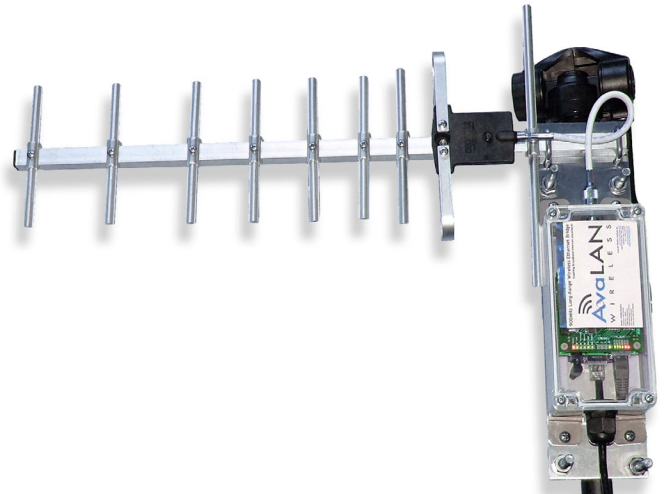**AvaLAN**
WIRELESS

# 900MHz Long Range Wireless Ethernet Bridge

**Enabling Broadband Internet Anywhere!**

The AW900x enables Non-Line-of-Sight Broadband access to remote Wi-Fi APs, Ethernet Pan/Tilt/Zoom Security cameras, VoIP phones or Internet Kiosks. AvaLAN's product offers the ideal combination of price, range, data rate, security, interference avoidance, Quality-of-Service and Ease-of-Use.

## Features:

- **Foliage penetrating,** non-line-of-sight wireless Ethernet bridging.
- **Does not interfere** with Wi-Fi networks.
- Highest **Quality of Service** (QoS) available – Synchronous point to point protocol enables extremely low data latency and jitter.
- **128bit encrypted** payload protection provides secure data delivery.
- Simple **plug and play -** pre-configured as matched pairs with no user programming required.
- Operates in the **902-928MHz** band and does not require an FCC license to operate or install.
- Power over Ethernet Enabled
- VLAN extensions supported.

## The best solution when:

- A **Cost-effective**, simple to install, Non-Line-of-Sight Wireless Broadband backhaul is required.
- Guaranteed DSL-rate throughput is required. (Wi-Fi APs/PTZ Cameras/ Kiosks)
- Guaranteed latency for voice or video is required. (VoIP/PTZ Cameras)
- Ultra low current consumption is required. (Solar powered systems)
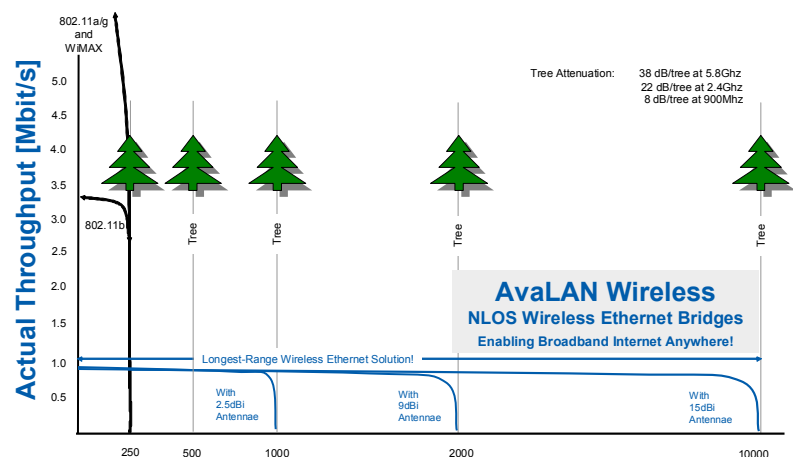
## Range:

**Antennas:**
+2.5dBi included
+10dBi(shown) and +15dBi available.

**Non-Line-of-Sight Range (Foliage):**
Up to 10x the range of Wi-Fi
  *(with +15dBi directional antennae)\**
Up to 2 miles with 4 trees
  *(with +15dBi directional antennae)\**
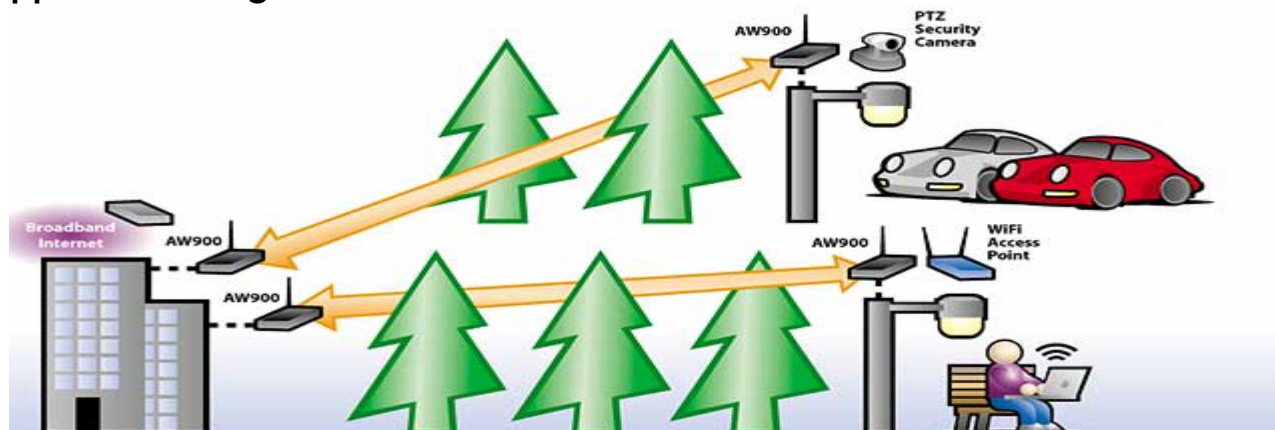
**Line of Sight (Clear Fresnel zone):**
Over 40 miles
  *(with +15dBi directional antennae)\**

*range many vary due to size of trees



Tree Attenuation: 38 dB/tree at 5.8Ghz
22 dB/tree at 2.4Ghz
8 dB/tree at 900Mhz

**Actual Throughput [Mbit/s]**

802.11a/g and WiMAX

802.11b

**AvaLAN Wireless**
**NLOS Wireless Ethernet Bridges**
**Enabling Broadband Internet Anywhere!**

Longest-Range Wireless Ethernet Solution!

With 2.5dBi Antennae

With 9dBi Antennae

With 15dBi Antennae

**Outdoor Range [ft]**

## Application diagram:



## Technical Specifications: (typical)

| Characteristic | Specification - description |
|---|---|
| RF transmission rate: | 1.5 Mb/s |
| Throughput | 935 Kb/s |
| Output power: | +21dBm |
| Receive sensitivity: | -101dBm at 10e-4 BER |
| Latency: | < 2ms – assuming a dedicated wireless link to client device. |
| Jitter: | ±0.5ms – depending upon packet size, interference and SNR. |
| Current consumption: | Power over Ethernet 802.3af (With POE disabled- 230mA at 4.5V) |
| Radio channels: | 12 Non-overlapping |
| Automatic frequency select: | Yes – radio channel automatically selected and adaptively optimized |
| Manual frequency mode: | Yes |
| Status LEDs: | Power, RF Link, Ethernet Link, Traffic, RF RX, RF TX, 4/Channel and 6/Link Quality |
| MAC pass-through filter: | Yes – can be disabled |
| Error correction technique: | Sub-block error detection and retransmission |
| Adjacent-band rejection: | >60dB - SAW receiver filter attenuates cellular and pager interference. |
| Enclosure Type: | NEMA 4X |
| Temperature range: | -30°C to 60°C |
| Power over Ethernet: | Includes 802.3af injectors/power supplies |

## Ordering information:

| Part number | Price | | Description | Contents |
|---|---|---|---|---|
| AW900x | MSRP | $999 | Outdoor Long Range Wireless Ethernet Bridge | 2 Outdoor Radios in NEMA4x enclosure,  2 power supplies |
| AW10 | MSRP | $119 | 10dBi antenna kit | 2 10dBi Yagi antennae (20in long) |
| AW15 | MSRP | $199 | 15dBi antenna kit | 2 15dBi Yagi antennae (39in long) |
| AW-LA | MSRP | $69 | Lightning Arrestor Kit | 2 N-type to RPTNC adapters, 2 lightning arrestors |

*Prices subject to change

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