





# **EnGenius Cloud Access Point Series**

Optimal Performance, Enterprise Features & Cloud Management

**EnGenius Cloud Managed Access Points** provide flexible, scalable and reliable wireless connectivity for a broad range of applications.

Whether you are looking to connect a large office or need to provide ultra-fast Wi-Fi access to a large resort or campus, cloud-managed access points meet the high density and bandwidth requirements and features of today's BYOD users.

No matter what size network you need to support, cloud managed flexible access points can meet your needs — start small and grow or go big. You can deploy and manage a few or an unlimited number of APs on an unlimited number of networks distributed across various locations—regardless of their size and infrastructures.

**Simple** — With easy-to-deploy design and pre-configuration ability, EnGenius Access Points are operational within minutes. Organizations with limited IT support and budgets can quickly create a reliable, efficiently managed network.

**Smart** — EnGenius Cloud's predictive artificial intelligence and access point data collection helps administrators improve network performance and prevent potential issues.

**Reliable** — EnGenius's uses its decades of manufacturing and software development experience, long-lasting chipset vendor relationships and tight manufacturing processes to provide reliable hardware. EnGenius now offers a 2-year factory warranty for all Cloud products.

**Secure** — Keep your network safe with two-factor authentication and data encryption on every Cloud device. Minimize potential issues by setting up event-based alerts and receive push notifications through the EnGenius Cloud app.

# Wi-Fi 6

#### **Features & Benefits**

- High-Capacity & High-Efficient Wi-Fi 6 (11ax)
- Tri-Radio & Dual-Radio MU-MIMO Improves Performance, Expands Capacities
- Quick-Scan Device Register & Configuration and Remote Monitoring & Troubleshooting
- Beamforming Technology Optimizes Signal, Reception & Reliability
- Industrial-Grade IP68/IP67 & Ruggedized IP55-Rated Housing Withstands Harsh Environments
- Cloud Manage an unlimited number of AP's from Anywhere with the EnGenius Cloud App
- Versatile 4x4 and 2x2 11ax & 11ac Wave 2 Models with Internal & Detachable Antennas
- Advanced wireless security WPA 3 Personal (SAE), WPA3/WPA2 Personal mixed and WP3/WP2 Enterprise with Suite B Support.



# **Benefits to Help Grow Your Business**

#### **Next-Generation Wi-Fi in the Cloud**

The EnGenius Cloud Access Points take advantage of the latest wireless technology Wi-Fi 6, which enables more efficient channel use and reduces latency between AP and client devices. Administrators reduce maintenance time with 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.

#### **Flexibility in Deployment**

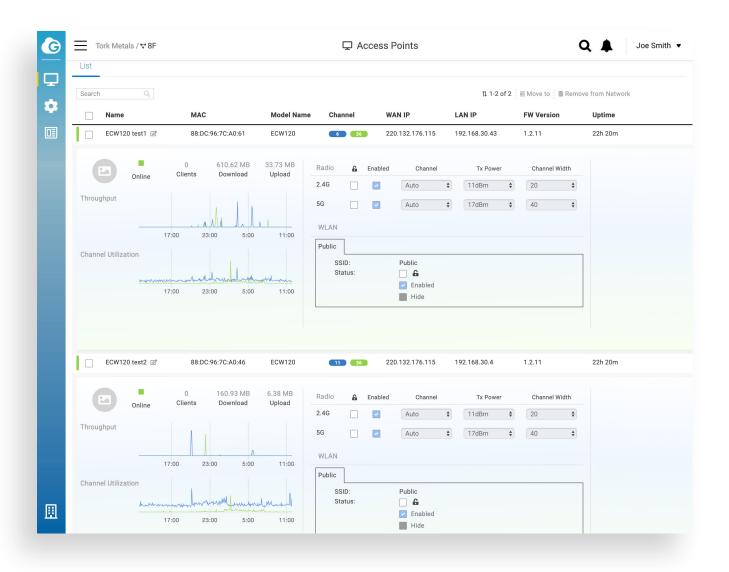
EnGenius Cloud's versatile line of high-performance, managed, ceiling- and wall-mount access points consist of Tri-band and Dual Band high capacity 4x4, and 2x2 Wi-Fi 6 & Wi-Fi 5 versions. Wall plate models serve as all-in-one communication "hubs" for in-room wireless connectivity. Configure Access Points with a scan of the QR code using the EnGenius Cloud app and manage, monitor and troubleshoot an unlimited number of devices from a single visually rich interface.

