GSM FTP
AT Commands Manual

GSM/GPRS Module Series

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Quectel Wireless Solutions Co., Ltd.
7th Floor, Hongye Building, No.1801 Hongmei Road, Xuhui District, Shanghai 200233, China
Tel: +86 21 5108 6236
Email: info@quectel.com

Or our local office. For more information, please visit:
http://quectel.com/support/sales.htm

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About the Document

History

Revision	Date	Author	Description
1.00	2009-07-27	Colin HU	Initial
1.01	2010-04-12	Joanna LI	Added example for resuming file.
1.1	2010-08-03	Colin HU	1. Added the notice of hardware flow control when transferring file. 2. Added the description about how to upload a file in UFS or SD or RAM and download a file to UFS or SD or RAM.
1.2	2012-08-22	Derrick DAI/ Will SHAO/ Jonathan WEN	1. Added the description about the new AT commands which control the operations of file and file folder on FTP. 2. Modified AT+QFTPGET for RAM file. 3. Added command AT+QFTPLIST & AT+QFTPNLST.
1.3	2012-08-24	Jonathan WEN	Added examples of downloading FTP file to RAM and uploading RAM file to FTP.
1.4	2015-04-08	Jonathan WEN	Added applicable modules
1.5	2017-11-13	Sherlock ZHAO	Added new parameter values for AT+QFTPCFG to configure transparent mode and create FTP data connection with control connection address in passive mode.

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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 services which include TCP service, UDP service, HTTP service and FTP service, etc. This document is a reference guide to all the AT commands defined for FTP.

This document is applicable to all Quectel GSM modules.

1.1. AT Command Syntax

Test Command	AT+<x>=?	This command returns the list of parameters and value ranges set by the corresponding Write Command or internal processes.
Read Command	AT+<x>?	This command returns the currently set value of the parameter or parameters.
Write Command	AT+<x>=<…>	This command sets the user-definable parameter values.
Execution Command	AT+<x>	This command reads non-variable parameters affected by internal processes in the GSM engine.

2 Description of FTP AT Commands

2.1. AT+QFTPOPEN Open an FTP Service to the Given FTP Server

AT+QFTPOPEN Open an FTP Service to the Given FTP Server	
Test Command **AT+QFTPOPEN=?**	Response **+QFTPOPEN: "HOST NAME",**(list of supported **<port>**s) **OK**
Read Command **AT+QFTPOPEN?**	Response **+QFTPOPEN: "<hostName>",<port>** **OK**
Write Command **AT+QFTPOPEN=<hostName>,<port>**	Response **OK** Or **ERROR** If successfully connected, response: **+QFTPOPEN: 0** Otherwise, response: **+QFTPOPEN: <err>**
Maximum Response Time	150s

Parameter

<hostName>	String type. The IP address or domain name of the FTP server. The maximum size of the parameter is 100.
<port>	Integer type. The port of the FTP server. The range of the parameter is 1-65535.
<err>	A negative numeric to indicate the type of error. Please refer to *Chapter 5*.

1. It is recommended to execute the configuration commands **AT+QFTPUSER** and **AT+QFTPPASS** to set the user name and password before opening FTP service.
2. If FTP state is **IDLE** or **CLOSED** (Please refer to *Chapter 2.9*), the fields of host name and port in the response of the read command are empty.

2.2. AT+QFTPCLOSE Close the FTP Service

AT+QFTPCLOSE Close the FTP Service	
Test Command **AT+QFTPCLOSE=?**	Response **OK**
Write Command **AT+QFTPCLOSE**	Response **OK** If successfully connected, response: **+QFTPCLOSE: 0** Otherwise, response: **+QFTPCLOSE: <err>**
Maximum Response Time	60s

Parameter

<err>	A negative numeric to indicate the type of error. Please refer to *Chapter 5*.

