Free worldwide spectrum!

No duty cycle limitations!

New MikroTik IoT products:

Internet of things has never been so affordable, yet powerful



wAP LR2 kit

Our newest out-of-the-box solution for LoRa® technology. Like the previous wAP LR kits, it contains a pre-installed UDP packet forwarder to any public or private LoRa® servers and an outdoor weatherproof wireless access point with 2.4 GHz WLAN interface and Ethernet port with PoE-in that could be used as a backend.

Here's the difference: this device works with the 2.4 GHz frequency for LoRa® as well. That means **significantly higher bandwidth, higher data rate, and less air time.** And because of the Chirp modulation technology, **it doesn't interfere with the 2.4 GHz WLAN signal!** A perfect solution for industrial setups with a high density of sensors.

There is a built-in 2 dBi WLAN / 4.7 dBi LoRa® antenna, but you can add an external antenna for extra coverage. We suggest using the TOF-2400-8V-4 Omni antenna for best results.

We've decided to keep the classic wAP form-factor that has been tested in many other MikroTik products – it can deliver excellent and stable performance in almost any weather conditions. Functional and non-intrusive design, astonishing durability, and great value remain at the core of this design.

The whole IoT community is exploring the 2.4 GHz LoRa® possibilities – join them and be among the first ones to benefit from the increased data rates.

R11e-LR2

A new Concentrator Gateway card for LoRa® technology in mini PCIe form – so you can create or customize your own 2.4 GHz IoT projects. It enables 2.4 GHz LoRa® connectivity for any MikroTik product that has a mini PCIe slot with connected USB lines.



It supports 4 different RX channels and 1 TX channel.

TOF-2400-8V-4 Omni antenna

For extra network coverage (up to 3-4km in the line of sight), we suggest adding an external 8dBi Omni antenna - the TOF-2400-8V-4.If necessary, this antenna can be used for any 2.4 GHz device. Not only it works with the 2.4 GHz LoRa® connectivity, it also supports the regular 2.4 GHz WLAN. It comes with a 1m long SMA cable and a mechanical holder for quick and easy mast attachment – when you need that extra network coverage. Compact size and increased durability without sacrificing the power – this antenna will get the job done.



See device specifications in the end of the brochure.

Take a look at some of our previous IoT products!

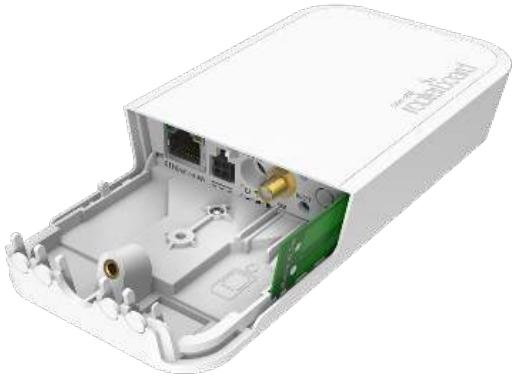
R11e-LR8/R11e-LR9

The classic Concentrator Gateway card for 863-870/ 902-928 MHz LoRa®. It is based on the Semtech SX1301 chipset, enabling LoRa® connectivity for any MikroTik product that has a mini PCIe slot with connected USB lines.



wAP LR8/LR9 kit

The original out-of-the-box solution to use gateway solution for 863-870/ 902-928 MHz LoRa®. This kit contains a pre-installed UDP packet forwarder to any public or private LoRa® servers and an outdoor weatherproof wireless access point with 2.4 GHz WLAN interface and Ethernet port that could be used as a backend.



868 Omni antenna

A 6.5 dBi Omni antenna for 824-960 MHz, 1 m long SMA cable, and mechanical holder for quick and easy mast attachment. The improved cable durability and the added IP66 water resistance with protection against powerful jets make this kit an excellent choice for all kinds of marine and coastal projects. A perfect match for the wAP LR8/9 and the KNOT LR8/9 kit!



