



SIM7672X & SIM7652X

Series_FTP(S)_Application

Note

LTE Module

SIMCom Wireless Solutions Limited

SIMCom Headquarters Building, Building 3, No. 289 Linhong
Road, Changning District, Shanghai P.R. China

Tel: 86-21-31575100

support@simcom.com

www.simcom.com

Document Title:	SIM7672X & SIM7652X Series_FTP(S)_Application Note
Version:	1.00
Date:	2023.05.22
Status:	Released

GENERAL NOTES

SIMCOM OFFERS THIS INFORMATION AS A SERVICE TO ITS CUSTOMERS, TO SUPPORT APPLICATION AND ENGINEERING EFFORTS THAT USE THE PRODUCTS DESIGNED BY SIMCOM. THE INFORMATION PROVIDED IS BASED UPON REQUIREMENTS SPECIFICALLY PROVIDED TO SIMCOM BY THE CUSTOMERS. SIMCOM HAS NOT UNDERTAKEN ANY INDEPENDENT SEARCH FOR ADDITIONAL RELEVANT INFORMATION, INCLUDING ANY INFORMATION THAT MAY BE IN THE CUSTOMER'S POSSESSION. FURTHERMORE, SYSTEM VALIDATION OF THIS PRODUCT DESIGNED BY SIMCOM WITHIN A LARGER ELECTRONIC SYSTEM REMAINS THE RESPONSIBILITY OF THE CUSTOMER OR THE CUSTOMER'S SYSTEM INTEGRATOR. ALL SPECIFICATIONS SUPPLIED HEREIN ARE SUBJECT TO CHANGE.

COPYRIGHT

THIS DOCUMENT CONTAINS PROPRIETARY TECHNICAL INFORMATION WHICH IS THE PROPERTY OF SIMCOM WIRELESS SOLUTIONS LIMITED. COPYING, TO OTHERS AND USING THIS DOCUMENT, ARE FORBIDDEN WITHOUT EXPRESS AUTHORITY BY SIMCOM. OFFENDERS ARE LIABLE TO THE PAYMENT OF INDEMNIFICATIONS. ALL RIGHTS RESERVED BY SIMCOM IN THE PROPRIETARY TECHNICAL INFORMATION, INCLUDING BUT NOT LIMITED TO REGISTRATION GRANTING OF A PATENT, A UTILITY MODEL OR DESIGN. ALL SPECIFICATION SUPPLIED HEREIN ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.

SIMCom Wireless Solutions Limited

SIMCom Headquarters Building, Building 3, No. 289 Linhong Road, Changning District, Shanghai P.R. China

Tel: +86 21 31575100

Email: simcom@simcom.com

For more information, please visit:

https://www.simcom.com/technical_files.html

For technical support, or to report documentation errors, please visit:

https://www.simcom.com/online_questions.html or email to: support@simcom.com

Copyright © 2023 SIMCom Wireless Solutions Limited All Rights Reserved.

About Document

Version History

Revision	Date	Owner	Description
V1.00	2023.5.22		New version

SIMCom
Confidential

Scope

Based on module AT command manual, this document will introduce FTP(S) application process. Developers could understand and develop application quickly and efficiently based on this document. This document applies to SIM7672X Series, SIM7652X Series.

SIMCom
Confidential

Contents

About Document	2
Version History	2
Scope	3
Contents	4
1 Introduction	6
1.1 Purpose of the document	6
1.2 Related documents	6
1.3 Conventions and abbreviations	6
1.4 The process of Using FTP(S) AT Commands	7
1.5 Error Handling	8
1.5.1 Executing FTP(S) AT Commands Fails	8
1.5.2 PDP Activation Fails	8
1.5.3 Error Response of FTP(S) Server	8
2 AT Commands for FTP(S)	9
2.1 Overview of AT Command for FTP(S)	9
2.2 Detailed Description of AT Commands for FTP(S)	10
2.2.1 AT+CFTPSSTART Start FTP(S)service	10
2.2.2 AT+CFTPSSTOP Stop FTP(S)service	11
2.2.3 AT+CFTPSLOGIN Login to a FTP(S)server	11
2.2.4 AT+CFTPSLOGOUT Logout a FTP(S)server	13
2.2.5 AT+CFTPSLIST List the items in the directory on FTP(S)server	15
2.2.6 AT+CFTPSMKD Create a new directory on FTP(S)server	16
2.2.7 AT+CFTPSRMD Delete a directory on FTP(S)server	17
2.2.8 AT+CFTPSCWD Change the current directory on FTP(S)server	18
2.2.9 AT+CFTPSPWD Get the current directory on FTP(S)server	19
2.2.10 AT+CFTPSDELE Delete a file on FTP(S)server	20
2.2.11 AT+CFTPSGETFILE Download a file from FTP(S)server to module	21
2.2.12 AT+CFTPSPUTFILE Upload a file from module to FTP(S)server	22
2.2.13 AT+CFTPSGET Get a file from FTP(S)server to serial port	24
2.2.14 AT+CFTPSPUT Put a file to FTP(S)server through serial port	25
2.2.15 AT+CFTPSSINGLEIP Set FTP(S)data socket address type	27
2.2.16 AT+CFTPSSIZE Get the file size on FTP(S)server	28
2.2.17 AT+CFTPSTYPE Set the transfer type on FTP(S)server	29
2.2.18 AT+CFTPSLFCFG Set the SSL context id for FTPS session	30
3 FTP(S) Examples	32
3.1 FTP Function	32
3.1.1 Download a file from FTP server to module/Upload a file to FTP server from module	32

3.1.2 Download a file from FTP server to serial port/Upload a file from serial port to FTP server	33
3.1.3 Directory Operations	35
3.2 FTPS Function	36
3.2.1 Download a file from FTPS server to module/Upload a file to FTPS server from module	36
3.2.2 Download a file from FTPS server to serial port/Upload a file from serial port to FTPS server	37
3.2.3 Directory Operations	39
4 Appendix	41
4.1 Summary of Error Codes	41

SIMCom
Confidential

1 Introduction

1.1 Purpose of the document

Based on module AT command manual, this document will introduce FTP(S) application process. Developers could understand and develop application quickly and efficiently based on this document.

