
5G onBoard Compact - Advanced 5G/WiFi Connectivity System with SIM Extender

Code: PF AN NWIFI21

5G onBoard Compact Black - Advanced 5G/WiFi Connectivity System with SIM Extender - Black

Code: PF AN NWIFI23

Thank you for purchasing a Scout product. This guide refers to all the systems listed above, before installing the system please read carefully all instructions. Customer comments are welcome.

Content

The contents of the box are as follows: 1 pc. antenna dome; 1 pc. SIM injector; 2 pcs. ethernet coupler; 1 pc. user manual.

Product label

Please carefully keep the information shown on the label below, relating to the router unit contained inside the dome. This information allows you to connect to the router's operating system to enter important data such as the SIM card PIN and its APN, as well as configure the numerous functions available.



SERIAL	9999999999	BATCH NO:999
IMEI	999999999999999	
LAN_MAC	AABBCCDDEEFF	
SSID 2.4GHz	RUT_BBAA_2G	
SSID 5GHz	RUT_CCBB_5G	
WIFI_PASSWORD	99999999	
USERNAME	admin	
PASSWORD	99999999	

SERIAL: Serial number is a unique 10-digit device identifier. It is required when connecting the device to the Remote Management System (see page 9/11).

SSID 2.4GHz: The broadcasted SSID (Service Set Identifier) of the wireless network operating at 2.4 GHz.

SSID 5GHz: The broadcasted SSID (Service Set Identifier) of the wireless network operating at 5 GHz.

WIFI PASSWORD: A custom passphrase used for authentication (at least 8 characters long).

USERNAME: A default value "admin" is used for product connection.

PASSWORD: A custom passphrase used for product connection (at least 8 characters long). When accessing the system for the first time you will be asked to change the password: we highly recommend to confirm the default password so that the information shown on the product label will remain valid.

QR CODE: Scan the QR CODE to automatically join the 2.4GHz wireless network.

You can find the product label in the following positions:

- 1 product label in the user manual (see above);
- 2 product label in sticker (stapled to the manual);
- 1 product label on the SIM injector;
- 1 product label on the bottom of the dome.

Losing the information contained in the product label makes it impossible to make future changes to the system, such as entering the data of a new SIM card that will be used.

Be careful never to lose the product label.

It is strongly recommended to copy the information contained in the product label in a safe place, or take a photo of it to always have the information within easy reach.

Safety information

Before starting operating the device, please review recommendations and precautions to minimize the possibility of accidents. Safety precautions presented are supplementary and subject to the local safety regulations. When various operations are executed on the device, the user must fully follow the safety instructions and recommendations provided with the device.

RF exposure

This device meets the official requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by authorized agencies. The device must be used with a minimum separation of 20 cm from a person's body to ensure compliance with RF exposure guidelines. Failure to observe these instructions could result in your RF exposure exceeding the applicable limits.

The external antenna must be installed to provide a distance of at least 20 cm from any people and must not be co-located or operated in conjunction with any other antenna or transmitter.

Router operating conditions

- Operating temperature: -40° to +75° Celsius
- Humidity should be in the range of 10% to 90% (non-condensing). Only use the device in dry environments.
- Out of direct sunlight
- Away from heat source, corrosive substances, salts, and flammable gases

Faulty and damaged products

- Do not attempt to disassemble the device or its accessories.
- Only qualified personnel must service or repair the device or its accessories.
- If your device or its accessories have been submerged in water punctured or subjected to a severe fall, do not use until they have been checked at an authorized service center.

Electrical safety

- Only use approved accessories.
- Do not connect with incompatible products or accessories.
- It is recommended to ground devices with grounding terminals before connecting them to power. Failure to ground appropriately might result in a shock hazard. The cross-sectional area of the protective grounding conductor should be at least 1mm².

