

More than 150 MUMs  
all around the world





- Established 1996
- RouterOS created in 1997
- RouterBOARD created in 2002
- First MUM event in Prague 2006
- MUM in Indonesia had 2500 people
- 34 events in 2016



**MikroTik**

**LETONIA**

Edmunds Aperans (sales)  
Kaspars Krampis (training)  
Sergejs Boginskis (support)



STAFF

# Horario

9:00AM	Presentaciones
12:00PM	Almuerzo (con vouchers)
1:30PM	Presentaciones
6:15PM	Sorteo (lottery)
	Bebidas (GRATIS)

**[mt.lv/agenda](https://mt.lv/agenda)**

WiFi

**SSID: MUM\_Ecuador\_2017**

**Password: mikrotik**

MUM live

[www.youtube.com/mikrotik](http://www.youtube.com/mikrotik)

¡Muchísimas gracias!



Altala



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

# cAP lite

- Small and light 2.4GHz AP
- Case can be changed
- Print your own cases
- Perfect for hotel, public areas and extending networks in your house





# hAP mini

- Tiny 2GHz AP with three ports
- Upright design in new colours
- Only 8cm tall
- Two LAN ports, one WAN
- Configure differently if needed



# hAP mini

8cm

hAP mini



hAP lite

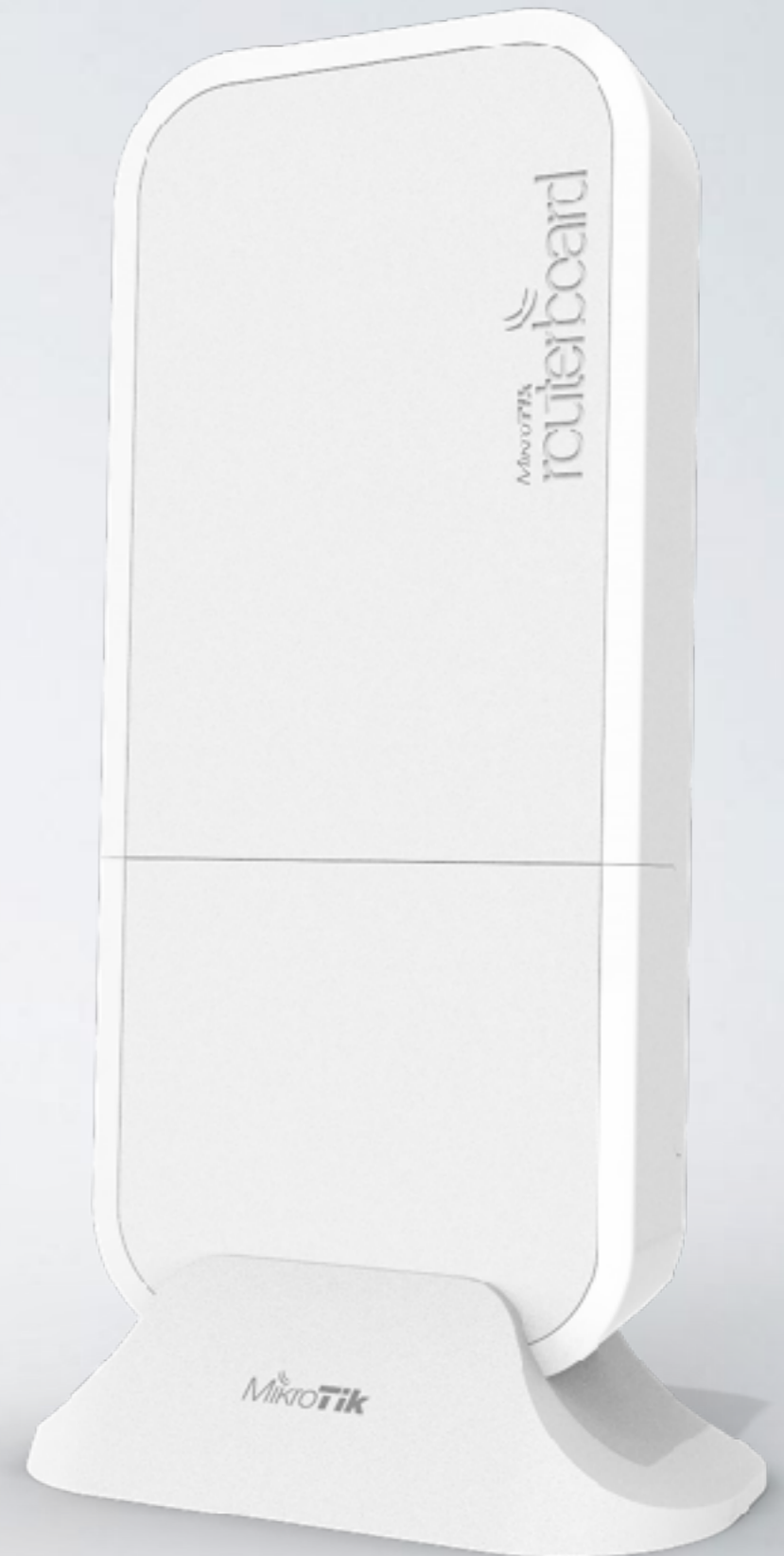
# DynaDish 6 and SXT 6

- Great for use in less used 6GHz spectrum
- Same familiar designs



# wAP LTE kit

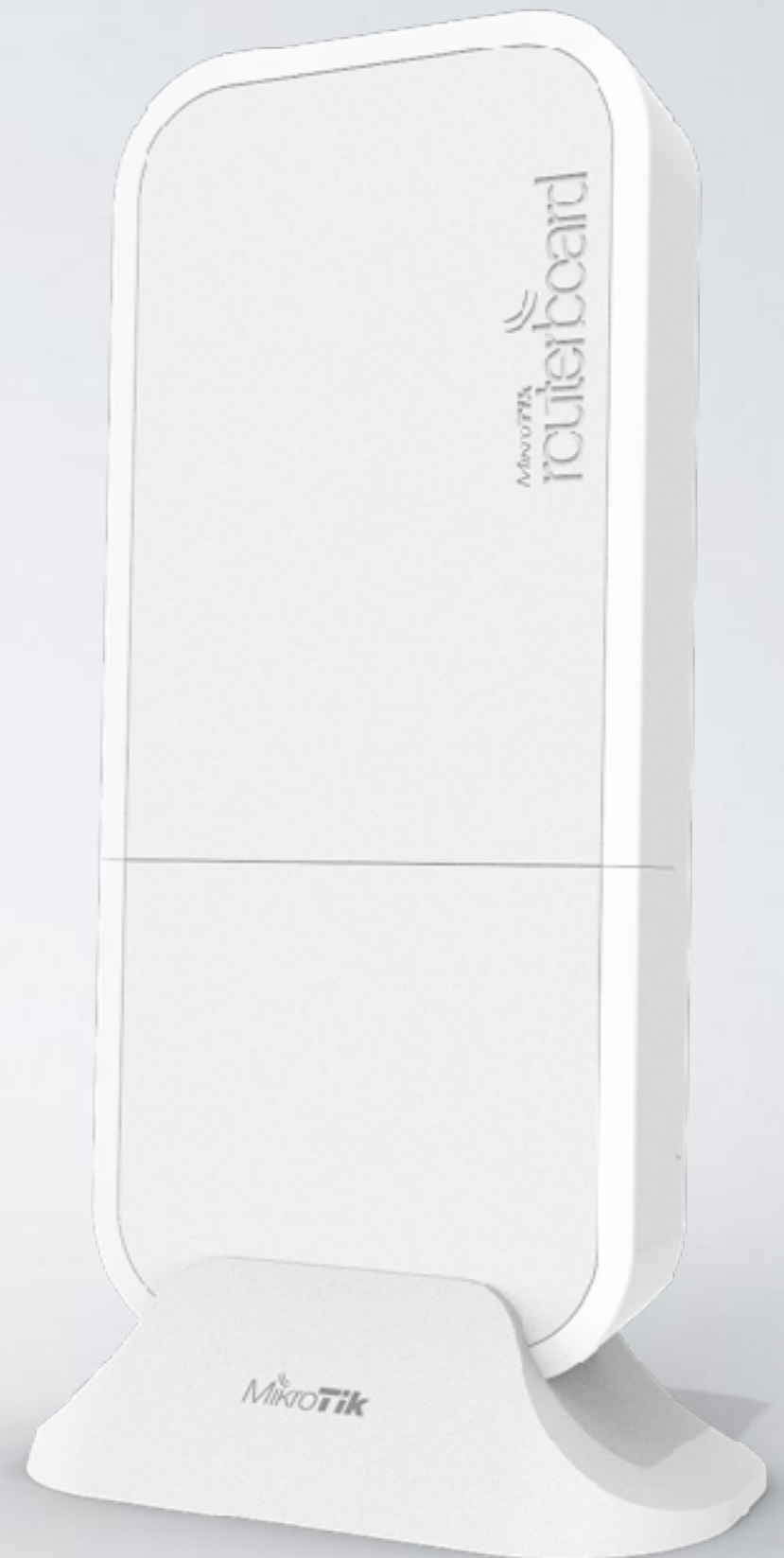
- Wireless AP for LTE
- EU/Int version supports LTE bands 1,2, 3, 7, 8, 20, 38, 40
- 2G, 3G, LTE supported
- Optional external antennas
- Comes with a stand mount





# wAP LTE kit (US)

- Wireless AP for LTE
- US version supports LTE bands 2, 4, 5, 12
- 3G, LTE supported
- Optional external antennas
- Comes with a stand mount



# LtAP mini

- 2.4GHz AP in a rugged case
- miniPCle for LTE
- Built in GPS
- Serial port for other devices
- Perfect for cars or outdoor mobile applications





