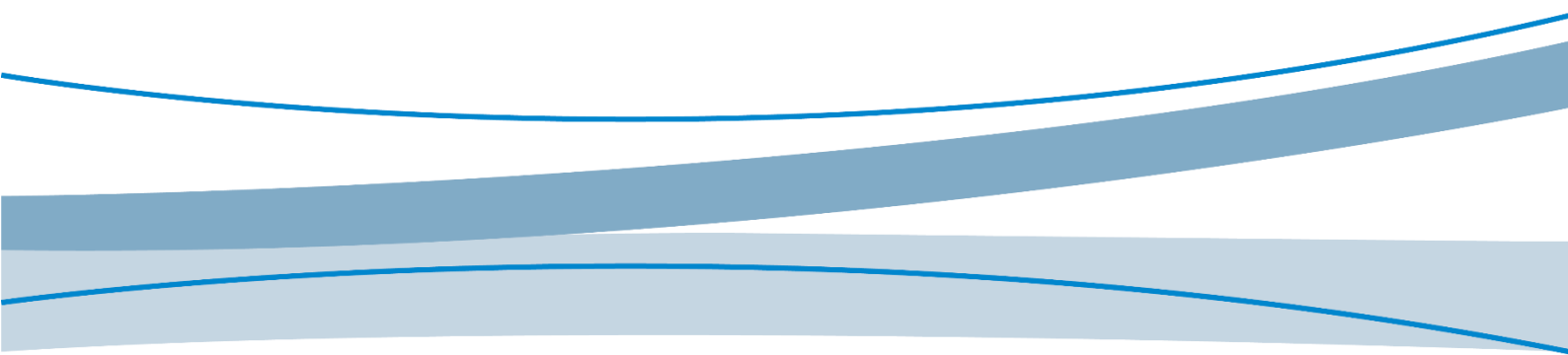




MTC

AT Commands User Manual_FOTA

V1.2



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Contents

Change History 2

Applicable Models 3

1 FOTA..... 4

 1.1 +GTOTA, Firmware Upgrade4

 1.2 +GTAPPOTA, Local FOTA Upgrade 7

Change History

V1.2 (2025-03-14)	Add url description of Unisoc platform
V1.1 (2025-02-27)	Add local upgrade AT of Unisoc platform
V1.0 (2024-08-29)	Initial version

Applicable Models

Platform	Project Model	Description
Qualcomm	NL668	The specific size of OTA packages supported by the module needs to be determined based on the remaining size of the file system;
	LC116	
	MG110	
	MC116	
	MA510	
	FG132	
Zte	L716	The specific size of OTA packages supported by the module needs to be determined based on the remaining size of the file system;
Unisoc	MC66x	The specific size of OTA packages supported by the module needs to be determined based on the remaining size of the file system;
	MG66x	
	LC610x	
	LG610	
	MC61x	
	LC621	
Eigencomm	LE series	The specific size of OTA packages supported by the module needs to be determined based on the remaining size of the file system;
		The maximum OTA package of EC718S and EC716S is 50KB; EC618, EC718S, EC716S do not support FTP download

1 FOTA

1.1 +GTOTA, Firmware Upgrade

Description

This command is used to start FOTA upgrade process. The OTA package can be downloaded over FTP(S) or HTTP(S) protocol.

Format

Type	Command	Response
Setting command	AT+GTOTA=<type>,<"url">[,<"filename">,<"username">,<"password">]	Response 1: OK GTOTA DOWNLOAD START GTOTA DOWNLOADING: <percent>% Download success: GTOTA DOWNLOAD COMPLETE Download fail: GTOTA DOWNLOAD FAILED Upgrade success: FOTA_UPDATE_SUCCESS Upgrade fail: FOTA_UPDATE_FAILED Response 2: ERROR
Query command parameter range	AT+GTOTA=?	+GTOTA:<type>,<"url">[,<"filename">,<"username">,<"password">] OK

Parameter

Name	Description	Value
type	integer type and range 0-1;	Type: interger 0: FOTA upgrade through HTTP(S) 1: FOTA upgrade through FTP(S)
url	Address of HTTP or FTP server.	Type: string The maximum length is 255

Name	Description	Value
		bytes.
filename	The file name of OTA package.	Type: string The maximum length is 255 bytes
username	User name for FTP server.	Type: string The maximum length is 255 bytes
password	FTP password for <"username">.	Type: string The maximum length is 255 bytes