KNOT LR8/LR9 kit

An out-of-the-box IoT Gateway solution for LoRa® technology. For ultimate versatility and cost-effectiveness. The first gateway with a CAT-M interface for LoRa®!
It features so many protocol support and connectivity options: 2.4 GHz wireless, Bluetooth, LoRa®, 2x 100 Mbps Ethernet ports with PoE-in and PoE-out, Micro-USB.
Maximum convenience at the lowest cost!



LtAP LR8 LTE kit

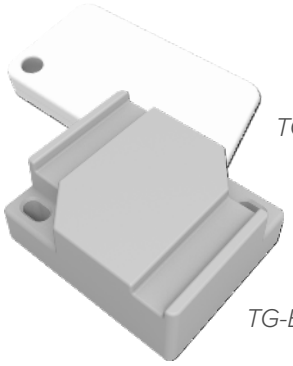
A compact all-in-one solution with LTE, GPS, and wireless support for LoRa® in a rugged heavy-duty case.
Inside the case, there is a powerful 2.4 GHz wireless access point with a Gigabit Ethernet port, built-in GPS, and two internal LTE antennas.
There are two miniPCIe slots – one is used for the LTE modem, the other one is populated with the concentrator gateway card for LoRa® technology.



There are three powering options: DC jack, PoE-in, and automotive. We have even seen users powering the LtAP with a 20 000 mAh power bank throughout the day! The three MiniSIM slots can be used to set up automatic switching between mobile operators. Very convenient if you have to cross the border regularly.

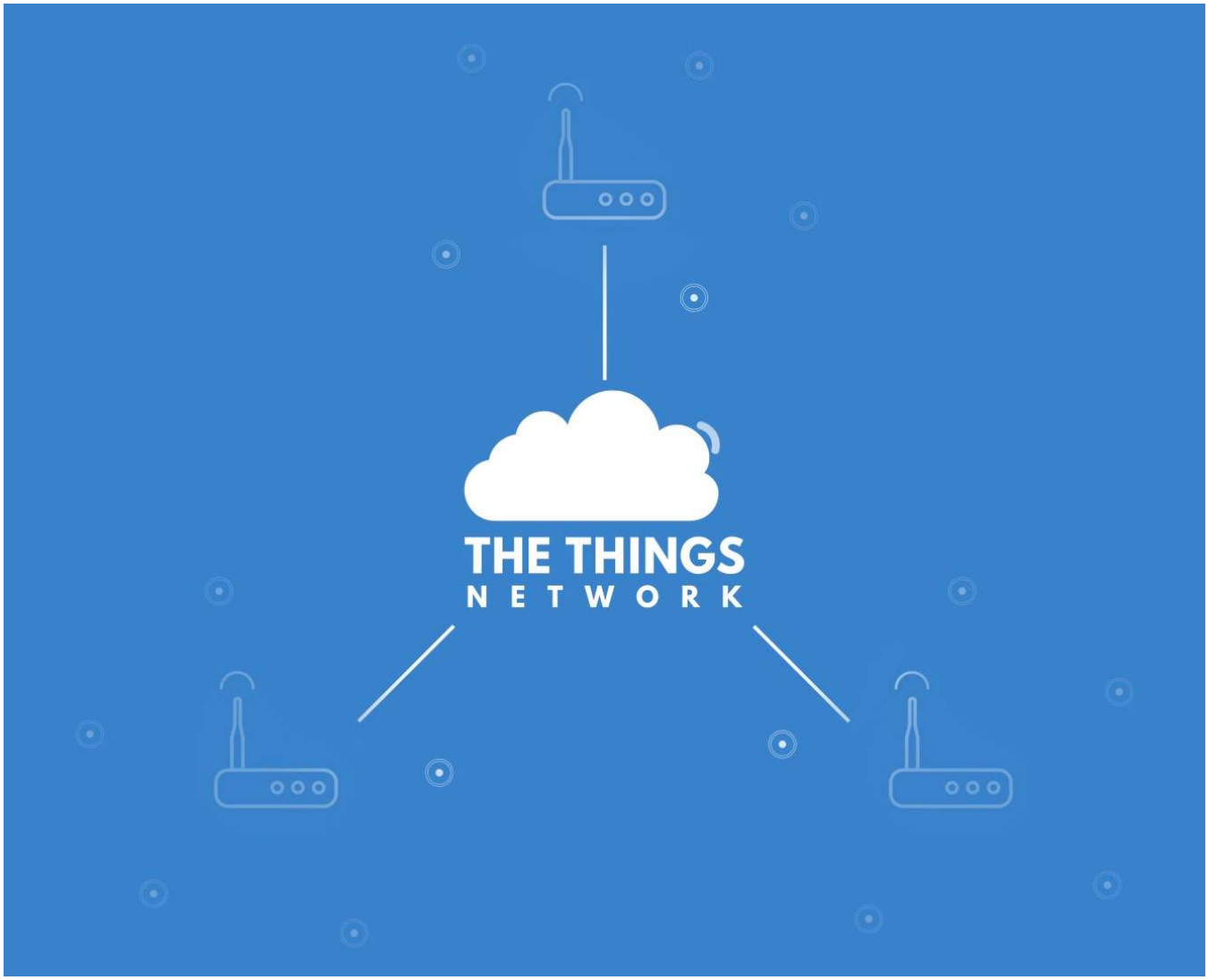
Indoor/outdoor Bluetooth tags for the MikroTik KNOT or other IoT asset-tracking/telemetry setups.