# LtAP

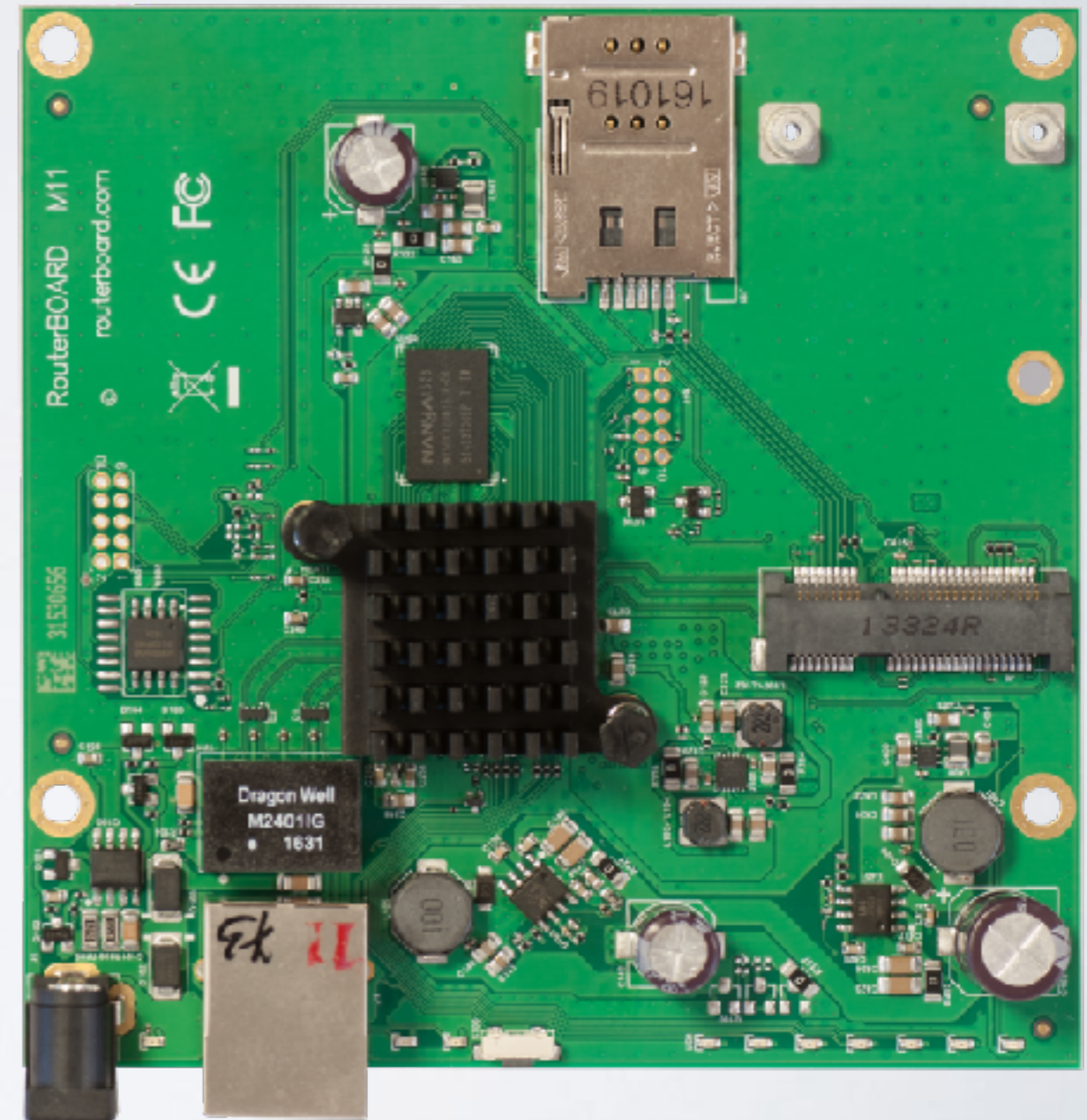
- 2x miniPCle
- Built in 2.4GHz AP
- MMIPS Mediatek CPU 880MHz
- 2x MMCX connectors
- Built in GPS