# **Optimize Connectivity with Wireless Mesh**

Use smart mesh mode with a click of a button for retrofit or new install applications where wire runs are not possible. Mesh's smart sensing technology finds nearby access points and auto connects, optimizes routes between APs, and automatically self-heals the network if the AP loses connection.

#### The Latest in Wi-Fi Security

With EnGenius APs, WPA3 protects your network, which delivers next-generation wireless security by making connecting client and IoT devices more secure and easier. EnGenius APs provide enterprise-level security for SMBs with wireless encryption standards, such as Wi-Fi Protected Access Encryption. Rouge AP detection quickly detects network threats. With real-time wireless invasion monitoring, IT administrators receive email alerts and can immediately divert and potentially avoid network hacks and other security threats.



# **Every Cloud Device is Secure and Protected by Advanced Authentication**

With EnGenius Cloud, every Cloud device is protected with twofactor authentication and non-sequential serial numbers and MAC address verification to ensure only authorized cloud devices are on the network. Once devices are authenticated, the access point establishes a secure tunnel between the device and the cloud with a unique certificate provided by the EnGenius Cloud to encrypt transmissions.

#### **Secure Guest Networks**

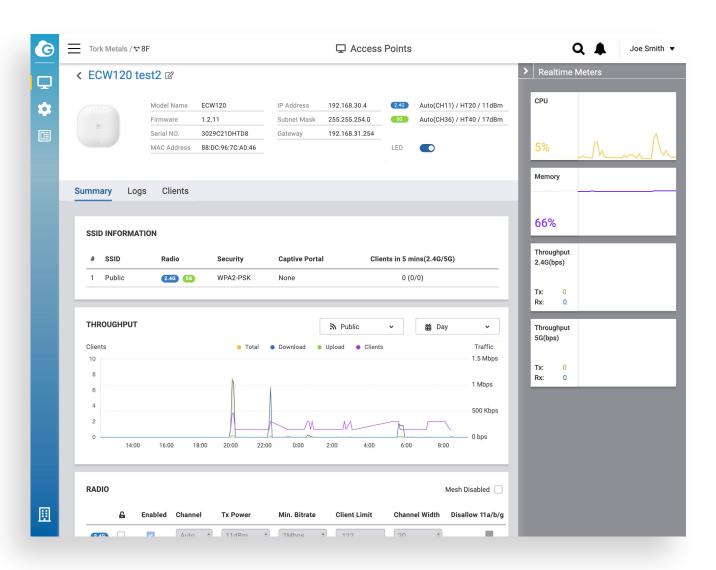
With the EnGenius's guest network capabilities and Front-Desk Manager voucher service, organizations offering Internet access to patrons or visitors—notably hotels, retail shops and restaurants—can create a secure guest network that blocks access to main corporate computers. By creating separate Virtual LANs, organizations increase security, network reliability, and conserve bandwidth.

# **Simplified Deployment & Provisioning**

With EnGenius Cloud's plug-and-play installation, administrators can deploy EnGenius Cloud APs quickly — no lengthy setup or complex integration required. The EnGenius Cloud automatically checks & updates firmware, download configurations and joins the assigned organization and network when an EnGenius Cloud access point is plugged in. By using the EnGenius Cloud app, businesses can easily create a network and configure access points from any location.

#### **Manage Your Workload with EnGenius Cloud**

EnGenius Cloud's dashboard provides administrators a visual overview of their network health status. Administrators can easily see access point health status and quickly click into access point list to review radio configurations, IP addressing and system information. The Cloud dashboard also highlights the most used access points, SSID's, clients and applications. Administrators can quickly view a snapshot of their overall network's performance and identify potential issues.



# Initial Setup, Maintenance & Troubleshooting with EnGenius Cloud

EnGenius Cloud offers several convenient and easy methods to tune, monitor and troubleshoot all access points for a specific site or network.

