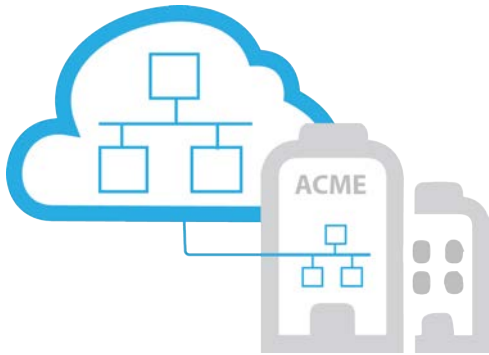




Tallac SD-LAN Simple Secure cloud network



Tallac SD-LAN is a simple, secure, cloud based solution designed to provide small to large organizations with branch locations an affordable way to deploy, and manage Wi-Fi and switch networks

Simplify wired & wireless management with anytime, anywhere access directly from the cloud with easy to configure integrations and open API's for customized solutions

Orchestrate automated policies across Wi-Fi, Wired, Ethernet & Gateway devices providing intelligence in the cloud, operational decisions on the LAN

Cloud managed interface for managing the LAN with zero-touch provisioning at branch, as easy to set up and operate as Google Apps or Office 365 with no technical networking expertise needed



Secure Virtual LAN Services

- Provides distinct secure LAN services for virtual & physical services supporting mobile users, guest, VoIP, security, IoT, networked devices & applications
- Secured communication between physical network devices and Tallac SD-LAN Cloud through SSL and certificate validation



Simplified Management

- Zero Touch install for ease of access point deployment
- Seamlessly manage remote branches and offices behind existing firewalls
- Anytime, anywhere access for configuration and comprehensive monitoring and troubleshooting



Complete wireless and wired feature set

- Support complete list of wireless security features WPA, WPA2, AAA
- Automatically adjust AP parameters by constantly monitoring the RF environment
- Control and monitor wired switch ports



Integrate Virtual LAN services with 3rd Party Cloud services

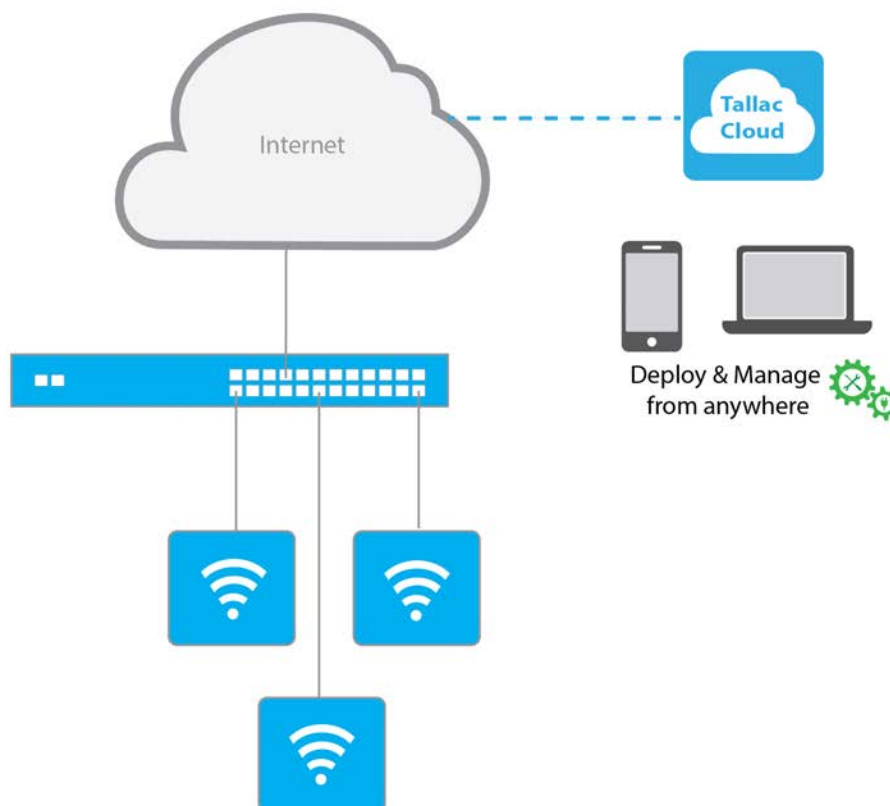
- Pre-configured Secure Virtual LAN Integrations with 3rd party cloud services including content filtering and customized solutions
- Integrated captive portals and integrations with common authentications systems
- Fully Interoperable with SD-WAN services if present



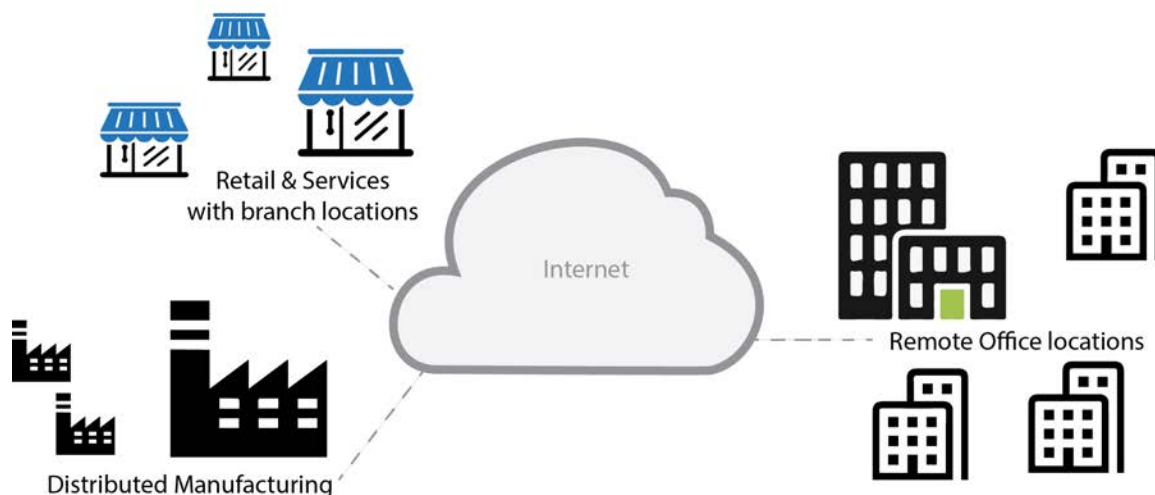
Tallac Networks

Tallac SD-LAN Datasheet

Typical single location deployment



Common use cases for multiple locations





Tallac Networks

Tallac SD-LAN Datasheet

Ease of Management

Tallac SD-LAN operates using standard web browsers. With an intuitive dashboard and simple to use configuration guides, the administrator can configure and monitor single or multiple Virtual Networks across access points and switches all with a click of a mouse. Leveraging best-in-class user experience design, Tallac SD-LAN gives the administrators clear and comprehensive status of remote locations, and reduces the operational expenses to manage access points and switches in multiple locations.

