



MiMoStation 5NL

Outdoor Wireless MiMO Ethernet Bridge



PRODUCT HIGHLIGHTS AND ADVANTAGES

- Licence Exempt ETSI and FCC 5GHz Frequency – eliminates regulatory delays.
- 11 (ETSI), 4 (United Kingdom), 5 (USA), 236 (Unregulated Countries) non-overlapping channels allows many units to be deployed in the same area.
- User selectable channel width – 20 MHz or 40 MHz for scalable deployment and interference resiliency.
- **Superior interference immunity** allow efficient operation in even extremely crowded areas.
- Up to **100 Mbps TCP/IP true speed**, up to **300 Mbps raw datarate** and up to **25000 packets per second**.
- Next day deployment enables rapid service activation and payback.
- Cost effective alternative to leased lines.
- Outstanding software features: bridging, routing, NAT routing, Access Point, Client and PtP Bridge modes, SNMP, VLAN tagging and management, WEB Management, advanced QOS, DHCP client/server, firewall, PPPoE client and high grade encryption.
- Backward compatible with other 802.11a/n compliant devices.
- Optimal cost / performance ratio: highly cost efficient solution.
- Dynamic Frequency Selection (DFS) complies with ETSI EN 301 893 and OFCOM regulations to allow co-existence with Radar systems.
- Robust outdoor architecture: ensures unprecedented reliability and years of operation.
- Superior Atheros XSPAN AR9001 powered OFDM radio – enables NLOS (near line of sight) operation in dense urban environments.
- Non-compromising security - over the air 128 bit key AES encryption.
- Compact integrated solution – easy to install and operate.

The **MiMoStation 5NL**, a member of OSBRIDGE 5N products family, is a high performance, low cost 5GHz MiMO outdoor wireless bridge, designed to provide secure and reliable point to multipoint operation for Carriers, Internet Service Providers, Business Enterprises and Government organisations.



The **MiMoStation 5NL** is capable of operating as wireless router or multi-mac bridge to another **MiMoStation 5NL** device, or as a 802.11a/n Access Point, supporting up to **100 Mbps TCP/IP Net Throughput** over its air interface and up to **300 Mbps raw datarate**. The **MiMoStation 5NL** leverages both robust outdoor technologies and Orthogonal Frequency Division Multiplexing (OFDM) modulation with Atheros **2Tx2Rx XSPAN MiMo** Technology - with features such as Forward Error Correction coding, the product operates seamlessly and efficiently in challenging and high noise environments with stable throughput. The system also features advanced algorithms for automatic selection of modulation schemes and antenna chains to maximize data rate and improve spectral efficiency. These inherent advantages of the **MiMoStation 5NL** enable service providers to offer an effective PtP and PtMP solutions to a significantly higher subscriber base, at very high effective speeds, in high interference areas, that would otherwise be inaccessible.

Using Features such as Packet Aggregation two **MiMoStation 5NL** bridges operating in Point to Point mode handle over 20,000 packets per second. Combining high frequency reuse, selectable channel width with advanced interference management and immunity techniques, the **MiMoStation 5Ni** conserve valuable spectrum by allowing service provider to cover an extensive geographical area with a minimum number of channels.

MiMoStation 5NL can operate as **Polling Base Station**, utilizing OSBRIDGE proprietary **polling protocol** that overrides shortages of the standard 802.11a/n modes. OSBRIDGE proprietary WPM (**Wireless Polling MAC**) is a full featured **TDMA/TDD** protocol implementation on top of Atheros® AR9130 hardware, using Packet Aggregation, Adaptive Polling Algorithm and disabling of the CSMA Backoff Mechanism. WPM also provides link adaptation technology and improves bandwidth, robustness, and overall performance for each subscriber. A cluster of **10** or more **OSBRIDGE 5NL** devices mounted on one wireless PoP allows Network Operator to build a full featured base station and achieve real total TCP/IP speeds of over **1 Gigabit**.

