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SIMCom_3G_HTTP_Application Note_V1.00



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Version History

Date	Version	Description of change	Author
2011-11-09	V0.01	New version	songjin
2013-12-26	V1.00	Rewrite using new document template	songjin

Scope

This document presents the AT command of HTTP operation and application examples. This document can apply to SIMCom 3G modules, including SIM5218/SIM5215/SIM5216/SIM5320/SIM5310/SIM6320/SIM6216 series modules.

1 Introduction

This document presents the AT command of HTTP operation for SIMCom 3G modules.

1.1 Features

1. SIMCom 3G series supports HTTP/HTTPS AT operation.
2. SIMCom 3G series supports HTTP/HTTPS channel operation without caring for data detail.
3. SIMCom 3G series HTTPS supports SSL3.0/TLS1.0.
4. The same AT interfaces for different HTTP/HTTPS server type.

2 AT commands

Below is the email associated with AT commands, detailed information please refer to document [1].

Through these AT commands can achieve the following functions.

- 1) Open HTTP/HTTPS session.
- 2) Close HTTP/HTTPS session
- 3) Do a GET operation
- 4) Do a POST operation

Command	Description
AT+CHTTPSSTART	Start HTTP/HTTPS stack, also active the PDP context
AT+CHTTPSSTOP	Stop HTTP/HTTPS stack, also deactivate the PDP context
AT+CHTTPSOPSE	Open HTTP/HTTPS session
AT+CHTTPSCLSE	Close HTTP/HTTPS session
AT+CHTTPSEND	Send data
AT+CHTTPSRECV	Read data in cache buffer
AT+CHTTPSTATE	Get the state of HTTP/HTTPS stack

3 Examples

There are some examples to explain how to use these commands.

In the "Grammar" columns of following tables, input of AT commands are in black , module return values are in blue.

3.1 Bearer Profile

Grammar	Description
AT+CGSOCKCONT=1,"IP","apn" OK	Configure bearer profile 1
AT+CSOCKSETPN=1 OK	

3.2 Start HTTP/HTTPS Stack

Grammar	Description
AT+CHTTPSSTART OK	Start HTTPS stack

3.3 Open HTTP/HTTPS Session

Grammar	Description
AT+CHTTPSOPSE="www.myhttpserver.com", 80,1 OK	Connect to HTTP/HTTPS server. The last parameter defined in the following: 1-HTTP server 2-HTTPS server

3.4 Send Small Data

Grammar	Description
AT+CHTTPSEND=88 >GET / HTTP/1.1 Host: www.mywebsite.com User-Agent: MY WEB AGENT Content-Length: 0	Send data to server

OK	
AT+CHTTPSEND	Commit All sending data
OK	
+CHTTPSEND: 0	

3.5 Send Large Data

Grammar	Description
AT+CHTTPSEND=1024 >...(data of 1024 bytes) OK ... AT+CHTTPSEND=1024 >...(data of 1024 bytes) OK	Send data to server
AT+CHTTPSEND? +CHTTPSEND: 10812 OK	Check how many data is left in sending buffer. If the cached data is more than 10K bytes, the program should wait some seconds and check the AT+CHTTPSEND? again to make sure there is free buffer in module to continue to call AT+CHTTPSEND=<len>.
AT+CHTTPSEND? +CHTTPSEND: 2096 OK	Now there is only 2096 bytes cached in sending buffer. We can continue to send data when the data cached <= 3K bytes.
AT+CHTTPSEND=1024 >...(data of 1024 bytes) OK ... AT+CHTTPSEND=576 >...(data of 576 bytes) OK	Continue to send data.
AT+CHTTPSEND OK	Commit all sending data. The +CHTTPSEND: 0 indicates all data has been sent to server.

+CHTTPSEND: 0

3.6 Receive Data

Grammar	Description
+CHTTPS: RECV EVENT	There is new data received in cache buffer
AT+CHTTPSRECV? +CHTTPSRECV: LEN,4196 OK	Check how many data cached in receiving buffer.
AT+CHTTPSRECV=1024 +CHTTPSRECV: DATA,1024 ...(data of 1024 bytes) +CHTTPSRECV: 0 +CHTTPS: RECV EVENT ... AT+CHTTPSRECV=1024 +CHTTPSRECV: DATA,1024 ...(data of 1024 bytes) +CHTTPSRECV: 0 +CHTTPS: RECV EVENT AT+CHTTPSRECV=100 +CHTTPSRECV: DATA,100 ...(data of 100 bytes) +CHTTPSRECV: 0	Read all data in cache buffer. Any time, the +CHTTPS: RECV EVENT indicates there is received data in cache buffer.

3.7 Close HTTP/HTTPS Session

Grammar	Description
AT+CHTTPSCLSE OK	Close HTTP/HTTPS session.

3.8 Stop HTTP/HTTPS stack

Grammar	Description
AT+CHTTPSSTOP OK	Stop HTTPS stack

3.9 Use SSL certificates and Key Files

Note, the SSL certificates and key files must be downloaded to module using AT+CCERTDOWN. For detailed information, please refer to document[2].

Grammar	Description
AT+CHTTPSSTART OK	Start HTTPS stack
AT+CSSLCA=0,"ca_cert.der" OK	Set the CA.
AT+CSSLCERT="client_cert.der",0 OK	Set the client certificate
AT+CSSLKEY="client_key.der" OK	Set the client key
AT+CSSLLOADCK OK	Load the CA/certificate/key files
AT+CHTTPSOPSE="www.myhttpserver.com", 443,2 OK	Connect to HTTP/HTTPS server. The last parameter defined in the following: 1-HTTP server 2-HTTPS server
AT+CHTTPSCLOSE OK	Close HTTP/HTTPS session
AT+CHTTPSSTOP OK	Stop HTTP/HTTPS stack

Appendix

A Related Documents

SN	Document name	Remark
[1]	SIMCOM_SIM5215_SIM5216_ATC_EN_V1.24.doc	
[2]	SIMCom_3G_SSL_Application Note_V1.10.doc	

B Terms and Abbreviations

Abbreviation	Description
HTTP	Hyper Text Transfer Protocol
HTTPS	HTTP over SSL
SSL	Secure Socket Layer

Contact us:

Shanghai SIMCom Wireless Solutions Co.,Ltd.

Address: Building A, SIM Technology Building, No. 633, Jinzhong Road, Shanghai,
P. R. China 200335

Tel: +86 21 3252 3300

Fax: +86 21 3252 2030

URL: www.sim.com/wm

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