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This document suits for SIM100S, SIM100F, SIM100C, SIM200, SIM300 module.

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## 0 VERSION HISTORY

Preceding document: “STK User Guide” Version 01.00

Now document: “STK User Guide” Version 01.00

Chapter	Page	What is new

# 1 INTRODUCTION

## 1.1 Scope of the document

This document describes how to implement STK application use SIMCOM module STK AT interface. The detail describe of STK AT INTERFACE please see document AT Commands Set. And this document mainly give out the AT command example to suggest how to use the interface.

## 1.2 Related documents

[1] SIMCOM AT Commands Set.

You can visit the SIMCOM Website using the following link:

<http://www.sim.com>

## 1.3 Conventions and abbreviations

In this documents, 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 control 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;

SAT	SIM Application Toolkit
EVB	Evaluation Board
+STC	SIM Toolkit Unsolicited Command
STGC	SIM Toolkit Get Command Data
STCR	SIM Toolkit Command Response
STPD	SIM Toolkit Terminal Profile Data
STRT	SIM Toolkit Response Timer
STTONE	SIM Toolkit Tone
+STUD	SIM Toolkit Unsolicited Data
+STGC	SIM Toolkit Get Command Solicited Data

## 2 COMMAND EXAMPLE

### 2.1 Phone Initialisation

For each application should be given to the AT commands listed below before starting a SAT session over the AT interface. It is highly recommended that the response timer value be modified to allow the user more time to enter the required response data.

Initial Condition	Usage	Description
AT+STRT=200	A	Command sets the automatic response timeout period to 200 seconds. If user input is not received before expiration of this timer an automatic Terminal Response will be issued to the SIM with 'No response from user' result value. This is essential for Command Example 27.22.4.3 Get Input if data is entered manually.
AT+CMGF=1	O	Command sets the output mode to TEXT as opposed to PDU mode, and is more easily readable if test sequences are being run using a Terminal Emulator such as Hyperterminal.
AT+CMEE=2	O	Command sets the error reporting level to verbose mode to provide more useful error descriptions to the user.
AT+STPD=5,1F7FFF7F7F	M	Command registers Voyager with the SAT in the Background Layer and details the SAT Release 97 capability of the accessory. If this command is not entered it will not be possible to run Command Examples via the AT command interface. This command need to do only once when the module start up. And after this profile download procedure if application want to select menu just do command AT+STMS

The Usage column indicates whether the command is Advisable (A), Optional (O) or Mandatory (M) for running the STK via the AT command interface. All parameter values stated are those recommended for use in the application.

#### 2.1.1 Initialisation Sequence

It is advisable that the application started with the AT command sequence given in the table below. This ensures all necessary initial conditions for the MS have been set up before the STK application started.

Initialisation Sequence	
Input from Accessory:	Response from MS
AT+STRT=200	OK
AT+CMGF=1	OK
AT+CMEE=2	OK
AT+CPIN="1234"	OK (see <b>NOTE</b> )
AT+STPD=5,1F7FFF7F7F	OK

**NOTE:** The application must input correct SIM PIN if require. Otherwise the STK can't be used.

## 2.2 COMMAND EXAMPLE

### 2.2.1 Display Text (27.22.4.1)

DISPLAY TEXT (27.22.4.1.4.2)		
Command Example Number:	Output from phone:	Response from accessory
		See section 2.1.1 for AT initialisation sequence
Command Example Number: 27.22.4.1.4.2.(c)	Output from phone: +STC: 21	Response from accessory AT+STGC=21
	+STGC: 21,4,"Toolkit Test 1",0,1	
	OK	AT+STCR=21,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.1.4.2.(h)	Output from phone: +STC: 21	Response from accessory AT+STGC=21
	+STGC: 21,4,"Toolkit Test 1",0,1	
	OK	AT+STCR=21,3
	OK	
	+STC: 81	
Command Example Number: 27.22.4.1.4.2.(k)	Output from phone: +STC: 21	Response from accessory AT+STGC=21
	+STGC: 21,4,"Toolkit Test 2",1,1	
	OK	AT+STCR=21,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.1.4.2.(p)	Output from phone: +STC: 21	Response from accessory AT+STGC=21
	+STGC: 21,0,"Toolkit Test 3",0,1	
	OK	AT+STCR=21,0
	OK	