1.2 Related documents

[1] SIM7672X & SIM7652X Series_AT Command Manual

1.3 Conventions and abbreviations

In this document, the engines are referred to as following term:

ME (Mobile Equipment);

MS (Mobile Station);

TA (Terminal Adapter);

DCE (Data Communication Equipment);

In application, controlling device controls the engine by sending AT Command via its serial interface. The controlling device at the other end of the serial line is referred to as following term:

TE (Terminal Equipment);

DTE (Data Terminal Equipment) or plainly "the application" which is running on an embedded system;

Other Conventions:

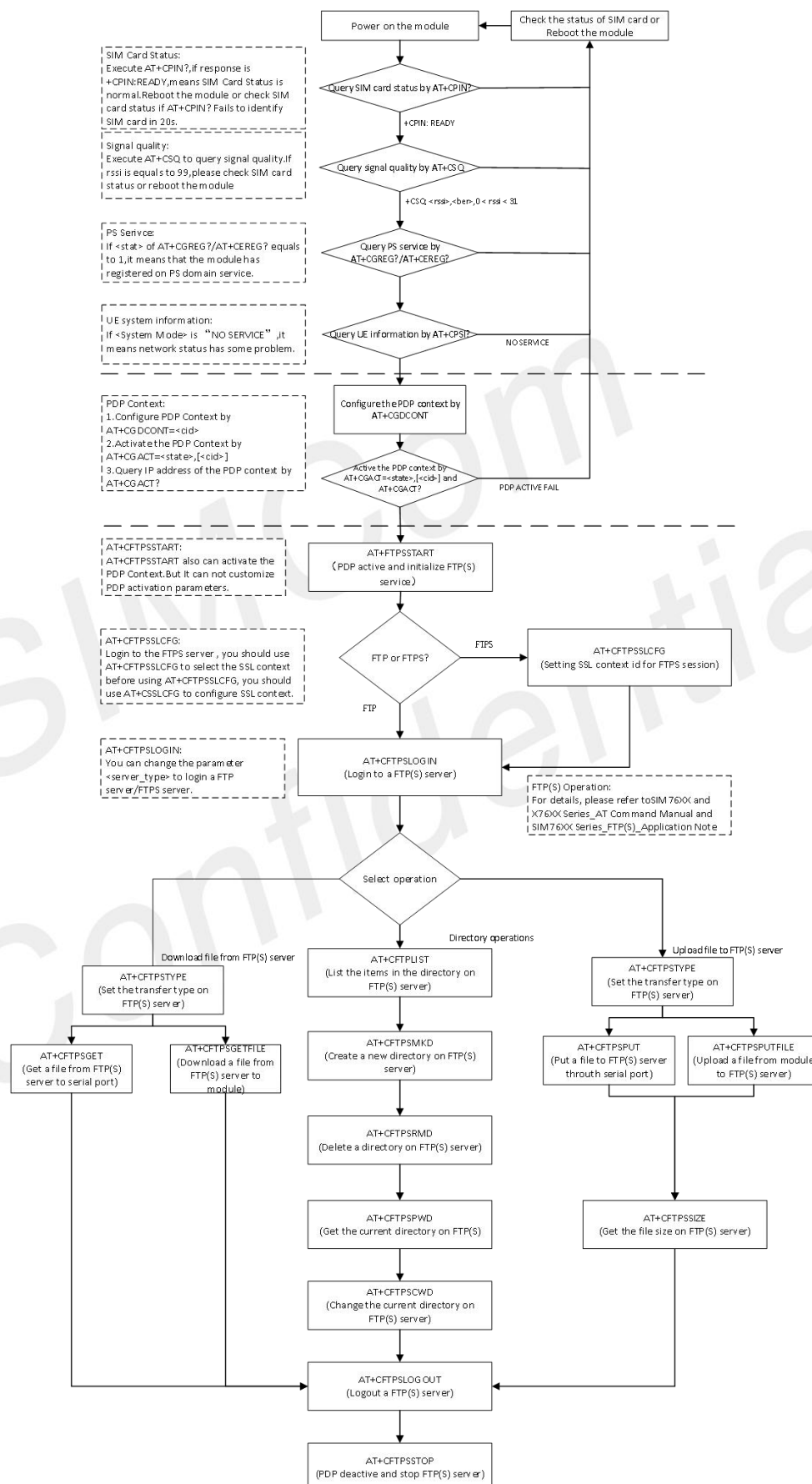
PDP(Packet Data Protocol);

FTP(File Transfer Protocol);

SSL(Secure Sockets Layer);

TLS(Transport Layer Security);

1.4 The process of Using FTP(S) AT Commands



1.5 Error Handling

1.5.1 Executing FTP(S) AT Commands Fails

When executing FTP(S) AT commands, if ERROR response is received from the module, please check whether the U(SIM) card is inserted and whether it is **+CPIN: READY** returned when executing **AT+CPIN?**

1.5.2 PDP Activation Fails

If it is failed to activate a PDP context with **AT+CGACT** command, please check the following configurations:

1. Query the PS domain status by **AT+CGREG?** / **AT+CEREG?** and make sure the PS domain has been registered.
2. Query the PDP context parameters by **AT+CGDCONT?** and make sure the APN of the specified PDP context has been set.
3. Make sure the specified PDP context ID is neither used by PPP nor activated by **AT+CGACT** command.

If all above configurations are correct, but activating the PDP context by **AT+CGACT** command still fails, please reboot the module to resolve this issue. After rebooting the module, please check the configurations mentioned above for at least.

1.5.3 Error Response of FTP(S) Server

When the CFTPSXXX: <errcode> is not 0, it indicates an error code replied from FTP(S) server.

For example, if <errcode> is 1, SSL configure may be wrong. If <errcode> is 17, the file or directory may not exist. For more details, please refer to SIM7672X & SIM7652X Series_AT Command Manual.

