



SIM7600M22_AYLA_Application Note_V1.00



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Version History

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1. Introduction

1.1 Overview

This document gives the usage of SIM7600M22 AYL A functions. User can get useful information about the SIM7600 AYL A functions quickly through this document.

1.2 Terms and Abbreviations

For the purposes of the present document, the following abbreviations apply:

- AT ATtention; the two-character abbreviation is used to start a command line to be sent from TE/DTE to TA/DCE

2. AYL Related AT Commands

Below is the AYL associated with AT commands.

Command	Description
AT+AYLACFG	Set/Get Config info
AT+AYLASERVICE	Open/Close AYL Service
+AYLASTATUS	AYLA Service status
AT+AYLASTATUS	GET AYL status
AT+AYLASEND	Send property
AT+AYLARECV	Get property from air
AT+AYLATEMPLATE	SET Local Property Template
+AYLAFOTA	AYLA FOTA Status

2.1 AT+AYLACFG Set/Get Config info

AT+AYLACFG Set/Get Config info	
Read Command AT+AYLACFG=<feature>	Response + AYLYCFG: <feature>:<cfginfo> OK Parameter: <feature> string fdsn fpubkey oem model key Region uid autotime
Write Command AT+AYLACFG=<feature>,<pubkeyindex>,<cfginfo>	Response OK Parameter: <feature> fdsn: dsn,len=15,string fpubkey: publickey,maxlen=76,string

	oem: oem id,len=8,string model: oem model,maxlen=20,string key: oem key,len=32,string region: CN or US,string uid: user identification,maxlen=15,string autotime:int,interval of auto start ayla ,if set 0,disable auto start ayla. Only work when execute savebackup command,Value_range:5-5000(min),if set value=5,device will open ayla service every 5 minutes,and shut down service 1 minute later after open it. <pubkeyindex> int Shows when feature= fpubkey Value: 1-5 <cfginfo> Depends on different feature
Execute Command AT+AYLACFG=savebackup	Response +AYLYCFG:savebackup :<status> OK backup ayla cfginfo and template to modem ,device will reboot when send it. <status> 0:fail 1:sucess
Reference	Note Write command work when ayla service shut down. Write command with feature “fpubkey” only work after 1-5 index all executed and it should be excuted after that oem,key,model were wrote.

Examples

```
at+aylacfg=fdsn,SC000W000017209
```

```
OK
```

```
at+aylacfg=oem,528225f6
```

```
OK
```

```
at+aylacfg=model,7600-test
```

```
OK
```

```
at+aylacfg=key,17b0bdd6fe06f210f7fafc0d224317b3
```

```
OK
```

```
at+aylacfg=fpubkey,1,MIIBCgKCAQEAobxTMOGC8FBp45zFxZgxGbDyPrNOPDv84/r9bu11RdKQzI  
+B6WWrb
```

```
OK
```

```
at+aylacfg=fpubkey,2,o6Aizw+Q8olg5zabR4puEJ1neB6TGmmwveSOcY4RiWD6Syhq4EhbJzyrrVAM  
zHQtiO0yz6sM/PiH
```

```
OK
```

```
at+aylacfg=fpubkey,3,KRAE94S6x17eyDpULWbeBetF1bG1cZKfcqEYXA121i5uXmXVO+o++Ae8nkz
gSEDM/UdAWBkcuU+x
OK
at+aylacfg=fpubkey,4,8vHyPpDFt4fw6m0OFQkLnv5nRjxHNacy9UACDRy8/7ObJoGaXQzeDxW7B8
aB7lyvzZPubdcNrSVD
OK
at+aylacfg=fpubkey,5,N+HXSzGocGHtoPO2v+LdTswJOo+3KBOiUAU81zjzLFmNAeoVCQIDAQAB
OK
```

2.2 AT+AYLASERVICE Open/Close AYLA Service

AT+AYLASERVICE Open/Close AYLA Service	
Write Command AT+AYLASERVICE E=<cmd>	Response OK
	Parameter: <cmd> int 1: setup ayla service 0: shut down ayla service
Reference	Note

Examples

```
At+aylaservice=1
OK
AT+aylaservice=0
OK
```

2.3 +AYLASTATUS AYLA Service status

+AYLASTATUS AYLA Service status	
	Response +AYLASTATUS: <connstatus>, <reason>
	Parameter: <connstatus> 0:disconnected 1:connected on line <reason>

	0:no reason
Reference	Note Device can be connected to ayla when system time is synchronized.

