



A76XX Series_IMS XML File Update_Application Note

LTE Module

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|------------------------|---|
| Document Title: | A76XX Series_IMS XML File Update_Application Note |
| Version: | V1.00 |
| Date: | 2022.11.01 |
| Status: | Released |

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About Document

Version History

| Version | Date | Chapter | Description |
|---------|------------|---------|-------------|
| V1.00 | 2022.11.01 | | New version |

Scope

This document presents the AT Command Set for SIMCom A76XX and A7678 Series, including A7600XX-XXXX, A76X0X-XXXX and A7678C.

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1 Introduction

1.1 IMS XML Introduction

SIMCom LTE A76XX series modules support VoLTE feature whose implementation requires activation of IMS PDN and the parameters specified by the operator at IMS registration. The IMS parameters are stored in IMS XML configuration file. Since most of the configurations of global operations are different, each operator needs an IMS XML configuration item. Limited by the module storage space, it is impossible to integrate the IMS configurations of all operators. LTE A76XX series modules support customized IMS XML interface features, and you can configure IMS XML according to actual scenarios to meet the requirements of different operators for VoLTE.

The latest configuration file can be obtained from the following path for internal FAE colleagues:
\\172.21.100.130\file-server\JIRA\JIRA-SW\ASR-Version\ASR IMS Settings_preferences.xml

1.1.1. IMS XML File Structure

1. The structure of IMS XML file is similar to the following description:

```
<operator id="T-Mobile" c="310260" c="23203" c="26201" c="26002" c="90140">
  <string name="KEY_IMS_OPERATOR">TMobile</string>
  <integer name="KEY_MTU_SIZE" value="1200" />
  <string name="KEY_LOCAL_URI_FORMAT">tel:%n;phone-context=%d</string>
  <boolean name="KEY_CSFB_WHEN_NW_REJECT" value="true" />
  <integer name="KEY_SIP_TIMER_TRING" value="130000" />
  <integer name="KEY_SIP_TIMER_TRINGBACK" value="130000" />
  <integer name="KEY_RETRY_BASE_TIME" value="30" />
  <integer name="KEY_RETRY_MAX_TIME" value="1800" />
  <integer name="KEY_SIP_TIMER_TCALL" value="5000" />
  <integer name="KEY_SIP_TIMER_TF" value="128000" />
  <string name="KEY_XCAP_PDP_APN">hos</string>
  <integer name="KEY_IMS_XDM_GBA_PORT" value="80" />
  <boolean name="KEY_RESET_REG_TIME_IF_NW_UPDATE" value="false" />
  <boolean name="KEY_NEXT_PCSCF_ON_ERROR" value="true" />
</operator>
```

2. The basic format and characteristics of the elements supported IMS XML file is described as follows:
 - 1) Basic format:
<tag attribute 1="value of attribute 1" attribute n="value of attribute n">element</tag>.
For example:

```
< operator id="T-Mobile" c="310260" c="23203" c="26201" c="26002" c="90140">
< string name="KEY_IMS_OPERATOR">TMobile </string>
</operator>
```

2) Characteristics:

Attribute and element can be nested each other.

For example:

```
< string name="KEY_IMS_OPERATOR">TMobile</string>,
which can be regarded as an element of operator and also contain a name attribute whose
corresponding element is TMobile.
```

The first line of the XML file starts with a fixed format, which indicates the XML version and encoding format. For example, `<?xml version="1.0" encoding="utf-8"?>` indicates that the XML file version is 1.0 and the encoding format is UTF-8.

A root element of XML file is required. For example,
`<map version="SIMCOM_20220806_RD20220806">`

```
.....
</map>
```

The XML file is strictly case sensitive and the element names cannot be the same, while IMS XML is case insensitive and the same element names can be used.

1.1.2. IMS XML Modification Methods

After you get the XML example file, you need to modify the three attributes according to specific requirements, that is, oem version, user user_info and operator.

operator: The corresponding configuration item parameters required by the IMS registration during the network registration of the module can be searched according to the operator PLMN of the attribute.

