GOOUUU TECH

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G Series AT command set

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Foreword

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Imprint

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Contens

NO.	Document Name	Remark
[1]	GSM module AT command application guide	GSM module AT command application guide
[2]	GSM TCPIP AN	GSM module AT command application guide
[3]	GPRS Startup UGD	GPRS configuration application guide
[4]	GSM MUX AN	MUX application guide
[5]	SMS AN	Message Application guidelines
[6]	G3524 HD	G3524 Hardware Design Manual

1.2. AT command terminology abbreviations and conventions

GSM module mentioned in the document, including a mobile device ME (Mobile Equipment)、 The mobile station MS（MobileStation）、Terminaladapter TA（TerminalAdapter）、DCEData Communications Equipment（Data Communication Equipment）And fax FAX (including fax Modem and Fax Boards).

Through the serial port to send AT commands, you can use the GSM module。Application serial line terminal equipment, including terminal equipment TE (Terminal Equipment) 、 Data terminal equipment DTE (Data Terminal Equipment) or other applications. These terminals or applications may run in embedded within the system.

Documents related to the relevant terminology abbreviations are based on the GSM standardwriting.

1.3.AT Command Syntax

All AT command line within the document must ”AT” or ”at” a beginning, a carriage return (<CR>) as the end.

Immediately after the command returns the response is usually， Its style is ”<Enter> <wrapping> <response content> <Enter> <wrap (<CR> <LF> <response content> <CR> <LF>)”.AT Commands process, Only <response content> is described in detail, the process <Enter> <wrapping> was deliberately omitted.

1.3.1. AT command type

All AT commands within the document type has the following four:

Base class command: AT command format of such ”AT <x> <n>” or ”AT & <x> <n>”,Where ”<x>” is the command comes, ”<n>” means that the command supports one or more parameters. For example: ”ATE <n>”, the command is used to turn off or enable echo function, That DCE will be based on ”<n>” value determines whether the received characters back to the DTE. ”<n>” Parameter is optional, if not assigned, the default value.

Parameters Commands: These AT commands format ”ATS<n>二[<m>叮”, where ”<n>” is the index of S register, ”<m>” parameter value is given. In the AT command, ”<m>” parameter is optional, if not assigned, the default value.

Extension classes Command: Generally speaking, according to the operation command format extension classes and applications can be divided into the following types:

Table 2: AT command format

AT Command	Syntax	Description
Test Command	AT+CXXX 二?	This command is used to query or set command to set the parameters of their internal procedures range of parameter values

Query command	AT+CXXX?	This command is used to query the current value of the parameter
Set command	AT+CXXX=<. >,[<. >]	This command is used to set user-defined parameter values
Run	AT+CXXX	This command is used to read out the immutable parameters GSM module internal control procedures

AT command syntax:

he default value is available in square brackets ([]) in.

The order parameter and must be equipped with the optional parameters must be set in accordance with the provisions within the parameters of operation of the arrangement between the parameters will Must be separated by commas.

Example:

AT+CPWD=<fac>,<oldpwd>,<newpwd>，This command is used to lock the device lock command AT+CLCK Defined device lock function to set a new password.

If the parameter is a string (for example: <number>), then the string must be enclosed in double quotes

Example:

"12345", "CMNET" and so on, double quotation marks can be seen as the symbol is located in the square brackets do not use double quotes, each optional sub-string parameter string command or an optional part of TA returns results spaces between characters negligible practice, <>, [] do not have to enter all the AT command itself is not case sensitive, but its parameters are case sensitive.

1.3.2. AT command ligatures

In the process of using AT command operation, the number of AT commands can be placed in the same command line input. So that the ligatures AT command can be removed "AT" or "at" character, only at the beginning of the command line input "AT" or "at" can. Note that, in the extended AT command followed by the class, writing for the AT commands required by a semicolon (;) as a delimiter, all AT commands ligatures to step through the same line. For example: ATE1 & W & F + ICF; + CFUN; & W AT command can operate a maximum of 355 characters？？. When the value exceeds the range, enter the AT command will not be executed,"ERROR".

1.3.3. AT command usage Branch

When you need to perform multiple consecutive AT command, you must wait until the AT command made a final response (example: return OK, ERROR, CME ERROR, CMS ERROR, etc.) in order to continue operating under an AT command. This action is highlyrecommended.

1.4. Supported character sets

GSM module AT command interface defaults to using GSM character set, the character set by ”AT+CSCS” command (GSM 07.07) to query and configure. Its supported character set as follows:

- GSM
- UCS2
- HEX
- PCCP936

Character sets affect short message, broadcast message read, edit, send and receive input, phone, SIM card, such as strings and display the toolbox.

2. General Commands

2.1. ATI Display Product ID information

This command is used to display the product ID information, TA reports one or more line s of information and software manufacturers release letter

Grammar

Command	Response
ATI	Goouuu Ltd Goouuu G3524 G3524 B5 R01 A01 D140428 OK
Reference V.25ter	

Remark

- The command module testing and certification based on G3524

2.2. AT+GMI Request TA manufactureridentification

Request TA manufacturer identification (may equal to+CGMI).

Grammar

Command	Response
AT+GMI=?	OK
AT+GMI	Goouuu Ltd OK
Reference V.25ter	

Command	Response
AT+GMM=?	OK
AT+GMM	Goouuu G3524 OK
Reference V.25ter	

Command	Response
AT+GMR=?	OK
AT+GMR	+CGMR: G3524 B5 R01 A01 D140428 OK
Reference V.25ter	

Remark

- The command module testing and certification based on G3524

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2.5. AT+CGMI Manufacturer ID information request

This command causes the TA to return one or more lines of information text <manufacturer>, determined by the MT manufacturer, which is intended to permit the user of the TA to identify the manufacturer of the MT to which it is connected to. Typically, the text will consist of a single line containing the name of the manufacturer, but manufacturers may choose to provide more information if desired. Refer subclause 9.2 for possible <err> values.

Grammar

Command	Response
AT+CGMI 二?	OK
AT+CGMI	Goouuu Ltd OK
Reference GSM07.07	

Remark

- Function with AT+GMI
- The command module testing and certification based on G3524

2.6. AT+CGMM Request model identification

This command causes the TA to return one or more lines of information text <model>, determined by the MT manufacturer, which is intended to permit the user of the TA to identify the specific model of the MT to which it is connected to. Typically, the text will consist of a single line containing the name of the product, but manufacturers may choose to provide more information if desired. Refer to subclause 9.2 fo possible <err> values.

Grammar

Command	Response
AT+CGMM 二?	OK
AT+CGMM	Goouuu G3524 OK
Reference GSM07.07	

Remark

- Function with AT+GMM
- The command module testing and certification based on G3524

2.7. AT+CGMR TA software version information request

This command is used to request TA software version information, TA reports one or more lines of software version information.

Grammar

Command	Response
AT+CGMR 二?	OK
AT+CGMR	+CGMR: G3524 B5 R01 A01 D140428 OK
Reference GSM07.07	

Command	Response
AT+GSN 二?	OK
AT+GSN	<sn> OK
Reference V.25ter	

not

2.9. AT+CGSN Request TA serial number (IMEI)

The set command causes the TA to return one or more lines of information text <sn>, determined by the MT manufacturer, which is intended to permit the user of the TA to identify the individual MT to which it is connected to. Typically, the text will consist of a single line containing the IMEI (International Mobile station Equipment Identity; refer 3GPP TS 23.003 [7 ⅡJ) number of the MT, but manufacturers may choose to provide more information if desired. Refer subclause 9.2 for possible <err> values.

Grammar

Command	Response
AT+CGSN 二?	OK
AT+CGSN	<sn> OK
Reference V.25ter	

Parameter

<sn>: the total number of characters, including line terminators, in the information text shall not exceed 2048 characters.

Text shall not contain the sequence 0<CR> or OK<CR>

Remark

- ME serial number of each device (IMEI) different
- Function with AT+GSN

2.10. AT&F Set all current parameters to manufacturer defaults

This command instructs the DCE to set all parameters to default values specified by the manufacture, which may take hardware configuration switches and other manufacture-defined criteria into consideration.

Grammar

Command	Response
AT&F[<value>¶	OK
Reference V.25ter	

Parameter

<value> [0 ¶丁 Set all TA parameters to manufacturer defaults.(other) Reserved for manufacture proprietary use.

Remark

- AT & F operate some parameters can be saved by the impact of AT & W, ATZ restore the default configuration
- The default configuration can be saved by AT & W AT & F Restore Factory
- AT & F can restore the saved portion of the corresponding parameter configuration through ATZ
- Must be idle in the module operation can be carried out AT & F

2.11. AT&W Stores current configuration to user defined profile

This command stores the currently set parameters to a user defined profile in the non-volatilememory.

Grammar

Command	Response
AT&W[<n>]	When<n>二 0， returns: OK
Reference V.25ter	

Parameter

<n> 0 Profile number

Remark

- AT & W user configuration remains active after restart TA
- The default configuration can be restored by AT & F AT & W portion of the corresponding parameter of the factory.
- AT & W can restore the saved portion of the corresponding parameter configuration throughATZ.
- Must be idle in the module operation can be carried out AT & W
- AT & W AT commands listed in the section, if you want to restart it after the module parameters remain unchanged, we need to be saved by AT & W, and V.25, 07.05,07.07 and GPRS in most other AT commands are automatically saved parameters, namely the re-configuration Kai parameters unchanged

2.12. ATQ Set result code presentation mode

This parameter setting determines whether or not the DCE transmits result codes to the DTE.

Grammar

Command	Response
ATQ[<n>]	When <n> 二 0, returns: OK When<n>二 1,returns: OK
Reference V.25ter	

Parameter

<n> 0 DCE transmits result code

1 Result codes are suppressed and not transmitted

Remark

- This setting does not affect the content of the responsewithin
- ATQ without parameters when setting parameters <n> default value is0

2.13. ATV Set result code format mode

The setting of this parameter determines the contents of the header and trailer transmitted with result codes and information responses. It also determines whether result codes are transmitted in a numeric form

or an alphabetic (or ”verbose”) form. The text portion of information responses is not affected by this setting.

Grammar

Command	Response
ATV[<value>]	When<value>=0,returns: 0 When<value>= 1,returns: OK
Reference V.25ter	

ATV1	ATV0	Description
OK	0	Confirm the correct execution of the command
CONNECT	1	Connection has been established, DCE switch from command mode to data state
RING	2	DCE has detected a call from the network
NO CARRIER	3	Connection is interrupted or failed attempts to establish a connection
ERROR	4	Command can not be identified beyond the maximum length of the command line, the parameter value is invalid or other problems in the

		process the command
NO DIALTONE	5	Can not detect a dial tone
BUSY	6	Detects a busy signal (busy)
NO ANSWER	7	If the "@ " dial modifier is used, followed by five seconds of silence remote ringing no time before the timer (S7) timeout detected, IE no response.
NOT SUPPORT	8	An AT command is beingprocessed
INVALID COMMAND LINE	9	

2.14. ATX Set CONNECT result code format and call progressdetection

This parameter setting determines whether or not the DCE detects the presence of dial tone and busy signal and whether or not DCE transmits particular result codes.

Grammar

Command	Response
ATX[<value>]	OK
Reference V.25ter	

Parameter

<value>

0 CONNECT result code only returned; dial tone and busy detection are both disable.

1 CONNECT <text> result code only returned; dial tone and busy detection are both disable

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 bothenabled.

Remark

- AT&F to restore factory settings parameter is 4<value>

2.15. ATZ Set all current parameters to user definedprofile

Grammar

Command	Response
ATZ[<value>]	OK
Reference V.25ter	

Parameter

<value> 0 The default configure of the manufacturer.
(other) Not be used.

Remark

- All relevant parameters to restore manufacturer default configuration.
- AT & F operate some parameters can be saved by the impact of AT & W, ATZ to restore the default settings.
- In the module must be idle before proceeding ATZ operation.

2.16. AT+CFUN Set module function

Set command currently can only be used to switch off and on the CSW platform.

Grammar

Command	Response
AT+CFUN 二?	+CFUN:(list of supported <fun>s),(list of supported <rst> s) OK
AT+CFUN?	+CFUN:<fun> OK
AT+CFUN 二<fun>,[<rst>]	OK ERROR+CME ERROR:<err>
Reference GSM07.07	

Parameter

<fun> 0 Minimum functionality
1 Full-function
4 Disable phone both transmit and receive RF circuits

<rst> 0 Do not reset the MT before setting it to <fun> power level.
NOTE: this shall be always default when <rst> is not given.
1 Reset the MT before setting it to <fun> power level.

Remark

- <rst> module 1 is reset action, this time to re-register the GSM, GPRS network will be canceled starting
- This command can only operate in an idle state operation of the module, otherwise it will cause abnormal operation of other functions

Examples

Example 1: Set the module minimum functionality mode. First, the network canceled the order, then deactivated SIM card

```
AT+CFUN 二 0


OK
AT+COPS?
```

```
+COPS: 2                //No network
OK
```

Example 2: Set the module full-function mode. This command is first activated SIM card, after registering the network

Command	Response
AT+CMEE =?	+CMEE:(list of supported <n>s) OK
AT+CMEE?	+CMEE:<n> OK
AT+CMEE =[<n>]	OK ERROR +CME ERROR:<err>
Reference GSM07.07	

CMS ERROR Error Code List Error Codes table, etc.

Examples

```
AT+CMEE =0    //    Disable result code + CME ERROR: <err>, enable ERROR
OK
AT+CPIN =1234
ERROR
AT+CMEE =1    //    Enable result code + CME ERROR: <err>, use numeric values <err>
OK
```

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```
AT+CPIN 二 1234
+CME ERROR: 50
AT+CMEE 二2  //  Enable result code + CME ERROR: <err>, using the values described in detail <err>
OK
AT+CPIN 二 1234
+CME ERROR:Execute command failure
```

2.18. AT+CSCS Select TE character set

Write command informs DCE which character set <chset> is used by the TE. DCE is then able to convert character strings correctly between TE and ME character sets.

Grammar

Command	Response
AT+CSCS 二?	+CSCS:(list of supported < chset >s)) OK
AT+CSCS?	+CSCS:<chset> OK
AT+CSCS 二<chest>	OK ERROR +CME ERROR:<err>
Reference GSM07.07	

Parameter

<chest>

"GSM" GSM 7 bit default alphabet (3GPP TS 23.038); this setting causes easily software flow control (XON/XOFF) problems.

"UCS2" 16-bit universal multiple-octet coded character set (ISO/IEC10646 [32]); 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.

"HEX" Hexadecimal mode. No character set used ; the user read or write directly hexadecimal values

Remark

- This command can only operate in an idle state operation of the module, otherwise it will cause abnormal operation of other functions.

Examples

```
AT+CSCS?          //  Query the current character set
+CSCS: ”GSM”
OK AT+CSCS
二”UCS2” OK       //  Set the character set to ”UCS2” Coding
AT+CSCS?
+CSCS: ”UCS2”
```

OK

2.19. AT+EGMR Set IMEI number

The instruction set can be read IMEI number and IMEI number:

Grammar

Command	Response
AT+EGMR 二?	+EGMR:(list of supported <value>s),(,(<7>),(text) OK
AT+EGMR 二<value>,<7>	+EGMR:(text) OK ERROR
AT+EGMR 二<value>,<7>,<text>	OK ERROR

This command is used to display information on the chip ID

Grammar

Command	Response
AT+CGBV 二?	OK ERROR
AT+CGBV	+CGBV: RDA8809 OK

	ERROR
Reference Goouuu	

2.21.AT+CPOF Switch off mobile station

Switch off mobile station.

Grammar

Command	Response
AT+CPOF 二?	+CPOF:(list of supported <n>s) OK ERROR
AT+CPOF	OK ERROR
AT+CPOF 二<n>	When <n> 二 1, return: +CPOF: MS OFF OK OK When <n> 二 0, return: OK
Reference Goouuu	

3. Serial interface control command

3.1. AT+ICF DTE DCE character framing

Command	Response
AT+ICF 二?	+ICF:(list of supported <format>s),(list of supported <parity>s) OK
AT+ICF?	+ICF:<format>,<parity> OK
AT+ICF 二[<format>,[parity 叮叮	OK ERROR +CME ERROR:<err>
Reference V.25ter	

- If <format> set no parity, then <parity> configuration is ignored
- Currently this feature yet to achieve

3.2. AT+IPR Set fixed local rate

This numeric extended-format parameter specifies the data rate at which the DCE will accept commands, in addition to 1200 bit/s or 9600 bit/s.

Grammar

Command	Response
AT+IPR二?	+IPR:(list of supported auto detectable <rate> values)[,(listofsupported<rate>s)叮丁 OK
AT+IPR?	+IPR:<rate> OK
AT+IPR 二<rate>	OK ERROR +CME ERROR:<err>
Reference V.25ter	

3.2.1.Autobauding

Synchronization between DTE and DCE DTE and DCE to ensure successful synchronization enable DCE (二 ME) detects the baud rate used by the DTE. When you turn on the module, serial port baud rate is set to autobauding, then enter ”AT” string is needed, which allows the DTE DCE baud rate synchronization. Before sending the first AT character is best to wait 3-5 seconds, otherwise it will likely return some indeterminate character.（ Low self-module boot boot-legs do start, beginning after 800ms under the AT characters, at least send 6 AT,AT about 50ms interval between each）

If you need to use adaptive baud rate and auto answer function can be activated when the adaptive baud rate DTE-DCE synchronization, and then configure the auto-answer mode.

Autobauding operational limitations:

- The serial interface must work in 8 data bits, no parity and 1 stop bit factory default settings
- You can not use the command "A/"
- In autobauding state, the baud rate can be synchronized by using the string "AT" or "At" (instead of "aT" or "at")
- When autobauding enabled, the baud rate is synchronized Previously, all reported URC, and so will not be output as RDY

Autobauding and MUX:

If auto bauding is enabled, does not recommend switching to MUX mode

Adaptive baud modem and windows:

In establishing GPRS / CSD dial-up connection, windows baud modem will be detected. However, some of the windows at the end of the modem driver TE GPRS baud dial will switch back to the default, which causes windows modem does not receive a response. To prevent this from happening, is not recommended in the case of down-enabled autobauding establish GPRS / CSD dial-up, for the same reason, do not recommend the use of PC-FAX application to enable adaptive baud rate in the case of establish FAX connection, such as Win Fax

Note:

In order to ensure communication between the DCE and the DTE reliability and avoid the problems caused by the baud rate uncertainty, it is strongly recommended to set the boot configuration and save it as a fixed baud rate, that such operations AT + IPR = 115200 & w.

3.3. AT+CMUX Multiplexing

Grammar

Command	Response
AT+CMUX 二?	+CMUX: (list of supported<mode>s)
AT+CMUX?	+CMUX: (mode) OK
AT+CMUX 二<mode>	OK ERROR +CME ERROR: <err>
Reference GSM07.07	

Parameter

<mode> Set <mode> parameters (any value) after entering the mux channel, then not allowed to knock AT commands

Remark

- Error Recovery option does not support the AdvancedConfiguration
- Based on the current serial port baud rate, the baud rate is strongly recommended to use multiplexing to 115200bit / s
- A multiplexer multiplexing the control channel transmission rate is asfollows:

Number of Channels	Type	DLCI
None	Multiplexer Control	0
1	07.07 and 07.05	1
2	07.07 and 07.05	2
3	07.07 and 07.05	3
4	07.07 and 07.05	4

by

Command	Response
AT+CEER 二?	OK
AT+CEER	+CEER:<location ID> OK
Reference GSM07.07	

Parameter

<location ID> Error type ID number

<location ID> Extended Error Reporting

16 Normal call clearing

17 BUSY

19 NO ANSWER

31 NO CARRIER

Remark

- （1）Last call setup failure (initiating or answering) or modify thecall
- （2）Last call release

Examples

Command	Response
AT+CPAS 二?	+CPAS(list of supported <pas> s) OK
AT+CPAS	+CPAS:<pas> OK
Reference GSM07.07	