Product handling

- You alone are responsible for how you use your device and any consequences related to its use.
- Use of your device is subject to safety measures designed to protect users and their environment.
- Always treat your device and its accessories with care and keep it in a clean and dust-free place.
- Do not expose your device or its accessories to open flames, lit tobacco products, liquid, moisture, or high humidity.
- Do not drop, throw or try to bend your device or its accessories.
- Do not use harsh chemicals, cleaning solvents, or aerosols to clean the device or its accessories.
- Do not paint your device or its accessories.
- Do not attempt to disassemble your device (exemptions for devices that require disassembly for SIM insertion) or its accessories: it does not contain any user-serviceable parts. For safety reasons, the equipment should be opened only by qualified personnel.

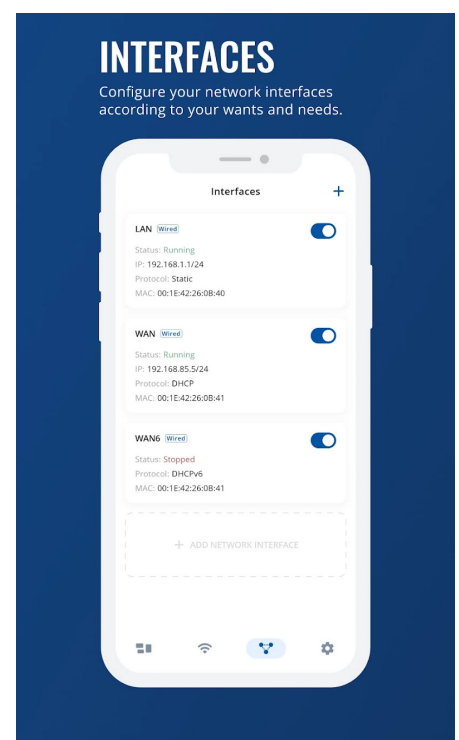
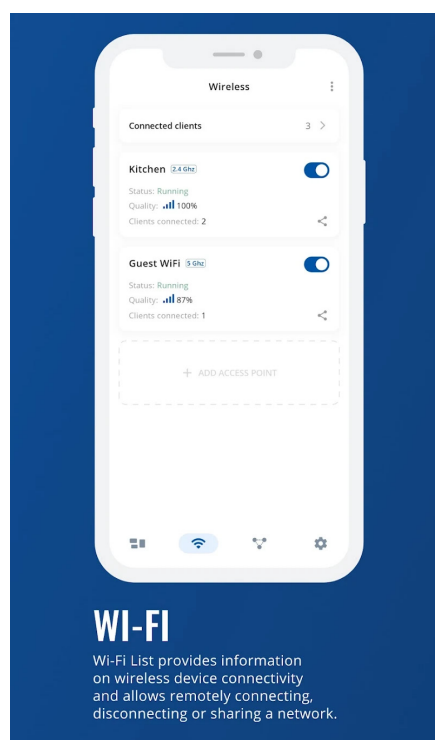
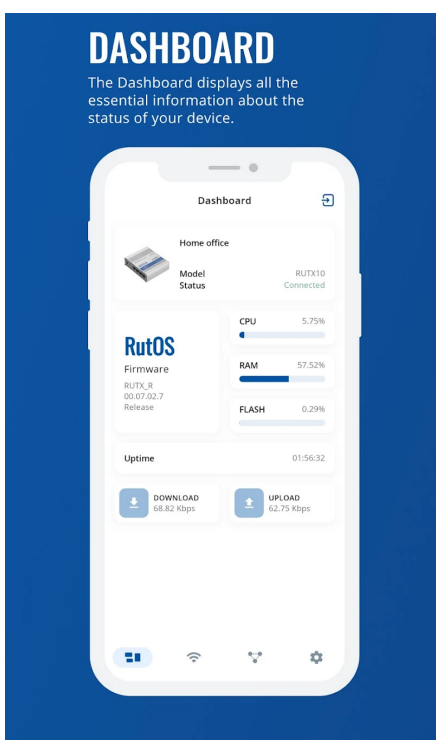
- Make sure to use ESD personal protective equipment while the equipment is serviced.
- Do not use your device in an enclosed environment where heat dissipation is poor.
- Prolonged use in such space may cause excessive heat and raise ambient temperature, which will lead to the automatic shutdown of your device or the disconnection of the mobile network connection for your safety. To use your device again after such a shutdown, cool it in a well-ventilated place before turning it on.
- Please check all national laws and local regulations for the disposal of electronic products.
- Do not operate the device where ventilation is restricted.
- Do not use or install this product near water to avoid fire or shock hazards.
- Avoid exposing the equipment to rain or damp areas.
- Arrange power and Ethernet cables so that they are not likely to be stepped on or have items placed on them.
- Ensure that the voltage and the rated current of the power source match the device's requirements. Do not connect the device to an inappropriate power source.
- During a thunderstorm, no operations should be carried out on the device and cables.
- The unit must be powered off where blasting is in progress and explosive atmospheres are present or near medical life support equipment.
- Do not leave your device and its accessories within reach of small children or allow them to play with it. They could hurt themselves or others and could accidentally damage the device. Your device contains small parts with sharp edges that may cause an injury choking hazard.
- Like any wireless device, this device operates using radio signals, which cannot guarantee connection in all conditions. Therefore, you must never rely solely on any wireless device for emergency communications or otherwise use the device in situations where the interruption of data connectivity could lead to death, personal injury, property damage, data, or other loss.
- The device may become warm during regular use.

