Note

6.2.39 AT+GSV Display Product Identification Information

AT+GSV Display Product Identification Information	
Execution Command **AT+GSV**	Response TA returns product information text Example: **SIMCOM_Ltd** **SIMCOM_SIM800H** **Revision: 1308B01SIM800H32** **OK**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

6.2.40 AT+SGPIO Control the GPIO

AT+SGPIO Control the GPIO	
Test Command **AT+SGPIO=?**	Response **+SGPIO: (0-1),(1-7),(0-1),(0-1)** **OK**
	Parameters See Write Command
Write Command **AT+SGPIO=<operation>,<GPIO>,<function>,<level>**	Response **OK** **ERROR**
	Parameters **<operation>** 0 Set the GPIO function including the GPIO output. 1 Read the GPIO level. Please note that only when the gpio is set as input, user can use parameter 1 to read the GPIO level, otherwise the module will return "ERROR". **<GPIO>** The GPIO you want to be set. (It has relations with the hardware, please refer to the hardware manual)

	<function> Only when <**operation**> is set to 0, this option takes effect. 0 Set the GPIO to input. 1 Set the GPIO to output **<level>** 0 Set the GPIO low level 1 Set the GPIO high level
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note Scope of parameter **<GPIO>** is different among SIM800 series project, please refer to chapter 21 for details.

6.2.41 AT+SPWM Generate the Pulse-Width-Modulation

AT+SPWM Generate the Pulse-Width-Modulation	
Test Command **AT+SPWM=?**	Response **+SPWM: (**list of supported **<index>s),(**list of supported **<freq>**s**),(**list of supported **<level>**s**)** **OK**
	Parameters See Write Command
Write Command **AT+SPWM=<index>,<freq>,<level>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<index>** Integer type: the index number of PWM port, which value is 0-2; Current only support one channel,whether 0 or 1 or 2,the PWM port is the same. 0 For buzzer (according to the hardware support or not). 1 Corresponding to PWM_OUT0 in the hardware circuit 2 Corresponding to PWM_OUT1 in the hardware circuit **<freq>** The range of <**freq**> is 0-100000, the output frequency equals to CLK/(PWM_CNT+1),where PWM_CNT=CLK/ period-1. **<level>** Duty ratio = PWM_THRES/(PWM_CNT+1)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note The PWM clock source is 13MHz, the equation of the final frequency is: frequency = CLK/(PWM_CNT+1), where PWM_CNT = CLK/freq – 1.

	However, the equation can not be simplified. PWM_THRES should be less than the PWM_CNT. If freq euals 0, the output of PWM is in low state.

6.2.42 AT+ECHO Echo Cancellation Control

AT+ECHO Echo Cancellation Control	
Test Command **AT+ECHO=?**	Response **+ECHO: (0,1),(0-65535),(0-65535),(0-65535),(0-65535),(0,1)** **OK**
	Parameters See Write Command
Read Command **AT+ECHO?**	Response **+ECHO: (<mic0>,<nlp0>, <aec0>,<nr0>, <ns0>),(<micn>,<nlpn>, <aecn>,<nrn>, <nsn>)** **OK**
	Parameters See Write Command
Write Command **AT+ECHO=<mic>,<nlp>,<aec>,<nr>,<ns>[,<state>]**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<mic>** Audio channel 0 Main audio handset channel 1 Main audio handfree channel **<nlp>** Nonlinear processing remove residual echo and background noise **<aec>** Acoustic echo cancellation **<nr>** Noise reduction **<ns>** Noise suppression **<state>** Enable or disable to close echo algorithm 0 Echo algorithm be closed 1 Echo algorithm be actived
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note For this command, please refer to actual model. The default state the echo echo algorithm be actived, and the read command

	is not displayed.

6.2.43 AT+CAAS Control Auto Audio Switch

AT+CAAS Control Auto Audio Switch	
Test Command **AT+CAAS=?**	Response **+CAAS: (0-2)** **OK**
	Parameter See Write Command
Read Command **AT+CAAS?**	Response **+CAAS: <mode>** **OK**
	Parameter See Write Command
Write Command **AT+CAAS=<mode>**	Response This parameter setting determines whether or not the audio channel will be switched automatically to the corresponding channel in case of headset attaching or detaching. **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameter **<mode>** 0 Disable automatic audio channel switch function, the headset HOOK function is disabled; 1 Enable automatic audio channel switch function, the headset HOOK function is enabled; 2 Disable automatic audio channel switch function, the headset HOOK function is enabled.
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note For this command, please refer to actual model. The headset detection is still worked when <**mode**> is set to 0.

6.2.44 AT+SVR Configure Voice Coding Type for Voice Calls

AT+SVR Configure Voice Coding Type for Voice Calls

Test Command **AT+SVR=?**	Response **+SVR: (**list of supported **<voice_rate_coding>**s**)** **OK**
	Parameter See Write Command
Read Command **AT+SVR?**	Response **+SVR: <voice_rate_coding>** **OK**
	Parameter See Write Command
Write Command **AT+SVR=<voice_rate_coding>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <error>**
	Parameter **<voice_rate_coding>** A number parameter which indicate the voice coding type. 0 FR 1 EFR/FR 2 HR/FR 3 FR/HR 4 HR/EFR 5 EFR/HR 6 AMR-FR/EFR,AMR-HR 7 AMR-FR/EFR,AMR-HR/HR 8 AMR-HR/HR/AMR-FR/EFR 9 AMR-HR/AMR-FR/EFR 10 AMR-HR/AMR-FR/FR 11 AMR-HR/HR/AMR-FR 12 AMR-FR/AMR-HR 13 AMR-FR/FR/AMR-HR 14 AMR-FR/FR/AMR-HR/HR 15 AMR-FR/EFR/FR/AMR-HR/HR 16 AMR-HR/AMR-FR/EFR/FR/HR 17 AMR-FR/AMR-HR/EFR/FR/HR
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note The parameter of **AT+SVR** is stored in non-volatile memory.

6.2.45 AT+GSMBUSY Reject Incoming Call

AT+GSMBUSY Reject Incoming Call	
Test Command **AT+GSMBUSY=?**	Response **+GSMBUSY: (0,1,2)** **OK**
	Parameter See Write Command
Read Command **AT+GSMBUSY?**	Response **+GSMBUSY: <mode>** **OK**
	Parameter See Write Command
Write Command **AT+GSMBUSY=<mode>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <error>**
	Parameter **<mode>** 0 Enable incoming call 1 Forbid all incoming calls 2 Forbid incoming voice calls but enable CSD calls
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note The parameter is not saved if the module power down.

6.2.46 AT+CEMNL Set the List of Emergency Number

AT+CEMNL Set the List of Emergency Number	
Test Command **AT+CEMNL=?**	Response **+CEMNL: (0-1),(1-11),("0"-"999")…** **OK**
	Parameter See Write Command

Read Command **AT+CEMNL?**	Response **+CEMNL: <mode>[,<amount>,<emergency numbers>]** **OK**
	Parameter See Write Command
Write Command **AT+CEMNL=<mode>[,<amount>,<emergency numbers>]**	Response **OK** **ERROR**
	Parameter **<mode>** 0 Disable 1 Enable **<amount>** Amount of emergency number to be set. Up to 11 emergency numbers supported **<emergency numbers>** Emergency numbers to be set by user which range is 0-999
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note

6.2.47 AT*CELLLOCK Set the List of ARFCN Which Needs to Be Locked

AT*CELLLOCK Set the List of ARFCN Which Needs to Be Locked	
Test Command **AT*CELLLOCK=?**	Response ***CELLLOCK: (**list of supported **<mode>**s**)[,(**list of supported **<amount>**s**),(**list of supported **<locked arfcn list>**s**)[, (**list of supported **<locked arfcn list>**s**)[, (**list of supported **<locked arfcn list>**s**)]]]** **OK**
	Parameter See Write Command
Read Command **AT*CELLLOCK?**	Response ***CELLLOCK: <mode>[,<amount>,<locked arfcn list>[,<locked arfcn list>…]]** **OK**
	Parameter See Write Command
Write Command **AT*CELLLOC**	Response **OK**

K=<mode>[,<amount>,<locked arfcn list>[,<locked arfcn list>…]]	**ERROR**
	Parameter **<mode>** 0 Disable 1 Enable **<amout>** Amount of arfcn to be set. Up to 3 arfcn supported. **<locked arfcn list>** Arfcn needs to be locked by user. Scope: (0-124), (128-251), (512-885) or (975-1023).
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note

6.2.48 AT+SLEDS Set the Timer Period of Net Light

AT+SLEDS Set the Timer Period of Net Light	
Test Command **AT+SLEDS=?**	Response **+SLEDS: (1-3),(0,40-65535),(0,40-65535)** **OK**
	Parameters See Write Command
Read Command **AT+SLEDS?**	Response **+SLEDS: <mode>,<timer_on>,<timer_off>** **OK**
	Parameters See Write Command
Write Command **AT+SLEDS=<mode>,<timer_on>**	Response **OK** **ERROR**

,<timer_off>	Parameters **<mode>** 1 Set the timer period of net light while SIM800 series does not register to the network 2 Set the timer period net light while SIM800 series has already registered to the network 3 Set the timer period net light while SIM800 series is in the state of PPP communication <**timer_on**> Timer period of "LED ON" in decimal format which range is 0 or 40-65535(ms) <**timer_off**> Timer period of “LED OFF” in decimal format which range is 0 or 40-65535(ms)
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note The default value is : **<mode>,<timer_on>,<timer_off>** 1,64,800 2,64,3000 3,64,300

6.2.49 AT+CBUZZERRING Use the Buzzer Sound as the Incoming Call Ring

AT+CBUZZERRING Use the Buzzer Sound as the Incoming Call Ring	
Read Command **AT+CBUZZERRING?**	Response **+CBUZZERRING: <mode>** **OK**
	Parameter See Write Command
Write Command **AT+CBUZZERRING=<mode>**	Response **OK** **ERROR**
	Parameter **<mode>** 0 Disable the function of using buzzer sound as the incoming call ring 1 Enable the function of using buzzer sound as the incoming call ring
Parameter Saving Mode	AT&W_SAVE

Max Response Time	-
Reference	Note This buzzer function is depending on the hardware.

6.2.50 AT+CEXTERNTONE Close or Open the Microphone

AT+CEXTERNTONE Close or Open the Microphone	
Test Command **AT+CEXTERNTONE=?**	Response **+CEXTERNTONE: (0,1)** **OK**
	Parameters See Write Command
Read Command **AT+CEXTERNTONE?**	Response **+CEXTERNTONE: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CEXTERNTONE=<mode>**	Response **OK** **ERROR**
	Parameters **<mode>** 0 Re-open the microphone 1 Close the microphone
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

6.2.51 AT+CNETLIGHT Close the Net Light or Open It to Shining

AT+CNETLIGHT Close the Net Light or Open It to Shining	
Test Command **AT+CNETLIGHT=?**	Response **+CNETLIGHT: (0,1)** **OK**

	Parameters See Write Command
Read Command **AT+CNETLIGHT?**	Response **+CNETLIGHT: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CNETLIGHT=<mode>**	Response **OK** **ERROR**
	Parameters **<mode>** 0 Close the net light 1 Open the net light to shining
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note

6.2.52 AT+CWHITELIST Set the White List

AT+CWHITELIST Set the White List	
Test Command **AT+CWHITELIST=?**	Response **+CWHITELIST: (0-3)** **OK**
	Parameter See Write Command
Read Command **AT+CWHITELIST?**	Response **+CWHITELIST: <mode>[,<phone number1>,<phone number2>,…<phone number30>]** **OK**
	Parameters See Write Command
Write Command **AT+CWHITELIST=<mode>[,<in**	Response **OK** **ERROR**

dex>,<phone number>]	Parameters **<mode>** 0 Disable 1 Enable only call white list 2 Enable only SMS white list 3 Enable call and SMS white list <**index**> The index of phone number, scope: 1-30 <**phone number**> Phone number to be set
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note ● Parameter mode value is 1, can save white list phone number ,Other mode value can not save white list phone number. ● White list phone numbers are suitable to call and SMS function.

6.2.53 AT+CSDT Switch on or off Detecting SIM Card

AT+CSDT Switch on or off Detecting SIM Card	
Test Command **AT+CSDT=?**	Response **+CSDT: (0-1)** **OK**
	Parameters See Write Command
Read Command **AT+CSDT?**	Response **+CSDT: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CSDT=<mode>**	Response **OK** **ERROR**
	Parameters **<mode>** 0 Switch off detecting SIM card 1 Switch on detecting SIM card

Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note ● User should select 8-pin SIM card holder to implement SIM card detection function. ● After plug out simcard, User should wait 2 seconds before plug in SIM card.

6.2.54 AT+CSMINS SIM Inserted Status Reporting

AT+CSMINS SIM Inserted Status Reporting	
Test Command **AT+CSMINS=?**	Response **+CSMINS: (**list of supported **<n>**s**)** **OK**
	Parameter See Write Command
Read Command **AT+CSMINS?**	Response **+CSMINS: <n>,<SIM inserted>** **OK**
	Parameters See Write Command
Write Command **AT+CSMINS=<n>**	Response **OK** **ERROR** If error is related to ME functionality: **+CME ERROR: <err>**
	Unsolicited Result Code **+CSMINS: <n>,<SIM inserted>**
	Parameters **<n>** A numeric parameter to show an unsolicited event code indicating whether the SIM has been inserted or removed. 0 Disable 1 Enable **<SIM inserted>** A numeric parameter which indicates whether SIM card has been inserted. 0 Not inserted 1 Inserted
Parameter Saving Mode	AT&W_SAVE

Max Response Time	-
Reference	Note

6.2.55 AT+CSGS Netlight Indication of GPRS Status

AT+CSGS Netlight Indication of GPRS Status	
Test Command **AT+CSGS=?**	Response **+CSGS: (0-2)** **OK**
	Parameters See Write Command
Read Command **AT+CSGS?**	Response **+CSGS: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CSGS=<mode>**	Response **OK** **ERROR**
	Parameters **<mode>** 0 Disable 1 Enable, the netlight will be forced to enter into 64ms on/300ms off blinking state in GPRS data transmission service. Otherwise, the netlight state is not restricted. 2 Enable, the netlight will blink according to **AT+SLEDS** in GPRS data transmission service.
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note

6.2.56 AT+CMICBIAS Close or Open the MICBIAS

AT+CMICBIAS Close or Open the MICBIAS

Test Command **AT+CMICBIAS=?**	Response **+CMICBIAS: (0,1)** **OK**
	Parameters See Write Command
Read Command **AT+CMICBIAS?**	Response **+CMICBIAS: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CMICBIAS=<mode>**	Response **OK** **ERROR**
	Parameters **<mode>** 0 Turn off the micbias 1 Turn on the micbias
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note The settting take effect at the current channel only

6.2.57 AT+DTAM Set TTS and RECORD Play Mode in Call

AT+DTAM Set TTS and RECORD Play Mode in Call	
Test Command **AT+DTAM=?**	Response **+DTAM: (0-2)** **OK**
	Parameters See Write Command
Read Command **AT+DTAM?**	Response **+DTAM: <mode>** **OK**
	Parameters See Write Command

Write Command **AT+DTAM=<mode>**	Response **OK** **ERROR**
	Parameters **<mode>** TTS and record play mode 0 Local 1 Remote 2 Local and remote
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note This command takes effect only in call. TTS and record not in call only play locally no matter what the mode is. Setting takes effect before TTS or record play.

6.2.58 AT+SJDR Set Jamming Detection Function

AT+SJDR Set Jamming Detection Funcition	
Test Command **AT+SJDR=?**	Response **+SJDR: (0,1)** **OK**
	Parameters See Write Command
Read Command **AT+SJDR?**	Response **+SJDR: <status>** or **+SJDR: <status>,<mode>,<var>,<display>,<result>** **OK**
	Parameters See Write Command
Write Command **AT+SJDR=<status>,<mode>[,<var>[,<display>]]**	Response **OK** **ERROR** If error is related to ME functionality: **+CME ERROR: <err>**
	Unsolicited result codes supported: **+SJDR: NO JAMMING** or

	+SJDR: JAMMING DETECTED or **+SJDR: INTERFERENCE DETECTED**
	Parameters **<status>** 0 Disable jamming detection 1 Enable jamming detection **<mode>** 0 Should inquire status by reading command 1 Only report jamming status via URC from serial port 2 Only report jamming status via the PIN 3 Report jamming status via URC as well as the PIN **<var>** The threshold to separate "**+SJDR: JAMMING DETECTED**" from "**+SJDR: INTERFERENCE DETECTED**" (while the signal strength variance is higher than <**var**>, there could be industrial interferences , and "**+SJDR: INTERFERENCE DETECTED**" is reported). 1-255(default value:255) **<display>** 0 Report jamming status via URC every 3000ms. (only when <**mode**> is set to "1" or "3") 1 Report jamming status via URC when jamming status changed.(only when <**mode**> is set to "1" or "3")
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● When you query jamming detection status after enable jamming detection mode, you will get the URC of the format below: **+SJDR:1,<mode>,<var>,<display>,<result>** <**result**>=0, means no jamming. <**result**>=1, means jamming is detected. <**result**>=2, means industrial interference is detected. ● "**+SJDR: INTERFERENCE DETECTED**" indicates industrial interference which signifies unintentional radio link disturbances by strong industrial radio sources. ● Jamming detection PIN is designed to indicate jamming by outputting different level. When jamming is detected, the PIN will output a high level, otherwise, it will output a low level. ● Jamming detection PIN is different among SIM800 series project,

	please refer to chapter 21 for details. ● Jamming detection only can be enabled after network has registered. Otherwise it will cause network cannot register.

6.2.59 AT+CPCMCFG Set PCM Parameter

AT+CPCMCFG	**Set PCM Parameter**
Test Command **AT+CPCMCFG=?**	Response **+CPCMCFG: (0-1)** **OK**
	Parameters See Write Command
Read Command **AT+CPCMCFG?**	Response **+CPCMCFG: <format>** **OK**
	Parameters See Write Command
Write Command **AT+CPCMCFG=<format>**	Response **OK** **ERROR**
	Parameters **<format>** 0 MSB 1 LSB
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note Part of the projects supported by this AT command, please refer to chapter 21 for details.

6.2.60 AT+CPCMSYNC Set PCM Sync Parameter

AT+CPCMSYNC	**Set PCM Sync Parameter**
Test Command **AT+CPCMSYNC=?**	Response **+CPCMSYNC: (0-1),(1-8)** **OK**
	Parameters See Write Command

Read Command **AT+CPCMSYNC?**	Response **+CPCMSYNC: <sync>, <length>** **OK**
	Parameters See Write Command
Write Command **AT+CPCMSYNC=<sync>,<length>**	Response **OK** **ERROR**
	Parameters **<sync>** 0 PCM short sync 1 PCM long sync **<length>** 1-8 PCM sync length(1-8)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● The **<length>** is only supported **1** when PCM sync is short sync. ● Part of the projects supported by this AT command, please refer to chapter 21 for details.

6.2.61 AT+CANT Antenna Detecting

AT+CANT Antenna Detecting	
Test Command **AT+CANT=?**	Response **+CANT:** (list of supported <**mode**>s),(list of supported <**UrcEnable**>s),(list of supported <**timer**>s) **OK** **+CME ERROR: <err>**
	Parameters See Write Command
Read Command **AT+CANT?**	Response **+CANT: <mode>, <UrcEnable>, <timer>** **OK** **+CME ERROR: <err>**
	Parameters See Write Command

Write Command **AT+CANT=<mode>,<UrcEnable>,<timer>**	Response **OK** **+CANT: <status>**
	Parameters **<mode>** 0 Disable the antenna detecting function 1 Enable the antenna detecting function **<UrcEnable>** 0 Disable reporting antenna state by URC 1 Enable reporting antenna state by URC **<timer>** 0-3600 Reporting timer in units of seconds, range: 0-3600. Set timer to 0 will close detect, the recommend value is 10. **<status>** 0 Connected normally 1 Connected to GND 2 Connected to other power source 3 Not connected
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note Part of the projects supported by this AT command, please refer to chapter 21 for details.

6.2.62 AT+CAGCSET Close or Open AGC Function

AT+CAGCSET	**Close or Open AGC Funcion**
Test Command **AT+CAGCSET=?**	Response **+CAGCSET: (0,1)** **OK**
	Parameters See Write Command
Read Command **AT+CAGCSET?**	Response **+CAGCSET: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CAGCSET=<mode>**	Response **OK** **ERROR**

	Parameters **<mode>** 0 Close AGC function 1 Open the AGC function
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

6.2.63 AT+SD2PCM SD and PCM Switch Function

AT+SD2PCM SD and PCM Switch Function	
Test Command **AT+SD2PCM=?**	Response **+SD2PCM: (0,1)** **OK**
	Parameters See Write Command
Read Command **AT+SD2PCM?**	Response **+SD2PCM: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+SD2PCM=<mode>**	Response **OK** **ERROR**
	Parameters **<mode>** 0 SD card interface is valid 1 PCM interface is valid
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note: ● If user set **<mode>** from 1 to 0, user should execute at&w command to save this setting, and then reboot the module by AT command or pwrkey. ● Part of the projects supported by this AT command, please refer to chapter 21 for details.

6.2.64 AT+SKPD Keypad Detecting Function

AT+SKPD Keypad Detecting Function	
Test Command **AT+SKPD=?**	Response **+SKPD: (0-1)** **OK**
	Parameters See Write Command
Read Command **AT+SKPD?**	Response **+SKPD: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+SKPD=<mode>**	Response **OK** **ERROR** If key has pressed or released, The URC report is: **+SKPD: <value>,<event>**
	Parameters **<mode>** 0 Disable Keypad detecting function 1 Enable Keypad detecting function **<value>** The value of pressed or released keypad **<event>** The status of keypad 0 Key released 1 Key pressed
Parameter Saving Mode	-
Max Response Time	-
Reference	Note Part of the projects supported by this AT command, please refer to chapter 21 for details.

6.2.65 AT+SIMTONEX Custom Tones

AT+SIMTONEX Custom Tones	
Test Command **AT+SIMTONEX=?**	Response **+SIMTONEX:** **(0,1),(10-500000),(20-20000),(0-20000),(200-25500),(10-25500),(0-4)...**

	OK
	Parameters See Write Command
Write Command **AT+SIMTONEX=<mode>,<duration>,<freq1>,<freq2>,<periodOn>,<periodOff>,<nextIndex>[,<freq1>,<freq2>,<periodOn>,<periodOff>,<nextIndex>…]**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Unsolicited Result Code The playing is stopped or completed. **+SIMTONEX: 0**
	Parameters **<mode>** 0 Stop playing tone 1 Start playing tone **<duration>** Duration of tones in milliseconds **<freq1>** The first frequency of tone to be generated **<freq2>** The second frequency of tone to be generated **<periodOn>** The period of generating tone, must be multiple of 100 **<periodOff>** The period of stopping tone, must be multiple of 100 <**nextIndex**> The index of next tone to play
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● A group of parameters <**freq1**>, <**freq2**>, <**periodOn**>, <**periodOff**>, <**nextIndex**> is used to define a tone. The index is defined from 0 to 4.**AT+SIMTONEX** supports up to five tone and the tones will play cyclically according the order specified by <**nextIndex**>. For example, with **"AT+SIMTONEX=1,10000,800,0,500,10,2,2000,0,500,100, 2600,0,500,10,1,1700,0,500,10,4,2200,0,600,100,0"**,the order is 800-> 2600->2000->1700->2200->800 and so on. ● This command support play in call, but the <**duration**> is limited to 10s.

6.2.66 AT+CROAMING Roaming State

AT+CROAMING Roaming State	
Execution Command **AT+CROAMING**	Response **+CROAMING: <state>** **OK**
	Parameters

	<state> 0 Home network 1 International network(different mcc) 2 Other network(different mnc but same operator)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

6.2.67 AT+CNETSCAN Perform a Net Survey to Show All the Cells' Information

AT+CNETSCAN Perform a Net Survey to Show All the Cells' Information	
Test Command **AT+CNETSCAN=?**	Response **+CNETSCAN: (**list of supported <**format**>s) **OK**
	Parameters See Write Command
Read Command **AT+CNETSCAN?**	Response **+CNETSCAN: <format>** **OK**
	Parameters See Write Command
Write Command **AT+CNETSCAN=<format>**	Response **OK**
	Parameters **<format>** 0 Hide lac and bsic information 1 Show lac and bsic information
Execution Command **AT+CNETSCAN**	Response If format's value is 0: **Operator:"<Network_Operator_name>",MCC:<MCC>,MNC:<MNC>,Rxlev:<Rxlev>,Cellid:<CellID>,Arfcn:<Arfcn>[<CR><LF>Operator:"<Network_Operator_name2>",MCC:<MCC2>,MNC:<MNC2>,Rxlev:<Rxlev2>,Cellid:<CellID2>,Arfcn:<Arfcn2>[…]]** If format's value is 1: **Operator:"<Network_Operator_name>",MCC:<MCC>,MNC:<MNC>,Rxlev:<Rxlev>,Cellid:<CellID>,Arfcn:<Arfcn>,Lac:<Lac>,Bsic:<Bsic>[<CR><LF>Operator:"<Network_Operator_name2>",MCC:<MCC2>,MNC:<MNC2>,Rxlev:<Rxlev2>,Cellid:<CellID2>,Arfcn:<Arfcn2>,Lac:<Lac2>,Bsic:<Bsic2>[…]]**

	OK
	Parameters **<Network_Operator_name>** Long format alphanumeric of network operator. **<MCC>** Mobile country code. **<MNC>** Mobile network code. **<Rxlev>** Recieve level, in decimal format. **<CellID>** Cell identifier, in hexadecimal format. **<Arfcn>** Absolute radio frequency channel number, in decimal format. **<Lac>** Location area code, in hexadecimal format. **<Bsic>** Base station identity code, in hexadecimal format.
Parameter Saving Mode	NO_SAVE
Max Response Time	45s
Reference	Note

6.2.68 AT+CMNRP Dual Serial Port Feature

AT+CMNRP Dual Serial Port Feature	
Test Command **AT+CMNRP=?**	Response **+CMNRP: (0-1)** **OK**
	Parameters See Write Command
Read Command **AT+CMNRP?**	Response **+CMNRP: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CMNRP=<mode>**	Response **OK** **ERROR**
	Parameters <mode> 0 Disable dual serial port 1 Enable dual serial port
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-

Reference	Note ● Please refer to SIM800 Series_Serial Port_Application Note.doc. ● Part of the projects supported by this AT command, please refer to chapter 21 for details.

6.2.69 AT+CEGPRS Switch on or off EDGE

AT+CEGPRS Switch on or off EDGE	
Test Command **AT+CEGPRS=?**	Response **+CEGPRS: (0,1) , (2,4,8,9,10,12)** **OK**
	Parameters See Write Command
Read Command **AT+CEGPRS?**	Response **+CEGPRS: <switch>[,<class>]** **OK**
	Parameters See Write Command
Write Command **AT+CEGPRS=<switch>[,<class>]**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters <**switch**> 0 Switch off EDGE 1 Switch on EDGE **<class>** EGPRS multi-slot class Note: If <**switch**> value is equal to 1, <**class**> must be input.otherwise <**class**> is optional.
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note The module must restart if the EDGE is switched on or off.

6.2.70 AT+CGPIO Control the GPIO by PIN Index

AT+CGPIO Control the GPIO by PIN Index	
Test Command **AT+CGPIO=?**	Response **+CGPIO: (0-1),(** list of supported <**pin**>s**),(0-1),(0-1)**

	OK
	Parameters See Write Command
Write Command **AT+CGPIO=<operation>,<pin>,<function>,<level>**	Response **OK** **ERROR**
	Parameters **<operation>** 0 Set the GPIO function including the GPIO output . 1 Read the GPIO level. Please note that only when the gpio is set as input, user can use parameter 1 to read the GPIO level, otherwise the module will return "ERROR". **<pin>** The PIN index you want to be set. (It has relations with the hardware, please refer to the hardware manual) **<function>** Only when <**operation**> is set to 0, this option takes effect. 0 Set the GPIO to input. 1 Set the GPIO to output **<level>** 0 Set the GPIO low level 1 Set the GPIO high level
Reference	Note

6.2.71 AT+CMEDPLAY Play Audio File

AT+CMEDPLAY Play Audio File	
Test Command **AT+CMEDPLAY=?**	Response **+CMEDPLAY: (0-3)** **OK**
	Parameters See Write Command
Read Command **AT+CMEDPLAY?**	Response **+CMEDPLAY: <state>** **OK**
	Parameters See Write Command
Write Command **AT+CMEDPLAY=<mode>**	Response if<**mode**>=0,2,3, response: **OK** if<**mode**>=1, start playing

	AT+CMEDPLAY=1,<filepath>,<channel>,<volume> **OK** If error is related to MS functionality, response： **+CME ERROR: <err>**
	Parameters **<mode>** command operation mode 0 Stop playing 1 Start playing 2 Pause playing 3 Resume playing **<filepath>** Audio file path and name **<channel>** Audio play channel 0 Main channel 1 Aux channel **<volume>** Audio play volume,0-100 <**state**> Audio playing state 0 Idle 1 Playing 2 Paused
	Unsolicited result code **+CMEDPLAY: 0** // play over
Parameter Saving Mode	NO_SAVE
Max Response Time	
Reference	Note ● <**mode**> 2 and 3 are not supported when playing audio file during call. ● The audio file can not be played duirng incoming call or outgoing call. ● Only support WAV, PCM, AMR and MP3 format. ● Only support WAV format with 8K 16bit and AMR format during call.

