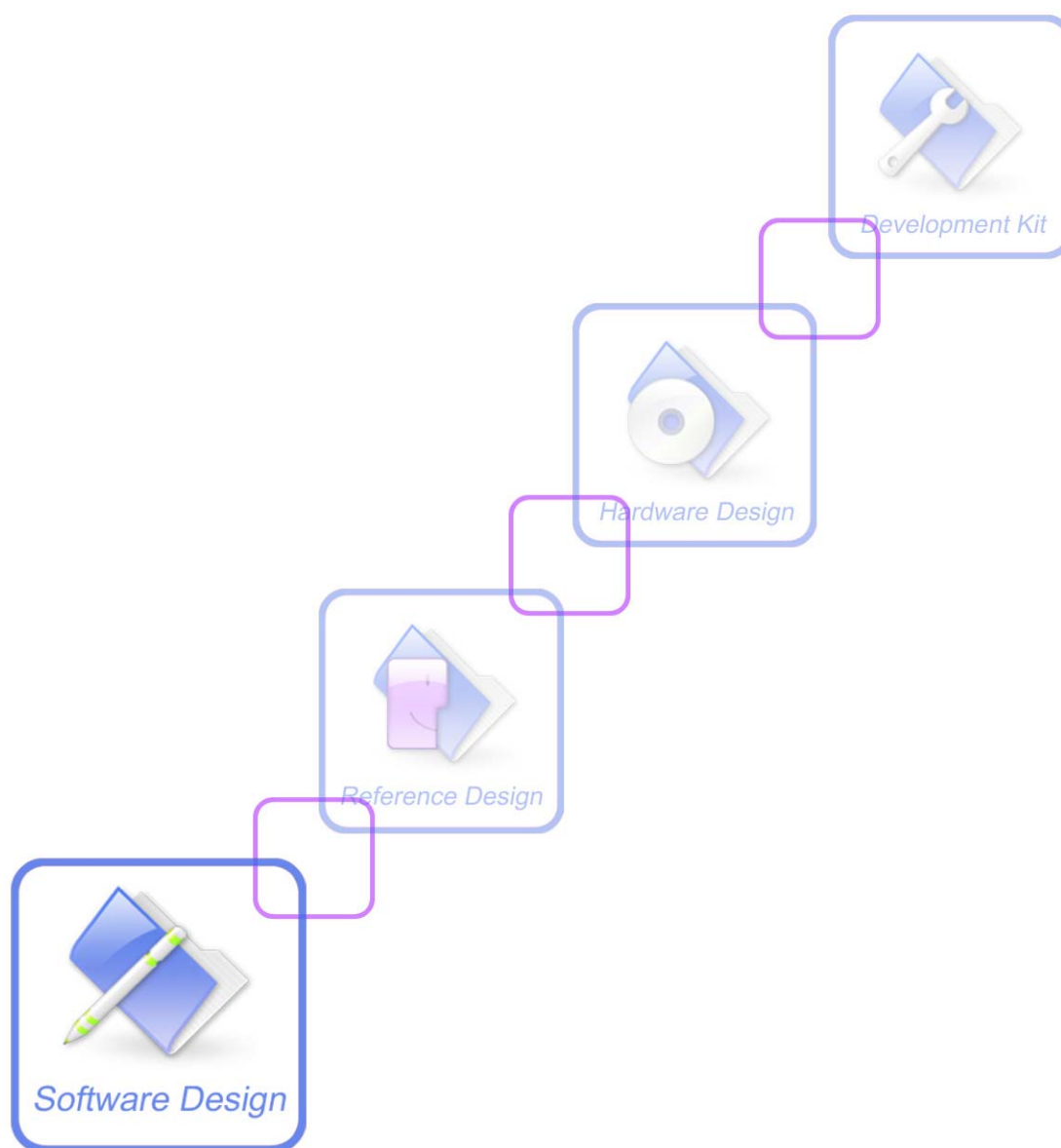


SAT Application Note



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Version History

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V1.00	New Version	

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1 Introduction

1.1 Overview

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 References

The present document is based on the following documents:

[1] SIMCOM_SIM52xx_ATC_EN_V1.xx.doc.

1.3 Terms and Abbreviations

For the purposes of the present document, the following abbreviations apply:

- SAT SIM Application Toolkit
- PIN Personal Identification Number
- PUK Personal Unlock Key
- SIM Subscriber Identity Module
- SMS Short Message Service
- SMS-SC Short Message Service – Service Center
- TA Terminal Adaptor; e.g. a data card (equal to DCE)
- TE Terminal Equipment; e.g. a computer (equal to DTE)
- UE User Equipment
- URC Unsolicited Result Code
- UMTS Universal Mobile Telecommunications System
- USIM Universal Subscriber Identity Module
- WCDMA Wideband Code Division Multiple Access

2 Command Example

2.1 Module Initialization

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.

