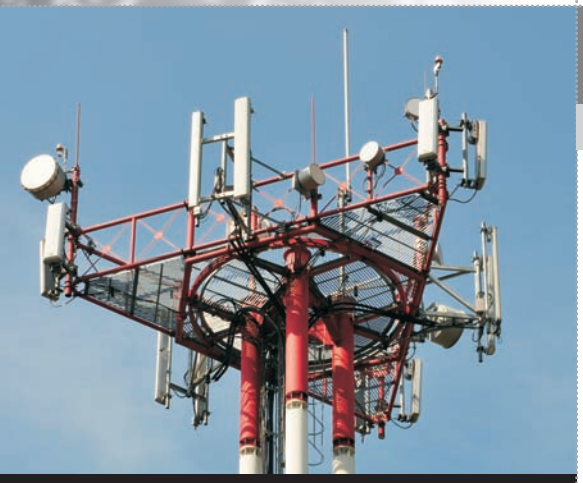
OSBRiDGE



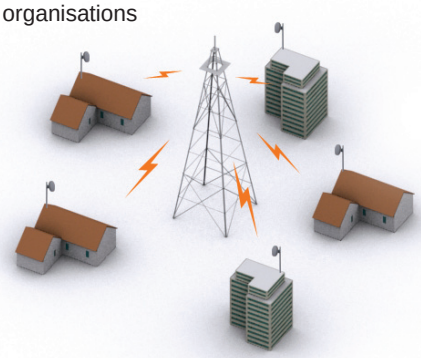
OSBRiDGE 5Si-MX

High Power Outdoor Wireless Access Point / Bridge

PRODUCT HIGHLIGTS AND ADVANTAGES

- Licence Exempt ETSI and FCC 5GHz Frequency eliminates regulatory delays.
- High Power radio up to **40 dBm** EIRP Output Power for long range LOS and NLOS operation.
- 11 (ETSI), 4 (United Kingdom), 5 (USA), 236 (Unregulated Countries) non overlaping channels allows many units to be deployed in the same area.
- User selectable channel width **5, 10, 20 or 40 MHz** for **scalable deployment and interference resiliency**.
- **±40kV TruEthernet ESD LAN Port Protection**.
- Up to **40 Mbps TCP/IP** speed and up to **8000 packets per second**.
- Next day deployment enables rapid service activation and payback.
- Cost effective alternative to leased lines.
- Outstanding software features: **Polling TDMA protocol**, Bridging, Routing, NAT Routing, Access Point, CPE and PtP Bridge modes, SNMP, web management, **Advanced QOS**, DHCP client/server, firewall, **VLAN Tagging, Filtering and Management**, PPPoE client and high grade encryption.
- Backward compatible with other vendors 802.11a compliant devices.
- Built in Dual Polarized antenna which allows user selectable operation in Vertical or Horizontal polarization.
- RP SMA Connector for external High Gain Antenna.
- Dynamic Frequency Selection (DFS) com plies with ETSI EN 301 893 and OFCOM regulations to allow co existence with Radar systems.
- Robust outdoor architecture: ensures unprecedented range and reliability, minim izes RF cable loss connecting to antenna thus providig outstanding performance and communication distance.
- Superior Atheros 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 5Si-MX**, a member of OSBRiDGE 5G products family, is a **high performance 5GHz 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 5Si-MX** is capable of oper ating as wireless router or multi mac bridge to OSBRiDGE 5G and other standard 802.11a Access Points, supporting up to **40 Mbps Net TCP/IP Throughput** over its air interface. The OSBRiDGE 5Si MX leverages both robust outdoor technologies and Orthogonal Frequency Division Multiplexing (OFDM) modulation in the same product with features such as Forward Error Correction coding, used to combat multi path and noisy environments, the product operates seamlessly and efficiently in challenging environments with stable throughput. The system also features advanc ed algorithms for automatic selection of modul ation schemes to maximize the data rate and improve spectral efficiency using latest tech nology based on Atheros® Radio Technology. These inherent advantages of the OSBRIDGE 5Si MX enable service providers to provide an effective PtMP solution to a significantly higher subscriber base that would otherwise be inacc essible.

