# QUECTEL

## Quectel Cellular Engine

## GSM SMTP
## AT Commands

**GSM_SMTP_ATC_V1.00**
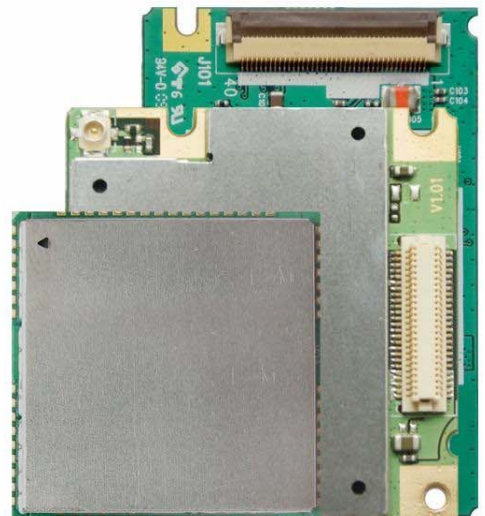
| Document Title | GSM SMTP AT Commands |
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# 0. Revision history

| Revision | Date | Author | Description of change |
|----------|------|--------|-----------------------|
| 1.00 | 2010-04-23 | Colin HU | Initial |

# 1. Introduction

Quectel Module provides an internal TCP/IP stack that is driven by AT commands and enables the host application to easily access the internet service. It includes TCP service, UDP service, HTTP service, FTP service and SMTP service, etc. This document is a reference guide to all the AT commands and responses defined for SMTP service.

## 1.1. Reference

**Table 1: Reference**

| SN | Document name | Remark |
|----|---------------|--------|
| [1] | Mxx_ATC.pdf | The introduction of AT commands for Quectel Module |
| [2] | GSM_TCPIP_AN.pdf | To introduce how to use the internal TCP/IP stack |

## 1.2. Terms and abbreviations

**Table 2: Terms and abbreviations**

| Abbreviation | Description |
|--------------|-------------|
| APN | Access Point Network |
| CSD | Circuit Switched Data |
| FTP | File Transfer Protocol |
| GPRS | General Packet Radio Service |
| HTTP | Hypertext Transfer Protocol |
| SMTP | Simple Mail Transfer Protocol |
| TCP | Transmission Control Protocol |
| UART | Universal Asynchronous Receiver/Transmitter |
| UDP | User Datagram Protocol |

## 2. AT Commands for SMTP Service

### 2.1. Overview of AT commands for SMTP service

| Command | Description |
|---------|-------------|
| AT+QSMTPUSER | SET THE USER NAME FOR AUTHENTICATION |
| AT+QSMTPPWD | SET THE PASSWORD FOR AUTHENTICATION |
| AT+QSMTPADDR | SET THE EMAIL ADDRESS OF THE SENDER |
| AT+QSMTPNAME | SET THE SENDER'S NAME |
| AT+QSMTPSRV | SET THE ADDRESS AND PORT OF SMTP SERVER |
| AT+QSMTPDST | ADD OR DELETE RECIPIENTS |
| AT+QSMTPSUB | EDIT THE SUBJECT OF THE EMAIL |
| AT+QSMTPBODY | EDIT THE CONTENT OF THE EMAIL |
| AT+QSMTPATT | ADD AN ATTACHMENT FOR THE EMAIL |
| AT+QSMTPDATT | DELETE AN ATTACHMENT |
| AT+QSMTPCLR | CLEAR ALL THE CONFIGURATIONS AND CONTENTS OF THE EMAIL |
| AT+QSMTPCFG | SMTP CONFIGURATIONS |
| AT+QSMTPPUT | SEND EMAIL |

