

SIM Application Toolkit Command Set

1.1 SIM Toolkit Facilities \$SATF

Description: This command control and configures SIM Toolkit Functionalities.

Syntax: AT\$SATF=<mode>,<config>,<timeout>,<response>

Command	Possible Response(s)
AT\$SATF=?	\$SATF: (0-2), (0903060061-7FFFFFF3F6F), (1-255),(0,1) OK
AT\$SATF?	\$SATF: 0," 7B5FFF3969", 3,1
AT\$SATF=1	OK

Defined Values:

<mode>

- 0 : Deactivate SIM Toolkit Facilities (default)
- 1 : Activate SIM Toolkit Facilities
- 2 : Configure SIM Toolkit

<config> Specifies the list of SIM Application Toolkit Facilities supported by customer application [<satprfl>] Range from 0903060061-7FFFFFF3F6F. Default is 7B5FFF3969

<timeout> Timeout for user response

Values range from 1 to 255. (Multiple of 10seconds) Default is 3.

<response>

- 0 : Automatic presentation of result codes is not activated
- 1 : Automatic presentation of result codes is activated (default)

1.2 SIM Toolkit Indication \$SATI , \$SATN

Description: This is an unsolicited response of SIM Toolkit indications for customer application to identify the pro-active commands issued by SIM.

Syntax: \$SATI: <satcmd>

Defined Values:

<satcmd>

- 0 : 'Setup Menu'
- 1 : 'Display Text'
- 2 : 'Get Inkey'
- 3 : 'Get Input'
- 4 : 'Setup Call'
- 5 : 'Play Tone' (*)
- 6 : 'Select Item'
- 7 : 'Refresh' (*)

- 8 : 'Send SS' (*)
- 9 : 'Send SMS' (*)
- 10 : 'Send USSD' (*)
- 11 : 'Setup Event List'
- 90 : 'SMS-PP Download' failed due to SIM BUSY
- 91 : 'SMS-PP Download' failed due to SIM ERROR
- 98 : Timeout due to no response from user
- 99 : "End Session"

(*) If automatic response is activated, this indication will be followed by \$SATG

Description: If ME send commands and responses to SIM, the indication (\$SATN) will provide command notification given by SIM.

Syntax: \$SATN: <satNtfy>,<ctrlType>

<satNtfy> String Type; SIM Command string in hexadecimal format.

<ctrlType> Integer type. Indicates which type of Control By SIM request is in action. (Call, SS, USSD or SMS)

- 0 : Call
- 1 : SS
- 2 : USSD
- 3 : SMS

1.2.1 Last SIM Toolkit Indication

Description: The last SIM Toolkit indication can be requested by the AT+\$SATI? Command. This command can be used after +STIN has been indicated by SIM and before +SATG has been issued.

Syntax: AT+\$SATI?

Command	Possible Response(s)
AT+\$SATI? <i>Note: Request for Last SIM Toolkit indication</i>	\$SATI: 0 OK <i>Note: Last SIM Toolkit Application requested was a setup menu.</i>
AT+\$SATG=0	OK <i>Note: Display the SIM Application Toolkit Menu</i>
AT+\$SATI?	+CME ERROR : 4 <i>Note: Operation not supported. \$SATG has been used.</i>

1.3 SIM Toolkit Get \$SATG

Description: The command gets the SIM Toolkit information of a pro-active command sent from SIM.

The SIM Toolkit Get command is issued only after SIM Toolkit indication (+SATI) is received.

Syntax: AT\$SATG=<satcmd>

Command	Possible Response(s)
AT\$SATG=0	OK
AT\$SATG=?	\$SATG: (0-11) OK
AT\$SATG?	\$SATG: 0
<i>Note: Request for value of last issued <satcmd></i>	OK

