



EnSky Series

11ax (Wi-Fi 6) Outdoor Access Points

Future Proof, Crowd Proof Networks

As mobile technology advances, we will see more congestion and a high density of connected devices on wireless networks. Network administrators must plan for the impact this increase in devices will have on their network's capacity. The EWS850AP utilizes the Wi-Fi 6 technology standard while supporting the future of mobile technology. The AP handles densely crowded outdoor environments simultaneously through two spatial streams and Beamforming technology, which focuses the antenna signal directly to the respective client devices, providing optimal signal and reception reliability for users.



Features & Benefits

- Dual concurrent 802.11ax architecture and backward compatible with 802.11a/b/g/n/ac client devices.
- Advanced 1024-QAM allows 25% data throughput increase from legacy 11ac access points.
- Bi-directional (downlink / uplink) OFDMA enables more efficient channel use to reduce latency between APs & client devices in dense environments.
- Bi-directional (downlink / uplink) MU-MIMO will reduce usage of airtime for each transmission between APs & client devices delivering higher speeds & increased capacity
- Target Wake Time (TWT) for Power-Saving Wake Times
- 360° omni-directional antennas to achieve comprehensive coverage for networking client devices under pervasive environments.
- Compliance with proprietary 48V PoE input for flexible installation and implementing remote reset/reboot for APs over 100 meters (328 feet) away.
- Robust housing with IP67 enclosure to deploy in extreme weather conditions.
- Deliver high resolution content or multiple IP surveillance streams over wireless transmission.
- Systematic and distributed management with EnGenius ezMaster, SkyKey Controller or EnSky Managed Switches with no licensing or subscription fees.

Exceptional Performance in Harsh Outdoor Climates

Designed for peak performance in harsh climates, the EWS850AP features an IP67-rated waterproof and dustproof enclosure ensuring it can withstand harsh outdoor environments. This includes prolonged exposure outdoors to sunlight, extreme cold, frost, snow, rain, hail, heat, and humidity.



Extend & Maximize Wi-Fi 6 (11ax) Wireless Coverage Outdoors

Extend the network over short or long-distances with robust 25dBm output power coupled with four (4) detachable, SMA-type, Omni-directional, 5 dBi MU-MIMO antennas that deliver network connectivity 360° to stadiums, resort properties and large outdoor areas.

11ax

Next-Generation Wi-Fi

The EnSky Series Wi-Fi 6 Outdoor Access Points take advantage of 11ax technology, which enables more efficient channel use, reduces latency between AP and client devices, and provides ground-breaking features, such as uplink and downlink of OFDMA, Target Wake Time, uplink and downlink of MU-MIMO, BSS Coloring, spatial reuse, and preamble updates.

- OFDMA (in both uplink and downlink): enables more efficient channel use, reduces latency between AP and client devices, and provides backward-compatibility with 2.4 GHz and 5 GHz
- 1024 QAM: boosts throughput by 25% and provides greater reliability in short distances
- BSS coloring: tags packets with a “color” to differentiate between adjacent basic service sets to potentially help minimize co-channel interference (CCI)
- Spatial reuse: identifies the different “colors” via BSS coloring and simultaneously transmits on the same channel, which reduces waiting time and lessens contention; determines whether the transmission will be deferred or reused on the channel
- Uplink & downlink of MU-MIMO: supports up to eight client devices and provides greater network efficiency, focuses radio energy on specific users, and ensures optimal signal and reception reliability
- Target Wake Time (TWT): reduces power consumption, schedules wake times, and extends client battery life of mobile and IoT devices
- Longer OFDM symbols: enables shorter wait times between data transmissions and tolerates more noise, which allows greater coverage

Flexibility in Deployment

EnSky's new Wi-Fi 6 Outdoor line of high-performance, managed, Outdoor pole and wall-mount access points consists of 2x2 11ax dual-band for high-capacity use that are ready to immediately deploy. Configure APs individually as stand-alone units. Locally manage up to 50 APs per EnSky Managed switch and 100 devices per SkyKey Controller and ezMaster software to control 1,000+ APs and switches.

