



# Empowering Connections for Cities and Beyond

Integrated PtP & PtMP Solutions for Last-Mile and Backhaul Applications



EnGenius Broadband  
Outdoor Wireless Solution

# Bridging Connectivity Across Landscape

EnGenius Broadband Outdoor Wireless Solution



## Challenges in Diverse Connectivity: Addressing the Need for High-Speed, Reliable Networks

The demand for reliable, high-speed connectivity is paramount in today's diverse and expanding environments, ranging from bustling urban areas to remote industrial sites. Wireless Internet Service Providers (WISPs) and urban planners face significant challenges in deploying scalable networks that can adapt to various settings. These challenges include complex deployments and ensuring spectrum efficiency and stable connectivity, often proving too intricate for conventional solutions.

## Innovative Wireless Solutions: The EnGenius Broadband Outdoor EOC Series

The EnGenius Broadband Outdoor EOC Series is an innovative solution to these widespread challenges. These solutions are designed to work in various environments, and our PtP & PtMP solutions redefine the approach to outdoor wireless connectivity. The EOC series offers a versatile and robust solution with features like dual 5GHz radios for high throughput and IP67-rated casings for environmental resilience, coupled with intelligent RF management. It stands as a pivotal advancement in meeting the diverse connectivity needs of modern landscapes, from urban centers to specialized industrial areas.

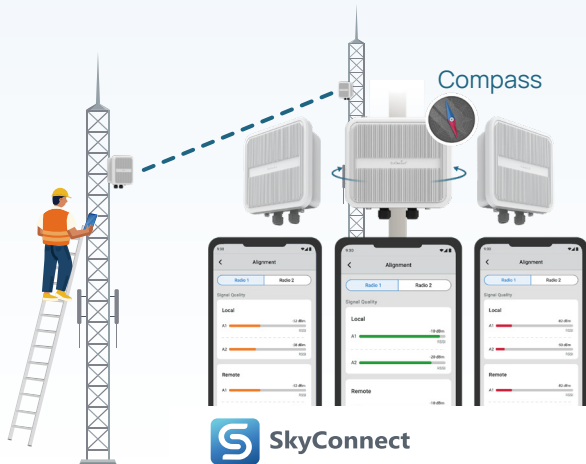
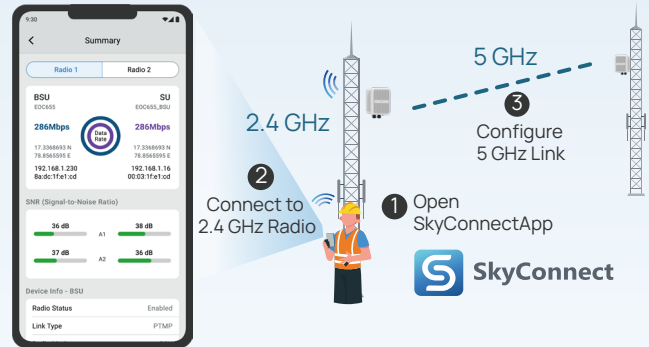


# Simplifying 5 GHz Network and Antenna Setup

## Dedicated 2.4 GHz Radio

### Integration with Mobile App

The series features a dedicated 2.4 GHz management radio specifically designed to enhance the management of 5 GHz PtP/PtMP links via a mobile app- SkyConnect. This integration facilitates seamless setup, configuration, and network monitoring, ensuring uninterrupted data traffic performance. The app offers a user-friendly platform for efficient network adjustments and troubleshooting, bolstering the reliability and accessibility of the 5 GHz links.



