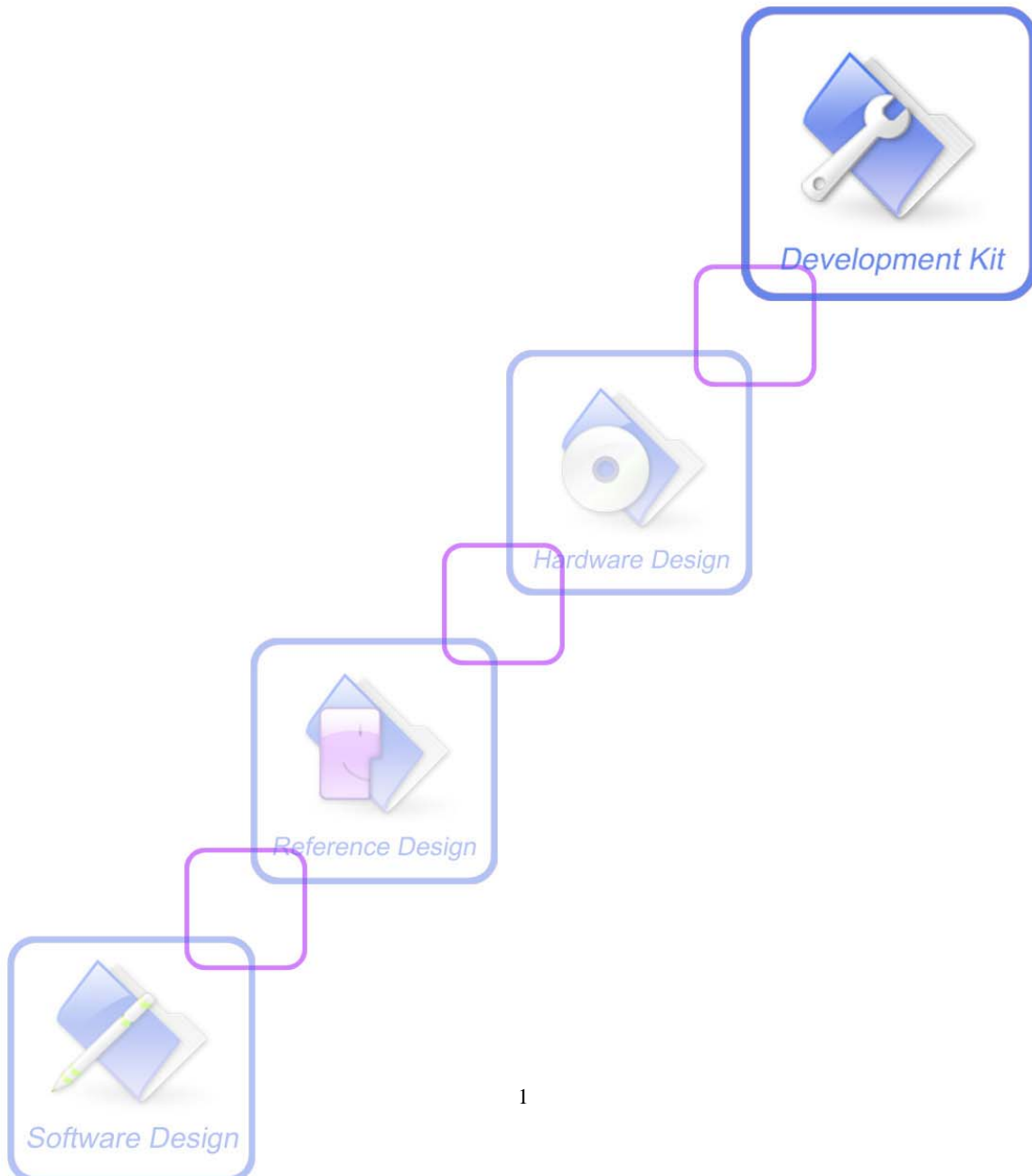




A company of SIM Tech

SIM900_PING_AT Manual_V1.00

Command



Document Title:	SIM900 PING AT Command Manual
Version:	1.00
Date:	2011-03-28
Status:	New
Document Control ID:	SIM900_PING_AT Command Manual_V1.00

General Notes

SIMCom offers this information as a service to its customers, to support application and engineering efforts that use the products designed by SIMCom. The information provided is based upon requirements specifically provided to SIMCom by the customers. SIMCom has not undertaken any independent search for additional relevant information, including any information that may be in the customer's possession. Furthermore, system validation of this product designed by SIMCom within a larger electronic system remains the responsibility of the customer or the customer's system integrator. All specifications supplied herein are subject to change.

Copyright

This document contains proprietary technical information which is the property of SIMCom Limited., copying of this document and giving it to others and the using or communication of the contents thereof, are forbidden without express authority. Offenders are liable to the payment of damages. All rights reserved in the event of grant of a patent or the registration of a utility model or design. All specification supplied herein are subject to change without notice at any time.

