



## EnGenius Cloud Access Points Series

Optimal Performance, Enterprise Features, & Cloud Management

The EnGenius Cloud Access Point Series brings the industry's most advanced features for quick deployment and holistic management. EnGenius provides cloud managed access points for indoor and outdoor deployments. This AI-driven cloud solution is designed to increase wireless networking efficiency and reduce operating costs for small and medium-sized businesses, and empowers IT managers to rapidly implement IT initiatives to achieve their organizational objectives.

**Easy deployment** – Cloud-managed access points for indoors consist of an indoor wall plate and ceiling-mount, while outdoor models are built to withstand difficult outdoor environments. Both indoor and outdoor models are highly flexible to meet the needs of distributed networks across multiple sites and scalable with company growth.

**Smart Management** – EnGenius Cloud's predictive artificial intelligence and access point data collection helps administrators improve network performance and prevent potential issues. The cloud-based solution allows you to manage the firmware and update network policy remotely for distributed clusters of access points based on region, time zone, and other configuration.

**Visualized Analytics** – With AI-driven cloud computing, the complex data generated by your networks is aggregated into a centralized, easy-to-navigate visual interface with comprehensive statistical tools and management controls. Minimize potential issues by setting up event-based alerts and receive push notifications through the EnGenius Cloud app.

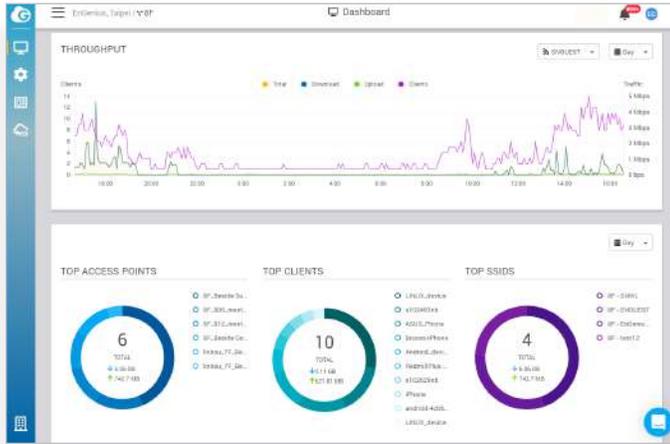
### Features & Benefits

- Support standards up to 802.11ax and backward-compatible with 11ac/a/b/g/n
- Supercharged speeds up to 4,800 Mbps on 6 GHz, 2,400 Mbps on 5 GHz, and 1,200 Mbps on 2.4 GHz
- Tri-radio MU-MIMO improves performance, expands capacities (Wi-Fi 6E device)
- Versatile 4x4 and 2x2 11ax & 11ac Wave 2 models with internal & detachable antennas
- Flexible operation modes: AP, Mesh, and AP Mesh
- WPA3 & WPA2-AES authentication support
- Quick-scan device register & configuration and remote monitoring & troubleshooting
- Cloud manages an unlimited number of APs from anywhere with the EnGenius Cloud App
- Mesh wireless support simplifies setup, optimizes signals, and enables self-heals
- WIDS/WIPS, spectrum analysis, and BLE support

# Benefits to Help Grow Your Business

## Overview of Access Points Status

The EnGenius Cloud dashboard provides a big-picture view of your network status. The dashboard captures the health status of access points, collects analytics data including network connection status and real-time traffic, and highlights the most used access points, SSID's, clients and applications.



## Monitor and Troubleshoot with the Client Timeline

The client timeline pulls up an entire device's history to allow for tracing of potential problems at their source. It provides additional information about issues by analyzing the authentication process between devices, such as a smartphone and wireless access points. The unfolded timeline also assists you to realize if the network problems are related to weak signals or incorrect password between clients and access points.



## Pinpoint Issues with the AI-Driven Advisory Board

The EnGenius Cloud advisory board uses artificial intelligence to continuously analyze your networks and report potential problems. You can customize notifications to be sent for any identified abnormal situation in your network devices, which will include recommended best responses to common issues derived from EnGenius machine learning and research.



## Network Management and Monitoring On the Go

With the EnGenius Cloud mobile app, you can have full control of cloud managed access points and devices. It offers highly customizable and real-time notifications to help you stay alert to all issues when they first arise. By using the EnGenius Cloud app, businesses can easily create a network and configure access points from any location.

## Customize Splash Page with Ease

Empower your IT personnel to customize the splash page as you see fit with pre-made templates with WYSIWYG editor. This gives you a starting point to customize logos, images, or add your own HTML so you can give your customers the entrance page that you want them to see before accessing the network.



## User Authentication for WiFi Access Per SSID

EnGenius Cloud offers various authentication methods for different business requirements. You can configure the AAA authentication all on the cloud or by Customer's RADIUS server; create a Guest Wi-Fi with voucher service, Facebook WiFi, or let users log in by linking to their social account.

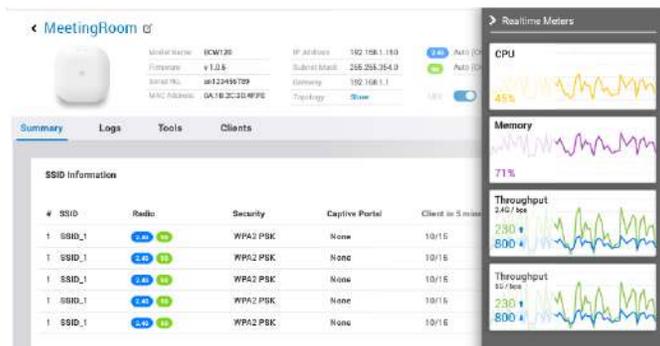
## Quick Access to Access Point insights

EnGenius Cloud manages all devices in from a single centralized interface. The access points list offers you a summary of the most important current traffic usage data, such as 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.



## Supervise Access Points with Real-Time Metrics

EnGenius Cloud management can break down an access point's key performance diagnostics such as CPU, memory utilization, and throughput to determine the root cause of a current network problem.



## Quick Access to Access Point Insights

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## Access Points Locations and Wi-Fi Strength with Floor Plan

The included Wi-Fi site survey tool 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. It is capable of factoring in physical obstacles and other impediments to coverage in its forecast.



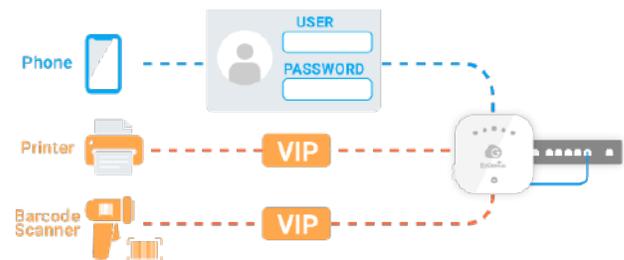
## Block Suspicious Clients from Your Networks

The rogue client monitoring tools allow you to deny access to your SSID for selected clients.



## Give Devices VIP Permission to Join Networks bypass Captive Portal

You can skip authentication for specific clients such as barcode scanners or printers with no web-based interface to proceed for selected clients.



## Security Access Points Features

### AirGuard WIDS Detects Different Types of Wireless Threats

AirGuard is an intelligent wireless security system built-in EnGenius Cloud security AP to protect the airspace from rogue devices and wireless threats 24/7. Using dedicated scanning radios, AirGuard security APs continuously scan the environment for rogue APs and other threats based without degrading network speed at all.

AirGuard auto-categorizes those detected wireless threats.

- Rogue Access Point
- Man-in-the-middle
- Valid SSID Misuse
- Evil Twin Attack
- RF Jamming
- De-authentication

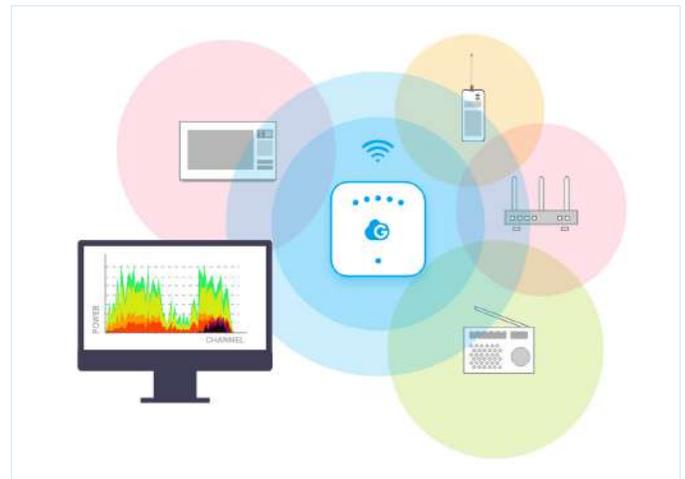


### AirGuard WIPS Completely Protect the Airspace from Wireless Attacks

Once a threat has been detected in the network, the AirGuard system will send alert notifications to the administrator whenever security issues are found and provide corresponding advice for remediations.

### Real-time Diagnostics to Ensure Air Quality

The security AP comes with the diagnostics toolset to monitor the environment's real-time radio interference, channel utilization, and device status. Thus, the administration can quickly find the potential issues and adjust the device settings accordingly for better experience and performance.



### Zero-wait DFS to Avoid Disrupting Client Connection

EnGenius zero-wait DFS feature provides a mechanism for the security AP to avoid connection disruption from radar detection and provides an uninterrupted change of DFS channels when needed.

### BLE Capability for Location-based Services and IoT Applications

The security AP can scan and obtain information from Bluetooth devices nearby with a built-in BLE sensor. We also provide BLE API for vendors to communicate with and get data from security AP for any IOT or location-based applications.

## Wi-Fi 6E Access Points Solution

### Wi-Fi 6E demonstrates the Ultimate Performance with 6 GHz-enabled

Wi-Fi 6E Extends Wi-Fi 6 the features into the 6 GHz band for groundbreaking performance across mobile, computer, and network infrastructure. The newly allocated 6 GHz band doubles the available spectrum and is designed to transform industries through a boost in speed, surge in capacity, and dramatic reduction in latency.

### EnGenius Wi-Fi 6E AP brings the Perfect Experience of Future-proof Application

The seven 160 MHz high bandwidth channels and additional 1.2 GHz available spectrum of EnGenius Wi-Fi 6E Access Points satisfies the application requirements of high throughput and multi-gigabit connection.

- 4K/8K high-resolution streaming.
- Cloud computing and collaborative work.
- Next generation experience of AR, VR, and Metaverse.
- High-density wireless network environment

## EnGenius Cloud Access Points

	Indoor				
					
Models	ECW115	ECW120	ECW220	ECW220S	ECW230
Wi-Fi Standard	11ac Wave 2	11ac Wave 2	Wi-Fi 6 (11ax)	Wi-Fi 6 (11ax)	Wi-Fi 6 (11ax)
Frequency	2.4 GHz & 5 GHz	2.4 GHz & 5 GHz	2.4 GHz & 5 GHz	2.4 GHz & 5 GHz	2.4 GHz & 5 GHz
Data Rate (2.4 GHz)	400 Mbps	400 Mbps	600 Mbps	600 Mbps	1200 Mbps
Data Rate (5 GHz)	867 Mbps	867 Mbps	1200 Mbps	1200 Mbps	2400 Mbps
Data Rate (6 GHz)	-	-	-	-	-
Radio Chains	2 x 2:2	2 x 2:2	2 x 2:2	2 x 2:2	4 x 4:4
Tx Power (2.4 GHz)	17 dBm	23 dBm	22 dBm	22 dBm	23 dBm
Tx Power (5 GHz)	17 dBm	23 dBm	22 dBm	22 dBm	23 dBm
Tx Power (6 GHz)	-	-	-	-	-
Antennas (2.4 GHz)	2 x 4 dBi Omni	2 x 5 dBi Omni	2 x 4 dBi Omni	2 x 4 dBi Omni	4 x 5 dBi Omni
Antennas (5 GHz)	2 x 5 dBi Omni	2 x 5 dBi Omni	2 x 5 dBi Omni	2 x 5 dBi Omni	4 x 6 dBi Omni
Antennas (6 GHz)	-	-	-	-	-
PoE Standard	802.3af/at	802.3af	802.3af/at	802.3af/at	802.3at
Scanning Radio	-	-	-	●	-
BLE	-	-	-	●	-
Power Consumption (Peak)	11.9W	12W	12.8W	12.8W	19.5W
Ethernet Port	2x Gigabit ports (PoE+) 1x Gigabit port (PSE Out)	1x Gigabit port (PoE)	1x Gigabit port (PoE+)	1x Gigabit port (PoE+)	1x 2.5G port (PoE+)
Mounting	Wall	Wall/ Ceiling	Wall/ Ceiling	Wall/ Ceiling	Wall/ Ceiling
IP Rating	N/A	N/A	N/A	N/A	N/A
Dimensions	140 x 90 x 40 mm	161 x 161 x 41 mm	160 x 160 x 33 mm	160 x 160 x 33 mm	205 x 205 x 33 mm
Mesh Technology	●	●	●	●	●
Mobile app (Cloud To-Go)	●	●	●	●	●

\* The data is for ECW220 hardware v2 only. For hardware v1, the Tx-power is 20 dBm.

