Version 2.0
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Warning: This document is only for your reference, and will be updated without your notice.
GSM 1/2

1. Baud rate notice
SIM300, SIM300C, SIM306, SIM300D, SIM508
SIM340, SIM340C, SIM340D, SIM548 baud rate is auto-bauding,
AT+IPR=0 is default configuration, when module is shipped from
SIMCom, module does not feedback any information.

Suggest you fix it:
AT+IPR=9600;&w as your request.
If you restart module, it will feedback as SIM100S32-E old module:
RDY
+CFUN: 1
etc

And you can configure module by some AT command, like AT, ATI,
AT+CSQ, AT+CREG?, AT+CGATT?, etc.

And after you get CALL READY from SIM300, you can setup SMS or
phone etc AT as your need.

2. How to call and answer a coming call?
Phone 010-65802113 call SIM300( 13910000111), then you can
get Ring from hyper terminal software, or call-ring from earphone,
ATA to answer this coming call,
ATH to hang up it,

ATD01065802113; SIM300 dials 010-65802113,
Use AT+VTS="8,8,8" to dial external phone number 888.

3. How to display incoming calling number?
How to get SIM300’s SIM card number?
AT+CLIP=1 // check dialed SIM card open this function
OK
RING
+CLIP: "01065802113",129 // incoming call number01065802113
OK
ATH

Get SIM card number:
AT+CPBS="ON"
OK
AT+CPBW=1,"139100001111"
4. How to start a time-counter when answering a call?
   AT+COLP=1  // setup to count time when receive call
   OK
   ATD01065802116;
   // awaiting, but not receive call, not start to open timer
   OK  // answer this call, it start to count time
   ATH

5. How to configure voice channel?
   AT+CHFA=1  // change handset to earphone(Switched aux audio),
   OK  // default is handset(main audio, 0)
   AT+CHFA=0 // main audio

   For aux audio channel( earphone) Echo noise suppression
   AT+ECHO=20000,5,15,1  // normal
   AT+ECHO=20500,4,15,1 // If some Echo exist, do as this line
   AT+ECHO=19500,6,15,1 // If can’t hear pear-side voice

   For main audio channel( handset) Echo noise suppression
   AT+ECHO=30000,5,10,0  // normal
   AT+ECHO=30500,4,10,1 // If some Echo exist, do as this line
   AT+ECHO=29500,6,10,1 // If can’t hear pear-side voice

   AT+CMIC?  // Microphone volume
   +CMIC:2,2
   OK

   AT+CRSL?  // Ring volume
   +CRSL: 100
   OK

   AT+SIDET?  // Side volume
   +SIDET: 4096
   OK
6. How to send English text SMS to 13910000112?
   AT+CMGF=1
   OK
   AT+CSCS="GSM"
   OK
   AT+CMGS="13910000112"
   > Hello world  // then Ctrl Z at the same time
   +CMGS: 158   // finished

7. How to send PDU mode Chinese text SMS?
   AT+CMGF=0
   OK
   AT+CSCS="UCS2"
   AT+CMGS=019  // 15+4
   > 0011000D91683119000011f2000801044f60597d // Ctrl Z
   // 13910000112 您好
   +CMGS: 159

8. How to send Chinese text SMS?
   AT+CMGF=1
   OK
   AT+CSCS="UCS2"
   OK
   AT+CSMP=17,167,0,24
   OK
   AT+CMGS=
   "003100330039003100300030003000300030003100310032"
   > 67688559660e // send 杨蕙明 to 13910000112
   +CMGS: 160

9. How to read a SMS, delete a SMS?
   AT+CMGF=1
   OK
   AT+CMGR=2
   +CMGR:"REC UNREAD","+8613911000147",
   ;"07/03/01,11:20:28+32" test // content is test