Examples

```
+AYLASTATUS:1,0
```

2.4 AT+AYLASTATUS GET AYLA status

AT+AYLASTATUS AYLA Service status	
READ Command AT+AYLASTATUS?	Response +CONNSTATUS: <connstatus>, <reason> OK
	Parameter: <connstatus> -1:ayla service shut down 0:disconnected 1:connected on line <reason> 0:no reason 1:conf error 2:time error (time is not synchronized) 3:net error

Examples

```
AT+AYLASTATUS?  
+AYLASTATUS:1,0  
OK
```

2.5 AT+AYLASEND Send property

AT+AYLASEND Send property	
Write Command AT+AYLASEND=<propname>,<value>	Response OK
	Parameter <propname> string

<value> depends on different property type,maxlen=1024

Examples

```
AT+AYLASEND=output,11
OK
```

2.6 AT+AYLARECV Get property from air

AT+AYLARECV Get property from air

READ Command AT+AYLARECV=<propname>	Response: OK +AYLASET: <propname>, <value> Parameter: <propname> string <value> depends on different property type
Reference	Only work for properties whose direction is “to device”

Examples

```
AT+AYLARECV=output
OK
+AYLASET: output,11
```

2.7 AT+AYLATEMPLATE SET Local Property Template

AT+AYLATEMPLATE SET Local Property Template

Write Command AT+AYLATEMPLATE=<feature>,[<propname>],[<type>],[<direct>],[<version>]	Response OK Parameter: <feature> string add: add property Para:<propname>,<type>,<direct> del: del property Para:<propname> del a property which name=propname
---	---

	Without para <propname> del all properties those you added oem_host_version:set version Para:<version> <propname> string,maxlen=20 <type> int 0: int 1:string 2:bool 3:float <direct> int 0:from device 1:to device <version> string,maxlen=20 dashboard template version value.
Reference	Only work when ayla service shut down; Should execute “at+aylacfg=savebackup” command to save template to modem

Examples

```
AT+AYLATEMPLATE=add,cmd,1,1
OK
AT+AYLATEMPLATE=del,cmd
OK
AT+AYLATEMPLATE=oem_host_version,7600_1.0
OK
```

2.8 +AYLAFOTA AYLAFOTA Status

+AYLAFOTA AYLAFOTA status	
	Response +AYLAFOTA: <status>
	Parameter: <status> FOTASTART fota start

Examples

```
+AYLAFOTA: FOTASTART
```

3. Example

Command	Description
AT+CGDCONT=6, "IP", "3gnet" OK AT+CAUTONET=1 OK AT+CTZU=1 OK AT+CTZR=1 OK	Set apn for channel 6.(value depends on different sim card) Automatic dial-up Internet (work after restart) Make time synchronized (work after restart) Note: These commands are optional
at+aylacfg=fdsn,SC000W000017209 OK at+aylacfg=oem,528225f6 OK at+aylacfg=model,7600-test OK at+aylacfg=region,CN OK at+aylacfg=key,17b0bdd6fe06f210f7fafc0d224317b3 OK at+aylacfg=fpubkey,1,MIIBCgKCAQEAobxTMOGC8FBp45zFxZgxGbDyPrNOPDv84/r9bu11RdKQzI+B6WWrb OK at+aylacfg=fpubkey,2,o6Aizw+Q8olg5zabR4puEJ1neB6TGmmwveSOcY4RiWD6Syhq4EhbJzyrrVAMzHQtiO0yz6sM/PiH OK at+aylacfg=fpubkey,3,KRAE94S6x17eyDpULWbeBetFibG1cZKfcqEYXA121i5uXmXVO+o++Ae8nkzgSEDM/UdAWBkcuU+x OK at+aylacfg=fpubkey,4,8vHyPpDFt4fw6m0OFQkLnv5nRjXHNacy9UACDRy8/7ObJoGaXQzeDxW7B8aB7lyvzZPubdcNrSVD OK at+aylacfg=fpubkey,5,N+HXSzGocGHtoPO2v+LdTswJOo+3KBOiUAU81zjzLFmNAeoVCQIDAQAB	Set dsn Set oem Set model Set region Set oem key Set publickey