The Latest in Wi-Fi Security

For enhanced wireless security, the EnSky Wi-Fi 6 (11ax) access points support wireless encryption standards such as Wi-Fi Protected Access (WPA3/WPA2 Enterprise/PSK) Encryption and IEEE 802.1X with RADIUS. MAC Address Filtering grants network administrators control to allow or deny network access to client devices computers, tablet PCs, NAS, & smartphones according to their MAC addresses. The high level of security expected and demanded by enterprises now protects SMBs as well.

Secure Guest Networks

Organizations that offer access to patrons or visitors— notably hotels, retail shops and restaurants—will appreciate EnSky's guest network capabilities. Establish a secure guest network that blocks access to main corporate computers. Create separate Virtual LANs for increased security, network reliability, and bandwidth conservation.

Power-over-Ethernet Convenience

EnGenius EWS850AP Wi-Fi 6 (11ax) outdoor access points support 1 Gigabit PoE ports, enabling placement in discreet locations where power outlets are scarce or unavailable. Power the access points through a connected Ethernet cable directly to an EnSky Managed Gigabit PoE+ switch or with a PoE adapter up to 328 feet from the power source.

Simplified Deployment & Provisioning

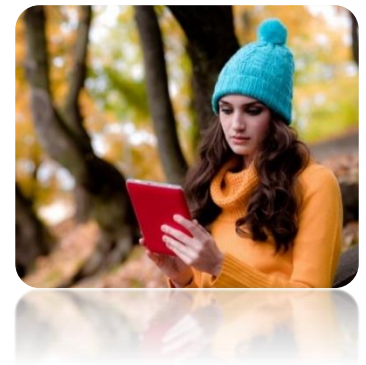
In combination with EnSky Managed Switches, ezMaster and SkyKey Network Management Software, EnSky Wi-Fi 6 APs are automatically discovered and provisioned. One-click individual or bulk configurations and upgrades save time. In addition, these access points are quickly and easily deployed and operated by users with limited networking experience.

Manage Up to 10000 APs with ezMaster

In small settings, any EnSky Managed Switch can act as a wireless controller capable of managing up to 50 EnSky Access Points. IT administrators have access to all connected EnSky devices and a full array of Layer 2 management tools. Choose between 8-, 24-, and 48-Port PoE+ switch models with flexible deployment and management options.

Manage Up to 100 APs with the ezMaster in the EnSky SkyKey Controller. The SkyKey is a hardware device with the ezMaster wireless controller built in, capable of managing up to 100 EnSky Access Points and switches. ezMaster's intuitive interface and simple plug-and-play integration securely provide efficient device management, cloud accessibility that allows remote management of multiple networks from a single portal.

ezMaster controller software is FREE available as software to run on a Virtual Machine, with 1000 device management capability and as Amazon Machine Image with a device management capability of up to 10000 devices!



EnSky Series 11ax Outdoor Access Points



	IP67 Outdoor
Models	EWS850AP
Standards	802.11a/b/g/n/ac/ax
Frequency	2.4 GHz & 5 GHz
2.4 GHz Max. Data Rate	574 Mbps
5 GHz Max. Data Rate	1200Mbps
Radio Chains/Streams	2 x 2 : 2
RF Output Power (2.4 GHz)	23 dBm
RF Output Power (5 GHz)	25 dBm
Ethernet Ports	1 x Port (PoE) 2.5 Gigabit Ethernet
Power-over-Ethernet	802.3at
Power Consumption (Peak)	19.5W
External RP-SMA Antenna	2(x) 5 dBi @ 2.4 GHz 2(x) 5 dBi @ 5 GHz

Technical Specifications

Standards

EWS850AP
IEEE 802.11ax on 2.4 GHz
IEEE 802.11ax on 5 GHz
Backwards compatible with 802.11a/b/g/n/ac

