EnGenius®

Neutron AP Datasheet

The Neutron Series



Key Features

- Integrated WLAN management solution with Neutron Series Switches
- Gigabit Ethernet port with IEEE 802.3 af/at standard PoE support
- Internal high-performance antennas for low profile design
- SNMP v1/ v2c/v3, MIB I/II supported
- WEP/WPA/WPA2 wireless encryption
- IPv4/IPv6 support
- Effective and flexible bandwidth management
- Client limiting and fast handover supported
- Secure Guest Network option available
- Ideal for audio, video and voice application

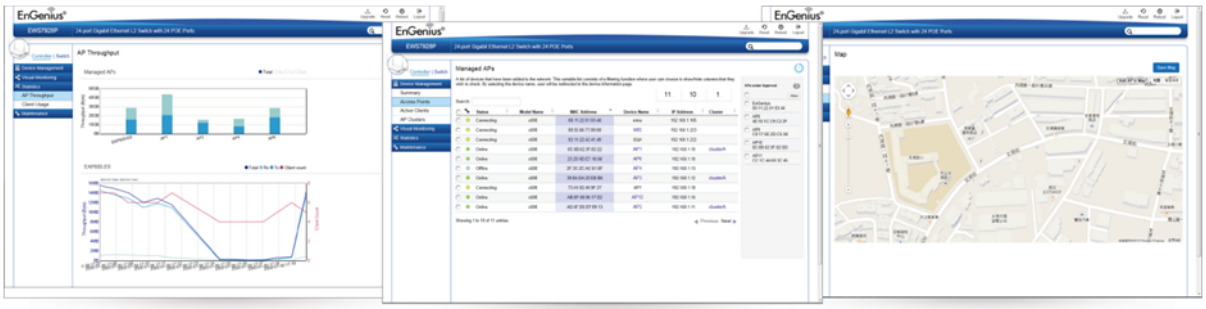
Neutron Indoor Managed Access Points

Complete range of enterprise-grade indoor access points

EnGenius Neutron Indoor Series Access Points are ideal for any IT manager to create or to expand the capacity of their current wireless network. A complete portfolio ranging from entry-level single band 802.11n to high-end dual band 802.11ac models are available to be mixed and matched to create the most suitable wireless environment for your demands. Built for high performance, EnGenius Neutron Indoor Series Access Points are engineered with the reliability and simplicity that are beyond your expectations!

Enhanced signal strength to further extend WLAN coverage
Equipped with internal antennas designed for high power radio, Neutron Access Points has been enhanced to provide higher signal strength and sensitivity; this will assist to reduce dead spots in your deployed WLAN and boost received signal quality on both ends of AP and wireless client devices.

Configuration and management with ease
Neutron Series Access Points can be flexibly deployed either as a standalone wireless access point or as a managed access point controlled by a Neutron Wireless Management Switch; a part of EnGenius' integrated WLAN management solution, providing intuitive web-based configuration, management, and monitoring features. The AP is automatically discovered and provisioned by the Neutron Wireless Management Switch in your network, and once added into the managed device list, IT managers can effortlessly use individual or cluster settings to rapidly deploy numerous AP with the desired settings, saving repetitive configuration tasks.



802.3af/at-compliant Power-over-Ethernet (PoE) for alternative power sourcing
Neutron APs can be either powered by the enclosed power adapter or any off-the-shelf 802.3af/at-compliant PoE switches, solving common power sourcing issue in the field where devices are usually placed at drop-ceiling or mounted on walls. With PoE power management from the Neutron Switch, AP device power budget and consumption can be instantly configured and monitored.

Flexible bandwidth management and enterprise-class WLAN security for versatile applications
Neutron Access Points supports the latest standards in Wi-Fi security, including WEP, WPA and WPA2. In addition, Neutron APs supports up to 8 SSIDs per radio, which allows IT managers to assign different access privileges to different groups of users. In terms of user mobility, PMKSA caching will facilitate fast roaming upon handoff so that the remaining 4-way handshake can complete the key exchange within the association process to reduce time interval. In addition, Guest Network feature also allocates a separate network segment for guest access within the deployed WLAN so access attempts on internal networks can be restricted.

High Power, Long-Range and Multiple Floor Penetration
Designed for long range with high antenna sensitivity, both 2.4GHz and 5 GHz RF transmit power enables the wireless signal to penetrate floors, ceilings, and walls for greater device connectivity.

Dual Band Operation
- The 2.4 GHz and the 5 GHz frequency bands for expanded user capacity.
- Greater number of channels available on the 5 GHz frequency spectrum to support higher bandwidth applications like HD video streaming.