OK	
<code>at+aylatemplate=add,bool_in,2,1</code> OK <code>at+aylatemplate=add,bool_out,2,0</code> OK <code>at+aylatemplate=oem_host_version,test 1.3</code> OK	Set template Add property Set template version (shuold be same as template version on website)
<code>at+aylacfg=savebackup</code> OK	Save config info and template in to modem (device will restart)
<code>at+aylaservice=1</code> OK +AYLASTATUS:1,0	Open ayla service
<code>at+aylasend=bool_out, 1</code> OK	Send property
<code>At+aylarecv=bool_in</code> OK +AYLASET: bool_in,1	Get property value

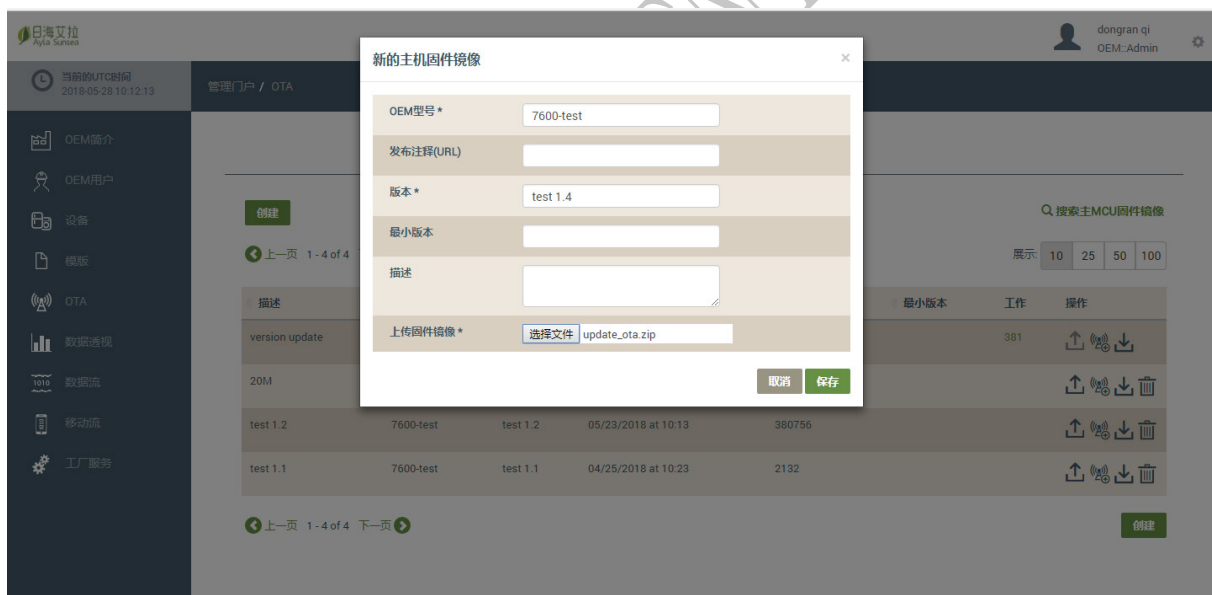
4. AYL A OTA

4.1 AT commands of the device

Command	Description
AT+AYLASERVICE=1 OK	Open ayla service
+AYLASTATUS:1,0	Connected to ayla