APP for Android and iOS



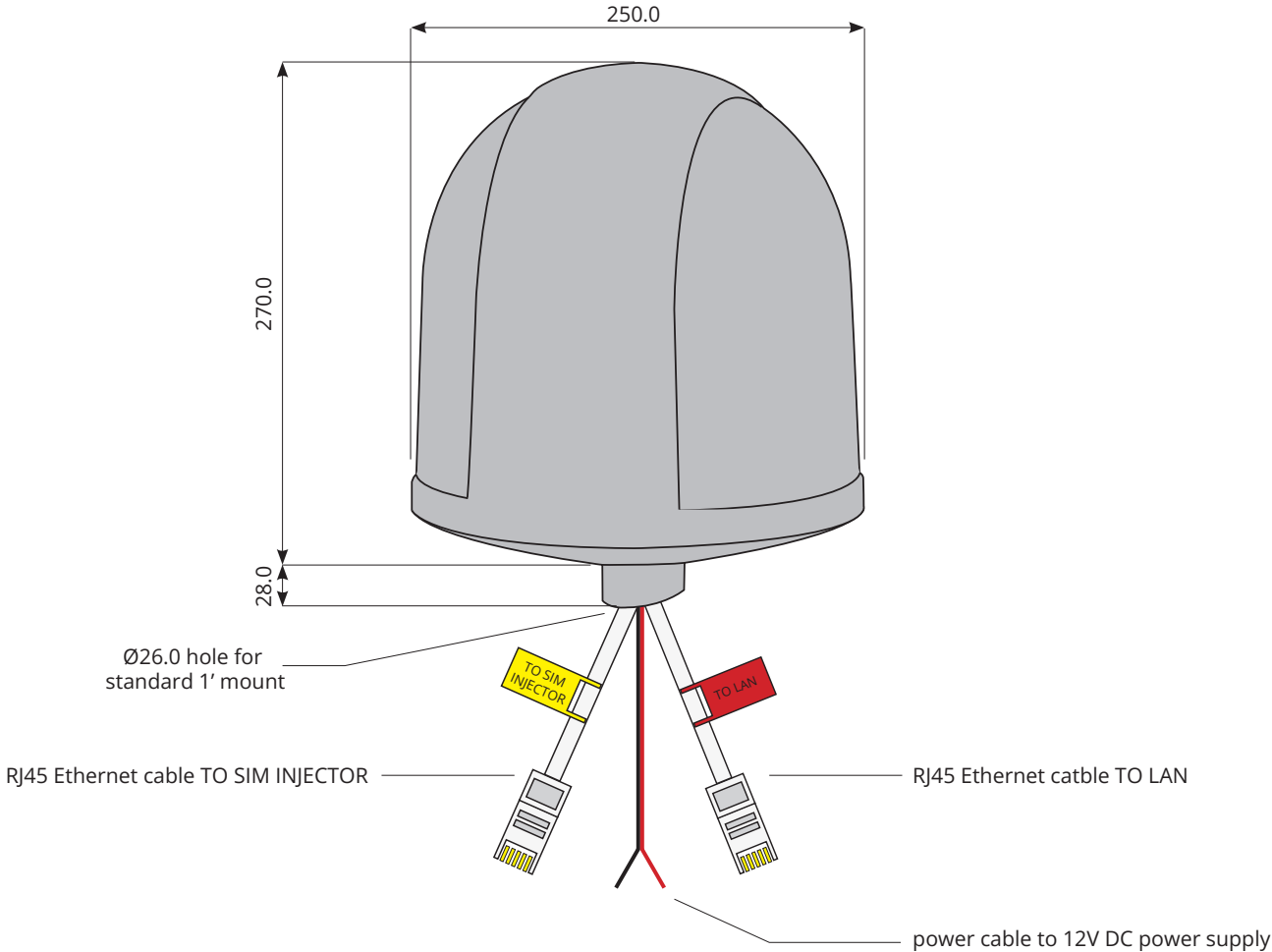
RutOS is an application developed for Android and for iOS to have complete control and monitor of the router. It offers a WiFi and device list for wireless connectivity control and Traffic Charts to analyse your internet speed accurately and a Dashboard where you can see all the crucial metrics of connected devices.