## EnGenius Cloud Access Points



Models	ECW230S	ECW336	ECW160	ECW260
Wi-Fi Standard	Wi-Fi 6 (11ax)	Wi-Fi 6 (11ax)	11ac Wave 2	Wi-Fi 6 (11ax)
Frequency	2.4 GHz & 5 GHz	2.4 GHz & 5 GHz & 6 GHz	2.4 GHz & 5 GHz	2.4 GHz & 5GHz
Data Rate (2.4 GHz)	1200 Mbps	1,200 Mbps	400 Mbps	600 Mbps
Data Rate (5 GHz)	2400 Mbps	2,400 Mbps	867 Mbps	1200 Mbps
Data Rate (6 GHz)	-	4,800 Mbps	-	-
Radio Chains	4 x 4:4	4 x 4:4	2 x 2:2	2 x 2:2
Tx Power (2.4 GHz)	23 dBm	23 dBm	23 dBm	23 dBm
Tx Power (5 GHz)	23 dBm	23 dBm	23 dBm	25 dBm
Tx Power (6 GHz)	-	23 dBm	-	-
Antennas (2.4 GHz)	4 x 5 dBi Omni	4 x 5 dBi Omni	2 x 5 dBi External Omni	2 x 5 dBi External Omni
Antennas (5 GHz)	4 x 6 dBi Omni	4 x 6 dBi Omni	2 x 5 dBi External Omni	2 x 5 dBi External Omni
Antennas (6 GHz)	-	4 x 5 dBi Omni	-	-
PoE Standard	802.3at	802.3at	802.3af/at	802.3af/at
Scanning Radio	●	-	-	-
BLE	●	-	-	-
Power Consumption (Peak)	19.5W	22.5W	12.6W	15.9W
Ethernet Port	1x 2.5G port (PoE+)	1x 5G port (PoE+)	1x Gigabit port (PoE+)	1x 2.5G port (PoE+)
Mounting	Wall/ Ceiling	Wall/ Ceiling	Wall/ Pole	Wall/ Pole
IP Rating	N/A	N/A	IP67	IP67
Dimensions	205 x 205 x 33 mm	205 x 205 x 33 mm	112 x 173 x 30 mm	124 x 190 x 52.5 mm
Mesh Technology	●	●	●	●
Mobile app (Cloud To-Go)	●	●	●	●

## 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/ECW260/ECW220S/ECW230S

IEEE 802.11ax on 2.4 GHz

IEEE 802.11ax on 5 GHz

Backward compatible with 802.11a/b/g/n/ac

#### ECW336

IEEE 802.11ax on 2.4 GHz

IEEE 802.11ax on 5 GHz

IEEE 802.11ax on 6 GHz

Backward compatible with 802.11a/b/g/n/ac

### Antenna

#### ECW115

2 x 2.4 GHz: 4 dBi

2 x 5 GHz: 5 dBi

Integrated Omni-Directional Antenna

#### ECW120/ECW160/ECW260

2 x 2.4 GHz: 5 dBi

2 x 5 GHz: 5 dBi

Integrated Omni-Directional Antenna

#### ECW220/ECW220S

2 x 2.4 GHz: 4 dBi

2 x 5 GHz: 5 dBi

Integrated Omni-Directional Antenna

#### ECW230/ECW230S

4 x 2.4 GHz: 5 dBi

4 x 5 GHz: 6 dBi

Integrated Omni-Directional Antenna

#### ECW336

4 x 2.4 GHz: 5 dBi

4 x 5 GHz: 6 dBi

4 x 6 GHz: 5 dBi

Integrated Omni-Directional Antenna

### Physical Interface

#### ECW115

2 x 10/100/1000 Ethernet Ports (PoE+)

1 x 10/100/1000 Ethernet Port (PSE Out ; requires 802.3at power source)

1 x DC Jack

1 x Reset Button

#### ECW120

1 x 10/100/1000 Ethernet Port (PoE)

1 x DC Jack

1 x Reset Button

#### ECW160

1 x 10/100/1000 Ethernet Port (PoE+)

#### ECW220/ECW220S

1 x 10/100/1000 Ethernet Port (PoE+)

1 x DC Jack

1 x Reset Button

#### ECW230/ECW230S

1 x 10/100/1000/2500 Ethernet Port (PoE+)

1 x DC Jack

1 x Reset Button

#### ECW260

1 x 10/100/1000/2500 Ethernet Port (PoE+)

#### ECW336

1 x 10/100/1000/2500/5000 Ethernet Port (PoE+)

1 x DC Jack

1 x Reset Button

### LED Indicators

#### ECW115

1 x Multi-color LED

#### ECW120

1 x Power

1 x LAN

1 x 2.4 GHz

1 x 5 GHz

1 x Mesh

#### ECW160/ECW220/ECW230/ECW260/ECW220S

1 x Power

1 x LAN

1 x 2.4 GHz

1 x 5 GHz

#### ECW230S

1 x Power

1 x LAN

1 x 2.4 GHz

1 x 5 GHz

1 x Scanning

1 x BLE

#### ECW336

1 x Power

1 x LAN

1 x 2.4 GHz

1 x 5 GHz

1 x 6 GHz

### Power Source

#### ECW115

Power-over-Ethernet: 802.3af/at Input

IEEE 802.11e Compliant Source

12VDC /1A Power Adapter (Optional)

## Technical Specifications

### ECW120

Power-over-Ethernet: 802.3af Input

IEEE 802.11e Compliant Source

12VDC /1A Power Adapter (Optional)

### ECW220/ ECW220S

Power-over-Ethernet: 802.3af/at Input

IEEE 802.11e Compliant Source

12VDC /1.5A Power Adapter (Optional)

### ECW230/ ECW230S/ ECW336

Power-over-Ethernet: 802.3at Input

IEEE 802.11e Compliant Source

12VDC /2A Power Adapter (Optional)

### ECW160/ ECW260

Power-over-Ethernet: 802.3af/at Input

IEEE 802.11e Compliant Source

Active Ethernet (PoE)

### Maximum Power Consumption

#### ECW115

11.9W

#### ECW120

12W

#### ECW160

12.6W

#### ECW220/ECW220S

12.8W

#### ECW230/ECW230S

19.5W

#### ECW260

15.9W

#### ECW336

22.5W

### Wireless & Radio Specifications Operating Frequency

#### ECW115/ECW120/ECW160/ECW220/ECW230/ECW260/ECW220S/ECW230S

Dual-Radio Concurrent 2.4 GHz & 5 GHz

#### ECW336

Tri-Radio Concurrent 2.4 GHz & 5 GHz & 6GHz

### Operation Modes

#### ECW115/ECW120/ECW160/ECW220/ECW230/ECW260/ECW220S/ECW230S/ECW336

Managed mode: AP, AP Mesh, Mesh

### Frequency Radio

#### ECW115/ECW120/ECW160/ECW220/ECW230/ECW220S/ECW230S/ECW336

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

#### ECW260

2.4 GHz: 2400 MHz ~ 2483 MHz

5 GHz: 5150 MHz ~ 5250 MHz, 5250 MHz ~ 5350 MHz, 5470 MHz ~ 5725 MHz, 5725 MHz ~ 5875 MHz

#### ECW336

6 GHz: 5925MHz ~ 6425MHz, 6525MHz ~ 6875MHz

### Transmit Power

#### ECW115

Up to 17 dBm on 2.4 GHz

Up to 17 dBm on 5 GHz

(Maximum power is limited by regulatory domain)

#### ECW120/ECW160

Up to 23 dBm on 2.4 GHz

Up to 23 dBm on 5 GHz

(Maximum power is limited by regulatory domain)

#### ECW220/ECW220S

Up to 22 dBm on 2.4 GHz

Up to 22 dBm on 5 GHz

(Maximum power is limited by regulatory domain)

#### ECW230/ECW230S

Up to 23 dBm on 2.4 GHz

Up to 23 dBm on 5 GHz

(Maximum power is limited by regulatory domain)

#### ECW260

Up to 23 dBm on 2.4 GHz

Up to 25 dBm on 5 GHz

(Maximum power is limited by regulatory domain)

#### ECW336

Up to 23 dBm on 2.4 GHz

Up to 23 dBm on 5 GHz

Up to 23 dBm on 6 GHz

(Maximum power is limited by regulatory domain)

### Tx Beamforming (TxBF)

#### Radio Chains/Spatial Stream

#### ECW115/ECW120/ECW160/ECW220/ECW260/ECW220S

2 × 2:2

#### ECW230/ECW230S/ECW336

4 × 4:4

### SU-MIMO

#### ECW115/ECW120/ECW160

Two(2) spatial stream Single User (SU) MIMO for up to 400 Mbps wireless data rate with VHT40 bandwidth to a 2x2 wireless 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/ECW220S

Two (2) spatial stream 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 1,200 Mbps wireless data rate with VHT80 to a 2x2 wireless device under the 5GHz radio.

## Technical Specifications

### ECW230/ECW230S

Four (4) spatial stream 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.

### ECW260

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 the both 2.4GHz and 5GHz radio.

### ECW336

Four (4) spatial stream 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.

Four (4) spatial stream Single User (SU) MIMO for up to 4800 Mbps wireless data rate with HE160 to a 4x4 wireless device under the 6GHz radio.

## MU-MIMO

### ECW115/ECW120/ECW160

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

### ECW220/ECW220S

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/ECW230S

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.

### ECW260

Two(2) spatial streams multi-user (MU)-MIMO for up to 1201 Mbps wire-less 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.

### ECW336

Four (4) spatial streams Multiple (MU)-MIMO up to 4800 Mbps wireless data rate for transmitting to four (4) streams MU-MIMO 11ax capable wireless client devices under 6GHz simultaneously.

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.

## Supported Data Rates (Mbps):

### ECW115/ECW120/ECW160

2.4 GHz: Max 400 (MCS0 to MCS11, NSS = 1 to 2)

5 GHz: Max 867 (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) (Additional 25% bandwidth when enabling 256-QAM uner HT40)

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

### ECW220/ECW220S

802.11ax:

2.4 GHz: 9 to 574 (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)

### ECW230/ECW260/ECW230S

802.11ax:

2.4 GHz: 9 to 1,148 (MCS0 to MCS11, NSS = 1 to 4)

5 GHz: 18 to 2,400 (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 1,733 (MCS0 to MCS9, NSS = 1 to 4)

### ECW336

802.11ax:

2.4 GHz: 9 to 1,148 (MCS0 to MCS11, NSS = 1 to 4)

5 GHz: 18 to 2,400 (MCS0 to MSC11, NSS = 1 to 4)

6 GHz: 18 to 4,800 (MCS0 to MSC13, 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 1,733 (MCS0 to MCS9, NSS = 1 to 4)

## Supported Radio Technologies

### ECW115/ECW120/ECW160

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

802.11b: Direct-Sequence Spread Spectrum (DSSS)

802.11n/ac: 2x2 MIMO with 2 Streams

### ECW220/ECW230/ECW260/ECW220S/ECW230S/ECW336

802.11ax: Orthogonal Frequency Division Multiple Access(OFDMA)

802.11a/g/n/ac: 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

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

802.11n/ac Packet Aggregation: A-MPDU, A-SPDU

### ECW220/ECW230/ECW260/ECW220S/ECW230S

802.11ax supports high efficiency throughput (HE) —HE 20/40/80 MHz

802.11ac supports very high throughput (VHT) —VHT 20/40/80 MHz

## Technical Specifications

802.11n supports high throughput (HT) –HT 20/40 MHz

802.11n supports high throughput under the 2.4GHz radio –HT40 MHz (256-QAM)

802.11n/ac/ax packet aggregation: A-MPDU, A-SPDU

### ECW336

802.11ax supports high efficiency throughput (HE) –HE 20/40/80/160 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 high throughput under the 2.4GHz radio –HT40 MHz (256-QAM)