### 2.2. Detailed description of AT commands for SMTP service

#### 2.2.1.  AT+QSMTPUSER   Set the user name for authentication

| AT+QSMTPUSER   Set the user name for authentication | |
|---|---|
| Test Command<br>**AT+QSMTPUSER=?** | Response<br>**+QSMTPUSER: "USER"**<br><br>**OK**<br>Parameters<br>See Write Command. |
| Read Command<br>**AT+QSMTPUSER?** | Response<br>**+QSMTPUSER: "<user>"**<br><br>**OK**<br>Parameters<br>See Write Command. |
| Write Command<br>**AT+QSMTPUSER="<user>"** | Response<br>If format is right and it is not sending a mail, response<br>**OK** |

| | Otherwise response |
| | **ERROR** |
| | |
| | Parameters |
| | **<user>** The user name for the authentication. The maximum size of the parameter is 50. |
| Reference | |

### 2.2.2.  AT+QSMTPPWD   Set the password for authentication

| **AT+QSMTPPWD   Set the Password for Authentication** | |
|---|---|
| Test Command<br>**AT+QSMTPPWD=?** | Response<br>**+QSMTPPWD: "PASSWORD"**<br><br>**OK**<br>Parameters<br>See Write Command. |
| Read Command<br>**AT+QSMTPWD?** | Response<br>**+QSMTPPWD: "<****>"**<br><br>**OK**<br>Parameters<br>See Write Command. |
| Write Command<br>**AT+QSMTPPWD="<pwd>"** | Response<br>If format is right and it is not sending email, response<br>**OK**<br><br>Otherwise response<br>**ERROR**<br><br>Parameters<br>**<pwd>** The password for the authentication. The maximum size of the parameter is 50.<br>**<****>** Mask for the password |
| Reference | |

### 2.2.3.  AT+QSMTPADDR   Set the email address of the sender

| **AT+QSMTPADDR   Set the email address of the sender** | |
|---|---|
| Test Command<br>**AT+QSMTPADDR=?** | Response<br>**+QSMTPADDR: "ADDRESS"**<br><br>**OK**<br>Parameters |

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| | See Write Command |
| --- | --- |
| Read Command<br>**AT+QSMTADD<br>R?** | Response<br>**+QSMTPADDR: "<addr>"**<br><br>**OK**<br>Parameters<br>See Write Command |
| Write Command<br>**AT+QSMTPAD<br>DR="<addr>"** | Response<br>If format is right and it is not sending email, response<br>**OK**<br><br>Otherwise response<br>**ERROR**<br><br>Parameters<br>**<addr>**          The email address of the sender. |
| Reference | |

### 2.2.4.   AT+QSMTPNAME   Set the sender's name

| AT+QSMTPNAME   Set the sender's name | |
| --- | --- |
| Test Command<br>**AT+QSMTPNA<br>ME=?** | Response<br>**+QSMTPNAME: "NAME"**<br><br>**OK**<br>Parameters<br>See Write Command |
| Read Command<br>**AT+QSMTPNA<br>ME?** | Response<br>**+QSMTPNAME: "<name>"**<br><br>**OK**<br>Parameters<br>See Write Command |
| Write Command<br>**AT+QSMTPNA<br>ME="<name>"** | Response<br>If format is right and it is not sending email, response<br>**OK**<br><br>Otherwise response<br>**ERROR**<br><br>Parameters |

| | <name> | The sender's name that will be shown when the recipients receive the email. |
|---|---|---|
| Reference | | |

### 2.2.5. AT+QSMTPSRV  Set the address and port of SMTP server

| AT+QSMTPSRV | Set the address and port of SMTP server |
|---|---|
| Test Command<br>**AT+QSMTPSRV<br>=?** | Response<br>**+QSMTPSRV: "SERVER",(1-65535)**<br><br>**OK**<br>Parameters<br>See Write Command |
| Read Command<br>**AT+QSMTPSRV<br>?** | Response<br>**OK**<br><br>**+QSMTPSRV: "<srvAddr>",<port>**<br>Parameters<br>See Write Command |
| Write Command<br>**AT+QSMTPSRV<br>="<srvAddr>",<<br>port>** | Response<br>If format is right and it is not sending email, response<br>**OK**<br><br>Otherwise, response<br>**ERROR**<br><br>Parameters<br>**<srvAddr>**         The IP address or domain name of the SMTP server.<br>**<port>**         The port of the SMTP server. |
| **Reference** | |