```
AT+CPAS
+CPAS: 0
OK          //  Module is idle, <pas> 二 0
ATD10086;
OK
AT+CLCC
+CLCC:  1,0,2,0,0,”10086”,129,””
OK
```

```
AT+CPAS
+CPAS: 3
OK          // Module is a call ringing, <pas> 二 3
AT+CLCC
+CLCC:1,0,0,0,0,”10086”,129,””
OK
AT+CPAS
+CPAS: 4
OK    // Modules in a call to establish a state, <pas> 二 4
```

4.3.AT+CMER Mobile Termination event reporting

This command set or query the sending mode of unsolicited result codes from TAto TE.

Grammar

Command	Response
AT+CMER 二?	+CMER:(list of supported <mode>s),(list ofsupported <keyp>s),(list of supported <disp>s),(list of supported<ind>s),(list of supported <bfr>s) OK
AT+CMER?	+CMER: <mode>,<keyp>,<disp>,<ind>,<bfr> OK
AT+CMER 二[<mode>[,<keyp>[,<disp>[,<ind>[,<bfr>叮叮叮叮叮	OK ERROR
Reference Goouuu	

Parameter

<mode>:

0 buffer unsolicited result codes in the TA; if TA result code buffer is full, codes can be buffered in some other place or the oldest ones can be discarded

1 discard 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 TAwhen 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

<keyp>:

0 no keypad event reporting

1 keypad event reporting using result code +CKEV: <key>,<press>. <key> indicates the key (refer IRA values defined in table in subclause ”Keypad control +CKPD”) and <press> if the key is pressed or released(1 for pressing and 0 for releasing). Only thosekey pressings, which are not caused by

+CKPD shall be indicated by the TA to the TE.

NOTE 1: When this mode is enabled, corresponding result codes of all keys currently pressed should be flushed to the TA regardless of <bfr> setting.

2 keypad event reporting using result code +CKEV: <key>,<press>. All key pressings shall be directed from TA to TE.

NOTE 2: When this mode is enabled, corresponding result codes of all keys currently pressed should be flushed to the TA regardless of <bfr> setting.

<disp>:

0 no display event reporting

1 display event reporting using result code +CDEV:<elem>,<text>. <elem> indicates the element order number (as specified for +CDIS) and <text> is the new value of text element.Only those display events, which are not caused by +CDIS shall be indicated by the TAto the TE. Character set used in <text> is as specified by command Select TE Character Set +CSCS

2 display event reporting using result code +CDEV: <elem>,<text>. All display events shall be directed from TA to TE. Character set used in <text> is as specified by command Select TE Character Set +CSCS

<ind>:

0 no indicator event reporting

1 indicator event reporting using result code +CIEV: <ind>,<value>. <ind> indicates the indicator order number (as specified for +CIND) and <value> is the new value of indicator. Only those indicator events, which are not caused by +CIND shall be indicated by the TA to the TE 2 indicator event reporting using result code +CIEV: <ind>,<value>. All indicator events shall be directed from TA to TE

<bfr>:

0 TA buffer of unsolicited result codes defined within this command is cleared when <mode> 1...3 is entered

1 TAbuffer 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)

4.4. AT+CREADY Query module initialization state

This command is used query module initialization state

Grammar

Command	Response
AT+CREADY	Call Ready OK

Parameter

<Call Ready> Indicates that the module initialization is complete

Remark

- If not Call Ready indicates that the module is not initializedcompleted

Examples

AT+CREADY
Call Ready
OK

Command	Response
AT+CIMI 二?	OK
AT+CIMI	<IMSI> OK
Reference GSM 07.07	

Command	Response
AT+CLCK 二?	+CLCK:(list of supported<fac>s) OK
AT+CLCK 二<fac>,<mode>,<passwd>[,<class>¶	When <mode> not equal to 2 and the operation succeeds, the return: OK When <mode> equal to 2 and the operation succeeds, the return: +CLCK:<status>[,<class1>[<CR><LF> +CLCK:<status>,class2....¶¶

	OK
Reference GSM07.07	

Parameter

<fac>

Type: string type

Meaning: values reserved by the present document: ”CS” CNTRL (lock Control surface (e.g. phone keyboard))

”PS” PH-SIM (lock Phone to SIM/UICC card) (MT asks password when other than current SIM/UICC card inserted; MT may remember certain amount of previously used cards thus not requiring password when they are inserted)

”PF” lock Phone to the very First inserted SIM/UICC card (also referred in the present document as PH-FSIM) (MT asks password when other than the first SIM/UICC card is inserted)

”SC” SIM (lock SIM/UICC card) (SIM/UICC asks password in MT power-up and when this lock command issued)

”AO” BAOC (Barr All Outgoing Calls) (refer 3GPP TS 22.088 [6 叮 clause 1)

”OI” BOIC (Barr Outgoing International Calls) (refer 3GPP TS 22.088 [6 叮 clause 1)

”OX” BOIC-exHC (Barr Outgoing International Calls except to Home Country) (refer 3GPP TS 22.088 [6 叮 clause 1)

”AI” BAIC (Barr All Incoming Calls) (refer 3GPP TS 22.088 [6 叮 clause 2)

”IR” BIC-Roam (Barr Incoming Calls when Roaming outside the home country) (refer 3GPP TS 22.088 [6 叮 clause 2)

”NT” barr incoming calls from numbers Not stored to TA memory ”NM” barr incoming calls from numbers Not stored to MT memory

”NS” barr incoming calls from numbers Not stored to SIM/UICC memory ”NA” barr incoming calls from numbers Not stored in Any memory

”AB” All Barring services (refer 3GPP TS 22.030 [19 叮) (applicable only for <mode>二 0)

”AG” All out Going barring services (refer 3GPP TS 22.030 [19 叮丁) (applicable only for <mode>二 0) ”AC” All in Coming barring services (refer 3GPP TS 22.030 [19 叮丁) (applicable only for <mode>二 0) ”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>)

”PN” Network Personalization (refer 3GPP TS 22.022 [33 叮)

”PU” network sUbset Personalization (refer 3GPP TS 22.022 [33 叮) ”PP” service Provider Personalization (refer 3GPP TS 22.022 [33 叮) ”PC” Corporate Personalization (refer 3GPP TS 22.022 [33 叮)

<mode>:

Type: integer type

0 unlock

1 lock
2 query status

<status>:
Type: integer type
0 not active
1 active
<passwd>: Type:
string type;
Meaning: shall be the same as password specified for the facility from the MT user interface or with command Change Password +CPWD
Type: integer type
Meaning: is a sum of integers each representing a class of information (default 7):
1 voice (telephony)
2 data (refers to all bearer services; with <mode>二 2 this may refer only to some bearer service if TA does not support values 16, 32, 64 and 128)
4 fax (facsimile services)
8 short message service
16 data circuit sync
32 data circuit async
64 dedicated packet access
128 dedicated PAD access

Remark

- If you do not insert the SIM card or PIN ME unsolved, AT+ CLCK lock operation will return + CME ERROR: <err> related error

Examples

AT+CLCK二"SC",
2

OK // SC query the current state of the lock, unlock
AT+CLCK 二"SC",1,"1234"
OK // Set SC lock, password: 1234
AT+CLCK 二"SC",2
+CLCK: 1
OK // SC query the current state of the lock, locked
AT+CLCK 二"SC",0,"1234"
OK // SC lifted lock, password: 1234

5.3. AT+CPIN PIN Authentication

The AT Commands described in this chapter are related to the Coolsand AT Module hardware interface. More information regarding this interface is available with the "Coolsand AT Module Hardware Interface Description"

Grammar

Command	Response
AT+CPIN 二?	OK

AT+CPIN?	+CPIN: <code> OK
AT+CPIN =<pin>[,<new pin>]	OK ERROR +CME ERROR: <err>
Reference GSM 07.07	

5.4. AT+CPWD Change password

This command be used to change password [pin/pin2．

Grammar

Command	Response
AT+CPWD 二?	+CPWD: list of supported(<fac>,<pwdlength>) OK
AT+CPWD 二<fac>,<oldpwd>,<newpwd>	OK ERROR +CME ERROR: <err>
Reference GSM07.07	

Parameter

<fac> ”PS” PH-SIM (ME lock on the SIM card) (while the other SIM card is inserted into the lock ME, ME password prompt; be provided ME, so as to identify the number of the used SIM card, so that after inserting the card, ME are not prompted for a password)

”SC” SIM (SIM card lock) (ME restart when requested to enter a PIN

SIM) ”P2” SIM PIN2

refer Facility Lock +CLCK for other values

<old pwd>, <new pwd>:

Type: string type;

Meaning: <old pwd> shall be the same as password specified for the facility from the MT user interface or with command Change Password +CPWD and <new pwd> is the new password; maximum length of password can be determined with <pwd length>

<pwd length>:

Type: integer type

Meaning: maximum length of the password for the facility

Examples

```
AT+CLCK 二”SC”,1,”1234”
OK
AT+CPIN?
+CPIN: READY
OK
AT+CPWD 二”SC”,”1234”,”4321”
OK          //  Set a new PIN code is 4321
//  Restart module
AT+CPIN?
+CPIN: SIM PIN
OK AT+CPIN
二”4321”
```

OK	//	Restart modules or re-activate the SIM card, you will be prompted to enter a new PIN code lock PIN solution

5.5. AT+CRSM Restricted SIM Access

Grammar

Command	Response
AT+CRSM 二?	OK
AT+CRSM 二 [,<fileId>[,<P1>,<P2>,<Command> <P3>[,<data>叮丁	+CRSM: <sw1>, <sw2>[,<response>叮丁 OK ERROR +CME ERROR: <err>
Reference GSM 07.07	

Parameter

<command> 176 READ BINARY
178 READ RECORD
192 GET RESPONSE
214 UPDATE BINARY
220 UPDATE RECORD
242 STATUS

5.6.AT^CPINC Total times of access the sim card

This command is used to view the remaining number of times to access the SIM card

Grammar

Command	Response
ATACPINC二?	ACPINC: PIN1&PIN2: (1-3), PUK1&PUK2: (1-10) OK ERROR
ATACPINC	ACPINC: <resttime> OK ERROR
Reference Goouuu	

Command	Response
AT+CPIN2 二?	OK ERROR
AT+CPIN2?	+CPIN2: <code> OK ERROR
AT+CPIN2 二<pin>[, <new pin>]	OK ERROR
Reference Goouuu	

Parameter

<code>

READY	ME no longer need to provide a password
SIM PIN2	ME is waiting SIM PIN2
SIM PUK2	ME is waiting SIM card PUK2

<pin> Original password (char) (SIM card PIN or PUK code)

<new pin>　New password (character)

Examples

Command	Response
AT+COPS 二?	+COPS: [list of supported (<stat>,long alphanumeric <oper> ,short alphanumeric <oper>,numeric <oper>)s 叮丁 [,,(list of supported <mode>s),(list of supported
AT+COPS?	+COPS:<mode>[,<format>[,<oper>]]] OK
AT+COPS 二<mode>[,<format>[,<oper>]]]	OK ERROR +CME ERROR:<err>
Reference GSM07.07	

Parameter

<stat>　0 unknown
1 available

Goouuu TECH G Series ATcommand set

2 current
3 forbidden

<oper> Character; <format> indicates that the string using alphanumeric or numeric; numeric representation GSM unknown area identification number (please refer GSM04.08 [8 叮丁 bottom section 10.5.1.3), which includes a three BCD numbers country code (in accordance with ITU-TE.212 Annex A [10 叮丁 standard) and a two BCD network codes, the latter with the management of the

<mode> 0 automatic (<oper> field is ignored)
1 manual (<oper> field shall be present)
2 deregister from network
3 set only <format> (for read command +COPS？), do not attempt registration/deregistration (<oper> field is ignored); this value is not applicable in read command response
4 manual/automatic (<oper> field shall be present); if manual selection fails, automatic mode (<mode>二0) is entered

<format> 0 long format alphanumeric <oper>
1 short format alphanumeric <oper>
2 numeric <oper>

<oper>: string type; <format> indicates if the format is alphanumeric or numeric; long alphanumeric format can be up to 16 characters long and short format up to 8 characters (refer GSM MoU SE.13 [9 叮丁); numeric format is the GSM Location Area Identification number (refer GSM 04.08 [8 叮丁 subclause 10.5.1.3) which consists of a three BCD digit country code coded as in ITU-T E.212 Annex A [10 叮丁, plus a two BCD digit network code, which is administration specific; returned <oper> shall not be in BCD format, but in IRA characters converted from BCD; hence the

Remark

- Set command forces select and register the GSM network operator. <mode> set ME is automatically selected operators <oper>, or choose to use the command to force operators <oper>. If you choose to operators is unavailable, you can not choose other operators, but <mode> 二 4 Exceptions. When <mode> 二 2, indicating that forced the cancellation from the network. Registration mode will affect all future registration behavior. For example, when <mode> 二 2, ME is not registered until <mode> 二 0 or 1 o'clock ME was registered on the network.

Examples

AT+COPS 二?
+COPS:(2,"CHINAMOBILE","CMCC","46000"),(3,"CHINA UNICOM GSM","CU-GSM","46001")
,,(0-4),(0-2)
OK // The current list of all network operators
AT+COPS?
+COPS: 0,0,"CHINAMOBILE"
OK // Check with the long character represents the current registered network operators

6.2. AT+CREG Network registration

This command be used to query the register status.

Grammar

Command	Response
AT+CREG=?	+CREG:(list of supported <n>s) OK
AT+CREG?	User terminal returns the result code display state, returns an integer <stat>, indicates whether the ME is already registered. Only when <n>=2 and ME is registered in the network, return unknown information <lac> and <ci>. +CREG:<n>,<stat>[,<lac>,<ci>] OK +CME ERROR:<err>
AT+CREG=<n>	OK
Reference GSM07.07	URC reported: When <n>=1 when the MT network registration status changes, reported: + CREG: <stat> When <n>=2, MT network registration status changes or there is a change network CELL News: +CREG: <stat>[,<lac>,<ci>]

Parameter

<n> 0 disable network registration unsolicited result code
1 enable network registration unsolicited result code +CREG: <stat>
2 enable network registration and location information unsolicited result code +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; two byte location area code in hexadecimal format (e.g. "00C3" equals 195 in decimal)

< ci > string type; two byte cell ID in hexadecimal format

Examples

