

 **MikroTik**

MUM ประเทศไทย

September, 2016/2559

More than 130 MUMs all Around the World



MikroTik

- Established 1996
- RouterOS created in 1997
- RouterBOARD created in 2002
- First MUM event in Prague 2006
- Biggest MUM in 2015, Indonesia - 2500+ people
- More than 180 employees



MikroTik
Latvia

Iceland

Finland

Sweden

Russia

Norway

Estonia

Denmark

Ireland

United Kingdom

Netherlands

Belgium

Germany

Poland

Lithuania

Belarus

Luxembourg

Czech Republic

Ukraine

France

Switzerland

Liecht.

Austria

Hungary

Moldova

Georgia

Slovenia

Croatia

Romania

Armenia

Monaco

San Marino

Bosnia and Herzegovina

Serbia

Bulgaria

Portugal

Andorra

Italy

Montenegro

Spain

Vatican City

Albania

Macedonia

Turkey

Greece

Syria

MikroTik at the MUM

- Janis Jankovskis (sales)
- Uldis Cernevskis (support)
- Sergejs Boginskis (support, training)



Schedule

mt.lv/agenda

12:00

Lunch

17:45

Lottery

18:00

Free drinks and socializing

Exhibitors and coffee in the hall

MUM Live

www.youtube.com/mikrotik

After the MUM

Presentation slides - mum.mikrotik.com

Previous MUM Thailand slides
<http://mum.mikrotik.com/2015/TH/agenda>

Videos - youtube.com/mikrotik

Licenses will be emailed.

Special Thanks

Speedplus Technologysupply

What we do

- MikroTik provides routing and wireless equipment for all possible uses: wireless, ethernet routing, switches
- Our RouterOS software supports most common and also many custom made features

RouterOS

- MikroTik RouterOS is the operating system of RouterBOARD hardware
- Stand-alone operating system based on the Linux kernel
- Routing, firewall, bandwidth management, wireless access point, wireless link, hotspot gateway, VPN server and more

Why us

- Millions of RouterOS powered devices currently routing the world
- 20 years of experience developing networking software and hardware
- Over 40'000 RouterOS trained and certified network engineers

NEW PRODUCTS

LHG 5

Light Head Grid

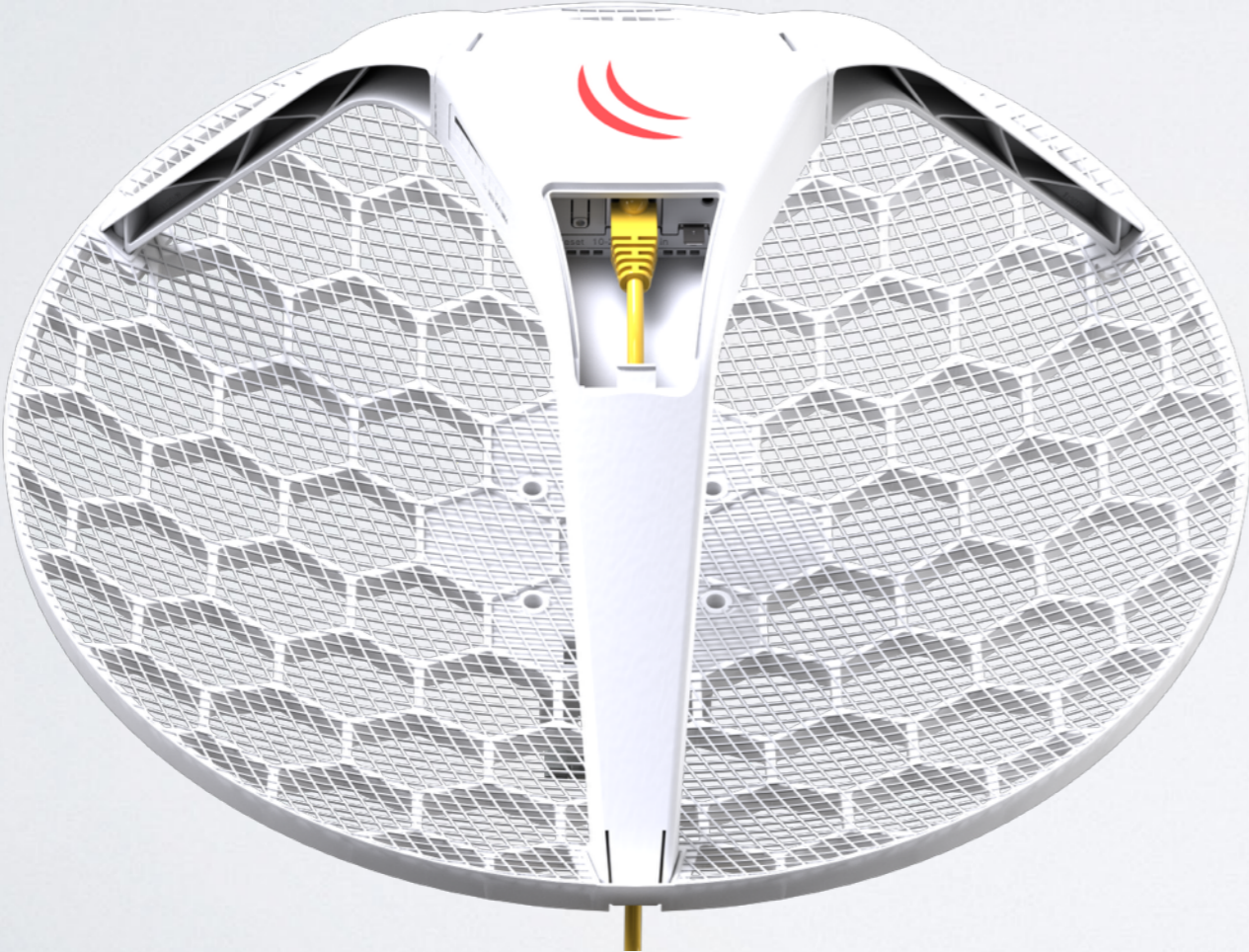
- 24.5 dBi antenna
- Antenna is built into wireless unit
- 802.11a/n dual chain
- Very affordable



