USER MANUAL

RUT850 LTE Router

Legal notice

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.

Please do not scratch the device. Scratched device is not fully protected.

Safety information

The RUT850 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	RUT850_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/WSDMA
Representative accessories specifications	
Power	AC/DC power adapter 9 V 1 A, or Cigarette plug socket, or 12/24 V battery, 4 pin plug
GSM/WCDMA/LTE antenna	703-960/1710-1990/2110-2170/2500-2690 MHz, 50 Ω, VSWR ≤ 2, gain** 1 dBi, omnidirectional, vertical polarization, Fakra-D plug
GPS antenna	1561-1615 MHz, DC 3.3 V, VSWR ≤ 2, active total gain** 18dBi (typ.), linear polarization, Fakra-C plug

* 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 RUT850 automotive LTE router! RUT850 is a compact mobile router with a high speed wireless connection.

This router is ideal for people who'd like to share their internet on the go or in a vehicle, as it is not restricted by a cumbersome cable connection.

For in-depth information on how to use and configure a RUT850 router, visit our wiki page:
http://wiki.teltonika.lt/index.php?title=RUT850

Hardware installation

1. Push the SIM holder with the SIM needle.	3. Insert your SIM card into the SIM holder
2. Pull out the SIM holder	4. Slide the SIM holder back into the router.

5. Attach LTE and GPS antennas.
6. Connect the power adapter to the socket on the back of the device. Then plug the other end of the power adapter into the power socket.
7. Connect to the device wirelessly (SSID: RUT850_001E42 ****** (unique to each device)).

Front and back panels

Front view

1. Power LED
2. SIM holder
3. Reset button
4. WiFi LED
5. Mobile network type LEDs
6. Mobile signal strength indication LEDs

Back view

1. Power socket
2. GPS antenna connector
3. LTE antenna connectors

| Power socket pinout		
No.	Description	Wire color
1	Not connected	White
2	Ignition	Green
3	Ground	Black
4	Power	Red

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 RUT850_001E42 ****** from the list and click Connect.
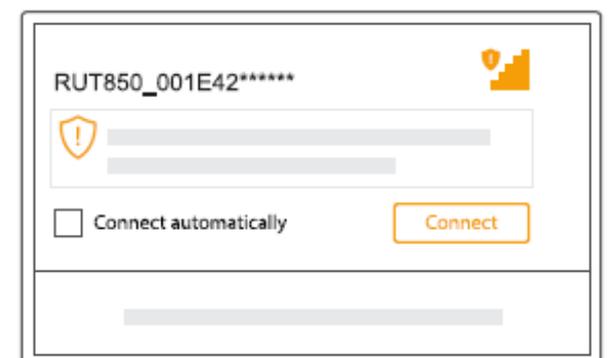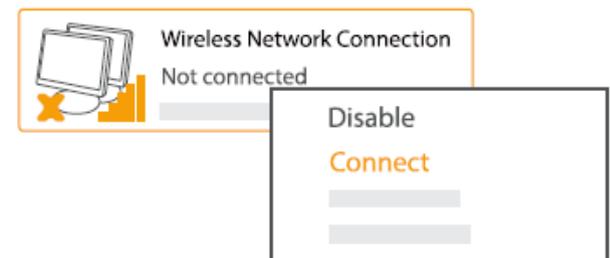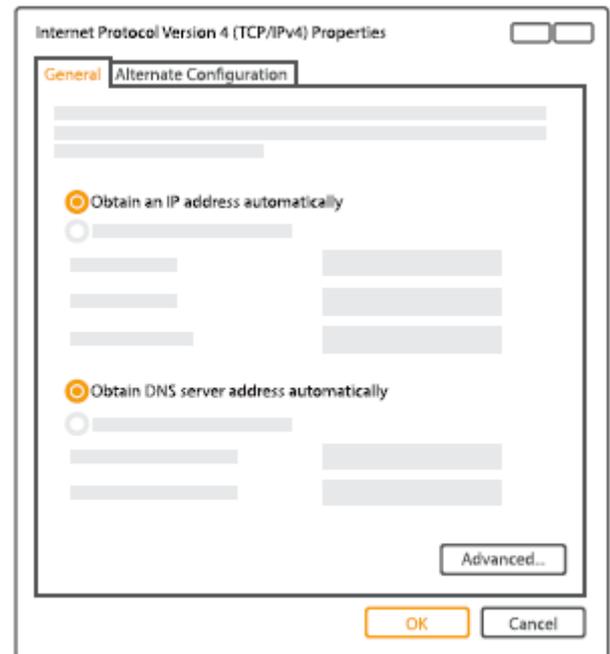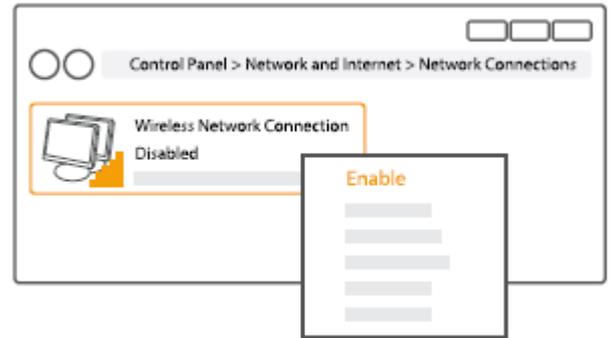
Login to device

