GTM-204M FAQ

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Content

Q01：How to use AT Command to send SMS in Text mode?....4
Q02：In PDU mode, how to use AT Command to send Chinese SMS?....4
Q03：SMS seems to be unable to store, how to set?....4
Q04：Demo Code can not receive text messages, how to solve?....5
Q05：How to read the SIM card message?....5
Q06：How do I get the SMS center number?....6
Q07：Is there a way to send SMS on Linux?....7
Q08：Is there any software that sends SMS on Windows?....8
Q9：What Baud rate communication is used by the module? Can I use non-default Baud rate?....8
Q10：How to limit only 2G or 3G or 4G? This setting can be permanent and effective?....8
Q11：How to check the current SIM card registration status?....9
Q12：Will I ring the ring when I receive an incoming call? If not, how do I know if I'm calling?....9
Q13：Can I send my voice file? If not, how can I place my voice?....9
Q14：What are the frequency bands currently supported by the 4G module? Which countries can use it?....10
Q15：If the scene will have USB interference problems, there are ways to avoid or prevent interference?....10
Q16：Use Access Port under AT Command will only get the same command response, can not send instructions, how to solve it?....10
Q17：Demo code can not be normal debugging, what may be the problem?....11
Q18：After installing the USB Driver on Windows 10, an abnormality caused the computer to be blue screen. How to solve it?....12
Q19：How to send and receive long content SMS (content is greater than one sms)? Support Chinese?....13
Q20：The module has been at stat=2, Not registered, and can be registered with another SIM card. What should I do?....14
Q21：I confirm that the module is registered through AT Command, but the network connection still cannot be established. What should I do?....15
Q22：I used GTM-204M to make a call, but the user has not answered the call, but why does the Log message show that it has been answered?....15
Q23：The module can’t recognize the SIM card, and the AT+CPIN command will

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

reply to ERROR. The result is still the same after changing the SIM card and rebooting. How can I confirm?.....16

Q24：Through SCADA software and module communication, one of the two devices can send text messages, and the other can communicate but cannot send text messages. How can I confirm the cause of the problem?.....16

Q25：The module has been used for a period of time, and the SIM card can be registered, but suddenly it can send text messages sometimes, sometimes not. How can I confirm the problem?.....16

Q26：The module cannot register to the telecommunications network, but the SIM card has displayed Ready, but AT+COPS cannot register normally. How can I confirm?.....17

Q27：Voice call were working before, but why doesn't it support the voice function now?.....17

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Q01：How to use AT Command to send SMS in Text mode?

A01：

1. To use AT Command: AT+CMGF=1. Set the text message to send text mode, if the reply OK representative set successfully.
2. To use AT Command: AT+CSCS="GSM". Set the message to send 7bits mode, the British dollar can reach 140 characters, if the reply OK representative set successfully.
3. To use AT Command: AT+CMGS="09XXXXXXXX". 09XXXXXXXX on behalf of the receiving end of the phone number, sent back will reply ">", then enter the characters you want to send. Then, type HEX: 1A # represents the end.

Q02：In PDU mode, how to use AT Command to send Chinese SMS?

A02：

1. To use AT Command: AT+CMGF=0.Set SMS to send in PDU mode, if the reply OK means the setting is successful.
2. To use AT Command: AT+CMGS=<length>, For example, the following PDU content length is 33.
3. Type PDU contents, for example: 0011000A8190XXXXXXXX0008AA146CD3683C79D1628000490043005 0004400410053. Among them, 90XXXXXXXX is the phone number, for example, 0963456789, it will be 90365476986CD3683C79D16280004900430050004400410053, which is the Unicode PDU encoding of ICP DAS
   PDU format reference: http://www.gsm-modem.de/sms-pdu-mode.html or http://smstools3.kekekasvi.com/topic.php?id=288.
4. Then, type HEX: 1A # represents the end.

Q03：SMS seems to be unable to store, how to set?

