

Telit Firmware Update Service Application Note

80000NT10013a Rev.2, 18/07/08

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This document is applicable to the following products:

APPLICABLE PRODUCTS

PRODUCT	PART NUMBER
GT863-PY	3990150471
GT864-PY	4990150070
GM862-GPS	GM862GPS730-003
GM862-QUAD-PY	GM862PYT730-011
GM862-QUAD	GM862PYT730-009
GC864-PY	GC864PYT730-011
GC864-QUAD	GC864QUD730-009
GC864-PY SIM Holder	GC864PYH730-011
GC864-QUAD SIM Holder	GC864QUH730-009
GC864-PY-C2	GC864QC2730-009
GC864-QUAD-C2	GC864PC2730-011
GE863-GPS	GE863GPS730-003
GE863-PY	GE863PYT730-011
GE863-QUAD	GE863QUD730-009
GE864-PY	GE864PYT730-011
GE864-QUAD	GE864QUD730-009
GE864-AUTO	GE864AUT730-004
GE863-PRO3 w/o OS	GE863PR3730-012
GE863-PRO3 with LINUX	GE863PR3730-013
GE863-PRO3 64MB RAM w/o OS	GE863PR3730-009
GE863-PRO3 64MB RAM with LINUX	GE863PR3730-010

Applicable from SW Version:

07.03.x00



1 Introduction

Telit Firmware Update Service (TFUS) provides a cost-effective, fast, secure and reliable way for wirelessly reflashing the firmware on mobile devices, ensuring that embedded software is up-to-date with the latest enhancements and features.

The ability to manage software over-the-air is a necessary requirement for all customers who design m2m products because of long lifecycles of m2m enabled products. The lifecycle of m2m enabled applications in the market ranges from 5-10 years. Downloading firmware version updates with new features represents an important new capability for m2m applications. It does away with the need to have the device upgraded in the field by technicians, cutting costs and timing of maintenance of the fielded applications. Such issues typically arise from a network configuration, a network software upgrade to „fixing bugs“ or the introduction of new additional features into the Telit module required by the market.

Telit, which has signed a partnership agreement with the worldwide leader of Firmware OTA technology Red Bend, has integrated its unique vCurrent® Mobile client software for use in its m2m product portfolio. Telit is therefore able to upgrade its products by transmitting only a delta file, which represents the difference between one firmware version and another.

Scope of this document is to provide all necessary information about Telit Firmware Update Service (TFUS), and how to design an application that benefits from this service.

All Telit modules, starting from SW version specified at the beginning of this document, support Over-the-Air firmware update. Note that this service will be enabled only after signing specific agreement with Telit.

Customers, who want to benefit from this service, must pass through the Telit certification program, where Telit will assist the customer in validating the correct implementation of FOTA.



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- The file system will remain unchanged after a firmware upgrade. The NVM stored configuration will be lost after a firmware upgrade; only the setting regarding the python script enabling will be kept

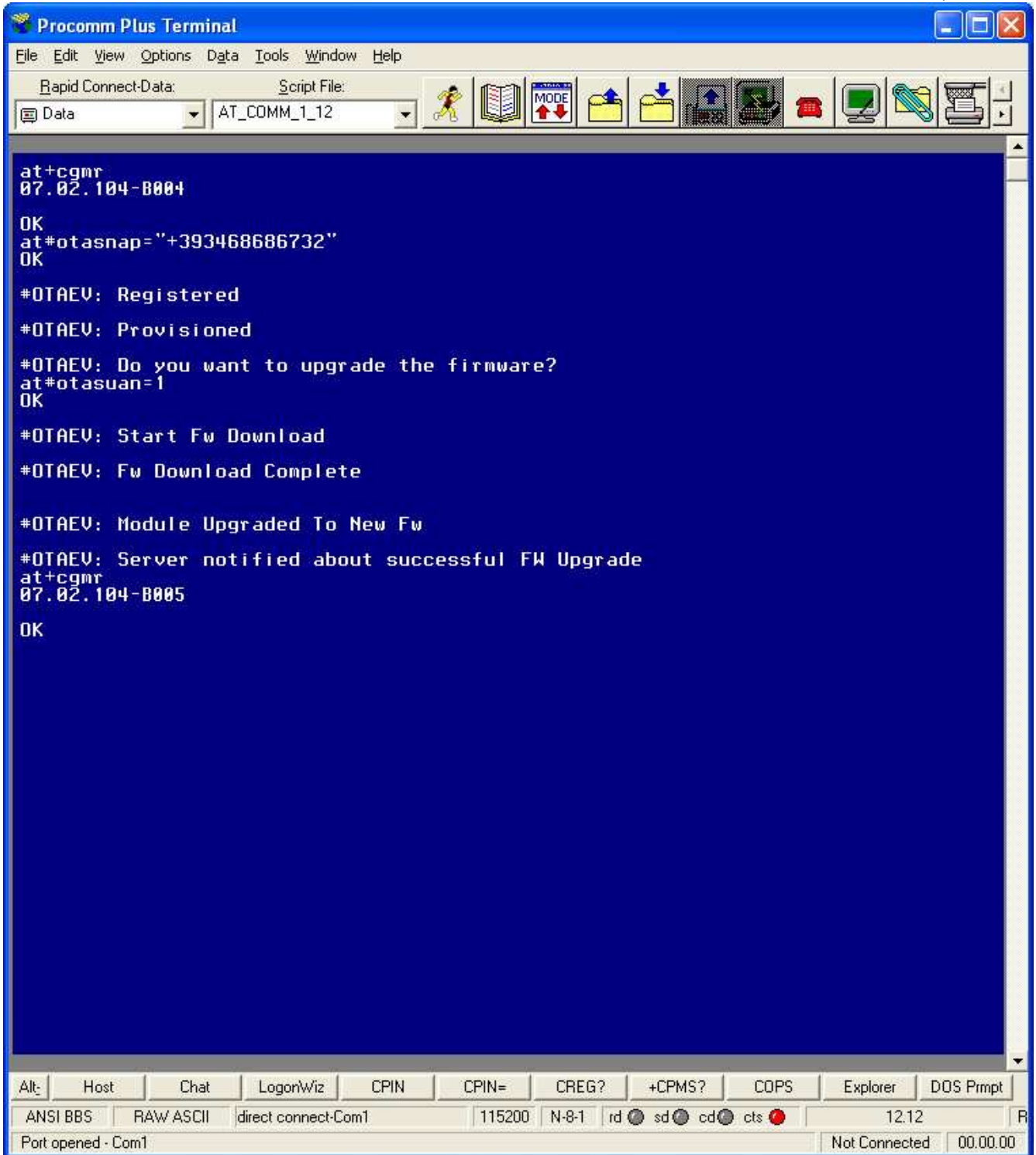
The external application or the Python script are responsible of restoring the settings made before the firmware upgrade.