```
AT+CREG=1
OK
AT+CREG?
```

```
+CREG: 1,1
OK              //    Registered
AT+CREG =2
OK
AT+CREG?
+CREG:  2,1,"1877","0002"
OK          //    With cell ID and location code
```

Command	Response
AT+CSQ =?	+CSQ:(list of supported<rssi>s),(list of supported<ber>s) OK
AT+CSQ	+CSQ:<rssi>,<ber> OK +CME ERROR:<err>
Reference GSM07.07	

6.4. AT+CPOL Preferred operator list

This command is used to edit the user preferred list of networks in the active application on the UICC

(GSM or USIM) or preferred list of networks in the SIM card.

Grammar

Command	Response
AT+CPOL 二?	+CPOL:(list of supported <index>s),(list of supported <format>s) OK
AT+CPOL?	+CPOL: <index1>,<format>,<oper1>[<CR><LF>+CPOL: <index2>,<format>,<oper2>[. 叮叮 OK +CME ERROR: <err>
AT+CPOL 二<index>[,<format>[,<oper>叮叮	OK ERROR +CME ERROR: <err>
Reference GSM 07.07	

Parameter

<index>:

integer type; the order number of operator in the active application in the UICC (GSM or USIM) user preferred list of networks or SIM card preferred operator list

<format>:

0 long format alphanumeric <oper>

1 short format alphanumeric <oper>

2 numeric <oper>

<oper n>:

string type; <format> indicates if the format is alphanumeric or numeric (see +COPS)

Remark

- AT + COPN command finishes running, the operator returns the list and output OK.
- AT + COPN command runs, can not return to the previous OK to run the command or other command again, there would be an exception

6.5. AT+COPN Read operator names

Grammar

Command	Response
AT+COPN 二?	OK
AT+COPN	+COPN:<numeric1>,<alpha1>[<CR><LF>+COPN:<numeric2>,<alpha2>[. 叮叮 OK +CME ERROR:<err>
Reference GSM07.07	

Parameter

< numeric >

string type; operator in numeric format (see+COPS)

< alpha >

string type; operator in long alphanumeric format (see+COPS)

Remark

- Execute command returns the list of operator names from the MT. Each operator code <numeric> that has an alphanumeric equivalent <alpha> in the MT memory shall be returned.

Command	Response
AT+ECSQ 二?	+ECSQ(list of supported <values>s) OK ERROR
AT+ECSQ?	+ECSQ:<value> OK ERROR
AT+ECSQ 二<value>	OK ERROR
Reference Goouuu	

OK

7. Call Control Commands

Command	Response
ATA	Data call and connection is successfully established, the response is: CONNECT <text> Description: <text> can rate and error control. Only when the ATX <value> in <value> greater than 0, it outputs <text>. Voice call and connection is successfully established, the response is: OK If you can not establish a connection, the response is: NO CARRIER If there is no call into operation, the response is: + CME ERROR: <err>
Reference V.25ter	

Examples

RING
AT+CLCC
+CLCC: 1,1,4,0,0,”02154450290”,129,””
OK // Incoming voice calls
ATA // Receive voice calls
CONNECT

7.2. ATD Make a call

This command should be used only when there is one call. When there are several calls, please use the AT+CHLD to answer a new call.

Grammar

Command	Response
ATD<n>[<mgsm 〖[;〖	If there is no dial tone and (parameter setting ATX2 or ATX4), return: NO DIALTONE If busy busy (parameter setting ATX3 or ATX4), return: BUSY If the connection can not be established or the other party does not answer successfully to return: NO CARRIER If the connection is successful and non-voice call: CONNECT <text> Only when the ATX <value> in <value> greater than 0, it outputs <text>. If successfully connected and voice call, return to: OK Other features operator error, the response is: + CME ERROR: <err>
Reference V.25ter	

Parameter

<n> Dial-bit string and optional V.25ter modifiers:
Dial-bit :0-9, , #, +, A, B, C
The following may V.25ter modifiers are ignored:,(comma)，T，P，!，W，@

Emergency call:

<n> Standard emergency call number 112 (no SIM card)

<mgsm> GSM modifier string:

I activate CLIR (calling user is not allowed to show their phone number on the called party phone)

i ban CLIR (Caller allows the called subscriber telephone display your phone number)

G only activate this closed user group call request

g only this call does not activate the closed user group requests

<;> Only used to establish a voice call, TA remain unchanged commandmode

Remark

- If you receive ATD ATH command execution process, this command may be terminated. However, in some states to establish a connection (eg: handshake status), the command will not be aborted execution

- Parameter ”I” and ”i” applies only to non-” ＃” character case dialing code
- <n> default for the final number, which can be used to dial ATDL
- ATD command with ” ＃” code will be treated as a voice call, therefore, the command must be a semicolon ”;” at the end
- For more information about setting up and call monitoring parameters result codes, refer to the ATX command

ATD command response

- For voice call, the response can be set in two different modes:
  After completion of the TA dial or create a successful call, immediately return OK. This setting is controlled by AT + COLP command. The factory default is AT + COLP 二 0, which will make the TA after dialing is complete, immediately return OK. In addition, TA will return ”BUSY”, ”NO DIALTONE”, ”NO CARRIER”.

In a voice call is active, the use of ATD:

- When there is already an active voice call, the user initiates a second voice call, then the first voice call will be automatically set to the call on hold
- All the current state of the call, you can always use the AT + CLCC query

Examples

ATD10086; // ATD establish a voice call
OK

7.3. ATH Disconnect existing call

Hang up all existing connected calls, including active, waiting and hold calls

Grammar

Command	Response
ATH	OK
Reference V.25ter	

Remark

- After Circuit109 (DCD) is closed, return OK
- If you receive ATH ATH command execution process, this command may be terminated. However, in some states of connection establishment (e.g: handshake status), the command will not be aborted execution
- For more information about setting up and call monitoring parameters result codes, refer to the ATX command

7.4. +++ Switch from online data or PPP mode to onlineCMD mode

Return to online command state from online data state.

Grammar

Command	Response
+++	OK ERROR +CME ERROR: <err>
Reference V.25ter	

Remark

- To avoid the "+ + +" is the wrong identification data, subject to the following precautions:
  (A) "+ + +" No characters in the input before the T1 time (1second)
  (B) Within 0.5 seconds of continuous input "+ + +", in the middle can not have other characters
  (C) "+ + +" Character input within no time after the inputT1 (0.5 seconds)
  (D) Switch to the command mode, or re-enter the step (A)
- AT commands via ATO, return data mode from command mode

7.5. ATO Switch from command mode to data mode/PPP onlinemode

Causes the DCE to return to online data state and issue a CONNECT or CONNECT text resultcode.

Grammar

Command	Response
ATO[n ⏎	TA keep the data transmission connection, switch back to data mode from command mode: CONNECT / CONNECT <text> If you can not return to Data Mode: NO CARRIER Other features operator error, the response is: +CME ERROR: <err>
Reference V.25ter	

Parameter

<value>

[0 ⏎ Switch from command mode to data mode.

Remark

- TA returns to data mode from command mode CONNECT <text>, only when the ATX <value> <value> set in large At 0:00, before the output <text>
- <text> rate may be error control

7.6. AT+CLCC List current calls of ME

List all calls of ME.

Grammar

Command	Response

AT+CLCC 二?	OK
AT+CLCC	If the command is successful but did not call, will not have to send information to the TE, only returns OK [+CLCC:<id1>,<dir>,<stat>,<mode>,<mpty>[,<number>,<type>[,""[<CR><LF>+CLCC:<id2>,<dir>,<stat>,<mode>,<mpty>[,<number>,<type>[,""[...]]] OK Operation function error is returned: +CME ERROR:<err>
Reference GSM 07.07	

Parameter

< id*x*>:

integer type; call identification number as described in 3GPP TS 22.030 [19] sub clause 4.5.5.1; 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)

7 release (network release this call)

<mode> (bearer/teleservice)

0 voice

1 data

2 fax

9 unknown

<mpty>

0 call is not one of multiparty (conference) call parties

1 call is one of multiparty (conference) call parties

<number>:

string type phone number in format specified by <type>

<type>:

type of address octet in integer format (refer GSM 04.08 [8] sub clause 10.5.4.7)

Examples

```
AT+CLCC
```

```
+CLCC:  1,0,0,0,0,”10086”,129,””
OK          // ME has established a connection currently exists caller voice calls
```

7.7. AT+CRC Cellular result codes

This command is to control whether or not the extended format of incoming call indication or GPRS network request for PDP context activation or notification for VBS/VGCS calls is used. When enabled, an incoming call is indicated to the TE with unsolicited result code +CRING: <type> instead of the normal

Command	Response
AT+CRC=?	+CRC:(list of supported <mode>s) OK
AT+CRC?	+CRC:<mode> OK
AT+CRC=[<mode>]	OK ERROR +CME ERROR:<err>
Reference GSM 07.07	URC tips: +CRING:<type>

7.8. ATS0 automatic answering

This S-parameter controls the automatic answering feature of the DCE. If set to 0, automatic answering is disabled. If set to a non-zero value, the DCE shall cause the DCE to answer when the incoming call ringing has occurred the number of times indicated by the value.

Grammar

Command	Response
ATS0?	<n> OK
ATS0=<n>	OK
Reference V.25ter	

Command	Response
AT+CHUP=?	OK ERROR
AT+CHUP	OK ERROR
Reference Goouuu	

CIEV: CALL 0

Remark

- The commands and functions the same as ATH

Examples

```
ATD10086          //Dial the number 10086
CONNECT


AT+CHUP           //Suspend all existing call connection
```

Goouuu TECH G Series AT command set

OK

7.10.AT+DLST Redial last MO call

Redial last outgoing call.

Grammar

Command	Response
AT+DLST	OK NO ANSWER NO OK CARRIER NO DAILTONE BUSY ERROR
Reference Goouuu	

8. SMS related commands

8.1. AT+CMGF Select SMS message format

Set command specifies the input and output format of the short messages. The input and output format of the short messages can be either PDU mode or Textmode.

Command	Response
AT+CMGF =?	+CMGF:(list of supported <mode>s) OK
AT+CMGF?	+CMGF:<mode> OK
AT+CMGF =[<mode>]	OK ERROR +CME ERROR:<err>
Reference GSM 07.05	

Command	Response
AT+CSCA =?	OK
AT+CSCA?	+CSCA:<sca>,<tosca> OK
AT+CSCA =<sca>[,<tosca>]	OK ERROR +CME ERROR:<err>
Reference GSM 07.05	

Parameter

<sca>

GSM 04.11 RP SC address Address-Value field in string format

<tosca>

GSM 04.11 RP SC address Type-of-Address octet in integer format

Remark

- Service providers should use the format specified input SMS service center address
- The command AT + CSAS configuration can be saved to the SIM card
- It is strongly recommended not to use the process of rewriting the SIM card SMS service center address

Examples

Command	Response
AT+CPMS =?	+CPMS: (list of supported <mem1>s),(list of supported <mem2>s), (list of supported <mem3>s) OK
AT+CPMS?	+CPMS: <mem1>,<used1>,<total1>,<mem2>,<used2>,<total2>,<mem3>,<used3>,<total3> OK
AT+CPMS = [<mem1>,<mem2>,<mem3>]	+CPMS: <used1>,<total1>,<used2>,<total2>,<used3>,<total3> OK ERROR +CME ERROR: <err>
Reference GSM 07.05	

Parameter

<mem1> string type; memory from which messages are read and
deleted "SM" SIM card SMS storage
"ME" ME SMS Memory
"MT" SIM card memory and MESMS
<mem2> string type; memory to which writing and sending operations are
made "SM" SIM card SMS storage
"ME" ME SMS Memory

”MT” SIM card memory and MESMS

<mem3> string type; memory to which received SMS are preferred to be stored ”SM” SIM card SMS storage

”ME” ME SMS Memory

”MT” SIM card and ME SMS memory

<used x> integer ; <memx> the current number of SMS

<total x> integer ; Quantity <mem x> SMS can be stored in the;

Remark

- SIM card and ME supports a total of up to 300 short messages, which SIM card priority in the allocation of storage space. SIM card supports up to 250, ME supports up to 200

Examples

AT+CPMS 二”SM”,”SM”,”SM”

+CPMS: 0,50,0,50,0,50

OK // The short message memory is changed to SM

AT+CPMS?

+CPMS: ”SM”,0,50,”SM”,0,50,”SM”,0,50

OK //Query the current short message memory configuration

8.4. AT+CMGD Delete SMS message

Execution command deletes message from preferred message storage <mem1> location <index>. If <del flag> is present and not set to 0 then the ME shall ignore <index> and follow the rules for <del flag> shown below. If deleting fails, final result code +CMS ERROR: <err> is returned. See chapter Message Service Failure Result Code for <err> values.

Grammar

Command	Response
AT+CMGD 二?	+CMGD: (list of supported <index>s) OK
AT+CMGD 二<index>[,<delflag>]	OK ERROR +CME ERROR: <err>
Reference GSM 07.05	

Parameter

Index : indicate which message will be deleted

<delflag>: an integer indicating multiple message deletion request as follows:

0 (or omitted) 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 unreadmessages.

Remark

- If the current message is not in memory, the operating AT+ CMGD deletion, still returns OK

Examples

Command	Response
AT+CMGL =?	+CMGL:(list of supported <stat>s) OK
AT+CMGL =<stat>[<mode>]	1）Text mode (AT+ CMGF = 1) and the command executed successfully for SMS-SUBMIT And / or SMS-DELIVER： +CMGL: <index>,<stat>,<oa/da>,[<alpha>],[<scts>],[<toa/toda>,<length>]<CR><LF><data>[<CR><LF> +CMGL: <index>,<stat>,<da/oa>,[<alpha>][,<scts>][,<toa/toda>,<length>]<CR><LF><data>[...]] For SMS-STATUS-REPORT： +CMGL: <index>,<stat>,<fo>,<mr>,[<ra>],[<tora>,]<scts>,<dt>,<st>[<CR><LF> +CMGL: <index>,<fo>,<stat>,<mr>,[<ra>],[<tora>],<scts><dt><st>[...]] For SMS-COMMAND： +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>

	<pages><CR><LF><data>[...]] OK 2）PDU mode（AT+CMGF 二0）And the command executed successfully 3） +CMGL:<index>,<stat>,[<alpha>],<length><CR><LF><pdu><CR><LF> +CMGL: <index>,<stat>,[alpha],<length><CR><LF><pdu> [...]] OK Functions related error, return +CMS ERROR: <err>
Reference GSM 07.05	

	0	Received but not read the short message
	1	Have received and read the short message
	2	But the stored short message sent
	3	And the stored short message sent
<mode>	4	All short message

using the ”Select TE Character Set” command AT + CSCS choose the same characterset (refer to TS 07.07)

<da> Character in the GSM 03.04 TP-Destination-Address Address - Value field;The BCD Value (or GSM default alphabet characters) are converted to TE character set currently selected (see In TS 07.07 AT + CSCS command); <toda> given addresstype

<data> Short message circumstances: GSM 03.40 TP-User-Data in text mode returns, the format is defined as follows

− If <dcs> specified by GSM 03.38 default alphabet characters and <fo> designated GSM 03.40, then Not set TPUser-Data-Header-Indication

- If TE character set is not hexadecimal data (in TS 07.07 AT + CSCS command selected TE character set); according to Annex A rules, ME / TA GSM alphabet characters will be converted to the current TE character set
- If TE character set to hexadecimal data, the ME / TA to GSM 7 characters each letter format Bit characters into two IRA character hexadecimal representation of the book (e.g character P (GSM 32) as 17 (IRA 49 and 55))
- If <dcs> designated 8 or UCS2 encoding scheme used, or <fo> designated GSM03.40; Set TP User-Data-Header-Indication: ME / TA will each eight GSM alphabet characters Characters into hexadecimal number (e.g represented by two IRA: 8 characters representing the integer 42 pass TE time to be represented by two characters under 2A (IRA 50 and 65)) cell broadcast situations: GSM 03.41 CBM news content, in text mode returns.
- If <dcs> specified by GSM 03.38 default alphabet characters, ME / TA will support GSM converted into current TE character
- If TE character set is not a hexadecimal number (refer TS 07.07 in AT + CSCS command selection Character set); according to Annex A rules, ME / TA GSM alphabet characters will be converted to the current TE Character Set
- If TE character set is a hexadecimal number, the ME / TA will each seven GSM alphabet characters The total character himself converted to hexadecimal representation of two IRA characters
- If <dcs> designated 8 or UCS2 encoding scheme used, or <fo> designated GSM 03.40; Set TP User-Data-Header-Indication: ME / TA will each eight GSM alphabet characters Character is converted to hexadecimal number represented by two IRA

<length> Integer type; text mode (AT + CMGF 二 1), the use of characters represents <data> (or <cdata>) elimination Bearing length of the text; PDU mode (AT + CMGF 二 0), the eight real TP data unit Length (IE, RP layer SMSC address the eight characters are not counted in the length)

<index> Value in the corresponding memory support short message capacity; integer type

<oa> The character of the GSM 03.40 TP-Destination-Address Address - The value field; the BCD Value (or GSM default alphabet characters) are converted to the currently selected TE character set (see TA test of 07.07 AT + CSCS command); <toda> given address type

<pdu> Under ISDMS case: GSM 03.40 TPDU. Hexadecimal, followed GSM 04.11SC address; ME / TA TP data unit in each of the eight characters are converted to contain two IRA character hexadecimal digits (e.g: integer value of 42 is 8 character as two digits (2A, ie IRA 50 and 65) is sent to TE) case of a broadcast message: use the GSM 03.41 TPDU inhexadecimal

<scts> Use the ”time - string” format GSM 03.40 TP-Service-Center-Time-Stamp (Reference <dt>)

<toda> Integer type GSM 04.11 TP-Destination-Address of eight: ”Type - Address” field when <da>first character + (IRA 43), the default is 145, otherwise default is129)

<tooa> Integer type GSM 04.11 TP-Originating-Address in 8 ”Type - Address” field (reference <toda>)

Examples

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Command	Response
AT+CMGR 二?	OK
AT+CMGR 二<index>[<mode>‖	(1)Text mode (AT+ CMGF 二 1) and the command executed successfully: 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>

	+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)PDUmode（AT+CMGF二0）Andthe command executed successfully: +CMGR: <stat>,[<alpha>‖,<length><CR><LF><pdu> OK (3)Function-related error +CMS ERROR: <err>
Reference GSM 07.05	

Parameter

<index> Integer type; supported by the associated memory address number range values

<mode> 0 Normal (default)

1 Does not change the status of the specified SMS record

<alpha> Character; in alphanumeric mode, MT phonebook records or <ta> <da> corresponding display; Application with the manufacturer about this feature; character set used should be using 'Select TE Character Set "command AT + CSCS choose the same character set (refer to the command defined in TS 07.07 in)

<da> Character in the GSM 03.04 TP-Destination-Address Address - The value field; the BCD Value (or GSM default alphabet characters) are converted to TE character set currently elected (see In TS 07.07 AT + CSCS command); <toda> given addresstype

<data> Short message circumstances: GSM 03.40 TP-User-Data in text mode returns, theformat is defined as follows:

- If <dcs> specified by GSM 03.38 default alphabet characters and <fo> designated GSM 03.40, then Not set TPUser-Data-Header-Indication
- If TE character set is not hexadecimal data (in TS 07.07 AT + CSCS command selection TE character set); rules according to Annex A, ME / TA will convert GSM alphabet character The current character set TE
- If TE character set to hexadecimal data, the ME / TA to GSM 7 characters each letter format Bit characters into two IRA character hexadecimal representation of the book (e.g character P (GSM 32) as 17 (IRA 49 and 55))
- If <dcs> designated 8 or UCS2 encoding scheme used, or <fo> designated GSM03.40; Set TP User-Data-Header-Indication: ME / TA will each eight GSM alphabet characters

Characters into hexadecimal number (e.g represented by two IRA: 8 characters representing the integer 42 pass TE time to be represented by two characters 2A (IRA 50 and 65)
Under cell broadcast situations: GSM 03.41 CBM news content in text mode returns, the format is defined as follows:

- If <dcs> specified by GSM 03.38 default alphabet characters, ME / TA converts the GSM TE currently supported character
- If TE character set is not a hexadecimal number (refer TS 07.07 in AT + CSCS command selection TE character set); rules according to Annex A, ME / TA will convert GSM alphabet characters The current character set TE
- If TE character set is a hexadecimal number, then ME / TA to each letter of 7 GSM format characters The total character himself converted to hexadecimal representation of two IRA characters
- If <dcs> designated 8 or UCS2 encoding scheme used, or <fo> designated GSM 03.40; Set TP User-Data-Header-Indication: ME / TA 8 characters each GSM alphabet characters Character is converted to hexadecimal number represented by two IRA

<dcs> Depending on the command or the command result code in GSM 03.38 SMS data coding scheme. (Default value 0) Or Cell Broadcast Data Coding Scheme

<fo> Depending on the results of the command code GSM 03.40 SMS-DELIVER, SMS-SUBMIT (default value 17), SMS-STATUS-REPORT in integer or SMS-COMMAND (default value of 2）

<length> Integer; text mode (AT + CMGF 二 1), the use of characters represents <data> (or <cdata>) Message PDU mode (AT + CMGF 二 0), the eight real TP data unit length (IE; body length RP layer SMSC address in the eight characters are not counted in the length)

<mid> Integer type GSM 03.41 CBM message identifier

<oa> The character of the GSM 03.40 TP-Destination-Address Address - The value field; the BCD Value (or GSM default alphabet characters) are converted to the currently selected TE character set (see TA test of 07.07 AT + CSCS command); <toda> given address type

<pdu> Under ISDMS case: GSM 03.40 TPDU. Hexadecimal, followed GSM 04.11SC address; ME /TA The TP data unit in each of the eight characters are converted to contain two IRA character hexadecimal digits (e.g: integer value of 42 is 8 characters as two digits (2A, IE IRA 50 and 65) to send to TE) broadcast messages in case: use the GSM 03.41 TPDU in hexadecimal

<pid> Reference GSM03.40; TP-protocol - identity (default value 0)

<sca> GSM 04.11 RP SC address in string type parameters; BCD numbers (or GSM default default alphabet characters) are converted into the currently selected TE character set (refer to TS of 07.07 AT+ CSCS command); <tosca > used to specify the type of address

<scts> Use the ”time - string” format GSM03.40 TP-Service-Center-Time-Stamp (Reference <dt>)

<stat> PDU mode Text mode Description

0	”REC UNREAD”	Has been received but not read the short message
1	”REC READ”	Has received and read the short message
2	”STO UNSENT”	But the stored short message sent
3	”STO SENT”	And the stored short message sent

	4	”ALL” All short message
<toda>	Integer type GSM 04.11 TP-Destination-Address of eight: ”Type - Address” field (when <da> first character is + (IRA 43), the default is 145, otherwise default is 129)	
<tooa>	Integer type GSM 04.11 TP-Originating-Address in 8 ”Type - Address” field (Reference <toda>)	
<tosca>	Service center address format; GSM 04.11 RP SC integer type 8 address type(see Default Test <toda>)	
<vp>	Depends on the setting of SMS-SUBMIT <fo>’s; using integer type (default 167), or time -	

Command	Response
AT+CMGS 二?	OK
1)TEXT mode（+CMGF 二1）： +CMGS 二<da>[,<toda>]<CR>text is entered <ctrl-Z/ESC> ESC Quit sending 2）PDU mode（+CMGF 二0）： +CMGS 二<length><CR>	1）TEXT mode(+CMGF 二1)And sent successfully +CMGS:<mr> OK 2）PDUmode(+CMGF 二 0)Andsentsuccessfully +CMGS:<mr> OK

PDU is given <ctrl-Z/ESC>	3）Function-related error +CMS ERROR:<err>
Reference GSM 07.05	

Parameter

<da> 3G TS 23.040 [3 叮 TP-Destination-Address Address-Value field in string format; BCD numbers (or GSM 7 bit default alphabet characters) are converted to characters of the currently selected TE character set (refer command +CSCS in 3G TS 27.007 [9 叮); type of

8.8. AT+CMGW Write SMS message to memory

Execution command stores message (either SMS-DELIVER or SMS-SUBMIT) to memory storage <mem2>. Memory location <index> of the stored message is returned.

Grammar

Command	Response
AT+CMGW =?	OK
1）Text mode（+CMGF =1）： AT+CMGW =<oa/da>[,<tooa/toda>[,<stat> <CR> Text Input<ctrl-Z/ESC> <ESC>Quit sending 2） PDU mode （+CMGF =0）： AT+CMGW =<length>[,<stat> <CR> PDU is given <ctrl-Z/ESC>	1）Write a message succeeds, the return: +CMGW: <index> OK Function-related error +CMS ERROR: <err>
Reference GSM 07.05	

Parameter

<oa> The character of the GSM 03.40 TP-Destination-Address Address - The value field; the BCD Value (or GSM default alphabet characters) are converted to the currently selected TE character set(see TA test of 07.07AT + CSCS command); <toda> given address type

<da> 3G TS 23.040 [3] TP-Destination-Address Address-Value field in string format; BCD numbers (or GSM 7 bit default alphabet characters) are converted to characters of the currently selected TE character set (refer command +CSCS in3G TS 27.007 [9]); type of address given by <toda>string type; memory to which writing and sending operations are made

<tooa> Integer type GSM 04.11 TP-Originating-Address in 8 - Type "Address" field (Reference <toda>)

<toda> 3G TS 24.011 [6] 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 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)

<pdu> Under ISDMS case: GSM 03.40 TPDU. Hexadecimal, followed GSM 04.11SC address; ME / TA The TP data unit in each of the eight characters into hexadecimal numbers containing two IRA characters Such as: an integer value of 42 8-bit characters as two digits (2A, ie IRA 50 and 65) to send To the next TE) broadcast news situation: the use of GSM 03.41 TPDU in hexadecimal

<index> Integer type; supported by the associated memory address number range values

<stat>

PDU mode	Text mode	Explanation
0	"REC UNREAD"	Has been received but not read the short message
1	"REC READ"	Has received and read the short message
2	"STO UNSENT"	But the stored short message sent
3	"STO SENT"	And the stored short message sent

4 ”ALL” All message

Remark

- Write a short message Please refer to the guidance document messaging applications GSMmodule

Examples

Command	Response
AT+CMSS 二?	OK
AT+CMSS 二<index>[,<da>[,<toda>]]	1）Text mode（+CMGF 二1）And successful implementation :+CMSS:<mr>[,<scts>]] OK 2）PDU mode（+CMGF 二0）And successful implementation: +CMSS:<mr>[,<ackpdu>]] OK 3）Function-related error: +CMS ERROR: <err>
Reference GSM 07.05	

Parameter

<index>

integer type; value in the range of location numbers supported by the associatedmemory

<da> Character in the GSM 03.04 TP-Destination-Address Address - The value field; the BCD Value (or GSM default alphabet characters) are converted to TE character set currently selected (see In TS 07.07 AT + CSCS command); <toda> given addresstype

<toda> Integer type GSM 04.11 TP-Destination-Address of eight: ”Type - Address” field (when <da> first character is + (IRA 43), the default is 145, otherwise default is 129)

Examples

