

# SIM900A Firmware Release Note

**Latest Version: 1137B08SIM900A32\_ST**

## General Notes

SIMCom offers this information as a service to its customers, to support application and engineering efforts that use SIMCom products. 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 SIMCom product 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 Limited. 2011*

# SIM900A GSM Cellular Engine

## 1 Preamble

This Release Note introduces SIM900A firmware versions and briefly describes the benefits over preceding release. Also you can find differences compared with preceding release.

**New Features:** list features or AT commands which are newly developed compared with the preceding version.

**Improved Features:** list features or parameters that have been changed or improved compared with the preceding version.

### Related documents

[1] SIM900 AT Command Set, V1.04

[2] SIM900A Hardware Design, V1.01

**Version: 1137B08SIM900A32\_ST**

**[New Features]**

1. Added the function to show percentage of battery while the module is charging.
2. Added a new AT command "AT+CIPTXISS" of TCP function. If it is set to 1 (enabled), the module cannot respond to AT commands when TCP is sending data to this port, the default value is 0 (disabled). It has no effect in transparent mode when it is enabled.
3. Added a new function of GSMBUSY command. By setting AT+GSMBUSY=2 user can reject all the voice calls but allowed CSD calls to access.
4. Added "AT+CR99" command to set the GPRS release number according to the user's operator. It can be set as 0 or 1. 1 means the default value 99, 0 means 97.
5. Added "AT+CEXTERNTONE" command to switch on/off audio function of MIC.
6. Added a parameter of HTTPPARA that customer can set http timeout period.
7. Added a parameter of HTTPPARA command that customer can set http context type.
8. Added "AT+CUSACC" command to accelerate uart speed.

**[Improved Features]**

1. Solved the problem that URC (+CDRIND: <type>) would report voice mode if user was unable to connect a CSD call. (the other side was busy or no signal)
2. Fixed the bug that the module didn't support user executing "ATD>N;" and "ATD><STR>" command to dial a number during an active call.
3. Altered the RI pin status when the module reported "RING" of incoming CSD call. If CRIPULSE is set to 1, it presents RI pulse otherwise it is continuously in high level.
4. Solved the problem that there was no ring back tone if user dialed a number of MAXIS sim card through the CELECOM sim card in Malaysia.
5. Solved the problem which happened after user sent a sms via AT command accidentally that the module would "freeze" for about 50 seconds before it replied, during that time, the module did not respond to any commands.
6. Supported GPRS multislot class 2, user is allowed to set class 2 by executing CGMSCLASS command.
7. Solved the problem that SIM PIN2 couldn't be modified.
8. Solved the problem that the module couldn't attach to the GPRS network if it had activated GPRS previously and then restarted manually.
9. Solved the problem raised by Shenzhen customer that some special SIM card could not

be recognized by the module.

10. Solved the problem that the module gave user an error hint when “AT+CMGS” command was executed after the network initialization was accomplished.
11. Modified the error hint of executing “AT+CMGS” command when “AT+CFUN=4”.
12. Fixed the bug that when user executed "AT+CHLD" related command to hung up a connecting call, the URC "+CGURC:6" would not display.
13. Solved the problem that the module would not report error message if user typed an extra long number following "ATD>" command.
14. Reduced errors which happened when previous redundant data affected next FTP operation by adding the initialization of FTP control data.
15. Solved the problem that module reported overtime for some FTP server after it received data.
16. Solved the problem that sending data would be failed if user input the data immediately after the “>” was shown.
17. Solved the problem in Poland that the module would disconnect from the network after registered successfully previously because of its missing of some SIM card files.
18. Improved the recognition accuracy of keyboard.
19. Made the return value to be “ERROR” if user forwarded an inexistent SMS by executing “AT+CMSS” command.
20. Solved the problem that failure would occur if user forwarded some SMS.
21. Solved the problem that sender number of SMS would not be changed if this SMS was forward for several times.
22. Solved the problem that when "AT+CNMI=2,2" was set and user sent an empty SMS there was neither “+CMT” nor “+CDS” reported.
23. Solved the problem in MUX mode that when user closed a channel unconventionally, the serial port might be blocked if user operated TCP command after that.
24. Solved the problem that user could not activate a call successfully which was caused by STK.
25. Solved the problem that incoming call cannot be picked up automatically in transparent mode and SMS editing mode.
26. Made the default value of time set by SS command equivalent to that set by AT+CCFC command.
27. Solved the problem that user cannot write a SMS with the send number of 161 or 177 type.