You can download the app **Teltonika RutOS** for free on Goggle Play and App Store.



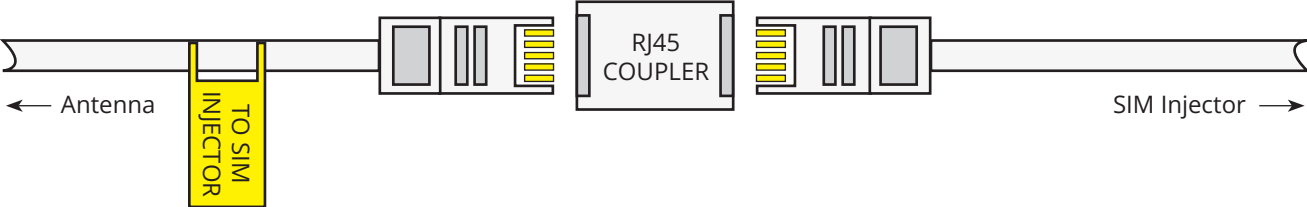
Antenna installation

The dome encloses 4 high-gain 5G ready antennas, built in UV-resistant material, IP68. It must be installed in a position with clear view 360° around to maximize the performance of signal reception/transmission.

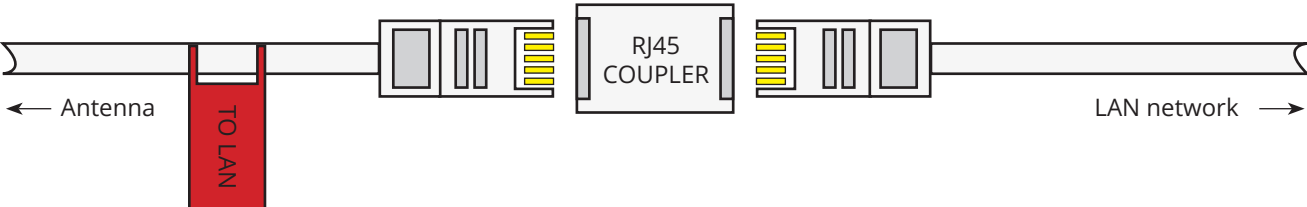


Cables must be connected as described below.

- Ethernet cable marked "TO SIM INJECTOR": this cable must be connected to the SIM Injector with a cable extension of maximum length of 100m, use of Ethernet couplers is allowed. Use one Ethernet coupler included in the box to link the cable extension.



- Ethernet cable marked "TO LAN": this cable can be used to build a wired network inside the boat with a cable extension of maximum length of 100m, use of Ethernet couplers is allowed. Use one Ethernet coupler included in the box to link the cable extension.