Band Steering
When wireless networks experience congested traffic, users may suffer slower file transfers and frequent video buffering especially on the 2.4 GHz band. Neutron AP dual-band models include a Band Steering option which can be enabled to automatically shifts the connection of Dual-Band client computers, tablets, smart phones and other devices to the 5 GHz band where there is less traffic and more available RF channels, leaving single-band 2.4 GHz (802.11b/g/n) clients to operate on the 2.4 GHz band that greatly optimizes overall bandwidth traffic on the network.

Fast Roaming
Multiple Neutron APs can also be configured for Fast Roaming. This feature uses protocols defined in 802.11r to allow continuous connectivity for wireless devices in motion, with fast and secure roaming from one AP to another. Coupled with 802.11k, wireless devices are able to quickly identify nearby APs that are available for roaming and once the signal strength of the current AP weakens and your device starts to search for a new AP, it will identify which AP is the best to connect with. This means that employees can be constantly connected to the network – whether they are warehouse workers scanning and capturing barcode information, employees on Wi-Fi phone calls while walking to meetings on another part of a building or healthcare professionals capturing patient information on mobile devices.

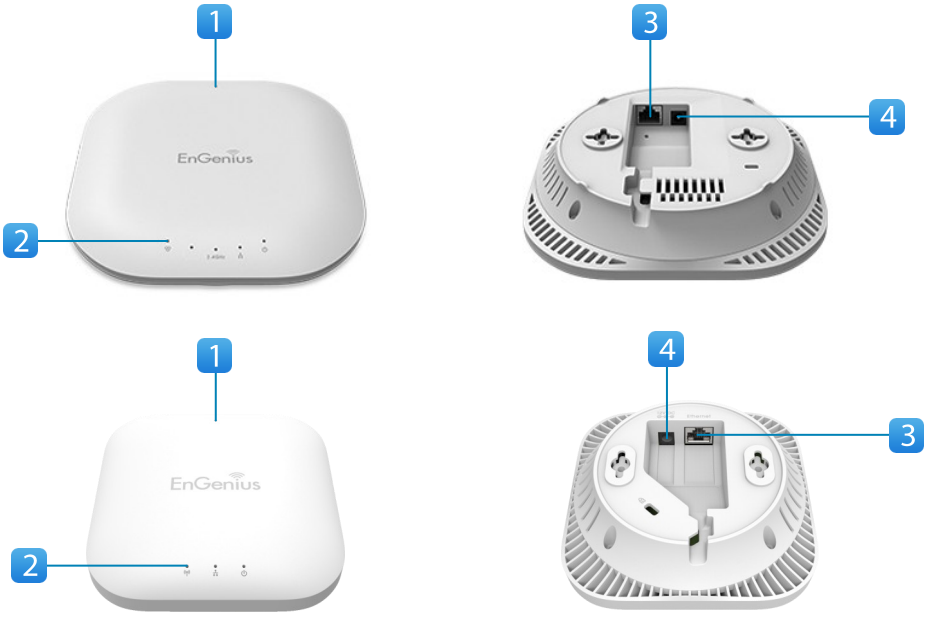
SSID-to-VLAN Tagging
Can be configured to broadcast up to eight (8) SSIDs per frequency band. Each SSID can be tagged to a specified company network VLAN for different user access based on established access rights.

Mesh Mode (Available soon)
Under the AP Mesh mode, the Neutron Series Access Points can be used as the central connection hub for station or clients that support IEEE 802.11 a/b/g/n network. Under this mode, the Neutron Series APs can be configured with the same Mesh SSID and security password in order to associate with other Neutron Series APs. For example, you would use one band to connect Neutron Series Access Points in range with Mesh mode and the other band to broadcast traffic on the network. Acting as a node within a web framework, each Neutron Series Access Point only needs to connect to the nearest node using the best path to transmit data, working collaboratively with other Access Points in the network infrastructure to function.

Guest Network
The Guest Network feature allows administrators to grant Internet connectivity to visitors or guests while keeping other networking devices and sensitive personal or company information private and secure.

Easy mounting
With embedded antennas and stylish exterior industrial design, Neutron APs can be installed on a wall or ceiling, and be inconspicuously merged into a variety of business environments.