Processor

EWS850AP
Qualcomm® Quad-Core CPU

Antenna

EWS850AP
2 x 2.4 GHz: 5 dBi
2 x 5 GHz: 5 dBi
RP-SMA Detachable Omni-Directional Antenna

Physical Interface

EWS850AP
1 x 10/100/1000/2500 BASE-T, RJ-45 Ethernet Port

LED Indicators

EWS850AP
1 x Power
1 x LAN
1 x 2.4 GHz
1 x 5 GHz

Power Source

EWS850AP
Power-over-Ethernet: 802.3at/af Input
Proprietary 48V-54V

Maximum Power Consumption

EWS850AP
15.9W

Wireless & Radio Specifications Operating Frequency

EWS850AP
Dual-Radio Concurrent 2.4 GHz & 5 GHz

Operation Modes

EWS850AP
Managed mode: Access Point, Mesh
Stand Alone Mode: Access Point, Client Bridge, Mesh, WDS-AP/Bridge/Station

Frequency Radio

EWS850AP
2.4 GHz: 2400 MHz ~ 2482 MHz
5 GHz: 5150 MHz ~ 5250 MHz, 5250 MHz ~ 5350 MHz, 5470 MHz ~ 5725 MHz, 5725 MHz ~ 5850 MHz

Transmit Power

EWS850AP
Up to 23 dBm on 2.4 GHz
Up to 25 dBm on 5 GHz

Tx Beamforming (TxBF)

EWS850AP

Radio Chains/Spatial Stream

EWS850AP 2x2:2

SU-MIMO

EWS850AP

Two(2) spatial streams SU-MIMO for 2.4GHz and two(2) spatial streams SU-MIMO for 5GHz up to totally 1,774Mbps wireless data rate to a single 11ax wireless client device under both 2.4GHz and 5GHz radio.

MU-MIMO

EWS850AP

Two(2) spatial streams multi-user (MU)-MIMO for up to 1201 Mbps wireless data rate to transmit to one(1) two streams MU-MIMO 11ax capable wireless client devices under 5GHz simultaneously.
Two(2) spatial streams multi-user (MU)-MIMO for up to 574 Mbps wireless data rate to transmit to one(1) two streams MU-MIMO 11ax capable wireless client devices under 2.4GHz simultaneously.

Supported Data Rates (Mbps)

EWS850AP

802.11ax:

2.4 GHz: 9 to 574 (MCS0 to MCS11, NSS = 1 to 2)

5 GHz: 18 to 1201 (MCS0 to MCS11, NSS = 1 to 2)

802.11b: 1, 2, 5.5, 11

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

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

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

Supported Radio Technologies

EWS850AP

802.11ax: Orthogonal Frequency Division Multiple

Access (OFDMA)

802.11b: Direct-sequence spread-spectrum (DSSS)

802.11ac/a/g/n: Orthogonal Frequency Division

Multiple (OFDM)

Channelization

EWS850AP

802.11ax supports high efficiency (HE)
–HE20/HE40/HE80 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

EWS850AP

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

EWS850AP

8 SSIDs for both 2.4GHz and 5GHz radios

VLAN Tagging

EWS850AP

Supports 802.1q SSID-to-VLAN Tagging

Cross-Band VLAN Pass-Through

Management VLAN

VLAN Per SSID

Spanning Tree

EWS850AP

Supports 802.1d Spanning Tree Protocol

QoS (Quality of Service)

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Complaint With IEEE 802.11e Standard

WMM

SNMP

EWS850AP

v1, v2c, v3

MIB

EWS850AP

MIB I/II, Private MIB

Management Features Deployment Options

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Stand-Alone (Individually Managed)

Managed Mode (with EnSky Series Switch/ezMaster)

Stand-Alone Management Features

EWS850AP

Auto Channel Selection

Auto Transmit Power

Wireless STA (Client)

Connected List Auto Channel Selection

Captive Portal Per SSID

Fast Roaming (802.11k & 802.11r)