1) The attributes of operator are as follows:

- id: The abbreviation of operator in English.
- c: Operator PLMN. The configuration is key which is used to match the configuration item of operator corresponding to the XML file according to the network registration PLMN. For example, China Mobile operator XML attribute:

```
< operator id="CMCC" c="46000" c="46002" c="46004" c="46007" c="46008" >
</operator>
```

2) The attributes of operator are as follows:

- String type:
`<string name="KEY_IMS_OPERATOR">cmcc</string>`
- Boolean type:
`<boolean name="KEY_IMS_GRUU_SUPPORT" value="false" />`
- Integer type:
`<integer name="KEY_IMS_SESSION_REFRESH_TIMER" value="1800" />`

3) The main configuration items required by the element contained in operation are as follows. If the operator configuration is the same as the default value, the following configuration items are not be configured.

- KEY_IMS_OPERATOR: String type. IMS operator name, which is basically the same as id. Default value: CMCC.
- KEY_XCAP_PDP_APN: String type. APN name used by supplementary service XCAP. Default value: CMNET.
- KEY_IMS_PDP_TYPE: String type. IP type of IMS PDP bearer, determined by operator. Default value: IPv4v6.
- KEY_IMS_PDP_APN: String type. IMS bearer APN, determined by operator. Default value:IMS.
- KEY_MTU_SIZE: String type. MTU size, determined by MTU of 3GPP IMS data package. If the actual value is greater than the size, TCP is used for transmission, otherwise, UDP is used for transmission. If IMS only supports UDP transmission, set the item to the maximum. Range: 0–65535. Default value: 1350.
- KEY_IP_PACKET_SIZE: Integer type. IP fragment package size of IMS signaling, determined by operator. The package may be discarded by network if the threshold is exceeded. Range: 0–65535. Default value: 1200.
- KEY_SIP_TIMER_TRING: Integer type. The maximum waiting time from sending 180 Ringing to establishing CALL during IMS MO. Default value: 60000. Unit: ms.
- KEY_SIP_TIMER_TRINGBACK: Integer type. The maximum waiting time from sending 180 Ringing to establishing CALL during IMS MT. Default value: 5000. Unit: ms.
- KEY_SIP_TIMER_RING_INTERVALL: Integer type. The time interval reported by RING URC during IMS CALL MT.
- KEY_SMS_CLASS0_STORAGE_ENABLE: Boolean type. Enable +CMTI or +CMT report when a message is received in the case of CLASS0&MT=1. Default value: TRUE.

The example of operator configuration is shown as follows:

- China Unicom:

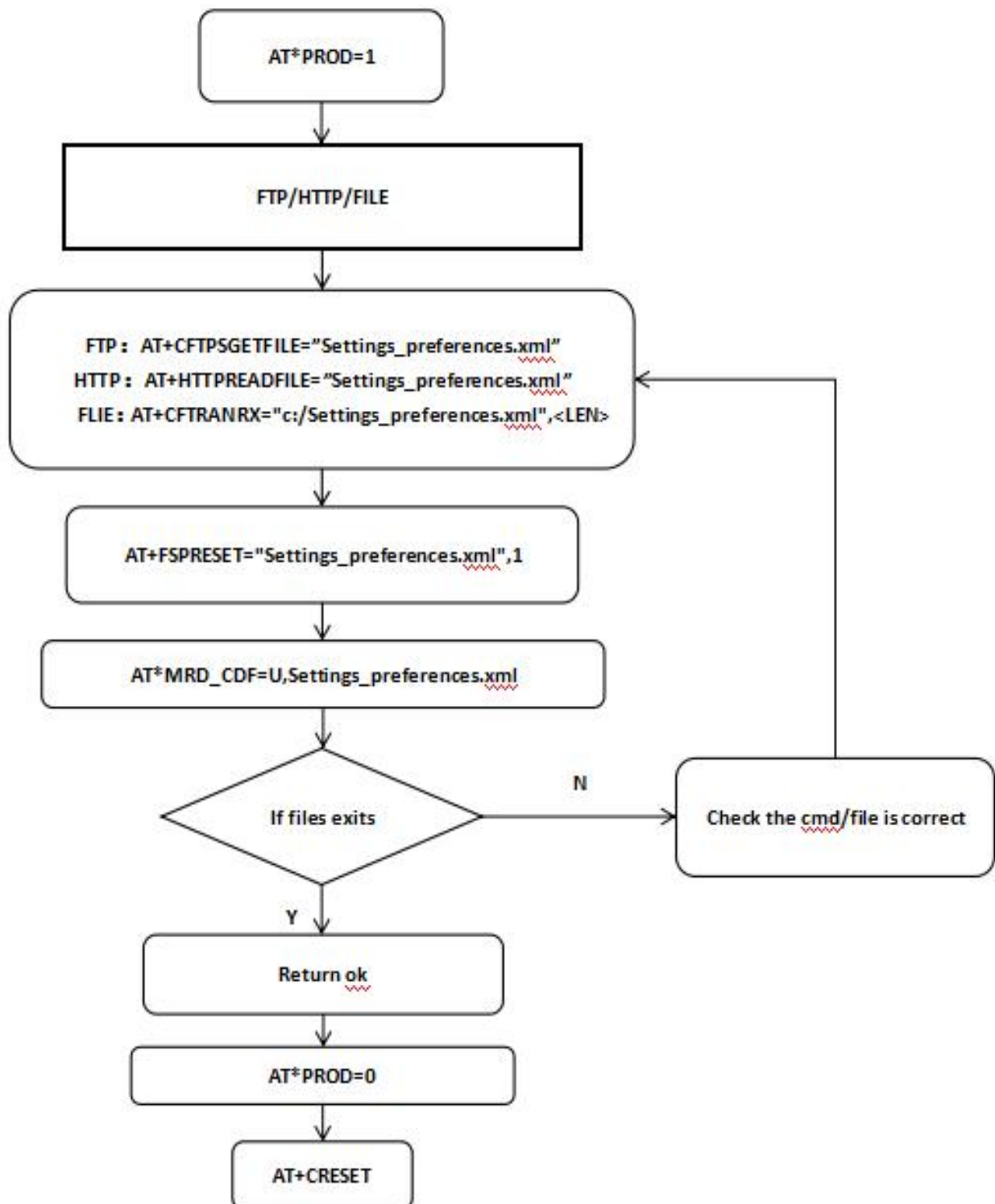
```
<operator id="CUCC" id="UNICOM" c="46001" c="46009">
<string name="KEY_IMS_OPERATOR">cucc</string>
<string name="KEY_XCAP_PDP_APN">3gnet</string>
<boolean name="KEY_IMS_ENABLE_CONF_PRECONDITION" value="true" />
<integer name="KEY_MTU_SIZE" value="1250" />
<integer name="KEY_IP_PACKET_SIZE" value="1250" />
<boolean name="KEY_XDM_APN_ENABLE" value="true" />
<integer name="KEY_REG_RETRY_TIME_FOR_404" value="15" />
</operator>
```

NOTE

If the configuration item parameters that are not mentioned above, please contact SIMCom Technical Supports to assist in adding the customized configuration item elements, and communicate with the

operator to determine the configuration parameters.

1.2 IMS XML Update Process



XML FILE UPDATE PROGRESS

We can update the XML file without updating the RD file through the following steps.

Step 1: Enter production mode

Excute AT*PROD=1 to enter production mode ,update file can only be performed in production mode.

Step 2: Write the xml file to EFS(FILE\FTP\HTTP)

FILE:

Excute AT+CFTRANRX="c:/Settings_preferences.xml",<LEN>,Write the xml file to EFS.

FTP:

Excute AT+CFTPSGETFILE="Settings_preferences.xml"

HTTP:

Excute AT+HTTPREADFILE="Settings_preferences.xml"

Step 3: Move the file to the root directory

Excute AT+FSPRESET="Settings_preferences.xml",1 , move the xml file to root directory.

Step 4: Check whether the version is updated

Excute AT*IMSREAD, this command can find the version date.

Step 5: Synchronize the files into the RD

Excute AT*MRD_CDF=U,Settings_preferences.xml, Synchronize the files into the RD.If the previous step is not wrong, the OK is returned ,otherwise check whether the file or path is correct.

Step 6: Exit production mode

Excute AT*PROD=0 to Exit production mode.

Step 7: AT+CRESET

Our setting will take effect after the reset.