6.2.72 AT+CMEDIAVOL Control the Volume when Playing Audio File

AT+CMEDIAVOL Control the Volume when Playing Audio File	
Test Command **AT+CMEDIAVOL=?**	Response **+CMEDIAVOL: (0-100)** **OK**
	Parameters See Write Command

Write Command **AT+CMEDIAVOL=<level>**	Response **OK** **ERROR**
	Parameters **<level>** 0-100 Integer type value with manufacturer specific range (smallest value represents the lowest sound level).
Reference	Note The command takes effect only when playing audio file.

6.2.73 AT+SNDLEVEL Set the Sound Level of Special AT Command

AT+SNDLEVEL	**Set the Sound Level of Special AT Command**
Test Command **AT+SNDLEVEL=?**	Response **+SNDLEVEL: (0-1),(0-100)** **OK**
	Parameters See Write Command
Read Command **AT+SNDLEVEL?**	Response **+SNDLEVEL:(0,<soundlevel0>),(1,<soundlevel1>)** **OK**
	Parameters See Write Command
Write Command **AT+SNDLEVEL=<mode>,<soundlevel>**	Response **OK** **ERROR**
	Parameters <**mode**> 0 adjust the sound level of STTONE and SIMTONE 1 adjust the sound level of CLDTMF <**soundlevel**> 0-100 Integer type value with manufacturer specific range (smallest value represents the lowest sound level).
Reference	Note

6.2.74 AT+ECHARGE Charge Control

AT+ECHARGE	**Charge Control**
Test Command **AT+ECHARGE=?**	Response **+ECHARGE: (0-1)** **OK**
	Parameters See Write Command

Read Command **AT+ECHARGE?**	Response **+ECHARGE: <n>** **OK**
	Parameters See Write Command
Write Command **AT+ECHARGE=<n>**	Response **OK** **ERROR**
	Parameters **<n>** 0 Disable charge 1 Enable charge
Parameter Saving Mode	AT&W_SAVE
Reference	Note

6.2.75 AT+SIMTIMER Modify the Poll Interval Time Requested by SIM Card

AT+SIMTIMER	**Modify the Poll Interval Time Requested by SIM Card**
Test Command **AT+SIMTIMER=?**	Response **+SIMTIMER: (1-26)** **OK**
	Parameters See Write Command
Read Command **AT+SIMTIMER?**	Response **+SIMTIMER: <time>** **OK**
	Parameters See Write Command
Write Command **AT+SIMTIMER=<time>**	Response **OK** **ERROR**
	Parameters **<time>** 1-26 second
Parameter Saving Mode	AT&W_SAVE
Max Response	-

Time	
Reference	Note

6.2.76 AT+SPE Speech Enhancement Control

AT+SPE Speech Enhancement Control	
Test Command **AT+SPE=?**	Response **+SPE: (0,1)** **OK**
	Parameters See Write Command
Read Command **AT+SPE?**	Response **+SPE: <n>** **OK**
	Parameters See Write Command
Write Command **AT+SPE=<n>**	Response **OK** **ERROR**
	Parameters **<n>** 0 Disable Speech Enhancement 1 Enable Speech Enhancement
Reference	Note

6.2.77 AT+CCONCINDEX Report Concatenated SMS Index

AT+CCONCINDEX Report Concatenated SMS Index	
Test Command **AT+CCONCINDEX=?**	Response **OK**
Execution Command **AT+CCONCINDEX**	Response **+CCONCINDEX: N,i,j,k,...** **OK** where N is the number of segments that form the whole concatenated SMS i,j,k are the SMS indexes of each SMS segment , 0 if segment has not been received. If no concatenated SMS is present on the SIM or ME, only OK result code

	will be returned.
Parameter Saving Mode	NO_SAVE
Reference	Note

6.2.78 AT+SDMODE SD Mode Switch Function

AT+SDMODE	**SD and PCM Switch Function**
Test Command **AT+SDMODE=?**	Response **+SDMODE: (0-1)** **OK**
	Parameters See Write Command
Read Command **AT+SDMODE?**	Response **+SDMODE: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+SDMODE=<mode>**	Response **OK** **ERROR**
	Parameters **<mode>** 0 SD card function is invalid 1 SD card function is valid
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note: ● If user set **<mode>** from 0 to 1, user should execute "AT&W" command to save this setting, and then reboot the module by AT command or pwrkey. ● Part of the project supported by this AT command, please refer to chapter 21 for details.

6.2.79 AT+SRSPT Control SMS Retransmission

AT+SRSPT	**Control SMS Retransmission**
Test Command **AT+SRSPT=?**	Response **+SRSPT: (0,1)**

	OK
	Parameters See Write Command
Read Command **AT+SRSPT?**	Response **+ SRSPT: <n>** **OK**
	Parameters See Write Command
Write Command **AT+SRSPT=<n>**	Response **OK** **ERROR**
	Parameters **<n>** 0 Enable SMS retransmission 1 Disable SMS retransmission
Reference	Note

6.2.80 AT+CELLIST Perform a Net Survey to Show All the Cells' Information

AT+CELLIST Perform a Net Survey to Show All the Cells' Information	
Test Command **AT+CELLIST=?**	Response **+ CELLIST:** (list of supported <**mode**>s), (list of supported <**period**>s) **OK**
	Parameters See Write Command
Read Command **AT+CELLIST?**	Response **+CELLIST: <mode>,<period>** **OK**
	Parameters See Write Command
Write Command **AT+CELLIST=<mode>[,<period>]**	Response OK
	Parameters <**mode**> 0 Disable scan cell infomation 1 Enable scan cell infomation <**period**> 10-7200 Scan period, default value is 30.Unit is second.
Execution	Response

Command **AT+CELLIST**	**+CELLIST: MCC,MNC,Arfcn,Rxlev,CellID,Lac,Bsic** **….** **OK**
	Parameters <**MCC**> Mobile country code. <**MNC**> Mobile network code. <**Rxlev**> Recieve level, in decimal format. <**CellID**> Cell identifier, in hexadecimal format. <**Arfcn**> Absolute radio frequency channel number, in decimal format. <**Lac**> Location area code, in hexadecimal format. <**Bsic**> Base station identity code, in hexadecimal format.
Parameter Saving Mode	NO_SAVE
Reference	Note 1. If the CELLIST function is enabled, the module will scan full frequency in accordance with the set of <**period**>, it will affect the normal network registration, so it is recommended to enable the function and the <**period**> value is greater than 30 after the network registration. 2. Enable the CELLIST function will increase the flow of the module. 3. The function of CELLIST and CNETSCAN are the same. CNETSCAN is synchronized to scan cell information, until the scan complete AT instructions to return to the cell information. CELLIST is an asynchronous operation, the internal module of the automatic scanning, the implementation of the AT+CELLIST to return the scan directly out of the cell information. 4. After Enable the CELLIST function, the module need to wait for a period of time to read the cell information, this time is generally about 30 seconds.

6.2.81 AT+CLIST Query AT

AT+CLIST Query AT	
Test Command **AT+CLIST=?**	Response **+CLIST: <module>s** **OK**
	Parameters See Write Command

Write Command **AT+CLIST=<module>**	Response **+CLIST:** **001: <name>** **002: <name>** **003: <name>** **…** **OK**
	Parameters **<module>** My terminal`s module, eg:SAT,NT,CALL_EXT, NETWORK_EXT,SIMCOM_ALL,PLATFORM. **<name>** AT command`s name, eg:CFUN,CREG,CLIST,STKI.
Reference	Note Each row only shows four modules

6.2.82 AT+CBATCHK Set VBAT Checking Feature ON/OFF

AT+CBATCHK	**Set VBAT Checking Feature ON/OFF**
Test Command **AT+CBATCHK=?**	Response **+CBATCHK: (0,1)** **OK**
Read Command **AT+CBATCHK?**	Response **+CBATCHK: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CBATCHK=<mode>**	Response **OK** If failed: **+CME ERROR: <err>**
	Parameters **<mode>** 0 Close the function of VBAT checking 1 Open the function of VBAT checking
Parameter Saving Mode	
Max Response Time	-
Reference	

7 AT Commands for GPRS Support

7.1 Overview of AT Commands for GPRS Support

Command	Description
AT+CGATT	Attach or detach from GPRS service
AT+CGDCONT	Define PDP context
AT+CGQMIN	Quality of service profile (minimum acceptable)
AT+CGQREQ	Quality of service profile (requested)
AT+CGACT	PDP context activate or deactivate
AT+CGDATA	Enter data state
AT+CGPADDR	Show PDP address
AT+CGCLASS	GPRS mobile station class
AT+CGEREP	Control unsolicited GPRS event reporting
AT+CGREG	Network registration status
AT+CGSMS	Select service for MO SMS messages

7.2 Detailed Descriptions of AT Commands for GPRS Support

7.2.1 AT+CGATT Attach or Detach from GPRS Service

AT+CGATT Attach or Detach from GPRS Service	
Test Command **AT+CGATT=?**	Response **+CGATT: (**list of supported **<state>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CGATT?**	Response **+CGATT: <state>** **OK**
	Parameters See Write Command
Write Command **AT+CGATT=<state>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<state>** Indicates the state of GPRS attachment

	0 Detached 1 Attached Other values are reserved and will result in an ERROR response to the Write Command.
Parameter Saving Mode	NO_SAVE
Max Response Time	75 seconds
Reference	Note

7.2.2 AT+CGDCONT Define PDP Context

AT+CGDCONT	**Define PDP Context**
Test Command **AT+CGDCONT=?**	Response **+CGDCONT: (**range of supported **<cid>**s**),(<PDP_type>,,,(**list of supported**<d_comp>**s**),(**list of supported**<h_comp>**s**)** **[<CR><LF>+CGDCONT:** **(**range of supported **<cid>**s**), <PDP_type>,,,(**list ofsupported**<d_comp>**s**),(**list of supported **<h_comp>**s**)[...]]** **OK**
	Parameters See Write Command
Read Command **AT+CGDCONT?**	Response **+CGDCONT:** **<cid>,<PDP_type>,<APN>,<PDP_addr>,<data_comp>,<head_comp>** **[<CR><LF>+CGDCONT:** **<cid>,<PDP_type>,<APN>,<PDP_addr>,<data_comp>,<head_comp>** **[…]]** **OK**
	Parameters See Write Command
Write Command **AT+CGDCONT=<cid>[,<PDP_type>[,APN>[,<PDP_addr>[,<d_comp>[,<h_comp>]]]]]**	Response **OK** **ERROR**
	Parameters **<cid>** (PDP Context Identifier) a numeric parameter which specifies a particular PDP context definition. The parameter is local to the TE-MT interface and is used in other PDP context-related commands. The range of permitted values (minimum value=1) is returned by the test form of the

	command. **<PDP_type>** (Packet Data Protocol type) IP Internet Protocol (IETF STD 5) **<APN>** (Access Point Name) A string parameter (string should be included in quotation marks) which is a logical name that is used to select the GGSN or the external packet data network. If the value is null or omitted, then the subscription value will be requested.The default value is NULL. **<PDP_addr>** A string parameter (IP address). Format: "**<n>.<n>.<n>.<n>**" where <**n**>=0..255 If the value is null or equals 0.0.0.0 a dynamic address will be requested. The allocated address may be read using the +CGPADDR command **<d_comp>** A numeric parameter that controls PDP data compression 0 –PDP data compression off (default if value is omitted) **<h_comp>** A numeric parameter that controls PDP data compression 0 –PDP header compression off (default if value is omitted)
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note

7.2.3 AT+CGQMIN Quality of Service Profile (Minimum Acceptable)

AT+CGQMIN Quality of Service Profile (Minimum Acceptable)	
Test Command **AT+CGQMIN=?**	Response **+CGQMIN: <PDP_type>,(**list of supported **<precedence>**s**),(**list of supported **<delay>**s**),(**list of supported **<reliability>**s**),(**list of supported **<peak>**s**),(**list of supported **<mean>**s**)** **[<CR><LF>+CGQMIN: <PDP_type>,(**list of supported **<precedence>**s**),(**list of supported **<delay>**s**),(**list of supported **<reliability>**s**),(**list of supported **<peak>**s**),(**list of supported **<mean>**s**)** **[…]]** **OK**
	Parameters See Write Command

Read Command **AT+CGQMIN?**	Response **+CGQMIN: <cid>,<precedence>,<delay>,>reliability>,<peak>,<mean>** **[<CR><LF>+CGQMIN:** **<cid>,<precedence>,<delay>,<reliability>,<peak>,<mean>** **[…]]** **OK**
	Parameters See Write Command
Write Command **AT+CGQMIN=<cid>[,<precedence>[,<delay>[,<reliability>[,<peak>[,<mean>]]]]]**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<cid>** 1..3 A numeric parameter which specifies a particular PDP context definition (see +CGDCONT command) **<precedence>** 0 QOS precedence class subscribed value 1..3 QOS precedence class **<delay>** 0 QOS delay class subscribed value 1..4 QOS delay class subscribed **<reliability>** 0 QOS reliability class subscribed value 1..5 QOS reliability class. **<peak>** 0 QOS peak throughput class subscribed value 1..9 QOS peak throughput class **<mean>** 0 QOS mean throughput class subscribed value 1..18 QOS mean throughput class 31 QOS mean throughput class best effort
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note

7.2.4 AT+CGQREQ Quality of Service Profile (Requested)

AT+CGQREQ Quality of Service Profile (Requested)

Test Command **AT+CGQREQ=?**	Response **+CGQREQ: <PDP_type>,(**list of supported **<precedence>**s**),(**list of supported **<delay>**s**),(**list of supported **<reliability>**s**),**<list of supported **<peak>**s**),(**list of supported **<mean>**s**)** **[<CR><LF>+CGQREQ: <PDP_type>,(**list of supported **<precedence>**s**),(**list of supported **<delay>**s**),(**list of supported **<reliability>**s**),(**list of supported **<peak>**s**),(**list of supported **<mean>**s**)** **[…]]** **OK**
	Parameters See Write Command
Read Command **AT+CGQREQ?**	Response **+CGQREQ: <cid>,<precedence>,<delay>,>reliability>,<peak>,<mean>** **[<CR><LF>+CGQREQ:** **<cid>,<precedence>,<delay>,<reliability>,<peak>,<mean>** **[…]]** **OK**
	Parameters See Write Command
Write Command **AT+CGQREQ=cid>[,<precedence>[,<delay>[,<reliability>[,<peak>[,<mean>]]]]]**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<cid>** A numeric parameter which specifies a particular PDP context definition (see +CGDCONT Command) The following parameter are defined in GSM 03.60 **<precedence>** A numeric parameter which specifies the precedence class 0 QOS precedence class subscribed value 1..3 QOS precedence class **<delay>** A numeric parameter which specifies the delay class 0 QOS delay class subscribed value 1..4 QOS delay class **<reliability>** A numeric parameter which specifies the reliability class 0 QOS reliability class subscribed value 1..5 QOS reliability class; default value: 3 **<peak>** A numeric parameter which specifies the peak throughput class 0 QOS peak throughput class subscribed value 1..9 QOS peak throughput class

	<mean> A numeric parameter which specifies the mean throughput class 0 QOS mean throughput class subscribed value 1..18 QOS mean throughput class 31 QOS mean throughput class best effort
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note

7.2.5 AT+CGACT PDP Context Activate or Deactivate

AT+CGACT PDP Context Activate or Deactivate	
Test Command **AT+CGACT=?**	Response **+CGACT: (**list of supported **<state>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CGACT?**	Response **+CGACT: <cid>,<state>[<CR><LF>+CGACT:<cid>,<state>…]** **OK**
	Parameters See Write Command
Write Command **AT+CGACT=<state>[,<cid>]**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<state>** Indicates the state of PDP context activation 0 Deactivated 1 Activated Other values are reserved and will result in an ERROR response to the Write Command. **<cid>** A numeric parameter which specifies a particular PDP context definition (see +CGDCONT Command). If the <cid> is omitted, it only affects the first cid.
Parameter Saving Mode	NO_SAVE
Max Response	150 seconds

Time	
Reference	Note ● This command is used to test PDPs with network simulators. Successful activation of PDP on real network is not guaranteed. ● Refer to **AT+CGDATA** clarification for more information.

7.2.6 AT+CGDATA Enter Data State

AT+CGDATA Enter Data State	
Test Command **AT+CGDATA=?**	Response **+CGDATA:** list of supported **<L2P>**s **OK** Parameter See Write Command
Write Command **AT+CGDATA=<L2P>[,<cid>]**	Response **CONNECT** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<L2P>** A string parameter (string should be included in quotation marks) that indicates the layer 2 protocol to be used between the TE and MT: "PPP" Point to Point protocol for a PDP such as IP Other values are not supported and will result in an ERROR response to the execution Command. **<cid>** A numeric parameter which specifies a particular PDP context definition (see **+CGDCONT** Command)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

7.2.7 AT+CGPADDR Show PDP Address

AT+CGPADDR Show PDP Address	
Test Command **AT+CGPADDR=?**	Response **+CGPADDR: (**list of defined **<cid>**s**)** **OK**
	Parameters See Write Command

Write Command **AT+CGPADDR=<cid>**	Response **+CGPADDR: <cid>,<PDP_addr>** **[<CR><LF>+CGPADDR: <cid>,<PDP_addr>[…]]** **OK** **ERROR**
	Parameters **<cid>** A numeric parameter which specifies a particular PDP context definition (see **+CGDCONT** Command) **<PDP_addr>** String type, IP address Format: "**<n>.<n>.<n>.<n>**" where <**n**>=0..255
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note Write command returns address provided by the network if a connection has been established.

7.2.8 AT+CGCLASS GPRS Mobile Station Class

AT+CGCLASS GPRS Mobile Station Class	
Test Command **AT+CGCLASS=?**	Response **+CGCLASS: (**list of supported **<class>**s**)** **OK**
	Parameter See Write Command
Read Command **AT+CGCLASS?**	Response **+CGCLASS: <class>** **OK**
	Parameter See Write Command
Write Command **AT+CGCLASS=<class>**	Response **OK** **ERROR** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameter **<class>** A string parameter(string should be included in quotation marks) which indicates the GPRS mobile class (in

	descending order of functionality) B Class-B mode of operation (A/Gb mode), (not applicable in Iu mode) MT would operate PS and CS services but not simultaneously CG Class C in GPRS only mode CC Class C in circuit switched only mode (lowest)
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note It only supports Class B, CG and CC.

7.2.9 AT+CGEREP Control Unsolicited GPRS Event Reporting

AT+CGEREP Control Unsolicited GPRS Event Reporting	
Test Command **AT+CGEREP=?**	Response **+CGEREP: (**list of supported **<mode>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CGEREP?**	Response **+CGEREP: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CGEREP=<mode>**	Response **OK** **ERROR**
	Parameters **<mode>** 0 Disable event reporting. 1 Enable event reporting. Unsolicited Result Codes supported: **+CGEV: NW DEACT <PDP_type>,<PDP_addr>[,<cid>]** **+CGEV: ME DEACT <PDP_type>,<PDP_addr>[,<cid>]** **+CGEV: NW DETACH** **+CGEV: ME DETACH**

	Parameters **<PDP_type>** Packet Data Protocol type (see **+CGDCONT** Command) **<PDP_addr>** Packet Data Protocol address (see **+CGDCONT** Command) **<cid>** Context Id (see **+CGDCONT** Command)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

7.2.10 AT+CGREG Network Registration Status

AT+CGREG Network Registration Status	
Test Command **AT+CGREG=?**	Response **+CGREG: (**list of supported **<n>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CGREG?**	Response **+CGREG: <n>,<stat>[,<lac>,<ci>]** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters See Write Command
Write Command **AT+CGREG=[<n>]**	Response **OK** **ERROR**
	Parameters **<n>** 0 Disable network registration unsolicited result code 1 Enable network registration unsolicited result code **+CGREG:<stat>** 2 Enable network registration and location information unsolicited result code **+CGREG: <stat>[,<lac>,<ci>]** **<stat>** 0 Not registered, MT is not currently searching an operator to register to.The GPRS service is disabled, the UE is allowed to attach for GPRS if requested by the user.

	1 Registered, home network. 2 Not registered, but MT is currently trying to attach or searching an operator to register to. The GPRS service is enabled, but an allowable PLMN is currently not available. The UE will start a GPRS attach as soon as an allowable PLMN is available. 3 Registration denied, The GPRS service is disabled, the UE is not allowed to attach for GPRS if it is requested by the user. 4 Unknown 5 Registered, roaming **<lac>** String type (string should be included in quotation marks); two byte location area code in hexadecimal format (e.g. "00C3" equals 195 in decimal) **<ci>** String type (string should be included in quotation marks); two bytes cell ID in hexadecimal format
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note

7.2.11 AT+CGSMS Select Service for MO SMS Messages

AT+CGSMS Select Service for MO SMS Messages	
Test Command **AT+CGSMS=?**	Response **+CGSMS: (**list of currently available **<service>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CGSMS?**	Response **+CGSMS: <service>** **OK**
	Parameters See Write Command
Write Command **AT+CGSMS=<service>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<service>** A numeric parameter which indicates the service or service preference to be used

	0 Packet Domain 1 Circuit switched 2 Packet Domain preferred (use circuit switched if GPRS not available) 3 Circuit switched preferred (use Packet Domain if circuit switched not available)
Parameter Saving Mode	AUTO_SAVE
Max Response Time	-
Reference	Note

8 AT Commands for TCPIP Application Toolkit

8.1 Overview

Command	Description
AT+CIPMUX	Start up multi-IP connection
AT+CIPSTART	Start up TCP or UDP connection
AT+CIPSEND	Send data through TCP or UDP connection
AT+CIPQSEND	Select data transmitting mode
AT+CIPACK	Query previous connection data transmitting state
AT+CIPCLOSE	Close TCP or UDP connection
AT+CIPSHUT	Deactivate GPRS PDP context
AT+CLPORT	Set local port
AT+CSTT	Start task and set APN, user name, password
AT+CIICR	Bring up wireless connection with GPRS or CSD
AT+CIFSR	Get local IP address
AT+CIPSTATUS	Query current connection status
AT+CDNSCFG	Configure domain name server
AT+CDNSGIP	Query the IP address of given domain name
AT+CIPHEAD	Add an IP head at the beginning of a package received
AT+CIPATS	Set auto sending timer
AT+CIPSPRT	Set prompt of ‘>’ when module sends data
AT+CIPSERVER	Configure module as server
AT+CIPCSGP	Set CSD or GPRS for connection mode
AT+CIPSRIP	Show remote IP address and port when received data
AT+CIPDPDP	Set whether to check state of GPRS network timing
AT+CIPMODE	Select TCPIP application mode
AT+CIPCCFG	Configure transparent transfer mode
AT+CIPSHOWTP	Display transfer protocol in IP head when received data
AT+CIPUDPMODE	UDP extended mode
AT+CIPRXGET	Get data from network manually
AT+CIPSCONT	Save TCPIP application context
AT+CIPRDTIMER	Set remote delay timer
AT+CIPSGTXT	Select GPRS PDP context
AT+CIPTKA	Set TCP keepalive parameters

8.2 Detailed Descriptions of Commands

8.2.1 AT+CIPMUX Start Up Multi-IP Connection

AT+CIPMUX Start Up Multi-IP Connection	
Test Command **AT+CIPMUX=?**	Response **+CIPMUX: (0,1)** **OK**
	Parameters See Write Command
Read Command **AT+CIPMUX?**	Response **+CIPMUX: <n>** **OK**
	Parameters See Write Command
Write Command **AT+CIPMUX=<n>**	Response **OK**
	Parameters **<n>** 0 Single IP connection 1 Multi IP connection
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● Only in IP initial state, **AT+CIPMUX=1** is effective; ● Only when multi IP connection and GPRS application are both shut down, **AT+CIPMUX=0** is effective.

8.2.2 AT+CIPSTART Start Up TCP or UDP Connection

AT+CIPSTART Start Up TCP or UDP Connection	
Test Command **AT+CIPSTART=?**	Response 1) If AT+CIPMUX=0 **+CIPSTART: (**list of supported **<mode>),(<IP address>),(<port>)** **+CIPSTART: (**list of supported **<mode>),(<domain name>),(<port>)** **OK** 2) If AT+CIPMUX=1 **+CIPSTART: (**list of supported **<n>),(**list of supported **<mode>),(<IP address>),(<port>)** **+CIPSTART: (**list of supported **<n>),(**list of supported **<mode>),(<domain**

	name>),(<port>) **OK**
	Parameters See Write Command
Write Command 1)If single IP connection (+CIPMUX=0) **AT+CIPSTART=<mode>,<IP address>,<port>** Or **AT+CIPSTART=<mode>,<domain name>,<port>** 2)If multi-IP connection (+CIPMUX=1) **AT+CIPSTART=<n>,<mode>,<address>,<port>** **AT+CIPSTART=<n>,<mode>,<domain name>,<port>**	Response 1)If single IP connection (**+CIPMUX=0**) If format is right response **OK** otherwise response If error is related to ME functionality: **+CME ERROR <err>** Response when connection exists **ALREADY CONNECT** Response when connection is successful **CONNECT OK** Otherwise **STATE: <state>** **CONNECT FAIL** 2)If multi-IP connection (+CIPMUX=1) If format is right **OK**, otherwise response If error is related to ME functionality: **+CME ERROR <err>** Response when connection exists **<n>,ALREADY CONNECT** If connection is successful **<n>,CONNECT OK** Otherwise **<n>,CONNECT FAIL**
	Parameters **<n>** 0..5 A numeric parameter which indicates the connection number **<mode>** A string parameter which indicates the connection type "TCP" Establish a TCP connection "UDP" Establish a UDP connection **<IP address>** A string parameter which indicates remote server IP address **<port>** Remote server port **<domain name>** A string parameter which indicates remote server domain name **<state>** A string parameter which indicates the progress of connecting

	0 IP INITIAL 1 IP START 2 IP CONFIG 3 IP GPRSACT 4 IP STATUS 5 TCP CONNECTING/UDP CONNECTING/ SERVER LISTENING 6 CONNECT OK 7 TCP CLOSING/UDP CLOSING 8 TCP CLOSED/UDP CLOSED 9 PDP DEACT In Multi-IP state: 0 IP INITIAL 1 IP START 2 IP CONFIG 3 IP GPRSACT 4 IP STATUS 5 IP PROCESSING 9 PDP DEACT
Parameter Saving Mode	NO_SAVE
Max Response Time	When mode is multi-IP state, the max response time75 seconds. When mode is single state, and the state is IP INITIAL, the max response time is 160 seconds.
Reference	Note ● This command allows establishment of a TCP/UDP connection only when the state is IP INITIAL or IP STATUS when it is in single state. In multi-IP state, the state is in IP STATUS only. So it is necessary to process "**AT+CIPSHUT**" before user establishes a TCP/UDP connection with this command when the state is not IP INITIAL or IP STATUS. ● When module is in multi-IP state, before this command is executed, it is necessary to process "**AT+CSTT**, **AT+CIICR**, **AT+CIFSR**".

8.2.3 AT+CIPSEND Send Data Through TCP or UDP Connection

AT+CIPSEND Send Data Through TCP or UDP Connection	
Test Command **AT+CIPSEND=?**	Response 1) For single IP connection (+CIPMUX=0) **+CIPSEND: <length>** **OK** 2) For multi IP connection (+CIPMUX=1) **+CIPSEND: (0-5),<length>**

	OK
	Parameters See Write Command
Read Command **AT+CIPSEND?**	Response 1) For single IP connection (+CIPMUX=0) **+CIPSEND: <size>** **OK** 2) For multi IP connection (+CIPMUX=1) **+CIPSEND: <n>,<size>** **OK**
	Parameters **<n>** A numeric parameter which indicates the connection number **<size>** A numeric parameter which indicates the data length sent at a time
Write Command 1) If single IP connection (+CIPMUX=0) **AT+CIPSEND=<length>** 2) If multi IP connection (+CIPMUX=1) **AT+CIPSEND=<n>[,<length>]**	Response This Command is used to send changeable length data If single IP is connected (+CIPMUX=0) If connection is not established or module is disconnected: If error is related to ME functionality: **+CME ERROR <err>** If sending is successful: When +CIPQSEND=0 **SEND OK** When +CIPQSEND=1 **DATA ACCEPT:<length>** If sending fails: **SEND FAIL** If multi IP connection is established (+CIPMUX=1) If connection is not established or module is disconnected: If error is related to ME functionality: **+CME ERROR <err>** If sending is successful: When +CIPQSEND=0 **<n>,SEND OK** When +CIPQSEND=1 **DATA ACCEPT:<n>,<length>** If sending fails: **<n>,SEND FAIL**
	Parameters

	<n> A numeric parameter which indicates the connection number **<length>** A numeric parameter which indicates the length of sending data, it must be less than <size>
Execution Command **AT+CIPSEND** response">", then type data for send, tap CTRL+Z to send, tap ESC to cancel the operation	Response This Command is used to send changeable length data. If single IP connection is established (+CIPMUX=0) If connection is not established or module is disconnected: If error is related to ME functionality: **+CME ERROR <err>** If sending is successful: When +CIPQSEND=0 **SEND OK** When +CIPQSEND=1 **DATA ACCEPT:<length>** If sending fails: **SEND FAIL** Note This Command can only be used in single IP connection mode (+CIPMUX=0) and to send data on the TCP or UDP connection that has been established already. Ctrl-Z is used as a termination symbol. ESC is used to cancel sending data. There are at most **<size>** bytes which can be sent at a time.
Parameter Saving Mode	NO_SAVE
Max Response Time	When +CIPQSEND=0 and the remote server no response, after 645 seconds, **"CLOSE"** will be reported.
Reference	Note ● The data length which can be sent depends on network status. ● Set the time that send data automatically with the Command of AT+CIPATS. ● Only send data at the status of established connection**.**

8.2.4 AT+CIPQSEND Select Data Transmitting Mode

AT+CIPQSEND	**Select Data Transmitting Mode**
Test Command **AT+CIPQSEND=?**	Response **+CIPQSEND: (0,1)** **OK**
	Parameters See Write Command
Read Command	Response

AT+CIPQSEND ?	**+CIPQSEND: <n>** **OK**
	Parameter See Write Command
Write Command **AT+CIPQSEND =<n>**	Response **OK**
	Parameters **<n>** 0 Normal mode – when the server receives TCP data, it will responsd SEND OK. 1 Quick send mode – when the data is sent to module, it will responsd DATA ACCEPT:<n>,<length>, while not responding SEND OK.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

8.2.5 AT+CIPACK Query Previous Connection Data Transmitting State

AT+CIPACK Query Previous Connection Data Transmitting State	
Test Command **AT+CIPACK=?**	Response **OK**
Write Command If in multi IP connection (+CIPMUX=1) **AT+CIPACK=<n>**	Response **+CIPACK: <txlen>, <acklen>, <nacklen>** **OK**
	Parameters **<n>** A numeric parameter which indicates the connection number **<txlen>** The data amount which has been sent **<acklen>** The data amount confirmed successfully by the server **<nacklen>** The data amount without confirmation by the server
Execution Command If in single IP connection (+CIPMUX=0) **AT+CIPACK**	Response **+CIPACK: <txlen>, <acklen>, <nacklen>** **OK**
	Parameters See Write Command
Parameter Saving Mode	NO_SAVE
Max Response Time	-

Reference	Note

8.2.6 AT+CIPCLOSE Close TCP or UDP Connection

AT+CIPCLOSE	**Close TCP or UDP Connection**
Test Command **AT+CIPCLOSE=?**	Response **OK**
Write Command 1) If single IP connection (+CIPMUX=0) **AT+CIPCLOSE=<n>** 2) If multi IP connection (+CIPMUX=1) **AT+CIPCLOSE=<id>,[<n>]**	Response: 1) For single IP connection (+CIPMUX=0) **CLOSE OK** 2) For multi IP connection (+CIPMUX=1) **<id>, CLOSE OK** Parameters **<n>** 0 Slow close 1 Quick close **<id>** A numeric parameter which indicates the connection number
Execution Command **AT+CIPCLOSE**	Response If close is successfully: **CLOSE OK** If close fails: **ERROR**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note AT+CIPCLOSE only closes connection at corresponding status of TCP/UDP stack. To see the status use AT+CIPSTATUS command. Status should be: TCP CONNECTING, UDP CONNECTING, SERVER LISTENING or CONNECT OK in single-connection mode (see <state> parameter); CONNECTING or CONNECTED in multi-connection mode (see <client state>); OPENING or LISTENING in multi-connection mode (see <server state>). Otherwise it will return ERROR”.

