

# SIM900 Firmware Release Note

**Latest Version: 1137B02SIM900M64\_ST\_ENHANCE**

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# SIM900 GSM Cellular Engine

## 1 Preamble

This Release Note introduces SIM900 firmware versions and briefly describes the benefits over preceding release. Also user can find differences compared to preceding release.

**New Features:** It lists features or AT commands which are newly developed compared to the preceding version.

**Improved Features:** It lists features or parameters that have been changed or improved compared to the preceding version.

## 2 Related documents

[1] SIM900 AT Command Set, V1.08

[2] SIM900 Hardware Design, V2.05

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**[New Features]**

1. Added audio and video file types to MMS attachment file type, and the AT command "AT+CMMSDOWN=?" can be used to query the supported audio and video file type.
2. Added the AT command "AT+CTBURST" to support continuous rapid data transmission.
3. Added "AT+CIPTKA" command to set TCP keep alive parameters.
4. Added AT command "AT+CADDFORBID" to manage the list of limited frequency point. e.g. =0 means closing this function. =1 means adding current frequency point to the limit list. =2 means deleting the special frequency point.
5. Added "AT+CFSLIST" command to list the file information in the file system.
6. Added "AT+VCHARGE=<restartVoltage>,<CVVoltage>" command to modify the CV voltage and restart voltage. The scope of parameter restartVoltage is 4000-4200, the scope of parameter CVVoltage is 4100-4200.
7. Added "AT+CWDTEN=<EN>,<INTERVAL>" command to control the pulse of GPIO16 in the chip
8. Added "AT+CFSREN" command to change the file name in the file system.
9. Added "AT+CIPOPTION" command to configure TCP Nagel algorithm.
10. Added "AT+CDTMFURC=1,1" command. The first parameter controls the URC of CLDTMF; the second parameter controls the URC of VTS. When DTMF play ends, the module will report "+CLDTMF: END/+VTS: END".
11. Added the following AT commands, "AT+FTPEXTPUT", "AT+FTPGET", "AT+FTPSET", "AT+FTPGET", "AT+FTPQUIT".
12. Added NTP function.
13. Added the command "AT+CIPSENDHEX" to allow the module send HEX mode data.

**[Improved Features]**

1. Solved the problem that if the MMS title is longer than 30-byte, there will be errors in the received MMS contents.
2. Changed the AT command format AT\*PSGPRS to AT+CGCS, you can query the GPRS timeslot and Coding scheme in real time.

3. Changed the scope of parameters of the following AT commands. AT+CIPUDPMODE, AT+CIPSTART, AT+CLPORT, AT+CIPSERVER.
4. Changed the return strings of the command "AT+CBST=?"
5. Solved the problem that after executing "AT+CNMI=2,0" and "AT+CSMP=,,,241", module will report URC when it receives new SMS.
6. Solved the problem that the MMS title could not be modified when the number of attachments reached to the max.
7. Solved the problem that when sending a MMS from T-Mobile to Vodafone network, It will return ERROR 193.
8. When "AT+CIPSRIP=1" and "AT+CIPMUX=1" was set, the remote IP server address and PORT number will be added in front of the received TCP/IP data.
9. Optimized "AT+CLPORT" and "AT+CIPUDPMODE" command to support TCP Multi mode.
10. Solved the problem that it fails to send an email with a large attachment with SSL network protocol.
11. Solved the problem that when accessing some certain HTTPS servers, it will wait a long time before starting the next operation.
12. Decreased the call drop rate when the bit error rate is high.
13. Solved the problem that it fails to send an email with some certain mail servers.

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### **[New Features]**

1. Added "AT+CIPRDTIMER" command to shorten the disconnect time locally when the remote server has been disconnected. Meanwhile, two parameter of this command are added to CIPSCONT command.
2. Added a new command "AT+SRSPT" to reduce the response time of SMS. It can be set as 0 or 1. The default value is 0 which means not to enable this function. 1 means enable this function.
3. Added three parameters of "AT+CIPCCFG" command: (Rxmode:0,1), (RxSize:50-1460), (Rxtimer:20-1000). If Rxmode is set to 1, the function is enabled that the data received from network in transparent mode will be partitioned into small blocks then sent to serial port by time sharing processing.
4. Added "FTPEXPOT" command to extend PUT method.
5. Added the support of network "460 20" in the query result of "AT+COPS?" command

for customer TIETONG.

