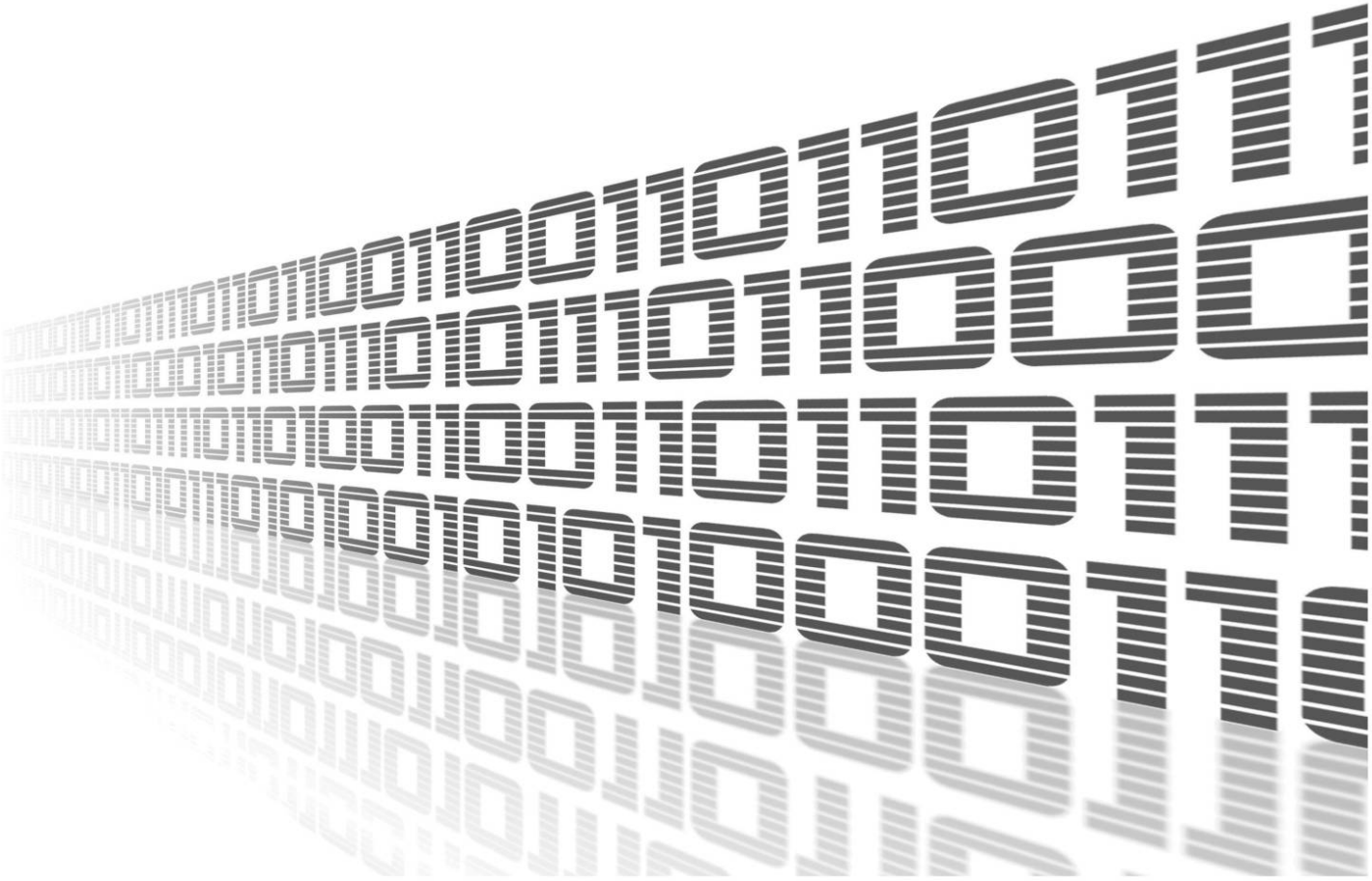
ADVANTECH

RouterApp

FOTA



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Document No. APP-0037-EN, revised on July 29, 2025.

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Used symbols

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

Attention – Problems that can arise in specific situations.

Information – Useful tips or information of special interest.

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1. Router App Introduction

1.1 FOTA Operation

The *FOTA* (Firmware Over-The-Air) is an additional feature for Advantech routers, enabling automatic or manual firmware updates for their cellular modules. It is important to note that only the cellular module's firmware is updated, not the router's main firmware.

For proper operation, the router must have an active Internet connection to access a FOTA server—either the default Advantech server or a custom-configured one.

