



MUM Indonesia

October 2018



What do we do?

We create networks



- Established 1996
- RouterOS created in 1997
- RouterBOARD created in 2002
- First MUM event in Prague 2006
- MUM in Indonesia had over 3100 people
- 25 events in 2017



LATVIA

Our products include

RouterOS

built and advanced for more than 20 years

RouterBOARD

Wireless outdoor, indoor, Ethernet routers

CRS

Switches with RouterOS

CSS

Switches with SwOS

More than 180 MUM events around the world





STAFF

Look for MikroTik staff in the red t-shirts

Arnis Riekstiņš (CTO)

Edmunds Aperāns (sales, training)

Artūrs Cīrulis (support)

Pauls Jukonis (support)

Agenda (Main Hall)

| | Day 1 | Day 2 |
|---------------------------|--------------|--------------|
| Presentations | 9:00 | 9:00 |
| Lunch with tickets | 12:00 | 12:00 |
| Presentations | 13:30 | 13:30 |
| Lottery | | 17:00 |

Agenda (Breakout Hall)

Day 1 - Presentations 13:30 - 16:30

Day 2 - Presentations 09:00 - 12:00

mum.mikrotik.com

WiFi

SSID: MUM20 | 8-faster

MUM Live

www.youtube.com/mikrotik

Special thanks



Some of our latest products

1 Gbit
over wireless

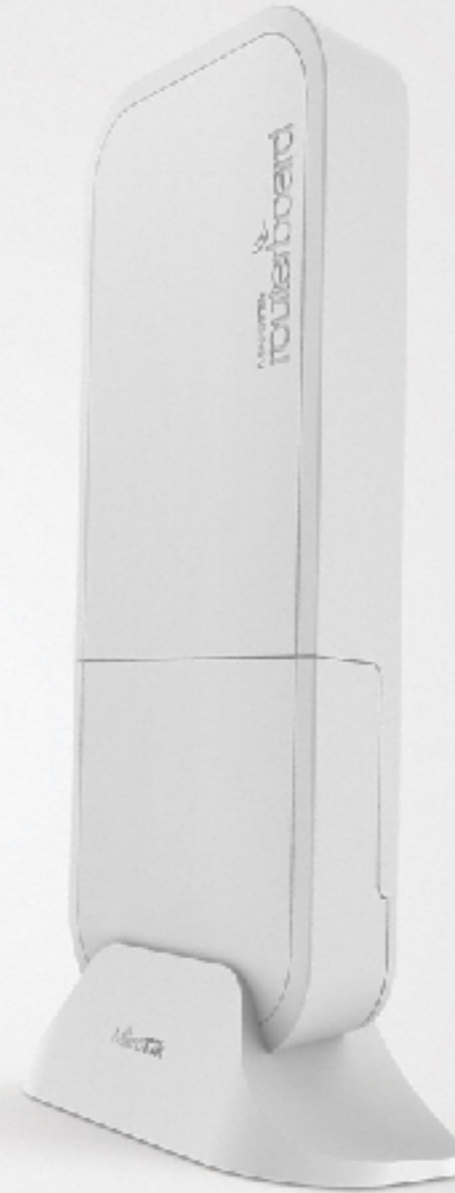
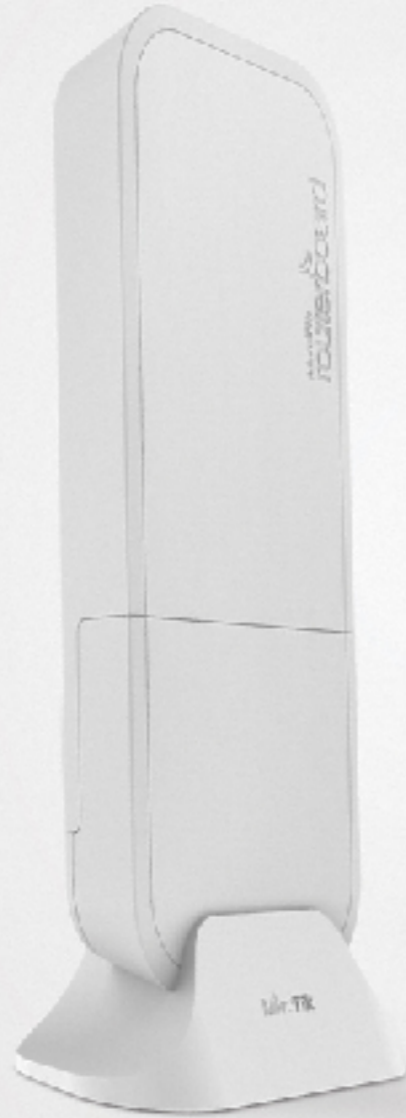
100m+
range