4.2 Manage website operations

4.2.1 Upload image version



4.2.2 Create OTA working

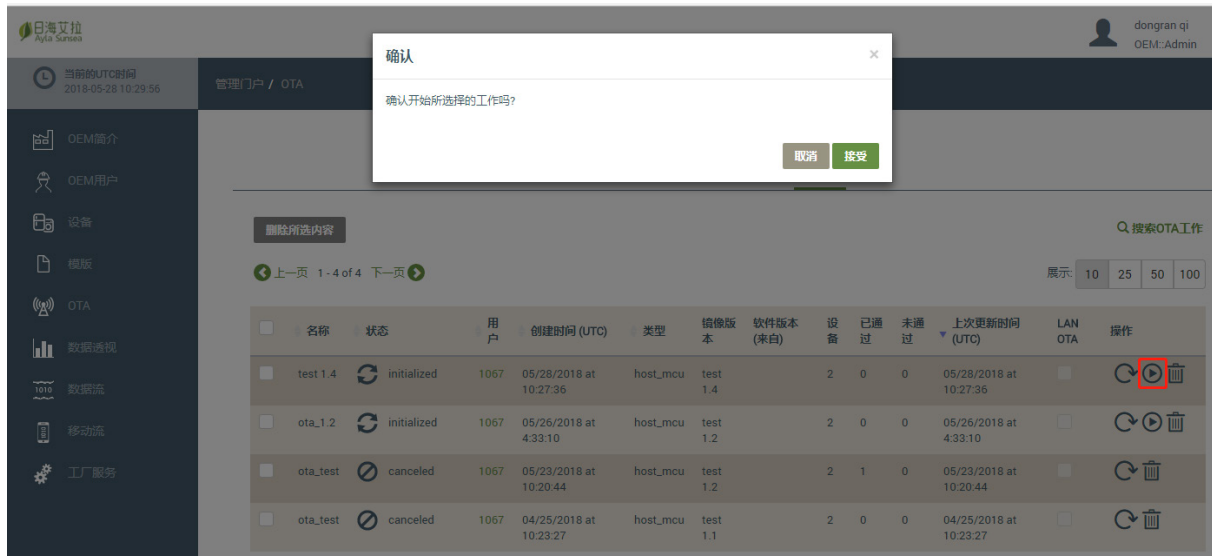


It needs to select device group when we create OTA working. The device group is created in all devices. According to the filter criteria, such as DSN and the content of the software version (we temporarily use DSN, the content of the software version, the MAC address, and the content of the MAC address is the uid content configured by at+aylacfg command). The filtered result can create a devices group and identifies a set of devices that need to be upgraded.

Create device group



4.2.3 Start OTA working



When OTA work starts, as long as the device is in the ayla cloud online state, or the next time the device goes online, the OTA upgrade can be completed automatically.

4.2.4 Check OTA status of the device



At the same time, the device that has completed the version update will see the software version change when logging into the ayla cloud again.

4.3 OTA EXAMPLE

- 1、Upload image version
- 2、Create OTA working and select the corresponding device group
- 3、Start OTA working
- 4、Device side operation (Make sure the device can connect to the network and the local time is right)

Command	Description
AT+CGDCONT=6, "IP", "3gnet" OK AT+CAUTONET=1 OK AT+CTZU=1 OK AT+CTZR=1 OK	Set APN for channel 6.(value depends on different sim card) Automatic dial-up Internet (work after restart) Make time synchronized (work after restart) Note: These commands are optional.
AT+SIMCOMATI Manufacturer: SIMCOM INCORPORATED Model: SIMCOM_SIM7600CE-T Revision: LE11B05SIM7600M22_MIFI SIM7600M22_B05V05_180627 QCN: IMEI: 861477030781536 MEID: A100005309B2AC +GCAP: +CGSM Device Info: 173,170 OK	Check version Version value
AT+AYLASERVICE=1	Open ayla service
OK	
+AYLASTATUS:1,0	Connected to ayla
+AYLAFOTA:FOTASTART	Fota start
+AYLASTATUS:0,0	Disconnected with ayla
Device restarts automatically.....	
AT+SIMCOMATI Manufacturer: SIMCOM INCORPORATED Model: SIMCOM_SIM7600CE-T Revision: LE11B05SIM7600M22_MIFI SIM7600M22_B05V05_180628 QCN: IMEI: 861477030781536 MEID: A100005309B2AC +GCAP: +CGSM Device Info: 173,170 OK	Check version Version value changed

SIMCOM CONFIDENTIAL FILE

Contact us:**Shanghai SIMCom Wireless Solutions Ltd.**

Add: Building B, SIM Technology Building, No.633, Jinzhong Road, Changning District
200335

Tel: +86 21 3157 5100\3157 5200

Email: simcom@simcom.com, simcom@sim.com

Website: www.simcomm2m.com

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