The AP list gives admins the ability to review all access points in one window to compare resources, radio configurations and IP settings. In addition to configuration changes, the list view allows administrators to drill down into details of specific access points to check overall configurations, real-time system meters, radio configuration and IP settings for initial setup, monitoring and troubleshooting.

Set maintenance schedules across times zones to improve uptime, allow remote system log to track system modifications or configuration changes, establish event-based email alerts and receive push notifications via the EnGenius Cloud app.

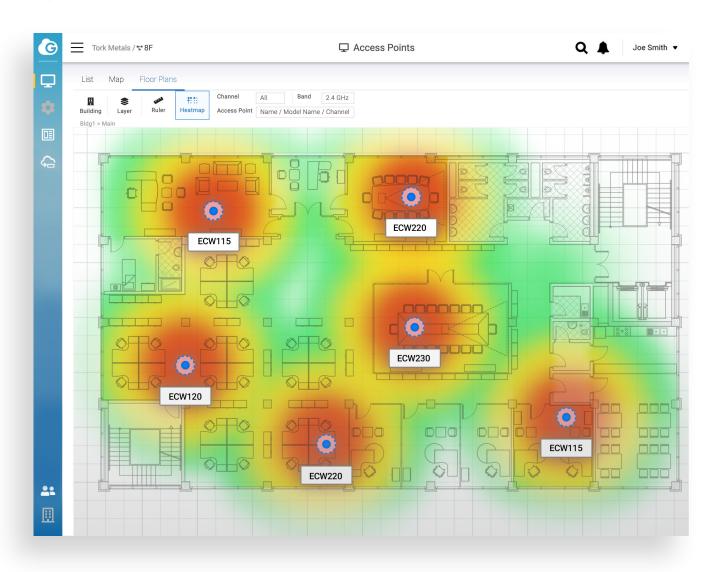
# **Simplifies Design and Implementation**

Implementing Wi-Fi is complicated and takes a skilled hand to do it correctly. Floor Plan view provides administrators a tool for

designing, implementing, monitoring and troubleshooting Wi-Fi networks, all in real-time. The Floor Plans view is an included Cloud Wi-Fi Site Survey tool, designed in-house by EnGenius accepts an upload of your floor plan and simulates Wi-Fi coverage with a heat map of your desired Tx power, RSSI value and channel, factoring in physical obstacles and other impediments to your coverage.

# **Faster Deployments with Pre-Configured Access Points**

Improve customer deployment and onboarding time for network administrators with predefined access point configurations. EnGenius Cloud automatically identifies your location and implements the country's regulatory domains to keep access point deployments in compliance. EnGenius Cloud's easy-to-use configuration menu allows administrators to add and define SSID's with wireless configurations, security type and Wi-Fi accessibility into any network. Network administrators can then scan access points, power them up and automatically configure for simplified deployments at customer sites. Advanced features such as L2 Isolation, Band Steering Traffic Shaping, Radius Users and Captive Portal can then be programmed to fine tune access point configurations.



#### **EnGenius Cloud Access Points**



# **Technical Specifications**

#### Standards

ECW115/ECW120/ECW160	
IEEE 802.11b/g/n on 2.4 GHz	
IEEE 802.11a/n/ac on 5 GHz	
ECW220/ECW230	
IEEE 802.11ax on 2.4 GHz	
IEEE 802.11ax on 5 GHz	
Backward compatible with 802.11a/b/g/n/ac	
Antenna	
ECW120	
1 x 2.4 GHz: 5 dBi	
1 x 5 GHz: 5 dBi	
Integrated Omni-Directional Antenna	
ECW160	
2 x 2.4 GHz: 5 dBi	
2 x 5 GHz: 5 dBi	
External Omni-Directional Antenna	
ECW115/ECW220	
2 x 2.4 GHz: 3 dBi	
2 x 5 GHz: 3 dBi	
Integrated Omni-Directional Antenna	

#### ECW230

4 x 2.4 GHz: 3 dBi

4 x 5 GHz: 3 dBi

Integrated Omni-Directional Antenna

#### **Physical Interface**

#### ECW115

1 x 10/100/1000 BASE-T, RJ-45 Ethernet Uplink Port (back plate)