now

LHG 5

Light Head Grid



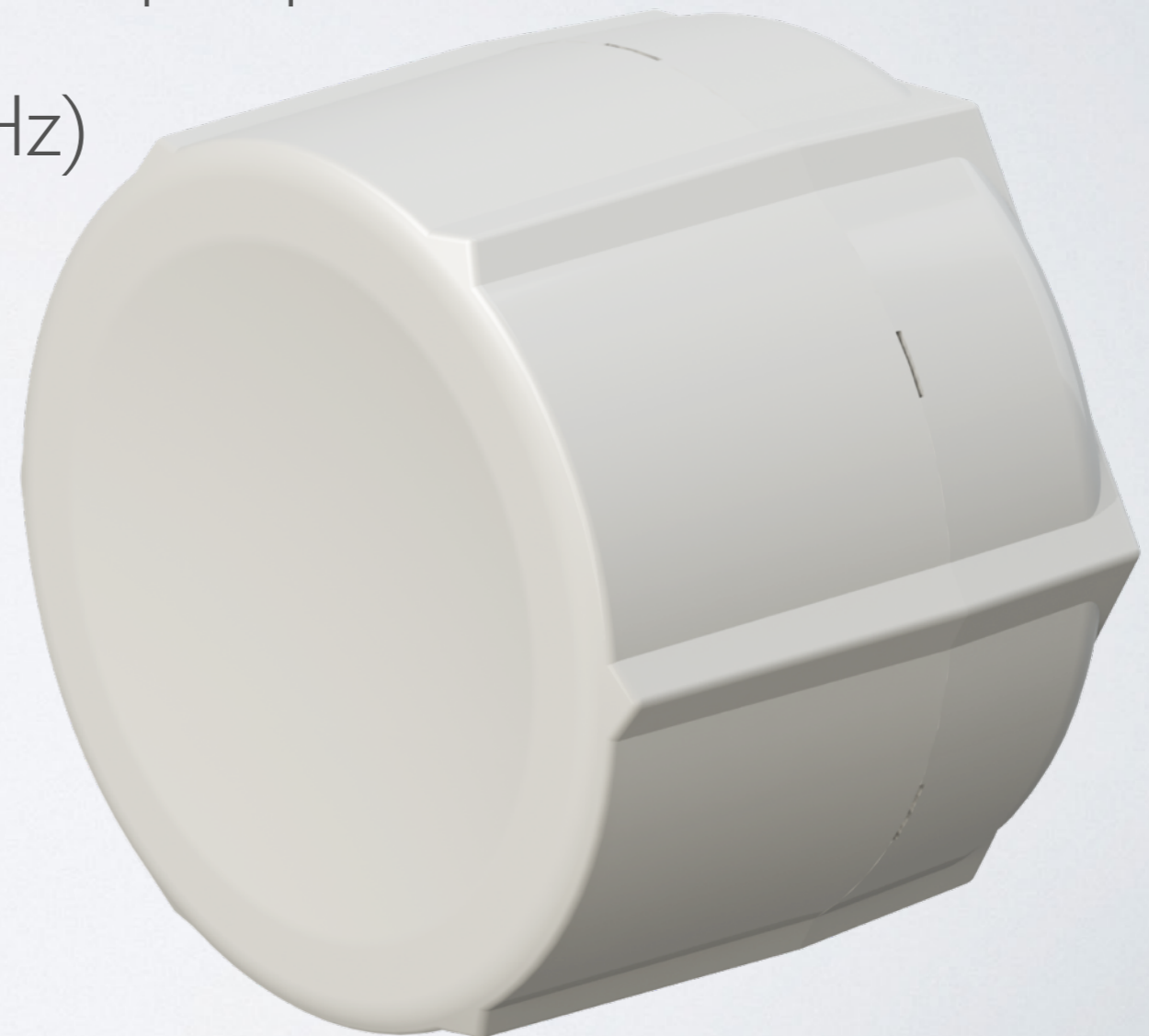
quickMOUNT pro LHG

- Wall or pole mount adapter
- $\pm 70^\circ$ horizontal adjustment
- $\pm 30^\circ$ vertical adjustment
- Special plastic composite material - anvilNITE (TM)



SXT LTE

- LTE 3 category modem
- 100Mbps download and 50 Mbps upload
- LTE FDD bands 3 (1800MHz)
- miniSIM slot



wAP LTE kit

- 2GHz wireless
- LTE antennas
- LTE modem within minipci-e
- weatherproof case
- indoor, outdoor, mobile operation
- more information at Uldis presentation



mANTBox 15s

- 15 dBi | 20 degree antenna
- RB921 inside
- 720MHz CPU power
- 802.11 ac/a/n wireless with 31 dBm output power



now

mANTBox 19s

- 19 dBi | 20 degree antenna
- RB921 inside
- 720MHz CPU power
- 802.11 ac/a/n wireless with 31 dBm output power



Groove 52 ac



- ac update for the popular Groove model

Metal 52 ac



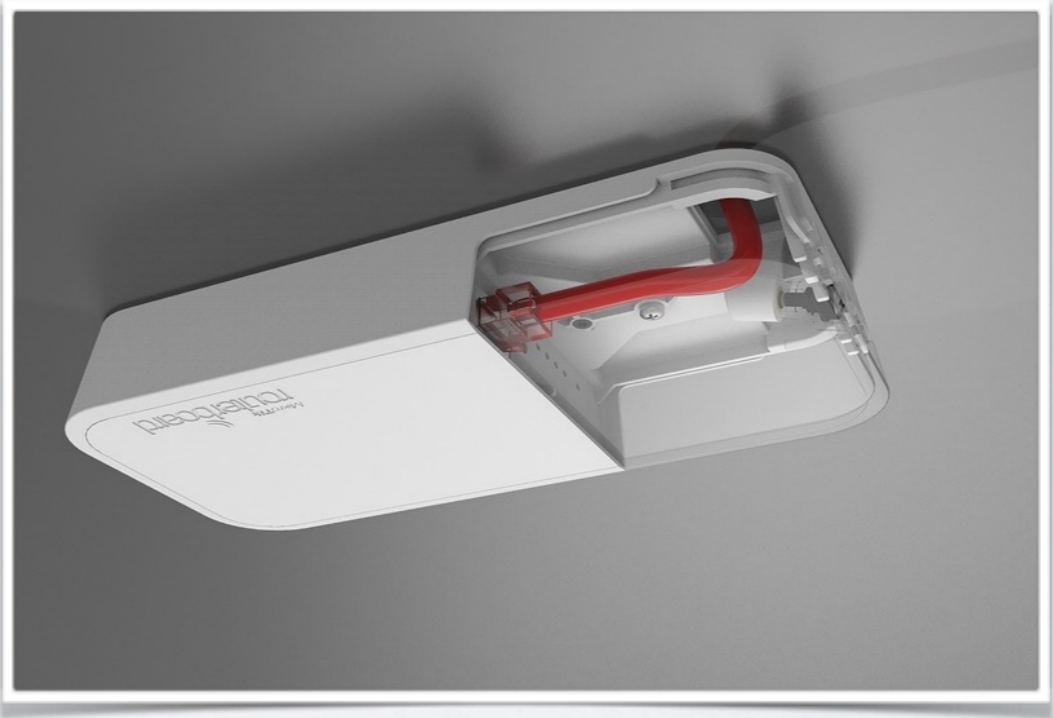
- Waterproof, rugged with a super high output power
- 802.11 b/g/n and 802.11 a/n/ac, 1xGigabit Ethernet

