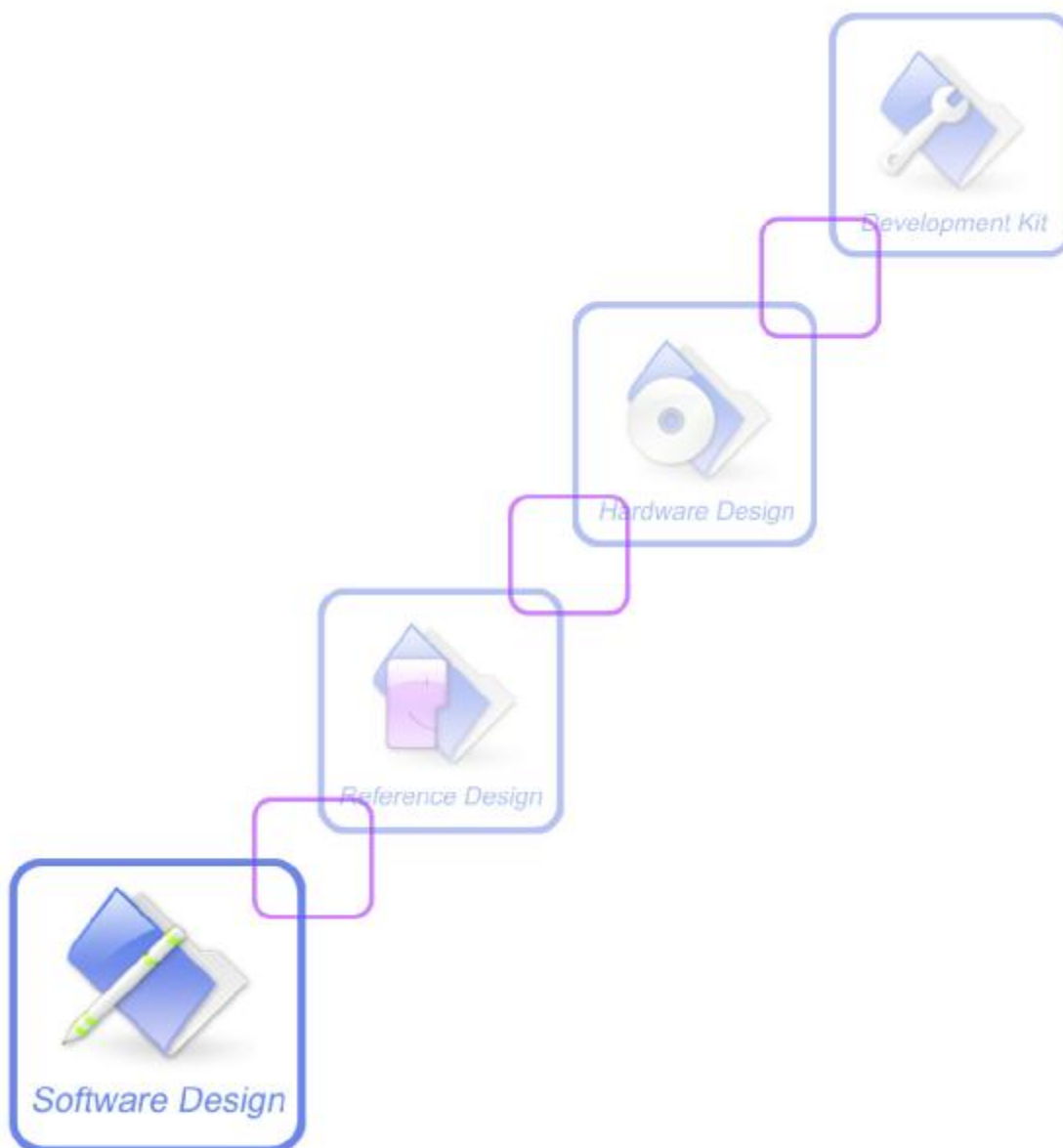


# AT Commands Set

**SIM500W\_\_ATC\_V1.00**



|                             |                         |
|-----------------------------|-------------------------|
| <b>Document Title:</b>      | SIM500W AT Commands Set |
| <b>Version:</b>             | 1.00                    |
| <b>Date:</b>                | 2009-06-26              |
| <b>Status:</b>              | Release                 |
| <b>Document Control ID:</b> | SIM500W_ATC_V1.00       |

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## **1 Introduction**

### **1.1 Scope of the document**

This document presents the AT Command Set for SIMCOM cellular engine SIM500W.

### **1.2 Related documents**

You can visit the SIMCOM Website using the following link:

<http://www.sim.com>

### 1.3 Conventions and abbreviations

In this document, the GSM engines are referred to as following term:

- 1) ME (Mobile Equipment);
- 2) MS (Mobile Station);
- 3) TA (Terminal Adapter);
- 4) DCE (Data Communication Equipment) or facsimile DCE(FAX modem, FAX board);

In application, controlling device controls the GSM engine by sending AT Command via its serial interface. The controlling device at the other end of the serial line is referred to as following term:

- 1) TE (Terminal Equipment);
- 2) DTE (Data Terminal Equipment) or plainly “the application” which is running on an embedded system;

### 1.4 AT Command syntax

The "AT" or "at" prefix must be set at the beginning of each Command line. To terminate a Command line enter <CR>.

Commands are usually followed by a response that includes.”<CR><LF><response><CR><LF>” Throughout this document, only the responses are presented, <CR><LF> are omitted intentionally.

The AT Command set implemented by SIM500W is a combination of GSM07.05, GSM07.07 and ITU-T recommendation V.25ter and the AT commands developed by SIMCOM.

**Note: Only enter AT Command through serial port after SIM500W is power on and Unsolicited Result Code “RDY” is received from serial port. And if unsolicited result code ”+CPIN: NOT INSERTED” returned it indicates SIM card isn’t present. If autobauding is enabled, the Unsolicited Result Codes “RDY” and so on are not indicated when you start up the ME**

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

#### 1.4.1 Basic syntax

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

### 1.4.2 S Parameter syntax

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

### 1.4.3 Extended Syntax

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

Table 1: Types of AT commands and responses

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

### 1.4.4 Combining AT commands on the same Command line

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

The Command line buffer can accept a maximum of 256 characters. If the characters entered exceeded this number then none of the Command will executed and TA will return “**ERROR**”.

### 1.4.5 Entering successive AT commands on separate lines

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

## 1.5 Supported character sets

The SIM500W AT Command interface defaults to the **IRA** character set. The SIM500W supports the following character sets:

- GSM format
- UCS2

- HEX
- IRA
- PCCP473
- UCS2\_0x81
- 8859\_1

The character set can be set and interrogated using the “**AT+CSCS**” Command (GSM 07.07). The character set is defined in GSM specification 07.05.

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

## 1.6 Flow control

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

There are basically two approaches to achieve data flow control: software flow control and hardware flow control. SIM500W support both two kinds of flow control. In Multiplex mode, it is recommended to use the hardware flow control.

### 1.6.1 Software flow control (XON/XOFF flow control)

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

The default flow control approach of SIM500W is hardware flow control (RTS/CTS flow control), to enable software flow control in the DTE interface and within GSM engine, type the following AT Command:

**AT+IFC=1, 1**

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

Ensure that any communications software package (e.g. ProComm Plus, Hyper terminal or WinFax Pro) uses software flow control.

#### **NOTE:**

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

### 1.6.2 Hardware flow control (RTS/CTS flow control)

Hardware flow control achieves the data flow control by controlling the RTS/CTS line. When the data transfer should be suspended, the CTS line is set inactive until the transfer from the receiving

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buffer has completed. When the receiving buffer is ok to receive more data, CTS goes active once again.

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

## 2 AT Commands According to V.25TER

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

### 2.1 Overview of AT Commands According to V.25TER

| Command | Description  |
|---------|--|
| A/      | RE-ISSUES LAST AT COMMAND GIVEN  |
| ATA     | ANSWER AN INCOMING CALL  |
| ATD     | MOBILE ORIGINATED CALL TO DIAL A NUMBER  |
| ATDL    | REDIAL LAST TELEPHONE NUMBER USED  |
| ATE     | SET COMMAND ECHO MODE  |
| ATH     | DISCONNECT EXISTING CONNECTION   |
| ATI     | DISPLAY PRODUCT IDENTIFICATION INFORMATION   |
| ATL     | SET MONITOR SPEAKER LOUDNESS   |
| ATM     | SET MONITOR SPEAKER MODE   |
| +++     | SWITCH FROM DATA MODE OR PPP ONLINE MODE TO COMMAND MODE                                       |
| ATO     | SWITCH FROM COMMAND MODE TO DATA MODE  |
| ATP     | SELECT PULSE DIALLING  |
| ATQ     | SET RESULT CODE PRESENTATION MODE  |
| ATS0    | SET NUMBER OF RINGS BEFORE AUTOMATICALLY ANSWERING THE CALL                                    |
| ATS3    | SET COMMAND LINE TERMINATION CHARACTER   |
| ATS4    | SET RESPONSE FORMATTING CHARACTER  |
| ATS5    | SET COMMAND LINE EDITING CHARACTER   |
| ATS6    | SET PAUSE BEFORE BLIND DIALLING  |
| ATS7    | SET NUMBER OF SECONDS TO WAIT FOR CONNECTION COMPLETION  |
| ATS8    | SET NUMBER OF SECONDS TO WAIT WHEN COMMA DIAL MODIFIER ENCOUNTERED IN DIAL STRING OF D COMMAND |
| ATT     | SELECT TONE DIALING  |
| ATV     | TA RESPONSE FORMAT   |
| ATX     | SET CONNECT RESULT CODE FORMAT AND MONITOR CALL PROGRESS                                       |
| ATZ     | SET ALL CURRENT PARAMETERS TO USER DEFINED PROFILE   |



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|         |  |
|---------|--|
| AT&C    | SET DCD FUNCTION MODE                                  |
| AT&D    | SET DTR FUNCTION MODE                                  |
| AT+GMI  | REQUEST MANUFACTURER IDENTIFICATION                    |
| AT+GMM  | REQUEST TA MODEL IDENTIFICATION                        |
| AT+GMR  | REQUEST TA REVISION IDENTIFICATION OF SOFTWARE RELEASE |
| AT+GOI  | REQUEST GLOBAL OBJECT IDENTIFICATION                   |
| AT+GSN  | REQUEST TA SERIAL NUMBER IDENTIFICATION (IMEI)         |
| AT+ICF  | SET TE-TA CONTROL CHARACTER FRAMING                    |
| AT+IFC  | SET TE-TA LOCAL DATA FLOW CONTROL                      |
| AT+ILRR | SET TE-TA LOCAL DATA RATE REPORTING MODE               |
| AT+IPR  | SET TE-TA FIXED LOCAL RATE                             |

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

### 2.2.1 A/ Re-issues The Last Command Given

| A/ Re-issues The Last Command Given |  |
|-------------------------------------|--|
| Execution                           | Response   |
| Command                             | Re-issues the previous Command                                   |
| A/                                  | Note: It does not have to end with terminating character.        |
|                                     | Parameter  |
| Reference                           | <b>Note</b>  |
| V.25ter                             | This Command does not work when the serial multiplexer is active |

### 2.2.2 ATA Answer An Incoming Call

| ATA Answer An Incoming Call |
|-----------------------------|
|-----------------------------|

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|                                    |   |
|------------------------------------|---|
| Execution<br>Command<br><b>ATA</b> | <p>Response</p> <p>TA sends off-hook to the remote station.</p> <p>Note1: Any additional commands on the same Command line are ignored.</p> <p>Note2: This Command may be aborted generally by receiving a character during execution. The aborting is not possible during some states of connection establishment such as handshaking.</p> <p>Response in case of data call, if successfully connected<br/> <b>CONNECT&lt;text&gt;</b> TA switches to data mode.<br/> Note: <b>&lt;text&gt;</b> output only if <b>ATX&lt;value&gt;</b> parameter setting with the <b>&lt;value&gt;</b> &gt;0<br/> When TA returns to Command mode after call release<br/> <b>OK</b></p> <p>Response in case of voice call, if successfully connected<br/> <b>OK</b></p> <p>Response if no connection<br/> <b>NO CARRIER</b></p> <p>Parameter</p> |
| Reference<br>V.25ter               | <p>Note</p> <p>See also <b>ATX</b></p>  |

### 2.2.3 ATD Mobile Originated Call To Dial A Number

#### ATD Mobile Originated Call To Dial A Number

|  |   |
|--|---|
| Execution<br>Command<br><b>ATD&lt;n&gt;[&lt;mgsml&gt;]</b> | <p>Response</p> <p>This Command can be used to set up outgoing <i>voice, data or fax calls</i>. It also serves to control <i>supplementary services</i>.</p> <p>Note: This Command may be aborted generally by receiving an <b>ATH</b> Command or a character during execution. The aborting is not possible during some states of connection establishment such as handshaking.</p> <p>If no dial tone and (parameter setting <b>ATX2</b> or <b>ATX4</b>)<br/> <b>NO DIALTONE</b></p> <p>If busy and (parameter setting <b>ATX3</b> or <b>ATX4</b>)<br/> <b>BUSY</b></p> <p>If a connection cannot be established<br/> <b>NO CARRIER</b></p> <p>If connection successful and non-voice call.</p> |
|--|---|

|                      |  |
|----------------------|--|
|                      | <p><b>CONNECT&lt;text&gt;</b> TA switches to data mode.</p> <p>Note: &lt;text&gt; output only if <b>ATX&lt;value&gt;</b> parameter setting with the &lt;value&gt; &gt;0</p> <p>When TA returns to Command mode after call release</p> <p><b>OK</b></p> <p>If connection successful and voice call</p> <p><b>OK</b></p> <p>Parameter</p> <p>&lt;n&gt; string of dialing digits and optionally V.25ter modifiers<br/>dialing digits:<br/><b>0-9, *, #</b><br/>Following V.25ter modifiers are ignored:<br/><b>+, A, B, C,(comma), T, P, !, W, @</b></p> <p><b>Emergency call:</b></p> <p>&lt;n&gt; Standardized emergency number 112(no SIM needed)</p> <p>&lt;mgs&gt; string of <b>GSM</b> modifiers:</p> <p><b>I</b> Activates <b>CLIR</b> (Disables presentation of own number to called party)</p> <p><b>i</b> Deactivates <b>CLIR</b> (Enable presentation of own number to called party)</p> <p><b>G</b> Activates Closed User Group invocation for this call only</p> <p><b>g</b> Deactivates Closed User Group invocation for this call only</p> <p>&lt;;&gt; only required to set up voice call , return to Command state</p> |
| Reference<br>V.25ter | <p>Note</p> <p><b>I</b> Parameter “I” and “i” only if no *# code is within the dial string</p> <p><b>I</b> &lt;n&gt; is default for last number that can be dialed by <b>ATDL</b></p> <p><b>I</b> *# codes sent with <b>ATD</b> are treated as voice calls. Therefore, the Command must be terminated with a semicolon “;”</p> <p><b>I</b> See <b>ATX</b> Command for setting result code and call monitoring parameters.</p> <p>Responses returned after dialing with <b>ATD</b></p> <p><b>I</b> For voice call two different responses mode can be determined. <b>TA</b> returns “<b>OK</b>” immediately either after dialing was completed or after the call is established. The setting is controlled by <b>AT+COLP</b>. Factory default is <b>AT+COLP=0</b>, this cause the <b>TA</b> returns “<b>OK</b>” immediately after dialing was completed, otherwise <b>TA</b> will returns “<b>OK</b>”,</p>  |

|  |  |
|--|--|
|  | <p>“<b>BUSY</b>”, “<b>NO DIAL TONE</b>”, “<b>NO CARRIER</b>”.</p> <p>Using <b>ATD</b> during an active voice call:</p> <ul style="list-style-type: none"> <li>! When a user originates a second voice call while there is already an active voice call, the first call will be automatically put on hold.</li> <li>! The current states of all calls can be easily checked at any time by using the <b>AT+CLCC</b> Command.</li> </ul> |
|--|--|

## 2.2.4 ATDL Redial Last Telephone Number Used

| ATDL Redial Last Telephone Number Used      |   |
|---|---|
| <p>Execution Command</p> <p><b>ATDL</b></p> | <p>Response</p> <p>This Command redials the last voice and data call number used.</p> <p>Note: This Command may be aborted generally by receiving an <b>ATH</b> Command or a character during execution. The aborting is not possible during some states of connection establishment such as handshaking.</p> <p>If error is related to <b>ME</b> functionality<br/> <b>+CME ERROR: &lt;err&gt;</b></p> <p>If no dial tone and (parameter setting <b>ATX2</b> or <b>ATX4</b>)<br/> <b>NO DIALTONE</b></p> <p>If busy and (parameter setting <b>ATX3</b> or <b>ATX4</b>)<br/> <b>BUSY</b></p> <p>If a connection cannot be established<br/> <b>NO CARRIER</b></p> <p>If connection successful and non-voice call.<br/> <b>CONNECT&lt;text&gt; TA</b> switches to data mode.<br/>         Note: <b>&lt;text&gt;</b> output only if <b>ATX&lt;value&gt;</b> parameter setting with the <b>&lt;value&gt; &gt;0</b></p> <p>When <b>TA</b> returns to Command mode after call release<br/> <b>OK</b></p> <p>If successfully connected and voice call<br/> <b>OK</b></p> |
| <p>Reference</p> <p>V.25ter</p>             | <p>Note</p> <ul style="list-style-type: none"> <li>! See <b>ATX</b> Command for setting result code and call monitoring parameters.</li> </ul>  |

## 2.2.5 ATE Set Command Echo Mode

| ATE Set Command Echo Mode                       |   |                       |
|---|---|-----------------------|
| Execution<br>Command<br><b>ATE&lt;value&gt;</b> | Response  |                       |
|   | This setting determines whether or not the TA echoes characters received from TE during Command state.<br><b>OK</b> |                       |
|   | Parameter   |                       |
|   | <b>&lt;value&gt;</b>  | 0      Echo mode off  |
|   |   | <u>1</u> Echo mode on |
| Reference<br>V.25ter                            | Note  |                       |

## 2.2.6 ATH Disconnect Existing Connection

| ATH Disconnect Existing Connection |   |
|------------------------------------|---|
| Execution<br>Command<br>ATH[n]     | Response<br><br>Disconnect existing call by local TE from Command line and terminate call<br><b>OK</b><br><br>Note: OK is issued after circuit 109(DCD) is turned off, if it was previously on. |
|                                    | Parameter<br><br><b>&lt;n&gt;</b> 0      disconnect from line and terminate call  |
| Reference<br>V.25ter               | Note  |

## 2.2.7 ATI Display Product Identification Information

| ATI Display Product Identification Information |  |
|--|--|
| Execution<br>Command<br><b>ATI</b>             | <p>Response</p> <p>TA issues product information text</p> <p>Example:</p> <p><b>SIMCOM_Ltd</b><br/> <b>SIMCOM_SIM500W</b><br/> <b>Revision:24B03SIM500WM32_SST</b></p> <p><b>OK</b></p> <p>Parameter</p> |

|                      |      |
|----------------------|------|
| Reference<br>V.25ter | Note |
|----------------------|------|

### 2.2.8 ATL Set Monitor Speaker Loudness

| ATL Set Monitor Speaker Loudness                |   |                         |
|---|---|-------------------------|
| Execution<br>Command<br><b>ATL&lt;value&gt;</b> | Response<br><b>OK</b>   |                         |
|   | Parameter   |                         |
|   | <b>&lt;value&gt;</b>  | 0 low speaker volume    |
|   |   | 1 low speaker volume    |
|   |   | 2 medium speaker volume |
|   | 3 high speaker volume   |                         |
| Reference<br>V.25ter                            | Note<br><b>I</b> The two commands ATL and ATM are implemented only for V.25 compatibility reasons and have no effect. |                         |

### 2.2.9 ATM Set Monitor Speaker Mode

| ATM Set Monitor Speaker Mode                 |   |   |  |
|--|---|---|--|
| Execution Command<br><b>ATM&lt;value&gt;</b> | Response<br><b>OK</b>   |   |  |
|  | Parameter   |   |  |
|  | <b>&lt;value&gt;</b>  | 0 | speaker is always off  |
|  |   | 1 | speaker on until TA inform TE that carrier has been detected |
|  |   | 2 | speaker is always on when TA is off-hook                     |
| Reference<br>V.25ter                         | Note<br><b>I</b> The two commands ATL and ATM are implemented only for V.25 compatibility reasons and have no effect. |   |  |

### 2.2.10 +++ Switch From Data Mode Or PPP Online Mode To Command Mode

|   |
|---|
| <b>+++ Switch From Data Mode Or PPP Online Mode To Command Mode</b> |
|---|

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|                             |   |
|-----------------------------|---|
| Execution<br>Command<br>+++ | <p>Response</p> <p>This Command is only available during a CSD call. The +++ character sequence causes the TA to cancel the data flow over the AT interface and switch to Command mode. This allows you to enter AT Command while maintaining the data connection to the remote server.</p> <p><b>OK</b></p> <p>To prevent the +++ escape sequence from being misinterpreted as data, it should comply to following sequence:</p> <ol style="list-style-type: none"> <li>1. No characters entered for T1 time (0.5 seconds)</li> <li>2. “+++” characters entered with no characters in between</li> <li>3. No characters entered for T1 timer (0.5 seconds)</li> <li>4. Switch to Command mode, otherwise go to step 1.</li> </ol> <p>Parameter</p> |
| Reference<br>V.25ter        | <p>Note</p> <p><b>I</b> To return from Command mode back to data mode: Enter <b>ATO</b>.</p>  |

### 2.2.11 ATO Switch From Command Mode To Data Mode

| ATO Switch From Command Mode To Data Mode |   |
|---|---|
| Execution<br>Command<br>ATO[n]            | <p>Response</p> <p>TA resumes the connection and switches back from Command mode to data mode.</p> <p><b>ERROR</b></p> <p>If connection is not successfully resumed</p> <p><b>NO CARRIER</b></p> <p>else</p> <p>TA returns to data mode from Command mode <b>CONNECT</b> &lt;text&gt; Note: &lt;text&gt; only if parameter setting X&gt;0</p> <p>Parameter</p> <p>&lt;n&gt;            0            switch from Command mode to data mode</p> |
| Reference<br>V.25ter                      | <p>Note</p>   |

### 2.2.12 ATP Select Pulse Dialing

| ATP Select Pulse Dialing    |   |
|-----------------------------|---|
| Execution<br>Command<br>ATP | <p>Response</p> <p><b>OK</b></p> <p>Parameter</p> |
| Reference                   | <p>Note</p>                                       |

|         |                           |
|---------|---------------------------|
| V.25ter | <b>I</b> No effect in GSM |
|---------|---------------------------|

### 2.2.13 ATQ Set Result Code Presentation Mode

| ATQ Set Result Code Presentation Mode    |  |   |          |                          |  |   |   |
|--|--|---|----------|--------------------------|--|---|---|
| Execution Command<br><b>ATQ&lt;n&gt;</b> | <p>Response</p> <p>This parameter setting determines whether or not the TA transmits any result code to the TE. Information text transmitted in response is not affected by this setting.</p> <p>    If &lt;n&gt;=0:</p> <p><b>OK</b></p> <p>    If &lt;n&gt;=1:</p> <p>(none)</p> <p>Parameter</p> <table><tr><td>&lt;n&gt;</td><td><u>0</u></td><td>TA transmits result code</td></tr><tr><td></td><td>1</td><td>Result codes are suppressed and not transmitted</td></tr></table> | <n>   | <u>0</u> | TA transmits result code |  | 1 | Result codes are suppressed and not transmitted |
| <n>                                      | <u>0</u>   | TA transmits result code                        |          |                          |  |   |   |
|  | 1  | Result codes are suppressed and not transmitted |          |                          |  |   |   |
| Reference<br>V.25ter                     | Note   |   |          |                          |  |   |   |

### 2.2.14 ATS0 Set Number Of Rings Before Automatically Answering The Call

| ATS0 Set Number Of Rings Before Automatically Answering The Call |  |
|--|--|
| Read Command<br>ATS0?  | Response<br><br><n><br><br>OK  |
| Write Command<br>ATS0=<n>  | Response<br>This parameter setting determines the number of rings before auto-answer.<br>OK  |
|  | ERROR  |
|  | Parameter<br><br><n>            0            automatic answering is disable<br>1-255    enable automatic answering on the ring number<br>specified |
| Reference<br>V.25ter   | Note<br>I    If <n> is set too high, the calling party may hang up before the call can be answered automatically.                                  |

### 2.2.15 ATS3 Set Command Line Termination Character

| ATS3 Set Command Line Termination Character |                                  |
|---|----------------------------------|
| Read Command<br><b>ATS3?</b>                | <p>Response</p> <p>&lt;n&gt;</p> |



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|  |   |
|--|---|
|  | <b>OK</b>   |
| Write Command<br><b>ATS3=&lt;n&gt;</b> | <p>Response</p> <p>This parameter setting determines the character recognized by TA to terminate an incoming Command line. The TA also returns this character in output.</p> <p><b>OK</b></p> <p><b>ERROR</b></p> <p>Parameter</p> <p><b>&lt;n&gt;</b>      0-<u>13</u>-127    Command line termination character</p> |
| Reference<br>V.25ter                   | <p>Note</p> <p><b>I</b>    Default 13 = CR.</p>   |

### 2.2.16 ATS4 Set Response Formatting Character

| <b>ATS4 Set Response Formatting Character</b> |  |
|---|--|
| Read Command<br><b>ATS4?</b>                  | <p>Response</p> <p><b>&lt;n&gt;</b></p> <p><b>OK</b></p>   |
| Write Command<br><b>ATS4=&lt;n&gt;</b>        | <p>Response</p> <p>This parameter setting determines the character generated by the TA for result code and information text.</p> <p><b>OK</b></p> <p><b>ERROR</b></p> <p>Parameter</p> <p><b>&lt;n&gt;</b>      0-<u>10</u>-127    response formatting character</p> |
| Reference<br>V.25ter                          | <p>Note</p> <p><b>I</b>    Default 10 = LF.</p>  |

### 2.2.17 ATS5 Set Command Line Editing Character

| <b>ATS5 Set Command Line Editing Character</b> |  |
|--|--|
| Read Command<br><b>ATS5?</b>                   | <p>Response</p> <p><b>&lt;n&gt;</b></p> <p><b>OK</b></p> |

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|  |   |
|--|---|
| Write Command<br><b>ATS5=&lt;n&gt;</b> | Response<br>This parameter setting determines the character recognized by TA as a request to delete from the Command line the immediately preceding character.<br><b>OK</b><br><br><b>ERROR</b> |
|  | Parameter<br><n>            0- <u>8</u> -127      response formatting character   |
| Reference<br>V.25ter                   | Note<br><b>I</b> Default 8 = Backspace.   |

**2.2.18 ATS6 Set Pause Before Blind Dialing**

| <b>ATS6 Set Pause Before Blind Dialing</b> |  |
|--|--|
| Read Command<br><b>ATS6?</b>               | Response<br><n><br><br><b>OK</b>   |
| Write Command<br><b>ATS6=&lt;n&gt;</b>     | Response<br><b>OK</b><br><br><b>ERROR</b>  |
|  | Parameter<br><n>            0- <u>2</u> -10 number of seconds to wait before blind dialing |
| Reference<br>V.25ter                       | Note<br><b>I</b> No effect for GSM   |

**2.2.19 ATS7 Set Number Of Seconds To Wait For Connection Completion**

| <b>ATS7 Set Number Of Seconds To Wait For Connection Completion</b> |   |
|---|---|
| Read Command<br><b>ATS7?</b>  | Response<br><n><br><br><b>OK</b>  |
| Write Command<br><b>ATS7=&lt;n&gt;</b>                              | Response<br>This parameter setting determines the amount of time to wait for the connection completion in case of answering or originating a call.<br><b>OK</b><br><br><b>ERROR</b> |
|   | Parameter<br><n>            1- <u>60</u> -255    number of seconds to wait for connection completion  |

## SIM500W AT Commands Set

|                      |  |
|----------------------|--|
| Reference<br>V.25ter | Note   |
|                      | <p>! If called party has specified a high value for <b>ATS0=&lt;n&gt;</b>, call setup may fail.</p> <p>! The correlation between <b>ATS7</b> and <b>ATS0</b> is important<br/>Example: Call may fail if <b>ATS7=30</b> and <b>ATS0=20</b>.</p> <p>! <b>ATS7</b> is only applicable to data call.</p> |

### 2.2.20 ATS8 Set Number Of Second To Wait For Comma Dial Modifier Encountered In Dial String Of D Command

#### ATS8 Set Number Of Second To Wait For Comma Dial Modifier Encountered In Dial String Of D Command

|  |   |
|--|---|
| Read Command<br><b>ATS8?</b>           | Response<br><b>&lt;n&gt;</b><br><br><b>OK</b>   |
| Write Command<br><b>ATS8=&lt;n&gt;</b> | Response<br><b>OK</b><br><br><b>ERROR</b>   |
|  | Parameter<br><b>&lt;n&gt;</b> 0        no pause when comma encountered in dial string<br>1-255    number of seconds to wait |
| Reference<br>V.25ter                   | Note<br>! No effect for GSM   |

### 2.2.21 ATT Select Tone Dialing

#### ATT Select Tone Dialing

|                                 |                            |
|---------------------------------|----------------------------|
| Execution Command<br><b>ATT</b> | Response<br><b>OK</b>      |
|                                 | Parameter                  |
| Reference<br>V.25ter            | Note<br>! No effect in GSM |

### 2.2.22 ATV TA Response Format

#### ATV TA Response Format

|  |  |
|--|--|
| Execution Command<br><b>ATV&lt;value&gt;</b> | Response<br>This parameter setting determines the contents of the header and trailer transmitted with result codes and information responses.<br>When <b>&lt;value&gt;=0</b><br><b>0</b><br>When <b>&lt;value&gt;=1</b><br><b>OK</b> |
|--|--|

## SIM500W AT Commands Set

|                      |  |
|----------------------|--|
|                      | <p>Parameter</p> <p><b>&lt;value&gt;</b>      0      Information response: &lt;text&gt;&lt;CR&gt;&lt;LF&gt;<br/>Short result code format: &lt;numeric code&gt;&lt;CR&gt;</p> <p>                  <u>1</u>      Information response: &lt;CR&gt;&lt;LF&gt;&lt;text&gt;&lt;CR&gt;&lt;LF&gt;<br/>Long result code format: &lt;CR&gt;&lt;LF&gt;&lt;verbose code&gt;&lt;CR&gt;&lt;LF&gt;</p> <p>The result codes, their numeric equivalents and brief descriptions of the use of each are listed in the following table.</p> |
| Reference<br>V.25ter | Note   |

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

### 2.2.23 ATX Set CONNECT Result Code Format And Monitor Call Progress

#### ATX Set CONNECT Result Code Format And Monitor Call Progress

## SIM500W AT Commands Set

|  |   |   |   |  |  |   |  |  |   |   |  |   |   |  |          |  |
|--|---|---|---|--|--|---|--|--|---|---|--|---|---|--|----------|--|
| Execution Command<br><b>ATX&lt;value&gt;</b> | <div>Response</div> <div>This parameter setting determines whether or not the TA detected the presence of dial tone and busy signal and whether or not TA transmits particular result codes</div> <div><b>OK</b></div> <div><b>ERROR</b></div> <div><div>Parameter</div><table><tr><td><b>&lt;value&gt;</b></td><td>0</td><td><b>CONNECT</b> result code only returned, dial tone and busy detection are both disabled</td></tr><tr><td></td><td>1</td><td><b>CONNECT&lt;text&gt;</b> result code only returned, dial tone and busy detection are both disabled</td></tr><tr><td></td><td>2</td><td><b>CONNECT&lt;text&gt;</b> result code returned, dial tone detection is enabled, busy detection is disabled</td></tr><tr><td></td><td>3</td><td><b>CONNECT&lt;text&gt;</b> result code returned, dial tone detection is disabled, busy detection is enabled</td></tr><tr><td></td><td><u>4</u></td><td><b>CONNECT&lt;text&gt;</b> result code returned, dial tone and busy detection are both enabled</td></tr></table></div> | <b>&lt;value&gt;</b>  | 0 | <b>CONNECT</b> result code only returned, dial tone and busy detection are both disabled |  | 1 | <b>CONNECT&lt;text&gt;</b> result code only returned, dial tone and busy detection are both disabled |  | 2 | <b>CONNECT&lt;text&gt;</b> result code returned, dial tone detection is enabled, busy detection is disabled |  | 3 | <b>CONNECT&lt;text&gt;</b> result code returned, dial tone detection is disabled, busy detection is enabled |  | <u>4</u> | <b>CONNECT&lt;text&gt;</b> result code returned, dial tone and busy detection are both enabled |
| <b>&lt;value&gt;</b>                         | 0   | <b>CONNECT</b> result code only returned, dial tone and busy detection are both disabled                    |   |  |  |   |  |  |   |   |  |   |   |  |          |  |
|  | 1   | <b>CONNECT&lt;text&gt;</b> result code only returned, dial tone and busy detection are both disabled        |   |  |  |   |  |  |   |   |  |   |   |  |          |  |
|  | 2   | <b>CONNECT&lt;text&gt;</b> result code returned, dial tone detection is enabled, busy detection is disabled |   |  |  |   |  |  |   |   |  |   |   |  |          |  |
|  | 3   | <b>CONNECT&lt;text&gt;</b> result code returned, dial tone detection is disabled, busy detection is enabled |   |  |  |   |  |  |   |   |  |   |   |  |          |  |
|  | <u>4</u>  | <b>CONNECT&lt;text&gt;</b> result code returned, dial tone and busy detection are both enabled              |   |  |  |   |  |  |   |   |  |   |   |  |          |  |
| Reference<br>V.25ter                         | <div>Note</div>   |   |   |  |  |   |  |  |   |   |  |   |   |  |          |  |

### 2.2.24 ATZ Set All Current Parameters To User Defined Profile

#### ATZ Set All Current Parameters To User Defined Profile

|  |  |
|--|--|
| Execution Command<br><b>ATZ[&lt;value&gt;]</b> | <div>Response</div> <div>TA sets all current parameters to the user defined profile.</div> <div><b>OK</b></div> <div><b>ERROR</b></div> <div>Parameter</div> <div><b>&lt;value&gt;</b> <u>0</u>     Reset to profile number 0</div>  |
| Reference<br>V.25ter                           | <div>Note</div> <div><b>I</b>     The user defined profile is stored in non volatile memory;</div> <div><b>I</b>     If the user profile is not valid, it will default to the factory default profile;</div> <div><b>I</b>     Any additional commands on the same Command line are ignored.</div> |

### 2.2.25 AT&C Set DCD Function Mode

#### AT&C Set DCD Function Mode

## SIM500W AT Commands Set

|  |  |  |          |                              |  |                 |  |
|--|--|--|----------|------------------------------|--|-----------------|--|
| Execution<br>Command<br><b>AT&amp;C[&lt;value&gt;]</b> | <div>Response</div> <div>This parameter determines how the state of circuit 109(<b>DCD</b>) relates to the detection of received line signal from the distant end.</div> <div><b>OK</b></div> <div><b>ERROR</b></div> <div>Parameter</div> <div><table><tr><td><b>&lt;value&gt;</b></td><td><b>0</b></td><td><b>DCD</b> line is always ON</td></tr><tr><td></td><td><b><u>1</u></b></td><td><b>DCD</b> line is ON only in the presence of data carrier</td></tr></table></div> | <b>&lt;value&gt;</b>                                       | <b>0</b> | <b>DCD</b> line is always ON |  | <b><u>1</u></b> | <b>DCD</b> line is ON only in the presence of data carrier |
| <b>&lt;value&gt;</b>                                   | <b>0</b>   | <b>DCD</b> line is always ON                               |          |                              |  |                 |  |
|  | <b><u>1</u></b>  | <b>DCD</b> line is ON only in the presence of data carrier |          |                              |  |                 |  |
| Reference<br>V.25ter                                   | <div>Note</div>  |  |          |                              |  |                 |  |

### 2.2.26 AT&D Set DTR Function Mode

| AT&D Set DTR Function Mode                             |   |   |   |                          |  |          |  |  |   |   |
|--|---|---|---|--------------------------|--|----------|--|--|---|---|
| Execution<br>Command<br><b>AT&amp;D[&lt;value&gt;]</b> | <p>Response</p> <p>This parameter determines how the TA responds when circuit 108/2(DTR) is changed from the ON to the OFF condition during data mode.</p> <p><b>OK</b></p> <p><b>ERROR</b></p> <p>Parameter</p> <table><tr><td><b>&lt;value&gt;</b></td><td>0</td><td>TA ignores status on DTR</td></tr><tr><td></td><td><u>1</u></td><td>ON-&gt;OFF on DTR: Change to Command mode with remaining the connected call</td></tr><tr><td></td><td>2</td><td>ON-&gt;OFF on DTR: Disconnect call, change to Command mode. During state DTR = OFF is auto-answer off.</td></tr></table> | <b>&lt;value&gt;</b>  | 0 | TA ignores status on DTR |  | <u>1</u> | ON->OFF on DTR: Change to Command mode with remaining the connected call |  | 2 | ON->OFF on DTR: Disconnect call, change to Command mode. During state DTR = OFF is auto-answer off. |
| <b>&lt;value&gt;</b>                                   | 0   | TA ignores status on DTR  |   |                          |  |          |  |  |   |   |
|  | <u>1</u>  | ON->OFF on DTR: Change to Command mode with remaining the connected call                            |   |                          |  |          |  |  |   |   |
|  | 2   | ON->OFF on DTR: Disconnect call, change to Command mode. During state DTR = OFF is auto-answer off. |   |                          |  |          |  |  |   |   |
| Reference<br>V.25ter                                   | Note  |   |   |                          |  |          |  |  |   |   |

### 2.2.27 AT+GMI Request Manufacture Identification

| AT+GMI Request Manufacture Identification |   |
|---|---|
| Test Command<br><b>AT+GMI=?</b>           | <p>Response</p> <p><b>OK</b></p>  |
|   | Parameter   |
| Execution<br>Command<br><b>AT+GMI</b>     | <p>TA reports one or more lines of information text which permit the user to identify the manufacturer.</p> <p><b>SIMCOM_Ltd</b></p> <p><b>OK</b></p> |

## SIM500W AT Commands Set

|                      |           |
|----------------------|-----------|
|                      | Parameter |
| Reference<br>V.25ter | Note      |

### 2.2.28 AT+GMM Request TA Model Identification

| AT+GMM Request TA Model Identification |   |
|--|---|
| Test Command<br><b>AT+GMM=?</b>        | Response<br><b>OK</b>   |
|  | Parameter   |
| Execution Command<br><b>AT+GMM</b>     | TA reports one or more lines of information text which permit the user to identify the specific model of device.<br><b>SIMCOM_SIM500W</b> |
|  | <b>OK</b>   |
|  | Parameter   |
| Reference<br>V.25ter                   | Note  |

### 2.2.29 AT+GMR Request TA Revision Identification Of Software Release

| AT+GMR Request TA Revision Identification Of Software Release |   |
|---|---|
| Test Command<br><b>AT+GMR=?</b>                               | Response<br><b>OK</b>   |
|   | Parameter   |
| Execution Command<br><b>AT+GMR</b>                            | TA reports one or more lines of information text which permit the user to identify the revision of software release.<br><b>Revision: &lt;revision&gt;</b> |
|   | <b>OK</b>   |
|   | Parameter<br><b>&lt;revision&gt;</b> revision of software release   |
| Reference<br>V.25ter  | Note  |

### 2.2.30 AT+GOI Request Global Object Identification

| AT+GOI Request Global Object Identification |  |
|---|--|
|---|--|

**SIM500W AT Commands Set**

|                                    |  |
|------------------------------------|--|
| Test Command<br><b>AT+GOI=?</b>    | Response<br><b>OK</b>  |
|                                    | Parameter  |
| Execution Command<br><b>AT+GOI</b> | Response<br>TA reports one or more lines of information text which permit the user to identify the device, based on the ISO system for registering unique object identifiers.<br><b>&lt;Object Id&gt;</b><br><br><b>OK</b> |
|                                    | Parameter<br><b>&lt;Object Id&gt;</b> identifier of device type<br>see X.208, 209 for the format of <b>&lt;Object Id&gt;</b>   |
| Reference<br>V.25ter               | <b>Note</b><br><b>I</b> For example in SIM500W wireless module, string “SIM500W” is displayed.   |

**2.2.31 AT+GSN Request TA Serial Number Identification (IMEI)**

| <b>AT+GSN Request TA Serial Number Identification(IMEI)</b> |  |
|---|--|
| Test Command<br><b>AT+GSN=?</b>                             | Response<br><b>OK</b>  |
|   | Parameter  |
| Execution Command<br><b>AT+GSN</b>                          | Response<br>TA reports the IMEI (international mobile equipment identifier) number in information text which permit the user to identify the individual ME device.<br><b>&lt;sn&gt;</b><br><br><b>OK</b> |
|   | Parameter<br><b>&lt;sn&gt;</b> IMEI of the telephone(International Mobile station Equipment Identity)  |
| Reference<br>V.25ter  | <b>Note</b><br><b>I</b> The serial number (IMEI) is varied by individual ME device.  |

**2.2.32 AT+ICF Set TE-TA Control Character Framing**

| <b>AT+ICF Set TE-TA Control Character Framing</b> |
|---|
|---|



## SIM500W AT Commands Set

|  |   |                        |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|--|---|------------------------|------------------------|------------------------|--|---|------------------------|--|----------|------------------------|--|---|------------------------|--|---|------------------------|--|---|------------------------|-----------------------|---|-----|--|---|------|--|---|----------|--|----------|-----------|
| Test Command<br><b>AT+ICF=?</b>                                | Response<br><b>+ICF:</b> (list of supported <b>&lt;format&gt;</b> s), (list of supported <b>&lt;parity&gt;</b> s)<br><br><b>OK</b>  |                        |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|  | Parameter<br>See Write Command.   |                        |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|  |   |                        |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
| Read Command<br><b>AT+ICF?</b>                                 | Response<br><b>+ICF:</b> <b>&lt;format&gt;</b> , <b>&lt;parity&gt;</b><br><br><b>OK</b>   |                        |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|  | Parameter<br>See Write Command.   |                        |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|  |   |                        |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
| Write Command<br><b>AT+ICF=[&lt;format&gt;,&lt;parity&gt;]</b> | Response<br>This parameter setting determines the serial interface character framing format and parity received by TA from TE.<br><b>OK</b>   |                        |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|  | Parameters<br><table><tr><td><b>&lt;format&gt;</b></td><td>1</td><td>8 data 0 parity 2 stop</td></tr><tr><td></td><td>2</td><td>8 data 1 parity 1 stop</td></tr><tr><td></td><td><u>3</u></td><td>8 data 0 parity 1 stop</td></tr><tr><td></td><td>4</td><td>7 data 0 parity 2 stop</td></tr><tr><td></td><td>5</td><td>7 data 1 parity 1 stop</td></tr><tr><td></td><td>6</td><td>7 data 0 parity 1 stop</td></tr><tr><td><b>&lt;parity&gt;</b></td><td>0</td><td>odd</td></tr><tr><td></td><td>1</td><td>even</td></tr><tr><td></td><td>2</td><td>mark (1)</td></tr><tr><td></td><td><u>3</u></td><td>space (0)</td></tr></table> | <b>&lt;format&gt;</b>  | 1                      | 8 data 0 parity 2 stop |  | 2 | 8 data 1 parity 1 stop |  | <u>3</u> | 8 data 0 parity 1 stop |  | 4 | 7 data 0 parity 2 stop |  | 5 | 7 data 1 parity 1 stop |  | 6 | 7 data 0 parity 1 stop | <b>&lt;parity&gt;</b> | 0 | odd |  | 1 | even |  | 2 | mark (1) |  | <u>3</u> | space (0) |
|  | <b>&lt;format&gt;</b>   | 1                      | 8 data 0 parity 2 stop |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|  | 2   | 8 data 1 parity 1 stop |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|  | <u>3</u>  | 8 data 0 parity 1 stop |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|  | 4   | 7 data 0 parity 2 stop |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|  | 5   | 7 data 1 parity 1 stop |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|  | 6   | 7 data 0 parity 1 stop |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
| <b>&lt;parity&gt;</b>  | 0   | odd                    |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|  | 1   | even                   |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|  | 2   | mark (1)               |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|  | <u>3</u>  | space (0)              |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
|  |   |                        |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |
| Reference<br>V.25ter   | Note<br><b>I</b> The Command is applied for Command state;<br><b>I</b> The <b>&lt;parity&gt;</b> field is ignored if the <b>&lt;format&gt;</b> field specifies no parity.   |                        |                        |                        |  |   |                        |  |          |                        |  |   |                        |  |   |                        |  |   |                        |                       |   |     |  |   |      |  |   |          |  |          |           |