## Intuitive Mobile App

### Easy Antenna Alignment

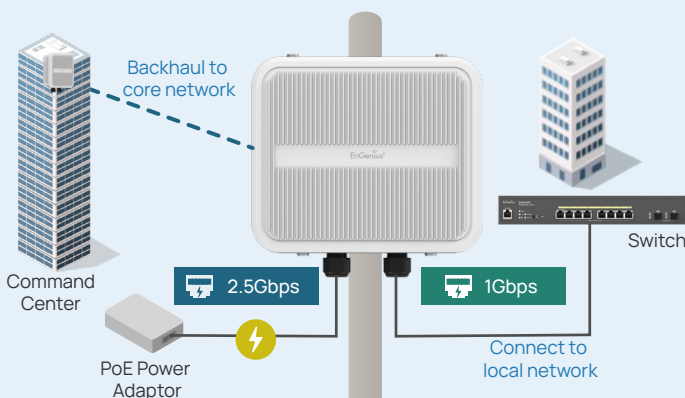
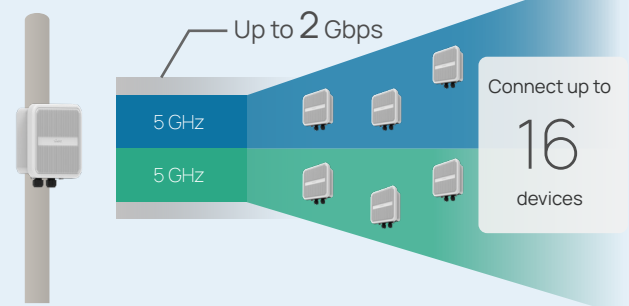
The series incorporates compass sensors to align antennas, which is critical for optimal signal strength precisely. During installation, the mobile app offers real-time orientation feedback, ensuring that PtP and PtMP configurations antennas are correctly directed. This app-assisted alignment guarantees enhanced signal quality and network performance in various outdoor settings.

# High-Speed, High-Capacity Networking

## Dual 5 GHz Radios

### High-Capacity Connectivity

The series is equipped with Dual 5 GHz Radios and boasts a 2 Gbps link capacity, ideal for high-density RF environments. This setup facilitates robust, high-speed data transmission and supports connecting up to 16 devices in PtMP setups. It ensures stable and efficient connectivity, crucial for handling multiple high-bandwidth demands simultaneously, making it an excellent choice for network-intensive scenarios.



## Dual PoE Ports

### Enhanced Bandwidth and Flexibility

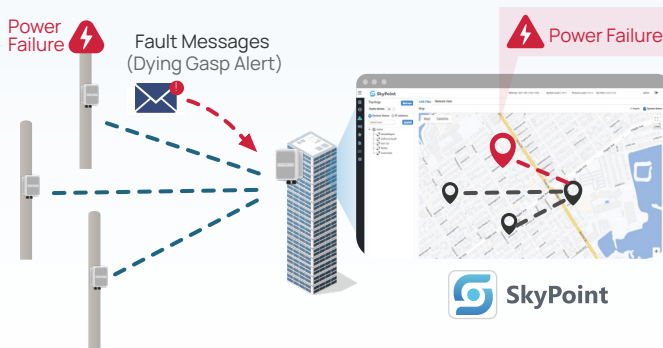
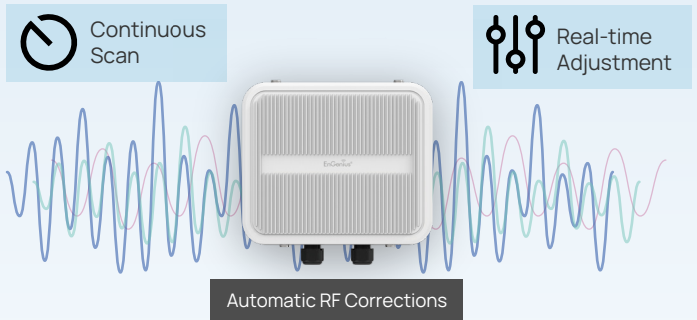
The broadband outdoor wireless AP has Dual Ethernet Ports, offering enhanced bandwidth capabilities of up to 2.5 Gbps. This design boosts network speed and efficiency and provides flexible connectivity options. One port can serve a wired local network connection if needed, accommodating diverse network architectures and catering to various connectivity requirements with ease.