Command Example Number: 27.22.4.1.4.2.(s)	Output from phone: +STC: 21	Response from accessory AT+STGC=21
	+STGC: 21,4,"Toolkit Test 4",0,0	
	OK	AT+STCR=21,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.1.4.2.(v)	Output from phone: +STC: 21	Response from accessory AT+STGC=21
	+STGC: 21,4,"This command instructs the ME to display a text message. It allows the SIM to define the priority of that message, and the text string format. Two types of pri",0,0	
	OK	AT+STCR=21,0
	OK	
Command Example Number: 27.22.4.1.4.2.(y)	Output from phone: +STC: 21	Response from accessory AT+STGC=21
	+STGC: 21,4,"<GO-BACKWARDS>",0,0	
	OK	AT+STCR=21,4
	OK	
Command Example Number: 27.22.4.1.4.2.(bb)	Output from phone: +STC: 21	Response from accessory AT+STGC=21
	+STGC: 21,4,"<ABORT>",0,0	
	OK	AT+STCR=21,1
	OK	
	+STC: 81	

**Additional Notes:**

Command example Reference Number: 27.22.4.1.4.2.(h) should be performed with the ME in a display state other than the normal idle display. This cannot be done via the AT interface and should be a function of any accessory running the AT commands. As long as the +STCR command entered reflects this hypothetical 'busy' state of an attached accessory by returning the result value of '3' (screen busy) this step of the this STK procedure will be satisfied.

**2.2.2 Get Inkey (27.22.4.2)**

<b>GET INKEY (27.22.4.2.4.2)</b>		
Command Example Number:	Output from phone:	Response from accessory
		See section 2.1.1 for AT initialisation sequence

Command Example Number: 27.22.4.2.4.2.(c)	Output from phone: +STC: 22	Response from accessory AT+STGC=22
	+STGC: 22,4,"+",0	
	OK	AT+STCR=22,0,4,"+"
	OK	
Command Example Number: 27.22.4.2.4.2.(f)	Output from phone: +STC: 22	Response from accessory AT+STGC=22
	+STGC: 22,0,"0",0	
	OK	AT+STCR=22,0,0,"0"
	OK	
Command Example Number: 27.22.4.2.4.2.(i)	Output from phone: +STC: 22	Response from accessory AT+STGC=22
	+STGC: 22,4,"<GO-BACKWARDS>",0	
	OK	AT+STCR=22,3
	OK	
Command Example Number: 27.22.4.2.4.2.(l)	Output from phone: +STC: 22	Response from accessory AT+STGC=22
	+STGC: 22,4,"<ABORT>",0	
	OK	AT+STCR=22,1
	OK	
	+STC: 81	
Command Example Number: 27.22.4.2.4.2.(o)	Output from phone: +STC: 22	Response from accessory AT+STGC=22
	+STGC: 22,4,"Enter 'q'",1	
	OK	AT+STCR=22,0,4,"q"
	OK	
Command Example Number: 27.22.4.2.4.2.(r)	Output from phone: +STC: 22	Response from accessory AT+STGC=22
	+STGC: 22,4,"Enter 'x'. This command instructs the ME to display text, and to expect the user to enter a single character. Any response entered by the user shall be passed t",1	
	OK	AT+STCR=22,0,4,"x"
	OK	
	+STC: 81	



## 2.2.3 Get Input (27.22.4.3)

GET INPUT (27.22.4.3.4.2)		
Command Example Number:	Output from phone:	Response from accessory
		See section 2.1.1 for AT initialisation sequence
Command Example Number: 27.22.4.3.4.2.(c)	Output from phone: +STC: 23	Response from accessory AT+STGC=23
	+STGC: 23,4,"Enter 12345",1,1,0,5,5	
	OK	AT+STCR=23,0,4,"1234"
	OK	
Command Example Number: 27.22.4.3.4.2.(f)	Output from phone: +STC: 23	Response from accessory AT+STGC=23
	+STGC: 23,0,"Enter 67*#+",1,1,0,5,5	
	OK	AT+STCR=23,0,0,"67*#+"
	OK	
Command Example Number: 27.22.4.3.4.2.(i)	Output from phone: +STC: 23	Response from accessory AT+STGC=23
	+STGC: 23,4,"Password1<SEND>2345678",1,0, 0,4,8	
	OK	AT+STCR=23,0,4,"1"
	ERROR	AT+STCR=23,0,4,"12345678"
	OK	
Command Example Number: 27.22.4.3.4.2.(m)	Output from phone: +STC: 23	Response from accessory AT+STGC=23
	+STGC: 23,4,"Enter1..9,0..9,0(1)",1,1,0,1,20	
	OK	AT+STCR=23,0,4,"123456789012345678901"
	ERROR	AT+STCR=23,0,4,"12345678901234567890"
	OK	
Command Example Number: 27.22.4.3.4.2.(r)	Output from phone: +STC: 23	Response from accessory AT+STGC=23
	+STGC: 23,4,"<GO-BACKWARDS",1,1,0,0,8	
	OK	AT+STCR=23,3
	OK	
Command Example Number: 27.22.4.3.4.2.(u)	Output from phone: +STC: 23	Response from accessory AT+STGC=23