### 2.2.33 AT+IFC Set TE-TA Local Data Flow Control

| AT+IFC Set TE-TA Local Data Flow Control |   |
|--|---|
| Test Command<br><b>AT+IFC=?</b>          | Response  |
|  | <b>+IFC:</b> (list of supported <b>&lt;dce_by_dte&gt;</b> s), (list of supported <b>&lt;dte_by_dce&gt;</b> s) |
|  | <b>OK</b>   |
|  | Parameter   |
|  | See Write Command.  |

**SIM500W AT Commands Set**

|  |   |
|--|---|
| Read Command<br><b>AT+IFC?</b>   | Response<br><b>+IFC: &lt;dce_by_dte&gt;,&lt;dte_by_dce&gt;</b><br><br><b>OK</b><br><br>Parameter<br>See Write Command.  |
| Write Command<br><b>AT+IFC=[&lt;dce_by_dte&gt;[,&lt;dte_by_dce&gt;]]</b> | Response<br>This parameter setting determines the data flow control on the serial interface for data mode.<br><b>OK</b><br><br>Parameters<br><b>&lt;dce_by_dte&gt;</b> specifies the method will be used by TE at receive of data from TA<br>0 None<br>1 XON/XOFF, don't pass characters on to data stack<br><u>2</u> RTS flow control<br>3 XON/XOFF, pass characters on to data stack<br><b>&lt;dte_by_dce&gt;</b> specifies the method will be used by TA at receive of data from TE<br>0 None<br>1 XON/XOFF<br><u>2</u> CTS flow control |
| Reference<br>V.25ter   | <b>Note</b><br><b>I</b> This flow control is applied for data mode;   |

**2.2.34 AT+ILRR Set TE-TA Local Data Rate Reporting Mode**

| <b>AT+ILRR Set TE-TA Local Data Rate Reporting Mode</b> |  |
|---|--|
| Test Command<br><b>AT+ILRR=?</b>                        | Response<br><b>+ILRR: (list of supported &lt;value&gt;s)</b><br><br><b>OK</b><br><br>Parameter<br>See Write Command. |
| Read Command<br><b>AT+ILRR?</b>                         | Response<br><b>+ILRR: &lt;value&gt;</b><br><br><b>OK</b><br><br>Parameter<br>See Write Command.                      |

## SIM500W AT Commands Set

|   |  |
|---|--|
| Write Command<br><b>AT+ILRR=[&lt;value&gt;]</b> | Response<br>This parameter setting determines whether or not an intermediate result code of local rate is reported at connection establishment. The rate is applied after the final result code of the connection is transmitted to TE.<br><b>OK</b><br><br>Parameter<br><value>     0     Disables reporting of local port rate<br>1     Enables reporting of local port rate                 |
| Reference<br>V.25ter                            | Note<br><b>I</b> If the <value> is set to 1, the following intermediate result will comes out on connection to indicates the port rate settings<br><b>+ILRR:&lt;rate&gt;</b><br><rate>   port rate setting on call connection in Baud per second<br>0(Autobauding ,see chapter 2.2.45.1 )<br>300<br>1200<br>2400<br>4800<br>9600<br>14400<br>19200<br>28800<br>38400<br>57600<br><u>115200</u> |

### 2.2.35 AT+IPR Set TE-TA Fixed Local Rate

| AT+IPR Set TE-TA Fixed Local Rate |  |
|-----------------------------------|--|
| Test Command<br><b>AT+IPR=?</b>   | Response<br><b>+IPR:</b> (list of supported auto detectable <rate>s),(list of supported fixed-only<rate>s)<br><br><b>OK</b><br><br>Parameter<br>See Write Command. |
| Read Command<br><b>AT+IPR?</b>    | Response<br><b>+IPR: &lt;rate&gt;</b><br><br><b>OK</b><br><br>Parameter<br>See Write Command.  |

|   |   |
|---|---|
| Write Command<br><b>AT+IPR=&lt;rate&gt;</b> | <div> Response <p>This parameter setting determines the data rate of the TA on the serial interface. The rate of Command takes effect following the issuance of any result code associated with the current Command line.</p> <p><b>OK</b></p> </div> <div> Parameter <p><b>&lt;rate&gt;</b>    Baud rate per second</p> <p>0(Autobauding ,see chapter 2.2.45.1 )</p> <p>300</p> <p>1200</p> <p>2400</p> <p>4800</p> <p>9600</p> <p>14400</p> <p>19200</p> <p>28800</p> <p>38400</p> <p>57600</p> <p><u>115200</u></p> </div> |
| Reference<br>V.25ter                        | Note <p><b>I</b>    Factory setting is AT+IPR=0(auto bauding).It can be restored with ATZ when you modified the bit rate's value.</p>   |

### 2.2.35.1 Autobauding

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

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

#### Restrictions on autobauding operation

- I**    The serial interface has to be operated at 8 data bits, no parity and 1 stop bit (factory setting).
- I**    Only the strings .AT. or .at. can be detected (neither .aT. nor .At.).
- I**    Unsolicited Result Codes that may be issued before the ME detects the new bit rate (by receiving the first AT Command string) will be sent at the previously detected bit rate.
- I**    The Unsolicited Result Codes "RDY" and so on are not indicated when you start up the ME while autobauding is enabled.
- I**    It is not recommended to switch to autobauding from a bit rate that cannot be detected by the autobauding mechanism (e.g. 300 baud). Responses to +IPR=0 and any commands on the same line might be corrupted.
- I**    See also Chapter 2.2.44.

**Autobauding and bit rate after restart**

The most recently detected bit rate cannot be stored when module is powered down (Store bit rate determined with AT&W). Therefore, module will detect bit rate again after restart.

## 3 AT Commands According to GSM07.07

### 3.1 Overview of AT Command According to GSM07.07

| Command | Description  |
|---------|--|
| AT+CACM | ACCUMULATED CALL METER(ACM) RESET OR QUERY                         |
| AT+CAMM | ACCUMULATED CALL METER MAXIMUM(ACM MAX) SET OR QUERY               |
| AT+CAOC | ADVICE OF CHARGE   |
| AT+CBST | SELECT BEARER SERVICE TYPE   |
| AT+CCUG | CLOSED USER GROUP CONTROL  |
| AT+CCWA | CALL WAITING CONTROL   |
| AT+CGMI | REQUEST MANUFACTURER IDENTIFICATION                                |
| AT+CGMM | REQUEST MODEL IDENTIFICATION                                       |
| AT+CGMR | REQUEST TA REVISION IDENTIFICATION OF SOFTWARE RELEASE             |
| AT+CGSN | REQUEST PRODUCT SERIAL NUMBER IDENTIFICATION (IDENTICAL WITH +GSN) |
| AT+CSCS | SELECT TE CHARACTER SET  |
| AT+CSTA | SELECT TYPE OF ADDRESS   |
| AT+CHLD | CALL HOLD AND MULTIPARTY   |
| AT+CIMI | REQUEST INTERNATIONAL MOBILE SUBSCRIBER IDENTITY                   |
| AT+CKPD | KEYPAD CONTROL   |
| AT+CLCC | LIST CURRENT CALLS OF ME   |
| AT+CLCK | FACILITY LOCK  |
| AT+CLIP | CALLING LINE IDENTIFICATION PRESENTATION                           |
| AT+CLIR | CALLING LINE IDENTIFICATION RESTRICTION                            |
| AT+CMEE | REPORT MOBILE EQUIPMENT ERROR                                      |
| AT+COLP | CONNECTED LINE IDENTIFICATION PRESENTATION                         |
| AT+COPS | OPERATOR SELECTION   |
| AT+CPAS | MOBILE EQUIPMENT ACTIVITY STATUS                                   |
| AT+CPBF | FIND PHONEBOOK ENTRIES   |
| AT+CPBR | READ CURRENT PHONEBOOK ENTRIES                                     |
| AT+CPBS | SELECT PHONEBOOK MEMORY STORAGE                                    |
| AT+CPBW | WRITE PHONEBOOK ENTRY  |
| AT+CPIN | ENTER PIN  |
| AT+CPWD | CHANGE PASSWORD  |
| AT+CR   | SERVICE REPORTING CONTROL  |
| AT+CRC  | SET CELLULAR RESULT CODES FOR INCOMING CALL INDICATION             |

**SIM500W AT Commands Set**

|           |   |
|-----------|---|
| AT+CREG   | NETWORK REGISTRATION                    |
| AT+CRLP   | SELECT RADIO LINK PROTOCOL PARAMETER    |
| AT+CRSM   | RESTRICTED SIM ACCESS                   |
| AT+CSQ    | SIGNAL QUALITY REPORT                   |
| AT+FCLASS | FAX: SELECT, READ OR TEST SERVICE CLASS |
| AT+FMI    | FAX: REPORT MANUFACTURED ID             |
| AT+FMM    | FAX: REPORT MODEL ID                    |
| AT+FMR    | FAX: REPORT REVISION ID                 |
| AT+VTD    | TONE DURATION                           |
| AT+VTS    | DTMF AND TONE GENERATION                |
| AT+CMUX   | MULTIPLEXER CONTROL                     |
| AT+CNUM   | SUBSCRIBER NUMBER                       |
| AT+CPOL   | PREFERRED OPERATOR LIST                 |
| AT+COPN   | READ OPERATOR NAMES                     |
| AT+CFUN   | SET PHONE FUNCTIONALITY                 |
| AT+CCLK   | CLOCK                                   |
| AT+CALM   | ALERT SOUND MODE                        |
| AT+CRSL   | RINGER SOUND LEVEL                      |
| AT+CLVL   | LOUD SPEAKER VOLUME LEVEL               |
| AT+CMUT   | MUTE CONTROL                            |
| AT+CPUC   | PRICE PER UNIT CURRENCY TABLE           |
| AT+CCWE   | CALL METER MAXIMUM EVENT                |
| AT+CBC    | BATTERY CHARGE                          |
| AT+CUSD   | UNSTRUCTURED SUPPLEMENTARY SERVICE DATA |
| AT+CSSN   | SUPPLEMENTARY SERVICES NOTIFICATION     |

## 3.2 Detailed Descriptions of AT Command According to GSM07.07

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

| AT+CACM Accumulated Call Meter(ACM) Reset Or Query |   |
|--|---|
| Test Command<br><b>AT+CACM=?</b>                   | Response<br><b>OK</b><br>Parameter  |
| Read Command<br><b>AT+CACM?</b>                    | Response<br>TA returns the current value of ACM.<br><b>+CACM: &lt;acm&gt;</b><br><br><b>OK</b><br>If error is related to ME functionality:<br><b>+CME ERROR: &lt;err&gt;</b><br>Parameter |

## SIM500W AT Commands Set

|   |  |
|---|--|
|   | <p><b>&lt;acm&gt;</b> string type(string should be included in quotation marks); three bytes of the current ACM value in hexa-decimal format (e.g. "00001E" indicates decimal value 30)</p> <p>000000 - FFFFFFFF</p>   |
| <p>Write Command</p> <p><b>AT+CACM=[&lt;passwd&gt;]</b></p> | <p>Parameter</p> <p><b>&lt;passwd&gt;</b> string type(string should be included in quotation marks):</p> <p>SIM PIN2</p> <p>Response</p> <p>TA resets the Advice of Charge related accumulated call meter (ACM) value in SIM file EF (ACM). ACM contains the total number of home units for both the current and preceding calls.</p> <p><b>OK</b></p> <p>If error is related to ME functionality:</p> <p><b>+CME ERROR: &lt;err&gt;</b></p> |
| <p>Reference</p> <p>GSM 07.07 [13]</p>                      | <p>Note</p>  |

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

| AT+CAMM Accumulated Call Meter Maximum(ACM max) Set Or Query                  |  |
|---|--|
| <p>Test Command</p> <p><b>AT+CAMM=?</b></p>                                   | <p>Response</p> <p><b>OK</b></p> <p>Parameter</p>  |
| <p>Read Command</p> <p><b>AT+ CAMM?</b></p>                                   | <p>Response</p> <p>TA returns the current value of ACM max.</p> <p><b>+CAMM: &lt;acmmmax&gt;</b></p> <p><b>OK</b></p> <p>If error is related to ME functionality:</p> <p><b>+CME ERROR: &lt;err&gt;</b></p> <p>Parameters</p> <p>see Write Command</p>   |
| <p>Write Command</p> <p><b>AT+CAMM=[&lt;acmmmax&gt;[,&lt;passwd&gt;]]</b></p> | <p>Response</p> <p>TA sets the Advice of Charge related accumulated call meter maximum value in SIM file EF (ACM max). ACM max contains the maximum number of home units allowed to be consumed by the subscriber.</p> <p><b>OK</b></p> <p>If error is related to ME functionality:</p> <p><b>+CME ERROR: &lt;err&gt;</b></p> <p><b>ERROR</b></p> <p>Parameters</p> <p><b>&lt;acmmmax&gt;</b> string type(string should be included in quotation</p> |



## SIM500W AT Commands Set

|                             |   |
|-----------------------------|---|
|                             | marks); three bytes of the max. ACM value in hex-decimal format (e.g. "00001E" indicates decimal value 30)<br>000000<br>disable ACMmax feature<br>000001-FFFFFF<br><passwd> string type(string should be included in quotation marks)<br>SIM PIN2 |
| Reference<br>GSM 07.07 [13] | Note  |

### 3.2.3 AT+CAOC Advice Of Charge

| AT+CAOC Advice Of Charge        |   |
|---------------------------------|---|
| Test Command<br>AT+CAOC=?       | Response<br>+CAOC: (list of supported <mode>s)<br><br><b>OK</b><br>Parameters<br>see Write Command  |
| Read Command<br>AT+CAOC?        | Response<br>+CAOC: <mode><br><br><b>OK</b><br>Parameters<br>see Write Command   |
| Write Command<br>AT+CAOC=<mode> | Response<br>TA sets the Advice of Charge supplementary service function mode.<br>If error is related to ME functionality:<br><b>+CME ERROR: &lt;err&gt;</b><br><b>ERROR</b><br>If <mode>=0, TA returns the current call meter value<br><b>+CAOC: &lt;ccm&gt;</b><br><br><b>OK</b><br>If <mode>=1, TA deactivates the unsolicited reporting of CCM value<br><b>OK</b><br>If <mode>=2, TA activates the unsolicited reporting of CCM value<br><b>OK</b><br>Parameters<br><mode>            0    query CCM value<br>1    deactivate the unsolicited reporting of CCM value |

## SIM500W AT Commands Set

|                             |   |
|-----------------------------|---|
|                             | <p><b>&lt;ccm&gt;</b>      2    activate the unsolicited reporting of CCM value string type(string should be included in quotation marks); three bytes of the current CCM value in hex-decimal format (e.g. "00001E" indicates decimal value 30); bytes are similarly coded as ACMmax value in the SIM</p> <p>000000-FFFFFF</p> |
| Reference<br>GSM 07.07 [13] | Note  |

### 3.2.4 AT+CBST Select Bearer Service Type

| AT+CBST    Select Bearer Service Type              |  |  |   |             |  |   |                   |  |   |                   |  |   |                |  |   |                |  |    |                |  |    |                 |  |    |                                       |  |    |                                       |  |    |                                       |  |    |  |
|--|--|--|---|-------------|--|---|-------------------|--|---|-------------------|--|---|----------------|--|---|----------------|--|----|----------------|--|----|-----------------|--|----|---------------------------------------|--|----|---------------------------------------|--|----|---------------------------------------|--|----|--|
| Test    Command<br>AT+CBST=?                       | Response<br><br>+CBST: (list of supported <speed>s) ,(list of supported <name>s) ,(list of supported <ce>s)<br><br><b>OK</b><br><br>Parameters<br>see Write Command  |  |   |             |  |   |                   |  |   |                   |  |   |                |  |   |                |  |    |                |  |    |                 |  |    |                                       |  |    |                                       |  |    |                                       |  |    |  |
| Read    Command<br>AT+CBST?                        | Response<br><br>+CBST: <speed>,<name>,<ce><br><br><b>OK</b><br><br>Parameter<br>see Write Command  |  |   |             |  |   |                   |  |   |                   |  |   |                |  |   |                |  |    |                |  |    |                 |  |    |                                       |  |    |                                       |  |    |                                       |  |    |  |
| Write Command<br>AT+CBST=[<speed>[,<name>[,<ce>]]] | Response<br><br>TA selects the bearer service <name> with data rate <speed>, and the connection element <ce> to be used when data calls are originated.<br><br><b>OK</b><br><br><b>ERROR</b><br><br>Parameters<br><table><tr><td>&lt;speed&gt;</td><td>0</td><td>autobauding</td></tr><tr><td></td><td>4</td><td>2400 bps(V.22bis)</td></tr><tr><td></td><td>5</td><td>2400 bps(V.26ter)</td></tr><tr><td></td><td>6</td><td>4800 bps(V.32)</td></tr><tr><td></td><td>7</td><td>9600 bps(V.32)</td></tr><tr><td></td><td>12</td><td>9600 bps(V.34)</td></tr><tr><td></td><td>14</td><td>14400 bps(V.34)</td></tr><tr><td></td><td>68</td><td>2400 bps(V.110 or X.31 flag stuffing)</td></tr><tr><td></td><td>70</td><td>4800 bps(V.110 or X.31 flag stuffing)</td></tr><tr><td></td><td>71</td><td>9600 bps(V.110 or X.31 flag stuffing)</td></tr><tr><td></td><td>75</td><td>14400 bps(V.110 or X.31 flag stuffing)</td></tr></table> | <speed>                                | 0 | autobauding |  | 4 | 2400 bps(V.22bis) |  | 5 | 2400 bps(V.26ter) |  | 6 | 4800 bps(V.32) |  | 7 | 9600 bps(V.32) |  | 12 | 9600 bps(V.34) |  | 14 | 14400 bps(V.34) |  | 68 | 2400 bps(V.110 or X.31 flag stuffing) |  | 70 | 4800 bps(V.110 or X.31 flag stuffing) |  | 71 | 9600 bps(V.110 or X.31 flag stuffing) |  | 75 | 14400 bps(V.110 or X.31 flag stuffing) |
| <speed>  | 0  | autobauding                            |   |             |  |   |                   |  |   |                   |  |   |                |  |   |                |  |    |                |  |    |                 |  |    |                                       |  |    |                                       |  |    |                                       |  |    |  |
|  | 4  | 2400 bps(V.22bis)                      |   |             |  |   |                   |  |   |                   |  |   |                |  |   |                |  |    |                |  |    |                 |  |    |                                       |  |    |                                       |  |    |                                       |  |    |  |
|  | 5  | 2400 bps(V.26ter)                      |   |             |  |   |                   |  |   |                   |  |   |                |  |   |                |  |    |                |  |    |                 |  |    |                                       |  |    |                                       |  |    |                                       |  |    |  |
|  | 6  | 4800 bps(V.32)                         |   |             |  |   |                   |  |   |                   |  |   |                |  |   |                |  |    |                |  |    |                 |  |    |                                       |  |    |                                       |  |    |                                       |  |    |  |
|  | 7  | 9600 bps(V.32)                         |   |             |  |   |                   |  |   |                   |  |   |                |  |   |                |  |    |                |  |    |                 |  |    |                                       |  |    |                                       |  |    |                                       |  |    |  |
|  | 12   | 9600 bps(V.34)                         |   |             |  |   |                   |  |   |                   |  |   |                |  |   |                |  |    |                |  |    |                 |  |    |                                       |  |    |                                       |  |    |                                       |  |    |  |
|  | 14   | 14400 bps(V.34)                        |   |             |  |   |                   |  |   |                   |  |   |                |  |   |                |  |    |                |  |    |                 |  |    |                                       |  |    |                                       |  |    |                                       |  |    |  |
|  | 68   | 2400 bps(V.110 or X.31 flag stuffing)  |   |             |  |   |                   |  |   |                   |  |   |                |  |   |                |  |    |                |  |    |                 |  |    |                                       |  |    |                                       |  |    |                                       |  |    |  |
|  | 70   | 4800 bps(V.110 or X.31 flag stuffing)  |   |             |  |   |                   |  |   |                   |  |   |                |  |   |                |  |    |                |  |    |                 |  |    |                                       |  |    |                                       |  |    |                                       |  |    |  |
|  | 71   | 9600 bps(V.110 or X.31 flag stuffing)  |   |             |  |   |                   |  |   |                   |  |   |                |  |   |                |  |    |                |  |    |                 |  |    |                                       |  |    |                                       |  |    |                                       |  |    |  |
|  | 75   | 14400 bps(V.110 or X.31 flag stuffing) |   |             |  |   |                   |  |   |                   |  |   |                |  |   |                |  |    |                |  |    |                 |  |    |                                       |  |    |                                       |  |    |                                       |  |    |  |

## SIM500W AT Commands Set

|                             |  |
|-----------------------------|--|
|                             | <p><b>&lt;name&gt;</b>     <u>0</u>     asynchronous modem</p> <p><b>&lt;ce&gt;</b>        0       transparent</p> <p>                 <u>1</u>       non-transparent</p> <p>                 <u>2</u>       both , transparent preferred</p> <p>                 <u>3</u>       both , no-transparent preferred</p> |
| Reference<br>GSM 07.07 [14] | <p>Note</p> <p><b>I</b>     GSM 02.02[1]: lists the allowed combinations of the sub parameters</p>   |

### 3.2.5 AT+CCUG Closed User Group Control

| AT+CCUG Closed User Group Control  |  |
|--|--|
| Read Command<br><b>AT+CCUG?</b>  | <p>Response</p> <p><b>+CCUG: &lt;n&gt;,&lt;index&gt;,&lt;info&gt;</b></p> <p><b>OK</b></p> <p>If error is related to ME functionality:<br/><b>+CME ERROR: &lt;err&gt;</b></p> <p>Parameter<br/>see Write Command</p>   |
| Test Command<br><b>AT+CCUG=?</b>   | <p>Response</p> <p><b>ERROR</b></p>  |
| Write Command<br><b>AT+CCUG=[&lt;n&gt;[,&lt;index&gt;[,&lt;info&gt;]]]</b> | <p>TA sets the Closed User Group supplementary service parameters as a default adjustment for all following calls.</p> <p><b>OK</b></p> <p>If error is related to ME functionality:<br/><b>+CME ERROR: &lt;err&gt;</b></p> <p>Parameters</p> <p><b>&lt;n&gt;</b>            <u>0</u>       disable CUG</p> <p>                 1       enable CUG</p> <p><b>&lt;index&gt;</b>       <u>0</u>..9   CUG index</p> <p>                 10      no index (preferred CUG taken from subscriber data)</p> <p><b>&lt;info&gt;</b>        <u>0</u>       no information</p> <p>                 1       suppress OA (Outgoing Access)</p> <p>                 2       suppress preferential CUG</p> <p>                 3       suppress OA and preferential CUG</p> |
| Reference  | Note   |

### 3.2.6 AT+CCWA Call Waiting Control

| AT+CCWA Call Waiting Control    |  |
|---------------------------------|--|
| Read Command<br><b>AT+CCWA?</b> | <p>Response</p> <p><b>+CCWA: &lt;n&gt;</b></p> |

|  |  |  |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
|--|--|--|---|--|--|---|---|--------|--|--|---|---------|--|---|--------|--|---|--------------|---------|---|--|---|-------------------|--|---|-----------------------|--|----|-----------------|--|-----------|--------------------------------|----------|---|------------|--|---|--------|
|  | <b>OK</b>  |  |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
| Test Command<br><b>AT+CCWA=?</b>   | Response<br><b>+CCWA:</b> (list of supported <n>s)<br><br><b>OK</b>  |  |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
| Write Command<br><b>AT+CCWA=[&lt;n&gt;[,&lt;mode&gt;[,&lt;class&gt;]]]</b> | Response<br>TA controls the Call Waiting supplementary service. Activation, deactivation and status query are supported.<br>If <mode>≠2 and Command successful<br><b>OK</b><br>If <mode>=2 and Command successful<br><b>+CCWA :&lt;status&gt;,&lt;class1&gt;[&lt;CR&gt;&lt;LF&gt;+CCWA:&lt;status&gt;,&lt;class2&gt;[...]]</b><br><br><b>OK</b><br>Note :< status>=0 should be returned only if service is not active for any <class> i.e. +CCWA: 0, 7 will be returned in this case.<br>When mode=2, all active call waiting classes will be reported. In this mode the Command is abort able by pressing any key.<br>If error is related to ME functionality:<br><b>+CME ERROR: &lt;err&gt;</b><br><b>ERROR</b><br><br>Parameters<br><table><tr><td>&lt;n&gt;</td><td>0</td><td>disable presentation of an unsolicited result code</td></tr><tr><td></td><td>1</td><td>enable presentation of an unsolicited result code</td></tr></table> <table><tr><td>&lt;mode&gt;</td><td>when &lt;mode&gt; parameter not given, network is not interrogated</td></tr><tr><td></td><td>0</td><td>disable</td></tr><tr><td></td><td>1</td><td>enable</td></tr><tr><td></td><td>2</td><td>query status</td></tr></table> <table><tr><td>&lt;class&gt;</td><td>is a sum of integers each representing a class of information</td></tr><tr><td></td><td>1</td><td>voice (telephony)</td></tr><tr><td></td><td>4</td><td>data (bearer service)</td></tr><tr><td></td><td>16</td><td>fax (facsimile)</td></tr><tr><td></td><td><u>32</u></td><td>default(equals to all classes)</td></tr></table> <table><tr><td>&lt;status&gt;</td><td>0</td><td>not active</td></tr><tr><td></td><td>1</td><td>enable</td></tr></table> | <n>  | 0 | disable presentation of an unsolicited result code |  | 1 | enable presentation of an unsolicited result code | <mode> | when <mode> parameter not given, network is not interrogated |  | 0 | disable |  | 1 | enable |  | 2 | query status | <class> | is a sum of integers each representing a class of information |  | 1 | voice (telephony) |  | 4 | data (bearer service) |  | 16 | fax (facsimile) |  | <u>32</u> | default(equals to all classes) | <status> | 0 | not active |  | 1 | enable |
| <n>  | 0  | disable presentation of an unsolicited result code |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
|  | 1  | enable presentation of an unsolicited result code  |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
| <mode>   | when <mode> parameter not given, network is not interrogated   |  |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
|  | 0  | disable  |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
|  | 1  | enable   |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
|  | 2  | query status                                       |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
| <class>  | is a sum of integers each representing a class of information  |  |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
|  | 1  | voice (telephony)                                  |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
|  | 4  | data (bearer service)                              |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
|  | 16   | fax (facsimile)                                    |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
|  | <u>32</u>  | default(equals to all classes)                     |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
| <status>   | 0  | not active   |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
|  | 1  | enable   |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
|  | Unsolicited result code<br>When the presentation Call Waiting at the TA is enabled (and Call Waiting is enabled) and a terminating call set up has attempted during an established call, an unsolicited result code is returned:<br><b>+CCWA: &lt;number&gt;,&lt;type&gt;,&lt;class&gt;[,&lt;alpha&gt;]</b>  |  |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |
|  | Parameters   |  |   |  |  |   |   |        |  |  |   |         |  |   |        |  |   |              |         |   |  |   |                   |  |   |                       |  |    |                 |  |           |                                |          |   |            |  |   |        |

|                        |  |
|------------------------|--|
|                        | <p><b>&lt;number&gt;</b> string type(string should be included in quotation marks)<br/>phone number of calling address in format specified by<br/><b>&lt;type&gt;</b></p> <p><b>&lt;type&gt;</b> type of address octet in integer format;<br/>129 Unknown type(ISDN format number)<br/>161 National number type(ISDN format)<br/>145 International number type(ISDN format )<br/>177 Network specific number(ISDN format)</p> <p><b>&lt;alpha&gt;</b> optional string type(string should be included in quotation marks)<br/>alphanumeric representation of<br/><b>&lt;number&gt;</b> corresponding to the entry found in phone book</p> |
| Reference<br>GSM 07.07 | Note   |

### 3.2.7 AT+CGMI Request Manufacturer Identification

| AT+CGMI Request Manufacturer Identification |   |
|---|---|
| Test Command<br><b>AT+CGMI=?</b>            | Response<br><b>OK</b>   |
| Execution Command<br><b>AT+CGMI</b>         | <p>Response<br/>TA returns manufacturer identification text.<br/><b>&lt;manufacturer&gt;</b></p> <p><b>OK</b></p> <p>Parameter<br/><b>&lt;manufacturer&gt;</b> the ID of manufacturer</p> |
| Reference<br>GSM 07.07 [13]                 | Note  |

### 3.2.8 AT+CGMM Request Model Identification

| AT+CGMM Request Model Identification |  |
|--------------------------------------|--|
| Test Command<br><b>AT+CGMM=?</b>     | Response<br><b>OK</b>  |
| Execution Command<br><b>AT+CGMM</b>  | <p>Response<br/>TA returns product model identification text.<br/><b>&lt;model&gt;</b></p> <p><b>OK</b></p> <p>Parameter<br/><b>&lt;model&gt;</b> product model identification text.</p> |
| Reference<br>GSM 07.07 [13]          | Note   |

### 3.2.9 AT+CGMR Request TA Revision Identification Of Software Release

| AT+CGMR Request TA Revision Identification Of Software Release |  |
|--|--|
| Test Command<br><b>AT+CGMR=?</b>                               | Response<br><b>OK</b>  |
| Execution Command<br><b>AT+CGMR</b>                            | Response<br>TA returns product software version identification text.<br><b>Revision: &lt;revision&gt;</b><br><br><b>OK</b><br>Parameter<br><b>&lt;revision&gt;</b> product software version identification text. |
| Reference<br>GSM 07.07 [13]                                    | Note   |

### 3.2.10 AT+CGSN Request Product Serial Number Identification (Identical With +GSN)

| AT+CGSN Request Product Serial Number Identification (Identical With +GSN) |   |
|--|---|
| Test Command<br><b>AT+CGSN=?</b>   | Response<br><b>OK</b>   |
| Execution Command<br><b>AT+CGSN</b>  | Response<br>see +GSN<br><b>&lt;sn&gt;</b><br><br><b>OK</b><br>Parameter<br>see +GSN |
| Reference<br>GSM 07.07 [13]  | Note  |

### 3.2.11 AT+CSCS Select TE Character Set

| AT+CSCS    Select TE Character Set |                                     |   |
|------------------------------------|-------------------------------------|---|
| Test Command<br><br>AT+CSCS=?      | Response                            |   |
|                                    | +CSCS: (list of supported <chset>s) |   |
|                                    | OK                                  |   |
|                                    | Parameters                          |   |
|                                    | <chset>                             | "GSM"            GSM default alphabet.  |
|                                    |                                     | "HEX"            character strings consist only of hexadecimal numbers from 00 to FF; |
|                                    |                                     | "IRA"            international reference alphabet                                     |
|                                    |                                     | "PCCP473"        PC character set Code  |
|                                    | "UCS2_0x81"                         |   |
|                                    | "UCS2"           UCS2 alphabet      |   |

**SIM500W AT Commands Set**

|   |   |
|---|---|
|   | "8859-1" ISO 8859 Latin I character set   |
| Read Command<br><b>AT+CSCS?</b>               | Response<br><b>+CSCS: &lt;chset&gt;</b><br><br><b>OK</b><br>Parameter<br><b>&lt;chset&gt;</b> see Test Command  |
| Write Command<br><b>AT+CSCS=&lt;chset&gt;</b> | Response<br>Sets which character set <chset> are used by the TE. The TA can then convert character strings correctly between the TE and ME character sets.<br><b>OK</b><br><br>If error is related to ME functionality:<br><b>+CME ERROR: &lt;err&gt;</b><br><br>Parameter<br><b>&lt;chset&gt;</b> see Test Command |
| Reference<br>GSM 07.07 [13]                   | Note  |

**3.2.12 AT+CSTA Select Type Of Address**

|  |  |
|--|--|
| <b>AT+CSTA Select Type Of Address</b>        |  |
| Test Command<br><b>AT+CSTA=?</b>             | Response<br><b>+CSTA: (129,145,161)</b><br><br><b>OK</b>   |
| Read Command<br><b>AT+CSTA?</b>              | Response<br><b>+CSTA: &lt;type&gt;</b><br><br><b>OK</b><br>Parameter<br><b>&lt; type &gt;</b> Current address type setting.  |
| Write Command<br><b>AT+CSTA=&lt;type&gt;</b> | Parameters<br><b>&lt;type&gt;</b> type of address octet in integer format;<br>129 Unknown type(ISDN format number)<br>145 International number type(ISDN format )<br>161 National number type(ISDN format) |
| Reference<br>GSM 07.07 [13]                  | Note<br><b>I</b> The ATD Command overrides this setting when a number is dialed.   |

### 3.2.13 AT+CHLD Call Hold And Multiparty

| AT+CHLD    Call Hold And Multiparty   |   |
|---|---|
| Test Command<br>AT+CHLD=?   | Response<br>+CHLD: (list of supported <n>s)<br><br>OK |
| Write Command<br>AT+CHLD=[<n><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><br>><b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|   |

### 3.2.14 AT+CIMI Request International Mobile Subscriber Identity

| AT+CIMI Request International Mobile Subscriber Identity |   |
|--|---|
| Test Command<br><b>AT+CIMI=?</b>                         | <p>Response</p> <p><b>OK</b></p> <p>Parameter</p>   |
| Execution Command<br><b>AT+CIMI</b>                      | <p>Response</p> <p>TA returns &lt;IMSI&gt;for identifying the individual SIM which is attached to ME.</p> |



|                             |   |
|-----------------------------|---|
|                             | <p><b>&lt;IMSI&gt;</b></p> <p><b>OK</b></p> <p>If error is related to ME functionality:</p> <p><b>+CME ERROR: &lt;err&gt;</b></p> <p>Parameter</p> <p><b>&lt;IMSI&gt;</b> International Mobile Subscriber Identity (string without double quotes)</p> |
| Reference<br>GSM 07.07 [13] | Note  |

### 3.2.15 AT+CKPD Keypad Control

| AT+CKPD Keypad Control                                   |   |        |  |        |                   |   |                       |   |             |        |                      |   |  |     |                    |     |                             |     |                                      |     |                                |     |                  |
|--|---|--------|--|--------|-------------------|---|-----------------------|---|-------------|--------|----------------------|---|--|-----|--------------------|-----|-----------------------------|-----|--------------------------------------|-----|--------------------------------|-----|------------------|
| Test Command<br>AT+CKPD=?                                | Response<br><b>OK</b><br>Parameters   |        |  |        |                   |   |                       |   |             |        |                      |   |  |     |                    |     |                             |     |                                      |     |                                |     |                  |
| Write Command<br>AT+CKPD=[<keys><br>[,<time>[,<pause>]]] | Response<br>TA emulates ME keypad by giving each keystroke as a character in a string <keys>. <time>*0.1 seconds is the time to stroke each key and <pause>*0.1 seconds is the length of pause between two strokes.<br><br>Keystrokes <keys> are emulated.<br><b>OK</b><br>If error is related to ME functionality:<br><b>+CME ERROR: &lt;err&gt;</b><br><b>ERROR</b><br>Parameters<br><table><tr><td>&lt;keys&gt;</td><td>string of characters representing keys as listed in the following table (based on PCCA STD-101 Annex table I-3, And the following characters should be included in quotation marks):</td></tr><tr><td>Char.:</td><td>ASCII-Code: Note:</td></tr><tr><td>#</td><td>35 hash (number sign)</td></tr><tr><td>*</td><td>42 star (*)</td></tr><tr><td>0... 9</td><td>48... 57 number keys</td></tr><tr><td>:</td><td>58 escape character for manufacturer specific keys</td></tr><tr><td>D/d</td><td>68/100 volume down</td></tr><tr><td>E/e</td><td>69/101 connection end (END)</td></tr><tr><td>R/r</td><td>82/114 recall last number (R/RCL/MR)</td></tr><tr><td>S/s</td><td>83/115 connection start (SEND)</td></tr><tr><td>U/u</td><td>85/117 volume up</td></tr></table> | <keys> | string of characters representing keys as listed in the following table (based on PCCA STD-101 Annex table I-3, And the following characters should be included in quotation marks): | Char.: | ASCII-Code: Note: | # | 35 hash (number sign) | * | 42 star (*) | 0... 9 | 48... 57 number keys | : | 58 escape character for manufacturer specific keys | D/d | 68/100 volume down | E/e | 69/101 connection end (END) | R/r | 82/114 recall last number (R/RCL/MR) | S/s | 83/115 connection start (SEND) | U/u | 85/117 volume up |
| <keys>   | string of characters representing keys as listed in the following table (based on PCCA STD-101 Annex table I-3, And the following characters should be included in quotation marks):  |        |  |        |                   |   |                       |   |             |        |                      |   |  |     |                    |     |                             |     |                                      |     |                                |     |                  |
| Char.:   | ASCII-Code: Note:   |        |  |        |                   |   |                       |   |             |        |                      |   |  |     |                    |     |                             |     |                                      |     |                                |     |                  |
| #  | 35 hash (number sign)   |        |  |        |                   |   |                       |   |             |        |                      |   |  |     |                    |     |                             |     |                                      |     |                                |     |                  |
| *  | 42 star (*)   |        |  |        |                   |   |                       |   |             |        |                      |   |  |     |                    |     |                             |     |                                      |     |                                |     |                  |
| 0... 9   | 48... 57 number keys  |        |  |        |                   |   |                       |   |             |        |                      |   |  |     |                    |     |                             |     |                                      |     |                                |     |                  |
| :  | 58 escape character for manufacturer specific keys  |        |  |        |                   |   |                       |   |             |        |                      |   |  |     |                    |     |                             |     |                                      |     |                                |     |                  |
| D/d  | 68/100 volume down  |        |  |        |                   |   |                       |   |             |        |                      |   |  |     |                    |     |                             |     |                                      |     |                                |     |                  |
| E/e  | 69/101 connection end (END)   |        |  |        |                   |   |                       |   |             |        |                      |   |  |     |                    |     |                             |     |                                      |     |                                |     |                  |
| R/r  | 82/114 recall last number (R/RCL/MR)  |        |  |        |                   |   |                       |   |             |        |                      |   |  |     |                    |     |                             |     |                                      |     |                                |     |                  |
| S/s  | 83/115 connection start (SEND)  |        |  |        |                   |   |                       |   |             |        |                      |   |  |     |                    |     |                             |     |                                      |     |                                |     |                  |
| U/u  | 85/117 volume up  |        |  |        |                   |   |                       |   |             |        |                      |   |  |     |                    |     |                             |     |                                      |     |                                |     |                  |

|                             |  |
|-----------------------------|--|
|                             | <p><b>&lt;time&gt;</b> 0...255 seconds (default value is manufacturer specific, but should be so long that a normal ME can handle keystrokes correctly)</p> <p><b>&lt;pause&gt;</b> 0... 25.5 seconds (default value is manufacturer specific, but should be so long that a normal ME can handle keystrokes correctly)</p> |
| Reference<br>GSM 07.07 [13] | Note   |

### 3.2.16 AT+CLCC List Current Calls Of ME

| AT+CLCC List Current Calls Of ME    |  |   |                             |   |                             |   |        |   |      |   |                   |   |                    |   |                    |   |                   |   |       |
|-------------------------------------|--|---|-----------------------------|---|-----------------------------|---|--------|---|------|---|-------------------|---|--------------------|---|--------------------|---|-------------------|---|-------|
| Test Command<br><b>AT+CLCC=?</b>    | <p>Response</p> <p><b>OK</b></p> <p>Parameters</p>   |   |                             |   |                             |   |        |   |      |   |                   |   |                    |   |                    |   |                   |   |       |
| Execution Command<br><b>AT+CLCC</b> | <p>Response</p> <p>TA returns a list of current calls of ME.</p> <p>Note: If Command succeeds but no calls are available, no information response is sent to TE.</p> <p>[+CLCC: &lt;id1&gt;,&lt;dir&gt;,&lt;stat&gt;,&lt;mode&gt;,&lt;mpty&gt;[,<br/>&lt;number&gt;,&lt;type&gt;[, “ ” ]]<br/>[&lt;CR&gt;&lt;LF&gt;+CLCC: &lt;id2&gt;,&lt;dir&gt;,&lt;stat&gt;,&lt;mode&gt;,&lt;mpty&gt;[,<br/>&lt;number&gt;,&lt;type&gt;[, “ ” ]]<br/>[...]]]</p> <p><b>OK</b></p> <p>If error is related to ME functionality:<br/><b>+CME ERROR: &lt;err&gt;</b></p> <p>Parameters</p> <p><b>&lt;idx&gt;</b> integer type; call identification number as described in GSM 02.30[19] sub clause 4.5.5.1; this number can be used in +CHLD Command operations</p> <p><b>&lt;dir&gt;</b></p> <table> <tr> <td>0</td><td>mobile originated (MO) call</td></tr> <tr> <td>1</td><td>mobile terminated (MT) call</td></tr> </table> <p><b>&lt;stat&gt;</b> state of the call:</p> <table> <tr> <td>0</td><td>active</td></tr> <tr> <td>1</td><td>held</td></tr> <tr> <td>2</td><td>dialing (MO call)</td></tr> <tr> <td>3</td><td>alerting (MO call)</td></tr> <tr> <td>4</td><td>incoming (MT call)</td></tr> <tr> <td>5</td><td>waiting (MT call)</td></tr> </table> <p><b>&lt;mode&gt;</b> bearer/tele service:</p> <table> <tr> <td>0</td><td>voice</td></tr> </table> | 0 | mobile originated (MO) call | 1 | mobile terminated (MT) call | 0 | active | 1 | held | 2 | dialing (MO call) | 3 | alerting (MO call) | 4 | incoming (MT call) | 5 | waiting (MT call) | 0 | voice |
| 0                                   | mobile originated (MO) call  |   |                             |   |                             |   |        |   |      |   |                   |   |                    |   |                    |   |                   |   |       |
| 1                                   | mobile terminated (MT) call  |   |                             |   |                             |   |        |   |      |   |                   |   |                    |   |                    |   |                   |   |       |
| 0                                   | active   |   |                             |   |                             |   |        |   |      |   |                   |   |                    |   |                    |   |                   |   |       |
| 1                                   | held   |   |                             |   |                             |   |        |   |      |   |                   |   |                    |   |                    |   |                   |   |       |
| 2                                   | dialing (MO call)  |   |                             |   |                             |   |        |   |      |   |                   |   |                    |   |                    |   |                   |   |       |
| 3                                   | alerting (MO call)   |   |                             |   |                             |   |        |   |      |   |                   |   |                    |   |                    |   |                   |   |       |
| 4                                   | incoming (MT call)   |   |                             |   |                             |   |        |   |      |   |                   |   |                    |   |                    |   |                   |   |       |
| 5                                   | waiting (MT call)  |   |                             |   |                             |   |        |   |      |   |                   |   |                    |   |                    |   |                   |   |       |
| 0                                   | voice  |   |                             |   |                             |   |        |   |      |   |                   |   |                    |   |                    |   |                   |   |       |