802.11n/ac/ax packet aggregation: A-MPDU, A-SPDU

### Max Concurrent User

#### ECW115/ECW120/ECW160

#### ECW220/ECW230/ECW260/ECW220S/ECW230S/ECW336

511 Per radio

### Supported Modulation

#### ECW115/ECW120/ECW160

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

#### ECW220/ECW230/ECW260/ECW220S/ECW230S/ECW336

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

#### ECW115/ECW120/ECW160/ECW220/ECW230/ECW260/ECW220S/ECW230S

8 SSIDs on both 2.4GHz and 5GHz bands.

#### ECW336

8 SSIDs on both 2.4GHz, 5GHz & 6GHz bands

### VLAN Tagging

#### ECW115/ECW120/ECW160/ECW220/ECW230/ECW260/ECW220S/ECW230S/ECW336

Supports 802.1q SSID-to-VLAN Tagging

Cross-Band VLAN Pass-Through

Management VLAN

### Spanning Tree

#### ECW115/ECW120/ECW160/ECW220/ECW230/ECW260/ECW220S/ECW230S/ECW336

Supports 802.1d Spanning Tree Protocol

### QoS (Quality of Service)

#### ECW115/ECW120/ECW160/ECW220/ECW230/ECW260/ECW220S/ECW230S/ECW336

Compliant With IEEE 802.11e Standard

WMM

### Fast Roaming

#### ECW115/ECW120/ECW160/ECW220/ECW230/ECW260/ECW220S/ECW230S/ECW336

802.11r/k

### Wireless Security

#### ECW115/ECW120/ECW160/ECW220/ECW230/ECW260/ECW220S/ECW230S/ECW336

WPA2-PSK

WPA2-Enterprise

WPA3-PSK

WPA3-Enterprise

Hide SSID in Beacons

MAC Address Filtering, Up to 32 MACs per SSID

Wireless STA (Client) Connected List

Https

SSH Tunnel

Client Isolation

### Environment & Physical Temperature Range

#### ECW115/ECW120/ECW220/ECW230/ECW220S/ECW230S/ECW336

Operating: 32°F~104°F (0 °C~40 °C)

Storage: -40 °F~176 °F (-40 °C~80 °C)

#### ECW160/ECW260

Operating: -4°~140°F/-20°C~60°C

Storage: -40°F~176°F/-40°C~80°C

### Humidity (non-condensing)

#### ECW115/ECW120/ECW160/ECW220/ECW230/ECW260/ECW220S/ECW230S/ECW336

Operating: 90% or less

Storage: 90% or less

### Dimensions & Weight

#### ECW115

Weight: 225 g

Width: 140 mm

Length: 90 mm

Height: 40 mm

#### ECW120

Weight: 362.8 g

Width: 161.5 mm

Length: 161.5 mm

Height: 41.6 mm

#### ECW220

Weight: 382 g

Width: 160 mm

Length: 160 mm

Height: 33.2 mm

#### ECW230

Weight: 597 g

---

Width: 205 mm

---

Length: 205 mm

---

Height: 33.2 mm

---

**ECW220S**

---

Weight: 390 g

---

Width: 160 mm

---

Length: 160 mm

---

Height: 33.2 mm

---

**ECW230S**

---

Weight: 607 g

---

Width: 205 mm

---

Length: 205 mm

---

Height: 33.2 mm

---

**ECW336**

---

Weight: 630 g

---

Width: 205 mm

---

Length: 205 mm

---

Height: 33.2 mm

---

**ECW160**

---

Weight: 829.5 g

---

Width: 111.2 mm

---

Length: 173.6 mm

---

Height: 30.29 mm

---

**ECW260**

---

Weight: 720 g

---

Width: 124 mm

---

Length: 190 mm

---

Height: 52.5 mm

---

**Package Contents**

---

**ECW115**

---

1 – ECW115 Cloud Managed Indoor Access Point

---

1 – Junction Plate (short)

---

1 – Junction Plate (tall)

---

1 – Mounting Screw Kit

---

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

---

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

---

**ECW220S**

---

1 – ECW220S 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

---

**ECW230S**

---

1 – ECW230S 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

---

**ECW336**

---

1 – ECW336 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

---

**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

---

**ECW260**

---

1 – ECW260 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

---

**Compliance Regulatory**

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**ECW115/ECW120/ECW160/ECW220/ECW230/ECW260/ECW220S/ECW230S/ECW336**

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FCC

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CE

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IC

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**Warranty**

---

**ECW115/ECW120/ECW160/ECW220/ECW230/ECW260/ECW220S/ECW230S/ECW336**

---

2 Year

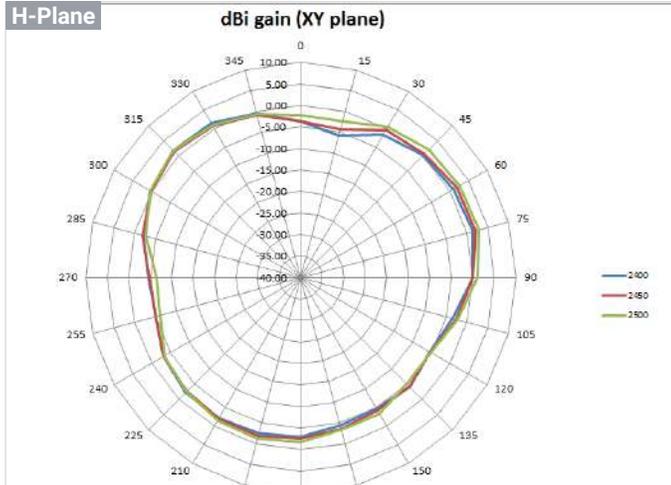
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Maximum data rates are based on IEEE 802.11 standards. Actual throughput and range may vary depending on distance between devices or traffic and bandwidth load in the network.