# Advanced Stability & Rapid Response

## Intelligent RF Management

### Fortified Stability

This product features advanced RF management, automatically monitoring and adjusting the RF environment to optimize performance. By actively scanning for interference and signal issues, it adapts settings like power levels and frequency bands, ensuring consistent network stability. This automatic correction minimizes downtime and maintains high-quality performance, crucial in varied RF conditions.



## Dying Gasp

### Rapid Power Outage Response

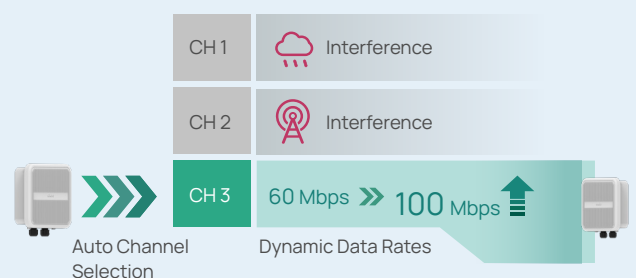
The EOC655 series' 'Dying Gasp' feature detects imminent power loss, swiftly sending alerts to the network management system. This rapid notification includes critical device status, enabling administrators to pinpoint and address power-related issues quickly. Utilizing residual energy efficiently, it ensures prompt alert transmission, significantly reducing network downtime and aiding in faster troubleshooting, especially in large or complex networks.

# Smart Connectivity: Dynamic Rates & Enhanced QoS

## Dynamic Data Rates

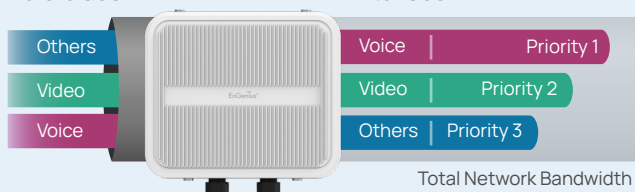
## Auto Channel Selection

This AP series can dynamically adjust data rates to balance speed and stability, enhancing connection quality even in fluctuating signal conditions. Additionally, Auto & Dynamic Channel Selection continuously scans for and switches to the least congested channels, significantly reducing interference. This dual approach ensures the network remains robust and efficient, improving performance and reliability in various wireless environments.



Before QoS

After QoS



## QoS Management

### Optimized Traffic Flow

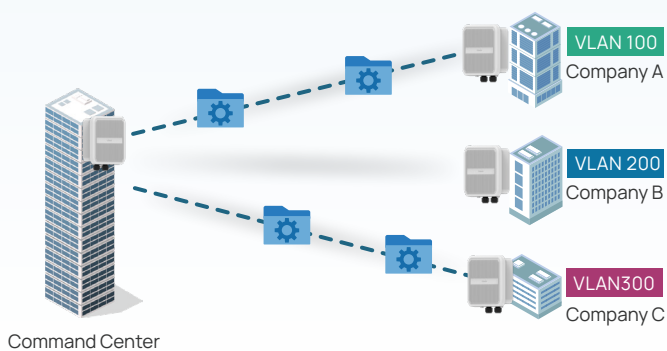
QoS management in the EOC655 Series prioritizes essential traffic, allocating bandwidth to critical applications such as VoIP and video conferencing. This approach is vital in busy networks, ensuring high performance for priority services. Managing traffic effectively enhances user experience, especially for time-sensitive applications requiring high bandwidth, thus maintaining consistent and optimal network functionality.

# Optimized Multi-Tenant Networking

## VLAN & Q-in-Q

### Efficient Traffic Isolation

VLAN technology in this Series facilitates secure traffic isolation for each tenant in multi-tenant environments, creating distinct networks on shared infrastructure. Q-in-Q technology allows efficient management of complex network hierarchies, like in campuses or business centers, by encapsulating multiple VLAN tags within a single VLAN, streamlining network structure while maintaining data separation and reducing operational costs.