A03： The GTM-204M is preset to Mobile Equipment message storage. You can use AT + CPMS? To query the current setting status. This setting is valid forever. Need to be changed to SIM card storage, if it is to use Demo code, there is no need to modify, but self-developed program please use the following AT Command set to be stored in the SIM:
To use AT Command: AT+CPMS=“SM”,“SM”,“SM”

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

```
AT+CPMS?                                    //Query the currently SMS message storage
+CPMS: “ME”,0,255,“ME”,0,255,“ME”,0,255

OK
AT+CPMS=“SM”,“SM”,“SM”                      //Set SMS message storage as “SM”
+CPMS: 0,50,0,50,0,50

OK
AT+CPMS?                                    //Query the currently SMS message storage
+CPMS: “SM”,0,50,“SM”,0,50,“SM”,0,50

OK
```

Q04：Demo Code can not receive text messages, how to solve?

A04：The GTM-204M defaults to using the USB Port as a SMS notification. The AT + QURCCFG? Can be used to query the current setting status. This setting is valid forever.

- Use USB to receive newsletters:AT+QURCCFG="urcport","usbat"
- Use UART to receive SMS notifications:AT+QURCCFG="urcport","uart1"

```
AT+QURCCFG=?
+QURCCFG: "urcport",("usbat","usbmodem","uart1")

OK
AT+QURCCFG?
+QURCCFG: "urcport","usbat"

OK
AT+QURCCFG="urcport","usbmodem"
OK
AT+QURCCFG?
+QURCCFG: "urcport","usbmodem"

OK
```

Q05：How to read the SIM card message?

A05：Set the mode to Text, AT + CMGF = 1, then there are two ways to view the currently stored newsletters:

1. AT+CMGL=”ALL”, can display all the news content.
2. AT+CMGR= <index>, <index> for the message order.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

```
AT+CMGF=1                          //Set SMS message format as text mode
OK
AT+CMGL="ALL"                      //List all messages from message storage
+CMGL: 1,"STO UNSENT","",,

<This is a test from Quectel>

+CMGL: 2,"STO UNSENT","",,

<This is a test from Quectel>

OK
```

```
+CMTI: "SM",3                      //Indicates that new message has been received and saved
                                     to <index>=3 of "SM"
AT+CSDH=1
OK
AT+CMGR=3                          //Read message
+CMGR: "REC UNREAD","+8615021012496",,"13/12/13,15:06:37+32",145,4,0,0,"+861380021050
0",145,27

<This is a test from Quectel>

OK
```

Q06：How do I get the SMS center number?

A06：Two ways to get SMS center number:

Place your SIM card in your Andorid phone (version 4.4 or above), type # # # # 4636 # * # * from your phone application, and find SMSC from your device information and press Refresh to get it.



1. To use AT Command: AT+CSCA? get SMS center number.

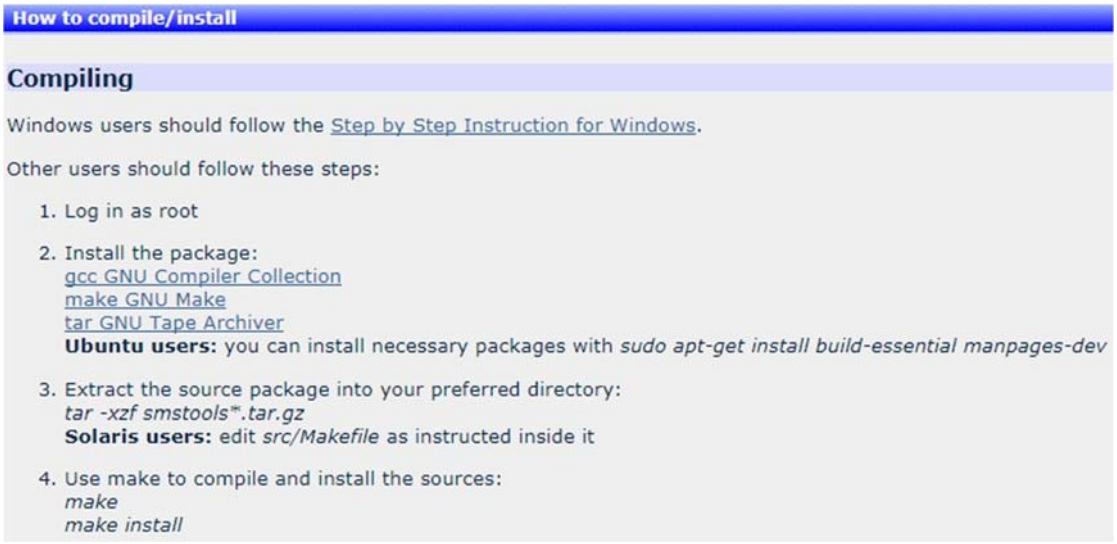
```
OK
AT+CSCA?
+CSCA: "+886932400851",145
```


Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Q07：Is there a way to send SMS on Linux?