Copyright © Shanghai SIMCom Wireless Solutions Ltd. 2011

Contents

Contents	2
Version History	3
1. Introduction	4
1.1 Features	4
2. AT commands	5
2.1 AT+CIPPING PING Request.....	5
2.2 AT+CIPCTL Set the Mode When Receiving an IP Packet	6
2.3 AT+CIPFLT Set the Rules of IP Filter	7
3. Supported Unsolicited Result Codes	9
3.1 Summary of CME ERROR Codes	9
4. Examples	10
4.1 Ping Request	10
4.2 IP Filter Setting	10
4.3 Set the Mode When Receiving an IP Packet	11
Appendix.....	12
A. Related Documents	12
B. Glossary	12

Version History

Date	Version	Description of change	Author
2011-03-28	1.00	Origin	Baizhiqiang

SCOPE

This document presents the AT commands and examples of PING operation for SIM900. This document can be applied to the series of the modules which contain PING function, like SIM900, SIM900D, SIM900B and SIM900A.

This document is subject to change without notice at any time.

1. Introduction

1.1 Features

1. SIM900 supports sending PING (ICMP Echo request) to remote IP address.
2. SIM900 supports setting the mode when it receives an IP packet. At present it can control whether to send an Echo Reply to an IP address pinging it.

2. AT commands

2.1 AT+CIPPING PING Request

AT+CIPPING PING Request	
Test Command AT+CIPPING=?	Response +CIPPING: (list of supported <retryNum>s),(list of supported <dataLen>s),(list of supported <timeout>s),(list of supported <ttl>s) OK Parameters See Write Command
Read Command AT+CIPPING?	Response +CIPPING: <retryNum>,<dataLen>,<timeout>,<ttl> OK Parameters See Write Command
Write Command AT+CIPPING=<IPAddr>[,<retryNum>[,<dataLen>[,<timeout>[,<ttl>]]]]	Response +CIPPING: <replyId>,<Ip Address>,<replyTime>,<ttl>[<CR><LF> +CIPPING: <replyId>,<Ip Address>,<replyTime>,<ttl> [...]] OK or ERROR or +CME ERROR: <err> Parameters <IPAddr> Address of the remote host,string type.This parameter can be either: - IP address in the format:"xxx.xxx.xxx.xxx" - Host name solved by a DNS query <retryNum> The number of Ping Echo Request to send 1-100 Default: 4 <dataLen> The length of Ping Echo Request data 0-1024 Default: 32 <timeout> The timeout,in units of 100 ms,waiting for a single Echo Reply 1-600 Default: 100(10 seconds) <ttl> Time to live

	<p>1-255 Default: 64</p> <p><replyId> Echo Reply number</p> <p><IP Address> IP Address of the remote host</p> <p><replyTime> Time, in units of 100 ms, required to receive the response</p>
Reference	<p>Note</p> <ul style="list-style-type: none"> ● Before sending PING Request the GPRS context must be activated. ● When the Echo Request timeout expires (no reply received on time), the response will contains <replyTime> setting to 600 and <ttl> setting to 255. ● When executing this command, if PDP context is deactivated for some reasons, such as out of service, etc., the “+PDP: DEACT” URC is reported and the command will end immediately.

2.2 AT+CIPCTL Set the Mode When Receiving an IP Packet

AT+CIPCTL Set the Mode When Receiving an IP Packet	
<p>Test Command</p> <p>AT+CIPCTL=?</p>	<p>Response</p> <p>+CIPCTL: (list of supported <mode>s)</p> <p>OK</p> <p>Parameters</p> <p>See Write Command</p>
<p>Read Command</p> <p>AT+CIPCTL?</p>	<p>Response</p> <p>+CIPCTL: <mode></p> <p>OK</p> <p>Parameters</p> <p>See Write Command</p>
<p>Write Command</p> <p>AT+CIPCTL= <mode></p>	<p>Response</p> <p>OK</p> <p>or</p> <p>ERROR</p> <p>or</p> <p>+CME ERROR: <err></p> <p>Parameters</p> <p><mode> 0 Disable to send Echo Reply</p> <p> <u>1</u> Enable to send Echo Reply to every IP address pinging it</p> <p> 2 Enable to send Echo Reply only to a subset of IP</p>

	Addresses pinging it. This subset of IP Addresses can be set by “AT+CIPFLT” command.
Reference	Note The value of <mode> is stored in non volatile memory.