8.2.7 AT+CIPSHUT Deactivate GPRS PDP Context

AT+CIPSHUT	**Deactivate GPRS PDP Context**

Test Command **AT+CIPSHUT=?**	Response **OK**
Execution Command **AT+CIPSHUT**	Response If close is successful: **SHUT OK** If close fails: **ERROR**
Parameter Saving Mode	NO_SAVE
Max Response Time	65 seconds
Reference	Note ● If this command is executed in multi-connection mode, all of the IP connection will be shut. ● User can close gprs pdp context by AT+CIPSHUT. After it is closed, the status is IP INITIAL. ● If "+PDP: DEACT" urc is reported which means the gprs is released by the network, then user still needs to execute "AT+CIPSHUT" command to make PDP context come back to original state.

8.2.8 AT+CLPORT Set Local Port

AT+CLPORT Set Local Port	
Test Command **AT+CLPORT=?**	Response 1) For single IP connection (+CIPMUX=0) **+CLPORT: ("TCP","UDP"),(0-65535)** **OK** 2) For multi IP connection (+CIPMUX=1) **+CLPORT: (0-5),("TCP","UDP"),(0-65535)** **OK**
	Parameters See Write Command
Read Command **AT+CLPORT?**	Response 1) For single IP connection (+CIPMUX=0) **+CLPORT: <TCP port>,<UDP port>** **OK** 2) For multi IP connection (+CIPMUX=1) **+CLPORT: 0,<TCP port>,<UDP port>** **+CLPORT: 1,<TCP port>,<UDP port>** **+CLPORT: 2,<TCP port>,<UDP port>** **+CLPORT: 3,<TCP port>,<UDP port>**

	+CLPORT: 4,<TCP port>,<UDP port> **+CLPORT: 5,<TCP port>,<UDP port>** **OK**
	Parameters See Write Command
Write Command 1) For single IP connection (+CIPMUX=0) **AT+CLPORT=<mode>,<port>** 2) For multi IP connection (+CIPMUX=1) **AT+CLPORT=<n>,<mode>,<port>**	Response **OK** **ERROR**
	Parameters **<n>** 0..5 A numeric parameter which indicates the connection number this used in multi IP connection **<mode>** A string parameter which indicates the connection type "TCP" TCP local port "UDP" UDP local port **<port>** 0-65535 A numeric parameter which indicates the local port default value is 0, a port can be dynamically allocated a port.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note This command will be effective when module is set as a Client.

8.2.9 AT+CSTT Start Task and Set APN, USER NAME, PASSWORD

AT+CSTT Start Task and Set APN, USER NAME, PASSWORD	
Test Command **AT+CSTT=?**	Response **+CSTT: "APN","USER","PWD"** **OK**
	Parameters See Write Command
Read Command **AT+CSTT?**	Response **+CSTT: <apn>,<user name>,<password>** **OK**
	Parameters See Write Command
Write Command **AT+CSTT=<apn>,<user**	Response **OK** **ERROR**

name>,<password>	Parameters **<apn>** A string parameter which indicates the GPRS access point name. The max length is 50 bytes. **<user name>** A string parameter which indicates the GPRS user name. The max length is 50 bytes. **<password>** A string parameter which indicates the GPRS password. The max length is 50 bytes.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Execution Command **AT+CSTT**	Response **OK** **ERROR**
Reference	Note The write command and execution command of this command is valid only at the state of IP INITIAL. After this command is executed, the state will be changed to IP START.

8.2.10 AT+CIICR Bring Up Wireless Connection with GPRS or CSD

AT+CIICR Bring Up Wireless Connection with GPRS or CSD	
Test Command **AT+CIICR=?**	Response **OK**
Execution Command **AT+CIICR**	Response **OK** **ERROR**
Parameter Saving Mode	NO_SAVE
Max Response Time	85 seconds
Reference	Note ● AT+CIICR only activates moving scene at the status of IP START, after operating this Command is executed, the state will be changed to IP CONFIG. ● After module accepts the activated operation, if it is activated successfully, module state will be changed to IP GPRSACT, and it responds OK, otherwise it will respond ERROR.

8.2.11 AT+CIFSR Get Local IP Address

AT+CIFSR Get Local IP Address	
Test Command **AT+CIFSR=?**	Response **OK**

Execution Command **AT+CIFSR**	Response **<IP address>** **ERROR**
	Parameter **<IP address>** a string parameter which indicates the IP address assigned from GPRS or CSD.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note Only after PDP context is activated, local IP address can be obtained by AT+CIFSR, otherwise it will respond ERROR. To see the status use AT+CIPSTATUS command. Status should be: IP GPRSACT, TCP CONNECTING, UDP CONNECTING, SERVER LISTENING, IP STATUS, CONNECT OK, TCP CLOSING, UDP CLOSING, TCP CLOSED, UDP CLOSED in single-connection mode (see <state> parameter); IP STATUS, IP PROCESSING in multi-connection mode (see <state> parameter).

8.2.12 AT+CIPSTATUS Query Current Connection Status

AT+CIPSTATUS	**Query Current Connection Status**
Test Command **AT+CIPSTATUS=?**	Response **OK**
Write Command If multi IP connection mode (+CIPMUX=1) **AT+CIPSTATUS=<n>**	Response **+CIPSTATUS: <n>,<bearer>, <TCP/UDP>, <IP address>, <port>, <client state>** **OK**
	Parameters See Execution Command
Execution Command **AT+CIPSTATUS**	Response 1）If in single connection mode (+CIPMUX=0) **OK** **STATE: <state>** 2) If in multi-connection mode (+CIPMUX=1) **OK** **STATE: <state>**

	If the module is set as server **S: 0, <bearer>, <port>, <server state>** **C: <n>,<bearer>, <TCP/UDP>, <IP address>, <port>, <client state>**
	Parameters **<n>** 0-5 A numeric parameter which indicates the connection number **<bearer>** 0-1 GPRS bearer, default is 0 **<server state>** OPENING LISTENING CLOSING **<client state>** INITIAL CONNECTING CONNECTED REMOTE CLOSING CLOSING CLOSED **<state>** A string parameter which indicates the progress of connecting 0 IP INITIAL 1 IP START 2 IP CONFIG 3 IP GPRSACT 4 IP STATUS 5 TCP CONNECTING/UDP CONNECTING /SERVER LISTENING 6 CONNECT OK 7 TCP CLOSING/UDP CLOSING 8 TCP CLOSED/UDP CLOSED 9 PDP DEACT In Multi-IP state: 0 IP INITIAL 1 IP START 2 IP CONFIG 3 IP GPRSACT 4 IP STATUS 5 IP PROCESSING 9 PDP DEACT
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

8.2.13 AT+CDNSCFG Configure Domain Name Server

AT+CDNSCFG	Configure Domain Name Server
Test Command **AT+CDNSCFG=?**	Response **+CDNSCFG: ("Primary DNS"),("Secondary DNS")** **OK**
	Parameters See Write Command
Read Command **AT+CDNSCFG?**	Response **PrimaryDns: <pri_dns>** **SecondaryDns: <sec_dns>** **OK**
	Parameter See Write Command
Write Command **AT+CDNSCFG=<pri_dns>[,<sec_dns>]**	Response **OK** **ERROR**
	Parameters **<pri_dns>** A string parameter which indicates the IP address of the primary domain name server **<sec_dns>** A string parameter which indicates the IP address of the secondary domain name server
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

8.2.14 AT+CDNSGIP Query the IP Address of Given Domain Name

AT+CDNSGIP	Query the IP Address of Given Domain Name
Test Command **AT+CDNSGIP=?**	Response **OK**
Write Command **AT+CDNSGIP=<domain name>**	Response **OK** **ERROR** If successful, return: **+CDNSGIP: 1, <domain name>,<IP1>[,<IP2>]** If fail, return:

	+CDNSGIP:0,<dns error code>
	Parameters **<domain name>** A string parameter which indicates the domain name **<IP1>** A string parameter which indicates the first IP address corresponding to the domain name **<IP2>** A string parameter which indicates the second IP address corresponding to the domain name **<dns error code>** A numeric parameter which indicates the error code 8 DNS COMMON ERROR 3 NETWORK ERROR There are some other error codes as well.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

8.2.15 AT+CIPHEAD Add an IP Head at the Beginning of a Package Received

AT+CIPHEAD Add an IP Head at the Beginning of a Package Received	
Test Command **AT+CIPHEAD=?**	Response **+CIPHEAD: (**list of supported **<mode>**s**)** **OK**
	Parameter See Write Command
Read Command **AT+CIPHEAD?**	Response **+CIPHEAD: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CIPHEAD=<mode>**	Response **OK** **ERROR**
	Parameters **<mode>** A numeric parameter which indicates whether an IP header is added to the received data or not. 0 Not add IP header 1 Add IP header, the format is: 1) For single IP connection (+CIPMUX=0) **+IPD,<data length>:**

	2) For multi IP connection (+CIPMUX=1) **+RECEIVE,<n>,<data length>:**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

8.2.16 AT+CIPATS Set Auto Sending Timer

AT+CIPATS Set Auto Sending Timer	
Test Command **AT+CIPATS=?**	Response **+CIPATS: (**list of supported <**mode**>s**),(**list of supported <**time**>) **OK**
	Parameters See Write Command
Read Command **AT+CIPATS?**	Response **+CIPATS: <mode>,<time>** **OK**
	Parameters See Write Command
Write Command **AT+CIPATS=<mode>[,<time>]**	Response **OK** **ERROR**
	Parameters **<mode>** A numeric parameter which indicates whether set timer when module is sending data 0 Not set timer when module is sending data 1 Set timer when module is sending data **<time>** 1..100 A numeric parameter which indicates the seconds after which the data will be sent
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

8.2.17 AT+CIPSPRT Set Prompt of '>' When Module Sends Data

AT+CIPSPRT Set Prompt of '>' When Module Sends Data	
Test Command **AT+CIPSPRT=?**	Response **+CIPSPRT: (**list of supported **<send prompt>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CIPSPRT?**	Response **+CIPSPRT: <send prompt>** **OK**
	Parameters See Write Command
Write Command **AT+CIPSPRT=<send prompt>**	Response **OK** **ERROR**
	Parameters **<send prompt>** A numeric parameter which indicates whether to echo prompt '>' after module issues AT+CIPSEND command. 0 It shows "send ok" but does not prompt echo '>' when sending is successful. 1 It prompts echo '>' and shows "send ok" when sending is successful. 2 It neither prompts echo '>' nor shows "send ok" when sending is successful.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

8.2.18 AT+CIPSERVER Configure Module as Server

AT+CIPSERVER Configure Module as Server	
Test Command **AT+CIPSERVER=?**	Response **+CIPSERVER: (0-CLOSE SERVER, 1-OPEN SERVER),(1-65535)** **OK**
	Parameters See Write Command
Read Command	Response

AT+CIPSERVER?	**+CIPSERVER: <mode>[,<port>,<channel id>,<bearer>]** **OK**
	Parameters See Write Command
Write Command **AT+CIPSERVER=<mode>[,<port>]**	Response **OK** **ERROR**
	Parameters **<mode>** 0 Close server 1 Open server **<port>** 1..65535 Listening port **<channel id>** Channel id **<bearer>** GPRS bearer
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note This command is allowed to establish a TCP server only when the state is IP INITIAL or IP STATUS when it is in single state. In multi-IP state, the state is in IP STATUS only.

8.2.19 AT+CIPCSGP Set CSD or GPRS for Connection Mode

AT+CIPCSGP Set CSD or GPRS for Connection Mode	
Test Command **AT+CIPCSGP=?**	Response **+CIPCSGP:0-CSD,DIALNUMBER,USER NAME,PASSWORD,RATE(0-3)** **+CIPCSGP: 1-GPRS,APN,USER NAME,PASSWORD** **OK**
	Parameters See Write Command
Read Command **AT+CIPCSGP?**	Response **+CIPCSGP: <mode>, <apn>, <user name>, <password>[,<rate>]** **OK**
	Parameters See Write Command
Write Command **AT+CIPCSGP=<mode>[,**	Response **OK** **ERROR**

(<apn>,<user name>, <password>),(<dial number>,<user name>,<password>,<rate>)]	Parameters **<mode>** A numeric parameter which indicates the wireless connection mode 0 set CSD as wireless connection mode 1 set GPRS as wireless connection mode GPRS parameters: **<apn>** A string parameter which indicates the access point name **<user name>** A string parameter which indicates the user name **<password>** A string parameter which indicates the password CSD parameters: **<dial number>** A string parameter which indicates the CSD dial numbers **<user name>** A string parameter which indicates the CSD user name **<password>** A string parameter which indicates the CSD password **<rate>** A numeric parameter which indicates the CSD connection rate 0 2400 1 4800 2 9600 3 14400
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

8.2.20 AT+CIPSRIP Show Remote IP Address and Port When Received Data

AT+CIPSRIP Show Remote IP Address and Port When Received Data	
Test Command **AT+CIPSRIP=?**	Response **+CIPSRIP: (**list of supported **<mode>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CIPSRIP?**	Response **+CIPSRIP**: **<mode>** **OK**
	Parameters See Write Command
Write Command **AT+CIPSRIP=<**	Response **OK**

mode>	**ERROR**
	Parameters **<mode>** A numeric parameter which shows remote IP address and port. 0 Do not show the prompt 1 Show the prompt, the format is as follows: 1) For single IP connection (+CIPMUX=0) **+RECV FROM:<IP ADDRESS>:<PORT>** 1) For multi IP connection (+CIPMUX=1) **+RECEIVE,<n>,<data length>,<IP ADDRESS>:<PORT>**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	

8.2.21 AT+CIPDPDP Set Whether to Check State of GPRS Network Timing

AT+CIPDPDP Set Whether to Check State of GPRS Network Timing	
Test Command **AT+CIPDPDP=?**	Response **+CIPDPDP: (**list of supported**<mode>**s**,** list of supported **<interval>,** list of supported **<timer>)** **OK**
	Parameters See Write Command
Read Command **AT+CIPDPDP?**	Response **+CIPDPDP: <mode>, <interval>, <timer>** **OK**
	Parameters See Write Command
Write Command **AT+CIPDPDP=<mode>[,<interval>,<timer>]**	Response **OK** **ERROR**
	Parameters **<mode>** 0 Not set detect PDP 1 Set detect PDP **<interval>** 1<=interval<=180(s)

	<timer> 1<=timer<=10
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note If "+PDP: DEACT" urc is reported because of module not attaching to gprs for a certain time or other reasons, user still needs to execute "AT+CIPSHUT" command makes PDP context come back to original state.

8.2.22 AT+CIPMODE Select TCPIP Application Mode

AT+CIPMODE	**Select TCPIP Application Mode**
Test Command **AT+CIPMODE=?**	Response **+CIPMODE: (0-NORMAL MODE,1-TRANSPARENT MODE)** **OK**
	Parameters See Write Command
Read Command **AT+CIPMODE?**	Response **+CIPMODE: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CIPMODE=<mode>**	Response **OK** **ERROR**
	Parameters **<mode>** 0 Normal mode 1 Transparent mode
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

8.2.23 AT+CIPCCFG Configure Transparent Transfer Mode

AT+CIPCCFG	**Configure Transparent Transfer Mode**
Test Command	Response

AT+CIPCCFG=?	**+CIPCCFG: (NmRetry:3-8),(WaitTm:2-10),(SendSz:1-1460),(esc:0,1) ,(Rxmode:0,1),(RxSize:50-1460),(Rxtimer:20-1000)** **OK**
	Parameters See Write Command
Read Command **AT+CIPCCFG?**	Response **+CIPCCFG: <NmRetry>,<WaitTm>,<SendSz>,<esc>,<Rxmode>,<RxSize>,<Rxtimer>** **OK**
	Parameters See Write Command
Write Command **AT+CIPCCFG=<NmRetry>,<WaitTm>,<SendSz>,<esc>[,<Rxmode>,<RxSize>,<Rxtimer>]**	Response **OK** **ERROR**
	Parameters **<NmRetry>** Number of retries to be made for an IP packet. **<WaitTm>** Number of 100ms intervals to wait for serial input before sending the packet. **<SendSz>** Size in bytes of data block to be received from serial port before sending. **<esc>** Whether turn on the escape sequence, default is TRUE. 0 Turn off the escape sequence 1 Turn on the escape sequence **<Rxmode>** Whether to set time interval during output data from serial port. 0 output data to serial port without interval 1 output data to serial port within <Rxtimer> interval. **<RxSize>** Output data length for each time, default value is 1460. **<Rxtimer>** Time interval (ms) to wait for serial port to output data again. Default value: 50ms
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note This command will be effective only in single connection mode (+CIPMUX=0)

8.2.24 AT+CIPSHOWTP Display Transfer Protocol in IP Head When Received Data

AT+CIPSHOWTP Display Transfer Protocol in IP Head When Received Data	
Test Command **AT+CIPSHOWTP=?**	Response **+CIPSHOWTP: (**list of supported **<mode>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CIPSHOWTP?**	Response **+CIPSHOWTP: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CIPSHOWTP=<mode>**	Response **OK** **ERROR** Parameters **<mode>** A numeric parameter which indicates whether to display transfer protocol in IP header to received data or not 0 Not display transfer protocol 1 Display transfer protocol, the format is "+IPD,<data size>,<TCP/UDP>:<data>"
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● This command will be effective only in single connection mode (+CIPMUX=0). ● Only when +CIPHEAD is set to 1, the setting of this command will work.

8.2.25 AT+CIPUDPMODE UDP Extended Mode

AT+CIPUDPMODE UDP Extended Mode	
Test Command **AT+CIPUDPMODE=?**	Response 1) For single IP connection (+CIPMUX=0) **+CIPUDPMODE: (0-2),("(0-255).(0-255).(0-255).(0-255)"),(1-65535)** **OK** 2) For multi IP connection (+CIPMUX=1) **+CIPUDPMODE:**

	(0-5),(0-2),("(0-255).(0-255).(0-255).(0-255)"),(1-65535) **OK**
	Parameters See Write Command
Read Command **AT+CIPUDPMODE?**	Response 1) For single IP connection (+CIPMUX=0) **+CIPUDPMODE: <mode>[,<IP address>,<Port>]** **OK** 2) For multi IP connection (+CIPMUX=1) **+CIPUDPMODE: 0, <mode>[,<IP address>,<Port>]** **+CIPUDPMODE: 1,<mode>[,<IP address>,<Port>]** **+CIPUDPMODE: 2,<mode>[,<IP address>,<Port>]** **+CIPUDPMODE: 3,<mode>[,<IP address>,<Port>]** **+CIPUDPMODE: 4,<mode>[,<IP address>,<Port>]** **+CIPUDPMODE: 5,<mode>[,<IP address>,<Port>]** **OK**
	Parameter See Write Command
Write Command 1) For single IP connection (+CIPMUX=0) **AT+CIPUDPMODE=<mode>[,<IP address>,<Port>]** 2) For multi IP connection (+CIPMUX=1) **AT+CIPUDPMODE=<n>,<mode>[,<IP address>,<Port>]**	Response **OK** **ERROR**
	<n> 0-5 A numeric parameter which indicates the connection number **<mode>** 0 UDP Normal Mode 1 UDP Extended Mode 2 Set UDP address to be sent **<IP address>** A string parameter which indicates remote IP address **<port>** Remote port
Parameter Saving Mode	NO_SAVE
Max Response Time	**-**
Reference	Note

8.2.26 AT+CIPRXGET Get Data from Network Manually

AT+CIPRXGET Get Data from Network Manually

Test Command **AT+CIPRXGET=?**	Response If single IP connection (+CIPMUX=0) **+CIPRXGET: (**list of supported **<mode>**s**),(**list of supported **<reqlength>)** **OK** If multi IP connection (+CIPMUX=1) **+CIPRXGET: (**list of supported **<mode>**s**), (**list of supported **<id>**s**), (**list of supported **<reqlength>)** **OK**
	Parameters See Write Command
Read Command **AT+CIPRXGET?**	Response **+CIPRXGET: <mode>** **OK**
	Parameters See Write Command
Write Command 1) If single IP connection (+CIPMUX=0) **AT+CIPRXGET=<mode>[,<reqlength>]** 2) If multi IP connection (+CIPMUX=1) **AT+CIPRXGET=<mode>[,<id>,<reqlength>]**	Response **OK** **ERROR** 1)For single IP connection If "AT+CIPSRIP=1" is set, IP address and port are contained. if <mode>=1 **+CIPRXGET: 1[,<IP ADDRESS>:<PORT>]** if <mode>=2 **+CIPRXGET: 2,<reqlength>,<cnflength>[,<IP ADDRESS>:<PORT>]** **1234567890…** **OK** if <mode>=3 **+CIPRXGET: 3,<reqlength>,<cnflength>[,<IP ADDRESS>:<PORT>]** **5151…** **OK** if <mode>=4 **+CIPRXGET: 4, <cnflength>** **OK** 2)For multi IP connection If "AT+CIPSRIP=1" is set, IP address and port is contained. if <mode>=1 **+CIPRXGET: 1[,<id>,<IP ADDRESS>:<PORT>]** if <mode>=2 **+CIPRXGET: 2,<id>,<reqlength>,<cnflength>[,<IP**

	ADDRESS>:<PORT>] **1234567890…** **OK** if <mode>=3 **+CIPRXGET: 3,<id>,<reqlength>,<cnflength>[,<IP ADDRESS>:<PORT>]** **5151…** **OK** if <mode>=4 **+CIPRXGET: 4, <id>,<cnflength>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<mode>** 0 Disable getting data from network manually, the module is set to normal mode, data will be pushed to TE directly. 1 Enable getting data from network manually. 2 The module can get data, but the length of output data can not exceed 1460 bytes at a time. 3 Similar to mode 2, but in HEX mode, which means the module can get 730 bytes maximum at a time. 4 Query how many data are not read with a given ID. **<id>** A numeric parameter which indicates the connection number **<reqlength>** Requested number of data bytes (1-1460 bytes)to be read **<cnflength>** Confirmed number of data bytes to be read, which may be less than <length>. 0 indicates that no data can be read.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note To enable this function, parameter <mode> must be set to 1 before connection.

8.2.27 AT+CIPSCONT Save TCPIP Application Context

AT+CIPSCONT	**Save TCPIP Application Context**
Read Command **AT+CIPSCONT?**	Response TA returns TCPIP Application Context, which consists of the following AT Command parameters.

	+CIPSCONT: <mode0> **+CIPCSGP: <mode>** **Gprs Config APN: <apn>** **Gprs Config UserId: <user name>** **Gprs Config Password: <password>** **+CIPHEAD: <mode>** **+CIPSHOWTP: <mode>** **+CIPSRIP: <mode>** **+CIPATS: <mode>,<time>** **+CIPSPRT: <send prompt>,<notshowsendok>** **+CIPQSEND: <n>** **+CIPMODE: <mode>** **+CIPCCFG: <NmRetry>,<WaitTm>,<SendSz>,<esc>,<Rxmode>,<RxSize>,<Rxtimer>** **+CIPMUX: <n>** **+CIPDPDP: <mode>, <interval>, <timer>** **+CIPRXGET: <mode>** **+CIPRDTIMER: <rdsigtimer>,<rdmuxtimer>** **OK**
	Parameters **<mode0>** 0 Saved, the value from NVRAM 1 Unsaved, the value from RAM For other parameters, see the related command.
Execution Command **AT+CIPSCONT**	Response Module saves current TCPIP Application Contexts to NVRAM. When system is rebooted, the parameters will be loaded automatically. **OK**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

8.2.28 AT+CIPRDTIMER Set Remote Delay Timer

AT+CIPRDTIMER Set Remote Delay Timer

Test Command **AT+CIPRDTIMER=?**	Response **+CIPRDTIMER: (100-4000),(100-7000)** **OK**
	Parameters See Write Command
Read Command **AT+CIPRDTIMER?**	Response **+CIPRDTIMER: <rdsigtimer>,<rdmuxtimer>** **OK**
	Parameters See Write Command
Write Command **AT+CIPRDTIMER=<rdsigtimer>,<rdmuxtimer>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<rdsigtimer>** remote delay timer of single connection. **<rdmuxtimer>** remote delay timer of multi-connections.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note This command is used to shorten the disconnect time locally when the remote server has been disconnected.

8.2.29 AT+CIPSGTXT Select GPRS PDP context

AT+CIPSGTXT	**Select GPRS PDP context**
Test Command **AT+CIPSGTXT=?**	Response **+CIPSGTXT: (0,1)** **OK**
	Parameters See Write Command
Write Command **AT+CIPSGTXT=<mode>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<mode>** 0 select first PDP context 1 select second PDP context

Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note This command is used to select pdp context, only for multi IP connection (+CIPMUX=1).

8.2.30 AT+CIPTKA Set TCP Keepalive Parameters

AT+CIPTKA Set TCP Keepalive Parameters	
Test Command **AT+CIPTKA=?**	Response **+CIPTKA:** (list of supported **<mode>**s)**,**(list of supported **<keepIdle>**s)**,**(list of supported **<keepInterval>**)**,**(list of supported **<keepCount>**s) **OK**
	Parameters See Write Command
Read Command **AT+CIPTKA?**	Response **+CIPTKA: <mode>,<keepIdle>,<keepInterval>,<keepCount>** **OK**
	Parameters See Write Command
Write Command **AT+CIPTKA=<mode>[,<keepIdle>[,<keepInterval>[,<keepCount>]]]**	Response **OK** If error is related to ME functionality: **ERROR**
	Parameters **<mode>** Set TCP keepalive option. 0 Disable TCP keep alive mechanism 1 Enable TCP keep alive mechanism **<keepIdle>** Integer type; Idle time (in second) before TCP send the initial keepalive probe. 30-7200 Default: 7200 **<keepInterval>** Interval time (in second) between keepalive probes retransmission. 30-600 Default: 75 **<keepCount>** Integer type; Maximum number of keepalive probes to be sent. 1-9 Default: 9
Reference	Note

9 AT Commands for IP Application

9.1 Overview

Command	Description
AT+SAPBR	Bearer settings for applications based on IP

9.2 Detailed Descriptions of Commands

9.2.1 AT+SAPBR Bearer Settings for Applications Based on IP

AT+SAPBR Bearer Settings for Applications Based on IP	
Test Command **AT+SAPBR=?**	Response **+SAPBR: (0-4),(1-3), "ConParamTag","ConParamValue"** **OK**
	Parameters See Write Command
Write Command **AT+SAPBR=<cmd_type>,<cid>[,<ConParamTag>,<ConParamValue>]**	Response **OK** **If<cmd_type> = 2** **+SAPBR: <cid>,<Status>,<IP_Addr>** **OK** **If <cmd_type>=4** **+SAPBR:** **<ConParamTag>,<ConParamValue>** **OK** Unsolicited Result Code **+SAPBR <cid>: DEACT**
	Parameters **<cmd_type>** 0 Close bearer 1 Open bearer 2 Query bearer 3 Set bearer parameters 4 Get bearer parameters **<cid>** Bearer profile identifier **<Status>** 0 Bearer is connecting 1 Bearer is connected

	2 Bearer is closing 3 Bearer is closed **<ConParamTag>** Bearer parameter "CONTYPE" Type of Internet connection. Value refer to <ConParamValue_ConType> "APN" Access point name string: maximum 64 characters "USER" User name string: maximum 32 characters "PWD" Password string: maximum 32 characters "PHONENUM" Phone number for CSD call "RATE" CSD connection rate. For value refer to <ConParamValue_Rate> **<ConParamValue>** Bearer paramer value **<ConParamValue_ConType>** "CSD" Circuit-switched data call. "GPRS" GPRS connection. **<ConParamValue_Rate>** 0 2400 1 4800 2 9600 3 14400 **<IP_Addr>** The IP address of bearer
Parameter Saving Mode	NO_SAVE
Max Response Time	When **<cmd_type>** is 1, 85 seconds When **<cmd_type>** is 0, 65 seconds
Reference	Note This command is applied to activate some applications such as HTTP, FTP.