2 AT Commands for FTP(S)

2.1 Overview of AT Command for FTP(S)

Command	Description
AT+CFTPSSTART	Start FTP(S) service
AT+CFTPSSTOP	Stop FTP(S) Service
AT+CFTPSLOGIN	Login to a FTP(S)server
AT+CFTPSLOGOUT	Logout a FTP(S) server
AT+CFTPSLIST	List the items in the directory on FTP(S) server
AT+CFTPSMKD	Create a new directory on FTP(S) server
AT+CFTPSRMD	Delete a directory on FTP(S) server
AT+CFTPSCWD	Change the current directory on FTP(S) server
AT+CFTPSPWD	Get the current directory on FTP(S) server
AT+CFTPSDELETE	Delete a file on FTP(S) server
AT+CFTPSGETFILE	Download a file from FTP(S) server to module
AT+CFTPSPUTFILE	Upload a file from module to FTP(S) server
AT+CFTPSGET	Get a file from FTP(S) server to serial port
AT+CFTPSPUT	Put a file to FTP(S) server through serial port
AT+CFTPSSIZE	Get the file size on FTP(S) server
AT+CFTPSSINGLEIP	Set FTP(S) data socket address type
AT+CFTPSTYPE	Set the transfer type on FTP(S) server
AT+CFTPSSECFG	Set the SSL context id for FTPS session

For more detailed information, please refer to SIM7672X & SIM7652X Series_AT Command Manual.

2.2 Detailed Description of AT Commands for FTP(S)

2.2.1 AT+CFTPSSTART Start FTP(S)service

AT+CFTPSSTART is used to start FTP(S)service by activating PDP context. You must execute **AT+CFTPSSTART** before any other FTP(S)related operations.

AT+CFTPSSTART Start FTP(S)service

Test Command AT+CFTPSSTART=?	Response OK
Execution Command AT+CFTPSSTART	Response 1) OK
	+CFTPSSTART: 0
	2) OK
Parameter Saving Mode	+CFTPSSTART: <errcode>
	3) ERROR
Max Response Time	NO_SAVE
Reference	9000ms

Defined Values

<errcode>	The result of start FTP(S)service, 0 is success, others are failure. Please refer to <errcode> list.
------------------------	---

Examples

AT+CFTPSSTART

OK

+CFTPSSTART: 0

2.2.2 AT+CFTPSSTOP Stop FTP(S)service

AT+CFTPSSTOP is used to stop FTP(S)service by deactivating PDP context When you are no longer using the FTP(S)service, use this command.

AT+CFTPSSTOP Stop FTP(S)Service

Test Command	Response
AT+CFTPSSTOP=?	OK
Execution Command	Response
	1)
	OK
	+CFTPSSTOP: 0
	2)
Parameter Saving Mode	OK
	+CFTPSSTOP: <errcode>
	3)
Max Response Time	ERROR
Reference	NO_SAVE
	9000ms

Defined Values

<errcode>	The result of stop FTP(S)service, 0 is success, others are failure. Please refer to <errcode> list.
------------------------	--

Examples

```
AT+CFTPSSTOP
OK

+CFTPSSTOP: 0
```

2.2.3 AT+CFTPSLOGIN Login to a FTP(S)server

AT+CFTPSLOGIN is used to login to a FTP(S)server, you can login to a FTP server by set parameter <server_type> to 0, login to an implicit FTPS server by set <server_type> to 3, login to an explicit FTPS

server by set <server_type> to1 or 2. About <server_type>, more details please refer to Defined Values <server_type>.

AT+CFTPSLOGIN Login to a FTP(S)server

Test Command AT+CFTPSLOGIN=?	Response +CFTPSLOGIN: "ADDRESS",(1-65535),"USERNAME","PASSWORD"[(0-3)]
	OK
Read Command AT+CFTPSLOGIN?	Response 1) If the status is not logged in +CFTPSLOGIN: 0 OK 2) If it is logged in +CFTPSLOGIN: 1 OK 3) ERROR
Write Command AT+CFTPSLOGIN=<host>,<port>,<username>,<password>[<server_type>]	Response 1) OK +CFTPSLOGIN: 0 2) OK +CFTPSLOGIN: <errcode> 3) ERROR
Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms
Reference	

Defined Values

<host>	Host address, string type, maximum length is 128
<port>	The host listening port for FTP(S), the range is from 1 to 65535
<username>	FTP(S)user name, string type, maximum length is 128
<password>	The user password, string type, maximum length is 128
<server_type>	FTP(S)server type, numeric, from 0-3, default is 3 0 FTP server.

	<ol style="list-style-type: none"> 1 Explicit FTPS server with AUTH SSL. 2 Explicit FTPS server with AUTH TLS. 3 Implicit FTPS server. <p>FTP Explicit SSL: After setting up a connection to the FTP server using the default port 21: <server_type> 1 explicitly tells the server to initialize the appropriate secure connection with the command AUTH SSL. <server_type> 2 explicitly tells the server to initialize the responding secure connection with the command AUTH TLS.</p> <p>FTP Implicit SSL: When the FTP client connects to the server, the server automatically establishes a secure connection. By default, the client uses port 990 to securely connect to the server. The port on the server can be set.</p>
<errcode>	The result code of the FTP/FTPS login. 0 is success. Others are failure, please refer to <errcode> list.

Examples

AT+CFTPSLOGIN=?

+CFTPSLOGIN:

"ADDRESS",(1-65535),"USERNAME","PASSWORD"[(0-3)]

OK

AT+CFTPSLOGIN?

+CFTPSLOGIN: 0

OK

AT+CFTPSLOGIN="serveraddr",21,"username","password",0

OK

+CFTPSLOGIN: 0

2.2.4 AT+CFTPSLOGOUT Logout a FTP(S)server

AT+CFTPSLOGOUT is used to logout a FTP(S)server, make sure you login a FTP(S)server before you execute **AT+CFTPSLOGOUT** command.