   AT+CMGD=2
   OK
   AT+CMGR=2
   OK // means it is empty
10. How to check if pear-side get a sent SMS?
AT+CSMP=49,167,0,241
   // 49: 17 is default,
   // 241: if 24,25 for UCS2,
   // 241: if 240 pear-side can only see, can not save this SMS,
   // 241: if 241 pear-side can save it
AT+CNMI=2,1,2,1,0
AT+CMGF=1
OK
AT+CSCS="GSM"
OK
AT+CMGS="13910000112"
> Hello world    // then Ctrl Z at the same time
+CMGS: 161   // finished
+CDS: ,36,"+8613911000147",145,"07/03/01,11:10:43+32","07
/03/01,11:10:43+32",0,2,1,2,1,0

11. Common AT command (including GSM, GPRS AT)
AT // at
OK

   ATI
SIMCOM_Ltd
SIMCOM_SIM300
Revision: 1008B10SIM300S32_(SPANSION)SIMCOM_Ltd

AT+CSQ    // How to check RF signal strength
+CSQ: 29,0
OK

AT+CREG?
+CREG: 0,1    // GSM network is OK
OK

AT+CGATT?
+CGATT: 1    // GPRS is active, 0: de-active
OK

AT+CIPSTATUS    // check GPRS status
STATE: CONNECT OK

AT+CIPDPDP=1,10,3    // if antenna is turn off
OK
+PDP: DEACT // after about 3 minutes, GPRS is de-active

AT+CIPSHUT // Close GPRS
AT+CGATT=0 // Close GPRS
AT+CFUN=0,1 // Close GPRS
AT+CPOWD=1 // Close GPRS
NORMAL POWER DOWN,

AT+CPIN? // How to check SIM card
+CPIN: READY
RDY
+SCKS:0 // means: SIM card is not inserted

AT+GSN // IMEI number of SIM300 module
355117001512899
OK

12. How to power on and power off or reset SIM300?
Power on:
  PWRKEY pin is Low for 3 seconds, then goes to high // power on
Power off:
  PWRKEY pin is low for 0.8 seconds, then goes to high for at least 6S
Reset:
  AT+CPOWD=1 // then SIM300 is off, then let PWRKEY low 3S to on.

GPRS 2/2

13. How to send TCP pack to IP?
AT+CREG?
+CREG: 0,1
OK
AT+CGATT?
+CGATT: 1
OK
AT+CIPSTART="TCP","211.136.42.12","2020"
OK
CONNECT OK
AT+CIPSEND
> test only // Ctrl Z
SEND OK
Then Server.exe( IP) can get test only data

14. How to send data by APN?
AT+CSTT="CMNET", "", ""
   // or other APN name, user name, password
OK
AT+CIICR
OK
AT+CIFSR
129.1.2.45 // SIM300 gets an IP address

AT+CIPSTART="TCP","211.136.42.12","2020"
OK
CONNECT OK
AT+CIPSEND
> test APN // Ctrl Z
SEND OK
Then Server.exe( IP) can get test APN data

15. How to send data in 6 kinds of way?
AT+CIPSEND
> test not fixed data

AT+CIPSEND=15
> test fixed data

AT+CIPHEAD=1
+IPD4:head // module will get data external head data from server

AT+CIPATS=5
AT+CIPSEND
> send data after 5 seconds

AT+CIPSPRT=0
AT+CIPSEND
No Enter and not > this is data to be sent
AT+CIPSRIPT=1
AT+CIPSEND
> SIM300 get server’s IP

16. How to use DNS?
AT+CDNSCFG="211.136.17.107" // this is Beijing DNS server
17. How to dial GPRS?
AT+CGDCONT=1,"IP","cmnet"
OK
ATD*99***1#
CONNECT
NO CARRIER