2.3. AT+QFTPPUT Upload a File to FTP Server

AT+QFTPPUT Upload a File to FTP Server	
Test Command **AT+QFTPPUT=?**	Response **+QFTPPUT: "FILE NAME",<fileSz>,(1-65535)** **OK**
Write Command **AT+QFTPPUT=<fileName>,<fileSz>[,<time>]**	Response If format is right, response: **OK**

	Otherwise, response:
	ERROR
	Next, UART enters into data mode and responses:
	CONNECT
	Otherwise, response:
	+QFTPPUT: <err>
	Finally, if the file is uploaded successfully, response:
	+QFTPPUT: <upSize>
	Otherwise, response:
	+QFTPPUT: <err>
Maximum Response Time	120s

Parameter

<fileName>	The name of the file to upload. The maximum size of the parameter is 50.
<fileSz>	The size of the file to upload. For the file UFS, RAM and SD card, if **<fileSz>** is set as 0, the file will be uploaded to the server according to the real size of the file.
<time>	The maximum time allowed to get file data. The default value is 900. Unit: second. The greater the **<fileSz>** is, the greater the **<time>** should be set.
<upSize>	The actual size of the file uploaded successfully. Theoretically, it should be equal to **<fileSz>**.
<err>	A negative numeric to indicate the type of error. Please refer to *Chapter 5*.

NOTES

1. If the length of the input data from UART reaches **<fileSz>**, or the time to input data reaches **<time>**, the FTP service will stop receiving data from UART.
2. After **CONNECT** appears, UART enters into data mode. It is supported to escape data mode by "**+++**". Please refer to *document [2]* for details.
3. For reliable transmission when uploading file, it is strongly recommended to enable hardware flow control in both TA side and TE side. The command **AT+IFC=2,2** is used to enable hardware flow control in TA side (Please refer to *document [1]* for details).

2.4. AT+QFTPGET Download a File from FTP Server

AT+QFTPGET Download a File from FTP Server	
Test Command **AT+QFTPGET=?**	Response **+QFTPGET: "file name"[,<file size>]** **OK**
Write Command **AT+QFTPGET=<fileName>[,<file size>]**	Response If format is right, response: **OK** Otherwise, response: **ERROR** Next, UART enters into data mode and responses: **CONNECT** Otherwise, response: **+QFTPGET: <err>** Finally, if the file is downloaded successfully, response: **+QFTPGET: <dwSize>** Otherwise, response: **+QFTPGET: <err>**
Maximum Response Time	120s

Parameter

<fileName>	The name of the file to download. The maximum size of the parameter is 50.
<file size>	The maximum length of the file. The default value is 102400. Unit: byte. It is only used for RAM file. Ignore this parameter if UFS or SD file is used.
<dwSize>	The actual size of the file downloaded.
<err>	A negative numeric to indicate the type of error. Please refer to **Chapter 5.**

NOTES

1. After **CONNECT** appears, UART enters to data mode. It is supported to escape data mode by "**+++**". Please refer to *document [2]* for details.
2. For reliable transmission when downloading file, it is strongly recommended to enable hardware flow control in both TA side and TE side. The command **AT+IFC=2,2** is used to enable hardware flow

control in TA side (Please refer to *document [1]* for details).

2.5. AT+QFTPPATH   Set the Path in FTP Server to Upload or Download File

AT+QFTPPATH Set the Path in FTP Server to Upload or Download File	
Test Command **AT+QFTPPATH=?**	Response **+QFTPPATH: "PATH NAME"** **OK**
Read Command **AT+QFTPPATH?**	Response **OK** **+QFTPPATH: "\<pathName>"**
Write Command **AT+QFTPPATH=\<pathName>**	Response If format is right, response: **OK** Otherwise, response: **ERROR** Next, if the path is set successfully, response: **+QFTPPATH: 0** Otherwise, response: **+QFTPPATH: \<err>**
Response Time	300ms

Parameter

\<pathName>	The name of the path to set. The maximum size of the parameter is 100.
\<err>	A negative numeric to indicate the type of error. Please refer to *Chapter 5*.

2.6. AT+QFTPUSER   Set User Name of the Account to Open FTP Service

AT+QFTPUSER Set User Name of the Account to Open FTP Service	
Test Command **AT+QFTPUSER=?**	Response **+QFTPUSER: "USER NAME"** **OK**
Read Command **AT+QFTPUSER?**	Response **+QFTPUSER: "<userName>"** **OK**
Write Command **AT+QFTPUSER=<userName>**	Response If format is right and the FTP service is idle, response: **OK** Otherwise, response: **ERROR**
Response Time	300ms

Parameter

<userName>	The user name of the account. If this value is null, the module will use anonymous account to open FTP service. The maximum size of the parameter is 30.