Using Features such as **Packet Aggregation** two **OSBRiDGE 5Si-MX** devices operating as PtP bridges can handle up to **8000 packets per second**. Combining high frequency reuse, selectable channel width with advanced **interf-erence management and immunity techni-ques**, the **OSBRiDGE 5Si-MX** bridges conserve valuable spectrum by allowing service provider to cover an extensive geographical area with a minimum number of channels.

While operating with OSBRiDGE 5G base station the OSBRiDGE 5Si MX CPE can be configured to utilize proprietary **polling protocol** that overrides shortages of the standard 802.11a mode. **OSBRiDGE proprietary WPM (Wireless Polling MAC)** is a full **featured TDMA/TDD protocol implementation on top of Atheros® hardware**, using **Packet Aggregation**, **Adaptive Polling Algorithm** and disabling of the **CSMA Backoff Mechanism**. **WPM** provides link adaptation technology and improves bandwidth, robustness, and overall performance for each subscriber

Software features such as **bridging, routing, NAT routing, CPE and PtP Bridge modes**, SNMP, WEB management, **advanced QOS**, DHCP client/server, firewall, **PPPoE client**, high grade encryption, **VLAN Tagging and Management**, port forwarding, remote syslog and built in troubleshot utilities make the **OSBRiDGE 5Si-MX** one of the most flexible and cost effective broadband wireless CPE platform available today.

All **OSBRiDGE 5Si-MX** products are robust outdoor units, that are 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 100 feet (30 meters).

Datasheet

OSBRiDGE 5Si-MX

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, Atheros 802.11a Turbo, WPM (Wireless Polling MAC)

Radio

Supported Frequencies		Europe (ETSI):	5500 5700 MHz (11 channels) with DFS (Dynamic Frequency Selection)						
(User Configurable)		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							
Channel Width		User Selectable 802.11a: 20 MHz, 10 MHz or 5 MHz, 802.11a Turbo: 40 MHz							
Output Power	Africa, USA	**≤40 dBm EIRP,** ≤25 dBm (400mW / ±3 dBm) at the RP SMA connector, User Selectable Transmit Power							
	Europe	**≤30 dBm EIRP,** ≤25 dBm (400mW / ±3 dBm) at the RP SMA connector, User Selectable Transmit Power							
Bit Data Rate		54 Mbps	48 Mbps	36 Mbps	24 Mbps	18 Mbps	12 Mbps	9 Mbps	6 Mbps
Receive Threshold (including built-in antenna)		90 dBm	93 dBm	98 dBm	101 dBm	105 dBm	106 dBm	107 dBm	109 dBm

System

Processor	Atheros AR2313, 180MHz MIPS 4Kc Processor with Embedded Cache
Memory	4MB FLASH, 16MB RAM
RF Module	Atheros AR2313+AR5112

Software

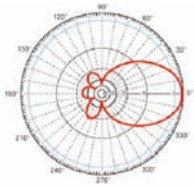
Operational Modes	Access Point, Access Point Client, Infrastructure Client, PtP Bridge, Polling Client, WDS Client
Security	Association Protocol ESSID/BSSID, WEP 40/128, WPA, WPA2, AES
Features	Bridge, Router, NAT Router, VLAN Filtering/Tagging, PPPoE, Port Forwarding, Firewall, QOS, Spectrum Analyzer
Management	WEB Interface, SNMPv2

Physical

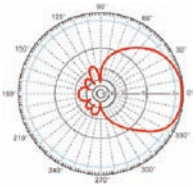
Dimensions	187 mm X 190 mm X 70 mm
Operating Temperature	40°C +85°C
Enclosure	Weather and UV Protected, Outdoor Mountable
Power Adapter	15V/1,6A DC, Passive Ethernet (Power over Ethernet injector included, pairs 4,5+; 7,8 return)
LEDs	Power, Ethernet LAN Activity, Wireless Activity, Wireless Link Quality (3 levels)
Mounting	Outdoor Pole Mounting

Antenna

Built in **15 dBi Dual Polarized Antenna**
(User selectable V/H Polarization)
RP-SMA connector for External Antenna



V/H Polarization



H/V Polarization

Operational Distance

Bit Data Rate	54 Mbps	48 Mbps	36 Mbps	24 Mbps	18 Mbps	12 Mbps	9 Mbps	6 Mbps
Distance(using built in antenna)	6200 m.	6900 m.	7500 m.	8400 m.	9200 m.	10200 m.	11500 m.	13500 m.

Regulatory Compliance

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

Warranty

12 Months, Limited

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