mAP



- update for small AP, dual chain 2.4GHz wireless
- 802.3 af/at support, PoE out!

wAP ac



- Wall or ceiling mountable
- Use for hotel, office, etc.
- Gigabit and 802.11ac
- Dual band (simultaneous 2.4GHz and 5GHz)

cAP



- ceiling AP, dual chain 2.4GHz wireless
- 802.3 af/at support

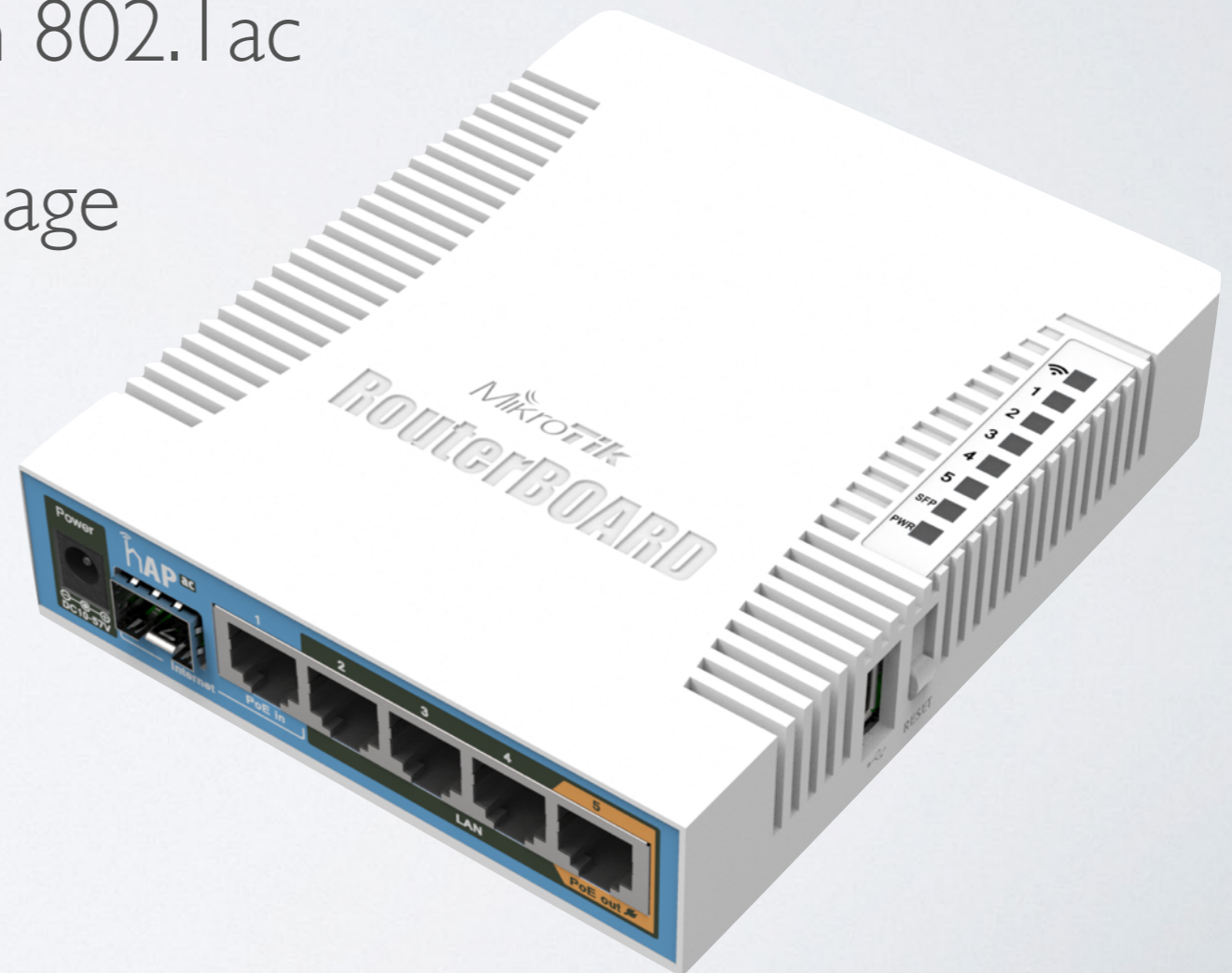
hAP ac lite

- Dual concurrent home AP
- 2.4GHz high power 2 chain 802.11n
- 5GHz high power 1 chain 802.11ac
- 100Mbps port
- 650MHz CPU
- PoE-out on port 5