### VLAN

Segment a single physical network into multiple independent networks.



VLAN 100  
Company A

### Q-in-Q

Create a hierarchy of VLANs to efficiently manage multiple tenants' networks.



VLAN 200  
Company B



VLAN 220  
Accounting Dept.



VLAN 240  
Engineering Dept.



VLAN 260  
Marketing Dept.



VLAN 300  
Company C

## Multicast and Broadcast Filtering

### Optimal Bandwidth Utilization

Multicast and broadcast filtering efficiently manage bandwidth in multi-tenant environments by selectively controlling traffic types. This technique ensures only relevant data is transmitted, preventing unnecessary bandwidth consumption and network congestion. It's particularly beneficial in shared network settings, enabling ISPs to provide faster, more reliable internet services by optimizing bandwidth usage and enhancing the overall network experience for all tenants.

# Enhanced Protection and Durability



IP67

### Extreme Durability

IP67 casing ensures superior environmental protection.



6KV

### Advanced Surge Shielding

Robust up to 6KV surge defense.



### Uncompromised Security

AES-256 and FIPS-140-2 compliance for maximum data protection.



# Unified Management

## SkyPoint NMS

### Centralized Management and Configuration



### Unified Platform:

Efficiently monitor and manage network performance, health, and security via a centralized web-based platform.

### Auto Provisioning:

Simplify large-scale network setup by using template-based configuration or pre-configured settings.

## Integrated GPS

### Real-Time and Precise Mapping

The screenshot shows the SkyPoint NMS interface with a 'Smart Network Mapping' overlay. The interface includes a 'Topology' section on the left with a search bar and a 'Map' section on the right showing a street map. Several blue location pins are placed on the map, representing AP locations. Green arrows indicate network links between these APs. A red warning icon is placed over one of the AP locations. The 'Smart Network Mapping' text box explains that this feature shows all APs' physical layout on the map for optimal network planning. The 'Real-Time Asset Tracking' text box explains that each AP's GPS continuously tracks its location, constantly updating this data in the network inventory. The 'Precise Issue Location' text box explains that when network issues occur, the problem AP's exact location is swiftly pinpointed by its GPS.

### Smart Network Mapping:

Shows all APs' physical layout on the map for optimal network planning.

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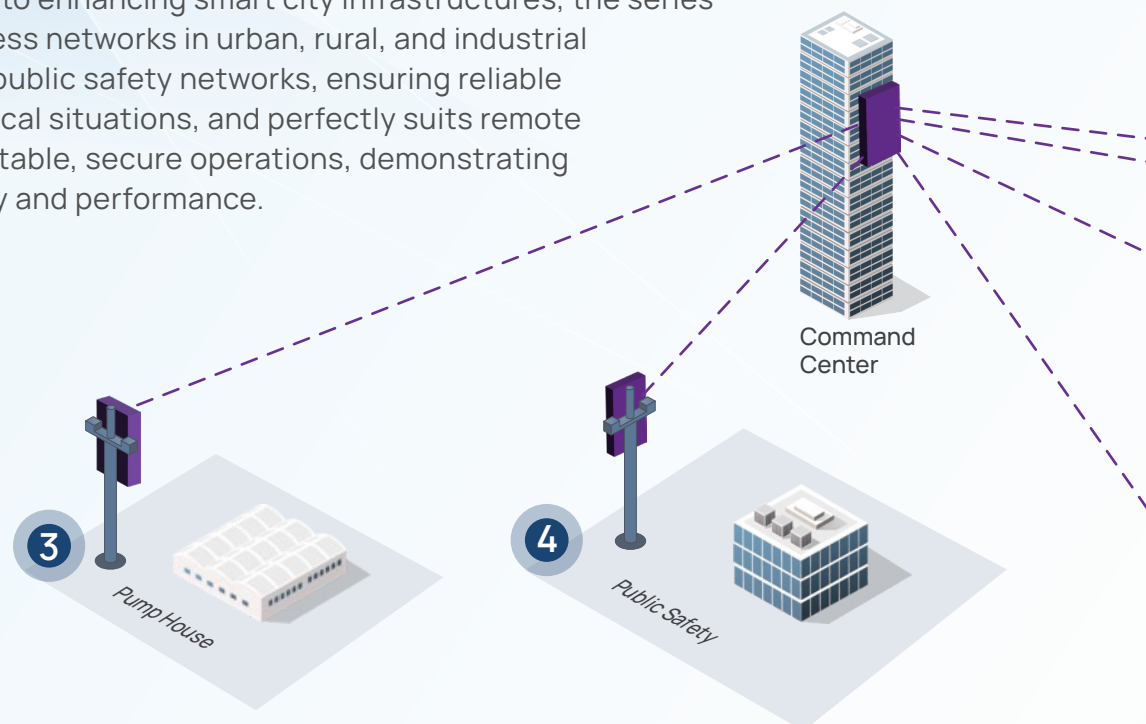
### Precise Issue Location:

When network issues occur, the problem AP's exact location is swiftly pinpointed by its GPS.

# Maximizing Connectivity in Urban, Rural, and Industrial Applications

The EnGenius Broadband Outdoor EOC Series excels in diverse settings, offering tailored solutions for each unique application.

From empowering Wireless Internet Service Providers with efficient last-mile connectivity to enhancing smart city infrastructures, the series supports robust wireless networks in urban, rural, and industrial domains. It's ideal for public safety networks, ensuring reliable communication in critical situations, and perfectly suits remote industrial control for stable, secure operations, demonstrating unparalleled versatility and performance.



## 3 SCADA Application



### Challenge

Communication disruptions and security risks in industry.

### Solution Benefits

- AES-256 Security: Paramount for SCADA data integrity.
- Adaptive Connectivity: Stable operation in industrial environments for consistent data flow.

## 4 Public Safety- Video Backhaul



### Challenge

Inconsistent video transmission and environmental vulnerability.

### Solution Benefits

- High-Speed Video Transmission: Ensure uninterrupted surveillance footage.
- Advanced Layer 2 Features: Efficient traffic segmentation for public safety.

## 1 Smart Cities- Utilities & Traffic Intersection



### Challenge

Difficulties in network resilience, scalability, and security for diverse urban needs amidst security concerns.

### Solution Benefits

- GPS Integration: Efficient smart utility and traffic system deployment.
- Intelligent RF Management: Reliable urban connectivity with minimized interference.