	+STGC: 23,4,"<ABORT>",1,1,0,0,8	
	OK	AT+STCR=23,1
	OK	
	+STC: 81	
Command Example Number: 27.22.4.3.4.2.(x)	Output from phone: +STC: 23	Response from accessory AT+STGC=23
	+STGC: 23,4,"***1111111111####**2222222222 2####**3333333333####**4444444444 4####**5555555555####**6666666666 6####**7777777777####**8888888888 ####**9999999999####**0000000000 ####",1,1,0,160,160	
	OK	AT+STCR=23,0,4,"***1111 111111####**2222222222# ####**3333333333####**44 4444444444####**555555555 5####**6666666666####** 7777777777####**8888888 888####**9999999999#### **0000000000####"
	OK	
Command Example Number: 27.22.4.3.4.2.(aa)	Output from phone: +STC: 23	Response from accessory AT+STGC=23
	+STGC: 23,4,"<SEND>",1,1,0,0,1	
	OK	AT+STCR=23,0,4,""
	OK	
Command Example Number: 27.22.4.3.4.2.(dd)	Output from phone: +STC: 23	Response from accessory AT+STGC=23
	+STGC: 23,4,"AbCdE",4,1,0,5,5	
	OK	AT+STCR=23,0,4,"AbCdE"
	OK	
	+STC: 81	

Command Example Number: 27.22.4.3.4.2.(i), illustrates the SAT Get Input string length checking capability. Voyager records the lower and upper bounds of the expected input. The user response in this case is "1" which fails the lower bound check of 4 and causes the ERROR result code to be returned.

Command Example Number: 27.22.4.3.4.2.(m), invokes the upper bounds check. The user response in this case is 21 characters but the maximum allowed is 20, which causes the ERROR result code to be returned.

## 2.2.4 More Time (27.22.4.4)

No proactive SAT AT interaction required for this Function

## 2.2.5 Play Tone (27.22.4.5)

PLAY TONE (27.22.4.5.4.2)		
Command Example Number:	Output from phone:	Response from accessory
		See section 2.1.1 for AT initialisation sequence
Command Example Number: 27.22.4.5.4.2.(c)	Output from phone: +STC: 20	Response from accessory AT+STGC=20
	+STGC: 20,"Dial Tone",1,5000	
	OK	AT+STTONE=1,1,5000
	OK	
	+STTONE: 0	AT+STCR=20,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.5.4.2.(f)	Output from phone: +STC: 20	Response from accessory AT+STGC=20
	+STGC: 20,"Sub Busy",2,5000	
	OK	AT+STTONE=1,2,5000
	OK	
	+STTONE: 0	AT+STCR=20,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.5.4.2.(i)	Output from phone: +STC: 20	Response from accessory AT+STGC=20
	+STGC: 20,"Congestion",3,5000	
	OK	AT+STTONE=1,3,5000
	OK	
	+STTONE: 0	AT+STCR=20,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.5.4.2.(l)	Output from phone: +STC: 20	Response from accessory AT+STGC=20
	+STGC: 20,"RP Ack",4,5000	
	OK	AT+STTONE=1,4,5000
	OK	
	+STTONE: 0	AT+STCR=20,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.5.4.2.(o)	Output from phone: +STC: 20	Response from accessory AT+STGC=20