AT+CFTPSLOGOUT Logout a FTP(S)server

Test Command AT+CFTPSLOGOUT=?	Response OK
Execute Command AT+CFTPSLOGOUT	Response 1) OK
	+CFTPSLOGOUT: <0>
	2) OK
	+CFTPSLOGOUT: <errcode> 3) ERROR
Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms
Reference	

Defined Values

<errcode>	The result code of the FTP/FTPS logout. 0 is success. Others are failure, please refer to <errcode> list.
-----------	---

Examples

```
AT+CFTPSLOGOUT=?
OK
AT+CFTPSLOGOUT
OK

+CFTPSLOGOUT: 0
```

NOTE

When you want to stop the FTP(S)service, please use **AT+CFTPSLOGOUT** to log out of the FTP(S)server, then use **AT+CFTPSSTOP** to stop FTP, if you only use **AT+CFTPSSTOP**, it will report ERROR.

2.2.5 AT+CFTPSLIST List the items in the directory on FTP(S)server

This command is used to list the items in the specified directory on FTP(S)server. Module will output the items to serial port when list items successfully. Make sure that you have login to FTP(S)server successfully.

AT+CFTPSLIST List the items in the directory on FTP(S)server

Test Command	Response
AT+CFTPSLIST=?	OK
	Response
	1)
	OK
	+CFTPSLIST: DATA,<len>
	...
Write Command	+CFTPSLIST: 0
AT+CFTPSLIST=<dir>	2)
	OK
	+CFTPSLIST: <errcode>
	3)
	ERROR
Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms
Reference	

Defined Values

<dir>	The directory to be created, string type, maximum length is 112.
<errcode>	The result of create directory, 0 is success, others are failure, Please refer to <errcode> list.
<len>	The server All files and related information in the directory.

Examples

AT+CFTPSLIST="/"

OK

+CFTPSLIST: DATA,175

-rw-r--r-- 1 ftp ftp 121 Mar 11 16:24 124.txt

drwxr-xr-x 1 ftp ftp 0 Jan 13 2020

TEST113


```
drwxr-xr-x 1 ftp ftp      0 Jan 19 2020
TEST1155

+CFTPSLIST: 0
```

2.2.6 AT+CFTPSMKD Create a new directory on FTP(S)server

AT+CFTPSMKD is used to create a new directory on a FTP(S)server. Please make sure login to the FTP(S)server successfully before create a directory.

AT+CFTPSMKD Create a new directory on FTP(S)server

Test Command AT+CFTPSMKD=?	Response +CFTPSMKD: "DIR"
	OK
Write Command AT+CFTPSMKD=<dir>	Response 1) OK +CFTPSMKD: 0 2) OK +CFTPSMKD: <errcode> 3) ERROR 4) + CFTPSMKD: <errcode> ERROR
Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms
Reference	

Defined Values

<dir>	The directory to be created, string type, maximum length is 112.
<errcode>	The result of create directory, 0 is success, others are failure, please refer to <errcode> list.

Examples

```
AT+CFTPSMKD=?
+CFTPSMKD: "DIR"

OK
AT+CFTPSMKD="test"
OK

+CFTPSMKD: 0
```

2.2.7 AT+CFTPSRMD Delete a directory on FTP(S)server

AT+CFTPSRMD is used to delete a directory on FTP(S)server, please make sure login to the FTP(S)server successfully before delete a directory.

AT+CFTPSRMD Delete a directory on FTP(S)server

Test Command	Response
AT+CFTPSRMD=?	+CFTPSRMD: "DIR"
	OK
	Response
	1)
	OK
	+CFTPSRMD: 0
	2)
	OK
Write Command	
AT+CFTPSRMD=<dir>	+CFTPSRMD: <errcode>
	3)
	ERROR
	4)
	+ CFTPSRMD: <errcode>
	ERROR
Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms
Reference	

Defined Values

<dir>	The directory to be deleted, string type, maximum length is 112.
<errcode>	The result of create directory, 0 is success, others are failure, please refer to <errcode> list.

Examples

```

AT+CFTPSRMD=?
+CFTPSRMD: "DIR"

OK
AT+CFTPSRMD="test"
OK

+CFTPSRMD: 0

```

2.2.8 AT+CFTPSCWD Change the current directory on FTP(S)server

AT+CFTPSCWD is used to change the current directory on FTP(S)server. Make sure you have login to FTP(S)server successfully before **AT+CFTPSCWD**.

AT+CFTPSCWD Change the current directory on FTP(S)server

Test Command AT+CFTPSCWD=?	Response +CFTPSCWD: "DIR" OK
Write Command AT+CFTPSCWD=<dir>	Response 1) OK +CFTPSCWD: 0 2) OK +CFTPSCWD: <errcode> 3) ERROR 4) + CFTPSCWD: <errcode> ERROR

Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms
Reference	

Defined Values

<dir>	The directory to be changed, string type, maximum length is 112.
<errcode>	The result of create directory, 0 is success, others are failure, please refer to <errcode> list.

Examples

```

AT+CFTPSCWD=?
+CFTPSCWD: "DIR"

OK
AT+CFTPSCWD="test"
OK

+CFTPSCWD: 0

```

2.2.9 AT+CFTPSPWD Get the current directory on FTP(S)server

This command is used to get the current directory on FTPS server. Before **AT+CFTPSPWD**, please make sure you have login to FTP(S)server successfully

AT+CFTPSPWD Get the current directory on FTP(S)server

Test Command AT+CFTPSPWD=?	Response +CFTPSPWD: OK
Execute Command AT+CFTPSPWD	Response 1) OK +CFTPSPWD: <dir> 2) OK +CFTPSPWD: <errcode>

	3) ERROR
Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms
Reference	

Defined Values

<dir>	The directory to be got, string type.
<errcode>	The result of create directory, 0 is success, others are failure, please refer to <errcode> list.

Examples

AT+CFTPSPWD

OK

+CFTPSPWD: "/"

2.2.10 AT+CFTPSDELE Delete a file on FTP(S)server

AT+CFTPSDELE is used to delete a file on FTP(S)server, please make sure login to the FTP(S)server successfully before delete a file.