10 AT Commands for PING Support

10.1 Overview

Command	Description
AT+CIPPING	Ping request
AT+CIPCTL	Set the mode when receiving an IP packet
AT+CIPFLT	Set the rules of IP filter
AT+CIPBEIPING	Set the module to be PING or not

10.2 Detailed Descriptions of Commands

10.2.1 AT+CIPPING PING Request

AT+CIPPING PING Request	
Test Command **AT+CIPPING=?**	Response **+CIPPING: (**list of supported **<retryNum>**s**),(**list of supported <**dataLen**>s**),(**list of supported <**timeout**>s**),(**list of supported **<ttl>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CIPPING?**	Response **+CIPPING: <retryNum>,<dataLen>,<timeout>,<ttl>** **OK**
	Parameters See Write Command
Write Command **AT+CIPPING=<IP addr>[,<retryNum>[,<dataLen>[,<timeout>[,<ttl>]]]]**	Response **+CIPPING: <replyId>,<Ip Address>,<replyTime>,<ttl>[<CR><LF>** **+CIPPING: <replyId>,<Ip Address>,<replyTime>,<ttl>** **[...]]** **OK** or **ERROR** or **+CME ERROR: <err>**

	Parameters <**IPaddr**> Address of the remote host,string type.This parameter can be either: - IP address in the format:"xxx.xxx.xxx.xxx" - Host name solved by a DNS query <**retryNum**> The number of Ping Echo Requset to send 1-100 Default: 4 <**dataLen**> The length of Ping Echo Request data 0-1024 Default: 32 <**timeout**> The timeout,in units of 100 ms,waiting for a single Echo Reply 1-600 Default: 100(10 seconds) <**ttl**> Time to live 1-255 Default: 64 <**replyId**> Echo Reply number <**IP Address**> IP Address of the remote host <**replyTime**> Time,in units of 100 ms, required to receive the response
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● Before sending PING Request the GPRS context must be activated. ● When the Echo Request timeout expires (no reply received on time), the response will contains **<replyTime>** setting to 600 and **<ttl>** setting to 255. ● When executing this command, if PDP context is deactivated for some reasons, such as out of service, etc., the "**+PDP: DEACT**" URC is reported and the command will end immediately.

10.2.2 AT+CIPCTL Set the Mode When Receiving an IP Packet

AT+CIPCTL Set the Mode When Receiving an IP Packet	
Test Command **AT+CIPCTL=?**	Response **+CIPCTL: (**list of supported **<mode>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CIPCTL?**	Response **+CIPCTL: <mode>**

	OK
	Parameters See Write Command
Write Command **AT+CIPCTL=<mode>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters <**mode**> 0 Disable to send Echo Reply 1 Enable to send Echo Reply to every IP address pinging it 2 Enable to send Echo Reply only to a subset of IP Addresses pinging it. This subset of IP Addresses can be set by "AT+CIPFLT" command.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note The value of **<mode>** is stored in non volatile memory.

10.2.3 AT+CIPFLT Set the Rules of IP Filter

AT+CIPFLT Set the Rules of IP Filter	
Test Command **AT+CIPFLT=?**	Response **+CIPFLT: (**list of supported **<action>**s**),(**list of supported **<item>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+CIPFLT?**	Response **+CIPFLT: <item>**,<**ipAddr**>,<**mask**> **[<CR><LF>+CIPFLT: <item>**,<**ipAddr**>,<**mask**> **[…]]** **OK**
	Parameter See Write Command

Write Command **AT+CIPFLT=<action>[,<item>][,<ipAddr>,<mask>]**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters **<action>** 0 Remove the rule specified by <item>. <item> must be given. 1 Add the rule specified by <item>. If <item> is not given, it can find an empty item automatically. <ipAddr> and <mask> must be given. 2 Delete all of rules <**item**> The item of IP filter rule 1-20 <**ipAddr**> Remote IP address,string type. It can be any valid IP address in the format of ”xxx.xxx.xxx.xxx” <**mask**> Mask to be applied to the**<ipAddr>**,string type. It can be any valid IP address mask in the format of ”xxx.xxx.xxx.xxx”
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● When a packet comes from the IP address <**coming_IP**>, All rules will be scanned to match the following criterion: **<coming_IP> & <mask> = <ipAddr> & <mask>** If the criterion is matched, the IP packet will be accepted and the rule scan is finished. If the criterion is not matched, the IP packet will be ignored. ● The rule is stored in non volatile memory.

10.2.4 AT+CIPBEIPING Set the Module to be PING or Not

AT+CIPBEIPING	**Set the Module to be PING or Not**
Test Command **AT+CIPBEIPING=?**	Response **+CIPBEIPING: (0,1)** **OK**
	Parameters See Write Command

Read Command **AT+CIPBEIPING?**	Response **+CIPBEIPING: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CIPBEIPING=<mode>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters **<mode>** 0 Disable the module to be PING. 1 Enable the module to be PING.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● If the user want the module can be PING by other device, the user must excute the AT+CIPBEIPING=1 before the module is PING. ● Part of the projects supported by this AT command, please refer to chapter 21 for details.

11 AT Commands for HTTP Application

SIM800 series has an embedded TCP/IP stack that is driven by AT commands and enables the host application to easily access the Internet HTTP service. This chapter is a reference guide to all the AT commands and responses defined to use with the TCP/IP stack in HTTP Service.

11.1 Overview

Command	Description
AT+HTTPINIT	Initialize HTTP service
AT+HTTPTERM	Terminate HTTP service
AT+HTTPPARA	Set HTTP parameters value
AT+HTTPDATA	Input HTTP data
AT+HTTPACTION	HTTP method action
AT+HTTPREAD	Read the HTTP server response
AT+HTTPSCONT	Save HTTP application context
AT+HTTPSTATUS	Read HTTP status
AT+HTTPHEAD	Read the HTTP header information of server response

11.2 Detailed Descriptions of Commands

11.2.1 AT+HTTPINIT Initialize HTTP Service

AT+HTTPINIT	Initialize HTTP Service
Test Command **AT+HTTPINIT=?**	Response **OK**
Execution Command **AT+HTTPINIT**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note HTTPINIT should first be executed to initialize the HTTP service.

11.2.2 AT+HTTPTERM Terminate HTTP Service

AT+HTTPTERM Terminate HTTP Service	
Test Command **AT+HTTPTERM=?**	Response **OK**
Execution command **AT+HTTPTERM**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

11.2.3 AT+HTTPPARA Set HTTP Parameters Value

AT+HTTPPARA Set HTTP Parameters Value	
Test Command **AT+HTTPPARA=?**	Response **+HTTPPARA: "HTTPParamTag","HTTPParmValue"** **OK**
	Parameters See Write Command
Read Command **AT+HTTPPARA?**	Response **+HTTPPARA: <HTTPParamTag>,<HTTPParamValue>** **OK**
	Parameters See Write Command
Write Command **AT+HTTPPARA=<HTTPParamTag>,<HTTPParamValue>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<HTTPParamTag>** HTTP Parameter "CID" (Mandatory Parameter) Bearer profile identifier

	"URL"	(Mandatory Parameter) HTTP client URL "http://'server'/'path':'tcpPort' " "server": FQDN or IP-address "path": path of file or directory "tcpPort": default value is 80. Refer to "IETF-RFC 2616".
	"UA"	The user agent string which is set by the application to identify the mobile. Usually this parameter is set as operation system and software version information. Default value is "SIMCom_MODULE".
	"PROIP"	The IP address of HTTP proxy server
	"PROPORT"	The port of HTTP proxy server
	"REDIR"	This flag controls the redirection mechanism of the SIM800 when it is acting as HTTP client (numeric). If the server sends a redirect code (range 30x), the client will automatically send a new HTTP request when the flag is set to (1). Default value is 0 (no redirection).
	"BREAK"	Parameter for HTTP method "GET", used for resuming broken transfer.
	"BREAKEND"	Parameter for HTTP method "GET", used for resuming broken transfer. which is used together with "BREAK", If the value of "BREAKEND" is bigger than "BREAK", the transfer scope is from "BREAK" to "BREAKEND". If the value of "BREAKEND" is smaller than "BREAK", the transfer scope is from "BREAK" to the end of the file.
	"TIMEOUT"	If both "BREAKEND" and "BREAK" are 0, the resume broken transfer function is disabled. HTTP session timeout value, scope: 30-1000 second. Default value is 120 seconds.
		HTTP Parameter value. Type and supported content depend on related <HTTPParamTag>.
	"CONTENT"	Used to set the “Content-Type” field in HTTP header.
	"USERDATA"	User data
	<HTTPParamValue>	HTTP Parameter value.Type and supported content depend on related <HTTPParamTag>.
Parameter Saving	NO_SAVE	

Mode	
Max Response Time	-
Reference	Note Not all the HTTP Server supports "BREAK" and "BREAKEND" parameters

11.2.4 AT+HTTPDATA Input HTTP Data

AT+HTTPDATA Input HTTP Data	
Test Command **AT+HTTPDATA=?**	Response **+HTTPDATA: (**list of supported **<size>**s**),(**list of supported **<time>**s**)** **OK**
	Parameters See Write Command
Write Command **AT+HTTPDATA=<size>,<time>**	Response **DOWNLOAD** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<size>** Size in bytes of the data to POST. 1-319488 (bytes) 0 means delete all the content. **<time>** 1000-120000 (millisecond) Maximum time in milliseconds to input data.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note It is strongly recommended to set enough time to input all data with the length of <size>.

11.2.5 AT+HTTPACTION HTTP Method Action

AT+HTTPACTION HTTP Method Action	
Test Command **AT+HTTPACTION=?**	Response **+HTTPACTION: (0-3)** **OK**

	Parameters See Write Command
Write Command **AT+HTTPACTION=<Method>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>** Unsolicited Result Code **+HTTPACTION: <Method>,<StatusCode>,<DataLen>**
	Parameters **<Method>** HTTP method specification: 0 GET 1 POST 2 HEAD 3 DELETE **<StatusCode>** HTTP Status Code responded by remote server, it identifier refer to HTTP1.1(RFC2616) 100 Continue 101 Switching Protocols 200 OK 201 Created 202 Accepted 203 Non-Authoritative Information 204 No Content 205 Reset Content 206 Partial Content 300 Multiple Choices 301 Moved Permanently 302 Found 303 See Other 304 Not Modified 305 Use Proxy 307 Temporary Redirect 400 Bad Request 401 Unauthorized 402 Payment Required 403 Forbidden 404 Not Found 405 Method Not Allowed 406 Not Acceptable 407 Proxy Authentication Required 408 Request Time-out 409 Conflict

	410 Gone 411 Length Required 412 Precondition Failed 413 Request Entity Too Large 414 Request-URI Too Large 415 Unsupported Media Type 416 Requested range not satisfiable 417 Expectation Failed 500 Internal Server Error 501 Not Implemented 502 Bad Gateway 503 Service Unavailable 504 Gateway Time-out 505 HTTP Version not supported 600 Not HTTP PDU 601 Network Error 602 No memory 603 DNS Error 604 Stack Busy **<DataLen>** The length of data got
Parameter Saving Mode	NO_SAVE
Max Response Time	About 5 seconds in test, dependence on network status and the size of request website
Reference	Note

11.2.6 AT+HTTPREAD Read the HTTP Server Response

AT+HTTPREAD	**Read the HTTP Server Response**
Test Command **AT+HTTPREAD=?**	Response **+HTTPREAD: (**list of supported **<start_address>**s**),(**list of supported **<byte_size>**s**)** **OK**
	Parameters See Write Command
Write Command **AT+HTTPREAD=<start_address>,<byte_size>**	Response **+HTTPREAD: <date_len>** **<data>** **OK**

	Read data when AT+HTTPACTION=0 or AT+HTTPDATA is executed. If<byte_size> is bigger than the data size received, module will only return actual data size. If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<data>** Data from HTTP server or user input. **<start_address>** The starting point for data output. 0-319488 (bytes) **<byte_size>** The length for data output. 1-319488 (bytes) **<data_len>** The actual length for data output.
Execution Command **AT+HTTPREAD**	Response **+HTTPREAD:<date_len>** **<data>** **OK** Read all data when AT+HTTPACTION=0 or AT+HTTPDATA is executed. If error is related to ME functionality: **+CME ERROR: <err>**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

11.2.7 AT+HTTPSCONT Save HTTP Application Context

AT+HTTPSCONT Save HTTP Application Context	
Read Command **AT+HTTPSCONT?**	Response TA returns HTTP Application Context, which consists of the following AT Command parameters. **+HTTPSCONT:<mode>** **CID:<value>** **URL: <value>** **UA: <value>** **PROIP: <value>** **PROPORT: <value>** **REDIR: <value>**

	BREAK: <value> **BREAKEND: <value>** **USERDATA: <value>** **OK**
	Parameters **<mode>** 0 Saved, the value from NVRAM 1 Unsaved, the value from RAM For other parameters, see the related command.
Execution Command **AT+HTTPSCONT**	Response TA saves HTTP Application Context which consists of following AT Command parameters, and when system is rebooted, the parameters will be loaded automatically. **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note This command can only be used after run AT+HTTPINIT.

11.2.8 AT+HTTPSTATUS Read HTTP Status

AT+HTTPSTATUS Read HTTP Status	
Test Command **AT+HTTPSTATUS=?**	Response **OK**
Read Command **AT+HTTPSTATUS?**	Response **+HTTPSTATUS: <mode>,<status>,<finish>,<remain>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**

	Parameters: **<mode>** GET POST HEAD **<status>** 0 idle 1 receiving 2 sending **<finish>** The amount of data which have been transmitted **<remain>** The amount of data remaining to be sent or received
Parameter Saving Mode	NO_SAVE
Max Response Time	-

11.2.9 AT+HTTPHEAD Read the HTTP Header Information of Server Response

AT+HTTPHEAD	**Read the HTTP Header Information of Server Response**
Test Command **AT+HTTPHEAD =?**	Response **OK**
Execution Command **AT+HTTPHEAD**	Response **+ HTTPHEAD: <date_len>** **<data>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<data_len>** The actual length for http header data output **<data>** Data from HTTP server
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note Read header data when AT+HTTPACTION=0 executed.

12 AT Commands for FTP Application

SIM800 series has an embedded TCP/IP stack that is driven by AT commands and enables the host application to easily access the Internet FTP service. This chapter is a reference guide to all the AT commands and responses defined for using with the TCP/IP stack in FTP Service.

12.1 Overview

Command	Description
AT+FTPPORT	Set FTP control port
AT+FTPMODE	Set active or passive FTP mode
AT+FTPTYPE	Set the type of data to be transferred
AT+FTPPUTOPT	Set FTP put type
AT+FTPCID	Set FTP bearer profile identifier
AT+FTPREST	Set resume broken download
AT+FTPSERV	Set FTP server address
AT+FTPUN	Set FTP user name
AT+FTPPW	Set FTP password
AT+FTPGETNAME	Set download file name
AT+FTPGETPATH	Set download file path
AT+FTPPUTNAME	Set upload file name
AT+FTPPUTPATH	Set upload file path
AT+FTPGET	Download file
AT+FTPPUT	Set upload file
AT+FTPSCONT	Save FTP application context
AT+FTPDELE	Delete specified file in FTP server
AT+FTPSIZE	Get the size of specified file in FTP server
AT+FTPSTATE	Get the FTP state
AT+FTPEXTPUT	Extend upload file
AT+FTPMKD	Make directory on the remote machine
AT+FTPRMD	Remove directory on the remote machine
AT+FTPLIST	List contents of directory on the remote machine
AT+FTPGETTOFS	Download file and save in file system
AT+FTPPUTFRMFS	Upload file from file system
AT+FTPEXTGET	Extend download file
AT+FTPFILEPUT	Load file in RAM from file system then upload with FTPPUT
AT+FTPQUIT	Quit current FTP session

12.2 Detailed Descriptions of Commands

12.2.1 AT+FTPPORT Set FTP Control Port

AT+FTPPORT Set FTP Control Port	
Test Command **AT+FTPPORT=?**	Response **OK**
Read Command **AT+FTPPORT?**	Response **+FTPPORT: <value>** **OK**
	Parameters See Write Command
Write Command **AT+FTPPORT=<value>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<value>** The value of FTP Control port, from 1 to 65535. Default value is 21
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note Numbers above 65535 are illegal as the port identification fields are 16 bits long in the TCP header.

12.2.2 AT+FTPMODE Set Active or Passive FTP Mode

AT+FTPMODE Set Active or Passive FTP Mode	
Test Command **AT+FTPMODE=?**	Response **OK**
Read Command **AT+FTPMODE?**	Response **+FTPMODE: <value>** **OK**
	Parameters See Write Command
Write Command **AT+FTPMODE**	Response **OK**

=<value>	If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<value>** 0 Active FTP mode 1 Passive FTP mode
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

12.2.3 AT+FTPTYPE Set the Type of Data to Be Transferred

AT+FTPTYPE Set the Type of Data to Be Transferred	
Test Command **AT+FTPTYPE=?**	Response **OK**
Read Command **AT+FTPTYPE?**	Response **+FTPTYPE: <value>** **OK**
	Parameters See Write Command
Write Command **AT+FTPTYPE=<value>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<value>** "A" For FTP ASCII sessions "I" For FTP Binary sessions
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note When this value is set to A, all the data sent by the stack to the FTP server is made of 7 bits characters (NVT-ASCII: the MSB is set to 0). As a consequence binary data containing 8 bits characters will be corrupted during the transfer if the FTPTYPE is set to A.

12.2.4 AT+FTPPUTOPT Set FTP Put Type

AT+FTPPUTOPT Set FTP Put Type	
Test Command **AT+FTPPUTOPT=?**	Response **OK**
Read Command **AT+FTPPUTOPT?**	Response **+FTPPUTOPT: <value>** **OK**
	Parameters See Write Command
Write Command **AT+FTPPUTOPT=<value>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<value>** "APPE" For appending file "STOU" For storing unique file "STOR" For storing file
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

12.2.5 AT+FTPCID Set FTP Bearer Profile Identifier

AT+FTPCID Set FTP Bearer Profile Identifier	
Test Command **AT+FTPCID=?**	Response **OK**
	Parameters See Write Command
Read Command **AT+FTPCID?**	Response **+FTPCID: <value>** **OK**
	Parameter See Write Command

Write Command **AT+FTPCID=<value>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<value>** Bearer profile identifier refer to AT+SAPBR
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

12.2.6 AT+FTPREST Set Resume Broken Download

AT+FTPREST Set Resume Broken Download	
Test Command **AT+FTPREST=?**	Response **OK**
Read Command **AT+FTPREST?**	Response **+FTPREST: <value>** **OK**
	Parameters See Write Command
Write Command **AT+FTPREST=<value>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<value>** Broken point to be resumed
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

12.2.7 AT+FTPSERV Set FTP Server Address

AT+FTPSERV Set FTP Server Address

Test Command **AT+FTPSERV=?**	Response **OK**
Read Command **AT+FTPSERV?**	Response **+FTPSERV: <value>** **OK**
	Parameters See Write Command
Write Command **AT+FTPSERV=<value>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<value>** 32-bit number in dotted-decimal notation (i.e. xxx.xxx.xxx.xxx) or alphanumeric ASCII text string up to 49 characters if DNS is available
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

12.2.8 AT+FTPUN Set FTP User Name

AT+FTPUN Set FTP User Name	
Test Command **AT+FTPUN=?**	Response **OK**
	Parameters See Write Command
Read Command **AT+FTPUN?**	Response **+FTPUN: <value>** **OK**
	Parameters See Write Command
Write Command **AT+FTPUN=<value>**	Response **OK**

	If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<value>** Alphanumeric ASCII text string up to 49 characters.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

12.2.9 AT+FTPPW Set FTP Password

AT+FTPPW Set FTP Password	
Test Command **AT+FTPPW=?**	Response **OK**
	Parameters See Write Command
Read Command **AT+FTPPW?**	Response **+FTPPW: <value>** **OK**
	Parameters See Write Command
Write Command **AT+FTPPW=<value>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameter **<value>** Alphanumeric ASCII text string up to 49 characters.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

12.2.10 AT+FTPGETNAME Set Download File Name

AT+FTPGETNAME Set Download File Name	
Test Command **AT+FTPGETNAME=?**	Response **OK**
Read Command **AT+FTPGETNAME?**	Response **+FTPGETNAME: <value>** **OK**
	Parameters See Write Command
Write Command **AT+FTPGETNAME=<value>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<value>** Alphanumeric ASCII text string up to 99 characters
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

12.2.11 AT+FTPGETPATH Set Download File Path

AT+FTPGETPATH Set Download File Path	
Test Command **AT+FTPGETPATH=?**	Response **OK**
Read Command **AT+FTPGETPATH?**	Response **+FTPGETPATH: <value>** **OK**
	Parameters See Write Command
Write Command **AT+FTPGETPATH=<value>**	Response **OK** If error is related to ME functionality:

	+CME ERROR: <err>
	Parameters **<value>** Alphanumeric ASCII text string up to 255 characters
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

12.2.12 AT+FTPPUTNAME Set Upload File Name

AT+FTPPUTNAME Set Upload File Name	
Test Command **AT+FTPPUTNAME=?**	Response **OK**
Read Command **AT+FTPPUTNAME?**	Response **+FTPPUTNAME: <value>** **OK**
	Parameters See Write Command
Write Command **AT+FTPPUTNAME=<value>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<value>** Alphanumeric ASCII text string up to 99 characters
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

12.2.13 AT+FTPPUTPATH Set Upload File Path

AT+FTPPUTPATH Set Upload File Path

Test Command **AT+FTPPUTPATH=?**	Response **OK**
Read Command **AT+FTPPUTPATH?**	Response **+FTPPUTPATH: <value>** **OK**
	Parameters See Write Command
Write Command **AT+FTPPUTPATH=<value>**	Response **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<value>** Alphanumeric ASCII text string up to 255 characters
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

12.2.14 AT+FTPGET Download File

AT+FTPGET Download File	
Test Command **AT+FTPGET=?**	Response **OK**
Write Command **AT+FTPGET=<mode>[,<reqlength>]**	Response If mode is 1 and it is a successful FTP get session: **OK** **+FTPGET: 1,1** If data transfer finished: **+FTPGET: 1,0** If mode is 1 and it is a failed FTP get session: **OK** **+FTPGET: 1,<error>** If mode is 2:

	+FTPGET: 2,<cnflength> **012345678…** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<mode>** 1 For opening FTP get session 2 For reading FTP download data. **<reqlength>** Requested number of data bytes (1-1460)to be read **<cnflength>** Confirmed number of data bytes to be read, which may be less than <**length**>. 0 indicates that no data can be read. **<error>** 61 Net error 62 DNS error 63 Connect error 64 Timeout 65 Server error 66 Operation not allow 70 Replay error 71 User error 72 Password error 73 Type error 74 Rest error 75 Passive error 76 Active error 77 Operate error 78 Upload error 79 Download error 86 Manual quit
Parameter Saving Mode	NO_SAVE
Max Response Time	75 seconds(In case no response is received from server)
Reference	Note When "**+FTPGET: 1,1**" is shown, then use "**AT+FTPGET=2,<reqlength>**" to read data. If the module still has unread data, "**+FTPGET: 1,1**" will be shown again in a certain time.

12.2.15 AT+FTPPUT Set Upload File

AT+FTPPUT Set Upload File	
Test Command **AT+FTPPUT=?**	Response **OK**

Write Command **AT+FTPPUT=<mode>[,<reqlength>]**	Response If mode is 1 and it is a successful FTP get session: **OK** **+FTPPUT: 1,1,<maxlength>** If mode is 1 and it is a failed FTP get session: **OK** **+FTPPUT: 1,<error>** If mode is 2 and <**reqlength**> is not 0 **+FTPPUT: 2,<cnflength>** **……** //Input data **OK** If mode is 2 and <**reqlength**> is 0, it will respond OK, and FTP session will be closed **OK** If data transfer finished. **+FTPPUT: 1,0** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<mode>** 1 For opening FTP put session 2 For writing FTP upload data. **<reqlength>** Requested number of data bytes(0-<**maxlength**>) to be transmitted **<cnflength>** Confirmed number of data bytes to be transmitted **<maxlength>** The max length of data can be sent at a time. It depends on the network status. **<error>** See "**AT+FTPGET**"
Parameter Saving Mode	NO_SAVE
Max Response Time	75 seconds(In case no response is received from server)
Reference	Note When "**+FTPPUT: 1,1,<maxlength>**" is shown, then use "**AT+FTPPUT=2, <reqlength>**" to write data.

12.2.16 AT+FTPSCONT Save FTP Application Context

AT+FTPSCONT	**Save FTP Application Context**
Read Command	Response

AT+FTPSCONT?	TA returns FTP Application Context, which consists of the following AT Command parameters. **+FTPSCONT:<mode>** **+FTPSERV: <value>** **+FTPPORT: <value>** **+FTPUN: <value>** **+FTPPW: <value>** **+FTPCID: <value>** **+FTPMODE: <value>** **+FTPTYPE: <value>** **+FTPPUTOPT: <value>** **+FTPREST: <value>** **+FTPGETNAME: <value>** **+FTPGETPATH: <value>** **+FTPPUTNAME: <value>** **+FTPPUTPATH: <value>** **+FTPTIMEOUT: <value>** **OK**
	Parameters **<mode>** 0 Saved, the value from NVRAM 1 Unsaved, the value from RAM For other parameters, see the related command.
Execution Command **AT+FTPSCONT**	Response TA saves FTP Application Context which consists of following AT Command parameters, and when system is rebooted, the parameters will be loaded automatically. **OK**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

12.2.17 AT+FTPDELE Delete Specified File in FTP Server

AT+FTPDELE Delete Specified File in FTP Server	
Test Command **AT+FTPDELE=?**	Response **OK**
	Parameters

Execution Command **AT+FTPDELE**	Response If successed: **OK** **+FTPDELE: 1,0** If failed: **OK** **+FTPDELE: 1,<error>** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<error>** See "**AT+FTPGET**"
Parameter Saving Mode	NO_SAVE
Max Response Time	75 seconds(In case no response is received from server)
Reference	Note The file to be deleted is specified by the "**AT+FTPGETNAME**" and "**AT+FTPGETPATH**" commands.

12.2.18 AT+FTPSIZE Get the Size of Specified File in FTP Server

AT+FTPSIZE Get the Size of Specified File in FTP Server	
Test Command **AT+FTPSIZE=?**	Response **OK**
	Parameters
Execution Command **AT+FTPSIZE**	Response If successed: **OK** **+FTPSIZE: 1,0,<size>** If failed: **OK** **+FTPSIZE: 1,<error>,<0>** If error is related to ME functionality: **+CME ERROR: <err>**

	Parameters **<error>** See "**AT+FTPGET**" **<size>** The file size. Unit: byte
Parameter Saving Mode	NO_SAVE
Max Response Time	75 seconds(In case no response is received from server)
Reference	Note The file is specified by the "**AT+FTPGETNAME**" and "**AT+FTPGETPATH**" commands.

12.2.19 AT+FTPSTATE Get the FTP State

AT+FTPSTATE Get the FTP State	
Test Command **AT+FTPSTATE=?**	Response **OK**
	Parameters
Execution Command **AT+FTPSTATE**	Response **+FTPSTATE: <state>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<state>** 0 Idle 1 In the FTP session, including FTPGET, FTPPUT, FTPDELE and FTPSIZE operation.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

12.2.20 AT+FTPEXTPUT Extend Upload File

AT+FTPEXTPUT Extend Upload File	
Test Command **AT+FTPEXTPUT=?**	Response **OK**

Write Command **AT+FTPEXTPUT=<mode>[,<pos>,<len>,<timeout>]**	Response If mode is 0 or 1 **OK** If mode is 2 **+FTPEXTPUT: <pos>,<len>** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<mode>** 0 use default FTPPUT method 1 use extend FTPPUT method 2 download data which need to PUT to RAM <**pos**> data offset address 0-300k <**len**> data length 0-300k <**timeout**> timeout value of serial port 1000ms-1000000ms
Parameter Saving Mode	NO_SAVE
Max Response Time	75 seconds(In case no response is received from server)
Reference	Note When extend FTPPUT mode is activated, input data then execute "**AT+FTPPUT=1**" to transmit, after session is complete, if successful, it returns "**+FTPPUT: 1,0**", otherwise it returns "**+FTPPUT: 1,<error>**", <**error**> see "**AT+FTPGET**".

12.2.21 AT+FTPMKD Make Directory on the Remote Machine

AT+FTPMKD Make Directory on the Remote Machine	
Test Command **AT+FTPMKD=?**	Response **OK**
Execution Command **AT+FTPMKD**	Response If success: **OK** **+FTPMKD: 1,0** If failed: **OK** **+FTPMKD: 1,<error>** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<error>** See "**AT+FTPGET**"

Parameter Saving Mode	NO_SAVE
Max Response Time	75 seconds(In case no response is received from server)
Reference	Note The created folder is specified by the "**AT+FTPGETPATH**" command.

