

# wAP LTE series

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## Quick start

1. Use a Phillips screwdriver to loosen the screw which secures the bottom lid. Once the screw snaps out of place, lid can be opened.
2. Power the unit using one of the methods described in the next section of this document.
3. Wireless AP mode is enabled by default, you can connect from your computer to the SSID that begins with "MikroTik". The configuration interface is available via web browser. The address is <http://192.168.88.1>
4. The device is already preconfigured and ready to use, but we suggest to set a wireless password and a device password to secure your network and protect your device.

## Powering

The device supports multiple powering methods.

### PoE input

The ethernet port accepts 9-30 V passive PoE power. The box contains a 24 V adapter and a PoE injector. Plug the included PoE injector into the first or internet port of the router that you will use in your LAN (or directly into your laptop) and attach an ethernet cable to the PoE injector. Connect the other end of this ethernet cable to the wAP LTE device. Plug the power supply into the PoE injector.

### Power jack

The DC jack (5.5 mm outside and 2 mm inside diameter, female, pin positive plug) supports 9-30 V powering, the device comes with a 24 V 0.8 A power adapter.

### Automotive connector

The automotive connector can be used to power the device from regular 12/24 V connections in automobiles and buses. The plug has four pins: bottom left (black) is the ground, bottom right is power in (red). The upper two are reserved for future use.

Maximum power consumption at 24 V is 6 W without miniPCle, and 8 W with full load on the miniPCle card.

## Mounting

The device can be mounted in several ways: wall, ceiling or pole. The package includes a drill hole template, to help you with the ethernet cable installation and attachment to a ceiling or a wall. The package also includes a steel bracket to put on the other side of a dropdown ceiling tile and two screws and wall anchors.

To prepare the device for mounting, use a Philips screwdriver to remove the screw inside the unit, which will detach the mounting plate. Once the mounting plate is removed, use the drill hole template, to help you with cable installation and attachment to a ceiling or a wall. The template includes visual guides and instructions how to mount the unit.

## Expansion slots and ports

- Built in 2 GHz wireless access point module, AP/station/bridge/p2p modes are supported.
- One 10/100 ethernet port, supporting automatic cross/straight cable correction (Auto MDI/X). Either straight or crossover cable can be used for connecting to other network devices. The ethernet port accepts 9-30 V DC powering from a passive PoE injector.
- miniPCle slot and SIM slot (can't be used separately) to be used with a 3G/4G/LTE modem (some kits include it).

## MiniPCle slot usage

The device is equipped with a miniPCle slot (a kit with preinstalled modem also available) to be used with an 3G/4G/LTE modem. A SIM slot is provided for use together with a miniPCle modem. SIM slot is not usable separately.

To install the miniPCle module, remove both screws below the power jack and slide out the wAP PCB board. Insert the miniPCle modem, and secure it with two Philips screws which are already in place.

Attach the grey uFL connector to the MAIN antenna connector of the modem, attach the black cable to the other (or AUX) connector. It is possible to use external antennas for the modem, two SMA mounting holes are provided next to the reset button, or if you prefer to attach antennas to the case directly, SMA antennas can be mounted on the bottom of the case if you remove the two plastic hole covers first.

After you have reinserted the wAP board into the case, and secured it with the screws that were removed earlier, slide in the SIM card from your mobile operator into the SIM slot, with the chip facing up. The slot accepts miniSIM (2FF). The SIM slot protects the SIM card from falling out with a plastic latch. You can press the latch and then pull the SIM out using tweezers or a similar tool.

## Buttons and jumpers

The reset button has the following functions:

- Hold this button during boot time until LED light starts flashing, release the button to reset RouterOS configuration (total 5 seconds).
- Keep holding for 5 more seconds, LED turns solid, release now to turn on CAP mode. The device will now look for a CAPsMAN server (total 10 seconds).
- Or Keep holding the button for 5 more seconds until until LED turns off, then release it to make the RouterBOARD look for Netinstall servers (total 15 seconds).

Regardless of the above option used, the system will load the backup RouterBOOT loader if the button is pressed before power is applied to the device. Useful for RouterBOOT debugging and recovery.

## Configuration

Connect to wireless SSID that begins with "MikroTik" and open <http://192.168.88.1> in your web browser. Username is admin and there is no password. In case IP connection is not available, WinBox can be used to connect to the MAC address of the device.

RouterOS includes many configuration options in addition to what is described in this document. We suggest to start here to get yourself accustomed to the possibilities: <http://mt.lv/help>.

In case IP connection is not available, the Winbox tool (<http://mt.lv/winbox>) can be used to connect to the MAC address of the device from the LAN side (all access is blocked from the Internet port by default).

For recovery purposes, it is possible boot the device from network, see previous section for more information.

## Operating system support

The device supports RouterOS software with the version number at or above what is indicated in the RouterOS menu `/system resource`. Other operating systems have not been tested.