AT+CFTPSDELE Delete a file on FTP(S)server

Test Command AT+CFTPSDELE=?	Response +CFTPSDELE: "FILENAME" OK
Write Command AT+CFTPSDELE=<filename>	Response 1) OK +CFTPSDELE: 0 2) OK +CFTPSDELE: <errcode> 3) ERROR

	4) + CFTPSDELE: <errcode>
	ERROR
Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms
Reference	

Defined Values

<filename>	The name of the file to be deleted. String type, the maximum length is 112
<errcode>	The result of create directory, 0 is success, others are failure. Please refer to <errcode> list.

Examples

```

AT+CFTPSDELE=?
+CFTPSDELE:"FILENAME"

OK
AT+CFTPSDELE="testfile"
OK

+CFTPSDELE: 0

```

2.2.11 AT+CFTPSGETFILE Download a file from FTP(S)server to module

AT+CFTPSGETFILE is used to download a file from FTP(S)server to module, by setting parameter <dir>, you can select the directory where to save the downloaded file. Default the downloaded file will be saved to local storage. Make sure that you have login to FTP(S)server successfully before **AT+CFTPSGETFILE**.

AT+CFTPSGETFILE Download a file from FTP(S)server to module

Test Command AT+CFTPSGETFILE=?	Response +CFTPSGETFILE: "FILEPATH"[(1-2)]
	OK
Write Command AT+CFTPSGETFILE=<filepath>[,< local_path >]	Response 1) OK

	+CFTPSGETFILE: 0 2) OK
	+CFTPSGETFILE: <errcode> 3) ERROR 4) + CFTPSGETFILE: <errcode> ERROR
Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms
Reference	

Defined Values

<filepath>	The remote file path. String type, maximum length is 53
< local_path >	The directory to save the downloaded file. Numeric type, range is 1-2, default is 1(local storage) 1 C:/(local storage) 2 Reserved
<errcode>	The result code of download file from FTP(s)server. 0 is success, others are failure, please refer to <errcode> list.

Examples

```

AT+CFTPSGETFILE=?
+CFTPSGETFILE: "FILEPATH"[(1-2)]

OK
AT+CFTPSGETFILE="test.txt",1
OK

+CFTPSGETFILE: 0
  
```

2.2.12 AT+CFTPSPUTFILE Upload a file from module to FTP(S)server

AT+CFTPSPUTFILE is used to upload a file to FTP(S)server from module. By setting parameter <dir> you

can select the directory that contains the file to be uploaded. Make sure that you have login to the FTP(S)server, successfully before **AT+CFTPSPUTFILE**.

AT+CFTPSPUTFILE Upload a file from module to FTP(S)server

Test Command AT+CFTPSPUTFILE=?	Response +CFTPSPUTFILE: "FILEPATH"[(range of supported <local_path>s),(range of supported <rest_size>s)]
Write Command AT+CFTPSPUTFILE=<filepath>[,<local_path>,<rest_size>]	OK Response 1) OK +CFTPSPUTFILE: 0 2) OK +CFTPSPUTFILE: <errcode> 3) ERROR 4) + CFTPSPUTFILE: <errcode> ERROR
Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms
Reference	

Defined Values

<filepath>	The remote file path. String type, maximum length is 53
<local_path>	The directory to save the downloaded file. Numeric type, range is 1-2, default is 1(local storage) 1 C:/(local storage) 2 Reserved
<rest_size>	The value for FTP "REST" command which is used for broken transfer when transferring failed last time. If the file is complete, the file length is not increased. Numeric type, the range is from 0 to 2147483647.
<errcode>	The result code of download file from FTP(s)server. 0 is success, others are failure, please refer to <errcode> list.

Examples


```

AT+CFTPSPUTFILE=?
+CFTPSPUTFILE: "FILEPATH"[,(1-2),(0-2147483647)]

OK
AT+CFTPSPUTFILE="test.txt",1
OK

+CFTPSPUTFILE: 0

```

2.2.13 AT+CFTPSET Get a file from FTP(S)server to serial port

AT+CFTPSET is used to get a file from FTP(S)server to serial port.

AT+CFTPSET Get a file from FTP(S)server to serial port

Test Command	Response
AT+CFTPSET=?	+CFTPSET: "FILEPATH"[,<rest_size>]
	OK
	Response
	1)
	OK
	+CFTPSET:DATA,<len>
	...
	+CFTPSET:DATA,<len>
	...
Write Command	+CFTPSET: 0
AT+CFTPSET=<filepath>[,<rest_size>]	2)
	OK
	+CFTPSET: <errcode>
	3)
	ERROR
	4)
	+CFTPSET: <errcode>
	ERROR
Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms
Reference	

Defined Values

<filepath>	The remote file path. String type, maximum length is 112.
<rest_size>	The value for FTP "REST" command which is used for broken transfer when transferring failed last time. Numeric type, the range is from 0 to 2147483647
<errcode>	The result code of download file from FTP(s)server. 0 is success, others are failure, please refer to <errcode> list.
<len>	The total size of the file from the server

Examples

```

AT+CFTPSGET=?
+CFTPSGET: "FILEPATH"[,<rest_size>]

OK
AT+CFTPSGET="test.txt"
OK

+CFTPSGET: DATA,3
321
+CFTPSGET: 0

```

2.2.14 AT+CFTPSPUT Put a file to FTP(S)server through serial port

AT+CFTPSPUT is used to put a file to FTP(S)server through serial port. Make sure that you have login to FTP(S)server successfully.