## SIM500W AT Commands Set

|                                    |  |
|------------------------------------|--|
|                                    | 1 data<br>2 fax<br>9 unknown<br><empty> 0 call is not one of multiparty (conference) call parties<br>1 call is one of multiparty (conference) call parties<br><number> string type(string should be included in quotation marks)<br>phone number in format specified by <type><br><type> type of address of octet in integer format;<br>129 Unknown type(ISDN format number)<br>161 National number type(ISDN format)<br>145 International number type(ISDN format ) |
| Reference<br>GSM 07.07<br>[13][14] | Note   |

### 3.2.17 AT+CLCK Facility Lock

| AT+CLCK Facility Lock  |  |
|--|--|
| Test Command<br><b>AT+CLCK=?</b>   | Response<br><b>+CLCK:</b> (list of supported <fac>s)<br><br><b>OK</b>  |
|  | Parameter<br>see Write Command   |
| Write Command<br><b>AT+CLCK = &lt;fac&gt;, &lt;mode&gt; [,&lt;passwd&gt; [,&lt;class&gt;]]</b> | Response<br>This Command is used to lock, unlock or interrogate a ME or a network facility <fac>. Password is normally needed to do such actions. When querying the status of a network service (<mode>=2) the response line for 'not active' case (<status>=0) should be returned only if service is not active for any <class>.<br><br>If <mode>≠2 and Command is successful<br><b>OK</b><br>If <mode>=2 and Command is successful<br><b>+CLCK: &lt;status&gt;[,&lt;class1&gt;[&lt;CR&gt;&lt;LF&gt; +CLCK: &lt;status&gt;, class2....]]</b><br><br><b>OK</b> |
|  | Parameters<br><fac> "PS" PH-SIM (lock Phone to SIM card) (ME asks password when other than current SIM card inserted; ME may remember certain amount of previously used cards thus not requiring password when they are inserted)  |

|                                    |   |
|------------------------------------|---|
|                                    | <p>"SC" SIM (lock SIM card) (SIM asks password in ME power-up and when this lock Command issued)</p> <p>"AO" BAOC (Barr All Outgoing Calls) (refer GSM02.88[6] clause 1)</p> <p>"OI" BOIC (Barr Outgoing International Calls) (refer GSM02.88[6] clause 1)</p> <p>"OX" BOIC-exHC (Barr Outgoing International Calls except to Home Country) (refer GSM02.88[6] clause 1)</p> <p>"AI" BAIC (Barr All Incoming Calls) (refer GSM02.88[6] clause 2)</p> <p>"IR" BIC-Roam (Barr Incoming Calls when Roaming outside the home country) (refer GSM02.88 [6] clause 2)</p> <p>"AB" All Barring services (refer GSM02.30[19]) (applicable only for &lt;mode&gt;=0)</p> <p>"AG" All out Going barring services (refer GSM02.30[19]) (applicable only for &lt;mode&gt;=0)</p> <p>"AC" All in Coming barring services (refer GSM02.30[19]) (applicable only for &lt;mode&gt;=0)</p> <p>"FD" SIM fixed dialing memory: If the mobile is locked to "FD", only the phone numbers stored to the "FD" memory can be dialed</p> <p>"PF" Lock Phone to the very first SIM card</p> <p>"PN" Network Personalization (refer GSM 02.22[33])</p> <p>"PU" network subset Personalization (refer GSM 02.22[33])</p> <p>"PP" service Provider Personalization (refer GSM 02.22[33])</p> <p>"PC" Corporate Personalization (refer GSM 02.22[33])</p> <p><b>&lt;mode&gt;</b></p> <p>0 unlock</p> <p>1 lock</p> <p><u>2</u> query status</p> <p><b>&lt;passwd&gt;</b> string type(string should be included in quotation marks):<br/>password</p> <p><b>&lt;class&gt;</b></p> <p>1 voice</p> <p>2 data</p> <p>4 fax</p> <p><u>7</u> all classes (default)</p> <p><b>&lt;status&gt;</b></p> <p>0 off</p> <p>1 on</p> |
| Reference<br><b>GSM 07.07 [14]</b> | Note  |

### 3.2.18 AT+CLIP Calling Line Identification Presentation

| AT+CLIP    Calling Line Identification Presentation |  |                                   |   |                                   |  |   |                                  |     |   |                      |  |   |                  |  |   |
|---|--|-----------------------------------|---|-----------------------------------|--|---|----------------------------------|-----|---|----------------------|--|---|------------------|--|---|
| Read Command<br>AT+CLIP?                            | Response<br><b>+CLIP: &lt;n&gt;, &lt;m&gt;</b><br><br><b>OK</b><br>If error is related to ME functionality:<br><b>+CME ERROR: &lt;err&gt;</b>  |                                   |   |                                   |  |   |                                  |     |   |                      |  |   |                  |  |   |
|   | Parameters<br>see Write Command  |                                   |   |                                   |  |   |                                  |     |   |                      |  |   |                  |  |   |
|   |  |                                   |   |                                   |  |   |                                  |     |   |                      |  |   |                  |  |   |
| Test Command<br>AT+CLIP=?                           | Response<br><b>+CLIP: (list of supported &lt;n&gt;s)</b><br><br><b>OK</b>  |                                   |   |                                   |  |   |                                  |     |   |                      |  |   |                  |  |   |
|   | Parameters<br>see Write Command  |                                   |   |                                   |  |   |                                  |     |   |                      |  |   |                  |  |   |
|   |  |                                   |   |                                   |  |   |                                  |     |   |                      |  |   |                  |  |   |
| Write Command<br>AT+CLIP=[<n>]                      | Response<br>TA enables or disables the presentation of the CLI at the TE. It has no effect on the execution of the supplementary service CLIP in the network.<br><b>OK</b><br>If error is related to ME functionality:<br><b>+CME ERROR: &lt;err&gt;</b>   |                                   |   |                                   |  |   |                                  |     |   |                      |  |   |                  |  |   |
|   | Parameters   |                                   |   |                                   |  |   |                                  |     |   |                      |  |   |                  |  |   |
|   | <table><tr><td>&lt;n&gt;</td><td>0</td><td>suppress unsolicited result codes</td></tr><tr><td></td><td>1</td><td>display unsolicited result codes</td></tr><tr><td>&lt;m&gt;</td><td>0</td><td>CLIP not provisioned</td></tr><tr><td></td><td>1</td><td>CLIP provisioned</td></tr><tr><td></td><td>2</td><td>unknown</td></tr></table> | <n>                               | 0 | suppress unsolicited result codes |  | 1 | display unsolicited result codes | <m> | 0 | CLIP not provisioned |  | 1 | CLIP provisioned |  | 2 |
| <n>   | 0  | suppress unsolicited result codes |   |                                   |  |   |                                  |     |   |                      |  |   |                  |  |   |
|   | 1  | display unsolicited result codes  |   |                                   |  |   |                                  |     |   |                      |  |   |                  |  |   |
| <m>   | 0  | CLIP not provisioned              |   |                                   |  |   |                                  |     |   |                      |  |   |                  |  |   |
|   | 1  | CLIP provisioned                  |   |                                   |  |   |                                  |     |   |                      |  |   |                  |  |   |
|   | 2  | unknown                           |   |                                   |  |   |                                  |     |   |                      |  |   |                  |  |   |

|           |  |
|-----------|--|
|           | <p><b>Unsolicited result code</b></p> <p>When the presentation of the CLI at the TE is enabled (and calling subscriber allows), an unsolicited result code is returned after every RING (or +CRING: &lt;type&gt;) at a mobile terminating call.</p> <p><b>+CLIP: &lt;number&gt;, &lt;type&gt;,"",,"&lt;alphaId&gt;",&lt;CLI validity&gt;</b></p> <p>Parameters</p> <p><b>&lt;number&gt;</b> string type(string should be included in quotation marks)<br/>phone number of calling address in format specified by &lt;type&gt;</p> <p><b>&lt;type&gt;</b> type of address octet in integer format;<br/>129 Unknown type(ISDN format number)<br/>161 National number type(ISDN format)<br/>145 International number type(ISDN format )</p> <p><b>&lt;alphaId&gt;</b> string type(string should be included in quotation marks)<br/>alphanumeric representation of &lt;number&gt; corresponding to the entry found in phone book</p> <p><b>&lt;CLI validity&gt;</b> 0 CLI valid<br/>0 CLI has been withheld by the originator<br/>1 CLI is not available due to interworking problems or limitations of originating network</p> |
| Reference | Note   |

### 3.2.19 AT+CLIR Calling Line Identification Restriction

| AT+CLIR Calling Line Identification Restriction |   |
|---|---|
| Read Command<br><b>AT+CLIR?</b>                 | <p>Response</p> <p><b>+CLIR: &lt;n&gt;, &lt;m&gt;</b></p> <p><b>OK</b></p> <p>If error is related to ME functionality:<br/><b>+CME ERROR: &lt;err&gt;</b></p> <p>Parameters<br/>see Write Command</p> |
| Test Command<br><b>AT+CLIR=?</b>                | <p>Response</p> <p><b>+CLIR: (list of supported &lt;n&gt;s)</b></p> <p><b>OK</b></p>  |
| Write Command<br><b>AT+CLIR=[&lt;n&gt;]</b>     | <p>Response</p> <p>TA restricts or enables the presentation of the CLI to the called party when originating a call.</p> <p>The Command overrides the CLIR subscription (default is restricted or</p>  |

|           |  |
|-----------|--|
|           | <p>allowed) when temporary mode is provisioned as a default adjustment for all following outgoing calls. This adjustment can be revoked by using the opposite Command.</p> <p><b>OK</b></p> <p>If error is related to ME functionality:<br/> <b>+CME ERROR: &lt;err&gt;</b></p> <p>Parameters</p> <p><b>&lt;n&gt;</b> (parameter sets the adjustment for outgoing calls):</p> <ul style="list-style-type: none"> <li><u>0</u> presentation indicator is used according to the subscription of the CLIR service</li> <li>1 CLIR invocation</li> <li>2 CLIR suppression</li> </ul> <p><b>&lt;m&gt;</b> (parameter shows the subscriber CLIR service status in the network):</p> <ul style="list-style-type: none"> <li>0 CLIR not provisioned</li> <li>1 CLIR provisioned in permanent mode</li> <li>2 unknown (e.g. no network, etc.)</li> <li>3 CLIR temporary mode presentation restricted</li> <li>4 CLIR temporary mode presentation allowed</li> </ul> |
| Reference | Note   |

### 3.2.20 AT+CMEER Report Mobile Equipment Error

| AT+CMEER Report Mobile Equipment Error |  |
|--|--|
| Test Command<br><b>AT+CMEER=?</b>      | <p>Response</p> <p><b>+CMEER:</b> (list of supported &lt;n&gt;s)</p> <p><b>OK</b></p> <p>Parameters</p> <p>see Write Command</p> |
| Read Command<br><b>AT+CMEER?</b>       | <p>Response</p> <p><b>+CMEER:</b> &lt;n&gt;</p> <p><b>OK</b></p> <p>Parameters</p> <p>See Write Command</p>                      |

|  |  |   |   |                     |  |          |   |  |   |   |
|--|--|---|---|---------------------|--|----------|---|--|---|---|
| Write Command<br><b>AT+CMEE=[&lt;n&gt;<br/>]</b> | Response<br>TA disables or enables the use of result code +CME ERROR: <err> as an indication of an error relating to the functionality of the ME.<br><b>OK</b><br>If error is related to ME functionality:<br><b>ERROR</b>   |   |   |                     |  |          |   |  |   |   |
|  | Parameters<br><table><tr><td><b>&lt;n&gt;</b></td><td>0</td><td>disable result code</td></tr><tr><td></td><td><u>1</u></td><td>enable result code and use numeric values</td></tr><tr><td></td><td>2</td><td>enable result code and use verbose values</td></tr></table> | <b>&lt;n&gt;</b>                          | 0 | disable result code |  | <u>1</u> | enable result code and use numeric values |  | 2 | enable result code and use verbose values |
| <b>&lt;n&gt;</b>                                 | 0  | disable result code                       |   |                     |  |          |   |  |   |   |
|  | <u>1</u>   | enable result code and use numeric values |   |                     |  |          |   |  |   |   |
|  | 2  | enable result code and use verbose values |   |                     |  |          |   |  |   |   |
| Reference<br>GSM 07.07 [13]                      | Note   |   |   |                     |  |          |   |  |   |   |

### 3.2.21 AT+COLP Connected Line Identification Presentation

| <b>AT+COLP Connected Line Identification Presentation</b> |   |
|---|---|
| Read Command<br><b>AT+COLP?</b>                           | Response<br><b>+COLP: &lt;n&gt;,&lt;m&gt;</b><br><br><b>OK</b><br>If error is related to ME functionality:<br><b>+CME ERROR: &lt;err&gt;</b><br><br>Parameters<br>See Write Command   |
| Test Command<br><b>AT+COLP=?</b>                          | Response<br><b>+COLP: (list of supported &lt;n&gt;s)</b><br><br><b>OK</b><br><br>Parameters<br>See Write Command  |
| Write Command<br><b>AT+COLP=[&lt;n&gt;<br/>         ]</b> | Response<br>TA enables or disables the presentation of the COL (Connected Line) at the TE for a mobile originated call. It has no effect on the execution of the supplementary service COLR in the network.<br>Intermediate result code is returned from TA to TE before any +CR or V.25ter responses.<br><b>OK</b><br>If error is related to ME functionality:<br><b>+CME ERROR: &lt;err&gt;</b> |



|           |  |
|-----------|--|
|           | <b>Parameters</b><br><b>&lt;n&gt;</b> (parameter sets/shows the result code presentation status in the TA):<br>0     disable<br>1     enable<br><b>&lt;m&gt;</b> (parameter shows the subscriber COLP service status in the network):<br>0     COLP not provisioned<br>1     COLP provisioned<br>2     unknown (e.g. no network, etc.)   |
|           | <b>Intermediate result code</b><br>When enabled (and called subscriber allows), an intermediate result code is returned before any +CR or V.25ter responses:<br><b>+COLP: &lt;number&gt;,&lt;type&gt;[,&lt;subaddr&gt;,&lt;satype&gt; [,&lt;alpha&gt;]]</b>  |
|           | <b>Parameters</b><br><b>&lt;number&gt;</b> string type(string should be included in quotation marks) phone number of format specified by <type><br><b>&lt;type&gt;</b> type of address octet in integer format;<br>129 Unknown type(ISDN format number)<br>161 National number type(ISDN format)<br>145 International number type(ISDN format )<br><b>&lt;subaddr&gt;</b> string type(string should be included in quotation marks) sub address of format specified by <satype><br><b>&lt;satype&gt;</b> type of sub address octet in integer format (refer GSM 04.08 [8] sub clause 10.5.4.8)<br><b>&lt;alpha&gt;</b> optional string type(string should be included in quotation marks) alphanumeric representation of <number> corresponding to the entry found in phone book |
| Reference | Note   |

### 3.2.22 AT+COPS Operator Selection

#### AT+COPS Operator Selection

## SIM500W AT Commands Set

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

## SIM500W AT Commands Set

|                             |   |   |         |   |                    |   |                  |   |                    |   |   |   |  |   |                                |   |  |   |  |   |   |   |                                  |   |   |
|-----------------------------|---|---|---------|---|--------------------|---|------------------|---|--------------------|---|---|---|--|---|--------------------------------|---|--|---|--|---|---|---|----------------------------------|---|---|
|                             | <p>Parameters</p> <p><b>&lt;stat&gt;</b></p> <table> <tr><td>0</td><td>unknown</td></tr> <tr><td>1</td><td>operator available</td></tr> <tr><td>2</td><td>operator current</td></tr> <tr><td>3</td><td>operator forbidden</td></tr> </table> <p><b>&lt;oper&gt;</b> operator in format as per &lt;mode&gt;</p> <p><b>&lt;mode&gt;</b></p> <table> <tr><td>0</td><td>automatic mode; &lt;oper&gt; field is ignored</td></tr> <tr><td>1</td><td>manual operator selection; &lt;oper&gt; field shall be present</td></tr> <tr><td>2</td><td>manual deregister from network</td></tr> <tr><td>3</td><td>set only &lt;format&gt; (for read Command +COPS?) – not shown in Read Command response</td></tr> <tr><td>4</td><td>manual/automatic selected; if manual selection fails, automatic mode (&lt;mode&gt;=0) is entered</td></tr> </table> <p><b>&lt;format&gt;</b></p> <table> <tr><td>0</td><td>long format alphanumeric &lt;oper&gt;;can be up to 16 characters long</td></tr> <tr><td>1</td><td>short format alphanumeric &lt;oper&gt;</td></tr> <tr><td>2</td><td>numeric &lt;oper&gt;; GSM Location Area Identification number</td></tr> </table> | 0 | unknown | 1 | operator available | 2 | operator current | 3 | operator forbidden | 0 | automatic mode; <oper> field is ignored | 1 | manual operator selection; <oper> field shall be present | 2 | manual deregister from network | 3 | set only <format> (for read Command +COPS?) – not shown in Read Command response | 4 | manual/automatic selected; if manual selection fails, automatic mode (<mode>=0) is entered | 0 | long format alphanumeric <oper>;can be up to 16 characters long | 1 | short format alphanumeric <oper> | 2 | numeric <oper>; GSM Location Area Identification number |
| 0                           | unknown   |   |         |   |                    |   |                  |   |                    |   |   |   |  |   |                                |   |  |   |  |   |   |   |                                  |   |   |
| 1                           | operator available  |   |         |   |                    |   |                  |   |                    |   |   |   |  |   |                                |   |  |   |  |   |   |   |                                  |   |   |
| 2                           | operator current  |   |         |   |                    |   |                  |   |                    |   |   |   |  |   |                                |   |  |   |  |   |   |   |                                  |   |   |
| 3                           | operator forbidden  |   |         |   |                    |   |                  |   |                    |   |   |   |  |   |                                |   |  |   |  |   |   |   |                                  |   |   |
| 0                           | automatic mode; <oper> field is ignored   |   |         |   |                    |   |                  |   |                    |   |   |   |  |   |                                |   |  |   |  |   |   |   |                                  |   |   |
| 1                           | manual operator selection; <oper> field shall be present  |   |         |   |                    |   |                  |   |                    |   |   |   |  |   |                                |   |  |   |  |   |   |   |                                  |   |   |
| 2                           | manual deregister from network  |   |         |   |                    |   |                  |   |                    |   |   |   |  |   |                                |   |  |   |  |   |   |   |                                  |   |   |
| 3                           | set only <format> (for read Command +COPS?) – not shown in Read Command response  |   |         |   |                    |   |                  |   |                    |   |   |   |  |   |                                |   |  |   |  |   |   |   |                                  |   |   |
| 4                           | manual/automatic selected; if manual selection fails, automatic mode (<mode>=0) is entered  |   |         |   |                    |   |                  |   |                    |   |   |   |  |   |                                |   |  |   |  |   |   |   |                                  |   |   |
| 0                           | long format alphanumeric <oper>;can be up to 16 characters long   |   |         |   |                    |   |                  |   |                    |   |   |   |  |   |                                |   |  |   |  |   |   |   |                                  |   |   |
| 1                           | short format alphanumeric <oper>  |   |         |   |                    |   |                  |   |                    |   |   |   |  |   |                                |   |  |   |  |   |   |   |                                  |   |   |
| 2                           | numeric <oper>; GSM Location Area Identification number   |   |         |   |                    |   |                  |   |                    |   |   |   |  |   |                                |   |  |   |  |   |   |   |                                  |   |   |
| Reference<br>GSM 07.07 [14] | Note  |   |         |   |                    |   |                  |   |                    |   |   |   |  |   |                                |   |  |   |  |   |   |   |                                  |   |   |

### 3.2.23 AT+CPAS Mobile Equipment Activity Status

| AT+CPAS Mobile Equipment Activity Status |   |   |   |       |  |   |   |  |   |         |  |   |
|--|---|---|---|-------|--|---|---|--|---|---------|--|---|
| Test Command<br>AT+CPAS=?                | Response<br><b>+CPAS:</b> (list of supported <b>&lt;pas&gt;</b> s)<br><br><b>OK</b>   |   |   |       |  |   |   |  |   |         |  |   |
|  | Parameter<br>see Execution Command  |   |   |       |  |   |   |  |   |         |  |   |
|  |   |   |   |       |  |   |   |  |   |         |  |   |
| Execution Command<br>AT+CPAS             | Response<br>TA returns the activity status of ME.<br><b>+CPAS:</b> <b>&lt;pas&gt;</b><br><br><b>OK</b><br>If error is related to ME functionality:<br><b>+CME ERROR:</b> <b>&lt;err&gt;</b>   |   |   |       |  |   |   |  |   |         |  |   |
|  | Parameter   |   |   |       |  |   |   |  |   |         |  |   |
|  | <table><tr><td><b>&lt;pas&gt;</b></td><td>0</td><td>ready</td></tr><tr><td></td><td>2</td><td>unknown (ME is not guaranteed to respond to instructions)</td></tr><tr><td></td><td>3</td><td>ringing</td></tr><tr><td></td><td>4</td><td>call in progress or call hold</td></tr></table> | <b>&lt;pas&gt;</b>  | 0 | ready |  | 2 | unknown (ME is not guaranteed to respond to instructions) |  | 3 | ringing |  | 4 |
| <b>&lt;pas&gt;</b>                       | 0   | ready   |   |       |  |   |   |  |   |         |  |   |
|  | 2   | unknown (ME is not guaranteed to respond to instructions) |   |       |  |   |   |  |   |         |  |   |
|  | 3   | ringing   |   |       |  |   |   |  |   |         |  |   |
|  | 4   | call in progress or call hold                             |   |       |  |   |   |  |   |         |  |   |

| Reference      | Note |
|----------------|------|
| GSM 07.07 [13] |      |

### 3.2.24 AT+CPBF Find Phonebook Entries

| AT+CPBF Find Phonebook Entries                     |   |
|--|---|
| Test Command<br><b>AT+CPBF=?</b>                   | Response<br><b>+CPBF:</b> maximum length of field <b>&lt;nlength&gt;</b> ,maximum length of field <b>&lt;tlength&gt;</b><br><br><b>OK</b>   |
|  | Parameters<br>see Write Command   |
| Write Command<br><b>AT+CPBF=[&lt;findtext&gt;]</b> | Response<br>TA returns phone book entries (from the current phone book memory storage selected with +CPBS) which contain alphanumeric string <b>&lt;findtext&gt;</b> .<br><br><b>[+CPBF: &lt;index1&gt;, &lt;number&gt;,&lt;type&gt;, &lt;text&gt;[[...]<br/>&lt;CR&gt;&lt;LF&gt;+CBPF: &lt;index2&gt;,&lt;number&gt;,&lt;type&gt;,&lt;text&gt;]</b><br><br><b>OK</b>   |
|  | Parameters<br><b>&lt;findtext&gt;</b> string type(string should be included in quotation marks) field of maximum length <b>&lt;tlength&gt;</b> in current TE character set specified by +CSCS.<br><b>&lt;index1&gt;</b> integer type values in the range of location numbers of phone book memory<br><b>&lt;index2&gt;</b> integer type values in the range of location numbers of phone book memory<br><b>&lt;number&gt;</b> string type(string should be included in quotation marks) phone number of format <b>&lt;type&gt;</b><br><b>&lt;type&gt;</b> type of address octet in integer format ;<br>129 Unknown type(ISDN format number)<br>161 National number type(ISDN format)<br>145 International number type(ISDN format )<br><b>&lt;text&gt;</b> string type(string should be included in quotation marks) field of maximum length <b>&lt;tlength&gt;</b> in current TE character set specified by +CSCS.<br><b>&lt;nlength&gt;</b> integer type value indicating the maximum length of field <b>&lt;number&gt;</b><br><b>&lt;tlength&gt;</b> integer type value indicating the maximum length of field <b>&lt;text&gt;</b> |

|                             |      |
|-----------------------------|------|
| Reference<br>GSM 07.07 [13] | Note |
|-----------------------------|------|

### 3.2.25 AT+CPBR Read Current Phonebook Entries

| AT+CPBR Read Current Phonebook Entries                                     |  |
|--|--|
| Test Command<br><b>AT+CPBR=?</b>   | <p>Response</p> <p>TA returns location range supported by the current storage as a compound value and the maximum lengths of &lt;number&gt; and &lt;text&gt; fields.</p> <p><b>+CPBR:</b> (list of supported &lt;index&gt;s), &lt;nlength&gt;, &lt;tlength&gt;</p> <p><b>OK</b></p> <p>Parameters</p> <p>&lt;index&gt;      location number</p> <p>&lt;nlength&gt;    max. length of phone number</p> <p>&lt;tlength&gt;    max. length of text for number</p>   |
| Write Command<br><b>AT+CPBR=<br/>&lt;index1&gt;<br/>[, &lt;index2&gt;]</b> | <p>Response</p> <p>TA returns phone book entries in location number range &lt;index1&gt;...&lt;index2&gt; from the current phone book memory storage selected with +CPBS. If &lt;index2&gt; is left out, only location &lt;index1&gt; is returned.</p> <p><b>+CPBR:&lt;index1&gt;,&lt;number&gt;,&lt;type&gt;,&lt;text&gt;[&lt;CR&gt;&lt;LF&gt;+CPBR: .....+CPBR: &lt;index2&gt;, &lt;number&gt;, &lt;type&gt;, &lt;text&gt;]</b></p> <p><b>OK</b></p> <p>Parameters</p> <p>&lt;index1&gt;    read as of this location number</p> <p>&lt;index2&gt;    read to this location number</p> <p>&lt;number&gt;    phone number</p> <p>&lt;type&gt;       type of number</p> <p>&lt;text&gt;       text for phone number in current TE character set specified by +CSCS.</p> |
| Reference<br>GSM 07.07 [13]  | Note   |

### 3.2.26 AT+CPBS Select Phonebook Memory Storage

| AT+CPBS Select Phonebook Memory Storage |  |
|---|--|
| Test Command<br><b>AT+CPBS=?</b>        | <p>Response</p> <p><b>+CPBS:</b> (list of supported &lt;storage&gt;s)</p> <p><b>OK</b></p> |

## SIM500W AT Commands Set

|   |   |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
|---|---|------------------------|--|--|-----------------------------|--|---|--|---|--|-------------------|--|-------------------------------|--|------------------------------|--|------------------------|--|---------------------------------|--|----------------------------------|--|---|--|--------------------|---------------------|---|----------------------|--|
|   | Parameters<br>see Write Command   |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
| Read Command<br><b>AT+CPBS?</b>                 | Response<br><b>+CPBS: &lt;storage&gt;[,&lt;used&gt;,&lt;total&gt;]</b><br><br><b>OK</b><br><br>Parameters<br>See Write Command  |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
| Write Command<br><b>AT+CPBS=&lt;storage&gt;</b> | Response<br>TA selects current phone book memory storage, which is used by other phone book commands.<br><b>OK</b><br><br>Parameters<br><table> <tr> <td><b>&lt;storage&gt;</b></td><td>"MC" ME missed (unanswered) calls list</td></tr> <tr> <td></td><td>"RC" ME received calls list</td></tr> <tr> <td></td><td>"DC" ME dialed calls list(+CPBW may not be applicable for this storage)(same as LD)</td></tr> <tr> <td></td><td>"LA" Last Number All list (LND/LNM/LNR)</td></tr> <tr> <td></td><td>"ME" ME phonebook</td></tr> <tr> <td></td><td>"BN" SIM barred dialed number</td></tr> <tr> <td></td><td>"SD" SIM service dial number</td></tr> <tr> <td></td><td>"VM" SIM voice mailbox</td></tr> <tr> <td></td><td>"FD" SIM fix dialing-phone book</td></tr> <tr> <td></td><td>"LD" SIM last-dialing-phone book</td></tr> <tr> <td></td><td>"ON" SIM (or ME) own numbers (MSISDNs) list</td></tr> <tr> <td></td><td>"SM" SIM phonebook</td></tr> <tr> <td><b>&lt;used&gt;</b></td><td>integer type value indicating the total number of used Locations in selected memory</td></tr> <tr> <td><b>&lt;total&gt;</b></td><td>integer type value indicating the total number of locations In selected memory</td></tr> </table> | <b>&lt;storage&gt;</b> | "MC" ME missed (unanswered) calls list |  | "RC" ME received calls list |  | "DC" ME dialed calls list(+CPBW may not be applicable for this storage)(same as LD) |  | "LA" Last Number All list (LND/LNM/LNR) |  | "ME" ME phonebook |  | "BN" SIM barred dialed number |  | "SD" SIM service dial number |  | "VM" SIM voice mailbox |  | "FD" SIM fix dialing-phone book |  | "LD" SIM last-dialing-phone book |  | "ON" SIM (or ME) own numbers (MSISDNs) list |  | "SM" SIM phonebook | <b>&lt;used&gt;</b> | integer type value indicating the total number of used Locations in selected memory | <b>&lt;total&gt;</b> | integer type value indicating the total number of locations In selected memory |
| <b>&lt;storage&gt;</b>                          | "MC" ME missed (unanswered) calls list  |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
|   | "RC" ME received calls list   |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
|   | "DC" ME dialed calls list(+CPBW may not be applicable for this storage)(same as LD)   |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
|   | "LA" Last Number All list (LND/LNM/LNR)   |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
|   | "ME" ME phonebook   |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
|   | "BN" SIM barred dialed number   |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
|   | "SD" SIM service dial number  |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
|   | "VM" SIM voice mailbox  |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
|   | "FD" SIM fix dialing-phone book   |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
|   | "LD" SIM last-dialing-phone book  |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
|   | "ON" SIM (or ME) own numbers (MSISDNs) list   |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
|   | "SM" SIM phonebook  |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
| <b>&lt;used&gt;</b>                             | integer type value indicating the total number of used Locations in selected memory   |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
| <b>&lt;total&gt;</b>                            | integer type value indicating the total number of locations In selected memory  |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |
| Reference<br>GSM 07.07 [13]                     | Note  |                        |  |  |                             |  |   |  |   |  |                   |  |                               |  |                              |  |                        |  |                                 |  |                                  |  |   |  |                    |                     |   |                      |  |

### 3.2.27 AT+CPBW Write Phonebook Entry

#### AT+CPBW Write Phonebook Entry

**SIM500W AT Commands Set**

|   |  |
|---|--|
| <b>Test Command</b><br><b>AT+CPBW=?</b>   | <b>Response</b><br>TA returns location range supported by the current storage, the maximum length of <number> field, supported number formats of the storage, and the maximum length of <text> field.<br><br><b>+CPBW:</b> (list of supported <index>s), <nlength>, (list of supported <type>s), <tlength><br><br><b>OK</b><br><br><b>Parameters</b><br>see Write Command  |
| <b>Write Command</b><br><b>AT+CPBW=</b><br><b>&lt;index1&gt;</b><br><b>[, &lt;number&gt;,</b><br><b>[&lt;type&gt;,</b><br><b>[&lt;text&gt;]]]</b> | <b>Response</b><br>TA writes phone book entry in location number <index> in the current phone book memory storage selected with +CPBS. Entry fields written are phone number <number> (in the format <type>) and text <text> associated with the number. If those fields are omitted, phone book entry is deleted. If <index> is left out, but <number> is given, entry is written to the first free location in the phone book.<br><br><b>OK</b><br><br><b>Parameters</b><br><nlength>      max. length of phone number<br><tlength>      max. length of text for number<br><index>          location number<br><number>        phone number<br><type>           type of number;<br>129 Unknown type(ISDN format number)<br>145 International number type(ISDN format )<br><text>            string type(string should be included in quotation marks):<br>text for phone number in current TE character set specified by +CSCS.<br><br><b>Note:</b> The following characters in <text> must be entered via the escape sequence:<br>GSM char.      Seq. Seq.(hex)      Note<br>\                    \5C 5C 35 43      (backslash)<br>“                    \22 5C 32 32      (string delimiter)<br>BSP                \08 5C 30 38      (backspace)<br>NULL                \00 5C 30 30      (GSM null)<br>‘0’ (GSM null) may cause problems for application layer software when reading string lengths. |
| <b>Reference</b><br>GSM 07.07 [13]  | <b>Note</b>  |

## 3.2.28 AT+CPIN Enter PIN

| AT+CPIN Enter PIN   |   |
|---|---|
| Test Command<br><b>AT+CPIN=?</b>  | Response<br><b>OK</b><br><br>Parameter<br>see Write Command   |
| Read Command<br><b>AT+CPIN?</b>   | <p>Response</p> <p>TA returns an alphanumeric string indicating whether some password is required or not.</p> <p><b>+CPIN: &lt;code&gt;</b></p> <p><b>OK</b></p> <p>Parameter</p> <p><b>&lt;code&gt;</b>    READY            no further entry needed</p> <p>          SIM PIN            ME is waiting for SIM PIN</p> <p>          SIM PUK            ME is waiting for SIM PUK</p> <p>          PH_SIM PIN    ME is waiting for phone to SIM card (antitheft)</p> <p>          PH_SIM PUK ME is waiting for SIM PUK (antitheft)</p> <p>          SIM PIN2            PIN2, e.g. for editing the FDN book possible only if preceding Command was acknowledged with +CME ERROR:17</p> <p>          SIM PUK2        possible only if preceding Command was acknowledged with error +CME ERROR: 18.</p> |
| Write Command<br><b>AT+CPIN=&lt;pin&gt;</b><br><b>[, &lt;new pin&gt;]</b> | <p>Response</p> <p>TA stores a password which is necessary before it can be operated (SIM PIN, SIM PUK, PH-SIM PIN, etc.). If the PIN is to be entered twice, the TA shall automatically repeat the PIN. If no PIN request is pending, no action is taken and an error message, +CME ERROR, is returned to TE.</p> <p>If the PIN required is SIM PUK or SIM PUK2, the second pin is required. This second pin, &lt;new pin&gt;, is used to replace the old pin in the SIM.</p> <p><b>OK</b></p> <p>If error is related to ME functionality:</p> <p><b>+CME ERROR: &lt;err&gt;</b></p> <p>Parameters</p> <p><b>&lt;pin&gt;</b>                    string type; password</p> <p><b>&lt;new pin&gt;</b>                string type; If the PIN required is SIM PUK or SIMPUK2: new password</p>          |
| Reference<br>GSM 07.07 [13]   | Note  |

## 3.2.29 AT+CPWD Change Password

## AT+CPWD    Change Password



# SIM500W AT Commands Set

|  |   |
|--|---|
| Test Command<br><b>AT+CPWD=?</b>                                     | Response<br>TA returns a list of pairs which present the available facilities and the maximum length of their password.<br><b>+CPWD:</b> (list of supported <fac>s, <pwdlength>s)<br><br><b>OK</b><br>Parameters<br><fac><br>otherwise      see Write Command<br><pwdlength>      integer   max. length of password |
| Write Command<br><b>AT+CPWD =</b><br><fac>,<br><oldpwd>,<br><newpwd> | Response<br>TA sets a new password for the facility lock function.<br><br><b>OK</b>   |

|                             |  |
|-----------------------------|--|
|                             | <p>Parameters</p> <p><b>&lt;fac&gt;</b></p> <p>"SC" SIM (lock SIM card) (SIM asks password in ME power-up and when this lock Command issued)</p> <p>"AO" BAOC (Barr All Outgoing Calls) (refer GSM02.88[6] clause 1)</p> <p>"OI" BOIC (Barr Outgoing International Calls) (refer GSM02.88[6] clause 1)</p> <p>"OX" BOIC-exHC (Barr Outgoing International Calls except to Home Country) (refer GSM02.88[6] clause 1)</p> <p>"AI" BAIC (Barr All Incoming Calls) (refer GSM02.88[6] clause 2)</p> <p>"IR" BIC-Roam (Barr Incoming Calls when Roaming outside the home country) (refer GSM02.88 [6] clause 2)</p> <p>"AB" All Barring services (refer GSM02.30[19]) (applicable only for &lt;mode&gt;=0)</p> <p>"AG" All outgoing barring services (refer GSM02.30[19]) (applicable only for &lt;mode&gt;=0)</p> <p>"AC" All incoming barring services (refer GSM02.30[19]) (applicable only for &lt;mode&gt;=0)</p> <p>"P2" SIM PIN2</p> <p><b>&lt;oldpwd&gt;</b> string type(string should be included in quotation marks): password specified for the facility from the user interface or with Command. If an old password has not yet been set, &lt;oldpwd&gt; is not to enter.</p> <p><b>&lt;newpwd&gt;</b> string type(string should be included in quotation marks): new password</p> |
| Reference<br>GSM 07.07 [13] | Note   |

### 3.2.30 AT+CR Service Reporting Control

| AT+CR Service Reporting Control |   |
|---------------------------------|---|
| Test Command<br><b>AT+CR=?</b>  | Response<br><b>+CR:</b> (list of supported <mode>s) |
|                                 | <b>OK</b>   |
|                                 | Parameter<br>see Write Command                      |
| Read Command<br><b>AT+CR?</b>   | Response<br><b>+CR:</b> <mode>                      |
|                                 | <b>OK</b>   |

## SIM500W AT Commands Set

|  |  |                              |          |         |  |   |        |                     |       |                          |  |      |                         |  |           |                              |  |          |                             |
|--|--|------------------------------|----------|---------|--|---|--------|---------------------|-------|--------------------------|--|------|-------------------------|--|-----------|------------------------------|--|----------|-----------------------------|
|  | Parameters<br>see Write Command  |                              |          |         |  |   |        |                     |       |                          |  |      |                         |  |           |                              |  |          |                             |
| Write Command<br><b>AT+CR=[&lt;mode&gt;]</b> | <p>Response</p> <p>TA controls whether or not intermediate result code +CR: &lt;serv&gt; is returned from the TA to the TE at a call set up.</p> <p><b>OK</b></p> <p>Parameter</p> <table><tr><td><b>&lt;mode&gt;</b></td><td><u>0</u></td><td>disable</td></tr><tr><td></td><td>1</td><td>enable</td></tr></table> <p>Intermediate result code</p> <p>If enabled, an intermediate result code is transmitted at the point during connect negotiation at which the TA has determined which speed and quality of service will be used, before any error control or data compression reports are transmitted, and before any final result code (e.g. CONNECT) is transmitted.</p> <p><b>+CR:&lt;serv&gt;</b></p> <p>Parameter</p> <table><tr><td><b>&lt;serv&gt;</b></td><td>ASYNC</td><td>asynchronous transparent</td></tr><tr><td></td><td>SYNC</td><td>synchronous transparent</td></tr><tr><td></td><td>REL ASYNC</td><td>asynchronous non-transparent</td></tr><tr><td></td><td>REL SYNC</td><td>synchronous non-transparent</td></tr></table> | <b>&lt;mode&gt;</b>          | <u>0</u> | disable |  | 1 | enable | <b>&lt;serv&gt;</b> | ASYNC | asynchronous transparent |  | SYNC | synchronous transparent |  | REL ASYNC | asynchronous non-transparent |  | REL SYNC | synchronous non-transparent |
| <b>&lt;mode&gt;</b>                          | <u>0</u>   | disable                      |          |         |  |   |        |                     |       |                          |  |      |                         |  |           |                              |  |          |                             |
|  | 1  | enable                       |          |         |  |   |        |                     |       |                          |  |      |                         |  |           |                              |  |          |                             |
| <b>&lt;serv&gt;</b>                          | ASYNC  | asynchronous transparent     |          |         |  |   |        |                     |       |                          |  |      |                         |  |           |                              |  |          |                             |
|  | SYNC   | synchronous transparent      |          |         |  |   |        |                     |       |                          |  |      |                         |  |           |                              |  |          |                             |
|  | REL ASYNC  | asynchronous non-transparent |          |         |  |   |        |                     |       |                          |  |      |                         |  |           |                              |  |          |                             |
|  | REL SYNC   | synchronous non-transparent  |          |         |  |   |        |                     |       |                          |  |      |                         |  |           |                              |  |          |                             |
| Reference<br>GSM 07.07 [13]                  | Note   |                              |          |         |  |   |        |                     |       |                          |  |      |                         |  |           |                              |  |          |                             |

### 3.2.31 AT+CRC Set Cellular Result Codes For Incoming Call Indication

| <b>AT+CRC Set Cellular Result Codes For Incoming Call Indication</b> |  |
|--|--|
| Test Command<br><b>AT+CRC=?</b>                                      | <p>Response</p> <p><b>+CRC:</b> (list of supported &lt;mode&gt;s)</p> <p><b>OK</b></p> <p>Parameters<br/>see Write Command</p> |
| Read Command<br><b>AT+CRC?</b>                                       | <p>Response</p> <p><b>+CRC:</b> &lt;mode&gt;</p> <p><b>OK</b></p> <p>Parameter<br/>see Write Command</p>                       |

## SIM500W AT Commands Set

|  |   |
|--|---|
| <p>Write Command</p> <p><b>AT+CRC=[&lt;mode&gt;]</b></p> | <p>Response</p> <p>TA controls whether or not the extended format of incoming call indication is used.</p> <p><b>OK</b></p> <p>Parameter</p> <p><b>&lt;mode&gt;</b>      <u>0</u>      disable extended format</p> <p>                  1      enable extended format</p> <p>Unsolicited result code</p> <p>When enabled, an incoming call is indicated to the TE with unsolicited result code +CRING: &lt;type&gt; instead of the normal RING.</p> <p>Parameter</p> <p><b>&lt;type&gt;</b>      ASYNC      asynchronous transparent</p> <p>                  SYNC      synchronous transparent</p> <p>                  REL ASYNC      asynchronous non-transparent</p> <p>                  REL SYNC      synchronous non-transparent</p> <p>                  FAX      facsimile</p> <p>                  VOICE      voice</p> |
| <p>Reference</p> <p>GSM 07.07 [13]</p>                   | <p>Note</p>   |