2.7. AT+QFTPPASS   Set Password of the Account to Open FTP Service

AT+QFTPPASS Set Password of the Account to Open FTP Service	
Test Command **AT+QFTPPASS=?**	Response **+QFTPPASS: "PASSWORD"** **OK**
Read Command **AT+QFTPPASS?**	Response **+QFTPPASS: "<password>"** **OK**
Write Command **AT+QFTPPASS="<password>"**	Response If format is right and the FTP service is idle, response:

	OK
	Otherwise, response: **ERROR**
Response Time	300ms

Parameter

<password>	The password of the account. The maximum size of the parameter is 30.

2.8. AT+QFTPCFG   Configure Parameters for FTP Server

AT+QFTPCFG **Configure Parameters for FTP Server**	
Test Command **AT+QFTPCFG=?**	Response **+QFTPOPEN:** (list of supported **<type>**s) **OK**
Write Command **AT+QFTPCFG=<type>[,<value>]**	Response If format is right, response: **OK** Otherwise, response: **ERROR** Next, if the configurable parameter is set successfully, response: **+QFTPCFG: 0** Or if **<value>** is omitted and **<type>** is legal, this command is used to query the value of the corresponding parameter, and response: **+QFTPCFG: <value>** Otherwise, response **+QFTPCFG: <err>**
Response Time	300ms

Parameter

\<type\>	The type of the configurable parameter to set.
	1 The mode of data connection.
	2 The transfer type
	3 The resuming point to resume file transfer
	4 The local position of the file to transfer
	5 FTP non-transparent mode
	6 Ignore FTP data link address returned by server in passive mode
\<value\>	The value of the parameter to set. The following are the details about **\<value\>**.

If **\<type\>** = 1,
0   Active mode
1   Passive mode

If **\<type\>** = 2,
0   Set the transfer type as binary
1   Set the transfer type as ASCII

If **\<type\>** = 3, it is the resuming point to resume file transfer.

If **\<type\>** = 4, it is a string to indicate the local position of the file to transfer. The following are the detailed description about **\<value\>**.

"**/COM**/"   The file data to input from UART or output to UART.

"**/UFS/**"   The file to upload is a file that is saved in UFS and the received file to be saved in UFS. It is also supported to specify the file name here. For example, "?UFS/filename.txt". Then, no matter what the parameter **\<fileName\>** is in the command **AT+QFTPPUT**, it will read the file *filename.txt* in UFS to upload, and the name of the file in the FTP server is defined by **\<fileName\>**. Likewise, the command **AT+QFTPGET** gets the file whose name is defined by **\<fileName\>** in the FTP server and saves it in UFS with name "filename.txt".

"**/SD/**"   The file to transfer is saved in the directory /*Picture* in SD card. It is also supported to specify the file name after the path as similar as in UFS except that the root directory is /*Picture* in SD card. This parameter is only supported by GSM modules that support SD card.

"**/RAM/**"   The file to transfer is saved in RAM. It is also supported to specify the file name after the path as same as in UFS. For the command **AT+QFTPGET**, no matter what the size of the file to download is, space of 102400 bytes will be allocated for the file.

If **\<type\>** = 5,
0   FTP transparent mode
1   FTP non-transparent mode

If **\<type\>** = 6,
0   Use FTP data link address returned by server in passive mode
1   Ignore FTP data link address returned by server in passive mode

\<err\>	A negative numeric to indicate the type of error. Please refer to *Chapter 5*.

1. The resuming point will be reset as 0 after file transfer is finished.
2. If the FTP service has already been opened, but error code "-425" is got when customers continue other operating, and this may be caused by the wrong data link address returned by FTP server. Command **AT+QFTPCFG=6,1** needs to be executed to ignore this address.

2.9. AT+QFTPSTAT   Query the Status of FTP Service

AT+QFTPSTAT Query the Status of FTP Service	
Test Command **AT+QFTPSTAT=?**	Response **OK**
Write Command **AT+QFTPSTAT**	Response **+QFTPSTAT: <state>** **OK**
Response Time	300ms

Parameter

<state>	String type. The current status of FTP service.	
	IDLE	No FTP service.
	OPENING	Opening an FTP service.
	OPENED	The FTP service is opened and idle.
	WORKING	Sending FTP commands to the FTP server and receiving response from the FTP server to start data transfer.
	TRANSFER	Transferring data between the module and the FTP server.
	CLOSING	Closing the FTP service.
	CLOSED	The FTP service is closed.