AT+CFTPSPUT Put a file to FTP(S)server through serial port

Test Command AT+CFTPSPUT=?	Response +CFTPSPUT: "FILEPATH"[,<data_len>[,<rest_size>]]
	OK
Write Command AT+CFTPSPUT=<filepath>[,<data_len>[,<rest_size>]]	Response 1)if upload file through serial port successfully: OK +CFTPSPUT: 0 2)if failed before input data: ERROR

	+CFTPSPUT: <errcode> 3)if failed after input data: OK +CFTPSPUT: <errcode> 4) ERROR 5) + CFTPSPUT: <errcode> ERROR
Parameter Saving Mode	NO_SAVE
Max Response Time	600000ms
Reference	

Defined Values

<filepath>	The remote file path. String type, maximum length is 112.
<data_len>	Numeric type, The length of the data to send, the maximum length is 2048.if parameter <data_len> is omitted, Single <Ctrl+Z> means end of the FTP data. <Ctrl+Z> is 0x1A.
<rest_size>	The value for FTP "REST" command which is used for broken transfer when transferring failed last time. Numeric type, the range is from 0 to 2147483647
<errcode>	The result code of download file from FTP(s)server. 0 is success, others are failure, please refer to <errcode> list.

Examples

```

AT+CFTPSPUT=?
+CFTPSPUT:
"FILEPATH"[,<data_len>[,<rest_size>]]

OK
AT+CFTPSPUT="test.txt",4
>
data
OK

+CFTPSPUT: 0
  
```

2.2.15 AT+CFTPSSINGLEIP Set FTP(S)data socket address type

This command is used to set FTPS server data socket IP address type. For some FTP(S)server, it is needed to set **AT+CFTPSSINGLEIP=1**. Please make sure to set **AT+CFTPSSINGLEIP** before **AT+CFTPSLOGIN**.

AT+CFTPSSINGLEIP Set FTP(S)data socket address type	
Test Command AT+CFTPSSINGLEIP=?	Response +CFTPSSINGLEIP: (0,1) OK
Read Command AT+CFTPSSINGLEIP?	+CFTPSSINGLEIP: <singleip> OK
Write Command AT+CFTPSSINGLEIP=<singleip> >	Response 1) OK 2) ERROR 3) +CFTPSSINGLEIP: <singleip> OK
Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms
Reference	

Defined Values

<singleip>	The FTPS data socket IP address type: <u>0</u> decided by PORT response from FTPS server <u>1</u> the same as the control socket.
-------------------------	---

Examples

```
AT+CFTPSSINGLEIP=?
+CFTPSSINGLEIP: (0,1)

OK
AT+CFTPSSINGLEIP?
+CFTPSSINGLEIP: 0
```

OK
AT+CFTPSSINGLEIP=0
OK

2.2.16 AT+CFTPSSIZE Get the file size on FTP(S)server

AT+CFTPSSIZE is used to get the file size on FTP(S)server. Please make sure you have login to FTP(S)server before **AT+CFTPSSIZE**.

AT+CFTPSSIZE Get the file size on FTP(S)server

Test Command AT+CFTPSSIZE=?	Response +CFTPSSIZE: "FILEPATH"
	OK
Write Command AT+CFTPSSIZE=<filepath>	Response 1) OK +CFTPSSIZE: <filesize> 2) ERROR +CFTPSSIZE: <errcode> 3) +CFTPSSIZE: <errcode> ERROR 4) ERROR
Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms
Reference	

Defined Values

<filepath>	The remote file path on FTP(S)server. String type, max length is 112
<filesize>	Numeric type, size of the remote file on FTP(S)server
<errcode>	The result of set type, 0 is success, others are failure, please refer to <errcode> list.

Examples

```
AT+CFTPSSIZE=?
+CFTPSSIZE: "FILEPATH"

OK
AT+CFTPSSIZE="test"
OK

+CFTPSSIZE: 3
```

2.2.17 AT+CFTPSTYPE Set the transfer type on FTP(S)server

This command is used to set the transfer type on FTP(S)server, please make sure you have login to FTP(S)server before **AT+CFTPSTYPE**.

AT+CFTPSTYPE Set the transfer type on FTP(S)server

Test Command AT+CFTPSTYPE=?	Response +CFTPSTYPE: (A,I) OK
Read Command AT+CFTPSTYPE?	+CFTPSTYPE: <type> OK
Write Command AT+CFTPSTYPE=<type>	Response 1) OK +CFTPSTYPE: 0 2) OK +CFTPSTYPE: <errcode> 3) ERROR 4) + CFTPSTYPE: <errcode> ERROR
Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms
Reference	

Defined Values

<type>	The type of transferring: A ASCII I Binary
<errcode>	The result of set type, 0 is success, others are failure, please refer to <errcode> list.

Examples

AT+CFTPSTYPE=?

+CFTPSTYPE: (A,I)

OK

AT+CFTPSTYPE?

+CFTPSTYPE: I

OK

AT+CFTPSTYPE=A

OK

+CFTPSTYPE: 0

2.2.18 AT+CFTPSSLCFG Set the SSL context id for FTPS session

AT+CFTPSSLCFG is used to set the SSL context id for FTPS session.

AT+CFTPSSLCFG Set the SSL context id for FTPS session

Test Command AT+CFTPSSLCFG=?	Response +CFTPSSLCFG: (0,1),(0-9)
	OK
Write Command AT+CFTPSSLCFG=<session_id>,<ssl_id>	Response 1) OK 2) ERROR
Parameter Saving Mode	NO_SAVE
Max Response Time	9000ms

Reference

Defined Values

<session_id>	Numeric type, 0 for control session, 1 for data session.
<ssl_id>	Numeric type, SSL context ID during 0-9.

Examples

AT+CFTPSSLCFG=?

+CFTPSSLCFG: (0,1),(0-9)

OK

AT+CFTPSSLCFG=0,1

OK

3 FTP(S) Examples

Before all FTP(S) related operations, we should ensure the following:
Ensure network is available:

AT+CSQ

+CSQ: 23,0

OK

AT+CPSI?

+CPSI:

LTE,Online,460-00,0x333C,39589680,308,EUT

RAN-BAND3,1350,5,0,0,54,0,22

OK

AT+CGACT?