NOTE

The prerequisites for using the FTP or HTTP service must be met.
Details refer to 3.2.2、 3.2.3

2 IMS XML AT Commands

2.1. AT Command Description

2.1.1. Definitions

- <CR> Carriage return character.
- <LF> Line feed character.
- <...> Parameter name. Angle brackets do not appear on the command line.
- [...] Optional parameter of a command or an optional part of TA information response. Square brackets do not appear on the command line. When an optional parameter is not given in a command, the new value equals its previous value or the default settings, unless otherwise specified.
- Underline Default setting of a parameter.

2.1.2. AT Command Syntax

All command lines must start with AT or at and end with <CR>. Information responses and result codes always start and end with a carriage return character and a line feed character: <CR><LF><response><CR><LF>. In tables presenting commands and responses throughout this document, only the commands and responses are presented, and <CR> and <LF> are deliberately omitted.

Table 1: Types of AT commands and responses

| | |
|--|---|
| Test Command AT+<x>=? | The mobile equipment returns the list of parameters and value ranges set with the corresponding Write Command or by 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> | The execution command reads non-variable parameters affected by internal processes in the GSM engine. |

2.2 AT*PROD

This command is used to set diag cache flag. Besides, send AT*PROD=1 will enter production mode.

| AT*PROD | Response |
|---|--|
| Test Command AT*PROD=? | *PROD:(0,1) OK |
| Read Command AT*PROD? | *PROD:<value> |
| Write Command AT*PROD=<value> | 1) OK 2) +CME ERROR |
| Defined values <value> | integer type: 1 diag log will be transmitted to usb directly without cache 0 diag log will be transmitted to usb directly after cached to a specified size |
| Example AT*PROD=1 > OK | Enter production mode |

2.3 AT+CFTRANRX Transfer a file to EFS

This command is used to transfer a file to EFS.Support "C:", "D:".

| AT+CFTRANRX Transfer a file to EFS | |
|--|---|
| Test Command AT+CFTRANRX=? | Response +CFTRANRX: [{non-ascii}]"FILEPATH" OK |
| Write Command AT+CFTRANRX=<filepath>,<len>[,<reserved>[,<location>]] | Response 1)If successfully: > |

| | |
|-----------------------|---|
|] | <p>OK</p> <p>2)If failed:</p> <p>></p> <p>ERROR</p> <p>3)If failed:</p> <p>ERROR</p> |
| Parameter Saving Mode | - |
| Max Response Time | - |
| Reference | |

Defined Values

| | |
|------------|--|
| <filepath> | The path of the file on EFS |
| <len> | <p>The length of the file data to send.</p> <p>Because of the system resources, The length could not set too large. If use the UART to send data, it may can set to 3Mb. If use USB to send data, it may just can set to 200Kb. If limit the send speed, it can set larger. The actual size could not ensure. Usually it is safer to set a smaller size.</p> |
| <reserved> | The value is 100. |
| <location> | The position offset from the start of the file. |

Example

```

AT+CFTRANRX="c:/t1.txt",10
>
OK
AT+CFTRANRX="d:/MyDir/t1.txt",10
>
OK
AT+CFTRANRX="C:/ t2.txt",10,100,0
>
OK

```

NOTE

- 1.The <filepath> must be a full path with the directory path, make sure that the file name does not exist under the path.
- 2.If sending file fails, increase the delay time between each 256 byte reach to 50ms, and then try to send file again.
3. Only **Cat4 modules** support Non-ASCII characters in file path.
4. The <reserved> is used by individual customers and if <location> is not default value,<reserved> will be considered invalid.
- 5.The <location> exceed the file size, the command will return “**ERROR**”.
- 6.When the <location> is less than the file size,it will clear the data after <location> and write new data that length is <len>.

7. The <location> is just supported in ASR1603 standard branches , compatible SIM800 branches and ASR1803S standard branches.

2.4 AT+FSPRESET Moves the location of a file

This command is used to move an appointed file on C:/ to C:/simdir/,or from C:/simdir to C:/.