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:
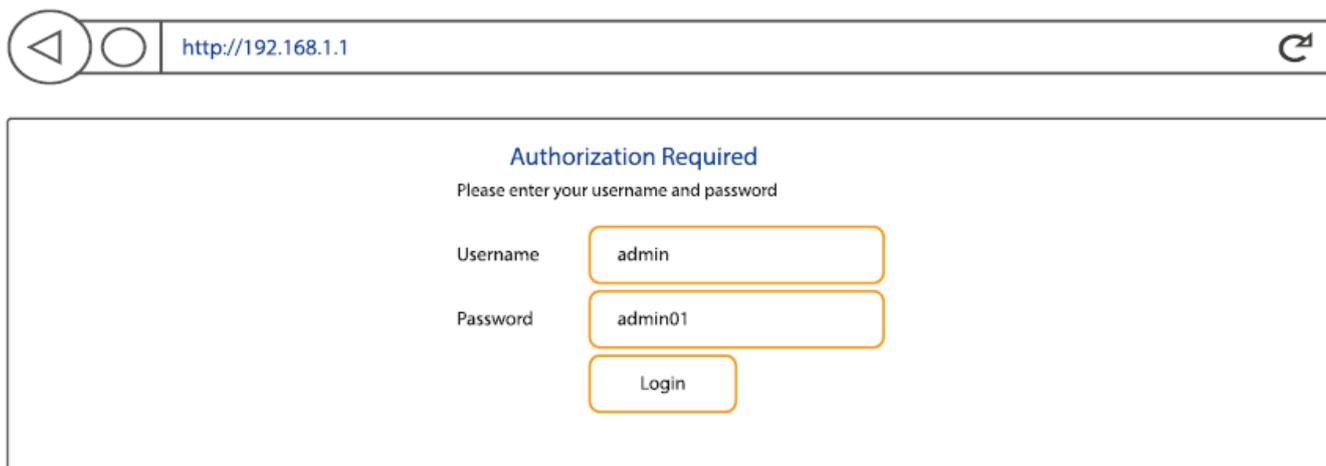
3. Configuration Wizard will start after logging in. It is necessary to complete Configuration Wizard to setup the router to the correct mode. You can leave default settings but it is strongly recommended that you change the default password and enable Wireless Security.

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:
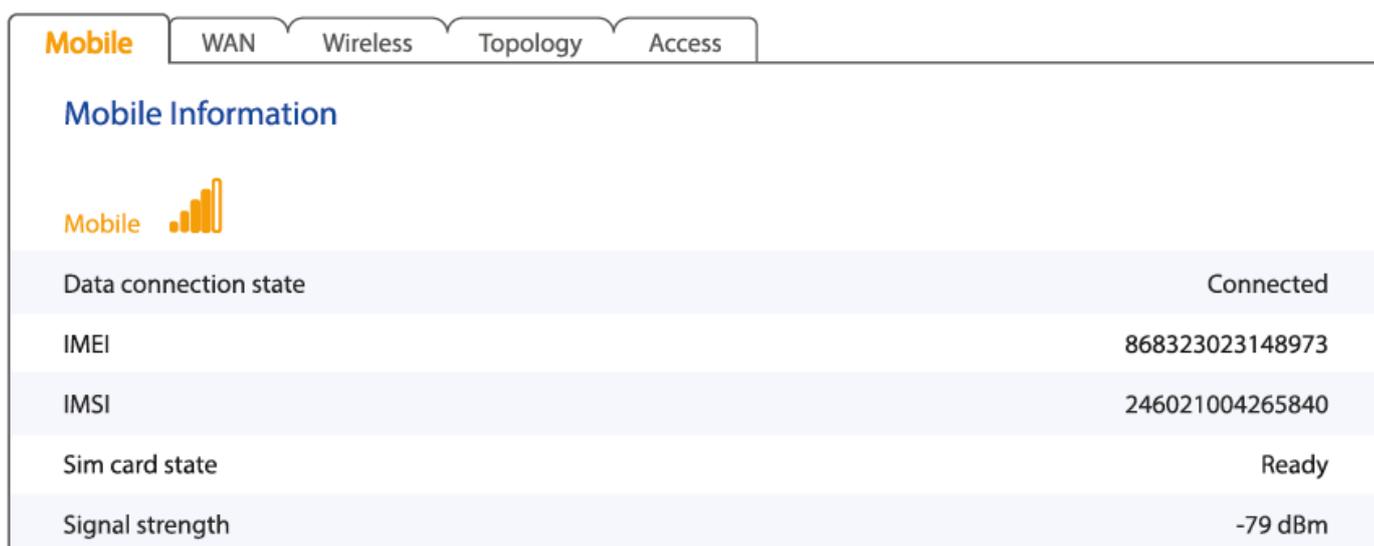
LED indications