A07：Linux can use SMS Server Tools 3, can be downloaded from the official website: http://smstools3.kekekasvi.com/index.php?p=packages

- Compile method:



- Setting method:

  After compiling, modify the device entry in /etc/smsd.conf for the current AT com port location and baudrate. The GTM-204M UART baudrate defaults to 115200.



- To run:

  Run: **/etc/init.d/sms3 start**

  Close: **/etc/init.d/sms3 stop**

- Send message:

  sendsms 8869xxxxxxxx 'Hello, how are you'

  8869xxxxxxxx To receive the phone number of the newsletter, replace the first 0 with the country code, for example, Taiwan is 886.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Q08：Is there any software that sends SMS on Windows?

A08：Windows demo code provided by ICP DAS can be downloaded from the official website
http://ftp.icpdas.com/pub/cd/usbcd/napdos/4g_modem/gtm-204m-4g/software/

You can also use third-party software: OZEKI NG SMS Gateway
http://www.ozekisms.com/index.php?owpn=133
The official website has a complete introduction and settings, but also provide a 15-day free trial, simply set the com port and baudrate and SMS center number to send a newsletter.





Q9：What Baud rate communication is used by the module? Can I use non-default Baud rate?

A9：GTM-204M use 115200 as the default baudrate and can only use 115200 communication via UART. However, when using USB, the module will automatically adjust the corresponding baudrate usage.

Q10：How to limit only 2G or 3G or 4G? This setting can be permanent and effective?

A10：GTM-204M default is Auto mode, it will adjust the base station registration according to the current signal condition. You can use

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

AT+QCFG="nwscanmode" command to ask the current setting value

- AT+QCFG="nwscanmode",0 Auto
- AT+QCFG="nwscanmode",1 2G only
- AT+QCFG="nwscanmode",2 3G only
- AT+QCFG="nwscanmode",3 4G only

This setting is permanent.

Q11：How to check the current SIM card registration status?

A11：Through AT+CREG=? To ask the current SIM card registration status, status reply code is as follows:

0	Not registered, ME is not currently searching a new operator to register to
1	Registered, home network
2	Not registered, but ME is currently searching a new operator to register to
3	Registration denied
4	Unknown
5	Registered, roaming

For example:

```
AT+CREG?
+CREG: 0,1

OK
```

reply: +CREG: 0,1

The status code is 1, which means it has been registered to the base station.

Q12：Will I ring the ring when I receive an incoming call? If not, how do I know if I'm calling?

A12：The module will not ring tone when it receives incoming calls, but can receive a fixed string "RING" through com port to indicate the incoming call:

```
Log
AT+CSQ
+CSQ: 26,99

OK

RING

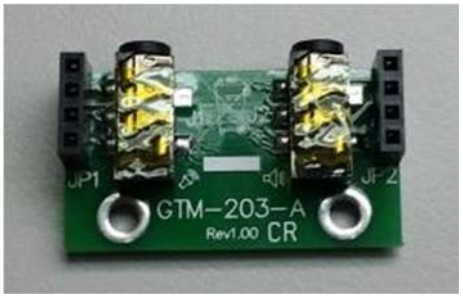
RING

NO CARRIER
```

Q13：Can I send my voice file? If not, how can I place my voice?

A13：GTM series has a microphone function, but GTM-203 and GTM-204 are not equipped with the default, you can view the package has a headphone and microphone module, installed on their own can use the microphone to play voice.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000



Q14：What are the frequency bands currently supported by the 4G module? Which countries can use it?

A14：

- GTM-204M-4GE: FDD LTE: B1/B3/B5/B7/B8/B20
  Most support areas: Taiwan, Europe, Australia, Thailand
- GTM-204M-4GC: FDD LTE: B1/B3/B8
  TDD LTE: B38/B39/B40/B41
  Most support areas: China

Q15：If the scene will have USB interference problems, there are ways to avoid or prevent interference?