AT+FSPRESET Move the location of a file

| | |
|---|--|
| Test Command AT+FSPRESET=? | Response OK |
| Write Command AT+FSPRESET =<fileName>[,<direction>] | Response 1)If successfully OK 2)If error ERROR |
| Parameter Saving Mode | - |
| Max Response Time | - |
| Reference | |
| Defined Values | |
| <fileName> | The file name to be moved without the path. |
| <direction> | The direction in which the file was moved <u>0</u> from root directory to the user directory 1 from user directory to the root directory |

Example

AT+FSPRESET=test.txt,0 //move file from root directory to the user directory
OK

NOTE

- Just supported on in the standard branch of ASR1603 and ASR1606.

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

You can 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>[<dir>[,<offset>]] | 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 | |

Examples

```

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

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

+CFTPSGETFILE: 0

```

2.6 AT+HTTPREADFILE Receive HTTP Response Content to a file

After execute AT+HTTPACTION/AT+HTTPPOSTFILE command. You can receive the HTTP server response content to a file via AT+HTTPREADFILE.

Before AT+HTTPREADFILE executed, "+HTTPACTION: <method>,<httpstatuscode>,<content_len>" or "+HTTPPOSTFILE: <httpstatuscode>,<content_len>" must be received. The parameter <path> can be used to set the directory where to save the file. If omit parameter <path>, the file will be save to local storage.

AT+HTTPREADFILE Receive HTTP Response Content to a File

| | |
|--|--|
| Test Command AT+HTTPREADFILE=? | Response +HTTPREADFILE: <filename>[(1-2)] |
| | OK |
| Write Command AT+HTTPREADFILE=<filename> >[(,<path>)] | Response 1)if parameter format is right: OK |
| | +HTTPREADFILE: <errcode> 2)if failed: OK |
| | +HTTPREADFILE: <errcode> 3)if parameter format is not right or any other error occurs: ERROR |
| Parameter Saving Mode | |
| Max Response Time | |
| Reference | |

Defined Values

| | |
|------------|--|
| <filename> | String type, filename, the max length is 112.unit:byte. |
| <path> | The directory where the read file saved. Numeric type, range is 1-2. 1 C:/(local storage) 2 D:/(sd card) |

Examples

```
AT+HTTPREADFILE=?
+HTTPREADFILE: <filename>[(1-2)]

OK
```

AT+HTTPREADFILE="readbaidu.dat"

OK

+HTTPREADFILE: 0

2.7 AT*MRD_CDF

This is a generic AT command for copying an existing file into factory, for example, it can be used when RF calibration is done and copy the calibration nvm files into factory. This command can only be used in production mode (send AT*PROD=1 will enter production mode).

| Command | Possible responses |
|--|---|
| Test Command AT*MRD_CDF=? | *MRD_CDF=<a>,<f>[,<v>,<d>] |
| Write Command AT*MRD_CDF=<a>,<f>[,<v>,<d>] | <p>Response</p> <p>1) If successfully if <a>=W OK if error +CME ERROR: <err> If UE is not in production If file already exist factory If any parameters are not right If error when write factory</p> <p>2) if successfully If <a>=U OK If error +CME ERROR: <err> If UE is not in production If any parameters are not right If error when write factory</p> <p>3) if successfully If <a>=D OK If no error in deleting(1) If file does nut exist(2)</p> <p>4) if successfully</p> |

If <a>=Q

OK

if file exists in factory(exist)

If file does not exist in factory(not exist)

Defined Values

<a>

W:write file to factory

U:update file to factory

D: delete file from factory

Q:query file

<f>

File name, must be ASCII strings terminated with NULL, the max is 116 bytes

<v>

Version string, must be 4 ASCII strings like 0201, 0311, etc

<d>

Date string, must be 9 ASCII strings like 06JUN2010

Examples

AT*MRD_CDF=W,UDP.nvm,0001,25JAN2011

Write UDP.nvm to factory, with version "0001" and time stamp 2011.1.25

>

OK

AT*MRD_CDF=Q,UDP.nvm

Query if file exist in RD, and file version

>

OK

AT*MRD_CDF=U,UDP.nvm,0001,26JAN2011

UE always overwrites exist file.

>

OK

AT*MRD_CDF=D,UDP.nvm

Delete file in RD

>

1

OK

NOTE

1. Difference between action W and U

For W, it will try to write file to factory, file with same name must not exist in factory; otherwise, error will be reported.

For U, it will try to update file to factory, if file with same name exist in factory, this old file will be overwritten.