- Signal strength status LED's constant blinking every 500 ms: Router is turning on

- Wi-Fi LED turned ON/OFF: Wi-Fi Enabled/Disabled;

- 2G, 3G and 4G LEDs constant blinking every 1 sec: No SIM or bad PIN

- One of 2G, 3G or 4G LEDs blinking every 1 sec: Connected to 2G, 3G or 4G respectively but no data session established

- Blinking from 2G LED to 4G LED repeatedly: SIM holder not inserted

- One of 2G, 3G or 4G LEDs turned on: Connected to 2G, 3G or 4G respectively with data session

- One of 2G, 3G or 4G LEDs blinking rapidly: Connected to 2G, 3G or 4G respectively with data session and data is being transferred

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

Wi-Fi

- IEEE 802.11b/g/n WiFi standards
- AP and STA modes
- WPA2-Enterprise - PEAP, TLS, TTLS, AES-CCMP, TKIP, Auto Cipher modes, Client separation
- 2.401 – 2.495GHz Wi-Fi frequency range*
- 20dBm max WiFi TX power
- SSID stealth mode and access control based on MAC address

Hardware

- High performance 550 MHz CPU with 64 Mbytes of DDR2 memory
- External SIM holder
- 4 pin DC connector
- Reset/restore to default button
- 2 x RG174 connectors for LTE
- 1 x RG174 connector for GPS
- 3 x connection type status LEDs, 1 x r WiFi status LED, 5 x connection strength LEDs, 1 x Power LED

Electrical, Mechanical & Environmental

- Dimensions (W x D x H)   131 mm x 79 mm x 18 mm
- Weight   115g
- Input voltage range   9 – 30VDC
- Power consumption   < 5W
- Operating temperature   -40° to 75° C
- Operating humidity   10% to 90% Non-condensing

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

GPL

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

CE Declaration of Conformity

C€ 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/RUT850/

[EN] English	Hereby, Teltonika declares that the radio equipment type RUT850 is in compliance with Directives: 2014/53/EU
[BG] Bulgarian	По този начин Teltonika декларира, че радиоустройството тип RUT850 е в съответствие с директивите: 2014/53/EU
[CZ] Czech	Tím Teltonika prohlašuje, že rádiové zařízení typu RUT850 je v souladu se směrnicemi: 2014/53/EU
[DK] Danish	Hermed erklærer Teltonika, at radioudstyrstypen RUT850 er i overensstemmelse med direktiverne: 2014/53/EU
[DE] German	Teltonika erklärt hiermit, dass das Funkgerät vom Typ RUT850 den Richtlinien 2014/53/EU entspricht
[EE] Estonian	Käesolevaga deklareerib Teltonika, et raadioseadmete tüüp RUT850 vastab direktiividele: 2014/53/EL
[GR] Greek	Με τον τρόπο αυτό, η Teltonika δηλώνει ότι ο τύπος ραδιοεξοπλισμού RUT850 συμμορφώνεται με τις οδηγίες: 2014/53/EE
[ES] Spanish	Por la presente, Teltonika declara que el equipo de radio tipo RUT850 cumple con las Directivas: 2014/53/UE
[IT] Italian	Con la presente, Teltonika dichiara che l'apparecchiatura radio tipo RUT850 è conforme alle direttive 2014/53/UE
[LV] Latvian	Ar šo Teltonika paziņo, ka radioiekārtas RUT850 tips atbilst direktīvām: 2014/53/ES
[LT] Lithuanian	Teltonika pareiškia, kad radijo ryšio įranga RUT850 atitinka direktyvas: 2014/53/ES
[HU] Hungarian	A Teltonika kijelenti, hogy a RUT850 típusú rádióberendezések megfelelnek a 2014/53/EU irányelveknek
[NL] Dutch	Hierbij verklaart Teltonika dat het RUT850-radioapparatuur voldoet aan de richtlijnen: 2014/53/EU
[PL] Polish	Niniejszym Teltonika oświadcza, że urządzenie radiowe typu RUT850 jest zgodne z Dyrektywami: 2014/53/EU
[PT] Portuguese	Por este meio, a Teltonika declara que o equipamento de rádio tipo RUT850 está em conformidade com as Diretivas: 2014/53/UE
[RO] Romanian	Astfel, Teltonika declară că echipamentul radio RUT850 este în conformitate cu Directivele 2014/53/UE
[SK] Slovak	Tým Teltonika vyhlasuje, že rádiové zariadenie typu RUT850 je v súlade so smernicami: 2014/53/EÚ
[SI] Slovenian	Teltonika izjavlja, da je radijska oprema tipa RUT850 v skladu z direktivami: 2014/53/EU
[FI] Finish	Täten Teltonika vakuuttaa, että radiolaitteiden tyyppi RUT850 noudattaa direktiivejä: 2014/53/EU
[SE] Swedish	Häri förklarar Teltonika att radioutrustningstypen RUT850 överensstämmer med direktiven: 2014/53/EU
[NO] Norwegian	Hermed erklærer Teltonika at radioutstyrtypen RUT850 er i samsvar med direktivene: 2014/53/EU