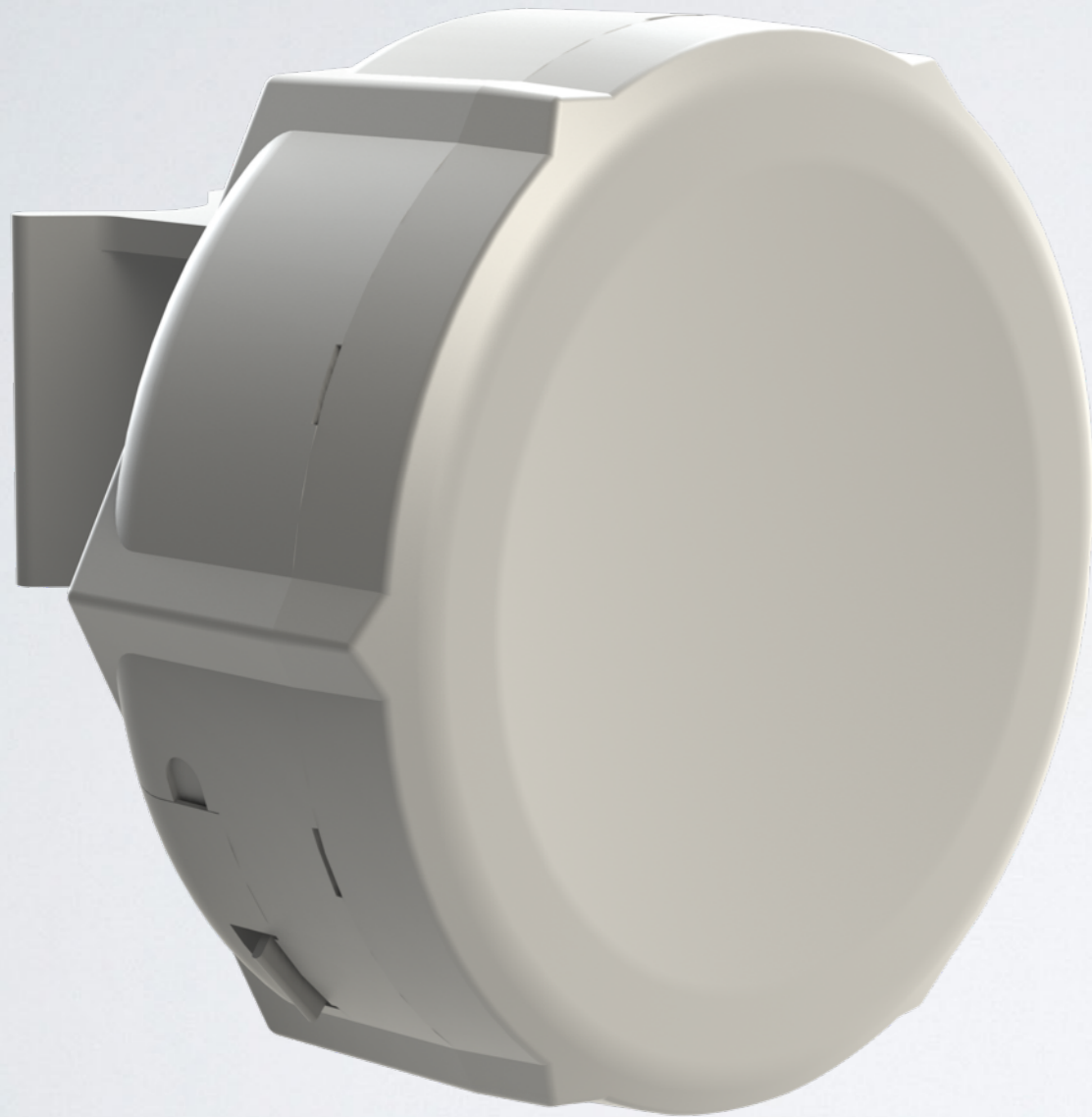


hAP ac

- Gigabit dual concurrent home AP
- 2.4GHz high power 3 chain 802.11n
- 5GHz high power 3 chain 802.11ac
- 5x1 Gbps ports & 1 SFP cage
- 720MHz CPU
- PoE-out on port 5