1. When <type> is 0, parameters <"filename">, <"username">, and <"password"> can't be used. When <type> is 1, parameters <"filename">, <"username">, and <"filename"> must be given.
2. For the 8850, 8910C2 and 8910C3 projects, for software versions compiled after December 13, 2024, the max URL length is 2047 bytes;
3. When using HTTP(S), the file name and path of the OTA package must be included in <"URL">. When using FTP(S), <"URL"> is just the address of FTP(S) server, while filename is given by parameter <"filename">.
4. The file path may also be included to <"filename"> when needed.
5. When fota update success,TE will report FOTA_UPDATE_SUCCESS, otherwise,it will report FOTA_UPDATE_FAILED.

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Async command
Require Restart to Take Effect	No	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	Based on the size of the upgrade package

Example



Before execute AT+GTOTA, it is usually necessary to dial-up by AT+MIPCALL.
The projects of Qualcomm QC9607 and QC9205 (NL668, LC116, MG110, MC116, MA510) platforms do not require AT+MIPCALL to dial-up.

1.Download and upgrade by FTP

AT+MIPCALL=1 ⓘ

OK

```
+MIPCALL: 10.194.1.147

AT+GTOTA=1,"111.111.111.111:21","/test/OTA package","username","password"❷

OK

GTOTA DOWNLOAD START
GTOTA DOWNLOADING: 1%
.....
GTOTA DOWNLOADING: 100%
GTOTA DOWNLOAD COMPLETE

FOTA_UPDATE_SUCCESS

2.Download and upgrade by HTTP

AT+MIPCALL=1

OK

+MIPCALL: 10.194.1.147

AT+GTOTA=0,"http://111.111.111.111/test/OTA package"❸

OK

GTOTA DOWNLOAD START
GTOTA DOWNLOADING: 1%
.....
GTOTA DOWNLOADING: 100%
GTOTA DOWNLOAD COMPLETE

FOTA_UPDATE_FAILED

AT+GTOTA=?❹

+GTOTA: (0,1),<"url">[,<"filename">,<"username">,<"password">]

OK
```

❶ Dail-up

❷ FTP download and upgrade

❸ HTTP download and upgrade

❹ Query AT parameters

1.2 +GTAPPOTA, Local FOTA Upgrade

Description

This command is used to transfer the upgrade package to the module via serial port to start FOAT local upgrade, include firmware differential upgrade, app whole upgrade, app differential upgrade and FW+APP differential package upgrade .



This upgrade command is only applicable to **Unisoc** platform ;

This upgrade command is currently only available for 8850 and 8910 V1.3 baseline.

Format

Type	Command	Response
Setting command	AT+GTAPPOTA=<length>,<type>	Response 1: > Select the corresponding upgrade package through ODM and pass it to the module; After the packet transfer end,it will return: OK Response 2: ERROR
Query command parameter range	AT+GTAPPOTA=?	+GTAPPOTA: <length>,<1,2,3,4> OK

Parameter

Name	Description	Value
length	Length of upgrade package	Type:interger
type	Upgrade type	Type: interger range: 1-4 1: Firmware differential upgrade 2: App whole upgrade 3: App differential upgrade 4: FW+APP differential upgrade

Characteristic

Require SIM Card Normal	No	Require Network Registration	No
-------------------------	----	------------------------------	----

Require Data Connection	No	Async or Sync Command	sync command
Require Restart to Take Effect	Based on platform	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	Based on the size of the upgrade package



1. Ensure that the "length" passed in is correct, otherwise the FOTA upgrade process cannot start;
2. If the upgrade package verification fails, AT returns ERROR;
3. After the successful verification of the 8910 platform upgrade package, the module will automatically restart and enter the FOTA upgrade process;
After successful verification of the 8850 platform upgrade package, the module needs to be manually restarted to enter the FOTA upgrade process.

Example

AT+GTAPPOTA=91576,1 ❶

>

Sending completed!

FOTA_UPDATE_SUCCESS

AT+GTAPPOTA=4555,3 ❷

>

ERROR

AT+GTAPPOTA=? ❸

+GTAPPOTA: <length>, <1,2,3,4>

OK

- ❶ Firmware differential upgrade successful
- ❷ APP differential package verification failed
- ❸ Query the range of AT parameter values