## 2 Enterprise & ISP Connectivity Services

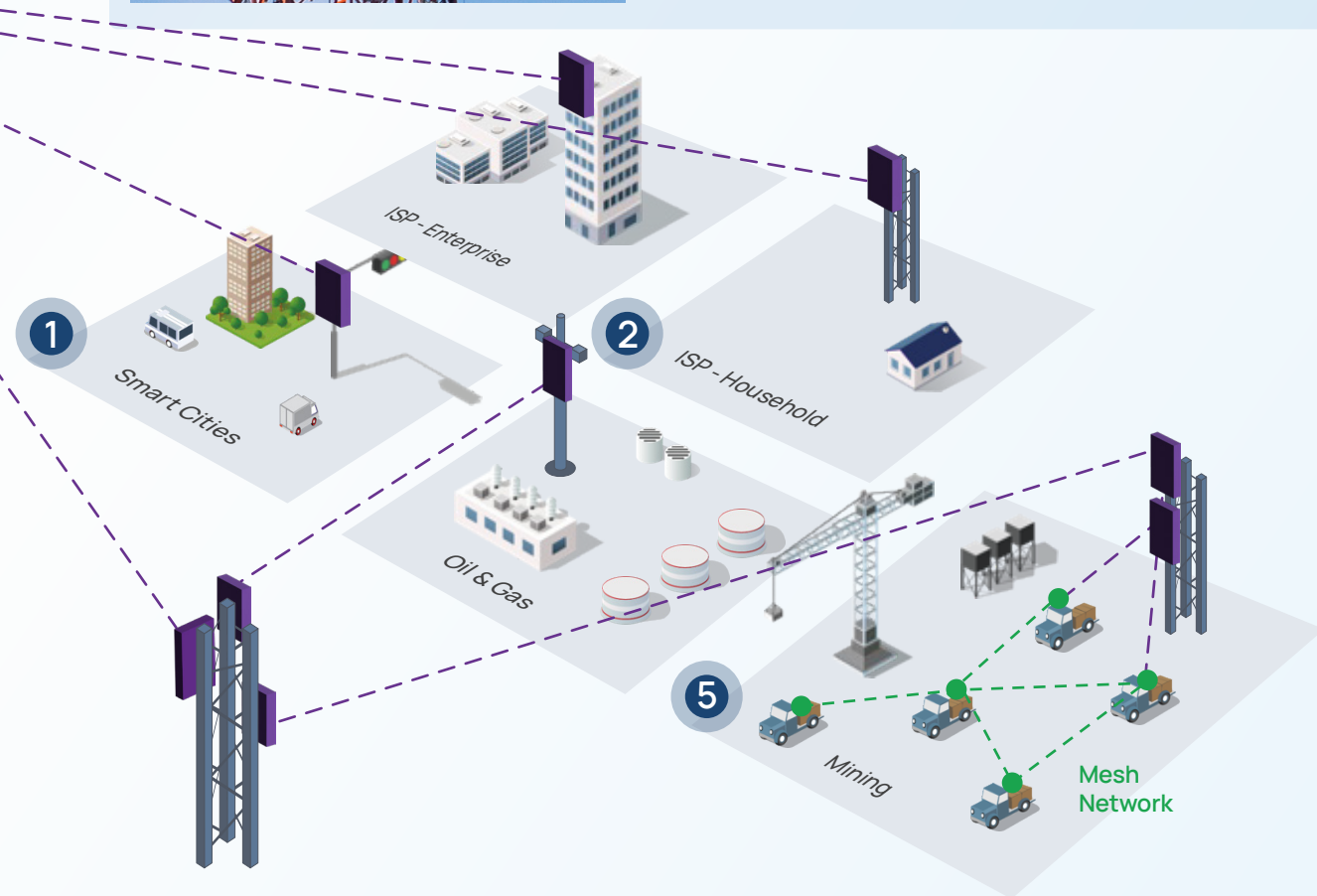


### Challenge

Struggling with network scalability and deployment complexities.

### Solution Benefits

- High-Capacity Links: Supporting data-intensive applications.
- Cloud-Based Provisioning: Simplifying large-scale network management.



## 5 Mining- Access & Mesh Network Backhaul



### Challenge

Communication instability in harsh in remote environments.

### Solution Benefits

- Rugged Outdoor Performance: Suited for harsh mining conditions.
- Effortless Setup via the App: Simplify remote area network management.

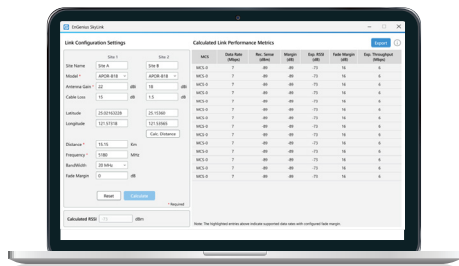
# Streamline Your Broadband Outdoor Network Management



Download Management Tools

Experience effortless network control with EnGenius' suite of management tools. SkyLink, SkyConnect, SkyLocator, and SkyPoint NMS synergize to offer unparalleled ease in deployment, monitoring, and maintenance, ensuring your network's optimal performance and reliability across all environments.

