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SCOPE

Thanks you select SIMCOM GSM/GPRS module.

This product has standard AT command interface, and can provide GSM call, short message and GPRS net services, etc.

Please read this user guide carefully. You can realize the powerful function and the easy operation method of the module.

This module is used in voice or data communication mainly. We are not charge with the duty of personal injury and property loss for the custom abnormal operation. Please design the corresponding product according to the technical specification and reference in the handbook. And note the general safe item when use mobile product especially GSM product.

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

This document suits for SIM100S, SIM100F, SIM100C, SIM200, SIM300 module.

Revision History

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Contents

1 Introduction

This document describes how to use the dual serial ports of the SIMCOM GPRS/GSM module, particularly the hardware interface of the dual serial ports. This document will help you use the function of dual serial ports quickly.

1.1 References

[1] SIMCOM User Guide

[2] SIMCOM AT Command Set

2 Hardware Interface of Serial Port

SIMCOM module is equipped with two unbalanced asynchronous serial ports. The GSM module is designed as a DCE (Data Communication Equipment), following the traditional DCE-DTE (Data Terminal Equipment) connection, the module and the client (DTE) are connected through the following signal (as figure 1 show):

Serial port 1

- Port/TXD @ Client sends data to the RXD signal line of module
- Port/RXD @ Client receives data from the TXD signal line of module

Serial port 2

- Port/TXD @ Client sends data to the DGBRXD signal line of module
- Prot/RXD @ Client receives data from the DGBTXD signal line of module

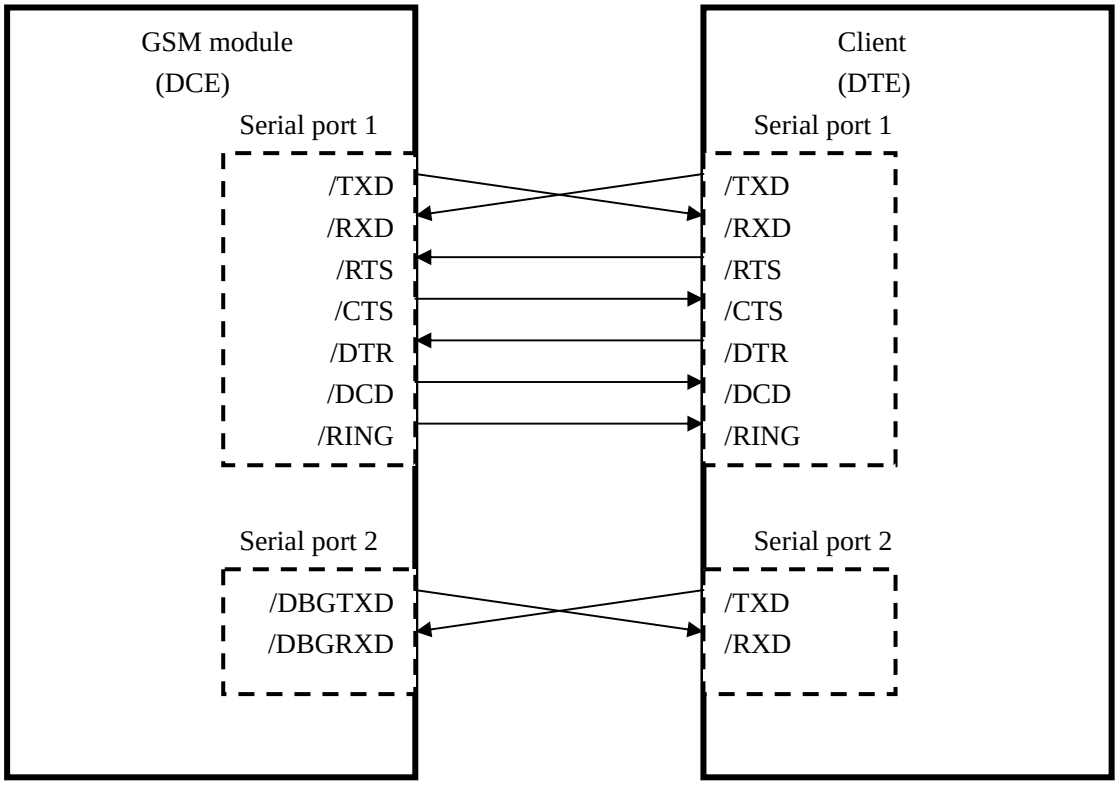

Figure 1 Interface of serial port

2.1 The function of Serial Port 1 & 2 supporting

Serial port 1

- Seven lines on Serial Port Interface
- Contains Data lines /TXD and /RXD, State lines /RTS and /CTS, Control lines /DTR, /DCD and RING;
- Serial Port 1 can be used for CSD FAX, GPRS service and send AT command of controlling module. Serial Port 1 can use multiplexing function, but you can not use the Serial Port 2 at the same time;
- Serial port 1 supports the communication rate as below:
  1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 (Initial default value)

Serial port 2

- Two lines on Serial Port Interface
- Only contains Data lines /TXD and /RXD
- Serial Port 2 only used for transmitting AT command. It can not be used for CSD call, FAX call. And the Serial port 2 can not use multiplexing function;
- Serial port 2 supports the communication rate as below:
  9600, 19200, 38400, 57600, 115200

Note: you must set the communication rate of serial port 2 by AT command, detailed description see 3.1

3 Software Interface of Serial Port

You can use the serial port 1 of SIMCOM module directly, but the serial port 2 just to be used after set by AT command.