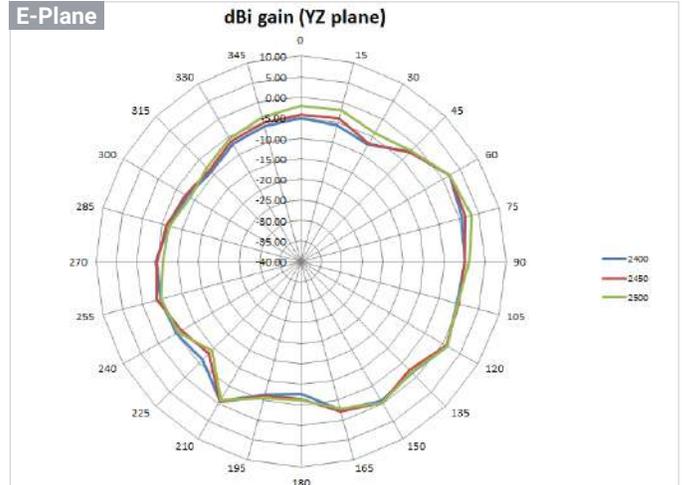
# Antenna Patterns, and Product Views

## ECW115 Antenna Patterns

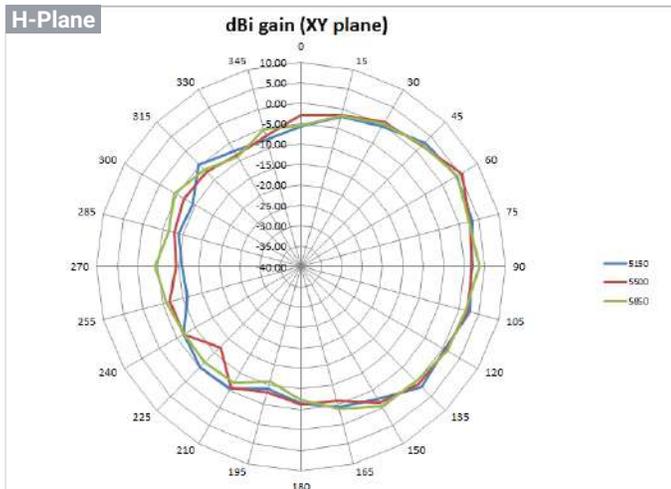
2.4GHz



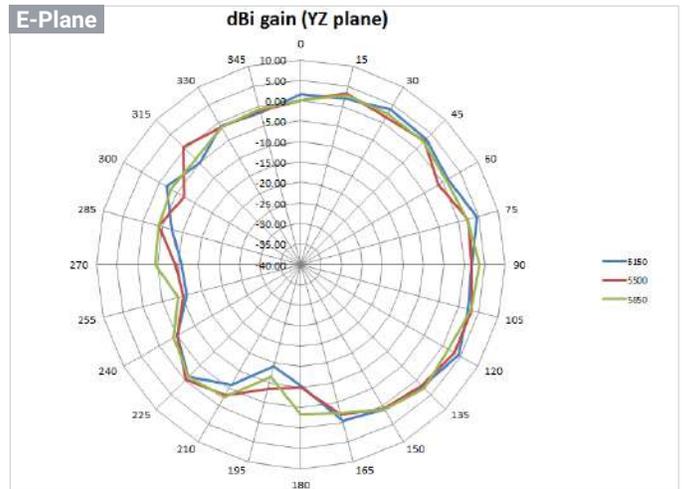
2.4GHz



5GHz

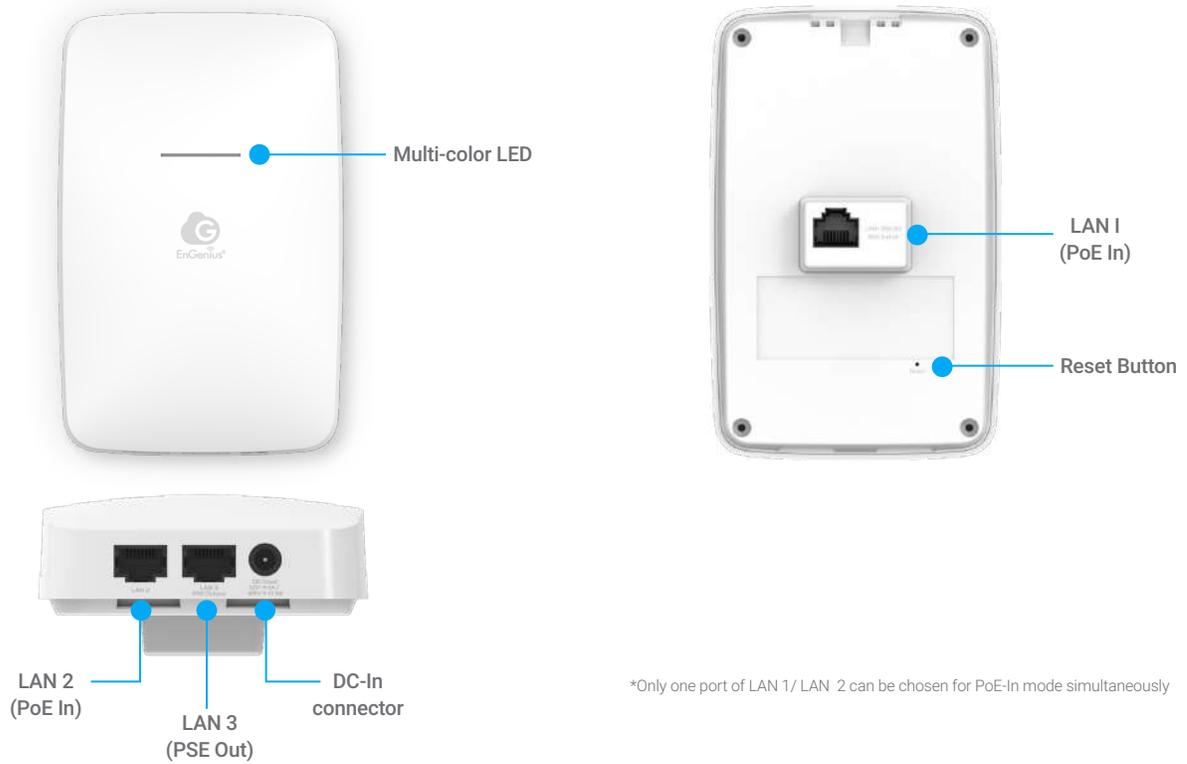


5GHz



## Antenna Patterns, and Product Views

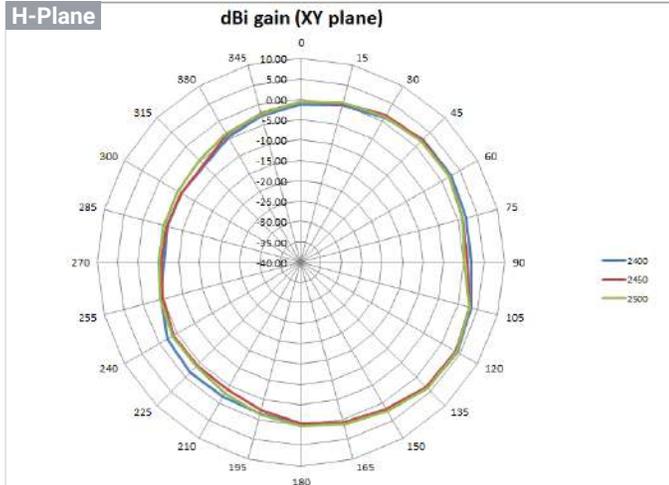
### ECW115 Product Views



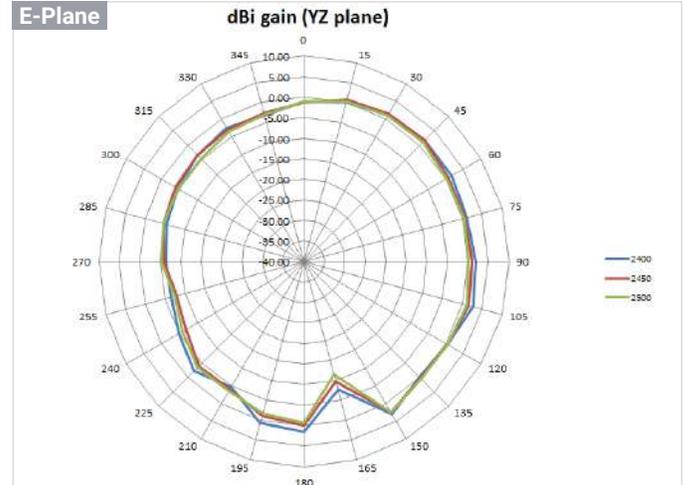
# Antenna Patterns, and Product Views

## ECW120 Antenna Patterns

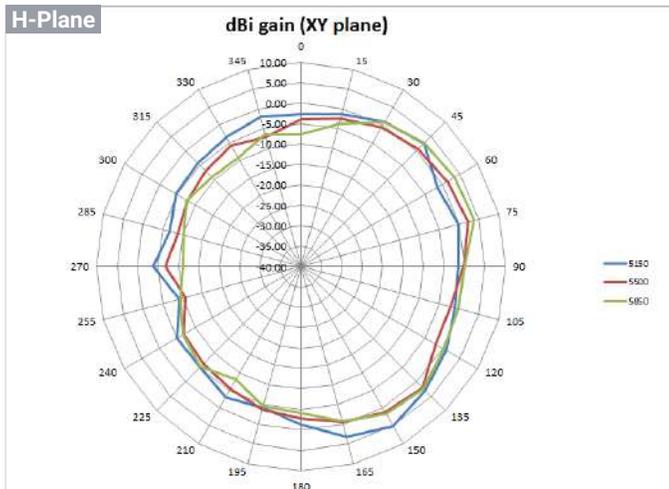
2.4GHz



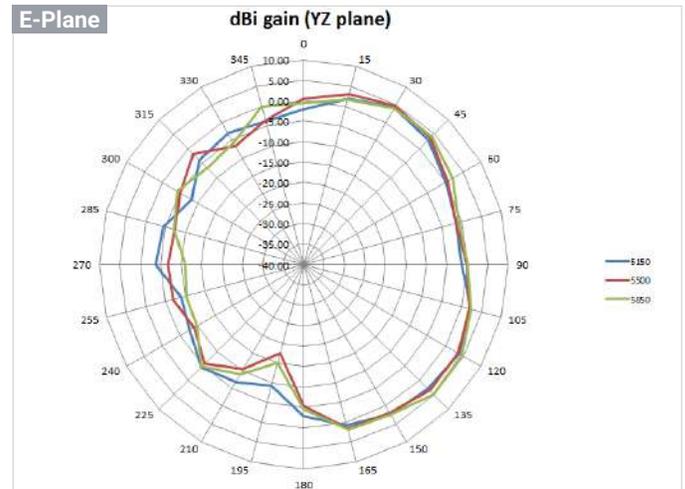
2.4GHz



5GHz

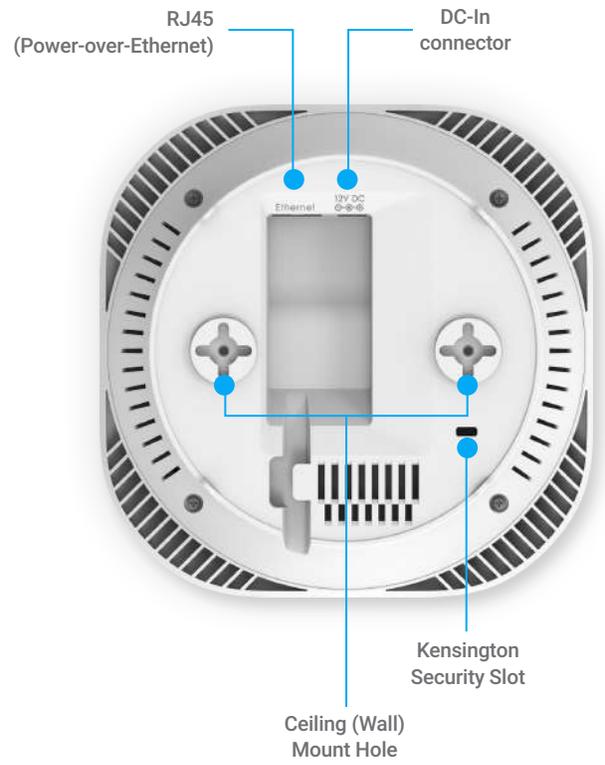


5GHz



## Antenna Patterns, and Product Views

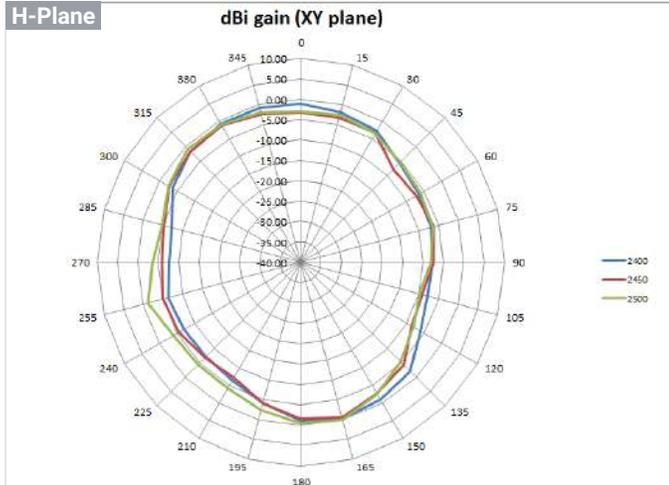