+CGACT: 1,1

OK

3.1 FTP Function

3.1.1 Download a file from FTP server to module/Upload a file to FTP server from module

AT+CFTPSSTART

//Start FTP service

OK

+CFTPSSTART: 0

**AT+CFTPSLOGIN="255.255.255.255",21,"user
name","password",0**

//Login to a FTP server. (This address is for
example only)

OK

+CFTPSLOGIN: 0

AT+CFTPSLIST="/"

//List all items of directory "/"

OK

+CFTPSLIST: DATA,175

```
-rw-r--r-- 1 ftp ftp          121 Mar 11 16:24
124.txt
drwxr-xr-x 1 ftp ftp          0 Jan 13
2020 TEST113
drwxr-xr-x 1 ftp ftp          0 Jan 19
2020 TEST1155

+CFTPSLIST: 0
AT+CFTPSPWD                                //Get current directory of FTP server
OK

+CFTPSPWD: "/"
AT+CFTPSGETFILE="124.txt"                  //Download a file from FTP server to module.
OK

+CFTPSGETFILE: 0
AT+CFTPSPUTFILE="124.TXT"                  //Upload a file to FTP server from module
OK

+CFTPSPUTFILE: 0
AT+CFTPSLOGOUT                             //Logout FTP server
OK

+CFTPSLOGOUT: 0
AT+CFTPSSTOP                              //Stop FTP server
OK

+CFTPSSTOP: 0
```

3.1.2 Download a file from FTP server to serial port/Upload a file from serial port to FTP server

```
AT+CFTPSSTART                                //Start FTP service
OK

+CFTPSSTART: 0
AT+CFTPSLOGIN="255.255.255.255",21,"user //Login to a FTP server. (This address is for
name","password",0                        example only)
OK

+CFTPSLOGIN: 0
AT+CFTPSLIST="/"                            //List all items of directory "/"
OK
```

```

+CFTPSLIST: DATA,175
-rw-r--r-- 1 ftp ftp          121 Mar 11 16:24
124.txt
-rw-r--r-- 1 ftp ftp          3 Mar 19 17:10
test1131.txt
drwxr-xr-x 1 ftp ftp          0 Jan 13
2020 TEST113
drwxr-xr-x 1 ftp ftp          0 Jan 19
2020 TEST1155

+CFTPSLIST: 0
AT+CFTPSPWD                                //Get current directory of FTP server
OK

+CFTSPWD: "/"
AT+CFTPSGET="test1131.txt"                 //Download a file from FTP server to serial port
OK

+CFTPSGET: DATA,3
321
+CFTPSGET: 0
AT+CFTPSPUT="test1131.txt"                 //Upload a file to FTP server from serial port
> (input the data, and use ctrl+Z to complete
upload)
OK

+CFTPSPUT: 0
AT+CFTPSPUT="test1131.txt",3               //Upload a file to FTP server from serial port by
> (input the data, when the length is 3,Upload limiting the length.
will complete automatically)
OK

+CFTPSPUT: 0

AT+CFTPSLOGOUT                             //Logout FTP server
OK

+CFTPSLOGOUT: 0
AT+CFTPSSTOP                             //Stop FTP server
OK

+CFTPSSTOP: 0

```

3.1.3 Directory Operations

```

AT+CFTPSSTART                                     //Start FTP service
OK

+CFTPSSTART: 0
AT+CFTPSLOGIN="255.255.255.255",21,"user         //Login to a FTP server. (This address is for
name","password",0                               example only)
OK

+CFTPSLOGIN: 0
AT+CFTPSLIST="/"                                  //List all items of directory "/"
OK

+CFTPSLIST: DATA,175
-rw-r--r-- 1 ftp ftp          121 Mar 11 16:24
124.txt
-rw-r--r-- 1 ftp ftp          3 Mar 19 17:10
test1131.txt
drwxr-xr-x 1 ftp ftp          0 Jan 13
2020 TEST113
drwxr-xr-x 1 ftp ftp          0 Jan 19
2020 TEST1155

+CFTPSLIST: 0
AT+CFTPSPWD                                       //Get current directory of FTP server
OK

+CFTPSPWD: "/"
AT+CFTPSMKD="TEST1129"                           //Create a new directory
OK

+CFTPSMKD: 0
AT+CFTPSCWD="TEST1129"                           //Change to the specified directory
OK

+CFTPSCWD: 0
AT+CFTPSPWD                                       //Get current directory of FTP server
OK

+CFTPSPWD: "/TEST1129"
AT+CFTPSCWD                                       //Change to the specified directory
OK

+CFTPSCWD: "/"

```

```

AT+CFTPSRMD="/TEST1129"           //Delete the specified directory
OK

+CFTPSRMD: 0
AT+CFTPSLOGOUT                     //Logout FTP server
OK
+CFTPSLOGOUT: 0
AT+CFTPSSTOP                       //Stop FTP server
OK

+CFTPSSTOP: 0

```

3.2 FTPS Function

3.2.1 Download a file from FTPS server to module/Upload a file to FTPS server from module

```

AT+CSSLCFG="sslversion",0,4        //Set SSL version for the first SSL context
OK
AT+CSSLCFG="authmode",0,1          //Set the authentication mode(verify server) for the
OK                                  first SSL context
AT+CSSLCFG="cacert",0,"server_ca.pem" //Set the server root CA for the first SSL context
OK
AT+CFTPSSLCFG=0,0
OK
AT+CFTPSSTART                      //Start FTPS service
OK

+CFTPSSTART: 0
AT+CFTPSLOGIN="255.255.255.255",990,"use //Login to an Implicit FTPS server. (This address is
rname","password"                  for example only)
OK

+CFTPSLOGIN: 0
AT+CFTPSLIST="/"                  //List all items of directory "/"
OK

+CFTPSLIST: DATA,175
-rw-r--r-- 1 ftp ftp              121 Mar 11 16:24
124.txt
drwxr-xr-x 1 ftp ftp              0 Jan 13
2020 TEST113

```

drwxr-xr-x 1 ftp ftp
2020 TEST1155

0 Jan 19

+CFTPSLIST: 0

AT+CFTPSPWD

//Get current directory of FTP server

OK

+CFTPSPWD: "/"

AT+CFTPSGETFILE="124.txt"

//Download a file from FTP server to module.