### 3.2.32 AT+CREG Network Registration

| AT+CREG Network Registration                |   |
|---|---|
| <p>Test Command</p> <p><b>AT+CREG=?</b></p> | <p>Response</p> <p><b>+CREG:</b> (list of supported &lt;n&gt;s)</p> <p><b>OK</b></p> <p>Parameters</p> <p>see Write Command</p>   |
| <p>Read Command</p> <p><b>AT+CREG?</b></p>  | <p>Response</p> <p>TA returns the status of result code presentation and an integer &lt;stat&gt; which shows whether the network has currently indicated the registration of the ME. Location information elements &lt;lac&gt; and &lt;ci&gt; are returned only when &lt;n&gt;=2 and ME is registered in the network.</p> <p><b>+CREG:</b> &lt;n&gt;,&lt;stat&gt;[,&lt;lac&gt;,&lt;ci&gt;]</p> <p><b>OK</b></p> <p>If error is related to ME functionality:</p> <p><b>+CME ERROR:</b> &lt;err&gt;</p> |

|   |   |
|---|---|
| Write Command<br><b>AT+CREG=&lt;n&gt;</b> | <p>Response</p> <p>TA controls the presentation of an unsolicited result code +CREG: &lt;stat&gt; when &lt;n&gt;=1 and there is a change in the ME network registration status.</p> <p><b>OK</b></p> <hr/> <p>Parameters</p> <p><b>&lt;n&gt;</b>      <u>0</u>      disable network registration unsolicited result code<br/>                    1      enable network registration unsolicited result code<br/>                                +CREG: &lt;stat&gt;<br/>                    2      enable network registration unsolicited result code with location information</p> <p><b>&lt;stat&gt;</b>    0      not registered, ME is not currently searching a new operator to register to<br/>                    1      registered, home network<br/>                    2      not registered, but ME is currently searching a new operator to register to<br/>                    3      registration denied<br/>                    4      unknown<br/>                    5      registered, roaming</p> <p><b>&lt;lac&gt;</b>      string type(string should be included in quotation marks);<br/>                        two byte location area code in hexadecimal format</p> <p><b>&lt; ci &gt;</b>      string type(string should be included in quotation marks);<br/>                        two byte cell ID in hexadecimal format</p> <hr/> <p>Unsolicited result code</p> <p>If &lt;n&gt;=1 and there is a change in the ME network registration status</p> <p><b>+CREG: &lt;stat&gt;</b></p> <p>If &lt;n&gt;=2 and there is a change in the ME network registration status or a change of the network cell:</p> <p><b>+CREG: &lt;stat&gt;[,&lt;lac&gt;,&lt;ci&gt;]</b></p> <p>Parameters<br/>         see Write Command</p> |
| Reference<br>GSM 07.07 [13]               | Note  |

### 3.2.33 AT+CRLP Select Radio Link Protocol Parameter

#### AT+CRLP Select Radio Link Protocol Parameter

**SIM500W AT Commands Set**

|   |   |   |      |                                      |       |      |                                |      |        |  |      |       |                            |        |   |  |      |       |   |
|---|---|---|------|--------------------------------------|-------|------|--------------------------------|------|--------|--|------|-------|----------------------------|--------|---|--|------|-------|---|
| Test Command<br>AT+CRLP=?                                       | <p>Response</p> <p>TA returns values supported. RLP versions 0 and 1 share the same parameter set. TA returns only one line for this set (where &lt;verx&gt; is not present).</p> <p>+CRLP: (list of supported &lt;iws&gt;s), (list of supported &lt;mws&gt;s), (list of supported &lt;T1&gt;s), (list of supported &lt;N2&gt;s), (list of supported &lt;ver1&gt;s), (list of supported &lt;T4&gt;s)</p> <p>OK</p>  |   |      |                                      |       |      |                                |      |        |  |      |       |                            |        |   |  |      |       |   |
|   | <p>Parameters</p> <p>see Write Command</p>  |   |      |                                      |       |      |                                |      |        |  |      |       |                            |        |   |  |      |       |   |
| Read Command<br>AT+CRLP?  | <p>Response</p> <p>TA returns current settings for RLP version. RLP versions 0 and 1 share the same parameter set. TA returns only one line for this set (where &lt;verx&gt; is not present).</p> <p>+CRLP: &lt;iws&gt;,&lt;mws&gt;,&lt;T1&gt;,&lt;N2&gt;,&lt;ver0&gt;,&lt;T4&gt;</p> <p>OK</p>   |   |      |                                      |       |      |                                |      |        |  |      |       |                            |        |   |  |      |       |   |
|   | <p>Parameters</p> <p>see Write Command</p>  |   |      |                                      |       |      |                                |      |        |  |      |       |                            |        |   |  |      |       |   |
| Write Command<br>AT+CRLP=[<iws>,<mws>,<T1>,<N2>,<ver>,<T4>]]]]] | <p>Response</p> <p>TA sets radio link protocol (RLP) parameters used when non-transparent data calls are setup.</p> <p>OK</p>   |   |      |                                      |       |      |                                |      |        |  |      |       |                            |        |   |  |      |       |   |
|   | <p>Parameters</p> <table><tr><td>&lt;iws&gt;</td><td>0-61</td><td>Interworking window size (IWF to MS)</td></tr><tr><td>&lt;mws&gt;</td><td>0-61</td><td>Mobile window size (MS to IWF)</td></tr><tr><td>&lt;T1&gt;</td><td>39-255</td><td>acknowledgment timer T1 in 10 ms units</td></tr><tr><td>&lt;N2&gt;</td><td>1-255</td><td>retransmission attempts N2</td></tr><tr><td>&lt;verx&gt;</td><td>0</td><td>RLP version number in integer format; when Version indication is not present it shall equal 0.</td></tr></table> <p>Note: Versions 0 and 1 share the same parameter set.</p> <table><tr><td>&lt;T4&gt;</td><td>3-255</td><td>re-sequencing period in integer format, in units of 10 ms. This is NOT used for RLP versions 0 and 1.</td></tr></table> | <iws>   | 0-61 | Interworking window size (IWF to MS) | <mws> | 0-61 | Mobile window size (MS to IWF) | <T1> | 39-255 | acknowledgment timer T1 in 10 ms units | <N2> | 1-255 | retransmission attempts N2 | <verx> | 0 | RLP version number in integer format; when Version indication is not present it shall equal 0. | <T4> | 3-255 | re-sequencing period in integer format, in units of 10 ms. This is NOT used for RLP versions 0 and 1. |
| <iws>   | 0-61  | Interworking window size (IWF to MS)  |      |                                      |       |      |                                |      |        |  |      |       |                            |        |   |  |      |       |   |
| <mws>   | 0-61  | Mobile window size (MS to IWF)  |      |                                      |       |      |                                |      |        |  |      |       |                            |        |   |  |      |       |   |
| <T1>  | 39-255  | acknowledgment timer T1 in 10 ms units  |      |                                      |       |      |                                |      |        |  |      |       |                            |        |   |  |      |       |   |
| <N2>  | 1-255   | retransmission attempts N2  |      |                                      |       |      |                                |      |        |  |      |       |                            |        |   |  |      |       |   |
| <verx>  | 0   | RLP version number in integer format; when Version indication is not present it shall equal 0.        |      |                                      |       |      |                                |      |        |  |      |       |                            |        |   |  |      |       |   |
| <T4>  | 3-255   | re-sequencing period in integer format, in units of 10 ms. This is NOT used for RLP versions 0 and 1. |      |                                      |       |      |                                |      |        |  |      |       |                            |        |   |  |      |       |   |
| Reference<br>GSM 07.07 [13]                                     | <p>Note</p>   |   |      |                                      |       |      |                                |      |        |  |      |       |                            |        |   |  |      |       |   |

## 3.2.34 AT+CRSM Restricted SIM Access

| AT+CRSM Restricted SIM Access  |  |
|--|--|
| Test Command<br><b>AT+CRSM=?</b>   | Response<br><b>OK</b>  |
| Write Command<br><b>AT+CRSM=&lt;Command&gt;[,&lt;fileId&gt;[,&lt;P1&gt;,&lt;P2&gt;,&lt;P3&gt;[,&lt;data&gt;]]]</b> | <p>Response<br/><b>+CRSM: &lt;sw1&gt;, &lt;sw2&gt; [,&lt;response&gt;]</b></p> <p><b>OK / ERROR / +CME ERROR: &lt;err&gt;</b></p> <p>Parameters</p> <p><b>&lt;Command&gt;</b> 176 READ BINARY<br/>178 READ RECORD<br/>192 GET RESPONSE<br/>214 UPDATE BINARY<br/>220 UPDATE RECORD<br/>242 STATUS<br/>all other values are reserved; refer GSM 11.11.</p> <p><b>&lt;fileId&gt;</b> integer type; this is the identifier for an elementary data file on SIM. Mandatory for every Command except STATUS</p> <p><b>&lt;P1&gt;,&lt;P2&gt;,&lt;P3&gt;</b> integer type, range 0 - 255<br/>parameters to be passed on by the ME to the SIM; refer GSM 11.11.</p> <p><b>&lt;data&gt;</b> information which shall be written to the SIM (hex-decimal character format)</p> <p><b>&lt;sw1&gt;, &lt;sw2&gt;</b> integer type, range 0 - 255<br/>status information from the SIM about the execution of the actual Command. These parameters are delivered to the TE in both cases, on successful or failed execution of the Command; refer GSM 11.11.</p> <p><b>&lt;response&gt;</b> response of a successful completion of the Command previously issued (hexadecimal character format)</p> |
| Reference<br>GSM 07.07<br>GSM 11.11  | Note   |

## 3.2.35 AT+CSQ Signal Quality Report

| AT+CSQ Signal Quality Report    |  |
|---------------------------------|--|
| Test Command<br><b>AT+CSQ=?</b> | <p>Response<br/><b>+CSQ: (list of supported &lt;rssi&gt;s),(list of supported &lt;ber&gt;s)</b></p> <p><b>OK</b></p> |

## SIM500W AT Commands Set

|                                    |  |
|------------------------------------|--|
| Execution Command<br><b>AT+CSQ</b> | Response<br><b>+CSQ: &lt;rss&gt;,&lt;ber&gt;</b><br><br><b>OK</b><br><b>+CME ERROR: &lt;err&gt;</b><br>Execution Command returns received signal strength indication <rss> and channel bit error rate <ber> from the ME. Test Command returns values supported by the TA.<br><br>Parameters<br><b>&lt;rss&gt;</b><br>0     -113 dBm or less<br>1     -111 dBm<br>2...30 -109... -53 dBm<br>31    -51 dBm or greater<br>99    not known or not detectable<br><b>&lt;ber&gt;</b> (in percent):<br>0...7 as RXQUAL values in the table in GSM 05.08 [20] subclause 7.2.4<br>99    not known or not detectable |
| Reference<br>GSM 07.07 [13]        | Note   |

### 3.2.36 AT+FCLASS FAX: Select, Read Or Test Service Class

| <b>AT+FCLASS FAX: Select, Read Or Test Service Class</b> |   |
|--|---|
| Test Command<br><b>AT+FCLASS=?</b>                       | Response<br><b>+FCLASS: (list of supported &lt;n&gt;s)</b><br><br><b>OK</b><br><br>Parameters<br>see Write Command  |
| Read Command<br><b>AT+ FCLASS?</b>                       | Response<br><b>+FCLASS: &lt;n&gt;</b><br><br><b>OK</b><br><br>Parameters<br>See Write Command.  |
| Write Command<br><b>AT+FCLASS=</b><br><b>[&lt;n&gt;]</b> | Response<br>TA sets a particular mode of operation (data fax). This causes the TA to process information in a manner suitable for that type of information<br><b>OK</b> |



## SIM500W AT Commands Set

|                             |  |
|-----------------------------|--|
|                             | Parameter<br>< n>      0      data<br>1      fax class 1 (TIA-578-A)<br>1.0    fax class 1 (TIU-T T.31[11])<br>2      fax(manufacturer specific<br>2.0    fax class 2 (TIU-T T.32[12] and TIA-592) |
| Reference<br>GSM 07.07 [13] | Note   |

### 3.2.37 AT+FMI FAX: Report Manufactured ID

| AT+FMI FAX: Report Manufactured ID  |   |
|-------------------------------------|---|
| Test Command<br><b>AT+ FMI =?</b>   | Response<br><b>OK</b>   |
|                                     | Parameters<br>see Execution Command   |
| Execution Command<br><b>AT+ FMI</b> | Response<br>TA reports one or more lines of information text which permit the user to identify the manufacturer.<br><b>&lt;manufacturer Id&gt;</b><br><br><b>OK</b> |
|                                     | Parameter<br><b>&lt;manufacturer Id&gt; the ID of manufacturer</b>  |
| Reference<br>EIA/TIA-578-D          | Note  |

### 3.2.38 AT+FMM FAX: Rreport Model ID

| AT+FMM FAX: Rreport Model ID        |  |
|-------------------------------------|--|
| Test Command<br><b>AT+ FMM =?</b>   | Response<br><b>OK</b>  |
|                                     | Parameters<br>see Execution Command  |
| Execution Command<br><b>AT+ FMM</b> | Response<br>TA reports one or more lines of information text which permit the user to identify the specific model of device.<br><b>&lt;model Id&gt;</b><br><br><b>OK</b> |
|                                     | Parameter<br><b>&lt;model Id&gt; the ID of model</b>   |
| Reference                           | Note   |

EIA/TIA-578-D

## 3.2.39 AT+FMR FAX: Report Revision ID

| AT+FMR FAX: Report Revision ID      |   |
|-------------------------------------|---|
| Test Command<br><b>AT+ FMR =?</b>   | Response<br><b>OK</b>   |
|                                     | Parameter<br>see Execution Command  |
| Execution Command<br><b>AT+ FMR</b> | Response<br>TA reports one or more lines of information text which permit the user to identify the version, revision level or data or other information of the device.<br><b>&lt;Revision Id&gt;</b><br><br><b>OK</b> |
|                                     | Parameter<br><b>&lt;Revision Id&gt;</b> the version, revision level or data or other information of the device.   |
| Reference<br>EIA/TIA-578-D          | Note  |

## 3.2.40 AT+VTD Tone Duration

| AT+VTD Tone Duration                       |   |
|--|---|
| Test Command<br><b>AT+VTD=?</b>            | Response<br><b>+VTD:</b> (list of supported <b>&lt;n&gt;s</b> )<br><br><b>OK</b>  |
|  | Parameters<br>see Write Command   |
| Read Command<br><b>AT+VTD?</b>             | Response<br><b>+VTD: &lt;n&gt;</b><br><br><b>OK</b>   |
|  | Parameter<br>see Write Command  |
| Write Command<br><b>AT+VTD = &lt;n&gt;</b> | Response<br>This Command refers to an integer <b>&lt;n&gt;</b> that defines the length of tones emitted as a result of the <b>+VTS</b> Command. This does not affect the <b>D</b> Command.<br><b>OK</b> |

## SIM500W AT Commands Set

|                             |  |
|-----------------------------|--|
|                             | Parameter<br><b>&lt;n&gt;</b> 1-255 duration of the tone in 1/10 seconds |
| Reference<br>GSM 07.07 [13] | Note   |

### 3.2.41 AT+VTS DTMF And Tone Generation

| AT+VTS DTMF And Tone Generation                    |   |
|--|---|
| Test Command<br><b>AT+VTS=?</b>                    | Response<br><b>+VTS:</b> (list of supported <b>&lt;dtmf&gt;</b> s), ,(list of supported <b>&lt;duration&gt;</b> s)<br><br><b>OK</b><br><br>Parameters<br>see Write Command  |
| Write Command<br><b>AT+VTS=&lt;dtmf-string&gt;</b> | Response<br>This Command allows the transmission of DTMF tones and arbitrary tones in voice mode. These tones may be used (for example) when announcing the start of a recording period.<br>Note: D is used only for dialing.<br><b>OK</b><br>If error is related to ME functionality:<br><b>+CME ERROR: &lt;err&gt;</b><br><br>Note: The Command is writing only.<br><br>Parameters<br><b>&lt;dtmf-string&gt;</b> which has a max length of 20 characters, must be entered between double quotes (“ ”) and consists of combinations of the following separated by commas. But a single character does not require quotes.<br><br>1) <b>&lt;dtmf&gt;</b> A single ASCII characters in the set 0-9, #,*, A-D. This is interpreted as a sequence of DTMF tones whose duration is set by the +VTD Command.<br>2) { <b>&lt;dtmf&gt;</b> , <b>&lt;duration&gt;</b> } This is interpreted as a DTMF tone whose duration is determined by <b>&lt;duration&gt;</b> .<br><b>&lt;duration&gt;</b> duration of the tone in 1/10 seconds range :1-255 |
| Reference<br>GSM 07.07 [13]                        | Note  |

## 3.2.42 AT+CMUX Multiplexer Control

| AT+CMUX Multiplexer Control   |   |                |      |      |
|---|---|----------------|------|------|
| Test Command<br>AT+CMUX=?   | Response<br>+CMUX: list of supported (<mode>),(<subset>s),(<port_speed>s),(,<N1>s),(,<T1>s),(,<N2>s),(,<T2>s),(,<T3>s),(,<k>s)<br><br>OK  |                |      |      |
|   | Parameters<br>See Write Command   |                |      |      |
|   |   |                |      |      |
| Write Command<br>AT+CMUX=[<mode>,<subset>,<port_speed>,<N1>,<T1>,<N2>,<T2>,<T3>,<k>]]]]]]]] | Response<br>+CME ERROR: <err>   |                |      |      |
|   | Parameters<br><br><mode> multiplexer transparency mechanism<br>0 Basic option<br><br><subset> the way in which the multiplexer control channel is set up<br>0 UIH frames used only<br><br><port_speed> transmission rate<br>5 115200bit/s<br><br><N1> maximum frame size<br>127<br><br><T1> acknowledgement timer in units of ten milliseconds<br>10<br><br><N2> maximum number of re-transmissions<br>3<br><br><T2> response timer for the multiplexer control channel in units of ten milliseconds<br>30<br><br><T3> wake up response timers in seconds<br>10<br><br><k> window size, for Advanced operation with Error Recovery options<br>2 |                |      |      |
| Read Command<br>AT+CMUX ?   | Response:<br>+CMUX: (mode-1),0,5,127,10,3,30,10,2<br><br>OK<br>ERROR  |                |      |      |
| Reference<br>GSM 07.07 [13]   | Note<br><br>I The multiplexing transmission rate is according to the current serial baud rate. It is recommended to enable multiplexing protocol under 115200 bit/s baud rate<br><br>I Multiplexer control channels are listed as follows:<br><table><tr><th>Channel Number</th><th>Type</th><th>DLCI</th></tr></table>   | Channel Number | Type | DLCI |
| Channel Number  | Type  | DLCI           |      |      |

## SIM500W AT Commands Set

|  |      |                     |   |
|--|------|---------------------|---|
|  | 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 |

### 3.2.43 AT+CNUM Subscriber Number

| AT+CNUM Subscriber Number           |   |
|-------------------------------------|---|
| Test Command<br><b>AT+CNUM=?</b>    | Response<br><b>OK</b>   |
| Execution Command<br><b>AT+CNUM</b> | <p>Response</p> <p><b>+CNUM:</b></p> <p>[&lt;alpha1&gt;],&lt;number1&gt;,&lt;type1&gt;[,&lt;speed&gt;,&lt;service&gt;[,&lt;itc&gt;]]</p> <p>[&lt;CR&gt;&lt;LF&gt;+CNUM: [&lt;alpha2&gt;],&lt;number2&gt;,&lt;type2&gt;[,&lt;speed&gt;,&lt;service&gt; [,&lt;itc&gt;]]</p> <p>[...]]</p> <p><b>OK</b></p> <p><b>+CME ERROR: &lt;err&gt;</b></p> <p>Parameters</p> <p><b>&lt;alphax&gt;</b> optional alphanumeric string associated with &lt;numberx&gt;; used character set should be the one selected with Command Select TE Character Set +CSCS</p> <p><b>&lt;numberx&gt;</b> string type(string should be included in quotation marks) phone number of format specified by &lt;typex&gt;</p> <p><b>&lt;typex&gt;</b> type of address octet in integer format (refer GSM 04.08 [8] subclause 10.5.4.7)</p> <p><b>&lt;speed&gt;</b> as defined by the +CBST Command</p> <p><b>&lt;service&gt;</b> (service related to the phone number: )</p> <ul style="list-style-type: none"> <li>0 asynchronous modem</li> <li>1 synchronous modem</li> <li>2 PAD Access (asynchronous)</li> <li>3 Packet Access (synchronous)</li> <li>4 Voice</li> <li>5 Fax</li> </ul> |
| Reference<br>GSM 07.07 [13]         | Note  |

### 3.2.44 AT+CPOL Preferred Operator List

#### AT+CPOL Preferred Operator List

|   |   |
|---|---|
| Test Command<br><b>AT+CPOL=?</b>  | Response<br><b>+CPOL:</b> (list of supported <index>s),(list of supported <format>s)<br><br><b>OK</b>   |
|   | Parameters<br>see Write Command   |
| Read Command<br><b>AT+CPOL?</b>   | Response<br><b>+CPOL:</b> <index1>,<format>,<oper1><br>[<CR><LF>+CPOL: <index2>,<format>,<oper2><br>[...]]<br><br><b>OK</b><br><b>+CME ERROR:</b> <err>   |
|   | Parameters<br>See Write Command   |
| Write Command<br><b>AT+CPOL=&lt;index&gt;[,&lt;format&gt;,&lt;operator&gt;]</b> | Response<br><b>+CME ERROR:</b> <err>  |
|   | Parameters<br><index>      integer type: order number of operator in SIM preferred operator list<br><format>    0      long format alphanumeric <oper><br>1      short format alphanumeric <oper><br>2      numeric <oper><br><oper>       string type(string should be included in quotation marks):<br><format> indicates whether alphanumeric or numeric format used (see +COPS Command) |
| Reference<br>GSM 07.07 [13]   | Note  |

### 3.2.45 AT+COPN Read Operator Names

| <b>AT+COPN    Read Operator Names</b> |  |
|---------------------------------------|--|
| Test Command<br><b>AT+COPN=?</b>      | Response<br><b>OK</b>  |
| Execution Command<br><b>AT+COPN</b>   | Response<br><b>+COPN:</b> <numeric1>,<alpha1 ><br>[<CR><LF>+COPN: <numeric2>,<alpha2><br>[...]]<br><br><b>OK</b><br><b>+CME ERROR:</b> <err> |

## SIM500W AT Commands Set

|                             |   |
|-----------------------------|---|
|                             | Parameters<br><b>&lt;numeric&gt;</b> string type(string should be included in quotation marks):<br>operator in numeric format (see +COPS)<br><b>&lt;alphan&gt;</b> string type(string should be included in quotation marks):<br>operator in long alphanumeric format (see +COPS) |
| Reference<br>GSM 07.07 [13] | Note  |

### 3.2.46 AT+CFUN Set Phone Functionality.

| AT+CFUN Set Phone Functionality.        |   |  |
|---|---|--|
| Test Command<br>AT+CFUN=?               | Response  |  |
|   | +CFUN: (list of supported <fun>s), (list of supported <rst>s) |  |
|   | OK<br>+CME ERROR: <err>                                       |  |
|   | Parameters<br>See Write Command                               |  |
| Read Command<br>AT+CFUN?                | Response  |  |
|   | +CFUN: <fun>  |  |
|   | OK<br>+CME ERROR: <err>                                       |  |
|   | Parameters<br>See Write Command                               |  |
| Write Command<br>AT+CFUN=<fun>, [<rst>] | Response  |  |
|   | OK<br>+CME ERROR: <err>                                       |  |
|   | Parameters  |  |
|   | <fun>   | 0      minimum functionality   |
|   |   | 1      full functionality (Default)  |
|   | 4      disable phone both transmit and receive RF circuits    |  |
|   | <rst>   | 0      Set the ME to <fun> power level immediately. This is the default when <rst> is not given. |
|   |   | 1      Set the ME to <fun> power level after the ME been reset.                                  |
| Reference<br>GSM 07.07 [13]             | Note  |  |

## 3.2.47 AT+CCLK Clock

| AT+CCLK Clock                                |  |
|--|--|
| Test Command<br><b>AT+CCLK=?</b>             | Response<br><b>OK</b>  |
|  | Parameters   |
| Read Command<br><b>AT+CCLK?</b>              | Response<br><b>+CCLK: &lt;time&gt;</b><br><br><b>OK</b><br><b>+CME ERROR: &lt;err&gt;</b>  |
|  | Parameter<br>See Write Command   |
| Write Command<br><b>AT+CCLK=&lt;time&gt;</b> | Response<br><b>OK</b><br><b>+CME ERROR: &lt;err&gt;</b>  |
|  | Parameter<br><b>&lt;time&gt;</b> string type(string should be included in quotation marks)<br>value; format is "yy/MM/dd,hh:mm:ss±zz", where<br>characters indicate year (two last digits),month, day, hour,<br>minutes, seconds and time zone (indicates the difference,<br>expressed in quarters of an hour, between the local time<br>and GMT; range -48...+48). E.g. 6th of May 1994,<br>22:10:00 GMT+2 hours equals to "94/05/06,22:10:00+08" |
| Reference<br>GSM 07.07 [13]                  | Note   |

## 3.2.48 AT+CALM Alert Sound Mode

| AT+CALM Alert Sound Mode         |   |
|----------------------------------|---|
| Test Command<br><b>AT+CALM=?</b> | Response<br><b>+CALM:</b> (list of supported <b>&lt;mode&gt;</b> s) |
|                                  | <b>OK</b><br><b>+CME ERROR: &lt;err&gt;</b>                         |
|                                  | Parameter<br>See Write Command                                      |



|  |   |  |             |             |  |   |  |
|--|---|--|-------------|-------------|--|---|--|
| Read Command<br><b>AT+CALM?</b>              | Response<br><b>+CALM: &lt;mode&gt;</b><br><br><b>OK</b><br><b>+CME ERROR: &lt;err&gt;</b>   |  |             |             |  |   |  |
|  | Parameter<br>See Write Command  |  |             |             |  |   |  |
|  |   |  |             |             |  |   |  |
| Write Command<br><b>AT+CALM=&lt;mode&gt;</b> | Response<br><b>OK</b><br><b>+CME ERROR: &lt;err&gt;</b>   |  |             |             |  |   |  |
|  | Parameter<br><table><tr><td><b>&lt;mode&gt;</b></td><td><u>0</u></td><td>normal mode</td></tr><tr><td></td><td>1</td><td>silent mode (all sounds from ME are prevented)</td></tr></table> | <b>&lt;mode&gt;</b>                            | <u>0</u>    | normal mode |  | 1 | silent mode (all sounds from ME are prevented) |
|  | <b>&lt;mode&gt;</b>   | <u>0</u>                                       | normal mode |             |  |   |  |
|  | 1   | silent mode (all sounds from ME are prevented) |             |             |  |   |  |
|  |   |  |             |             |  |   |  |
| Reference<br>GSM 07.07 [13]                  | Note  |  |             |             |  |   |  |

### 3.2.49 AT+CRSL Ringer Sound Level

| AT+CRSL Ringer Sound Level                    |  |
|---|--|
| Test Command<br><b>AT+CRSL=?</b>              | Response<br><b>+CRSL:</b> (list of supported <level>s)<br><br><b>OK</b><br><b>+CME ERROR: &lt;err&gt;</b>  |
|   | Parameter<br>See Write Command   |
| Read Command<br><b>AT+CRSL?</b>               | Response<br><b>+CRSL: &lt;level&gt;</b><br><br><b>OK</b><br><b>+CME ERROR: &lt;err&gt;</b>   |
|   | Parameter<br>See Write Command   |
| Write Command<br><b>AT+CRSL=&lt;level&gt;</b> | Response<br><b>OK</b><br><b>+CME ERROR: &lt;err&gt;</b>  |
|   | Parameter<br><b>&lt;level&gt;</b> integer type value(0-100) with manufacturer specific range<br>(smallest value represents the lowest sound level) |
| Reference<br>GSM 07.07 [13]                   | Note   |

### 3.2.50 AT+CLVL Loud Speaker Volume Level

| AT+CLVL Loud Speaker Volume Level |  |
|-----------------------------------|--|
| Test Command<br>AT+CLVL=?         | Response<br>+CLVL: (list of supported <level>s)  |
|                                   | OK<br>+CME ERROR: <err>  |
|                                   | Parameter<br>see Write Command   |
| Read Command<br>AT+CLVL?          | Response<br>+CLVL: <level>   |
|                                   | OK<br>+CME ERROR: <err>  |
|                                   | Parameter<br>See Write Command   |
| Write Command<br>AT+CLVL=<level>  | Response<br>OK<br>+CME ERROR: <err>  |
|                                   | Parameter<br><level> integer type value with manufacturer specific range<br>(smallest value represents the lowest sound level) |
|                                   |  |
| Reference<br>GSM 07.07 [13]       | Note   |

### 3.2.51 AT+CMUT Mute Control

| AT+CMUT Mute Control      |   |
|---------------------------|---|
| Test Command<br>AT+CMUT=? | Response<br>+CMUT: (list of supported <n>s) |
|                           | OK  |
|                           | Parameter<br>see Write Command              |
| Read Command<br>AT+CMUT?  | Response<br>+CMUT: <n>                      |
|                           | OK<br>+CME ERROR: <err>                     |
|                           | Parameter<br>See Write Command              |

## SIM500W AT Commands Set

|   |   |
|---|---|
| Write Command<br><b>AT+CMUT=&lt;n&gt;</b> | Response<br><b>OK</b><br><b>+CME ERROR: &lt;err&gt;</b>                   |
|   | Parameter<br><b>&lt;n&gt;</b> <u>0</u> mute off<br>1      mute on         |
| Reference<br>GSM 07.07 [13]               | Note<br><b>I</b> Only during a call this command can be set successfully. |

### 3.2.52 AT+CPUC Price Per Unit And Currency Table

| <b>AT+CPUC    Price Per Unit And Currency Table</b>                           |   |
|---|---|
| Test Command<br><b>AT+CPUC=?</b>  | Response<br><b>OK</b>   |
|   | Parameters<br>see Write Command   |
| Read Command<br><b>AT+CPUC?</b>   | Response<br><b>+CPUC: &lt;currency&gt;,&lt;ppu&gt;</b><br><br><b>OK</b><br><b>+CME ERROR: &lt;err&gt;</b>   |
|   | Parameters<br>See Write Command   |
| Write Command<br><b>AT+CPUC=&lt;currency&gt;,&lt;ppu&gt;[,&lt;passwd&gt;]</b> | Response<br><b>+CME ERROR: &lt;err&gt;</b>  |
|   | Parameters<br><b>&lt;currency&gt;</b> string type(string should be included in quotation marks);<br>three-character currency code (e.g. "GBP",<br>"DEM");<br>character set as specified by Command Select TE<br>Character<br>Set +CSCS<br><b>&lt;ppu&gt;</b> string type(string should be included in quotation<br>marks); price per unit; dot is used as a decimal separator(e.g.<br>"2.66")<br><b>&lt;passwd&gt;</b> string type(string should be included in quotation marks);<br>SIM PIN2 |
| Reference<br>GSM 07.07 [13]   | Note  |

### 3.2.53 AT+CCWE Call Meter Maximum Event

| <b>AT+CCWE    Call Meter Maximum Event</b> |
|--|
|--|

**SIM500W AT Commands Set**

|  |   |
|--|---|
| Test Command<br><b>AT+CCWE=?</b>               | Response<br><b>+CCWE:</b> (list of supported <mode>s)<br><br><b>OK</b><br><b>+CME ERROR:</b> <err><br><hr/> Parameter<br>see Write Command  |
| Read Command<br><b>AT+CCWE?</b>                | Response<br><b>+CCWE:</b> <mode><br><br><b>OK</b><br><b>+CME ERROR:</b> <err><br><hr/> Parameter<br>See Write Command   |
| Write Command<br><b>AT+CCWE=[&lt;mode&gt;]</b> | Response<br><b>OK</b><br><b>+CME ERROR:</b> <err><br><hr/> Parameter<br><mode>     0     Disable call meter warning event<br>1     Enable call meter warning event  |
|  | <u>Unsolicited result codes supported:</u><br><br><b>+CCWV</b> Shortly before the ACM (Accumulated Call Meter) maximum value is reached, an unsolicited result code +CCWV will be<br><br>Approximately when 30 seconds call time remains. It is also issued when starting a call if less than 30 s call time remains.<br><br>Parameters |
| Reference<br>GSM 07.07 [13]                    | Note<br><b>I</b> GSM 07.07 specifies 30 seconds   |

**3.2.54 AT+CBC Battery Charge**
**AT+CBC    Battery Charge**

|                                 |   |
|---------------------------------|---|
| Test Command<br><b>AT+CBC=?</b> | Response<br><b>+CBC:</b> (list of supported < bcs >s),(list of supported < bcl >s),(voltage)<br><br><b>OK</b> |
|---------------------------------|---|

## SIM500W AT Commands Set

|                                    |   |
|------------------------------------|---|
|                                    | Parameters<br>see Execution Command   |
| Execution Command<br><b>AT+CBC</b> | Response<br><b>+CBC: &lt; bcs &gt;, &lt; bcl &gt;,&lt;voltage&gt;</b><br><br><b>OK</b><br><b>+CME ERROR: &lt;err&gt;</b>  |
|                                    | Parameters<br><b>&lt;bcs&gt;</b> charge status<br>0              ME is not charging<br>1              ME is charging<br>2              Charging has finished<br><b>&lt;bcl&gt;</b> battery connection level<br>1...100      battery has 1-100 percent of capacity remaining<br>vent<br><b>&lt;voltage&gt;</b> battery voltage(mV) |
| Reference<br>GSM 07.07 [13]        | Note<br><b>I</b> Support for this Command will be hardware dependant and only be used when battery is set to vibrator   |

### 3.2.55 AT+CUSD Unstructured Supplementary Service Data

| <b>AT+ CUSD Unstructured Supplementary Service Data</b>                     |   |
|---|---|
| Test Command<br><b>AT+CUSD=?</b>  | Response<br><b>+CUSD: (&lt;n&gt;s)</b><br><br><b>OK</b> |
|   | Parameter<br>see Write Command                          |
| Read Command<br><b>AT+CUSD?</b>   | Response<br><b>+CUSD: &lt;n&gt;</b><br><br><b>OK</b>    |
|   | Parameter<br>see Write Command                          |
| Write Command<br><b>AT+CUSD=[&lt;n&gt;<br/>[,&lt;str&gt;[,&lt;dcs&gt;]]</b> | Response<br><b>OK</b><br><b>ERROR</b>                   |

## SIM500W AT Commands Set

|                             |   |
|-----------------------------|---|
|                             | Parameters<br>< <b>n</b> > a numeric parameter which indicates control of the unstructured supplementary service data<br>0 disable the result code presentation in the TA<br>1 enable the result code presentation in the TA<br>2 cancel session (not applicable to read Command response)<br>< <b>str</b> > string type(string should be included in quotation marks)<br>USSD-string<br>< <b>dcs</b> > Cell Broadcast Data Coding Scheme in integer format (default 0) |
| Reference<br>GSM 03.38 [25] | Note  |

### 3.2.56 AT+CSSN Supplementary Services Notification

| AT+CSSN Supplementary Services Notification                |   |
|--|---|
| Test Command<br>AT+CSSN=?                                  | Response<br>+CSSN: (list of supported < <b>n</b> >s), (list of supported < <b>m</b> >s)<br><br><b>OK</b><br><br>Parameters<br>see Write Command |
| Read Command<br>AT+CSSN?                                   | Response<br>+CSSN: < <b>n</b> >,< <b>m</b> ><br><br><b>OK</b><br><br>Parameters<br>see Write Command  |
| Write Command<br>AT+CSSN=[< <b>n</b> >[<br>,< <b>m</b> >]] | Response<br><b>OK</b><br><b>ERROR</b>   |

# SIM500W AT Commands Set

|           |  |
|-----------|--|
|           | <p>Parameters</p> <p><b>&lt;n&gt;</b> a numeric parameter which indicates whether to show the +CSSI:&lt;code1&gt;[,&lt;index&gt;] result code presentation status after a mobile originated call setup</p> <p>0 disable</p> <p>1 enable</p> <p><b>&lt;m&gt;</b> a numeric parameter which indicates whether to show the +CSSU:&lt;code2&gt; result code presentation status during a mobile terminated call setup or during a call, or when a forward check supplementary service notification is received.</p> <p>0 disable</p> <p>1 enable</p> <p><b>&lt;code1&gt;</b></p> <p>0 unconditional call forwarding is active</p> <p>1 some of the conditional call forwarding are active</p> <p>2 call has been forwarded</p> <p>3 call is waiting</p> <p>4 this is a CUG call (also &lt;index&gt; present)</p> <p>5 outgoing calls are barred</p> <p>6 incoming calls are barred</p> <p>7 CLIR suppression rejected</p> <p><b>&lt;index&gt;</b> closed user group index</p> <p><b>&lt;code2&gt;</b> 0 this is a forwarded call</p> |
| Reference | Note   |

## 4 AT Commands According to GSM07.05

The GSM 07.05 commands are for performing SMS and CBS related operations. SIM500W supports both Text and PDU modes.

### 4.1 Overview of AT Commands According to GSM07.05

| Command | Description                            |
|---------|--|
| AT+CMGD | DELETE SMS MESSAGE                     |
| AT+CMGF | SELECT SMS MESSAGE FORMAT              |
| AT+CMGL | LIST SMS MESSAGES FROM PREFERRED STORE |
| AT+CMGR | READ SMS MESSAGE                       |
| AT+CMGS | SEND SMS MESSAGE                       |
| AT+CMGW | WRITE SMS MESSAGE TO MEMORY            |
| AT+CMSS | SEND SMS MESSAGE FROM STORAGE          |
| AT+CMGC | SEND SMS COMMAND                       |
| AT+CNMI | NEW SMS MESSAGE INDICATIONS            |
| AT+CPMS | PREFERRED SMS MESSAGE STORAGE          |
| AT+CRES | RESTORE SMS SETTINGS                   |
| AT+CSAS | SAVE SMS SETTINGS                      |
| AT+CSCA | SMS SERVICE CENTER ADDRESS             |
| AT+CSCB | SELECT CELL BROADCAST SMS MESSAGES     |
| AT+CSDH | SHOW SMS TEXT MODE PARAMETERS          |
| AT+CSMP | SET SMS TEXT MODE PARAMETERS           |
| AT+CSMS | SELECT MESSAGE SERVICE                 |

### 4.2 Detailed Descriptions of AT Commands According to GSM07.05

#### 4.2.1 AT+CMGD Delete SMS Message

| AT+CMGD Delete SMS Message                    |  |
|---|--|
| Read Command<br><b>AT+CMGD=?</b>              | Response<br><b>+CMGD:</b> (Range of SMS on SIM card can be deleted)<br><br><b>OK</b>   |
| Write Command<br><b>AT+CMGD=&lt;index&gt;</b> | Response<br>TA deletes message from preferred message storage <mem1> location <index>.<br><b>OK</b><br><b>ERROR</b><br>If error is related to ME functionality:<br><b>+CMS ERROR:&lt;err&gt;</b> |



## SIM500W AT Commands Set

|                        |  |
|------------------------|--|
|                        | Parameter<br><index> integer type; value in the range of location numbers supported by the associated memory |
| Reference<br>GSM 07.05 | Note   |

### 4.2.2 AT+CMGF Select SMS Message Format

| AT+CMGF Select SMS Message Format |  |           |   |          |  |   |           |
|-----------------------------------|--|-----------|---|----------|--|---|-----------|
| Read Command<br>AT+CMGF?          | Response<br>+CMGF: <mode><br><br>OK<br><br>Parameter<br>see Write Command  |           |   |          |  |   |           |
| Test Command<br>AT+CMGF=?         | Response<br>+CMGF: (list of supported <mode>s)<br><br>OK   |           |   |          |  |   |           |
| Write Command<br>AT+CMGF=[<mode>] | Response<br>TA sets parameter to deNote which input and output format of messages to use.<br>OK<br><br>Parameter<br><table><tr><td>&lt;mode&gt;</td><td>0</td><td>PDU mode</td></tr><tr><td></td><td>1</td><td>text mode</td></tr></table> | <mode>    | 0 | PDU mode |  | 1 | text mode |
| <mode>                            | 0  | PDU mode  |   |          |  |   |           |
|                                   | 1  | text mode |   |          |  |   |           |
| Reference<br>GSM 07.05            | Note   |           |   |          |  |   |           |

### 4.2.3 AT+CMGL List SMS Messages From Preferred Store

| AT+CMGL List SMS Messages From Preferred Store |   |
|--|---|
| Test Command<br>AT+CMGL=?                      | Response<br>+CMGL: (list of supported <stat>s)<br><br>OK<br><br>Parameters<br>see Write Command |

