



OSBRIDGE 5NXi

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, CPE 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 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 all metal enclosure and outdoor architecture: ensures un-precedented 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 **OSBRIDGE 5NXi**, a member of OSBRIDGE 5N products family, is a high performance **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 **OSBRIDGE 5NXi** is capable of operating as wireless router or multi-mac bridge to **OSBRIDGE 5N** or any standard 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 **OSBRIDGE 5NXi** leverages both robust outdoor technologies and Orthogonal Frequency Division Multiplexing (OFDM) modulation with **2Tx2Rx Atheros 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 **OSBRIDGE 5NXi** 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 **OSBRIDGE 5NXi** 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 **OSBRIDGE 5NXi** conserve valuable spectrum by allowing service provider to cover an extensive geographical area with a minimum number of channels.

While operating with **OSBRIDGE 5N** Base Station the **OSBRIDGE 5NXi** CPE can be configured to utilize 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® AR9100** 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.

OSBRIDGE 5NXi software features such as bridging, routing, NAT routing, Access Point, Access Point 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 **OSBRIDGE 5NXi** 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

OSBRIDGE 5NXi



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, 5MHz 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:	≤ 30 dBm EIRP							
	OFCOM:	≤ 33 dBm EIRP							
	FCC, Africa:	≤ 42 dBm EIRP							
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)	-97 dBm	-99 dBm	-101 dBm	-105 dBm	-108 dBm	-111 dBm	-113 dBm	-116 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, Access Point Client, Point to Point Bridge, Infrastructure Client, Polling 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

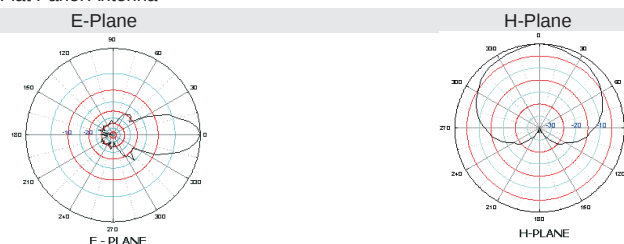
Physical

Dimensions	320 mm X 320 mm X 100 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	19dBi Dual Polarized Flat Panel Antenna
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Built-in Antenna Patterns



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 5NXi (distance in meters)	6100	7600	7200	7900	8400	8800	9400	10500

Regulatory Compliance

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

Warranty

One year, Limited

Contact Information:

OSBRIDGE