# Federal communication commission interference statement

**RBwAPR-2nD:** FCC IDTV7WAPR2ND, IC ID 7442A-WAPR2ND

**R11e-LTE:** FCC ID TV7R11ELTE



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 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 Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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. This device and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter.

## **IMPORTANT: Exposure to radio frequency radiation.**

63 cm minimum distance has to be maintained between the antenna and the occupational user and 140 cm to general public. Under such configuration, the FCC radiation exposure limits set forth for a population/uncontrolled environment can be satisfied.

## **List of additional approved antennas:**

- Omni Directional (fiberglass pole) WLO-2450-15 15 dBi
- Omni Directional (hor. polarization) HP, ODH 24-13 13 dBi
- Sector SA 24-90-17-WB 17 dBi
- Panel WLP-2450-20 20 dBi
- Dish DC 24-HD-PFIP 24 dBi

Antenna Installation. **WARNING:** It is installer's responsibility to ensure that when using the authorized antennas in the United States (or where FCC rules apply); only those antennas certified with the product are used. The use of any antenna other than those certified with the product is expressly forbidden in accordance to FCC rules CFR47 part 15.204. The installer should configure the output power level of antennas, according to country regulations and per antenna type. Professional installation is required of equipment with connectors to ensure compliance with health and safety issues.



# CE Declaration of Conformity

Full Declaration of Conformity (DoC) may be obtained by visiting our product page on <https://mikrotik.com>

[EN] English	Hereby, MIKROTIKLS SIA declares that this RouterBOARD is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EC.
[BG] Bulgarian	С настоящето, MIKROTIKLS SIA декларира, че RouterBOARD е в съответствие със съществените изисквания и другите приложими разпоредби на Директива 2014/53/EC.
[CZ] Czech	MIKROTIKLS SIA tímto prohlašuje, že RouterBOARD splňuje základní požadavky a všechna příslušná ustanovení Směrnice 2014/53/ES.
[DK] Danish	Undertegnede MIKROTIKLS SIA erklærer herved, at følgende udstyr RouterBOARD overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EF.
[DE] German	Hiermit erklärt MIKROTIKLS SIA dass sich das Gerät RouterBOARD in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 2014/53/EG befindet.
[EE] Estonian	Käesolevaga kinnitab MIKROTIKLS SIA seadme RouterBOARD vastavust direktiivi 2014/53/EU põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
[GR] Greek	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Ο ΚΑΤΑΣΚΕΥΑΣΤΗΣ MIKROTIKLS SIA ΔΗΛΩΝΕΙ ΟΤΙ RouterBOARD ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/ΕΚ
[ES] Spanish	Por la presente, MIKROTIKLS SIA declara que este RouterBOARD cumple con los requisitos esenciales y otras exigencias relevantes de la Directiva 2014/53/EC.
[IT] Italian	Con la presente MIKROTIKLS SIA dichiara che questo RouterBOARD è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/CE.
[LV] Latvian	Ar šo MIKROTIKLS SIA deklarē, ka RouterBOARD atbilst Direktīvas 2014/53/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
[LT] Lithuanian	Šiuo MIKROTIKLS SIA deklaruoją, kad šis RouterBOARD atitinka esminius reikalavimus ir kitas 2014/53/EB Direktyvos nuostatas
[HU] Hungarian	A MIKROTIKLS SIA ezzennel kijelenti, hogy a RouterBOARD típusú berendezés teljesíti az alapelvető követelményeket és más 2014/53/EK irányelvben meghatározott vonatkozó rendelkezéseket.
[NL] Dutch	Hierbij verklaart MIKROTIKLS SIA dat het toestel RouterBOARD in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EG.
[PL] Polish	Niniejszym MIKROTIKLS SIA deklaruje że RouterBOARD jest zgodny z zasadniczymi wymaganiami i innymi właściwymi postanowieniami Dyrektywy 2014/53/EC.
[PT] Portuguese	Eu, MIKROTIKLS SIA declaro que o RouterBOARD cumpre os requisitos essenciais e outras provisões relevantes da Directiva 2014/53/EC.
[RO] Romanian	Prin prezenta, MIKROTIKLS SIA declară că aparatul RouterBOARD este în conformitate cu cerințele esențiale și cu alte prevederi pertinente ale Directivei 2014/53/CE.
[SK] Slovak	MIKROTIKLS SIA týmto vyhlasuje, že RouterBOARD spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 2014/53/ES.
[SI] Slovenian	MIKROTIKLS SIA izjavlja, da je ta RouterBOARD v skladu z bistvenimi zahtevami in drugimi relevantnimi določili direktive 2014/53/ES.
[FI] Finnish	MIKROTIKLS SIA vakuuttaa täten että RouterBOARD tyyppinen laite on direktiivin 2014/53/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
[SE] Swedish	Härmed intygar MIKROTIKLS SIA att denna RouterBOARD är i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/EG.
[NO] Norwegian	MIKROTIKLS SIA Erklærer herved at RouterBOARD er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 2014/53/EF.

