4ipnet®

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The 4ipnet OWL410 is a 200mW Wi-Fi 802.11n/a device for **long range** wireless transmission. Its rugged IP68-rated metal housing is weatherproof, watertight and rust-resistant, making it an ideal solution for deployments in harsh conditions, such as outdoor or industrial environments.

OWL410 supports multiple operation modes (AP/Bridge/CPE) and works well as a last-mile solution for wireless ISPs (WISPs). When in **AP mode**, OWL410 operates as an AP station with wall-penetrating high-power signal and long-range coverage to better serve Wi-Fi clients. In addition, it can be set up as a WDS node by establishing multiple **WDS links to bridge** neighbor access points together.

Coming with business-class security, OWL410 in AP mode is also ideal for enterprise applications. Furthermore, one OWL410 with multiple SSIDs is capable of acting as multiple Virtual APs (VAPs). By tagging the traffic from each VAP with a unique VLAN ID, it allows for segmenting a corporate network using VLANs to protect critical resources.

When operating in **CPE (Client) mode**, it functions as a Wi-Fi modem gateway to receive wireless signal over the last-mile Internet feed from WISPs. The CPE's bandwidth to the Internet can be assigned by the WISP.

Being a versatile Wi-Fi device, OWL410 does not limit itself to outdoor usage only. When managed by a 4ipnet Controller (such as the WHG-series), it performs as a Wi-Fi base station in either a public or private wireless access deployment.
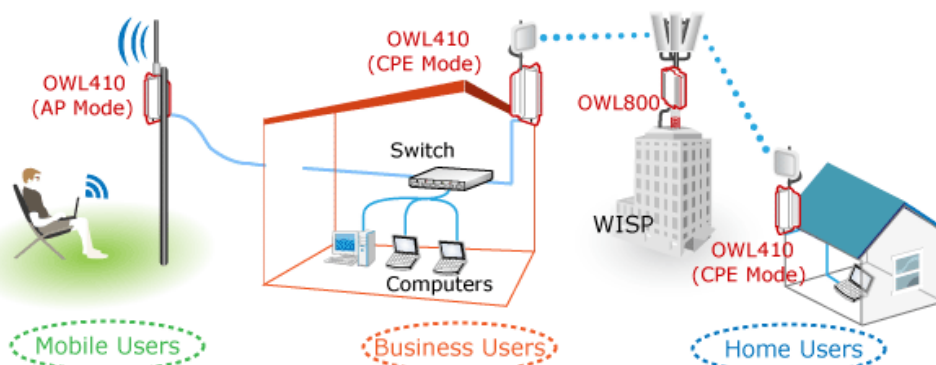
FEATURES & BENEFITS

Rugged, Compact-Sized, and Adaptive to Versatile Environments
- Diversified deployments:
  - (1) Municipal Wi-Fi service
  - (2) Home Owner Assocation (HOA), RV parks, and recreation resorts
  - (3) Hotels, mobile hospitals, and mobile libraries
  - (4) Shopping malls, airports, harbors, roadways, warehouse, and manufactuing plants
- IP68 weather- and water-proof, housed in durable, rust-resistant metal casing

High Transmit Power and Built-in Patch Antenna
- Up to 200mW output power from the board to transmit stronger signals for longer range
- Built-in patch antenna for installation convenience and efficiency

High-speed with QoS for Voice, Video, and Data Applications
- Equipped with a high-speed IEEE 802.11n/a chipset, supporting transmit rate up to 300Mbps
- Support IEEE 802.11e Wireless Multi-Media (WMM) to fulfill bandwidth thirsty triple-play (voice, video, and data) applications

Power over Ethernet (PoE) & Flexible Mounting Options
- PoE feature reduces the need of additional power cable to the device; a quality Power Supply Equipment (PSE) is bundled in the package
- Wall and pole mountable; mounting kit included

Multiple Operation Modes for Different Infrastructures
- Two administrator accounts – one for WISP to manage wireless broadband subscribers
- Multiple operation modes:
  - (1) **AP Mode** – pure AP
  - (2) **WDS Mode** – AP with wireless bridge
  - (3) **Universal Repeater Mode** – with MAC NAT
  - (4) **CPE Mode** – wireless modem with IP sharing

Business-class Security and Multiple-SSID/ VLAN tagging Support
- Full range of enterprise-grade wireless security mechanisms such as WEP, WPA and WPA2 (802.11i)
- Multiple-SSID capability enables one OWL410 to behave like up to 6 unique APs, the equivalent of 6 wireless Virtual LANs (VLANs) to securely segment wireless network traffic
- Support client isolation in public hotspot operation