60GHz
radio

Gigabit
Ethernet

Paired
Secure Link
pre-configured

Powered by
IEEE 802.3af/3at Passive
PoE, DC Jack



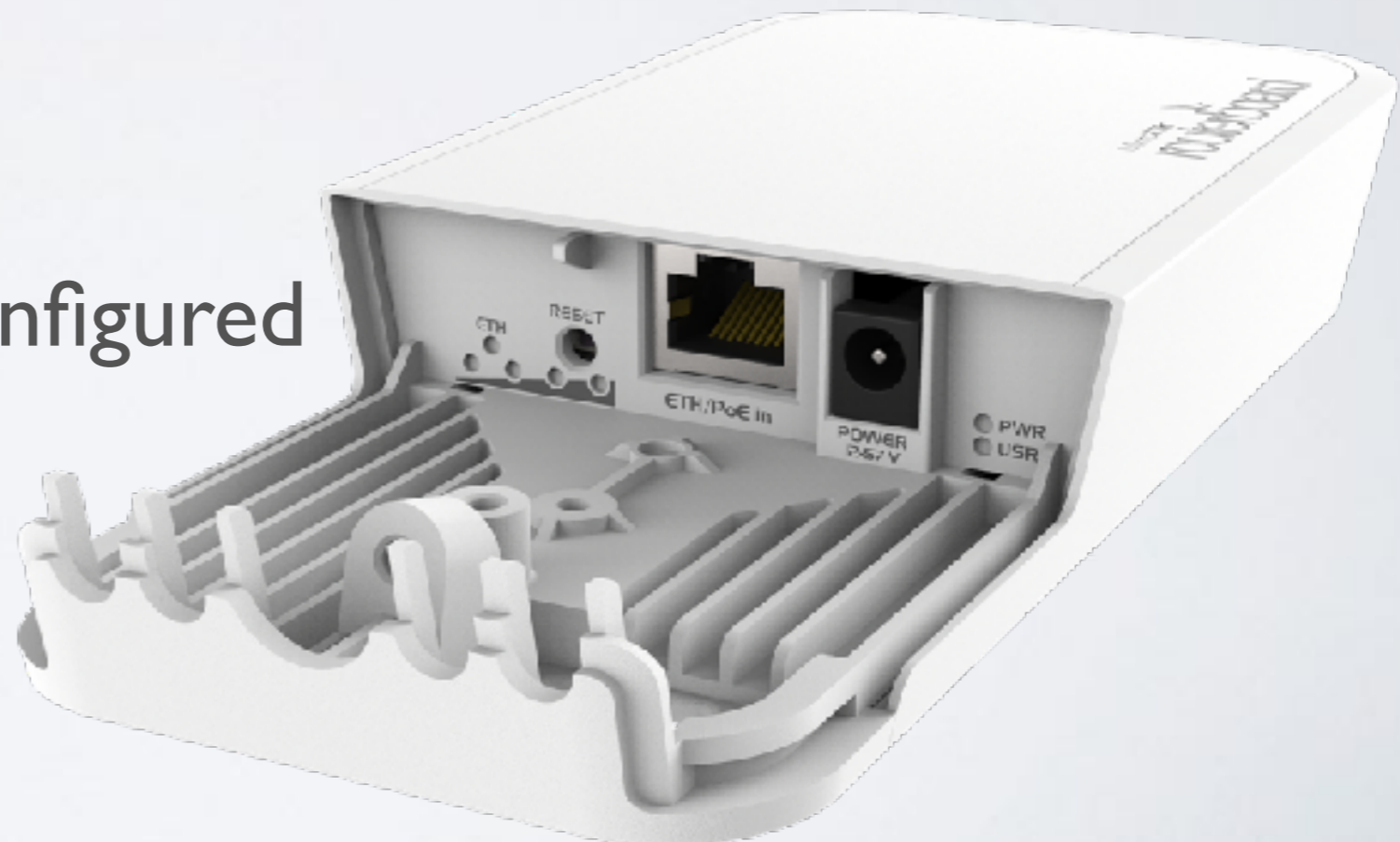
MikroTik

Wireless Wire

Wireless Wire

NOW

- 1 Gbps full duplex without wires
- For distance 200 meters +
- 60 GHz beam-forming
- Paired secure link preconfigured
- IPsec encryption
- \$198 kit



Wireless Wire Dish

Two LHG60G devices for long range | Gbit

LHG 60G

NOW

- 1 Gbit full duplex (wire speed)
- Works in 60 GHz spectrum
- Familiar LHG design
- Quad-core ARM CPU
- Low cost and low weight
- Targeted for 1.5 km and more!
- IPsec encryption
- Kit price \$298



SXTsq Lite60

NOW

- 100 Mbps
- SXTsq design
- Low price
- 60 degrees angle
- 200+m
- \$69



MikroTik 60GHz Products

PTP Link Distances at Full Speed

| | | |
|---------------------|---------------------|---------------------|
| LHG 60G | 1500+ meters | LHG 60G |
| wAP 60G | 200+ meters | wAP 60G (AP) |
| LHG 60G | 800+ meters | wAP 60G AP |
| LHG Lite60 | 800+ meters | wAP 60G AP |
| SXTsq Lite60 | 200+ meters | wAP 60G AP |

LtAP mini

NOW

- 2.4 GHz AP in a rugged case
- miniPCle for LTE
- Built-in GPS
- Optional external antennas for GPS and LTE
- Serial port
- Perfect for outdoor and mobile applications





Available now

- 89\$ without module
- 129\$ with LTE (US version available) module

hAP ac²

NOW

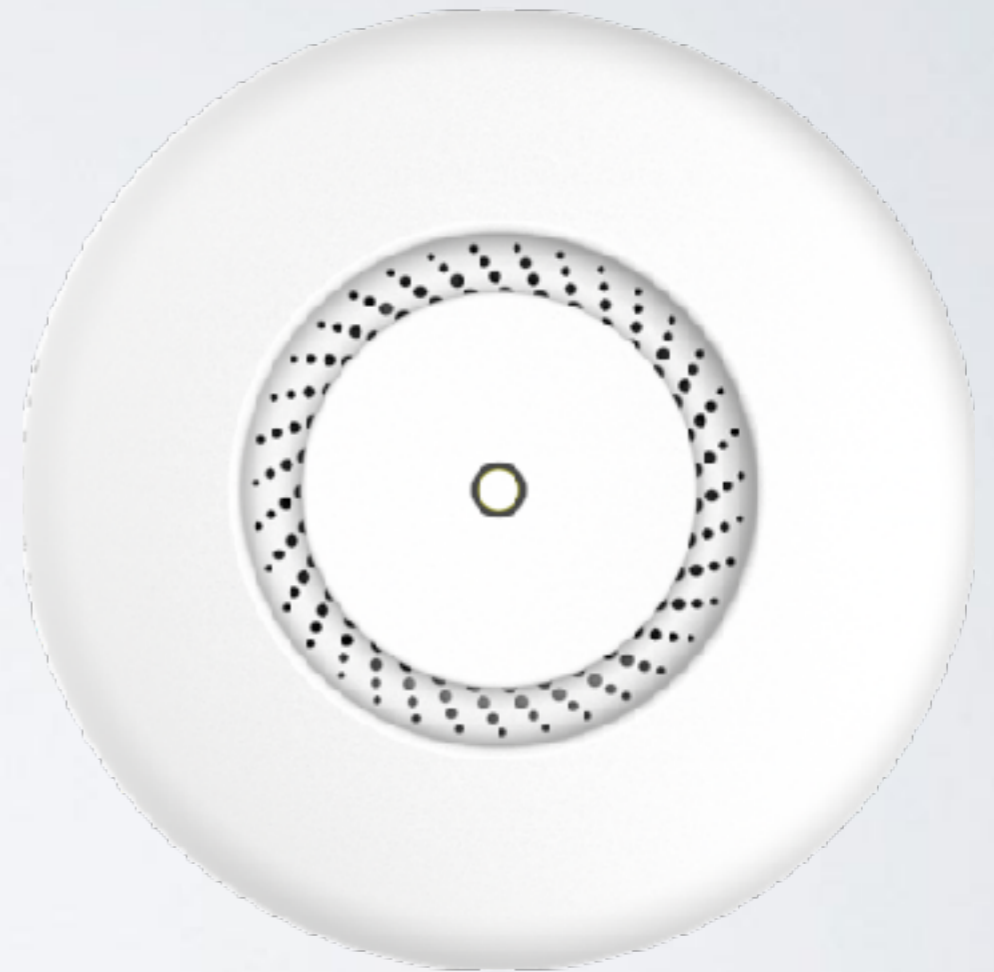
- Gigabit ports
- Dual chain, dual band
- Wall mount or stand
- Same small size as "lite" model
- Kit price \$69



cAP ac

NOW

- Dual band, dual chain
- Gigabit port for 802.11ac speeds
- Two Ethernet ports
- PoE out
- Two cases included
- IPsec encryption
- Kit price \$69



