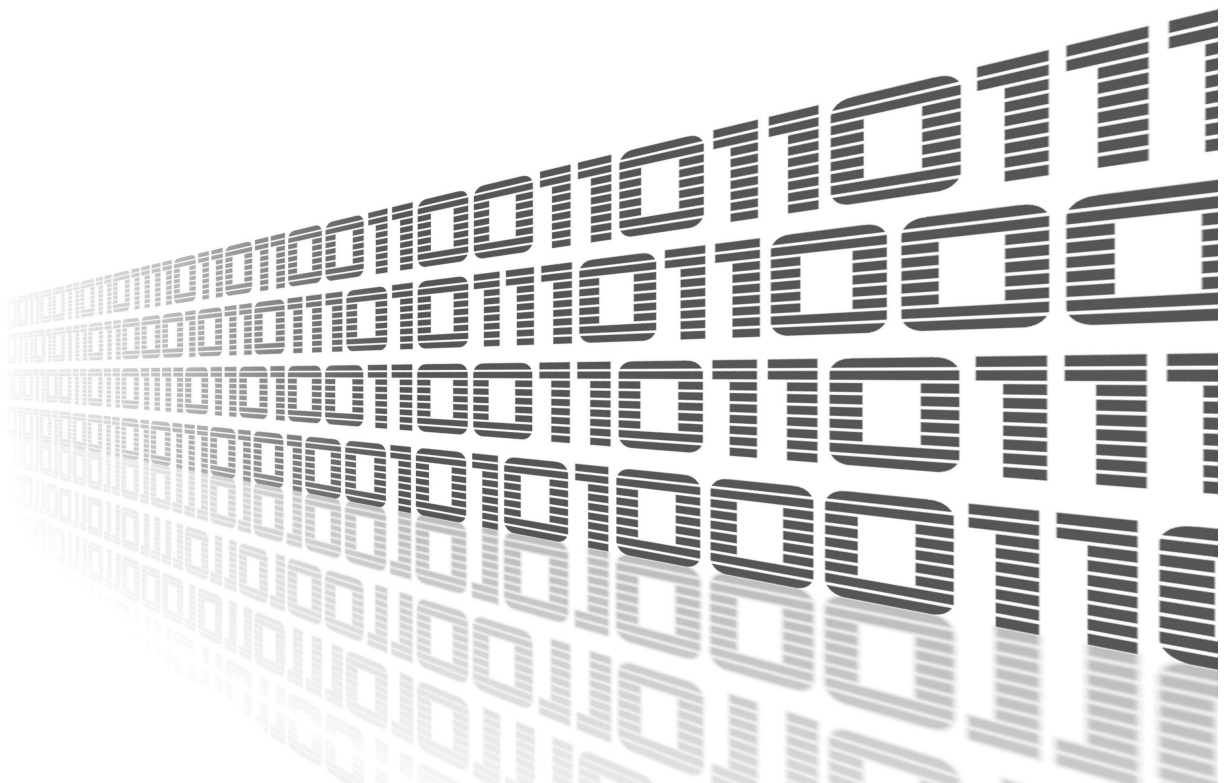




FOTA Manual

APPLICATION NOTE



Used symbols



Danger – Information regarding user safety or potential damage to the router.



Attention – Problems that can arise in specific situations.



Information, notice – Useful tips or information of special interest.



Contents

1	User Module Description	1
2	Upload Procedure	2
2.1	Supported Cellular Modules and Available Firmwares	2
2.2	Installation of User Module	3
2.3	Manual FW Update Process	4
3	System Log	6
4	Related Documents	7

List of Figures

1	Basic Scheme	1
2	FOTA Manual - GUI of the User Module	3
3	Manual Update Page	4
4	FW Selection	4
5	Update Process	4
6	Installation Completed	5
7	Succesfully Done Message	5
8	System Log	6

List of Tables

1	Supported Cellular Modules	2
2	FW Available on the Advantech FOTA Server	3

1. User Module Description



User module *Firmware Over-The-Air* is not contained in the standard router firmware. Uploading of this user module is described in the Configuration manual (see Chapter [Related Documents](#)). This user module is not available for routers of v2 production line.



Firmware of version 6.3.5 or above is required for ICR-4400 routers having the *Telit FN980* cellular module. This module was assembled in a few ICR-4400 router samples.

The *FOTA Manual Router App* (user module) allows updating the firmware of the cellular module in the router. Only the firmware of the cellular module is updated, not the firmware of the router.

The *FOTA Manual* user module is a special version of the *FOTA* user module which allows to performing the manual update. This may be the only solution when the router has no internet connection to connect to the Advantech FOTA server or for routes with no required FLASH space. This version of the *FOTA Manual* user module can be obtained from the support department only and is not available on the Engineering Portal.