```
AT+CMGF 二 1
OK
AT+CMGW 二”14782331977”
>                                                                    1112
+CMGW:                                                               12
OK
AT+CMSS 二 12
+CMSS:                                                               0
OK
AT+CMGF 二 0
OK
AT+CMGW 二 18
>                                                  0011000B814187321379F70008C4044F60597D
+CMGW:                                                               13
OK
AT+CMSS 二 13
+CMSS:                                                               1
OK
```

8.10. AT+CNMI New SMS message indications

Set command selects the procedure, how receiving of new messages from the network is indicated to the TE when TE is active.

Grammar

Command	Response
AT+CNMI 二?	+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
AT+CNMI?	+CNMI:<mode>,<mt>,<bm>,<ds>,<bfr> OK
AT+CNMI 二[<mode>[,<mt>[,<bm>[,<ds>[,<bfr> 叮叮叮叮叮	OK ERROR +CMS ERROR:<err>
Reference GSM 07.05	Related URC reported: 1） The new short message arrives, reporting tips: +CMTI: <mem>,<index> 2） The new short message arrives directly display a short message: +CMT: [<alpha>,<length><CR><LF><pdu> 3） Broadcast messages directly display: +CBM: <length><CR><LF><pdu>

Parameter

<mode> support one value now : 0

0 Buffer unsolicited result codes in the TA. If TAresult 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 in band technique used to embed result codes and data when TA is in on-line data mode.

<mt> support three values now: 0，1，2，and have no CLASStype.

0 No SMS-DELIVER indications are routed to the TE.（default value）

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 messages and messages in the message waiting indication group (store message)) 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>

3 Class 3 SMS-DELIVERs are routed directly to TE using unsolicited result codes definedin <mt>二 2. Messages of other data coding schemes result in indication as defined in <mt>二 1.

<bm> Broadcast－csw not supported

0 No CBM indications are routed to the TE.

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1 If CBM is stored into ME/TA, indication of the memory location is routed to the TE using unsolicited result code:+CBMI: <mem>,<index>

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) If ME supports data coding groups which define special routing also for messages other than class 3 (e.g. (U)SIM specific messages), ME may choose not to route messages of such data coding schemes into TE (indication of a stored CBM may be given as defined in <bm>二 1).

3 Class 3 CBMS are routed directly to TE using unsolicited result codes defined in <bm>二 2. If CBM storage is supported, messages of other classes result in indication as defined in <bm>二 1.

<ds>**:** message report can't be storaged， the value 2 is not supported now

0 No SMS-STATUS-REPORTS are routed to the TE. （default value）

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)

2 If SMS-STATUS-REPORT is stored into ME/TA, indication of the memory location is routed to the TE using unsolicited result code:+CDSI: <mem>,<index>

<bfr>: not supported

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.

Examples

```
AT+CMGF 二1                 //  Set text message mode
OK
AT+CSCS 二"GSM"             //  Set the input character set format TE GSM format
OK
AT+CNMI 二2,1               //  After setting the text messages stored in the ME or SIM card, and then give a
OK                              new message indication
+CMTI: "SM",5               //  New message indication
AT+CNMI 二2,2               //  Set receive a new message, message content directly to print
OK
+CMT:"+8615021012496","","2010/09/2517:25:01+32",145,4,0,241,"+8613800210500",145,27
This is a test from Goouuu  //  You receive a new message, message content directly to print
```

8.11. AT+CSDH Show Text Mode Parameters (For SMS)

Set command controls whether detailed header information is shown in text mode result codes.

Grammar

Command	Response
AT+CSDH 二?	+CSDH:(list of supported < show >s) OK
AT+CSDH?	+CSDH:<show> OK
AT+CSDH 二[<show>]	OK ERROR +CME ERROR:<err>
Reference GSM 07.05	

the

Grammar

Command	Response
AT+CSMP 二?	+CSMP:+CSMP:<fo>,<vp>,<pid>,<dcs> OK
AT+CSMP?	+CSMP:<fo>,<vp>,<pid>,<dcs> OK
AT+CSMP 二[<fo>[<vp>[,pid>[,<dcs>]]]]	OK ERROR

	+CME ERROR:<err>
Reference GSM 07.05	

Parameter

<fo>

depending on the command or result code: first octet of 3G TS 23.040 [3 叮 SMS-DELIVER[mt 叮, SMS-SUBMIT[mo 叮 (default 17),SMS-STATUS-REPORT, or SMS-COMMAND (default 2) in integer format.

<vp>

depending on SMS-SUBMIT <fo> setting: 3G TS 23.040 [3 叮 TP-Validity-Period either in integer format (default 167), in time-string format (refer <dt>), or if EVPF is supported, in enhanced format (hexadecimal coded string with double quotes)

<pid>

3G TS 23.040 [3 叮 TP-Protocol-Identifier in integer format (default 0)－protocol identity [Different data storage protocol according to which services protocol used 叮

<dcs>

depending on the command or result code: 3G TS 23.038 [2 叮 SMS Data Coding Scheme (default0), or Cell Broadcast Data Coding Scheme in integer format [supported there types of csw allowed，0，4，8叮

8.13.+CMTI/+CMT Indication New Short Message [ForSMS]

When receive new short message ,send +CMTI or +CMT[+CDS are message report 叮

Grammar

Command	Response
	+CMTI: <mem>,<index> OK
	+CMT: [<alpha>叮,<length><CR><LF><pdu> (PDU mode enabled) +CMT:<oa>,[<alpha>叮,<scts>[,<tooa>,<fo>,<pid>,<dcs>,<sca>,<tosca>, <length>叮<CR><LF><data>(Text modeis enabled) OK
Reference 3GPP TS 27.005 V3.2.0(2002-06)	

Parameter

<mem> string type; memory for storage new messages

<index> integer type; value in the range of location numbers supported by the associated memory

<length> integer type value indicating in the text mode (+CMGF 二 1) the length of the message

body

	<data> (or <cdata>) in characters;or in PDU mode (+CMGF 二0), the length of the actual TP data unit in octets (i.e. the RP layer SMSC address octets are not counted inthe length)
<fo>	depending on the command or result code: first octet of 3G TS 23.040 [3叮 SMS-DELIVER, SMS-SUBMIT (default 17),SMS-STATUS-REPORT, or SMS-COMMAND (default 2) in integer format
<vp>	depending on SMS-SUBMIT is supported, in enhanced format (hexadecimal coded string with doublequotes)
<pid>	3G TS 23.040 [3叮 TP-Protocol-Identifier in integer format (default 0)
<dcs>	depending on the command or result code: 3G TS 23.038 [2叮 SMS Data Coding Scheme (default0), or Cell Broadcast Data Coding Scheme in integer format
<sca>	3G TS 24.011 [6叮 RP SC address Address-Value field in string format;
<tosca>	3G TS 24.011 [6叮 RP SC address Type-of-Address octet in integer format
<scts>	3G TS 23.040 [3叮 TP-Service-Centre-Time-Stamp in time-string format (refer <dt>)
<alpha>	string type 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

Examples

AT+CNMI二0，1，0，0，
0
+CMTI: ”SM”7
OK AT+CMGF
二0 OK　　//Set SMS PDU mode

AT+CNMI二0，2，0，0，
0　　//You receive a new text message
0891683110102105F0240D91683120117013F500008070206193930007F4F29C9E769F01
OK

AT+CMGF 二1　　//Set SMS text mode
OK
AT+CSDH 二1
OK
AT+CNMI 二0，2，0，0，0
+CMT: ”+8613021107315”，，”2008/07/02，16:40:24+00”，145，17，0，0，”+8613010112500”，
145，8
OK

9. Phone-related commands

9.1. AT+CPBS Select phonebook memory storage

Select a certain memory storage.

Grammar

Command	Response
AT+CPBS 二?	+CPBS:(list of supported <storage>s) OK
AT+CPBS?	+CPBS:<storage>[,<used>,<total>] OK
AT+CPBS 二<storage>	OK ERROR +CME ERROR:<err>
Reference GSM 07.07	

Parameter

<storage>

”FD” active application in the UICC (GSM or USIM) or SIM card fix dialling-phonebook ”LD” active application in the UICC (GSM or USIM) or SIM card last-dialling-phonebook

”ON” active application in the UICC (GSM or USIM) or SIM card (or MT) own numbers (MSISDNs) list (reading of this storage may be available through +CNUM also)

<used>:

integer type value indicating the number of used locations in selected memory

<total>

integer type value indicating the total number of locations in selected memory

Remark

- SIM supports up to 250 phonebook entries, ME supports up to 200 phonebook entries

9.2. AT+CPBW write phonebook entries

Writes phonebook entry in location number <index> in the current phonebook memory storage selected.if there is no index parameter in the command line, the record will be written to the free location.

If the current phonebook storage is "ON", modification is allowed, but deleting entry is forbidden.We can add entries to the "ON" phonebook when it have free location, otherwise add entry to "ON" is forbidden.

If the current phonebook storage is "LD", deleting is allowed, but adding or modification entry is forbidden.

If the current phonebook storage is "FD", which is locked by pin2, executing the command may be returned ERROR or relevant CME error. To continue the operation, please enter the relevant pin specified by "+CPIN？ ". Input pin2, deleting oradding or modification entry is allowed.

If the current phonebook storage is "SM", deleting or adding or modification entry isallowed.

Grammar

Command	Response
AT+CPBW 二?	+CPBW:(list of supported <index>s),[<n length>叮,(list ofsupported<type>s),[<tlength>叮 OK
AT+CPBW二<index1>[,<number>,[<type>,[<text >叮叮叮	OK ERROR +CME ERROR:<err>
Reference GSM 07.07	

Parameter

<index>

Type: integertype

Meaning: values in the range of location numbers of phonebookmemory

<number>

Type: stringtype

Meaning: phone number of format <type>

Note: valid phone number chars are as follows: 0-9, ,# ,+(+only can be the first position)

< type >

Type: integertype

Meaning: type of address octet in integer format (refer GSM 04.08 [8叮 subclause 10.5.4.7) ; default 145 when dial ling string includesinternational access code character ”+”, otherwise 129

<text>

Type: stringtype

Meaning: character set as specified by command +CSCS. If we want to find Chinese string in the all pbk entry, we must set char set value with command +CSCS of "ucs2", otherwise we find non-Chinese string with command +CSCS of "non-ucs2". And now the ucs2 supported in our environment is big-ending Unicode, we must input big-ending Unicode string in the field if setting value of cscs is equal to "ucs2".

< n length >

Type: integertype

Meaning: value indicating the maximum length of field <number>

<t length>

Type: integertype

Meaning: value indicating the maximum length of field <text>,counting in single byte char.

Note: if phonebook character set is "HEX", the supported UCS2 char count is smaller than that specified by<t length> by 1.This is because UCS2 char storing flag occupies 1 byte.

Remark

- <number>Do not allow empty
- <text>The following characters form must enter through the exit sequence:

GSM Character	Seq.	Seq.(hex)	Note
\	\5C	5C 35 43	(Backslash)
"	\22	5C 32 32	(String delimiter)
BSP	\08	5C 30 38	(Backspace)

Command	Response
AT+CPBR 二?	+CPBW:(support<index>s),[<n length>‖,[<t length>‖ OK
AT+CPBR 二<index1>[,<index2>‖	+CPBR:<index1>,<number>,<type>,<text>[<CR><LF>+CPBR:..... +CPBR:<index2>,<number>,<type>,<text>‖ OK ERROR +CME ERROR:<err>
Reference GSM 07.07	

Parameter

<index1>, <index2>

Integer type values in the range of location numbers of phonebookmemory

<number>

Type: stringtype

Meaning: phone number of format <type>

< type >

Type: integer type

Meaning: type of address octet in integer format (refer GSM 04.08 [8][sub clause 10.5.4.7) ; default 145 when dialing string includes international access code character ”+”, otherwise 129

< text >

Type: string type

Meaning: character set as specified by command +CSCS. The display of text depending to the storage format in the sim card. If we store the pbk entry with ucs2 format, we show Chinese string here, otherwise, we show NON-Chinese string. We don’t care about char sets, it is decided by command +CSCS setting when we store them.

< n length >

Type: integer type

Meaning: value indicating the maximum length of field <number>

<<t length> >

Meaning: field of maximum length <t length>

Remark

- <index1> value should be less than <index2>

Examples

AT+CSCS

二”GSM” OK

AT+CPBR 二10

+CPBR: 10,”15021012496”,129,”Goouuu”

OK // Query the current phonebook phonebook location 10

9.4. AT+CPBF find phonebook entries

The command returns phonebook entries with alphanumeric field starting with a given string. The AT+CPBF 二"" command can be used to display all phonebook entries sorted in alphabetical order.

This command is not allowed for "LD","RC","MC","SN" Phone books and for the "EN" phonebook, which does not contain alphanumeric fields.

It is possible to use this command with UCS2 strings. If a wrong UCS2 format is entered, the string is considered as an ASCII string.

Grammar

Command	Response
AT+CPBF 二?	+CPBF:<nlength>,<tlength> OK
AT+CPBF 二[<find text>][	[+CPBF:<index1>,<number>,<type>,<text>[[...][<CR><LF>+CBPF:<index2>,<number>,<type>, <text>][OK ERROR

	+CME ERROR:<err>
Reference GSM 07.07	

Parameter

<find text> The maximum length of the character field <t length>; and ”Select TECharacter Set” command AT+ CSCS Provisions of the same character set

<index1> Integer type values in the range of location numbers of phonebookmemory

<index2> Integer type values in the range of location numbers of phonebookmemory

<number> Type: string type

Meaning: phone number of format <type>

<type> Type: integer type

Meaning: type of address octet in integer format (refer GSM 04.08 [8][sub clause 10.5.4.7) ; default 145 when dialing string includes international accesscode character ” +”, otherwise 129

<text> Type: string type

Meaning: character set as specified by command +CSCS. If we want to find Chinese string in the all pbk entry, we must set charset value with command +CSCS of "ucs2", otherwise we find non-Chinese string with command +CSCS of "non-ucs2". And now the ucs2 supported in our environment is big-ending Unicode, we must input big-ending Unicode string in the field if setting value of cscs is equal to "ucs2".

< n length >

Type: integertype

Meaning: value indicating the maximum length of field <number>

<t length>

Type: integertype

Meaning: value indicating the maximum length of field <text>

Remark

- <find text>By default, return all phone book current phonebookmemory

9.5. AT+CNUM Subscriber number

The MS ISDN related to the subscriber.

Grammar

Command	Response
AT+CNUM 二?	OK

AT+CNUM	+CNUM:[<alpha1>,<number1>,<type1> [<CR><LF>+CNUM:[<alpha2>,<number2>,<type2> [...]] OK ERROR +CME ERROR:<err>

Reference GSM 07.07	

Parameter

< alpha x >

optional alphanumeric string associated with <number x>; used character set should be the one selected with command Select TE Character Set+CSCS

<number x>

string type phone number of format specified by <type x>

Command	Response
AT+CGATT=?	+CGATT: (list of supported <state>s) OK
AT+CGATT?	+CGATT: <state> OK
AT+CGATT=<state>	OK ERROR +CME ERROR : <err>
Reference GSM 07.07	

Parameter

<state> indicates the state of PS attachment

0 detached

1 attached

Examples

Command	Response
AT+CGDCONT 二 ?	+CGDCONT: (range of supported <cid>s), <PDP type>,(list of supported<d comp>s), (list of supported <h comp>s) [<CR><LF> OK
AT+CGDCONT?	+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
AT+CGDCONT 二<cid>[,<PDP type>,[APN>[,<PDP addr >[,<d comp>[,<h comp>叮叮叮叮叮	OK ERROR +CME ERROR : <err>
Reference GSM 07.07	

Parameter

<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 二 1, maximum value 二 7) is returned by the test form of the command.

<PDP type>

(Packet Data Protocol type) a string parameter which specifiesthetype of packet data protocol

IP Internet Protocol (IETF STD 5)

IPV6 Internet Protocol, version 6 (IETF RFC 2460)

PPP Point to Point Protocol (IETF STD 51)

<APN>

(Access Point Name) a string parameter 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 thesubscription value will be requested.

<PDP addr>

a string parameter that identifies the MT in the address space applicable to the PDP.

If the value is null or omitted, then a value may be provided by the TE during the PDP startup procedure or,failing that, a dynamic address will be requested.The read form of the command will continue to return the null string even if an address has been allocated during the PDP startup procedure. The allocated address may be read using the +CGPADDRcommand.

< d comp >

a numeric parameter that controls PDP data compression (applicable for SNDCP only) (refer 3GPP TS 04.65[59叮)

0 - off (default if value is omitted)

1 - on (manufacturer preferred compression)

2 - V.42bis

3 - V.44bis

Other values are reserved.

< h comp >

a numeric parameter that controls PDP header compression (refer 3GPP TS 04.65 [59叮)

0 - off (default if value is omitted)

1 - on (manufacturer preferred compression)

2 -RFC1144

3-RFC2507

4-RFC3095

Other values are reserved.

Examples