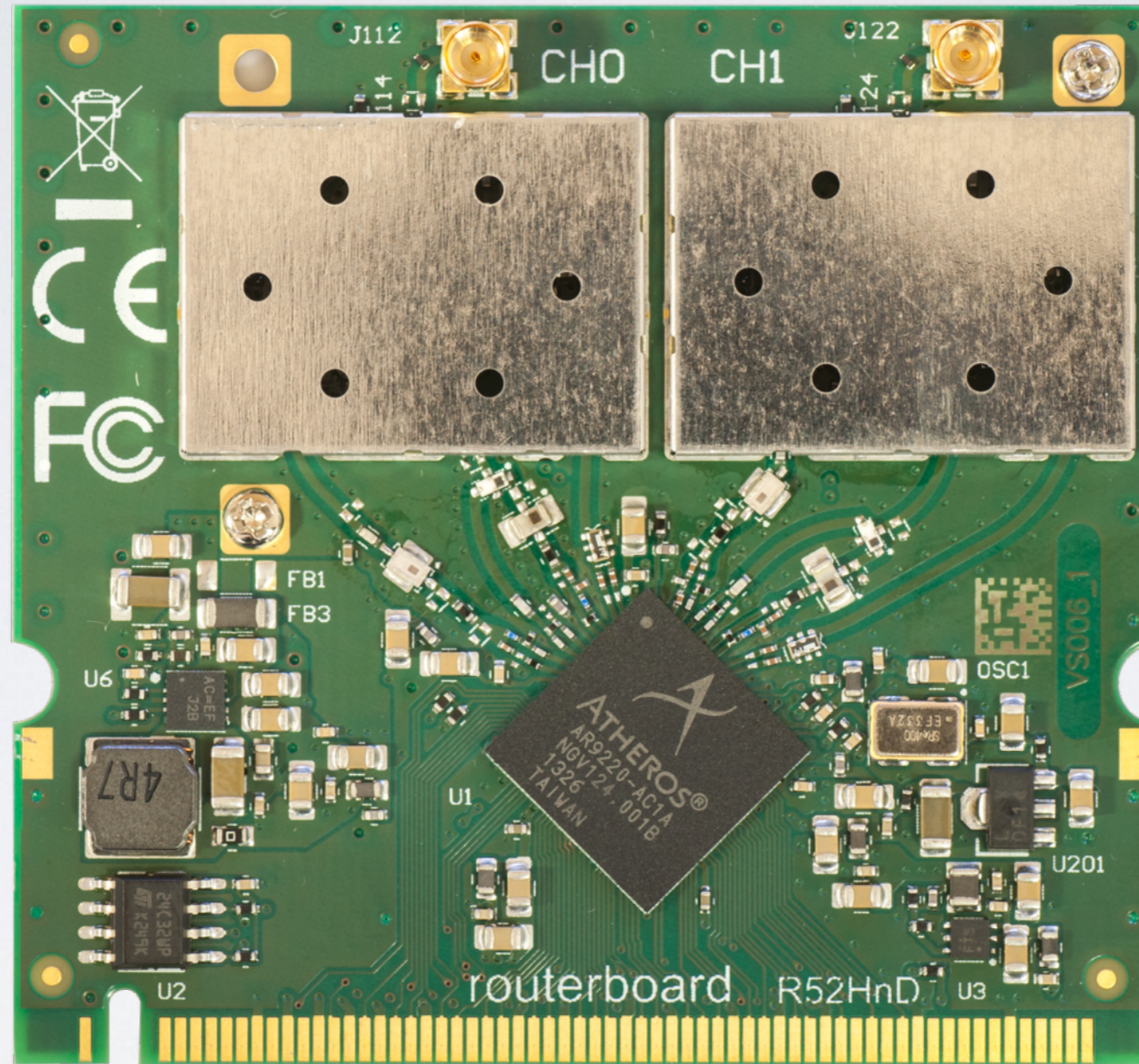


SXT 6GHz



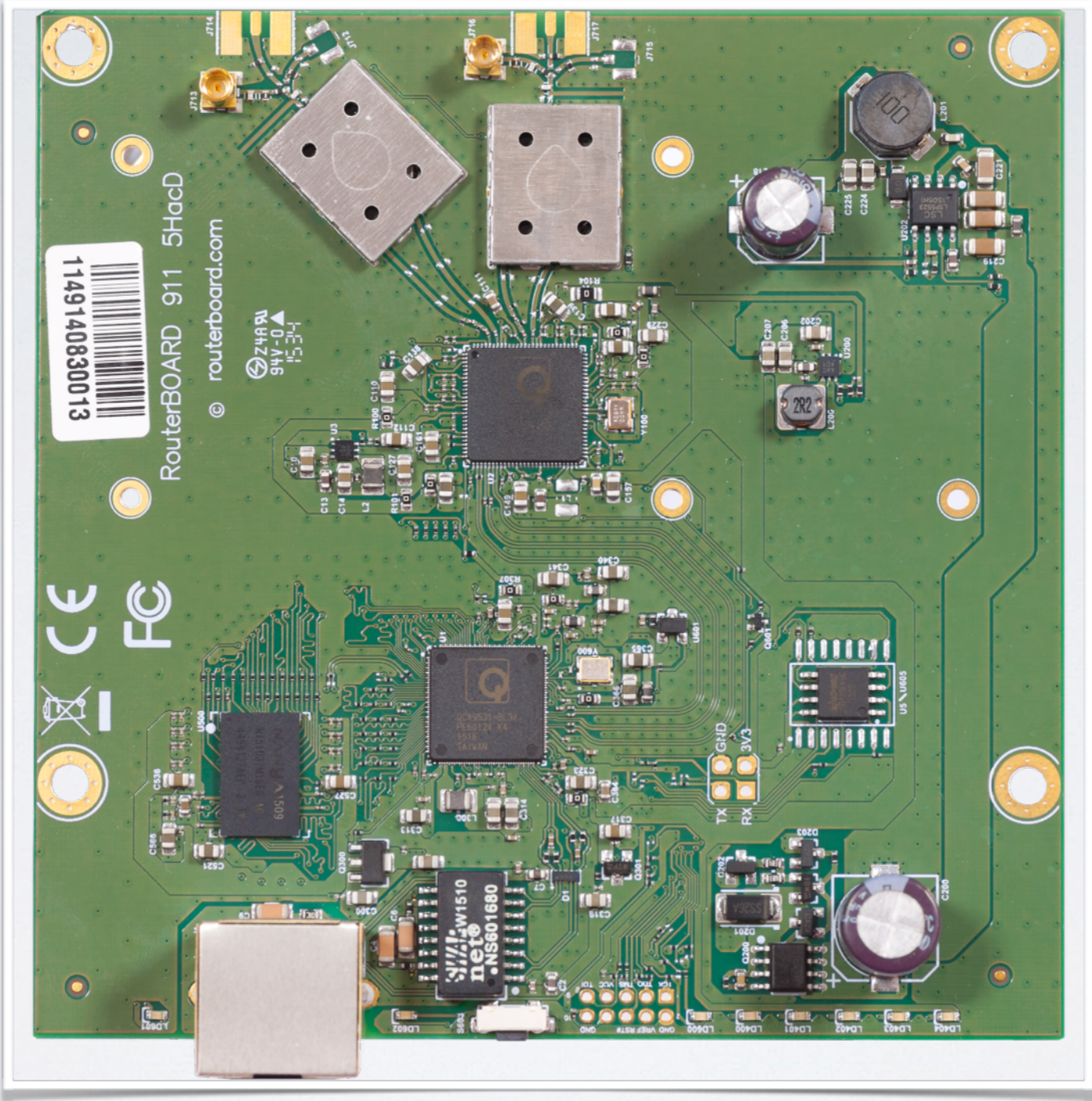
- 5940-6500 MHz range
- 802.11 a/n
- Antenna gain 16dBi
- Antenna beam width 28