## SIM500W AT Commands Set

|   |  |                                    |                     |                                    |  |            |                        |  |              |                        |  |            |                      |  |       |              |                     |          |                                    |  |   |                        |  |   |                        |  |   |                      |  |   |              |
|---|--|------------------------------------|---------------------|------------------------------------|--|------------|------------------------|--|--------------|------------------------|--|------------|----------------------|--|-------|--------------|---------------------|----------|------------------------------------|--|---|------------------------|--|---|------------------------|--|---|----------------------|--|---|--------------|
| Write Command<br><b>AT+CMGL=&lt;stat&gt;[,&lt;mode&gt;]</b> | <div>Parameters</div> <div>1) If text mode:</div> <table><tr><td><b>&lt;stat&gt;</b></td><td><u>"REC UNREAD"</u></td><td>Received unread messages (default)</td></tr><tr><td></td><td>"REC READ"</td><td>Received read messages</td></tr><tr><td></td><td>"STO UNSENT"</td><td>Stored unsent messages</td></tr><tr><td></td><td>"STO SENT"</td><td>Stored sent messages</td></tr><tr><td></td><td>"ALL"</td><td>All messages</td></tr></table> <div><b>&lt;mode&gt;</b> 0 normal<br/>1 not change status of the specified SMS record</div> <div>2) If PDU mode:</div> <table><tr><td><b>&lt;stat&gt;</b></td><td><u>0</u></td><td>Received unread messages (default)</td></tr><tr><td></td><td>1</td><td>Received read messages</td></tr><tr><td></td><td>2</td><td>Stored unsent messages</td></tr><tr><td></td><td>3</td><td>Stored sent messages</td></tr><tr><td></td><td>4</td><td>All messages</td></tr></table> <div><b>&lt;mode&gt;</b> 0 normal<br/>1 not change status of the specified SMS record</div>   | <b>&lt;stat&gt;</b>                | <u>"REC UNREAD"</u> | Received unread messages (default) |  | "REC READ" | Received read messages |  | "STO UNSENT" | Stored unsent messages |  | "STO SENT" | Stored sent messages |  | "ALL" | All messages | <b>&lt;stat&gt;</b> | <u>0</u> | Received unread messages (default) |  | 1 | Received read messages |  | 2 | Stored unsent messages |  | 3 | Stored sent messages |  | 4 | All messages |
| <b>&lt;stat&gt;</b>   | <u>"REC UNREAD"</u>  | Received unread messages (default) |                     |                                    |  |            |                        |  |              |                        |  |            |                      |  |       |              |                     |          |                                    |  |   |                        |  |   |                        |  |   |                      |  |   |              |
|   | "REC READ"   | Received read messages             |                     |                                    |  |            |                        |  |              |                        |  |            |                      |  |       |              |                     |          |                                    |  |   |                        |  |   |                        |  |   |                      |  |   |              |
|   | "STO UNSENT"   | Stored unsent messages             |                     |                                    |  |            |                        |  |              |                        |  |            |                      |  |       |              |                     |          |                                    |  |   |                        |  |   |                        |  |   |                      |  |   |              |
|   | "STO SENT"   | Stored sent messages               |                     |                                    |  |            |                        |  |              |                        |  |            |                      |  |       |              |                     |          |                                    |  |   |                        |  |   |                        |  |   |                      |  |   |              |
|   | "ALL"  | All messages                       |                     |                                    |  |            |                        |  |              |                        |  |            |                      |  |       |              |                     |          |                                    |  |   |                        |  |   |                        |  |   |                      |  |   |              |
| <b>&lt;stat&gt;</b>   | <u>0</u>   | Received unread messages (default) |                     |                                    |  |            |                        |  |              |                        |  |            |                      |  |       |              |                     |          |                                    |  |   |                        |  |   |                        |  |   |                      |  |   |              |
|   | 1  | Received read messages             |                     |                                    |  |            |                        |  |              |                        |  |            |                      |  |       |              |                     |          |                                    |  |   |                        |  |   |                        |  |   |                      |  |   |              |
|   | 2  | Stored unsent messages             |                     |                                    |  |            |                        |  |              |                        |  |            |                      |  |       |              |                     |          |                                    |  |   |                        |  |   |                        |  |   |                      |  |   |              |
|   | 3  | Stored sent messages               |                     |                                    |  |            |                        |  |              |                        |  |            |                      |  |       |              |                     |          |                                    |  |   |                        |  |   |                        |  |   |                      |  |   |              |
|   | 4  | All messages                       |                     |                                    |  |            |                        |  |              |                        |  |            |                      |  |       |              |                     |          |                                    |  |   |                        |  |   |                        |  |   |                      |  |   |              |
|   | <div>Response</div> <div>TA returns messages with status value &lt;stat&gt; from message storage &lt;mem1&gt; to the TE. . If status of the message is 'received unread', status in the storage changes to 'received read'.</div> <div>1) If text mode (+CMGF=1) and Command successful:<br/>for SMS-SUBMITs and/or SMS-DELIVERs:</div> <div><b>+CMGL:</b></div> <div><b>&lt;index&gt;,&lt;stat&gt;,&lt;oa/da&gt;,[&lt;alpha&gt;],[&lt;scts&gt;][,&lt;tooa/toda&gt;,&lt;length&gt;]&lt;CR&gt;&lt;LF&gt;&lt;data&gt;[&lt;CR&gt;&lt;LF&gt;</b></div> <div><b>+CMGL:</b></div> <div><b>&lt;index&gt;,&lt;stat&gt;,&lt;da/oa&gt;,[&lt;alpha&gt;],[&lt;scts&gt;][,&lt;tooa/toda&gt;,&lt;length&gt;]&lt;CR&gt;&lt;LF&gt;&lt;data&gt;[...]</b></div> <div>for SMS-STATUS-REPORTs:</div> <div><b>+CMGL:</b></div> <div><b>&lt;index&gt;,&lt;stat&gt;,&lt;fo&gt;,&lt;mr&gt;,[&lt;ra&gt;],[&lt;tora&gt;],&lt;scts&gt;,&lt;dt&gt;,&lt;st&gt;[&lt;CR&gt;&lt;LF&gt;</b><br/><b>&gt;</b></div> <div><b>+CMGL:</b></div> <div><b>&lt;index&gt;,&lt;stat&gt;,&lt;fo&gt;,&lt;mr&gt;,[&lt;ra&gt;],[&lt;tora&gt;],&lt;scts&gt;,&lt;dt&gt;,&lt;st&gt;[...]</b></div> <div>for SMS-COMMANDs:</div> <div><b>+CMGL: &lt;index&gt;,&lt;stat&gt;,&lt;fo&gt;,&lt;ct&gt;[&lt;CR&gt;&lt;LF&gt;</b></div> <div><b>+CMGL: &lt;index&gt;,&lt;stat&gt;,&lt;fo&gt;,&lt;ct&gt;[...]</b></div> <div>for CBM storage:</div> <div><b>+CMGL:&lt;index&gt;,&lt;stat&gt;,&lt;sn&gt;,&lt;mid&gt;,&lt;page&gt;,&lt;pages&gt;&lt;CR&gt;&lt;LF&gt;&lt;data&gt;</b><br/><b>&gt;[&lt;CR&gt;&lt;LF&gt;</b></div> <div><b>+CMGL:</b></div> |                                    |                     |                                    |  |            |                        |  |              |                        |  |            |                      |  |       |              |                     |          |                                    |  |   |                        |  |   |                        |  |   |                      |  |   |              |

|  |   |
|--|---|
|  | <p>&lt;index&gt;,&lt;stat&gt;,&lt;sn&gt;,&lt;mid&gt;,&lt;page&gt;,&lt;pages&gt;&lt;CR&gt;&lt;LF&gt;&lt;data&gt;[...]]</p> <p>OK</p> <p>2) If PDU mode (+CMGF=0) and Command successful:</p> <p>+CMGL:&lt;index&gt;,&lt;stat&gt;,[&lt;alpha&gt;],&lt;length&gt;&lt;CR&gt;&lt;LF&gt;&lt;pdu&gt;&lt;CR&gt;&lt;LF&gt;</p> <p>+CMGL: &lt;index&gt;,&lt;stat&gt;,[&lt;alpha&gt;],&lt;length&gt;&lt;CR&gt;&lt;LF&gt;&lt;pdu&gt;[...]]</p> <p>OK</p> <p>3)If error is related to ME functionality:</p> <p>+CMS ERROR: &lt;err&gt;</p> <p>Parameters</p> <p>&lt;alpha&gt;      string type(string should be included in quotation marks)</p> <p>                 alphanumeric representation of &lt;da&gt; or &lt;oa&gt;</p> <p>                 corresponding to the entry found in MT phonebook;</p> <p>                 implementation of this feature is manufacturer</p> <p>                 specific; used character set should be the one selected</p> <p>                 with Command Select TE Character Set +CSCS (see</p> <p>                 definition of this Command in TS 07.07)</p> <p>&lt;da&gt;          GSM 03.40 TP-Destination-Address Address-Value field in</p> <p>                 string format; BCD numbers (or GSM default alphabet</p> <p>                 characters) are converted to characters of the currently</p> <p>                 selected TE character set (refer Command+CSCS in</p> <p>                 TS 07.07); type of address given by &lt;toda&gt;</p> <p>&lt;data&gt;        In the case of SMS: GSM 03.40 TP-User-Data in text mode</p> <p>                 responses; format:</p> <p>                 - if &lt;dc&gt; indicates that GSM 03.38 default alphabet is used and</p> <p>                 &lt;fo&gt; indicates that GSM 03.40</p> <p>                 TPUser-Data-Header-Indication is not set:</p> <p>                 - if TE character set other than "HEX" (refer Command Select</p> <p>                 TE Character Set +CSCS in TS 07.07):ME/TA</p> <p>                 converts GSM alphabet into current TE character set</p> <p>                 according to rules of Annex A</p> <p>                 - if TE character set is "HEX": ME/TA converts each 7-bit</p> <p>                 character of GSM alphabet into two IRA character</p> <p>                 long hexadecimal number (e.g. character P (GSM 23)</p> <p>                 is presented as 17 (IRA 49 and 55))</p> <p>                 - if &lt;dc&gt; indicates that 8-bit or UCS2 data coding scheme is</p> <p>                 used, or &lt;fo&gt; indicates that GSM 03.40</p> <p>                 TP-User-Data-Header-Indication is set: ME/TA</p> <p>                 converts each 8-bit octet into two IRA character long</p> <p>                 hexadecimal number (e.g. octet with integer value 42</p> <p>                 is presented to TE as two characters 2A (IRA 50 and</p> <p>                 65)) In the case of CBS: GSM 03.41 CBM Content of</p> |
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|                        | <p>Message in text mode responses; format:</p> <ul style="list-style-type: none"> <li>- if &lt;dc&gt; indicates that GSM 03.38 default alphabet is used:</li> <li>- if TE character set other than "HEX" (refer Command +CSCS in GSM 07.07): ME/TA converts GSM alphabet into current TE character set according to rules of Annex A</li> <li>- if TE character set is "HEX": ME/TA converts each 7-bit character of GSM alphabet into two IRA character long hexadecimal number</li> <li>- if &lt;dc&gt; indicates that 8-bit or UCS2 data coding scheme is used: ME/TA converts each 8-bit octet into two IRA character long hexadecimal number</li> </ul> <p><b>&lt;length&gt;</b> integer type value indicating in the text mode (+CMGF=1) the length of the message body &lt;data&gt; (or &lt;cdata&gt;) 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)</p> <p><b>&lt;index&gt;</b> integer type; value in the range of location numbers supported by the associated memory</p> <p><b>&lt;oa&gt;</b> GSM 03.40 TP-Originating-Address Address-Value field in string format; BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (refer Command +CSCS in TS 07.07); type of address given by &lt;tooa&gt;</p> <p><b>&lt;pdu&gt;</b> In the case of SMS: GSM 04.11 SC address followed by GSM 03.40 TPDU in hexadecimal format: ME/TA converts each octet of TP data unit into two IRA character long hexadecimal number (e.g. octet with integer value 42 is presented to TE as two characters 2A (IRA 50 and 65)). In the case of CBS: GSM 03.41 TPDU in hexadecimal format.</p> <p><b>&lt;scts&gt;</b> GSM 03.40 TP-Service-Center-Time-Stamp in time-string format (refer &lt;dt&gt;)</p> <p><b>&lt;toda&gt;</b> GSM 04.11 TP-Destination-Address Type-of-Address octet in integer format (when first character of &lt;da&gt; is + (IRA 43) default is 145, otherwise default is 129)</p> <p><b>&lt;tooa&gt;</b> GSM 04.11 TP-Originating-Address Type-of-Address octet in integer format (default refer &lt;toda&gt;)</p> |
| Reference<br>GSM 07.05 | Note  |

#### 4.2.4 AT+CMGR Read SMS Message

##### AT+CMGR Read SMS Message

| Test Command | Response |
|--------------|----------|
|--------------|----------|

| AT+CMGR=?  | OK   |
|--|--|
| Write Command<br><b>AT+CMGR=&lt;index&gt;[,&lt;mode&gt;]</b> | <p>Parameters</p> <p><b>&lt;index&gt;</b> integer type; value in the range of location numbers supported by the associated memory</p> <p><b>&lt;mode&gt;</b> 0 normal<br/>1 not change status of the specified SMS record</p> <p>Response</p> <p>TA returns SMS message with location value &lt;index&gt; from message storage &lt;mem1&gt; to the TE. If status of the message is 'received unread', status in the storage changes to 'received read'.</p> <p>1) If text mode (+CMGF=1) and Command successful:<br/>for SMS-DELIVER:<br/><b>+CMGR:</b><br/>&lt;stat&gt;,&lt;oa&gt;,[&lt;alpha&gt;],[&lt;scts&gt;],[&lt;tooa&gt;,&lt;fo&gt;,&lt;pid&gt;,&lt;dcs&gt;,&lt;sca&gt;,&lt;tosca&gt;,&lt;length&gt;]&lt;CR&gt;&lt;LF&gt;&lt;data&gt;</p> <p>for SMS-SUBMIT:<br/><b>+CMGR:</b><br/>&lt;stat&gt;,&lt;da&gt;,[&lt;alpha&gt;],[&lt;toda&gt;,&lt;fo&gt;,&lt;pid&gt;,&lt;dcs&gt;,&lt;vp&gt;],[&lt;sca&gt;,&lt;tosca&gt;,&lt;length&gt;]&lt;CR&gt;&lt;LF&gt;&lt;data&gt;</p> <p>for SMS-STATUS-REPORTs:<br/><b>+CMGR:</b> &lt;stat&gt;,&lt;fo&gt;,&lt;mr&gt;,[&lt;ra&gt;],[&lt;tora&gt;],[&lt;scts&gt;,&lt;dt&gt;,&lt;st&gt;</p> <p>for SMS-COMMANDs:<br/><b>+CMGR:</b><br/>&lt;stat&gt;,&lt;fo&gt;,&lt;ct&gt;,[&lt;pid&gt;],[&lt;mn&gt;],[&lt;da&gt;],[&lt;toda&gt;],[&lt;length&gt;]&lt;CR&gt;&lt;LF&gt;&lt;data&gt;]</p> <p>for CBM storage:<br/><b>+CMGR:</b> &lt;stat&gt;,&lt;sn&gt;,&lt;mid&gt;,&lt;dcs&gt;,&lt;page&gt;,&lt;pages&gt;&lt;CR&gt;&lt;LF&gt;&lt;data&gt;</p> <p>2) If PDU mode (+CMGF=0) and Command successful:<br/><b>+CMGR:</b> &lt;stat&gt;,[&lt;alpha&gt;],[&lt;length&gt;]&lt;CR&gt;&lt;LF&gt;&lt;pdu&gt;</p> <p><b>OK</b></p> <p>3) If error is related to ME functionality:<br/><b>+CMS ERROR: &lt;err&gt;</b></p> <p>Parameters</p> <p><b>&lt;alpha&gt;</b> string type(string should be included in quotation marks)<br/>alphanumeric representation of &lt;da&gt; or &lt;oa&gt;<br/>corresponding to the entry found in MT phonebook;<br/>implementation of this feature is manufacturer specific</p> <p><b>&lt;da&gt;</b> GSM 03.40 TP-Destination-Address Address-Value field in string format; BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (specified by +CSCS in TS 07.07); type of address given by &lt;toda&gt;</p> |

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|  | <p><b>&lt;data&gt;</b> In the case of SMS: GSM 03.40 TP-User-Data in text mode responses; format:</p> <ul style="list-style-type: none"> <li>- if &lt;dc&gt; indicates that GSM 03.38 default alphabet is used and &lt;fo&gt; indicates that GSM 03.40 TP-User-Data-Header-Indication is not set:</li> <li>- if TE character set other than "HEX" (refer Command Select TE Character Set +CSCS in TS 07.07): ME/TA converts GSM alphabet into current TE character set according to rules of Annex A</li> <li>- if TE character set is "HEX": ME/TA converts each 7-bit character of GSM alphabet into two IRA character long hexadecimal number (e.g. character P (GSM 23) is presented as 17 (IRA 49 and 55))</li> <li>- if &lt;dc&gt; indicates that 8-bit or UCS2 data coding scheme is used, or &lt;fo&gt; indicates that GSM 03.40 TP-User-Data-Header-Indication is set: ME/TA converts each 8-bit octet into two IRA character long hexadecimal number (e.g. octet with integer value 42 is presented to TE as two characters 2A (IRA 50 and 65))</li> </ul> <p>In the case of CBS: GSM 03.41 CBM Content of Message in text mode responses; format:</p> <ul style="list-style-type: none"> <li>- if &lt;dc&gt; indicates that GSM 03.38 default alphabet is used:</li> <li>- if TE character set other than "HEX" (refer Command +CSCS in GSM 07.07): ME/TA converts GSM alphabet into current TE character set according to rules of Annex A</li> <li>- if TE character set is "HEX": ME/TA converts each 7-bit character of GSM alphabet into two IRA character long hexadecimal number</li> <li>- if &lt;dc&gt; indicates that 8-bit or UCS2 data coding scheme is used: ME/TA converts each 8-bit octet into two IRA character long hexadecimal number</li> </ul> <p><b>&lt;dc&gt;</b> depending on the Command or result code: GSM 03.38 SMS Data Coding Scheme (default 0), or Cell Broadcast Data Coding Scheme in integer format</p> <p><b>&lt;fo&gt;</b> depending on the Command or result code: first octet of GSM 03.40 SMS-DELIVER, SMS-SUBMIT (default 17), SMS-STATUS-REPORT, or SMS-COMMAND (default 2) in integer format</p> <p><b>&lt;length&gt;</b> integer type value indicating in the text mode (+CMGF=1) the length of the message body &lt;data&gt; (or &lt;cdata&gt;) 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)</p> <p><b>&lt;mid&gt;</b> GSM 03.41 CBM Message Identifier in integer format</p> |
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|                        |  |                          |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
|------------------------|--|--------------------------|---|--------------------------|---|-------------|--|-------|---|------------------------|---|------------|---|---|--------------|--------------------------|---|------------|------------------------|---|--------------|------------------------|---|------------|----------------------|--------|--|--------|--|---------|--|------|---|
|                        | <table><tr><td>&lt;oa&gt;</td><td>GSM 03.40 TP-Originating-Address Address-Value field in string format; BCD numbers (or GSM default alphabet characters) are converted characters of the currently selected TE character set (specified by +CSCS in TS 07.07); type of address given by &lt;tooa&gt;</td></tr><tr><td>&lt;pdu&gt;</td><td>In the case of SMS: GSM 04.11 SC address followed by GSM 03.40 TPDU in hexadecimal format: ME/TA converts each octet of TP data unit into two IRA character long hexadecimal number (e.g. octet with integer value 42 is presented to TE as two characters 2A (IRA 50 and 65)). In the case of CBS: GSM 03.41 TPDU in hexadecimal format.</td></tr><tr><td>&lt;pid&gt;<br/>0)</td><td>GSM 03.40 TP-Protocol-Identifier in integer format (default 0)</td></tr><tr><td>&lt;sca&gt;</td><td>GSM 04.11 RP SC address Address-Value field in string format; BCD numbers (or GSM default alphabet characters) are are converted to characters of the currently selected TE character set (specified by +CSCS in TS 07.07);; type of address given by &lt;tosca&gt;</td></tr><tr><td>&lt;scts&gt;</td><td>GSM 03.40 TP-Service-Centre-Time-Stamp in time-string format (refer &lt;dt&gt;)</td></tr><tr><td>&lt;stat&gt;</td><td><table><tr><td>0</td><td>"REC UNREAD"</td><td>Received unread messages</td></tr><tr><td>1</td><td>"REC READ"</td><td>Received read messages</td></tr><tr><td>2</td><td>"STO UNSENT"</td><td>Stored unsent messages</td></tr><tr><td>3</td><td>"STO SENT"</td><td>Stored sent messages</td></tr></table></td></tr><tr><td>&lt;toda&gt;</td><td>GSM 04.11 TP-Destination-Address Type-of-Address octet in integer format (when first character of &lt;da&gt; is + (IRA 43) default is 145, otherwise default is 129)</td></tr><tr><td>&lt;tooa&gt;</td><td>GSM 04.11 TP-Originating-Address Type-of-Address octet in integer format (default refer&lt;toda&gt;)</td></tr><tr><td>&lt;tosca&gt;</td><td>GSM 04.11 RP SC address Type-of-Address octet in integer format (default refer &lt;toda&gt;)</td></tr><tr><td>&lt;vp&gt;</td><td>depending on SMS-SUBMIT &lt;fo&gt; setting: GSM 03.40 TP-Validity-Period either in integer format (default 167) or in time-string format (refer &lt;dt&gt;)</td></tr></table> | <oa>                     | GSM 03.40 TP-Originating-Address Address-Value field in string format; BCD numbers (or GSM default alphabet characters) are converted characters of the currently selected TE character set (specified by +CSCS in TS 07.07); type of address given by <tooa> | <pdu>                    | In the case of SMS: GSM 04.11 SC address followed by GSM 03.40 TPDU in hexadecimal format: ME/TA converts each octet of TP data unit into two IRA character long hexadecimal number (e.g. octet with integer value 42 is presented to TE as two characters 2A (IRA 50 and 65)). In the case of CBS: GSM 03.41 TPDU in hexadecimal format. | <pid><br>0) | GSM 03.40 TP-Protocol-Identifier in integer format (default 0) | <sca> | GSM 04.11 RP SC address Address-Value field in string format; BCD numbers (or GSM default alphabet characters) are are converted to characters of the currently selected TE character set (specified by +CSCS in TS 07.07);; type of address given by <tosca> | <scts>                 | GSM 03.40 TP-Service-Centre-Time-Stamp in time-string format (refer <dt>) | <stat>     | <table><tr><td>0</td><td>"REC UNREAD"</td><td>Received unread messages</td></tr><tr><td>1</td><td>"REC READ"</td><td>Received read messages</td></tr><tr><td>2</td><td>"STO UNSENT"</td><td>Stored unsent messages</td></tr><tr><td>3</td><td>"STO SENT"</td><td>Stored sent messages</td></tr></table> | 0 | "REC UNREAD" | Received unread messages | 1 | "REC READ" | Received read messages | 2 | "STO UNSENT" | Stored unsent messages | 3 | "STO SENT" | Stored sent messages | <toda> | GSM 04.11 TP-Destination-Address Type-of-Address octet in integer format (when first character of <da> is + (IRA 43) default is 145, otherwise default is 129) | <tooa> | GSM 04.11 TP-Originating-Address Type-of-Address octet in integer format (default refer<toda>) | <tosca> | GSM 04.11 RP SC address Type-of-Address octet in integer format (default refer <toda>) | <vp> | depending on SMS-SUBMIT <fo> setting: GSM 03.40 TP-Validity-Period either in integer format (default 167) or in time-string format (refer <dt>) |
| <oa>                   | GSM 03.40 TP-Originating-Address Address-Value field in string format; BCD numbers (or GSM default alphabet characters) are converted characters of the currently selected TE character set (specified by +CSCS in TS 07.07); type of address given by <tooa>  |                          |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
| <pdu>                  | In the case of SMS: GSM 04.11 SC address followed by GSM 03.40 TPDU in hexadecimal format: ME/TA converts each octet of TP data unit into two IRA character long hexadecimal number (e.g. octet with integer value 42 is presented to TE as two characters 2A (IRA 50 and 65)). In the case of CBS: GSM 03.41 TPDU in hexadecimal format.  |                          |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
| <pid><br>0)            | GSM 03.40 TP-Protocol-Identifier in integer format (default 0)   |                          |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
| <sca>                  | GSM 04.11 RP SC address Address-Value field in string format; BCD numbers (or GSM default alphabet characters) are are converted to characters of the currently selected TE character set (specified by +CSCS in TS 07.07);; type of address given by <tosca>  |                          |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
| <scts>                 | GSM 03.40 TP-Service-Centre-Time-Stamp in time-string format (refer <dt>)  |                          |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
| <stat>                 | <table><tr><td>0</td><td>"REC UNREAD"</td><td>Received unread messages</td></tr><tr><td>1</td><td>"REC READ"</td><td>Received read messages</td></tr><tr><td>2</td><td>"STO UNSENT"</td><td>Stored unsent messages</td></tr><tr><td>3</td><td>"STO SENT"</td><td>Stored sent messages</td></tr></table>  | 0                        | "REC UNREAD"  | Received unread messages | 1   | "REC READ"  | Received read messages   | 2     | "STO UNSENT"  | Stored unsent messages | 3   | "STO SENT" | Stored sent messages  |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
| 0                      | "REC UNREAD"   | Received unread messages |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
| 1                      | "REC READ"   | Received read messages   |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
| 2                      | "STO UNSENT"   | Stored unsent messages   |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
| 3                      | "STO SENT"   | Stored sent messages     |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
| <toda>                 | GSM 04.11 TP-Destination-Address Type-of-Address octet in integer format (when first character of <da> is + (IRA 43) default is 145, otherwise default is 129)   |                          |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
| <tooa>                 | GSM 04.11 TP-Originating-Address Type-of-Address octet in integer format (default refer<toda>)   |                          |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
| <tosca>                | GSM 04.11 RP SC address Type-of-Address octet in integer format (default refer <toda>)   |                          |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
| <vp>                   | depending on SMS-SUBMIT <fo> setting: GSM 03.40 TP-Validity-Period either in integer format (default 167) or in time-string format (refer <dt>)  |                          |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |
| Reference<br>GSM 07.05 | Note   |                          |   |                          |   |             |  |       |   |                        |   |            |   |   |              |                          |   |            |                        |   |              |                        |   |            |                      |        |  |        |  |         |  |      |   |

#### 4.2.5 AT+CMGS Send SMS Message

##### AT+CMGS Send SMS Message

| Test Command | Response |
|--------------|----------|
|--------------|----------|

**SIM500W AT Commands Set**

| <b>AT+CMGS=?</b>  | <b>OK</b>   |
|---|---|
| <p>Write Command</p> <p>1) If text mode (+CMGF=1):<br/>+CMGS=&lt;da&gt;[,&lt;toda&gt;]&lt;CR&gt;<br/><b>text is entered</b><br/>&lt;ctrl-Z/ESC&gt;<br/>ESC quits without sending</p> <p>2) If PDU mode (+CMGF=0):<br/>+CMGS=&lt;length&gt;&gt;&lt;CR&gt;<br/><b>PDU is given</b><br/>&lt;ctrl-Z/ESC&gt;</p> | <p>Parameters</p> <p><b>&lt;da&gt;</b> GSM 03.40 TP-Destination-Address Address-Value field in string format(string should be included in quotation marks);; BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (specified by +CSCS in TS 07.07); type of address given by &lt;toda&gt;</p> <p><b>&lt;toda&gt;</b> GSM 04.11 TP-Destination-Address Type-of-Address octet in integer format (when first character of &lt;da&gt; is + (IRA 43) default is 145, otherwise default is 129)</p> <p><b>&lt;length&gt;</b> integer type value indicating in the text mode (+CMGF=1) the length of the message body &lt;data&gt; (or &lt;cdata&gt;) 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)</p> <p>Response</p> <p>TA sends message from a TE to the network (SMS-SUBMIT). Message reference value &lt;mr&gt; is returned to the TE on successful message delivery. Optionally (when +CSMS &lt;service&gt; value is 1 and network supports) &lt;scts&gt; is returned. Values can be used to identify message upon unsolicited delivery status report result code.</p> <p>1) If text mode(+CMGF=1) and sending successful:<br/><b>+CMGS: &lt;mr&gt;</b></p> <p><b>OK</b></p> <p>2) If PDU mode(+CMGF=0) and sending successful:<br/><b>+CMGS: &lt;mr&gt;</b></p> <p><b>OK</b></p> <p>3)If error is related to ME functionality:<br/><b>+CMS ERROR: &lt;err&gt;</b></p> <p>Parameter</p> <p><b>&lt;mr&gt;</b> GSM 03.40 TP-Message-Reference in integer format</p> |
| Reference<br>GSM 07.05  | Note  |

**4.2.6 AT+CMGW Write SMS Message To Memory**

| <b>AT+CMGW Write SMS Message To Memory</b> |                       |
|--|-----------------------|
| Test Command<br><b>AT+CMGW=?</b>           | Response<br><b>OK</b> |



## SIM500W AT Commands Set

|   |   |
|---|---|
| <p>Write Command</p> <p>1) If text mode (+CMGF=1):<br/> <b>AT+CMGW</b>=[&lt;oa&gt;,&lt;tooa&gt;&lt;da&gt;,&lt;toda&gt;]]<br/> &lt;CR&gt;    <b>text</b>    <b>is entered</b><br/> &lt;ctrl-Z/ESC&gt;<br/> &lt;ESC&gt;        <b>quits</b><br/> without sending</p> <p>2) If PDU mode (+CMGF=0):<br/> <b>AT+CMGW</b>=&lt;length&gt;&lt;CR&gt;<br/> <b>PDU is given</b><br/> &lt;ctrl-Z/ESC&gt;</p> | <p>Response</p> <p>TA transmits SMS message (either SMS-DELIVER or SMS-SUBMIT) from TE to memory storage &lt;mem2&gt;. Memory location &lt;index&gt; of the stored message is returned. By default message status will be set to 'stored unsent', but parameter &lt;stat&gt; allows also other status values to be given.</p> <p>If writing is successful:<br/> <b>+CMGW: &lt;index&gt;</b></p> <p><b>OK</b></p> <p>If error is related to ME functionality:<br/> <b>+CMS ERROR: &lt;err&gt;</b></p> <p>Parameters</p> <p><b>&lt;oa&gt;</b>        GSM 03.40 TP-Originating-Address Address-Value field in string format(string should be included in quotation marks); BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (specified by +CSCS in TS 07.07);type of address given by &lt;tooa&gt;</p> <p><b>&lt;da&gt;</b>        GSM 03.40 TP-Destination-Address Address-Value field in string format(string should be included in quotation marks); BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (specified by +CSCS in TS 07.07); type of address given by &lt;toda&gt;</p> <p><b>&lt;tooa&gt;</b>       GSM 04.11 TP-Originating-Address Type-of-Address octet in integer format (default refer &lt;toda&gt;)</p> <p><b>&lt;toda&gt;</b>       GSM 04.11 TP-Destination-Address Type-of-Address octet in integer format (when first character of &lt;da&gt; is + (IRA 43) default is 145, otherwise default is 129)<br/> 129 Unknown type(ISDN format number)<br/> 161 National number type(ISDN format)<br/> 145 International number type(ISDN format )<br/> 177 Network specific number(ISDN format)</p> <p><b>&lt;length&gt;</b>     integer type value indicating in the text mode (+CMGF=1) the length of the message body &lt;data&gt;    (or &lt;cdata&gt;) 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)</p> <p><b>&lt;pdu&gt;</b>        In the case of SMS: GSM 04.11 SC address followed by GSM 03.40 TPDU in hexadecimal format: ME/TA</p> |
|---|---|

## SIM500W AT Commands Set

|   |  |
|---|--|
|   | <p>converts each octet of TP data unit into two IRA character long hexadecimal number (e.g. octet with integer value 42 is presented to TE as two characters 2A (IRA 50 and 65)). In the case of CBS: GSM 03.41 TPDU in hexadecimal format.</p> <p><b>&lt;index&gt;</b> Index of message in selected storage &lt;mem2&gt;</p>  |
| <p>Execution Command</p> <p><b>AT+ CMGW</b></p> | <p>Response</p> <p>TA transmits SMS message (either SMS-DELIVER or SMS-SUBMIT) from TE to memory storage &lt;mem2&gt;. Memory location &lt;index&gt; of the stored message is returned. By default message status will be set to 'stored unsent', but parameter &lt;stat&gt; allows also other status values to be given.</p> <p>If writing is successful:</p> <p><b>+CMGW: &lt;index&gt;</b></p> <p><b>OK</b></p> <p>If error is related to ME functionality:</p> <p><b>+CMS ERROR: &lt;err&gt;</b></p> |
| <p>Reference</p> <p>GSM 07.05</p>               | <p>Note</p>  |

### 4.2.7 AT+CMSS Send SMS Message From Storage

| AT+CMSS Send SMS Message From Storage       |                                  |
|---|----------------------------------|
| <p>Test Command</p> <p><b>AT+CMSS=?</b></p> | <p>Response</p> <p><b>OK</b></p> |

## SIM500W AT Commands Set

|  |  |
|--|--|
| <p>Write Command</p> <p><b>AT+CMSS=&lt;index&gt;[,&lt;da&gt;[,&lt;toda&gt;]]</b></p> | <p>Response</p> <p>TA sends message with location value &lt;index&gt; from message storage &lt;mem2&gt; to the network (SMS-SUBMIT). If new recipient address &lt;da&gt; is given, it shall be used instead of the one stored with the message. Reference value &lt;mr&gt; is returned to the TE on successful message delivery. Values can be used to identify message upon unsolicited delivery status report result code.</p> <p>1) If text mode(+CMGF=1) and sending successful:</p> <p><b>+CMGS: &lt;mr&gt; [,&lt;scts&gt;]</b></p> <p><b>OK</b></p> <p>2) If PDU mode(+CMGF=0) and sending successful:</p> <p><b>+CMGS: &lt;mr&gt; [,&lt;ackpdu&gt;]</b></p> <p><b>OK</b></p> <p>3) If error is related to ME functionality:</p> <p><b>+CMS ERROR: &lt;err&gt;</b></p><br><p>Parameters</p> <p><b>&lt;index&gt;</b> integer type; value in the range of location numbers supported by the associated memory</p> <p><b>&lt;da&gt;</b> GSM 03.40 TP-Destination-Address Address-Value field in string format(string should be included in quotation marks); BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (specified by +CSCS in TS 07.07);; type of address given by &lt;toda&gt;</p> <p><b>&lt;toda&gt;</b> GSM 04.11 TP-Destination-Address Type-of-Address octet in integer format (when first character of &lt;da&gt; is + (IRA 43) default is 145, otherwise default is 129)</p> <p><b>&lt;mr&gt;</b> GSM 03.40 TP-Message-Reference in integer format</p> |
| <p>Reference</p> <p>GSM 07.05</p>  | <p>Note</p>  |

### 4.2.8 AT+CMGC Send SMS Command

| AT+CMGC Send SMS Command                    |                                  |
|---|----------------------------------|
| <p>Test Command</p> <p><b>AT+CMGC=?</b></p> | <p>Response</p> <p><b>OK</b></p> |

## SIM500W AT Commands Set

| Write Command   | Parameters   |
|---|--|
| <p>1) If text mode (+CMGF=1):<br/> <b>AT+CMGC=&lt;fo&gt;,&lt;ct&gt;&lt;pid&gt;,&lt;mn&gt;,&lt;da&gt;,&lt;toda&gt;&lt;CR&gt;</b><br/> text is entered<br/> &lt;ctrl-Z/ESC&gt;<br/> ESC quits without sending</p> | <p><b>&lt;fo&gt;</b> first octet of GSM 03.40 SMS-COMMAND (default 2) in integer format</p> <p><b>&lt;ct&gt;</b> GSM 03.40 TP-Command-Type in integer format (default 0)</p> <p><b>&lt;pid&gt;</b> GSM 03.40 TP-Protocol-Identifier in integer format (default 0)</p> <p><b>&lt;mn&gt;</b> GSM 03.40 TP-Message-Number in integer format</p> <p><b>&lt;da&gt;</b> GSM 03.40 TP-Destination-Address Address-Value field in string format(string should be included in quotation marks); BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (specified by +CSCS in TS 07.07); type of address given by &lt;toda&gt;</p> <p><b>&lt;toda&gt;</b> GSM 04.11 TP-Destination-Address Type-of-Address octet in integer format (when first character of &lt;da&gt; is + (IRA 43) default is 145, otherwise default is 129)</p> <p>129 Unknown type(ISDN format number)<br/> 161 National number type(ISDN format)<br/> 145 International number type(ISDN format )<br/> 177 Network specific number(ISDN format)</p> |
| <p>2) If PDU mode (+CMGF=0):<br/> <b>AT+CMGC=&lt;length&gt;&lt;CR&gt;</b><br/> <b>PDU is given</b><br/> &lt;ctrl-Z/ESC&gt;</p>  | <p><b>&lt;length&gt;</b> integer type value indicating 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)</p>  |

|                        |   |
|------------------------|---|
|                        | <p>Response</p> <p>TA transmits SMS Command message from a TE to the network (SMS-COMMAND). Message reference value &lt;mr&gt; is returned to the TE on successful message delivery. Value can be used to identify message upon unsolicited delivery status report result code.</p> <p>1) If text mode(+CMGF=1) and sending successful:<br/> <b>+CMGC: &lt;mr&gt; [,&lt;scts&gt;]</b></p> <p><b>OK</b></p> <p>2) If PDU mode(+CMGF=0) and sending successful:<br/> <b>+CMGC: &lt;mr&gt; [,&lt;ackpdu&gt;]</b></p> <p><b>OK</b></p> <p>3) If error is related to ME functionality:<br/> <b>+CMS ERROR: &lt;err&gt;</b></p> <p>Parameters</p> <p><b>&lt;mr&gt;</b> GSM 03.40 TP-Message-Reference in integer format</p> |
| Reference<br>GSM 07.05 | Note  |

#### 4.2.9 AT+CNMI New SMS Message Indications

| AT+CNMI New SMS Message Indications |  |
|-------------------------------------|--|
| Test Command<br><b>AT+CNMI=?</b>    | <p>Response</p> <p><b>+CNMI:</b> (list of supported &lt;mode&gt;s),(list of supported &lt;mt&gt;s),(list of supported &lt;bm&gt;s),(list of supported &lt;ds&gt;s),(list of supported &lt;bfr&gt;s)</p> <p><b>OK</b></p> <p>Parameters<br/>see Write Command</p> |
| Read Command<br><b>AT+CNMI?</b>     | <p>Response</p> <p><b>+CNMI:</b> &lt;mode&gt;,&lt;mt&gt;,&lt;bm&gt;,&lt;ds&gt;,&lt;bfr&gt;</p> <p><b>OK</b></p> <p>Parameters<br/>see Write Command</p>  |

**SIM500W AT Commands Set**

|  |  |
|--|--|
| Write Command<br><b>AT+CNMI=[&lt;m<br/>ode&gt;[,&lt;mt&gt;[,&lt;b<br/>m&gt;<br/>[,&lt;ds&gt;[,&lt;bfr&gt;]]]]]</b> | <b>Response</b><br>TA selects the procedure for how the receiving of new messages from the network is indicated to the TE when TE is active, e.g. DTR signal is ON. If TE is inactive (e.g. DTR signal is OFF), message receiving should be done as specified in GSM 03.38.<br><br><b>OK</b><br>If error is related to ME functionality:<br><b>ERROR</b> |
|--|--|

|  |   |
|--|---|
|  | <p>Parameters</p> <p><b>&lt;mode&gt;</b></p> <ol style="list-style-type: none"> <li>0 Buffer unsolicited result codes in the TA. If TA result code buffer is full, indications can be buffered in some other place or the oldest indications may be discarded and replaced with the new received indications.</li> <li>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.</li> <li>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.</li> <li>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.</li> </ol> <p><b>&lt;mt&gt;</b> (the rules for storing received SMs depend on its data coding scheme (refer GSM 03.38 [2]), preferred memory storage (+CPMS) setting and this value):</p> <ol style="list-style-type: none"> <li>0 No SMS-DELIVER indications are routed to the TE.</li> <li>1 If SMS-DELIVER is stored into ME/TA, indication of the memory location is routed to the TE using unsolicited result code: +CMTI: &lt;mem&gt;,&lt;index&gt;</li> <li>2 SMS-DELIVERs (except class 2) are routed directly to the TE using unsolicited result code: +CMT: [&lt;alpha&gt;],&lt;length&gt;&lt;CR&gt;&lt;LF&gt;&lt;pdu&gt; (PDU mode enabled) or +CMT: &lt;oa&gt;, [&lt;alpha&gt;],&lt;scts&gt; [,&lt;tooa&gt;,&lt;fo&gt;,&lt;pid&gt;,&lt;dcs&gt;,&lt;sca&gt;,&lt;tosca&gt;,&lt;length&gt;]&lt;CR&gt;&lt;LF&gt;&lt;data&gt; (text mode enabled; about parameters in italics, refer Command Show Text Mode Parameters +CSDH). Class 2 messages result in indication as defined in &lt;mt&gt;=1.</li> <li>3 Class 3 SMS-DELIVERs are routed directly to TE using unsolicited result codes defined in &lt;mt&gt;=2. Messages of other classes result in indication as defined in &lt;mt&gt;=1.</li> </ol> <p><b>&lt;bm&gt;</b> (the rules for storing received CBMs depend on its data coding scheme (refer GSM 03.38 [2]), the setting of Select CBM Types (+CSCB) and this value):</p> <ol style="list-style-type: none"> <li>0 No CBM indications are routed to the TE.</li> <li>2 New CBMs are routed directly to the TE using unsolicited result code: +CBM: &lt;length&gt;&lt;CR&gt;&lt;LF&gt;&lt;pdu&gt; (PDU mode enabled) or</li> </ol> |
|--|---|

## SIM500W AT Commands Set

|                        |   |
|------------------------|---|
|                        | <p>+CBM:</p> <p>&lt;sn&gt;,&lt;mid&gt;,&lt;dc&gt;,&lt;page&gt;,&lt;pages&gt;&lt;CR&gt;&lt;LF&gt;&lt;data&gt;<br/>(text mode enabled).</p> <p>3 class 3: route message to TE<br/>others: as &lt;bm&gt;=1 (if CBM memory storage is supported)</p> <p>&lt;ds&gt; 0 No SMS-STATUS-REPORTs are routed to the TE.<br/>1 SMS-STATUS-REPORTs are routed to the TE using unsolicited result code: +CDS:<br/>&lt;length&gt;&lt;CR&gt;&lt;LF&gt;&lt;pdu&gt; (PDU mode enabled) or<br/>+CDS: &lt;fo&gt;,&lt;mr&gt;,&lt;ra&gt;,&lt;tora&gt;,&lt;scts&gt;,&lt;dt&gt;,&lt;st&gt;<br/>(text mode enabled)</p> <p>&lt;bfr&gt; 0 TA buffer of unsolicited result codes defined within this Command is flushed to the TE when &lt;mode&gt; 1...3 is entered (OK response shall be given before flushing the codes).</p> |
|                        | <p>Unsolicited result code</p> <p>+CMTI: &lt;mem&gt;,&lt;index&gt; Indication that new message has been received</p> <p>+CMT: [&lt;alpha&gt;],&lt;length&gt;&lt;CR&gt;&lt;LF&gt;&lt;pdu&gt; Short message is output directly</p> <p>+CBM: &lt;length&gt;&lt;CR&gt;&lt;LF&gt;&lt;pdu&gt; Cell broadcast message is output directly</p>   |
| Reference<br>GSM 07.05 | Note  |

### 4.2.10 AT+CPMS Preferred SMS Message Storage

| AT+CPMS Preferred SMS Message Storage |   |
|---------------------------------------|---|
| Read Command<br>AT+CPMS?              | <p>Response</p> <p>+CPMS:<br/>&lt;mem1&gt;,&lt;used1&gt;,&lt;total1&gt;,&lt;mem2&gt;,&lt;used2&gt;,&lt;total2&gt;,&lt;mem3&gt;,&lt;used3&gt;,&lt;total3&gt;</p> <p><b>OK</b></p> <p>If error is related to ME functionality:<br/><b>ERROR</b></p> |
|                                       | <p>Parameters<br/>see Write Command</p>   |



# SIM500W AT Commands Set

|   |  |
|---|--|
| Test Command<br><b>AT+CPMS=?</b>  | <div> Response </div> <div> <b>+CPMS:</b> (list of supported &lt;mem1&gt;s),(list of supported &lt;mem2&gt;s) ,(list of supported &lt;mem3&gt;s) </div> <div> <b>OK</b> </div> <div> Parameters<br/> see Write Command </div>  |
| Write Command<br><b>AT+CPMS=</b><br><b>&lt;mem1&gt;</b><br><b>[,&lt;mem2&gt;</b><br><b>[,&lt;mem3&gt;]]</b> | <div> Response </div> <div> TA selects memory storages &lt;mem1&gt;, &lt;mem2&gt; and &lt;mem3&gt; to be used for reading, writing, etc. </div> <div> <b>+CPMS:</b> &lt;used1&gt;,&lt;total1&gt;,&lt;used2&gt;,&lt;total2&gt;,&lt;used3&gt;,&lt;total3&gt; </div> <div> <b>OK</b> </div> <div> If error is related to ME functionality:<br/> <b>ERROR</b> </div> <div> Parameters </div> <div> <div> &lt;mem1&gt; Messages to be read and deleted from this memory storage </div> <div> "SM" SIM message storage </div> <div> "ME" Device message storage </div> <div> "SM_P" SM prefer, try SM first, then ME </div> <div> "ME_P" ME prefer, try ME first, then SM </div> <div> "MT" Any of storages associated with ME (SM first) </div> </div> <div> <div> &lt;mem2&gt; Messages will be written and sent to this memory storage </div> <div> "SM" SIM message storage </div> <div> "ME" Device message storage </div> <div> "SM_P" SM prefer, try SM first, then ME </div> <div> "ME_P" ME prefer, try ME first, then SM </div> <div> "MT" Any of storages associated with ME (SM first) </div> </div> <div> <div> &lt;mem3&gt; Received messages will be placed in this memory storage if routing to PC is not set ("+CNMI") </div> <div> "SM" SIM message storage </div> <div> "ME" Device message storage </div> <div> "SM_P" SM prefer, try SM first, then ME </div> <div> "ME_P" ME prefer, try ME first, then SM </div> <div> "MT" Any of storages associated with ME (SM first) </div> </div> <div> &lt;usedx&gt; integer type;Number of messages currently in &lt;memx&gt; </div> <div> &lt;totalx&gt; integer type;Number of messages storable in &lt;memx&gt; </div> |