Physical Interface
1. Reset Button
2. LED Indicators
3. 10/100/1000 LAN Port (802.3af/at PoE)
4. DC Power Input



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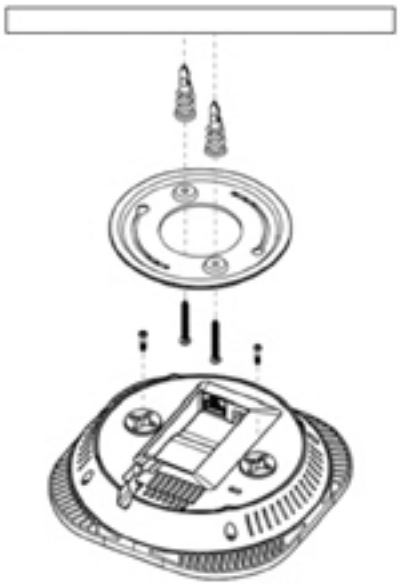
Model Comparison Chart



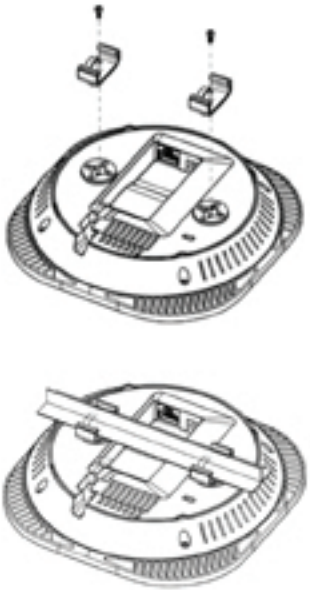
	EWS300AP	EWS310AP	EWS320AP	EWS360AP
Wi-Fi Standards	802.11b/g/n	802.11a/b/g/n	802.11a/b/g/n	802.11a/b/g/n/ac
2.4GHz	✓	✓	✓	✓
5GHz	N/A	✓	✓	✓
Radio Chains/Streams	2 x 2:2	2 x 2:2	3 x 3:3	3 x 3:3
2.4GHz Max Data Rate	300 Mbps	300 Mbps	450 Mbps	450Mbps
5GHz Max Data Rate	N/A	300 Mbps	450 Mbps	1300 Mbps
RF Output Power 2.4GHz	15 dBm	15 dBm	15 dBm	15 dBm
RF Output Power 5GHz	N/A	15 dBm	15 dBm	15 dBm
Gigabit Ethernet	✓	✓	✓	✓
Power over Ethernet	802.3af	802.3af/at	802.3af/at	802.3af/at

(Available May 2015)

Mounting Reference



Mounting the AP to a flat surface



Mounting the AP to a T-Bar

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EWS300AP Technical Specifications

Radio Specification

Operation Frequency:
- 2.4GHz: 802.11b/g/n with max data rate up to 300Mbps

Transmit Power (combined):
- 2.4GHz: max 15 dBm
- Max transmit power is limited by regulatory power

Radio Chains / Spatial Streams:
- 2 x 2 / 2

Supported Radio Technology:
- 802.11b: direct-sequence spread-spectrum (DSSS)
- 802.11g/n: orthogonal frequency-division multiplexing (OFDM)

Channelization:
- 802.11n with 20/40 MHz channel width
- 802.11b/g with 20 MHz channel width

Supported Modulation:
- 802.11b: BPSK, QPSK, CCK
- 802.11g/n: BPSK, QPSK, 16-QAM, 64-QAM

Supported data rates (Mbps):
- 802.11b: 1, 2, 5.5, 11
- 802.11g: 6, 9, 12, 18, 24, 36, 48, 54
- 802.11n: 6.5 to 300 (MCS0 to MCS15)

Physical & Environment

Power Source:
- DC Input: 12 VDC/1A
- PoE: compatible with 802.3af

Internal High Gain Antenna:
- 2 x 5dBi 2.4GHz antennas

Interface:
- 1 x 10/100/1000Mbps Ethernet Port with 802.3af PoE
- 1 x DC power connector
- 1 x Reset button

Dimensions (W x D x H):
- 129 x 129 x 43.5mm

Mounting:
- Ceiling mount or wall mount

Environment:
- Operating temperature: 0°C~40°C
- Operating humidity: 0%~90% typical
- Storage temperature: -20°C~60°C

Wireless

Operating Mode:
- AP Mode

Auto Channel Selection:
- Setting varies by regulatory domains

SSIDs:
- Supports up to 8 SSIDs

VLAN Tag / VLAN Pass-through

Wireless Client List

Guest Network:
- Allocates a separate network segment for guest access within the same WLAN

QoS:
- Supports 802.11e/WMM

Mobility:
- PMKSA support for fast roaming

Security:
- WEP encryption: 64/128/152-bit
- WPA/WPA2 Enterprise/PSK
- Hidden SSID
- MAC address filtering (up to 50 MAC)
- Client isolation