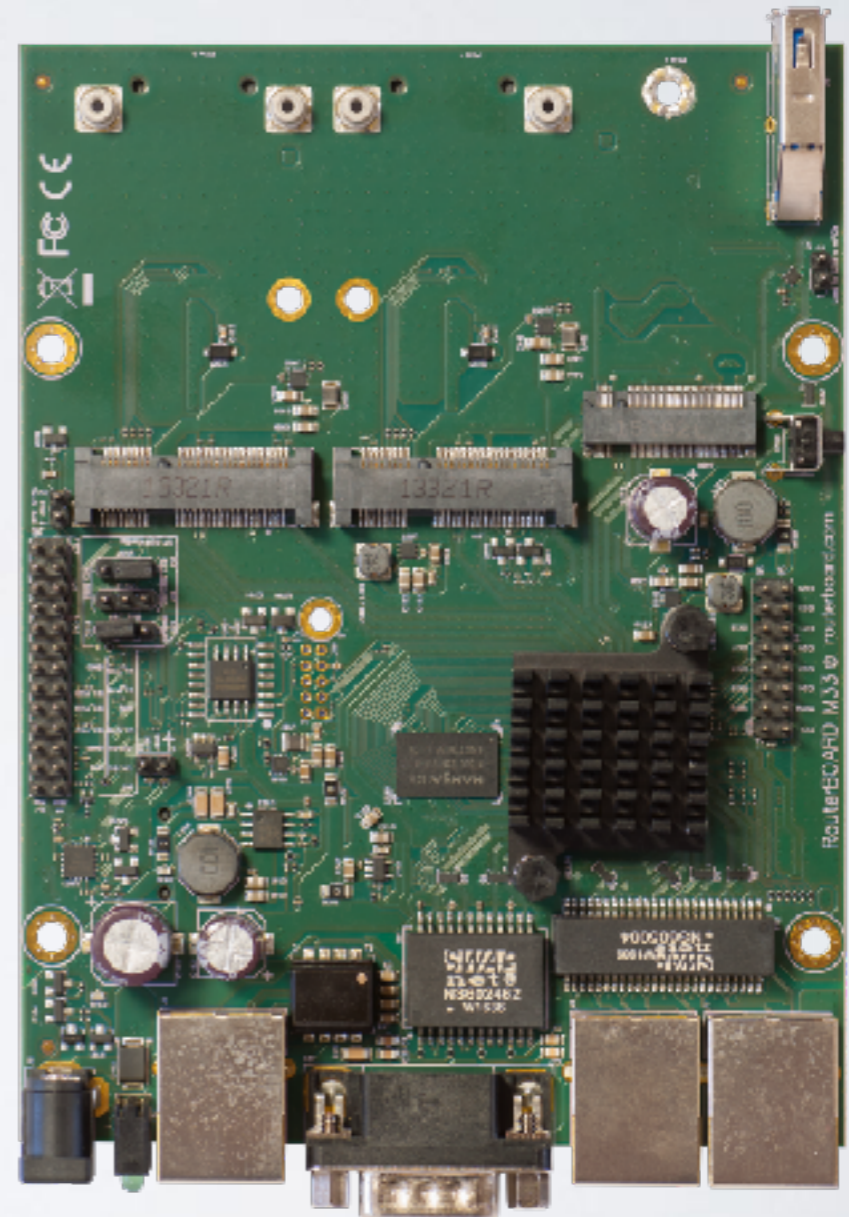
# M11

- Four core 880MHz CPU
- 1 miniPCle slot
- 1 Gigabit ethernet
- Upgrade for RB411



# M33

- Four core 880MHz CPU
- 3 Gigabit ethernet
- 2 miniPCle slots
- 1 M.2 slot
- USB 3.0 and serial port
- Upgrade for RB433



# PowerBox Pro

- Gigabit ethernet ports
- PoE output for your CPEs
- Same as hEX PoE
- Supports 802.3af/at
- SFP for fiber to the tower (FttT)
- Improved design





# wsAP ac lite

- Mount into standard EU or US electrical sockets
- Dual band ac (2.4 and 5GHz)
- Phone jack passthrough
- Two LAN ports
- USB for charging cell phones









CSS326-24G-2S+RM

Multiport SwOS switch

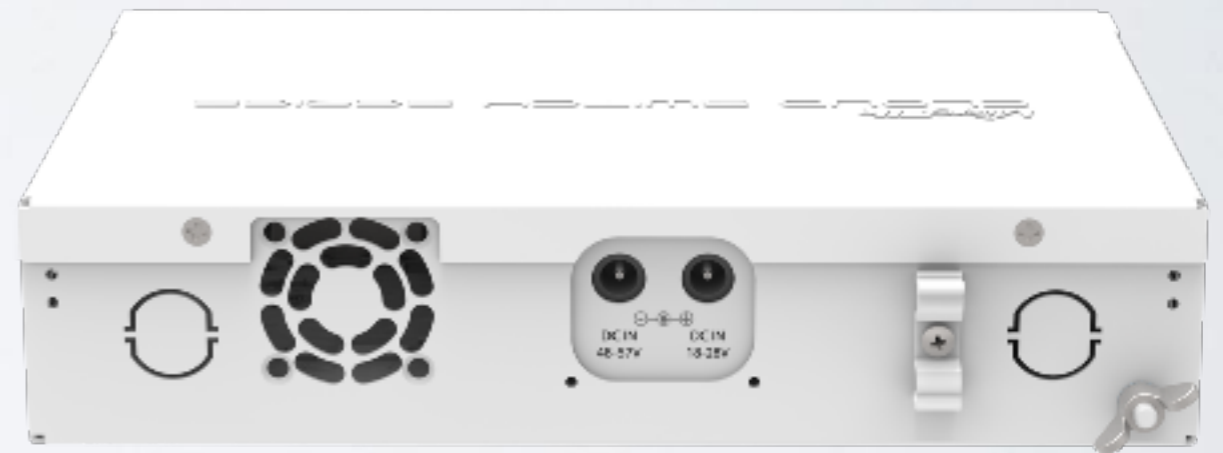
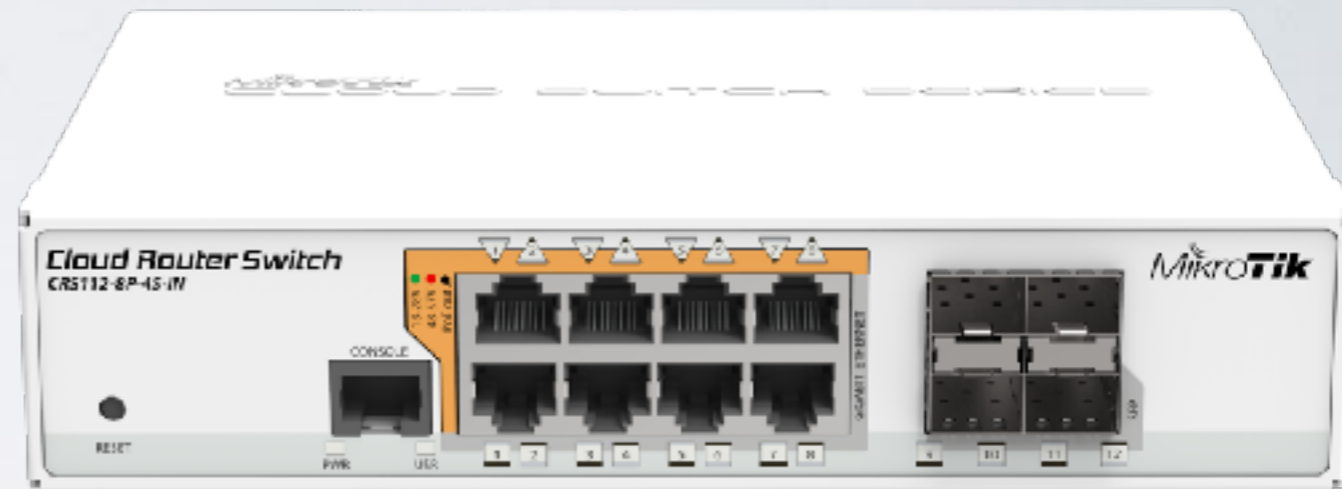