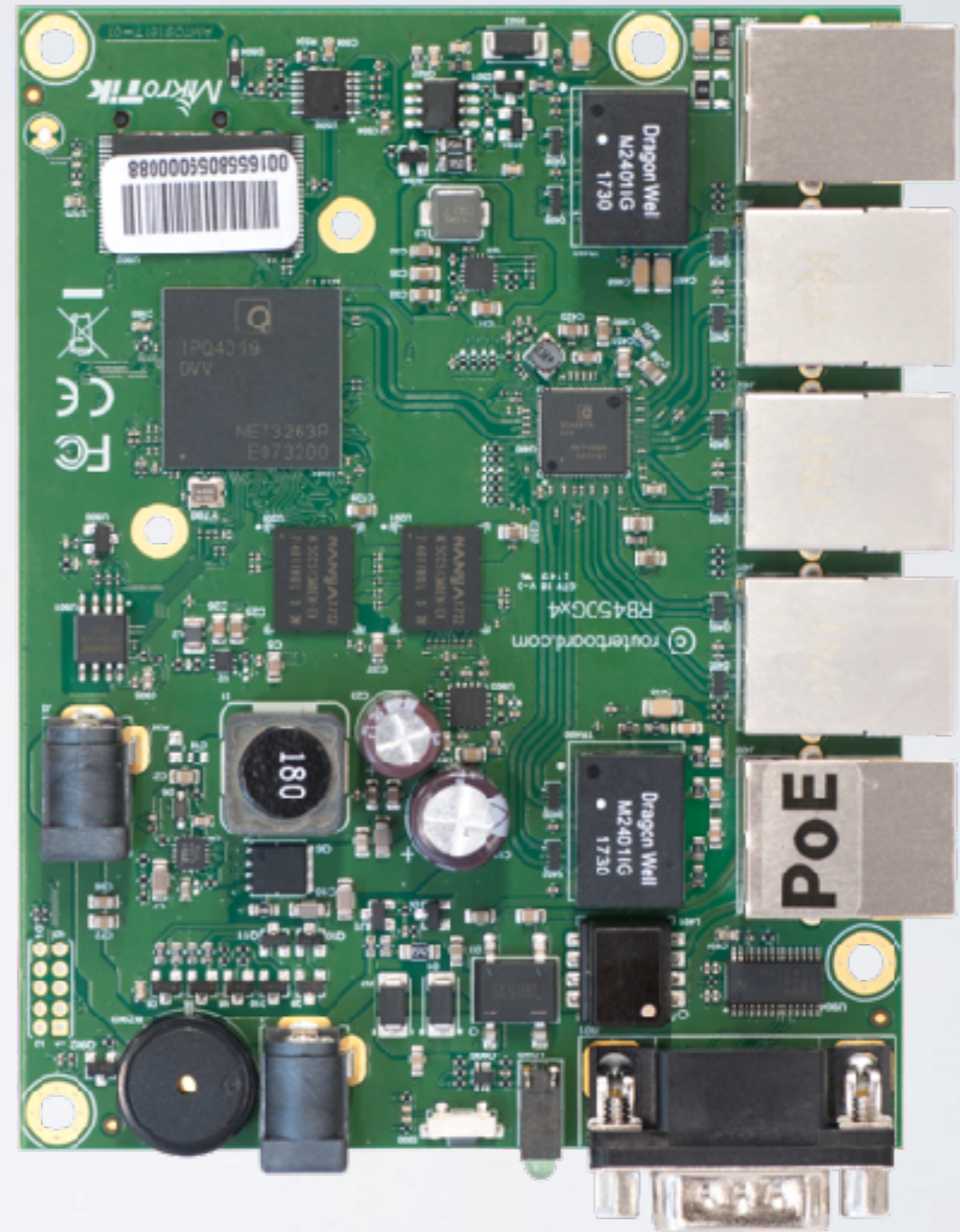




450Gx4

NOW

- Quad core 716 MHz
- 1 GB of RAM
- IPsec encryption
- PoE out on ether5
- microSD
- 10V - 57V input by two power jacks
- Price \$99



hEX S

NOW

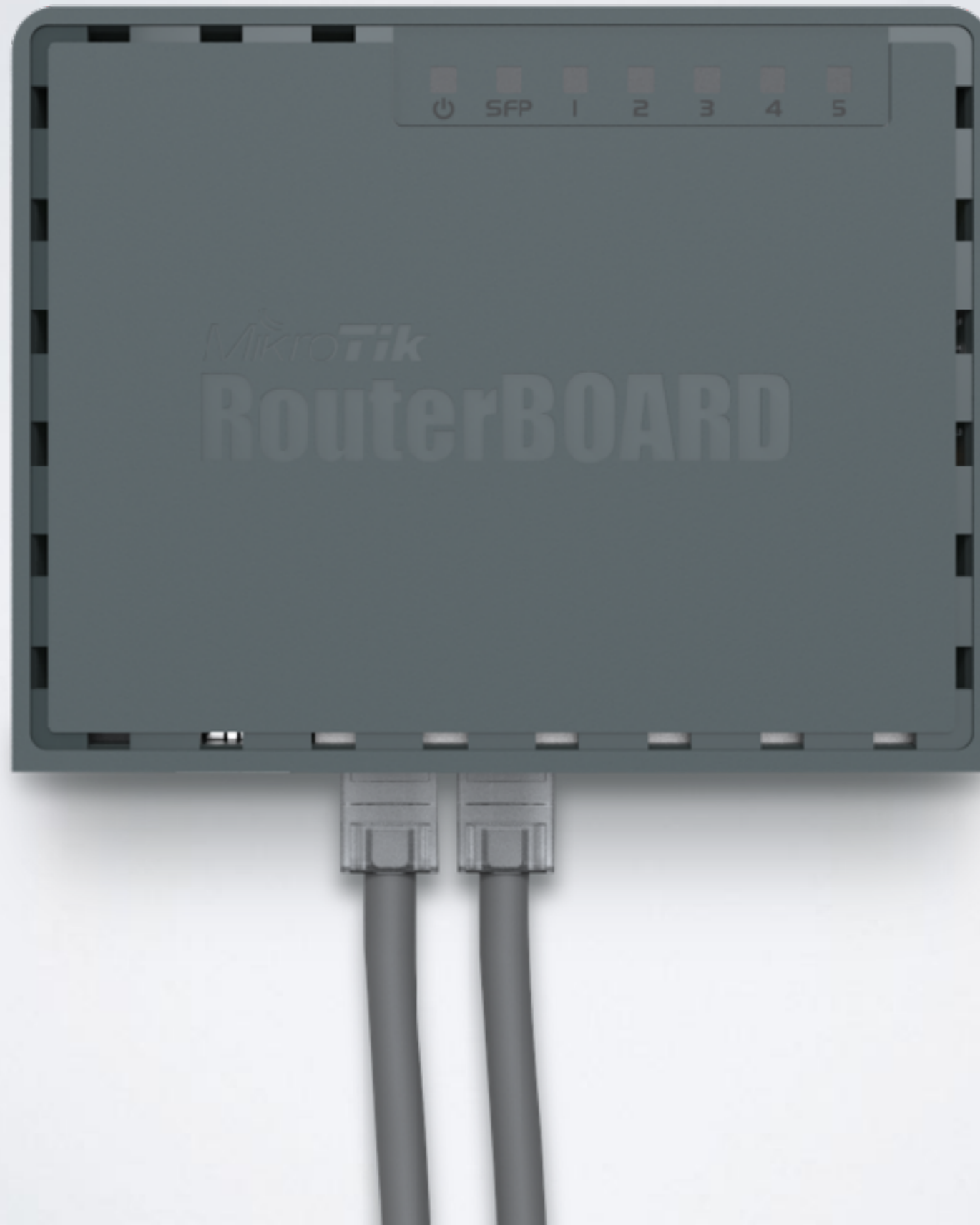
- Dual-core 880 MHz
- 256 MB of RAM
- Full size USB
- 1.25 Gbps SFP
- 10V - 57V input and PoE
- IPsec encryption
- Kit price \$69



