



SIM7600

Series_SFOTA_Application

Note

LTE Module

SIMCom Wireless Solutions Limited

Building B, SIM Technology Building, No.633, Jinzhong Road
Changning District, Shanghai P.R. China

Tel: 86-21-31575100

support@simcom.com

www.simcom.com

Document Title:	SIM7600 Series_SFOTA_Application Note
Version:	2.00
Date:	2020.8.6
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

Building B, SIM Technology Building, No.633 Jinzhong Road, Changning District, Shanghai P.R. China
Tel: +86 21 31575100
Email: simcom@simcom.com

For more information, please visit:

<https://www.simcom.com/download/list-863-en.html>

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

<https://www.simcom.com/ask/> or email to: support@simcom.com

About Document

Version History

Version	Date	Owner	What is new
V2.00	2020.8.6	Yuanzhi.Sun	Update document format

Contents

About Document..... 3

Version History.....3

Scope..... 错误！未定义书签。

Contents..... 4

1. Introduction..... 5

1.1 Purpose of the document.....5

1.2 Related documents..... 5

1.3 Conventions and abbreviations..... 5

2. SFOAT Introduction..... 6

3. AT Commands for SFOAT..... 7

4. SFOAT Samples..... 8

4.1 Create the item on cloud platform..... 8

4.2 Connect to server and download upgrade package..... 12

4.3 Upgrade..... 13

1.Introduction

1.1 Purpose of the document

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

1.2 Related documents

[1] SIM7600 Series_AT Command Manual

1.3 Conventions and abbreviations

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

ME (Mobile Equipment);

MS (Mobile Station);

TA (Terminal Adapter);

DCE (Data Communication Equipment) or facsimile DCE (FAX modem, FAX board);

In application, controlling device controls the GSM 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;

2.SFOAT Introduction

The process of Using SFOTA AT Commands

Step 1: Ensure network is available before performing FOTA related operations.

Step 2: Configure the parameter of PDP context by AT+CGDCONT.

Step 3: Activate FOTA program by AT+CAPFOTA=1.

Step 4: Configure the parameter of FOTA service by AT+CSCFOTA which are using for connect server and download upgrade package.

Step 5: Close FOTA program that disconnect server by AT+CAPFOTA=0.

3.AT Commands for SFOAT

Command	Description
AT+CAPFOTA	Start/Close FOTA Service
AT+CSCFOTA	Configure parameters and download upgrade package
AT+CDELTA	Upgrade Firmware

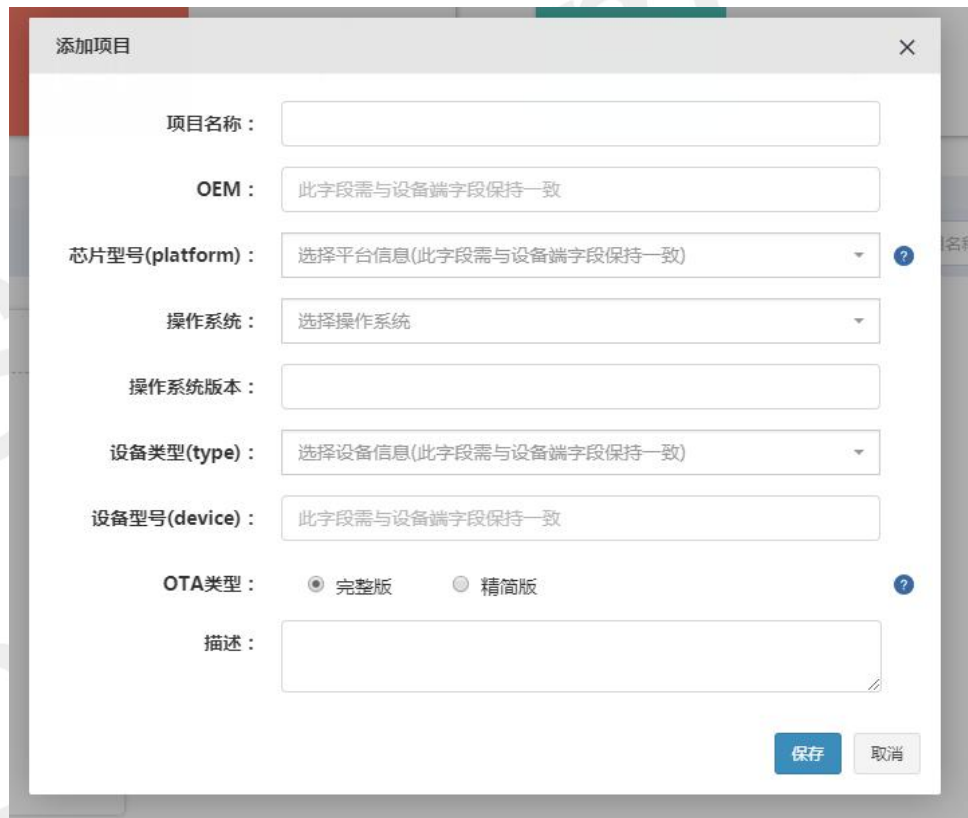
For detail information, please refer to “SIM7600 Series AT Command Manual ”.