2.10. AT+QFTPLEN   Query the Real Size of the File Transferred in the Latest Transfer

AT+QFTPLEN Query the Real Size of the File Transferred in the Latest Transfer	
Test Command **AT+QFTPLEN=?**	Response **OK**
Write Command **AT+QFTPLEN**	Response **+QFTPLEN: <len>** **OK**
Response Time	300ms

Parameter

<len>	A numeric to indicate the real size of the file that has been transferred in the latest transfer operation.

2.11. AT+QFTPRENAME   Rename a File or Folder on FTP Server

AT+QFTPRENAME Rename a File or Folder on FTP Server	
Test Command **AT+QFTPRENAME=?**	Response **+QFTPRENAME: ("SOURCE NAME","TARGET NAME")** **OK**
Write Command **AT+QFTPRENAME="<source name>","<target name >"**	Response If the format is right, response: **OK** Otherwise, response: **ERROR** Next, if the file or folder is renamed successfully, response: **+QFTPRENAME: 0** Otherwise ,response: **+QFTPRENAME: <err>**

Maximum Response Time	150s

Parameter

<source name>	The name of the file or folder to rename. The maximum size of the parameter is 50.
<target name>	The target name of the file or folder to change to. The maximum size of the parameter is 50.
<err>	A negative numeric to indicate the type of error. Please refer to *Chapter 5*.

2.12. AT+QFTPSIZE   Query the Size of Appointed File on FTP Server

AT+QFTPSIZE Query the Size of Appointed File on FTP Server	
Test Command **AT+QFTPSIZE=?**	Response **+QFTPSIZE: "FILE NAME"** **OK**
Write Command **AT+QFTPSIZE="<file name>"**	Response **OK** Or just return **ERROR** Next, if successfully connected, response: **+QFTPSIZE: <size>** Otherwise, response: **+QFTPSIZE: <err>**
Maximum Response Time	150s

Parameter

<file name>	The name of the file on FTP server. The maximum size of the parameter is 50.
<err>	A negative numeric to indicate the type of error, please refer to *Chapter 5*.

> **NOTE**
>
> If customers want to get size of file in sub catalog, the file name should be like "/dir/fileName".

2.13. AT+QFTPDELETE   Delete the Appointed File on FTP Server

AT+QFTPDELETE Delete the Appointed File on FTP Server	
Test Command **AT+QFTPDELETE=?**	Response **+QFTPOPEN: "FILE NAME"** **OK**
Write Command **AT+QFTPDELETE=<file name>**	Response **OK** Or just return **ERROR** Next, if successfully connected, response: **+QFTPDELETE: 0** Otherwise, response: **+QFTPDELETE: <err>**
Maximum Response Time	150s

Parameter

<file name>	The name of the file to delete. The maximum size of the parameter is 50.
<err>	A negative numeric to indicate the type of error, please refer to *Chapter 5*.

NOTE

If customers want to delete the file in sub catalog, the file name should be like "/dir/fileName".

2.14. AT+QFTPMKDIR   Establish a New Folder on FTP Server

AT+QFTPMKDIR Establish a New Folder on FTP Server	
Test Command **AT+QFTPMKDIR=?**	Response **+QFTPMKDIR: "PATH NAME"** **OK**
Write Command **AT+QFTPMKDIR=<path name>**	Response **OK**

	Or just return
	ERROR
	Next, if successfully connected, response:
	+QFTPMKDIR: 0
	Otherwise, response:
	+QFTPMKDIR: \<err\>
Maximum Response Time	150s

Parameter

\<path name\>	The name of the folder to establish. The maximum size of the parameter is 100.
\<err\>	A negative numeric to indicate the type of error, please refer to *Chapter 5*.

> **NOTE**

This command cannot be used to establish sub folder.

2.15. AT+QFTPRMDIR   Remove a Folder on FTP Server

AT+QFTPRMDIR Remove a Folder on FTP Server	
Test Command	Response
AT+QFTPRMDIR=?	**+QFTPRMDIR: "PATH NAME"**
	OK
Write Command	Response
AT+QFTPRMDIR="\<path name\>"	**OK**
	Or just return
	ERROR
	Next, if successfully connected, response:
	+QFTPRMDIR: 0
	Otherwise, response:
	+QFTPRMDIR: \<err\>
Maximum Response Time	150s

Parameter

<path name>	The name of the folder to remove. The maximum size of the parameter is 100.
<err>	A negative numeric to indicate the type of error, please refer to *Chapter 5*.