- power cable: use this cable to power the dome with **12V DC**. Do not use another voltage to avoid damage to the internal electrical components of the dome.



Mounting accessories

Scout supplies several deck mounts and rails mounts for installing the dome.



One way nylon mount
4 cm (2") high
PA-1
cod. PF AC NBASE015



One way stainless steel
mount 4 cm (2") high
PA-42
cod. PF AC NBASE016



One way nylon mount
10 cm (4") high
PA-7
cod. PF AC NBASE020



One way stainless steel
mount 10 cm (4") high
PA-40
cod. PF AC NBASE013



Stainless steel rail
mount
PA-83
cod. PF AC NBASE017

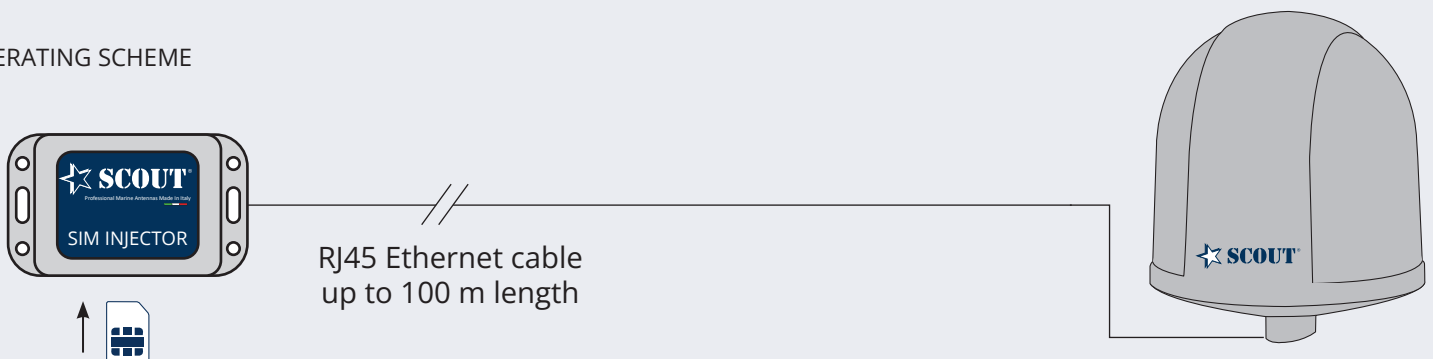
Scout SIM Extender

Scout SIM Extender is the revolutionary system created by Scout to remotely read the SIM card of the router installed inside the dome. The system consists of two units, unit A (SIM injector) and unit B (SIM extender) which communicate via a standard RJ45 type Ethernet cable up to a maximum distance of 100 meters. The unit B (SIM extender) is installed inside the dome and connected to the router, the unit A (SIM injector) can be installed wherever inside the boat, possibly in a comfortable position to insert and change the SIM card when necessary. The SIM injector is powered through the Ethernet cable.

SIM Injector



OPERATING SCHEME

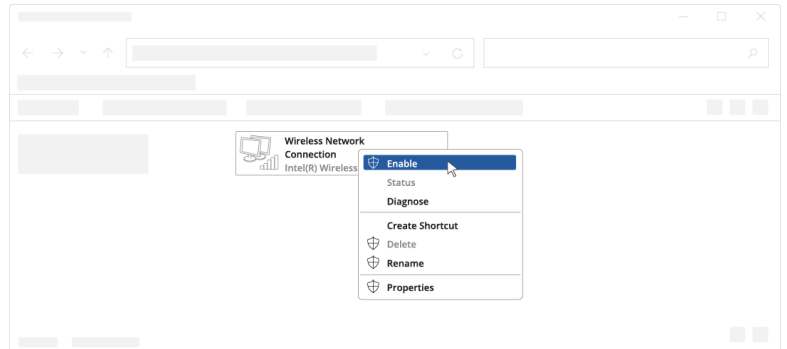


Configure your computer (Windows)

There are a few steps to follow to configure the system for first use, it is possible to carry out the configuration by connecting wirelessly to the dome or by connecting via the LAN ethernet cable (the one marked with the words "TO LAN").