### 2.2.6. AT+QSMTPDST  Add or delete recipients

| AT+QSMTPDST | Add or delete recipients |
|---|---|
| Test Command<br>**AT+QSMTPDST<br>=?** | Response<br>**+QSMTPDST: (0,1),(1-3),"ADDRESS"**<br><br>**OK**<br>Parameters<br>See Write Command |

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| Read Command | Response |
|---|---|
| **AT+QSMTPDST ?** | **[+QSMTPDST: <type>,"<e-addr>"[<CR><LF>…]]** |
| | |
| | **OK** |
| | Parameters |
| | See Write Command |
| Write Command | Response |
| **AT+QSMTPDST =<mode>[,<type >[,"<e-addr>"]]** | If format is right and it is not sending email, response |
| | **OK** |
| | |
| | **+QSMTPDST: <result>** |
| | Otherwise, response |
| | **ERROR** |
| | |
| | Parameters |
| | **<mode>**                A numeric to indicate to add a recipient or delete a recipient. |
| |       **0**    delete |
| |       **1**    add |
| | **<type>**                A numeric to indicate the type of the recipient. |
| |       **1**    receiver |
| |       **2**    copy receiver |
| |       **3**    secret receiver |
| | **<e-addr>**              The email address of the recipient to add or delete. |
| | **<result>**              A numeric to indicate the result of the operation. If it is a negative numeric, it is the type of error (Please refer to the chapter 3). If it is 0, it means the operation is successful. |
| Reference | Note: |
| | If **<mode>**equals 0, i.e. try to delete recipients, then if **<e-addr>** is default, this command will delete all the recipients whose type is same as what **<type>** defines, and then if **<type>** is also default, this command will delete all the recipients. The maximum number of the recipients is 20. |

### 2.2.7.   AT+QSMTPSUB   Edit the subject of the email

| **AT+QSMTPSUB** | **Edit the subject of the email** |
|---|---|
| Test Command | Response |
| **AT+QSMTPSUB =?** | **+QSMTPSUB: (0-3),"TITLE"** |
| | |
| | **OK** |
| | Parameters |
| | See Write Command |

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| Read Command<br>**AT+QSMTPSUB**<br>**?** | Response<br>**+QSMTPSUB: <charset>,"<title>"**<br><br>**OK**<br>Parameters<br>See Write Command |
|---|---|
| Write Command<br>**AT+QSMTPSUB**<br>**=<charset>,"<titl**<br>**e>"** | Response<br>If format is right and it is not sending email, response<br>**OK**<br><br>Otherwise, response<br>**ERROR**<br><br>Parameters<br>**<charset>**    A numeric to indicate the character set of the title.<br>    **0**    ASCII<br>    **1**    UTF-8<br>    **2**    GB2312<br>    **3**    BIG5<br>**<title>**    A string as the title of the email. If **<charset>** is 0, this string will be as the title of the email. Otherwise, it is formatted as a hexadecimal number string, e.g. "41" means the HEX value 0x41. The length of **<title>** is 0-100 if the character set is ASCII. The length of **<title>** is 0-200 if the character set is not ASCII. |
| Reference | |

### 2.2.8.    AT+QSMTPBODY    Edit the content of the email

| **AT+QSMTPBODY    Edit the content of the email** | |
|---|---|
| Test Command<br>**AT+QSMTPBO**<br>**DY=?** | Response<br>**+QSMTPBODY: (0-3),(1-48000)**<br><br>**OK**<br>Parameters<br>See Write Command |
| Write Command<br>**AT+QSMTPBO**<br>**DY=<charset>**<br>**[,<timeout>]** | Response<br>If format is right and it is not sending email, response<br>**OK**<br><br>**CONNECT**<br><br>**+QSMTPBODY: <result>**<br>Otherwise, response |

