



Wi-Fi 6 Outdoor Wireless

Point-to-Point or Point-to-Multipoint Bridge

The EnGenius ENH500-AX 5GHz Wi-Fi 6 (802.11ax) 2x2 Outdoor Wireless Bridge features the newest generation of wireless technology delivering high density Wi-Fi performance transmissions between buildings and across large outdoor properties without the exorbitant cost of running fiber cable. With advantages over the older Wi-Fi standards, the Wi-Fi 6 bridge significantly increases throughput, supports greater efficiency, and accommodates 8k ultra HD video and heavy multi-application traffic with extended bandwidth over greater distances. The Wi-Fi 6 “invisible wire” bridge uses the latest in Wi-Fi technology to achieve longer ranges when paired with another Wi-Fi 6 bridge in a point-to-point/multiple point deployment.

Bullet Points / Differentiators

- Wi-Fi 6 technology for high-performance and efficiency Wi-Fi in outdoor environments.
- Beamforming optimizes antenna signal, reception & reliability for clients.
- 2x2 directional antennas to support up to 1,200 Mbps in 5-GHz.
- High 26 dBm transmit power extends Wi-Fi to yard or building-to-building.
- High gain 16 dBi Integrated directional antenna extend wireless networks up to 5 miles point-to-point.
- IP55-rated weatherproof & dustproof housing.
- Flexible Operation Modes: Access Point, Client Bridge, WDS Access Point, WDS Station.
- Gigabit Ethernet PoE port supports flexible power options.

Technical Specifications

ENH500-AX

Standards

IEEE 802.11ax on 5 GHz

(Backward compatible with 802.11b/g/n/ac)

Processor

Qualcomm® Dual-Core ARM Cortex A53s @ 1.0GHz CPU

Antenna

5 GHz (Port 1)

Average Antenna Gain: 16 dBi

Polarization: Linear

Azimuth Beam Width: 18°

Elevation Beam Width: 58°

VSWR: 1:2.0

5 GHz (Port 2)

Average Antenna Gain: 16 dBi

Polarization: Linear

Azimuth Beam Width: 18°

Elevation Beam Width: 85°

VSWR: 1:2.0

Physical Interface

2 x 10/100/1000 BASE-T, RJ-45 Ethernet Port

1 x Reset Button

LED Indicators

1 x Power

1 x LAN 1

1 x LAN 2

1 x WLAN

1 x Signal

Power Source

EPA5006GR PoE Injector

Maximum Power Consumption

12.5W

Surge Protection

Line to Line: 1 KV

Line to Ground: 2 KV

ESD Protection

Contact: 4 KV

Air: 8 KV

WIRELESS & RADIO SPECIFICATIONS

Operating Frequency

Single-Radio 5 GHz

Operation Modes

Access Point, Repeater, WDS Access Point, WDS Station

Frequency Radio

5 GHz: 5150 MHz ~ 5250 MHz, 5250 MHz ~ 5350 MHz, 5470 MHz ~ 5725 MHz, 5725 MHz ~ 5850 MHz

Transmit Power

Up to 26 dBm on 5 GHz

Tx Beamforming (TxBF)

Increasing signal reliability and transmitting distance.

Radio Chains/Spatial Stream

2x2:2

SU-MIMO

Two (2) spatial stream SU-MIMO for 5GHz up to 1,200 Mbps wireless data rate with VHT80 to a single 2x2 wireless client device under 5GHz radio.

MU-MIMO

Two (2) spatial streams multiple (MU)-MIMO for up to 1,200 Mbps wireless data rate to transmit to two (2) stream MU-MIMO 11ax capable wireless client devices under 5GHz simultaneously.

Supported Data Rates (Mbps)

802.11ax: 5 GHz: 18 to 1,200 (MCS0 to MCS11, NSS = 1 to 4)

802.11ac: 6.5 to 867 Mbps (MCS0 to MCS9, NSS = 1 to 2)

802.11n: 6.5 to 300 Mbps (MCS0 to MCS15)

802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54

Supported Radio Technologies

802.11ax: Orthogonal Frequency Division Multiple Access (OFDMA)

802.11ac/a/g/n: Orthogonal Frequency Division Multiple (OFDM)

Channelization

802.11ax supports high efficiency (HE) –HE 20/40/80 MHz

802.11ac supports very high throughput (VHT) –VHT 20/40/80 MHz

802.11n supports high throughput (HT) –HT 20/40 MHz

802.11n supports very high throughput under the 2.4GHz radio –VHT40 MHz (256-QAM)

802.11n/ac/ax packet aggregation: A-MPDU, A-SPDU

Supported Modulation

802.11ax: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM

802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM

802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM

802.11b: BPSK, QPSK, CCK

MANAGEMENT

Multiple BSSID

8 SSIDs for 5GHz radios

VLAN Tagging

Supports 802.1q SSID-to-VLAN Tagging

Management VLAN

Spanning Tree

Supports 802.1d Spanning Tree Protocol

QoS (Quality of Service)

IEEE 802.11e compliant

WMM

SNMP

v1, v2c, v3

MIB

I/II, Private MIB

Wireless Security

WPA3 Enterprise

WPA3-PSK (SAE)

WPA3/WPA2-PSK Mixed

WPA2 Enterprise

WPA2 AES-PSK

Hide SSID in Beacons

Client Isolation

ENVIRONMENT & PHYSICAL

Temperature Range

Operating: -4°F~140°F (-20°C~60°C)

Storage: -40°F~176 °F (-40°C~80°C)

Humidity (non-condensing)

Operating: 90% or less

Storage: 90% or less

DIMENSIONS & WEIGHTS

ENH500-AX Device

Weight: 1.34 lbs. (0.61 kg)

Length: 10.23" (260 mm)

Width: 2.16" (55 mm)

Height: 3.30" (84 mm)

Packaging

Weight: 2.35 lbs. (1.07 kg)

Length: 12.08" (307 mm)

Width: 4.96" (126 mm)

Height: 4.80" (122 mm)

Master Carton

Weight: 20.72 lbs. (8.7 kg)

Length: 20.19" (513 mm)

Width: 10.74" (273 mm)

Height: 13.62" (346 mm)

No. of boxes per carton: 8 units

Package Contents

1 – ENH500-AX Outdoor Wireless Bridge/Access Point

1 – PoE Injector (EPA5006GR)

1 – Power Cord

2 – Pole Mount Brackets

1 – Pole Mount Strap

1 – Wall Mount Screw Kits

1 – Product Card

Certifications

FCC, CE, IC

Warranty

1 Year