3 Examples

3.1. XML File Example

The VoLTE configurations of China Mobile, China Telecom, China Unicom and Italy TIM operators are all included in the example.

```
<?xml version='1.0' encoding='utf-8' standalone='yes' ?>
<map version="SIMCOM_20221102_RD20221102">
<operator id="default">
</operator>
<operator id="vendor">
<boolean name="KEY_SMS_CLASS0_STORAGE_ENABLE" value="false" />
</operator>
<operator id="CMCC" c="46000" c="46002" c="46004" c="46007" c="46008">
<string name="KEY_IMS_OPERATOR">cmcc</string>
<boolean name="KEY_IMS_GRUU_SUPPORT" value="false" />
<string
name="KEY_CONF_FACTORY_URI">sip:mmtel@conf-factory.ims.mnc000.mcc460.3gppnetwork.or
g</string>
</operator>
<operator id="CT" id="CTCC" c="46006" c="46011">
<string name="KEY_IMS_OPERATOR">ctcc</string>
<string name="KEY_XCAP_PDP_APN">ctnet</string>
<integer name="KEY_IMS_SESSION_REFRESH_TIMER" value="1800" />
<integer name="KEY_IMS_MIN_SE_TIMER" value="1800" />
</operator>
<operator id="CUCC" id="UNICOM" c="46001" c="46009">
<string name="KEY_IMS_OPERATOR">cucc</string>
<string name="KEY_XCAP_PDP_APN">3gnet</string>
<boolean name="KEY_IMS_ENABLE_CONF_PRECONDITION" value="true" />
<integer name="KEY_MTU_SIZE" value="1250" />
<integer name="KEY_IP_PACKET_SIZE" value="1250" />
<boolean name="KEY_XDM_APN_ENABLE" value="true" />
<integer name="KEY_REG_RETRY_TIME_FOR_404" value="15" />
</operator>
<operator id="TIM_IT" c="22201">
<string name="KEY_IMS_OPERATOR">TIM_IT</string>
<string name="KEY_XCAP_PDP_APN">xcap.tim.it</string>
<integer name="KEY_XCAP_PORT" value="8080" />
<string name="KEY_XCAP_ROOT_URI">mtasxdms</string>
<string name="KEY_IMS_PDP_TYPE">IPv4</string>
<boolean name="KEY_TRY_DEF_PDP_AFTER_XCAP_PDP_FAIL" value="true" />
```

```
<integer name="KEY_SMS_PREFERENCE" value="CS_ONLY" />
</operator>
</map>
```

3.2. IMS XML Update Methods

3.2.1. Update IMS XML through FILE

Upload an XML file to UFS with AT+FSPRESET for IMS XML update. See 2.3 for details about the FILE AT commands.

```
AT*PROD=1 //Enter factory mode
OK

AT+CFTRANRX="c:/Settings_preferences.xml",35070 //There is a file named Settings_preferences.xml
with 35070 bytes in UFS.

OK

at+fsls // List directories/files in current directory
+FSLS: FILES:
Settings_preferences.xml

OK

// NOTE: This command is supported in versions later than November 2022
AT+FSPRESET="Settings_preferences.xml",1 // Move Settings_preferences.xml files to the root
directory

OK

AT*IMSREAD // get ims version, check is update?
IMS VERSION: "20211109_SIMCOM_1103"
...

OK

AT*MRD_CDF=U,Settings_preferences.xml // Synchronize Settings_preferences.xml files to the
ReliableData.bin file

OK

AT*PROD=0 //Exit factory mode
OK

AT+CRESET // setting will take effect after the reset.
```

OK

3.2.2. Update IMS XML through FTP

Download an XML file from FTP server to UFS through FTP for IMS XML update. See document [2] for details about the FTP(S) AT commands.