| | ERROR |
|---|---|
| | Parameters |
| | **<charset>**      A numeric to indicate the character set of the title. |
| |          **0**     ASCII |
| |          **1**     UTF-8 |
| |          **2**     GB2312 |
| |          **3**     BIG5 |
| | **<timeout>**      The maximum time to download email body from UART. The unit is second. If it is default, the maximum time is infinite. |
| | **<result>**      A numeric to indicate the result to input email body. If it is a negative numeric, it is the same as **<err>** (Please refer to the chapter 3). If is not a negative numeric, it represents the length of the input email body data. |
| Reference | Note: |
| | 1. "+++" is used to end downloading email body. |
| | 2. The maximum size of the email body is 10 Kbytes. |

### 2.2.9.  AT+QSMTPATT   Add an attachment for the email

| **AT+QSMTPATT**  **Add an attachment for the email** | |
|---|---|
| Test Command<br>**AT+QSMTPATT<br>=?** | Response<br>**+QSMTPATT: "FILE NAME",<fileSz>,(1-48000)**<br><br>**OK** |
| Read Command<br>**AT+QSMTPATT<br>?** | Response<br>**[+QSMTPATT: <fileIndex>,"<fileName>",<fileSz><CR><LF>……]**<br><br>**OK**<br>Parameters<br>See Write Command |
| Write Command<br>**AT+QSMTPATT<br>="<fileName>"[,<br><fileSz>,<timeou<br>t>]** | Response<br>If format is right and it is not sending email, response<br>**OK**<br><br>**CONNECT**<br><br>**+QSMTPATT: <result>**<br>Otherwise, response<br>**ERROR**<br><br>Parameters<br>**<fileIndex>**      The index of the attachment. |

| | | |
|---|---|---|
| | **\<fileName\>** | A string as the file name of the attachment to add. |
| | **\<fileSz\>** | the size of the attachment to add. The range is 0-102400. The unit is byte. |
| | **\<timeout\>** | the maximum time to download email attachment from UART. The unit is second. If it is default, the maximum time is infinite. The range is 1-48000. The unit is byte. |
| | **\<result\>** | A numeric to indicate the result to input the attachment. If it is a negative numeric, it is the same as **\<err\>** (Please refer to the chapter 3). If is not a negative numeric, it represents the real length of the attachment. |
| Reference | Note: 1. "+++" is used to end downloading attachment 2. The total number of the attachments should be no more than 10. 3. The total size of the attachments should be not greater than 100 KBytes. | |

### 2.2.10. AT+QSMTPDATT    Delete an attachment

| AT+QSMTPDATT    Delete an attachment | |
|---|---|
| Test Command **AT+QSMTPDATT=?** | Response **+QSMTPDATT: (1-10)** **OK** |
| Execute Command **AT+QSMTPDATT** | Response If format is right and it is not sending email, response **OK** **+QSMTPDATT: \<result\>** Otherwise, response **ERROR** Parameters See Write Command |
| Write Command **AT+QSMTPDATT=\<fileIndex\>** | Response If format is right and it is not sending email, response **OK** **+QSMTPDATT: \<result\>** Otherwise, response **ERROR** Parameters |
| | **\<fileIndex\>** The index of the attachment to delete. Please refer to **\<fileIndex\>** in 2.2.9 |

| | **<result>** | A numeric to indicate the result to delete the attachment. If it is 0, it means it is successful to delete the attachment. If it is a negative numeric, it is the same as **<err>** (Please refer to the chapter 3). |
|---|---|---|
| Reference | Note: The Execute Command is used to delete all the attachments. | |