Management

Deployment Options
- Standalone Mode
- Managed Mode (by Neutron Switch)

Configuration
- Web interface (HTTP)
- SNMP v1/v2c/v3 with MIB I/II and private MIB
- CLI (Telnet)

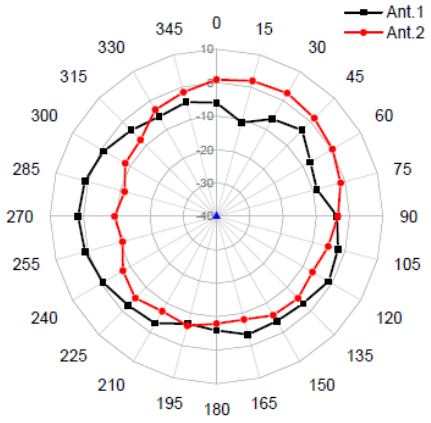
Firmware Upgrade
- Web interface or CLI (FTP/HTTP)

Backup / Restore Settings
- Revert to factory default settings

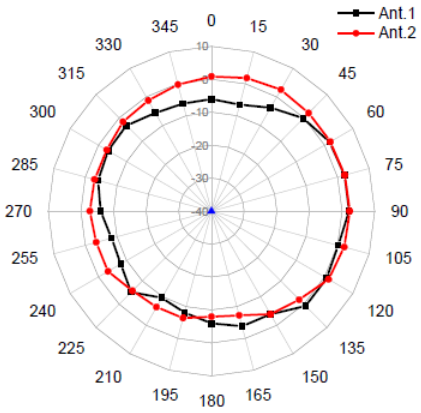
Schedule Reboot:
- Specifies interval to reboot system periodically

E-mail Alert / Syslog Notification

EWS300AP Antenna Radiation Patterns



2.4GHz Azimuth-Plane



2.4GHz Elevation-Plane

EnGenius

EWS310AP Technical Specifications

Radio Specification

Dual Concurrent Radio:
- 2.4GHz: 802.11b/g/n with max data rate up to 300Mbps
- 5GHz: 802.11a/n with max data rate up to 300Mbps

Transmit Power (combined):
- 2.4GHz: max 15 dBm
- 5GHz: max 15 dBm
- Max transmit power is limited by regulatory power

Radio Chains / Spatial Streams:
- 2 x 2 / 2

Supported Radio Technology:
- 802.11b: direct-sequence spread-spectrum (DSSS)
- 802.11a/g/n: orthogonal frequency-division multiplexing (OFDM)

Channelization:
- 802.11n with 20/40 MHz channel width
- 802.11a/b/g with 20 MHz channel width

Supported Modulation:
- 802.11b: BPSK, QPSK, CCK
- 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM

Supported data rates (Mbps):
- 802.11b: 1, 2, 5.5, 11
- 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
- 802.11n: 6.5 to 300 (MCS0 to MCS23)

Physical & Environment

Power Source:
- DC Input: 12 VDC/2A
- PoE: compatible with 802.3af/at

Internal High Gain Antenna:
- 2 x 5dBi 2.4GHz antennas
- 2 x 5dBi 5GHz antennas

Interface:
- 1 x 10/100/1000Mbps Ethernet Port with 802.3af/at PoE
- 1 x DC power connector
- 1 x reset button

Dimensions (W x D x H):
- 161.5 x 41.5 x 41.5mm

Mounting:
- Ceiling mount or wall mount

Environment:
- Operating temperature: 0°C~40°C
- Operating humidity: 0%~90% typical
- Storage temperature: -20°C~60°C

Wireless

Operating Mode:
- AP Mode

Auto Channel Selection:
- Setting varies by regulatory domains

SSIDs:
- Supports up to 8 SSIDs per frequency band

VLAN Tag / VLAN Pass-through

Wireless Client List

Guest Network:
- Allocates a separate network segment for guest access within the same WLAN

QoS:
- Supports 802.11e/WMM

Band Steering

Mobility:
- PMKSA support for fast roaming

Security:
- WEP encryption: 64/128/152-bit
- WPA/WPA2 Enterprise/PSK
- Hidden SSID
- MAC address filtering (up to 50 MAC)
- Client isolation

Management

Deployment Options
- Standalone Mode
- Managed Mode (by Neutron Switch)

