



USER MANUAL

RUT950 LTE Router



Legal notice

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Attention



Before using the device we strongly recommend reading this user manual first.



Do not rip open the device. Do not touch the device if the device block is broken.



All wireless devices for data transferring may be susceptible to interference, which could affect performance.



The device is not water-resistant. Keep it dry.



Device is powered by low voltage +9V DC power adapter.

Safety information

The RUT950 router must be used in compliance with any and all applicable national and international laws and with any special restrictions regulating the utilization of the communication module in prescribed applications and environments.

You have to be familiar with the safety requirements before using the device!

Specifications	
Software	RUT950_R_XX.XX.XXX
Frequency bands*	EEE802,11b/g/n 2400 MHz, GSM/3G/4G, UMTS/HSPA+
Max. RF power	20 dBm@WiFi, 33 dBm@GSM/GPRS/EDGE, 24 dBm@LTE/WCDMA
Representative accessories specifications	
Power	AC/DC power adapter 9 V 1 A, 2 pin plug
GSM/WCDMA/LTE antenna	703-960/1710-1990/2110-2170/2500-2690 MHz, 50 Ω , VSWR \leq 2, gain** 1 dBi, omnidirectional, SMA male connector
WiFi antenna	2400-2500 MHz, 50 Ω , gain** 3dBi, VSWR \leq 2, omnidirectional, RP-SMA male connector

* Supported frequency bands are dependent on geographical location and may not be available in all markets.

** If an extension cable is used to attach the antenna, the antenna gain may be higher by the amount of cable attenuation. The user is responsible for the compliance with the legal regulations.



This sign on the package means that it is necessary to read the Users Manual before you start using the device.



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

To avoid burning and voltage caused traumas, of the personnel working with the device, please follow these safety requirements:



The device is intended for supply from a Limited Power Source (LPS) that power consumption should not exceed 15VA and current rating of over current protective device should not exceed 2A.



The highest transient over voltage in the output (secondary circuit) of used PSU shall not exceed 36V peak.



The device can be used with the Personal Computer (first safety class) or Notebook (second safety class). Associated equipment: PSU (power supply unit) (LPS) and personal computer (PC) shall comply with the requirements of standard EN 60950-1.



Do not mount or service the device during a thunderstorm.



To avoid mechanical damages to the device it is recommended to transport it packed in a damage-proof pack.



Protection in primary circuits of associated PC and PSU (LPS) against short circuits and earth faults of associated PC shall be provided as part of the building installation.

To avoid mechanical damage to the device it is recommended to transport it packed in a damage-proof pack. When using the device it should be placed so that its indicating LEDs would be visible as they inform in which working mode the device is in and if it has any working problems.

Protection against over current, short circuiting and earth faults should be provided as a part of the building installation.

Signal level of the device depends on the environment in which it is working in. In case the device starts working insufficiently, please refer to qualified personnel in order to repair this product. We recommend forwarding it to a repair center or the manufacturer. There are no exchangeable parts inside the device.

Introduction

Thank you for purchasing a RUT950 LTE router! RUT950 is part of the RUT9xx series of compact mobile routers with high speed wireless and Ethernet connections.

This router is ideal for people who'd like to share their internet on the go, as it is not restricted by a cumbersome cable connection. Unrestricted, but not forgotten: the router still supports internet distribution via a broadband cable, simply plug it in to the wan port, set the router to a correct mode and you are ready to browse.

For in-depth information on how to use and configure a RUT950 router, visit our wiki page: <http://wiki.teltonika.lt/index.php?title=RUT950>

Hardware installation

1. Remove the back panel and insert SIM cards that were given by your ISP (Internet Service Provider). Correct SIM cards' orientation is shown in the picture below:



2. Attach LTE and WiFi antennas.
3. Connect the power adapter to the socket on the front of the device. Then plug the other end of the power adapter into the power socket.
4. Connect to the device wirelessly (SSID: Teltonika_Router) or use an Ethernet cable and plug it into any LAN Ethernet port.