Pre-Authentication (802.11i, 802.11x)

PMK Caching (802.11i)

Band Steering per SSID

Traffic Shaping per SSID/per user

VLAN Per SSID

Backup/Restore Settings

Auto Reboot

E-Mail Alert

Site Survey

Save Configuration as Users' Default

RSSI Threshold

Wireless Management Features (With ezMaster & EnSky Switch)

EWS850AP

AP Auto Discovery & Provisioning

AP Auto IP Assignment

AP Group Management

Auto AP Rebooting

AP Device Name Editing

Band Steering Per SSID

Traffic Shaping Per SSID and Per User

Fast Roaming (802.11k & 802.11r)

Pre-Authentication (802.11i, 802.11x)

PMK Caching (802.11i)

AP Client Limiting

Client Fingerprinting

AP VLAN Management

VLAN Per SSID

Captive Portal Per SSID

Multi-Tenant Account

AP Traffic Log

Access Point Status Monitoring

Wireless Client Monitoring

Email Alert

Wireless Traffic & Usage Statistics

Real-Time Throughput Monitoring

Visual Topology View

Floor Plan View

Map View

Wireless Coverage Display

Secure Control Messaging (SSL Certificate)

Local MAC Address Database

Remote MAC Address Database (RADIUS)

Unified Configuration Import/Export

Bulk Firmware Upgrade Capability

One-Click Update

Intelligent Diagnostics

Kick/Ban Clients

Wi-Fi Scheduler

Schedule reboot

Hotspot 2.0

Wireless Security

EWS850AP

WPA3

WPA2 Enterprise (AES)

Hide SSID in Beacons

MAC Address Filtering, Up to 32 MACs per SSID

Wireless STA (Client) Connected List

SSH Tunnel

Client Isolation

Ingress Protection Level

EWS850AP

IP67

Surge Protection

EWS850AP

1KV

ESD Protection

EWS850AP

Contact = 4KV

Air = 8KV

Environment & Physical Temperature Range

EWS850AP

Operating: -20°C ~60°C

Storage: -30°C~80°C

Humidity (non-condensing)

EWS850AP

Operating: 90% or less

Storage: 90% or less

Dimensions & Weights EWS850AP Device

EWS850AP

Weight: 0.72 kg

Width: 124 mm

Depth: 47 mm

Height: 190 mm

Packaging

EWS850AP

Weight: 1.8 kg

Length: 284 mm

Width: 234 mm

Height: 144 mm

Master Carton

EWS850AP

Weight: 10.8kg

Length: 490 mm

Width: 450 mm

Height: 310 mm

No. of boxes per carton: 6 units

Package Contents

EWS850AP

1 – Dual-Band AX1800 Outdoor Access Point

2 – 2.4 GHz 5dBi RP-SMA Antennas

2 – 5 GHz 5dBi RP-SMA Antennas

1 – Mount Base

2 – Pole Clamp

1 – Wall Mount Screw Kit

1 – Quick Installation Guide

1 – PoE Adapter (EPA5006GR)

1 – Power Cord

Certifications

EWS850AP

FCC Subpart15 B Subpart C 15.247 Subpart E 15.407

CE EN300328 EN301893 EN301489 EN50385
EN55032 EN55035 EN61000

CB IEC 60950-1 IEC 60950-22 IEC 62368-1

IC

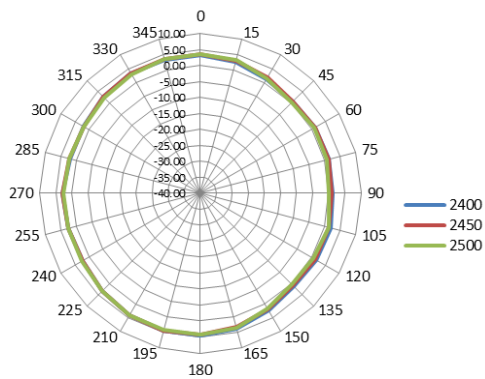
Warranty:

EWS850AP

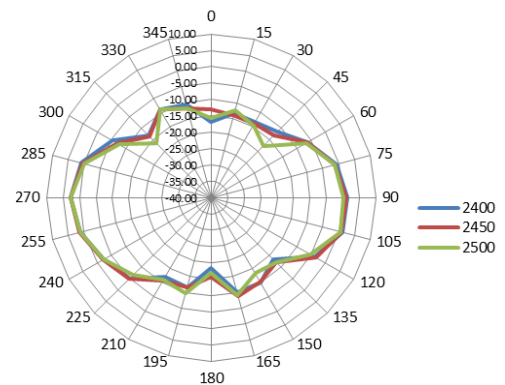
2 Years

Antenna Patterns EWS850AP

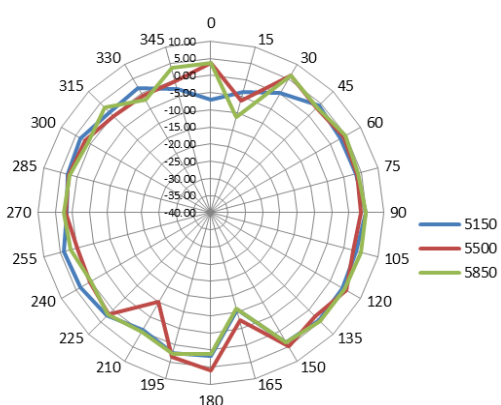
2.4GHz H-Plane



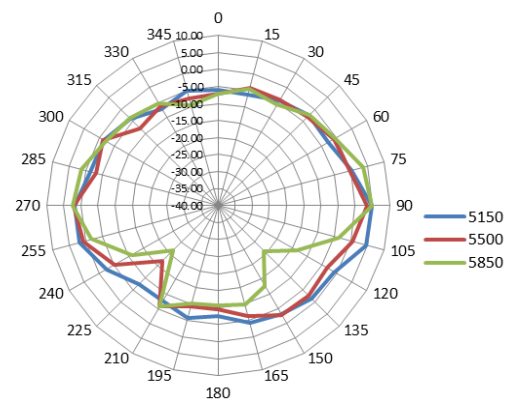
2.4GHz E-Plane



5GHz H-Plane



5GHz E-Plane



RF Performance Specification

Channel	Data Rate	Transmit Power (Aggregated, dBm)	Receive Sensitivity (Aggregated, dBm)
802.11b 2.4 GHz	1 Mbps	23	-93
	11 Mbps	23	-85
802.11g 2.4 GHz	6 Mbps	23	-88
	54 Mbps	21	-72
802.11a 5 GHz	6 Mbps	25	-90
	54 Mbps	22	-72
802.11n HT20 2.4 GHz	MCS 0 / 8	23	-88
	MCS 7 / 15	21	-69
802.11n HT40 2.4 GHz	MCS 0 / 8	22	-85
	MCS 7 / 15	20	-66
-802.11n HT20 5GHz	MCS 0 / 8	25	-90
	MCS 7 / 15	22	-70
802.11n HT40 5GHz	MCS 0 / 8	25	-87
	MCS 7 / 15	22	-68
802.11ac VHT20 5GHz	MCS0	25	-90
	MCS8	21	-66
802.11ac VHT40 5GHz	MCS0	25	-87
	MCS9	20	-63
802.11ac VHT80 5GHz	MCS0	25	-83
	MCS9	20	-58
802.11ax HE20 2.4GHz	MCS0	23	-88
	MCS11	17	-60
802.11ax HE40 2.4GHz	MCS0	23	-85
	MCS11	18	-57
802.11ax HE20 5GHz	MCS0	25	-90
	MCS11	19	-60
802.11ax HE40 5GHz	MCS0	25	-87
	MCS11	19	-58
802.11ax HE80 5GHz	MCS0	25	-83
	MCS11	19	-55

EWS850AP Overview