### 2.2.11. AT+QSMTPCLR    Clear all the configurations and contents of the email

| **AT+QSMTPCLR    Clear all the configurations and contents of the email** | |
|---|---|
| Test Command **AT+QSMTPCLR=?** | Response **OK** |
| Execute Command **AT+QSMTPCLR** | If format is right, response **OK**<br><br>Otherwise, response **ERROR** |
| Reference | Note:<br>The execute command will clear the following configurations and contents.<br>1.  user name (refer to the command **AT+QSMTPUSER**)<br>2.  password (refer to the command **AT+QSMTPPWD**)<br>3.  the sender's address (refer to the command **AT+QSMTPADDR**)<br>4.  the sender's name (refer to the command **AT+QSMTPNAME**)<br>5.  the address of the SMTP server (refer to the command **AT+QSMTPSRV**)<br>6.  all the recipients (refer to the command **AT+QSMTPDST**)<br>7.  the subject (refer to the command **AT+QSMTPSUB**)<br>8.  the body (refer to the command **AT+QSMTPBODY**)<br>9.  all the attachments (refer to the command **AT+QSMTPATT**) |

### 2.2.12. AT+QSMTPCFG    SMTP configurations

| **AT+QSMTPCFG    SMTP configurations** | |
|---|---|
| Test Command **AT+QSMTPCFG=?** | Response **+QSMTPCFG: (1)**<br><br>**OK** |
| Write Command **AT+QSMTPCFG=<type>[,<value>]** | Response<br>If format is right and **<value>** is omitted, response **+QSMTPCFG:<value>**<br><br>**OK**<br>Else<br>If format is right and it is not sending email, response **OK** |

| | | |
|---|---|---|
| | Otherwise, response **ERROR** | |
| | Parameters | |
| | **<type>** | A numeric to indicate the parameter to configure. |
| | | **1** configure whether need authentication |
| | **<value>** | the value of the parameter to configure defined by **<type>**. |
| | | If **<type>** == 1 |
| | | **0** don't need authentication |
| | | **1** need authentication. This is factory default value. |
| Reference | Note: The Write Command with **<value>** omitted is used to query the value of the corresponding parameter. | |

### 2.2.13. AT+QSMTPPUT   Send email

| AT+QSMTPPUT   Send email | |
|---|---|
| Test Command **AT+QSMTPPUT=?** | Response **+QSMTPPUT: (100-48000)** **OK** |
| Execute Command **AT+QSMTPPUT** | If format is right and it is not sending email, response **OK** **+QSMTPPUT: <result>** Otherwise, response **ERROR** **Note:** This means the module will try to send the email without time restriction. |
| Write Command **AT+QSMTPPUT=<timeout>** | Response If format is right and it is not sending email, response **OK** **+QSMTPPUT: <result>** Otherwise, response **ERROR** Parameters |
| | **<timeout>**  the maximum time to send email. The unit is second. If it is default, the maximum time is infinite. The range is 100-48000. |
| | **<result>**  A numeric to indicate the result to send the email. If it |

| | | is 0, it means it is successful to send the mail. If it is a negative numeric, it is the same as **\<err\>** (Please refer to the chapter 3). |
|---|---|---|
| Reference | | |

# 3. Summary of Error Codes

The error code **<err>** indicates an error related to mobile equipment or network. The detail about **<err>** is described in the following table.

| <err> | Meaning |
|---|---|
| -1 | Unknown error |
| -3 | The SMTP service is busy. Such as, downloading body or attachment, sending email |
| -4 | Failed to get IP address according to domain name |
| -5 | Network error. Such as, failed to activate GPRS/CSD context, failed to establish the TCP connection with the SMTP server or failed to send email to the SMTP server, etc. |
| -6 | Unsupported authentication type |
| -7 | The connection for the SMTP service is closed by peer. |
| -8 | GPRS/CSD context is deactivated |
| -9 | Timeout |
| -10 | No recipient for the SMTP service |
| -11 | Failed to send email |
| -12 | Failed to open file for attachment |
| -13 | No enough memory for the attachment |
| -14 | Failed to save the attachment |
| -15 | The input parameter is wrong |
| -421 | Service not available, closing transmission channel |
| -450 | Requested mail action not taken: mailbox unavailable |
| -451 | Requested action aborted: local error in processing |
| -452 | Requested action not taken: insufficient system storage |
| -500 | Syntax error, command unrecognized |
| -501 | Syntax error in parameters or arguments |
| -502 | Command not implemented |
| -503 | Bad sequence of commands |
| -504 | Command parameter not implemented |
| -521 | <domain> does not accept mail (see rfc1846) |
| -530 | Access denied |
| -535 | Authentication failed |
| -550 | Requested action not taken: mailbox unavailable |
| -551 | User not local; please try <forward-path> |
| -552 | Requested mail action aborted: exceeded storage allocation |
| -553 | Requested action not taken: mailbox name not allowed |
| -554 | Transaction failed |