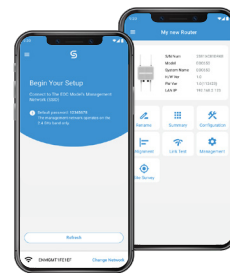
## Pre-Install Planning



### Link Budget Tool

SkyLink is a critical tool for wireless network planning and design, used in pre-installation. It calculates RF link performance, ensuring network design feasibility and guiding the selection of appropriate equipment and configurations.

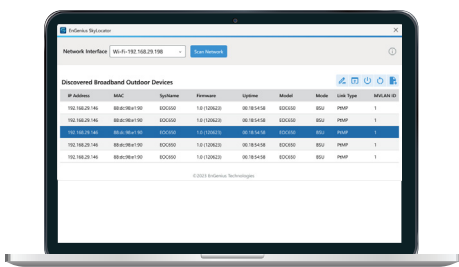
## On-site Deployment



### Mobile App

SkyConnect an intuitive app designed to assist users in easily deploying and configuring wireless PTP and PTMP APs. It provides real-time monitoring, various configuration options, antenna alignment assistance, and RF link testing streamlining the setup process.

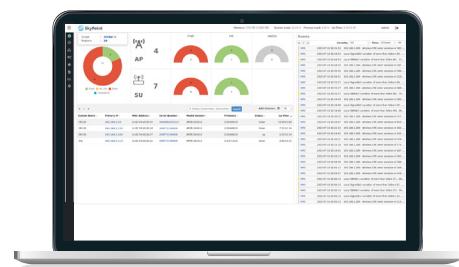
## On-site Monitoring



### Discovery and Management Tool

SkyLocator is a tool that helps service providers and enterprises manage outdoor wireless networks by discovering and monitoring outdoor broadband devices. It assists in inventory tracking, performance assessment, and troubleshooting.

## Unified Management



### Network Management Software

SkyPoint NMS is a centralized, web-based platform tailored for managing enterprise-class broadband outdoor wireless APs. It offers comprehensive network monitoring, management, template-based setup, and advanced configuration capabilities, serving as a central hub for the entire network infrastructure.

# EnGenius Broadband Outdoor EOC Series

## Broadband Outdoor Access Point

EOC655



Model Number	EOC655	EOC655-C18
Wi-Fi Standard	802.11a/n/ac/ax	802.11a/n/ac/ax
Radio	5 GHz / 5GHz	5 GHz / 5GHz
Max. Data Rate (2.4 GHz)	-	-
Max. Data Rate (5 GHz)	up to 2.4 Gbps	up to 2.4 Gbps
Radio Chains	2 x 2:2 (per radio)	2 x 2:2 (per radio)
Transmit Power on (2.4 GHz)	25dBm	25dBm
Transmit Power on (5 GHz)	24dBm / 21dBm	24dBm / 21dBm
Antennas (2.4 GHz)	3.5dBi	3.5dBi
Antennas (5 GHz)	N-Type / N-Type	18dBi / N-Type
Antenna Beamwidth	NA	Azimuth:, Elevation:
Power-over-Ethernet	802.3af/at / Proprietary 56V	802.3af/at / Proprietary 56V
Ethernet Ports	1x 2.5G Proprietary Port 1x GE PoE+ Port 6KV Cable Surge Protection on all ports	1x 2.5G Proprietary Port 1x GE PoE+ Port 6KV Cable Surge Protection on all ports
Mounting Type	Pole mount	Pole mount
IP Rating	IP67	IP67
Dimensions	267 x 227 x 82mm 267 x 258.1 x 82mm (w/n-type & cable gland)	267 x 227 x 82mm 267 x 258.1 x 82mm (w/n-type & cable gland)
Operating Modes	AP/STA	AP/STA
MU-MIMO	●	●
Beamforming	●	●
Mobile App	● (SkyConnect)	● (SkyConnect)

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