	+STGC: 20,"No RP",5,5000	
	OK	AT+STTONE=1,5,5000
	OK	
	+STTONE: 0	AT+STCR=20,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.5.4.2.(r)	Output from phone: +STC: 20	Response from accessory AT+STGC=20
	+STGC: 20,"Spec Info",6,5000	
	OK	AT+STTONE=1,6,5000
	OK	
	+STTONE: 0	AT+STCR=20,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.5.4.2.(u)	Output from phone: +STC: 20	Response from accessory AT+STGC=20
	+STGC: 20,"Call Wait",7,5000	
	OK	AT+STTONE=1,7,5000
	OK	
	+STTONE: 0	AT+STCR=20,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.5.4.2.(x)	Output from phone: +STC: 20	Response from accessory AT+STGC=20
	+STGC: 20,"Ring Tone",8,5000	
	OK	AT+STTONE=1,8,5000
	OK	
	+STTONE: 0	AT+STCR=20,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.5.4.2.(z)	Output from phone: OK	Response from accessory ATD1234;
Command Example Number: 27.22.4.5.4.2.(bb)	Output from phone: +STC: 20	Response from accessory AT+STGC=20
	+STGC: 20,"Dial Tone",1,5000	
	OK	AT+STTONE=1,1,5000
	OK	
	+STTONE: 0	AT+STCR=20,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.5.4.2.(ee)	Output from phone: +STC: 20	Response from accessory AT+STGC=20

	+STGC: 20,"This command instructs the ME to play an audio tone. Upon receiving this command, the ME shall check if it is currently in, or in the process of setting up (SET-UP message sent to the network, see GSM"04.08"(8)), a speech call. – if the ME I"	
	OK	AT+STCR=20,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.5.4.2.(hh)	Output from phone: +STC: 20	Response from accessory AT+STGC=20
	+STGC: 20,"Beep",10,1000	
	OK	AT+STTONE=1,16,1000
	OK	
	+STTONE: 0	AT+STCR=20,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.5.4.2.(kk)	Output from phone: +STC: 20	Response from accessory AT+STGC=20
	+STGC: 20,"Positive",11,1000	
	OK	AT+STTONE=1,17,1000
	OK	
	+STTONE: 0	AT+STCR=20,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.5.4.2.(nn)	Output from phone: +STC: 20	Response from accessory AT+STGC=20
	+STGC: 20,"Negative",12,1000	
	OK	AT+STTONE=1,18,1000
	OK	
	+STTONE: 0	AT+STCR=20,0
	OK	
	+STC: 81	
Command Example Number: 27.22.4.5.4.2.(qq)	Output from phone: +STC: 20	Response from accessory AT+STGC=20
	+STGC: 20,"Quick",10,200	
	OK	AT+STTONE=1,16,200
	OK	
	+STTONE: 0	AT+STCR=20,0
	OK	
	+STC: 81	

After entering AT+STTONE=... the OK response is generated immediately – this is a GSM 11.14 requirement to allow the user to terminate the current session while playing the tone, issuing a suitable Terminal Response. When the current tone has been completed the unsolicited result code +STTONE: 0 will be output by the MS. The user should therefore wait for this unsolicited result code before proceeding with the Terminal Response (Command Performed successfully) for the completed proactive command via AT+STCR=20,0.

## 2.2.6 Poll Interval (27.22.4.6)

No proactive SAT AT interaction required for this Function.

## 2.2.7 Set Up Menu (27.22.4.8)

SET UP MENU (27.22.4.8.4.2)		
Command Example Number:	Output from phone:	Response from accessory
		See section 2.1.1 for AT initialisation sequence
Command Example Number: 27.22.4.8.4.2.(b)	Output from phone: +STC: 25	Response from accessory AT+STGC=25
	+STGC: 25,4,0,0,0,"Toolkit Menu" +STGC: 1,"Item 1" +STGC: 2,"Item 2" +STGC: 3,"Item 3" +STGC: 4,"Item 4"	
	OK	AT+STCR=25,0
	OK	
	+STC: 81	AT+STMS=2
	OK	
Command Example Number: 27.22.4.8.4.2.(f)	Output from phone: +STC: 25	Response from accessory AT+STGC=25
	+STGC: 25,2,0,0,0,"Toolkit Menu" +STGC: 17,"One" +STGC: 18,"Two"	
	OK	AT+STCR=25,0
	OK	
	+STC: 81	AT+STMS=18
	OK	
Command Example Number: 27.22.4.8.4.2.(j)	Output from phone: +STC: 25	Response from accessory AT+STGC=25
	+STGC: 25,0,0,0,1	
	OK	AT+STCR=25,0
	OK	
	+STC: 81	AT+STMS=2
	ERROR	