AT*PROD=1

//Enter factory mode

OK

//The configurations related FTP

AT+CSQ**+CSQ: 23,0**

OK

AT+CREG?**+CREG: 0,1**

OK

AT+CGREG?**+CGREG: 0,1**

OK

AT+CPSI?**+CPSI: LTE,Online,460-00,0x333C,39589680,308,EUTRAN-BAND3,1350,5,0,0,54,0,22**

OK

//In WCDMA/GSW,you need to continue to execute the following instructions

AT+CGDCONT=cid,"ip","APN"

OK

AT+CGACT=1,cid

OK

AT+CGACT?**+CGACT: 1,1**

OK

AT+CFTPSSTART

//Start FTP service

OK

+CFTPSSTART: 0**AT+CFTPSLOGIN="255.255.255.255",21,"username","password",0**

OK

| | |
|---|--|
| +CFTPSLOGIN: 0 | //Login to a FTP server |
| //Download the XML file from FTP(S) server | |
| AT+CFTPSGETFILE="Settings_preferences.xml" | |
| OK | |
| +CFTPSGETFILE: 0 | //Download a file from FTP server to module. |
| AT+CFTPSLOGOUT | |
| OK | |
| +CFTPSLOGOUT: 0 | //Logout FTP server |
| AT+CFTPSSTOP | |
| OK | |
| +CFTPSSTOP: 0 | //Stop FTP server |
| at+fsls | |
| // List directories/files in current directory | |
| +FSLS: FILES: | |
| Settings_preferences.xml | |
| OK | |
| // NOTE: This command is supported in versions later than November 2022 | |
| AT+FSPRESET="Settings_preferences.xml",1 | // Move Settings_preferences.xml files to the root directory |
| OK | |
| AT*IMSREAD | // get ims version, check is update? |
| IMS VERSION: "20211109_SIMCOM_1103" | |
| ... | |
| OK | |
| AT*MRD_CDF=U,Settings_preferences.xml | // Synchronize Settings_preferences.xml files to the ReliableData.bin file |
| OK | |
| AT*PROD=0 | //Exit factory mode |
| OK | |
| AT+CRESET | // setting will take effect after the reset. |
| OK | |

3.2.3. Update IMS XML through HTTP

Download an XML file from the server to UFS for IMS XML update through HTTP. See for details about the HTTP(S) AT commands.

```
AT*PROD=1 //Enter factory mode
OK

//The configurations related FTP
AT+CSQ
+CSQ: 23,0

OK
AT+CREG?
+CREG: 0,1

OK
AT+CGREG?
+CGREG: 0,1

OK
AT+CPSI?
+CPSI: LTE,Online,460-00,0x333C,39589680,308,EUTRAN-BAND3,1350,5,0,0,54,0,22

OK

//In WCDMA/GSW,you need to continue to execute the following instructions

AT+CGDCONT=cid,"ip","APN"
OK
AT+CGACT=1,cid
OK
AT+CGACT?
+CGACT: 1,1

OK

AT+HTTPINIT //start HTTP service, activate PDP context

OK

//set the URL which will be accessed, for HTTP, the request URL begins with "HTTP://"
AT+HTTTPARA="URL","http://183.230.174.137:6082"
OK
```

| | |
|--|--|
| AT+HTTPACTION=0 OK | //send HTTP GET request |
| +HTTPACTION: 0,200, 35072 | //35072 is the length of HTTP response information |
| AT+HTTPREADFILE="Settings_preferences.xml" OK | //read the HTTP server response content to a file named Settings_preferences.xml, saved to local storage |
| +HTTPREADFILE: 0 | |
| AT+HTTPTERM OK | //stop HTTP Service |
| AT+FSLS +FSLS: FILES: Settings_preferences.xml OK | // List directories/files in current directory |
| // NOTE: This command is supported in versions later than November 2022 | |
| AT+FSPRESET="Settings_preferences.xml",1 OK | // Move Settings_preferences.xml files to the root directory |
| AT*IMSREAD IMS VERSION: "20211109_SIMCOM_1103" ... | // get ims version, check is update? |
| OK | |
| AT*MRD_CDF=U,Settings_preferences.xml OK | // Synchronize Settings_preferences.xml files to the ReliableData.bin file |
| AT*PROD=0 OK | //Exit factory mode |
| AT+CRESET OK | // setting will take effect after the reset. |

3.2.4. Update IMS XML through tools

We can use FDIUtil.exe tool to update IMS XML file.