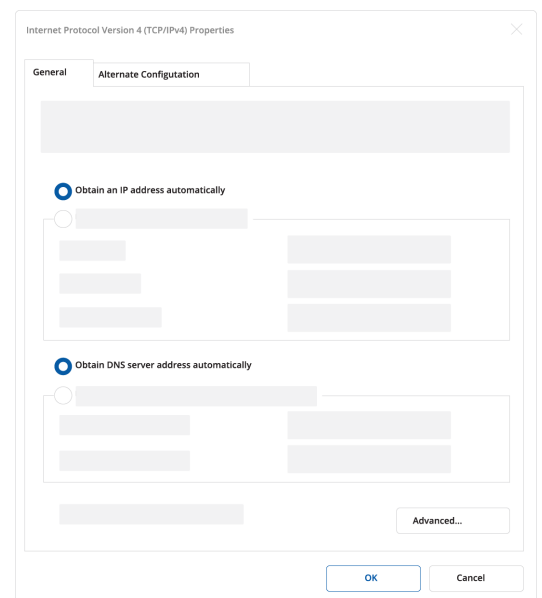
The following procedure refers to the configuration made in wireless mode.

1. Ensure the Wireless network connection is Enabled. Go to Start — Control Panel — Network and Internet — Network and Sharing Center. Click on the **Change adapter settings** in the left panel, then right-click on Wireless Network Adapter, and select Enable.

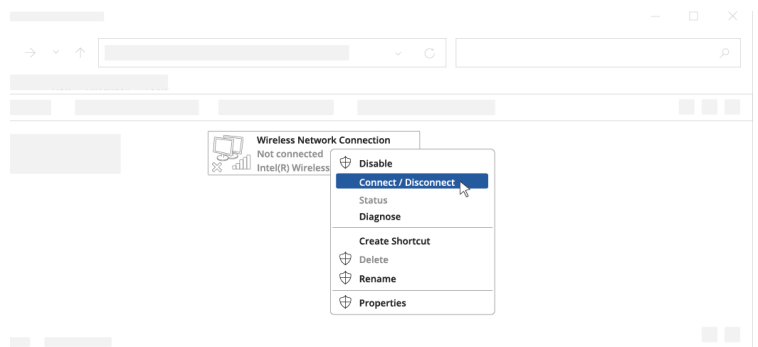


2. Check if IP and DNS are obtained automatically. Right-click on Wireless Network Adapter and select Properties. Then select **Internet Protocol Version 4** and click Properties.

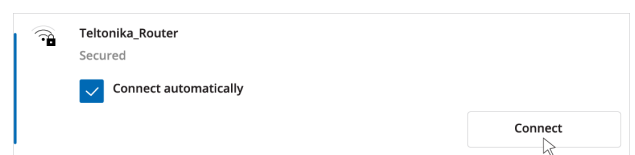
3. If not selected, check to **obtain an IP address** and **obtain DNS server address automatically**. Click OK.



4. Connect to a wireless network by right-clicking on Wireless Network Adapter and selecting Connect.



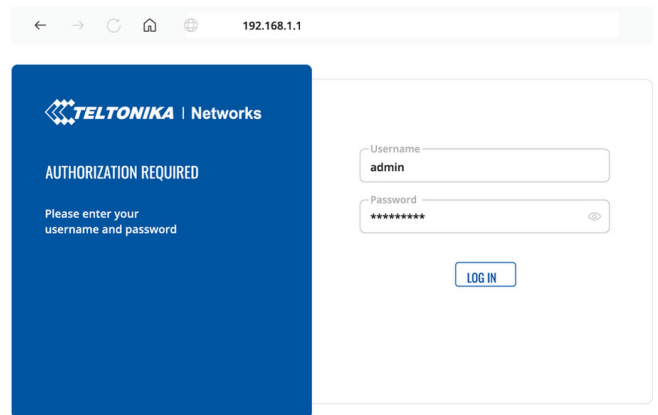
5. Choose the wireless network RUT_****_2G from the list and click Connect. Enter the WiFi password located on the product label.