#### 4.2.11 AT+CRES Restore SMS Settings

| AT+CRES Restore SMS Settings                    |  |
|---|--|
| Test Command<br><b>AT+CRES=?</b>                | <p>Response</p> <p><b>+CRES:</b> (list of supported &lt;profile&gt;s)</p> <p><b>OK</b></p>   |
| Write Command<br><b>AT+CRES=&lt;profile&gt;</b> | <p>Response</p> <p>TA restores SMS settings for +CMGF, +CNMI, +CSDH from non-volatile memory to active memory. A TA can contain several profiles of settings. Settings specified in commands Service Centre Address +CSCA, Set Message Parameters +CSMP and Select Cell Broadcast Message Types +CSCB (if implemented) are restored. Certain settings may not be supported by the storage (e.g. SIM SMS parameters) and therefore can not be restored.</p> <p><b>OK</b></p> <p>If error is related to ME functionality:</p> <p><b>ERROR</b></p> <p>Parameter</p> <p>&lt;profile&gt;     <u>0</u>     manufacturer specific profile number where setting are to be stored</p> |
| Execution Command<br><b>AT+CRES</b>             | <p>Response</p> <p>Same as AT+CRES=0.</p> <p><b>OK</b></p> <p>If error is related to ME functionality:</p> <p><b>ERROR</b></p>   |
| Reference<br>GSM 07.05                          | Note   |

#### 4.2.12 AT+CSAS Save SMS Settings

| AT+CSAS Save SMS Settings        |  |
|----------------------------------|--|
| Test Command<br><b>AT+CSAS=?</b> | <p>Response</p> <p><b>+CSAS:</b> (list of supported &lt;profile&gt;s)</p> <p><b>OK</b></p> |

## SIM500W AT Commands Set

|   |   |
|---|---|
| Write Command<br><b>AT+CSAS=&lt;profile&gt;</b> | <p>Response</p> <p>TA restores SMS settings for +CMGF, +CNMI, +CSDH from non-volatile memory to active memory. A TA can contain several profiles of settings. Settings specified in commands Service Centre Address +CSCA, Set Message Parameters +CSMP and Select Cell Broadcast Message Types +CSCB (if implemented) are restored. Certain settings may not be supported by the storage (e.g. SIM SMS parameters) and therefore can not be restored</p> <p><b>OK</b></p> <p>If error is related to ME functionality:<br/><b>ERROR</b></p> |
|   | <p>Parameter</p> <p><b>&lt;profile&gt;</b> <u>0</u> manufacturer specific profile number where settings are to be stored</p>  |
| Execution Command<br><b>AT+CSAS</b>             | <p>Response</p> <p>Same as AT+CSAS=0</p> <p><b>OK</b></p> <p>If error is related to ME functionality:<br/><b>ERROR</b></p>  |
| Reference<br>GSM 07.05                          | Note  |

### 4.2.13 AT+CSCA SMS Service Center Address

| <b>AT+CSCA SMS Service Center Address</b> |  |
|---|--|
| Read Command<br><b>AT+CSCA?</b>           | <p>Response</p> <p><b>+CSCA: &lt;sca&gt;,&lt;tosca&gt;[,&lt;scaAlpha&gt;]</b></p> <p><b>OK</b></p> |
|   | <p>Parameters</p> <p>see Write Command</p>   |
| Test Command<br><b>AT+CSCA=?</b>          | <p>Response</p> <p><b>OK</b></p>   |

**SIM500W AT Commands Set**

|  |   |
|--|---|
| <p>Write Command<br/> <b>AT+CSCA</b> =<br/> <b>&lt;sca&gt;[,&lt;tosca&gt;]</b></p> | <p>Response</p> <p>TA updates the SMSC address, through which mobile originated SMS are transmitted. In text mode, setting is used by send and writes commands. In PDU mode, setting is used by the same commands, but only when the length of the SMSC address coded into &lt;pdu&gt; parameter equals zero.</p> <p>Note: The Command writes the parameters in NON-VOLATILE memory.</p> <p><b>OK</b></p> <p>If error is related to ME functionality:<br/> <b>+CME ERROR: &lt;err&gt;</b></p> <hr/> <p>Parameters</p> <p><b>&lt;sca&gt;</b> GSM 04.11 RP SC address Address-Value field in string format(string should be included in quotation marks); BCD numbers (or GSM default alphabet characters) are converted to characters of the currently selected TE character set (specified by +CSCS in TS 07.07); type of address given by &lt;tosca&gt;</p> <p><b>&lt;tosca&gt;</b> Service center address format GSM 04.11 RP SC address Type-of-Address octet in integer format (default refer &lt;toda&gt;)</p> <p><b>&lt;scaAlpha&gt;</b> string type(string should be included in quotation marks)<br/> Service center address alpha data</p> |
| <p>Reference<br/> GSM 07.05</p>  | <p>Note</p> <p><b>I</b> Only if Command +SMEXTRAINFO=1 , &lt;scaAlpha&gt; is available.<br/> And nothing can be displayed if it is empty.</p>   |

**4.2.14 AT+CSCB Select Cell Broadcast SMS Messages**

| <b>AT+CSCB Select Cell Broadcast SMS Messages</b> |   |
|---|---|
| <p>Read Command<br/> <b>AT+CSCB?</b></p>          | <p>Response</p> <p><b>+CSCB: &lt;mode&gt;,&lt;mids&gt;,&lt;dcss&gt;</b></p> <p><b>OK</b></p> <hr/> <p>Parameters<br/> see Write Command</p> |
| <p>Test Command<br/> <b>AT+CSCB=?</b></p>         | <p>Response</p> <p><b>+CSCB: (list of supported &lt;mode&gt;s)</b></p> <p><b>OK</b></p> <hr/> <p>Parameters<br/> see Write Command</p>      |

## SIM500W AT Commands Set

|  |   |
|--|---|
| Write Command<br><b>AT+CSCB=</b><br><b>&lt;mode&gt;[,mids&gt;[,</b><br><b>&lt;dcss&gt;]]</b> | Response<br>TA selects which types of CBMs are to be received by the ME.<br><br>Note: The Command writes the parameters in NON-VOLATILE memory.<br><b>OK</b><br>If error is related to ME functionality:<br><b>+CMS ERROR: &lt;err&gt;</b><br><br>Parameters<br><b>&lt;mode&gt;</b> 0      message types specified in <mids> and <dcss> are accepted<br>1      message types specified in <mids> and <dcss> are not accepted<br><b>&lt;mids&gt;</b> string type(string should be included in quotation marks); all different possible combinations of CBM message identifiers (refer <mid>) (default is empty string); e.g. "0,1,5,320-478,922".<br><b>&lt;dcss&gt;</b> string type(string should be included in quotation marks); all different possible combinations of CBM data coding schemes (refer <dc>) (default is empty string); e.g. "0-3,5". |
| Reference<br>GSM 07.05   | Note  |

### 4.2.15 AT+CSDH Show SMS Text Mode Parameters

| AT+CSDH    Show SMS Text Mode Parameters       |  |
|--|--|
| Read Command<br><b>AT+CSDH?</b>                | Response<br><b>+CSDH: &lt;show&gt;</b><br><br><b>OK</b><br><br>Parameters<br>see Write Command                     |
| Test Command<br><b>AT+CSDH=?</b>               | Response<br><b>+CSDH: (list of supported &lt;show&gt;s)</b><br><br><b>OK</b><br><br>Parameter<br>see Write Command |
| Write Command<br><b>AT+CSDH=[&lt;show&gt;]</b> | Response<br>TA determines whether detailed header information is shown in text mode result codes.<br><b>OK</b>     |

## SIM500W AT Commands Set

|                        |  |
|------------------------|--|
|                        | <p>Parameter</p> <p><b>&lt;show&gt;</b>      <u>0</u>      do not show header values defined in commands +CSCA and +CSMP (&lt;sca&gt;, &lt;tosca&gt;, &lt;fo&gt;, &lt;vp&gt;, &lt;pid&gt; and &lt;dc&gt;) nor &lt;length&gt;, &lt;toda&gt; or &lt;tooa&gt; in +CMT, +CMGL, +CMGR result codes for SMS-DELIVERs and SMS-SUBMITs in text mode</p> <p>                         1      show the values in result codes</p> |
| Reference<br>GSM 07.05 | Note   |

### 4.2.16 AT+CSMP Set SMS Text Mode Parameters

| AT+CSMP Set SMS Text Mode Parameters   |  |
|--|--|
| Read Command<br><b>AT+CSMP?</b>  | <p>Response</p> <p><b>+CSMP: &lt;fo&gt;,&lt;vp&gt;,&lt;pid&gt;,&lt;dc&gt;</b></p> <p><b>OK</b></p> <p>Parameters<br/>see Write Command</p>   |
| Test Command<br><b>AT+CSMP=?</b>   | <p>Response</p> <p><b>+CSMP: (list of supported &lt;fo&gt;s),(list of supported &lt;vp&gt;s), (list of supported &lt;pid&gt;s), (list of supported &lt;dc&gt;s)</b></p> <p><b>OK</b></p> <p>Parameters<br/>see Write Command</p>   |
| Write Command<br><b>AT+CSMP=[&lt;fo&gt;,&lt;vp&gt;,&lt;pid&gt;,&lt;dc&gt;]</b> | <p>Response</p> <p>TA selects values for additional parameters needed when SM is sent to the network or placed in a storage when text mode is selected (+CMGF=1). It is possible to set the validity period starting from when the SM is received by the SMSC (&lt;vp&gt; is in range 0... 255) or define the absolute time of the validity period termination (&lt;vp&gt; is a string).</p> <p>Note: The Command writes the parameters in NON-VOLATILE memory.</p> <p><b>OK</b></p> |

## SIM500W AT Commands Set

|                        |   |
|------------------------|---|
|                        | Parameters<br><b>&lt;fo&gt;</b> depending on the Command or result code: first octet of GSM 03.40 SMS-DELIVER, SMS-SUBMIT (default 17), SMS-STATUS-REPORT, or SMS-COMMAND (default 2) in integer format. SMS status report is supported under text mode if <fo> is set to 49.<br><b>&lt;vp&gt;</b> depending on SMS-SUBMIT <fo> setting: GSM 03.40 TP-Validity-Period either in integer format (default 167) or in time-string format (refer <dt>)<br><b>&lt;pid&gt;</b> GSM 03.40 TP-Protocol-Identifier in integer format (default 0).<br><b>&lt;dc&gt;</b> GSM 03.38 SMS Data Coding Scheme in Integer format. |
| Reference<br>GSM 07.05 | Note  |

### 4.2.17 AT+CSMS Select Message Service

| AT+CSMS Select Message Service                       |   |
|--|---|
| Read Command<br><b>AT+CSMS?</b>                      | Response<br><b>+CSMS: &lt;service&gt;,&lt;mt&gt;,&lt;mo&gt;,&lt;bm&gt;</b><br><br><b>OK</b><br>Parameters<br>see Write Command                            |
| Test Command<br><b>AT+CSMS=?</b>                     | Response<br><b>+CSMS: (list of supported &lt;service&gt;s)</b><br><br><b>OK</b><br>Parameters<br>see Write Command  |
| Write Command<br><b>AT+CSMS=<br/>&lt;service&gt;</b> | Response<br><b>+CSMS: &lt;mt&gt;,&lt;mo&gt;,&lt;bm&gt;</b><br><br><b>OK</b><br>If error is related to ME functionality:<br><b>+CMS ERROR: &lt;err&gt;</b> |

## SIM500W AT Commands Set

|           |                        |                             |   |
|-----------|------------------------|-----------------------------|---|
|           | Parameters             |                             |   |
|           | <b>&lt;service&gt;</b> | <u>0</u>                    | GSM 03.40 and 03.41 (the syntax of SMS AT commands is compatible with GSM 07.05 Phase 2 version 4.7.0; Phase 2+ features which do not require new Command syntax may be supported (e.g. correct routing of messages with new Phase 2+ data coding schemes)) |
|           |                        | 128                         | SMS PDU mode - TPDU only used for sending/receiving SMSs.   |
|           | <b>&lt;mt&gt;</b>      | Mobile Terminated Messages: |   |
|           |                        | 0                           | Type not supported  |
|           |                        | 1                           | Type supported  |
|           | <b>&lt;mo&gt;</b>      | Mobile Originated Messages: |   |
|           |                        | 0                           | Type not supported  |
|           |                        | 1                           | Type supported  |
|           | <b>&lt;bm&gt;</b>      | Broadcast Type Messages:    |   |
|           |                        | 0                           | Type not supported  |
|           |                        | 1                           | Type supported  |
| Reference | Note                   |                             |   |
| GSM 07.05 |                        |                             |   |

## 4.3 Configuration commands for SMS

|              |  |
|--------------|--|
| AT+SMALPHAID | CONFIGURE ALPHAID LOOKUP WHEN DISPLAYING SMS's |
|--------------|--|

### 4.3.1 AT+SMALPHAID Configure ALPHAID lookup When Displaying SMS's

| AT+SMALPHAID Configure ALPHAID Lookup When Displaying SMS's |   |
|---|---|
| Test Command<br><b>AT+SMALPHAID=?</b>                       | Response<br><b>+SMALPHAID:</b> (list of supported <b>&lt;mode&gt;</b> s)<br><br><b>OK</b><br>Parameter<br>See Write Command   |
| Read Command<br><b>AT+SMALPHAID?</b>                        | Response<br><b>+SMALPHAID : &lt;mode&gt;</b><br><br><b>OK</b><br>If error is related to ME functionality:<br><b>+CMS ERROR: &lt;err&gt;</b><br>Parameter<br>See Write Command |
| Write Command<br><b>AT+SMALPHAID</b>                        | Response<br><b>OK</b>   |



## SIM500W AT Commands Set

|                        |   |
|------------------------|---|
| <b>D =&lt;mode&gt;</b> | Parameter<br><mode>      Enable/disable the Alpha id lookup for phone numbers when displaying SMS<br><u>0</u> disable the Alpha id(default)<br>1      enable the Alpha id |
| Reference              | Note  |

## 5 AT Commands Special for SIMCOM

### 5.1 Overview

| Command    | Description                                   |
|------------|---|
| AT+ SIDET  | CHANGE THE SIDE TONE GAIN LEVEL               |
| AT+CPOWD   | POWER OFF                                     |
| AT+SPIC    | TIMES REMAIN TO INPUT SIM PIN/PUK             |
| AT+CMIC    | CHANGE THE MICROPHONE GAIN LEVEL              |
| AT+CALARM  | SET ALARM                                     |
| AT+CADC    | READ ADC                                      |
| AT +CSNS   | SINGLE NUMBERING SCHEME                       |
| AT +CMOD   | CONFIGRUE ALTERNATING MODE CALLS              |
| AT +CFGRI  | INDICATE RI WHEN USING URC                    |
| AT+CEXTHS  | EXTERNAL HEADSET JACK CONTROL                 |
| AT+CEXTBUT | HEADSET BUTTON STATUS REPORTING               |
| AT+CSMINS  | SIM INSERTED STATUS REPORTING                 |
| AT+CLDTMF  | LOCAL DTMF TONE GENERATION                    |
| AT+CDRIND  | CS VOICE/DATA/FAX CALL TERMINATION INDICATION |
| AT+CSPN    | GET SERVICE PROVIDER NAME FROM SIM            |

## SIM500W AT Commands Set

|              |   |
|--------------|---|
| AT+CBAND     | GET AND SET MOBILE OPERATION BAND                               |
| AT+CHFA      | SWAP THE AUDIO CHANNELS   |
| AT+CSCLK     | CONFIGURE SLOW CLOCK  |
| AT+CENG      | SWITCH ON OR OFF ENGINEERING MODE                               |
| AT+SCLASS0   | STORE CLASS 0 SMS TO SIM WHEN RECEIVED CLASS 0 SMS              |
| AT+CCID      | SHOW ICCID  |
| AT+CMTE      | SET CRITICAL TEMPERATURE OPERATING MODE OR QUERY TEMPERATURE    |
| AT+CSDT      | SWITCH ON OR OFF DETECTING SIM CARD                             |
| AT+CMGDA     | DELETE ALL SMS  |
| AT+SIMTONE   | GENERATE SPECIFICALLY TONE                                      |
| AT+CCPD      | CONNECTED LINE IDENTIFICATION PRESENTATION WITHOUT ALPHA STRING |
| AT+CGID      | GET SIM CARD GROUP IDENTIFIER                                   |
| AT+MORING    | SHOW STATE OF MOBILE ORIGINATED CALL                            |
| AT+CMGHEX    | ENABLE TO SEND NON-ASCII CHARACTER SMS                          |
| AT+AUTEST    | AUDIO CHANNEL LOOPBACK TEST                                     |
| AT+CCODE     | CONFIGURE SMS CODE MODE   |
| AT+CIURC     | ENABLE OR DISABLE INITIAL URC PRESENTATION                      |
| AT+CPSPWD    | CHANGE PS SUPER PASSWORD  |
| AT+CGMSCLASS | CHANGE GPRS MULTISLOT CLASS                                     |
| AT+CCALR     | CALL READY QUERY  |

## 5.2 Detailed Descriptions of Commands

### 5.2.1 AT+SIDET Change The Side Tone Gain Level

| AT+SIDET Change The Side Tone Gain Level |  |
|--|--|
| Read Command<br><b>AT+SIDET?</b>         | Response:<br><b>+SIDET(NORMAL_AUDIO): &lt;level&gt;</b><br><br><b>OK</b><br><b>+SIDET(AUX_AUDIO): &lt;level&gt;</b><br><br><b>OK</b> |
|  | Parameter<br>See Write Command   |
| Test Command<br><b>AT+SIDET=?</b>        | Response<br><b>+SIDET: (level)</b><br><br><b>OK</b>  |

## SIM500W AT Commands Set

|  |                                       |
|--|---------------------------------------|
|  | Parameter<br>See Write Command        |
| Write Command<br><b>AT+SIDET=&lt;gainlevel&gt;</b> | Response<br><b>OK</b><br><b>ERROR</b> |
|  | Parameter<br><level> int: 0 – 255     |
| Reference  |                                       |

### 5.2.2 AT+CPOWD Power Off

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

### 5.2.3 AT+SPIC Times Remain To Input SIM PIN/PUK

| AT+SPIC                             | Times Remain To Input SIM PIN/PUK  |
|-------------------------------------|--|
| Execution Command<br><b>AT+SPIC</b> | Response<br>Times remain to input SIM PIN<br><b>+SPIC: &lt;chv1&gt;,&lt;chv2&gt;,&lt;puk1&gt;,&lt;puk2&gt;</b><br><b>OK</b>                                |
|                                     | Parameters<br><chv1>Times remain to input chv1<br><chv2>Times remain to input chv2<br><puk1>Times remain to input puk1<br><puk2>Times remain to input puk2 |
| Reference                           | Note   |

### 5.2.4 AT+CMIC Change The Microphone Gain Level

| AT+CMIC | Change The Microphone Gain Level |
|---------|----------------------------------|
|---------|----------------------------------|

**SIM500W AT Commands Set**

|   |  |
|---|--|
| Read Command<br><b>AT+CMIC?</b>   | Response :<br>+ CMIC: < gainlevel(Main_Mic) >, <gainlevel(Aux_Mic)><br><br><b>OK</b><br><br>Parameters<br>See Write Command  |
| Test Command<br><b>AT+CMIC=?</b>  | Response<br>+CMIC: (list of supported <channel>s) , (list of supported < gainlevel>s)<br><br><b>OK</b><br><br>Parameters<br>See Write Command  |
| Write Command<br><b>AT+CMIC=</b><br><channel>,<<br><b>gainlevel&gt;</b> | Response :<br><b>OK</b><br><b>ERROR</b><br><br>Parameters<br><channel> 0 – Main Microphone<br>1 – Aux Microphone<br><br><gainlevel> int: 0 – 15<br>0 0dB<br>1 +1.5dB<br>2 +3.0 dB(default value)<br>3 +4.5 dB<br>4 +6.0 dB<br>5 +7.5 dB<br>6 +9.0 dB<br>7 +10.5 dB<br>8 +12.0 dB<br>9 +13.5 dB<br>10 +15.0 dB<br>11 +16.5 dB<br>12 +18.0 dB<br>13 +19.5 dB<br>14 +21.0 dB<br>15 +22.5 dB |
| Reference   | Note   |

## 5.2.5 AT+CALARM Set Alarm

| AT+CALARM Set Alarm  |   |
|--|---|
| Test Command<br><b>AT+CALARM<br/>M=?</b>   | <p>Response :</p> <p><b>+CALARM: (&lt;state&gt;),(&lt;time&gt;),(&lt;repeat&gt;),(&lt;power&gt;)</b></p> <p><b>OK</b></p> <p>Parameters<br/>See Write Command</p>   |
| Write Command<br><b>AT+CALARM<br/>M=<br/>&lt;state&gt;,&lt;time<br/>&gt;,&lt;repeat&gt;,&lt;p<br/>ower&gt;</b> | <p>Response</p> <p><b>OK</b></p> <p><b>ERROR</b></p> <p>If error is related to ME functionality:<br/><b>+CMS ERROR: &lt;err&gt;</b></p> <p>Parameters</p> <p><b>&lt; state &gt;</b> an integer parameter which indicates whether enable or disable alarm.<br/>0 CLEAR ALARM<br/>1 SET ALARM</p> <p><b>&lt; time &gt;</b> a string parameter(string should be included in quotation marks) which indicates the time when alarm arrives. The format is “yy/MM/dd,hh:mm:ss+-zz” where characters indicate the last two digits of year, month, day, hour, minute, second and time zone. The time zone is expressed in quarters of an hour between the local time and GMT, ranging from -48 to +48.</p> <p><b>&lt; repeat &gt;</b> an integer parameter which indicates the repeat mode<br/>0 None<br/>1 Daily<br/>2 Weekly<br/>3 Monthly</p> <p><b>&lt;power&gt;</b> an integer parameter which indicates the method of dealing power when alarm arrives.<br/>0 None<br/>Only send “ALARM RING” to serial port<br/>1 Alarm power off<br/>Send “ALARM RING” to serial port and power off in 5 seconds<br/>2 Alarm power on<br/>Send “ALARM MODE” to serial port and enter into alarm mode</p> <p>Note: In alarm mode, protocol stack and SIM protocol is closed, only a few AT Command can be executed, and system will be powered down after 90 seconds if neither power key is pressed nor functionality is changed to full functionality. If power key is pressed, system will be powered down right now.</p> |
| Reference  | Note  |

### 5.2.6 AT+CADC Read ADC

| AT+CADC    Read ADC              |   |
|----------------------------------|---|
| Read Command<br><b>AT+ CADC?</b> | Response :<br><b>+CADC: &lt;status&gt;,&lt;value&gt;</b>  |
|                                  | <b>OK</b>   |
|                                  | Parameters<br>See test Command  |
| Test Command<br><b>AT+CADC=?</b> | Response :<br><b>+CADC: (list of supported &lt;status&gt;s), (list of supported &lt;value&gt;s)</b> |
|                                  | <b>OK</b>   |
|                                  | Parameters<br><b>&lt;status&gt;</b><br>1 success<br>0 fail<br><b>&lt;value&gt;</b> integer 0-2400   |
|                                  | Note  |

### 5.2.7 AT+CSNS Single Numbering Scheme

| AT+CSNS    Single Numbering Scheme           |   |
|--|---|
| Test Command<br><b>AT+CSNS=?</b>             | Response :<br><b>+CSNS: (list of supported &lt;mode&gt;s)</b> |
|  | <b>OK</b>   |
|  | Parameter   |
| Read Command<br><b>AT+CSNS?</b>              | Response :<br><b>+CSNS: &lt;mode&gt;</b>                      |
|  | <b>OK</b>   |
|  | Parameter:  |
| Write Command<br><b>AT+CSNS=&lt;mode&gt;</b> | Response :<br><b>OK</b><br><b>ERROR</b>                       |

## SIM500W AT Commands Set

|           |  |
|-----------|--|
|           | Parameter<br><b>&lt;mode&gt;</b><br>0 voice<br>1 alternating voice/fax,voice first(TS 61)<br>2 fax<br>3 alternating voice/data,voice first(BS 61)<br>4 data<br>5 alternating voice/fax,fax first(TS 61)<br>6 alternating voice/data,data first(BS 61)<br>7 voice followed by data(BS 81) |
| Reference | Note   |

### 5.2.8 AT+CMOD Configure Alternating Mode Calls

| <b>AT+CMOD Configure Alternating Mode Calls</b> |  |
|---|--|
| Read Command<br><b>AT+CMOD?</b>                 | Response<br><b>+CMOD: &lt;mode&gt;</b><br><br><b>OK</b><br>Parameter   |
| Test Command<br><b>AT+CMOD=?</b>                | Response<br><b>+CMOD: (0-3)</b><br><br><b>OK</b><br>Parameter:   |
| Write Command<br><b>AT+CMOD=[&lt;mode&gt;]</b>  | Response<br><b>OK</b><br><b>ERROR</b><br>Parameter<br><b>&lt;mode&gt;:</b><br>0 Single mode<br>1 Alternating voice/fax(teleservice 61)<br>2 Alternating voice/data(bearer service 61)<br>3 Voice followed by data(bearer service 81) |
| Reference                                       | Note   |

### 5.2.9 AT+CFGRI Indicate RI When Using URC

| <b>AT+CFGRI Indicate RI When Using URC</b> |
|--|
|--|

## SIM500W AT Commands Set

|   |   |
|---|---|
| Read Command<br><b>AT+CFGRI?</b>                  | Response<br><b>+CFGRI: &lt;status&gt;</b>           |
|   | <b>OK</b>   |
|   | Parameter<br>See Write Command                      |
| Write Command<br><b>AT+CFGRI=[&lt;status&gt;]</b> | Response<br><b>OK</b><br><b>ERROR</b>               |
|   | Parameter<br><b>&lt;status&gt;</b><br>1 on<br>0 off |
|   | Reference<br>Note                                   |

### 5.2.10 AT+CEXTHS External Headset Jack Control

| <b>AT+ CEXTHS External Headset Jack Control</b> |   |
|---|---|
| Test Command<br><b>AT+CEXTHS=?</b>              | Response<br><b>+CEXTHS: (&lt;mode&gt;s)</b>   |
|   | <b>OK</b>   |
|   | Parameter<br>See Write Command  |
| Read Command<br><b>AT+CEXTHS?</b>               | Response<br><b>+CEXTHS: &lt;mode&gt;,&lt;headset attach&gt;</b>   |
|   | <b>OK</b>   |
|   | Parameters<br>See Write Command   |
| Write Command<br><b>AT+CEXTHS=&lt;mode&gt;</b>  | Response<br><b>OK</b><br><b>ERROR</b><br>If error is related to ME functionality:<br><b>+CME ERROR: &lt;err&gt;</b> |
|   | Unsolicited result code:<br><b>+CEXTHS: &lt;mode&gt;,&lt;headset attach&gt;</b>                                     |
|   |   |



## SIM500W AT Commands Set

|           |  |
|-----------|--|
|           | <p>Parameters</p> <p><b>&lt;mode&gt;</b> a numeric parameter which indicates whether an unsolicited event code (indicating whether the headset has been attached/detached) should be sent to the terminal.</p> <p>0 not send unsolicited event code</p> <p>1 send unsolicited event code</p> <p><b>&lt;headset attach&gt;</b> a numeric parameter which indicates whether a headset has been attached or not</p> <p>0 not attached</p> <p>1 attached</p> |
| Reference | <p>Note</p> <p><b>I</b> Support for this Command will be hardware dependant</p>  |

### 5.2.11 AT+CEXTBUT Headset Button Status Reporting

| AT+ CEXTBUT  | Headset Button Status Reporting   |
|--|---|
| <p>Test Command</p> <p><b>AT+CEXTBUT=?</b></p>             | <p>Response</p> <p><b>+CEXTBUT: (&lt;mode&gt;s)</b></p> <p><b>OK</b></p> <p>Parameter</p> <p>See Write Command</p>  |
| <p>Read Command</p> <p><b>AT+CEXTBUT?</b></p>              | <p>Response</p> <p><b>+CEXTBUT: &lt;mode&gt;,&lt;headset button press&gt;</b></p> <p><b>OK</b></p> <p>Parameters</p> <p>See Write Command</p>   |
| <p>Write Command</p> <p><b>AT+CEXTBUT=&lt;mode&gt;</b></p> | <p>Response</p> <p><b>OK</b></p> <p><b>ERROR</b></p> <p>If error is related to ME functionality:</p> <p><b>+CME ERROR: &lt;err&gt;</b></p> <p>Unsolicited result code</p> <p><b>+CEXTBUT: &lt;mode&gt;,&lt;headset button press&gt;</b></p> |

## SIM500W AT Commands Set

|           |   |
|-----------|---|
|           | <p>Parameters</p> <p><b>&lt;mode&gt;</b> a numeric parameter which indicates whether an unsolicited event code (indicating whether the headset button has been pressed) should be sent to the terminal.</p> <p>0 not send unsolicited event code</p> <p>1 send unsolicited event code</p> <p><b>&lt;headset attach&gt;</b> a numeric parameter which indicates whether a headset button has been pressed or not</p> <p>0 not pressed</p> <p>1 pressed</p> |
| Reference | <p>Note</p> <p><b>I</b> Support for this Command will be hardware dependant</p>   |

### 5.2.12 AT+CSMINS SIM Inserted Status Reporting

| AT+ CSMINS SIM Inserted Status Reporting               |  |
|--|--|
| <p>Test Command</p> <p><b>AT+CSMINS=?</b></p>          | <p>Response</p> <p><b>+CSMINS:</b> (list of supported &lt;n&gt;s)</p> <p><b>OK</b></p>   |
|  | <p>Parameter</p> <p>See Write Command</p>  |
| <p>Read Command</p> <p><b>AT+CSMINS?</b></p>           | <p>Response</p> <p><b>+CSMINS:</b> &lt;n&gt;,&lt;SIM inserted&gt;</p> <p><b>OK</b></p>   |
|  | <p>Parameter</p> <p>See Write Command</p>  |
| <p>Write Command</p> <p><b>AT+CSMINS=&lt;n&gt;</b></p> | <p>Response</p> <p><b>OK</b></p> <p><b>ERROR</b></p> <p>If error is related to ME functionality:</p> <p><b>+CMS ERROR:</b> &lt;err&gt;</p> |

## SIM500W AT Commands Set

|           |  |
|-----------|--|
|           | <p>Parameters</p> <p><b>&lt;n&gt;</b> a numeric parameter which indicates whether to show an unsolicited event code indicating whether the SIM has just been inserted or removed.</p> <p>0 disable</p> <p>1 enable</p> <p><b>&lt; SIM inserted&gt;</b> a numeric parameter which indicates whether SIM card has been inserted.</p> <p>0 not inserted</p> <p>1 inserted</p> |
| Reference | Note   |

### 5.2.13 AT+CLDTMF Local DTMF Tone Generation

| AT+ CLDTMF Local DTMF Tone Generation  |  |
|--|--|
| <p>Write Command</p> <p><b>AT+CLDTMF=&lt;n&gt;[,&lt;DTMF string&gt;]</b></p> | <p>Response</p> <p><b>OK</b></p> <p><b>ERROR</b></p> <p>Parameters</p> <p><b>&lt;n&gt;</b> a numeric parameter(1-1000) which indicates the duration of all DTMF tones in &lt; DTMF -string&gt; in 1/10 secs</p> <p><b>&lt; DTMF -string&gt;</b> a string parameter(string should be included in quotation marks) which has a max length of 20 chars of form &lt; DTMF &gt;, separated by commas.</p> <p><b>&lt; DTMF &gt;</b> A single ASCII chars in the set 0-9,#,*,A-D.</p> |
| <p>Execution Command</p> <p><b>AT+CLDTMF</b></p>                             | <p>Response</p> <p><b>OK</b></p> <p>Aborts any DTMF tone currently being generated and any DTMF tone sequence.</p>   |
| Reference<br>GSM07.07  | Note   |

### 5.2.14 AT+CDRIND CS Voice/Data/Fax Call Termination Indication

| AT+ CDRIND CS Voice/Data/Fax Call Termination Indication |  |
|--|--|
| <p>Test Command</p> <p><b>AT+CDRIND=?</b></p>            | <p>Response</p> <p><b>+CDRIND:</b> (list of supported &lt;n&gt;s)</p> <p><b>OK</b></p> |
|  | <p>Parameter</p> <p>See Write Command</p>  |

**SIM500W AT Commands Set**

|   |  |
|---|--|
| Read Command<br><b>AT+CDRIND?</b>           | Response<br><b>+CDRIND: &lt;n&gt;</b><br><br><b>OK</b><br><br>Parameter<br>See Write Command   |
| Write Command<br><b>AT+CDRIND=&lt;n&gt;</b> | Response<br><b>OK</b><br><b>ERROR</b><br><br>Parameter<br><b>&lt;n&gt;</b> a numeric parameter which indicates whether to enable an unsolicited event code indicating whether a CS voice call, CS data, fax call has been terminated.<br>0      disable<br>1      enable<br><br>Unsolicited result code<br>When enabled, an unsolicited result code is returned after the connection has been terminated<br><b>+CDRIND: &lt; type &gt;</b><br><br>Parameter<br><b>&lt; type &gt;</b> connection type<br>0 CSV connection<br>1 CSD connection<br>2 PPP connection |
| Reference                                   | Note   |

**5.2.15 AT+CSPN Get Service Provider Name From SIM**

| <b>AT+CSPN    Get Service Provider Name From SIM</b> |  |
|--|--|
| Read Command<br><b>AT+CSPN?</b>                      | Response:<br><b>+CSPN: &lt;spn&gt;,&lt;display mode&gt;</b><br><br><b>OK</b><br><b>+CME ERROR: &lt;err&gt;</b><br><br>Parameters<br><b>&lt;spn&gt;</b> string type(string should be included in quotation marks);      service provider name on SIM<br><b>&lt;display mode&gt;</b> 0 – don't display PLMN. Already registered on PLMN<br>1      – display PLMN |
| Reference  | Note   |

**I** CME errors possible if SIM not inserted or PIN not entered.

### 5.2.16 AT+CBAND Get And Set Mobile Operation Band

| AT+CBAND Get And Set Mobile Operation Band |  |
|--|--|
| Read Command<br>AT+CBAND?                  | Response<br><b>+CBAND: &lt;op_band&gt;</b>   |
|  | <b>OK</b>  |
|  | Parameter<br>See Write Command   |
| Test Command<br>AT+CBAND=?                 | Response<br><b>+CBAND: (list of supported &lt;op_band&gt;s)</b>  |
|  | <b>OK</b>  |
|  | Parameter<br>See Write Command   |
| Write Command<br>AT+CBAND=<op_band>        | Response<br><b>OK</b>  |
|  | If error is related to ME functionality:<br><b>+CMS ERROR: &lt;err&gt;</b>   |
|  | Parameter<br><b>&lt;op_band&gt;</b> A string parameter which indicate the operation band.<br>And the following strings should be included in quotation marks.<br><br>EGSM_MODE<br>DCS_MODE<br>PCS_MODE<br>EGSM_DCS_MODE<br>GSM850_PCS_MODE<br>GSM850_EGSM_DCS_PCS_MODE |
| Reference                                  | Note   |
|  | <b>I</b> Radio settings following updates are stored in non-volatile memory.   |

### 5.2.17 AT+CHFA Swap The Audio Channels

| AT+ CHFA Swap The Audio Channels |                                     |
|----------------------------------|-------------------------------------|
| Read Command<br>AT+CHFA?         | Response<br><b>+CHFA: &lt;n&gt;</b> |
|                                  | <b>OK</b>                           |
|                                  | Parameter<br>See Write Command.     |

## SIM500W AT Commands Set

|  |   |
|--|---|
| Test Command<br><b>AT+ CHFA=?</b>                      | Response<br><b>+CHFA: (</b><br><b>0</b> <b>= NORMAL_AUDIO,</b><br><b>1</b> <b>= HEADSET_AUDIO,</b><br><b>2</b> <b>=LOUDSPK_AUDIO,</b><br><b>3</b> <b>= restore control</b><br><b>)</b><br><br><b>OK</b> |
|  | Parameter<br>See Write Command.   |
| Write Command<br><b>AT+CHFA=[&lt;n&gt;</b><br><b>]</b> | Response<br><b>OK</b><br><b>+CME ERROR: &lt;err&gt;</b>   |
|  | Parameter<br><b>&lt;n&gt;</b> 0 – Normal audio channel<br>1 – Headset audio channel<br>2 – Loudspk audio channel<br>3 – Restore control   |
| Reference  | Note<br><b>I</b> This Command swaps the audio channels between the normal channel and the aux channel.  |

### 5.2.18 AT+CSCLK Configure Slow Clock

| <b>AT+ CSCLK Configure Slow Clock</b>                   |   |
|---|---|
| Read Command<br><b>AT+CSCLK?</b>                        | Response<br><b>+CSCLK: &lt;n&gt;</b><br><br><b>OK</b> |
|   | Parameter<br>See Write Command.                       |
| Test Command<br><b>AT+CSCLK=?</b>                       | Response<br><b>+CSCLK: (0,1)</b><br><br><b>OK</b>     |
|   | Parameter<br>See Write Command.                       |
| Write Command<br><b>AT+CSCLK</b><br><b>=[&lt;n&gt;]</b> | Response<br><b>OK</b><br><b>ERROR</b>                 |

## SIM500W AT Commands Set

|           |  |
|-----------|--|
|           | Parameter<br>< n>            0 – disable slow clock<br>1 – enable slow clock |
| Reference | Note   |

### 5.2.19 AT+CENG Switch On Or Off Engineering Mode

| AT+ CENG Switch On Or Off Engineering Mode |   |
|--|---|
| Read Command<br><b>AT+CENG?</b>            | Response<br>Engineering Mode is designed to allow a field engineer to view and test the network information received by a handset, when the handset is either in idle mode or dedicated mode (that is: with a call active). In each mode, the engineer is able to view network interaction for the “serving cell” (the cell the handset is currently registered with) or for the neighbouring cells.<br><br>TA returns the current engineering mode. The network information including serving cell and neighbouring cells are returned only when <mode>=1 or <mode> = 2. <cell> carry with them corresponding network interaction.<br><br><b>+CENG: &lt;mode&gt;,&lt;Ncell&gt;</b><br><b>[+CENG: &lt;cell&gt;,”&lt;arfcn&gt;,&lt;rxl&gt;,&lt;rxq&gt;,&lt;mcc&gt;,&lt;mnc&gt;,&lt;bsic&gt;,&lt;cellid&gt;,&lt;rla&gt;,&lt;txp&gt;”</b><br><b>&lt;CR&gt;&lt;LF&gt;+CENG: &lt;cell&gt;,”&lt;arfcn&gt;,&lt;rxl&gt;,&lt;bsic&gt;”</b><br><b>...]</b><br><br><b>OK</b> |
|  | Parameters<br>See Write Command.  |
| Test Command<br><b>AT+CENG=?</b>           | Response<br>TA returns the list of supported modes.<br><b>+CENG: (list of supported &lt;mode&gt;s),(list of supported &lt;Ncell&gt;)</b><br><br><b>OK</b>   |
|  | Parameters<br>See Write Command.  |

**SIM500W AT Commands Set**

|  |  |
|--|--|
| Write Command<br><b>AT+ CENG</b><br>= <mode>[,<Ncell<br>>] | Response<br>TA attempt to switch on or off engineering mode.GSM network operator.<br>TA controls the presentation of an unsolicited result code +CENG: (network information) when <mode>=2 and there is a change of network information .<br><br><b>OK</b><br><b>ERROR</b>   |
|  | Parameters<br><mode>        0    switch off engineering mode<br>1    switch on engineering mode<br>2    switch on engineering mode, and activate the<br>unsolicited reporting of network information.<br><br><Ncell>        0 un-display neighbor cell ID<br>1 display neighbor cell ID<br><cell>         0    the serving cell<br>1-6 the index of the neighboring cell.<br><arfcn>        absolute radio frequency channel number.<br><rxl>           receive level.<br><rxq>           receive quality.<br><mcc>           mobile country code.<br><mnc>           mobile network code.<br><bsic>          base station identity code.<br><cellid>        cell id.<br><rla>           receive level access minimum.<br><txp>           transmit power maximum CCCH. |
| Reference  | Note   |

**5.2.20 AT+SCLASS0 Store Class 0 SMS To SIM When Received Class 0 SMS**

| <b>AT+ SCLASS0    Store Class 0 SMS To SIM When Received Class 0 SMS</b> |   |
|--|---|
| Read Command<br><b>AT+SCLASS0?</b>                                       | Response<br><b>+SCLASS0: &lt;mode&gt;</b><br><br><b>OK</b><br><br>Parameter<br>See Write Command. |
| Test Command<br><b>AT+SCLASS0=?</b>                                      | Response<br><b>+SCLASS0: (0, 1)</b><br><br><b>OK</b>  |



## SIM500W AT Commands Set

|  |   |
|--|---|
|  | Parameter<br>See Write Command.   |
| Write Command<br><b>AT+SCLASS0=[<br/>&lt;mode&gt;]</b> | Response<br><b>OK</b><br><b>ERROR</b>   |
|  | Parameter<br><b>&lt;mode&gt;</b><br>0 – disable to store Class 0 SMS to SIM when received Class 0 SMS<br>1 – Enable to store Class 0 SMS to SIM when received Class 0 SMS |
| Reference  | Note  |

### 5.2.21 AT+CCID Show ICCID

|                                      |   |
|--------------------------------------|---|
| <b>AT+CCID Show ICCID</b>            |   |
| Test Command<br><b>AT+CCID=?</b>     | Response:<br><b>OK</b>  |
| Execution Command<br><b>AT+ CCID</b> | Response:<br><b>Ccid data</b> [ex. 898600810906F8048812]<br><b>OK</b> |
|                                      | Parameter   |
| Reference                            | Note  |

### 5.2.22 AT+CMTE Set Critical Temperature Operating Mode Or Query Temperature

|   |  |
|---|--|
| <b>AT+CMTE Set Critical Temperature Operating Mode Or Query Temperature</b> |  |
| Read Command<br><b>AT+ CMTE?</b>  | Response<br><b>+CMTE: &lt;mode&gt;&lt;Temperature&gt;</b><br><b>OK</b> |
|   | Parameters<br>See Write Command  |
| Write Command<br><b>AT+CMTE=<br/>[&lt;mode&gt;]</b>                         | Response<br><b>OK</b><br><b>ERROR</b>                                  |

## SIM500W AT Commands Set

|           |   |
|-----------|---|
|           | Parameters<br><b>&lt;mode&gt;</b><br>0 disable temperature detection<br>1 enable temperature detection<br><b>&lt; Temperature&gt;</b> range of -40 to 90  |
| Reference | <b>Note</b><br><ul style="list-style-type: none"> <li><b>I</b> When temperature is extreme high or low, product will power off.</li> <li><b>I</b> URCs indicating the alert level "1" or "-1" are intended to enable the user to take appropriate precautions, such as protect the module from exposure to extreme conditions, or save or back up data etc.</li> <li><b>I</b> Level "2" or "-2" URCs are followed by immediate shutdown.</li> </ul> |

### 5.2.23 AT+CSDT Switch On Or Off Detecting SIM Card

| AT+ CSDT Switch On Or Off Detecting SIM Card   |  |
|--|--|
| Read Command<br><b>AT+ CSDT?</b>               | Response<br><b>+CSDT: &lt;mode&gt;</b><br><br><b>OK</b><br>Parameter   |
| Test Command<br><b>AT+ CSDT =?</b>             | Response<br><b>+CSDT: (0-1)</b><br><br><b>OK</b><br>Parameter<br>See Write Command.  |
| Write Command<br><b>AT+CSDT=[&lt;mode&gt;]</b> | Response<br><b>OK</b><br><b>ERROR</b><br>Parameter<br><b>&lt;mode&gt;</b><br>0 – switch off detecting SIM card (default)<br>1 – switch on detecting SIM card |
| Reference                                      | Note   |