```
AT+CGDCONT 二
OK                  //  Defined <cid> 二 PDP context, PDP Type 1 is ”IP”, APN
```

10.3. AT+CGQREQ Quality of Service Profile(Requested)

AT+ CGQREQ allow MT to send ”PDP Context Activation Requirements” message to the network, TE develop a quality of service.

Set command can specify a by the (local) context identification parameter, <cid> configuration itemsfor the context. Special form of the command, namely AT + CGQREQ 二 <cid>, cancel the <cid> defined quality of service.

Grammar

Command	Response
AT+CGQREQ 二?	+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> OK
AT+CGQREQ?	+CGQREQ: <cid>, <precedence>, <delay>,>reliability>, <peak>, <mean><CR><LF>+CGQMIN: <cid>,<precedence>,<delay>,<reliability>,<peak >,<mean> . OK
AT+CGQREQ 二<cid>[,<precedence>[,<delay>[,<reliability>[,<peak>[,<mean>]]]]	OK ERROR +CME ERROR : <err>
Reference GSM 07.07	

and

3 Low priority. Service commitments shall be maintained ahead of precedence classes 1 and 2

<delay>

Specifies the delay class

0 network subscribed value

1 < 0.5

2 < 5

3 < 50

4 Unspecified (Best Effort)

<reliability>
Specify the reliability class
0 network subscribed value
1 Non real-time traffic, error-sensitive application that cannot cope with dataloss
2 Non real-time traffic, error-sensitive application that can cope with infrequent dataloss
3 Non real-time traffic, error-sensitive application that can cope with data loss, GMM/SM, andSMS
4 Real-time traffic, error-sensitive application that can cope with dataloss
5 Real-time traffic, error non-sensitive application that can cope with dataloss

12 500 000 (～1.11 kbit/s)
13 1000000 (～2.2 kbit/s)
14 2000000 (～4.4 kbit/s)
15 5000000 (～11.1 kbit/s)
16 10000 000 (～22 kbit/s)
17 20000 000 (～44 kbit/s)
18 50000 000 (～111 kbit/s)
31 best effort

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< PDP type >
(Packet Data Protocol type) a string parameter which specifies the type of packet data protocol:
IP Internet Protocol (IETF STD 5)
IPV6 Internet Protocol, version 6 (IETF RFC 2460)
PPP Point to Point Protocol (IETF STD 51)

10.4. AT+CGQMIN Quality of Service Profile (Minimumacceptable)

AT + CGQMIN allows the TE to specify a minimum acceptable quality of service. The test configuration items from the MT for the ”PDP context activation” negotiation message returned configurations.
Set command can specify a by the (local) context identification parameter, <cid> configuration items for the context. Special form of the command, namely AT + CGQMIN 二 <cid>, cancel the <cid> defined quality of service.

Grammar

Command	Response
AT+CGQMIN 二?	+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
AT+CGQMIN?	+CGQMIN: <cid>,<precedence>,<delay>,<reliability>,<peak>,<mean><CR><LF>+CGQMIN: <cid>,<precedence>,<delay>,<reliability>,<peak>,<mean> . OK
AT+CGQMIN 二<cid>[,<precedence>[,<delay>[,<reliability>[,<peak>[,<mean>叮叮叮叮叮	OK ERROR +CME ERROR : <err>
Reference GSM 07.07	

Parameter

<cid>
a numeric parameter which specifies a particular PDP context definition (seethe +CGDCONTand +CGDSCONT commands).
<precedence>
Specifies the precedence class
0 network subscribed value
1 High Priority. Service commitments shall be maintained ahead of precedence classes 2 and3

2 Normal priority. Service commitments shall be maintained ahead of precedence class3
3 Low priority. Ser vice commitments shall be maintainedahead of precedence classes 1 and 2
<delay>
Specifies the delay class.
0 network subscribed value
1 < 0.5
2 < 5
3 < 50
4 Unspecified (Best Effort)
<reliability>
Specify the reliability class.
0 network subscribed value
1 Non real-time traffic, error-sensitive application that cannot cope with dataloss
2 Non real-time traffic, error-sensitive application that can cope with infrequent dataloss
3 Non real-time traffic, error-sensitive application that can cope with data loss, GMM/SM, and SMS
4 Real-time traffic, error-sensitive application that can cope with dataloss
5 Real-time traffic, error non-sensitive application that can cope with dataloss
<peak>
Specify the peak throughput class.
Class Peak Throughput(in octets per second)
0 network subscribed value
1 Up to 1 000 (8 kbit/s)
2 Up to 2 000 (16 kbit/s).
3 Up to 4 000 (32 kbit/s)
4 Up to 8 000 (64 kbit/s)
5 Up to 16 000 (128 kbit/s)
6 Up to 32 000 (256 kbit/s)
7 Up to 64 000 (512 kbit/s)
8 Up to 128 000 (1 024 kbit/s)
9 Up to 256 000 (2 048 kbit/s)
<mean>
Class Peak Throughput(in octets per second)
0 network subscribed value
1 (in octets per hour) 100 (～0.22 bit/s)
2 200 (～0.44bit/s)
3 500 (～1.11bit/s)
4 1000(～2.2bit/s)
5 2000(～4.4bit/s)
6 5 000 (～11.1bit/s)
7 10000(～22 bit/s)
8 20000(～44 bit/s)
9 50000(～111bit/s)

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10 100000(～0.22kbit/s)
11 200000(～0.44kbit/s)
12 500 000 (～1.11 kbit/s)
13 1000000 (～2.2 kbit/s)
14 2000000 (～4.4 kbit/s)
15 5000000 (～11.1 kbit/s)
16 10000 000 (～22 kbit/s)
17 20000 000 (～44 kbit/s)
18 50000 000 (～111 kbit/s)
31 best effort
<PDP type >
(Packet Data Protocol type) a string parameter which specifies the type of packet data protocol:
IP Internet Protocol (IETF STD 5)
IPV6 Internet Protocol, version 6 (IETF RFC 2460)
PPP Point to Point Protocol (IETF STD 51)

10.5. AT+CGACT PDP context activate or deactivate

This command is used to activate or deactivate the specified PDP context (s). After the command has completed, the MT remains in V.25ter command state. If any PDP context is already in the requested state, the state for that context remains unchanged. If the MT is not PS attached when the activation form of the command is executed, the MT first performs a PS attach and then attempts to activate the specified contexts. If no <cid>s are specified the activation form of the command activates all defined contexts or deactivates all active contexts.

Grammar

Command	Response
AT+CGACT 二?	+CGACT:(list of supported<state>s) OK
AT+CGACT?	+CGACT: <cid>,<state>[<CR><LF>+CGACT:<cid><state>. 叮 OK
AT+CGACT 二<stat e>,<cid>	OK NO CARRIER +CME ERROR : <err>
Reference GSM 07.07	

Parameter

< state >

State indicates the state of PS attachment

0 -deactivated

1-activated

Other values are reserved and will result in an ERROR response to the execution command.

< cid >

A numeric parameter which specifies a particular PDP context definition (see the +CGDCONT and +CGDSCONT commands). Range from 1 to 7.

Examples

AT+CGDCONT 二

OK // Defined <cid> 二 PDP context, PDP Type 1 is ”IP”, APN as ”CMNET”

AT+CGACT 二1,1

OK AT+CGACT

二0,1 OK //PDP deactivation

10.6. AT+CGDATA Enter data state

The command set MT using one or more GPRS PDP types, the appropriate action to establish communication between the TE and the network.

MT does not process the command AT command after AT+CGDATA.

Grammar

Command	Response
AT+CGDATA 二?	+CGDATA:(list of supported <L2P>s) OK
AT+CGDATA 二<L2P >[,<cid >[,<cid>[,. 卅卅	OK NO CARRIER +CME ERROR : <err>
Reference GSM 07.07	

Parameter

< L2P >

a string parameter that indicates the layer 2 protocol to be used between the TE and MT

1 PPP Point-to-point protocol for a PDP such as IP

< cid >

a numeric parameter which specifies a particular PDP context definition (see the +CGDCONT and +CGDSCONT commands).

Examples

AT+CGDCONT 二 1,”IP”,”CMNET”

OK // Defined <cid> 二 PDP context, PDP Type 1 is ”IP”, APN as ”CMNET” AT+CGDATA 二 1 //PDP set the scene for the data mode

<cid> 二 1

CONNECT AT+CGDCONT 二

1,”IP”,”CMNET”

OK // Defined <cid> 二 PDP context, PDP Type 1 is ”IP”, APN

AT+CGDATA 二1,1,2 //PDP set the scene <cid> 二 1 and <cid> 二 2 for the data mode
CONNECT

10.7. AT+CGPADDR Show PDP address

The execution command returns a list of PDP addresses for the specified contextidentifiers.

Grammar

Command	Response
AT+CGPADDR 二?	+CGPADDR: (list of defined<cid>s) OK
AT+CGPADDR 二<cid>	+CGPADDR: <cid>, [<PDP addr>叮 OK ERROR
Reference GSM 07.07	

Parameter

< cid >

a numeric parameter which specifies a particular PDP context definition (see the +CGDCONTand +CGDSCONT commands). If no <cid> is specified, the addresses for all defined contexts are returned.

< PDP address >

a string that identifies the MT in the address space applicable to the PDP. The address may be static or dynamic. For a static address, it will be the one set by the +CGDCONT and +CGDSCONT commands when the context was defined. For a dynamic address it will be the one assigned during the last PDP context activation that used the context definition referred to by <cid>. <PDP address> is omitted if none is available

Examples

AT+CGDCONT 二 1,"IP","CMNET"
OK // Defined <cid> 二 PDP context, PDP Type 1 is "IP", APN as "CMNET" AT+CGACT 二1,1 // Activate PDP scene <cid> 二 1
OK
AT+CGPADDR 二 1 // Address inquiries scene <cid> 二 PDP 1
+CGPADDR:
1,"10.76.51.180" OK

10.8. AT+CGCLASS GPRS mobile station class

The set command is used to set the MT to operate according to the specified mode of operation, see TS 23.060 [47叮. If the requested mode of operation is not supported, an ERROR or +CME ERROR response is returned. Extended error responses are enabled by the +CMEE command.

Grammar

Command	Response
AT+CGCLASS =?	+ CGCLASS: (list of supported <class>s) OK
AT+CGCLASS?	+CGCLASS: <class> OK
AT+CGCLASS =<cid>	OK ERROR +CME ERROR: <err>
Reference GSM 07.07	

Parameter

<class>

a string parameter which indicates the mode of operation

A Class-A mode of operation (A/Gb mode), or CS/PS mode of operation (Iu mode) (highest mode of operation)

B Class-B mode of operation (A/Gb mode), (not applicable in Iu mode)

CG Class-C mode of operation in PS only mode (A/Gb mode), or PS mode of operation (Iu mode)

CC Class-C mode of operation in CS only mode (A/Gb mode), or CS (Iu mode) (lowest mode of operation)

NOTE: <class> A means that the MT would operate simultaneous PS and CS service

<class> B means that the MT would operate PS and CS services but not simultaneously

<class> CG means that the MT would only operate PS services

<class> CC means that the MT would only operate CS services

Other values are reserved and will result in an ERROR response to the set command.

If the MT is attached to the PS domain when the set command is issued with a <class> = CC specified, a PS detach shall be performed by the MT.

10.9. AT+CGEREP Packet Domain event reporting

This command is to enables or disables sending of unsolicited result codes, +CGEV: XXX from MT to TE in the case of certain events occurring in the Packet Domain MT or the network.

Grammar

Command	Response
AT+CGEREP =?	+CGEREP:(list of supported <mode>s) OK
AT+CGEREP?	+CGEREP: <mode> OK
AT+CGEREP =<mode>	OK ERROR

	+CME ERROR: <err>
Reference GSM 07.07	Related URC reported: +CGEV: NW DEACT <PDP type>, <PDP addr>[,<cid>] +CGEV: ME DEACT <PDP type>, <PDP addr>[,<cid>] +CGEV: NW DETACH +CGEV: ME CLASS <class>

Parameter

<mode>

0 buffer unsolicited result codes in the MT; if MT result code buffer is full,the oldest onescan be discarded. No codes are forwarded to the TE.

1 discard unsolicited result codes when MT-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 MT when MT-TE link is reserved (e.g. in on-line data mode) and flush them to the TE when MT-TE link becomes available; otherwise forward them directly to the TE

<PDP type> Reference AT+CGDCONT

<PDP addr> Reference AT+CGDCONT

<cid> Reference AT+CGDCONT

<class> Reference AT+CGCLASS

10.10. AT+CGREG GPRS network registration status

This AT command be used to set and show the register information of MT and the position information of the MT.

- When <n> = 1 and the GPRS registration status changes, there will be + CGREG: <stat> Tips
- When <n> = 2, GPRS registration status changed and registered cell changes, there will be + CGREG: <stat> [, <lac>, <ci>] Tips

Grammar

Command	Response
AT+CGREG=?	+CGREG:(list of supported <n>s) OK
AT+CGREG?	+CGREG: <n>,<stat>[,<lac>,<ci>] OK
AT+CGEREP=[<n>]	OK ERROR +CME ERROR: <err>
Reference GSM 07.07	Related URC reported: +CGREG: <n>,<stat>[,<lac>,<ci>]

Parameter

<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 UE is in GMM state GMM-NULL or GMM-DEREGISTERED-INITIATED.
The GPRS service is disabled, the UE is allowed to attach for GPRS if requested by the user.

1 registered, home network
The UE is in GMM state GMM-REGISTERED or
GMM-ROUTING-AREA-UPDATING-INITIATED INITIATED on the home PLMN.

2 not registered, but MT is currently trying to attach or searching an operator to register to
The UE is in GMM state GMM-DEREGISTERED or GMM-REGISTERED-INITIATED. 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 UE is in GMM state GMM-NULL. The GPRS service is disabled, the UE is not allowed to attach for GPRS if requested by the user.

4 unknown

5 registered, roaming
The UE is in GMM state GMM-REGISTERED or
GMM-ROUTING-AREA-UPDATING-INITIATED on a visited PLMN.

< lac > string type; two byte location area code in hexadecimal format (e.g. ”00C3” equals 195 in decimal)

< ci > string type; two byte cell ID in hexadecimal format

Examples

AT+CGATT =0

OK

AT+CGATT =1

OK

AT+CGREG?

+CGREG: 0,1,”1877”,”92”,1

OK

10.11. AT+CGSMS Select service for MO SMS messages

The set command is used to specify the service or service preference that the MT will use to send MO SMS Messages.

Grammar

Command	Response
AT+CGSMS =?	+CGSMS: (list of supported <service>s) OK
AT+CGSMS?	+CGSMS: <service>

	OK
AT+CGSMS 二[<service>]	OK ERROR +CME ERROR: <err>
Reference GSM 07.07	Related URC reported: +CGREG: <n>,<stat>[,<lac>,<ci>]

Parameter

<service>

a numeric parameter which indicates the service or service preference to beused

0 Packet Domain

1 circuit switched

2 Packet Domain preferred (use circuit switched if GPRS notavailable)

3 circuit switched preferred (use Packet Domain if circuit switched notavailable)

Remark This command functions yet to achieve

10.12.AT+CGAUTOAutomatic response to a network request for PDP context activation

The set command disables or enables an automatic positive response (auto-answer) to the receipt of a Request PDP Context Activation message from the network. It also provides control over the use of the V.25ter basic commands 'S0', 'A and 'H' for handling network requests for PDP context activation. The setting does not affect the issuing of the unsolicited result code RING or+CRING

Grammar

Command	Response
AT+CGAUTO 二?	(list of supported <n>s) OK ERROR
AT+CGAUTO?	+CGAUTO: <n> OK ERROR
AT+CGAUTO 二 <n>	OK ERROR
Reference Goouuu	

Parameter

<n>

0 turn off automatic response for Packet Domain only

1 turn on automatic response for Packet Domain only

2 modem compatibility mode, Packet Domain only

3 modem compatibility mode, Packet Domain and circuit switched calls(default)

For<n>二 0 Packet DomainS network requests are manually accepted or rejected by the +CGANS command.

For<n>二 1 Packet Domain network requests are automatically accepted according to the description above.

For<n> 二 2, automatic acceptance of Packet Domain network requests is controlled by the 'S0' command.Manual control uses the 'A' and 'H' commands, respectively, to accept and reject Packet Domain requests.(+CGANS may also be used.) Incoming circuit switched calls can be neither manually nor automatically answered.

For<n>二 3, automatic acceptance of both Packet Domain network requests and incoming circuit switched calls is controlled by the 'S0' command. Manual control uses the 'A' and 'H' commands, respectively, to accept and reject Packet Domain requests. (+CGANS may also be used.) Circuit switched calls are handled as described elsewhere in this specification.

Remark

- When the +CGAUTO 二 0 command is received, the MT shall not perform a PS detach if it is attached. Subsequently, when the MT announces a network request for PDP context activation by issuing the unsolicited result code RING or +CRING, the TE may manually accept or reject the request by issuing the +CGANS command or may simply ignore the network request.
- When the +CGAUTO 二0 command is received, the MT shall attempt to perform a PS attach if it is not already attached. Failure will result in ERROR or, if enabled, +CME ERROR being returned to the TE. Subsequently, when the MT announces a network request for PDP context activation by issuing the unsolicited result code RING or +CRING to the TE,this is followed by the intermediate result code CONNECT. The MT then enters V.25ter online data state and follows the same procedure as it would after having received a +CGANS 二 1 with no <L2P> or
<cid> values specified.

10.13. AT+CCED Monitor information in idle mode&dedicated mode

This command can be used to retrieve information of the serving/neighbor cell.

Grammar

Command	Response
AT+CCED二?	+CCED: (mode),(requested dump) OK ERROR
AT+CCED二<Mode>,<Requested dump>	OK ERROR
Reference 3GPP TS 27.007 V3.12.0	

Parameter

<Mode>

0 : Response time immediately

<Requested dump>

1 : Primary cell source of information: MCC, MNC, LAC, CI, BSIC, BCCH Freq (absolute), RxLev,RxLev Full, RxLev Sub, RxQual, RxQual Full, RxQual Sub, Idle TS

This command is to start up TCP or UDPconnection.

Grammar

Command	Response
AT+CIPSTART 二?	+CIPSTART: (list of supported <mode>),(IP address range),(portrange) OK
AT+CIPSTART二<m	If the format is correct, return:

ode>,<IP address>,<port>	OK Otherwise, it returns: ERROR
Reference Goouuu	

Unsolicited result code

If the connection is successful return CONNECT OK

Otherwise

STATE: <state>

CONNECT FAIL

Parameter

<mode> A string parameter which indicates theconnection type

"TCP" Establish a TCP connection

"UDP" Establish a UDP connection

< IP address> Remote server IP address

< port> 0-65536 Remote server port

< domain name> Remote server domain name

<state>

A string parameter which indicates the progress ofconnecting

0 IP INITIAL

1 IP START

2 IP CONFIG

3 IP IND

4 IP GPRSACT

5 IP STATUS

6 TCP/UDP CONNECTING

7 IP CLOSE

8 CONNECT OK

Remark

- When the ME status (via AT + CIPSTATUS query) when a connection is IP INITIAL or IP STATUS or IP CLOSE. If not more than the state, through the operation AT+CISHUT or AT+CIPCLOSE make ME is above the normal state to establish aconnection

Examples