hEX S



hEX S



SXTsq Lite 2

NOW

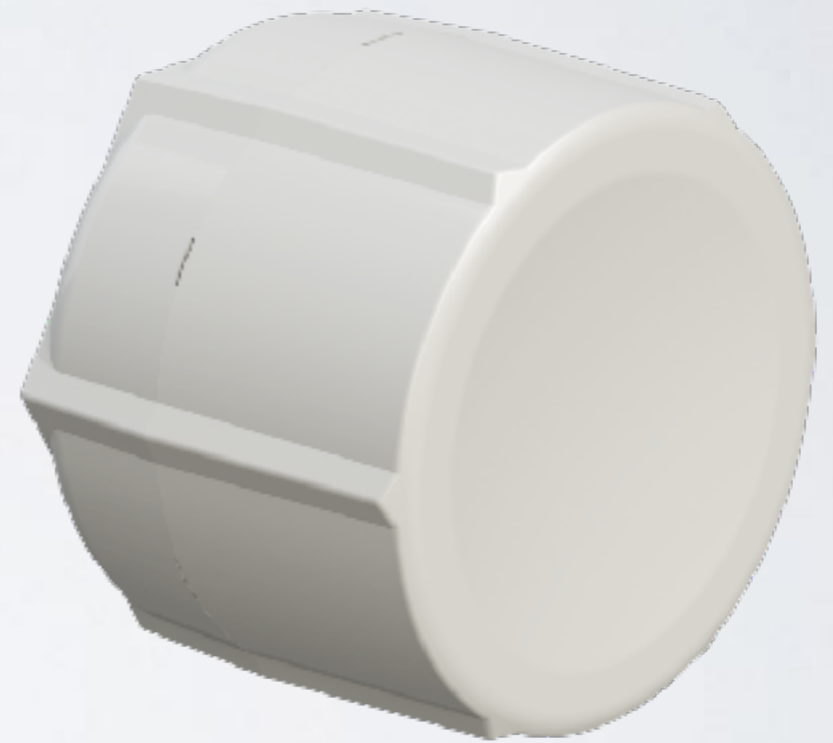
- 2 GHz CPE
- Slim design
- Low price
- Kit price \$39



SXT LTE kit

NOW

- Dual SIM
- LTE card built in
- 2x Ethernet
- PoE output on ether2
- International LTE bands 1,2,3,7,8,20,38 and 40
- US bands 2,4,5 and 12
- Kit price \$129



LDF 2

NOW

- 2 GHz CPE
- Mounts in regular satellite dish
- Ultra long range
- Kit price \$39



NOW



CRS328-4C-20S-4S+RM

- 20x SFP ports
- 4x ETH/SFP combo ports
- 4x SFP+ ports
- Dual PSU
- Kit price \$369

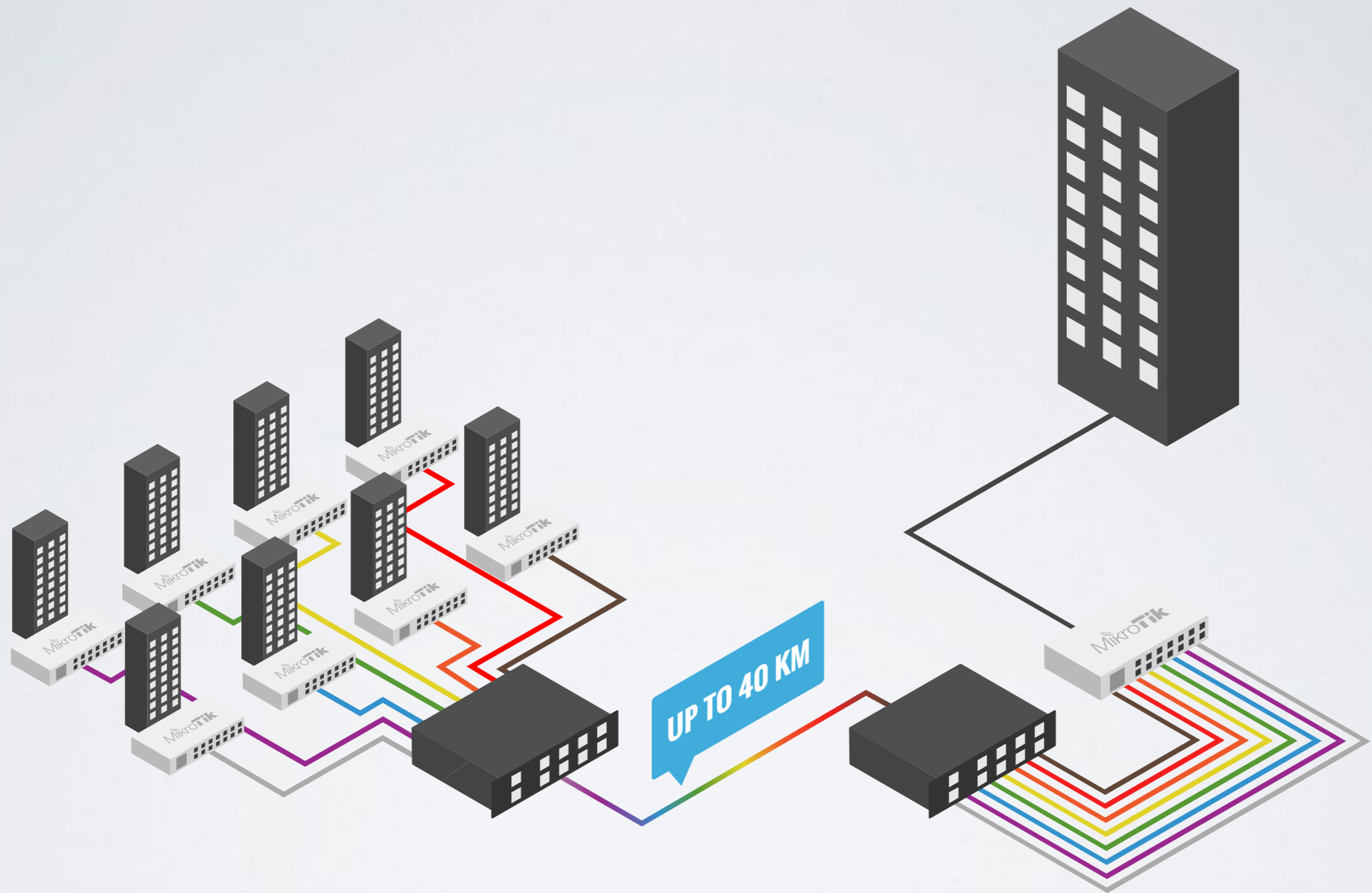
CWDM

NOW

- Passive MUX/DEMUX unit
- Combine up to eight Fiber links into one
- Supports both SFP and SFP+
- Price \$359



CWDM



Base Box 6

- 6GHz
- RB912 inside
- 2 SMA connectors
- License 4
- Price \$69



RouterBOARD 4011

NOW



RouterBOARD 4011

NOW

- 4 Core Cortex A15 CPU
- 10 Gigabit SFP+
- IPSec Hardware acceleration
- 1GB RAM
- PoE Out
- Price \$199/\$249