OK

+CFTPSGETFILE: 0

AT+CFTPSPUTFILE="124.TXT"

//Upload a file to FTP server from module

OK

+CFTPSPUTFILE: 0

AT+CFTPSLOGOUT

//Logout FTP server

OK

+CFTPSLOGOUT: 0

AT+CFTPSSTOP

//Stop FTP server

OK

+CFTPSSTOP: 0

3.2.2 Download a file from FTPS server to serial port/Upload a file from serial port to FTPS server

AT+CSSLCFG="sslversion",0,4

//Set SSL version for the first SSL context

OK

AT+CSSLCFG="authmode",0,2

//Set the authentication mode(verify server and client) for the first SSL context

OK

AT+CSSLCFG="cacert",0,"ca_cert.pem"

//Set the server root CA for the first SSL context

OK

AT+CSSLCFG="clientcert",0,"cert.pem"

//Set the client certificate for the first SSL context

OK

AT+CSSLCFG="clientkey",0,"key_cert.pem"

//Set the client key for the first SSL context

OK

AT+CFTPSSSLCFG=0,0

OK

AT+CFTPSSTART

//Start FTP service

OK

+CFTPSSTART: 0

```

AT+CFTPSLOGIN="255.255.255.255",990,"use //Login to an Implicit FTPS server. (This address is
rname","password") for example only)
OK

+CFTPSLOGIN: 0

AT+CFTPSLIST="/" //List all items of directory "/"
OK

+CFTPSLIST: DATA,175
-rw-r--r-- 1 ftp ftp          121 Mar 11 16:24
124.txt
-rw-r--r-- 1 ftp ftp          3 Mar 19 17:10
test1131.txt
drwxr-xr-x 1 ftp ftp          0 Jan 13
2020 TEST113
drwxr-xr-x 1 ftp ftp          0 Jan 19
2020 TEST1155

+CFTPSLIST: 0

AT+CFTPSPWD //Get current directory of FTP server
OK

+CFTPSPWD: "/"

AT+CFTPSGET="test1131.txt" //Download a file from FTP server to serial port
OK

+CFTPSGET: DATA,3
321
+CFTPSGET: 0

AT+CFTPSPUT="test1131.txt" //Upload a file to FTP server from serial port
> (input the data, and use ctrl+Z to complete
upload)
OK

+CFTPSPUT: 0

AT+CFTPSPUT="test1131.txt",3 //Upload a file to FTP server from serial port by
> (input the data, when the length is 3,Upload limiting the length.
will complete automatically)
OK

+CFTPSPUT: 0

AT+CFTPSLOGOUT //Logout FTP server
OK

+CFTPSLOGOUT: 0

```

```
AT+CFTPSSTOP                                     //Stop FTP server
OK

+CFTPSSTOP: 0
```

3.2.3 Directory Operations

```
AT+CSSLCFG="sslversion",0,4                     //Set SSL version for the first SSL context
OK
AT+CSSLCFG="authmode",0,2                       //Set the authentication mode(verify server and
OK                                              client) for the first SSL context
AT+CSSLCFG="cacert",0,"ca_cert.pem"             //Set the server root CA for the first SSL context
OK
AT+CSSLCFG="clientcert",0,"cert.pem"            //Set the client certificate for the first SSL context
OK
AT+CSSLCFG="clientkey",0,"key_cert.pem"         //Set the client key for the first SSL context
OK
AT+CFTPSSLCFG=0,0
OK
AT+CFTPSSTART                                   //Start FTP service
OK

+CFTPSSTART: 0
AT+CFTPSLOGIN="255.255.255.255",660,"use       //Login to an Implicit FTPS server. (This address is
rname","password"                             for example only)
OK

+CFTPSLOGIN: 0
AT+CFTPSLIST="/"                               //List all items of directory "/"
OK

+CFTPSLIST: DATA,175
-rw-r--r-- 1 ftp ftp          121 Mar 11 16:24
124.txt
-rw-r--r-- 1 ftp ftp          3 Mar 19 17:10
test1131.txt
drwxr-xr-x 1 ftp ftp          0 Jan 13
2020 TEST113
drwxr-xr-x 1 ftp ftp          0 Jan 19
2020 TEST1155

+CFTPSLIST: 0
```


AT+CFTPSPWD	//Get current directory of FTP server
OK	
+CFTPSPWD: "/"	
AT+CFTPSPMKD="TEST1129"	//Create a new directory
OK	
+CFTPSPMKD: 0	
AT+CFTPSCWD="TEST1129"	//Change to the specified directory
OK	
+CFTPSCWD: 0	
AT+CFTPSPWD	//Get current directory of FTP server
OK	
+CFTPSPWD: "/TEST1129"	
AT+CFTPSCWD	//Change to the specified directory
OK	
+CFTPSCWD: "/"	
AT+CFTPSPSRMD="/TEST1129"	//Delete the specified directory
OK	
+CFTPSPSRMD: 0	
AT+CFTPSPSLOGOUT	//Logout FTP server
OK	
+CFTPSPSLOGOUT: 0	
AT+CFTPSPSTOP	//Stop FTP server
OK	
+CFTPSPSTOP: 0	

NOTE

The appeal sample server is for demonstration purposes only, not for commercial purpose.

4 Appendix

4.1 Summary of Error Codes

Code of <errcode>	Description
0	Success
1	SSL alert
2	Unknown error
3	Busy
4	Connection closed by server
5	Timeout
6	Transfer failed
7	File not exists or any other memory error
8	Invalid parameter
9	Operation rejected by server
10	Network error
11	State error
12	Failed to parse server name
13	Create socket error
14	Connect socket failed
15	Close socket failed
16	SSL session closed
17	File error, file not exist or other error.
421	Server response connection time out, while received error code 421, you need do AT+CFTPSLOGOUT to logout server then AT+CFTPSLOGIN again for further operations.