Configuration
- Web interface (HTTP)
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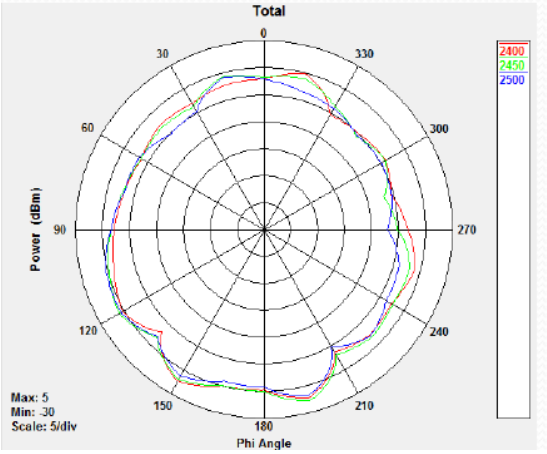
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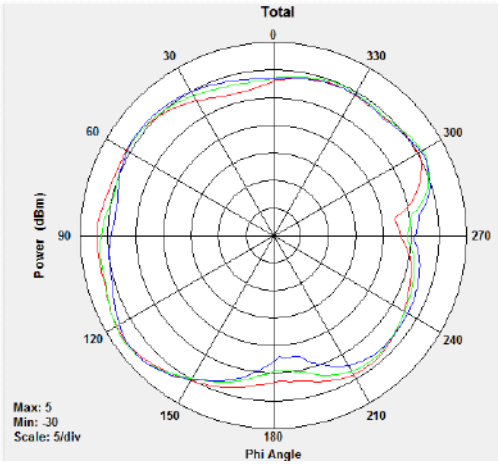
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E-mail Alert / Syslog Notification

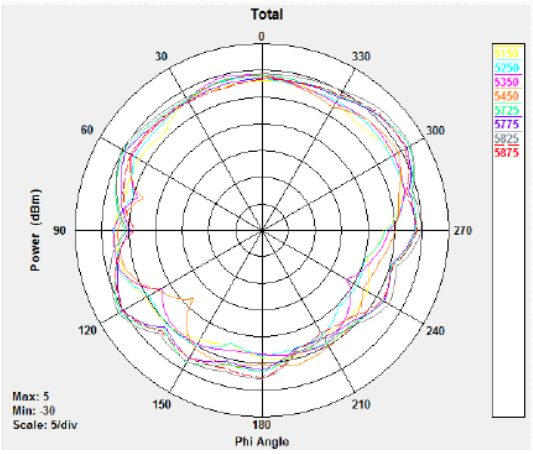
EWS310AP Antenna Radiation Patterns



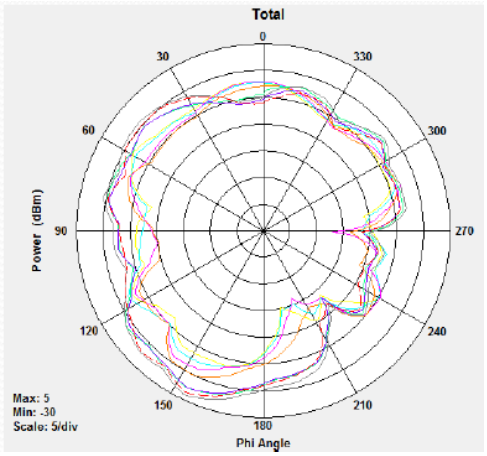
2.4GHz Azimuth-Plane



2.4GHz Elevation-Plane



5GHz Azimuth-Plane



5GHz Elevation-Plane

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EWS320AP Technical Specifications

Radio Specification

Dual Concurrent Radio:
- 2.4GHz: 802.11b/g/n with max data rate up to 450Mbps
- 5GHz: 802.11a/n with max data rate up to 450Mbps

Transmit Power (combined):
- 2.4GHz: max 15 dBm
- 5GHz: max 15 dBm
- Max transmit power is limited by regulatory power

Radio Chains / Spatial Streams:
- 3 x 3 / 3

Supported Radio Technology:
- 802.11b: direct-sequence spread-spectrum (DSSS)
- 802.11a/g/n: orthogonal frequency-division multiplexing (OFDM)

Channelization:
- 802.11n with 20/40 MHz channel width
- 802.11a/b/g with 20 MHz channel width

Supported Modulation:
- 802.11b: BPSK, QPSK, CCK
- 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM

Supported data rates (Mbps):
- 802.11b: 1, 2, 5.5, 11
- 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
- 802.11n: 6.5 to 300 (MCS0 to MCS23)

Physical & Environment

Power Source:
- DC Input: 12 VDC/2A
- PoE: compatible with 802.3af/at

Internal High Gain Antenna:
- 3 x 3dBi 2.4GHz antennas
- 3 x 5dBi 5GHz antennas

Interface:
- 1 x 10/100/1000Mbps Ethernet Port with 802.3af/at PoE
- 1 x DC power connector
- 1 x reset button