# 4. Examples

## 4.1. Configure SMTP server

| | |
|---|---|
| **AT+QSMTPSRV="smtp.163.com",25** | // Set SMTP server as "**smtp.163.com**" and port as **25** |
| **OK** | |
| **AT+QSMTPUSER="quectel"** | // Set the user name for authentication as "**quectel**" |
| **OK** | |
| **AT+QSMTPPWD="test"** | // Set the password for authentication as "**test**" |
| **OK** | |

**Note:**

Actually, the user name "**quectel**" and password "**test**" isn't a valid account. It is just an example.

## 4.2. Configure the information of sender

| | |
|---|---|
| **AT+QSMTPNAME="quectel"** | // Set the name of the sender as "**quectel**" |
| **OK** | |
| **AT+QSMTPADDR="quectel@163.com"** | // Set the email address of the sender as "**quectel@163.com**" |
| **OK** | |

## 4.3. Add recipients

| | |
|---|---|
| **AT+QSMTPDST=1,2,"colin.hu@quectel.com"** | // Add a recipient "**colin.hu@quectel.com**". and it is a copy receiver which is defined by **2**. |
| **OK** | |

By the way, if you find the recipient you added before is wrong and you want to delete it, please execute the following command.

| | |
|---|---|
| **AT+QSMTPDST=0,2,"colin.hu@quectel.com"** | // Delete the recipient "**colin.hu@quectel.com**" in the copy recipients list. |
| **OK** | |

## 4.4. Edit the content of the email

| | |
|---|---|
| **AT+QSMTPSUB=0,"SMTP TEST"**<br>**OK** | // Set the title of the email as **"SMTP TEST"** |
| **AT+QSMTPBODY=1,100**<br><br><br>**OK** | // Prepare to input the content of the email from UART. And the character set of the email body is UTF-8 which is defined by **1**. |
| **CONNECT**<br>**……**<br>**+++**<br>**+QSMTPBODY:2009**<br><br>**AT+QSMTPATT="bigfile.txt"**<br>**OK** | // Input the data of the email body<br>// Input "+++" to end downloading email body<br>// Successful to download email body and the size of the email body is **2009**.<br>// Prepare to download the attachment **"bigfile.txt"** |
| **CONNECT**<br>**……**<br>**+++**<br>**+QSMTPATT:20090** | // Input the data of the attachment<br>// Input "+++" to end downloading the attachment<br>// Successful to download the attachment and the size of the attachment is **20090**. |
| **AT+QSMTPATT?**<br>**+QSMTPATT: 1, "bigfile.txt", 20090**<br><br>**OK** | // Query the information of all attachments<br>// The first attachment is **"bigfile.txt"** and its size is **20090**. |

By the way, if you don't want send the attachment with the email, please delete the attachment by the following command.

| | |
|---|---|
| **AT+QSMTPDATT=1**<br>**OK** | // Delete the first attachment |
| **+QSMTPDATT:0** | // Successfully to delete the attachment |

## 4.5. Send email

| | |
|---|---|
| **AT+QIFGCNT=0** | // Choose the context 0 to activate GPRS/CSD context for the SMTP service, please refer to [1] and |

|  | [2] |
| --- | --- |
| **OK** | |
| **AT+QICSGP=1,"CMNET"** | // Choose GPRS mode and set the APN as **"CMNET"** |
| **OK** | |
| **AT+QSMTPPUT=300** | // Send the email to the SMTP server and the maximum time allowed to send email is **300** seconds. |
| **OK** | |
| …… | // Wait for a moment |
| **+QSMTPPUT:0** | // Successful to send email. |