12.2.22 AT+FTPRMD Remove Directory on the Remote Machine

AT+FTPRMD Remove Directory on the Remote Machine	
Test Command **AT+FTPRMD=?**	Response **OK**
Execution Command **AT+FTPRMD**	Response If success: **OK** **+FTPRMD: 1,0** If failed: **OK** **+FTPRMD: 1,<error>** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<error>** See "**AT+FTPGET**"
Parameter Saving Mode	NO_SAVE
Max Response Time	75 seconds(In case no response is received from server)
Reference	Note The removed folder is specified by the "**AT+FTPGETPATH**" command.

12.2.23 AT+FTPLIST List Contents of Directory on the Remote Machine

AT+FTPLIST List Contents of Directory on the Remote Machine	
Test Command **AT+FTPLIST=?**	Response **OK**
Write Command **AT+FTPLIST=<mode>[,<reqlength>]**	Response If mode is 1 and it is a successful FTP get session: **OK** **+FTPLIST: 1,1** If data transfer is finished:

	+FTPLIST: 1,0 If mode is 1 and it is a failed FTP get session: **OK** **+FTPLIST: 1,<error>** If mode is 2: **+FTPLIST: 2,<cnflength>** **012345678…** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<mode>** 1 For opening FTP get file list session 2 For reading FTP file list <**reqlength**> Requested number of data bytes (1-1460) to be read <**cnflength**> Confirmed number of data bytes to be read, which may be less than <reqlength>. 0 indicates that no data can be read. <**error**> See "**AT+FTPGET**"
Parameter Saving Mode	NO_SAVE
Max Response Time	75 seconds(In case no response is received from server)
Reference	Note When "**+FTPLIST: 1,1**" is shown, "**AT+FTPLIST=2,<reqlength>**" can be used to read data. If the module still has unread data, "**+FTPLIST: 1,1**" will be shown again in a certain time.

12.2.24 AT+FTPGETTOFS Download File and Save in File System

AT+FTPGETTOFS Download File and Save in File System	
Test Command **AT+FTPGETTOFS=?**	Response **OK**
Read Command **AT+FTPGETTOFS?**	Response **+FTPGETTOFS: <status>[,<receivedLength>,<writeLength>]** **OK**
	Parameters <**status**> The process status of downloading and saving File to File System through FTP 0 Not in the process

	1 During the process <**receivedLength**> The data length received from FTP <**writeLength**> The data length saved in File System
Write Command **AT+FTPGETTOFS=<loc>,<filename>[,<num>,<time>]**	Response If it is a successful FTP get session: **OK** If data transfer finished. **+FTPGETTOFS: 0,<totalLength>** If it is a failed FTP get session: **OK** **+FTPGETTOFS: <error>** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<loc>** file saved in ROM or SD card. 0 Saved in ROM, file will be saved in "Disk1:\user\ftp" 1 Saved in SD card, file will be saved in "Disk2:\ftp" Note: The local drive "Disk1" or SD drive "Disk2" can be got by AT+FSDRIVE. <**filename**> File name. Alphanumeric ASCII text string up to 64 characters <**num**> Number of automatic reconnect times, from 0 to 255. Default value is 3. **<time>** Wait time before module start automatic reconnect, from 0 to 60 seconds. Default value is 5 seconds. **<totalLength>** The total length of data bytes have been saved **<error>** 85 An error related with file system. Other errors please see FTPGET.
Parameter Saving Mode	NO_SAVE
Max Response Time	75 seconds(In case no response is received from server)
Reference	Note ● Automatic reconnection will start at break point. ● File will be overwritten if you start this function twice with a same file name.

12.2.25 AT+FTPPUTFRMFS Upload File from File System.

AT+FTPPUTFRMFS Upload File from File System

Test Command **AT+FTPPUTFRMFS=?**	Response **OK**
Read Command **AT+FTPPUTFRMFS?**	Response **+FTPPUTFRMFS: <status>[,<putLength>]** **OK**
	Parameters <**status**> The process status of uploading File from File System through FTP 0 Not in the process 1 During the process <**putLength**> The data length uploaded from File System
Write Command **AT+FTPPUTFRMFS=<filepath>[,<num>,<time>]**	Response If it is a successful FTP put session: **OK** If data transfer finished. **+FTPPUTFRMFS: 0,<totalLength>** If it is a failed FTP put session: **OK** **+FTPPUTFRMFS: <error>** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters <**filepath**> File path. Alphanumeric ASCII text string up to 128 characters <**num**> Number of automatic reconnect times, from 0 to 255. Default value is 3. **<time>** Wait time before module start automatic reconnect, from 0 to 60 seconds. Default value is 5 seconds. **<totalLength>** The data length uploaded from File System **<error>** 85 An error related with file system. Other errors pls see FTPGET.
Parameter Saving Mode	NO_SAVE
Max Response Time	75 seconds(In case no response is received from server)
Reference	Note Automatic reconnect will start at break point.

12.2.26 AT+FTPEXTGET Extend Download File

AT+FTPEXTGET	Extend Download File
Test Command **AT+FTPEXTGET=?**	Response **OK**
Read Command **AT+FTPEXTGET?**	Response **+FTPEXTGET: <status>[,<receivedLength>]** **OK**
	Parameters <**status**> Whether run FTPEXTGET or not 0 Not run FTPEXTGET 1 Run FTPEXTGET <**receivedLength**> Length module has received from FTP server
Write Command 1)if mode is 0 or 1 **AT+FTPEXTGET=<mode>** 2)if mode is 2 **AT+FTPEXTGET=<mode>,<filename>** 3)if mode is 3 **AT+FTPEXTGET=<mode>,<readPosition>,<readLength>**	Response If mode is 0 **OK** If it is a successful FTP get session in mode 1: **OK** If data transfer finished in mode 1 **+FTPEXTGET: 1,0** If it is a failed FTP get session in mode 1: **OK** **+FTPEXTGET: 1,<error>** If mode is 2: **+FTPEXTGET: 2,<totalLength>** OK If mode is 3: **+FTPEXTGET: 3,<outputLength>** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters <**mode**> 0 Use default FTPGET method 1 Start extend FTPGET method 2 Save download data to filesystem

	3 Output download data <**filename**> File name to write data in mode 2. Alphanumeric ASCII text string up to 64 characters. <**readPosition**> Position start read data in mode 3. <**readLength**> Read length in mode 3 <**totalLength**> The total length of data bytes have been download <**outputLength**> Total length will be output from serial port <**error**> 85 An error related with file system. Other errors pls see FTPGET.
Parameter Saving Mode	NO_SAVE
Max Response Time	75 seconds(In case no response is received from server)
Reference	Note Can not use this function when set FTPEXTPUT mode 1

12.2.27 AT+FTPFILEPUT Load File in RAM from File System then Upolad with FTPPUT

AT+FTPFILEPUT Load File in RAM from File System then Upload with FTPPUT	
Test Command **AT+FTPFILEPUT=?**	Response **OK**
Write Command **AT+FTPFILEPUT=<mode>[,filename]**	Response If success: **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters <**mode**> 0 Not use FTPFILEPUT method 1 Use FTPFILEPUT method <**filename**> File name to write data in mode 1. Alphanumeric ASCII text string up to 64 characters. <**error**> 85 An error related with file system. Other errors pls see FTPGET.
Parameter Saving Mode	NO_SAVE
Max Response Time	75 seconds(In case no response is received from server)
Reference	Note This function can not be used when FTPEXTPUT mode has been set as 1.

12.2.28 AT+FTPQUIT Quit Current FTP Session

AT+FTPQUIT Quit Current FTP Session	
Test Command **AT+FTPQUIT=?**	Response **OK**
Execution Command **AT+FTPQUIT**	Response If success: **OK** If error is related to ME functionality: **+CME ERROR: <err>**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

13 AT Commands for GSM Location Application

SIM800 series support GSM location operation.

13.1 Overview

Command	Description
AT+CIPGSMLOC	GSM location and time

13.2 Detailed Descriptions of Commands

13.2.1 AT+CIPGSMLOC GSM Location and Time

AT+CIPGSMLOC	GSM Location and Time
Test Command **AT+CIPGSMLOC=?**	Response **+CIPGSMLOC: (1,2),(1-3)** **OK** Parameters See Write Command
Write Command **AT+CIPGSMLOC=<type>,<cid>**	Response If <**type**>=1: **+CIPGSMLOC:** **<locationcode>[,<longitude>,<latitude>,<date>,<time>]** **OK** If <**type**>=2: **+CIPGSMLOC: <locationcode>[,<date>,<time>]** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
	Parameters **<type>** 1 View the longitude, latitude and time 2 View time **<cid>** network parameters, refer to AT+SAPBR **<locationcode>** 0 Success If the operation failed, the location code is not 0, such as: 404 Not Found

	408 Request Time-out 601 Network Error 602 No memory 603 DNS Error 604 Stack Busy 65535 Other Error <**longitude**> Current longitude in degrees <**latitude**> Current latitude in degrees <**date**> Format is YYYY/MM/DD, the time zone is GMT E.g. 2011/01/26 <**time**> Format is hh/mm/ss,the time zone is GMT.E.g. 06:10:46
Parameter Saving Mode	NO_SAVE
Max Response Time	60 seconds
Reference	Note

14 AT Commands for Email Application

1. SIM800 series supports to send an Email with an attachment via SMTP protocol. It also supports carbon copy (abbreviated Cc:) recipient and blind carbon copy (abbreviated Bcc:) recipient.
2. SIM800 series supports to retrieve and delete the Email via POP3 protocol, the Email may be with attachments.
3. SIM800 series supports all of POP3 commands but APOP. By these POP3 commands, you can get the specific Email's size and unique-id.
4. SIM800 series does not support that SMTP and POP3 operations are executed at the same time.

14.1 Overview

Command	Description
AT+EMAILCID	Set Email bearer profile identifier
AT+EMAILTO	Set timeout value of SMTP/POP3 server response
AT+SMTPSRV	Set SMTP server address and port
AT+SMTPAUTH	Set user name and password for SMTP authentication
AT+SMTPFROM	Set sender address and name
AT+SMTPRCPT	Set the Email recipient(to/cc/bcc) address and name
AT+SMTPSUB	Set the Email subject
AT+SMTPBODY	Set the Email body
AT+SMTPFILE	Set the Email attachment
AT+SMTPSEND	Send the Email
AT+SMTPFT	Transfer the Email attachment
AT+SMTPCS	Set the Email charset
AT+POP3SRV	Set POP3 server and account
AT+POP3IN	Log in POP3 server
AT+POP3NUM	Get Email number and total size
AT+POP3LIST	Get the specific Email size
AT+POP3UIDL	Get the specific Email unique-id
AT+POP3CMD	Get multi-line response
AT+POP3READ	Read multi-line response
AT+POP3DEL	Mark the specific Email to delete
AT+POP3RSET	Unmark the emails that be marked as deleted
AT+POP3OUT	Log out POP3 server

14.2 Detailed Descriptions of Commands

14.2.1 AT+EMAILCID Set Email Bearer Profile Identifier

AT+EMAILCID	Set Email Bearer Profile Identifier
Test Command **AT+EMAILCID=?**	Response **+EMAILCID: (**range of supported **<cid>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+EMAILCID?**	Response **+EMAILCID: <cid>** **OK**
	Parameters See Write Command
Write Command **AT+EMAILCID=<cid>**	Response **OK** If error is related to ME functionality: **ERROR**
	Parameters **<cid>** bearer profile identifier refer to AT+SAPBR
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

14.2.2 AT+EMAILTO Set Timeout Value of SMTP/POP3 Server Response

AT+EMAILTO	Set Timeout Value of SMTP/POP3 Server Response
Test Command **AT+EMAILTO=?**	Response **+EMAILTO: (**range of supported **<timeout>**s**)** **OK**
	Parameters See Write Command

Read Command **AT+EMAILTO?**	Response **+EMAILTO: <timeout>** **OK**
	Parameters See Write Command
Write Command **AT+EMAILTO=<timeout>**	Response **OK** If error is related to ME functionality: **ERROR**
	Parameters **<timeout>** The timeout value of SMTP/POP3 server response, in 1 second unit. 10-120 Default: 30(seconds)
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

14.2.3 AT+SMTPSRV Set SMTP Server Address and Port

AT+SMTPSRV	**Set SMTP Server Address and Port**
Test Command **AT+SMTPSRV=?**	Response **+SMTPSRV: <smtpServerLength>,(**range of supported **<smtpPort>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+SMTPSRV?**	Response **+SMTPSRV: <smtpServer>,<smtpPort>** **OK**
	Parameter See Write Command
Write Command **AT+SMTPSRV=<smtpServer>[,<smtpPort>]**	Response **OK** If error is related to ME functionality: **ERROR**

	Parameters **<smtpServer>** SMTP server address, string type. This parameter can be either: - IP address in the format: xxx.xxx.xxx.xxx - Host name to be solved with a DNS query **<smtpPort>** The SMTP port 1-65535 Default: 25 **<smtpServerLength>** The max length of <**smtpServer**>
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

14.2.4 AT+SMTPAUTH Set User Name and Password for SMTP Authentication

AT+SMTPAUTH	**Set User Name and Password for SMTP Authentication**
Test Command **AT+SMTPAUTH=?**	Response **+SMTPAUTH: (**range of supported**<authType>**s**),<userNameLength>**,**<passwordLength>** **OK**
	Parameters See Write Command
Read Command **AT+SMTPAUTH?**	Response **+SMTPAUTH: <authType>,<userName>,<password>** **OK**
	Parameters See Write Command
Write Command **AT+SMTPAUTH=<authType>[,<userName>,<password>]**	Response **OK** If error is related to ME functionality: **ERROR**
	Parameters **<authType>** The type of SMTP authentication 0 SMTP server does not request authentication. <**userName**> and <**password**> must not be given. 1 SMTP server requests authentication **<userName>** The user name for SMTP authentication.

	<userNameLength> The max length of <**userName**>. **<password>** The password for SMTP authentication. **<passwordLength>** The max length of <**password**>.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

14.2.5 AT+SMTPFROM Set Sender Address and Name

AT+SMTPFROM	**Set Sender Address and Name**
Test Command **AT+SMTPFROM=?**	Response **+SMTPFROM: <senderAddressLength>,<senderNameLength>** **OK**
	Parameters See Write Command
Read Command **AT+SMTPFROM?**	Response **+SMTPFROM: <senderAddress>,<senderName>** **OK**
	Parameter See Write Command
Write Command **AT+SMTPFROM=<senderAddress>[,<senderName>]**	Response **OK** If error is related to ME functionality: **ERROR**
	Parameters **<senderAddress>** The Email sender address,string type. **<senderAddressLength>** The max length of <**senderAddress**> **<senderName>** The Email sender name,string type. **<senderNameLength>** The max length of <**senderName**>
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

14.2.6 AT+SMTPRCPT Set the Email Recipient(TO/CC/BCC) Address and Name

AT+SMTPRCPT	**Set the Email Recipient(TO/CC/BCC) Address and Name**
Test Command **AT+SMTPRCPT=?**	Response **+SMTPRCPT: (**range of supported **<rcptType>**s**),(**range of supported **<index>**s**),<rcptAddressLength>**,**<rcptNameLength>** **OK**
	Parameters See Write Command
Read Command **AT+SMTPRCPT?**	Response **[+SMTPRCPT: <rcptType>,<index>,<rcptAddress>,<rcptName>** **[<CR><LF>+SMTPRCPT: <rcptType>,<index>,<rcptAddress>,** **<rcptName>[…]]]** **OK**
	Parameter See Write Command
Write Command **AT+SMTPRCPT=<rcptType>[,<index>[,<rcptAddress>[,<rcptName>]]]**	Response **OK** If error is related to ME functionality: **ERROR**
	Parameters **<rcptType>** The type of recipient, the types of TO and CC are used to construct e-mail header in the field:"To:" or "Cc:". 0 TO, Normal Recipient. 1 CC, Carbon Copy recipient. 2 BCC, Blind Carbon Copy recipient. **<index>** Index of the type of recipient, decimal format **<rcptAddress>** The Email recipient address. **<rcptName>** The Email recipient name. **<rcptAddressLength>** The max length of <**rcptAddress**>. **<rcptNameLength>** The max length of <**rcptName**>.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● If only <**rcptType**> is given, it will delete all items of <**rcptType**>. ● If only <**rcptType**> and <**index**> are given, it will delete the <**index**> item of <**rcptType**>.

14.2.7 AT+SMTPSUB Set the Email Subject

AT+SMTPSUB	Set the Email Subject
Test Command **AT+SMTPSUB=?**	Response **+SMTPSUB: <subjectLength>** **OK**
	Parameters See Write Command
Read Command **AT+SMTPSUB?**	Response **+SMTPSUB: <subject>** **OK**
	Parameter See Write Command
Write Command **AT+SMTPSUB=<subject>**	Response **OK** If error is related to ME functionality: **ERROR**
	Parameters **<subject>** The Email subject, string type. It will be present in the header of the Email sent by SMTP client in the field: "Subject:" **<subjectLength>** The max length of <subject>.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note If the Email charset is not ASCII,<**subject**> must be in hexadecimal format.

14.2.8 AT+SMTPBODY Set the Email Body

AT+SMTPBODY	Set the Email Body
Test Command **AT+SMTPBODY=?**	Response **+SMTPBODY: <bodyLength>** **OK**
	Parameters See Write Command

Write Command **AT+SMTPBODY=<length>** ,then type data as Email body. When body's length equal length, command is over!	Response **DOWNLOAD** **OK** If error is related to ME functionality: **ERROR**
	Parameters **<length>** The length of Email body.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● If the Email charset is not ASCII, the body of Email must be in hexadecimal format. ● After URC string "DOWNLOAD", User can input email's body.

14.2.9 AT+SMTPFILE Set the Email Attachment

AT+SMTPFILE	**Set the Email Attachment**
Test Command **AT+SMTPFILE=?**	Response **+SMTPFILE: (**range of **<fileType>**s**),<fileNameLength>,(**range of **<encodeType>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+SMTPFILE?**	Response **+SMTPFILE: <fileType>**,**<fileName>**,**<encodeType>** **OK**
	Parameter See Write Command
Write Command **AT+SMTPFILE=<fileType>[,<fileName>,<encodeType>]**	Response **OK** If error is related to ME functionality: **ERROR**
	Parameters **<fileType>** The type of the Email attachment. 0 No attachment 1 Attach a txt file

	2 Attach a binary file (bmp, mp3, video…) **<fileName>** The name of the Email attachment. **<fileNameLength>** The max length of <fileName>. **<encodeType>** Content-Transfer-Encoding used for attachment 0 "7bit" means data all represented as short lines of US-ASCII data 1 "base64" designed to represent arbitrary sequences of octets in a form that need not be humanly readable
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● If a txt file (**<fileType>**=1) is attached, **<encodeType>** must be 0. ● If a binary file (**<fileType>**=2) is attached, **<encodeType>** must be 1.

14.2.10 AT+SMTPSEND Send the Email

AT+SMTPSEND	**Send the Email**
Test Command **AT+SMTPSEND=?**	Response **OK**
	Parameters
Execution Command **AT+SMTPSEND**	Response **OK** If error is related to ME functionality: **ERROR** If send successfully or not, return: **+SMTPSEND**: **<code>**
	Parameters **<code>** The result of sending Email. 1 The Email has been sent successfully. 61 Network error. 62 DNS resolve error 63 SMTP TCP connection error. 64 Timeout of SMTP server response 65 SMTP server response error 66 Not authentication 67 Authentication failed. SMTP user name or password may be not right. 68 Bad recipient.

Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

14.2.11 AT+SMTPFT Transfer the Email Attachment

AT+SMTPFT	**Transfer the Email Attachment**
Test Command **AT+SMTPFT=?**	Response **OK**
	Parameters See Write Command
Write Command **AT+SMTPFT=<reqLength>**	Response When the URC below is reported, the attachment can be transferred: **+SMTPFT: 1,<maxLength>** If **<reqLength>** is not 0 and send data successfully: **+SMTPFT: 2,<cnfLength>** **.....** //Input data **OK** If **<reqLength>** is not 0 and send data unsuccessfully: **+SMTPFT: 2,<cnfLength>** **.....** //Input data **ERROR** If **<reqLength>** is 0,it indicates that transferring the attachment have finished: **OK** If error is related to ME functionality: **ERROR** If some error occur: **+SMTPSEND**: **<code>**
	Parameters **<reqLength>** Requested number of data bytes(0-<**maxLength**>) to be transmitted **<cnfLength>** Confirmed number of data bytes to be transmitted **<maxLength>** The max length of data can be sent at a time. It depends

	on the network status. **<code>** See **AT+SMTPSEND**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● <**reqLength**> can not be greater than <**maxLength**>. ● When "**+SMTPFT: 1,<maxLength>**" is reported, then use "**AT+SMTPFT=<reqLength>**" to send data.

14.2.12 AT+SMTPCS Set the Email Charset

AT+SMTPCS	**Set the Email Charset**
Test Command **AT+SMTPCS=?**	Response **+SMTPCS: <charsetLength>** **OK**
	Parameters See Write Command
Read Command **AT+SMTPCS?**	Response **+SMTPCS: <charset>** **OK**
	Parameter See Write Command
Write Command **AT+SMTPCS=<charset>**	Response **OK** If error is related to ME functionality: **ERROR**
	Parameters **<charset>** The Email charset, string type. It shows which charset the subject and the body are encoded in. If <**charset**> is not ASCII but UTF-8 or other, the subject and the body must be in hexadecimal format (e.g. "TEST" should be converted to "54455354"). The default charset is ASCII. **<charsetLength>** The max length of <**charset**>.
Parameter Saving Mode	NO_SAVE
Max Response Time	-

Reference	Note

14.2.13 AT+POP3SRV Set POP3 Server and Account

AT+POP3SRV	**Set POP3 Server and Account**
Test Command **AT+POP3SRV=?**	Response **+POP3SRV: <pop3ServerLength>,<userNameLength>,<password-Length>,(**range of supported **<pop3Port>**s**)** **OK**
	Parameters See Write Command
Read Command **AT+POP3SRV?**	Response **+POP3SRV: <pop3Server>,<userName>,<password>,<pop3Port>** **OK**
	Parameters See Write Command
Write Command **AT+POP3SRV=<pop3Server>,<userName>,<password>[,<pop3Port>]**	Response **OK** If error is related to ME functionality: **ERROR**
	Parameters **<pop3Server>** POP3 server address, string type. This parameter can be either: - IP address in the format: xxx.xxx.xxx.xxx - Host name to be solved with a DNS query **<userName>** The user name to log in POP3 server, string type. **<password>** The password to log in POP3 server, string type. **<pop3Port>** The port of POP3 server. 1-65535 Default: 110 **<pop3ServerLength>** The max length of <**pop3Server**>. **<userNameLength>** The max length of <**userName**>. **<passwordLength>** The max length of <**password**>.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

14.2.14 AT+POP3IN Log in POP3 Server

AT+POP3IN	Log in POP3 Server
Test Command **AT+POP3IN=?**	Response **OK**
	Parameters
Execution Command **AT+POP3IN**	Response **OK** If error is related to ME functionality: **ERROR** If logging in POP3 server or not, return: **+POP3IN**: **<code>**
	Parameters **<code>** The result of logging in POP3 server 1 Log in POP3 server successfully 61 Network error 62 DNS resolve error 63 POP3 tcp connection error 64 Timeout of POP3 server response 65 POP3 server response error 66 POP3 server rejects to log in 67 Incorrect user name 68 Incorrect user name or password 69 Timeout of read data
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

14.2.15 AT+POP3NUM Get Email Number and Total Size

AT+POP3NUM	Get Email Number and Total Size
Test Command **AT+POP3NUM=?**	Response **OK**
	Parameter

Execution Command **AT+POP3NUM**	Response **OK** If error is related to ME functionality: **ERROR** If POP3 server issues a positive response: **+POP3NUM**: **1**,**<totalNumber>**,**<totalSize>** If POP3 server issues a negative response: **+POP3NUM**: **0** If some error occur: **+POP3OUT: <code>**
	Parameters **<totalNumber>** The Email number on the POP3 server, decimal format. **<totalSize>** The total size of all Email and the unit is in byte. **<code>** The result of logging out POP3 server 1 Normally log out POP3 server 61 Network error 62 DNS resolve error 63 POP3 tcp connection error 64 Timeout of POP3 server response
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

14.2.16 AT+POP3LIST Get the Specific Email Size

AT+POP3LIST	**Get the Specific Email Size**
Test Command **AT+POP3LIST=?**	Response **+POP3LIST: (**range of supported **<msgNumber>**s**)** **OK**
	Parameter See Write Command
Write Command **AT+POP3LIST=<msgNumber>**	Response **OK** If error is related to ME functionality: **ERROR** If POP3 server issues a positive response: **+POP3LIST**: **1**,**<msgNumber>**,**<size>** If POP3 server issues a negative response: **+POP3LIST**: **0**

	If some error occur: **+POP3OUT: <code>**
	Parameters **<msgNumber>** The message number of Email. **<size>** The size of Email <**msgNumber**> and the unit is in byte. **<code>** The result of logging out POP3 server 1 Normally log out POP3 server 61 Network error 62 DNS resolve error 63 POP3 tcp connection error 64 Timeout of POP3 server response
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

14.2.17 AT+POP3UIDL Get the Specific Email Unique-id

AT+POP3UIDL	**Get the Specific Email Unique-id**
Test Command **AT+POP3UIDL=?**	Response **+POP3UIDL: (**range of supported **<msgNumber>**s**)** **OK**
	Parameters See Write Command
Write Command **AT+POP3UIDL=<msgNumber>**	Response **OK** If error is related to ME functionality: **ERROR** If POP3 server issues a positive response: **+POP3UIDL**: **1**,**<msgNumber>**,**<uid>** If POP3 server issues a negative response: **+POP3UIDL**: **0** If some error occur: **+POP3OUT: <code>**
	Parameters **<msgNumber>** The message number of Email . **<UID>** The Email unique-id, the unique-id is an arbitrary

	server-determined string, consisting of 1 to 70 characters in the range 0x21 to 0x7E, which uniquely identifies a message within a maildrop and which persists across sessions. **<code>** The result of logging out POP3 server 1 Normally log out POP3 server 61 Network error 62 DNS resolve error 63 POP3 tcp connection error 64 Timeout of POP3 server response
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

14.2.18 AT+POP3CMD Get Multi-line Response

AT+POP3CMD	**Get Multi-line Response**
Test Command **AT+POP3CMD=?**	Response **+POP3CMD: (**range of supported **<cmdType>**s**),(**range of supported**<msgNumber>**s**),(**range of supported **<lineNumber>**s**)** **OK**
	Parameters See Write Command
Write Command **AT+POP3CMD=<cmdType>[,<msgNumber>[,lineNumber]]**	Response **OK** If error is related to ME functionality: **ERROR** If POP3 server issues a positive response: **+POP3CMD**: **1** If POP3 server issues a negative response: **+POP3CMD**: **0** If some error occur: **+POP3OUT: <code>**
	Parameters **<cmdType>** The values that supported POP3 user command 1 List command The "List" command returns a multi-line "scan listing". For each message on the maildrop list of the server the POP3 service returns a line containing the message number and its size in bytes. A final "dotline" will be printed at the end of the "scan listing". If there are no messages on the maildrop list of the server, the POP3 service returns a positive response, i.e. It

does not issue an error response, but the "scan listing" will be empty. In either case, each scan listing will be finished by so-called "dotline", i.e. a new line with just a single dot. <**msgNumber**> and <**lineNumber**> must not be given.

2 Uidl command

The "Uidl" command returns a multi-line "unique-id Listing". For each message on the maildrop list of the Server the POP3 service returns a line containing the message number and its unique-id. A final "dotline" will be printed at the end of the "unique-id listing" If there are no messages on the maildrop list of the server. The POP3 service returns a positive response, i.e. It does not issue an error response, but the "unique-id listing" will be empty. In either case, each unique-id listing will be finished by so-called "dotline", i.e.a new line with just a singledot. <**msgNumber**> and <**lineNumber**> must not be given.

3 Top command

The command retrieves the number of lines of the message's body from the POP3 server's maildrop list. The POP3 server sends the headers of the message, the blank line separating the headers from the body, and then the number of lines of the message's body. If the number of lines requested by The POP3 client is greater than the number of lines in the body, then the POP3 server sends the entire message. If no such message exists on the server the POP3 service issues an error response to the user. Each email will be finished by a so-called "dotline", i.e.a new line with just a single dot. <**msgNumber**> and <**lineNumber**> must be given.

4 Retrieve command

The command retrieves the related message from the POP3 server's maildrop list. If no such message exists on the server the POP3 service issues an error response to the user. Each email will be finished by a so-called "dotline", i.e. a new line with just a single dot. <**msgNumber**> must be given.

<msgNumber> The message number of Email.

<lineNumber> The number of lines of the message body.

<code> The result of logging out POP3 server

1 Normally log out POP3 server

61 Network error

62 DNS resolve error

63 POP3 tcp connection error

	64 Timeout of POP3 server response
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note After sending these POP3 commands and POP3 server issuing a positive response, you can get the response by "**AT+POP3READ**".