# CRS326-24G-2S+RM

Multiport dual boot RouterOS/SwOS switch

# CRS112-8P-4S

- PoE out 802.3af/at
- Eight Gigabit ethernet ports
- Separate PSU for passive or 802.3af/at PoE out
- Low voltage PSU included
- Per port auto detection of PoE standard
- Four SFP ports





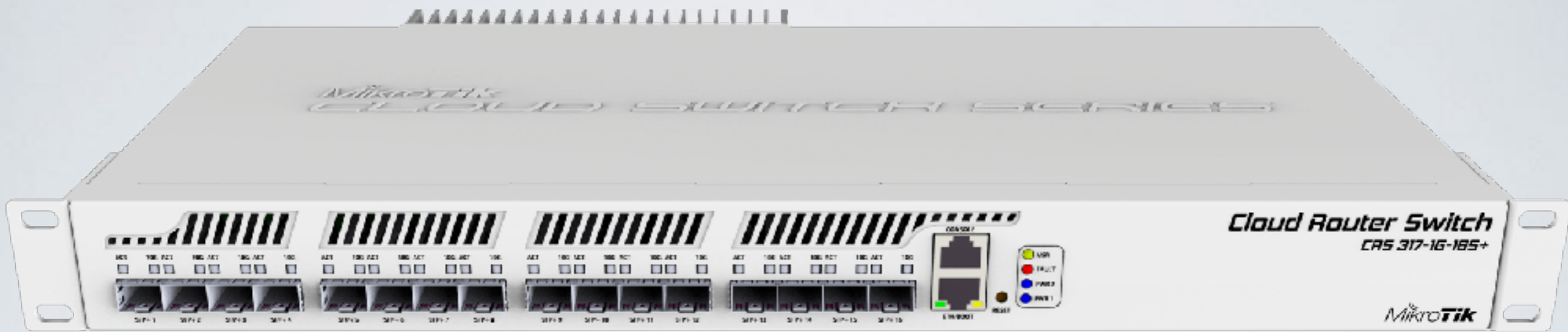
# CRS328-24P-4S+RM

PoE out switch

# CRS328-24P-4S+RM

- Dual boot SwOS or RouterOS
- 24 ports with PoE out function
- Supports 802.3af/at output
- Per port auto detection of PoE standard
- Four SFP+ ports for 10GbE
- One 120/220V IEC connector



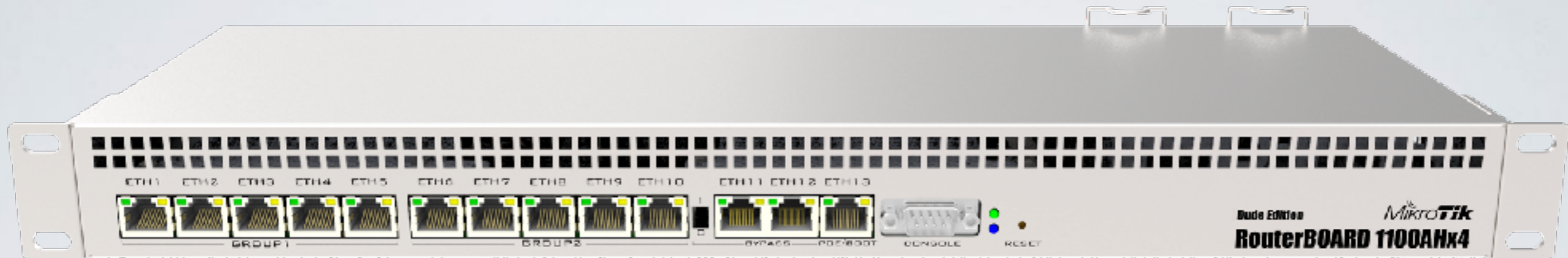


CRS317-1G-16S+

high performance SFP+ switch

# CRS317-1G-16S+

- 16 SFP+ ports
- Next generation switching chip
- Wire speed for all 10GbE ports
- Hardware-based Spanning Tree Protocol
- Dual boot SwOS or RouterOS

