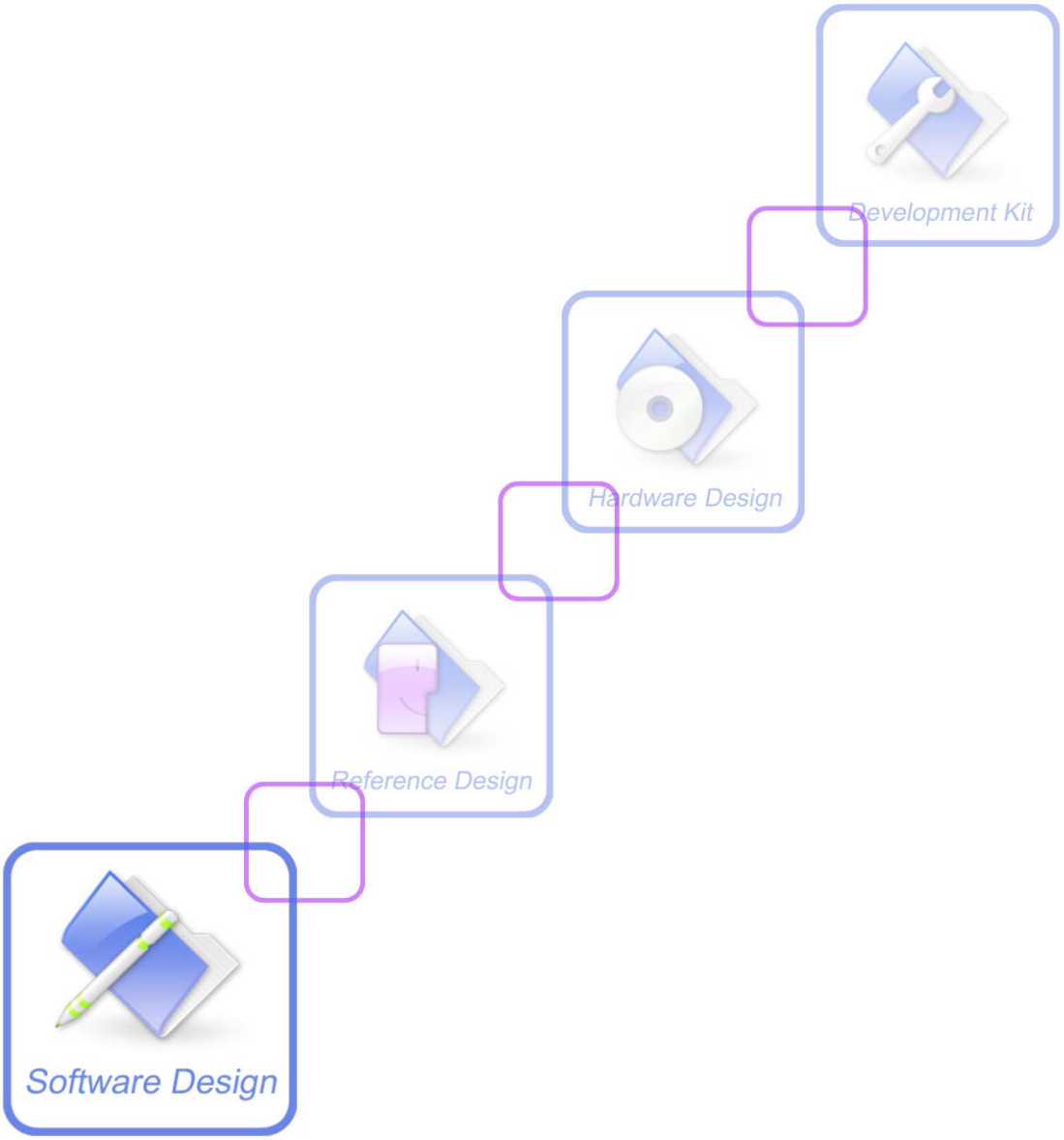
AT Commands Set

SIM900_PING_ATC_V1.00



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Version History

Version	Chapter	What is new
V1.00	Origin	

1 Introduction

This document presents the AT command of PING operation for SIM900. This document can apply to the same series of the modules which contain PING function, like SIM900, SIM900D, SIM900B and SIM900A.