2 x 10/100/1000 BASE-T, RJ-45 Ethernet Switched Ports (client ports)

Port 1 (PSE) 802.3af PoE (requires 802.3at power source)

1 x Reset Button

1 x DC Jack

#### ECW230

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

1 x DC Jack

1 x Reset Button

#### ECW120/ECW220

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

1 x DC Jack

1 x Reset Button

#### ECW160

1 x 10/100/1000 Gigabit Ethernet Ports

# **Technical Specifications**

#### **LED Indicators**

#### ECW115

1 x Power Up

1 x Cloud Connecting

1 x Disconnected

1 x Multi-Color LED

#### ECW120/ECW160/ECW220/ECW230

1 x Power

1 x LAN

1 x 2.4 GHz

1 x 5 GHz

1 x Mesh (ECW120)

#### **Power Source**

#### ECW115

Power-over-Ethernet: 802.3at Input

IEEE 802.11e Compliant Source

12VDC /1A Power Adapter

#### ECW120

Power-over-Ethernet: 802.3af Input

IEEE 802.11e Compliant Source

12VDC /1A

#### ECW160

Power-over-Ethernet: 802.3af/at or Proprietary 54V

IEEE 802.11e Compliant Source

Active Ethernet (PoE)

#### ECW220

Power-over-Ethernet: 802.3af Input

12VDC /1.5A

#### ECW230

Power-over-Ethernet: 802.3at Input

12VDC /2A

#### **Maximum Power Consumption**

#### ECW115/ECW120

12W

#### ECW160

12.6W

#### ECW220

12.8W

#### ECW230

19.5W

# Wireless & Radio Specifications Operating Frequency

#### ECW115/ECW120/ECW160/ECW220/ECW230

Dual-Radio Concurrent 2.4 GHz & 5 GHz

#### **Operation Modes**

#### ECW115/ECW120/ECW160/ECW220/ECW230

Manage Mode: AP, AP Mesh, Mesh

### **Frequency Radio**

#### ECW115/ECW120/ECW160/ECW220/ECW230

2.4 GHz: 2400 MHz ~ 2472 MHz

5 GHz: 5150 MHz  $\sim$  5250 MHz, 5250 MHz  $\sim$  5350 MHz, 5470 MHz  $\sim$  5725 MHz, 5725 MHz  $\sim$  5850 MHz

#### **Transmit Power**

#### ECW115

Up to 17 dBm on 2.4 GHz

Up to 17 dBm on 5 GHz

#### ECW120/ECW160

Up to 23 dBm on 2.4 GHz

Up to 23 dBm on 5 GHz

#### ECW220

Up to 20 dBm on 2.4 GHz

Up to 20 dBm on 5 GHz

(Maximum power is limited by regulatory domain)

#### ECW230

Up to 23 dBm on 2.4 GHz

Up to 23 dBm on 5 GHz

(Maximum power is limited by regulatory domain)

#### Tx Beamforming (TxBF)

#### **Radio Chains/Spatial Stream**

#### ECW115/ECW120/ECW160/ECW220

2×2:2

#### ECW230

4×4:4

#### SU-MIMO

#### ECW115/ECW120/ECW160

Two (2) spatial streams Single User (SU) MIMO for up to 400 Mbps wireless data rate with VHT40 bandwidth to a 2x2 wireless client device under the 2.4GHz radio. Two (2) spatial stream Single User (SU) MIMO for up to 867 Mbps wireless data rate with VHT80 to a 2x2 wireless device under the 5GHz radio.

#### ECW220

Two (2) spatial streams Single User (SU) MIMO for up to 574 Mbps wireless data rate with HE40 bandwidth to a 2x2 wireless client device under the 2.4GHz radio. Two (2) spatial stream Single User (SU) MIMO for up to 867 Mbps wireless data rate with VHT80 to a 2x2 wireless device under the 5GHz radio.

#### ECW230

Four (4) spatial streams Single User (SU) MIMO for up to 1148 Mbps wireless data rate with HE40 bandwidth to a 4x4 wireless client device under the 2.4GHz radio. Four (4) spatial stream Single User (SU) MIMO for up to 2400 Mbps wireless data rate with HE80 to a 4x4 wireless device under the 5GHz radio.