Figure 1: FOTA Operation

1.2 FOTA Router App

Uploading incorrect cellular module firmware may irreversibly damage the device. **Updating firmware from any source other than the Advantech FOTA server is done at your own risk!**

The *Firmware Over-The-Air* router app is not included in the standard router firmware. Instructions for uploading this router app can be found in the Configuration manual (see Chapter Related Documents). This router app is not available for routers from the v2 production line.

Refer to the router's configuration manual, specifically the section *Customization → Router Apps*, for information on how to install a router app. Once the FOTA router app is installed, access its web interface by clicking on the router app's name. The left side of the interface will display the router app's menu, as shown in Figure 2. To return to the router's main web interface and menu, use the *Return* button located in the *Administration* section.

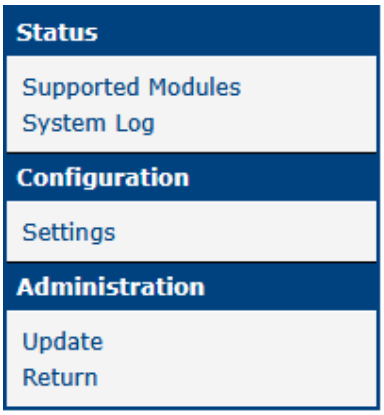

Figure 2: Router App Menu

2. Status

2.1 Supported Cellular Modules

The *Supported Modules* page provides a list of cellular modules compatible with the FOTA router app. These modules are logically grouped by their respective manufacturers for easier navigation.

2.2 Logging Information

The *System Log* page displays log messages specifically related to the FOTA router app. This allows users to monitor the app's operation and identify any messages pertaining to configuration issues. Users can download these log messages as a text file (`.log`) by clicking the *Save Log* button. Additionally, a detailed report (`.txt`) can be generated for communication with technical support by clicking the *Save Report* button.

3. Configuration

3.1 Automatic Updates

This chapter details the configuration process for the FOTA router app when setting up automatic updates. If you prefer to perform only manual checks and updates, refer to the instructions in Chapter *Administration → Online Update*. To access the configuration settings, navigate to the *Settings* page within the *Configuration* section. To enable automatic updates, select the *Enable automatic update* checkbox and click *Apply*. The following table provides a comprehensive description of the configuration options and their impact on the FOTA router app's behavior.