RouterBOARD 4011

NOW



RouterBOARD 4011

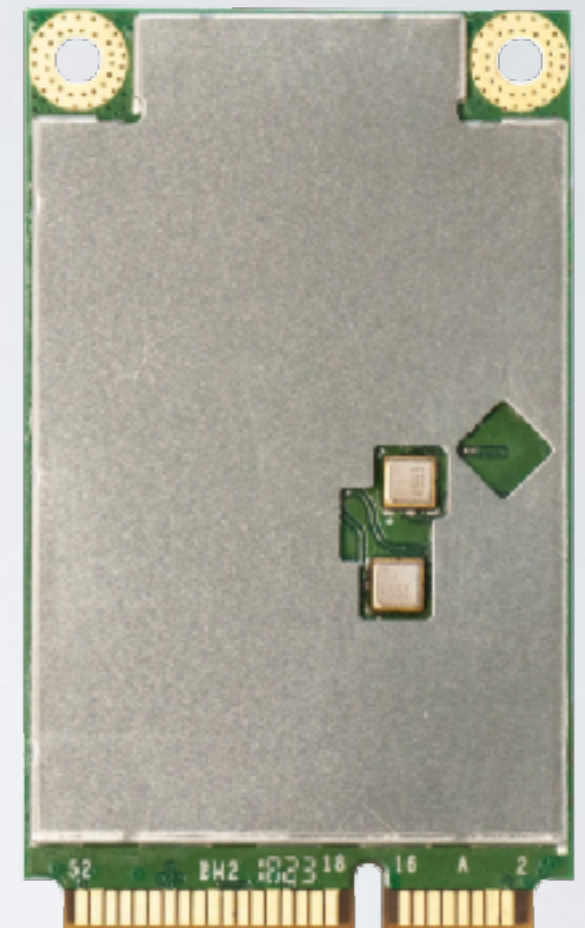
NOW

- 2 Chains for 2GHz, 802.11 b/g/n
- 4 Chains for 5GHz, 802.11 a/n/ac
- 160 MHz channel width
- 1733 Mbps + 300 Mbps data rates



R11e-4G

- 4G Modem (no 2G/3G)
- 4 Category (150Mbps/50Mbps)
- 3,7,20,31 FDD bands
- 41n,42,43 TDD bands



LHG LTE kit



- LTE built-in modem
- 17 dBi, 25 angle
- 4 category (150Mbps/50Mbps) LTE
- 3G - R7/R8
- For long distances

LHG LTE kit



mANTBox2 12s

- 2 GHz sector antenna
- 12 dBi
- RouterBOARD built-in



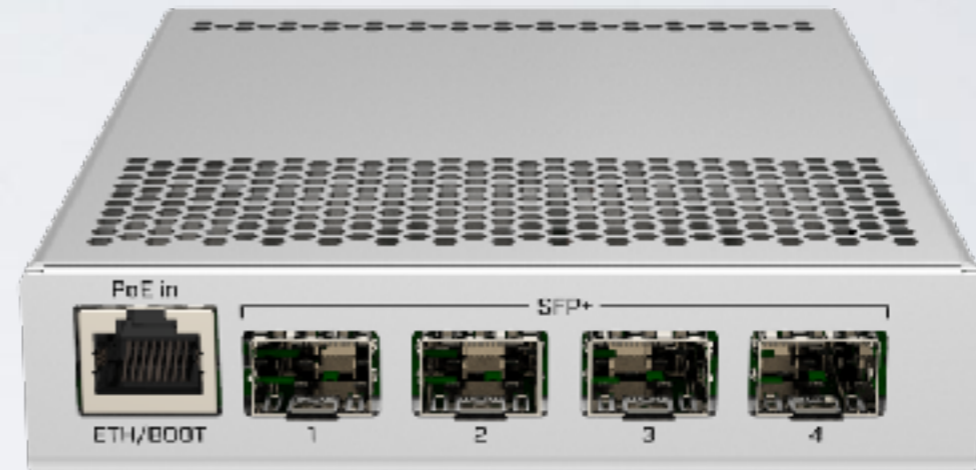
PWR-Line AP

- Small AP that directly plugs into socket
- Makes 100 Mbps links with others like it
- Build WiFi network without special cabling
- Automatically pairs with new devices



CRS305-1G-4S+IN

- 4x SFP+ ports
- 1x Gigabit Ethernet
- Metallic enclosure
- Dual DC jacks

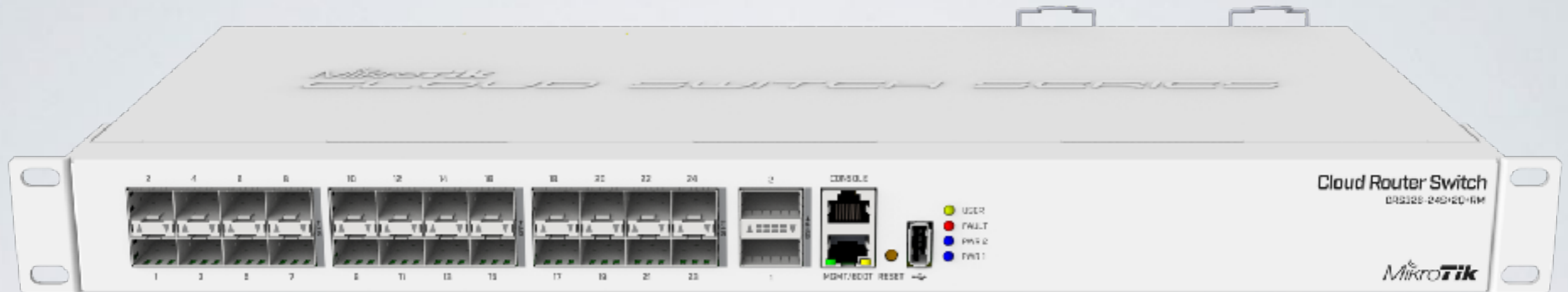


Some of our upcoming products

CRS309-1G-8S+PC

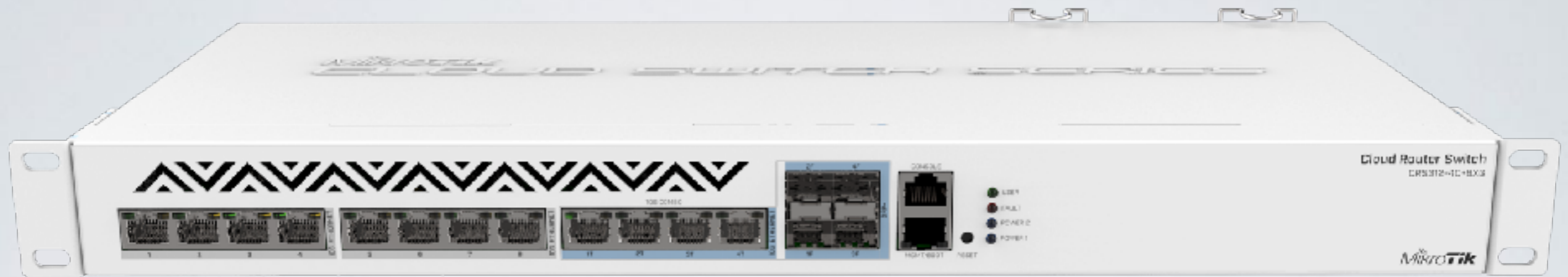
- 8x SFP+ ports
- 1x Gigabit Ethernet
- Silent case