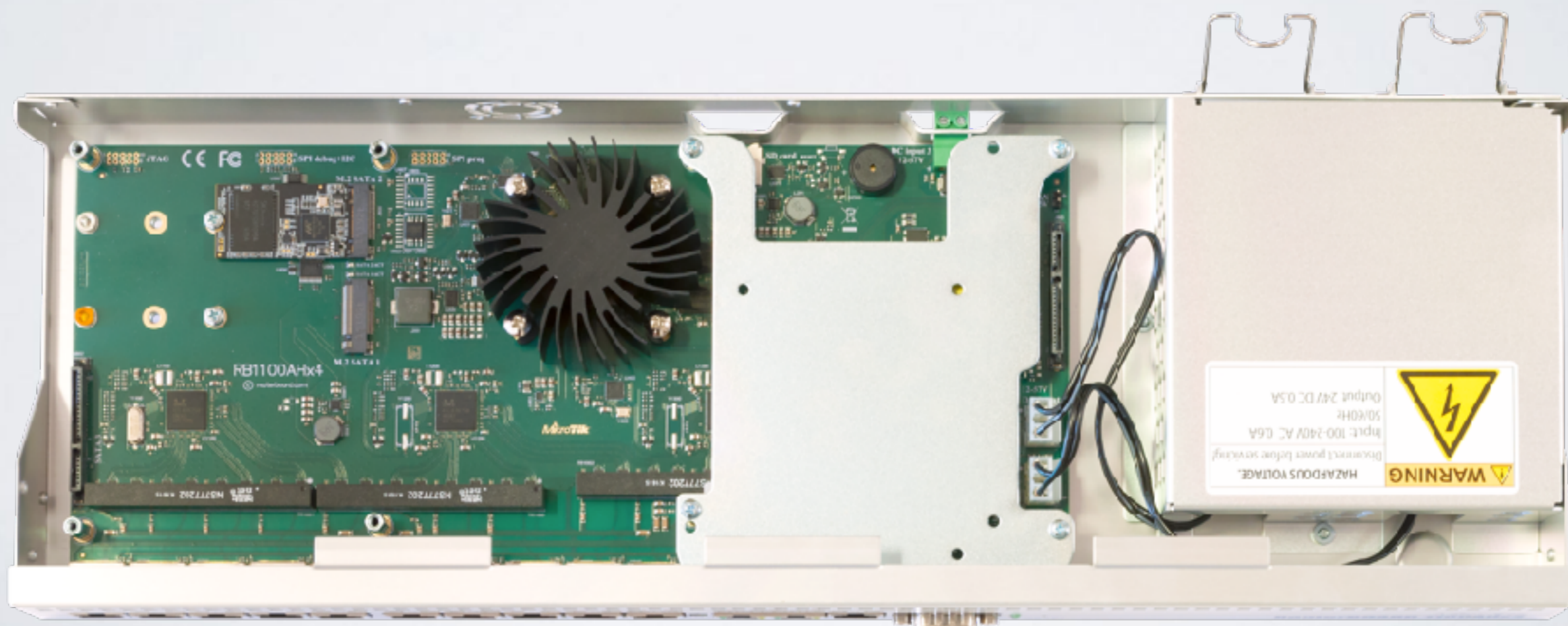


# RB 1100AHx4

The timeless classic upgraded  
with a new quad core CPU and more

Annapurna Alpine AL21400 CPU with four Cortex A15 cores clocked at 1.4 GHz

- Two SATA3 ports
- Two M.2 ports
- 60GB SSD included
- Accelerated IPsec
- -48V DC telecom power
- Dual PSU





- 5.5 million PPS
- 7.5Gbps
- IPsec up to 2.2Gbps with AES 128
- Overclock up to 2GHz

# Two editions

- **RBI 100AHx4**
- **RBI 100AHx4 Dude edition**  
includes 2x M.2 and 2x SATA3 ports

# wAP 60G

- 1 Gbit full duplex (wire speed)
- Works in 60GHz spectrum
- “Wireless wire” kit preconfigured
- Quad-core ARM CPU
- Targeted for up to 100m distances