```
AT+CIPSTART
二”TCP”,”117.143.237.70”,1100 CONNECT
OK
```

11.2. AT+CIPSEND Send data through TCP or UDP connection

This command is to send data through TCP or UDPconnection.

Grammar

Command	Response
AT+CIPSEND 二?	OK
AT+CIPSEND Response ">", then type data for send, tap CTRL+Z to send.	If sending successfully: OK If sending fail: ERROR If TCP or UDP connection is not established, thereturn: ERROR
Reference Goouuu	

Parameter

<length> Numeric parameter, indicating that send data length. The value of maximum support 1024

Remark

- AT+CIPSEND can not send an empty character, returns ERROR
- Only send data when TCP or UDP connection isestablished
- OK prompt only indicates that the data has been transferred to the transmit window, does notmean that the data has been received acknowledgment packet.

```
AT+CIPSTART
二"TCP","117.143.237.70",1100 CONNECT
OK

OK
AT+CIPSEND

> 1
```

11.3. AT+CIPCLOSE Close TCP or UDP Connection

Grammar

Command	Response
AT+CIPCLOSE 二?	OK
AT+CIPCLOSE	If you close the connection is successful return:

	OK If you close the connection fails, the return: ERROR
Reference Goouuu	

Examples

Command	Response
AT+CISPHUT 二?	OK
AT+CISPHUT	If you close a successful return: OK If you turn off fails, the return: ERROR
Reference Goouuu	

Grammar

Command	Response
AT+CSTT 二?	+CSTT: ”APN”,”USER”,”PWD ”OK
AT+CSTT?	+CSTT: <apn>,<userid>,<password> OK

Goouuu TECH G Series ATcommand set

AT+CSTT二 <apn>,<user	OK ERROR
Reference Goouuu	

Parameter

<apn> A string parameter which indicates the GPRS access pointname.

Command	Response
AT+CIICR 二?	OK
AT+CIICR	OK ERROR
Reference Goouuu	

Command	Response
AT+CIFSR 二?	+CIFSR: OK
AT+CIFSR?	+CIFSR: OK
AT+CIFSR	If successful, the return: <IP address> OK else, it returns:：

	ERROR
Reference Goouuu	

Parameter

<IP address> Astring parameter which indicates the IP address assigned from GPRS or CSD.

Remark

- Only in the mobile scene has been active: IP GPRSACT, TCP / UDP CONNECTING, ress,

Command	Response
AT+CIPSTATUS 二?	+CIPSTATUS: OK
AT+CIPSTATUS?	OK
AT+CIPSTATUS	Success: STATE: <state> OK Fail: ERROR
Reference Goouuu	

Parameter

<state> String argument; indicate connection status

”IP INITIAL” Initialization

”IP START” Start Task

”IP CONFIG” Configuration scenarios

”IP IND” Activate GPRS / CSD scene
”IP GPRSACT” Receive scene configuration
”IP STATUS” Get local IP address (refer to AT+CIFSR command) ”TCP CONNECTING” TCP connection
”UDP CONNECTING” UDP connections
”IP CLOSE” TCP / UDP connection is closed
”CONNECT OK” TCP / UDP connection is successful
”PDP DEACT” GPRS / CSD scene abnormal Close

Command	Response
AT+CIPATS 二?	+CIPATS:(list of supported <mode>) OK
AT+CIPATS?	+CIPATS: <mode>,<time> OK
AT+CIPATS二<mode>,<time>	OK ERROR
Reference Goouuu	

Parameter

<mode> digital parameter ;Set automatic transmission function indicates whether sending TCP / UDP data

Goouuu TECH G Series ATcommand set

0 Close automatic send data（the default value）

1 Open automatically send data

<time> digital parameter; Automatically send data show that, in the range (1 to 65536) Operating AT +CIPSEND, consuming <time> input data, the data is automatically sent

Remark

- If you set mode to 0, no timer is allowed to set.
- Timer value range: 1～65536.

Command	Response
AT+CACM 二?	OK
AT+CACM ?	+CACM: <acm> OK Function-related error: +CME ERROR: <err>
AT+CACM 二[<passwd>叮	OK ERROR +CME ERROR : <err>
Reference GSM 07.07	

<acm> character; accumulated call meter value similarly coded as <ccm> under +CAOC 000000-FFFFFF

<passwd> character; SIM PIN2

Note: the string length supported in our environment is no more than 4.

Remark

- Set CMD reset ACM with parameter SIM PIN2, read CMD get current ACM, Test CMD not defined yet.

Goouuu TECH G Series AT command set

- Three bytes of the current call meter value in hexadecimal format (e.g. ”00001E” indicates decimal value 30); value is in home units
- Command AT+CCWE control the unsolicited result code: +CCWV to be sent shortly before the ACM maximum value reached

12.2. AT+CAMM Accumulated call meter maximum (ACMmax) set or query

The write command sets the Advice of Charge related to the accumulated call meter maximum value in SIM file EF (ACMmax). ACMmax contains the maximum number of home units allowed to be consumed by the subscriber.

The read command returns the current ACMmax value

Grammar

Command	Response
AT+CAMM 二?	OK
AT+CAMM ?	+CACM: <acmmax> OK Function-related error: +CME ERROR: <err>
AT+CAMM 二[<acmmax>[,< passwd>]]	OK ERROR +CME ERROR : <err>
Reference GSM 07.07	

Parameter

<acmmax> string type; accumulated call meter maximum value similarly coded as <ccm> under +CAOC; valuezero disablesACMmax feature 000001 - FFFFFF

<passwd> character; SIM PIN2

12.3. AT+CAOC Advice of charge information

Execute command returns the current call meter value.

The write command sets theAdvice of Charge supplementary service function mode

Grammar

Command	Response
AT+CAOC 二?	+CIPATS:(list of supported <mode>) OK
AT+CAOC?	+CAOC:<mode> OK
AT+CAOC 二<mode>	[+CAOC:<ccm>]

	OK +CME ERROR:<err>
Response GSM 07.07	

Parameter

< mode >

0 query CCM value

1 deactivate the unsolicited reporting of CCM value

2 activate the unsolicited reporting of CCM value

< ccm >

string type; three bytes of the current call meter value in hexadecimal format (e.g. ”00001E” indicates decimal value 30); value is in home units and bytes are similarly coded as ACMmax value in the SIM card or in the active application in the UICC (GSM or USIM) Max 000000-FFFFFF

12.4.AT+CCFC call forwarding number and condition

This command Controls the call forwarding supplementary services. Registration, erasure, activation, deactivation and status query are supported.

Grammar

Command	Response
AT+CCFC 二?	+CCFC: (list of supported <reads>) OK
AT+CCFC 二<reads>,<mode>[,<number>,<type>[,<class>[,<subaddr>[,<satype>[,time 叮叮叮叮叮叮	If <mode> not equal to 2 and the operation was successful: OK If <mode> equal to 2 and the operation is successful (if and only if <reads> 二 0 ～ 3)： +CCFC: <status>, <class1>[, <number>,<type>[,<subaddr>,<satype>[,<time>叮 叮叮 [<CR><LF>+CCFC: ....叮 OK Function-related error: +CME ERROR: <err>
Reference GSM 07.07	

Parameter

< reason >

0 unconditional

1 mobile busy

2 no reply

3 not reachable

4 all call forwarding. Note: After setting, if quering the result, need set "reason" to 0. （Reference GSM 02.30[19〃）

5 all conditional call forwarding.（Reference GSM 02.30[19〃）

This operation can finish the call forwarding for the reason that from 1 to 3 by one time, not need by three times. That means all the call forwarding can be done by one time exceptunconditional.

< mode >

- When set mode 二 2, the range of "reason" is 0～3.
- For mode＝2， reason＝0, only the query of "class ＝1" is support. The other will get error due to not support of the network.

0 disable

1 enable

2 query status

3 registration

4 erasure

< number >

string type phone number of forwarding address in format specified by <type>. The string length of <number> is 0-20.

< type >

type of address octet in integer format (refer GSM 04.08 [8叮 subclause 10.5.4.7); default 145 when dialling string includes international access code character ”+”, otherwise 129

< classx >

is a sum of integers each representing a class of information (default 1):

1 voice (telephony)

2 data (refers to all bearer services; with <mode>二 2 this may refer only to some bearer service if TA does not support values 16, 32, 64 and 128)

4 fax (facsimile services)

8 short message service

16 data circuit sync

32 data circuit async

64 dedicated packet access

128 dedicated PAD access

< time > 1．30 when ”no reply” is enabled or queried, this gives the time in seconds to wait before call is forwarded, default value 20

< status >

0 not active

1 active

<subaddr>

string type sub address of format specified by <satype>

<satype>

type of sub address octet in integer format (refer GSM 04.08 [8叮 subclause 10.5.4.8); default 128

Examples

Goouuu TECH G Series ATcommand set

```
AT+CCFC 二0, 3,"15021012496"
OK                  //  Set unconditional transfer to 15021012496 AT+CCFC 二
0,2                 //  Query unconditional transfer settings, set successfully
+CCFC: 1, 1,"+8615021012496",145
OK
AT+CCFC 二 0,4   //  Delete unconditional transfer
OK
AT+CCFC 二 0,2   //  Query unconditional transfer settings, set delete
+CCFC: 0, 1
OK
```

12.5. AT+CCWA Set call waiting control

This command allows control of the Call Waiting supplementary service according to 3GPPTS 22.083 [5 叮. Activation, deactivation and status query are supported. The interaction of this command wit other commands based on other GSM/UMTS supplementary services is described in the GSM/UMTS standards.

Grammar

Command	Response
AT+CCWA?	+CCWA: <n> OK
AT+CCWA 二?	+CCWA:(list of supported<n>s) OK
AT+CCWA 二[<n>[,<mode>[,<class>]]]	If <mode> is not equal 2 and command successful: OK If <mode>二 2 and command successful: +CCWA:<status>,<class1>[<CR><LF>+CCWA: <status>,<class2>[...]] OK Function-related error: +CME ERROR: <err>
Reference GSM 07.07	Related URC reported: +CCWA: <number>,<type>,<class>[,<alpha>]

Parameter

<n> sets/shows the result code presentation status in the MT/TA
- 0 disable
- 1 enable

<mode> when <mode> parameter is 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 (default 1)
1 voice (telephony)
2 data
4 fax
16 data circuit sync
32 data circuit async
<status> 0 not active
1 active
<number> string type phone number of calling address in format specified by<type>
<type> type of address octet in integer format (refer GSM 04.08[8] subclause 10.5.4.7)
129 ISDN/telephony number plan, unknow number
145 ISDN/telephony number plan, international number
<alpha> optional string type alphanumeric representation of <number> corresponding to the entry found in phonebook; used character set should be the one selected with command Select TE Character Set +CSCS
< 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

Remark

- If for any <class>, e.g. + CCWA: 0,7, services are not activated, in this case, <status> = 0 will return
- When <mode>=2, all active call forwarding number will be reported in this mode, press any key, Commad can be terminated

Examples

AT+CCWA=1,1 // Enable TA set or display the result code displaystate
OK
ATD10086; // Establish a call
OK
+CCWA: "02154450293",129,1 // Incoming call, call waiting caller in the state

12.6. AT+CHLD Call hold and multiparty

This command deal with call held, retrieve, multiparty and hang up functions and soon.

Grammar

Command	Response
AT+CHLD=?	+CHLD:(list of supported<n>s) OK
AT+CHLD=[<n>]	OK +CME ERROR:<err>
Reference GSM 07.07	

Parameter

<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 [waiting call is the first].

2: Places all active calls (if any exist) on hold and accepts the other (held orwaiting) call.

3: Adds a held call to the conversation.

Remark

The multiparty call has the MAX connection is 5, at the same time, the phone can also has a waiting call.

Examples

```
ATD10086;          //  Establish a call
OK
+CCWA: ”02154450293”,129,          //  Incoming call, call waiting caller in the state
AT+CHLD =2          //  The first call to maintain the road and road access to the second call waiting call
OK
AT+CLCC
+CLCC: 1,0,1,0,0,”10086”,129,””  //  The first call is to keep the road
+CLCC: 2,1,0,0,0,”02154450293”,129,””        //  The second call is an access road
OK
AT+CHLD =21        //  Activating the first road calls, keep the secondway conversation
OK
AT+CLCC
+CLCC: 1,0,0,0,0,”10086”,129,””        //  The first call is the access road
+CLCC: 2,1,1,0,1,”02154450293”,129,””        //  The second way is to keep the call
OK
```

12.7. AT+CLIP calling line identification presentation

Grammar

Command	Response
AT+CLIP =?	+CLIP:(list of supported<n>s) OK
AT+CLIP?	+CLIP:<n>,<m> OK
AT+CLIP =[<n>]	OK +CME ERROR:<err>
Reference GSM 07.07	URC reported: When CLI and the caller can be displayed in the TE situation allows, or when all RING + CRING: <type> return after the results sent from TA to TE, will return: +CLIP: <number>,<type>,””,,<alphaId>,<CLI

	validity>

Parameter

<n> sets/shows the result code presentation status in the MT/TA
0 disable
1 enable

<m> parameter shows the subscriber CLIP service status in the network
0 CLIP not provisioned
1 CLIP provisioned
2 unknown (e.g. no network, etc.)

<number> string type phone number of calling address in format specified by <type>

<type> The eight-byte integer type of address
129 Unknown type (IDSN format number)
145 International number type (ISDN format)

<alphaId> String type; <number> phone book entries corresponding character representation (the argument by the AT + QCLIP Controls whether the string contents)

<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.

Remark

- Parameter n may control the unsolicited result code +CLIP should be presented to TE or not

Examples

AT+CPBW=1,"02151082965",129,"Goouuu"
OK
AT+CLIP=
1 OK
RING
+CLIP: "021510829657",161,,,,0

12.8.AT+CLIR Calling line identification restriction

The AT+CLIR command refers to the GSM supplementary service CLIR (Calling Line Identification Restriction).

Grammar

Command	Response
AT+CLIR=?	+CLIR:(list of supported<n>s) OK
AT+CLIR?	+CLIR:<n>,<m> OK +CME ERROR:<err>
AT+CLIR=[<n>]	OK

	+CME ERROR:<err>
Reference GSM 07.07	

Parameter

< 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

Remark

- Use this command to function, you need to pay attention to the corresponding SIM card support numbers hidden business

12.9. AT+COLP Connected line identification presentation

When a caller during a call, use the Commad to enable or disable the Display CLI on the called party. Before any +CR or V.25ter Response, intermediate result code returned from TA to TE.

Grammar

Parameter

<n> parameter sets/shows the result code presentation status in the MT/TA

0 not display result codes

1 display result codes

Command	Response
AT+COLP=?	+COLP:(list of supported<n>s) OK
AT+COLP?	+COLP:<n>,<m> OK
AT+COLP=[<n>]	OK +CME ERROR:<err>
Reference GSM 07.07	URC reported: When enabled (and called subscriber permitted), in response to any + CR and V.25ter before An intermediate result code returned: +COLP: <number>,<type>[,<subaddr>,<satype>[,<alpha>

<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.)
<number> string type phone number of calling address in format specified by <type>
<type> The eight-byte integer type of address
129 ISDN/telephony number plan, unknown number
145 ISDN/telephony number plan, international number
<subaddr> string type sub-address of format specified by <satype>
<satype> type of sub-address octet in integer format (refer GSM 04.08[8] section 10.5.4.8); default 128
<alphaId> String type; corresponding entry in the phone book character representation <number>

Remark

- Query command to the state of <n>, and according GSM02.81 [3], can be configured to trigger on COLP service status query (<m> Given)

Examples