- Every active context, socket, FTP or call will be closed before starting the firmware download
- The OTA server will send class 0, 8 bit SMS to the module. After these are recognized as OTA SMS, they will be handled and then silently discarded from the module.

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Procomm Plus Terminal
File Edit View Options Data Tools Window Help
Rapid Connect-Data: Script File:
Data AT_COMM_1_12
at+cgr
07.02.104-B004
OK
at#otasnap="+393468686732"
OK
#OTAEV: Registered
#OTAEV: Provisioned
#OTAEV: Do you want to upgrade the firmware?
at#otasuan=1
OK
#OTAEV: Start Fw Download
#OTAEV: Fw Download Complete
#OTAEV: Module Upgraded To New Fw
#OTAEV: Server notified about successful FW Upgrade
at+cgr
07.02.104-B005
OK
Alt_ Host Chat LogonWiz CPIN CPIN= CREG? +CPMS? COPS Explorer DOS Prmpt
ANSI BBS RAW ASCII direct connect-Com1 115200 N-8-1 rd sd cd cts 12.12
Port opened - Com1 Not Connected 00.00.00
  
```

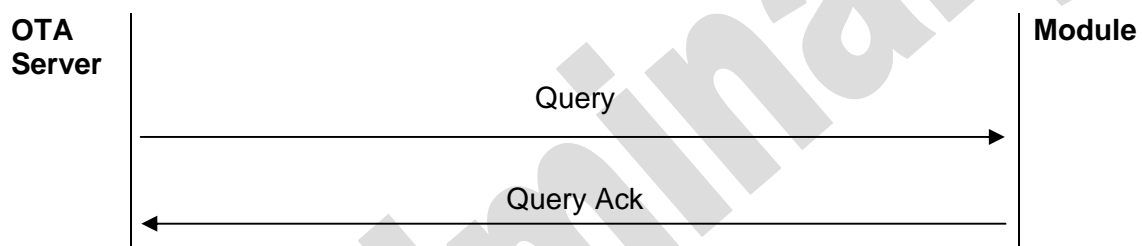


3.3 Test

The test operation can be used to simulate the firmware upgrade operation. In this case the upgrade will not be performed, but only the OTA protocol SMS's will be exchanged between the OTA server and the module. The SMS scenario is the same as in the Update process described in 3.2.

3.4 Query

The query operation forces the module to send a SMS to the OTA server containing all the information concerning the module: IMEI, phone number, model, IMSI, current PLMN. The scenario is the following:



When the module receives the *Query* SMS, the following unsolicited result code will be prompted on the AT command interface:

- **#OTAEV: Notified**



#OTASUAN – OTA Set User Answer	
	<p>#OTAEV: Start Fw Download The firmware download is started</p> <p>#OTAEV: Fw Download Complete The firmware download is finished</p> <p>#OTAEV: OTA Fw Upgrade Failed The Fw upgrade has failed</p> <p>#OTAEV: Module Upgraded To New Fw The Fw upgrade is successfully finished</p> <p>"#OTAEV: Registered" The module has registered itself to a server</p> <p>"#OTAEV: Not registered" The registration procedure has failed</p> <p>"#OTAEV: Provisioned" A server has provisioned the module</p> <p>"#OTAEV: Notified" A server has notified the module</p> <p>#OTAEV: Server notified about successful FW Upgrade The final SMS is sent to the OTA server notifying the upgrade</p>
AT# OTASUAN?	Read command reports the current settings in the format: #OTASUAN: ,<mode>,<bfr>
AT#OTASUAN =?	Test command returns values supported as a compound value
Example	<pre>AT#OTASUAN= , 2 , 1 OK AT#OTASUAN? #OTASUAN: , 2 , 1 OK AT#OTASUAN =? #OTASUAN: (0-1) , (0-2) , (0-1) OK</pre>



3.6 Hardware lines behaviour

During the upgrade phase the DCD line is alternatively high and low with a period of about 1 second while the DSR and RTS lines are low.

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