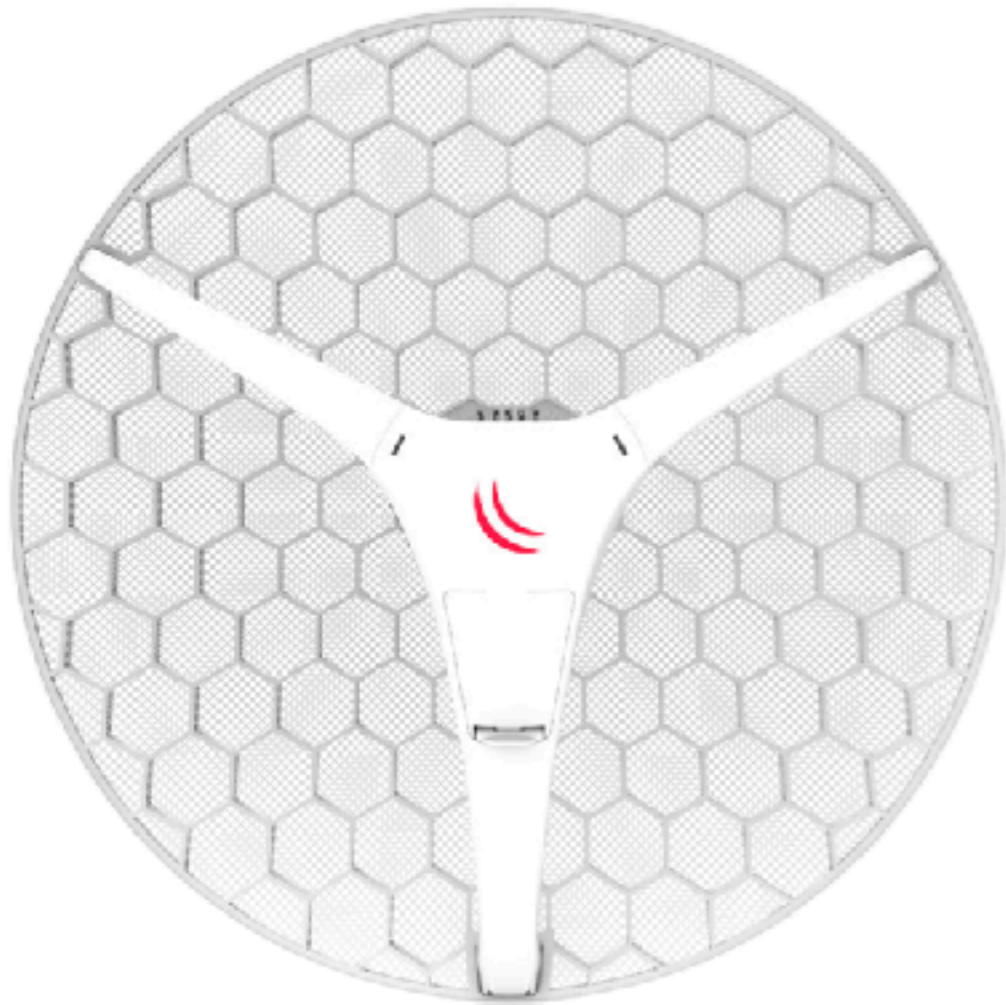
# LHG 60G

- 1 Gbit full duplex (wire speed)
- Works in 60GHz spectrum
- Familiar LHG design
- Quad-core ARM CPU
- Low cost and low weight
- Targeted for longer distances than 100m





# NEW LHG!



LHG XL HP5



LHG HP5



LHG 5

# LHG HP5

- 630mW
- 20km full speed link
- Familiar LHG design
- Low cost and low weight
- Kit price \$69