```
AT+CPBW=1,"02151082965",129,"Goouuu"
OK
AT+COLP=1
OK
ATD02151082965;
+COLP: "02151082965",129,"",0,"Goouuu"
OK
```

12.10. AT+CPUC Price per unit and currency table

Use this Command, you can set notifications and billing-related documents SIM card EFPUCT unit prices and currency table. PUCT information can be the national currency unit (Eg: AT + CAOC, AT + CACM, AT + CAMM) converted to other currencies.

Grammar

Command	Response
AT+CPUC=?	OK
AT+CPUC?	+CPUC: <currency>,<ppu> OK
AT+CPUC=<currency>,<ppu>[,<passwd>]	OK +CME ERROR: <err>
Reference GSM 07.07	

Parameter

<currency> string type; three-character currency code (e.g. "GBP", "DEM");And "Select TE Character Set" same Command AT+CSCS character set specified
<ppu> string type; price per unit; dot is used as a decimal separator (e.g."2.66").

Note: the supported string length is no more than 5, and the valid number is less than 4096

< passwd > string type; SIM PIN2

Note: the string length supported in our environment is no more than 4.

12.11. AT+CUSD Unstructured supplementary service data

The Command According GSM02.90 [23], for USSD (Unstuctured Supplementary Service Data) control. The Command support network and mobile initiated operation. <n> used to enable or disable unsolicited result code (USSD return the results returned by the network, or network initiated operation) + CUSD: <m> [, <str>, <dcs> displayed on the TE.

<str> specified, mobile initiated USSD string or a network initiated USSD operation returns the result string will be sent to the network. By unsolicited result code + CUSD, return the network side return results USSD string.

Grammar

Command	Response
AT+CUSD =?	+CUSD:(list of supported<n>s) OK
AT+CUSD?	+CUSD: <n> OK
AT+CUSD =[<n>[,<str>[,<dcs>]]]	OK +CME ERROR: <err>
Reference GSM 07.07	

Parameter

<n> Parameter instructions for digital unstructured supplementary service datacontrol

0 disable the result code presentation to the TE

1 enable the result code presentation to the TE

2 cancel session (not applicable to read command response)

<m>

0 no further user action required (network initiated USSD-Notify, or no further information needed after mobile initiated operation)

1 further user action required (network initiated USSD-Request, or further information needed after mobile initiated operation)

2 USSD terminated by network

3 other local client has responded

4 operation not supported

5 network time out

<str> String type, USSD string (if <dcs> sign that the use of GSM03.38 default values [25 in, ME / TA will be based GSM07.05 [24 Annex A, the GSM symbols set into current TE character set)

<dcs> 3GPP TS 23.038[25 Cell Broadcast Data Coding Scheme in integer format (default 0)

Examples

```
AT+CSCS 二
"UCS2" OK
AT+CUSD 二 1
OK
```

12.12. AT+CSSN Supplementary service notifications

The Command said notice with additional services related to network-initiated. Use this setting Commad, to enable or disable notifications TAresult code is displayed on the TE.

When <n>二 1, and initiate a call on the mobile terminal receives additional services during the notice, the intermediate result code + CSSI: <cide1> [, <index>叮 will be sent to the TE.

When <m>二 1, and terminating in the mobile terminal receives additional services during the call notice, or upon receipt of notice before the transfer checksum additional services, unsolicited result code + CSSU: <code2> will be sent to the TE .

Grammar

Command	Response
AT+CSSN 二?	+CSSN:(list of supported<n>s),(list of supported<m>s) OK
AT+CSSN?	+CSSN:<n>,<m> OK
AT+CSSN 二[<n>[,<m>]]	OK +CME ERROR:<err>
Reference GSM 07.07	

Parameter

< n > (parameter sets/shows the +CSSI result code presentation status to the TE):

0 disable

1 enable

< m > (parameter sets/shows the +CSSU result code presentation status to the TE):

0 disable

< code1>(it is manufacturer specific, which of these codes are supported):

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 is a CUG call (<index> will appear）

5 prohibit outgoing calls

6 prohibit incoming calls

7 CLIR suppression Close

<index> Closed user group index

<code2> 0 indicates that this call is a call transfer

13. Audio control commands

13.1. AT+VTD Tone duration

Grammar

Command	Response
AT+VTD 二?	+VTD:(list of supported<n>s) OK
AT+VTD?	+VTD:<n> OK
AT+VTD 二<n>	OK ERROR:+CME<err>
Reference GSM 07.07	

Parameter

<n>: Duration of the tone in 1/10 second

Remark

The command controls when playing long AT + VTS DTMF tonesgenerated

13.2. AT+VTS DTMF and Tonegeneration

The Command may send one or more ASCII characters, the role of these characters is to MSC (Mobile Switching Center) for a remote user transmit dual tone multi-frequency DTMF (Dual ToneMulti Frequency) tone.

Grammar

Parameter

<dtmf-string> A maximum of 20 characters. Must be placed between double quotes. It is constituted by

Command	Response
AT+VTS 二?	+VTS:(list of supported<dtmf>s)(list of supported<duration>s) OK
AT+VTS 二<dtmf-string>	OK +CME ERROR:<err>
Reference GSM 07.07	

the following string, intervals ”,” separated. But a single character does not need quotation marks

1）<dtmf> single ASCII character range :0-9, #, , AD. As a sequence of DTMF tones is resolved duration controlled by AT + VTD Command

2）{<dtmf>, <duration>} is parsed as a DTMF tone duration controlled by the<duration>

<duration>:

time in 1/10 second

Remark

- The set command only applies to the current voice calls
- Allows the user to send a sequence of DTMF tones for a period of time
  Allows the user to send a single DTMF tone. In this case, the time period may be determined individually during the call

Examples

```
ATD10086;       //  Establish a call
OK
AT+VTS =        //  According voice prompts to enter DTMF tones 1
1 OK
```

13.3. AT+CALM Call to alarm mode

Grammar

Command	Response
AT+CALM =?	+CALM:(list of supported<mode>s) OK
AT+CALM?	+CALM:<mode> OK
AT+CALM =<mode>	OK +CME ERROR:<err>
Reference GSM 07.07	

Parameter

<mode> 0 Normal mode

1 Silent mode (prohibit playback of all sounds from ME)

Remark

- This setting only applies to incoming ringtone command control

13.4. AT+CRSL Ringer Sound Level

Grammar

Command	Response
AT+CRSL =?	+CRSL:(list of supported<level>s) OK
AT+CRSL?	+CRSL:<level> OK
AT+CRSL =<level>	OK

	+CME ERROR:<err>
Reference GSM 07.07	

Parameter

<level> Integer type, manufacturer custom range :0-100. The minimum is the lowest volumelevel

13.5. AT+CLVL Loudspeaker volume level

Grammar

Command	Response
AT+CLVl 二?	+CLVL:(list ofsupported<level>s) OK
AT+CLVL?	+CLVL:<level> OK
AT+CLVL 二<level>	OK +CME ERROR:<err>
Reference GSM 07.07	

Parameter

<level> Integer type, manufacturer custom range :0-100. The minimum is the lowest volumelevel.

13.6. AT+CMUT Mute control

Grammar

Command	Response
AT+CMUT 二?	+CMUT:(list of supported<n>s) OK
AT+CMUT?	+CMUT:<n> OK
AT+CMUT 二<n>	OK +CME ERROR:<err>
Reference GSM 07.07	

Parameter

<n>

0 mute off

1 mute on.

Remark

Goouuu TECH G Series ATcommand set

- Only during a call, the command operation is valid

13.7. AT+SNFS Select audio hardware set

This command is used to switch the audio channel

Grammar

Command	Response
AT+SNFS 二?	+SNFS:(list of supported<audMode>s) OK ERROR
AT+SNFS?	+SNFS:<audMode> OK ERROR
AT+SNFS 二<audMode>	OK ERROR
Reference Goouuu	

Parameter

<audMode>

0 Aux mode
1 Mic mode
2 Loud mode
3 Bluetooth mode
4 close mode

13.8. AT+CDTMF Play DTMF tones but don't send DTMF tones to a remote subscriber

Grammar

Command	Response
AT+CDTMF 二?	+CDTMF:(list of supported<dtmf>s),(list of supported<duration>s) OK
AT+CDTMF 二(<dtmf>), (<duration>)	OK +CME ERROR:<err>
Reference Goouuu	

Parameter

<dtmf-string> A maximum of 20 characters. Must be placed between double quotes. It consists of the following character strings, in the interval "" Separated. But a single character does not need quotation marks

1）<dtmf> single ASCII character range :0-9, #, , AD. As a sequence of DTMF tones is resolved, by controlling the duration of the command AT+ VTD 2）

{<dtmf>, <duration>} is parsed as a DTMF tone, duration of<duration> Control

<duration> 0-10 A integer time in 1/10 second. Default value is 1.

Remark

- The set command only applies to the current voice calls
- Allows the user to send a sequence of DTMF tones for a period of time
- Allows the user to send a single DTMF tone. In this case, the time period may be determined individually during the call

Examples

```
ATD10086;       //  Establish a call
OK
AT+CDTMF 二1,10     //  According voice prompts to enter DTMF tones 1
OK
```

13.9. AT+VGR Receive gain selection

Grammar

Command	Response
AT+VGR 二?	+ VGR:(list of supported<n>s) OK
AT+VGR?	+VGR:<n> OK
AT+VGR 二[<n>]	OK +VGR ERROR:<err>
Reference Goouuu	

Parameter

<n> range 0...8. if value equal to 8, then receiver is mute.

Remark

- The set command only applies to the current voice calls

Example

```
ATD10086;       //  Establish a call
OK
AT+VGR 二       //  Set the receiver volume is 8
8 OK
```

```
AT+VGR =1     //  Set the receiver volume to 1
OK
```

13.10. AT+VGT Transmit gain selection

Grammar

Command	Response
AT+VGT =?	+VGT:(list of supported<n>s) OK
AT+VGT?	+VGT:<n> OK
AT+VGT =[<n>]	OK +CMT ERROR:<err>
Reference Goouuu	

Parameter

<n> 0 No sound, she can not hear

1 Sound, the other party can hear the sound

Remark

- The set command only applies to the current voice calls

Examples

```
ATD10086;     //  Establish a call
OK
AT+VGT =      //  Send to a set volume
1 OK
AT+VGT =      // Send volume set to 0
0 OK
```

13.11.AT+CAUDIO Open or Close Audio

Open or Close audio, used during a call.

Grammar

Command	Response
AT+CAUDIO =?	+CAUDIO: (0-1) OK +CME ERROR
AT+CAUDIO =<n>	OK +CME ERROR
Reference	

Goouuu	

Parameter

<n> Mute

0 Close audio (transmitter and receiver)

1 Open audio (transmitter and receiver)

Remark

- The command will be forbidden during audio cycle test.

Examples

```
AT+CAUDIO二0          //Close Audio
OK
AT+CAUDIO 二?         // View Parameters
+CAUDIO: (0-1)
OK
```

13.12.AT+AUST Test Audio Cycle

This command is used to test audio cycle.At the same time, the command modifies the audio mode.

Grammar

Command	Response
AT+AUST 二?	+AUST: (list of supported<value>s) OK +CME ERROR
AT+AUST 二<value>	OK +CME ERROR
AT+AUST	OK +CME ERROR
Reference Goouuu	

Parameter

<value>

0 Aux mode

1 Mic mode

2 Loud mode

Examples

```
AT+AUST 二0            //Audio loop mode set to Normal
OK
AT+AUST                //Run
OK
AT+AUEND               //Stop the audio loop test
```

```
OK
AT+AUST =1                    //Set audio loop headset mode
OK
AT+AUST                       //Run
OK
AT+AUEND                      //Stop the audio loop test
OK
```

13.13.AT+AUEND Stop Audio Cycle Test

This command is used to stop audio cycle test. The default audio mode (Mic mode) is recovered.

Grammar

Command	Response
AT+AUEND	OK +CME ERROR
Reference Goouuu	

Examples

```
AT+AUST =0                    //Audio loop mode set to Normal
OK
AT+AUST                       //Run
OK
AT+AUEND                      //Stop the audio loop test
OK
AT+AUST =1                    //Set audio loop headset mode
OK
AT+AUST                       //Run
OK
AT+AUEND                      //Stop the audio loop test
OK
```

13.14.AT+CRMP Ring melody playback

Execution command causes the MT to playback a specific ring type. The default values for theoptional parameters are the current selected in the MT.

Grammar

Command	Response
AT+CRMP =?	+CRMP: (list of supported <call type>s),(list of

	supported <volume>s),(<type0>),(list of supported<index>s)[<CR><LF> +CRMP: (list of supported <call type>s),(list of supported <volume>s),(<type1>),(list of supported <index>s) +CME ERROR: <err>
AT+CRMP 二<calltype>[,<volume>[,<type>,<index>叮叮	+CME ERROR: <err><volume>: 0 min volume
Reference 3GPP TS 27.007 V3.12.0(2002-12)	

Remark

- The command can not play ringtones, follow-up will improve.

Parameter

<call type> integer type; manufacturer specific

<type>

0 Manufacturer defined

1 User defined

<index> integer type

<volume> integer type value with manufacturer specific range (smallest value represents the lowest sound level)

Examples

AT+CRMP二

0,7,0,2 OK

<Note: Play voice call melody index 2 and Volume 7>

AT+CRMP 二?

+CRMP:(0-3),(0-11),0,(0-11)

OK

14. Hardware-related commands

14.1 AT+CCLK Real time clock

Grammar

Command	Response
AT+CCLK 二?	OK
AT+CCLK?	+CCLK:<time> OK
AT+CCLK 二<time>	OK +CME ERROR:<err>
Reference GSM 07.07	

Parameter

<time> String type; format: yy / MM / dd, hh: mm: ss 土 zz, each refers to the year, month, day, hour, minute, seconds and time zone (with the difference between local time and GMT time expressed in quarter-hour format to represent; range -47 ～ +48)

Examples

```
AT+CCLK?        //  Query the current ME time
+CCLK: ”08/01/04,
00:19:43+00”
```

14.2. AT+CBC Battery charging / discharging and charge control

Grammar

Command	Response
AT+CBC 二?	+CBC:(list of supported <bcs>s),(list of supported <bcl>s),(voltage) OK
AT+CBC	+CBC:<bcs>,<bcl>,<voltage> OK +CME ERROR:<err>
Reference GSM 07.07	

Parameter

<bcs> Charging Status Indication

0 ME is not charged

1 ME is charging

2 ME is fully charged

<bcl> Battery level

1...100 Percentage of its original capacity of the battery relative

0 indicates that either the battery is exhausted or the capacity value is not available.

Remark

- The command requires hardware support and is only valid in the battery charging process

14.3. AT+CALA Set an alarm time

Grammar

Command	Response
AT+CALA 二?	+CALA:[(list of supported <n>s),(list of supported <type>s),<tlength>,<rlength> 叮丁 OK
AT+CALA 二 <time>[,<n>[,<type>[,<text>[,<recurr>[[[[[	OK If the error is related to ME functionality Returns +CME ERROR: <err>
AT+CALA?	+CALA: <time>,<n1>,<type>,[<text>[[,[<recurr>[[<CR><LF>+CALA: <time>,<n2>,<type>,[<text>[[,[<recurr>[[. OK +CME ERROR: <err>
Reference Goouuu	

Remark

- If you want set a recycle alarm,just import thetime
- If don't input recur , it will consider it not a recyclablealarm
- If don't input index,the alarm index is 1 will besubstitute
- String format of alarm: "yy/MM/dd,hh:mm:ss".
- Maximum number of alarms is 15. Seconds are not taken intoaccount.

Parameter

<time> string type value, the 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 -12...+13). E.g. 6th of May 2005, 22:10:00 GMT+2 hours equals to"05/05/06,22:10:00+08"
Note: if <time> equals current date and time or is set to an earlier date, returns +CME ERROR: 21.

<n> Alarm number (up to 15 alarms can be set)

<type> Integer type value indicating the type of the alarm (e.g. sound, volume, LED); values and default is 0.

<text> String type value indicating the text to be displayed when alarm time is reached; maximum length <tlength>

<tlength> Integer type value indicating the maximum length of<text>

<rlength> Integer value representing the maximum length <recurr>

<recurr> String type value indicating day of week for the alarm in one of the following formats: "<1..7>[,<1..7>[. 叮丁叮丁" - Sets a recurrent alarm for one or more days in the week. The digits 1 to 7 corresponds 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” - Sets a recurrent alarm for all days in the week.

Examples

```
AT+CALA 二”13/05/12,10:59:00”,1,0,”AA”

OK AT+CALA
二”13/05/12,11:05:00”,2,0,”AA1”

OK
AT+CALA?
+CALA:”13/05/12,10:59:00”,1,0,”AA”
+CALA:”13/05/12,11:05:00”,2,0,”AA1”

OK
```

14.4. AT+CALD Delete one alarm

Grammar

Command	Response
AT+CALD 二?	+CALD: (list of supported <n>s) OK
AT+CALD 二<n>	OK ERROR
Reference Goouuu	

Parameter

<n> Alarm number (currently 1-15).

Examples

```
AT+CALA?
+CALA:”13/05/12,10:59:00”,1,0,”AA”
+CALA:”13/05/12,11:05:00”,2,0,”AA1”

OK
AT+CALD 二1

OK
AT+CALA?
+CALA:”13/05/12,11:05:00”,2,0,”AA1”

OK
```

14.5. AT+CBCM Supply Information when Battery Capacity changed

This command control information display when battery capacity changed. But this command not support now

Grammar

Remark

- This command is currently not supported

Parameter

<bNumber>

0 means the battery status event will not be reportedinitiatively

1 means the battery status event will be reportedinitiatively

Examples

```
AT+CBCM =1
OK
AT+CBCM?
+CBCM:1
OK
AT+CBCM
=?
+CBCM: (0-1)
```

Command	Response
AT+CBCM =?	+CBCM:(list of supported <bNumber>s) OK ERROR
AT+CBCM?	+CBCM:<bNumber> OK ERROR
AT+CBCM =<bNumber>	OK ERROR
Reference Goouuu	

15. Other commands

15.1. ATE Enable command echo

This setting determines whether or not the TA echoes characters received from TE during command state.

Grammar

Command	Response
ATE<value>	OK
Reference V.25ter	

Parameter

<value>

0 Echo mode off

1 Echo mode on

15.2. ATS3 Response formatting character

Use this command to set theATcommand line terminator is used, the character recognized by TA.

Grammar

Command	Response
ATS3?	<n> OK
ATS3=<n>	OK
Reference V.25ter	

Parameter

<n> Command line termination character

0．13(default)．31

Remark

- Using other value than 13 may cause problems when entering commands.
- If ATS3, ATS4, ATS5 be set to the same value, it may be cause some problem.

15.3.ATS4 Response formatting character

Use this command, you can set the character code and the information used to obtain the results of the text, the character generated by the TA.

Grammar

Command	Response
ATS4?	<n> OK
ATS4=<n>	OK
Reference V.25ter	

Parameter

<n> Command line termination character

0．10(default)．31

Remark

- If TS3, ATS4, ATS5be set to the same value, it may be cause someproblem.

15.4.ATS5 Command line editing character

Use this command, you can set the command line used to delete a character, the character generated by the TA.

Grammar

Command	Response
ATS5?	<n> OK
ATS5=<n>	OK
Reference V.25ter	

Parameter

<n> Command line termination character

0．8(default)．31

Remark

- If ATS3, ATS4, ATS5 be set to the same value, it may be cause someproblem.

15.5.AT^STA SAT InterfaceActivation

This command is used to ask the current running status of the RSAT and the character set used by the RSAT,and it can be used to set SAT and the AT interface to activation.

Grammar

Command	Response
ATASTA=?	ASTA:(list of supported <Alphabetr>s) OK

	ERROR
AT^STA?	^STA:<Alphabet>,<allowedInstance>, <SatProfile> OK ERROR
AT^STA=<Alphabet>	OK ERROR
Reference 3GPP TS 27.007 V3.12.0	

Parameter

<Alphabet>:

0 GSM character set

1 UCS2 character set

<allowedInstance>:

0 SAT This module has been started.

1 SAT This module can be started.

<SatProfile>: SAT configuration data

Examples