Table 1

satcmd	Description	Possible responses
0	Get information about 'Setup Menu'	\$SATG: <IdentifierMenu> \$SATG: <index1>,<Items>,<index1Lbl>,<helpInfo>[,<nextActionIndex>] <CR><LF> \$SATG: <index2>,<Items>,<index2Lbl>,<helpInfo>[,<nextActionIndex>] ... [] <i>No action expected from SIM</i>
4	Get information about 'Display Text'	\$SATG: <disp>,<text>,<clearMode> <i>No action expected from SIM</i>
2	Get information about 'Get Inkey'	\$SATG: <form>,<helpInfo>[,<textInfo>] <i>SIM expects key press (\$SATR)</i>
3	Get information about 'Get Input'	\$SATG: <form>,<echo>,<sizeMin>,<sizeMax>,<helpInfo>[,<textInfo>] <i>SIM expects key input (\$SATR)</i>
4	Get information about 'Setup Call'	\$SATG: <type>,<callNo>,<subAddr>,<class>,<index> <i>SIM expects user authorization (\$SATR)</i>
5	Get information about 'Play Tone'	\$SATG: <tone>[,<timeUnit>,<timeInterval>,<textInfo>] <i>No action</i>
6	Get information about 'Select Item'	\$SATG: <defItem>,<IdentifierMenu> \$SATG: <index1>,<Items>,<index1Lbl>,<helpInfo>[,<nextActionIndex>] <CR><LF> \$SATG:<index2>,<Items>,<index2Lbl>,<helpInfo>[,<nextActionIndex>] ... [] <i>SIM expects item choice (\$SATR)</i>
7	Get information about 'Refresh'	\$SATG: <refType> <i>No action (Refresh carried out automatically)</i>
8	Get information about 'Send SS'	\$SATG: <textInfo> <i>No action. (SS sent automatically)</i>
9	Get information about 'Send SMS'	\$SATG: <textInfo>

		<i>No action. (SMS sent automatically)</i>
10	Get information about 'Send USSD'	\$SATG: <textInfo>
		<i>No action. (USSD sent automatically)</i>
11	Get information about 'Setup Event List'	\$SATG: <event>

Defined Values:

When <satcmd>=0 (Setup Menu)

<IdentifierMenu> Identifier of the main menu
 <indexN> Menu Item identifier. Values range from 1 to 255..
 <Items> Number of Items in the main menu. Values range from 1 to 255.
 <index1Lbl> Identifier of items
 <helpInfo>
 0 : No help information available
 1 : Help information available

When <satcmd>=1 (Display Text)

<disp>
 0 : Normal Display Priority
 1 : High Display Priority
 <text> Text Display (ASCII format)
 <clearMode>
 0 : Clear message after delay (3 seconds)
 1 : Wait for user to clear message

When <satcmd>=2 (Get Inkey)

<form>
 0 : Digit (0-9,*#, +)
 1 : SMS Alphabet Default
 2 : UCS2
 <helpInfo>
 0 : No help information available
 1 : Help information available
 <textInfo> Text information (ASCII format)

When <satcmd>=3 (Get Input)

<form>
 0 : Digit (0-9,*#, +)
 1 : SMS Alphabet Default
 2 : UCS2
 <echo>
 0 : Echo off
 1 : Echo on
 <sizeMin> Minimum length of input. Values range from 1 to 255.
 <sizeMax> Maximum length of input. Values range from 1 to 255.
 <helpInfo>
 0 : No help information available
 1 : Help information available
 <textInfo> Text information (ASCII format)

When <satcmd>=4 (Setup Call)

<type>
0 : Setup Call if currently not busy on another call
1 : Setup Call, and put all other calls (if any) on hold
2 : Setup Call, and disconnect all other calls (if any)
<callNo> Called party number (ASCII format)
<subAddr> Called party sub-address (ASCII format)
<class>
0 : Voice Call
1 : Data Call
2 : Fax Call

Note: If <class> is not specified, default is voice call

When <satcmd>=5 (Play Tone)

<tone>
0 : Tone Dial
1 : Tone Busy
2 : Tone Congestion
3 : Tone Radio ACK
4 : Tone Dropped
5 : Tone Error
6 : Tone Call Waiting
7 : Tone Ringing
8 : Tone General Beep
9 : Tone Positive Beep
10 : Tone Negative Beep

<timeUnit>
0 : Time unit in minutes
1 : Time unit in seconds
2 : Time unit in tenths of seconds

<timeInterval> Time required in terms of <timeunit>. Values range from 1 to 255.