### 5.2.24 AT+CMGDA Delete All SMS

| AT+ CMGDA Delete All SMS |
|--------------------------|
|--------------------------|

## SIM500W AT Commands Set

|   |   |
|---|---|
| Test Command<br><b>AT+CMGDA=?</b>             | Response:<br><b>+CMGDA:</b> (listed of supported <type>s)<br><br><b>OK</b><br><b>+CMS ERROR: &lt;err&gt;</b>  |
|   | Parameter<br>see Write Command  |
| Write Command<br><b>AT+CMGDA=&lt;type&gt;</b> | Response:<br><b>OK</b><br><b>ERROR</b><br><b>+CMS ERROR: &lt;err&gt;</b>  |
|   | Parameter<br>1) If text mode:<br><div style="margin-left: 40px;"> <b>“DEL READ”</b>      delete all read messages<br/> <b>“DEL UNREAD”</b>   delete all unread messages<br/> <b>“DEL SENT”</b>      delete all sent SMS<br/> <b>“DEL UNSENT”</b>   delete all unsent SMS<br/> <b>“DEL INBOX”</b>     delete all received SMS<br/> <b>“DEL ALL”</b>        delete all SMS </div> 2) If PDU mode :<br><div style="margin-left: 40px;"> <b>1</b>    delete all read messages<br/> <b>2</b>    delete all unread messages<br/> <b>3</b>    delete all sent SMS<br/> <b>4</b>    delete all unsent SMS<br/> <b>5</b>    delete all received SMS<br/> <b>6</b>    delete all SMS </div> |
| Reference                                     | Note  |

### 5.2.25 AT+SIMTONE Generate Specifically Tone

| <b>AT+SIMTONE Generate Specifically Tone</b>           |  |
|--|--|
| Test Command<br><b>AT+ SIMTONE =?</b>                  | Response<br><b>+SIMTONE: (0-1), (0-50000), (0-1000), (0-1000), (0-15300000)</b><br><br><b>OK</b> |
|  | Parameters<br>See Write Command.   |
| Write Command<br><b>AT+ SIMTONE =&lt;mode&gt;,&lt;</b> | Response<br><b>OK</b><br><b>ERROR</b>  |

## SIM500W AT Commands Set

|   |  |
|---|--|
| <b>frequency &gt;,&lt;<br/>periodOn &gt;,&lt;<br/>periodOff &gt;[,&lt;<br/>duration &gt;]</b> | Parameters   |
|   | <b>&lt;mode&gt;</b> 0 – Stop playing tone<br>1 – Start playing tone<br><b>&lt;frequency &gt;</b> the frequency of tone to be generated<br><b>&lt;periodon&gt;</b> the period of generating tone<br><b>&lt;periodoff&gt;</b> the period of stopping tone<br><b>&lt;duration&gt;</b> duration of tones in milliseconds |
| Reference   | Note   |

### 5.2.26 AT+CCPD Connected Line Identification Presentation Without Alpha String

| AT+CCPD Connected Line Identification Presentation Without Alpha String |   |
|---|---|
| Read Command<br><b>AT+ CCPD?</b>  | Response<br><b>+CCPD: &lt;mode&gt;</b><br><br><b>OK</b>   |
|   | Parameter   |
| Write Command<br><b>AT+CCPD=[&lt;m<br/>ode&gt;]</b>                     | Response<br><b>OK</b><br><b>ERROR</b>   |
|   | Parameter<br><b>&lt;mode&gt;</b><br>0 – disable to present alpha string<br>1 – enable to present alpha string |
| Reference   | Note  |

### 5.2.27 AT+CGID Get SIM Card Group Identifier

| AT+CGID Get SIM Card Group Identifier   |  |
|---|--|
| Execution<br>Command<br><b>AT+ CGID</b> | Response<br><b>+GID: &lt;gid1&gt; &lt;gid2&gt;</b><br><br><b>OK</b><br><b>ERROR</b>  |
|   | Parameters<br><b>&lt;gid1&gt;</b> integer type of SIM card group identifier 1<br><b>&lt;gid2&gt;</b> integer type of SIM card group identifier 2 |
| Reference                               | Note<br><b>I</b> If the SIM supports GID files, the GID values were returned. Otherwise 0xff is returned.  |

### 5.2.28 AT+MORING Show State of Mobile Originated Call

| AT+MORING Show State of Mobile Originated Call        |   |
|---|---|
| Test Command<br><b>AT+MORING=?</b>                    | Response<br><b>+MORING: (0,1)</b><br><br><b>OK</b>  |
|   | Parameters<br>See Write Command.  |
| Read Command<br><b>AT+MORING?</b>                     | Response<br><b>+MORING: &lt;mode&gt;</b><br><br><b>OK</b>   |
| Write Command<br><b>AT+MORING<br/>=[&lt;mode&gt;]</b> | Response<br><b>OK</b><br><b>ERROR</b>   |
|   | Parameters<br><b>&lt;mode&gt;</b> 0   not show call state of mobile originated call<br>1   show call state of mobile originated call. After dialing<br>call numbers, the URC strings of MO RING will be sent if the other call<br>side is alerted and the URC strings of MO CONNECTED will be sent if the<br>call is established. |
| Reference   | Note  |

### 5.2.29 AT+CMGHEX Enable To Send Non-ASCII Character SMS

| AT+CMGHEX    Enable To Send Non-ASCII Character SMS |   |
|---|---|
| Read Command<br><b>AT+CMGHEX?</b>                   | Response<br><b>+CMGHEX: &lt;mode&gt;</b><br><br><b>OK</b> |
|   | Parameter<br>see Write Command                            |
| Test Command<br><b>AT+CMGHEX<br/>=?</b>             | Response<br><b>+CMGHEX: (0,1)</b><br><br><b>OK</b>        |
| Write Command<br><b>AT+CMGHEX<br/>=&lt;mode&gt;</b> | Response<br><b>OK</b><br><b>ERROR</b>                     |

## SIM500W AT Commands Set

|           |   |
|-----------|---|
|           | Parameter<br><b>&lt;mode&gt;</b> 0     Send SMS in ordinary way<br>1     Enable to send SMS varying from 0x00 to 0x7f except<br>0x1a and 0x1b under text mode and GSM character set |
| Reference | Note<br><b>I</b> Only be available in TEXT mode and +CSCS="GSM".  |

### 5.2.30 AT+AUTEST Audio Channel Loopback Test

| AT+AUTEST Audio Channel Loopback Test                                     |   |
|---|---|
| Test Command<br><b>AT+AUTEST=?</b>  | Response<br><b>+AUTEST: (0-1), (0-2)</b><br><br><b>OK</b>   |
| Write Command<br><b>AT+AUTEST=</b><br><b>&lt;state&gt;[,&lt;type&gt;]</b> | Response<br><b>OK</b><br><b>ERROR</b><br><br>Parameters<br><b>&lt;state&gt;</b> 0 test is off<br>1 test is on<br><b>&lt;type&gt;</b> 0 Normal audio channel<br>1 Headset audio channel<br>2 Loudspk audio channel |
| Reference   | Note  |

### 5.2.31 AT+CCODE Configure SMS Code Mode

| AT+CCODE Configure SMS Code Mode                         |   |
|--|---|
| Test Command<br><b>AT+CCODE=?</b>                        | Response<br><b>+CCODE:(0,1)</b><br><br><b>OK</b>  |
| Read Command<br><b>AT+CCODE?</b>                         | Response<br><b>+CCODE:&lt;mode&gt;</b><br><br><b>OK</b><br><br>Parameter<br>see Write Command |
| Write Command<br><b>AT+CCODE=</b><br><b>&lt;mode&gt;</b> | Response<br><b>OK</b><br><b>ERROR</b>   |

## SIM500W AT Commands Set

|           |   |
|-----------|---|
|           | Parameter<br><b>&lt;mode&gt;</b> 0   code mode according with NOKIA<br>1   code mode according with SIEMENS |
| Reference | <b>Note</b><br><b>I</b> Default value is 0.   |

### 5.2.32 AT+CIURC Enable Or Disable Initial URC Presentation

| AT+CIURC    Enable Or Disable Initial URC Presentation     |  |
|--|--|
| Test Command<br><b>AT+CIURC=?</b>                          | Response<br><b>+CIURC: (0,1)</b><br><br><b>OK</b>  |
| Read Command<br><b>AT+CIURC?</b>                           | Response<br><b>+CIURC:&lt;mode&gt;</b><br><br><b>OK</b><br><br>Parameter<br>see Write Command  |
| Write Command<br><b>AT+CIURC=</b><br><b>[&lt;mode&gt;]</b> | Response<br><b>OK</b><br><b>ERROR</b><br><br>Parameter<br><b>&lt;mode&gt;</b> 0   disable URC presentation.<br>1   enable URC presentation         |
| Reference  | <b>Note</b><br><b>I</b> When module power on and initialization procedure is over .<br><b>I</b> URC “Call Ready” will be presented if <mode> is 1. |

### 5.2.33 AT+CPSPWD Change PS Super Password

| AT+CPSPWD Change PS Super Password  |   |
|---|---|
| Write Command<br><b>AT+CPSPWD=</b><br><b>&lt;oldpwd&gt;,&lt;newp</b><br><b>wd&gt;</b> | Response<br><b>OK</b><br><b>ERROR</b><br><br>Parameters<br><b>&lt;oldpwd&gt;</b> string type(string should be included in quotation marks).<br>Old password and length should be 8.<br><b>&lt;newpwd&gt;</b> string type(string should be included in quotation marks).<br>New password and length should be 8. |
| Reference   | <b>Note</b>   |

## SIM500W AT Commands Set

|  |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>Default value of &lt;oldpwd&gt; is “12345678”.</li> <li>If module is locked to a specific SIM card through +CLCK and password lost or SIM state is PH-SIM PUK, you can use the super password to unlock it.</li> </ul> |
|--|---|

### 5.2.34 AT+CGMSCCLASS Change GPRS Multislot Class

| AT+CGMSCCLASS Change GPRS Multislot Class           |   |
|---|---|
| Read Command<br><b>AT+CGMSCCLASS?</b>               | Response<br><b>MULTISLOT CLASS: &lt;class&gt;</b><br><br><b>OK</b><br><br>Parameters<br>see write command |
| Test Command<br><b>AT+CGMSCCLASS=?</b>              | Response<br><b>MULTISLOT CLASS: 1-12</b><br><br><b>OK</b>   |
| Write Command<br><b>AT+CGMSCCLASS=&lt;class&gt;</b> | Response<br><b>OK</b><br><b>ERROR</b><br><br>Parameters<br><class>      GPRS multislot class              |
| Reference   | Note  |

### 5.2.35 AT+CCALR Call Ready Query

| AT+CCALR Call Ready Query         |   |
|-----------------------------------|---|
| Test Command<br><b>AT+CCALR=?</b> | Response<br><b>+CCALR: (list of supported &lt;mode&gt;s)</b><br><br><b>OK</b><br><br>Parameter<br><mode>      a numeric parameter which indicates whether the module is ready for phone call.<br>0      module is not ready for phone call<br>1      module is ready for phone call |
| Read Command<br><b>AT+CCALR?</b>  | Response<br>ME returns the status of result code presentation and an integer <n> which shows whether the module is currently ready for phone call.<br><b>+CCALR: &lt;n&gt;</b><br><br><b>OK</b>   |



**SIM500W AT Commands Set**

|           |   |
|-----------|---|
|           | Parameter<br><mode><br>See Test Command                                     |
| Reference | Note<br>I URC “Call Ready” will be presented after power on and initialize. |

## 6 AT Commands for GPRS Support

### 6.1 Overview of AT Commands for GPRS Support

| Command    | Description                                     |
|------------|---|
| AT+CGATT   | ATTACH/DETACH FROM GPRS SERVICE                 |
| AT+CGDCONT | DEFINE PDP CONTEXT                              |
| AT+CGQMIN  | QUALITY OF SERVICE PROFILE (MINIMUM ACCEPTABLE) |
| AT+CGQREQ  | QUALITY OF SERVICE PROFILE (REQUESTED)          |
| AT+CGACT   | PDP CONTEXT ACTIVATE OR DEACTIVATE              |
| AT+CGDATA  | ENTER DATA STATE                                |
| AT+CGPADDR | SHOW PDP ADDRESS                                |
| AT+CGCLASS | GPRS MOBILE STATION CLASS                       |
| AT+CGEREP  | CONTROL UNSOLICITED GPRS EVENT REPORTING        |
| AT+CGREG   | NETWORK REGISTRATION STATUS                     |
| AT+CGSMS   | SELECT SERVICE FOR MO SMS MESSAGES              |

### 6.2 Detailed Descriptions of AT Commands for GPRS Support

#### 6.2.1 AT+CGATT Attach /Detach From GPRS Service

| AT+CGATT Attach /Detach From GPRS Service      |   |
|--|---|
| Test Command<br><b>AT+CGATT=?</b>              | Response<br><b>+CGATT:</b> (list of supported <state>s)<br><br><b>OK</b><br>Parameter<br>See Write Command  |
| Read Command<br><b>AT+CGATT?</b>               | Response<br><b>+CGATT:</b> <state><br><br><b>OK</b><br>Parameter<br>See Write Command   |
| Write Command<br><b>AT+CGATT=&lt;state&gt;</b> | Response<br><b>OK</b><br>If error is related to ME functionality:<br><b>+CMS ERROR:</b> <err><br>Parameter<br><b>&lt;state&gt;</b> indicates the state of GPRS attachment<br>0 – detached<br>1 – attached<br>Other values are reserved and will result in an ERROR response to the Write Command. |

| Reference | Note |
|-----------|------|
| GSM07.07  |      |

### 6.2.2 AT+CGDCONT Define PDP Context

| AT+CGDCONT   | Define PDP Context  |
|--|---|
| Test Command<br><b>AT+CGDCONT=?</b>  | Response<br><b>+CGDCONT:</b> (range of supported <cid>s), <PDP_type>, <APN>, <PDP_addr>, (list of supported <data_comp>s), <list of supported <head_comp>s)<br><br><b>OK</b><br>Parameters<br>See Write Command   |
| Read Command<br><b>AT+CGDCONT?</b>   | Response<br><b>+CGDCONT:</b><br><cid>,<PDP_type>,<APN>,<PDP_addr>,<data_comp>,<head_comp><br>[<CR><LF>+CGDCONT:<br><cid>,<PDP_type>,<APN>,<PDP_addr>,<data_comp>,<head_comp><br>[...]]<br><br><b>OK</b><br>Parameters<br>See Write Command  |
| Write Command<br><b>AT+CGDCONT=&lt;cid&gt;[,&lt;PDP_type&gt;[,&lt;APN&gt;[,&lt;PDP_addr&gt;[,&lt;data_comp&gt;[,&lt;head_comp&gt;]]]]]</b> | Response<br><b>OK</b><br><b>ERROR</b><br>Parameters<br><cid> (PDP Context Identifier) a numeric parameter which specifies a particular PDP context definition. The parameter is local to the TE-MT interface and is used in other PDP context-related commands. The range of permitted values (minimum value=1) is returned by the test form of the Command.<br><PDP_type> (Packet Data Protocol type) a string parameter(string should be included in quotation marks) which specifies the type of packet data protocol X25 ITU-T/CCITT X.25 layer 3 IP Internet Protocol (IETF STD 5) OSPF Internet Hosted Octet Stream Protocol PPP Point to Point Protocol (IETF STD 51)<br><APN> (Access Point Name) a string parameter(string should be included in quotation marks) which is a logical name that is used to select the GGSN or the external packet data network. If the value is null or omitted, then the |

|                       |   |
|-----------------------|---|
|                       | <p>subscription value will be requested.</p> <p><b>&lt;PDP_addr&gt;</b> a string parameter(string should be included in quotation marks) 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 +CGPADDR Command.</p> <p><b>&lt;d_comp&gt;</b> a numeric parameter that controls PDP data compression<br/>         0 – off (default if value is omitted)<br/>         1 – on<br/>         Other values are reserved</p> <p><b>&lt;h_comp&gt;</b> a numeric parameter that controls PDP data compression<br/>         0 – off (default if value is omitted)<br/>         1 – on<br/>         Other values are reserved</p> <p>Note: At present only one data compression algorithm (V.42bis) is provided in SDCP. If and when other algorithms become available, a Command will be provided to select one or more of these.</p> |
| Reference<br>GSM07.07 | Note  |

### 6.2.3 AT+CGQMIN Quality Of Service Profile (Minimum Acceptable)

| AT+CGQMIN Quality Of Service Profile (Minimum Acceptable) |  |
|---|--|
| Test Command<br>AT+CGQMIN=?                               | <p>Response</p> <p>+CGQMIN: &lt;PDP_type&gt;,(list of supported &lt;precedence&gt;s),(list of supported &lt;delay&gt;s),(list of supported &lt;reliability&gt;s),&lt;list of supported &lt;peak&gt;s),(list of supported &lt;mean&gt;s)</p> <p>[&lt;CR&gt;&lt;LF&gt;+CGQMIN: &lt;PDP_type&gt;,(list of supported &lt;precedence&gt;s),(list of supported &lt;delay&gt;s),(list of supported &lt;reliability&gt;s),&lt;list of supported &lt;peak&gt;s),(list of supported &lt;mean&gt;s)</p> <p>[...]]</p> <p><b>OK</b></p> <p>Parameters</p> <p>See Write Command</p> |
| Read Command<br>AT+CGQMIN?                                | <p>Response</p> <p>+CGQMIN: &lt;cid&gt;,&lt;precedence&gt;,&lt;delay&gt;,&gt;reliability&gt;,&lt;peak&gt;,&lt;mean&gt;</p>   |

|   |  |
|---|--|
|   | <p>[&lt;CR&gt;&lt;LF&gt;+CGQMIN:<br/>&lt;cid&gt;,&lt;precedence&gt;,&lt;delay&gt;,&lt;reliability&gt;,&lt;peak&gt;,&lt;mean&gt;<br/>[...]]</p> <p><b>OK</b></p> <p>Parameters</p> <p>See Write Command</p>   |
| <p>Write Command</p> <p><b>AT+CGQMIN=&lt;cid&gt;[,&lt;precedence&gt;[,&lt;delay&gt;[,&lt;reliability&gt;[,&lt;peak&gt;[,&lt;mean&gt;]]]]]</b></p> | <p>Response</p> <p><b>OK</b></p> <p>If error is related to ME functionality:<br/><b>+CME ERROR: &lt;err&gt;</b></p> <p>Parameters</p> <p><b>&lt;cid&gt;</b> a numeric parameter which specifies a particular PDP context definition (see +CGDCONT Command)</p> <p>The following parameter are defined in GSM 03.60</p> <p><b>&lt;precedence&gt;</b> a numeric parameter which specifies the precedence class</p> <p><b>&lt;delay&gt;</b> a numeric parameter which specifies the delay class</p> <p><b>&lt;reliability&gt;</b> a numeric parameter which specifies the reliability class</p> <p><b>&lt;peak&gt;</b> a numeric parameter which specifies the peak throughput class</p> <p><b>&lt;mean&gt;</b> a numeric parameter which specifies the mean throughput class</p> |
| <p>Reference</p> <p>GSM07.07</p>  | <p>Note</p>  |

#### 6.2.4 AT+CGQREQ Quality Of Service Profile (Requested)

| <b>AT+CGQREQ Quality Of Service Profile (Requested)</b> |   |
|---|---|
| <p>Test Command</p> <p><b>AT+CGQREQ=?</b></p>           | <p>Response</p> <p><b>+CGQREQ: &lt;PDP_type&gt;,(list of supported &lt;precedence&gt;s),(list of supported &lt;delay&gt;s),(list of supported &lt;reliability&gt;s),&lt;list of supported &lt;peak&gt;s),(list of supported &lt;mean&gt;s)</b></p> <p>[&lt;CR&gt;&lt;LF&gt;+CGQREQ: &lt;PDP_type&gt;,(list of supported &lt;precedence&gt;s),(list of supported &lt;delay&gt;s),(list of supported &lt;reliability&gt;s),&lt;list of supported &lt;peak&gt;s),(list of supported &lt;mean&gt;s)</p> <p>[...]]</p> <p><b>OK</b></p> <p>Parameters</p> <p>See Write Command</p> |
| <p>Read Command</p> <p><b>AT+CGQREQ?</b></p>            | <p>Response</p> <p><b>+CGQREQ: &lt;cid&gt;,&lt;precedence&gt;,&lt;delay&gt;,&lt;reliability&gt;,&lt;peak&gt;,&lt;mean&gt;</b></p> <p>[&lt;CR&gt;&lt;LF&gt;+CGQMIN:<br/>&lt;cid&gt;,&lt;precedence&gt;,&lt;delay&gt;,&lt;reliability&gt;,&lt;peak&gt;,&lt;mean&gt;</p>   |

## SIM500W AT Commands Set

|   |   |
|---|---|
|   | <p>[...]]</p> <p><b>OK</b></p> <p>Parameters</p> <p>See Write Command</p>   |
| <p>Write Command</p> <p><b>AT+CGQREQ=</b><br/> <b>&lt;cid&gt;[,&lt;precede</b><br/> <b>nce&gt;[,&lt;delay&gt;[,&lt;</b><br/> <b>reliability&gt;[,&lt;pea</b><br/> <b>k&gt;[,&lt;mean&gt;]]]]]</b></p> | <p>Response</p> <p><b>OK</b></p> <p>If error is related to ME functionality:</p> <p><b>+CME ERROR: &lt;err&gt;</b></p> <p>Parameters</p> <p><b>&lt;cid&gt;</b> a numeric parameter which specifies a particular PDP context definition (see +CGDCONT Command)</p> <p>The following parameter are defined in GSM 03.60</p> <p><b>&lt;precedence&gt;</b> a numeric parameter which specifies the precedence class</p> <p><b>&lt;delay&gt;</b> a numeric parameter which specifies the delay class</p> <p><b>&lt;reliability&gt;</b> a numeric parameter which specifies the reliability class</p> <p><b>&lt;peak&gt;</b> a numeric parameter which specifies the peak throughput class</p> <p><b>&lt;mean&gt;</b> a numeric parameter which specifies the mean throughput class</p> |
| <p>Reference</p> <p>GSM07.07</p>  | <p>Note</p>   |

### 6.2.5 AT+CGACT PDP Context Activate Or Deactivate

| <b>AT+CGACT PDP Context Activate Or Deactivate</b>                                 |   |
|--|---|
| <p>Test Command</p> <p><b>AT+CGACT=?</b></p>                                       | <p>Response</p> <p><b>+CGACT:</b> (list of supported &lt;state&gt;s)</p> <p><b>OK</b></p> <p>Parameter</p> <p>See Write Command</p>                               |
| <p>Read Command</p> <p><b>AT+CGACT?</b></p>  | <p>Response</p> <p><b>+CGACT: &lt;cid&gt;,&lt;state&gt;[&lt;CR&gt;&lt;LF&gt;+CGACT:&lt;cid&gt;&lt;state&gt;...]</b></p> <p><b>OK</b></p>                          |
| <p>Write Command</p> <p><b>AT+CGACT=&lt;st</b><br/> <b>ate&gt;,&lt;cid&gt;</b></p> | <p>Response</p> <p><b>OK</b></p> <p><b>NO CARRIER</b></p> <p>If error is related to ME functionality:</p> <p><b>+CME ERROR: &lt;err&gt;</b></p> <p>Parameters</p> |

|                       |  |
|-----------------------|--|
|                       | <p><b>&lt;state&gt;</b> indicates the state of PDP context activation</p> <p>0 – deactivated</p> <p>1 – activated</p> <p>Other values are reserved and will result in an ERROR response to the Write Command.</p> <p><b>&lt;cid&gt;</b> a numeric parameter which specifies a particular PDP context definition (see +CGDCONT Command)</p> |
| Reference<br>GSM07.07 | <p>Note</p> <p><b>I</b> If context is deactivated successfully, NO CARRIER is returned</p>   |

### 6.2.6 AT+CGDATA Enter Data State

| AT+CGDATA Enter Data State                                |  |
|---|--|
| Test Command<br><b>AT+CGDATA=?</b>                        | <p>Response</p> <p><b>+CGDATA:</b> list of supported &lt;L2P&gt;s</p> <p><b>OK</b></p> <p>Parameter</p> <p>See Write Command</p>   |
| Write Command<br><b>AT+CGDATA=&lt;L2P&gt;,&lt;cid&gt;</b> | <p>Response</p> <p><b>OK</b></p> <p><b>NO CARRIER</b></p> <p>If error is related to ME functionality:</p> <p><b>+CME ERROR: &lt;err&gt;</b></p> <p>Parameters</p> <p><b>&lt;L2P&gt;</b> a string parameter(string should be included in quotation marks) that indicates the layer 2 protocol to be used between the TE and MT:</p> <p>PPP – Point to Point protocol for a PDP such as IP</p> <p>Other values are not supported and will result in an ERROR response to the execution Command.</p> <p><b>&lt;cid&gt;</b> a numeric parameter which specifies a particular PDP context definition (see +CGDCONT Command)</p> |
| Reference<br>GSM07.07                                     | <p>Note</p> <p>The Command does not fully implement the CGDATA Command as specified in GSM 07.07. The Command will not enter data state once the PDP context has been activated and will simply generate the result code “OK” if the context has been successfully activated.</p>  |

### 6.2.7 AT+CGPADDR Show PDP Address

| AT+CGPADDR Show PDP Address        |  |
|------------------------------------|--|
| Test Command<br><b>AT+CGPADDR=</b> | <p>Response</p> <p><b>+CGPADDR:</b> (list of defined &lt;cid&gt;s)</p> |

## SIM500W AT Commands Set

|   |   |
|---|---|
| ?   | <p><b>OK</b></p> <p>Parameter</p> <p>See Write Command</p>  |
| <p>Write Command</p> <p><b>AT+CGPADDR=</b><br/><b>[&lt;cid&gt;]</b></p> | <p>Response</p> <p><b>+CGPADDR: &lt;cid&gt;,&lt;PDP_addr&gt;</b><br/><b>[&lt;CR&gt;&lt;LF&gt;+CGPADDR: &lt;cid&gt;,&lt;PDP_addr&gt;[...]]</b></p> <p><b>OK</b></p> <p><b>ERROR</b></p> <p>Parameters</p> <p><b>&lt;cid&gt;</b> a numeric parameter which specifies a particular PDP context definition (see +CGDCONT Command) If no &lt;cid&gt; is specified, the addresses for all defined contexts are returned.</p> <p><b>&lt;PDP_addr&gt;</b> 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 Command 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 &lt;cid&gt;. &lt;PDP_address&gt; is omitted if none is available.</p> |
| <p>Reference</p> <p>GSM07.07</p>  | <p>Note</p> <p><b>I</b> This Command dictates the behavior of PPP in the ME but not that of any other GPRS-enabled foreground layer, e.g. browser.</p>  |

### 6.2.8 AT+CGCLASS GPRS Mobile Station Class

| <b>AT+CGCLASS</b>  | <b>GPRS Mobile Station Class</b>  |
|--|---|
| <p>Test Command</p> <p><b>AT+CGCLASS=</b><br/><b>?</b></p> | <p>Response</p> <p><b>+CGCLASS: (list of supported &lt;class&gt;s)</b></p> <p><b>OK</b></p> <p>Parameter</p> <p>See Write Command</p> |
| <p>Read Command</p> <p><b>AT+CGCLASS?</b></p>              | <p>Response</p> <p><b>+CGCLASS: &lt;class&gt;</b></p> <p><b>OK</b></p> <p>Parameter</p> <p>See Write Command</p>                      |
| Write Command  | Response  |



## SIM500W AT Commands Set

|  |   |
|--|---|
| <b>AT+CGCLASS=</b><br><b>&lt;class&gt;</b> | <b>OK</b><br><b>ERROR</b><br>If error is related to ME functionality:<br><b>+CME ERROR: &lt;err&gt;</b><br><br>Parameter<br><b>&lt;class&gt;</b> a string parameter(string should be included in quotation marks) which indicates the GPRS mobile class (in descending order of functionality)<br>B            class B<br>CG        class C in GPRS only mode<br>CC        class C in circuit switched only mode (lowest) |
| Reference<br>GSM07.07                      | Note<br><b>I</b> Class A is not supported by the SIMCOM GPRS solution.  |

### 6.2.9 AT+CGEREP Control Unsolicited GPRS Event Reporting

| <b>AT+CGEREP    Control Unsolicited GPRS Event Reporting</b> |  |
|--|--|
| Test Command<br><b>AT+CGEREP=?</b>                           | Response<br><b>+CGEREP: (list of supported &lt;mode&gt;s)</b><br><br><b>OK</b><br>Parameter<br>See Write Command   |
| Read Command<br><b>AT+CGEREP?</b>                            | Response<br><b>+CGEREP: &lt;mode&gt;, &lt;stat&gt;</b><br><br><b>OK</b><br><br>Parameter<br>See Write Command  |
| Write Command<br><b>AT+CGEREP=&lt;mode&gt;</b>               | Response<br><b>OK</b><br><b>ERROR</b><br>Parameter<br><b>&lt;mode&gt;</b> 0    buffer unsolicited result codes in the MT; if MT result code buffer is full, the oldest ones can be discarded. No codes are forwarded to the TE.<br><br>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<br><br>Unsolicited Result Codes supported:<br>+CGEV: NW DEACT <PDP_type>, <PDP_addr>[,<cid>]<br>+CGEV: ME DEACT <PDP_type>, <PDP_addr>[,<cid>] |

## SIM500W AT Commands Set

|                       |  |
|-----------------------|--|
|                       | +CGEV: NW DETACH<br>+CGEV: ME CLASS <class><br>parameters<br><PDP_type>    Packet Data Protocol type (see +CGDCONT Command)<br><PDP_addr>    Packet Data Protocol address (see +CGDCONT Command)<br><cid>           Context Id (see +CGDCONT Command)<br><class>        GPRS mobile class (see +CGCLASS Command) |
| Reference<br>GSM07.07 | Note   |

### 6.2.10 AT+CGREG Network Registration Status

| AT+CGREG    Network Registration Status      |  |
|--|--|
| Test Command<br><b>AT+CGREG=?</b>            | Response<br><b>+CGREG:</b> (list of supported <n>s)<br><br><b>OK</b><br>Parameter<br>See Write Command   |
| Read Command<br><b>AT+CGREG?</b>             | Response<br><b>+CGREG:</b> <n>,<stat>[,<lac>,<ci>]<br><br><b>OK</b><br><b>+CME ERROR:</b> <err><br>Parameter<br>See Write Command  |
| Write Command<br><b>AT+CGREG=[&lt;n&gt;]</b> | Response<br><b>OK</b><br><b>ERROR</b><br>Parameters<br><n>            0        disable network registration unsolicited result code<br>1        enable network registration unsolicited result code<br>+CGREG:<stat><br>2        enable network registration and location information<br>unsolicited result code +CGREG: <stat>[,<lac>,<ci>]<br><stat><br>0        not registered, ME is not currently searching a new<br>operator to register to<br>1        registered<br><lac>           string type(string should be included in quotation marks); two<br>byte location area code in hexadecimal format (e.g. "00C3"<br>equals 195 in decimal) |

|                       |  |
|-----------------------|--|
|                       | <b>&lt;ci&gt;</b> string type(string should be included in quotation marks); two bytes cell ID in hexadecimal format |
| Reference<br>GSM07.07 | Note   |

### 6.2.11 AT+CGSMS Select Service For MO SMS Messages

| AT+CGSMS Select Service For MO SMS Messages        |   |
|--|---|
| Test Command<br><b>AT+CGSMS=?</b>                  | Response<br><b>+CGSMS:</b> (list of currently available <b>&lt;service&gt;s</b> )<br><br><b>OK</b><br>Parameter<br>See Write Command  |
| Read Command<br><b>AT+CGSMS?</b>                   | Response<br><b>+CGSMS: &lt;service&gt;</b><br><br><b>OK</b><br>Parameter<br>See Write Command   |
| Write Command<br><b>AT+CGSMS=[&lt;service&gt;]</b> | Response<br><b>OK</b><br>If error is related to ME functionality:<br><b>+CME ERROR: &lt;err&gt;</b><br>Parameter<br><b>&lt;service&gt;</b> a numeric parameter which indicates the service or service preference to be used<br>0 GPRS<br>1 circuit switched<br>2 GPRS preferred (use circuit switched if GPRS not available)<br>3 circuit switched preferred (use GPRS if circuit switched not available) |
| Reference<br>GSM07.07                              | Note<br><b>I</b> The circuit switched service route is the default method   |

## 7 AT Commands for TCPIP Application Toolkit

### 7.1 Overview

| Command      | Description   |
|--------------|---|
| AT+CIPSTART  | START UP TCP OR UDP CONNECTION                                      |
| AT+CIPSEND   | SEND DATA THROUGH TCP OR UDP CONNECTION                             |
| AT+CIPCLOSE  | CLOSE TCP OR UDP CONNECTION   |
| AT+CIPSHUT   | DEACTIVATE GPRS PDP CONTEXT   |
| AT+CLPORT    | SET LOCAL PORT  |
| AT+CSTT      | START TASK AND SET APN, USER NAME, PASSWORD                         |
| AT+CIICR     | BRING UP WIRELESS CONNECTION WITH GPRS OR CSD                       |
| AT+CIFSR     | GET LOCAL IP ADDRESS  |
| AT+CIPSTATUS | QUERY CURRENT CONNECTION STATUS                                     |
| AT+CDNSCFG   | CONFIGURE DOMAIN NAME SERVER  |
| AT+CDNSGIP   | QUERY THE IP ADDRESS OF GIVEN DOMAIN NAME                           |
| AT+CDNSORIP  | CONNECT WITH IP ADDRESS OR DOMAIN NAME SERVER                       |
| AT+CIPHEAD   | ADD AN IP HEAD WHEN RECEIVING DATA                                  |
| AT+CIPATS    | SET AUTO SENDING TIMER  |
| AT+CIPSPRT   | SET PROMPT OF '>' WHEN SENDING DATA                                 |
| AT+CIPSERVER | CONFIGURE AS SERVER   |
| AT+CIPCSGP   | SET CSD OR GPRS FOR CONNECTION MODE                                 |
| AT+CIPCCON   | CHOOSE CONNECTION   |
| AT+CIPFLP    | SET WHETHER FIX THE LOCAL PORT                                      |
| AT+CIPSRIP   | SET WHETHER DISPLAY IP ADDRESS AND PORT OF SENDER WHEN RECEIVE DATA |
| AT+CIPDPDP   | SET WHETHER CHECK STATE OF GPRS NETWORK TIMING                      |
| AT+CIPSCONT  | SAVE TCPIP APPLICATION CONTEXT                                      |
| AT+CIPMODE   | SELECT TCPIP APPLICATION MODE                                       |
| AT+CIPCCFG   | CONFIGURE TRANSPARENT TRANSFER MODE                                 |
| AT+CIPSHOWTP | DISPLAY TRANSFER PROTOCOL IN IP HEAD WHEN RECEIVING DATA            |

### 7.2 Detailed Descriptions of Commands

#### 7.2.1 AT+CIPSTART Start Up TCP Or UDP Connection

| AT+CIPSTART Start Up TCP Or UDP Connection |   |
|--|---|
| Test Command                               | Response  |
| AT+CIPSTART=<br>?                          | +CIPSTART: (list of supported <mode>),IP address range,(port range)<br><CR><LF>+CIPSTART: (list of supported <mode>),(domain name),(port range) |

|   |   |
|---|---|
|   | <b>OK</b><br>Parameters<br>See Write Command  |
| Write Command<br><b>AT+CIPSTART=</b><br><b>&lt;mode&gt;,&lt;IP</b><br><b>address&gt;,&lt;port&gt;</b><br><b>Or</b><br><b>AT+CIPSTART=</b><br><b>&lt;mode&gt;,&lt;domain</b><br><b>name&gt;,&lt;port&gt;</b> | Response<br>If format is right response <b>OK</b> , otherwise response <b>ERROR</b><br>If connect successfully response <b>CONNECT OK</b><br>Otherwise<br><b>STATE: &lt;state&gt;</b><br><b>CONNECT FAIL</b><br>Parameters<br><b>&lt;mode&gt;</b> a string parameter(string should be included in quotation marks) which indicates the connection type<br>“TCP” Establish a TCP connection<br>“UDP” Establish a UDP connection<br><b>&lt;IP address&gt;</b> remote server IP address<br><b>&lt;port&gt;</b> remote server port<br><b>&lt;domain name&gt;</b> remote server domain name<br><b>&lt;state&gt;</b> a string parameter(string should be included in quotation marks) which indicates the progress of connecting<br>0 IP INITIAL<br>1 IP START<br>2 IP CONFIG<br>3 IP IND<br>4 IP GPRSACT<br>5 IP STATUS<br>6 TCP/UDP CONNECTING<br>7 IP CLOSE<br>8 CONNECT OK<br>9 PDP DEACT |
| Reference   | Note<br><b>I</b> This command is allowed to establish a TCP/UDP connection only when the state is IP INITIAL or IP STATUS. So it is necessary to process “AT+CIPSHUT” before establish a TCP/UDP connection with this command when the state is not IP INITIAL or IP STATUS.<br><b>I</b> The IP address is shown in the response when state equal to 2 (IP CONFIG).   |

### 7.2.2 AT+CIPSEND Send Data Through TCP Or UDP Connection

| <b>AT+CIPSEND Send Data Through TCP Or UDP Connection</b> |  |
|---|--|
| Test Command<br><b>AT+CIPSEND=?</b>                       | Response<br><b>+CIPSEND=: &lt;length&gt;</b> |

|   |  |
|---|--|
|   | <b>OK</b>  |
| Execution Command<br><b>AT+CIPSEND</b><br>response"> ", then<br>type data for send,<br>tap CTRL+Z to<br>send, tap ESC to<br>cancel the<br>operation | Response<br>This Command is used to send changeable length data.<br>If connection is not established or disconnection:<br><b>ERROR</b><br>If sending successfully:<br><b>SEND OK</b><br>If sending fail:<br><b>SEND FAIL</b><br>Note<br>This Command is used to send data on the TCP or UDP connection that has been established already. Ctrl-Z is used as a termination symbol. ESC is used to cancel sending data. There are at most 1460 bytes that can be sent at a time. |
| Write Command<br><b>AT+CIPSEND=&lt;length&gt;</b>   | Response<br>This Command is used to send fixed length data.<br>If connection is not established or disconnect:<br><b>ERROR</b><br>If sending successfully:<br><b>SEND OK</b><br>If sending fail:<br><b>SEND FAIL</b><br>Parameter<br><b>&lt;length&gt;</b> a numeric parameter which indicates the length of sending data, it must less than 1460  |
| Reference   | Note<br><ul style="list-style-type: none"> <li>  There are at the most 1460 bytes that can be sent each time.</li> <li>  Set the time that send data automatically with the Command of AT+CIPATS.</li> <li>  Only send data at the status of established connection, otherwise Response ERROR</li> </ul>   |

### 7.2.3 AT+CIPCLOSE Close TCP Or UDP Connection

| <b>AT+CIPCLOSE</b>                              | <b>Close TCP Or UDP Connection</b> |
|---|------------------------------------|
| Test Command<br><b>AT+CIPCLOSE</b><br><b>=?</b> | Response<br><b>OK</b>              |
| Execution Command                               | Response<br>If close successfully: |

## SIM500W AT Commands Set

|                    |  |
|--------------------|--|
| <b>AT+CIPCLOSE</b> | <b>CLOSE OK</b><br>If close fail:<br><b>ERROR</b>  |
| Reference          | Note<br><b>I</b> AT+CIPCLOSE only close connection at the status of TCP/UDP CONNECTING or CONNECT OK, otherwise response ERROR, after closing the connection, the status is IP CLOSE |

### 7.2.4 AT+CIPSHUT Deactivate GPRS PDP Context

| <b>AT+CIPSHUT Deactivate GPRS PDP Context</b> |  |
|---|--|
| Test Command<br><b>AT+CIPSHUT=?</b>           | Response<br><b>OK</b>  |
| Execution Command<br><b>AT+CIPSHUT</b>        | Response<br>If close successfully:<br><b>SHUT OK</b><br>If close fail:<br><b>ERROR</b><br>Note Except at the status of IP INITIAL, you can close moving scene by AT+CIPSHUT. After closed, the status is IP INITIAL. |
| Reference                                     | Note   |

### 7.2.5 AT+CLPORT Set Local Port

| <b>AT+CLPORT Set Local Port</b>        |  |
|--|--|
| Test Command<br><b>AT+CLPORT=?</b>     | Response<br><b>+CLPORT:</b> (list of supported <port>s)<br><br><b>OK</b><br>Parameter<br>See Write Command |
| Read Command<br><b>AT+CLPORT?</b>      | Response<br><mode>: <port><br><CR><LF><mode>: <port><br><br><b>OK</b><br>Parameter<br>See Write Command    |
| Write Command<br><b>AT+CLPORT=&lt;</b> | Response<br><b>OK</b>  |

## SIM500W AT Commands Set

|                              |  |
|------------------------------|--|
| <b>mode&gt;,&lt;port&gt;</b> | <b>ERROR</b><br>Parameters<br><b>&lt;mode&gt;</b> a string parameter(string should be included in quotation marks) which indicates the connection type<br>“TCP” TCP local port<br>“UDP” UDP local port<br><b>&lt;port&gt;</b> 0-65535 a numeric parameter which indicates the local port |
| Reference                    | Note   |

### 7.2.6 AT+CSTT START Task And Set APN、USER NAME、PASSWORD

| <b>AT+CSTT Start Task And Set APN、USER NAME、PASSWORD</b>                                |   |
|---|---|
| Test Command<br><b>AT+CSTT=?</b>  | Response<br><b>+CSTT: "APN","USER","PWD"</b><br><br><b>OK</b>   |
| Read Command<br><b>AT+CSTT?</b>   | Response<br><b>+CSTT: &lt;apn&gt;,&lt;user name&gt;,&lt;password&gt;</b><br><br><b>OK</b><br>Parameters<br>See Write Command  |
| Write Command<br><b>AT+CSTT=&lt;apn&gt;<br/>&gt;,&lt;user name&gt;,&lt;password&gt;</b> | Response<br><b>OK</b><br><b>ERROR</b><br>Parameters<br><b>&lt;apn&gt;</b> a string parameter(string should be included in quotation marks) which indicates the GPRS access point name<br><b>&lt;user name&gt;</b> a string parameter(string should be included in quotation marks) which indicates the GPRS user name<br><b>&lt;password&gt;</b> a string parameter(string should be included in quotation marks) which indicates the GPRS password |
| Execution Command<br><b>AT+CSTT</b>   | Response<br><b>OK</b><br><b>ERROR</b>   |
| Reference   | Note<br><b>I</b> The write command and execution command of this command is valid only at the state of IP INITIAL. After operating this command, the state will be changed to IP START.   |



### 7.2.7 AT+CIICR Bring Up Wireless Connection With GPRS Or CSD

| AT+CIICR Bring Up Wireless Connection With GPRS Or CSD |  |
|--|--|
| Execution Command<br><b>AT+CIICR</b>                   | Response<br><b>OK</b><br><b>ERROR</b>  |
| Reference  | Note<br><b>I</b> AT+CIICR only activates moving scene at the status of IP START, after operating this Command, the state will be changed to IP CONFIG.<br><b>I</b> If module accepts the activated operation, the state will be changed to IP IND; after module accepting the activated operation, if activate successfully, the state will be changed to IP GPRSACT, response OK, otherwise response ERROR. |