MiMoStation 5NL software features such as bridging, routing, NAT routing, Access Point, Access Point Client, Polling Base/Client and PtP Bridge modes, VLAN Tagging, Filtering and Management, SNMP, WEB GUI Management, Advanced QOS, DHCP client/server, Firewall, PPPoE client, high grade encryption, port forwarding, remote syslog and built in troubleshoot utilities make this CPE one of the most flexible and cost effective broadband wireless platforms available today.

All **MiMoStation 5NL** products are robust outdoor units, built to perform in difficult climatic environments and withstand even the harshest weather conditions. Built in passive Power over Ethernet system allows only one ethernet cable to be used for both data and power transmission for up to 200 feet.

Datasheet

MiMoStation 5NL



Interface

Ethernet Interface	100 base-T Ethernet (RJ-45) with PoE
Wired LAN Protocol	IEEE 802.3 (CSMA/CD)
Wireless Interface	OFDM, TDD
Wireless LAN Protocol	IEEE 802.11a/n, 802.11a/n Turbo, WPM (Wireless Polling MAC)

Radio

Supported Frequencies (User Configurable)	Europe (ETSI):	5500 - 5700 MHz (11 channels) with DFS (Dynamic Frequency Selection)							
	USA (FCC):	5745 - 5825 MHz (5 channels)							
	UK (OFCOM FWA):	5735 - 5835 MHz (4 channels) with DFS (Dynamic Frequency Selection)							
	Africa&Asia (OTHER):	4920 - 6100 MHz (236 channels, 5 MHz step)							
Modulation Technique	BPSK, QPSK, 16QAM, 64QAM, HT20, HT40								
Channel Width	User Selectable – 40 MHz, 20 MHz, 18 MHz, 16 MHz, 14 MHz, 12 MHz, 10 MHz, 5 MHz								
Output Power									
	ETSI:	≤ 23 dBm							
	OFCOM:	≤ 23 dBm							
	FCC, Africa:	≤ 23 dBm							
Bit Data Rate (40 MHz channel, 2 Streams, GI=1)	300 Mbps	270 Mbps	240 Mbps	180 Mbps	120 Mbps	90 Mbps	60 Mbps	30 Mbps	
Receive Threshold (including built-in antenna)	-78 dBm	-80 dBm	-82 dBm	-86 dBm	-89 dBm	- 92 dBm	-96 dBm	-97 dBm	

System

Processor	AR9130 using 400 MHz MiPS 24Kc Processor
Memory	4MB FLASH, 32MB SDRAM
RF Module	Atheros AR9104 2Tx2Rx MiMO

Software

Operational Modes	Access Point, Polling Base, Access Point Client, Polling Client, Point to Point Bridge, Infrastructure Client
Security	Association Protocol – ESSID/BSSID, WEP 40/128, TKIP, AES
Features	Bridge, Router, NAT Router, VLAN Tagging, PPPoE Client, Port Forwarding, Firewall, QOS, DHCP Server
Management	WEB Interface, SNMPv2

Physical

Dimensions	180 mm X 250 mm X 75 mm
Operating / Storage Temperature	-40°C - +70°C / -40°C - +85°C
Enclosure	IP65 Rated, UV Protected, Outdoor Mountable, Weather Protected
Power Adapter	15V / 1.2A DC, Passive Ethernet (Power over Ethernet Injector included)
LEDs	3 – Power, Ethernet LAN Activity, Wireless Activity
Mounting	Adjustable Pole Mounting

Antenna

Type	Two N-Female connectors for external dual polarized sector or directional antenna
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Operational Distance

Bit Data Rate (40 MHz channel, 2 Streams, GI=1)	300 Mbps	270 Mbps	240 Mbps	180 Mbps	120 Mbps	90 Mbps	60 Mbps	30 Mbps
OSBRIDGE 5NL (25 dBi antenna, distance in meters)	10500	11500	13250	14700	16000	19700	19000	24000

Regulatory Compliance

CE mark, ETSI EN 301 893 Compliant, FCC Part 15 Compliant

Warranty

One year, Limited

Contact Information:

OSBRIDGE