<textInfo> Text information (ASCII format)

When <satcmd>=6 (Select Item)

<defItem> Default Item Identifier
<IdentifierMenu> Identifier on Main Menu
<indexN> Menu Item identifier. Values range from 1 to 255..
<Items> Number of Items in the main menu. Values range from 1 to 255.
<index1Lbl> Identifier of items
<helpInfo>
0 : No help information available
1 : Help information available

When <satcmd>=7 (Refresh)

<refType>
0 : SIM Initialization and full file change notification
1 : File change notification
2 : SIM Initialization and file change notification
3 : SIM Initialization
4 : SIM reset

When <satcmd>=8 to 10 (Send SS, SMS, USSD)

<textInfo> Text information (ASCII format)

When <satcmd>=11 (Setup Event List)

<event>

- 1 : Reporting of 'Idle Screen Event'
- 2 : Reporting of 'User Activity Event'
- 3 : Reporting of both 'Idle Screen Event' and 'User Activity Event'
- 4 : Cancel reporting of event

1.4 Unsolicited Response: SIM Toolkit Setup Call Display (Unsolicited Response) \$SATD

Description: This is an unsolicited response given when call setup is activated and outgoing Call, SMS or SS is carried out.

Syntax: \$SATD: <res>[<num>,<destaddr>,<TextInfo>

Defined Values:

<res>

- 0 : Call is not allowed
- 1 : Call is allowed

<num> Called number, Service Center Address or SS String (ASCII format)

<destaddr> MO destination address

<TextInfo> Text Information (ASCII format). Applicable for SMS only.

1.5 SIM Toolkit Response \$SATR

Description: The command allows selection of an item on main menu by answering to the following pro-active commands:

- Get Inkey : User presses key
- Get Input : User enters message
- Select Item : User selects item on menu
- Setup Call : User Confirmation
- Display Test : User confirmation to clear the message
- Setup Event List : Reporting of events

To terminate the current session, send a Terminal Response with the following parameters:

- Backward Move
- Beyond Capabilities
- Unable to Process command
- No Response
- End Session

Syntax: AT\$SATR=<satRsp>[<res>,<data>]

Command	Possible Response(s)
AT\$SATR=?	OK
AT\$SATR?	OK

AT\$SATR=3,1 <Data><Ctrl-Z>	OK
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Defined Values:

<satRsp>

- 0 : Item Selection on Main Menu
- 1 : User Confirmation to clear 'Display Text'
- 2 : Response for a 'Get Inkey'
- 3 : Response for a 'Get Input'
- 4 : Response for a 'Setup Call'
- 6 : Response for a 'Select Item'
- 11 : Response for a 'Setup Event List'
- 95 : Backward Move
- 96 : Command beyond ME capabilities
- 97 : ME currently unable to process command
- 98 : No response from user
- 99 : "End Session"

When <satRsp>=0 (Item Selection on Main Menu)

<res>

- 1 : Item Selected by user
 - 2 : Help information required by user
- <data> Item identifier of item selected by user

<satRsp>=1 (Confirmation of clear display text)

No values.

<satRsp>=2 (Get Inkey)

<res>

- 0 : Session ended by user
 - 1 : Response given by user
 - 2 : Help information required by user
- <data> Key pressed by user. Response to be placed within double quotes (i.e. "11")

<satRsp>=3 (Get Input)

<res>

- 0 : Session ended by user
 - 1 : Response given by user
 - 2 : Help information required by user
- <data> String of characters entered by user

<satRsp>=4 (Setup Call)

<res>

- 0 : User refuses call
- 1 : User accepts call

<satRsp>=6 (Select Item)

<res>

- 0 : Session ended by user
 - 1 : Item selected by user
 - 2 : Help information required by user
 - 3 : Return to previous item
- <data> Item Identifier selected by user

<satRsp>=11 (Setup Event List)

<res>

- 1 : Idle Screen Available
- 2 : User activity event

Terminal Response to SIM:

- <satRsp>=95 (Backward Move)
- <satRsp>=96 (Command Beyond Mecapabilities)
- <satRsp>=97 (ME currently unable to process command)
- <satRsp>=98 (No response from user)
- <satRsp>=99 (SIM Toolkit session abort)

Note: This command can be set after \$SATI indication is displayed and before \$SATG command is issued