Front and back panels

Front view

- 1 LAN Ethernet ports
- 2 WAN Ethernet port
- 3 LAN LEDs
- 4 WAN LED
- 5 Power socket
- 6 Power LED
- 7 Mobile connection status LED
- 8 Mobile signal strength indication LEDs



Power socket pinout		
No.	Description	Wire color
1	Power	Red
2	Ground	Black
3	-	Green
4	-	White



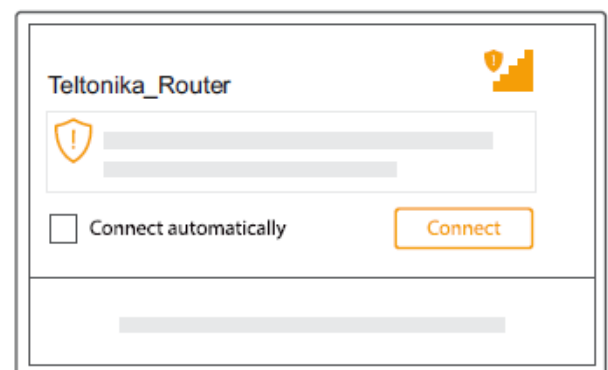
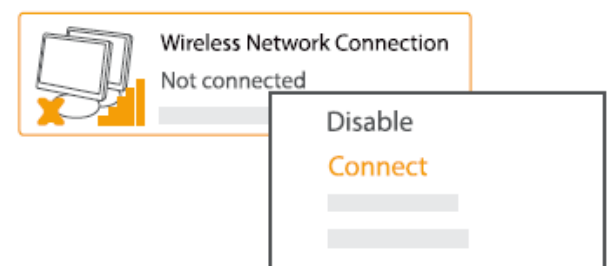
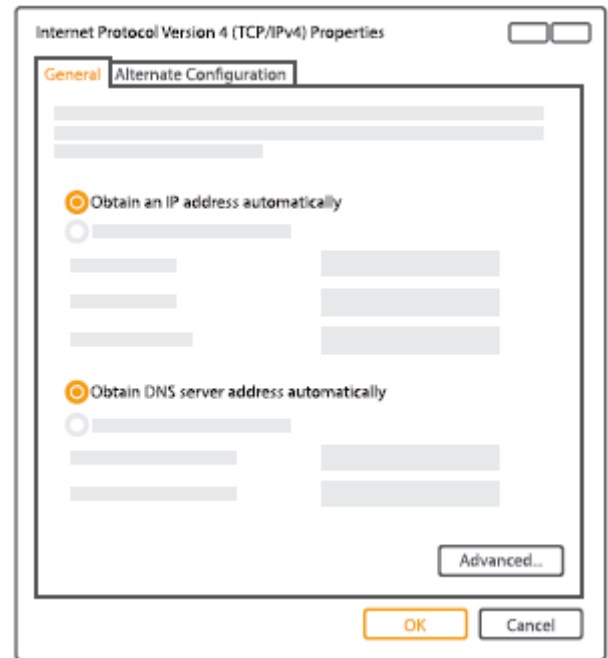
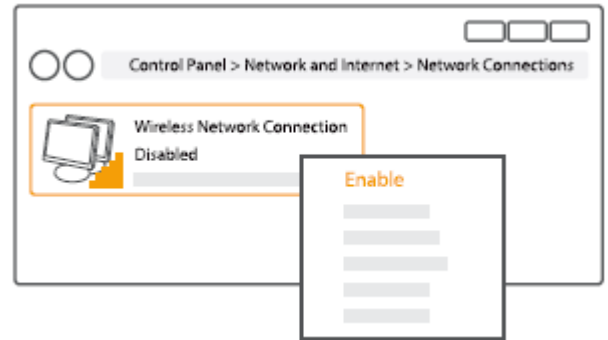
Back view