R52HnD



tx-power 26 dbm, R52H replacement

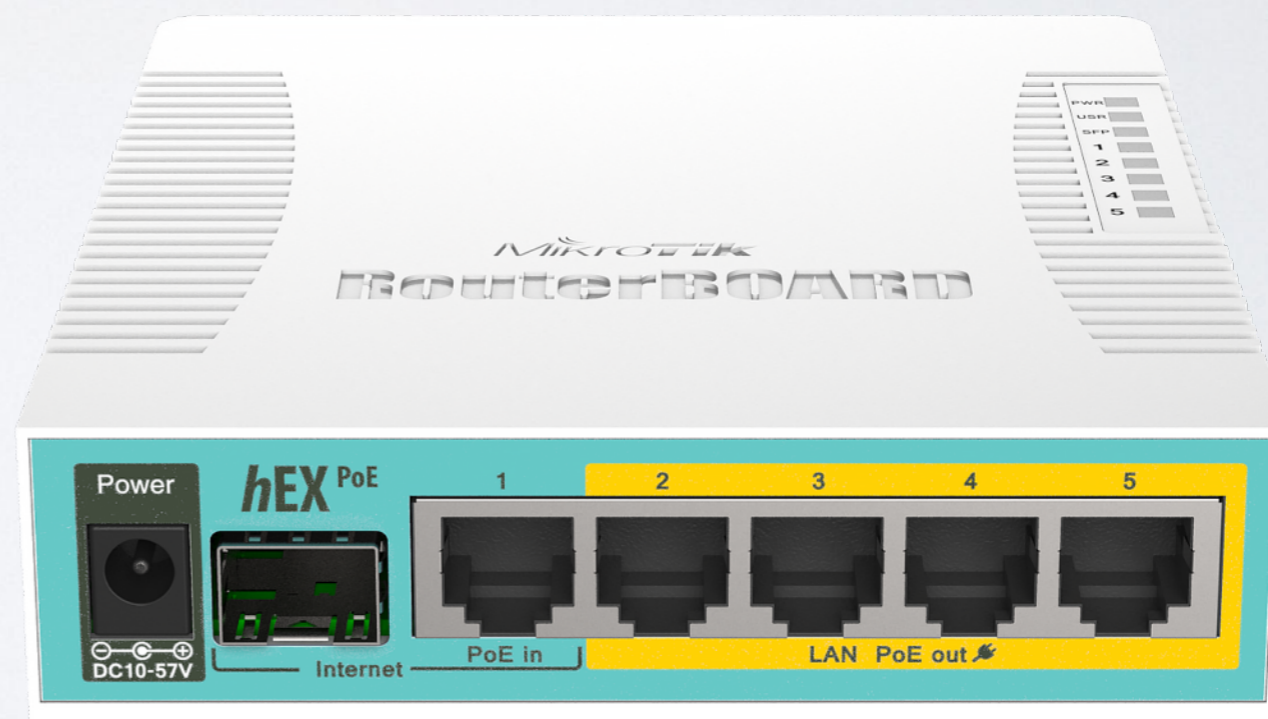
911 Lite 5ac



ac update for extremely affordable board

hEX PoE

- Small Ethernet device
- Five Gbps ports
- Power over Ethernet out on ports 2-5



OmniTIK 5 ac

- 802.11ac, 2 chains
- 5x1 Gbit Ethernet ports
- 7.5 dBi
- PoE in



OmniTIK 5 PoE ac

- 802.11ac, 2 chains
- 5x1 Gbit Ethernet ports
- 7.5 dBi
- PoE in
- PoE out (ports 2-5)



All Products

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

*Except RB260GS (SwOS)

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

AWS Marketplace

1. Choose AMI

2. Choose Instance Type

3. Configure Instance

4. Add Storage

5. Tag Instance

6. Configure Security

Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch an instance in a specific AWS Region. You can create your own AMIs, use an AMI from the AWS Marketplace, or you can select one of your own AMIs.

Quick Start

My AMIs

AWS Marketplace

Community AMIs

▼ Categories

All Categories

Software Infrastructure (1)

🔍 Mikrotik

MikroTik

Cloud Hosted Router

★★★★★ (0) | 6.34.1 | Sold by [MikroTik](#)

Bring Your Own License + AWS usage fees

Linux/Unix, Other 6.34.1 | 64-bit Amazon Machine Image (AMI) | Updated: 4/7/16

Use the CHR for protecting your cloud servers using RouterOS firewall, for running your own VPN service or ...

[More info](#)

Free tier eligible

CHR

Use cases

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

CHR

Licensing

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

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

Renew Licence

Account: mymikrotikcomaccount

Password: *****

Level: P1

Start

Stop

Close

done

WinBox → System → License

CHR

Licensing

3



Routers & Wireless

Search...

[home](#)

[software](#)

[hardware](#)

[support](#)

[downloads](#)

[purchase](#)


[training](#)

[account](#)

[Overview](#) [Support](#)

[Logout](#)

Account Notices

 You must approve your account for creditcard purchases.

[Account authorisation procedure](#) >>>

Current account balance is **\$0**

Prepaid keys available: **0**

Generate a NEW software KEY

- purchase a key
- make a demo key

For already created software keys

- all keys **or** *try search*
- replacement key (0)
- request key from another account

Cloud Hosted Router (CHR)

- all keys
- orders and invoices

Account information

- balance
- change user information
- **hardware orders**

Training

- my training sessions(0)
- my certificates(0)
- MikroTik User Meeting

Support

- support contact form
- supout.rif viewer

Other

- lockpack creator

CHR

Licensing


4

[Back To Main Menu]

User Keys

Show **10** entries

Search:

System ID	Key	Issued	Expires	Level	Transfer	Action	Note
6IR1ZP/utuJ	-----BEGIN MIKROTIK SOFTWARE KEY----- alnRyhu6h1VqzR4wfrXcyP3MB4BysaE1qMBikaNodTDLHTUK8ppNxddOGCebjU6n1WwL7hsDsfwZcMFA==----- END MIKROTIK SOFTWARE KEY-----	2015-12-09	2016-02-09	P1-Perpetual (Trial version)		Upgrade	

Previous **1** Next

CHR

Licensing

5

Upgrade system license ?

System ID **Level**

6IR1ZP/utuJ

- ✓ Select level
- P1-Perpetual (\$ 45.00)
- P10-Perpetual (\$ 95.00)
- P-Unlimited (\$ 250.00)

System 6IR1ZP/utuJ
Perpetual Trial version

You have following prepaid balance keys available to purchase a CHR license:

P1-Perpetual - 4 keys

Back

6

Payment ?

You have selected: **P1-Perpetual**
System ID **6IR1ZP/utuJ**
Total price: **\$ 54.45**

Pay using deposit (left: \$ 73.51)

Pay using CC

Pay using PayPal

Pay using Balance key (4)

***Note:** Price includes VAT 21% because you have specified EU country as your residence. To avoid this you have to enter your VAT registration number in your account settings.*