**EN. Instruction manual:** Connect the power adapter to turn on the device. Open 192.168.88.1 in your web browser, to configure it. More information on <http://mt.lv/help> **BG. Инструкции:** Съвържете адаптера на захранване, **за да включите** устройството. Отворете 192.168.88.1 в уеб браузър, **за да настроите** продукта. Повече информация в <http://mt.lv/help> **CZ. Návod k použití:** Připojte napájecí adaptér k zapnutí přístroje. Otevřete 192.168.88.1 ve webovém prohlížeči pro konfiguraci produktu. Více informací najdete v <http://mt.lv/help> **DK. Instruktionsbog:** Tilslut strømadapteren for at tænde for enheden. Åbn 192.168.88.1 i en webbrowser til at konfigurere produktet. Mere information i <http://mt.lv/help> **FR. Mode d'emploi:** Connectez l'adaptateur d'alimentation pour allumer l'appareil. Ouvrez 192.168.88.1 dans un navigateur Web pour configurer le produit. Plus d'informations dans <http://mt.lv/help> **DE. Bedienungsanleitung:** Verbinden Sie das Netzteil, um das Gerät einzuschalten. Öffnen Sie 192.168.88.1 in einem Web-Browser, um das Produkt zu konfigurieren. Weitere Informationen im <http://mt.lv/help> **EE. Kasutusjuhend:** Ühendage toiteadapter seadme sisselülitamiseks. Avatud 192.168.88.1 in veebilehitseja seadistada toodet. Rohkem teavet <http://mt.lv/help> **ES. Manual de instrucciones:** Conecte el adaptador de alimentación para encender la unidad. Abra 192.168.88.1 en un navegador web para configurar el producto. Más información en <http://mt.lv/help> **IT. Manuale di istruzioni:** Collegare l'adattatore di alimentazione per accendere l'unità. Aprire 192.168.88.1 in un browser Web per configurare il prodotto. Maggiori informazioni in <http://mt.lv/help> **LV. Lietošanas instrukcija:** Pievienojiet Strāvas adapteri, lai ieslēgtu ierīci. Atvērt 192.168.88.1 ar interneta pārlūku, lai konfigurētu produktu. Plašāka informācija <http://mt.lv/help> **LT. Naudojimosi instrukcija:** Prijunkite maitinimo adapterį jįjunkite įrenginį. Į interneto naršyklę 192.168.88.1 Atidarykite galite konfigūruoti gaminį. Daugiau informacijos rasite <http://mt.lv/help> **HU. Használati utasítás:** Csatlakoztassa a hálózati adaptert a készülék bekapcsolásához. Megnyitása 192.168.88.1 egy webböngészőben beállítani a terméket. Több információ <http://mt.lv/help> **NL. Handleiding:** Sluit voedingsadapter aan op het apparaat in te schakelen. Open 192.168.88.1 in een webbrowser om het product te configureren. Meer informatie in <http://mt.lv/help> **PL. Instrukcja obsługi:** Podłącz adapter zasilania, aby włączyć urządzenie. Otwórz 192.168.88.1 w przeglądarce internetowej, aby skonfigurować urządzenie. Więcej informacji w <http://mt.lv/help> **PT. Manual de instruções:** Conecte o adaptador de alimentação para ligar o aparelho. Abra 192.168.88.1 em um navegador da web para configurar o produto. Mais informações em <http://mt.lv/help> **RO. Instrucțiuni de utilizare:** Conectați adaptorul de alimentare pentru a porni aparatul. Deschide 192.168.88.1 într-un browser web pentru a configura produsul. Mai multe informații în <http://mt.lv/help> **SK. Návod na použitie:** Pripojte napájací adaptér k zapnutiu prístroja. Otvorte 192.168.88.1 vo webovom prehliadači pre konfiguráciu produktu. Viac informácií nájdete v <http://mt.lv/help> **SI. Navodila:** Priključite napajalnik za vklop naprave. Odprite 192.168.88.1 v spletnem brskalniku nastaviti izdelek. Več informacij v <http://mt.lv/help> **FI. Käyttöohje:** Kytke virtalähde päälle laitteen. Avaa 192.168.88.1 in selaimen määrittää tuotteen. Lisää tietoa <http://mt.lv/help> **SE. Instruktionsmanual:** Anslut nätadaptern för att slå på enheten. Öppna 192.168.88.1 i en webbläsare för att konfigurera produkten. Mer information på <http://mt.lv/help> **NO. Bruksanvisningen:** Koble strømadapteren for å slå på enheten. Åpne 192.168.88.1 i en nettleser for å konfigurere produktet. Mer informasjon på <http://mt.lv/help> **GR. εγχειρίδιο οδηγιών:** Συνδέστε τον προσαρμογέα τροφοδοσίας για να ενεργοποιήσετε τη μονάδα. Ανοίξτε 192.168.88.1 σε ένα πρόγραμμα περιήγησης στο Web για να διαμορφώσετε το προϊόν. Περισσότερες πληροφορίες στο <http://mt.lv/help>