4.SFOAT Samples

4.1 Create the item on cloud platform

Before all FOTA related operations, we should ensure the following:

Firstly, contact with SIMCom company for creating an item on cloud platform.



添加项目

项目名称 :

OEM :

芯片型号(platform) : ?

操作系统 :

操作系统版本 :

设备类型(type) :

设备型号(device) :

OTA类型 : ☒ 完整版 ☐ 精简版 ?

描述 :

保存 取消

When finished creating item, the item information can be checked on cloud platform. The product ID and Secret will be generated after creating item.

[首页](#)

设备型号: 7600M21 累计设备: 1 升级成功数: 0

项目信息

OTA升级

版本管理

测试设备管理

设备升级详情

升级统计

按日期统计

设备统计

设备数量统计

设备版本统计

项目信息

项目名称: test1

OEM: SIMCOM

设备型号: 7600M21

平台: MDM9x07

设备类型: module

操作系统: Linux

系统版本: 12.04

Product ID: 1540530836

Product Secret: de79e31c53a64d9787cd430dbb566e82

下载SDK: 下载SDK包

创建时间: 2018-10-26 13:13:55

更新时间: 2018-10-26 13:13:55

OTA类型: ☒ 完整版 ☐ 精简版

描述:

Secondly, go to version management to add new version. The initial version has no source version, so no difference relationship is configurable. If you need to upload a differential package and configure an upgrade policy, etc., you must add at least two versions.

[首页](#)

设备型号: 7600M21 累计设备: 1 升级成功数: 0

项目信息

OTA升级

版本管理

测试设备管理

设备升级详情

升级统计

按日期统计

设备统计

设备数量统计

设备版本统计

OTA升级 / 版本管理

版本号	发布时间	状态	描述	操作
SIM7600M21_B09V02_180912	2018-10-26	初始版本		编辑 配置差分 删除
SIM7600M21_LE11_181025_V2.00	2018-10-26	已发布(1)		编辑 配置差分 删除

显示第 1 到第 2 条记录, 总共 2 条记录

The initial version should use AT+SIMCOMATI command to ensure. Next add target version. Then upload the upgrade package. For instance, if we want to update version from SIM7600M21_B09V02_180912 to SIM7600M21_LE11_181025_V2.00, we click configure differential package and then upload differential package. The figure of this step is shown below.

首页 test1 设备型号: 7600M21 累计设备: 0 升级成功数: 0

项目信息

OTA升级

版本管理

测试设备管理

设备升级详情

升级统计

按日期统计

设备统计

设备数量统计

设备版本统计

OTA升级 / 版本管理 / 差分管理

升级版本: SIM7600M21_LE11_181025_V2.00 后置版本: 无

源版本	上传时间	发布时间	文件	大小	是否有效	升级策略	选择文件	操作状态	操作
SIM7600M21_B09V02_180912	2018-11-11 10:38:52	-	LE11B09V02_B09V05M21().zip	10521530 (10.03MB)	上线	配置	上传	测试通过 测试不通过	冻结

显示第 1 到第 1 条记录, 总共 1 条记录

Pay attention, if there are more than two versions, you want to upgrade to the specified version (not the latest version), and it needs to configure the upgrade strategy on cloud platform before version published. Others, if you only need to upgrade to the latest version this step can ignore.

首页 test1 设备型号: 7600M21 累计设备: 1 升级成功数: 0

项目信息

OTA升级

版本管理

测试设备管理

设备升级详情

升级统计

按日期统计

设备统计

设备数量统计

设备版本统计

OTA升级 / 版本管理 / 差分管理

升级版本: SIM7600M21_LE11_181025_V2.00 后置版本: 无

源版本	上传时间	发布时间	文件	大小	是否有效	升级策略	选择文件	操作状态	操作
SIM7600M21_B09V02_180912	2018-10-26 16:47:00	2018-10-26 16:47:07	LE11B09V02_B09V05M21().zip	10521530 (10.03MB)	上线	配置	上传	测试通过 测试不通过	冻结

显示第 1 到第 1 条记录, 总共 1 条记录

The importing MID template can be downloaded that is the method of add devices into whitelist.