Multi Tenancy Management

Tallac SD-LAN enables Managed Service Providers (MSPs), to use a single, scalable platform to manage multiple customers in a segmented and secured manner. Tallac SD-LAN Multi-Tenancy functionality allows a MSP to create separate multiple customer views for end users and ensure that each end user can only access devices assigned to them. The Manager view of Multi-Tenancy gives MSPs the overall status of the entire managed domain in a simple and intuitive dashboard for proactive alerts and network monitoring.

Near Limitless Scalability

Tallac SD-LAN is built on a distributed architecture that does not depend on a centralized controller for either the wireless traffic control plane or wireless traffic data plane management. This key differentiating characteristic allows unparalleled scalability of wireless and wired network environments without needing to upgrade or resize a wireless controller. Also, as additional resource is needed, the hosting environment automatically adds resources without the need for users to intervene.

Secured Data Flow

Client traffic is kept entirely on the organization's Local Area Networks. Tallac SD-LAN only communicates management changes (configuration, setup, administration, and reporting) and traffic monitoring reports for given access points and switches. The Tallac SD-LAN Cloud is out of band from the data path, intelligently and securely separating data and control traffic. While the data traffic remains in the local area network, the cloud management platform handles the control and monitors traffic independently of the data path. Following the model of Software Defined Networking, this distributed model ensures maximum scalability and ease of introducing new features and functionality independent of the access network.

Secured and Private Information Storage

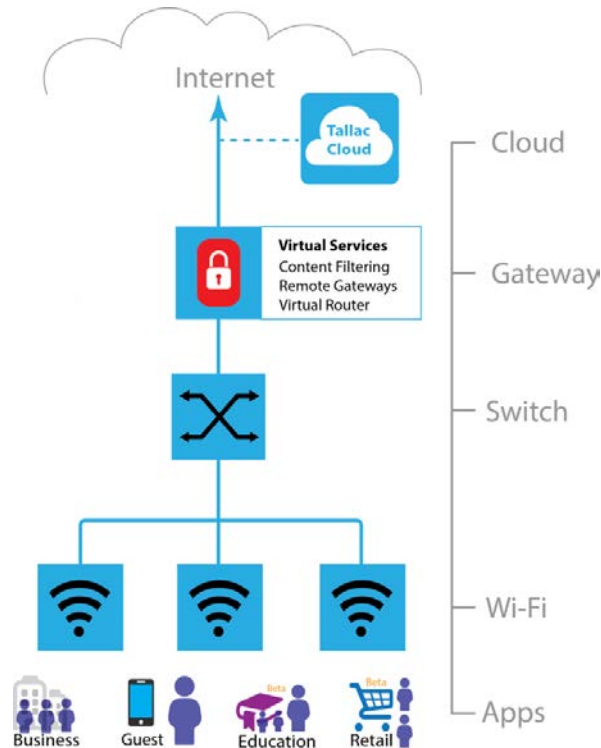
Tallac SD-LAN follows strict rules for privacy of personal data storage. By implementing the Safe Harbor rule, Tallac guarantees that all data is securely and privately maintained with no possibility of offering data to other third parties under the strictest guideline. US-EU Safe Harbor is a streamlined process for US companies to comply with the EU Directive 95/46/EC on the protection of personal data. Intended for organizations that store customer data, the Safe Harbor Principles are designed to prevent accidental information disclosure or loss.

Encrypted Management Architecture

Control traffic between Tallac SD-LAN and the access points is conducted over secure connections using HTTPS. The access point verifies the authenticity of the cloud management system using a X.509 certificate. The authenticated connection uses TLSv1, encrypted with 128-bit encryption using Advanced Encryption System (AES). In addition, the data transmitted through this secure connection does not involve client data traffic.

Tallac Networks

Tallac SD-LAN Datasheet



Flexible Deployment Model

The secure connections between the Tallac SD-LAN and the AP's are initiated by the AP's and not by the cloud management system, thereby ensuring that the organization's firewall will not need to have a port open on inbound connections. This approach ensures that the deployment can be easily supported in all network topologies, including a NATted environment where the AP's are located behind a firewall and/or a branch gateway such as DSL or cable modem.

Redundancy and High Availability

Multiple geographically distributed data centers are used to host the Cloud Management System, thereby ensuring that the management system continues to function even in the event of a catastrophic failure of one data center. Since the Tallac SD-LAN is out of band for all data traffic, in the event that the organization's link to the Internet is interrupted, client data traffic will continue to flow normally — only configuration and administrative changes are temporarily impacted during an Internet connection outage. The system is automatically updated after the restoration of the Internet link.

Simplified Deployment

The provisioning of a wireless network just requires the deployment of supported access points — with setup and ongoing management undertaken inside the cloud management platform. Sizing, installation, configuration, and maintenance of a controller for management or traffic control plane is eliminated. Additional re-sizing of a controller when AP deployments grow is also eliminated.



Tallac Networks

Tallac SD-LAN Datasheet

Guest Access, Captive Portal and Logging

Guest access allows restricted access to the network, using an integrated captive portal. Three methods of entry are provided (Click-Thru, Click-Thru with email and Click-Thru with additional custom fields). Click-Thru guest access requires no authentication for the user to simply click through to access the wireless network. Click-Thru with email requires customers to enter the user email address to access the network. Click-Thru with additional custom fields option allows the operator of the Captive portal access to capture relevant user information for possibilities of targeted advertising and marketing campaigns.