Command Example Number: 27.22.4.8.4.2.(n)	Output from phone: +STC: 25	Response from accessory AT+STGC=25,0
	+STGC: 25,30,0,0,0,"LargeMenu1" +STGC: 80,"Zero" +STGC: 79,"One" +STGC: 77,"Three" +STGC: 75,"Five" +STGC: 73,"Seven" +STGC: 72,"Eight" ... +STGC: 61,"Orange" +STGC: 51,"Pico" ...	
	OK	AT+STCR=25,0
	OK	
	+STC: 81	AT+STMS=61
	OK	
Command Example Number: 27.22.4.8.4.2.(r)	Output from phone: +STC: 25	Response from accessory AT+STGC=25
	+STGC: 25,7,0,0,0,"LargeMenu2" +STGC: 255,"1 Call Forward Unconditional" +STGC: 254,"2 Call Forward On User Busy" +STGC: 253,"3 Call Forward On No Reply" +STGC: 252,"4 Call Forward On User Not Reachable" +STGC: 251,"5 Barring Of All Outgoing Calls" +STGC: 250,"6 Barring Of All Outgoing Int Calls" +STGC: 249,"7 CLI Presentation"	
	OK	AT+STCR=25,0
	OK	
	+STC: 81	AT+STMS=251
	OK	
Command Example Number: 27.22.4.8.4.2.(v)	Output from phone: +STC: 25	Response from accessory AT+STGC=25
	+STGC: 25,1,0,0,0,"The SIM shall supply a set of menu items, which shall be integrated with the menu system (or other MMI facility) in order to give the user the opportunity to	

	choose one of these items at his own discretion. Each item comprises a sh"+STGC: 1,"Y"	
	OK	AT+STCR=25,0
	OK	
	+STC: 81	AT+STMS=1
	OK	

Command Example Number: 27.22.4.8.4.2.(j), sends an instruction to the accessory to remove the current menu. The +STMS AT command returns an ERROR indicating to the accessory that the main SAT menu is not available. If an accessory driving the AT interface has the capability to browse through its own menu structures the +STMS command will not be required as it will be quite clear that the existing menu SAT menu has been removed.

## 2.2.8 Select Item (27.22.4.9)

SELECT ITEM (27.22.4.9.4.2)		
Command Example Number:	Output from phone:	Response from accessory
		See section 2.1.1 for AT initialisation sequence
Command Example Number: 27.22.4.9.4.2.(b)	Output from phone: +STC: 24	Response from accessory AT+STGC=24
	+STGC: 24,4,0,0,"Toolkit Select" +STGC: 1,"Item 1" +STGC: 2,"Item 2" +STGC: 3,"Item 3" +STGC: 4,"Item 4"	
	OK	AT+STCR=24,0,2
	OK	
Command Example Number: 27.22.4.9.4.2.(e)	Output from phone: +STC: 24	Response from accessory AT+STGC=24
	+STGC: 24,30,0,0,0,"LargeMenu1" +STGC: 80,"Zero" +STGC: 79,"One" +STGC: 77,"Three" +STGC: 75,"Five" +STGC: 73,"Seven" +STGC: 72,"Eight" ... +STGC: 61,"Orange" +STGC: 51,"Pico" ...	
	OK	AT+STCR=24,0,61
	OK	