Wireless Radio

➤ Frequency band: 5GHz
➤ Modulations:
   OFDM (64QAM, 16QAM, QPSK, BPSK)
➤ Data rate with auto fallbak:
   (1) 802.11a: 6 – 54Mbps
   (2) 802.11n: 6.5 – 300Mbps
➤ Receiver sensitivity:
   (1) 802.11a: 6Mbps@-91dBm
   (2) 802.11a: 54Mbps@-78dBm
   (3) 802.11n/a: MCS0(HT40)@-86dBm
   (4) 802.11n/a: MCS7(HT40)@-70dBm
   (5) 802.11n/a: MCS8(HT40)@-87dBm
   (6) 802.11n/a: MCS15(HT40)@-65dBm
➤ RF max transmit power:
   (1) US version: 200 mW
   (2) EU version: 100 mW

Multipe Operating Modes

➤ Wireless architecture:
   (1) AP mode
   (2) WDS repeater mode (WDS Bridge)
       Supporting up to 4 WDS links per AP
   (3) Universal repeater mode (MAC NAT)
        Acting as AP and STA client simultaneously
   (4) CPE mode (Client gateway)

General Access Point Features

➤ Number of ESSID: 6
➤ Number of associated clients per VAP: 32
➤ Setting for maximum number of associated clients
➤ Beacon interval: Adjustable to best adapt to the deployment environment
➤ Auto fallback: Data rate for long distance communication in noisy environments
➤ IAPP: To provide a faster roaming capability for the stations among different APs nearby
➤ RTS/CTS and fragmentation control
➤ Adjustable transmission power: 5 levels
➤ Wireless site survey: For scanning the surrounding access points for connection

Security

➤ Data encryption: WEP (64/128-bits), WPA/WPA2 with TKIP or AES-CCMP with key's refreshing period setting
➤ User Authentication: WEP, IEEE 802.1X, WPA-PSK, WPA-RADIUS, MAC ACL
➤ Supports IEEE 802.11 mixed mode; open and shared key authentication
➤ Hidden ESSID: Broadcast SSID enable / disable
➤ Station Isolation : All associated stations can not communicate with each other when enabled
➤ Supports AES data encryption over WDS link

Gateway Features in CPE Mode

➤ Built-in NAT mode: To support IP sharing on the LAN side for multiple users (subscribers) to get access to the Internet
➤ Built-in DHCP server for issuing local IP addresses
➤ Built-in DDNS/DNS client
➤ Bandwidth management: To limit the uplink and downlink throughput
➤ Client connection control: For WISP's operator to remotely suspend or resume the service for subscribers at the CPE
➤ IP/Port forwarding and DMZ

Administration

➤ Web-based management interface with remote configuration management and firmware upgrade capabilities
➤ Software one-button-click to reset factory defaults
➤ Utilities for system configuration backup and restoration
➤ Two administration accounts in CPE mode:
   (1) "root" for the WISP administrator, who can change all settings including bandwidth limit
   (2) "admin" for the local administrator, who can view all settings and change only some preferences
➤ SNMP MIBII support (v1/v2c)
➤ NTP time synchronization
➤ Syslog client
➤ Supports Event Log and SYSLOG reporting to external server

Hardware and Environment

➤ Metal case: Weather proof, compliant with IP68 Standard
➤ LAN Port: 1 × 10/100 Base-T Ethernet with PoE
➤ Built-in dual polarization antenna 14dBi
➤ LED Indication: Power x 1; Ethernet x 1; Wireless x 1
➤ PSE for PoE: DC 48V/0.4A (included)
➤ Form Factor: Wall or Pole Mountable
➤ Dimensions (W x D x H): 6.5" x 3.8" x 1.9" (165 x 96 x 48 mm)
➤ Weight: 1.6 lbs (0.72 kg)
➤ Operation Temperature: -30 ~ +70 °C (-22 ~158 °F)
➤ Storage Temperature: -40 ~ +85 °C (-40~185 °F)
➤ Operation Humidity: 100% maximum (Non-condensing)
➤ Storage Humidity: 100% (Non-condensing)

Certifications

➤ FCC, CE, IP68, RoHS compliant

Package Contents

➤ 4ipnet OWL410 x 1
➤ CD-ROM (with User's Manual and QIG) x 1
➤ Quick Installation Guide (QIG) x 1
➤ PSE with Power cord x 1
➤ Mounting Kit x 1

** Specifications subject to change without notice

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