范围配置

按MID升级: ☒ 是 ☐ 否

名单类型: 白名单

导入MID: 选择文件.xls [查看](#) [删除](#) [导出](#)

*请根据模板导入文件, 支持Excel2007,2003,TXT文件,上传5分钟生效

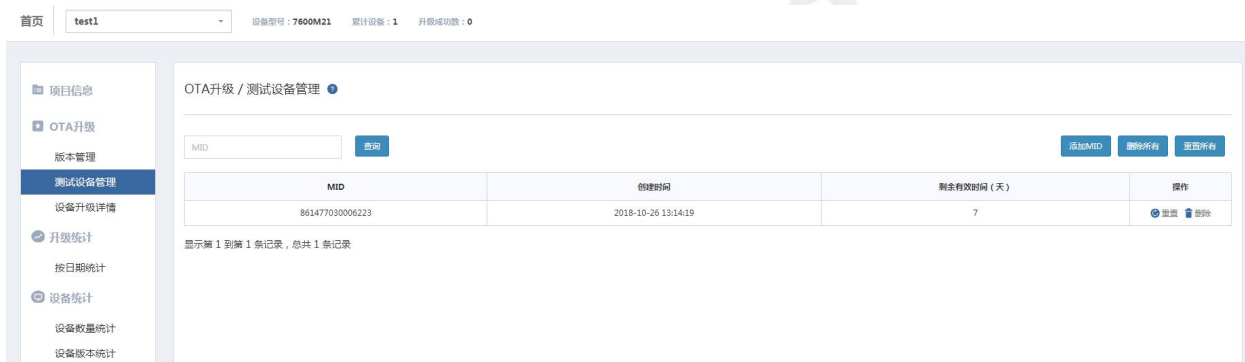
按地区升级: ☐ 是 ☒ 否

按数量升级: ☐ 是 ☒ 否

When ensure all version information is right, next should change the status of operation to test passed and publishes the version.



Thirdly, go to test device management to add the device IMEI. If it is added for the first time, it will take effect after five minutes.



Before all SCFOTA related operations, we should ensure the following:
Next ensure the network is available:

//Example of HTTP GET.

AT+CSQ

+CSQ: 23,0

OK

AT+CREG?

+CREG: 0,1

OK

AT+ CGREG?

+CGREG: 0,1

OK

PDP context Enable:

AT+CGDCONT=6,"IPV4V6","CMNET"

OK

//Specify the parameter value of the PDP context corresponding to cid.

AT+SIMCOMATI

Check current version before start FOTA severice.

Manufacturer: SIMCOM INCORPORATED

Model: SIMCOM_SIM7600CE

Revision: LE11B09SIM7600M21

SIM7600M21_B09V02_180912

QCN:

IMEI: 861477030006223

MEID:

+GCAP: +CGSM

DeviceInfo: 239,170

//using this version compare with version after upgrade.

OK

AT+CAPNET=6,1

start making a data call

OK

+CAPNET: 6,1

AT+CGPADDR

Ensure the sixth PDP context get an IP address.

+CGPADDR: 1,10.97.154.206

+CGPADDR:

5,0.0.0.0,0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0

+CGPADDR: 6,10.197.131.203

OK

4.2 Connect to server and download upgrade package

Following commands shows how to connect with server and download upgrade package.

AT+CAPFOTA=1

Start FOTA service, run the FOTA program.

OK

AT+CSCFOTA="SIMCOM","7600M21","1540907004","f9bbb0d76f894da090b6b69253616561","SIM7600M21_LE11_181025_V2.00"

Configure the FOTA service parameters.

OK

+CSCFOTA: 2

+CSCFOTA: 3

When finish downloading upgrade package, you can check the details of download on cloud platform. If download is successful, the status will display it.

首页

test1

设备型号: 7600M21 累计设备: 1 升级成功数: 0

项目信息

OTA升级

版本管理

测试设备管理

设备升级详情

升级统计

按日期统计

设备统计

设备数量统计

设备版本统计

OTA升级 / 设备升级详情

源版本(All)

目标版本(All)

状态

2018-10-20

2018-10-26

请输入MID

查询

导出

项目名	Mid	源版本	目标版本	检测时间	下载时间	升级时间	状态	错误信息	详情
test1	861477030006223	SIM7600M21_809V02_180912	SIM7600M21_LE11_181025_V2.00	2018-10-26 17:07:52	2018-10-26 17:08:04	-	下载成功	-	升级详情

显示第 1 到第 1 条记录, 总共 1 条记录

4.3 Upgrade

//Example of SFOAT upgrade.

AT+CDELTA

Set the module go to recovery mode

OK

AT+SIMCOMATI

Check version after finished upgrade step.

Manufacturer: SIMCOM INCORPORATED

Model: SIMCOM_SIM7600CE

Revision: LE11B09SIM7600M21

SIM7600M21_LE11_181025_V2.00

//using this version compare with version before upgrade.

QCN:

IMEI: 861477030006223

MEID:

+GCAP: +CGSM

DeviceInfo: 239,170

OK