Dimensions (W x D x H):
- 161.5 x 41.5 x 41.5mm

Mounting:
- Ceiling mount or wall mount

Environment:
- Operating temperature: 0°C~40°C
- Operating humidity: 0%~90% typical
- Storage temperature: -20°C~60°C

Wireless

Operating Mode:
- AP Mode

Auto Channel Selection:
- Setting varies by regulatory domains

SSIDs:
- Supports up to 8 SSIDs per frequency band

VLAN Tag / VLAN Pass-through

Wireless Client List

Guest Network:
- Allocates a separate network segment for guest access within the same WLAN

QoS:
- Supports 802.11e/WMM

Band Steering

Mobility:
- PMKSA support for fast roaming

Security:
- WEP encryption: 64/128/152-bit
- WPA/WPA2 Enterprise/PSK
- Hidden SSID
- MAC address filtering (up to 50 MAC)
- Client isolation

Management

Deployment Options
- Standalone Mode
- Managed Mode (by Neutron Switch)

Configuration
- Web interface (HTTP)
- SNMP v1/v2c/v3 with MIB I/II and private MIB
- CLI (Telnet)

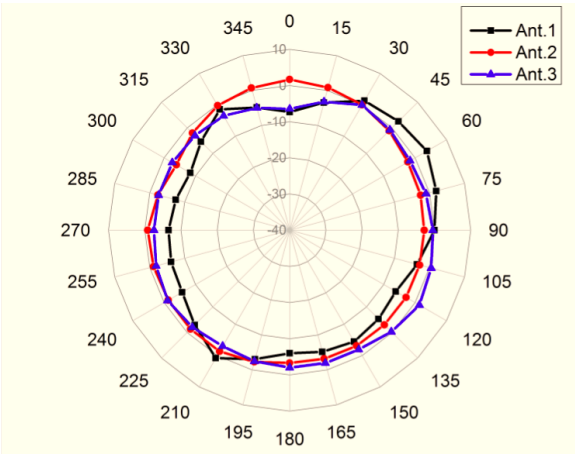
Firmware Upgrade
- Web interface or CLI (FTP/HTTP)

Backup / Restore Settings
- Revert to factory default settings

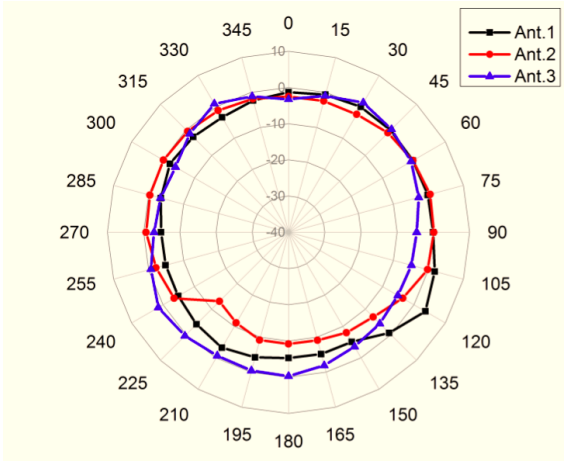
Schedule Reboot:
- Specifies interval to reboot system periodically

E-mail Alert / Syslog Notification

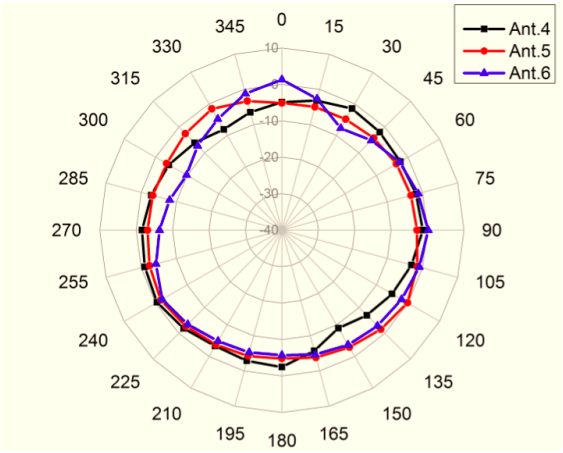
EWS320AP Antenna Radiation Patterns



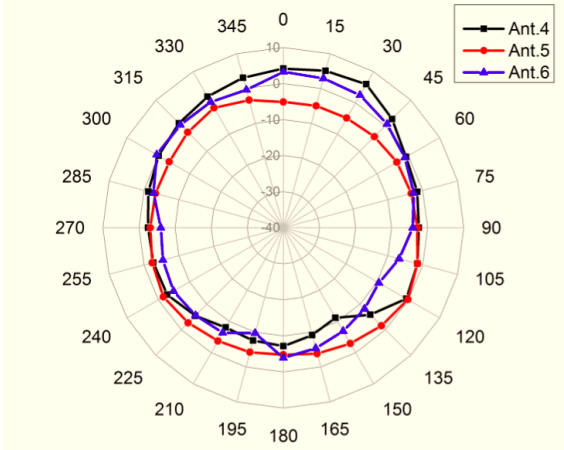
2.4GHz Azimuth-Plane



2.4GHz Elevation-Plane



5GHz Azimuth-Plane



5GHz Elevation-Plane

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EWS360AP Technical Specifications