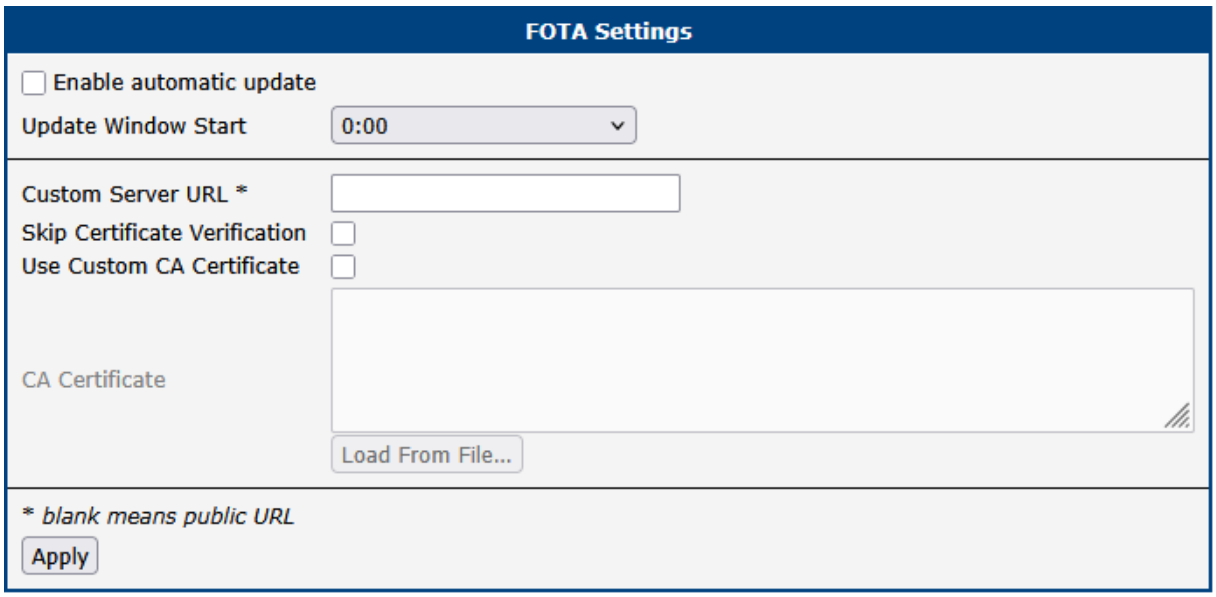

Figure 3: Automatic Update Configuration

Item	Description
Enable automatic update	Enables scheduled automatic updates. This option uses a preset connection to the Advantech FOTA server, which contains up-to-date firmware information.
Update Window Start	Allows selection of the specific hour when automatic updates should be performed. Users can also choose between *daily* or *weekly* update frequencies. Note that the update process may start with a delay of a few minutes from the scheduled time.
Custom Server URL	Provides an optional field to specify a different FOTA server address. You can specify either a `https:` path or a local `file:` path. A local path entry, for example for a mounted flash drive, may look like this: `file:///mnt/update` . Note that this custom URL must host a JSON file containing firmware information along with the actual firmware files. For more details, please contact the Support department.
Skip Certificate Verification	When enabled, this option allows the router to bypass the server's certificate verification process.
Use Custom CA Certificate	Enable this option to utilize a custom CA certificate instead of the default Advantech CA certificate.
CA Certificate	This field is used to paste or upload your custom CA certificate.

Table 1: FOTA Configuration

3.2 Firmware Update Process

Once automatic updates are enabled, the router establishes a connection to the configured server to check for new firmware. This check is performed according to the period specified in the *Update Window Start* setting.

The FOTA server hosts a JSON file that contains critical information, including cellular module names, associated firmware revision numbers, dependencies, and links to the firmware files. The router app downloads this JSON file and compares the available firmware revisions with the version currently installed on the device. If a newer firmware version is available, the corresponding file is downloaded. For a successful download, the router requires a stable Internet connection and a continuous power supply.

The router app consistently checks for new firmware updates when connected to the Internet, regardless of which interface is in use.

4. Administration

4.1 Online Update

The *Update* page, which also serves as the FOTA router app's home page, displays the cellular firmware revision currently available for your router, as shown in the figure below. The newest firmware version is listed at the top. To manually refresh this information from the FOTA server, click the *Reload Available FOTA Packages* button.

The page displays the module name in your router and its current firmware revision. Below this, you will find a list of cellular firmware updates available on the FOTA server. By clicking the *Install* button, you will initiate the upgrade process for the cellular module's firmware.

Note that you can perform an online update using a local path if one is configured in the *Custom Server URL* setting, as described in the *Automatic Updates* section.

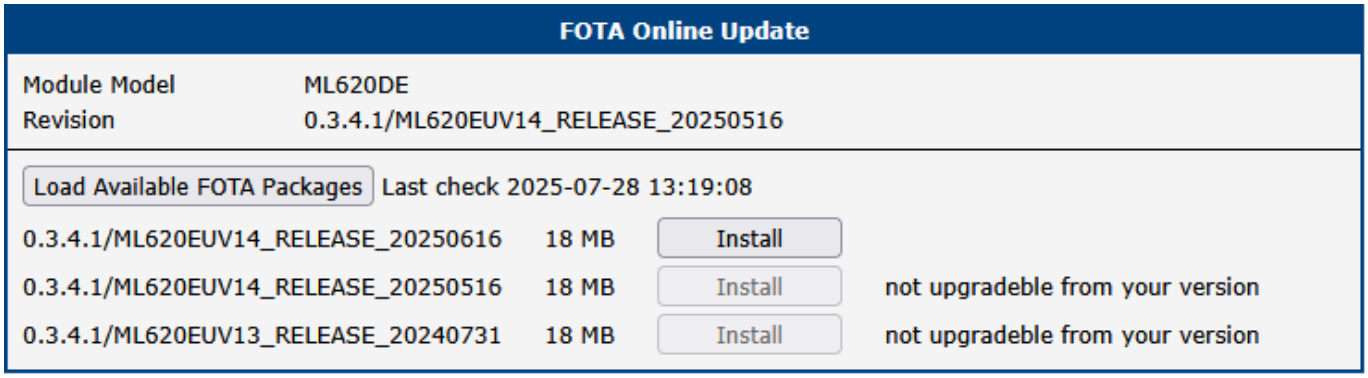

Figure 4: Update Page

The list below outlines messages you may observe in the last column of the available firmware list, along with recommended actions:

- *not upgradable from your version* → choose the highest upgradable version
- *requires ICR-OS x.y.z* → update the router's firmware first
- *requires FOTA x.y.z* → update the FOTA router app first

4.2 Return

The *Return* button allows you to navigate back to the router's main web interface and the primary menu.

5. Related Documents

You can obtain product-related documents on the *Engineering Portal* at the *icr.advantech.com* 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 *Development* page.