1.1 Features

1. SIM900 support to send PING(ICMP Echo request) to remote IP address.
2. SIM900 support to set the mode when receiving an IP packet.At present,it can control whether send an Echo Reply to an IP address pinging it.

1.2 Reference

[1] SIM900 AT Commands Set

1.3 Glossary

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

2 2 AT commands

2.1 AT+CIPPING

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** Parameter See Write Command
Read Command **AT+CIPPING?**	Response **+CIPPING: <retryNum>,<dataLen>,<timeout>,<ttl>** **OK**
	Parameter 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>**
	Parameter <**IPaddr**> Address of the remote host,string type.This parameter can be either: - IP address in the format:"xxx.xxx.xxx.xxx" - Host name to be solved with a DNS query **<retryNum>** The number of Ping Echo Requset to send 1-100 Default: 4 **<dataLen>** The length of Ping Echo Request data 0-1024 Default: 32 <**timeout**> The timeout,in 100 ms units,waiting a single Echo Reply 1-600 Default: 100(10 seconds) <**ttl**> Time to live 1-255 Default: 64

	<**replyId**> Echo Reply number <**IP Address**> IP Address of the remote host <**replyTime**> Time,in 100 ms units,required to receive the response
Reference	Note ● Before send PING Request the GPRS context must be activated. ● When the Echo Request timeout expires(no reply received on time),the response will contain **<replyTime>** set to 600 and **<ttl>** set to 255. ● When executing this command,if PDP context is deactivated for some reason,such as out of service,etc.The "**+PDP: DEACT**" URC is reported and the command ends immediately.

2.2 AT+CIPCTL

AT+CIPCTL Set the mode when receiving an IP packet	
Test Command **AT+CIPCTL=?**	Response **+CIPCTL:** (list of supported **<mode>**s) **OK**
	Parameters See Write Command
Read Command **AT+CIPCTL**	Response **+CIPCTL: <mode>** **OK**
	Parameters See Write Command
Write Command **AT+CIPCTL =** <**mode**>	Response **OK** or **ERROR** or **+CME ERROR: <err>**
	Parameters <**mode**> 0 Disable to send Echo Reply 1 Enable to send Echo Reply to every IP address pinging it

	2 Enable to send Echo Reply only to a subset of IP Addresses pinging it.This subset of IP addresses can be set by **AT+CIPFLT**
Reference	Note The value of **<mode>** is stored in non volatile memory.

2.3 AT+CIPFLT

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 **<action>** 0 Remove the rule that is specified by <**item**>.**<item>** must be given 1 Add the rule that is 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:"xxx.xxx.xxx.xxx" <**mask**> Mask to be applied on the **<ipAddr>**,string type. It can be any valid IP address mask in the format:"xxx.xxx.xxx.xxx"
Reference	Note ● When a packet comes from the IP address **coming_IP**,All rules will be scanned for matching with the following criteria: **<coming_IP> & <mask> = <ipAddr> & <mask>** If critera is matched, the IP packet is accepted and the rule scan is finished.if criteria is not matched,the IP packet will be ignored. ● The rules 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. None of the following commands in the same Command line should be executed. Neither ERROR nor OK result code will be returned. The following <err> is just the additional <err> code for MMS. 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 that achieve the fllowing function.
1.PING(ICMP Echo Request)
2.Control the behavior according to setting when an IP packet coming

4.1 Ping Request

Below is the example that sending Ping Echo Request.

```
AT+CGATT?                                  //Attach from GPRS service
+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 the rule
OK

AT+CIPFLT=1,,”10.43.21.69”,”255.0.0.0”         //Add the rule
OK

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

AT+CIPFLT=2 //Delete 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 IP address
OK

Contact us:

Shanghai SIMCom Wireless Solutions Ltd

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

Tel: +86 21 3252 3300

Fax: +86 21 3252 3301

URL: www.sim.com/wm