Built-in temperature sensors & accelerometer, built-in battery that will last for years. iBeacon, Eddystone, MikroTik telemetry format support.



TG-BT5-IN

TG-BT5-OUT



Our LoRa® are ready to work with "The Things Network" - the famous open source infrastructure that provides free LoRa® network coverage and has tons of apps for your needs. With the help of "The Things Network" you can get started with the Internet of things within a day. And it is easily upgradable to enterprise-grade network "The Things Industries".

Cattle tracking, smart irrigation, level monitors for liquids, smart pulse sensors and thermostats, smart parking and so on – the possibilities are endless. And the setup is so easy, anyone can learn it. There is a large community of developers and enthusiasts all around the globe – you will never be alone with your questions and ideas regarding the LoRa® network. No need to reinvent the wheel – join "The Things Network" to save time and energy with smart solutions!

With this product family we aim to provide the most affordable LoRa® solution to date without compromising quality or performance.

wAP LR2 kit specifications



Product code	RBwAPR-2nD&R11e-LR2
CPU	QCA9531 650 MHz
Size of RAM	64 MB
Number of 100M Ethernet ports	1
MiniPCIe slots	1
Wireless	Built-in 2.4 GHz 802.11b/g/n, dual-chain
Antenna gain	2 dBi (WiFi) 4.7 dBi (LoRa®)
Antenna beam width	360°
Supported input voltage	9 V - 30 V (PoE-in)
Dimensions	185 x 85 x 30 mm
Operating temperature	-40°C to +60°C
Operating system	RouterOS, License level 4
Max power consumption	8 W

Wireless specifications

Rate (2.4 GHz)	Tx (dBm)	Rx (dBm)
1MBit/s	22	-96
11MBit/s	22	-89
6MBit/s	20	-93

Rate (2.4 GHz)	Tx (dBm)	Rx (dBm)
54MBit/s	18	-74
MCS0	20	-93
MCS7	16	-71

R11e-LR2 specifications



Product code	R11e-LR2
LoRa band	2.4 GHz
Tx chain number	1
Rx chain number	4
Support class	A and C
TX/RX channels	2403 MHz, 2425 MHz, 2450 MHz, 2479 MHz
RF Output power	10 dBm
Operating temparature	-40°C to +70°C

TOF-2400-8V-4 Omni antenna specifications



Product code	TOF-2400-8V-4
Frequency	2400 - 2500 MHz
Gain	8 dbi
Horizontal beamwidth	360°
Vertical beamwidth	18°
Nominal impedance	50 Ω
Lightning protection	DC ground
Connector	SMA female
Weight	0,6 kg
Dimensions	Ø 25 x 550 mm
Mast diameter	Ø 40 x 50 mm