NOTE

This command can be only used to remove empty folder.

2.16. AT+QFTPLIST   List Contents of Directory or File Information on FTP Server

AT+QFTPLIST List Contents of Directory or File Information on FTP Server	
Test Command **AT+QFTPLIST=?**	Response **+QFTPLIST: "NAME"** **OK**
Write Command **AT+QFTPLIST[=<name>]**	Response If format is right, response: **OK** Otherwise, response: **ERROR** Next, if the UART successfully enters data mode, response: **CONNECT** Otherwise, response: **+QFTPLIST: <err>** Finally, if directory information is listed successfully, response: **+QFTPLIST: <ret>** Otherwise, response: **+QFTPLIST: <err>**
Maximum Response Time	150s

Parameter

\<name\>	String type. The directory name or file name. The maximum size of the parameter is 50.
\<ret\>	Indicates the result of the command execution
	0 Represent no information transferred from FTP
	1 List all files under the current path of FTP server
\<err\>	A negative numeric to indicate the type of error. Please refer to *Chapter 5*.

NOTES

1. If **\<name\>** is a regular file, it will response the information about that file; if the **\<name\>** is a directory, it will response the contents of the directory.
2. If **\<name\>** is omitted, the contents of the current directory will be listed; else the contents of the file in current directory will be listed.
3. Please make sure the local position is "/COM/" and it can be set by **AT+QFTPCFG=4, "/COM/"**.

2.17. AT+QFTPNLST   List File Names of a Directory on FTP Server

AT+QFTPNLST List File Names of a Given Directory on FTP Server	
Test Command **AT+QFTPNLST=?**	Response **+QFTPNLST: "DIR NAME"** **OK**
Write Command **AT+QFTPNLST[=\<dirName\>]**	Response If format is right response **OK** Otherwise response **ERROR** Next, if the UART successfully enters into data mode, response: **CONNECT** Otherwise, response **+QFTPNLST: \<err\>** Finally, if the directory information is listed successfully, response **+QFTPNLST: \<ret\>**

	Otherwise, response **+QFTPNLST: <err>**
Maximum Response Time	150s

Parameter

<dirName>	String type. The directory name. The maximum size of the parameter is 50.
<ret>	Indicates the result of the command execution
	0 Represent no information transferred from FTP
	1 List all files under the current path of FTP server
<err>	A negative numeric to indicate the type of error, please refer to **_Chapter 5_**.

NOTES

1. Just the file names in the given directory will be returned.
2. Please make sure the local position is "/COM/" and it can be set by **AT+QFTPCFG=4, "/COM/"**.

3 Examples

3.1. Open and Close FTP Service

```
AT+QIFGCNT=0              //Choose the context 0 to activate GPRS/CSD context for the FTP
                           service. Please refer to document [1] and [2] for details.

OK

AT+QICSGP=1,"CMNET"      //Choose GPRS mode and set APN as "CMNET".
OK

AT+QIREGAPP              //Optional
OK
AT+QIACT                //Optional
OK

//For example, if FTP server is "quectel.3322.org" and port is 21.
AT+QFTPUSER="quectel"   //Set the user name as "quectel".
OK

AT+QFTPPASS="123456"    //Set the password as "123456".
OK

AT+QFTPOPEN="quectel.3322.org",21
OK

+QFTPOPEN: 0            //Successfully open the FTP service.

AT+QFTPCLOSE           //Close the connection with FTP.
OK

+QFTPCLOSE: 0          //Successfully close the connection.

AT+QIDEACT            //Deactivate the PDP context.
DEACT OK
```

NOTE

Generally, if the FTP service is not used for a time of period, it will indicate that the FTP service cannot be used. The module will report "**+QFTPERROR:-421**" for this information. After a moment, the FTP server will close the control connection of the FTP service. And the module will report "**+QFTPERROR:-6**" for this information. It is recommended to execute the command **AT+QFTPCLOSE** to close the FTP service after receiving these two report messages from UART.

3.2. Upload a File to FTP Server

After the FTP service is opened, a file can be uploaded to FTP server and downloaded from FTP server. The following examples show how to upload a file.