Radio Specification

Dual Concurrent Radio:
- 2.4GHz: 802.11b/g/n with max data rate up to 450Mbps
- 5GHz: 802.11a/n/ac with max data rate up to 1300Mbps

Transmit Power (combined):
- 2.4GHz: max 15 dBm
- 5GHz: max 15 dBm
- Max transmit power is limited by regulatory power

Radio Chains / Spatial Streams:
- 3 x 3 / 3

Supported Radio Technology:
- 802.11b: direct-sequence spread-spectrum (DSSS)
- 802.11a/g/n/ac: orthogonal frequency-division multiplexing (OFDM)

Channelization:
- 802.11ac with 20/40/80 MHz channel width
- 802.11n with 20/40 MHz channel width
- 802.11a/b/g with 20 MHz channel width

Supported Modulation:
- 802.11b: BPSK, QPSK, CCK
- 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM
- 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM

Supported data rates (Mbps):
- 802.11b: 1, 2, 5.5, 11
- 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
- 802.11n: 6.5 to 300 (MCS0 to MCS23)
- 802.11ac: 6.5 to 1300 (MCS0 to MCS9, NSS = 1 ~ 3)

Physical & Environment

Power Source:
- DC Input: 12 VDC/2A
- PoE: compatible with 802.3af/at

Internal High Gain Antenna:
- 3 x 3dBi 2.4GHz antennas
- 3 x 5dBi 5GHz antennas

Interface:
- 1 x 10/100/1000Mbps Ethernet Port with 802.3af/at PoE
- 1 x DC power connector
- 1 x reset button

Dimensions (W x D x H):
- 161.5 x 41.5 x 41.5mm

Mounting:
- Ceiling mount or wall mount

Environment:
- Operating temperature: 0°C~40°C
- Operating humidity: 0%~90% typical
- Storage temperature: -20°C~60°C

Wireless

Operating Mode:
- AP Mode

Auto Channel Selection:
- Setting varies by regulatory domains

SSIDs:
- Supports up to 8 SSIDs per frequency band

VLAN Tag / VLAN Pass-through

Wireless Client List

Guest Network:
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QoS:
- Supports 802.11e/WMM

Band Steering

Mobility:
- PMKSA support for fast roaming

Security:
- WEP encryption: 64/128/152-bit
- WPA/WPA2 Enterprise/PSK
- Hidden SSID
- MAC address filtering (up to 50 MAC)
- Client isolation

Management

Deployment Options
- Standalone Mode
- Managed Mode (by Neutron Switch)

Configuration
- Web interface (HTTP)
- SNMP v1/v2c/v3 with MIB I/II and private MIB
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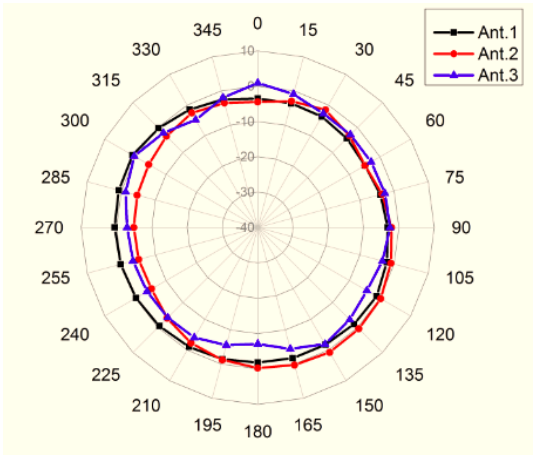
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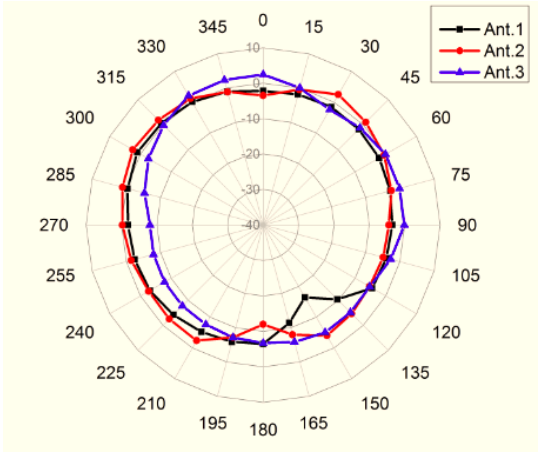
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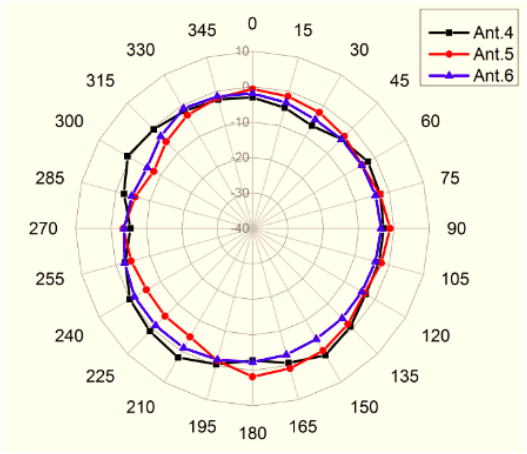
EWS360AP Antenna Radiation Patterns