28. Solved the problem that DCD pin cannot recover to high level itself in some special cases.
29. Fixed a bug that "MO CONNECT" cannot be reported in each Logic Channel
30. Solved the problem that GPRS does not worked temporarily when ussd is sending IND signal.
31. Fixed the bug that the module may reset itself when the Intrade card receives short message.
32. Fixed a problem that the serial port would be blocked while using AT+HVOIC to hang up a call.
33. Solved the problem that there is no response returned from serial port when active a call with some card for Brazilian customer.
34. Optimized the network searching method to accelerate the speed of searching network in some special cases.
35. Modified the digital gain set problem of AT+AUDG command.
36. Fix a problem of crash when SIMCard bus is overloaded.
37. Solved the problem of DNS crash while using AT+CIPSHUT in decrypting process.
38. Fixed a bug that SIMCard cannot be recognized after read or delete SMS in "TIM" card.
39. Further improve the command "AT+CIPTXISS=1" to prevent the response of AT command mix in TCP data.
40. Under the condition that the module is in sleep mode and the RF is closed, the module will enter into super sleep mode, the net-light will be turned off for decreasing the decreasing the current consumption until the module exit the super sleep mode.
41. Solved the packet loss problem in mux mode during the PPP dial process in LINUX platform.

## **Version: 1137B07SIM900A32\_ST**

### **[New Features]**

1. Added the value "UR" to the parameter <exunsol> of AT+EXUNSOL command to support Unsolicited result code.
2. Added AT+SLEDS command to configure the flicker frequency of network lights in the status of unregistered, registered or PPP.
3. Added AT+CGAS command to increase the speed of GPRS attachment since it is not necessary to re-attach each time.
4. Added the buzzer function to AT command "AT+SPWM".

5. Added AT+CBUZZERRING command, the default value of which is 0. If it is set to 1, the ring of incoming call will be sent out from buzzer, with the frequency of 1HZ, it is valid only when the module has buzzer.
6. Added the function to disable the ECHO algorithm.

### **[Improved Features]**

1. Solved the problem that self adaptive baud rate was not precise which led to failure of baud rate adaption.
2. Solved the problem that module could crash when user sets the CLVL continuously.
3. Solved the SIM900 problem that the module will reset if user executes "AT+CFUN=0" or changes the band rate by AT command "AT+CBAND" at module initiating time.
4. Modified the "AT+CENG" command to make it consistent with SIM300 series: 1, enlarged the length of MNC to support 3 bytes; 2, used number "99" to represent invalid parameter "rxquility" instead of "FF"; 3, added MCC and MNC information of neighborhood cell, 4, changed the show location of LAC which is set to hex mode.
5. Fixed the bug that the record of a successful CSD call could not be saved in the phonebook.
6. Fixed the bug that the out of range hints of dialing record 0 by "ATD>" command when the current phonebook has no record were different from that when the current phonebook has records.
7. Optimized the broken transfer resuming function of http.
8. Solved the problem that the module reported error information of incoming call when user used "ATH" command to hang up before the "RING" was reported, and it would ring continuously and keep connected.
9. Solved the problem that module could not search for the network if AT command "AT+COPS" was set to short alphanumeric format, when executing AT+COPS=1,1,"CMCC".
10. Fixed the bug that short name display function was not implemented when user queried the network list.
11. Optimized the ATH function to make possible to hang up a call by sending consecutive ATH command when COLP is set to 1.
12. Solved the response failure problem when user responds to the "get input" item of STK with data in UCS2 format.
13. Solved the problem that it would fail easily when user activated GPRS context immediately after executing the AT+CIPSHUT command.
14. Modified the VTS function not to return OK until implementation was executed

successfully.