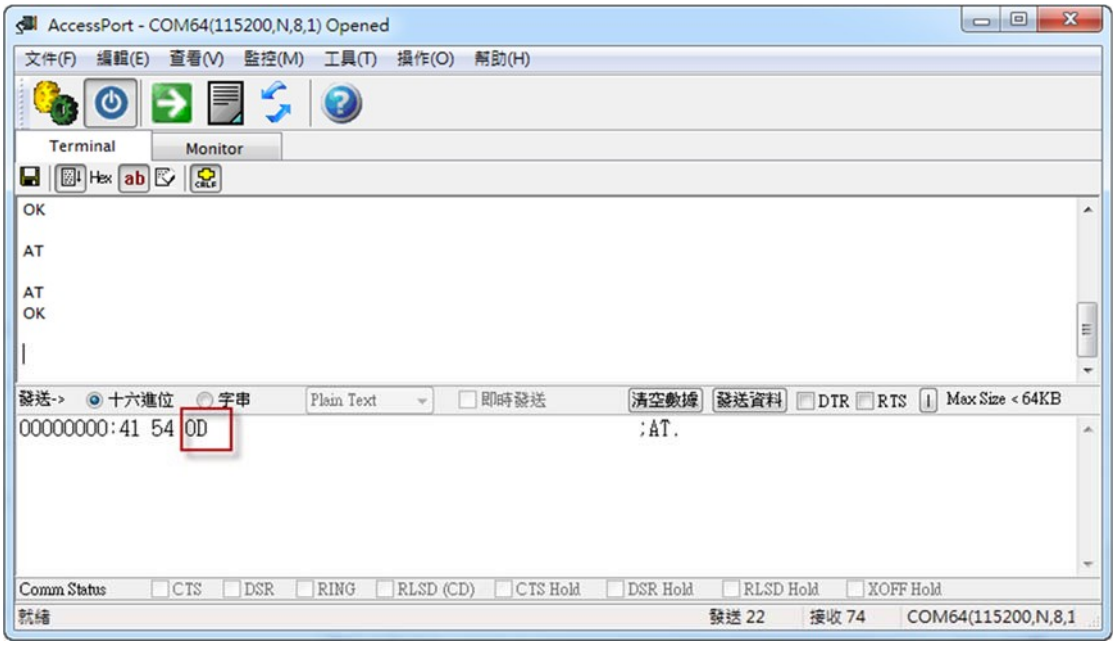
A15：

Can be used with ICP DAS USB-2560 products (http://www.icpdas.com/root/product/solutions/industrial_communication/converter/usb-2560.html). USB-2560 has its own isolation function to prevent interference problems.

Q16：Use Access Port under AT Command will only get the same command response, can not send instructions, how to solve it? A16：

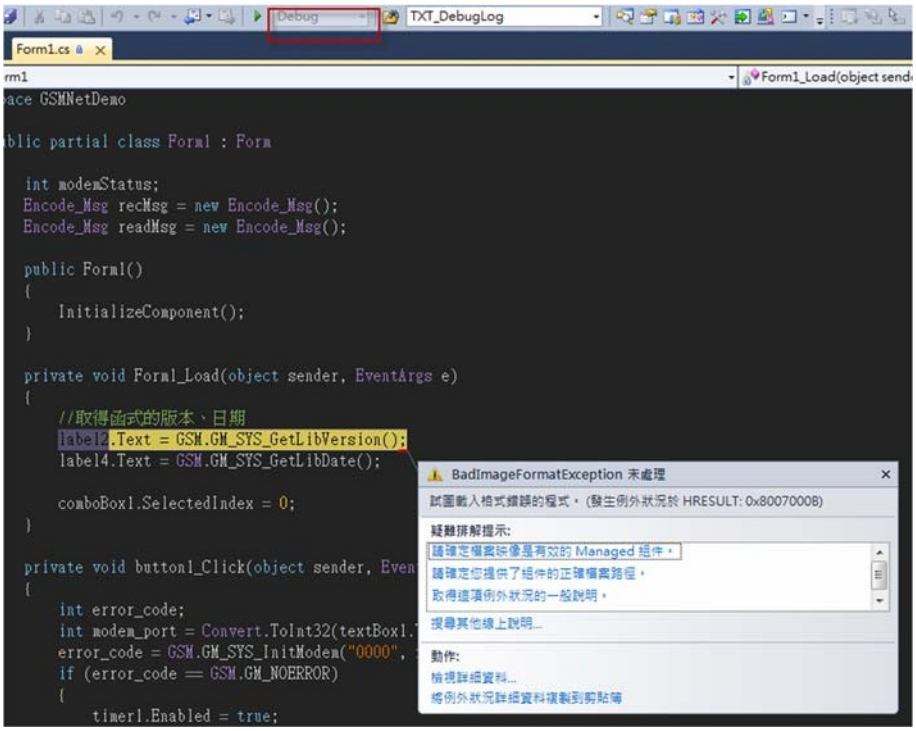
Access Port default will not be added to the end of the original data 0D, causing the command sent directly to the original command to send back, add 0D at the end to send the normal AT Command.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000