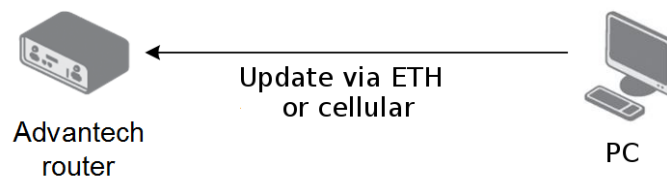


Figure 1: Basic Scheme

2. Upload Procedure



It is strongly recommended to double-check the firmware you are planning to upload to the cellular module. If the firmware is not intended for a cellular module used in this router, uploading may irretrievably damage the device. **Firmware update is at your own risk!**



We recommend using an automatic update method primarily. Use manual method only if the automatic version cannot be used, typically for routers of v2 production line.

2.1 Supported Cellular Modules and Available Firmwares

Following is the list of cellular modules supported by this user module.

Manufacturer	Model
Cinterion	PHS8-E, PHS8-P, PLS8-E, PLS8-X, PLS83-W, PLS83-EP, PLPS9-W, PLPS9-X
Quectel	BG96, C25-AF, C25-AU, EC25-E, EC25-EU, UC20-G, EM12-GL, EM120R-GL, EM121R-GL, EM160R-GL, RM500Q-AE, RM500Q-GL, RM505Q-AE, RM505Q-GL
Telit	LE910-EU V2, E910-NA V2, LE910-NA1, LE910-NA1-SKU, LE910-SV1
Huawei	ME909s-120, ME909s-821

Table 1: Supported Cellular Modules

The primary purpose of the Advantech FOTA server is to update cellular module firmware for security or functional reasons. The table below lists the cellular firmware files available on the FOTA server. In addition, the table states the dependencies as well.

Manufacturer	Model	Last revision of module's 'FW	Min. ver. of module's FW	Min. ver. of router's FW
Quectel	EC25-AF(D)	EC25AFFDR07A10M4G	–	6.1.8
Telit	LE910–EU–V2	20.00.403	–	6.1.5
Telit	LE910–NA1	20.00.524	–	6.1.5
Telit	LE910–NA1–SKU	20.00.525@ 20.00.525@20.00.015 20.00.528@20.00.018 @20.00.015	20.00.522@ – – @20.00.012	6.1.6 6.1.6 6.1.7 6.1.6
Telit	LE910–NA1–SKU	20.00.528 20.00.018	–	6.1.7 6.1.7
Huawei	ME909s-821	11.617.04.00.00	–	–
Cinterion	PHS8-P	03.320	02.003, 03.001	–
Cinterion	PLS8-E	01.438	01.000, 01.090	–
Cinterion	PLS8-X	03.017	–	–

Table 2: FW Available on the Advantech FOTA Server

2.2 Installation of User Module

The *FOTA Manual* user module is special version of *FOTA* user module, which allows to perform manual update of the cellular module firmware. This special version of *FOTA* user module can be obtained from our support department at techSupport@advantech-bb.com only and is not available on our web pages.

On router's web page press *User Modules* in the *Customization* router's web interface section. Upload installation for *FOTA Manual* user module with manual update support. After uploading an user module, click on its name *FOTA-manual* and the user module GUI will be opened, see Figure 2.

Firmware Over-The-Air

The screenshot shows a web interface titled "Firmware Over-The-Air". On the left is a sidebar menu with the following items: "Status", "Information", "System Log", "Configuration", "Automatic Update", "Utility", "Manual Update", "Customization", and "Return". The "Configuration" item is highlighted. The main content area is titled "FOTA Automatic Update" and contains the following elements:

- An unchecked checkbox labeled "Enable automatic update".
- A text input field for "URL *".
- A text input field for "Username *".
- A text input field for "Password *".
- Two buttons at the bottom: "Apply" and "Start Manually".

Figure 2: FOTA Manual - GUI of the User Module

2.3 Manual FW Update Process

In the GUI of *FOTA Manual* user module, press *Manual Update* in the *Utility* section, see Figure 3.

Select FW for your cellular module.

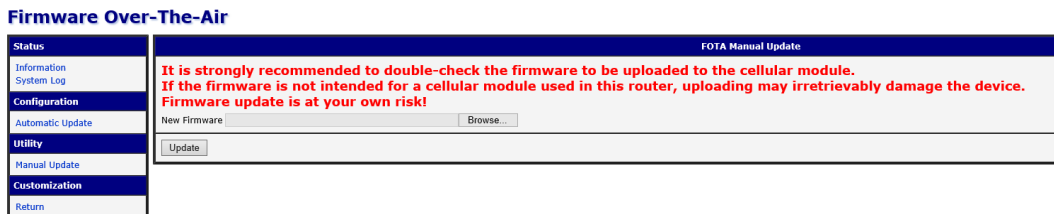


Figure 3: Manual Update Page

As next, list the FW file for cellular module and press *Update* button, see Figure 4. **Do not turn off the router during the update.** The firmware update can take up to 10 minutes to complete.