Command Example Number: 27.22.4.9.4.2.(h)	Output from phone: +STC: 24	Response from accessory AT+STGC=24
	+STGC: 24,7,0,0,0,"LargeMenu2" +STGC: 255,"1 Call Forward Unconditional" +STGC: 254,"2 Call Forward On User Busy" +STGC: 253,"3 Call Forward On No Reply" +STGC: 252,"4 Call Forward On User Not Reachable" +STGC: 251,"5 Barring Of All Outgoing Calls" +STGC: 250,"6 Barring Of All Outgoing Int Calls" +STGC: 249,"7 CLI Presentation"	
	OK	AT+STCR=24,0,251
	OK	
	+STC: 81	
Command Example Number: 27.22.4.9.4.2.(l)	Output from phone: +STC: 24	Response from accessory AT+STGC=24
	+STGC: 24,2,0,0,0,"Select Item" +STGC: 17,"One" +STGC: 18,"Two"	
	OK	AT+STCR=24,3
	OK	
Command Example Number: 27.22.4.9.4.2.(o)	Output from phone: +STC: 24	Response from accessory AT+STGC=24
	+STGC: 24,2,0,0,0,"Select Item" +STGC: 17,"One" +STGC: 18,"Two"	
	OK	AT+STCR=24,1
	OK	
	+STC: 81	
Command Example Number: 27.22.4.9.4.2.(s)	Output from phone: +STC: 24	Response from accessory AT+STGC=24
	+STGC: 24,2,0,0,0,"The SIM shall supply a set of items from which the user may choose one. Each item comprises a short identifier (used to indicate the selection) and a text string. Optionally the SIM may include an alpha identifier. The alpha identifier i" +STGC: 1,"Y"	

	OK	AT+STCR=24,0,1
	OK	
	+STC: 81	
Command Example Number: 27.22.4.9.4.2.(w)	Output from phone: +STC: 24	Response from accessory AT+STGC=24
	+STGC: 24,7,0,0,0,"0LargeMenu" +STGC: 255,"1 Call Forward Unconditional" +STGC: 254,"2 Call Forward On User Busy" +STGC: 253,"3 Call Forward On No Reply" +STGC: 252,"4 Call Forward On User Not Reachable" +STGC: 251,"5 Barring Of All Outgoing Calls" +STGC: 250,"6 Barring Of All Outgoing Int Calls" +STGC: 249,"7 CLI Presentation"	
	OK	AT+STCR=24,0,251
	OK	
	+STC: 81	

### 2.2.9 Send Short Message (27.22.4.10)

SEND SHORT MESSAGE (27.22.4.10.4.2)		
Command Example Number:	Output from phone:	Response from accessory See section 2.1.1 for AT initialisation sequence
Command Example Number: 27.22.4.10.4.2.(b)	Output from phone: +STUD: 13,"Send SM"	Response from accessory
	+STC: 81	
Command Example Number: 27.22.4.10.4.2.(e)	Output from phone: +STUD: 13,"Send SM"	Response from accessory
	+STC: 81	
Command Example Number: 27.22.4.10.4.2.(h)	Output from phone: +STUD: 13,"Short Message"	Response from accessory
Command Example Number: 27.22.4.10.4.2.(j)	Output from phone: +STUD: 13,"The address data object holds the RP_Destination_Address"	Response from accessory
Command Example Number: 27.22.4.10.4.2.(l)	Output from phone: +STUD: 13,"The address data object holds the RP Destination Address"	Response from accessory

Command Example Number: 27.22.4.10.4.2.(n)	Output from phone: +STUD: 13,"Two types are defined: - A short message to be sent to the network in an SMS-SUBMIT message, or an SMS-COMMAND message, where the user data can be passed transparently; - A short message to be sent to the network in and SMS -SUBMIT"	Response from accessory
	+STC: 81	

The output generated by the phone for this function is all unsolicited.

## 2.2.10 Send SS (27.22.4.11)

SEND SS (27.22.4.11.4.2)		
Command Example Number:	Output from phone:	Response from accessory
		See section 2.1.1 for AT initialisation sequence
Command Example Number: 27.22.4.11.4.2.(c)	Output from phone: +STUD: 11,"Call Forward"	Response from accessory
	+STC: 81	
Command Example Number: 27.22.4.11.4.2.(h)	Output from phone: +STUD: 11,"Call Forward"	Response from accessory
	+STC: 81	
Command Example Number: 27.22.4.11.4.2.(m)	Output from phone: +STUD: 11,"Call Forward"	Response from accessory
	+STC: 81	
Command Example Number: 27.22.4.11.4.2.(r)	Output from phone: +STUD: 11,"Call Forward"	Response from accessory
Command Example Number: 27.22.4.11.4.2.(v)	Output from phone: +STUD: 11,"Even if the Fixed Dialling Number service is enabled, the supplementary service control string included in the SEND SS proactive command shall not be checked against those of the FDN list. Upon receiving this command, the ME shall deci."	Response from accessory
	+STC: 81	

The output generated by the phone for this function is all unsolicited.

### 2.2.11 Polling Off (27.22.4.14)

No proactive SAT AT interaction required for this function.