6. Optimized DDET function that it can be disabled or enabled during a call.
7. Extended the function of "AT+CLDTMF" command that user can generate square-wave by setting an extra optional parameter which is newly added to the end of the command.
8. Added AMR file remote playing function.
9. Added two parameter of SJDR command, <var> is for setting the variance threshold to separate jamming from interference, <display> is for configuring URC display method.
10. Added SSL and HTTPS functions.
11. Added "AT+CSGS=0/1" command, if it is enabled, the netlight will be enter to 64ms on/300ms off state in the connection of Email, TCP/IP, UDP/IP.
12. Added a eighth parameter "notifrspcheck" to skip checking the HTTP response of mms notifyrsp ind message then to proceed the next step; added two field analysis of MMS retrieve state.
13. Supported the voice coding type value "17":AMR-FR/AMR-HR/EFR/FR/HR of "AT+SVR" set command.
14. Added FTPMKD, FTPRMD, FTPLIST functions.
15. Added a third parameter to TEST command "AT+CLDTMF".
16. Added "HTTPSTATUS" test command.
17. Extended the functionality of CPAMR command that it can stop the playing AMR file.
18. Added "AT+CNITZNN" command to disable NITZNN function.
19. Added "AT+HTTPSTATUS" command to require the state during data transmission process.

### **[Improved Features]**

1. Solved the problem that SMS process could not exit if the module enters into transparent mode during its editing process, it would cause the serial port impassable.
2. Solved the problem that CMGS> function cannot deal with the situation that index is 0.
3. Resolved the problem that after "ATV0" was set to all channels in MUX mode, "ATV1" command would be invalid to all channels except the first one.
4. Solved the problem that "AT+CGATT?" option was not allowed after "AT+CGCLASS="CC" was set.
5. Solved the problem that the module would not report current state via "+GREG" indication after "AT+CFUN=4" was set.
6. Modified the scope of parameter <index> of "AT+SPWM" command to "0-2".

7. Solved the problem that no response returned from serial port if user writes a number to the phonebook after the SIM card was pulled out.
8. Solved the problem that the value of parameter <SQ> of EXUNSOL command was not saved after reset.
9. Solved the problem that "+CGREG" and "+CREG" reported error information after "AT+CFUN=0" was set.
10. Resolved the problem that while an SMS is coming in, sending SMS might cause serial port blocked in some special cases.
11. Solved the problem that if user input data during the period that the module is outputting large amounts of data in TCP mode, it may cause data loss or some other problems.
12. Solved the problem in some special condition that the audio channel was relatively slow when user answered the call by ATA command.
13. Solved the problem that the SIM900 module attaches GRPS slowly when SIM card is switched or a new module is powered on for the first time in some special network environment.
14. Resolved the problem that in some server, error message will return when user execute "AT+FTPSIZE" command.
15. Resolved the problem of restart when the module get and continuously read the data from the URL to which large data was uploaded.
16. Resolved the problem that there was no response when user using HTTPGET to get some URL.
17. Modified the response of "AT+CIPRXGET=2/3" command, added a blank line before returned "OK".
18. Added the restriction of parameter <todo> in AT+CMGS=">index" command.
19. Solved the problem in adaptive low rate that when user uses FTPGET to obtain data, some URC will be inserted into the received data.
20. Solved the problem that when CGCLASS="CC" was set, "AT+CGATT?" command could not be executed.
21. Solved the problem that the command "AT+CR99" cannot set "AT+CR99=12511". It can be achieved by setting "AT+CR99=0/1", the read result required by "AT+CR99" will be "0x12511/0x12510".
22. Solved the problem that CNMA test command runs error when CMGF is set to 0.
23. Solved the problem that after "ATV0" is set, a needless value "4" will be shown when "ATD>1;" was executed.
24. Solved the problem that CGREG state is still 0 when the module attached GPRS service.

25. Solved the problem that the MMS title cannot be modified when the added attachments are already full.
26. Solved the problem that executing CRSM command will lead to data loss.
27. Solved the problem that when executing "AT+CSIM=42,"A088000010FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF"" will return error.
28. Solved the problem that when user edits a message by AT+CMGW command with some special characters in it like "^[]", and send it by "AT+CMSS" command, then the receiver will get a message which content is not consistent with the one edited before.
29. Extended the maximum length of FTPGETPATH and FTPPUTPATH to 256 bytes.
30. Solved the problem that the serial port is impassable when SIM card is plugged out,
31. Solved the problem that "AT+SJDR?" command is lack of one parameter.
32. Removed the SIM card restrictions for JD command.
33. Solved the problem that when executing POST action, the queried HTTPSTATUS is error.
34. Unified the format of read commands: "AT+CIPSCONT?", "AT+FTPSCONT?", "AT+HTTPSCONT?", a space must be after the colon.
35. Extended the maximum JD variance to 255, and also it is the default value.
36. Modified the scope of parameter <T1> of CMUX command to "1-254".

**Note:**

**Initial enhance version is based on version 1137B09SIM900M64\_ST\_DTMF\_JD\_MMS.**

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