14.2.19 AT+POP3READ Read Multi-line Response

AT+POP3READ	**Read Multi-line Response**
Test Command **AT+POP3READ=?**	Response **+POP3READ: (**range of supported **<reqLength>**s**)** **OK**
	Parameters See Write Command
Write Command **AT+POP3READ=<reqLength>**	Response If the data of response not to be read completely: **+POP3READ: 1**,**<cnfLength>** If the data of response to be read completely: **+POP3READ: 2,<cnfLength>** If some data need to be read,the URC below is reported: **+POP3READ: 3,<dataLength>** If error is related to ME functionality: **ERROR** If some error occur: **+POP3OUT: <code>**
	Parameters **<reqLength>** Requested number of data bytes (1-1460) to be read **<cnfLength>** Confirmed number of data bytes to be read, which may be less than <reqLength>. 0 indicates that no data can be read. **<dataLength>** Received number of data bytes. **<code>** The result of logging out POP3 server 1 Normally log out POP3 server 61 Network error 62 DNS resolve error 63 POP3 tcp connection error 64 Timeout of POP3 server response 69 Read data timeout
Parameter Saving	NO_SAVE

Mode	
Max Response Time	-
Reference	Note ● Other AT commands (but "**AT+POP3OUT**") can not be executed until the data of response are read completely. ● If <**confLength**> is less than <**reqLength**>, you should wait for a URC "**+POP3READ: 3,<dataLength>**" reported. Then you may continue to read data by "**AT+POP3READ**". ● If the module has some unread data, the URC "**+POP3READ: 3,<dataLength>**" is reported every once in a while. After some time, these data are not still been read, the module will quit the POP3 process.

14.2.20 AT+POP3DEL Mark the Specific Email to Delete

AT+POP3DEL	**Mark the Specific Email to Delete**
Test Command **AT+POP3DEL=?**	Response **+POP3DEL: (**range of supported **<msgNumber>**s**)** **OK**
	Parameters See Write Command
Write Command **AT+POP3DEL=<msgNumber>**	Response **OK** If error is related to ME functionality: **ERROR** If POP3 server issues a positive response: **+POP3DEL**: **1** If POP3 server issues a negative response: **+POP3DEL**: **0** If some error occur: **+POP3OUT: <code>**
	Parameters **<msgNumber>** The message number of Email **<code>** The result of logging out POP3 server 1 Normally log out POP3 server 61 Network error 62 DNS resolve error 63 POP3 tcp connection error 64 Timeout of POP3 server response
Parameter Saving Mode	NO_SAVE

Max Response Time	-
Reference	Note The POP3 server marks the Email as deleted. Any future reference to the message-number associated with the Email in a POP3 command generates an error. The POP3 server does not actually delete the Email until the POP3 client logs out POP3 server and closes the session normally.

14.2.21 AT+POP3RSET Unmark the Emails that Be Marked as Deleted

AT+POP3RSET	**Unmark the Emails that Be Marked as Deleted**
Test Command **AT+POP3RSET=?**	Response **OK**
	Parameter
Execution Command **AT+POP3RSET**	Response **OK** If error is related to ME functionality: **ERROR** If POP3 server issues a positive response: **+POP3RSET**: **1** If POP3 server issues a negative response: **+POP3REST**: **0** If some error occur: **+POP3OUT: <code>**
	Parameters **<code>** The result of logging out POP3 server 1 Normally log out POP3 server 61 Network error 62 DNS resolve error 63 POP3 tcp connection error 64 Timeout of POP3 server response
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

14.2.22 AT+POP3OUT Log Out POP3 Server

AT+POP3OUT	**Log Out POP3 Server**
Test Command **AT+POP3OUT=?**	Response **OK**
	Parameters
Execution Command **AT+POP3OUT**	Response **OK** If error is related to ME functionality: **ERROR** If the process is completed, return: **+POP3OUT: <code>**
	Parameters **<code>** The result of logging out POP3 server 1 Normally log out POP3 server 61 Network error 62 DNS resolve error 63 POP3 tcp connection error 64 Timeout of POP3 server response 69 Timeout of read data
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

15 AT Commands for MMS Application

SIM800 series support MMS operation.

15.1 Overview

Command	Description
AT+CMMSCURL	Set the URL of the MMS center
AT+CMMSPROTO	Set the protocol parameter and MMS proxy
AT+CMMSCID	Set the network parameters for MMS
AT+CMMSSENDCFG	Set the parameters for sending MMS
AT+CMMSEDIT	Enter or exit edit mode
AT+CMMSDOWN	Download the file data or title from UART
AT+CMMSDELFILE	Delete the file of the edited MMS by file index
AT+CMMSSEND	Start MMS sending
AT+CMMSRECP	Add recipients
AT+CMMSCC	Add copy recipients
AT+CMMSBCC	Add secret recipients
AT+CMMSDELRECP	Delete recipients
AT+CMMSDELCC	Delete copy recipients
AT+CMMSDELBCC	Delete secret recipients
AT+CMMSRECV	Receive MMS
AT+CMMSVIEW	Get the MMS into buffer and show the information
AT+CMMSREAD	Read the given file of the MMS in the buffer
AT+CMMSRDPUSH	Read the information of the MMS push message
AT+CMMSUA	Set User Agent
AT+CMMSPROFILE	Set User Agent Profile
AT+CMMSTIMEOUT	Set MMS Timeout
AT+CMMSSTATUS	Get MMS Status
AT+CMMSINIT	Initialize MMS Function
AT+CMMSTERM	Exit MMS function
AT+CMMSSCONT	Save MMS context

15.2 Detailed Descriptions of Commands

15.2.1 AT+CMMSCURL Set the URL of the MMS Center

AT+CMMSCURL	**Set the URL of the MMS Center**
Test Command **AT+CMMSCURL=?**	Response **+CMMSCURL: "URL"** **OK** Parameters See Write Command
Read Command **AT+CMMSCURL?**	Response **+CMMSCURL: <mmscurl>** **OK**
	Parameters See Write Command
Write Command **AT+CMMSCURL=<mmscurl>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters <**mmscurl**> The URL of the MMS center.
Parameter Saving Mode	AT+CMMSSCONT
Max Response Time	-
Reference	Note

15.2.2 AT+CMMSPROTO Set the Protocol Parameter and MMS Proxy

AT+CMMSPROTO	**Set the Protocol Parameter and MMS Proxy**
Test Command **AT+CMMSPROTO=?**	Response **+CMMSPROTO: "(0-255).(0-255).(0-255).(0-255)",(1-65535)** **OK**
	Parameters See Write Command

Read Command **AT+CMMSPROTO?**	Response **+CMMSPROTO: <Gateway>,<Port>** **OK**
	Parameters See Write Command
Write Command **AT+CMMSPROTO=<Gateway>,<Port>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters <**Gateway**> IP address of MMS proxy. <**Port**> Port of MMS proxy.
Parameter Saving Mode	AT+CMMSSCONT
Max Response Time	-
Reference	Note

15.2.3 AT+CMMSCID Set the Network Parameters for MMS

AT+CMMSCID Set the Network Parameters for MMS	
Test Command **AT+CMMSCID=?**	Response **+CMMSCID: (1-3)** **OK**
	Parameters See Write Command
Read Command **AT+CMMSCID?**	Response **+CMMSCID: <value>** **OK**
	Parameters See Write Command
Write Command **AT+CMMSCID=<value>**	Response **OK** or **ERROR** or

	+CME ERROR: <err>
	Parameters **<value>** network parameters, refer to "**AT+SAPBR**"
Parameter Saving Mode	AT+CMMSSCONT
Max Response Time	-
Reference	Note

15.2.4 AT+CMMSSENDCFG Set the Parameters for Sending MMS

AT+CMMSSENDCFG Set the Parameters for Sending MMS	
Test Command **AT+CMMSSENDCFG=?**	Response **+CMMSSENDCFG: (0-6), (0-3),(0,1), (0,1),(0-2),(0-4),(1-2),(0,1)** **OK**
	Parameters See Write Command
Read Command **AT+CMMSSENDCFG?**	Response **+CMMSSENDCFG: <valid>,<pri>,<sendrep>,<readrep>,<visible>,<class>,<subctrl>,<notifrspcheck>** **OK**
	Parameters See Write Command
Write Command **AT+CMMSSENDCFG=<valid>[,<pri>[,<sendrep>[,<readrep>[,<visible>[,<class>[,<subctrl>[,<notifrspcheck>]]]]]]]**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters <**valid**> The valid time of sent MMS 0 1 hour 1 12 hours 2 24 hours 3 2 days 4 1 week 5 maximum

	6 Not set (default) <**pri**> Priority 0 lowest 1 normal 2 highest 3 Not Set (default) <**sendrep**> Whether it need deliver report 0 No (default) 1 Yes <**readrep**> Whether it need receive report 0 No (default) 1 Yes <**visible**> Whether it need show the sender address 0 hide the sender address 1 show the sender address even if it is a secret address 2 Not set (default) <**class**> The class of the MMS 0 Personal 1 Advertisement 2 Informational 3 Auto 4 Not set (default) **<subctrl>** Subject control 1 For Chinese character code 2 For English character code **<notifrspcheck>** Whether it need to check the HTTP response of MMS notifyrsp ind then to proceed the next step. 0 Waiting for HTTP response 1 Skip waiting for HTTP response
Parameter Saving Mode	AT+CMMSSCONT
Max Response Time	-
Reference	Note

15.2.5 AT+CMMSEDIT Enter or Exit Edit Mode

AT+CMMSEDIT Enter or Exit Edit Mode	
Test Command **AT+CMMSEDIT=?**	Response **+CMMSEDIT: (0,1)** **OK**

	Parameters See Write Command
Read Command **AT+CMMSEDIT?**	Response **+CMMSEDIT: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CMMSEDIT=<mode>**	Response **OK** or **ERROR** or **+CME ERROR: <err>** Parameters <**mode**> Whether it allows to edit MMS 0 Not allow to edit MMS 1 Allow to edit MMS
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note It includes adding and deleting receipt, downloading and deleting files, downloading title to edit MMS.

15.2.6 AT+CMMSDOWN Download the File Data or Title from UART

AT+CMMSDOWN	**Download the File Data or Title from UART**
Test Command **AT+CMMSDOWN=?**	Response **+CMMSDOWN: "PIC", (1-307200), (5000-),"NAME"** **+CMMSDOWN: "TEXT", (1-15360), (2000-),"NAME"** **+CMMSDOWN: "TITLE", (1-40), (2000-)** **+CMMSDOWN: "AUDIO_ACC", (1-307200), (5000-),"NAME"** **+CMMSDOWN: "AUDIO_AMR", (1-307200), (5000-),"NAME"** **+CMMSDOWN: "AUDIO_BASIC", (1-307200), (5000-),"NAME"** **+CMMSDOWN: "AUDIO_MID", (1-307200), (5000-),"NAME"** **+CMMSDOWN: "AUDIO_MPEG", (1-307200), (5000-),"NAME"** **+CMMSDOWN: "VIDEO_3GPP", (1-307200), (5000-),"NAME"** **+CMMSDOWN: " VIDEO _MP4", (1-307200), (5000-),"NAME"** **OK**

Write Command **AT+CMMSDOWN=<type>,<size>,<time>[,<name>]**	Response **CONNECT** or **ERROR** or **+CME ERROR: <err>**
	Parameters <**type**> A string parameter which indicates type of downloaded data "TITLE" MMS title data "TEXT" MMS text data "PIC" MMS image data "AUDIO_AAC" MMS aac audio data "AUDIO_AMR" MMS amr audio data "AUDIO_BASIC" MMS basic audio data "AUDIO_MID" MMS mid audio data "AUDIO_MPEG" MMS mpeg audio data "VIDEO_3GPP" MMS 3gpp video data "VIDEO_MP4" MMS mp4 video data <**size**> Size in bytes of the data to be downloaded. <**time**> Maximum time in milliseconds to download data. <**name**> The file name of the image or the text to be downloaded, including extended name. The default name for image is "image<m>.jpg" and the default name for text is "text<n>.txt". <m> and <n> are in the range of 0~255
Parameter Saving Mode	NO_SAVE
Max Response Time	Decided by <**time**>
Reference	Note ● It is strongly recommended to set the time long enough to download all the file data and make sure that the real size of the file to download is not bigger than <**size**>. ● The maximum size of <**name**> is 40 Bytes and only ASCII code is recognized for <**name**>.

15.2.7 AT+CMMSDELFILE Delete the File of the Edited MMS by File Index

AT+CMMSDELFILE Delete the File of the Edited MMS by File Index	
Test Command **AT+CMMSDELFILE=?**	Response **OK**

Write Command **AT+CMMSDELFILE=<fileIndex>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters <**fileIndex**> The index of the file to be deleted in the MMS. Refer to "**AT+CMMSVIEW**".
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note This command is valid when it is allowed to edit MMS.

15.2.8 AT+CMMSSEND Start MMS Sending

AT+CMMSSEND Start MMS Sending	
Test Command **AT+CMMSSEND=?**	Response **+CMMSSEND: "ADDRESS"** **OK**
Write Command **AT+CMMSSEND=<address>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters <**address**> A string parameter which indicates address of recipients.
Execution Command **AT+CMMSSEND**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
Parameter Saving Mode	NO_SAVE
Max Response Time	AT+CMMSTIMEOUT
Reference	Note It is not allowed to input <address> when it not allowed to edit MMS.

15.2.9 AT+CMMSRECP Add Recipients

AT+CMMSRECP Add Recipients	
Test Command **AT+CMMSRECP=?**	Response **+CMMSRECP: "ADDRESS"** **OK**
Read Command **AT+CMMSRECP?**	Response **+CMMSRECP:** the list of **<addr>**s **OK**
	Parameters See Write Command
Write Command **AT+CMMSRECP=<addr>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters <**addr**> A string parameter which indicates phone number or email address of recipients. The maximum length of the string is 40.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note The maximum of recipients is 20 and this command is valid only when it is allowed to edit MMS.

15.2.10 AT+CMMSCC Add Copy Recipients

AT+CMMSCC Add Copy Recipients	
Test Command **AT+CMMSCC=?**	Response **+CMMSCC: "ADDRESS"** **OK**
Read Command **AT+CMMSCC?**	Response **+CMMSCC:** the list of **<addr>**s **OK**

	Parameters See Write Command
Write Command **AT+CMMSCC=<addr>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters <**addr**> A string parameter which indicates phone number or email address of copy recipients. The maximum length of the string is 40.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note The maximum of copy recipients is 20 and this command is valid only when it is not allowed to edit MMS.

15.2.11 AT+CMMSBCC Add Secret Recipients

AT+CMMSBCC Add Secret Recipients	
Test Command **AT+CMMSBCC=?**	Response **+CMMSBCC: "ADDRESS"** **OK**
Read Command **AT+CMMSBCC?**	Response **+CMMSBCC:** the list of **<addr>**s **OK**
	Parameters See Write Command
Write Command **AT+CMMSBCC=<addr>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters **<addr>** A string parameter which indicates phone number or email address of secret recipients. The maximum length of the

	string is 40.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note The maximum of secret recipients is 20 and this command is valid only when it is allowed to edit MMS

15.2.12 AT+CMMSDELRECP Delete Recipients

AT+CMMSDELRECP Delete Recipients	
Test Command **AT+CMMSDELRECP=?**	Response **+CMMSDELRECP: "ADDRESS"** **OK**
Write Command **AT+CMMSDELRECP=<addr>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters <**addr**> A string parameter which indicates phone number or email address of recipient. The maximum length of the string is 40.
Execution Command **AT+CMMSDELRECP**	Delete all the recipients Response **OK**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note This command is valid when it is allowed to edit MMS

15.2.13 AT+CMMSDELCC Delete Copy Recipients

AT+CMMSDELCC Delete Copy Recipients	
Test Command **AT+CMMSDELCC**	Response **+CMMSDELCC: "ADDRESS"**

=?	**OK**
Write Command **AT+CMMSDELCC=<addr>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters <**addr**> A string parameter which indicates phone number or email address of copy recipients. The maximum length of the string is 40.
Execution Command **AT+CMMSDELCC**	Delete all the copy recipients Response **OK**
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note This command is valid when it is allowed to edit MMS.

15.2.14 AT+CMMSDELBCC Delete Secret Recipients

AT+CMMSDELBCC Delete Secret Recipients	
Test Command **AT+CMMSDELBCC=?**	Response **+CMMSDELBCC: "ADDRESS"** **OK**
Write Command **AT+CMMSDELBCC=<addr>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters <**addr**> A string parameter which indicates phone number or email address of secret recipient. The maximum length of the string is 40.
Execution Command **AT+CMMSDELBCC**	Delete all the secret recipients Response **OK**
Parameter Saving	NO_SAVE

Mode	
Max Response Time	-
Reference	Note This command is valid when it is allowed to edit MMS.

15.2.15 AT+CMMSRECV Receive MMS

AT+CMMSRECV Receive MMS	
Test Command **AT+CMMSRECV=?**	Response **+CMMSRECV: (range of <index>)** **OK**
Write Command **AT+CMMSRECV=<index>**	Response **+CMMSRECV:** **"<sender>","<time>","<subject>",<size><CR><LF>** list of **<fileIndex,name,type,filesize><CR><LF>** **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters **<index>** The index of the push message saved in the SIM message box. **<sender>** The address of the sender **<time>** The time to receive the MMS **<subject>** the title of the MMS **<size>** The size of the MMS **<fileIndex,name,type,filesize>** The index, name and size of every file included in the MMS. The types are defined as following. 2 text 3 text/html 4 text/plain 5 image 6 image/gif 7 image/jpg 8 image/tif 9 image/png 10 smil
Parameter Saving Mode	NO_SAVE

Max Response Time	AT+CMMSTIMEOUT
Reference	Note ● This command is valid only when it is not allowed to edit MMS and the buffer for MMS will be clear up. So it is recommended to save the MMS in the buffer before receiving MMS. ● The received MMS is just saved in the buffer but not saved in the flash. ● The maximum number of inclosure is 10.

15.2.16 AT+CMMSVIEW Get the MMS into Buffer and Show the Information

AT+CMMSVIEW	**Get the MMS into Buffer and Show the Information**
Test Command **AT+CMMSVIEW=?**	Response **OK**
Execution Command **AT+CMMSVIEW**	Response **+CMMSVIEW: <mmstype>,"<sender>", "<receipts>", "<ccs>", "<bccs>", "<datetime>","<subject>",<size><CR><LF>list of <fileIndex, name, type, filesize><CR><LF>** **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters **<mmstype>** The type of MMS 0 Received MMS 1 Sent MMS 2 Unsent MMS **<sender>** The address of th sender **<receipts>** List of recipients, Separated by ";" **<ccs>** List of copy recipients , Separated by ";" **<bccs>** List of secret recipients , Separated by ";" **<datetime>** The time of receive MMS **<subject>** The title of MMS **<size>** Data size of MMS **<fileIndex,name,type,filesize>** The index, name and size of every file included in the MMS. The types are defined as following. 2 text 3 text/html 4 text/plain 5 image

	6 image/gif 7 image/jpg 8 image/tif 9 image/png 10 smil
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

15.2.17 AT+CMMSREAD Read the Given File of the MMS in the Buffer

AT+CMMSREAD Read the Given File of the MMS in the Buffer	
Test Command **AT+CMMSREAD=?**	Response **OK**
Write Command **AT+CMMSREAD=<fileIndex>**	Response **+CMMSREAD: <name> <datSize>** **File content** **OK**
	Parameters <**fileIndex**> The index of the file to be read from the MMS in the buffer，i.e. the parameter <**fileIndex**> in "**AT+CMMSRECV**" and "**AT+CMMSVIEW**" **<name>** The file name to be read **<datSize>** The size of the file to be read
Parameter Saving Mode	NO_SAVE
Max Response Time	5s
Reference	Note If the file type is text, the character set of the output text is Unicode little endian without the header "FF FE".

15.2.18 AT+CMMSRDPUSH Read the Information of the MMS PUSH Message

AT+CMMSRDPUSH Read the Information of the MMS PUSH Message	
Test Command **AT+CMMSRDPUS**	Response **+CMMSRDPUSH: (**range of **<index>)**

H=?	**OK**
Write Command **AT+CMMSRDPUSH=<index>**	Response **+CMMSRDPUSH: 2,"<sender>","<subject>","<transaction>","<location>","<time>",<class>,<size>** **OK** or **+CMMSRDPUSH: 6, "<receiver>","<time>",<status>** **OK** or **+CMMSRDPUSH: 255** **OK** or **+CME ERROR: <err>**
	Parameters The first parameter of the response should be 2 or 6, or the other type of the MMS PDU. 2 m-notification-ind[2]. To inform the contents of a received MMS 6 m-delivery-ind[2]. A delivery report 255 unknown MMS PDU <**index**> The index of the push message saved in the SIM message box. <**sender**> The address of the sender <**receiver**> The address of the receiver <**subject**> The title of the MMS <**transaction**> The X-Mms-Transation-ID[2] of the received MMS <**location**> The X-Mms-Content-Location[2] of the received MMS <**class**> The X-Mms-Class[2] of the received MMS 0 Personal 1 Advertisement 2 Informational 3 Auto <**time**> Date and time of the received push message. <**size**> The size of the MMS <**status**> The status of the sent MMS 0 Expired 1 Retrieved 2 Rejected 3 Defered

	4 Unrecognized
Parameter Saving Mode	NO_SAVE
Max Response Time	5s
Reference	Note ● This command is valid only when it is not allowed to edit MMS and the buffer for MMS will be clear up. So it is recommended to save the MMS in the buffer before receiving MMS. ● The received MMS is just saved in the buffer but not saved in the flash.

15.2.19 AT+CMMSUA Set User Agent

AT+CMMSUA Set User Agent	
Test Command **AT+CMMSUA=?**	Response **+CMMSUA: "UserAgent"** **OK**
	Parameters See Write Command
Read Command **AT+CMMSUA?**	Response **+CMMSUA: <UA>** **OK**
	Parameter See Write Command
Write Command **AT+CMMSUA=<UA>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters **<UA>** string type user agent name
Parameter Saving Mode	AT+CMMSSCONT
Max Response Time	-
Reference	Note

15.2.20 AT+CMMSPROFILE Set User Agent Profile

AT+CMMSPROFILE Set User Agent Profile	
Test Command **AT+CMMSPROFILE=?**	Response **+CMMSPROFILE: "UserAgentProfile"** **OK**
	Parameters See Write Command
Read Command **AT+CMMSPROFILE?**	Response **+CMMSPROFILE: <UAProfile>** **OK**
	Parameter See Write Command
Write Command **AT+CMMSPROFILE=<UAProfile>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters <**UAProfile**> string type user agent profile
Parameter Saving Mode	AT+CMMSSCONT
Max Response Time	-
Reference	Note

15.2.21 AT+CMMSTIMEOUT Set MMS Timeout

AT+CMMSTIMEOUT Set MMS Timeout	
Test Command **AT+CMMSTIMEOUT=?**	Response **+CMMSTIMEOUT: (10-1000),(10-1000)** **OK**
	Parameters See Write Command

Read Command **AT+CMMSTIMEOUT?**	Response **+CMMSTIMEOUT: <Send timeout>,<Recv timeout>** **OK**
	Parameters See Write Command
Write Command **AT+CMMSTIMEOUT=<Send timeout>,<Recv timeout>>**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters **<Send timeout>** Send timeout time, integer type, in seconds. **<Recv timeout>** Receive timeout time, integer type, in seconds.
Parameter Saving Mode	AT+CMMSSCONT
Max Response Time	-
Reference	Note

15.2.22 AT+CMMSSTATUS Get MMS Status

AT+CMMSSTATUS Get MMS Status	
Test Command **AT+CMMSSTATUS=?**	Response **OK**
	Parameters See Write Command
Read Command **AT+CMMSSTATUS?**	Response **+CMMSSTATUS:<status>** **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters **<status>** status of MMS action MMS_IDLE MMS_DOWNLOADING MMS_DOWNLOADED

	MMS_SENDING MMS_RECEIVING MMS_RECEIVED MMS_READING MMS_READING_PUSH
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

15.2.23 AT+CMMSINIT Initialize MMS Function

AT+CMMSINIT	**Initialize MMS Function**
Test Command **AT+CMMSINIT=?**	Response **OK**
	Parameters No Parameter
Execution Command **AT+CMMSINIT**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	No Parameter
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note When first entering the MMS function, this command must be executed.

15.2.24 AT+CMMSTERM Exit MMS Function

AT+CMMSTERM	**Exit MMS Function**
Test Command **AT+CMMSTERM=?**	Response **OK**

	Parameters No Parameter
Execution Command **AT+CMMSTERM**	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	No Parameter
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note When exiting the MMS function, this command must be executed.

15.2.25 AT+CMMSSCONT Save MMS Context

AT+CMMSSCONT Save MMS Context	
Test Command **AT+CMMSSCONT=?**	Response **OK**
	Parameters See Execution Command
Read Command **AT+CMMSSCONT?**	Response **+CMMSSCONT: <mode>** **+CMMSCID: <value>** **+CMMSCURL: <mmscurl>** **+CMMSUA: <UA>** **+CMMSPROFILE: <UAProfile>** **+CMMSPROTO: <Gateway>,<Port>** **+CMMSSENDCFG: <valid>,<pri>,<sendrep>,<readrep>,<visible>,<class>,<subctrl>,<notifyskip>** **+CMMSTIMEOUT: <Send timeout>,<Recv timeout>** **OK**
	Parameters See Execution Command
Execution Command **AT+CMMSSCONT**	Response **OK**

	Parameters **<mode>** 0 saved, the value from NVRAM For other parameters, see the related command.
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note

16 AT Commands for DDET Application

DTMF detection can be set or activated by DDET command.

16.1 Overview

Command	Description
AT+DDET	DTMF detection control

16.2 Detailed Descriptions of Commands

16.2.1 AT+DDET DTMF Detection Control

AT+DDET DTMF Detection Control	
Test Command **AT+DDET=?**	Response **+DDET: (0,1),(0-10000),(0,1),(0,1)** **OK**
	Parameters See Write Command
Read Command **AT+DDET?**	Response **+DDET: <mode>,<interval>,<reportMode>,<ssdet>** **OK**
	Parameters See Write Command
Write Command **AT+DDET=<mode>[,<interval>][,<reportMode>][,<ssdet>]**	Response **OK** **ERROR**
	Unsolicited Result Code 1)If <reoportMode> is set to 0 **+DTMF: <key>** 2)If <reportMode> is set to 1 **+DTMF: <key>,<last time>**

	Parameters **<mode>** Disable or enable DTMF detection control 0 Disable 1 Enable **<interval>** The min interval between two same key URC. The range is 0-10000, the default value is 0. unit is ms. **<reportMode>** URC report mode 0 Key value reported only 1 Key value and last time are reported, the last time is in ms **<key>** Keytone detected, 0-9,*,#,A,B,C,D.if <ssdet> is 1,Single frequency sound 1400 and 2300 is supported too, when single frequency 1400HZ sound or 2300HZ sound is detected, +DTMF:1400 or +DTMF:2300 is reported **<last time>** Duration of keytone playing. unit is ms. <**ssdet**> Single frequency sound detect function on off 0 Switch off 1 Switch on
Parameter Saving Mode	AT&W_SAVE
Max Response Time	-
Reference	Note The parameters <**interval**> ,<**reportMode**> and <**ssdet**> can not power off save

17 AT Commands for RECORD Application

17.1 Overview

Command	Description
AT+CREC	Record operation
AT+CRECORD	Record and send data to UART

17.2 Detailed Descriptions of Commands

17.2.1 AT+CREC Record Operation

AT+CREC Record Operation	
Test Command **AT+CREC=?**	Response **+CREC: (1-n),(1-10)** **OK**
	Parameters See Write Command
Read Command **AT+CREC?**	Response **+CREC: <status>** **OK**
	Parameters **<status>** 0 idle state 1 recording state 2 playing state
Write Command **AT+CREC=<mode>,[<id>]**	Response **OK** 1) mode=1,start record **AT+CREC=1,<id>,<form>,[<time>][,<location>],[<quality>],[<input path>]** **OK** 2) mode=2,stop record **AT+CREC=2** **OK** **+CREC: 2,<id>,<form>,<time>,<len>**

3) mode=3,delete record

AT+CREC=3,<id>

OK

4) mode=4,play record file

AT+CREC=4,<id>,<channel>,<level>[,<repeat>]

OK

5) mode=5,stop play record file

AT+CREC=5

+CREC: 0

OK

6) mode=6,read record data

AT+CREC=6,<id>,<len>,<offset>

+CREC: 6,<id>,<len>

<data>

OK

7) mode=7,view record file infomation

AT+CREC=7,[<id>]

+CREC: 7,<id>,<len>,<form>

OK

8) mode=8,query free space for recording

If SD card is supported

AT+CREC=8

+CREC: 8,sys:<len> sd:<len>

OK

If SD card is not supported

AT+CREC=8

+CREC: 8,<len>

OK

9) mode=9, create record file directory.