- 1 LTE antenna connectors
- 2 WiFi antenna connectors
- 3 Reset button



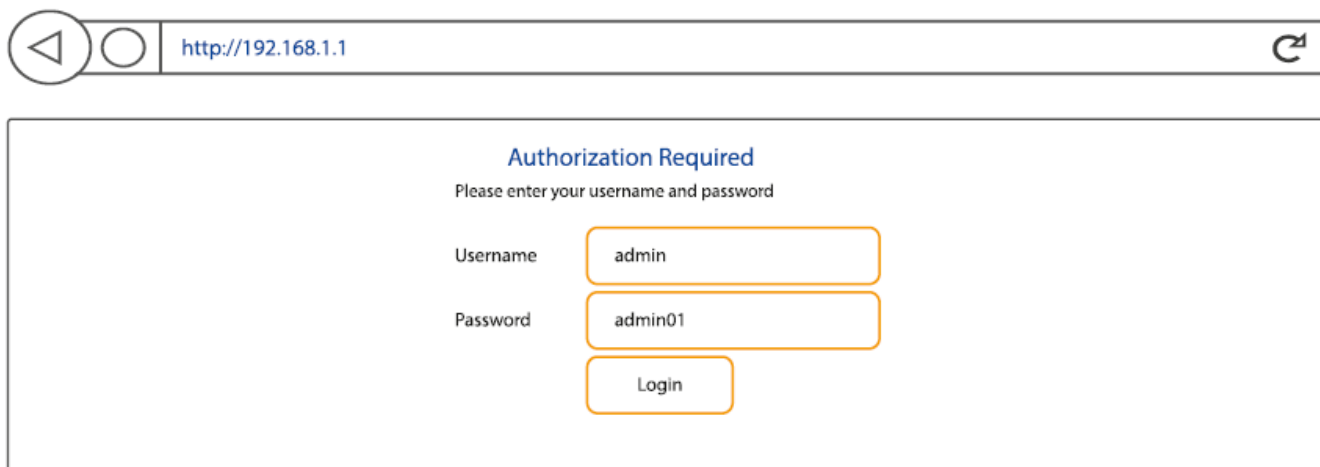
Configure your computer (Windows)

1. Enable the wireless network connection (go to [Start > Control Panel > Network and Internet > Network and Sharing Center](#). In the left panel click [Change adapter settings](#) link. Right click on [Wireless Network Connection](#) and select [Enable](#)).
2. Setup the wireless network adapter on your computer (right click on [Wireless Network Connection](#) and select [Properties](#)). After that select [Internet Protocol Version 4 \(TCP/IP\)](#) and click [Properties](#)).
3. Select [Obtain IP address automatically](#) and [Obtain DNS server address automatically](#) if they are not selected. Click [OK](#).
4. Right click on [Wireless Network Connection](#) and click [Connect](#) to see available wireless networks.
5. Choose the wireless network [Teltonika_Router](#) from the list and click [Connect](#).



Login to device

1. To enter the routers Web interface type `http://192.168.1.1` into your internet browser's URL field.
2. Use the following parameters when prompted for authentication:



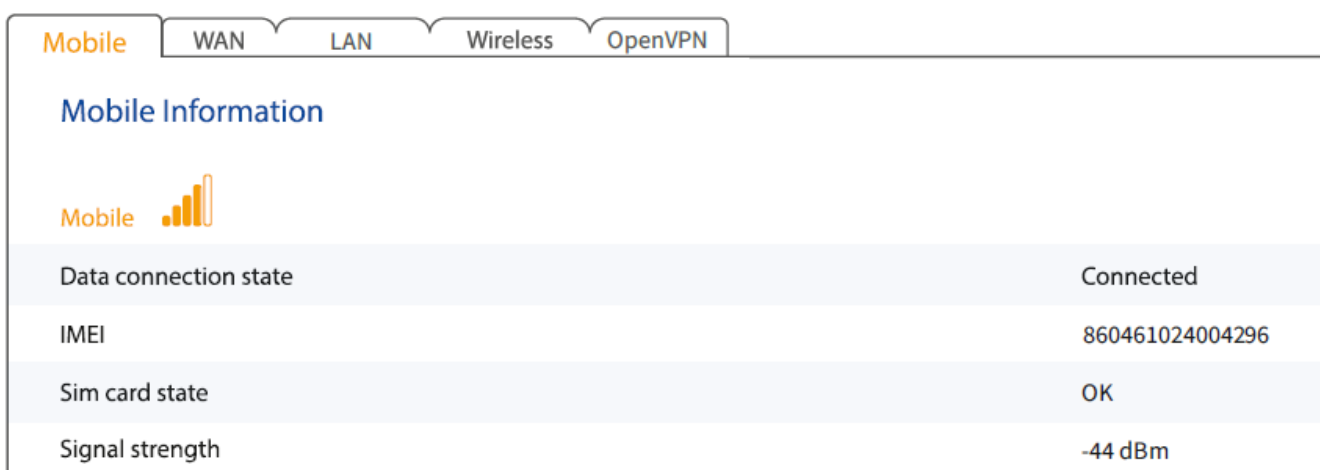
Authorization Required


Please enter your username and password

Username

Password

3. [Configuration Wizard](#) will start after logging in. It is necessary to complete [Configuration Wizard](#) to setup the router to the correct mode. You can leave default settings but it is strongly recommended that you change the default password and enable [Wireless Security](#).
4. Go to [Status > Network information](#) and pay attention to [Signal Strength](#). To maximize the performance try adjusting the antennas or changing the location of your device to achieve the best signal conditions.



Mobile	WAN	LAN	Wireless	OpenVPN
Mobile Information				
				
Data connection state	Connected			
IMEI	860461024004296			
Sim card state	OK			
Signal strength	-44 dBm			

LED indications

- Constant blinking (~ 2Hz) – router is turning on
- LED turned off – no 4G data connection
- LED turned on – 4G data connection

Connection status LED indication

- Green and red blinking alternatively ever 500 ms: no SIM or bad PIN
- Green, red and yellow blinking alternatively every 500 ms: connecting to GSM
- Red blinking every 1 sec: connected 2G, but no data session established
- Yellow blinking every 1 sec: connected 3G, no data session established
- Green blinking every 1 sec: connected 4G, no data session established
- Red lit and blinking rapidly while data is being transferred: connected 2G with data session
- Yellow lit and blinking rapidly while data is being transferred: connected 3G with data session
- Green lit and blinking rapidly while data is being transferred: connected 4G with data session

Signal strength LEDs

No. of lit up LEDs	Signal strength value
0	≤ -111 dBm
1	-110 dBm to -97 dBm
2	-96 dBm to -82 dBm
3	-81 dBm to -67 dBm
4	-66 dBm to -52 dBm
5	≥ -51 dBm

Specifications

Ethernet

- IEEE 802.3, IEEE 802.3u standards
- 3 x LAN 10/100Mbps Ethernet ports
- 1 x WAN 10/100Mbps Ethernet port
- Supports Auto MDI/MDIX

Wi-Fi

- IEEE 802.11b/g/n WiFi standards
- 2x2 MIMO
- AP and STA modes
- 64/128-bit WEP, WPA, WPA2, WPA&WPA2, EAP-PEAP encryption methods
- 2.401 – 2.483 GHz WiFi frequency range*
- 20dBm max WiFi TX power
- SSID stealth mode and access control based on MAC address

Hardware

- High performance 560 MHz CPU with 128 Mbytes of DDR2 memory
- 5.5/2.5mm DC power socket (terminal block connector optional)
- Reset/restore to default button
- x SMA for LTE, 2 x RP-SMA for WiFi antenna connectors
- x Ethernet LEDs, 1 x power LED
- 1 x bi-color connection status LED, 5 x connection strength LEDs
- Optional: Din rail or panels with integrated mounting flanges

Electrical, Mechanical & Environmental

• Dimensions (H x W x D)	80mm x 106mm x 46mm
• Weight	235g
• Power supply	100 – 240 VAC -> 9 VDC wall adapter
• Input voltage range	9 – 30VDC
• Power consumption	< 7W
• Operating temperature	-40° to 75° C
• Storage temperature	-45° to 80° C
• Operating humidity	10% to 90% Non-condensing
• Storage humidity	5% to 95% Non-condensing

**Supported frequency bands are dependent on geographical location and may not be available in all markets*

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Please choose the model and version of your Teltonika product from the list found in the provided link in order to download the source code. You can also review and print the respective GPL license terms.