Dynamic RF management

Business Central 2.0 Wireless Manager provides automatic control of access points' transmit power and channel allocation to ensure optimal coverage by minimizing channel interferences. Business Central 2.0 Wireless Manager performs scheduled automatic channel allocation to deliver an enterprise class reliable wireless experience.

Client Load Balancing

Tallac SD-LAN performs automatic load balancing of clients across access points to ensure even distribution of the traffic amongst the deployed APs.

SSID based Rate Limiting

Tallac SD-LAN provides the capability to specify uplink and downlink throughput limitation on a per SSID basis. This ensures maximum customer satisfaction by ensuring appropriate allocation of bandwidth for various services.

Choice of Gateways

Virtual networks can be configured to use the local 'Existing' physical internet gateway to reach the internet, or use a VPN to connect to 'Remote' gateway which can be hosted as a virtual cloud service. You can also configure the access point to be its own 'Tallac Gateway' and provide basic DHCP and NAT features for the Virtual Network.

Integrated Ordering

When creating a new site, or expanding an existing site users can order additional access points and switches using integrated ordering. The devices will be drop shipped to the site location and can be configured in transit for in effect zero touch installation.

Robust Wireless Security

With identity-based security features such as support for RADIUS, Active Directory and internal or external AAA server, Business Central 2.0 Wireless Manager truly unifies wired and wireless access without compromising on security. From the configuration menu of Tallac SD-LAN, the user can configure various wireless security settings such as WPA, WPA2, ACLs, radio parameters and push the settings to selected access points.



Technical Features

RF MANAGEMENT	
Automatic Channel Allocation	<ul style="list-style-type: none"> • Automatic channel distribution to minimize interference • Auto-channel allocation taking into consideration the environment, interferences, traffic load and neighboring APs • Modifiable list of corporate channels to be used • Scheduled mode for Auto-channel allocation • Automatic mode in case of high levels of interference available
Automatic Power Control	<ul style="list-style-type: none"> • Optimum transmit power determination based on coverage requirements • Automatic power control mode available • Neighborhood scan of RF environment to minimize neighboring AP interference and leakage across floors
Load Balancing	<ul style="list-style-type: none"> • APs load monitoring and overloading prevention • Clients redirected to lightly loaded neighboring APs
QUALITY OF SERVICE	
WMM Quality of Service	WMM (802.11e) prioritizes traffic for both upstream traffic from the stations to the Access Points (station EDCA parameters) and downstream traffic from the Access Points to the client stations (AP EDCA parameters)
WMM Queues in decreasing order of priority	<ul style="list-style-type: none"> • Voice: The highest priority queue with minimum delay, which makes it ideal for applications like VoIP and streaming media • Video: The second highest priority queue with low delay is given to this queue. Video applications are routed to this queue • Best Effort: The medium priority queue with medium delay is given to this queue. Most standard IP applications will use this queue • Background: Low priority queue with high throughput. Applications, such as FTP, which are not time-sensitive but require high throughput can use this queue
WMM Power Save option	WMM Power Save helps conserve battery power in small devices such as phones, laptops, PDAs, and audio players using IEEE 802.11e mechanisms
WIRELESS SECURITY	
Client Authentication Protocols	<ul style="list-style-type: none"> • Open, WEP, WPA/WPA2-PSK • 802.11i/WPA/WPA2 Enterprise with standard interface to external AAA / RADIUS Server
Distinct AAA Server per Virtual Network	Yes
RADIUS Accounting Protocol	Per Client tracking for: <ul style="list-style-type: none"> • Bytes Tx/Rx • Login/Logout Time
Guest Access	<ul style="list-style-type: none"> • Click-Thru • Click-Thru with email • Click-Thru with vouchers
Captive Portal	Configurable Portal page, including image files
Rogue Access Points	<ul style="list-style-type: none"> • Rogue AP definition: AP with radio SSID observed by any of the Managed APs and seen transmitting on same L2 wired network • Detection and Mapping of up to 512 Rogue APs
WIRELESS NETWORK MONITORING	
Monitoring Summary	Summary of the Managed Access Points status, rogue Access Points detected, Wireless stations connected
Managed Access Points	AP status for the Managed Access Points and details that includes configuration settings, current Wireless settings, current Clients and detailed Traffic statistics
Rogue Access Points	<ul style="list-style-type: none"> • Rogue Access Points Reported • Rogue Access Points on same channel • Rogue Access Points on interfering channels
Wireless Clients	<ul style="list-style-type: none"> • Client statistics and details per AP, per SSID, per location • Trending display per hour, day, week, and month
Wireless Network Usage	Network Usage Statistics display plots of average received/transmitted network traffic per Managed Access Point



ECW7210-L

802.11ac Dual-Band Wireless Cloud-based Access Point



Product Overview

The ECW7210-L is Cloud-based indoor 802.11a/b/g/n/ac dual-band, dual-radio enterprise AP with a 3x3 MIMO antenna configuration. Through its Gigabit Ethernet port the 802.11ac dual-band wireless AP can connect to the backbone network. The ECW7210-L supports 802.3at/af PoE, which enables the AP to be powered remotely by a PoE switch. An AC power adapter option is also included for locations where PoE is not available.