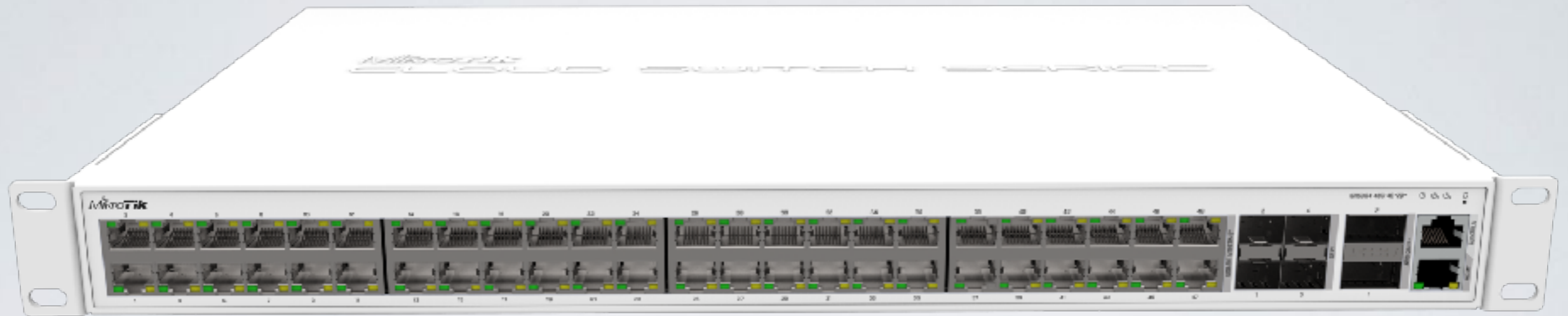
CRS326-24S+2Q+RM

- 24x SFP+ for 10 Gbit connections
- 2x QSFP ports for 40 Gbit connections
- RJ45 console and ETH management
- USB port, Dual PSU



CRS3 12-4C+8XG

- 8x 10G Ethernet ports
- 4x 10G Ethernet / 10G SFP+ combo ports
- Console and management ports
- Dual PSU



CRS354-48G-4S+2Q+

- 48x Gigabit ports
- 4x SFP+ for 10 Gbit connections
- 2x QSFP ports for 40 Gbit connections

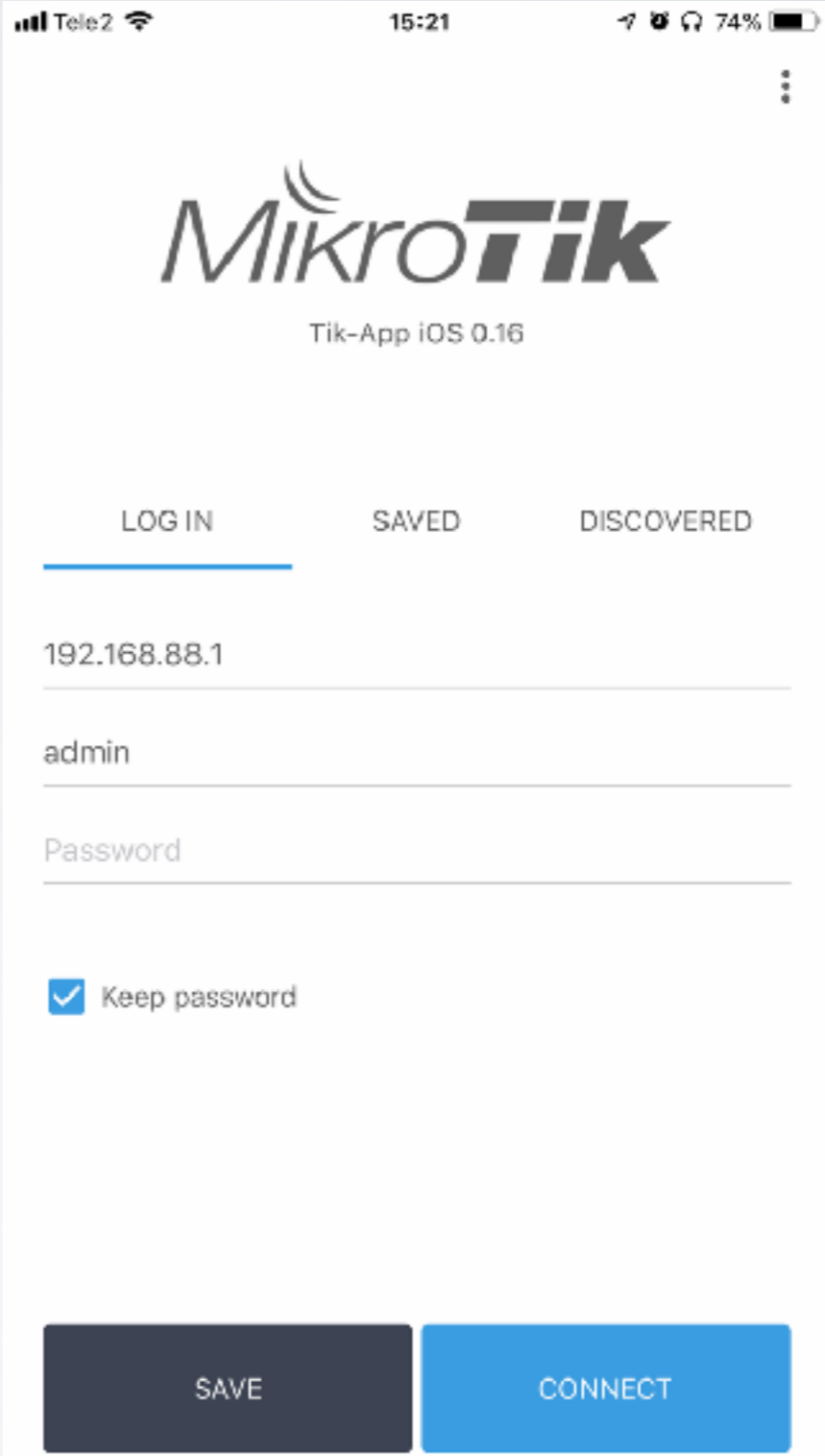


CRS354-48P-4S+2Q+

- 48x Gigabit ports with PoE out
- 4x SFP+ for 10 Gbit connections
- 2x QSFP+ ports for 40 Gbit connections

MikroTik App iOS

- Public Beta out now!
- Auto-Configuration
- Simplified interface
- support@mikrotik.com