The steps are as follows:

Step 1: Download tool

[fdiutil_3_1_0_85.7z](#)

Step 2: Locate the txt file corresponding to the module burning version, rename MDB.txt, then copy it to the tools directory.

eg: A011B02V01A7672M7_210615_MDB.txt → MDB.txt

| | | | |
|-------------|-----------------|--------|-----------|
| CATCore.dll | 2022/5/19 15:33 | 应用程序扩展 | 6,236 KB |
| DevComm.dll | 2022/5/19 15:35 | 应用程序扩展 | 340 KB |
| FDIUtil.exe | 2022/5/19 15:39 | 应用程序 | 71 KB |
| Logger.dll | 2022/5/19 15:35 | 应用程序扩展 | 520 KB |
| MDB.txt | 2022/11/1 18:05 | 文本文档 | 11,816 KB |
| ossapit.dll | 2019/3/25 15:53 | 应用程序扩展 | 800 KB |
| WinUSB.dll | 2019/3/25 15:53 | 应用程序扩展 | 17 KB |

Step 3: Use cmd to go to the root directory of the tool. then excute:

FDIUtil.exe MDB.txt -com42 multipull Settings_preferences.xml

```

C:\Windows\System32\cmd.exe
Microsoft Windows [版本 10.0.18363.592]
(c) 2019 Microsoft Corporation。保留所有权利。

C:\Users\Y0159\Desktop\fdiutil_3_1_0_85\FDIUtil>FDIUtil.exe MDB.txt -com42 multipull Settings_preferences.xml
Selected device 3. SimTech HS-USB Diagnostics 9011 (COM42)
Device connected
Loading database ... Done
Doing multipull [ Settings_preferences.xml ] ...
Doing pull Settings_preferences.xml Settings_preferences.xml ... Done
Device disconnected

C:\Users\Y0159\Desktop\fdiutil_3_1_0_85\FDIUtil>

```

Note:

1) --com42: Diag port : Simcom HS-USB Diagnosticsc 9011 (COM42)



2) Using this command requires closing the Cat Studio tool

3) The purpose of this command is to download the xml file of the module to the computer

| 名称 | 修改日期 | 类型 | 大小 |
|--------------------------|-----------------|--------|-----------|
| Bin Logs | 2022/11/2 16:12 | 文件夹 | |
| logs | 2022/11/2 16:12 | 文件夹 | |
| CATCore.dll | 2022/5/19 15:33 | 应用程序扩展 | 6,236 KB |
| CatStudio.xml | 2022/11/2 16:12 | XML 文档 | 2 KB |
| DevComm.dll | 2022/5/19 15:35 | 应用程序扩展 | 340 KB |
| FDIUtil.exe | 2022/5/19 15:39 | 应用程序 | 71 KB |
| Logger.dll | 2022/5/19 15:35 | 应用程序扩展 | 520 KB |
| MDB.txt | 2022/11/1 18:05 | 文本文档 | 11,816 KB |
| ossapit.dll | 2019/3/25 15:53 | 应用程序扩展 | 800 KB |
| Settings_preferences.xml | 2022/11/2 16:12 | XML 文档 | 35 KB |
| WinUSB.dll | 2019/3/25 15:53 | 应用程序扩展 | 17 KB |

Step 4: update xml file then excute:

FDIUtil.exe MDB.txt -com42 **multipush** Settings_preferences.xml

```
C:\Users\Y0159\Desktop\FDIUtil>FDIUtil.exe MDB.txt -com42 multipush Settings_preferences.xml
Selected device 3. SimTech HS-USB Diagnostics 9011 (COM42)
Device connected
Loading database ... Done
Doing multipush [ Settings_preferences.xml ] ...
Doing push Settings_preferences.xml Settings_preferences.xml ... Done
Device disconnected
C:\Users\Y0159\Desktop\FDIUtil>
```

Note: This command uploads the updated xml file to the module root directory

Step 5: Synchronize Settings_preferences.xml files to the ReliableData.bin file

```
AT*PROD=1 //Enter factory mode
OK

AT*IMSREAD // get ims version, check is update?
IMS VERSION: "20211109_SIMCOM_1103"
...

OK

AT*MRD_CDF=U,Settings_preferences.xml // Synchronize Settings_preferences.xml files to the
ReliableData.bin file

OK

AT*PROD=0 //Exit factory mode
OK

AT+CRESET // setting will take effect after the reset.
OK
```