Key Features and Benefits

Cloud-Enabled Networking

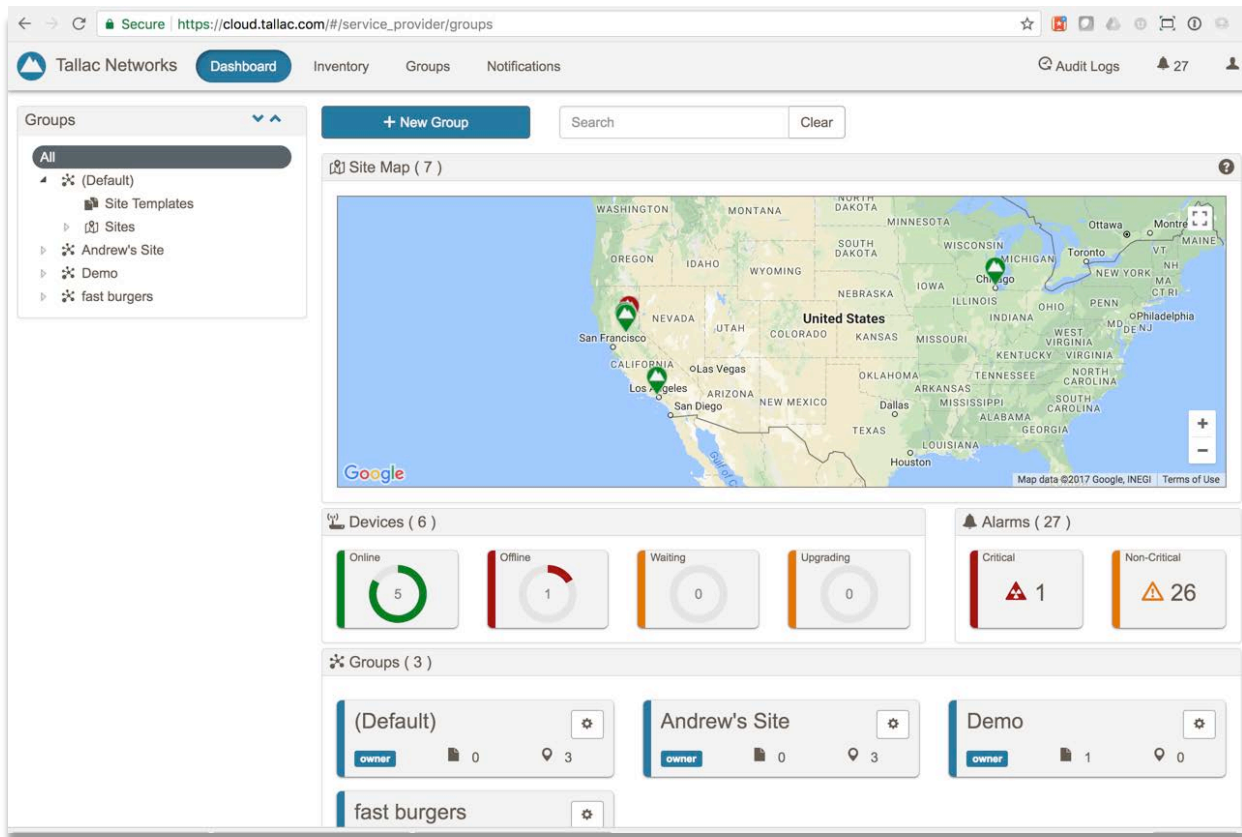
The ECW7210-L is cloud-enabled out of the box allowing for easy, highly scalable installation, configuration, and management.

Dual Band AC1200 Operation

The ECW7210-L is capable of operating simultaneously at 2.4GHz (802.11b/g/n) as well as 5GHz (802.11a/n/ac) to supply ample throughput for the most demanding applications.

Robust & Simple Mounting Kit

The ECW7210-L can be wall, ceiling, or desktop mounted, greatly simplifying installations in both offices and homes.





Tallac Networks

Tallac SD-LAN Datasheet

ECW7210-L Product Specifications

Physical Features

- One 10/100/1000BASE-T Gigabit Ethernet (RJ-45) port with 802.3at/af-compliant Power over Ethernet (PoE) support
- One 10/100/1000BASE-T Gigabit Ethernet (RJ-45) port
- One console port (10/100/1000BASE-T) with an RJ-45 connector
- One USB 2.0 port
- Three LEDs: Power, LAN, Wi-Fi
- Six embedded Omni antennas
- PoE 802.3at/af compliant

Standards

IEEE 802.11n 2.4 GHz and 5.0 GHz
IEEE 802.11ac/a 5.0 GHz
IEEE 802.11b/g, 2.4 GHz
IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
IEEE 802.3af Power over Ethernet (PoE)
IEEE 802.11h Regulatory Domain Selection
IEEE 802.11i
Wi-Fi Multimedia (WMM)
Wireless Distribution System (WDS)

Wireless Frequency

802.11g/n:
2.4 ~ 2.4835 GHz (US, Canada)
2.4 ~ 2.4835 GHz (ETSI, Japan)

802.11b:
2.4 ~ 2.4835 GHz (US, Canada)
2.4 ~ 2.4835 GHz (ETSI)
2.4 ~ 2.497 GHz (Japan)

802.11a/n/ac:
5.15 ~ 5.25 GHz (lower band) US/Canada, Europe, Japan
5.25 ~ 5.35 GHz (middle band) US/Canada, Europe, Japan
5.725 ~ 5.825 GHz (upper band) US/Canada
5.50 ~ 5.70 GHz Europe
5.47 ~ 5.725GHz

Wireless Features

- Output power: 20dBm
- VAP (Virtual Access Point) support with up to 16 SSIDs (2.4GHz: 8, 5GHz: 8)
- Transmit power adjustment
- IEEE 802.11h DFS/DFS2 and automatic TPC
- Traffic Control for each SSID
- Band Preference for same SSID services on dual band
- Dynamic Channel Selection for noisy environment
- Rate Selection to disable low data rate access
- Band steering: Client connection preemption (ac> n > a> g > b) in case service capability is full
- Auto-channel selection
- Auto power adjustment
- Supports Multi-cast
- Throughput: Data Rate(1.3Gbps+450Mbps)
- Concurrent users: 200 clients

Security

- WEP 64/128-bits
- Wi-Fi Protected Access (WPA/WPA2)
- WPA/WPA2 (PSK) over WDS
- Secure SSH (Secure Sockets Shell), Telnet
- Secure Sockets Layer (SSL) remote management login
- HTTPS
- Access control list
- RADIUS authentication
- EAP-MD5, EAP-TLS, EAP-TTLS, PEAP, EAP-SIM, and EAP-AKA
- SSID broadcast disable
- Support TPM (Trusted Platform Module)