If you have any more questions or suggestions regarding GPL, please contact us at gpl@teltonika.lt

CE Declaration of Conformity



2014/35/EU, 2014/30/EU. The full text of the EU declaration of conformity is available at the following internet address: <http://teltonika.lt/product/rut950/>

[EN] English	Hereby, Teltonika declares that the radio equipment type RUT950 is in compliance with Directives: 2014/53/EU
[BG] Bulgarian	По този начин Teltonika декларира, че радиоустройството тип RUT950 е в съответствие с директивите: 2014/53/EU
[CZ] Czech	Tím Teltonika prohlašuje, že rádiové zařízení typu RUT950 je v souladu se směrnicemi: 2014/53/EU
[DK] Danish	Hermed erklærer Teltonika, at radioudstyrstypen RUT950 er i overensstemmelse med direktiverne: 2014/53/EU
[DE] German	Teltonika erklärt hiermit, dass das Funkgerät vom Typ RUT950 den Richtlinien 2014/53/EU entspricht
[EE] Estonian	Käesolevaga deklareerib Teltonika, et raadioseadmete tüüp RUT950 vastab direktiividele: 2014/53/EL
[GR] Greek	Με τον τρόπο αυτό, η Teltonika δηλώνει ότι ο τύπος ραδιοεξοπλισμού RUT950 συμμορφώνεται με τις οδηγίες: 2014/53/EE
[ES] Spanish	Por la presente, Teltonika declara que el equipo de radio tipo RUT950 cumple con las Directivas: 2014/53/UE
[IT] Italian	Con la presente, Teltonika dichiara che l'apparecchiatura radio tipo RUT950 è conforme alle direttive 2014/53/UE
[LV] Latvian	Ar šo Teltonika paziņo, ka radioiekārtas RUT950 tips atbilst direktīvām: 2014/53/ES
[LT] Lithuanian	Teltonika pareiškia, kad radijo ryšio įranga RUT950 atitinka direktyvas: 2014/53/ES
[HU] Hungarian	A Teltonika kijelenti, hogy a RUT950 típusú rádióberendezések megfelelnek a 2014/53/EU irányelveknek
[NL] Dutch	Hierbij verklaart Teltonika dat het RUT950-radioapparaat voldoet aan de richtlijnen: 2014/53/EU
[PL] Polish	Niniejszym Teltonika oświadcza, że urządzenie radiowe typu RUT950 jest zgodne z Dyrektywami: 2014/53/EU
[PT] Portuguese	Por este meio, a Teltonika declara que o equipamento de rádio tipo RUT950 está em conformidade com as Diretivas: 2014/53/UE
[RO] Romanian	Astfel, Teltonika declară că echipamentul radio RUT950 este în conformitate cu Directivele 2014/53/UE
[SK] Slovak	Tým Teltonika vyhlasuje, že rádiové zariadenie typu RUT950 je v súlade so smernicami: 2014/53/EÚ
[SI] Slovenian	Teltonika izjavlja, da je radijska oprema tipa RUT950 v skladu z direktivami: 2014/53/EU
[FI] Finish	Täten Teltonika vakuuttaa, että radiolaitteiden tyyppi RUT950 noudattaa direktiivejä: 2014/53/EU
[SE] Swedish	Häri förklarar Teltonika att radioutrustningstypen RUT950 överensstämmer med direktiven: 2014/53/EU
[NO] Norwegian	Hermed erklærer Teltonika at radioutstyrstypen RUT950 er i samsvar med direktivene: 2014/53/EU

FCC ID : 2AET4RUT950A

FCC Regulations

(15C) This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

(15B) This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC RF Exposure Information

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter and must be installed to provide a separation distance of at least 20cm from all persons.