15. Solved the problem that some of the CLCC and CLIP URC can not be reported normally in MUX mode.
16. Solved the problem of not reporting "NO ANSWER" in the case of calling the other side who was busy when user set ATS7=15.
17. Solved the problem that voltage alarm urc was only reported in a logical serial port in MUX mode.
18. Modified the format of returning information when setting "AT+CENG=3".
19. Fixed the bug that executing ATA command can not pull RI to high level in MUX mode.
20. Fixed the bug that the local time converted by the time NITZ reported was wrong and "CI" of operator's name was wrong.
21. Solved the problem that it would take a long time for network indicator light to flash for some SIM cards when user powered on the module in roaming status.
22. Solved the problem that there is no response returned from serial port if user executes the following steps: 1. Plug out the SIM card and then dial emergency number. 2. Plug in the SIM card then execute "AT+CFUN=0" command.
23. Limited the scope of input parameters of AT+CRLP command.
24. Fixed the bug of CLCC, CLIP, CMGR command that Chinese name and English name could not display in UCS2 mode if user sets CSCS to UCS2 mode.
25. Modified the CPBW command when CSCS was set to HEX mode, the name could be written up to 28 characters.
26. Limited the scope of input parameters of AT+CALD command.
27. Modified the error response of AT command "AT+CSTA=", the error response should be "ERROR" instead of "OK".
28. Solved the problem that the responses of reading empty record in phone book via CPBR command were not consistent.
29. Modified the response of test command of EXUNSOL by adding the parameter value "UR".
30. Solved the problem that the module can not register to the network successfully with SIM card of Orange operator when user sets "AT+CBAND="ALL\_BAND""
31. Added the content "resource limitation" of error code 99.
32. Solved the problem that the calling record of some special number can not be saved in recent call lists.

33. Solved the problem that the CSD connection can not be established successfully  
SIM900A\_Firmware\_RN\_1137B08SIM900A32\_ST 2011.09.15

anymore after user dials a number in call record list in CSD mode.

34. Solved the problem that "CALL READY" will not report in some special conditions when URC presentation was enabled by executing CIURC command.
35. Solved the problem that no response would return from serial port if "AT\*PSENGMODE=0" is executed and modified the response format of test command to "\*PSENGMODE: (1)".
36. Solved the problem that CTS varied when user sent or received AT command with no flow control.
37. Limited the scope of inputting parameter when executing HTTPREAD and HTTPDATA command in writing mode.
38. Solved the problem that Shenzhen customer can not originate a phone call or send SMS after a successful call.

#### **Version: 1137B06SIM900A32\_ST**

#### **[New Features]**

1. Added AT+CIPRXGET command to get data from RX manually. If the parameter is 0, this function is closed and the module is set to normal mode, data will be pushed to serial port directly; if the parameter is set to 1, user enables the function; if the parameter is set to 2, the module can get data, but the length of output data can not exceed 1460 bytes at a time; if the parameter is set to 3, it is in HEX mode, the module can get 730 bytes maximum at a time; and if the parameter is set to 4, user can also query how many data are not read with a given ID.
2. Added AT+CIPQRCLOSE command to speed up disconnection of the remote server. This function is disabled by default (0).
3. Added query status function to command AT+CIPSTATUS, it will be valid only when CIPMUX=1, and it will report the status first, then return "OK".
4. Added the function that user can use ATD command to dial USSD.
5. Added AT+CIPSCONT command to save APPTCP parameters in flash and support flash interface to save and load the value.
6. Added AT+FTPSCONT command to save FTP parameters in flash and support flash interface to save and load the value.
7. Added AT+HTTPSCONT command to save HTTP parameters in flash and support flash interface to save and load the value.
8. Added AT+GSMBUSY command, if it is set to 1, all the incoming calls can be rejected directly when there is no response from the module, this command is designed for the



user's convenience in some special cases, such as simulating off-hooking dialing and no incoming call interruption during GPRS data transmission. This function is disabled by default (0).