AT+CREC=9,<location>

OK

If error is related to ME functionality:

+CME ERROR: <err>

<err>		
	5000	Be recoding
	5001	Be playing
	5002	Audio busy
	5003	No space

	5004 Format error 5005 File operation failure 5006 File is null 5007 File size is error 5008 File is not exist
	Parameters **<n>** Number of operation support, if SD card is supported, the number will be 9, or will be 8 **<mode>** 1 Start record 2 Stop record 3 Delete record 4 Play record 5 Stop play record 6 Get record data in hex format, the max length is 32K in bytes 7 List record files infomation 8 Query free space in bytes 9 Create record file direcotry **<id>** File ID number, 1-10 or file path with double quotation marks, such as "C:\User\1155165.amr". **<form>** Record file format 0 AMR 1 WAV 2 WAV_ADPCM **<time>** Recording time limit. The recording will be stopped if the recording time reaches the time limit, or there is a mistake/memory full/other events disturbed (call setup, etc.)/ Or manual operation.If 0 or default value is set, no time limit is set. **<channel>** Channel 0 Main channel 1 Aux channel **<level>** 0-100, play volume **<repeat>** Repeate 0 Play once 1 Play infinitely **<len>** Length in bytes. When read record data, the max length is 32K **<offset>** Offset of the record file , it is less than the length of reord file. When read the record file, if the <**len**>+<**offset**> is larger than the file length, then we need to return to the actural data length**.** **<data>** Record file data in hex format **<location>** Record file location 0 System FAT 1 SD card **<inputpath>** Input channel

	0 MIC1 1 MIC2 **<quality>** Record quality 0 Low 1 Medium 2 High 3 Best
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● Record will overwrite the record file with the same ID when free space is enough，but overwrite the record file with the same ID and format when free space is not enough. ● About 40K FAT space will remain for system use. ● The setting of input path doesn't take effect when record in call. ● Play in call support low quality WAV record file. ● Location relative setting only take effect when SD card is support and plugged in. ● When DDET is set to 1, record is not allowed in call. ● The value of parameter **<id>** of "**AT+CREC=7**" can not support file path. ● The value of parameter **<form>** of "**AT+CREC=1**" is invalid if the value of <**id**> is file path. The record file format can get from file path. ● The max length of parameter <**len**> of "**AT+CREC=6**" is 32K bytes. ● Scope of parameter **<inputpath>** is different among SIM800 series project, please refer to chapter 21 for details.

17.2.2 AT+CRECORD Record and Send Data to UART

AT+CRECORD Record and Send Data to UART	
Test Command **AT+CRECORD=?**	Response **+CRECORD: (0,1)** **OK**
	Parameters See Write Command
Write Command **AT+CRECORD=<mode>[,<interval>][,<crcmode>]**	Response **OK** **or** **+CRECORD:<data>** **or** **ERROR**

	Parameters **<data>** UART data output in specified form, which is deciede by **<crcmode>** **<mode>** 0 Stop record 1 Start record **<interval>** UART data output interval, the range is 1-50, the default value is 50. unit is 20ms. **<crcmode>** Data form 0 UART data is the audio data 1 0x7E is added to the head, 0x7E is converted to 0x7D 0x5E, 0x7D is converted to 0x7D 0x5D. 2 0x7E is added to the head, 0x7E is converted to 0x7D 0x5E, 0x7D is converted to 0x7D 0x5D,a 2byte CRC code is added to the end
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● When "**AT+CRECORD**" is set to 1, data mode will be entered and audio data will output on the UART every the interval time, any input on the UART will stop the record. "**AT+CRECORD=0**" take no effect. ● AMR 4.75K is supported only ● AMR file head "#*AMR\n" is not outputed

Note: Part of the projects support record function, please refer to chapter 21 for details.

18 AT Commands for TTS Application

18.1 Overview

Command	Description
AT+CTTS	TTS operation
AT+CTTSPARAM	Set params of the TTS playing
AT+CTTSRING	Enable/disable TTS play during incoming call ring

18.2 Detailed Descriptions of Commands

18.2.1 AT+CTTS TTS Operation

AT+CTTS TTS Operation	
Test Command **AT+CTTS=?**	Response **OK**
	No prameter
Read Command **AT+CTTS?**	Response **+CTTS: <status>** **OK**
	Parameters **<status>** 0 Idle mode 1 Play mode
Write Command **AT+CTTS=<mode>[,<text>]**	Response if<**mode**>=0，response： **OK** if<**mode**>=1 or 2，response: **OK** **+CTTS: 0** // speech played over If error is related to MS functionality, response： **+CME ERROR: <err>**
	Parameters **<mode>** 0 Stop playing speech 1 Start to play synthetic speech，<**text**> is in UCS2 coding format. 2 Start to play synthetic speech， <**text**> is in ASCII coding format. Chinese text is in GBK coding format.

	Italian text is in ASCII and GBK hybrid coding format. **<text>** The text which is synthetized to speech to be played, maximum data length is 956 Bytes
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● Call setup will stop the current tts play ● TTS can play in call, but call release will stop the tts play ● TTS play is not allowed when alert or ring

18.2.2 AT+CTTSPARAM Set Parameters of the TTS Playing

AT+CTTSPARAM	**Set Parameters of the TTS Playing**
Test Command **AT+CTTSPARAM=?**	Response **+CTTSPARAM: (0-100),(0-3),(1-100),(1-100),(0,1)** **OK**
	Parameters See Write Command
Read Command **AT+CTTSPARAM?**	Response **+CTTSPARAM: <volume>,<mode>,<pitch>,<speed>,<channel>** **OK**
	Parameters See Write Command
Write Command **AT+CTTSPARAM=<volume>,<mode>,<pitch>,<speed>[,<channel>]**	Response **OK** If error is related to MS functionality, response: **+CME ERROR: <err>**
	Parameters **<volume>** TTS playing volume, the range is 0-100,the default is 50. **<mode>** TTS playing mode, the range is 0-3 0 Auto read digit, and read digit based on number rule first 1 Auto read digit, and read digit based on telegram rule first 2 Read digit based on telegram rule 3 Read digit based on number rule **<pitch>** TTS playing pitch, the range is 1-100,the default is 50. **<speed>** TTS playing speed, the range is 1-100,the default is 50. **<channel>** TTS play channel. 0 Main channel 1 Aux channel

Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note ● TTS play channel setting take no effect in call. TTS play channel depend on CHFA when in call. ● The default value of parameter **<channel>** is different among SIM800 series projects, please refer to chapter 21 for details.

18.2.3 AT+CTTSRING Enable/Disable TTS Play During Incoming Call Ring

AT+CTTSRING Enable/Disable TTS Play During Incoming Call Ring	
Test Command **AT+CTTSRING=?**	Response **+CTTSRING: (0,1)** **OK**
	Parameters See Write Command
Read Command **AT+CTTSRING?**	Response **+CTTSRING: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CTTSRING=<mode>**	Response **OK** If error is related to MS functionality, response: **+CME ERROR: <err>**
	Parameters **<mode>** Enable/disable TTS play during incoming call ring 0 Diable TTS play during incoming call ring 1 Enable TTS play during incoming call ring
Parameter Saving Mode	NO_SAVE
Max Response Time	-
Reference	Note If <**mode**> is set to 1, it is up to the customer to stop TTS play before accept the call

Note: Part of the project supported TTS function, please refer to chapter 21 for details.

19 Supported Unsolicited Result Codes

19.1 Summary of CME ERROR Codes

Final result code **+CME ERROR: <err>** indicates an error related to mobile equipment or network. The operation is similar to ERROR result code. None of the following commands in the same Command line is executed. Neither ERROR nor OK result code shall be returned.
<**err**> values used by common messaging commands:

Code of <err>	Meaning
0	phone failure
1	no connection to phone
2	phone-adaptor link reserved
3	operation not allowed
4	operation not supported
5	PH-SIM PIN required
6	PH-FSIM PIN required
7	PH-FSIM PUK required
10	SIM not inserted
11	SIM PIN required
12	SIM PUK required
13	SIM failure
14	SIM busy
15	SIM wrong
16	incorrect password
17	SIM PIN2 required
18	SIM PUK2 required
20	memory full
21	invalid index
22	not found
23	memory failure
24	text string too long
25	invalid characters in text string
26	dial string too long
27	invalid characters in dial string
30	no network service
31	network timeout
32	network not allowed - emergency call only

40	network personalisation PIN required
41	network personalisation PUK required
42	network subset personalisation PIN required
43	network subset personalisation PUK required
44	service provider personalisation PIN required
45	service provider personalisation PUK required
46	corporate personalisation PIN required
47	corporate personalisation PUK required
99	resource limitation
100	unknown
103	Illegal MS
106	Illegal ME
107	GPRS services not allowed
111	PLMN not allowed
112	Location area not allowed
113	Roaming not allowed in this location area
132	service option not supported
133	requested service option not subscribed
134	service option temporarily out of order
148	unspecified GPRS error
149	PDP authentication failure
150	invalid mobile class
160	DNS resolve failed
161	Socket open failed
171	MMS task is busy now
172	The MMS data is oversize
173	The operation is overtime
174	There is no MMS receiver
175	The storage for address is full
176	Not find the address
177	The connection to network is failed
178	Failed to read push message
179	This is not a push message
180	gprs is not attached
181	tcpip stack is busy
182	The MMS storage is full
183	The box is empty
184	failed to save MMS

185	It is in edit mode
186	It is not in edit mode
187	No content in the buffer
188	Not find the file
189	Failed to receive MMS
190	Failed to read MMS
191	Not M-Notification.ind
192	The MMS inclosure is full
193	Unknown
600	No Error
601	Unrecognized Command
602	Return Value Error
603	Syntax Error
604	Unspecified Error
605	Data Transfer Already
606	Action Already
607	Not At Cmd
608	Multi Cmd too long
609	Abort Cops
610	No Call Disc
611	BT SAP Undefined
612	BT SAP Not Accessible
613	BT SAP Card Removed
614	AT Not Allowed By Customer
753	missing required cmd parameter
754	invalid SIM command
755	invalid File Id
756	missing required P1/2/3 parameter
757	invalid P1/2/3 parameter
758	missing required command data
759	invalid characters in command data
765	Invalid input value
766	Unsupported mode
767	Operation failed
768	Mux already running
769	Unable to get control
770	SIM network reject
771	Call setup in progress

772	SIM powered down
773	SIM file not present
791	Param count not enough
792	Param count beyond
793	Param value range beyond
794	Param type not match
795	Param format invalid
796	Get a null param
797	CFUN state is 0 or 4

19.2 Summary of CMS ERROR Codes

Final result code **+CMS ERROR: <err>** indicates an error related to message service or network. The operation is similar to ERROR result code. None of the following commands in the same Command line is executed. Neither ERROR nor OK result code shall be returned.
<**err**> values used by common messaging commands:

Code of <err>	Meaning
1	Unassigned(unallocated) number
3	No route to destination
6	Channel unacceptable
8	Operator determined barring
10	Call barred
11	Reserved
16	Normal call clearing
17	User busy
18	No user responding
19	User alerting, no answer
21	Short message transfer rejected
22	Number changed
25	Pre-emption
26	Non-selected user clearing
27	Destination out of service
28	Invalid number format (incomplete number)
29	Facility rejected
30	Response to STATUS ENQUIRY
32	Normal, unspecified

34	No circuit/channel available
38	Network out of order
41	Temporary failure
42	Switching equipment Congestion
43	Access information discarded
44	Requested circuit/channel not available
47	Resources unavailable, unspecified
49	Quality of service unavailable
50	Requested facility not subscribed
55	Requested facility not subscribed
57	Bearer capability not authorized
58	Bearer capability not presently available
63	Service or option not available, unspecified
65	Bearer service not implemented
68	ACM equal or greater than ACM maximum
69	Requested facility not implemented
70	Only restricted digital information bearer capability is available
79	Service or option not implemented, unspecified
81	Invalid transaction identifier value
87	User not member of CUG
88	Incompatible destination
91	Invalid transit network selection
95	Semantically incorrect message
96	Invalid mandatory information
97	Message type non-existent or not implemented
98	Message type not compatible with protocol state
99	Information element non-existent or not implemented
100	Conditional information element error
101	Message not compatible with protocol
102	Recovery on timer expiry
111	Protocol error, unspecified
127	Interworking, unspecified
128	Telematic interworking not supported
129	Short message Type 0 not supported
130	Cannot replace short message

143	Unspecified TP-PID error
144	Data coding scheme (alphabet) not supported
145	Message class not supported
159	Unspecified TP-DCS error
160	Command cannot be acted
161	Command unsupported
175	Unspecified TP-Command error
176	TPDU not supported
192	SC busy
193	No SC subscription
194	SC system failure
195	Invalid SME address
196	Destination SME barred
197	SM Rejected-Duplicate SM
198	TP-VPF not supported
199	TP-VP not supported
208	SIM SMS storage full
209	No SMS storage capability in SIM
210	Error in MS
211	Memory Capacity Exceeded
212	SIM Application Toolkit Busy
213	SIM data download error
224	CP retry exceed
225	RP trim timeout
226	SMS connection broken
255	Unspecified error cause
300	ME failure
301	SMS reserved
302	operation not allowed
303	operation not supported
304	invalid PDU mode
305	invalid text mode
310	SIM not inserted
311	SIM pin necessary
312	PH SIM pin necessary
313	SIM failure

314	SIM busy
315	SIM wrong
316	SIM PUK required
317	SIM PIN2 required
318	SIM PUK2 required
320	memory failure
321	invalid memory index
322	memory full
323	invalid input parameter
324	invalid input format
325	invalid input value
330	SMSC address unknown
331	no network
332	network timeout
340	no cnma ack
500	Unknown
512	SMS no error
513	Message length exceeds maximum length
514	Invalid request parameters
515	ME storage failure
516	Invalid bearer service
517	Invalid service mode
518	Invalid storage type
519	Invalid message format
520	Too many MO concatenated messages
521	SMSAL not ready
522	SMSAL no more service
523	Not support TP-Status-Report & TP-Command in storage
524	Reserved MTI
525	No free entity in RL layer
526	The port number is already registerred
527	There is no free entity for port number
528	More Message to Send state error
529	MO SMS is not allow
530	GPRS is suspended
531	ME storage full
532	Doing SIM refresh

19.3 Summary of Unsolicited Result Codes

URC	Description	AT Command
+**CCWA**: <number>,<type>,<class>[,<alpha>]	Indication of a call that is currently waiting and can be accepted.	AT+CCWA=1
+**CLIP**: <number>,<type>,<subaddr>,<satype>,<alphaId>,<CLI validity>	The calling line identity (CLI) of the calling party when receiving a mobile terminated call.	AT+CLIP=1
+**CRING**: <type>	Indicates incoming call to the TE if extended format is enabled.	AT+CRC=1
+**CREG**: <stat>[,<lac>,<ci>]	There is a change in the MT network registration status or a change of the network cell.	AT+CREG=<n>
+**CCWV**	Shortly before the ACM (Accumulated Call Meter) maximum value is reached. The warning is issued approximately when 5 seconds call time remains. It is also issued when starting a call if less than 5 s call time remains.	AT+CCWE=1
+**CMTI**: <mem3>,<index>	Indicates that new message has been received.	AT+CNMI <mt>=1
+**CMTI**: <mem3>,<index>,"MMS PUSH"	Indicates that new MMS message has been received.	AT+CNMI <mt>=1
+**CMT**: <length><CR><LF><pdu>	Indicates that new message has been received.	AT+CNMI <mt>=2 (PDU mode)
+**CMT**: <oa>,<scts>[,<tooa>,<fo>,<pid>,<dcs>,<sca>,<tosca>,<length>]<CR><LF><data>	Indicates that new message has been received.	AT+CNMI <mt>=2 (text mode)
+**CBM**: <length><CR><LF><pdu>	Indicates that new cell broadcast message has been received.	AT+CNMI <bm>=2 (PDU mode enabled):
+**CBM**: <sn>,<mid>,<dcs>,<page>,<pages><CR><LF><data>	Indicates that new cell broadcast message has been received.	AT+CNMI <bm>=2 (text mode enabled):
+**CDS**: <length><CR><LF><pdu>	Indicates that new SMS status report has been received.	AT+CNMI <ds>=1 (PDU mode enabled):

+**CDS**: <fo>,<mr>[,<ra>][,<tora>],<scts>,<dt>,<st>	Indicates that new SMS status report has been received.	AT+CNMI <ds>=1 (text mode enabled):
+**COLP**: <number>,<type>[,<subaddr>,<satype>,<alphaId>]	The presentation of the COL (Connected Line) at the TE for a mobile originated call.	AT+COLP=1
+**CSSU**: <code2>	Presentation status during a mobile terminated call setup or during a call, or when a forward check supplementary service notification is received.	AT+CSSN=<n>[,<m>]<m>=1
+**CSSI**: <code1>[,<index>]	Presentation status after a mobile originated call setup	AT+CSSN=<n>[,<m>]<n>=1
+**CLCC**: <id1>,<dir>,<stat>,<mode>,<mpty>[,<number>,<type>,<alphaID>] [<CR><LF>+CLCC: <id2>,<dir>,<stat>,<mode>,<mpty> [,<number>,<type>,<alphaID>][...]]	Report a list of current calls of ME automatically when the current call status changes.	AT+CLCC=1
***PSNWID**: "<mcc>", "<mnc>", "<full network name>",<full network name CI>, "<short network name>",<short network name CI>	Refresh network name by network.	AT+CLTS=1
***PSUTTZ**: <year>,<month>,<day>,<hour>,<min>,<sec>, "<time zone>",<dst>	Refresh time and time zone by network.	
+**CTZV**: "<time zone>"	Refresh network time zone by network.	
DST: <dst>	Refresh Network Daylight Saving Time by network.	
+**CSMINS**: <n>,<SIM inserted>	Indicates whether SIM card has been inserted.	AT+CSMINS=1
+**CDRIND**: <type>	Indicates whether a CS voice call, CS data has been terminated.	AT+CDRIND=1
+**CHF**: <state>	Indicates the current channel.	AT+CHF=1
+**CENG**: <cell>,"<arfcn>,<rxl>,<rxq>,<mcc>,<mnc>,<bsic>,<cellid>,<rla>,<txp>,<lac>,<TA>"	Report of network information.	AT+CENG=<mode>[,<Ncell>] <mode>=2
MO RING	Shows call state of mobile originated	

	call: the call is alerted.	AT+MORING=1
MO CONNECTED	Shows call state of mobile originated call: the call is established.	AT+MORING=1
+**CPIN**: <code>	Indicates whether some password is required or not.	AT+CPIN
+**CPIN**: NOT READY	SIM Card is not ready.	
+**CPIN**: NOT INSERTED	SIM Card is not inserted.	
+**CSQN**: <rssi>,<ber>	Displays signal strength and channel bit error rate when <rssi>,<ber>values change.	AT+EXUNSOL="SQ",1
+**SIMTONE**: 0	The generated tone playing is stopped or completed.	AT+SIMTONE
+**STTONE**: 0	The SIM Toolkit tone playing is stopped or completed.	AT+STTONE
+**CR**: <serv>	An intermediate result code is transmitted during connect negotiation when the TA has determined the speed and quality of service to be used, before any error control or data compression reports are transmitted, and before any final result code (e.g. CONNECT) appears.	AT+CR=1
+**CUSD**: <n>[,<str_urc>[,<dcs>]]	Indicates an USSD response from the network, or network initiated operation.	AT+CUSD=1
RING	An incoming call signal from network is detected.	
NORMAL POWER DOWN	SIM800 is powered down by the PWRKEY pin or AT command “AT+CPOWD=1”.	
+**CMTE**: <n>	The module temperature is abnormal. Refer to hardware document for details.	AT+CMTE=1
UNDER-VOLTAGE POWER DOWN	Under-voltage automatic power down.	
UNDER-VOLTAGE WARNNING	under-voltage warning	
OVER-VOLTAGE POWER DOWN	Over-voltage automatic power down.	
OVER-VOLTAGE WARNNING	over-voltage warning	
CHARGE-ONLY MODE	The module is charging by charger. (require hardware support)	
RDY	Power on procedure is completed, and the module is ready to operate at fixed baud rate. (This URC does not appear when auto-bauding function is active).	AT+IPR=<rate> <rate> is not 0
Call Ready	Module is powered on and phonebook initialization procedure is over.	AT+CIURC=1
SMS Ready	Module is powered on and SMS	

	initialization procedure is over.	
+**CFUN**: <fun>	Phone functionality indication (This URC does not appear when auto-bauding function is active).	AT+IPR=<rate> <rate> is not 0
[<n>,]**CONNECT OK**	TCP/ UDP connection is successful	AT+CIPSTART
CONNECT	TCP/UDP connection in channel mode is successful	
[<n>,]**CONNECT FAIL**	TCP/UDP connection fails	AT+CIPSTART
[<n>,]**ALREADY CONNECT**	TCP/UDP connection exists	AT+CIPSTART
[<n>,]**SEND OK**	Data sending is successful	
[<n>,]**CLOSED**	TCP/UDP connection is closed	
RECV FROM: <IP ADDRESS>: <PORT>	shows remote IP address and port (only in single connection mode)	AT+CIPSRIP=1
+**IPD**, <data size>,<TCP/UDP>:<data>	display transfer protocol in IP header to received data or not (only in single connection mode)	AT+CIPHEAD AT+CIPSHOWTP
+**RECEIVE**,<n>,<length>	Received data from remote client (only in multiple connection mode)	
REMOTE IP: <IP ADDRESS>	Remote client connected in	
+**CDNSGIP**: 1,<domain name>,<IP>[,<IP2>]	DNS successful	AT+CDNSGIP
+**CDNSGIP**:0,<dns error code>	DNS failed	
+**PDP: DEACT**	GPRS is disconnected by network	
+**SAPBR** <cid>: DEACT	The bearer based on IP connection of SIMCom application is deactivated.	
+**HTTPACTION**: <Method>,<StatusCode>,<DataLen>	Indicates HTTP method, Status Code responded by remote server and the length of data got.	AT+HTTPACTION=<Method>
+**FTPGET**: 1,<res>	FTPGET session	AT+FTPGET=1
+**FTPPUT**: 1,1,<maxlength>	It is ready to upload data.	AT+FTPPUT
+**FTPPUT**: 1,<res>	FTP return result	AT+FTPPUT
+**FTPDELE**: 1,<res>	FTP delete session	AT+FTPDELE
+**FTPSIZE**: 1,<res>,<size>	FTP size session	AT+FTPSIZE
+**FTPMKD**: 1,<res>	FTP create directory (not supported for all versions)	AT+FTPMKD
+**FTPRMD**: 1,<res>	FTP delete directory (not supported for all versions)	AT+FTPRMD
+**FTPLIST**: 1,<res>	FTP list session (not supported for all	AT+FTPLIST

	versions)	
+CGREG: <stat>[,<lac>,<ci>]	Network Registration Status	AT+CGREG=<n>
ALARM RING **+CALV:** <n>	Indicate expired alarm.	AT+CALA=<time>[,<n>[,<recurr>]]

20 AT Commands Examples

20.1 Profile Commands

Demonstration	Syntax	Expect Result
The AT Command interpreter actively responds to input.	AT	OK
Display the product name and the product release information.	ATI	SIM800 R11.08 OK
Display product identification information: the manufacturer, the product name and the product revision information.	AT+GSV	SIMCOM_Ltd SIMCOM_SIM800H Revision: 1308B01SIM800H32 OK
Display current configuration, a list of the current active profile parameters.	AT&V	[A complete listing of the active profile] OK
Reporting of mobile equipment errors. The default CME error reporting setting is disabled. Switch to verbose mode Displays a string explaining the error in more details.	AT+CMEE=? AT+CMEE? AT+CSCS=? AT+CSCS="TEST" AT+CMEE=2 AT+CSCS="TEST"	+CMEE: (0-2) OK +CMEE: 1 OK +CSCS: ("IRA","GSM","UCS2","HEX","PCCP","PCDN","8859-1") OK ERROR OK +CME ERROR: invalid input value
Store the current configuration in nonvolatile memory. When the board is reset, the configuration	ATE0&W AT [Reset the board] AT	OK [No echo] OK [No echo]

changes from the last session are loaded.	ATE1&W AT	OK [No echo] OK [Echo on] OK
Set the ME to minimum functionality	AT+IPR? AT+CFUN=0 AT+IPR=115200 AT+IPR? AT+CFUN=0	+IPR: 0 OK OK +CPIN: NOT READY OK +IPR: 115200 OK OK +CPIN: NOT READY
ME has entered full functionality mode	AT+CFUN?	+CFUN:1 OK

20.2 SIM Commands

Demonstration	Syntax	Expect Result
List available phonebooks, and select the SIM phonebook.	AT+CPBS=? AT+CPBS="SM"	+CPBS: ("SM","ME","ON","FD") OK OK
Display the ranges of phonebook entries and list the contents of the phonebook.	AT+CPBR=? AT+CPBR=1,10	+CPBR: (1-250),40,14 OK [a listing of phonebook contents] OK
Write an entry to the current phonebook.	AT+CPBW=,"1391818xxxx",129,"Daniel" AT+CPBR=1,10	OK [a listing of phonebook contents]

		OK
Find an entry in the current phonebook using a text search.	AT+CPBF="Daniel"	+CPBF: 5, "13918186089",129,"Daniel" OK
Delete an entry from the current phonebook specified by its position index.	AT+CPBW=2 AT+CPBR=1,10	OK [a listing of phonebook contents] OK
Switch on engineering mode	AT+CENG =1,1 AT+CENG?	OK +CENG: 1,1 +CENG: 0,"0081,55,00,460,00,31,f9a1,08,05,1816,255" +CENG: 1,"0014,40,15,f2a1,460,00,1816" +CENG: 2,"0012,27,48,f411,460,00,1816" +CENG: 3,"0565,23,55,f1a1,460,00,1816" +CENG: 4,"0584,19,24,f1a3,460,00,1816" +CENG: 5,"0027,17,13,f412,460,00,1816" +CENG: 6,"0028,15,14,6253,460,00,1823" OK
Switch on engineering mode, and activate the URC report of network information	AT+CENG =2,1 AT+CENG?	OK +CENG: 2,1 +CENG: 0,"0081,55,00,460,00,31,f9a1,08,05,1816,255" +CENG: 1,"0014,42,15,f2a1,460,00,1816" +CENG: 2,"0012,25,48,f411,460,00,1816" +CENG: 3,"0565,21,55,f1a1,460,00,1816" +CENG: 4,"0584,19,24,f1a3,460,00,1816" +CENG: 5,"0027,17,13,f412,460,00,1816" +CENG: 6,"0028,17,14,6253,460,00,1823" OK
Switch on engineering mode, and with limited network information	AT+CENG =3,1 AT+CENG?	OK +CENG: 3,1 +CENG: 0,"460,00,1816,f9a1,31,56" +CENG: 1,"460,00,1816,f2a1,15,38" +CENG: 2,"460,00,1816,f411,48,26" +CENG: 3,"460,00,1816,f1a3,24,17" +CENG: 4,"460,00,1816,f412,13,16" +CENG: 5,"460,00,1823,6253,14,16"

		+CENG: 6,"460,00,1816,f2c3,43,14" OK

Switch on engineering mode, and with extern information	AT+CENG =4,1
	AT+CENG?
		OK
		+CENG: 4,1
		
		//Dedicated mode:
		+CENG:
		0,"0081,47,00,460,00,31,f9a1,08,05,1816,00,-66,0,0,64,7,64,0,0,0,EFR"
		//Idle mode:
		+CENG:
		0,"0081,56,00,460,00,31,f9a1,08,05,1816,255,-57,177,617,x,x,x,x,x,x"
		+CENG:
		1,"0014,35,15,f2a1,460,00,1816,91,531"
		+CENG:
		2,"0012,25,48,f411,460,00,1816,51,491"
		+CENG:
		3,"0565,24,55,f1a1,460,00,1816,45,485"
		+CENG:
		4,"0027,20,13,f412,460,00,1816,31,471"
		+CENG:
		5,"0584,20,24,f1a3,460,00,1816,29,469"
		+CENG:
		6,"0028,16,14,6253,460,00,1823,18,455"
		
		OK

Perform a net survey to show all the cells' Information	AT+CELLIST=? AT+CELLIST=1,50 AT+CELLIST? AT+CELLIST	+CELLIST: (0,1),(10-7200) OK OK +CELLIST: 1 OK +CELLIST: 460,00,81,42,f9a1,1816,31 +CELLIST: 460,00,14,34,f2a1,1816,15 +CELLIST: 460,00,572,25,f2c3,1816,43 +CELLIST: 460,00,19,21,f2a3,1816,27 +CELLIST: 460,00,584,19,f1a3,1816,24 +CELLIST: 460,01,97,58,b5f0,144f,30 OK

20.3 General Commands

Demonstration	Syntax	Expect Result
Display the current network operator that the handset is currently registered with.	AT+COPS?	+COPS: 0,0,"CHINA MOBILE" OK
Display a full list of network operator names.	AT+COPN	+COPN: "20201", "COSMO" [skip a bit] +COPN: "901012","Maritime Comm Partner AS" OK
reduce its functionality. This will deregister the handset from the network.	AT+IPR? AT+CFUN=0 [wait for deregister] ATD6241xxxx; AT+CFUN=1	+IPR: 0 OK OK ERROR OK
Request the IMSI	AT+CIMI	460008184101641 OK

20.4 Call Control Commands

Demonstration	Syntax	Expect Result
Make a voice call	ATD6241xxxx;	OK MS makes a voice call
Hang up a call	ATH	OK Call dropped
Make a voice call using the last number facility. The initial call is established and then cancelled. The second call is made using the previous dial string.	ATD6241xxxx; ATH ATDL	OK OK OK
Example of a MT voice call Make MT voice call to MS.	ATA ATH	RING RING OK[accept call] OK[hang up call]