3.2.1. Upload a File through UART

AT+QFTPPATH="/"	//Set the path to upload file as "/".
OK	
+QFTPPATH: 0	//Successfully set the path.

//Upload the file *test.txt* via UART and modify its name as sscom.ini in the FTP server, and the size expected to put is 1587. If the read size of the file *sscom.ini* is less than 1587, it will upload file with the real size. The maximum time to read file data is 200 seconds.

AT+QFTPPUT="sscom.ini",1587,200	
OK	
CONNECT	//Open data mode and upload data.
<Input data>	//Input data via UART.
+QFTPPUT: 1587	//Successfully upload the file *sscom.ini* to the FTP server. The size of the data successfully uploaded is 1587.

3.2.2. Upload a File in UFS

AT+QFTPCFG=4,"/UFS/"	//Set the local position as UFS.
OK	
+QFTPCFG: 0	//Successfully to set the local file.
AT+QFTPPATH="/"	//Set the path to upload file as "/"
OK	

```
+QFTPPATH: 0                          //Successfully set the path.

AT+QFTPPUT="sscom.ini",1587,200
OK

+QFTPPUT:1587                         //Successfully upload the file sscom.ini to the FTP server. The
                                        size of the data successfully uploaded is 1587.
```

3.2.3. Upload a File in RAM

```
AT+QFTPCFG=4,"/RAM/"                  //Set the local position as RAM.
OK

+QFTPCFG: 0

AT+QFTPPATH="/"                       //Set the path to upload file as "/".
OK

+QFTPPATH: 0                          //Successfully set the path.

AT+QFTPPUT="sscom.ini",1587,200       //Upload the file sscom.ini in RAM..
OK

+QFTPPUT: 1587                        //Successfully upload the file sscom.ini to the FTP server. The
                                        size of the data successfully uploaded is 1587
```

3.2.4. Upload a Specified File in UFS

```
AT+QFTPCFG=4,"/UFS/test.txt"          //Set test.txt in UFS as the local file to upload or download.
OK

+QFTPCFG: 0                           //Successfully set the local file.

AT+QFTPPATH="/"                       //Set the path to upload file as "/".
OK

+QFTPPATH: 0                          //Successfully set the path.

AT+QFTPPUT="sscom.ini",1587,200
OK

+QFTPPUT: 1587                        //Successfully upload the file sscom.ini to the FTP server. The
```

size of the data successfully uploaded is 1587.

3.3. Download a File from FTP Server

The following examples explain how to download a file from FTP server.

3.3.1. Download a File through UART

AT+QFTPPATH="/"	//Set the path to download file as "/".
OK	
+QFTPPATH: 0	//Successfully set the path.
AT+QFTPGET="sscom.ini"	//Download the file *sscom.ini* from the FTP server.
OK	
CONNECT	//Successfully open data connection to download file.
<Output data>	//The data of the file *sscom.ini* is outputted from UART.
+QFTPGET: 1587	//Successfully download the file *sscom.ini* from the FTP server. And the size of the data successfully downloaded is 1587.
AT	
OK	//There is an OK response for AT, which means the download operation is finished.

3.3.2. Download a File into UFS

AT+QFTPCFG=4,"/UFS/"	//Set the local position as UFS.
OK	
+QFTPCFG: 0	//Successfully set the local position.
AT+QFTPPATH="/"	//Set the path to download file as "/".
OK	
+QFTPPATH: 0	//Successfully set the path.

//Download the file *sscom.ini* from the FTP server and save it in UFS with name *sscom.ini*.
AT+QFTPGET="sscom.ini"
OK

+QFTPGET: 1587   //Successfully download the file *sscom.ini* from the FTP server.

The size of the data successfully downloaded is 1587.

3.3.3. Download a File into a Specified File in UFS

AT+QFTPCFG=4,"/UFS/dwl.txt"   //Set the local position as UFS and the data from server will be
                                          saved in the file *dwl.txt*.

OK

+QFTPCFG:0   //Successfully set the local position.
AT+QFTPPATH="/"   //Set the path to download file as "/".
OK

+QFTPPATH:0   //Successfully set the path.

AT+QFTPGET="sscom.ini"   //Download the file *sscom.ini* from the FTP server and save it in
                                          UFS with name "dwl.txt".