Back

CHR

Cloud Hosted Router

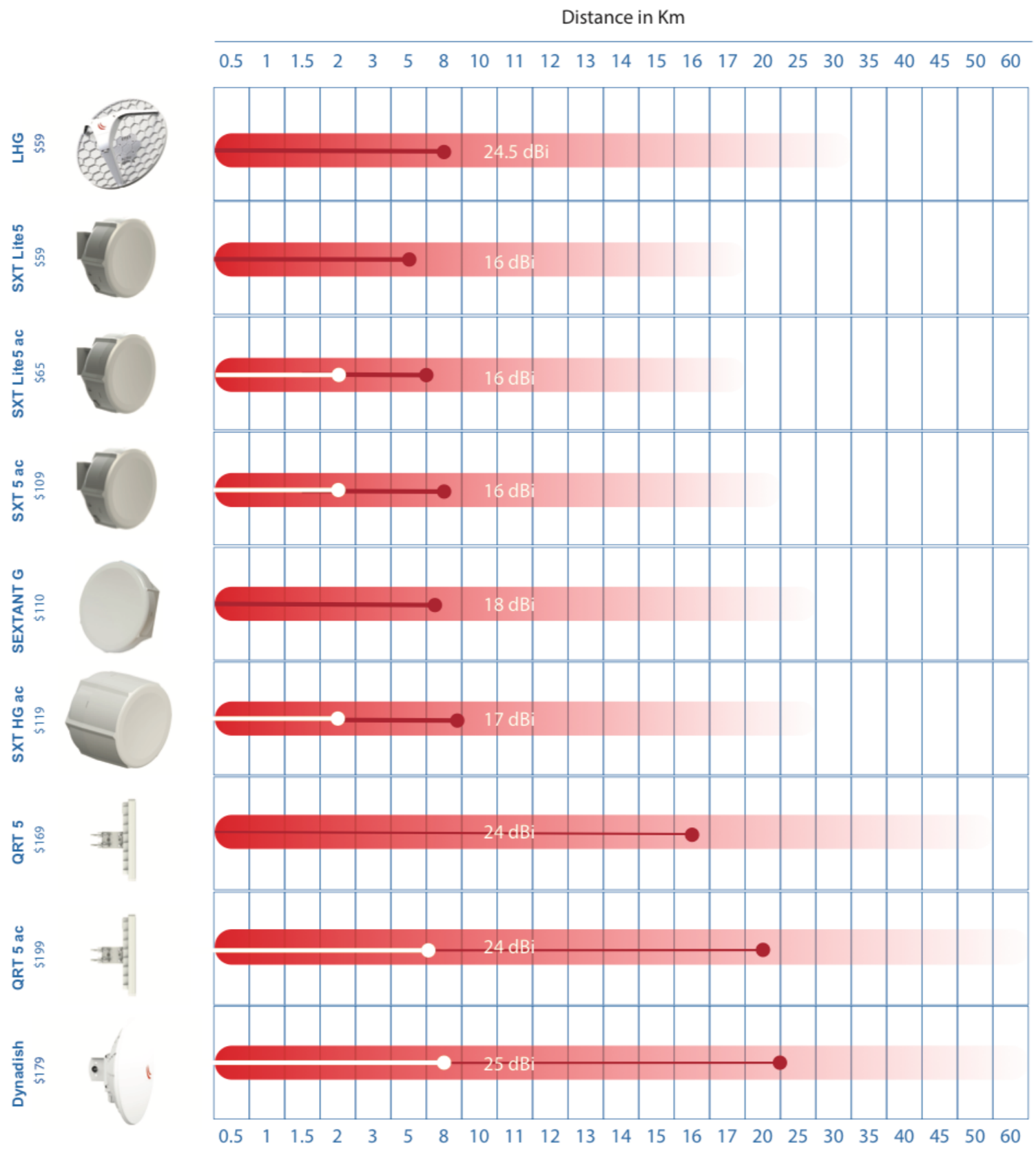
- For more info, see the CHR page on our wiki:
<http://wiki.mikrotik.com/wiki/Manual:CHR>
- Available on the download page:
<http://mikrotik.com/download#chr>

RouterOS v6.36 changelog

146 line

Wireless in v6.37

- New wireless package 'wireless'
- Read changelog before upgrade!
- DFS mode changed, all devices will be with `dfs=radar-detect`
- Improved driver and more come to Uldis presentation



