



**Outdoor Wireless Router**  
**W4N-CPE-s23f, W4N-CPE-s18f,**  
**W4N-CPE-s23ff, W4N-PP-s23hf**



# CPE Bridge Router family

## Dual Polarized MIMO antennas

Wireless CPE/Bridge Router 802.11a/h with 18dbi and 23dbi integrated antenna.

Wi4Net Wireless CPE/Bridge Router MIMO products family, the perfect solution for all Wireless 5GHz links and customers device.

Made with compact design, integrated High Gain antenna in IP66 case, 802.11a/h, W4N CPE and PP are the best solutions to deploy high volume client devices in a 5GHz WISP rural infrastructure.

### Bridge main features:

- 802.11n up to 300 Mbps
- Aluminium case
- Powerful 2x2 MIMO antennas
- Vertical, Horizontal and Dual Slant mount

### Bridge Router Family

#### W4N-CPE-s23f

Wireless CPE/Bridge Router 802.11a/h with 23dbi Dual Pol. integrated antenna

#### W4N-CPE-s18f

Wireless CPE/Bridge Router 802.11a/h with 18dbi Dual Pol. integrated antenna

#### W4N-CPE-s23ff

Wireless CPE/Bridge Router 802.11a/h with 23dbi Dual Pol. integrated antenna, 1 aux. radio module

#### W4N-PP-s23hf

Wireless Bridge Router 802.11a/h with 23dbi Dual Pol. integrated antenna, High Proc.

### All Outdoor Conditions

Wi4Net products are the perfect solution for all outdoor wireless conditions.

Backhauling, Point-to-Point, Point-to-Multipoint or Mesh network are easily implementable with the extreme modular Wi4Net wireless family.

Wireless ISPs, Local Utilities, Municipalities, Enterprises and Hot Spot solutions can achieve the best performance from Wi4Net products family together with the associated antennas.

Wireless ISPs can easily build up broadband Internet infrastructure for rural zones, together with VoIP telephony access and wi-fi coverage for nomadic access.

Enterprises can connect different building or provide remote control of their machinery in all the outdoor areas.

Municipalities can easily implement wireless IP networks to connect remote offices and to increase public safety, by installing remote real time videosurveillance systems.

Local Utilities can rapidly take control over the remote equipment for Water, Gas and Electricity as well as Environment stations for pollution control and monitoring.

Hot Spot solutions are plug-and-play with the Wi4Net products embedded software and can share earnings with banner, walled garden web site or advertisement portal page.

Hot spots can be implemented in Hotel, Residence, Marine Ports, Camping, sea front tourist places.



# MikroTik® RouterOs® Software Functionality

All Wi4Net products are Wireless Router with a complete suite of software functionality

## CPE-s18



27



7

20

## CPE-s23



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37



7

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## Layer 2 features

- Ipv4 and IPv6 support

### Bridging

- IEEE 802.1D spanning tree protocol
- IEEE 802.1w rapid spanning tree protocol
- Multiple bridge interface
- Bridge firewalling
- MAC NAT

### Switch

- Port switch
- Tagging
- Replication

### VLAN

- IEEE 802.1Q VLAN tagging on Ethernet and wireless interfaces
- Multiple VLANs
- VLAN bridging

## Layer 3 features

### Routing

- Static routing
- ECMP equal cost multipath routing
- Policy based routing
- RIP v1 / v2
- OSPF v2 / v3
- MPLS, MPLS-TE
- Multicast
- BGP
- VRF

### QoS Management

- Hierarchical HTB QoS system with burst
- Per IP/protocol / subnet / port / firewall mark
- PCQ, RED, SFQ, FIFO queue
- CIR, MIR, contention ratios, dynamic client rate equalizing (PCQ), burst, peer-to-peer protocol limitation

### Firewall and NAT

- Stateful packet filtering
- Peer-to-peer protocol filtering
- Source and destination NAT
- Packet classification by:
  - Source MAC
  - Interfaces
  - IP address and subnets
  - Ports and port range
  - Protocols
  - Protocol options (ICMP type, TCP flags and MSS)
  - ToS (DSCP)
  - Packet content (matching sequence/frequency)
  - Packet size
  - Time