### ECW120 Product Views



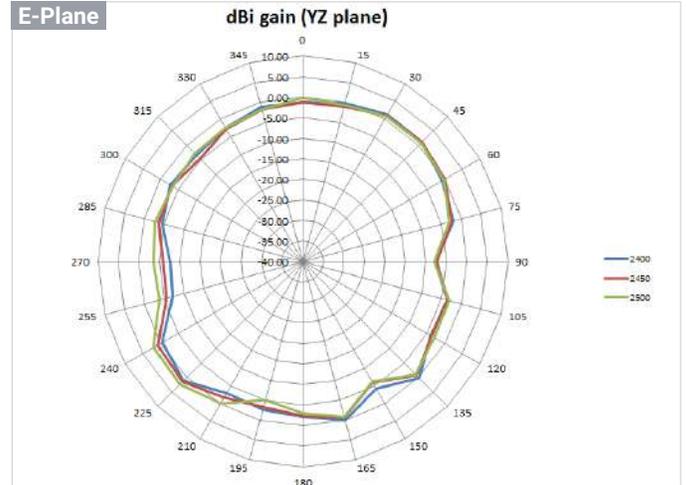
# Antenna Patterns, and Product Views

## ECW220 Antenna Patterns

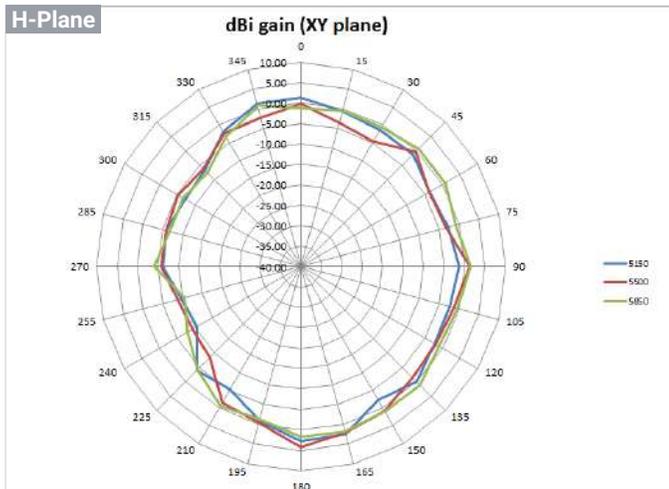
2.4GHz



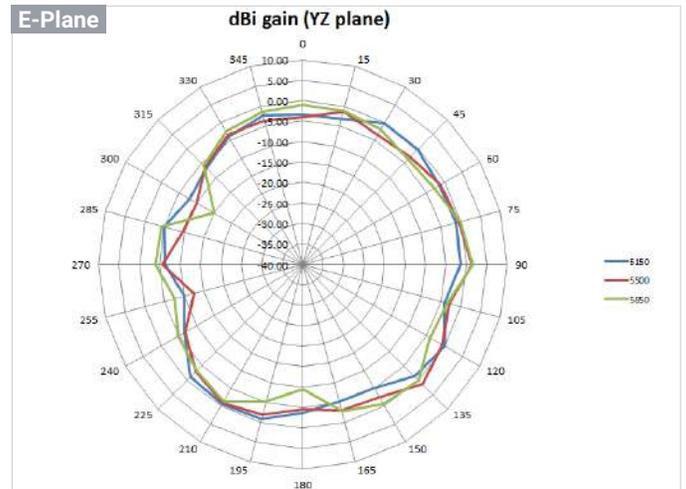
2.4GHz



5GHz

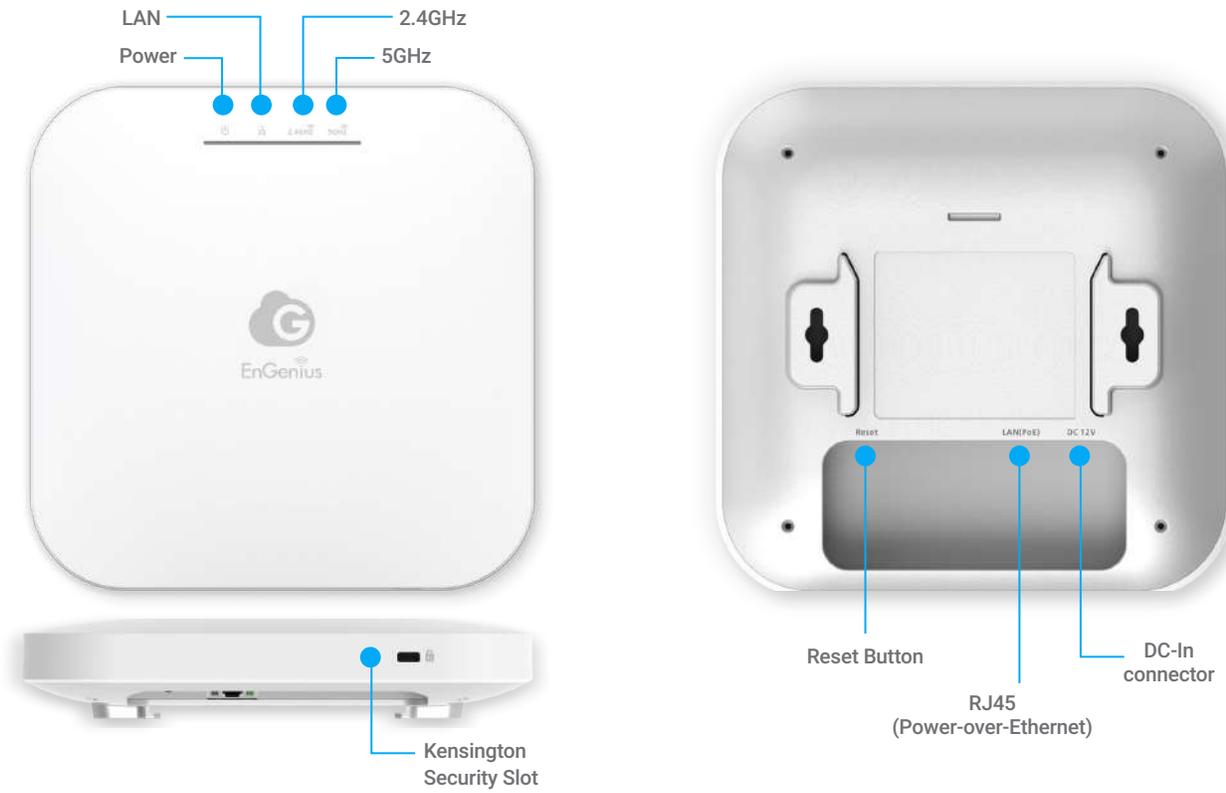


5GHz



## Antenna Patterns, and Product Views

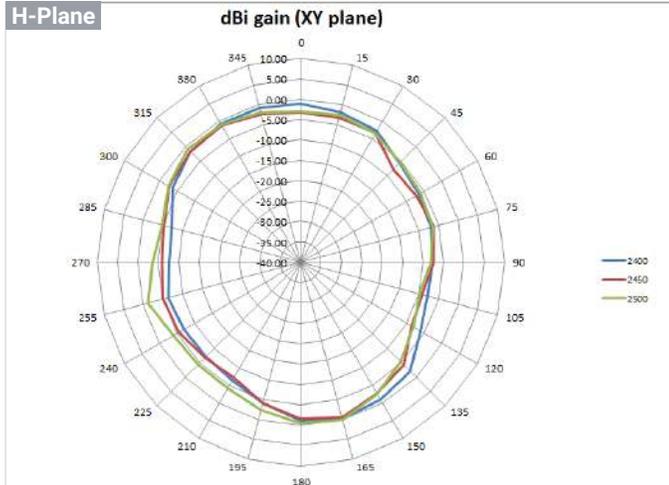
### ECW220 Product Views



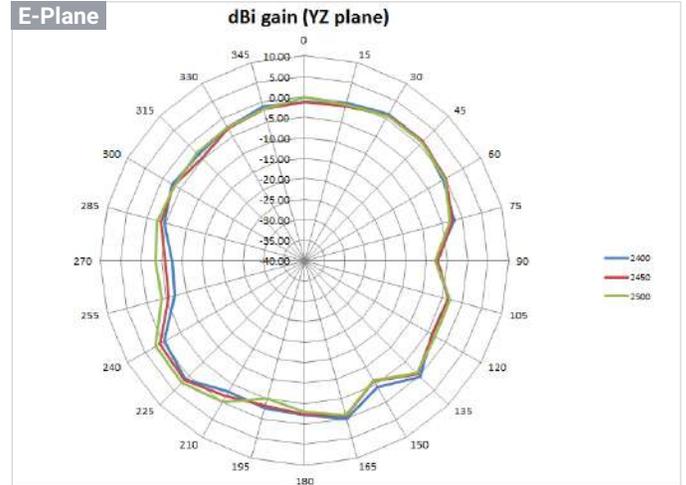
# Antenna Patterns, and Product Views

## ECW230 Antenna Patterns

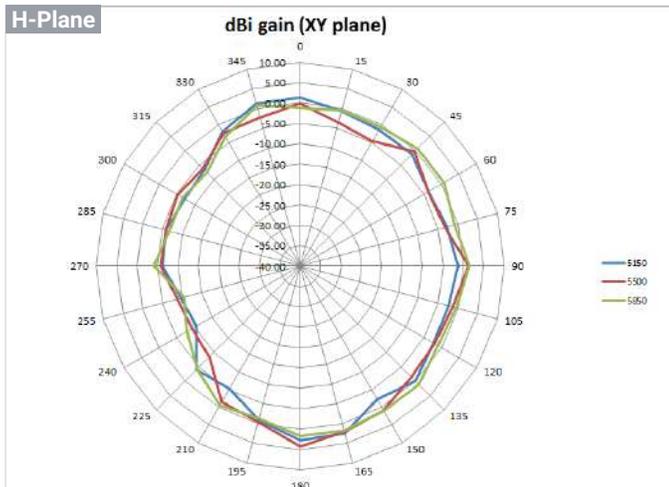
2.4GHz



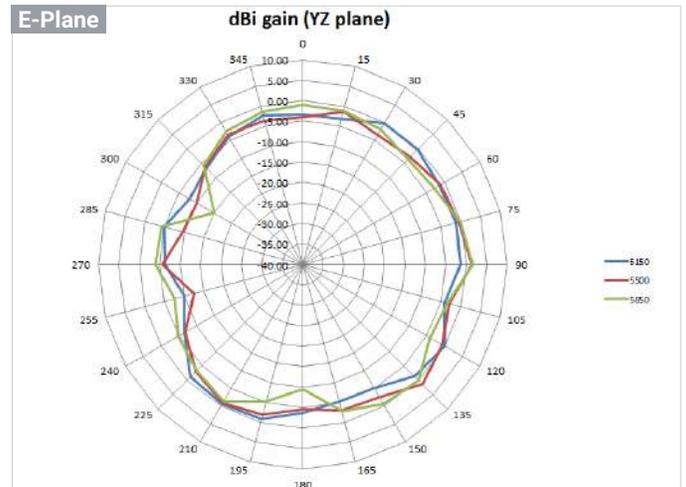
2.4GHz



5GHz

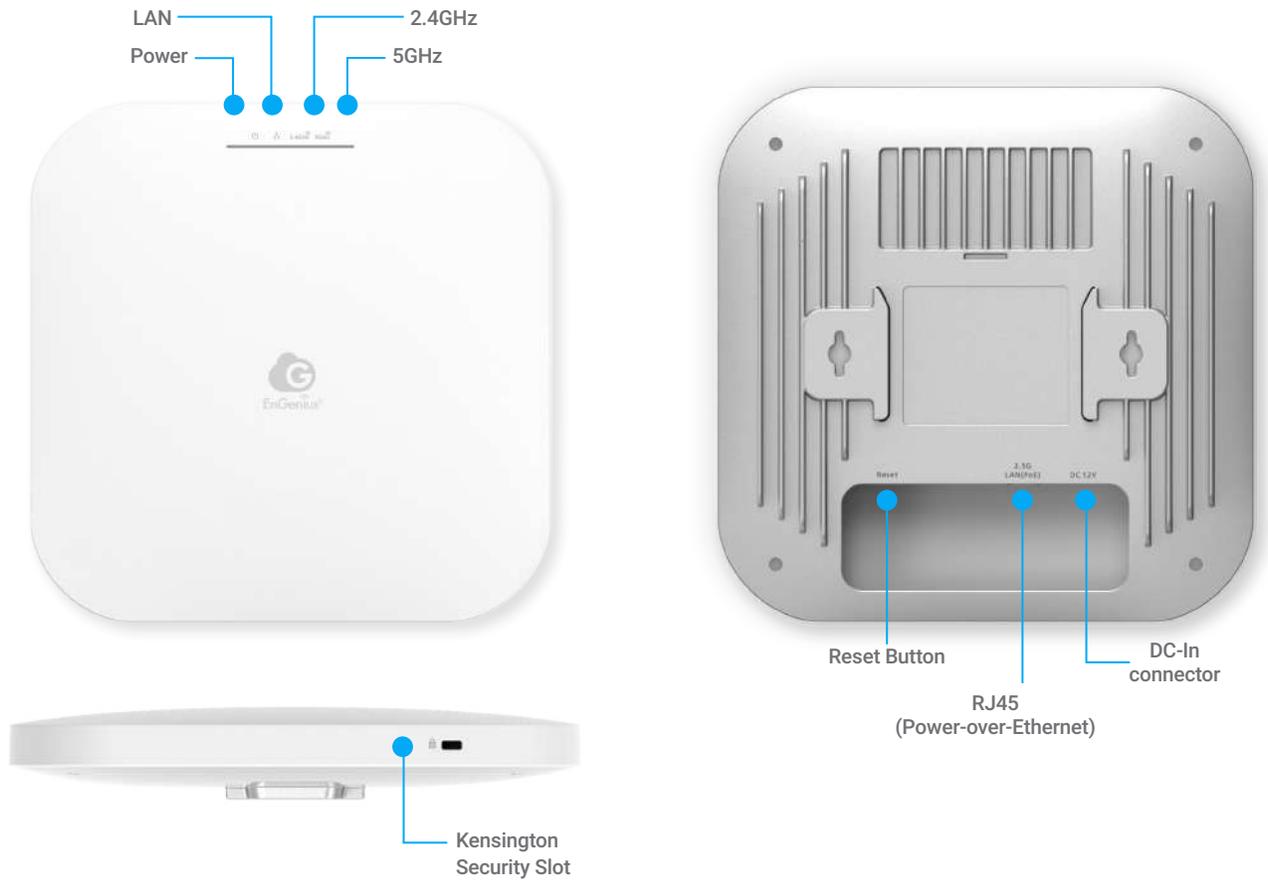


5GHz



## Antenna Patterns, and Product Views

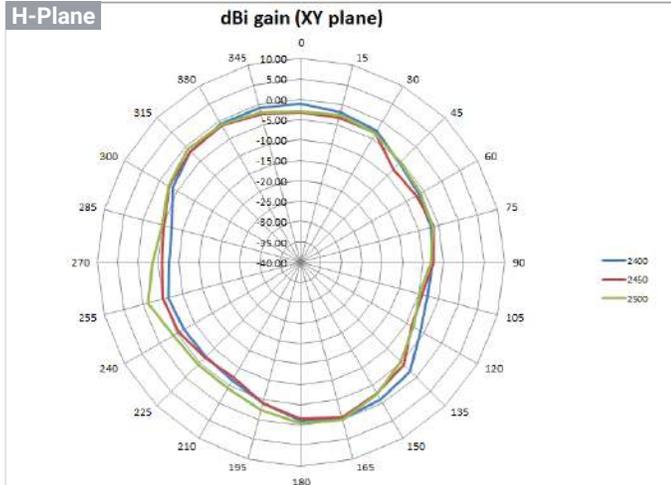