### 2.2.12 Provide Location Information (27.22.4.15)

No proactive SAT AT interaction required for this function, *however* AT+GSN is required to read the IMEI from the ME.

**NOTE:** The final stage of this Command Example requires the user to input the IMEI of the ME on the SIM Simulator. The value used for this should *NOT* be read from the system simulator but read from the ME using command AT+GSN. The final check digit passed to the system simulator is always set to “0” (see TW06313 for a full definition on the use of the check digit), but the value passed to the SIM simulator in the Terminal Response to the proactive command contains the full IMEI value. Using any value other than that returned by the AT+GSN command will result in the Command Example failing on the SIM simulator.

### 2.2.13 SMS-PP Data Download (27.22.5.1)

No proactive SAT AT interaction required for this function.

### 2.2.14 Menu Selection (27.22.5.3)

MENU SELECTION (27.22.5.3.4.2)		
Command Example Number:	Output from phone:	Response from accessory
		See section 2.1.1 for AT initialisation sequence
Command Example Number: 27.22.5.3.4.2.(b)	Output from phone: +STC: 25	Response from accessory AT+STGC=25
	+STGC: 25,4,0,0,0,"Toolkit Menu" +STGC: 1,"Item 1" +STGC: 2,"Item 2" +STGC: 3,"Item 3" +STGC: 4,"Item 4"	
	OK	AT+STCR=25,0
	OK	
	+STC: 81	AT+STMS=2
	OK	
Command Example Number: 27.22.5.3.4.2.(f)	Output from phone: +STC: 25	Response from accessory AT+STGC=25
	+STGC: 25,2,0,0,0,"Toolkit Menu" +STGC: 17,"One" +STGC: 18,"Two"	

	OK	AT+STCR=25,0
	OK	
	+STC: 81	AT+STMS=18
	OK	
Command Example Number: 27.22.5.3.4.2.(j)	Output from phone: +STC: 25	Response from accessory AT+STGC=25
	+STGC: 25,0,0,0,1	
	OK	AT+STCR=25,0
	OK	
	+STC: 81	AT+STMS=2
	ERROR	
Command Example Number: 27.22.5.3.4.2.(n)	Output from phone: +STC: 25	Response from accessory AT+STGC=25
	+STGC: 25,30,0,0,0,"LargeMenu1" +STGC: 80,"Zero" +STGC: 79,"One" +STGC: 77,"Three" +STGC: 75,"Five" +STGC: 73,"Seven" +STGC: 72,"Eight" ... +STGC: 61,"Orange" +STGC: 51,"Pico" ...	
	OK	AT+STCR=25,0
	OK	
	+STC: 81	AT+STMS=61
	OK	
Command Example Number: 27.22.5.3.4.2.(r)	Output from phone: +STC: 25	Response from accessory AT+STGC=25
	+STGC: 25,7,0,0,0,"LargeMenu2" +STGC: 255,"1 Call Forward Unconditional" +STGC: 254,"2 Call Forward On User Busy" +STGC: 253,"3 Call Forward On No Reply" +STGC: 252,"4 Call Forward On User Not Reachable" +STGC: 251,"5 Barring Of All Outgoing Calls" +STGC: 250,"6 Barring Of All Outgoing Int Calls" +STGC: 249,"7 CLI Presentation"	

	OK	AT+STCR=25,0
	OK	
	+STC: 81	AT+STMS=251
	OK	
	+STC: 81	

Command Example Number: 27.22.5.3.4.2.(j), sends an instruction to the accessory to remove the current menu. The +STMS AT command returns an ERROR indicating to the accessory that the main SAT menu is not available. If an accessory driving the AT interface has the capability to browse through its own menu structures the +STMS command will not be required as it will be quite clear that the existing menu SAT menu has been removed.