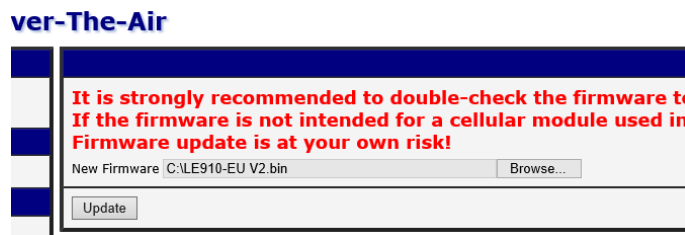


Figure 4: FW Selection

The *Status* section contains *System Log* page listing the system log. During the update, the process is listed on the screen, see Figure 5.

Module Firmware Update

**Do not turn off the router during the update.
The firmware update can take up to 10 minutes to complete.**

```
Stopping Mobile WAN connection... ok
Checking firmware file... ok
Powering down module... ok
Powering up module... ok
Firmware download in progress.....
```

Figure 5: Update Process

Logging messages for successful process is shown on Figure 6.

Module Firmware Update

**Do not turn off the router during the update.
The firmware update can take up to 10 minutes to complete.**

```
Stopping Mobile WAN connection... ok
Checking firmware file... ok
Powering down module... ok
Powering up module... ok
Firmware download in progress..... ok
Powering down module... ok
Powering up module... ok
Starting Mobile WAN connection... ok
```

Figure 6: Installation Completed

Once the update is complete, you will be notified message as shown on Figure 7.

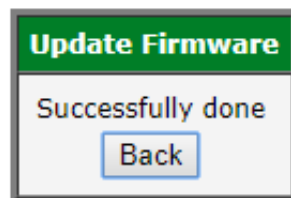


Figure 7: Successfully Done Message

Now, you can return to the main web interface of the router by using the *Return*

3. System Log

The *System Log* page displays System Log messages. It is the same system log as the one in the main menu of the router FOTA user module messages are indicated by *fota* strings. You can check the operation of the user module in the log or view any messages in the event of configuration problems. You can download these messages and save them to a computer as a text file (.log) by clicking the *Save Log* button. You can also download a detailed report (.txt) for communication with technical support by clicking the *Save Report* button.

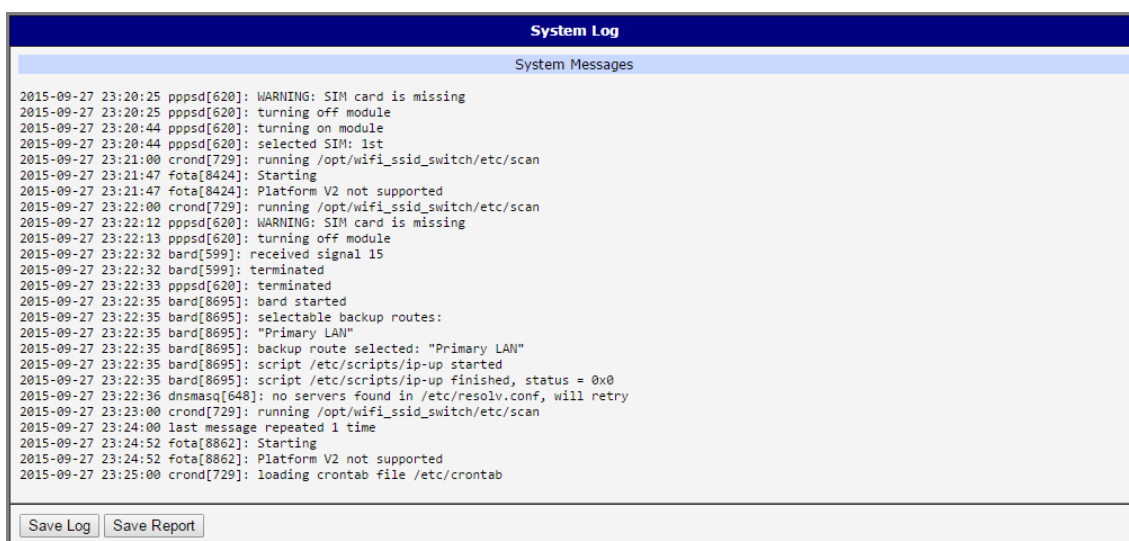


Figure 8: System Log

4. Related Documents

You can obtain product-related documents on *Engineering Portal* at icr.advantech.cz address.

To get your router's *Quick Start Guide*, *User Manual*, *Configuration Manual*, or *Firmware* go to the [Router Models](#) page, find the required model, and switch to the *Manuals* or *Firmware* tab, respectively.

The *Router Apps* installation packages and manuals are available on the [Router Apps](#) page.

For the *Development Documents*, go to the [DevZone](#) page.