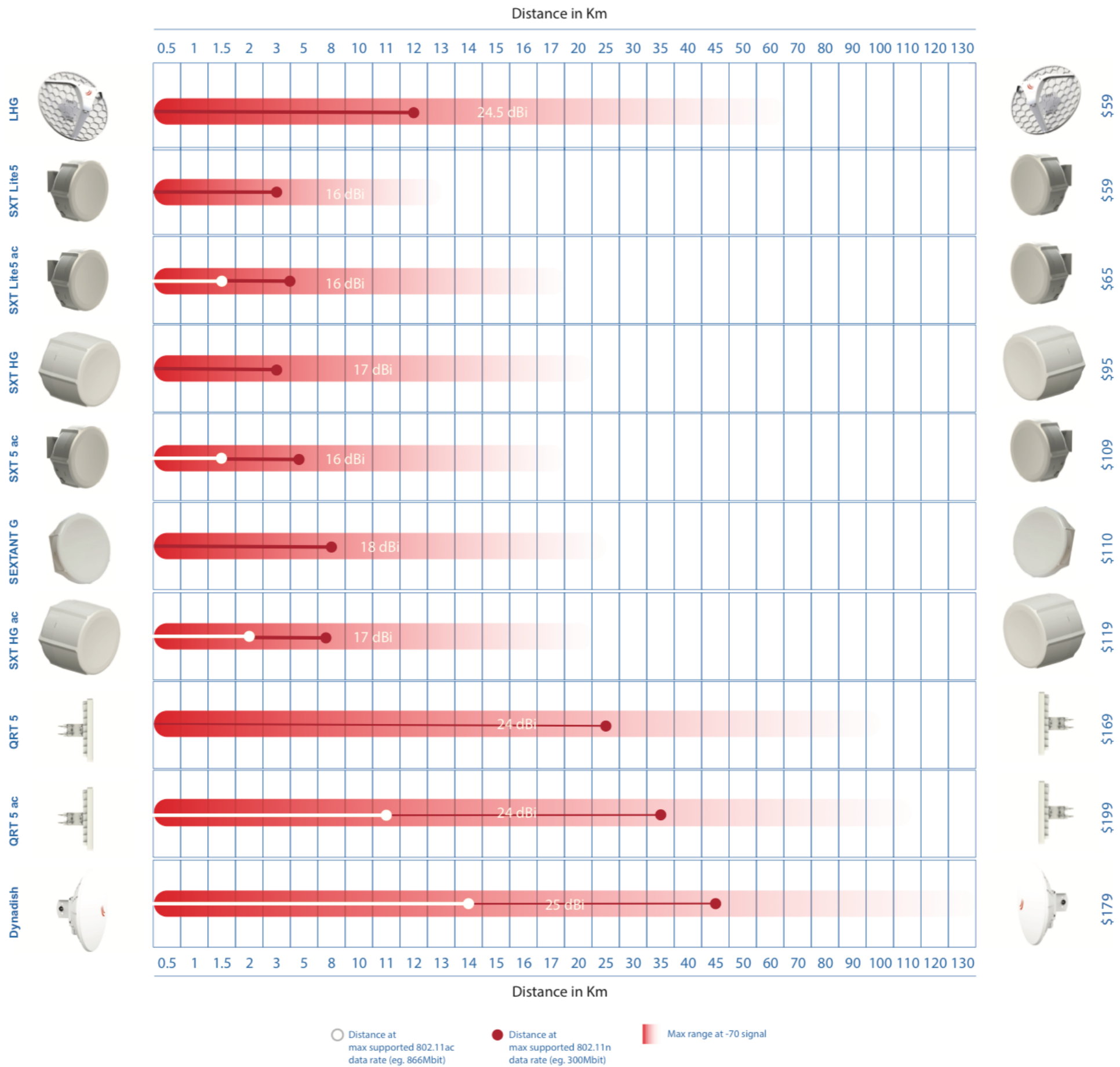
Distance in Km

○ Distance at max supported 802.11ac data rate (eg. 866Mbit)

● Distance at max supported 802.11n data rate (eg. 300Mbit)

▬ Max range at -70 signal

Note: line of sight, interference, alignment, weather and other outside factors will affect the wireless link performance and possible distance



Note: line of sight, interference, alignment, weather and other outside factors will affect the wireless link performance and possible distance

DNS at address-list

- add DNS name to address-list, router will find addresses automatically
- set appropriate rules at firewall

The screenshot shows the Mikrotik WinBox Firewall configuration interface. The 'Address Lists' tab is active, displaying a list of address lists. A dialog box titled 'Firewall Address List <filter_youtube>' is open, showing the configuration for a specific address list. The dialog includes fields for Name, Address, and Timeout, along with buttons for OK, Cancel, Apply, Disable, Comment, Copy, and Remove. The status 'enabled' is shown at the bottom of the dialog.

Name	Address	Timeout
filter_you...	youtube.com	
filter_...	195.122.16.49	
filter_...	195.122.16.44	
filter_...	195.122.16.35	
filter_...	195.122.16.54	
filter_...	195.122.16.25	
filter_...	195.122.16.20	
filter_...	195.122.16.45	
filter_...	195.122.16.30	
filter_...	195.122.16.55	

Firewall Address List <filter_youtube>

Name: filter_youtube
Address: youtube.com
Timeout:
enabled

The Dude v6.x

- Dude is back
- v6. server support at CCR/x86 and RB3011
- fixes and new features development
- more information at 13:45 workshop

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

Need Help?

Official MikroTik distributors in India:

Asia

<p>Multilink Computers New Delhi, India Tel: North India: +91 9810083595, East India: +91 9310044400, West India +91 9310157692, South India: +91 9560089119 Write e-mail</p>	<p>Tara Consultants Pvt Ltd Nehru Place, New Delhi, India Tel: 011-46570273, 91-9811686026 Write e-mail</p>	<p>JRS Communication Pvt Ltd. New Delhi, Gujrat, Kolkata, Hyderabad, Chennai, India Tel: 9311107222, 9910903463 Write e-mail</p>
<p>RAH Infotech Mumbai, India Tel: 91 9899164651/ 91 9310536849 Write e-mail</p>	<p>ACE MICROELECTRONICS New Delhi, India Tel: 9717676502 Write e-mail</p>	<p>Vishal Trading Nehru Place, New Delhi, India Tel: 919214842409, 917742444426 Write e-mail</p>
<p>Saibaba Infocom Mumbai, India Tel: +91 9920383926 Write e-mail</p>	<p>Rahul Industrial Enterprises Pvt Ltd Kolkata, Chennai, Bangalore, Hyderabad, India Tel: 098300 64573 , 033-2212 1522 / 1523 Write e-mail</p>	<p>Microsense Networks Private Ltd. Ekkattuthangal, India Tel: +91-9790988416 Write e-mail</p>

<http://www.mikrotik.com/buy/asia/india>

Need Help?

Official MikroTik consultants in India:

Muralikrishna Kema

MTCINE, MTCNA, MTCRE, MTCTCE, MTCWE

Hyderabad , Bangalore , Tamil Nadu, **India**

ISP / Carrier networks design, Hotspot,QoS,OSPF, BGP,MPLS,Traffic Engineering. Wireless PtP and PtMP,Campus Wifi,Network Security Other advanced configurations Configure & Manage NMS, Gpon /Epon/ Switching L2 & L3 Mikrotik/Huawei Infrastructure ISP-VOIP Implementation, Billing, DID ,Trunking ,LCR, PBX, Load balance, large Scale Deployments. IPTV Implementation, Live Streaming, Video on Demand, Scalability for Any Size Audience

Tel: 09346732544

[Write e-mail](#)

Web: www.ctrltik.com

Manoj Kumar MUM

MTCNA, MTCRE, MTCTCE, MTCWE

Faridabad, **India**

Wireless Networks: desing, implementation, analysis & troubleshooting of WLAN, PtP and PtMP. High-Speed Wireless Links. Tunnel and VPN (IPSec, PPTP, L2TP) Bridging & Routing (Dymamic and Static). Firewall (Filtering Policies) . Hotspot, PPPoE, Queueing, Bandwidth Management, Firewall, Security. Hotspot, WISP administration experience, Load balancing, Advanced Wireless Security, > > Bridging, STP RSTP, WDS, Mesh, Network Monitoring, Caching and WebProxy,Remote Assistance and on-site Support.

Tel: +919818763764

[Write e-mail](#)

Dawinder Singh

MTCNA, MTCRE, MTCTCE

Amritsar, **India**

Tel: 91-9814138141

[Write e-mail](#)

Web: www.webtecz.com

<http://www.mikrotik.com/consultants/asia/india>

Enjoy the MUM!

The logo for MikroTik, featuring the word "MikroTik" in a stylized font. The "Mikro" part is in a lowercase, italicized sans-serif font, and the "Tik" part is in a bold, uppercase, italicized sans-serif font. Above the "i" in "Mikro" are three curved lines representing a signal or antenna. The entire logo is reflected on a glossy surface below it.

MikroTik