Antenna

Type: PCB type
Gain: 4dBi in 2.4GHz, 5dBi in 5GHz

Regulatory Compliance

FCC Part 15 Subpart B
CE
NCC, BSMI

Radio Signal Certification

FCC Part 15C 15.247, 15.207 (2.4GHz)
EN 300 328
EN 301 489-1
EN 301 489-17

Mechanical

Dimensions: 20 x 20 x 3.65 cm
Weight: 0.75 kg

Power

Input: 100 or 240 VAC, 50-60 Hz
Output: 48V/ 2A
Power Consumption: 14 W maximum

Environmental Specification

Temperature:
Standard Operating 0°C to 50°C
Storage: -20°C to 70°C
Humidity: 10% to 90% (non-condensing)

Warranty

3 years



ECW7211-L

802.11ac Dual-Band Wireless Cloud-based Access Point



Product Overview

The ECW7211-L is Cloud-based indoor 802.11a/b/g/n/ac dual-band, dual-radio enterprise AP with a 3x3 MIMO cost effective indoor AP. Through its Gigabit Ethernet port the 802.11ac dual-band wireless AP can connect to the backbone network. The ECW7211-L supports 802.3at/af PoE, which enables the AP to be powered remotely by a PoE switch. An AC power adapter option is also included for locations where PoE is not available.

Key Features and Benefits

Cloud-Enabled Networking

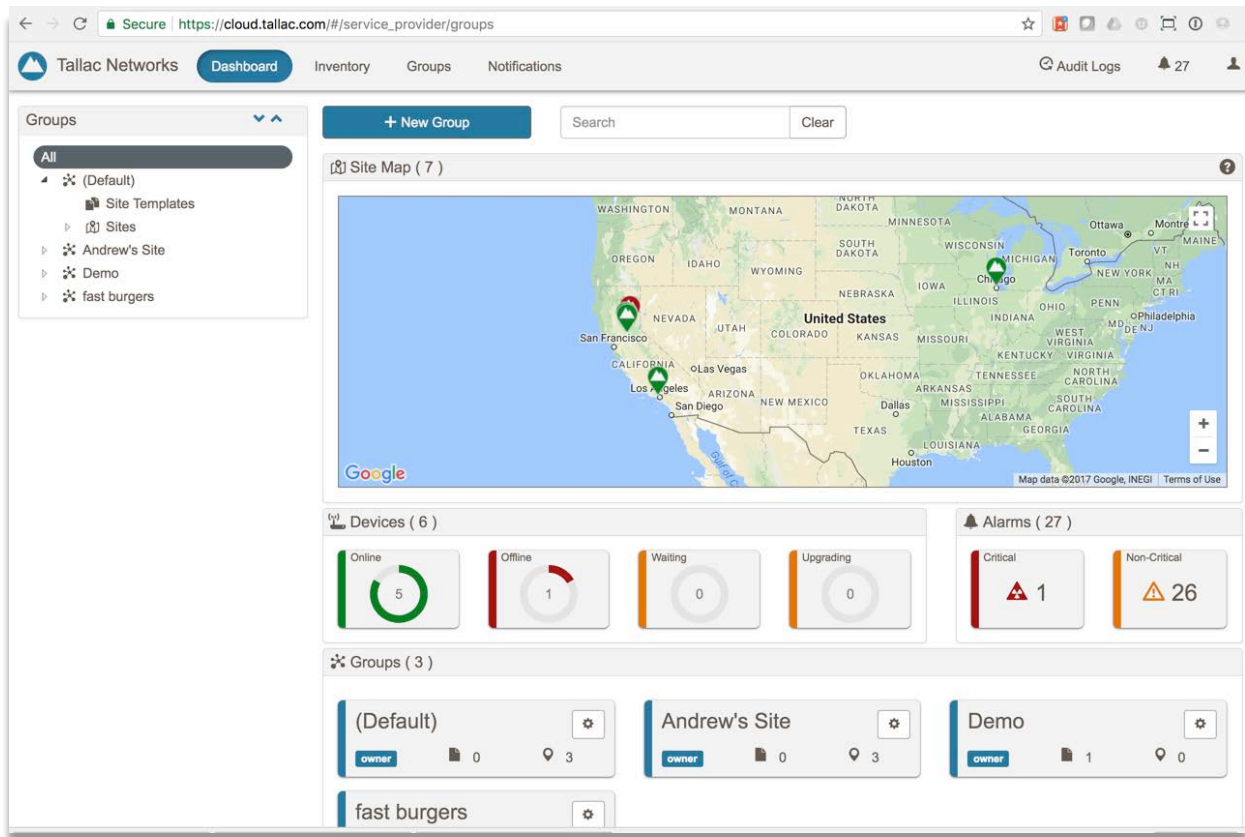
The ECW7211-L is cloud-enabled out of the box allowing for easy, highly scalable installation, configuration, and management.

Dual Band AC1200 Operation

The ECW7211-L is capable of operating simultaneously at 2.4GHz (802.11b/g/n) as well as 5GHz (802.11a/n/ac) to supply ample throughput for the most demanding applications.

Robust & Simple Mounting Kit

The ECW7211-L can be wall, ceiling, or desktop mounted, greatly simplifying installations in both offices and homes.





Tallac Networks

Tallac SD-LAN Datasheet

ECW7211-L Product Specifications

Features

- One 10/100/1000BASE-T Gigabit Ethernet (RJ-45) port with 802.3at/af-compliant Power over Ethernet (PoE) support
- One 10/100/1000BASE-T Gigabit Ethernet (RJ-45) port
- One console port (10/100/1000BASE-T) with an RJ-45 connector
- One USB 2.0 port
- Three LEDs: Power, Eth 0/PoE, Eth 1, 2.4G/5.0G

Standards

IEEE 802.11n 2.4 GHz and 5.0 GHz
IEEE 802.11ac/a 5.0 GHz
IEEE 802.11b/g, 2.4 GHz
IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
IEEE 802.3af Power over Ethernet (PoE)
IEEE 802.11h Regulatory Domain Selection
IEEE 802.11i
Wi-Fi Multimedia (WMM)
Wireless Distribution System (WDS)

Wireless Frequency

802.11g/n:

- 2.4 ~ 2.4835 GHz (US, Canada)
- 2.4 ~ 2.4835 GHz (ETSI, Japan)