Call related to supplementary service: AT+CHLD. This Command provides support for call waiting functionality.	AT+CHLD=<N>	Return value:(0,1,1x,2,2x,3,4)
Terminate current call and accept waiting call. Establish a voice call from EVB, receive an incoming call (incoming call accepts waiting status), terminate active call and accept incoming call. Note call waiting must be active for this option – use "AT+CCWA=1,1" before running this demonstration.	AT+CCWA=1,1 ATD6241xxxx; <RX incoming call> AT+CHLD=1	OK OK RING +CCWA: "62418148 ",129,1,"" OK <waiting call active>
Set current call to busy state and accept waiting call. Establish a voice call from EVB, receive an incoming call (incoming call accepts waiting status), place active call on hold and switch to incoming call. Terminate active call and switch back to original call. Note call waiting must have been previously enabled for this demonstration to work.	ATD6241xxxx; <RX incoming call> AT+CHLD=2 AT+CHLD=1	OK RING +CCWA: "13918186089",129,1,"" OK <waiting call active other call on hold> OK <incoming call terminated, dialed number now active>
Switch between active and held calls. Establish a voice call from EVB, receive an	ATD6241xxxx; <RX incoming call> AT+CHLD=2	OK RING +CCWA: "13918186089",129,1,"" OK

incoming call (incoming call accepts waiting status), place active call on hold and switch to incoming call. Switch between both calls, placing each in the hold state whilst the other is active before terminating each one. This feature relies on knowing each call's ID. This is done using the List Current Calls (AT+CLCC) Command. A call's ID is required to switch between held and active calls. Held calls are not automatically resumed when all other calls are terminated. They need to be made active using the AT+CHLD=2x Command. Note call waiting must have been previously enabled for this demonstration to work.	AT+CHLD=21 AT+CLCC AT+CHLD=22 AT+CHLD=12 AT+CHLD=11	<incoming call activated, original on hold> OK <original call activated, incoming call held> +CLCC: 1,0,0,0,0,"62418148",129,"" +CLCC: 2,1,1,0,0, "13918186089",129, "" OK <Note incoming call held flag set> OK <original call held, incoming call active> OK <terminate incoming call> OK <terminate original call>
Send busy status to incoming waiting caller. Establish a voice call from EVB, receive an incoming call (incoming call accepts waiting status), send 'busy' status to waiting mobile. Note call waiting must have been previously enabled for this demonstration to work.	ATD6241xxxx; <RX incoming call> AT+CHLD=0	OK RING +CCWA: "13918186089",129,1,"" OK <incoming call sent busy msg, current call retained>
Drop all calls on hold. Establish a voice call	ATD6241xxxx; <RX incoming call>	OK RING

from EVB, receive an incoming call (incoming call accepts waiting status), switch to incoming call and drop all waiting calls. Note call waiting must have been previously enabled for this demonstration to work.	AT+CHLD=2 AT+CHLD=0	+CCWA: "13918186089",129,1,"" OK <incoming call actived,original on hold> OK <incoming call actived, current call terminate>

20.5 SIM Toolkit Commands

Please refer to SIM800 Series_STK_Application Note.DOC

20.6 Audio Commands

Demonstration	Syntax	Expect Result
DTMF tones	AT+CLDTMF=2, "1,2,3,4,5"	OK
	AT+CLDTMF=2,”A ,B,C,D,E,F”,50	OK

20.7 SMS Commands

Demonstration	Syntax	Expect Result
Set SMS system into text mode, as opposed to PDU mode.	AT+CMGF=1	OK
Send an SMS to myself.	AT+CSCS="GSM" AT+CMGS="+8613 91818xxxx" >This is a test <Ctrl+Z>	OK +CMGS: 34 OK
Unsolicited notification of the SMS arriving		+CMTI: "SM",1
Read SMS message that has just arrived. Note: the number should be the same as that given in the +CMTI notification.	AT+CMGR=1	+CMGR: "REC UNREAD", "+8613918186089", "","02 /01/30,20:40:31+00" This is a test OK

Reading the message again and change the status to "READ" from "UNREAD"	AT+CMGR=1	+CMGR: "REC READ", "+8613918186089","", "02/01/30,20:40:31+00" This is a test OK
Send another SMS to myself.	AT+CMGS="+8613 91818xxxx" >Test again<Ctrl+Z>	+CMGS: 35 OK
Unsolicited notification of the SMS arriving		+CMTI: "SM",2
List all SMS messages. Note:"ALL" must be in uppercase.	AT+CMGL="ALL"	+CMGL: 1, "REC READ","+8613918186089", "", "02/01/30,20:40:31+00" This is a test +CMGL: 2, "REC UNREAD"," ", "+8613918186089", "" ,"02/01/30,20:45:12+00" Test again OK
Delete an SMS message.	AT+CMGD=1	OK
List all SMS messages to show message has been deleted.	AT+CMGL="ALL"	+CMGL: 2, "REC READ", "+8613918186 089","","02/01/30,20:45:12+00" Test again OK
Send SMS using Chinese characters	AT+CSMP=17,167, 2,25 AT+CSCS="UCS2" AT+CMGS="00310 0330039003100380 0310038003x003x0 03x003x" >4E014E50<Ctrl+Z >	OK OK +CMGS: 36 OK

20.8 GPRS Commands

Demonstration	Syntax	Expect Result

Establish a GPRS context.	Setup modem driver Setup dial up connection with *99# Run internet explorer	Should be able to surf the web using Internet explorer.
There are two GPRS Service Codes for the ATD Command: Value 88 and 99. Establish a connection by service code 99. Establish a connection by service code 99 and using CID 1	ATD*99# ATD*99***1#	CONNECT CONNECT
Check if the MS is connected to the GPRS network Detach from the GPRS network Check if the MS is connected to the GPRS network	AT+CGATT? AT+CGATT=0 AT+CGATT?	+CGATT: 1 OK OK +CGATT: 0 OK
Check the class of the MS	AT+CGCLASS?	+CGCLASS: B OK
Establish a context using the terminal equipment: defines CID 1 and sets the PDP type to IP, access point name and IP address aren't set.	AT+CGDCONT=1, "IP","CMNET" ATD*99#	OK CONNECT
Cancel a context using the terminal equipment	AT+CGDCONT=1, "IP","CMNET" ATD*99#	OK CONNECT

Pause data transfer and enter Command mode by +++ Stop the GPRS data transfer	+++ ATH	OK OK
Reconnect a context using the terminal equipment Resume the data transfer	AT+CGDCONT=1, "IP","CMNET" ATD*99# +++ ATO	OK CONNECT OK CONNECT

*****Quality of Service (QOS) is a special parameter of a CID which consists of several parameters itself.

The QOS consists of

The precedence class

The delay class

The reliability class

The peak throughput class

The mean throughput class

And is decided in "requested QOS" and "minimum acceptable QOS".

All parameters of the QOS are initiated by default value (=0) except the reliability class is 3. To define a QOS use the AT+CGQREQ or AT+CGQMIN Command.

Overwrite the precedence class of QOS of CID 1 and sets the QOS of CID 1 to be present	AT+CGQREQ=1,0,0,3,0,0	OK
Response: all QOS values of the activated CID.	AT+CGQREQ?	+CGQREQ: 1,0,0,3,0,0 +CGQREQ: 2,0,0,3,0,0 +CGQREQ: 3,0,0,3,0,0 OK
Set the QOS of CID 1 to not present. Once defined, the CID can be activated.	AT+CGQREQ=1	OK
Activate CID 1, if the CID is already active, the mobile returns OK at once. If no CID is defined the mobile	AT+CGACT=1,1 AT+CGACT=1,3	OK +CME ERROR: requested service option not subscribed.

responds +CME ERROR: invalid index. Note: If the mobile is NOT attached by AT+CGATT=1 before activating, the attachment is automatically done by the AT+CGACT Command.		
Use the defined and activated CID to get online. The mobile can be connected using the parameters of appointed CID or using default parameter	AT+CGDATA="PPP", 1	CONNECT

The mobile supports Layer 2 Protocol (L2P) PPP only.

Note: If the mobile is NOT attached by AT+CGATT=1 and the CID is NOT activated before connecting, attaching and activating is automatically done by the AT+CGDATA Command.
Some providers require using an APN to establish a GPRS connection. So if user uses the Microsoft Windows Dial-Up Network and ATD*9… to connect to GPRS, user must provide the context definition as part of the modem definition (Modem properties/Connection/Advanced… /Extra settings.) As an alternative, user can define and activate the context in a terminal program (e.g. Microsoft HyperTerminal) and then use the Dial-Up Network to send only the ATD Command.

20.9 TCPIP Commands

Please refer to SIM800 Series_TCPIP_Application Note.doc

20.10 IP Commands

Please refer to SIM800 Series_IP_Application Note.doc. Chapter 3.1 describles how to config bearer contexts of HTTP and FTP applications.

20.11 PING Commands

Demonstration	Syntax	Expect Result
Ping Request	AT+CGATT?	+CGATT: 1

		OK
	AT+CSTT="CMNET"	OK
	AT+CIICR	OK
	AT+CIFSR	10.78.245.128
	AT+CIPPING="www.google.cn"	+CIPPING: 1,"203.208.37.99",70,239 +CIPPING: 2,"203.208.37.99",53,238 +CIPPING: 3,"203.208.37.99",60,239 +CIPPING: 4,"203.208.37.99",50,239 OK
Other Device Ping To The Module	On the Modem: AT+CGATT?	On the Modem: +CGATT: 1 OK
	AT+CSTT="CMNET"	OK
	AT+CIPBEIPING=1 (If on 6252 platform, don't need this at)	OK
	AT+CIICR	OK
	AT+CIFSR	10.78.245.128
	On the Other Device: AT+CIPPING="10.78.245.128"	On the Other Device: +CIPPING: 1," 10.78.245.128",70,239 +CIPPING: 2," 10.78.245.128",53,238 +CIPPING: 3," 10.78.245.128",60,239 +CIPPING: 4," 10.78.245.128",50,239 OK
IP Filter Setting	AT+CIPFLT=1,1,"198.211.19.12","255.255.0.0"	OK
	AT+CIPFLT=1,,"10.43.21.69","255.	OK

	0.0.0” AT+CIPFLT=0,1 AT+CIPFLT=2	 OK OK
Set the Mode When Receiving an IP Packet	AT+CIPCTL=0 AT+CIPCTL=1 AT+CIPCTL=2	OK OK OK

20.12 HTTP and FTP Commands

Please refer to SIM800 Series_IP_Application Note.doc

20.13 GSM Location Commands

Demonstration	Syntax	Expect Result
Activate bearer profile	AT+SAPBR=3,1,"Contype","GPRS" AT+SAPBR=3,1,"APN","CMNET" AT+SAPBR =1,1 AT+SAPBR=2,1	OK OK OK +SAPBR: 1,1,"10.89.193.1" OK
Get location	AT+CIPGSMLOC=1,1 AT+CIPGSMLOC=2,1	+CIPGSMLOC: 0,121.354848,31.221402,2011/01/26,02:41:06 OK +CIPGSMLOC: 0,2011/01/26,03:12:58 OK
Deactivate bearer profile	AT+SAPBR=0,1	OK

20.14 EMAIL Commands

Please refer to SIM800 Series_Email_Application Note.doc.

20.15 MMS Commands

Demonstration	Syntax	Expect Result
Initialization	AT+CMMSINIT	OK
Configuration	AT+CMMSCURL=“mmsc.monternet.com”	OK
	AT+CMMSCID=1	OK
	AT+CMMSPROTO=“10.0.0.172”,80	OK
	AT+CMMSSENDCFG=6,3,0,0,2,4	OK
Active bearer profile	AT+SAPBR=3,1,"Contype","GPRS"	OK
	AT+SAPBR=3,1,"APN","CMWAP"	OK
	AT+SAPBR=1,1	OK
	AT+SAPBR=2,1	+SAPBR: 1,1,"10.89.193.1" OK
Send MMS	AT+CMMSEDIT=1	OK
	AT+CMMSDOWN=“PIC”,12963,20000	CONNECT ... ... OK
	AT+CMMSDOWN=“TITLE”,3,5000	CONNECT ... ... OK
	AT+CMMSRECP=“13918181818”	OK
	AT+CMMSSEND	…… OK
Receive MMS When received a MMS push message,UART will output	AT+CMMSEDIT=0	OK
	AT+CMMSRECV=3	+CMMSRECV: "+8613818181818", "2008-05-02, 03:38:12","", 26670

message,such as “+CMTI: "SM",3,"MMS PUSH"”		1, "image0.jpg",7,26625 OK
	AT+CMGD=3	OK
Receive MMS when the MMS push message is a concatenated message. UART output messages: +CMTI: "SM",1,"MMS PUSH",2,1 +CMTI: "SM",2,"MMS PUSH",2,2 +CMTI: "SM",1,"MMS PUSH"	AT+CMMSEDIT=0 AT+CMMSRECV=1 AT+CMGD=1	OK +CMMSRECV: "+85266097746","2009-04-15,10:41:21","",491,"text0.txt",4,7 OK OK
Read a file of MMS	AT+CMMSREAD=1	+CMMSREAD: "image0.jpg", 26625 …… OK
Exit MMS function	AT+CMMSTERM	OK

20.16 DDET Commands

Demonstration	Syntax	Expect Result
enable DTMF detection	AT+DDET=1,0,0 //start DDET, interval is 0, report mode is 0	OK
Set up a call connection	ATD**********;	OK If module detected DTMF, URC will be reported via serial port +DTMF:1 *//report DTMF value* +DTMF:2 +DTMF:3
Receive an incoming call	ATA	OK If module detected DTMF, URC will be reported via serial port +DTMF:1 *//report DTMF*

		value +DTMF:2 +DTMF:3 +DTMF:4
enable DTMF detection	AT+DDET=1,1000,1 //start DDET, interval is 1000ms, report mode is 1	OK
Set up a call connection	ATD**********;	OK If module detected DTMF, URC will be reported via serial port, the minimal interval between two identic DTMF is 1000ms. +DTMF: 1,160 *//report DTMF value and last time* +DTMF: 2,300 +DTMF: 3,200
Receive an incoming call	ATA	OK If module detected DTMF, URC will be reported via serial port +DTMF: 1,160 *//report DTMF value and last time* +DTMF: 2,300 +DTMF: 3,200

20.17 RECORD Commands

Demonstration	Syntax	Expect Result
Start record	AT+CREC=1,1,0 *//start record*	OK *// the record id is 1, format is AMR*
Stop record	AT+CREC=2 *//stop record*	OK +CREC: 2,1,0,15,16386 *//URC will be reported after stopping, which*

		indicate the format,including record id, time in seconds, length in bytes
Delete record	AT+CREC=3,1 *//delete record with id 1*	OK
Play record file	AT+CREC=4,1,0,80 *//play record file, channel is 0, the volume is 80*	OK
Stop play record file	AT+CREC=5 *//stop play record file*	+CREC: 0 OK *//URC is reported to show statues IDLE*
Get record status	AT+CREC? *//get record status*	+CREC: 2 OK *//Rrecording ,delete and other play operations are not allowed when playing*
List record file information	AT+CREC=7 *//list record file list*	+CREC: 7,1,7728,0 +CREC: 7,2,53820,1 OK *// two record file, one Is*
Get record file data	AT+CREC=6,1,200,0 *//get 200 bytes from record file with offset 0 to file head*	+CREC: 6,1,200 2321414D520A04923231D828E7B0E222B6D0 B604941AEC23377C8A442AFC93440450E01 33334D31577CB8E88FE0450A54AD57AC230 86C24529FC0422434276AB0E88DCF481E23 A0419F050336489D54CB57224B0042119466 B5B5521D542FF354204C0422385A00B20DB C67DC322049D8708488970630CECBFE40004 C0892EF5914BD62A234C0B5804334110F881 8197ECA9D7F02E046EDAD5EBA75928D948 FBB19E046EAF1C3A90168351C302DF88044 60C1409B18966E0187F88B404CA88F4F891B FE72BCF45D7 OK *//data in Hex format*
Query free space	AT+CREC=8 *//query free memory space*	+CREC: 8,938600 OK *//the free memory space is 938600 bytes*
Create record file	AT+CREC=9,0	OK

directory	*//create record file directory on system FAT*	

20.18 TTS Commands

Demonstration	Syntax	Expect Result
Play synthetic speech with UCS2 coding text	AT+CTTS=1,"6B228FCE4F7F75288BED97F3540862107CFB7EDF" *//text in UCS2 coding format，context of the text is "欢迎使用语音合成系统".*	OK *//speech synthetized successfully, played locally.* +CTTS: 0 *//speech played over.* ***Note: User needs to wait thisresponse to play next speech!***
Play synthetic speech with ASCII coding text	AT+CTTS=2,"hello，欢迎使用语音合成系统" *// text in ASIIC coding format. Chinese in GBK coding format.*	OK *//speech synthetized Successfully played locally.* +CTTS: 0 *//speech played over.* ***Note: User needs to wait thisresponse to play next speech!***
Stop playing TTS	AT+CTTS=0 *//Stop playing synthetic speech*	OK *//speech played over.*
Set parameters of the TTS playing	AT+CTTSPARAM=50, 0,50,25,1 *// set params of the TTS playing*	OK *// set params over.*

21 ATC Differences among SIM800 Series

21.1 AT+SIDET

SIM800V, SIM840V,SIM800W, SIM840W,SIM800W16,SIM840W16	SIM800H,SIM800L,SIM800,SIM800M64, SIM808,SIM800C,SIM800A,SIM800F, SIM800C-DS
AT+SIDET=? +SIDET: (0,1),(0-16) OK	AT+SIDET=? If it is SIM800, SIM800M64,SIM800C, SIM800A,SIM800F +SIDET: (0, 2),(0-16) OK If it is SIM800H, SIM800L, SIM808, SIM868 or SIM800C-DS +SIDET: (0-3),(0-16) OK
Difference:	

21.2 AT+CMIC

SIM800V, SIM840V,SIM800W, SIM840W,SIM800W16,SIM840W16	SIM800H,SIM800L,SIM800,SIM800M64, SIM808,SIM800C,SIM800A,SIM800F, SIM800C-DS
AT+CMIC=? +CMIC: (0,1),(0-15) OK	AT+CMIC=? If it is SIM800, SIM800M64,SIM800C, SIM800A,SIM800F +CMIC: (0, 2),(0-15) OK If it is SIM800H, SIM800L, SIM808, SIM868 or SIM800C-DS +CMIC: (0-3),(0-15) OK
Difference: The default gain level of main audio channel is 10. The default gain level of aux audio channel is 11 in SIM800H, SIM800L, SIM808, SIM868	

and SIM800C-DS. The default gain level of aux audio channel is 9 in SIM800V, SIM840V, SIM800W, SIM840W, SIM800W16 and SIM840W16. The default gain level of aux audio channel is 8 in SIM800C, SIM800A and SIM800F.

21.3 AT+CBAND

SIM800V, SIM800W,SIM800W16,SIM800A	SIM840V,SIM840W,SIM840W16,SIM800H,SIM800L, SIM800,SIM800M64,SIM800G, SIM808,SIM800C,SIM800F,SIM868,SIM800C-DS
AT+CBAND=? +CBAND: (EGSM_MODE,DCS_MODE,EGSM_DCS_MODE,ALL_BAND) OK	AT+CBAND=? +CBAND: (EGSM_MODE,DCS_MODE,GSM850_MODE,PCS_MODE,EGSM_DCS_MODE,GSM850_PCS_MODE,EGSM_PCS_MODE,ALL_BAND) OK
Difference: SIM840V, SIM840W, SIM840W16,SIM800H, SIM800L, SIM800, SIM800M64, SIM800G, SIM808, SIM800C, SIM800F, SIM868 and SIM800C-DS support Quad-band.	

21.4 AT+CHFA

SIM800V, SIM840V,SIM800W, SIM840W,SIM800W16,SIM840W16	SIM800H,SIM800L,SIM800,SIM800M64, SIM808,SIM800C,SIM800A
AT+CHFA=? +CHFA: (0 = NORMAL_AUDIO, 1 = AUX_AUDIO) OK	AT+CHFA=? If it is SIM800 and SIM800M64 +CHFA: (0 = NORMAL_AUDIO, 2 = HANDFREE_AUDIO,4=PCM_AUDIO) OK If it is SIM800H,SIM800L, SIM808, SIM868 or SIM800C-DS +CHFA: (0 = NORMAL_AUDIO, 1 = AUX_AUDIO, 2 = HANDFREE_AUDIO, 3 = AUX_HANDFREE_AUDIO, 4 = PCM_AUDIO) OK If it is SIM800C,SIM800A,SIM800F

	+CHFA: (0 = NORMAL_AUDIO, 2 = HANDFREE_AUDIO) **OK**
Difference: **In SIM800H, SIM800L, SIM808, SIM868 and SIM800C-DS, channel 2 is the same with channel 0, channel 3 is the same with channel 1.channel 4 is multiplexed.** **SIM800G can not support this AT command.**	

21.5 AT+SGPIO

SIM800V, SIM840V,SIM800W, SIM840W,SIM800W16,SIM840W16	**SIM800H,SIM800L,SIM800, SIM808,SIM800M64**
AT+SGPIO=? **+SGPIO: (0-1),(1-11),(0-1),(0-1)** **OK**	**AT+SGPIO=?** **+SGPIO: (0-1),(1-7),(0-1),(0-1)** **OK**
Difference: **GPIO4 and GPIO5 only support the read operation in SIM800H, SIM800L, SIM800, SIM800M64 and SIM808.** **SIM800, SIM800M64 and SIM808 do not support GPIO1.** **SIM800G and SIM800C, SIM800A, SIM800F, SIM868 and SIM800C-DS can not support this command.**	

21.6 AT+SJDR

Jamming detection PIN takes effect only in SIM800H, SIM800L, SIM800, SIM800M64, SIM808, SIM800C, SIM800A, SIM800F and SIM800C-DS.The Jamming detection PIN is defined as follows.

Module Type	Jamming detection PIN
SIM800H/SIM800L	PIN5
SIM800/SIM800M64	PIN67
SIM808	PIN63
SIM800C	PIN29
SIM800A	PIN67
SIM800F	PIN67
SIM800C-DS	PIN29

SIM800V, SIM840V, SIM800W, SIM840W, SIM800W16 and SIM840W16 have no jamming detection PIN to indicate JD status, only report jamming status via URC from serial port.

21.7 AT+CREC

Play in call support AMR format and WAV format with 8K 16bit in SIM800H, SIM800, SIM800M64, SIM808, SIM800C, SIM800A, SIM800F, SIM868 and SIM800C-DS.
The value of parameter **<inputpath>** is only "0" in SIM800 and SIM800M64.

21.8 AT+CTTSPARAM

SIM800V,SIM840V, SIM800W, SIM840W,SIM800W16,SIM840W16	**SIM800H,SIM800,SIM800M64**
AT+CTTSPARAM? **+CTTSPARAM: 50,0,50,50,1** **OK**	**AT+CTTSPARAM?** **+CTTSPARAM: 50,0,50,50,0** **OK**
Difference: **Default value of output channel is different.**	

21.9 AT+CADC

SIM800V, SIM840V,SIM800W,SIM840W, SIM800W16,SIM840W16,SIM800H, SIM800L,SIM800,SIM800M64,SIM800C, SIM800A,SIM800F,SIM800C-DS,SIM868	**SIM808**
AT+CADC? **+CADC: 1,603** **OK**	**AT+CADC?** **+CADC: 1,958** **+CADC: 1,2223** **OK**
Difference: **SIM808 has two ADC channels and others have only one ADC channel.**	

21.10 AT+CSCLK

SIM800V, SIM840V,SIM800W,SIM840W, SIM800W16,SIM840W16,SIM800H, SIM800L,SIM800,SIM800M64,SIM800C, SIM800A,SIM800F,SIM800C-DS,SIM868	**SIM808**
AT+CSCLK=? **+CSCLK: (0-2)**	**AT+CSCLK=?** **+CSCLK: (0-1)**

OK	OK
Difference: SIM808 does not support AT+CSCLK=2.	

21.11 AT+CMMSDOWN

SIM800V, SIM840V, SIM800W, SIM840W, SIM800W16,SIM840W16,SIM800L,SIM800H, SIM800, SIM800M64, SIM800G, SIM800C-DS	SIM808,SIM800C,SIM800A,SIM800F,SIM868
AT+CMMSDOWN=? +CMMSDOWN: "PIC", (1-307200), (5000-),"NAME" +CMMSDOWN: "TEXT", (1-15360), (2000-),"NAME" +CMMSDOWN: "TITLE", (1-40), (2000-) OK	AT+CMMSDOWN=? +CMMSDOWN: "PIC", (1-307200), (5000-),"NAME" +CMMSDOWN: "TEXT", (1-15360), (2000-),"NAME" +CMMSDOWN: "TITLE", (1-40), (2000-) +CMMSDOWN: "AUDIO_ACC", (1-307200), (5000-),"NAME" +CMMSDOWN: "AUDIO_AMR", (1-307200), (5000-),"NAME" +CMMSDOWN: "AUDIO_BASIC", (1-307200), (5000-),"NAME" +CMMSDOWN: "AUDIO_MID", (1-307200), (5000-),"NAME" +CMMSDOWN: "AUDIO_MPEG", (1-307200), (5000-),"NAME" +CMMSDOWN: "VIDEO_3GPP", (1-307200), (5000-),"NAME" +CMMSDOWN: " VIDEO _MP4", (1-307200), (5000-),"NAME" OK

21.12 AT+CFGRI

SIM800V, SIM840V, SIM800W, SIM840W, SIM800W16,SIM840W16,SIM800L,SIM800H, SIM800, SIM800M64, SIM800G, SIM800C-DS	SIM808, SIM800C, SIM800A, SIM800F, SIM868
AT+CFGRI? +CFGRI: 0	AT+CFGRI? +CFGRI: 2

OK	**OK**
Difference: **Default value is different.**	

21.13 AT+CLCK

SIM800V, SIM840V, SIM800W, SIM840W, SIM800W16, SIM840W16, SIM800L, SIM800H, SIM800, SIM800M64, SIM800G, SIM808, SIM800C, SIM800A, SIM800F, SIM868	**SIM800C-DS**
AT+CLCK=? **+CLCK:** **("AO","OI","OX","AI","IR","FD","SC","PN","PU","PP")** **OK**	**AT+CLCK=?** **+CLCK:** **("AO","OI","OX","AI","IR","SC","PN","PU","PP")** **OK**
Difference: **SIm800C-DS has no value of "FD".**	

21.14 Only Part of Projects Support Following AT Commands

Chapter	AT command or function	Supported by project
2.2.5	ATD><str>	SIM800V, SIM840V, SIM800W, SIM840W, SIM800W16, SIM840W16, SIM800L, SIM800H, SIM800, SIM800M64, SIM800G, SIM808, SIM800C, SIM800A, SIM800F,SIM868
2.2.3	ATD<n> (if <n> is USSD-string or supplementary services)	SIM800V, SIM840V, SIM800W, SIM840W, SIM800W16, SIM840W16, SIM800L, SIM800H, SIM800, SIM800M64, SIM800G, SIM808, SIM800C, SIM800A, SIM800F
2.2.39	AT+ICF	SIM800V,SIM840V,SIM800W,SIM840W,SIM800W16, SIM840W16,SIM800L,SIM800H,SIM800, SIM800M64,SIM800G,SIM808
3.2.4	AT+CBST	SIM800V,SIM840V,SIM800W,SIM840W,SIM800W16, SIM840W16,SIM800L,SIM800H,SIM800, SIM800M64,SIM800G,SIM808
6.2.10	AT+CMOD	SIM800V,SIM840V,SIM800W,SIM840W,SIM800W16, SIM840W16,SIM800L,SIM800H,SIM800, SIM800M64,SIM800G,SIM808

6.2.40	AT+SGPIO	SIM800V,SIM840V,SIM800W,SIM840W,SIM800W16, SIM840W16,SIM800L,SIM800H,SIM800, SIM800M64,SIM800G,SIM808
6.2.41	AT+SPWM	SIM800V,SIM840V,SIM800W,SIM840W,SIM800W16, SIM840W16,SIM800L,SIM800H,SIM800, SIM800M64,SIM800G,SIM808,SIM868
6.2.59	AT+CPCMCFG	SIM800H,SIM800L,SIM800,SIM800M64,SIM808
6.2.60	AT+CPCMSYNC	SIM800H,SIM800L,SIM800, SIM800M64,SIM808
6.2.61	AT+CANT	SIM800H,SIM800L,SIM800, SIM800M64,SIM808,SIM800C,SIM800A,SIM800F,SIM 868
6.2.63	AT+SD2PCM	SIM800H,SIM800L,SIM800, SIM800M64,SIM808
6.2.64	AT+SKPD	SIM800H,SIM800L,SIM800, SIM800M64,SIM808,SIM800A,SIM800F
6.2.68	AT+CMNRP	SIM800H,SIM800L,SIM800, SIM800M64
6.2.69	AT+CEGPRS	SIM800H,SIM800L,SIM800, SIM800M64,SIM800C-DS
6.2.74	AT+ECHARGE	SIM808
6.2.75	AT+SIMTIMER	SIM800H,SIM800L,SIM800, SIM800G
6.2.76	AT+SPE	SIM800H, SIM800L,SIM800, SIM800G, SIM800C, SIM800A, SIM800F,SIM800C-DS,SIM868
6.2.77	AT+CCONCINDEX	SIM808,SIM800C,SIM800A, SIM800F,SIM868
6.2.78	AT+SDMODE	SIM808
6.2.79	AT+SRSPT	SIM800H,SIM800L,SIM800,SIM800G,SIM808,SIM800 C, SIM800A,SIM800F,SIM868
10.2.4	AT+CIPBEIPING	SIM800H, SIM800L,SIM800, SIM800M64,SIM808, SIM800C,SIM800A,SIM800F,SIM800C-DS,SIM868
11.2.9	AT+HTTPHEAD	SIM800H,SIM800L,SIM800,SIM800G
17	Record function	SIM800V, SIM840V, SIM800W, SIM840W, SIM800H, SIM800, SIM800M64, SIM808,SIM800C,SIM800A, SIM800F,SIM800C-DS,SIM868
18	TTS function	SIM800V,SIM840V, SIM800W, SIM840W,SIM800H, SIM800,SIM800M64,SIM800C ***Note: SIM800H, SIM800 and SIM800C only support Chinese TTS.***
19	AT commands of AOC	SIM800V,SIM840V,SIM800W,SIM840W,SIM800W16, SIM840W16,SIM800L,SIM800H,SIM800,SIM800M64, SIM800G,SIM808

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