### Tunnelling protocol

- PPTP, PPPoE and L2TP access concentrators and clients
- PAP, CHA MSCHAP1, MSCHAP2 authentication protocols
- RADIUS authentication and accounting
- MPPE encryption; compression for PPPoE
- Data rate limitation
- Differentiated firewall
- PPPoE dial on demand
- IPIP tunnels
- EoIP (Ethernet over IP)

### NTP

- Network time protocol server and client

### IPSec

- IP security AH and ESP protocols
- MODP Diffie-Hellman groups 1,2,5
- MD5 and SHA1 hashing algorithms
- DES, 3DES, AES-128, AES-192, AES-256 encryption algorithm
- Perfect Forwarding Secrety (PFS) MODP groups 1,2,5

### Proxy

- FTP and HTTP caching proxy server
- HTTPS proxy
- Transparent DNS and HTTP proxying
- SOCKS protocol support
- DNS static entries
- Support for caching on separate drives
- Access control list
- Caching lists
- Parent proxy support

### DHCP

- DHCP server and client per interface
- DHCP relay
- Multiple DHCP networks
- Static and dynamic DHCP leases
- RADIUS support

### VRRP

- Virtual Router Redundancy Protocol (VRRP) for high availability

### UPnP

- Universal Plug & play support

## Management

### Monitoring/accounting

- IP traffic accounting
- Firewall action logging
- MRTG graphs accessible via web

### Management

- SNMP read-only
- SSH and Telnet CLI
- WEB GUI
- Windows based Winbox GUI

### Tools

- Ping
- Traceroute
- Bandwidth test, server and client
- Ping flood
- Packet sniffer
- Torch
- Dynamic DNS update tool

## Storage

### FTP Server

- Secure Copy
- Redundant storage
- Mini SD optional slot (preassembled on request)

## Wireless features

### Operation Modes

- Bridge point-to-point
- WDS (Wireless Distribution System)
- Station (client mode)
- WDS dynamic/static mesh
- Multiple SSID/BSSID and virtual AP
- AP bridging
- Nstreme and Nstreme2 protocols
- Compression mode
- CSMA disable for P-to-P performance increase
- DFS: dynamic Frequency Selection
- TPC: Transmit Power Control
- Layer 2 Hybrid Wireless Mesh protocol (HWMP+) MikroTik implementation

### HotSpot features

- HotSpot portal gateway with Radius authentication and accounting
- Local database users or external Radius db
- Plug & play with transparent local IP mapping
- Data rate limitation
- Traffic quota
- Real-time status update
- Walled-garden IP or URL
- Login pages customizable
- iPass support
- SSL authentication with certificate
- Pop-up advertisement
- Guest users

### Security

- WEP 40 bit and 104 bit
- WPA and WPA2
- PSK
- AES-CCN and TKIP
- Access control list
- Client connect list with single WPA key, rate and time limit
- Std FIPS 197 AES

### Authentication

- Radius
- EAP and EAP-TLS

## User Manager

### Features

- Radius server web interface
- Billing information
- Online Session information
- Logging information
- Auto create users, with mail confirmation
- Hierarchical administration structure
- Authorize.net and PayPal payment portal
- Thermal printer voucher setup
- Customizable credit definition
- Rate, time and traffic amount limit