#### MU-MIMO

#### ECW115/ECW120/ECW160

Two (2) Spatial Streams MU-MIMO up to 867 Mbps wireless data rate for transmitting to two (2) streams MU-MIMO capable wireless devices under 5GHz simultaneously.

#### ECW220

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

Two (2) spatial streams Multiple (MU)-MIMO up to 574 Mbps wireless data rate for transmitting to two (2) streams MU-MIMO 11ax capable wireless client devices under 2.4GHz simultaneously.

#### ECW230

Four (4) spatial streams Multiple (MU)-MIMO up to 2,400 Mbps wireless data rate for transmitting to four (4) streams MU-MIMO 11ax capable wireless client devices under 5GHz simultaneously.

Four (4) spatial streams Multiple (MU)-MIMO up to 1,148 Mbps wireless data rate for transmitting to four (4) streams MU-MIMO 11ax capable wireless client devices under 2.4GHz simultaneously.

## **Technical Specifications continued**

#### Supported Data Rates (Mbps):

#### ECW115/ECW120/ECW160

2.4 GHz: Max 400

5 GHz: Max 867

802.11b: 1. 2. 5.5. 11

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

 $802.11n: 6.5\ to\ 300\ Mbps\ (MCS0\ to\ MCS15)$  (Additional 25% bandwidth when enabling 256-QAM uner HT40)

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

#### ECW220

802.11ax:

2.4 GHz: 9 to 287 (MCS0 to MCS11, NSS = 1 to 2)

5 GHz: 18 to 1200 (MCS0 to MSC11, 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)

802.11b: 1,2,5.5,11

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

#### ECW230

802.11ax:

2.4 GHz: 9 to 1148 (MCS0 to MCS11, NSS = 1 to 4)

5 GHz: 18 to 2400 (MCS0 to MSC11, NSS = 1 to 4)

802.11b: 1, 2, 5.5, 11

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

802.11n: 6.5 to 600 (MCS0 to MCS31)

802.11ac: 6.5 to 1733 (MCS0 to MCS9, NSS = 1 to 4)

#### **Supported Radio Technologies**

#### ECW115/ECW120/ECW160

802.11b: Direct-Sequence Spread Spectrum (DSSS)

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

802.11n/ac: 2×2 MIMO with 2 Streams

#### ECW220/ECW230

802.11ax: Orthogonal Frequency Division Multiple Access(OFDMA)

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

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

#### Channelization

#### ECW115/ECW120/ECW160

802.11ac Supports Very High Throughput (VHT)—VHT 20/40/80 MHz

802.11n Supports High Throughput (HT)-HT 20/40 MHz

802.11 n Supports Very High Throughput (VHT) Under the 2.4 GHz Radio—VHT 40 MHz (256-QAM)

802.11n/ac Packet Aggregation: AMPDU, ASPDU

#### ECW220/ECW230

802.11ax supports very high throughput (VHT) -VHT 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**

#### ECW115/ECW120/ECW160

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

#### ECW220/ECW230

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

#### **Supported Modulation**

#### ECW115/ECW120/ECW160

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

#### ECW220/ECW230

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

# **Management Multiple BSSID**

#### ECW115/ECW120/ECW160/ECW220/ECW230

8 SSIDs on both 2.4GHz and 5GHz bands.

#### **VLAN Tagging**

#### ECW115/ECW120/ECW160/ECW220/ECW230

Supports 802.1q SSID-to-VLAN Tagging

Cross-Band VLAN Pass-Through

Management VLAN

#### **Spanning Tree**

#### ECW115/ECW120/ECW160/ECW220

Supports 802.1d Spanning Tree Protocol

Supports 802.1d Spanning Tree Protocol

### **Technical Specifications continued**

QoS (Quality of Service)