Q17：Demo code can not be normal debugging, what may be the problem?

A17：Encountered the following conditions, the Debug mode to Release mode and then re-run debugging.



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Q18：After installing the USB Driver on Windows 10, an abnormality caused the computer to be blue screen. How to solve it?

A18：This may be a driver conflict issue on Windows 10, please follow these steps:

Step1: Insert SIM card for GTM-204M, and then power on again.

Step2: Under AT Port: at + qcfg = "usbnet" to query the current setting value

If the response is:

+ QCFG: "usbnet", 0 <-This is the USB driver for GTM-204M

+ QCFG: "usbnet", 2 <- This is the driver built into Windows

To modify to use the built-in Driver of Windos, please issue the following instructions:

at + qcfg = "usbnet", 2

After completing the instructions, please power on again !!

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Q19：How to send and receive long content SMS (content is greater than one sms)? Support Chinese?

A19：

1. The long SMS only supports text mode, so it only supports English SMS content.

2-1. Receive SMS: AT+QCMGR, first query the current SMS index, then read the SMS content through the instruction

Example

```
+CMTI: "SM",3                 //The first message of a concatenated message comes

+CMTI: "SM",4                 //The second message of a concatenated message comes

AT+QCMGR= 3                   //Read the first segment of the concatenated message
+QCMGR: "REC UNREAD","+8615056913384",,"13/07/30,14:44:37+32",120,1,2
ABCD

OK
AT+QCMGR= 4                   //Read the second segment of the concatenated message
+QCMGR: "REC UNREAD","+8615056913384",,"13/07/30,14:44:37+32",120,2,2
EFGH

OK
```

2-2 Send SMS: AT+QCMGS, send SMS content separately according to index

Example

```
AT+CMGF=1                                  //Set SMS message format as text mode
OK
AT+CSCS="GSM"                              //Set character set as GSM which is used by the TE
OK
AT+QCMGS="15056913384",120,1,2 <CR>        //Input 120 for <uid>, and send the first segment of the
                                            concatenated SMS
>ABCD<Ctrl-Z>
+QCMGS: 190

OK
AT+QCMGS="15056913384",120,2,2 <CR>        //Send the second segment of the concatenated SMS.
>EFGH<Ctrl-Z>
+QCMGS: 191

OK
```


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Q20：The module has been at stat=2, Not registered, and can be registered with another SIM card. What should I do?

A20：

Step1. Whether the PIN Code has been released.

Step2. Find the currently searchable telecommunications providers through the AT+COPS=? command, as follows:

```
AT+COPS=?
+COPS: (1,"Chunghwa Telecom","Chunghwa","46692",2),(2,"Chunghwa
Telecom","Chunghwa","46692",7),(1,"466 12","466 12","46612",7),(3,"466 05","466 05","46605",7),
(1,"Far EasTone","FET","46601",7),(3,"T Star","T Star","46689",2),(3,"T Star","T Star","46689",7),
(1,"Far EasTone","FET","46601",2),(3,"TW Mobile","TWM","46697",2),(3,"TW
Mobile","TWM","46697",7),(3,"466 05","466 05","46605",0),,(0-4),(0-2)

OK
```

Step3. According to the current SIM card carrier's instructions, for example, to connect to Chunghwa Telecom through 4G:

AT+COPS=1,2,"46692",7

Reference parameters:

Parameter		
<stat>	0	Unknown
	1	Operator available
	2	Current operator
	3	Operator forbidden
<oper>	Operator in format as per **<mode>**	
<mode>	0	Automatic mode. **<oper>** field is ignored
	1	Manual operator selection. **<oper>** field shall be present and <**Act**> optionally
	2	Manually deregister from network
	3	Set only **<format>** (for **AT+COPS?** Read Command), and do not attempt registration/deregistration (**<oper>** and **<Act>** fields are ignored). This value is invalid in the response of Read Command.
	4	Manual/automatic selection. **<oper>** field shall be presented. If manual selection fails, automatic mode (**<mode>**=0) is entered
<format>	0	Long format alphanumeric **<oper>** which can be up to 16 characters long
	1	Short format alphanumeric **<oper>**
	2	Numeric **<oper>**. GSM location area identification number
<Act>	Access technology selected. Values 3, 4, 5 and 6 occur only in the response of Read Command while MS is in data service state and is not intended for the **AT+COPS** Write Command.	
	0	GSM
	2	UTRAN
	3	GSM W/EGPRS
	4	UTRAN W/HSDPA
	5	UTRAN W/HSUPA
	6	UTRAN W/HSDPA and HSUPA
	7	E-UTRAN
	100	CDMA

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Q21 : I confirm that the module is registered through AT Command, but the network connection still cannot be established. What should I do?

A21:

Step1. Confirm that the current APN (Access Point Name) is correct. If it is a general Internet SIM card, the APN should all be "internet", but if the carrier specifies the APN (for example: MDVPN), please set it to the specified name.

AT Command:

```
AT+CGDCONT?
+CGDCONT: 1,"IP","hinet-n","0.0.0.0",0,0,0,0
```

Step2. Modify APN name:

AT Command:

```
AT+QICSGP=1,1,"INTERNET","","",0
```

Step3. Reconfirm the current APN name:

AT Command:

```
AT+CGDCONT?
+CGDCONT: 1,"IP","INTERNET","0.0.0.0",0,0,0,0
```

Step4. Power on the module again

Q22 : I used GTM-204M to make a call, but the user has not answered the call, but why does the Log message show that it has been answered?

A22:

This may be a problem with AT Command's judgment, such as the following example:

```
RING                                        //RING, 有電話打進來
at+clcc
+CLCC: 1,1,0,1,0,"",128
+CLCC: 2,1,0,1,0,"",128
+CLCC: 4,1,4,0,0,"0956123456",128           //第2碼的1:表示由終端發起;第3碼的4:表示來電鈴聲中(Incoming);第4碼0: Voice.
+CLCC: 3,1,0,1,0,"",128

OK

RING
ata                                         //接起電話
OK
at+clcc
+CLCC: 1,1,0,1,0,"",128
+CLCC: 2,1,0,1,0,"",128
+CLCC: 4,1,0,0,0,"0956123456",128           //第3碼變成0, 表示Active 已經接起來正在通話中.
+CLCC: 3,1,0,1,0,"",128
```

The current status can be inquired through the command AT+CLCC, but if it is only judged that the first 2 digits are not correct, the phone must be turned to 0 through the third digit (red circle) to be Active.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Q23：The module can't recognize the SIM card, and the AT+CPIN command will reply to ERROR. The result is still the same after changing the SIM card and rebooting. How can I confirm?

A23:

This may cause the module to be unable to recognize the behavior due to the sudden hot plugging of the SIM card. You can use the AT+QSIMDET command to confirm and issue the command:

AT+QSIMDET=0,0

After confirming the reply OK, please power on the module again, and then confirm the status of the SIM card.

Q24：Through SCADA software and module communication, one of the two devices can send text messages, and the other can communicate but cannot send text messages. How can I confirm the cause of the problem?

A24:

The two modules may be purchased at different times. Please update the DLL file of GSM LIB. The URL is as follows:

https://www.icpdas.com/en/download/show.php?num=2115&model=GTM-204M-4GE

Q25：The module has been used for a period of time, and the SIM card can be registered, but suddenly it can send text messages sometimes, sometimes not. How can I confirm the problem?

A25:

Please confirm whether you are using a 3G or 2G SIM card. 3G services have been terminated in some countries and regions. Although some telecom companies can register on 3G networks, the signal quality is obviously deviated and even cannot be used in some areas. Please replace the 4G SIM card or Contact the local telecommunications service provider to understand the abnormal signal quality.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Q26 : The module cannot register to the telecommunications network, but the SIM card has displayed Ready, but AT+COPS cannot register normally. How can I confirm?