### [Improved Features]

1. Modified the problem that the data received from a HTTP server in a poor network was inconsistent with the HTTP data received from a better network.
2. Modified the return value of "AT+CSCA=" command when it is executed and no parameter is entered.
3. Fixed the bug that there was no message reported in case of SMS message incoming when "AT+CNMI=2,0,0,0,0" and "AT+CSMP=17,167,0,240" are set.
4. Fixed the bug that the value of the current frequency band was not consistent with the value queried by the AT command.
5. Modified the problem that both CNUM and CPBR can not show the record written by CPBW command when AT+CPBS="ON" is set and some special SIM cards with the volume 1 are used.
6. Modified the power on voltage and set it to be 3.1v.
7. Fixed the problem that there is no RING message reported during a coming call if the corresponding name in the phonebook is blank.
8. Modified the default mic value of AT+AUTEST to be 18, and added a function to use AT+AUTEST=0 separately to close headset channel loop, which is disabled in SIM900 or SIM900A products.
9. Modified the problem that call cannot be set up when vivacom Sim card is used.
10. Fixed the bug that wrong apn will lead to ppp dial exit failure.
11. Modified the SIM card unrecognizable problem in Taiwan.
12. Fixed the reset problem during a call in Argentina.
13. Modified the problem that when user set the CLVL continuously, it would cause module crashing.
14. Optimized the broken transfer resuming function of http.
15. Fixed the bug that the record of a successful CSD call could not be saved in the phonebook.
16. Modified the show value of parameter ARFCN of "AT+CENG" command and "AT\*PSENGMODE" command.
17. Fixed the problem that self adaptive baud rate was not precise which led to failure of baud rate adaption.

18. Modified the format error of AT+CHFA test command.
19. Modified the problem that the module would not receive any data which were sent immediately after the connection was established successfully if it is set to be a server.
20. Modified the problem that the module reported error information of incoming call when user used "ATH" command to hang up before the "RING" was reported, and it would ring continuously and maintain connected.

## **Version: 1137B05SIM900A32\_ST**

### **[New Features]**

1. Added HTTP and FTP functions.
2. Added "ME" phonebook function for AT+CPBS.
3. Added AT+CIPUDPMODE command to enable UDP extended mode.
4. Added PDP detect function which is only valid in GPRS.

### **[Improved Features]**

1. Fixed the problem that the status lights do not flash under a special case.
2. Extended the actual gain level of CMIC.
3. Modified the CLVL to adjust the call and local audio volume.
4. Modified the problem that waiting tone intervals are not precise.
5. Fixed the bug that MUX can not be closed successfully when module is connected to WINCE platform through 3 serial port pins (RXD, TXD, GND).
6. Fixed the bug that CLCC reports error information when a CSD call is dialed after a CSD connection has been established already.
7. Modified the hands-free audio parameters by adding two additional settable parameters of es and of ses respectively for AT+ECHO.
8. Modify the character case sensitive problem by using AT+CPBF command to search for phonebook entries.
9. Modified the problem that the module will not report error when some illegal characters are entered as parameters of AT+CLDTMF command.
10. Fixed the bug of AT+CPBR command, the display number of which was not converted to the right format under UCS2 mode.
11. Fixed the bug of wrong name display format when executing "AT+CCVM?" command under UCS2 mode.

12. Modified the problem that dial-up program can not be run successfully when module is connected to LINUX platform.
13. Modified the default parameters of AT+CMUX command to be "+CMUX: 0,0,5,127,10,3,30,10,2".
14. Fixed the problem that DCD pin does not return to low level if CSD call is dropped by pulling DTR to high level after AT&D2 is set.
15. Modified the problem that module will take long time to register network if changed to another SIM card which belongs to different network operator.
16. Changed the return of "ERROR" to "OK" when executing "AT+CMGR=1" command if there is no SMS on index 1, which is compatible with SIM300.
17. Optimized AT+VTS command that "AT+VTS=1" can be used to generate DTMF directly, which is compatible with SIM300.
18. Optimized the ATH function to make possible to hang up a call by sending consecutive ATH command when COLP is set to 1.
19. Discarded UDP data directly if the length exceeds 1460 bytes in a single package.
20. Improved the stability of reading SMS under low-speed baud rate.
21. Fixed the problem that AT+HVOIC command can not take effect under special cases.

**Version: 1137B04SIM900A32\_ST**

**[New Features]**

**[Improved Features]**

1. Enhanced temperature accuracy reported by CMTE.
2. Fixed the bug that ATSO can not take effect during an incoming call.
3. Fixed the bug of data loss when remote TCP connection is closed.
4. Optimized the configuration of APPTCP.
5. Fixed the bug of displaying the same name when receiving a CSD call.
6. Modified the fault information reported by CCWA.