802.11b:

- 2.4 ~ 2.4835 GHz (US, Canada)
- 2.4 ~ 2.4835 GHz (ETSI)
- 2.4 ~ 2.497 GHz (Japan)

802.11a/n/ac:

- 5.15 ~ 5.25 GHz (lower band) US/Canada, Europe, Japan
- 5.25 ~ 5.35 GHz (middle band) US/Canada, Europe, Japan
- 5.725 ~ 5.825 GHz (upper band) US/Canada
- 5.50 ~ 5.70 GHz Europe
- 5.47 ~ 5.725GHz

Security

- WEP 64/128-bits
- Wi-Fi Protected Access (WPA/WPA2)
- WPA/WPA2 (PSK) over WDS
- Secure SSH (Secure Sockets Shell), Telnet
- Secure Sockets Layer (SSL) remote management login
- HTTPS
- Access control list
- RADIUS authentication
- EAP-MD5, EAP-TLS, EAP-TTLS, PEAP, EAP-SIM, and EAP- AKA
- SSID broadcast disable
- Support TPM (Trusted Platform Module)

Antenna

Type: PCB type
Gain: 4dBi in 2.4GHz, 5dBi in 5GHz

Regulatory Compliance

FCC Part 15 Subpart B
CE
NCC, BSMI

Radio Signal Certification

FCC Part 15C 15.247, 15.207 (2.4GHz)
EN 300 328
EN 301 489-1
EN 301 489-17

Mechanical

Dimensions: 20 x 20 x 3.65 cm
Weight: 0.75 kg

Power

Input: 100 or 240 VAC, 50-60 Hz
Output: 48V/ 2A
Power Consumption: 14 W maximum

Environmental Specification

Temperature:
Standard Operating: 0°C to 50°C
Storage: -20°C to 70°C
Humidity: 10% to 90% (non-condensing)

Wireless Features

- Output power: 2.4GHz: 15dBm, 5GHz: 20dBm
- VAP (Virtual Access Point) support with up to 32 SSIDs (2.4GHz: 16, 5GHz: 16)
- Operation modes: AP Mode, Point-to-Point WDS, Point-to-Multiple points WDS, WDS With AP
- Transmit power adjustment
- IEEE 802.11h DFS/DFS2 and automatic TPC
- Traffic Control for each SSID
- Band Preference for same SSID services on dual band
- Dynamic Channel Selection for noisy environment
- Rate Selection to disable low data rate access
- Band steering
- Auto-channel selection
- Supports Multi-cast
- Throughput: Data Rate (1.3Gbps+450Mbps)
- Concurrent users: 200 clients

Warranty

3 years



ECWO7211-L

802.11ac Dual-Band Wireless Outdoor Access Point

Product Overview

The ECWO7211-L is an 802.11a/b/g/n/ac, dual band, dual radio, Outdoor Wireless Enterprise Access Point with 3x3 MIMO configuration design. The Gigabit Ethernet backhaul comes with 802.3at/af PoE function and can be powered by a PoE switch remotely. The ECWO7211-L is the best suitable outdoor wireless LAN solution for hotspot application & high density environments such as large campus, wireless city & public spaces.



Key Features and Benefits

Wireless 802.11ac Technology

Using 802.11ac 3x3 MIMO (Multiple Input Multiple Output) wireless technology, the AP supports three transmitting and three receiving antennas that extend range and increase the throughput by up to nine times that of existing Wi-Fi.

Integrated High Gain Antenna

The ECWO7211-L has a built-in 6 x Omni Direction High Gain Antenna (2.4GHz: 7dBi, 5GHz: 8dBi). Through Optimized RF Tuning & Output power, it is very suitable for users to pursue high throughput & stability.

Advanced Traffic Management

Support for up to sixteen Virtual Access Point (VAP) interfaces per radio, which allows traffic to be separated for different user groups within the same service area.

Each radio can support up to 100 wireless clients, shared between all VAPs, whereby the clients associate with each VAP in the same way as they would with physically separate APs. This means that each VAP can be configured with its own Service Set Identification (SSID), security settings, VLAN assignments, and other parameters, allowing the AP to serve a diverse range of client needs from a single unit.

Wall Mount & Pole Mount Support

Robust Wall mount & Pole mount accessories are provided to meet any kind of environment deployment. IP67 water/dust proof.



Application Diagram

- 802.11ac/a/n, 802.11b/g/n
- Dual Band 3x3 MIMO
- IP67 Outdoor AP
- Built in Omni-directional High Gain Antenna





Tallac Networks

Tallac SD-LAN Datasheet

ECWO7211-L Product Specifications

Physical Features

- One 10/100/1000BASE-T Gigabit Ethernet (RJ-45) port with 802.3at/af-compliant Power over Ethernet (PoE) support
- One 10/100/1000BASE-T Gigabit Ethernet (RJ-45) port
- One console port(10/100/1000BASE-T) with an RJ-45 connector
- LED: Power/System
- Six embedded Omni antennas
- PoE 802.3at/af compliant

Standards

IEEE 802.11n 2.4 GHz and 5.0 GHz
IEEE 802.11ac/a/n 5.0 GHz, IEEE 802.11b/g, 2.4 GHz
IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
IEEE 802.3af Power over Ethernet (PoE)
IEEE 802.11h Regulatory Domain Selection
IEEE 802.11i
IEEE 802.11r
IEEE 802.1k
Wi-Fi Multimedia (WMM), Wireless Distribution System (WDS)

Wireless Frequency

802.11g/n:
2.4 ~ 2.4835 GHz (US, Canada), 2.4 ~ 2.4835 GHz (ETSI, Japan)
802.11b:
2.4 ~ 2.4835 GHz (US, Canada), 2.4 ~ 2.4835 GHz (ETSI),
2.4 ~ 2.497 GHz (Japan)
802.11a/n/ac:
5.15 ~ 5.25 GHz (lower band) US/Canada, Europe, Japan
5.25 ~ 5.35 GHz (middle band) US/Canada, Europe, Japan
5.725 ~ 5.825 GHz (upper band) US/Canada
5.50 ~ 5.70 GHz Europe
5.47 ~ 5.725GHz