ECW115/ECW120/ECW160/ECW220/ECW230

Compliant With IEEE 802.11e Standard

WMM

**SNMP** 

ECW115/ECW120/ECW160/ECW220/ECW230

v1, v2c, v3

**MIB** 

ECW115/ECW120/ECW160/ECW220/ECW230

I/II, Private MIB

**Wireless Security** 

ECW120/ECW160/ ECW220/ECW230

OWE

WPA2 Personal

WPA3 Personal (SAE) - WPA3 Only

WPA3/WPA2 Personal Mixed

WPA2 Enterprise

WPA3 Enterprise Suite B

Hide SSID in Beacons

MAC Address Filtering, Up to 32 MACs per SSID

Wireless STA (Client) Connected List

SSH Tunnel

Client Isolation

**Environment & Physical Temperature Range** 

ECW115/ECW120/ECW220/ECW230

Operating: 32°F~104°F (0 °C~40 °C)

Storage: -40 °F~176 °F (-40 °C~80 °C)

ECW160

Operating: -4°~140°F/-20°C~60°C

Storage: -40F°~176°F/-40°C~80°C

**Humidity (non-condensing)** 

ECW115/ECW120/ECW160/ECW220/ECW230

Operating: 90% or less

Storage: 90% or less

Outdoor Rating: IP67-Rated Enclosure

**Dimensions & Weight** 

ECW115

Weight: .80 lbs. (.363 Kg)

Length: 3.5" (90 mm)

Width: 5.5" (140 mm)

Height: 1.6" (40 mm)

ECW120

Weight: 0.80 lbs. (362.8 g)

Diameter: 6.36" (161.5 mm)

Height: 1.64" (41.5 mm)

ECW160

Weight: 0.65 lbs. (295 g)

Width: 4.37" (111.2 mm)

Length: 6.83" (173.6 mm)

Height" 1.19" (30.29 mm)

ECW220

Weight: 0.85 lbs. (382 g)

Length: 6.30" (160 mm)

Width: 6.30" (160 mm)

Height: 1.31" (33.2 mm)

ECW230

Weight: 1.31 lbs. (597 g)

Length: 8.27" (210 mm)

Width: 8.27" (210 mm)

Height: 1.31" (33.2 mm)

**Package Contents** 

ECW115

1 - ECW115 Cloud Managed Indoor Access Point

1 - Ceiling and Wall Mount Screw Kits

2 - Junction-plates (tall/short)

1 - Quick Installation Guide

ECW120

1 - ECW120 Cloud Managed Indoor Access Point

1 – T-Rail Mounting Kit

1 - Ceiling and Wall Mount Screw Kit

1 - Mounting Bracket

1 - Quick Installation Guide

ECW160

1 - ECW160 Cloud Managed Outdoor Access Point

2 - Pole-Mounting Brackets

1 - Wall-Mount Screw Set

2 - 2.4GHz 5dBi SMA Antennas

2 - 5GHz 5dBi SMA Antennas

1 - Quick Installation Guide

ECW220

1 - ECW220 Cloud Managed Indoor Access Point

1 - Ceiling Mount Base (9/16" Trail)

1 - Ceiling Mount Base (15/16" Trail)

1 - Ceiling and Wall Mount Screw Kit

1 - Quick Installation Guide

ECW230

1 - ECW230 Cloud Managed Indoor Access Point

1 - Ceiling Mount Base (9/16" Trail)

1 - Ceiling Mount Base (15/16" Trail)

1 - Ceiling and Wall Mount Screw Kit

1 - Quick Installation Guide

Certifications

ECW115/ECW120/ECW160/ECW220/ECW230

FCC

CE

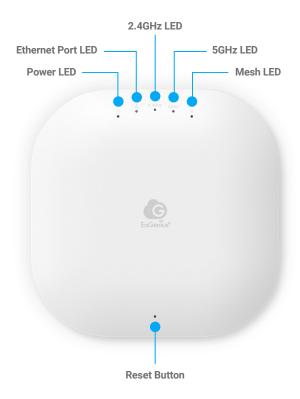
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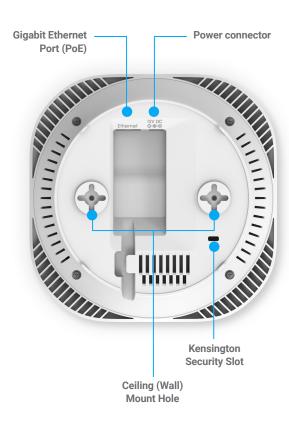
Warranty