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

2.2 Command Description

AT+STIN?	SAT Indication	Every time the SIM Application issues a Proactive Command, via the ME, the TA will receive an indication. This indicates the type of Proactive Command issued. AT+STGI must then be used by the TA to request the parameters of the Proactive Command from the ME. Upon receiving the +STGI response from the ME, the TA must send AT+STGR to confirm the execution of the Proactive Command and provide any required user response, e.g. a selected menu item.
AT+STGI?	Get SAT information	Regularly this command is used upon receipt of an URC " +STIN " to request the parameters of the Proactive Command. Then the TA is expected to acknowledge the AT+STGI response with AT+STGR to confirm that the Proactive Command has been executed. AT+STGR will also provide any user information, e.g. a selected menu item. The Proactive Command type value specifies to which " +STIN " the command is related.
AT+STGR	SAT respond	The TA is expected to acknowledge the AT+STGI response with AT+STGR to confirm that the Proactive Command has been executed. AT+STGR will also provide any user information, e.g. a selected menu item. Module will report URC for nest command automatically after AT+STGR executed.

2.3 Command Example

2.3.1 Display Text

Output from phone	Response from accessory	Note
Query current command:		
AT+STIN?	+STIN: 21 OK	
View the detail of current command:		

AT+STGI=21	+STGI:21,0,0,10," 00540065007300740021" OK	Text display as UCS2.
Execute command:		
AT+STGR=21	OK +STIN: 25 (<i>example</i>)	

2.3.2 Get Inkey

Input command	Response	Note
Query current command:		
AT+STIN?	+STIN: 22 OK	
View the detail of current command:		
AT+STGI=22	+STGI:22,1,0,12,"0069006E007000750074003A" OK	Response will indicate the format input information.
Input information:		
AT+STGR=22,"Y"	OK +STIN: 24 (<i>example</i>)	Refer to the response of AT+STGI=22, confirm the input format.

2.3.3 Get Input

Input command	Response	Note
Query current command:		
AT+STIN?	+STIN: 23 OK	
View the detail of current command:		
AT+STGI=23	+STGI:23,3,70,1,0,1,12,"0069006E007000750074003A" OK	Response will indicate the format and min/max length of the input information.
AT+STGI=23	+STGI:23,2,20,1,0,1,12,"0069006E007000750074003A" OK	
Input information:		
If <rsp_format> is UCS2: AT+STGR=23,"597D"	OK +STIN: 24 (example)	Refer to the response of AT+STGI=23, confirm the input format and min/max length.
If <rsp_format> is numer only: AT+STGR=23,"88884444"	OK +STIN: 24 (example)	

"		
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2.3.4 Set Up Menu

Input command	Response	Note
Query current command:		
AT+STIN?	+STIN: 25 OK	
View the detail of current command:		
AT+STGI=25	+STGI:25,0,0,8,"004D0065006E0075",4 +STGI:25,1,12,"004D0065006E007500200031" +STGI:25,2,12,"004D0065006E007500200032" +STGI:25,3,12,"004D0065006E007500200033" +STGI:25,4,12,"004D0065006E007500200034" OK	Menu text display as UCS2. The first line is menu title. Others are menu items.
Select a submenu:		
AT+STGR=25,1	OK +STIN: 24	After selected a submenu, return +STIN: 24 usually. Then it should display the submenu information.

2.3.5 Select Item

Input command	Response	Note
Query current command:		
AT+STIN?	+STIN: 24 OK	
View the detail of current command:		
AT+STGI=24	+STGI:24,0,0,0,0,"00",5 +STGI:24,1,12,"004900740065006D00200031" +STGI:24,2,12,"004900740065006D00200032" +STGI:24,3,12,"004900740065006D00200033" +STGI:24,4,12,"004900740065006D00200034" +STGI:24,5,12,"004900740065006D00200035" OK	Items text display as UCS2. The first line is menu title. Title maybe "00", its means no item title. Others are sub-items.
Select a sub-item:		
AT+STGR=24,1	OK +STIN: 23 (<i>example</i>)	After selected an item, different SIM/USIM cards will report different +STIN: command.

2.3.6 Send Short Message

Input command	Response	Note
Query current command:		
AT+STIN?	+STIN: 24 OK	Send short message is a sub-item in items. Select the specifically item, SAT should send SMS automatically.
View the detail of current command:		
AT+STGI=24	+STGI:24,0,0,0,0,"00",2 +STGI:24,1,24,"006E006500770020006D006500730073006100670065003A" +STGI:24,2,10,"00730065006E0064003A" OK	
Select a sub-item:		
AT+STGR=24,2	OK +STIN: 21	After selected the send message item, the short message will be sent, the report +STIN:21.

2.3.7 Make a Voice Call

Input command	Response	Note
Query current command:		
AT+STIN?	+STIN: 24 OK	Make a voice call is a sub-item in items. Select the specifically item, SAT should make a voice call.
View the detail of current command:		
AT+STGI=24	+STGI:24,0,0,0,0,"00",1 +STGI:24,1,20,"006D0061006B0065002000630061006C006C003A" OK	
Select a sub-item:		
AT+STGR=24,1	OK +STIN: 24 (<i>example</i>) VOICE CALL: BEGIN (URC)	After selected the make call item, AT port will report a URC, indicate the call begin. If want to hang up the call, must execute AT+CHUP.

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