3.1 The AT command of configuring Serial Port 2

Table1 the command of configuring Serial Port 2

AT+UART set the use mode and relative parameter of 2	
Read command AT+ UART?	Response + UART: <mode> OK
Set command AT+ UART = <mode>,[portrate]	Response OK Parameters <mode > 1：only use Serial Port 1 to type AT command 2：Use Serial Port 2 to communicate AT Command at GPRS or CSD mode, and only use Serial Port 1 to communicate AT command at un- GPRS or CSD mode 3： only use Serial Port 2 to communicate AT command [portrate] 9600，19200，28800，38400，57600，115200 set the baud rate of Serial Port 2
Reference	Note

3.2 Use Instructions

There are three ways to use the dual serial ports function, describe as below:

1) Use the Serial Port 2 to communicate AT command when transmit GPRS or CSD data at Serial Port 1:

a. After start the module, set the Serial Port 2 available and the corresponding baud rate by AT+UART=2, [portrate]. At this time, the Client can monitor the Serial Port 2, but the AT command only typed at Serial Port 1.

b. The Client dialing up to network with GPRS mode at Serial Port 1. If connect successfully, Serial Port 2 will receive the character string “GPRS CONNECTED”, and you can type AT command at Serial Port 2. If connect failed, the Serial Port 2 not be started. When terminate GPRS connection. If terminate by dialing procedure, if disconnect successfully, the Serial Port 2 will receive character string “VAL”, and then receive “GPRS DISCONNECTED”. At this time the AT command communication will carried on Serial Port 1. If disconnect failed, the serial port 2 will receive character string “INVAL”. And the Serial Port 2 is still available. If terminate GPRS connection by “ATH” command, the Serial Port 2 will receive character string “GPRS DISCONNECTED”. At this time, the AT command communication carried on Serial

Port 1.

Note: we reference terminate GPRS connection by "ATH" command at client. If terminate by dialing procedure, you will wait 2~10 seconds after receive character string "CSD DISCONNECTED", and then the Serial Port 1 that is occupied with dialing procedure will released. After the Serial Port 1 is released, it can communicate AT command.

c. If the client send FAX or dialing up to network with CSD mode at Serial Port 1, if connect successfully, Serial Port 2 will receive the character string "CSD CONNECTED" , and you can type AT command at Serial Port 2 of the Client. If connect failed, the serial port 2 not be used. Terminate the FAX or CSD dialing. If terminate the FAX or CSD dialing by the dialing procedure, disconnect successfully, the Serial Port 2 will receive the character string "CSD DISCONNECTED". At this time the AT command communication will switched to Serial Port 1. If disconnect failed, Serial Port 2 is still available. If terminate FAX or CSD dialing by "ATH" command at Serial Port 2, the Serial Port 2 will receive the character sting "CSD DISCONNECTED", the AT command communication will switched to Serial Port 1.

Note 1: we reference terminate FAX or CSD dialing by "ATH" command at client. If terminate by dialing procedure, you will wait 2~10 seconds after receive character string "CSD DISCONNECTED", and then the serial port 1 that be occupied with dialing procedure will released. After the Serial Port 1 is released, it can communicate AT command.

Note 2: You must change the baud rate into 19200 when call CSD data at Serial Port 1.

2) Only use the Serial Port 2 to perform AT command communication:

The module is set as only use Serial Port 2 to perform AT command communication by AT+UART=3, [portrate] command, you can test the AT command communication function of Serial Port 2 by this way.

You can switch the mode from only use Serial Port 2 to communicate AT command to only use Serial Port 1 to communicate AT command by AT+UART=1 command.

3) Only use the Serial Port 1 to perform AT command communication:

This way is used for switching the mode from only use Serial Port 2 to communicate AT command to only use Serial Port 1 to communicate AT command.

Note: The module can perform the general AT command when use the Serial Port 2, such as dialing (not CSD connection), send short message and so on. But you must note these commands as below:

1. AT+IPR This command is used for setting the baud rate of Serial Port 1, the baud rate of Serial Port 2 can be set by AT+UART previously.

2. ATH The module will terminate the voice calls at Serial Port 2, and terminate the CSD or GPRS connection at Serial Port 1 if there are no voice calls at Serial Port 2.