ECW115/ECW120/ECW160/ECW220/ECW230

2 Year

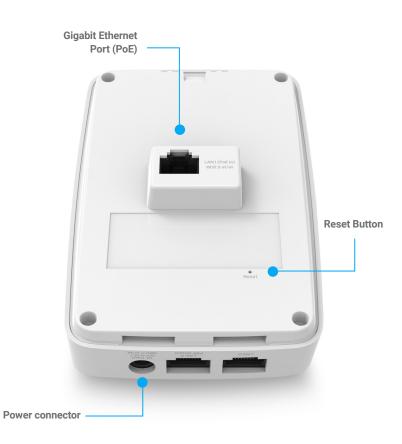
# **ECW120 Indoor Access Point**



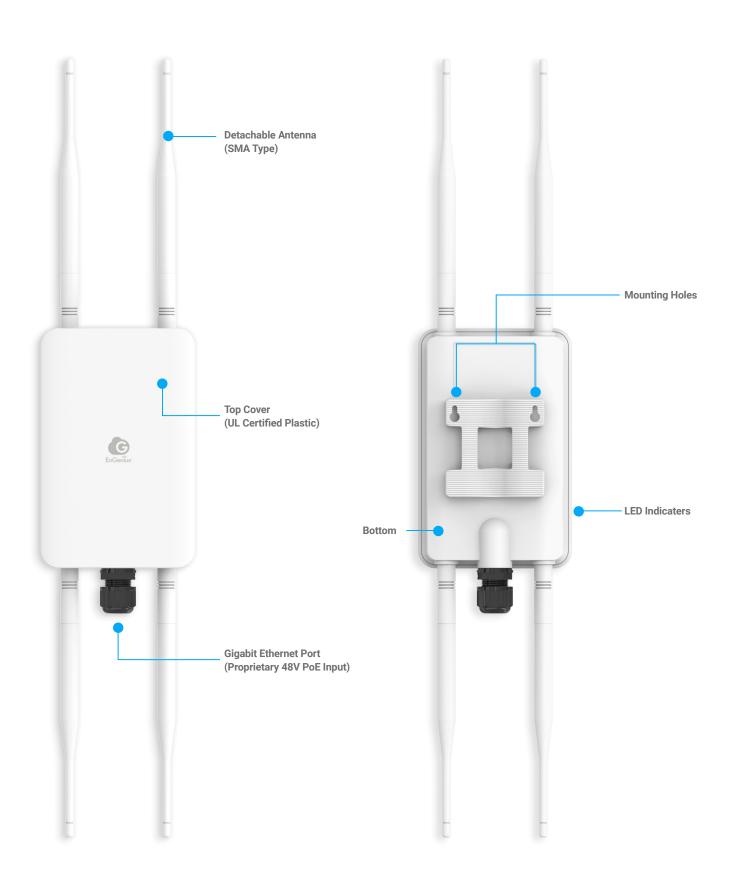


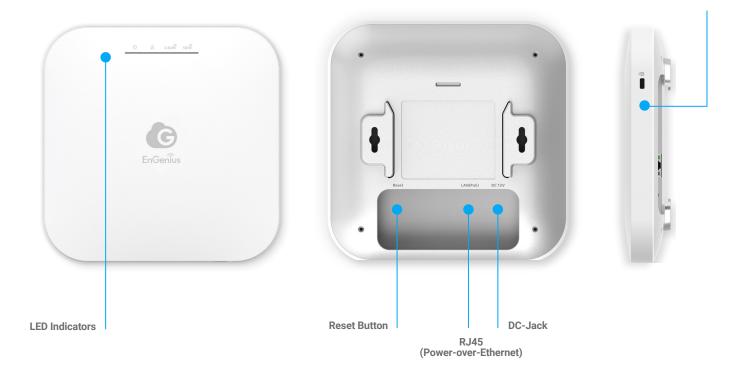
# **ECW115 Indoor Access Point**





# **ECW160 Outdoor Access Point**





**Plug & Play with Zero Configuration** 

# Scan & Go



Maximum data rates are based on IEEE 802.11 standards. Actual throughput and range may vary depending on distance between devices or traffic and bandwidth load in the network.

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Version 1.10 12/19/2019

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