### ECW230 Product Views



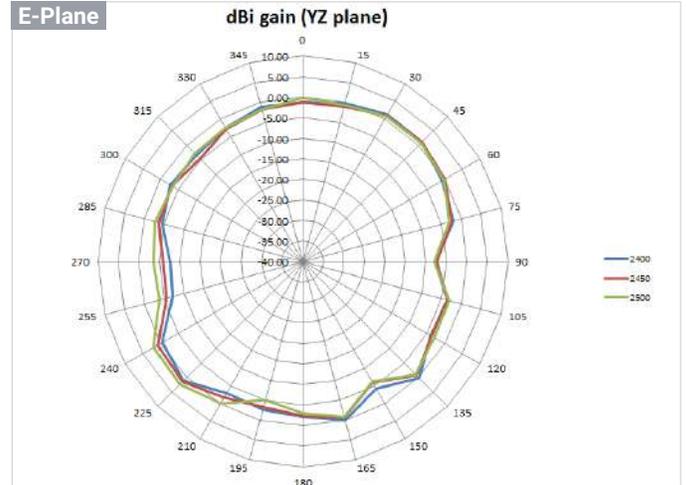
# Antenna Patterns, and Product Views

## ECW220S Antenna Patterns

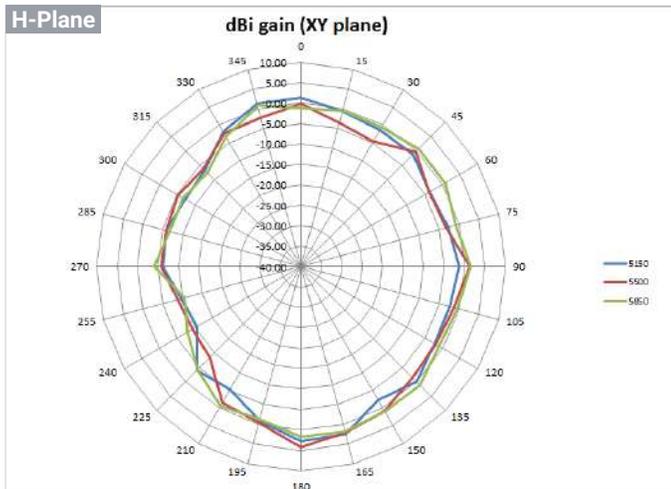
2.4GHz



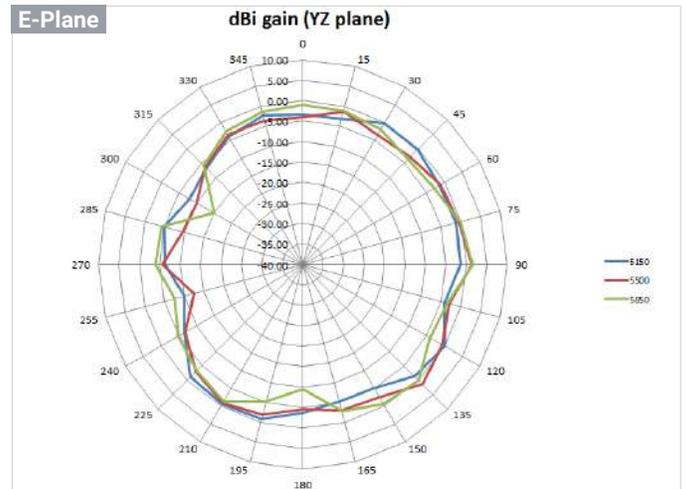
2.4GHz



5GHz

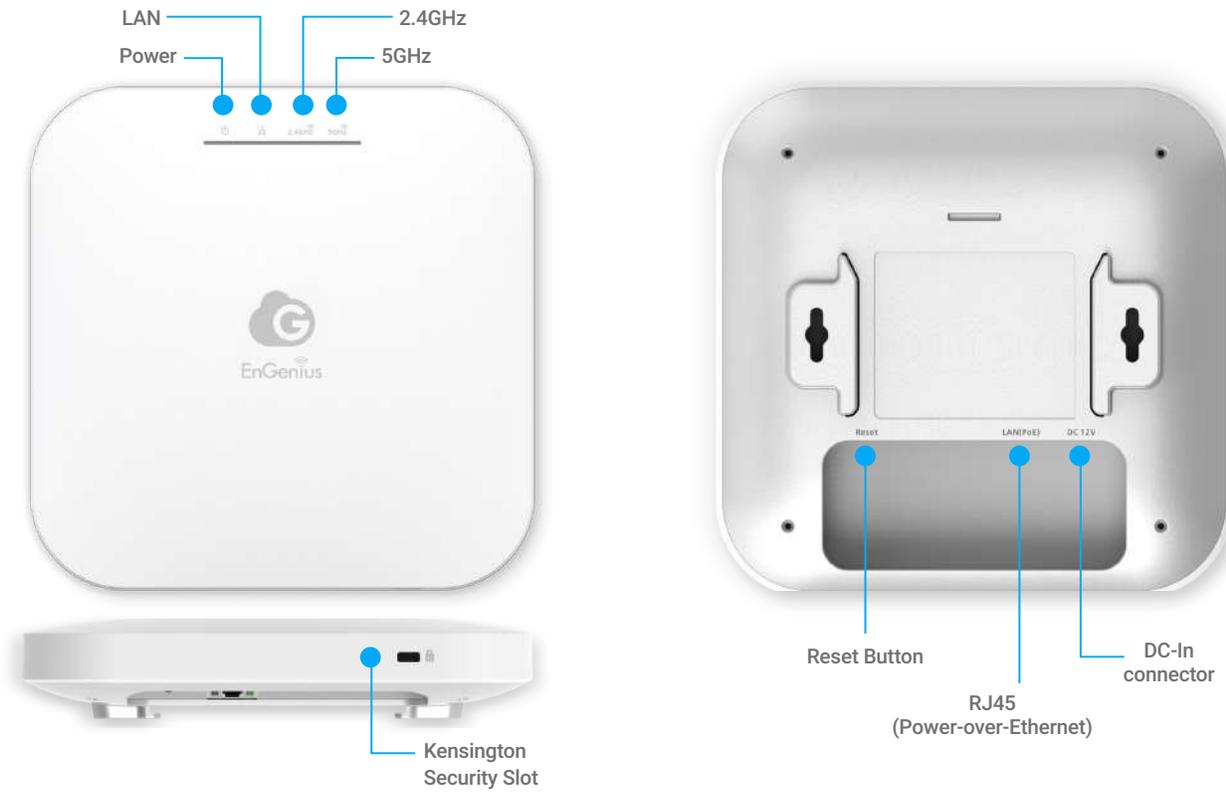


5GHz



## Antenna Patterns, and Product Views

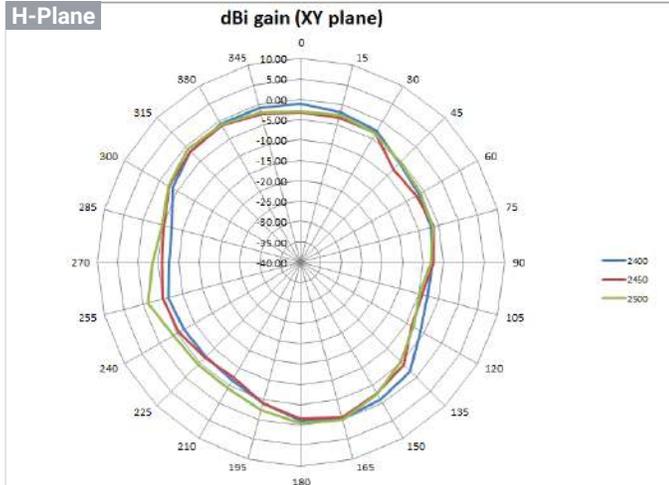
### ECW220S Product Views



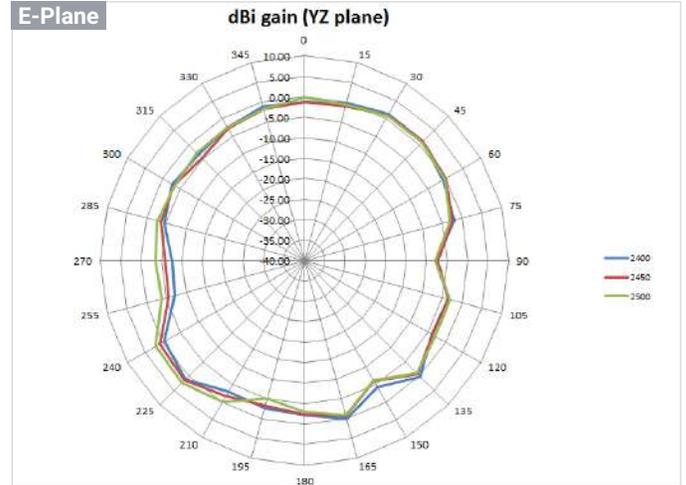
# Antenna Patterns, and Product Views

## ECW230S Antenna Patterns

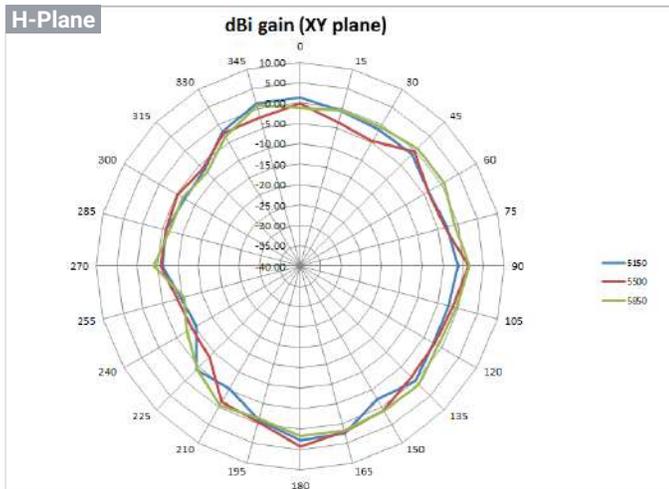
2.4GHz



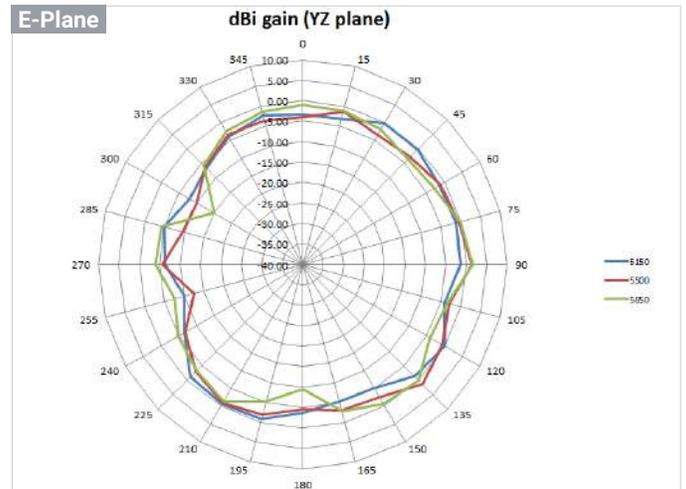
2.4GHz



5GHz

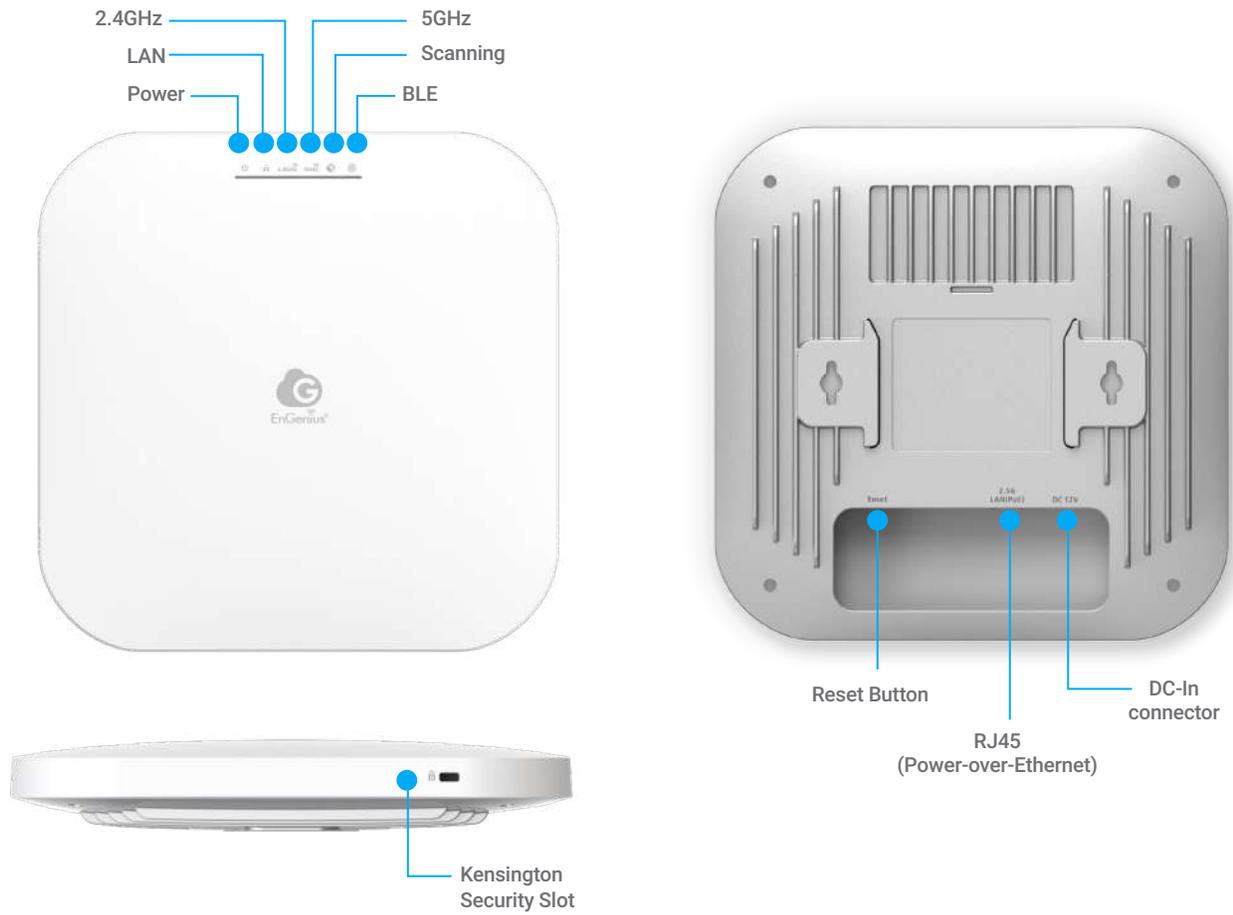


5GHz