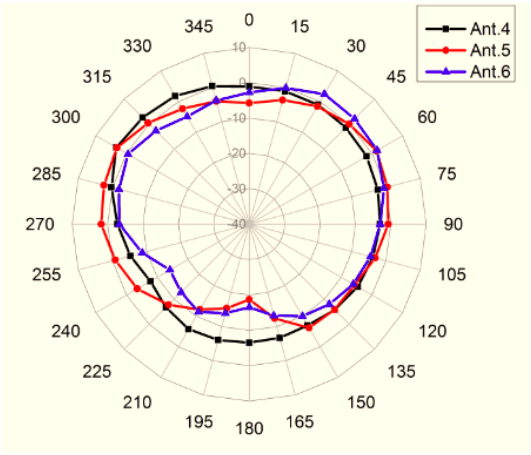
2.4GHz Azimuth-Plane



2.4GHz Elevation-Plane



5GHz Azimuth-Plane



5GHz Elevation-Plane

EnGenius®

Ordering Information

Product No.	Product Description
Wireless Management Switch	
EWS2910P	8-Port Gigabit PoE L2 Wireless Management Switch with 2 Dual-Speed SFP; 61.6w
EWS5912FP	8-Port Gigabit PoE+ L2 Wireless Management Switch with 2 GbE Ports and 2 Dual-Speed SFP; 130w
EWS7928P	24-Port Gigabit PoE+ L2 Wireless Management Switch with 4 Dual-Speed SFP; 185w
EWS7928P	24-Port Gigabit PoE+ L2 Wireless Management Switch with 4 Dual-Speed SFP; 370w
EWS7952FP	48-Port Gigabit PoE+ L2 Wireless Management Switch with 4 Dual-Speed SFP; 740w
Wireless Managed Access Point	
EWS300AP	Single Band Wireless N300 Managed Indoor Access Point
EWS310AP	Dual Band Wireless N600 Managed Indoor Access Point
EWS320AP	Dual Band Wireless N900 Managed Indoor Access Point
EWS360AP	Dual Band Wireless AC1750 Managed Indoor Access Point
EWS500AP	Single Band Wireless N300 Managed Wall Access Point
EWS510AP	Dual Band Wireless N600 Managed Wall Access Point
EWS660AP	Dual Band Wireless AC1750 Managed Outdoor Access Point; IP55
EWS860AP	Dual Band Wireless AC1750 Managed Outdoor Access Point; IP68
PoE+ Layer 2 Managed Switch	
EGS5212FP	8-Port Gigabit PoE+ L2 Managed Switch with 2 GbE Ports and 2 Gigabit SFP; 130w
EGS7228P	24-Port Gigabit PoE+ L2 Managed Switch with 4 Dual-Speed SFP; 185w
EGS7228FP	24-Port Gigabit PoE+ L2 Managed Switch with 4 Dual-Speed SFP; 370w
EGS7252FP	48-Port Gigabit PoE+ L2 Managed Switch with 4 Dual-Speed SFP; 740w

Maximum data rates are based on IEEE 802.11 standards. Actual throughput and range can vary depending on many factors including environmental conditions, distance between devices, radio interference in the operating environment, and mix of devices in the network. Features and specifications subject to change without notice. Trademarks and registered trademarks are the property of their respective owners
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