2.3 AT+CIPFLT Set the Rules of IP Filter

AT+CIPFLT Set the Rules of IP Filter																						
Test Command AT+CIPFLT=?	Response +CIPFLT: (list of supported <action>s),(list of supported <item>s) OK																					
	Parameter See Write Command																					
Read Command AT+CIPFLT?	Response +CIPFLT: <item>,<ipAddr>,<mask> [<CR><LF>+CIPFLT: <item>,<ipAddr>,<mask> [...]] OK																					
	Parameter See Write Command																					
Write Command AT+CIPFLT= <action>[,<item>][, <ipAddr>,<mask>]	Response OK or ERROR or +CME ERROR: <err>																					
	Parameter <table border="0"> <tr> <td><action></td> <td>0</td> <td>Remove the rule specified by <item>. <item> must be given.</td> </tr> <tr> <td></td> <td>1</td> <td>Add the rule specified by <item>. If <item> is not given, it can find an empty item automatically. <ipAddr> and <mask> must be given.</td> </tr> <tr> <td></td> <td>2</td> <td>Delete all of rules</td> </tr> <tr> <td><item></td> <td></td> <td>The item of IP filter rule</td> </tr> <tr> <td></td> <td>1-20</td> <td></td> </tr> <tr> <td><ipAddr></td> <td></td> <td>Remote IP address,string type. It can be any valid IP address in the format of "xxx.xxx.xxx.xxx"</td> </tr> <tr> <td><mask></td> <td></td> <td>Mask to be applied to the<ipAddr>,string type. It can be any valid IP address mask in the</td> </tr> </table>	<action>	0	Remove the rule specified by <item>. <item> must be given.		1	Add the rule specified by <item>. If <item> is not given, it can find an empty item automatically. <ipAddr> and <mask> must be given.		2	Delete all of rules	<item>		The item of IP filter rule		1-20		<ipAddr>		Remote IP address,string type. It can be any valid IP address in the format of "xxx.xxx.xxx.xxx"	<mask>		Mask to be applied to the<ipAddr>,string type. It can be any valid IP address mask in the
<action>	0	Remove the rule specified by <item>. <item> must be given.																				
	1	Add the rule specified by <item>. If <item> is not given, it can find an empty item automatically. <ipAddr> and <mask> must be given.																				
	2	Delete all of rules																				
<item>		The item of IP filter rule																				
	1-20																					
<ipAddr>		Remote IP address,string type. It can be any valid IP address in the format of "xxx.xxx.xxx.xxx"																				
<mask>		Mask to be applied to the<ipAddr>,string type. It can be any valid IP address mask in the																				

	format of "xxx.xxx.xxx.xxx"
Reference	<p>Note</p> <ul style="list-style-type: none"> ● When a packet comes from the IP address coming_IP, All rules will be scanned to match the following criteria: $\langle \text{coming_IP} \rangle \& \langle \text{mask} \rangle = \langle \text{ipAddr} \rangle \& \langle \text{mask} \rangle$ If the criteria is matched, the IP packet will be accepted and the rule scan is finished. If the criteria is not matched, the IP packet will be ignored. ● The rule is stored in non volatile memory.

3. Supported Unsolicited Result Codes

3.1 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 result code ERROR. The following <err> is just the additional <err> code for PING function. About other <err> codes, please refer to [1].

Code of <err>	Meaning
160	DNS resolve failed
161	Socket open failed

4. Examples

SIM900 module provides some AT commands to achieve the following functions.

1. PING (ICMP Echo Request)
2. Control the behavior according to setting when an IP packet is coming

4.1 Ping Request

Below is the example of sending Ping Echo Request.

```

AT+CGATT?                                //Attach to GPRS
+CGATT: 1

OK

AT+CSTT="CMNET"                            //Start task and set APN
OK

AT+CIICR                                    //Bring up wireless connection (GPRS or CSD)
OK

AT+CIFSR                                    //Get local IP address
10.78.245.128

AT+CIPPING="www.google.cn"                //Ping request
+CIPPING: 1,"203.208.37.99",70,239
+CIPPING: 2,"203.208.37.99",53,238
+CIPPING: 3,"203.208.37.99",60,239
+CIPPING: 4,"203.208.37.99",50,239

OK

```

4.2 IP Filter Setting

```

AT+CIPFLT=1,1,"198.211.19.12","255.255.0.0" //Add a rule
OK

AT+CIPFLT=1,,"10.43.21.69","255.0.0.0"      //Add a rule
OK

AT+CIPFLT=0,1                                //Delete the rule 1
OK

```

```
AT+CIPFLT=2 //Delete all the rules
OK
```

4.3 Set the Mode When Receiving an IP Packet

```
AT+CIPCTL=0 //Disable the Echo Reply
OK
```

```
AT+CIPCTL=1 //Enable the Echo Reply
OK
```

```
AT+CIPCTL=2 //Send Echo Reply only to some specified IP
OK //Addresses
```

Appendix

A. Related Documents

SN	Document name	Remark
[1]	<i>SIM900 AT Commands</i>	SIM900_ATC_V1.03

B. Glossary

IP	Internet Protocol
ICMP	Internet Control Message Protocol
DNS	Domain Name System
PING	Packet Internet Groper

Contact us:

Shanghai SIMCom Wireless Solutions Ltd

Addr: Building A, SIM Technology Building, No.633, Jinzhong Road, Changning
Disdriect, Shanghai P.R. China 200355

Tel: +86 21 3252 3300

Fax: +86 21 3252 3301

URL: www.sim.com/wm