18. How to use transparent mode for large GPRS data?
AT+CREG?
+CREG: 0,1
OK
AT+CGATT?
+CGATT: 1
OK
AT+CIPMODE=1
OK
AT+CIPCCFG=5,2,256,1
  // 5, re-send times
  // 2, 2*200mS delay
  // 256, 256kbytes each time, buffer size is about 15kbytes
  // 1, +++ can quit from data mode to AT command mode
AT&D1  // DTR low can can quit to AT command
OK
AT+CIPSTART="TCP","211.136.42.12","2020"
OK
CONNECT  // enter data mode
Data to be sent by transparent data mode
+++  // enter command mode, AT is active
ATO  // enter from AT command mode to data mode
AT+CIPSHUT
SHUT OK

19. How to use CSD?
1391 000 0111 dial, on module 1,
1391 000 0112 dialed, on module 2,

For two SIM cards communication
  Module 1
  AT+CSNS=4
  ATD13910000112  // no need use ;
  CONNECT 9600

  CSD data transmit and receive

  Module 2
  AT+CSNS=4
  RING
  ATA
  CONNECT 9600

  CSD data transmit and receive

For phone line dial, and 1391 000 0112 dialed, module 2
  Phone line
  ATD139100000112
  CONNECT 9600
  CSD data transmit and receive

  Module 2
AT+CSNS=4
RING
ATA
CONNECT 9600

CSD data transferring
Note: if CSD dial, need SIM card open this business,
If CSD dialed, need SIM card this business support.

20. SIM card is Server, send TCP pack two ways
(1). TCP, way 1/2
for server
    using computer hyper terminal

    AT+CIPCSGP=1,"CMNET"
    OK
    AT+CLPORT="TCP","2020"
    OK
    AT+CIPSERVER
    OK
    SERVER OK
    AT+CIPCCON=2
    OK
    AT+CIFSR
    10.191.255.199
    REMOTE IP: 10.191.255.207:2020
    AT+CIPSEND
    > test data from server
    //but server do not have SEND OK response

for client
    using computer hyper terminal
    AT+CSQ
    +CSQ: 14,0
    OK
    AT+CGATT?
    +CGATT: 1
    OK
    AT+CIPSTART="tcp","10.191.253.182","2020"
    OK
    CONNECT OK
    AT+CIFSR // no need use this at 10.191.255.207
AT+CIPSEND
> test data from client
SEND OK
test data from server // got data from server

(2). TCP, way 2/2
for server
    using GPRS PCMCIA card, dial GPRS to internet,
    getting IP: 10.191.255.199, 2020
    using SIMCom server software, set its IP and port
for client
    using computer hyper terminal
    AT+CIPSTART="TCP","10.191.255.199","2020"
    OK
    CONNECT OK
    AT+CIPSEND
    > Test data from client
    SEND OK

21. How to let SIM300 go to sleep mode?
    AT+CSCLK=1,
    Then, MCU IO outputs high to DTR of SIM300, it goes to sleep.

22. How to wake up SIM300?
    MCU IO output low for 20ms to DTR
    OR Receive a call
    OR Receive a SMS
    OR RTC alarm expired

23. How to dial GPRS to access internet by computer?
    Add a new computer modem: Start, Setup, Control panel, Call and
    modem selection, modem, add, not detecting modem, choose
    from list, next, 19200bps modem, next, COM1, next, finish
    Setup this modem: Property, Normal: 115200,
    Advanced: AT+CDGCONT=1,"IP","cmnet" or other APN,
    Add new connect: Control panel, Networks & Dial connect, dial to
    special networks, next,
    select modem: standard 19200bps modem( COM1), next,
    *99#, not select use dialed rules, next,
    select all user use this connect, next,
    name: GPRS, finish
    SIM300 baud rate should be 115200
Run this connect, user name and password are empty.
Property: networks, TCP/IP, property, DNS: auto, sure,
Normal: configuration: 115200, sure, dial

Reference
1. SIM300_HD_V3.05.pdf
2. SIM300_ATC_V1.06.pdf
3. TCPIP Application Note 1.01.pdf
4. SMS APP V01.01.pdf