## Antenna Patterns, and Product Views

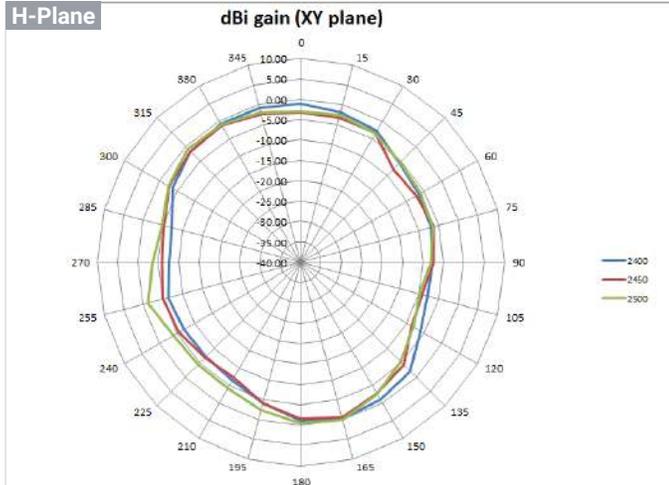
### ECW230S Product Views



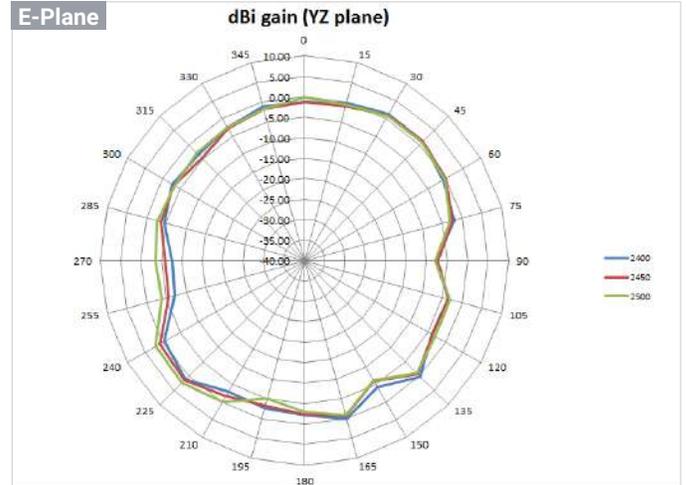
# Antenna Patterns, and Product Views

## ECW336 Antenna Patterns

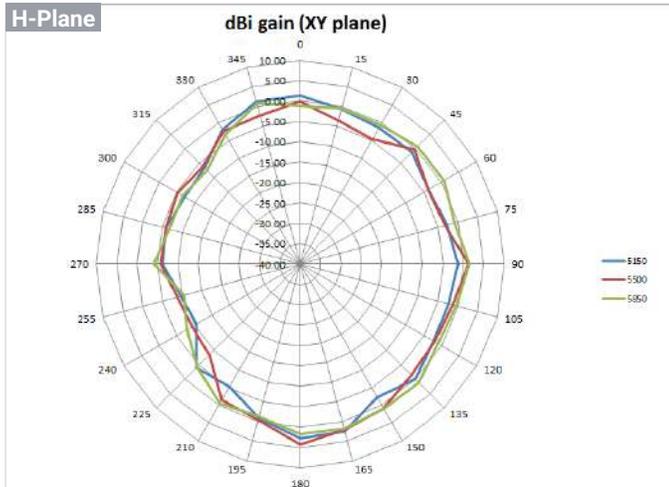
2.4GHz



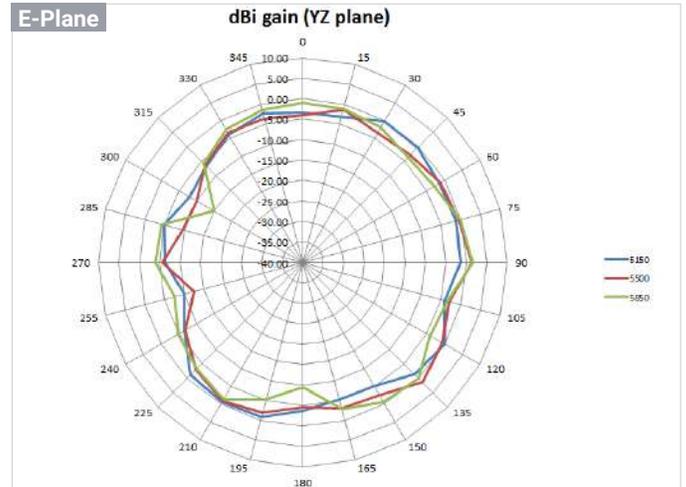
2.4GHz



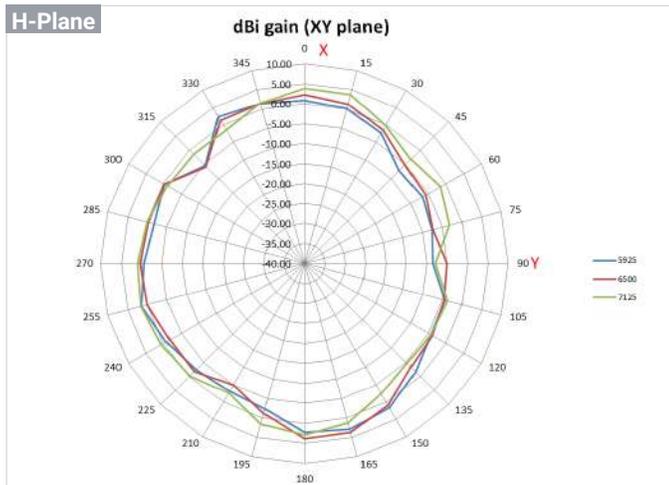
5GHz



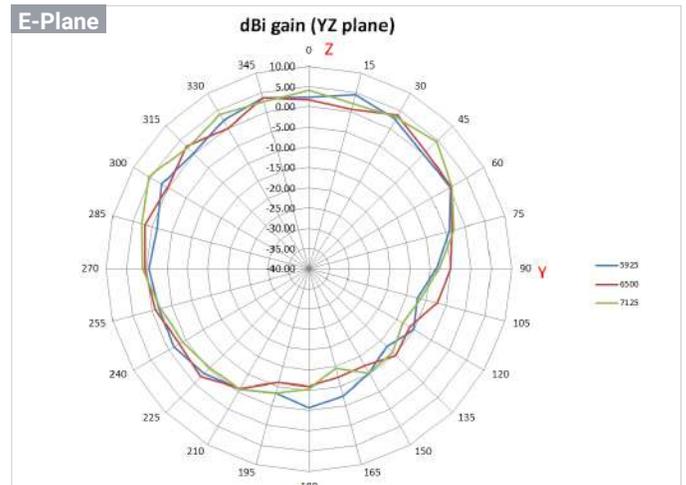
5GHz



6GHz

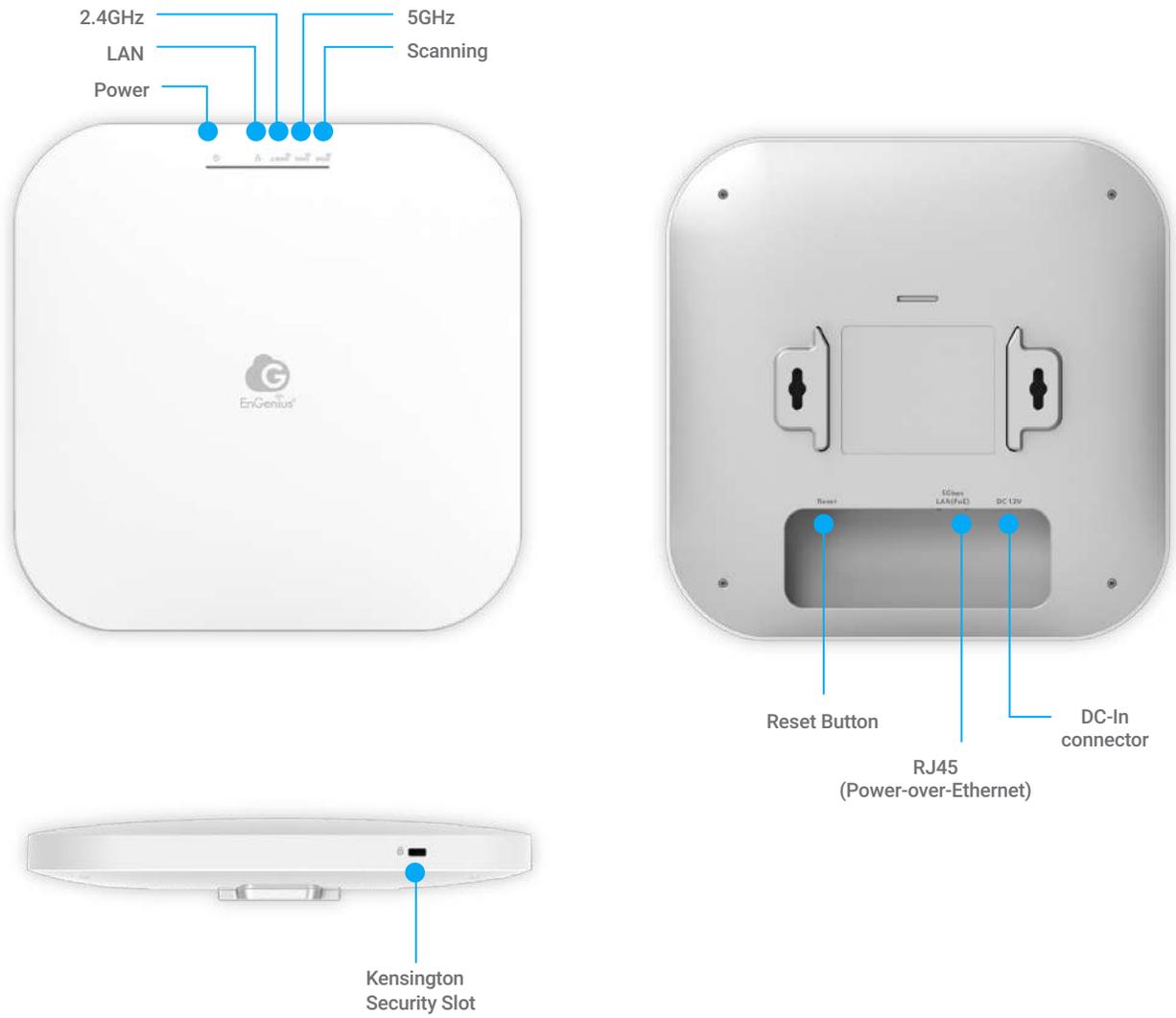


6GHz



## Antenna Patterns, and Product Views

### ECW336 Product Views

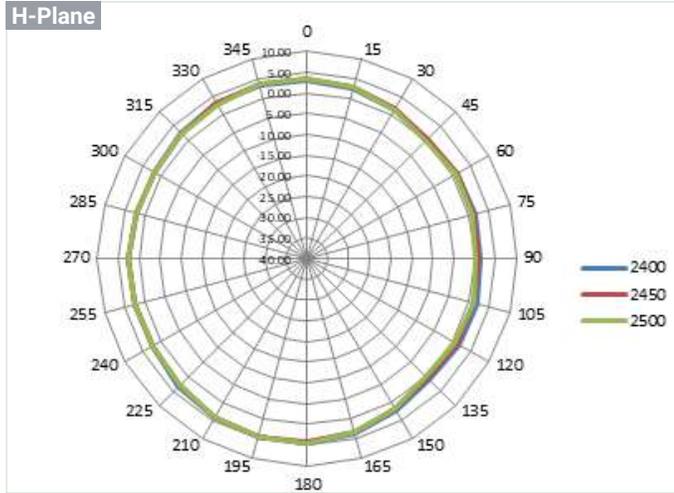


# Antenna Patterns, and Product Views

## ECW160 Antenna Patterns

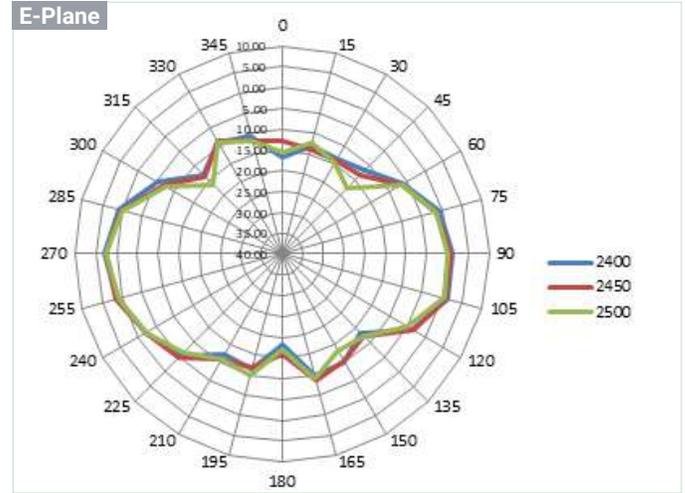
2.4GHz

H-Plane



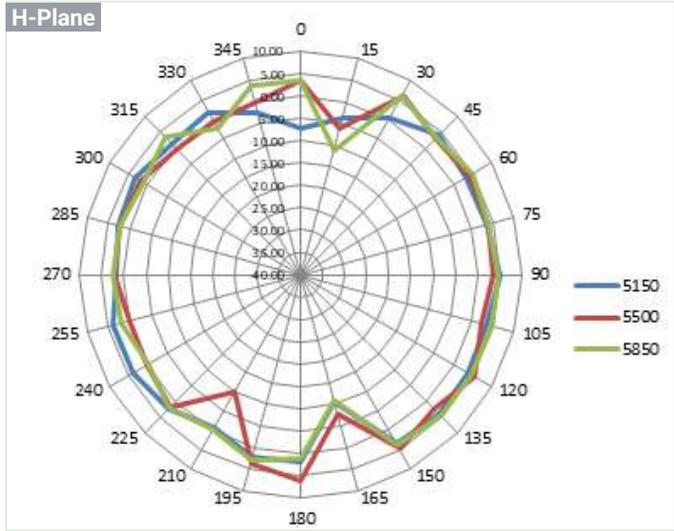