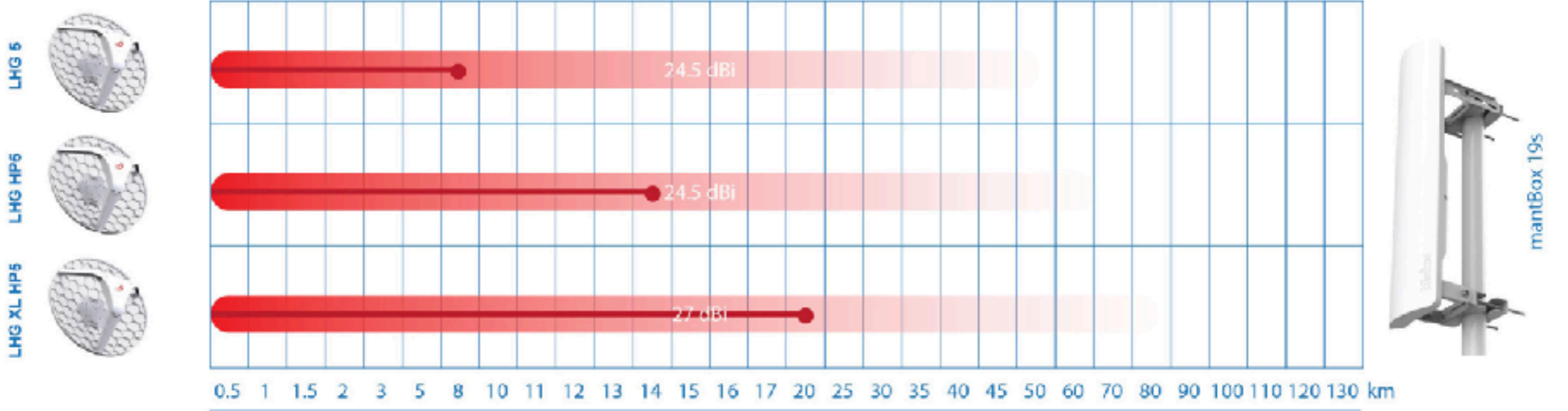
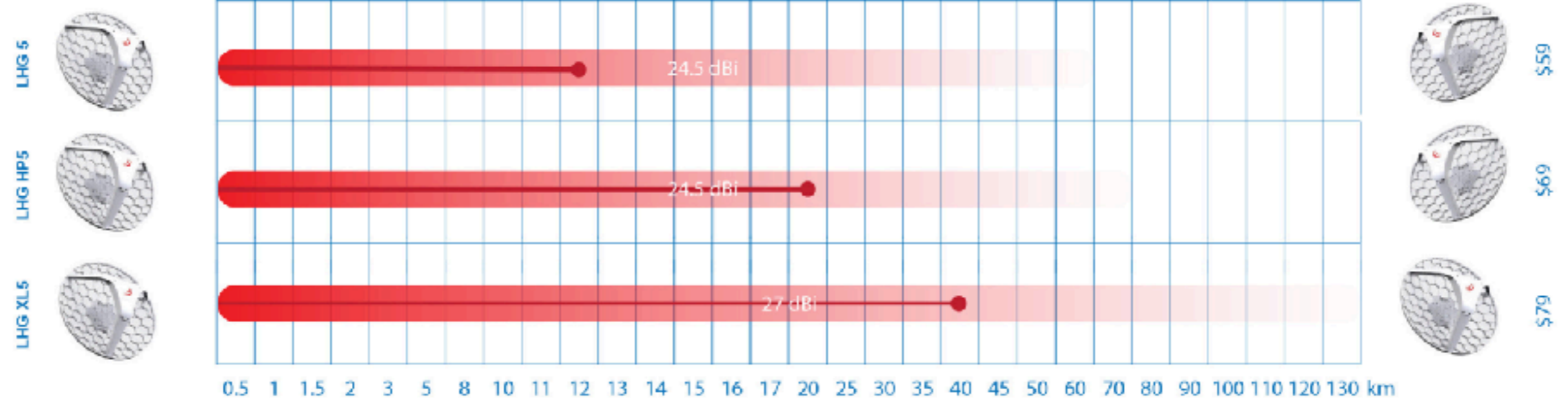
# LHG XL HP5

- 630mW
- 40km full speed link
- 27 dBi antenna gain
- Familiar LHG design
- Low cost and low weight
- Kit price \$79



# NEW LHG!

Distance in Km



○ Distance at max supported 802.11a data rate (eg. 865Mbit) ● Distance at max supported 802.11n data rate (eg. 300Mbit) ■ Max range at -70 signal

# SXTsq Lite5

- Compact and lightweight
- Two times thinner!
- 16dBi antenna
- 12km wireless link
- Low cost and low weight
- Kit price \$46



# All Products

- Include free software upgrades for life
- Run the same RouterOS software
- For more info see [\*\*routerboard.com\*\*](https://routerboard.com)

# ROUTEROS FEATURES

# CHR

## Cloud Hosted Router

- RouterOS version tailored for running in virtual environments
- Runs on VMware Workstation and ESXi, VirtualBox, HyperV, KVM, XenServer, etc.
- Cloud services - Amazon, Azure and others



# CHR

## Use cases

- Firewall for your cloud services
- VPN server in the cloud
- The Dude monitoring server
- Simulate networks for learning or training
- And many more

# CHR

## Licensing

License	Speed limit	Price
Free	1 Mbit	FREE
P1	1 Gbit	US\$45
P10	10Gbit	US\$95
P-Unlimited	Unlimited	US\$250

- 60 day trial available
- Purchased license can be transferred

# CHR

## Licensing

1

Licence

System ID: 6R1ZP/utuJ

Level: free

Next Renewal At:

Deadline At:

Limited Upgrades

OK

Generate New ID

Renew Licence

Renew Licence

Account: mymikrotikcomaccount

Password: \*\*\*\*\*

Level: P1

Start

Stop

Close

done

2

Licence

System ID: 6R1ZP/utuJ

Level: P1

Next Renewal At: Jan/10/2016 21:59:59

Deadline At: Feb/09/2016 21:59:59

Limited Upgrades

OK

Generate New ID

Renew Licence

WinBox → System → License

# CHR

## Cloud Hosted Router

- For more info, see the CHR page on our wiki:  
<https://wiki.mikrotik.com/wiki/Manual:CHR>
- Available on the download page:  
<https://mikrotik.com/download#chr>

# Need help?

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

# After the MUM

- All presentations - [mum.mikrotik.com](http://mum.mikrotik.com)
- Video - [youtube.com/mikrotik](https://youtube.com/mikrotik)
- License will be added to your account

**¡Disfrutar el MUM!**

Horario:

**[mt.lv/agenda](https://mt.lv/agenda)**

The logo for MikroTik, featuring the word "MikroTik" in a stylized, italicized font. The "i" in "Mikro" has a unique graphic element consisting of three curved lines above it. The "T" in "Tik" is bold and blocky. The entire logo is rendered in a dark gray color and is reflected on a light gray surface below it.

*MikroTik*