### 7.2.8 AT+CIFSR Get Local IP Address

| AT+CIFSR Get Local IP Address        |   |
|--------------------------------------|---|
| Read Command<br><b>AT+CIFSR?</b>     | Response<br><b>OK</b>   |
| Execution Command<br><b>AT+CIFSR</b> | Response<br><b>&lt;IP address&gt;</b><br><b>ERROR</b><br>Parameter<br><b>&lt;IP address&gt;</b> a string parameter(string should be included in quotation marks) which indicates the IP address assigned from GPRS or CSD |
| Reference                            | Note<br><b>I</b> Only at the status of activated the moving scene: IP GPRSACT、TCP/UDP CONNECTING、CONNECT OK、IP CLOSE can get local IP Address by AT+CIFSR, otherwise response ERROR.                                      |

### 7.2.9 AT+CIPSTATUS Query Current Connection Status

| AT+CIPSTATUS Query Current Connection Status |   |
|--|---|
| Test Command<br><b>AT+CIPSTATUS=?</b>        | Response<br><b>OK</b>   |
| Execution Command<br><b>AT+CIPSTATUS</b>     | Response<br><b>OK</b><br><b>STATE: &lt;state&gt;</b><br>Parameter |

## SIM500W AT Commands Set

|           |  |
|-----------|--|
|           | <b>&lt;state&gt;</b> referred to AT+CIPSTART |
| Reference | Note   |

### 7.2.10 AT+CDNSCFG Configure Domain Name Server

| <b>AT+CDNSCFG Configure Domain Name Server</b>                       |   |
|--|---|
| Test Command<br><b>AT+CDNSCFG=?</b>                                  | Response<br><b>OK</b>   |
| Read command<br><b>AT+CDNSCFG?</b>                                   | Response<br>PrimaryDns: <pri_dns><br>SecondaryDns: <sec_dns><br><br><b>OK</b>   |
| Write Command<br><b>AT+CDNSCFG=&lt;pri_dns&gt;[,&lt;sec_dns&gt;]</b> | Response<br><b>OK</b><br><b>ERROR</b><br>Parameters<br><b>&lt;pri_dns&gt;</b> a string parameter(string should be included in quotation marks) which indicates the IP address of the primary domain name server<br><br><b>&lt;sec_dns&gt;</b> a string parameter(string should be included in quotation marks) which indicates the IP address of the secondary domain name server |
| Reference  | Note  |

### 7.2.11 AT+CDNSGIP Query The IP Address Of Given Domain Name

| <b>AT+CDNSGIP Query The IP Address Of Given Domain Name</b> |  |
|---|--|
| Test Command<br><b>AT+CDNSGIP=?</b>                         | Response<br><b>OK</b>  |
| Write Command<br><b>AT+CDNSGIP=&lt;domain name&gt;</b>      | Response<br><b>OK</b><br><b>ERROR</b><br>If successful, return:<br><b>&lt;IP address&gt;</b><br>If fail, return:<br><b>ERROR: &lt;err&gt;</b><br><b>STATE: &lt;state&gt;</b> |

|           |   |
|-----------|---|
|           | <p>Parameters</p> <p><b>&lt;domain name&gt;</b> a string parameter(string should be included in quotation marks) which indicates the domain name</p> <p><b>&lt;IP address&gt;</b> a string parameter(string should be included in quotation marks) which indicates the IP address corresponding to the domain name</p> <p><b>&lt;err &gt;</b> a numeric parameter which indicates the error code</p> <ul style="list-style-type: none"> <li>1 DNS not Authorization</li> <li>2 invalid parameter</li> <li>3 network error</li> <li>4 no server</li> <li>5 time out</li> <li>6 no configuration</li> <li>7 no memory</li> </ul> <p><b>&lt;state&gt;</b> refer to AT+CIPSTART</p> |
| Reference | Note  |

### 7.2.12 AT+CDNSORIP Connect With IP Address Or Domain Name Server

| AT+CDNSORIP Connect With IP Address Or Domain Name Server   |   |
|---|---|
| <p>Test Command</p> <p><b>AT+CDNSORIP=?</b></p>             | <p>Response</p> <p><b>+CDNSORIP:</b> (list of supported <b>&lt;mode&gt;</b>s)</p> <p><b>OK</b></p> <p>Parameter</p> <p>See Write Command</p>  |
| <p>Read Command</p> <p><b>AT+CDNSORIP?</b></p>              | <p>Response</p> <p><b>+CDNSORIP: &lt;mode&gt;</b></p> <p><b>OK</b></p> <p>Parameter</p> <p>See Write Command</p>  |
| <p>Write Command</p> <p><b>AT+CDNSORIP=&lt;mode&gt;</b></p> | <p>Response</p> <p><b>OK</b></p> <p><b>ERROR</b></p> <p>Parameter</p> <p><b>&lt;mode&gt;</b> a numeric parameter which indicates whether connecting with IP address server or domain name server</p> <ul style="list-style-type: none"> <li>0 remote server is an IP address</li> <li>1 remote server is a domain name</li> </ul> |
| Reference   | Note  |

## 7.2.13 AT+CIPHEAD Add An IP Head When Receiving Data

| AT+CIPHEAD Add An IP Head When Receiving Data   |   |
|---|---|
| Test Command<br><b>AT+CIPHEAD=?</b>             | Response<br><b>+CIPHEAD:</b> (list of supported <mode>s)<br><br><b>OK</b><br>Parameter<br>See Write Command   |
| Read Command<br><b>AT+CIPHEAD?</b>              | Response<br><b>+CIPHEAD:</b> <mode><br><br><b>OK</b><br>Parameter<br>See Write Command  |
| Write Command<br><b>AT+CIPHEAD=&lt;mode&gt;</b> | Response<br><b>OK</b><br><b>ERROR</b><br>Parameter<br><b>&lt;mode&gt;</b> a numeric parameter which indicates whether adding an IP header to received data or not<br>0      not add IP header<br>1      add IP header, the format is “+IPD(data length):” |
| Reference                                       | Note  |

## 7.2.14 AT+CIPATS Set Auto Sending Timer

| AT+CIPATS Set Auto Sending Timer   |  |
|------------------------------------|--|
| Test Command<br><b>AT+CIPATS=?</b> | Response<br><b>+CIPATS:</b> (list of supported <mode>s)<br><br><b>OK</b><br>Parameter<br>See Write Command |
| Read Command<br><b>AT+CIPATS?</b>  | Response<br><b>+CIPATS:</b> <mode><br><br><b>OK</b><br>Parameter<br>See Write Command                      |
| Write Command                      | Response   |

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|  |   |
|--|---|
| <b>AT+CIPATS=&lt;mode&gt;[,&lt;time&gt;]</b> | <b>OK</b><br><b>ERROR</b><br>Parameters<br><b>&lt;mode&gt;</b> a numeric parameter which indicates whether set timer when sending data<br>0            not set timer when sending data<br>1            Set timer when sending data<br><b>&lt;time&gt;</b> a numeric parameter which indicates the seconds after which the data will be sent |
| Reference                                    | Note: If the time set to 0,it will invalidate the timer.  |

### 7.2.15 AT+CIPSPRT Set Prompt Of ‘>’ When Sending Data

| AT+CIPSPRT Set Prompt Of ‘>’ When Sending Data         |   |
|--|---|
| Test Command<br><b>AT+CIPSPRT=?</b>                    | Response<br><b>+CIPSPRT: (&lt;send prompt&gt;s)</b><br><br><b>OK</b><br>Parameter<br>See Write Command  |
| Read Command<br><b>AT+CIPSPRT?</b>                     | Response<br><b>+CIPSPRT: &lt;send prompt&gt;</b><br><br><b>OK</b><br>Parameter<br>See Write Command   |
| Write Command<br><b>AT+CIPSPRT=&lt;send prompt&gt;</b> | Response<br><b>OK</b><br><b>ERROR</b><br>Parameter<br><b>&lt;send prompt&gt;</b> a numeric parameter which indicates whether echo prompt ‘>’ after issuing AT+CIPSEND Command<br>0    no prompt and show “send ok” when send successfully<br>1    echo ‘>’ prompt and show “send ok” when send successfully<br>2    no prompt and not show “send ok” when send successfully |
| Reference  | Note  |

### 7.2.16 AT+CIPSERVER Configure As Server

| AT+CIPSERVER Configure As Server   |   |
|------------------------------------|---|
| Read Command<br><b>AT+CIPSERVE</b> | Response<br><b>+CIPSERVER: &lt;mode&gt;</b> |

## SIM500W AT Commands Set

|  |  |
|--|--|
| <b>R?</b>  | <b>OK</b><br>Parameter<br><mode>    0    has not been configured as a server<br>1    has been configured as a server   |
| Write Command<br><b>AT+CIPSERVE</b><br><b>R=&lt;number&gt;</b> | Response<br><b>OK</b><br><b>ERROR</b><br>Parameters<br><number>    0-255 a numeric parameter which indicates the clients can connect at most   |
| Execution Command<br><b>AT+CIPSERVE</b><br><b>R</b>            | Response<br><b>OK</b><br><b>ERROR</b><br>If configuration as server success, return:<br><b>SERVER OK</b><br>If configuration as server fail, return:<br><b>STATE: &lt;state&gt;</b><br><b>CONNECT FAIL</b><br>Parameter<br><state>        refer to AT+CIPSTART |
| Reference  | Note   |

### 7.2.17 AT+CIPCSGP Set CSD Or GPRS For Connection Mode

| <b>AT+CIPCSGP    Set CSD Or GPRS For Connection Mode</b> |   |
|--|---|
| Test Command<br><b>AT+CIPCSGP=?</b>                      | Response<br><b>+CIPCSGP:0-CSD,DIALNUMBER,USER NAME,PASSWORD,RATE(0,3)</b><br><b>+CIPCSGP: 1-GPRS,APN,USER NAME,PASSWORD</b><br><br><b>OK</b><br>Parameters<br>See Write Command |
| Read Command<br><b>AT+CIPCSGP?</b>                       | Response<br><b>+CIPCSGP: &lt;mode&gt;</b><br><br><b>OK</b><br>Parameter<br>See Write Command  |
| Write Command  | Response  |

|   |  |
|---|--|
| <b>AT+CIPCSGP=</b><br><b>&lt;mode&gt;,[(&lt;apn&gt;</b><br><b>&lt;user name &gt;</b><br><b>&lt;password&gt;),</b><br><b>(&lt;dial</b><br><b>number&gt;,&lt;user</b><br><b>name&gt;,&lt;passwor</b><br><b>d&gt;,&lt;rate&gt;)]</b> | <b>OK</b><br><b>ERROR</b><br>Parameters<br><b>&lt;mode&gt;</b> a numeric parameter which indicates the wireless connection mode<br>0 set CSD as wireless connection mode<br>1 set GPRS as wireless connection mode<br>GPRS parameters:<br><b>&lt;apn&gt;</b> a string parameter(string should be included in quotation marks) which indicates the access point name<br><b>&lt;user name&gt;</b> a string parameter(string should be included in quotation marks) which indicates the user name<br><b>&lt;password&gt;</b> a string parameter(string should be included in quotation marks) which indicates the password<br>CSD parameters:<br><b>&lt;dial number&gt;</b> a string parameter(string should be included in quotation marks) which indicates the CSD dial numbers<br><b>&lt;user name&gt;</b> a string parameter(string should be included in quotation marks) which indicates the CSD user name<br><b>&lt;password&gt;</b> a string parameter(string should be included in quotation marks) which indicates the CSD password<br><b>&lt;rate&gt;</b> a numeric parameter which indicates the CSD connection rate<br>0 2400<br>1 4800<br>2 9600<br>3 14400 |
| Reference   | Note   |

### 7.2.18 AT+CIPCCON Choose Connection

| <b>AT+CIPCCON Choose Connection</b>            |   |
|--|---|
| Test Command<br><b>AT+CIPCCON=</b><br><b>?</b> | Response<br><b>+CIPCCON:</b> (list of supported <b>&lt;connection&gt;</b> s)<br><br><b>OK</b><br>Parameter<br>See Write Command |
| Read Command<br><b>AT+CIPCCON?</b>             | Response<br><b>+CIPCCON:</b> <b>&lt;connection&gt;</b><br><br><b>OK</b>   |

|  |   |
|--|---|
|  | Parameter<br>See Write Command  |
| Write Command<br><b>AT+CIPCCON=</b><br><b>&lt;connection&gt;</b> | Response<br><b>OK</b><br><b>ERROR</b><br>Parameter<br><b>&lt;connection&gt;</b> a numeric parameter which indicates the chosen connection<br>1 choose connection as client<br>2 choose connection as server<br>Note that there may exist two connections at one time: one connection is as client connecting with remote server, the other connection is as server connecting with remote client. Using this Command to choose through which connection data is sent. |
| Reference  | Note<br><b>I</b> This command can work after the module has been configured as a server.  |

### 7.2.19 AT+CIPFLP Set Whether Fix The Local Port

| <b>AT+CIPFLP Set Whether Fix The Local Port</b> |   |
|---|---|
| Test Command<br><b>AT+CIPFLP=?</b>              | Response<br><b>+CIPFLP:</b> (list of supported <b>&lt;mode&gt;</b> s)<br><br><b>OK</b><br>Parameter<br>See Write Command  |
| Read Command<br><b>AT+CIPFLP?</b>               | Response<br><b>+CIPFLP: &lt;mode&gt;</b><br><br><b>OK</b><br>Parameter<br>See Write Command   |
| Write Command<br><b>AT+CIPFLP=&lt;mode&gt;</b>  | Response<br><b>OK</b><br><b>ERROR</b><br>Parameter<br><b>&lt;mode&gt;</b> a numeric parameter which indicates whether increasing local port automatically when establishing a new connection<br>0 do not fix local port, increasing local port by 1 when establishing a new connection<br>1 fix local port, using the same port when establishing a new connection<br>Note that in default mode, the local port is fixed. It can speed up the |



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|           |  |
|-----------|--|
|           | connection progress if setting to not fixed local port when establishing a new connection after closing previous connection. |
| Reference | Note   |

### 7.2.20 AT+CIPSRIP Set Whether Display IP Address And Port Of Sender When Receive Data

| AT+CIPSRIP Set Whether Display IP Address And Port Of Sender When Receive Data |   |
|--|---|
| Test Command<br><b>AT+CIPSRIP=?</b>  | Response<br><b>+CIPSRIP:</b> (list of supported <mode>s)<br><br><b>OK</b><br>Parameter<br>See Write Command   |
| Read Command<br><b>AT+CIPSRIP?</b>   | Response<br><b>+CIPSRIP:</b> <mode><br><br><b>OK</b><br>Parameter<br>See Write Command  |
| Write Command<br><b>AT+CIPSRIP=&lt;mode&gt;</b>                                | Response<br><b>OK</b><br><b>ERROR</b><br>Parameter<br><b>&lt;mode&gt;</b> a numeric parameter which indicates whether show the prompt of where the data received are from or not before received data.<br>0      do not show the prompt<br>1      show the prompt, the format is as follows: RECV FROM:<IP ADDRESS>:<PORT><br>Note that the default mode is not to show the prompt. |
| Reference  | Note  |

### 7.2.21 AT+CIPDPDP Set Whether Check State Of GPRS Network Timing

| AT+CIPDPDP Set Whether Check State Of GPRS Network Timing |   |
|---|---|
| Test Command<br><b>AT+CIPDPDP=?</b>                       | Response<br><b>+CIPDPDP:</b> (list of supported< mode>s)<br><br><b>OK</b><br>Parameter<br>See Write Command |

**SIM500W AT Commands Set**

|  |  |
|--|--|
| Read Command<br><b>AT+CIPDPDP?</b>   | Response<br><b>+CIPDPDP: &lt;mode&gt;, &lt;interval&gt;, &lt;timer&gt;</b><br><br><b>OK</b><br>Parameters<br>See Write Command   |
| Write Command<br><b>AT+CIPDPDP=&lt;mode&gt;[,&lt;interval&gt;,&lt;timer&gt;]</b> | Response<br><b>OK</b><br><b>ERROR</b><br>Parameters<br><b>&lt;mode&gt;</b><br>0 not set detect PDP<br>1 set detect PDP<br><b>&lt;interval&gt;</b><br>0<interval<=180(ms)<br><b>&lt;timer&gt;</b><br>0<timer<=255 |
| Reference  | Note   |

**7.2.22 AT+CIPSCONT Save TCPIP Application Context**
**AT+CIPSCONT Save TCPIP Application Context**

# SIM500W AT Commands Set

|                                     |   |
|-------------------------------------|---|
| Read Command<br><b>AT+CIPSCONT?</b> | Response<br>TA returns TCPIP Application Context, which consists of the following AT Command parameters.<br><b>SHOW APPTCPIP CONTEXT</b><br><b>+CDNSORIP:&lt;mode&gt;</b><br><b>+CIPSPRT:&lt; sendprompt&gt;</b><br><b>+CIPHEAD:&lt;iphead&gt;</b><br><b>+CIPFLP:&lt;flp&gt;</b><br><b>+CIPSRIP:&lt;srip&gt;</b><br><b>+CIPCSGP:&lt;csgp&gt;</b><br><b>Gprs Config APN:&lt;apn&gt;</b><br><b>Gprs Config UserId:&lt;gusr&gt;</b><br><b>Gprs Config Password:&lt;gpwd&gt;</b><br><b>Gprs Config inactivityTimeout:&lt;timeout&gt;</b><br><b>CSD Dial Number:&lt;enum&gt;</b><br><b>CSD Config UserId:&lt;usr&gt;</b><br><b>CSD Config Password:&lt;cpwd&gt;</b><br><b>CSD Config rate:&lt;crate&gt;</b><br><b>+CIPDPDP:&lt;dpdp&gt;</b><br><b>Detect PDP Inerval:&lt;int&gt;</b><br><b>Detect PDP Timer:&lt;timer&gt;</b><br><b>App Tcpi Mode:&lt;mode&gt;</b><br><b>In Transparent Transfer Mode</b><br><b>Number of Retry:&lt;nmRetry&gt;</b><br><b>Wait Time:&lt;waitTm&gt;</b><br><b>Send Size:&lt;sendSz&gt;</b><br><b>esc:&lt;esc&gt;</b><br><br><b>OK</b> |
|-------------------------------------|---|

|  |   |
|--|---|
|  | Parameters<br><mode> see AT+CDNSORIP<br><sendprompt> see AT+CIPSPRT<br><iphead> see AT+CIPHEAD<br><flp> see AT+CIPFLP<br><srip> see AT+CIPSRIP<br><csgp> see AT+CIPCSGP<br><apn> see AT+CIPCSGP<br><gusr> see AT+CIPCSGP<br><gpwd> see AT+CIPCSGP<br><timeout> see AT+CIPCSGP<br><cnum> see AT+CIPCSGP<br><cusr> see AT+CIPCSGP<br><cpwd> see AT+CIPCSGP<br><crate> see AT+CIPCSGP<br><dmdp> see AT+CIPDPDP<br><int> see AT+CIPDPDP<br><timer> see AT+CIPDPDP<br><nmRetry> see AT+CIPCCFG<br><waitTm> see AT+CIPCCFG<br><sendSz> see AT+CIPCCFG<br><esc> see AT+CIPCCFG |
| Execution<br>Command<br><b>AT+CIPSCONT</b> | Response<br>TA saves TCPIP Application Context which consist of following AT Command parameters, and when system is rebooted, the parameters will be loaded automatically:<br><div style="text-align: center;">           AT+CDNSORIP, AT+CIPSPRT, AT+CIPHEAD,<br/>           AT+CIPFLP,AT+CIPSRIP, AT+CIPCSGP,<br/>           AT+CIPDPDP         </div><br><b>OK</b>   |
|  | Parameter   |

### 7.2.23 AT+CIPMODE Select TCPIP Application Mode

| AT+CIPMODE Select TCPIP Application Mode       |   |
|--|---|
| Test Command<br><b>AT+CIPMODE=</b><br><b>?</b> | Response<br><b>+CIPMODE:(0-NORMAL MODE,1-TRANSPARENT MODE)</b><br><br><b>OK</b> |
| Read Command                                   | Response  |

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|  |  |
|--|--|
| AT+CIPMODE?                            | <b>+CIPMODE: &lt;mode&gt;</b><br><br><b>OK</b><br>Parameter<br>See Write Command                 |
| Write Command<br>AT+CIPMODE=<br><mode> | Response<br><b>OK</b><br><b>ERROR</b><br>Parameter<br><mode> 0 normal mode<br>1 transparent mode |
| Reference                              | Note   |

### 7.2.24 AT+CIPCCFG Configure Transparent Transfer mode

| AT+CIPCCFG Configure Transparent Transfer Mode                    |  |
|---|--|
| Test Command<br>AT+CIPCCFG=?                                      | Response<br><b>+CIPCCFG: (NmRetry:3-8),(WaitTm:2-10),(SendSz:256-1024),(esc:0,1)</b><br><br><b>OK</b>  |
| Read Command<br>AT+CIPCCFG?                                       | Response<br><b>+CIPCCFG: &lt;NmRetry&gt;,&lt;WaitTm&gt;,&lt;SendSz&gt;,&lt;esc&gt;</b><br><br><b>OK</b><br>Parameters<br>See Write Command   |
| Write Command<br>AT+CIPCCFG=<br><NmRetry>,<WaitTm>,<SendSz>,<esc> | Response<br><b>OK</b><br><b>ERROR</b><br>Parameters<br><NmRetry> number of retries to be made for an IP packet.<br><WaitTm> number of 200ms intervals to wait for serial input before sending the packet.<br><SendSz> size in bytes of data block to be received from serial port before sending.<br><esc> whether turn on the escape sequence, default is TRUE. |
| Reference   | Note   |

### 7.2.25 AT+CIPSHOWTP Display transfer protocol in IP head when receiving data

| AT+CIPSHOWTP Display transfer protocol in IP head when receiving data |          |
|---|----------|
| Test command  | Response |

# SIM500W AT Commands Set

|                                      |  |
|--------------------------------------|--|
| AT+CIPSHOWTP=?                       | + CIPSHOWTP: (list of supported <mode>s)<br><br>OK<br>Parameter<br>See write command   |
| Read command<br>AT+CIPSHOWTP?        | Response<br>+ CIPSHOWTP: <mode><br><br>OK<br>Parameter<br>See write command  |
| Write command<br>AT+CIPSHOWTP=<mode> | Response<br>OK<br>ERROR<br>Parameter<br><mode>     a numeric parameter which indicates whether display transfer protocol in IP header to received data or not<br><u>0</u> does not display transfer protocol<br>1     display transfer protocol, the format is<br>“+IPD<dataSize><TCP/UDP>:<data>” |
| Reference                            | Note<br>Only when +CIPHEAD set to 1,the setting of this command would work   |

## 8 Supported unsolicited result codes

### 8.1 Summary of CME ERROR Codes

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

<err> values used by common messaging commands:

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

**SIM500W AT Commands Set**

|     |   |
|-----|---|
| 45  | service provider personalization PUK required |
| 46  | corporate personalization PIN required        |
| 47  | corporate personalization PUK required        |
| 100 | unknown                                       |
| 103 | illegal MS                                    |
| 106 | illegal ME                                    |
| 107 | GPRS services not allowed                     |
| 111 | PLMN not allowed                              |
| 112 | location area not allowed                     |
| 113 | roaming not allowed in this location area     |
| 132 | service option not supported                  |
| 133 | requested service option not subscribed       |
| 134 | service option temporarily out of order       |
| 149 | PDP authentication failure                    |
| 150 | invalid mobile class                          |
| 673 | audio manager not ready                       |
| 674 | audio format cannot be configured             |
| 705 | SIM toolkit menu has not been configured      |
| 706 | SIM toolkit already in use                    |
| 707 | SIM toolkit not enabled                       |
| 737 | +CSCS type not supported                      |
| 738 | CSCS type not found                           |
| 741 | must include <format> with <oper>             |
| 742 | incorrect <oper> format                       |
| 743 | <oper> length too long                        |
| 744 | SIM full                                      |
| 745 | unable to change PLMN list                    |
| 746 | network operator not recognized               |
| 749 | invalid Command length                        |
| 750 | invalid input string                          |
| 753 | missing required cmd parameter                |
| 754 | invalid SIM Command                           |
| 755 | invalid File Id                               |
| 756 | missing required P1/2/3 parameter             |
| 757 | invalid P1/2/3 parameter                      |
| 758 | missing required Command data                 |
| 759 | invalid characters in Command data            |
| 765 | invalid input value                           |
| 766 | unsupported value or mode                     |
| 767 | operation failed                              |
| 768 | multiplexer already active                    |
| 769 | unable to get control of required module      |



## SIM500W AT Commands Set

|     |                              |
|-----|------------------------------|
| 770 | SIM invalid - network reject |
| 771 | call setup in progress       |
| 772 | SIM powered down             |
| 773 | SIM File not present         |

## 8.2 Summary of CMS ERROR Codes

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

<err> values used by common messaging commands:

| Code of <err> | Meaning                        |
|---------------|--------------------------------|
| 300           | ME failure                     |
| 301           | SMS ME reserved                |
| 302           | operation not allowed          |
| 303           | operation not supported        |
| 304           | invalid PDU mode               |
| 305           | invalid text mode              |
| 310           | SIM not inserted               |
| 311           | SIM pin necessary              |
| 312           | PH SIM pin necessary           |
| 313           | SIM failure                    |
| 314           | SIM busy                       |
| 315           | SIM wrong                      |
| 316           | SIM PUK required               |
| 317           | SIM PIN2 required              |
| 318           | SIM PUK2 required              |
| 320           | memory failure                 |
| 321           | invalid memory index           |
| 322           | memory full                    |
| 330           | SMSC address unknown           |
| 331           | no network                     |
| 332           | network timeout                |
| 500           | unknown                        |
| 512           | SIM not ready                  |
| 513           | unread records on SIM          |
| 514           | CB error unknown               |
| 515           | PS busy                        |
| 517           | SM not ready                   |
| 528           | Invalid (non-hex) chars in PDU |
| 529           | Incorrect PDU length           |
| 530           | Invalid MTI                    |

#### SIM500W AT Commands Set

|     |   |
|-----|---|
| 531 | Invalid (non-hex) chars in address      |
| 532 | Invalid address (no digits read)        |
| 533 | Incorrect PDU length (UDL)              |
| 534 | Incorrect SCA length                    |
| 536 | Invalid First Octet (should be 2 or 34) |
| 537 | Invalid Command Type                    |
| 538 | SRR bit not set                         |
| 539 | SRR bit set                             |
| 540 | Invalid User Data Header IE             |

### 8.3 Summary of TCP ERROR Codes

Error code TCP ERROR: <err> indicates an error related to TCP.

| Code of <err> | Meaning                     |
|---------------|-----------------------------|
| 1             | TCPIP in idle               |
| 2             | No TSAPI                    |
| 3             | Invalid TSAPI               |
| 4             | No buffer to perform action |
| 5             | Network error               |
| 6             | Unreachable host            |
| 7             | Address in use              |
| 8             | Address no available        |
| 9             | Fragmentation               |
| 10            | Invalid parameter           |
| 11            | Connection refused          |
| 12            | Connection time out         |
| 13            | Connection aborted locally  |
| 14            | Peer reset the connection   |
| 15            | Already connected           |
| 16            | Not connected               |
| 17            | Shut down                   |
| 18            | Unspecified                 |

### 8.4 Summary of UDP ERROR Codes

Error code UDP ERROR: <err> indicates an error related to UDP.

| Code of <err> | Meaning                     |
|---------------|-----------------------------|
| 1             | TCPIP in idle               |
| 2             | No TSAPI                    |
| 3             | Invalid TSAPI               |
| 4             | Not registered              |
| 5             | No buffer to perform action |
| 6             | Network error               |
| 7             | Unreachable port            |

**SIM500W AT Commands Set**

|    |                      |
|----|----------------------|
| 8  | Unreachable host     |
| 9  | Address in use       |
| 10 | Address no available |
| 11 | Data overflow        |
| 12 | Invalid parameter    |
| 13 | TCP IP is busy       |
| 14 | Unspecified          |
| 15 | Already connected    |

## 9AT Commands Sample

### 9.1 Profile Commands

| Demonstration  | Syntax  | Expect Result   |
|--|---|---|
| The AT Command interpreter is actively responded to input.   | AT  | OK  |
| Display product identification information: the manufacturer, the product name and the product revision information.   | ATI   | SIMCOM_Ltd<br>SIMCOM_SIM500W<br>Revision:24B03SIM500M32_SST<br>OK   |
| Reporting of mobile equipment errors. The default CME error reporting setting is disabled. Switching to verbose mode displays a string explaining the error in more details. | AT+CMEE=?<br><br>AT+CMEE?<br><br>AT+CSCS=?<br><br>AT+CSCS="TEST"<br>AT+CMEE=2<br>AT+CSCS="TEST" | +CMEE: (0-2)<br><br>OK<br>+CMEE: 1<br><br>OK<br>+CSCS: ("GSM","HEX","IRA",<br>"PCCP","PCDN","UCS2","8859-1")<br><br>OK<br>+CME ERROR: 738<br>OK<br>+CME ERROR: +CSCS type not found |
| Storing the current configuration in nonvolatile memory. When the board is reset, the configuration changes from the last session are loaded.                                | ATE0;&W<br>AT<br>[Reset the board]<br>AT<br>ATE1;&W<br>AT                                       | OK<br>[No echo]<br>OK<br>[No echo]<br>OK<br>[No echo]<br>OK<br>[Echo on]<br>OK  |
| Set the ME to minimum functionality  | AT+IPR?<br><br>AT+CFUN=0<br><br>AT+IPR = 115200 ;<br>&W   | +IPR: 0<br><br>OK<br>OK<br><br>OK   |

|  |           |                        |
|--|-----------|------------------------|
|  | AT+IPR?   | +IPR: 115200           |
|  | AT+CFUN=0 | OK<br>+CPIN: NOT READY |
|  |           | OK                     |

|   |          |         |
|---|----------|---------|
| ME has entered full functionality mode. | AT+CFUN? | +CFUN:1 |
|   |          | OK      |

## 9.2 SIM Commands

| Demonstration   | Syntax   | Expect Result   |
|---|--|---|
| Listing available phonebooks, and selecting the SIM phonebook.                        | AT+CPBS=?<br><br>AT+CPBS="SM"                        | +CPBS:<br>("MC","RC","DC","LD","LA","ME","SM","FD",<br>"ON","BN","SD","VM")<br><br>OK<br>OK |
| Displaying the ranges of phonebook entries and listing the contents of the phonebook. | AT+CPBR=?<br><br>AT+CPBR=1,10                        | +CPBR: (1-100),40,11<br><br>OK<br>[a listing of phonebook contents]<br><br>OK               |
| Writing an entry to the current phonebook.  | AT+CPBW=,"1391818xxxx",,"Daniel"<br><br>AT+CPBR=1,10 | OK<br><br>[a listing of phonebook contents]<br><br>OK                                       |
| Finding an entry in the current phonebook using a text search.                        | AT+CPBF="Daniel"                                     | +CPBF: 5,"13918186089",129,"Daniel"<br><br>OK   |
| Deleting an entry from the current phonebook specified by its position index.         | AT+CPBW=2,""<br>AT+CPBR=1,10                         | OK<br>[a listing of phonebook contents]<br><br>OK   |

## 9.3 General Commands

| Demonstration | Syntax | Expect Result |
|---------------|--------|---------------|
|---------------|--------|---------------|

**SIM500W AT Commands Set**

|   |  |  |
|---|--|--|
| Displays the current network operator that the handset is currently registered with.                  | AT+COPS?   | +COPS: 0,0,"CHINA MOBILE"<br><br>OK  |
| Display a full list of network operator names.  | AT+COPN  | AT+COPN<br>+COPN:"20201",<br>"COSMO"<br>[skip a bit]<br>+COPN:<br>"901012","Maritime Comm<br>Partner AS"<br><br>OK |
| Power down the phone – reducing its functionality. This will deregister the handset from the network. | AT+IPR?<br><br>AT+CFUN=0<br>[wait for deregister]<br>ATD6241xxxx;<br>AT+CFUN=1 | +IPR: 0<br><br>OK<br>OK<br>ERROR<br>OK   |
| CFUN disables access to the SIM. CSMINS shows when the SIM is available again.                        | AT+CSMINS=1<br>AT+CFUN=0<br><br>AT+CFUN=1                                      | OK<br>+CPIN: NOT READY<br><br>OK<br>OK<br><br>+CPIN: READY   |
| Emulating the MIMI keypad to make a voice call.   | AT+CKPD="6241xx<br>xxs",4,4  | OK   |
| Request the IMSI  | AT+CIMI  | 460008184101641<br><br>OK  |

**9.4 Call Control Commands**

| Demonstration   | Syntax                      | Expect Result               |
|---|-----------------------------|-----------------------------|
| Make a voice call   | ATD6241xxxx;                | OK<br>MS makes a voice call |
| Hang up a call  | ATH                         | OK<br>Call dropped          |
| Make a voice call using the last number facility. The initial call is established then cancelled. The second call is made using the previous dial string. | ATD6241xxxx;<br>ATH<br>ATDL | OK<br>OK<br>OK              |

**SIM500W AT Commands Set**

|  |  |  |
|--|--|--|
| Example of a MT voice call   | Make MT voice call to MS.<br>ATA<br>ATH  | RING<br>RING<br>OK[accept call]<br>OK[hang up call]  |
| Call related supplementary service: AT+CHLD. This Command provides support for call waiting functionality.   | AT+CHLD=<N><br><N>=0 RELEASE ALL HELD CALLS OR SEND USER BUSY STATUS TO WAITING CALL<br><N>=1 RELEASE ALL ACTIVE CALLS AND ACCEPT OTHER CALL(WAITING OR HELD) <N>=1X RELEASE CALL X<br><N>=2 PLACE ALL ACTIVE CALLS ON HOLD AND ACCEPT CALL <N>=2X PLACE ALL CALLS ON HOLD EXCEPT CALL X | Return value:(0,1,1x,2,2x,3)   |
| Terminate current call and accept waiting call.<br>Establish a voice call from EVB, receive an incoming call(incoming call accepts waiting status), terminate active call and accept incoming call. Note call waiting must be active for this option – use “AT+CCWA=1,1” before running this demonstration.  | AT+CCWA=1,1<br>ATD6241xxxx;<br><RX incoming call><br><br>AT+CHLD=1   | OK<br>OK<br>+CCWA:”62418148”,<br>129,1,””<br>OK<br><waiting call active>   |
| Set current call to busy and accept waiting call.<br>Establish a voice call from EVB, receive an incoming call(incoming call accepts waiting status), place active call on hold and switch to incoming call. Terminate active call and switch back to original call. Note call waiting must have been previously enabled for this demonstration to work. | ATD6241xxxx;<br><RX incoming call><br><br>AT+CHLD=2<br><br>AT+CHLD=1   | +CCWA:”1391818<br>6089”,129,1,””<br>OK<br><waiting call active other call on hold><br>OK<br><incoming call terminated, dialed number now active> |
| Switch between active and held calls.  | ATD6241xxxx;   | OK   |

# SIM500W AT Commands Set

|  |   |  |
|--|---|--|
| <p>Establish a voice call from EVB, receive an incoming call (incoming call accepts waiting status), place active call on hold and switch to incoming call. Switch between both calls, placing each in the hold state whilst the other is active before terminating each one. This feature relies on knowing each call's ID. This is done using the List Current Calls(AT+CLCC) Command. A call's ID is required to switch between held and active calls. Held calls that are not automatically resumed when all other calls are terminated. They need to be made active using the AT+CHLD=2x Command. Note call waiting must have been previously enabled for this demonstration to work.</p> | <p>&lt;RX incoming call&gt;</p> <p>AT+CHLD=2</p> <p>AT+CHLD=21</p> <p>AT+CLCC</p> <p>AT+CHLD=23</p> <p>AT+CHLD=13</p> <p>AT+CHLD=11</p> | <p>+CCWA:"13918186089",129,1,""</p> <p>OK</p> <p>&lt;incoming call activated, original on hold&gt;</p> <p>OK</p> <p>&lt;original call active, incoming call held&gt;</p> <p>+CLCC:1,0,0,0,0,"62418148",129</p> <p>+CLCC:3,1,1,0,0,"13918186089",129</p> <p>OK</p> <p>&lt; Note incoming call held flag set&gt;</p> <p>OK</p> <p>&lt;original call held, incoming call active&gt;</p> <p>OK</p> <p>&lt;terminate incoming call&gt;</p> <p>&lt;terminate original call&gt;</p> |
| <p>Send busy status to incoming waiting caller.</p> <p>Establish a voice call from EVB, receive an incoming call (incoming call accepts waiting status), send 'busy' status to waiting mobile. Note call waiting must have been previously enabled for this demonstration to work.</p>   | <p>ATD6241xxxx;</p> <p>&lt;RX incoming call&gt;</p> <p>AT+CHLD=0</p>  | <p>OK</p> <p>+CCWA:"13918186089",129,1,""</p> <p>OK</p> <p>OK</p> <p>&lt;incoming call sent busy msg, current call retained&gt;</p>  |
| <p>Drop all calls on hold.</p> <p>Establish a voice call from EVB, receive an incoming call (incoming call accepts waiting status), switch to incoming call and drop all waiting calls.</p> <p>Note call waiting must have been previously enabled for this demonstration to work.</p>   | <p>ATD6241xxxx;</p> <p>&lt;RX incoming call&gt;</p> <p>AT+CHLD=2</p> <p>AT+CHLD=0</p>   | <p>OK</p> <p>+CCWA:"13918186089",129,1,""</p> <p>OK</p> <p>&lt;incoming call active, original on hold&gt;</p> <p>OK</p> <p>&lt;incoming call on hold terminated, current call retained&gt;</p>   |



## 9.5 SIM Toolkit Commands

| Demonstration  | Syntax                                    | Expect Result                        |
|--|---|--------------------------------------|
| Inform voyager that the accessory<br>Has SAT97 capability and sets the output<br>to TEXT mode. | AT+STPD=5,1F7FFF7<br>F7F<br><br>AT+CMGF=1 | OK<br><br>+STC: 25<br>OK<br>+STC: 81 |
| Sets the response timer  | AT+STRT=200                               | OK                                   |

## 9.6 Audio Commands

| Demonstration | Syntax                      | Expect Result                                  |
|---------------|-----------------------------|--|
| DTMF tones    | AT+CLDTMF=2,"1,2,<br>3,4,5" | OK<br><DTMF tones generated in<br>the headset> |

## 9.7 SMS Commands

| Demonstration  | Syntax   | Expect Result  |
|--|--|--|
| Set SMS system into text mode, as<br>opposed to PDU mode.  | AT+CMGF=1  | OK   |
| Send an SMS to myself.   | AT+CSCS="GSM"<br><br>AT+CMGS="+861391<br>818xxxx"<br>>This is a test<br><Ctrl+Z> | OK<br><br>+CMGS:34<br><br>OK   |
| Unsolicited notification of the SMS<br>arriving  |  | +CMTI:"SM",1   |
| Read SMS message that has just arrived.<br>Note: the number should be the same as<br>that given in the +CMTI notification. | AT+CMGR=1  | +CMGR: "REC UNREAD",<br>"+8613918186089",,"02<br>/01/30,20:40:31+00"<br>This is a test<br><br>OK |
| Reading the message again changes the<br>status to "READ" from "UNREAD"  | AT+CMGR=1  | +CMGR: "REC READ",<br>"+8613918186089",,<br>"02/01/30,20:40:31+00"<br>This is a test<br><br>OK   |
| Send another SMS to myself.  | AT+CMGS="+861391<br>818xxxx"<br>>Test again<Ctrl+Z>                              | +CMGS:35<br><br>OK   |

## SIM500W AT Commands Set

|   |  |   |
|---|--|---|
| Unsolicited notification of the SMS arriving                  |  | +CMTI:"SM",2  |
| Listing all SMS messages.<br>Note:"ALL" must be in uppercase. | AT+CMGL="ALL"  | +CMGL: 1,"REC READ", "+8613918186089",<br>,"02/01/30,20:40:31+00"<br>This is a test<br>+CMGL: 2,"REC UNREAD", " ", "+8613918186089",<br>,"02/01/30,20:45:12+00"<br>Test again<br><br>OK |
| Delete an SMS message.  | AT+CMGD=1  | OK  |
| List all SMS messages to show message has been deleted.       | AT+CMGL="ALL"  | +CMGL: 2,"REC READ",<br>"+8613918186089", "02/01/30,20:45:12+00"<br>"<br>Test again<br><br>OK   |
| Send SMS using Chinese characters                             | AT+CSMP=17,0,2,25<br>AT+CSCS="UCS2"<br><br>AT+CMGS="0031003300390031003800310038003x003x003x"<br>>4E014E50<Ctrl+Z> | OK<br><br>OK<br><br>+CMGS:36<br><br>OK  |

## 9.8 GPRS Commands

| Demonstration                                       | Syntax      | Expect Result        |
|---|-------------|----------------------|
| To check if the MS is connected to the GPRS network | AT+CGATT?   | +CGATT:1<br><br>OK   |
| Detach from the GPRS network                        | AT+CGATT=0  | OK                   |
| To check if the MS is connected to the GPRS network | AT+CGATT?   | +CGATT : 0<br><br>OK |
| To check the class of the MS                        | AT+CGCLASS? | +CGCLASS:B           |

## SIM500W AT Commands Set

|  |  |    |
|--|--|----|
|  |  | OK |
|--|--|----|

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

The QOS consists of

The precedence class

The delay class

The reliability class

The peak throughput class

The mean throughput class

And is decided in “requested QOS” and “minimum acceptable QOS”.

All parameters of the QOS are initiated by default to the “network subscribed value (=0)” but the QOS itself is set to be undefined. To define a QOS use the AT+CGQREQ or AT+CGQMIN Command.

|  |                              |                           |
|--|------------------------------|---------------------------|
| Overwrite the precedence class of QOS of CID 1 and sets the QOS of CID 1 to be present   | AT+CGQREQ=1,2                | OK                        |
| Response: all QOS values of CID 1 are set to network subscribed except precedence class which is set to 2  | AT+CGQREQ?                   | +CGQREQ:1,2,0,0,0,0<br>OK |
| Set the QOS of CID 1 to not present. Once defined, the CID it can be activated.  | AT+CGQREQ=1                  | OK                        |
| Activate CID 2, if the CID is already active, the mobile returns OK at once. If no CID is defined the mobile responses +CME ERROR: invalid index. Note: If the mobile is NOT attached by AT+CGATT=1 before activating, the attach is automatically done by the AT+CGACT Command. | AT+CGACT=1,2<br>AT+CGACT=1,3 | OK<br>+CME ERROR: 2       |
| Use the defined and activated CID to get online. The mobile can be connected using the parameters of appointed CID or using default parameter  | AT+CGDATA="PPP",<br>1        | CONNECT                   |

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

Note: If the mobile is NOT attached by AT+CGATT=1 and the CID is NOT activated before connecting, attaching and activating is automatically done by the AT+CGDATA Command.

Some providers require to use an APN to establish a GPRS connection. So if you use the Microsoft Windows Dial-Up Network and ATD\*9... to connect to GPRS you must provide the context definition as part of the modem definition (Modem properties/Connection/Advanced.../Extra settings.) As an alternative, you can define and activate the context in a terminal program (e.g. Microsoft HyperTerminal) and then use the Dial-Up Network to send only the ATD Command.

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**SIM500W AT Commands Set**

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