# Hardware Specifications

Product Code	W4N-CPE-g23f, W4N-CPE-s23gd, W4N-CPE-g23ff, W4N-PP-s23hf (support Dual Channel)					
<b>Radio characteristics</b>		Receive Sensitivity		Max Output power		
5GHz 802.11a/h data rates	6 / 24	-95 dBm (± 2dB)		23 dBm (± 2dB)		
	36	-87 dBm (± 1.5dB)		22 dBm (± 2dB)		
	48	-83 dBm (± 1.5dB)		21 dBm (± 2dB)		
	54	-80 dBm (± 1.5dB)		20 dBm (± 2dB)		
5GHz 802.11n data rates		Receive Sensitivity	Max Output power		Receive Sensitivity	Max Output power
	<b>MCS 0</b>	-94 dBm	23 dBm	<b>MCS 8</b>	-91 dBm	21 dBm
	<b>MCS 1</b>	-92 dBm	22 dBm	<b>MCS 9</b>	-89 dBm	21 dBm
	<b>MCS 2</b>	-90 dBm	20.5 dBm	<b>MCS 10</b>	-87 dBm	19.5 dBm
	<b>MCS 3</b>	-86 dBm	20.5 dBm	<b>MCS 11</b>	-84 dBm	19.5 dBm
	<b>MCS 4</b>	-83 dBm	19.5 dBm	<b>MCS 12</b>	-81 dBm	19 dBm
	<b>MCS 5</b>	-80 dBm	19 dBm	<b>MCS 13</b>	-77 dBm	17.5 dBm
	<b>MCS 6</b>	-78 dBm	18 dBm	<b>MCS 14</b>	-76 dBm	17.5 dBm
	<b>MCS 7</b>	-76 dBm	17 dBm	<b>MCS 15</b>	-74 dBm	14 dBm
<b>Antenna gain pattern (23 dbi model)</b>						

Antenna characteristics	Models	23dbi model	18 dbi model
	Gain	23dbi	18 dbi
	Frequency	5150 ÷ 5950 MHz	5150 ÷ 5950 MHz
	Polarization	Vertical & Horizontal	Vertical & Horizontal
	Backward radiation	30dB	28dB
	Vertical beamwidth	11°	17°
	Horizontal beamwidth	11°	17°
	VSWR	<=2:1	<=1,5:1
	Impedance	50 Ohm	50 Ohm
Wind loading	241km/h	241km/h	

<b>Standards</b>	IEEE802.11a/h	
<b>Frequency Bands</b>	802.11a/h hiperlan: 5,15 ~ 5,35GHz 5.47 ~5.725GHz with country regulations	
<b>Channel</b>	802.11a/h: 11 non overlapping (outdoor)	
<b>Processor</b>	300Mhz (W4N-CPE-s23f, W4N-CPE-s18f, W4N-CPE-s23-ff)	680Mhz (W4N-PP-s23hf)
<b>Modulations</b>	802.11a/h: OFDM (64-QAM, 16-QAM, QPSK, BPSK)	
<b>Media Access Protocol</b>	Wireless CSMA/CA, TDMA - Ethernet CSMA/CD	
<b>External connector interface</b>	1 ETH/POE (+ 1 Nf aux connector on W4N-CPE-s23ff)	
<b>Configuration and Management</b>	Management options Via Telnet, SSH, Web page, Windows utility - Configuration upload/download Software upgrade and configuration FTP/TFTP download up/download - SNMP agent SNMP V1 Client, MIB II, Bridge MIB	
<b>Dimensions</b>	Mounting (WxDxH): 37 x 37 x 20 cm Package (WxDxH): 43 x 43 x 11 cm	
<b>Weight</b>	4,5 kg approx	
<b>Power Specs</b>	10 to 28 Vdc with passive POE Power consumption: 7 to 12W	
<b>Environment Specs</b>	Operating: -20°C + 55°C Storage: -40°C + 80°C	Relative Humidity : up to 70% (non condensating) Water proof rate: IP66
<b>Regulatory approvals</b>	EN 60950-1:2001+A11 (EN 60950) - Product Safety EN 301 489-1 V1.8.1/ EN 301 489-17 V2.1.1- EMC requirements for radio equipment EN 301 893 v 1.5.1- Technical requirements for 5 GHz radio equipment RoHs complaints	
<b>Package contents</b>	Antenna with integrated device Pole mount with nuts and bolts	ETH cable insulator Power supply with integrated POE
<b>Accessories</b>	IDU-BATT: Indoor Unit with battery backup and 55W power supply (Short circuit, over load and over voltage protection) up to 8 hours without power supply	
<b>Warranty</b>	Standard warranty: 12 months from date of purchase - Extra warranty: 36 months total	

All the informations reported are subject to changes without any prior notification.

W4N-CPEs23-PPhf-0212



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