A26:

Please confirm whether the following command is APN: INTERNET (please refer to the APN setting of each country or the setting of the carrier)

```
AT+CGDCONT?
+CGDCONT: 1,"IP","INTERNET","0.0.0.0",0,0,0,0

OK
```

If not, please enter the following command to set APN:

AT+QICSGP=1,1,"INTERNET","","",0

Q27 : Voice call were working before, but why doesn't it support the voice function now?

A27:

Due to the closure of 3G services, voice calls need to be replaced by VoLTE. Please confirm with your telecom service provider whether your phone number has VoLTE service activated before use.

Step 1. Check if the hardware supports VoLTE function.

Use a serial port testing tool and enter the command **ATI**. If the reply starts with **EC20E**, it means your hardware **doesn't support** VoLTE; otherwise, it supports VoLTE.



Step 2. Check if the software version supports VoLTE function.

Use a serial port testing tool and enter the command **AT+CGMR**.

```
AT+CGMR
EC25EFAR06A06M4G
```

Taiwan telecom service provider : If the software revision is lower than EC25EFAR06A**06**M4G, due to the differences of MBN setting, it may not support VoLTE. You need to send it back to ICPDAS or connect remotely to re-flash the latest version.

Overseas telecom service provider : Ignore this step. If the following

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

instructions do not work, please contact ICPDAS.

Step 3. Enable VoLTE function

Enter the command **AT+QMBNCFG="list"**. It will list the supported telecom service providers and their MBN setting.

```
AT+QMBNCFG="list"
+QMBNCFG: "List",0,0,0,"ROW_Generic_3GPP",0x05010824,201806201
+QMBNCFG: "List",1,0,0,"Reliance_OpnMkt",0x05011B4B,201801051
+QMBNCFG: "List",2,1,1,"TW_Mobile_China_VoLTE",0x05800301,201805021
+QMBNCFG: "List",3,0,0,"Bouygues_France_VoLTE",0x05800101,201705111
+QMBNCFG: "List",4,0,0,"Telstra-Commercial_VoLTE",0x05800716,201902281
+QMBNCFG: "List",5,0,0,"Commercial-Smartfren",0x05012509,201801081
+QMBNCFG: "List",6,0,0,"VF_Germany_VoLTE",0x05010444,201801111
+QMBNCFG: "List",7,0,0,"Swis_switzerland_VoLTE_VoWiFi",0x05010421,201712231
+QMBNCFG: "List",8,0,0,"TF_Spain_VoLTE",0x05800D42,201902191
+QMBNCFG: "List",9,0,0,"Commercial-DT-VOLTE",0x05011F27,201904151

OK
```

Take TW_Mobile_China_VoLTE as an example. If the reply is :

+QMBNCFG:"List",2,**0,0**,"TW_Mobile_China_VoLTE",0x05800301,2018050 represents “MBN setting **is not activated** ”

+QMBNCFG: "List",2,**1,1**,"TW_Mobile_China_VoLTE",0x05800301,2018050 represents “MBN setting **is activated** ”

Step 4. If the MBN setting is not activated, you need to enter a command to activate it. There are auto-select and manual-select options. (Use auto-select as the primary option. If it still cannot be activated, then try manual-select.)

Auto-select

AT+QMBNCFG="AutoSel",**1**

Manual-select

AT+QMBNCFG="AutoSel",**0**

AT+QMBNCFG=**"SELECT"**,**"ROW_Generic_3GPP"**

(Replace “ROW_Generic_3GPP“ with your telecom service provider)

After this, enter AT+QMBNCFG="list" again to check if the MBN setting is activated.

Step 5. After confirming the activation of the MBN setting, check the IMS activation status.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Command to check IMS status

AT+QCFG=”ims”

If the reply is as follows, it means IMS is activated and it supports IMS. You can use VoLTE now.

+QCFG:”ims”,**1,1**

If the reply is as follows, it means IMS is not activated, you need to active it.

+QCFG:”ims”,**0,1**

If the reply is as follows, it means that it doesn’t support IMS. This might be due to the MBN setting, please contact ICPDAS.

+QCFG:”ims”,**1,0**

Step 6. Active IMS

Enter command to active

AT+QCFG="ims",1

Then restart the device

AT+CFUN=1,1

Wait for several seconds until the restart is complete, then check the IMS activation status again to confirm that IMS is enabled.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000