## 2.2.15 Procedure for Mobile Originated Calls (27.22.6.1)

PROCEDURE FOR MOBILE ORIGINATED CALLS (27.22.6.1.X.X)		
Command Example Number:	Output from phone:	Response from accessory See section 2.1.1 for AT initialisation sequence
Command Example Number: 27.22.6.1.4.2.(b)	Output from phone:	Response from accessory ATD+01234567890123456789;
	OK	
	NO CARRIER	
Command Example Number: 27.22.6.1.4.2.(e)	Output from phone:	Response from accessory ATD+01234567890123456789;
	OK	
	NO CARRIER	
Command Example Number: 27.22.6.1.4.2.(i)	Output from phone:	Response from accessory ATD+01234567890123456789;
	NO CARRIER	
Command Example Number: 27.22.6.1.4.2.(m)	Output from phone:	Response from accessory ATD+01234567890123456789;
	+STUD: 10,"+010203",	
	+STC: 10	AT+STGC=10
	+STGC: 10	
	OK	AT+STCR=10,0
	OK	
	NO CARRIER	

Command Example Number: 27.22.6.1.4.2.(q)	Output from phone:	Response from accessory ATD+0123456789012345678 9;
	+STUD: 10,"112",	
	+STC: 10	AT+STGC=10
	+STGC: 10	
	OK	AT+STCR=10,0
	OK	
	NO CARRIER	
Command Example Number: 27.22.6.1.4.2.(u)	Output from phone:	Response from accessory ATD112;
	OK	
	NO CARRIER	
Command Example Number: 27.22.6.1.4.2.(w)	Output from phone:	Response from accessory ATD+0123456789012345678 9;
	+STUD: 10,"1020",	
	+STC: 10	AT+STGC=10
	+STGC: 10	
	OK	AT+STCR=10,0
	OK	
	NO CARRIER	

## 2.2.16 Procedure for Supplementary Services (27.22.6.2)

PROCEDURE FOR SUPPLEMENTARY SERVICES (27.22.6.2.X.X)		
Command Example Number:	Output from phone:	Response from accessory See section 2.1.1 for AT initialisation sequence
Command Example Number: 27.22.6.2.4.2.(b)	Output from phone:	Response from accessory AT+CCFC=4,1,,,6
	OK	
Command Example Number: 27.22.6.2.4.2.(e)	Output from phone:	Response from accessory AT+CCFC=4,1,,,6
	OK	
Command Example Number: 27.22.6.2.4.2.(i)	Output from phone:	Response from accessory AT+CCFC=4,1,,,6
	OK	
Command Example Number: 27.22.6.2.4.2.(m)	Output from phone:	Response from accessory AT+CCFC=4,1,,,6
	+STUD: 11	

## 2.2.17 Interaction with Fixed Dialling Number (27.22.6.3)

INTERACTION WITH FIXED DIALLING NUMBER (27.22.6.3.X.X)		
Command Example Number:	Output from phone:	Response from accessory See section 2.1.1 for AT initialisation sequence
27.22.6.3.4.2.(b)		Response from accessory ATD4321;
	NO CARRIER	
27.22.6.3.4.2.(d)		Response from accessory ATD123;
	OK	
	NO CARRIER	
27.22.6.3.4.2.(g)		Response from accessory ATD9876;
	OK	
	NO CARRIER	
27.22.6.3.4.2.(k)		Response from accessory ATD9876;
	NO CARRIER	
27.22.6.3.4.2.(o)		Response from accessory ATD9876;
	+STUD: 10,"3333",	
	+STC: 10	AT+STGC=10
	+STGC: 10	
	OK	AT+STCR=10,0
	OK	
	NO CARRIER	

## 2.2.18 Support of Barred Dialling number (BDN) service (27.22.6.4)

SUPPORT OF BARRED DIALLING NUMBER (BDN) SERVICE (27.22.6.4.X.X)		
	Output from phone:	Response from accessory See section 2.1.1 for AT initialisation sequence
27.22.6.4.4.2.(b)		Response from accessory ATD321;
	NO CARRIER	
27.22.6.4.4.2.(e)		Response from accessory ATD1234;
	OK	
	NO CARRIER	



Command Example Number: 27.22.6.4.4.2.(h)	Output from phone:	Response from accessory ATD1111;
	+STUD: 10,"2222",	
	+STC: 10	AT+STGC=10
	+STGC: 10	
	OK	AT+STCR=10,0
	OK	
	NO CARRIER	
Command Example Number: 27.22.6.4.4.2.(m)	Output from phone:	Response from accessory See section 2.1.3.i for AT initialisation sequence
Command Example Number: 27.22.6.4.4.2.(n)	Output from phone:	Response from accessory ATD123;
	+STUD: 10,"987654321",	
	+STC: 10	AT+STGC=10
	+STGC: 10	
	OK	AT+STCR=10,0
	OK	
	NO CARRIER	