Tele2 15:21 74%

MikroTik
Tik-App iOS 0.16

LOG IN SAVED DISCOVERED

192.168.88.1

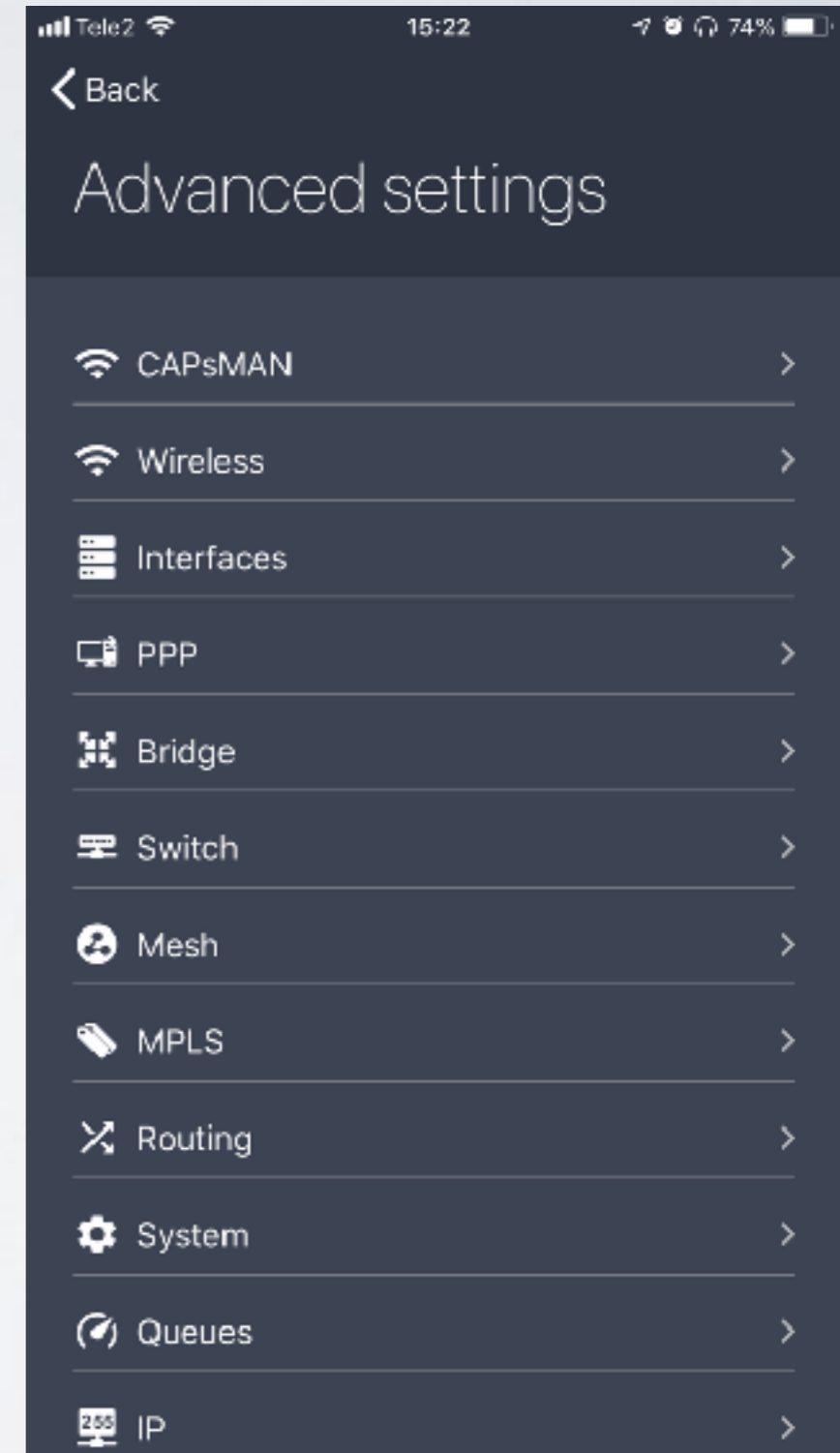
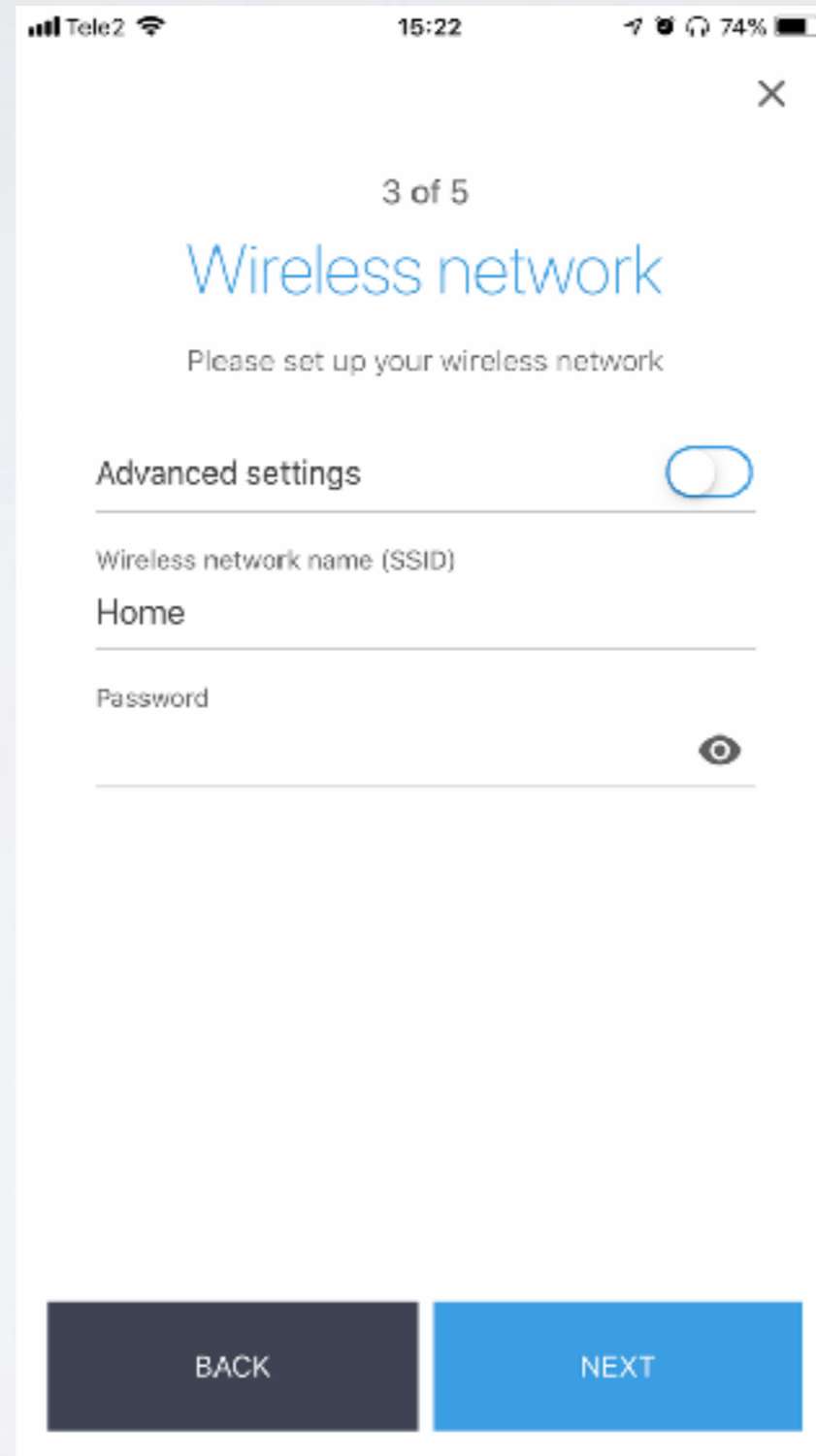
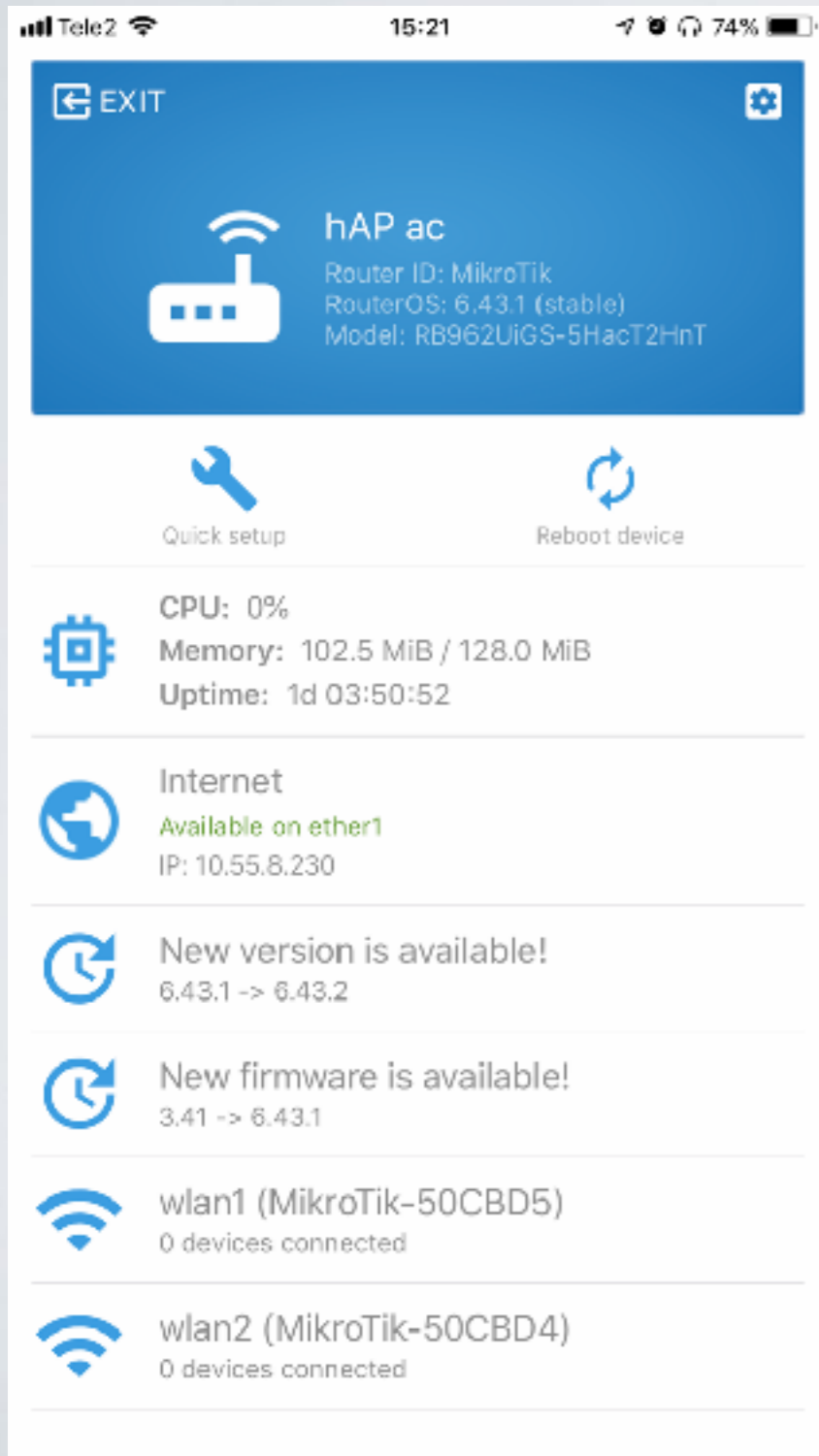
admin