Wireless Features

- Output power: 23dBm
- VAP (Virtual Access Point) support with up to 32 SSIDs (2.4GHz: 16, 5GHz: 16)
- Transmit power adjustment
- IEEE 802.11h DFS/DFS2 and automatic TPC
- Traffic Control for each SSID
- Band Preference for same SSID services on dual band
- Dynamic Channel Selection for noisy environment
- Rate Selection to disable low data rate access
- Band steering: Client connection preemption (ac > n > a > g > b) in case service capability is full
- Auto-channel selection
- Auto power adjustment between APs
- Rogue AP Detection
- RF Scanning
- Channel Assignment
- Supports Multi-cast
- Fast Roaming (802.11r)
- Packet Capture
- Frame Priority Assignment
- Load balancing with radio utilization rate
- Radius Client: Radius DM/COA Support
- Throughput: Data Rate (1.3Gbps+450Mbps)
- Concurrent users: 200 clients/Dual Radio

Security

- WEP 64/128-bits
- Wi-Fi Protected Access (WPA/WPA2)
- Secure SSH (Secure Sockets Shell), Telnet
- Secure Sockets Layer (SSL) remote management login
- HTTPS
- Access control lists: 512
- RADIUS authentication
- EAP-MD5, EAP-TLS, EAP-TTLS, PEAP, EAP-SIM, and EAP-AKA
- SSID broadcast disable
- Radius 802.1x Support (IPv4, IPv6)
- Radius Accounting
- 802.11w Protection of Management Frame
- AP Shutdown/Radio Disable

Antenna

Type: Omni Direction
Gain: 7dBi in 2.4GHz, 8dBi in 5GHz

Regulatory Compliance

CE
FCC
UL
CB
NCC
BSMI

Mechanical

Dimensions: 239.19 x 292.78 mm (Device only)
Weight: 3 kg

Power

Powered by 802.3at PoE

Environmental Specification

- Temperature:
Standard Operating: -40°C to 65°C
Storage: -25°C to 70°C
- Humidity: 5% to 95% (non-condensing)
- Water/Dust-proof: IP67
- Transportation environment: ETS 300 019-2-2 class 2.3
- Drop: IEC 68-2-32
- Wind Survivability: 125km/ph
- Lightning/Surge Protection: 6KV, IEC-61000-4-5 class 4, ANSI/TIA-968-A

Warranty

3 years



ECS4310-28P

L2+ Gigabit Ethernet Access/Aggregation PoE Switch with 4 10G Uplinks

Product Overview

The ECS4310-28P switch is a Gigabit Ethernet PoE access switch with four 10G uplink ports. The switch is ideal for SMB, enterprise, and campus networks to connect power devices such as VoIP phones, wireless access points, surveillance cameras etc. PoE enables both power and data to be transferred over existing Cat. 5 cables, eliminating the need for individual power sources for devices in the network and saving on costs for power cables. The ECS4310-28P switch is packed with features that bring high availability, comprehensive security, robust multicast control, and advanced QoS to the network edge, while maintaining simple management. The switch also supports the most advanced IPv6 management, IPv6 security, and IPv6 multicast control in accordance with the growth of IPv6 deployment.

Key Features and Benefits

Performance and Scalability

The ECS4310-28P is a high-performance Gigabit Ethernet Layer 2+ managed switch with 128Gbps switching capacity. The switch delivers wire-speed switching performance on all Gigabit ports, taking full advantage of existing high-performance Gigabit CPEs, PCs, 11n/ac Wi-Fi APs etc, significantly improving the responsiveness of applications and file transfer times.

The four built-in 10G SFP+ ports provide uplink flexibility, allowing the insertion of fiber or copper, Gigabit or 10G transceivers, to create up to 10 Gbps high-speed uplinks to servers or service provider, corporate, or campus networks, reducing bottlenecks and increasing the performance of the access network.

The Voice VLAN function automatically detects VoIP devices by OUI or LLDP and groups the voice traffic into a separate VLAN for better performance. It can also automatically change port priorities, so a higher CoS value can be assigned for guaranteed voice quality.

Reliability and Energy Efficiency

The design of the ECS4310-28P incorporates high energy efficiency in order to reduce the impact on the environment. The Green Ethernet power-saving features significantly reduce the power consumption.

Continuous Availability

The IEEE 802.1w Rapid Spanning Tree Protocol provides a loop-free network and redundant links to the core network with rapid convergence, to ensure faster recovery from failed links, enhancing overall network stability and reliability.

The IEEE 802.1s Multiple Spanning Tree Protocol runs STP per VLAN base, providing Layer 2 load sharing on redundant links up to 64 instances.

The ECS4310-28P supports IEEE 802.3ad Link Aggregation Control Protocol (LACP). LACP increases bandwidth by automatically aggregating several physical links together as a logical trunk and offers load balancing and fault tolerance for uplink connections.

The ECS4310-28P supports G.8032 Ethernet Ring Protection Switching with the ability for the network to detect and recover from incidents without impacting users, meeting the most demanding quality and availability requirements. Rapid recovery time when problems do occur is as low as 50ms.

Enhanced Security

Port security limits the total number of devices from using a switch port and protects against MAC flooding attacks. IEEE 802.1X port-based or MAC-based access control ensures all users are authorized before being granted access to the network. When a user is authenticated, the VLAN, QoS and security policy are automatically applied to the port where the user is connected, otherwise the port is grouped in a guest VLAN with limited access.

DHCP snooping allows a switch to protect a network from rogue DHCP servers that offer invalid IP addresses.

IP Source Guard prevents people from using IP addresses that were not assigned to them.

Access Control Lists (ACLs) can be used to restrict access to sensitive network resources by denying packets based on source and destination MAC addresses, IP addresses, or TCP/UDP ports. ACLs are hardware supported, so switching performance is not compromised.

Private VLANs (traffic segmentation per port) isolate edge ports to ensure user privacy.

DAI (Dynamic ARP Inspection) is a security feature that validates Address Resolution Protocol (ARP) packets in a network. DAI allows a network administrator to intercept, log, and discard ARP packets with invalid MAC-to-IP address bindings.