OK

+QFTPGET:1587   //Successfully download the file *sscom.ini* from the FTP server.
                                          The size of the data successfully downloaded is 1587.

3.3.4. Download a File into RAM

AT+QFTPCFG=4,"/RAM/dwl.txt"   //Set the local position as RAM and the data from server will be
                                          saved in the file *dwl.txt*.

OK

+QFTPCFG:0   //Successfully set the local position.
AT+QFTPPATH="/"   //Set the path to download file as "/".
OK

+QFTPPATH:0   //Successfully set the path.

AT+QFTPGET="sscom.ini",1587   //Download the file *sscom.ini* from the FTP server and save it in
                                          RAM with name "dwl.txt". The second parameter "1587" means
                                          a file is created in RAM and the file size is 1587. If you ignore
                                          this parameter "1587", the default size of the parameter is
                                          102400. Please keep this parameter greater than the size of file
                                          to download from FTP server.

OK

+QFTPGET:1587   //Successfully download the file *sscom.ini* from the FTP server.
                                          The size of the data successfully downloaded is 1587.

3.4. Operate a File or a Folder on FTP Server

3.4.1. Operate a File on FTP Server

AT+QFTPRENAME="sscom.ini","test.txt"	//Rename the file *sscom.ini* to *test.txt*.
OK	
+QFTPRENAME:0	//Successfully rename the file.
AT+QFTPSIZE="test.txt"	//Query the size of file *test.txt*.
OK	
+QFTPSIZE:17765	//Successfully query the file size, and the file size is 17765.
AT+QFTPDELETE="test.txt"	//Delete the renamed file *test.txt*.
OK	
+QFTPDELETE:0	//Successfully delete the file.

3.4.2. Operate a Folder on FTP Server

AT+QFTPMKDIR="test"	//Establish a new folder on the FTP server.
OK	
+QFTPMKDIR:0	//Successfully make the new folder.
AT+QFTPRENAME="test","test1"	//Rename the folder *test* to *test1*.
OK	
+QRENAME:0	//Successfully rename the folder.
AT+QFTPRMDIR="test1"	//Delete the renamed folder *test1*
OK	
+QFTPMKDIR:0	//Successfully remove the folder.

NOTE

If the file or folder does not exist, error "-550" will be returned. If there are problems on the connection, error "-1" will be returned.

3.5. Resume a File at the Resuming Point

While uploading or downloading a file, the process may be interrupted due to disconnection. At this time, the data that has been transferred is wasted. Quectel module supports to transfer a file at the resuming point if the server supports this function so that it is unnecessary to retransfer the data that has been transferred. And this function makes it possible to split a huge file into several small parts and then upload the file part by part. It is necessary to execute the command "**AT+QFTPCFG=3,<resuming point>**" before putting or getting remaining data. Please refer to the following examples.

3.5.1. Upload a File to FTP Server from Resuming Point

AT+QFTPPUT="sscom.ini",1587,200 //Upload the file *sscom.ini*. The total size is 3587, and here just 1587 bytes are uploaded for the first time. The rest data of 2000 bytes can be uploaded later.

OK

CONNECT   //Successfully open data connection to upload file.
<input data>   //Input the data of the file *sscom.ini*.
+QFTPPUT: 1587

AT+QFTPCFG=3,1587   //Set the resuming point.
OK

+QFTPCFG: 0
AT+QFTPPUT="sscom.ini",2000,200 //Upload the remaining 2000 bytes of the file *sscom.ini* .
OK

CONNECT
<input data>   //Input the rest data of the file *sscom.ini* from the position 1587.
+QFTPPUT: 2000   //Successfully upload the rest 2000 bytes

> **NOTE**
>
> If the file to upload is saved in UFS, SD or RAM, the file will be uploaded from the resuming point. For example: the size of the file to upload is 5120 and the resuming point is set as 1587, then the data from 1587 to 3586 (including it) will be uploaded in the file to upload. If the size of the file is less than 3587, the data from 1587 to the end of the file will be uploaded.