2.4GHz

E-Plane



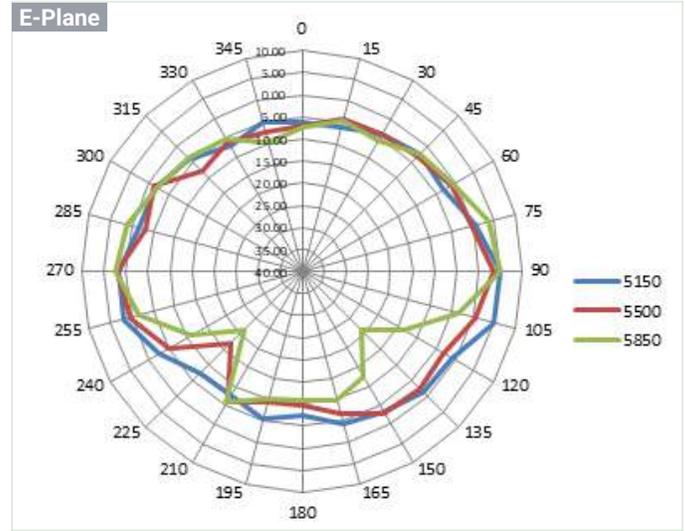
5GHz

H-Plane



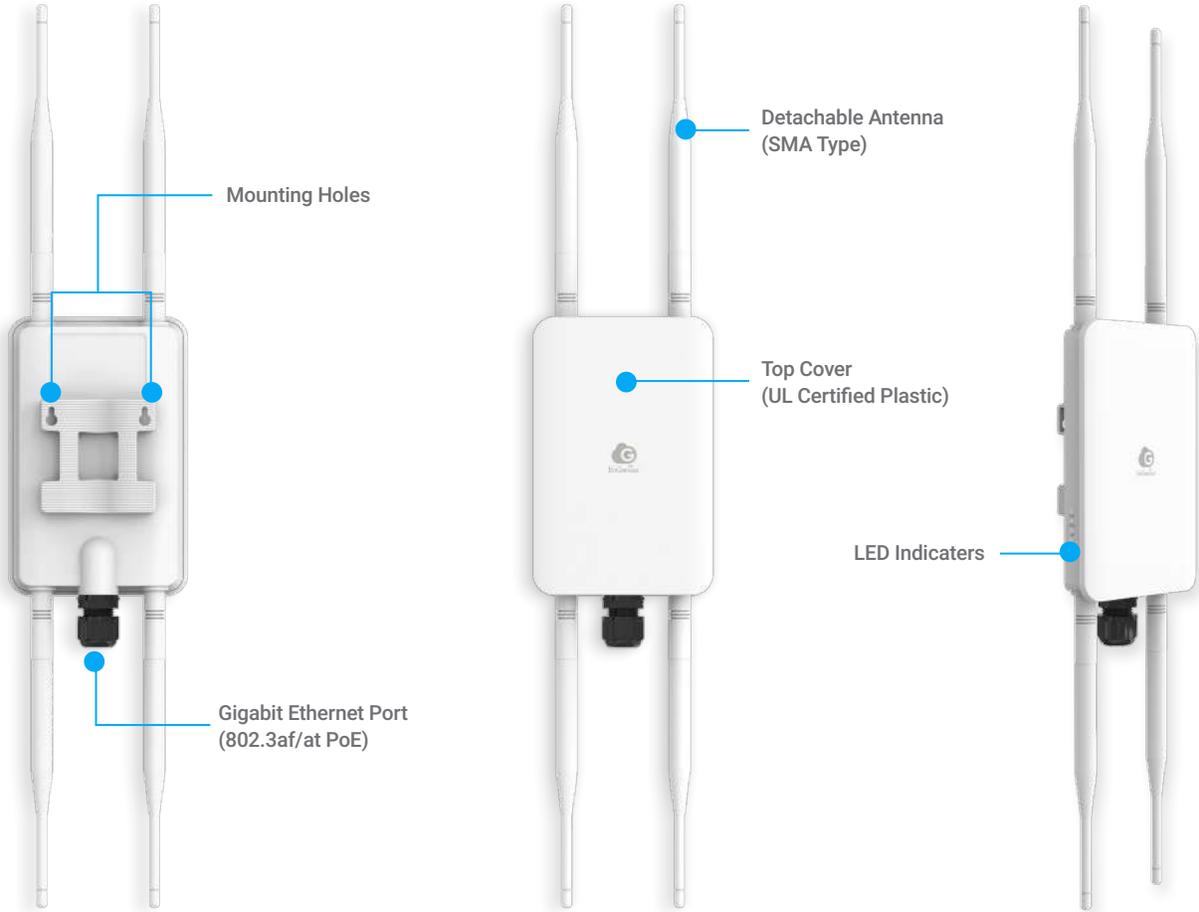
5GHz

E-Plane



# Antenna Patterns, and Product Views

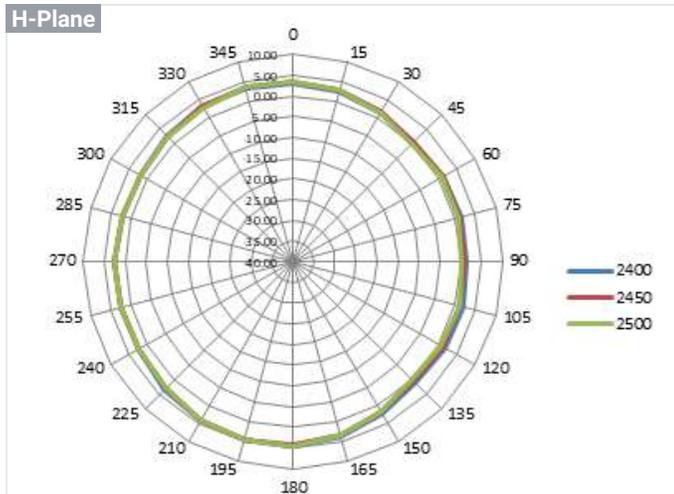
## ECW160 Product Views



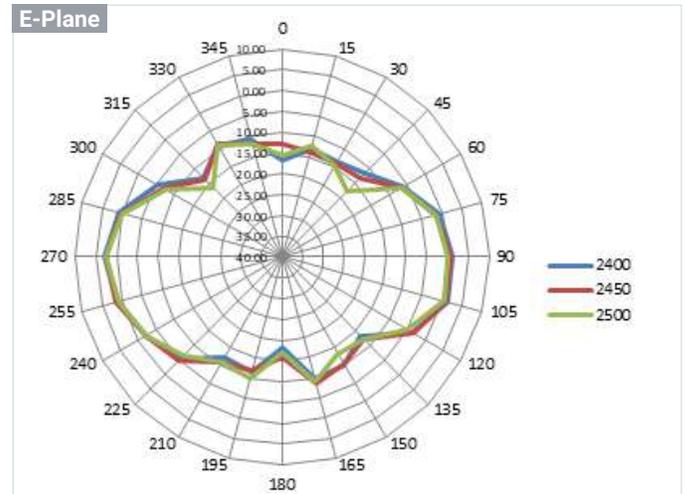
# Antenna Patterns, and Product Views

## ECW260 Antenna Patterns

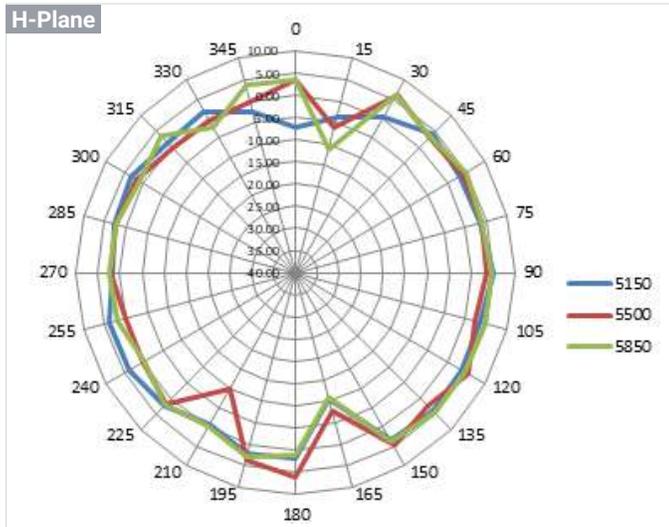
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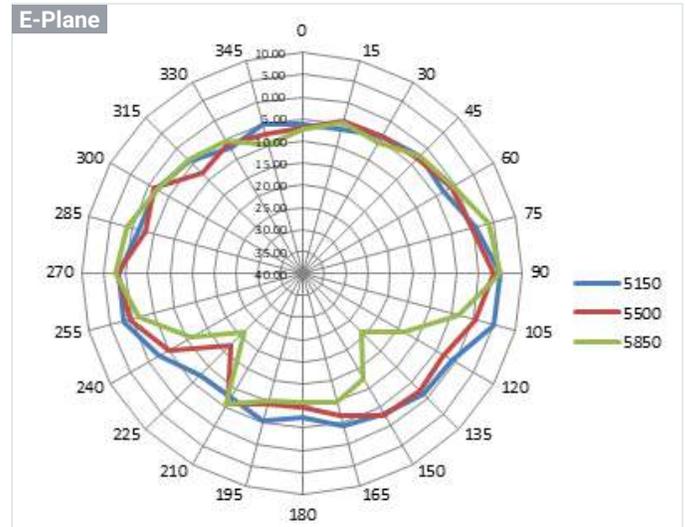
2.4GHz



5GHz

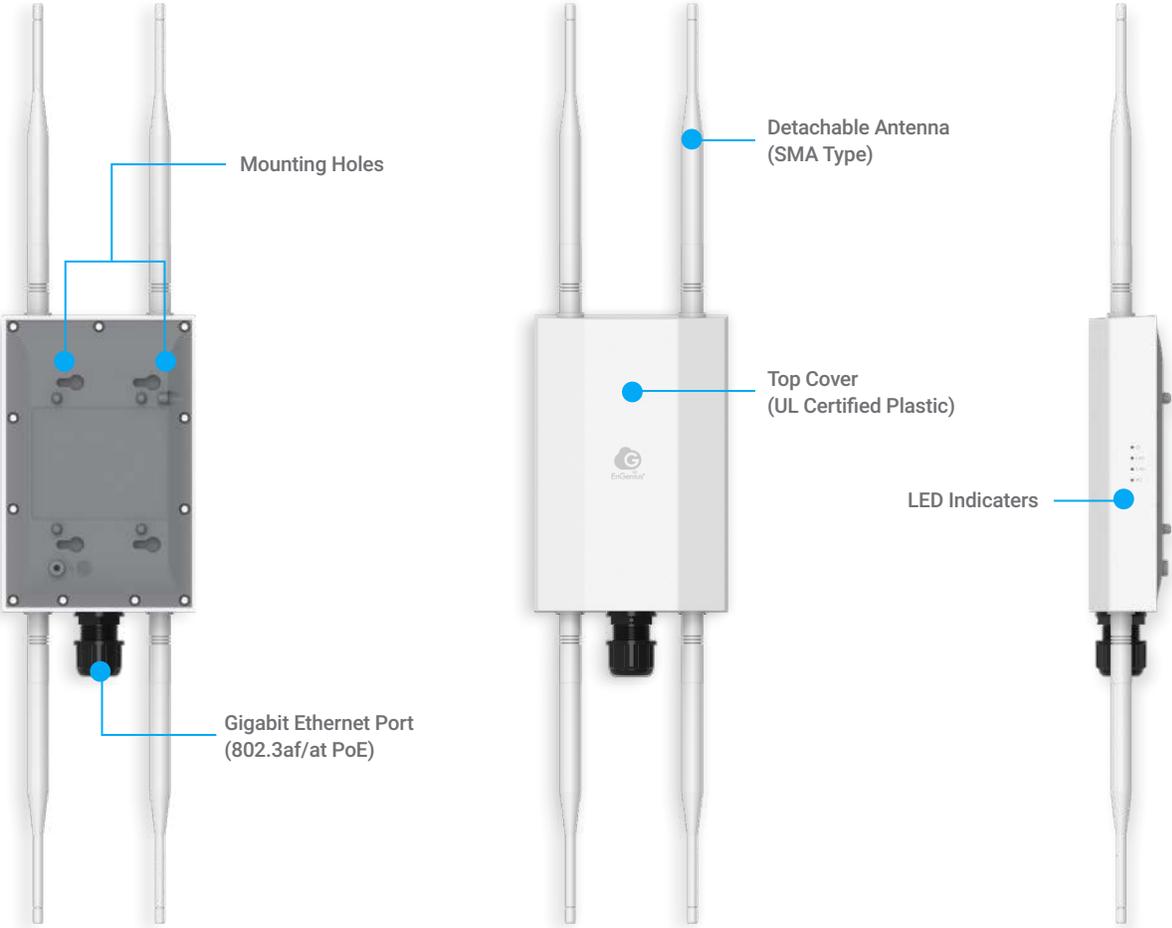


5GHz



# Antenna Patterns, and Product Views

## ECW260 Product Views



## Plug & Play with Zero Configuration



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