Login to device

1. To enter the router's Web interface (WebUI), type `http://192.168.1.1` into the URL field of your Internet browser.

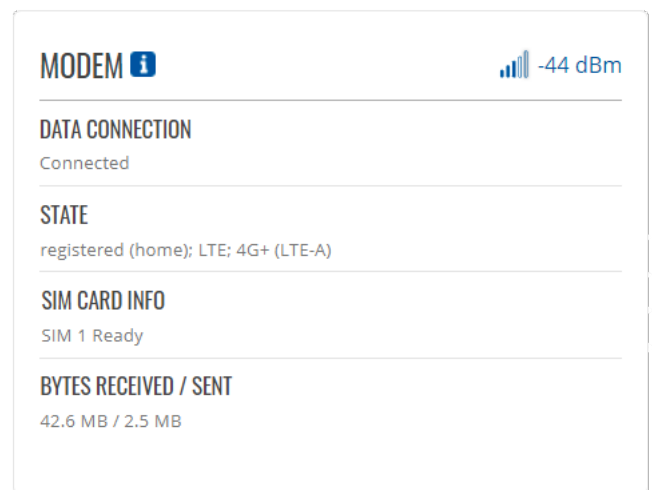
2. When prompted for authentication enter the USERNAME "admin" and enter the PASSWORD located on the product label.



3. After logging in, you must set a new password for security reasons. You will not be able to interact with the router's WebUI until the default password is changed. The new password must consist of a minimum of **8 characters**. Requirements: one uppercase letter, one lowercase letter, and one digit. We highly recommend to confirm the default password so that the information shown on the product label will remain valid.

4. Next, the Configuration Wizard will start to help you set up some of the router's main operational parameters.

5. Finally, let's verify the Mobile signal strength. Go to the **Status — Network** page and pay attention to the **Signal Strength** indication.



Router Setup Wizard

The Setup Wizard is a tool that offers a simplified version of other WebUI pages used to set some of the most relevant device parameters: **Time / LAN / WAN / WiFi / RMS**

You will be greeted with the Setup Wizard the first time you login, after you have changed the device default password. On other logins you will be redirected to the Overview page, but you can reach the Setup Wizard any time via the **System > Setup Wizard** page.

This page is an overview of the Setup Wizard tool.

General

The **General** section is used to configure the device's time, language and WebUI mode settings.

See the reference picture on the following page

WEBUI SETTINGS

Language

Configuration mode

GENERAL SETTINGS

Current system time 11/22/2022, 11:53:25 AM

[SYNC WITH BROWSER](#)

Time zone

[SKIP WIZARD](#)

[NEXT](#)

LAN

The **LAN** section is used to configure the device's local area network (LAN) and DHCP server settings. A DHCP (Dynamic Host Configuration Protocol) server can automatically configure the TCP/IP settings for any device that requests such a service. If you connect a device that has been configured to obtain an IP address automatically, the DHCP server will lease out an IP address from the available IP pool and the device will be able to communicate within the device's private network.

LAN CONFIGURATION

IPv4 address

IPv4 netmask

DHCP CONFIGURATION

Enable DHCP

Start IP

End IP

Lease time

[BACK](#)

[SKIP WIZARD](#)

[NEXT](#)

Mobile

The **Mobile** section is used to configure the device's SIM card parameters.

MOBILE CONFIGURATION | MOB1S1A1

Auto APN
 off on

Connection is or will be established without using APN

PIN

[< BACK](#)

[SKIP WIZARD](#)

[NEXT](#)

Field	Value	Description
Auto APN	off on; default: on	An Access Point Name (APN) is a gateway between a GSM, GPRS, 3G or 4G mobile network and another computer network. Depending on the contract, some operators may require you to enter the APN just to complete the registration to a network. In other cases an APN is used to get special parameters from the operator (e.g., a public IP address) depending on the contract. Auto APN scans an internal Android APN database and selects an APN based on the SIM card's operator and country. If the first automatically selected APN doesn't work, it attempts to use the next existing APN from the database.
PIN	string; default: none	A 4-digit long numeric password used to authenticate the modem to the SIM card.



