

MiMoStation 2Ni

Outdoor Wireless MiMO Access Point / Bridge



PRODUCT HIGHLIGHTS AND ADVANTAGES

- **Superior MiMo based Atheros Hardware** and **software modified MAC Layer** allow efficient operation even in **extremely noisy areas**.
- Full Frequency Coverage - **2312 MHz to 2692 MHz** with **5 MHz** channel step - **78 Available Channels**.
- **Full Backward Compatibility** with Legacy 802.11b/g/n 3rd Party Hardware.
- Up to **90 Mbps true TCP/IP speed** in **2.4GHz Band**, up to **150 Mbps raw data rate** and over **15 000 packets per second**.
- Licence Exempt ETSI and FCC 2.4GHz Frequency – eliminates regulatory delays.
- **±40kV TruEthernet ESD LAN Port Protection**.
- **One Device that is Powerful enough** for all application types - **Polling Base Station, Polling Client, Access Point, Access Point Client or Point to Point Bridge**.
- User selectable **channel width – 5, 10, 20 or 40 MHz** for scalable deployment and interference resiliency.
- Atheros **MiPS32 24Kc 400MHz** based Network Processor and **highly optimized MAC/Software** for **unmatched performance in all real world conditions**.
- Next day deployment enables rapid service activation and payback.
- Superior **Atheros Align™ AR7240 powered OFDM radio** – enables NLOS (near line of sight) operation in dense urban environments.
- Outstanding software features: bridging, routing, NAT routing, CPE and PtP Bridge modes, SNMP, VLAN tagging and management, WEB Management, advanced QOS, DHCP client/server, firewall, PPPoE client and high grade encryption.
- Robust outdoor architecture: ensures unprecedented reliability and years of operation.
- Non-compromising security - over the air 128 bit key AES encryption.
- Compact integrated solution – easy to install and operate.

The **MiMoStation 2Ni**, a member of OSBRIDGE 2N product family, is an Ultra High Performance, low cost **2.4 GHz MiMo** outdoor wireless Access Point and Bridge, designed to provide secure and reliable point to multipoint operation for Carriers, Internet Service Providers, Business Enterprises and Government organisations.



The **MiMoStation 2Ni** is capable of operating as wireless router or multi-mac bridge to another **MiMoStation 2Ni** or any standard 802.11b/g/n Access Point, supporting up to **90 Mbps TCP/IP Net Throughput** over its air interface and up to **150 Mbps Bit Datarate**. The **MiMoStation 2Ni** leverages both robust outdoor technologies and Orthogonal Frequency Division Multiplexing (OFDM) modulation with new **Atheros Align™ 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 to maximize data rate and improve spectral efficiency. These inherent advantages of the **MiMoStation 2Ni** 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 2Ni** bridges operating in Point to Point mode handle **over 15000 packets per second**. Combining high frequency reuse, selectable channel width with advanced interference management and immunity techniques, the **MiMoStation 2Ni** conserve valuable spectrum by allowing service provider to cover an extensive geographical area with a minimum number of channels.

The **MiMoStation 2Ni** can be configured to utilize proprietary polling protocol - either as a **Polling Base Station** or as a **Polling Client** - 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® AR7240** 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 effectively allowing operation in even highly crowded 2.4GHz spectrum.

MiMoStation 2Ni software features such as bridging, routing, NAT routing, Polling Base, Client and CPE 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 2Ni** 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 2Ni



Interface

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

Radio

Supported Frequencies (User Configurable)	Europe (ETSI):	2412 - 2477 MHz (13 channels)							
	USA (FCC):	2412 - 2467 MHz (11 channels)							
	UK (OFCOM FWA):	2412 - 2477 MHz (13 channels)							
	Africa&Asia (OTHER):	2312 - 2692 MHz (78 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								
Output Power		MiMoStation 2Ni				MiMoStation 2Ni-Ex			
	FCC, Africa:	≤ 39 dBm EIRP				≤ 23 dBm			
	ETSI:	≤ 20 dBm EIRP				≤ 20 dBm			
	OFCOM:	≤ 20 dBm EIRP				≤ 20 dBm			
Bit Data Rate (40 MHz channel width, GI=1)	150 Mbps	135 Mbps	120 Mbps	90 Mbps	60 Mbps	45 Mbps	30 Mbps	15 Mbps	
Receive Threshold (including built-in antenna)	-95 dBm	-97 dBm	-99 dBm	-104 dBm	-107 dBm	-110 dBm	-114 dBm	-115 dBm	

System

Processor	Atheros AR7240 using 400 MHz MiPS32 24Kc Processor
Memory	4MB FLASH, 32MB SDRAM
RF Module	Atheros AR9285 Single Chip, CMOS MAC/Baseband/Radio, 1Tx1Rx MiMo

Software

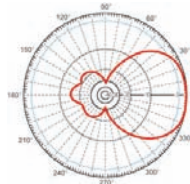
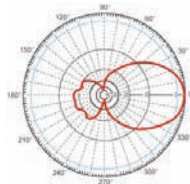
Operational Modes	Polling Base, Polling Client, Access Point, Access Point Client, Point to Point Bridge, Infrastructure Client
Security	Association Protocol – ESSID/BSSID, WEP 40/128/156, TKIP, AES
Features	Bridge, Router, NAT Router, VLAN Tagging, PPPoE Client, Port Forwarding, Firewall, QOS, DHCP Server
Management	WEB Interface, SNMPv2

Physical

Dimensions	187 mm X 190 mm X 70 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	2Ni: 16dBi Panel Antenna, Vertical or Horizontal Polarization, 2Ni-Ex: RP-SMA Connector for External Antenna
Built-in Antenna Patterns	E/H-Plane H/E-Plane



Average Operational Distance

Bit Data Rate (40 MHz channel, GI=1)	150 Mbps	135 Mbps	120 Mbps	90 Mbps	60 Mbps	45 Mbps	30 Mbps	15 Mbps
OSBRIDGE 2Ni (distance in meters)	7200	7600	8300	8900	9400	10900	10600	11600
OSBRIDGE 2Ni-Ex (distance in meters, 27dBi Grid)	21600	22700	25000	26700	28200	32700	32000	35800

Regulatory Compliance

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

Product Codes

OSB-2NiV	OSBRIDGE 2Ni - built in Vertical Polarization 16dBi Antenna
OSB-2NiH	OSBRIDGE 2Ni - built in Horizontal Polarization 16dBi Antenna
OSB-2NiEx	OSBRIDGE 2Ni-Ex - RP-SMA connector for External Antenna

Contact Information:

OSBRIDGE