3.5.2. Download a File from FTP Server from the Resuming Point

```
AT+QFTPCFG=3,1587                //Set the resuming point.
OK


+QFTPCFG: 0
AT+QFTPGET="sscom.ini"           //Download the rest data of sscom.ini from the FTP server.
OK


CONNECT
<input data>                     //The data of the file sscom.ini starts from the position 1587 and
                                     is outputted from UART
+QFTPGET: 2000                   //Successfully download the rest 2000 bytes of the file from the
                                     FTP server.
```

3.6. Get FTP List

Get the contents of directory or file information on the FTP server. Please make sure the local position is "/COM/", and it can be set by **AT+QFTPCFG=4,"/COM/"**.

```
AT+QFTPPATH="/"                  //Set the current path as "/".
OK


+QFTPPATH:0                      //Successfully set the path.


AT+QFTPCFG=4,"/COM/"             //Set the local position as "/COM/".
OK


+QFTPCFG:0                       //Successfully set the local position.


AT+QFTPLIST                      //List the contents of current directory.
OK


CONNECT
-rw-rw-rw-    1 user      group       239 Jul 18 15:45 #.dat
drw-rw-rw-    1 user      group       0 Jul 16 14:14 tsj


+QFTPLIST: 1


AT+QFTPLIST="ANDY"              //List the contents in the directory andy.
OK
```

```
CONNECT
-rw-rw-rw-    1 user      group           0 Mar 17 17:21 1.text
-rw-rw-rw-    1 user      group          10 Jun 20 10:18 test.txt

+QFTPLIST: 1
+QFTPGET:1587                    //Successfully download the file sscom.ini from the FTP server.
                                   And the size of the data successfully downloaded is 1587.
```

3.7. Get FTP File Name List

Get the list of file names in the specified directory. Please make sure the local position is "/COM/", and it can be set by **AT+QFTPCFG=4,"/COM/"**.

```
AT+QFTPPATH="/"                 //Set the current path as "/".
OK

+QFTPPATH:0                     //Successfully set the path.

AT+QFTPCFG=4,"/COM/"            //Set the local position as "/COM/".
OK

+QFTPCFG:0                      //Successfully set the local position.

AT+QFTPNLST                     //List file names of current directory.
OK

CONNECT
Aaa.jpg
Test.txt
+QFTPNLST: 1

AT+QFTPNLST="ANDY"             //List the file names in the directory andy.
OK

CONNECT
Mytest.txt
Mytest.jpg
+QFTPNLST: 1
```

4 Appendix A Reference

Table 1: Related Documents

SN	Document Name	Remark
[1]	Quectel_Mxx_AT_Commands_Manual	The introduction of the AT commands for Mxx modules
[2]	Quectel_GSM_TCP(IP)_Application_Note	The introduction of how to use the internal TCP/IP stack for GSM modules
[3]	Quectel_GSM_File_AT_Commands_Manual	The introduction of the AT commands of the file system for GSM modules

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 Overview
RAM	Random Access Memory
TA	Terminal Adapter, i.e. the module
TCP	Transmission Control Protocol
TE	Terminal Equipment, i.e. the device who control the module via UART
UART	Universal Asynchronous Receiver/Transmitter
UDP	User Datagram Protocol
UFS	User File Storage

5 Appendix B Summary of Error Codes

When no command is executed and some error happens, the FTP service will report the URC "**+QFTPERROR:<err>**". The error code **<err>** indicates an error related to mobile equipment or network. The detail about **<err>** is described in the following table.

Table 3: Summary of Error Codes

<err>	Description of Error Codes
-1	Unknown error
-3	The FTP service is busy. For example, opening FTP service, controlled by another virtual UART, etc.
-4	Failed to get IP address according to domain name
-5	Network error. For example, failed to activate GPRS/CSD context, failed to establish the TCP connection with the FTP server or failed to send FTP command to the FTP server, etc.
-6	The FTP session is closed by the FTP server
-7	The data connection of the FTP service is closed by the FTP server
-8	GPRS/CSD context is deactivated
-9	Timeout
-10	The input parameter is illegal
-11	The file is not found in the local position, UFS or SD or RAM
-12	Failed to get the file in the local position, UFS or SD or RAM.
-13	No enough memory for attachment
-421	The FTP server cannot support service
-425	Failed to open data connection
-426	The connection is closed and stop transferring
-450	The request for the file is not operated

-452	The FTP server has no enough memory
-500	The format of the FTP command is wrong
-501	The parameter of the FTP command is wrong
-502	The FTP command is not operated by the FTP server
-530	Not login the FTP server
-532	Need the information of account
-550	The request is not operated
-551	The request is stopped
-552	The request of a file is stopped
-553	File name is illegal