```
AT^STA?
^STA:1,1,"7FFFFFFF7F0100DF1F"
OK
```

15.6. AT^STGI Remote-SAT Get Information

AT^STGI: This command is used after receiving URC ^STN notification, That can get the parameters of the proactive command, current command type or some information of the current proactive command.

Grammar

Command	Response
AT^STGI=?	^STGI:(list of supported <cmdType>s) OK ERROR
AT^STGI?	^STGI: <cmdType> OK ERROR
AT^STGI=<cmdType>	OK ERROR
Reference 3GPP TS 27.007 V3.12.0	

Response definition

The event format：

Commandtype 二 37 or

36：

The first line: ASTGI: command type, 0, The number of the item," Alpha identifier", "nComQualifier"

Other lines： ASTGI: command type, Item type,"contents of menu,"nComQualifier"

Command type＝16：

ASTGI: command type, "text string", type of address, address, subadress, text in calling", scheme of the text, time unit when autodial, interval of"nComQualifier"

Command type＝33：

ASTGI: command type, "text",scheme of text, "nComQualifier"

Command type＝19：

ASTGI: command type, "text for display" , Type of address, "address of SMS, "contents ofSMS"

Command type＝35:

ASTGI: command type, "text", "Default text", scheme of text, max length of text, min length of text, "nComQualifier"

Command type＝38:

ASTGI: command type, "nComQualifier",

Parameter

<Alphabet>：

0 GSM character set

1 UCS2 character set

<allowedInstance>：

0 SAT This module has started up. you can execute the read or test command.

1 SAT This module can be started.

<SatProfile>： SAT configurationdata.

Remark

- < cmdType >： Proactive command.
- Not currently set command functions to achieve

Examples

```
ATASTGI二?
ASTGI: (16,19,33,35,36,37,38,211)
OK
ATASTGI?
ASTGI: 30
OK
```

15.7.AT^STR Remote-SAT Response

ATASTR: TA can use this command ATASTR to answer the ATASTGI command to tell the SIM that the result executed of the proactive command.

Grammar

Command	Response
ATASTR 二?	ASTR:(list of supported <cmdType>s) OK ERROR
ATASTR?	ASTR: <cmdType> OK ERROR
ATASTR 二<cmdType>,<status>[, <inputNumber>][, <inputString>]	OK ERROR
Reference 3GPP TS 27.007 V3.12.0	

Unsolicited result code

URC1

+CALA: <text>

..

URC2

+SYSSTART ALARM MODE+CALA:<text>

..

Parameter

< cmdType >	Proactive command	
<status>	The status response to the proactive command.	
	00	Command performed successfully
	16	Proactive SIM session terminated by user
	17	Backward move in the proactive SIM session requested by the user
	18	No response from user
	19	Help information required by the user
	20	USSD/SS Transact terminated by user
	32	ME currently unable to process command
	132	ME currently unable to process command -screen is busy
	34	User did not accept the proactive command
	35	User cleared down call before connection or network release
<inputNumber>：	Response number.	
<inputString>：	Response string.	

Remark

- Not currently set command functions to achieve

Examples

ATASTR 二211,0,X STK Menu Selection

16. Appendix

16.1. +CME ERROR Error Codes

Unsolicited result code + CME ERROR: <err> said mobile device or network error, an error similar to ERROR result code. Once the command is executed, whether correct or not, should return OK or ERROR result.

Table 4: + CME ERROR Error Code List

<err>	含义
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 calls only
40	Network personalization PIN required
41	Network personalization PUK required

42	Network subset personalization PIN required
43	Network subset personalization PUK required
44	Service provider personalization PIN required
45	Service provider personalization PUK required
46	Corporate personalization PIN required
47	Corporate personalization PUK required
48	Phsim Pbk Required
49	exe not surport
50	exe fail
51	no memory
52	option not surport
53	param invalid
54	ext reg not exit
55	ext sms not exit
56	ext pbk not exit
57	ext ffs not exit
103	gprs illegal ms 3
106	gprs illegal ms 6
107	gprs svr not allowed
111	gprs plmn not allowed
112	gprs location area not allowed
113	gprs roaming not allowed
132	gprs option not supported
133	gprs option not subscribed
134	gprs option temp order out
149	gprs pdp authentication failure
150	gprs invalid mobile class
148	gprs unspecified gprs error
264	sim verify fail
265	sim unblock fail
266	sim condition no fullfilled
267	sim unblock fail no left
268	sim verify fail no left
269	sim invalid parameter
270	sim unknow command
271	sim wrong class
272	sim technical problem
273	sim chv need unblock
274	sim noef selected
275	sim file unmatch command
276	sim contradiction chv

277	sim contradiction invalidation
278	sim maxvalue reached
279	sim pattern not found
280	sim fileid not found
281	sim stk busy
282	sim unknow
283	sim profile error

16.2. +CMS ERROR Error Codes

Unsolicited result code + CMS ERROR: <err> said mobile device or network error, an error similar to ERROR result code. Once the command is executed, whether correct or not, should return OK or ERROR result.

Table 5: + CMS ERROR Error Code List

<err>	含义
1	Unassigned Num
8	Oper Determ Barr
10	Call Barred
21	Sm Trans Reje
27	Dest Oos
28	Unindent Sub
29	Facilit Reje
30	Unkonwn Sub
38	Nw Ooo
41	Tmep Fail
42	Congestion
47	Res Unavailable
50	Req Fac Not Sub
69	Rfq Fac Not Imp
81	Invalid Sm Trv
95	Invalid Msg
96	Invalid Mand Info
97	Msg Type Error
98	Msg Not Comp
99	Info Element Error
111	Prot Error
127	Iw Unspec

128	Tel Iw Not Supp
129	Sms Type0 Not Supp
130	Cannot Rep Sms
143	Unspec Tp Error
144	Dcs Not Supp
145	Msg Class Not Supp
159	Unspec Td Error
160	Cmd Cannot Act
161	Cmd Unsupp
175	Unspec Tc Error
176	Tpdu Not Supp
192	Sc Busy
193	No Sc Sub
194	Sc Sys Fail
195	Invalid Sme Addr
196	Dest Sme Barr
197	Sm Rd Sm
198	Tp Vpf Not Supp
199	Tp Vp Not Supp
208	d0 Sim Sms Sto Full
209	No Sms Sto In Sim
210	Err In Ms
211	Mem Cap Excceeded
212	Sim App Tk Busy
213	Sim Data Dl Error
255	Unspec Erro Cause
300	ME failure
301	SMS SERVIEC reserved
302	Operation not allowed
303	Operation not supported
304	Invalid PDU mode
305	Invalid text mode
310	SIM not inserted
311	SIM pin required
312	PH SIM pin required
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
330	SCA address unknown
331	No network service
332	Network timeout
340	No Cnma Ack Expected
500	Unknown Error
512	Sim Not Ready
513	Unable To Store
514	Invalid Status
515	Invalid Addr Char
516	Invalid Len
517	Invalid Pdu Char
518	Invalid Para
519	Invalid Len Or Char
520	Invalid Txt Char
512	Timer Expired

16.3. Extended supplementary error code

16.3.1. Location ID Extended Error Reporting

Table 6: Location ID extended error reporting list

ID	Description
0	No error (default)
1	Cause for protocol stack(PS) layer
2	Internal cause for Mobility Management(MM) layer
3	Cause for PPP/IP-Stack

16.3.2. Protocol stack layer (PS) errors

Table 7:Error list protocol stack layer (PS)

Reason	Description
CM Cause	
0	Radio link fail

1	Unassigned 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	Call rejected
22	Number changed
25	Pre-emption
26	Non-selected user clearing
27	Destination out of order
28	Invalid number Format (incomplete number)
29	Facility rejected
30	Response to STATUSENQUIRY
31	Normal, unspecified
34	No circuit/channel available
38	Network out of order
41	Temporary failure
42	Switching failure 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
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 unspecified implemented
81	Invalid transaction identifier value identifier
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
SMS Cause	
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
255	Unspecified error cause
304	Invalid PDU mode parameter
305	Invalid TEXT mode parameter

313	SIM failure
320	Memory failure
321	Invalid memory index
322	Memory full
330	SMSC address unknown 340 NO +CNMA acknowledgement
500	Unknown 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 message
521	SMSAL not ready
522	SMSAL no more service Not
523	Not support TP-Status-Report & TP-Command in storage
524	Reserved MTI
525	No free entity in RL layer
526	The prot number is already registered
527	There is no free entity for port number
528	More Message to Send sate error
529	MO SMS is not allow
530	GPRS is suspended
531	ME storage full
532	Doing SIM refresh
CC Cause	
768	Command not allowed
769	Illegal card ID
770	Call allocation fail
771	BC fill fail
772	Call RE EST
773	Illegal DTMF tone
774	Illegal BC
775	Modify actual mode
776	Data action fail
777	No response from network
778	Call accept not allowed
896	General cause
897	CSD call is aborted by user during call establishment or MT call abort MO call/USSD

898	CSD call is disconnected due		
SS Cause			
1024	Cause none		
1025	Unknown subscriber		
1033	Illegal subscriber		
1034	Bearer service Not		
1035	Tele service not provisioned		
1036	Illegal equipment		
1037	Call barred		
1040	Illegal SS operation		
1041	SS error status		
1042	SS not available		
1043	SS subscription violation		
1044	SS incompatibility		
1045	Facility not supported		
1051	Absent subscriber		
1053	Short term denial		
1054	Long term denial		
1058	System failure		
1059	Data missing		
1060	Unexpected data value		
1061	PW registration failure		
1062	Negative PW check		
1067	Number of PW attempts		
1078	Position method failure		
1095	Unknown alphabet		
1096	USSD busy		
1145	Rejected by user		
1146	Rejected by network		
1147	Deflection to served		
1148	Special service code		
1149	Invalid deflection to number		
1150	Max number of MPTY		
1151	Resources not available		
1152	General problem,		
1153	General problem, mistyped		
1154	General problem, badly		
1155	Invoke problem, duplicate		
1156	Invoke problem, unrecognized		
1157	Invoke problem, mistyped		
1158	Invoke problem, resource		

1159	Invoke problem, initiating release
1160	Invoke problem, unrecognized linked ID
1161	Invoke problem, linked resource unexpected
1162	Invoke problem, unexpected linked operation
1163	Return result problem, RR unrecognized invoked
1164	Return result problem, RR, return result unexpected
1165	Return result problem, RR mistyped parameter
1166	Return error problem, RE, unrecognized invoked
1167	Return error problem, RE return error unexpected
1168	Return error problem, RE unrecognized error
1169	Return error problem, RE unexpected error
1170	Return error problem, RE mistyped parameter
MM Cause	
2048	Cause none
2050	IMSI unknown in HLR
2051	Illegal MS
2052	IMSI unknown in VLR
2053	IMEI not accepted
2054	Illegal ME
2055	GPRS not allowed
2056	None GPRS not allowed
2057	MS ID not derived by network
2058	Implicit detach
2059	PLMN not allowed
2060	Location area not allowed
2061	Roaming area not allowed
2062	GPRS not allowed in PLMN
2063	No suitable cells in LA
2064	MSC temp not reachable
2065	Network failure
2068	MAC failure
2069	Sync failure
2070	Congestion
2080	Serve option not supported
2081	Request serve option not subscribed
2082	Serve option temp out of order
2086	Call cannot be identified
2088	No PDP context activated
2096	Retry upon entry into a new cell
2111	Retry upon entry into a new cell
2143	Semantically incorrect message

2144	Invalid MM info
2145	Message type non existent
2146	Message type incompatible with protocol state
2147	IE not implemented
2148	Conditional MM IE error
2149	Message not compatible with protocol state
2159	Protocol error unspecified
2160	Access barred
2161	Assignment reject
2162	Random access failure
2163	RR no service no service
2164	PLMN search reject emergency
2165	RR connection release
2166	Authentication failure
2167	IMSI detach
2168	Abort by network
2169	Connection timeout
2170	Enqueue fail
2171	Not updated
2172	State not allowed
2173	Emergency not allowed
2174	No service
2175	Access class barred
SIM Cause	
2560	Command success
2561	Command fail
2562	Fatal error inserted
2564	CHV not init
2565	CHV verify error
2566	CHV block
2567	Access not allow
2568	SAT command busy
2569	DL error
2570	Memory problem
2571	Technical problem
2572	PUK unlock
SM Cause	
3080	Operator determined barring
3097	LLC SND failure
3098	Insufficient resource
3099	Unknown APN

3100	Unknown PDP address or type
3101	Authentication failure
3102	Activation reject GGSN
3103	Activation reject
3104	Unsupported service option
3105	Unsubscribed service option
3106	Out of order service option
3108	Regular deactivation
3109	QOS not accepted
3110	Network fail
3111	Reactivation required
3112	Unsupported network context activation
3113	Semantic error in TFT operation
3114	Syntactical error in TFT operation
3115	Unknown PDP context
3116	Semantic error in packet filter
3117	Syntax error in packet filter
3118	PDP context WO TFT alreadyact
3153	Invalid TI
3167	Incorrect message
3168	Invalid MAND info
3169	Unimplemented message type
3170	Incompatible message type protocol state
3171	Unimplemented IE
3172	Conditional IE error
3173	Incompatible message protocol sate
3183	Unspecified
3184	Startup failure
ABM Cause	
3273	Success
3274	Invalid network account ID
3275	GPRS reactivate
3276	GPRS protocol rejection
3277	CSD reactivate
3278	CSD PPP negotiated failed
3279	CSD action failed
3280	CSD call setup failed
3283	Rejected
3284	Slot limited
3285	Abort
3286	None auto deactivation TCM Cause

3372	Invalid parameter
3373	NSAPI not in use
3374	ACL action not allowed
3375	ACL SIM file full
3376	ACL add entry failed
3377	ACL del entry failed
3378	ACL set entry failed
3379	ACL SIM read failed
3380	ACL SIM write failed

16.3.3. MM layer internal error

Table 8: Internal error list MM layer

Reason	Description
112	Forbidden PLMN
113	Access class barred
114	No coverage
115	GPRS service not
116	Timer expiry
117	SIM inserted
118	SIM removed
119	SIM absent
120	SIM invalid for PS
121	SIM invalid for CS
122	SIM invalid for PS and CS
123	Low layer fail
124	Connection in progress
125	Not updated
126	Connection establish failure
127	Connection abort
128	Connection failure
129	Emergency not allowed
130	No GPRS coverage
131	Abnormal LU
132	Abnormal LU less then 4 times
133	Same LAI IMSI attaching

16.3.4. PPP / IP stackerror

Table 9: PPP / IP stack errorlist

Reason	Description
0	No error
1	LCP fail
2	Authentication fail
3	IPCP fail
4	ESC detect
5	Plug out detect
6	PPP GPRS dialup already activated
7	PPP not activated by external modem yet
8	PPP already activated by external modem
9	PPP not activated by WAP over CSD yet
10	PPP already activated by WAP over CSD
11	PPP wrong CSD mode ID
12	PPP detect AT command during dialup
13	PPP detect escape during dialup

16.4. Related result codes (URCs) Description

Table 10: URCs Description List

No.	URC Display	Meaning	Condition
1	+CMTI:<mem>,<index>	The new short message arrives and is stored in the memory	AT+CNMI 二 2,1
2	+CMT:[<alpha>‖,<length><CR><LF><pdu>	The new short message to reach and direct output to TE (PDU mode)	AT+CNMI 二 2,2
3	+CMT:<oa>,[<alpha> 叮 ,<scts>[,<toa>,<fo>,<pid>,<dcs>,<sca>,<tosca>,<length>叮<CR><LF><data>	The new short message to reach and direct output to TE (TEXT mode)	AT+CNMI 二 2,2
4	+CBM:<length><CR>	The new cell broadcast message arrives and output directly to TE (PDU mode)	AT+CNMI 二 2,2
5	+CBM:<sn>,<mid>,<dcs>,<page>,<pages>,<CR>,<LF><data>	The new cell broadcast message arrives and output directly to TE (TEXT mode)	AT+CNMI 二 2,2

6	+CDS:<length><CR><LF><pdu>	SMS status reports and outputs directly to the TE (PDU mode)	AT+CNMI 二 2,2
7	+CDS:<fo>,<mr>,[<ra>‖,[<tora>‖, <scts>,<dt>,<st>	SMS status reports and outputs directly to the TE (TEXT mode)	AT+CNMI 二 2,2
8	+CGEV:NW DEACT<PDP type>,<PDP addr>[,<cid>‖	Attached to the GPRS network	AT+CGEREP 二 1
9	+CGEV:ME DEACT<PDP type>,<PDP addr>[,<cid>‖	ME attached to GPRS	AT+CGEREP 二 1
10	+CGEV:NW DETACH	Attached to the GPRS network	AT+CGEREP 二 1
11	+CGEV:ME DETACH	ME attached to GPRS	AT+CGEREP 二 1
12	+CVGREG:1	Network to register	AT+CGREG 二 1
13	+CGREG:0	Network Unregistered	AT+CGREG 二 2
14	+CVGREG:1,<lac><ci>	Registration and local community information network	AT+CGREG 二 2
15	+CVGREG:0,<lac><ci>	Unregistered network and local area information	AT+CGREG 二 2
16	RING	Caller instructions	n/a
17	Charging in NORNAL MODE	Module is charging	n/a
18	From GHOST MODE to NORMAL MODE	Charging Power Modules	n/a
19	UNDER VOLTAGE POWER DOWN	Low voltage shutdown instructions	n/a
20	UNDER VOLTAGE WARNING	Low voltage alarm	n/a
21	OVER VOLTAGE POWER DOWN	High voltage shutdown instructions	n/a
22	OVER VOLTAGE WARNING	High voltage warning	n/a
23	UNDER VOLTAGE POWER DOWN	Normal shutdown	n/a
24	+COLP:<number>,<type>[,<subad dr>,<satype>[CLI validity‖‖,	When the TE as the call originator, called to identify the relevant information Display	AT+COLP 二 1
25	+CLIP:<number>,<type>””,,<alpha ID>,<CLI validity>	Caller ID Display the relevant information	AT+CLIP 二 1

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26	+CRING:<type>	Caller instructions	AT+CRC 二 1
27	+CREG:<stat>	ME GSM network registration status indication	AT+CREG 二 1
28	+CREG:<stat>[,<lac>[	ME GSM network registration	AT+CREG 二 2

		status and community information indicating when and community information network registration status changes to report	
29	+CCWA:<number>,<type>,<class> [,<alpha>叮	Call waiting indication	AT+CCWA 二 1,1
30	RDY	ME initialized	n/a
31	+CFUN:1	ME full-function mode	n/a
32	+CPIN:<state>	SIM card PIN status	n/a