We strongly suggest setting **Auto APN** to **OFF** and manually entering the APN of the operator used. If you don't know the APN, you can request it from your operator or retrieve it with a web search.


WiFi

The WiFi section is used to configure the device's WiFi Access Points (APs). The router supports two types of WiFi: 2.4 GHz and 5 GHz. 2.4 GHz WiFi provides better coverage and works at a longer range, but has lower data transfer speeds when compared to 5 GHz WiFi.

^ WIFI 2.4 GHZ

Enable off on


ESSID

Password 

^ WIFI 5 GHZ

Enable off on

ESSID

Password 

[< BACK](#)
[SKIP WIZARD](#)
[NEXT](#)

RMS

This section is used to configure the settings required to connect the device to the **RMS (Remote Management System)** - a cloud system designed by Teltonika and intended for remote monitoring and management of Teltonika-Networks products.

See the reference picture on the following page


▼ RMS SETTINGS

Connection type

Hostname

Port

▼ STATUS

Management status	Enabled
Connection state	Failure (Error: Failed to resolve hostname.)
Serial number	1114921763 
Lan MAC	00:1E:42: 
Next connection after	00:00:08

CONNECT

SAVE & APPLY

Router supported frequency bands

Different countries and network operators use different frequency bands for communication in their respective mobile networks. Therefore, in order to communicate within an operator's network, the mobile equipment has to support the frequency bands used by that operator.

Product code	Region (Operator)	Supported Bands
PF AN NWIFI21 PF AN NWIFI23	Europe, the Middle East, Africa, Oceania, Brazil, Brazil	<ul style="list-style-type: none"> 5G (NR NSA/SA): n1 (2100 MHz), n3 (1800 MHz), n5 (850 MHz), n7 (2600 MHz), n8 (900 MHz), n20 (800 MHz), n28 (700 MHz), n38 (2600 MHz), n40 (2300 MHz), n41 (2500 MHz), n77 (3700 MHz), n78 (3500 MHz) 4G (LTE-FDD): B1 (2100 MHz), B3 (1800 MHz), B5 (850 MHz), B7 (2600 MHz), B8 (900 MHz), B20 (800 MHz), B28 (700 MHz), B32 (1500 MHz) 4G (LTE-TDD): B38 (2600 MHz), B40 (2300 MHz), B41 (2400 MHz), B42 (3500 Mhz), B43 (3600 Mhz) 3G: B1 (2100 MHz), B5 (850 MHz), B8 (900 MHz)
PF AN NWIFI31 PF AN NWIFI32	USA, Canada	<ul style="list-style-type: none"> 5G (NR NSA): n2, n5, n7, n12, n13, n14, n25, n26, n29, n30, n38, n41, n48, n66, n70, n71, n77, n78 5G (NR SA): n2, n5, n7, n12, n13, n14, n25, n26, n29, n30, n38, n41, n48, n66, n70, n71, n77, n78 5G DL 4 × 4 MIMO: n2, n5, n7, n12, n13*, n14, n25, n26*, n29, n30, n38, n41, n48, n66, n70, n71, n77, n78 4G (LTE-FDD): B2, B4, B5, B7, B12, B13, B14, B17, B25, B26, B29, B30, B66, B71 4G (LTE-TDD): B38, B41, B42, B43, B48

Router user manual

All the information regarding the router are hosted by a Wiki page which contains user manuals, configuration guides, certification information and much more.

Please find it at the following internet address: https://wiki.teltonika-networks.com/view/RUTX50_Manual



This sign on the package means that all used electronic and electric equipment should not be mixed with general household waste.



Hereby, SCOUT declares that this system is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: https://wiki.teltonika-networks.com/view/RUTX50_CE/RED



Hereby, SCOUT declares that the radio equipment is in compliance with Radio Equipment Regulations 2017. The full text of the UK declaration of conformity is available at the following internet address: https://wiki.teltonika-networks.com/view/RUTX50_UKCA