Password

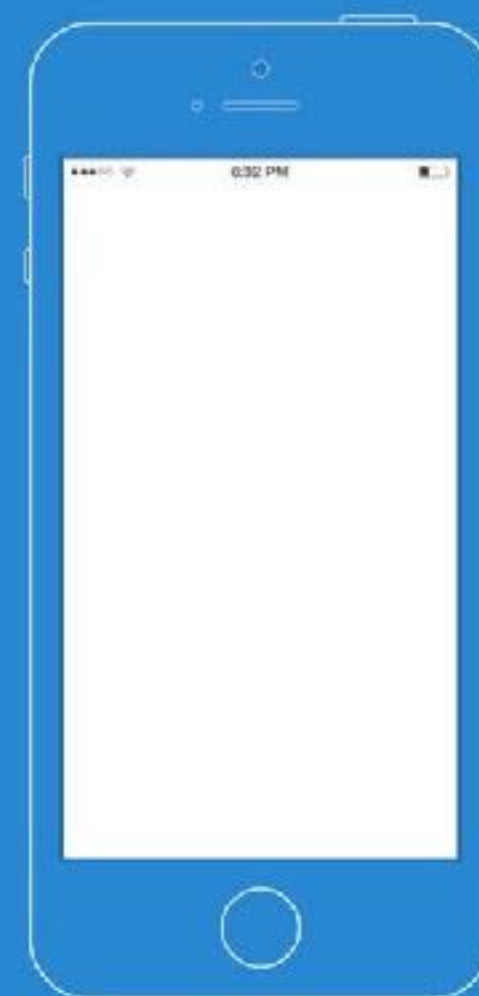
Keep password

SAVE CONNECT

MikroTik App iOS



MikroTik Tik-App iOS beta invite



60GHz Improvements

- Major received signal sensitivity improvements
- Maximum reachable distance improvements (up to 4 KM at full speed)
- Decreased re-connection times on lost connection
- PtMP performance improvements
- Added hardware stats [`/interface w60g print stats`]

60GHz Improvements

== September 27 v6.42.9 ==

*) Performance and stability improvements

== August 10 v6.42.7 ==

- *) Stability and rate search improvements
- *) PtMP improvements

== June 27 v6.42.5 ==

- *) Stability improvements
- *) w60g SNMP improvements

60GHz Improvements

== September 20 v6.43.2 ==

- *)Major received signal sensitivity improvements
- *)LHG60G can reach up to 4000 m distances (depending on used frequency)
- *)PtMP improvements

== September 10 v6.43 ==

- *) Added beam forming stats counters

Need help?

- Ask a local distributor
- Hire MikroTik consultant
- Read the manual wiki.mikrotik.com
- Email support@mikrotik.com
- Attend a training class or join and Academy class in a University

After the MUM

- All presentations - mum.mikrotik.com
- Videos - youtube.com/mikrotik
- License for paid and voucher registrations will be sent by an e-mail

The logo for MikroTik, featuring the word "MikroTik" in a stylized, italicized font. The "i" in "Mikro" has a unique symbol above it consisting of three curved lines. The "Tik" part is in a bold, blocky font. The entire logo is reflected on a glossy surface below it.

MikroTik