Secure Shell (SSH) and Secure Sockets Layer (SSL/HTTPS) encrypt Telnet and web access to the switch, providing secure network management.

The ECS4310-28P also supports both RADIUS and TACACS+ authentication methods to secure your network.

ECS4310-28P Product Specifications

Tallac Networks

Tallac SD-LAN Datasheet



Comprehensive QoS

The ECS4310-28P offers advanced QoS for marking, classification, and scheduling to deliver best-in-class performance for data, voice, and video traffic at wire speed. Eight egress queues per port enable differentiated management of up to eight traffic types through the switch.

Traffic is prioritized according to 802.1p and DSCP to provide optimal performance for real-time applications. Weighted Round Robin (WRR) and strict priority ensure differential prioritization of packet flows and avoid congestion of ingress and egress queues. Asymmetric bidirectional rate-limiting, per port or per traffic class, preserves network bandwidth and allows maximum control of network resources.

The ECS4310-28P supports Three Color Marker and Policing Single rate: Committed Information Rate (CIR) Two rate: CIR + Peak Information Rate (PIR) Traffic Policing: The switch drops or remarks the priority tags of packets when they exceed the burst size.

Robust Multicast Control

IGMP snooping prevents the flooding of multicast traffic by dynamically configuring switch ports so that multicast traffic is forwarded to only those ports associated with an IP multicast receiver. IGMP increases the performance of networks by reducing multicast traffic flooding.

IGMP groups allow you to create customer packages for IP-TV channels, making switch configuration easy. IGMP Filtering prevents subscribers seeing unsubscribed IP-TV channels. And, IGMP Throttling allows you to set how many IP-TV channels a subscriber can receive simultaneously.

Private VLANs and Multicast VLAN Registration

Multicast VLANs are shared in the network, while subscribers remain in separate VLANs. This increases network security and saves bandwidth on core links. Multicast streams do not have to be routed in core L3 switches, which saves CPU power.

Multicast VLAN Registration (MVR) is designed for applications such as Media-on-Demand that send multicast traffic across an Ethernet network.

IPv6 Support

The switch supports a number of IPv6 features, including IPv6 Management, DHCPv6 Snooping with Option 37, IPv6 Source Guide, and MVR6.

Service Monitoring and Management

The ECS4310-28P supports IEEE 802.1ag and ITU-T Y.1731, allowing service providers to monitor end-to-end services, identify connectivity and performance issues, and isolate problems from a remote location without dispatching an engineer onsite.

The switch also provides the capability to monitor service availability, delay, jitter, and dropped packets for verifying SLA conformance (for billing purposes) and providing advance indication of performance degradation before a service outage occurs.

Superior Management

An industry-standard command-line interface (CLI), accessed through the console port or Telnet, provides a familiar user interface and command set for users to manage the switch.

An embedded user-friendly web interface helps users to quickly and simply configure switches.

The ECS4310-28P supports SNMPv1,2c,3 and four-group RMON. The switch provides a complete private MIB for the configuration of most functions via the SNMP protocol.

Administrators can backup and restore firmware and configuration files via TFTP or FTP. The switch also provides the configuration of auto-provision for ease of use in large deployments.

AAA (Authentication, Authorization and Accounting) via RADIUS, TACACS+, enables centralized control of the switch. You can also authorize access rights per user and account for all actions performed by administrators.

Virtual Private Networks

The ECS4310-28P supports Layer 2 VPNs by using Q-in-Q functions, where an 802.1Q tag from a customer VLAN (called CE-VLAN ID) is encapsulated in a second 802.1Q tag from a service-provider network (called an SP-VLAN ID). The switch supports rewriting the VLAN tag of egress traffic when the ingress traffic is tagged.

The switch also supports Layer 2 Protocol Tunneling for STP, CDP, VTP, PVST+, with Cisco-proprietary multicast address (01-00-0c-cd-cd-d0) replacement.

PoE Features

The ECS4310-28P can provide up to 30 Watts of power to attached devices, such as VoIP phones, wireless access points, and surveillance cameras etc, all over existing Cat. 5 cables. The switch can deliver up to 30 Watts on 13 ports, or 15.4 Watts on 24 ports.

PoE eliminates the need for individual power sources for devices in the network, saving on costs for power cables and avoiding power outlet availability issues.

If the power demand exceeds the switch's maximum power budget, ports can be prioritized to receive power, and the power allocation is configurable.

The PoE power can be enabled or disabled remotely by setting a time schedule. For example, during off-duty hours all the PoE devices can be shut down for power saving without human intervention.



ECS4310-28P Product Specifications



Port	RJ-45 10/100/1000 Ports	24
	100/1000 SFP Ports	0
	10/100/1000 Combo Ports	0
	SFP+ 10 Gigabit Uplink Ports	4
	GE out of band Management Port	No
	RJ-45 Console Port	1
	Performance	Switching Capacity
Forwarding Rate		95 Mpps
Flash Memory		256 MB
DRAM		512 MB
MAC Address Table Size		16 K
Jumbo Frames		9 K
Auto-negotiation, Auto-MDI/MDIX		Yes
PoE	Support on all Gigabit ports based on IEEE 802.3af	Yes
	PoE+ based on IEEE 802.3at	Yes
	Auto disable after exceeding power budget	Yes
	Dynamic Power Allocation	Yes
	PoE Power Budget	400 W
Mechanical	Rack Space	19"
	Dimension (W x D x H) cm	33 x 44 x 4.4
	Weight	4.53 kg
Power Supply	100-240 VAC, 50-60 Hz	Yes
	Max System Power Consumption (Watts)	460 W
Environmental	Operating Temperature	0°C to 50°C
	Storage Temperature	-40°C to 70°C
	Operating Humidity (non-condensing)	10% to 90%
	Storage Humidity (non-condensing)	10% to 90%
	Environmental Regulation compliance: WEEE	Yes
	Environmental Regulation compliance: RoHS	Yes
Certification	FCC Class A	Yes
	CE	Yes
	Safety Compliance: CB	Yes
	Safety Compliance: UL	Yes



ECS4310-28P Product Specifications

L2 Features

Tri-speed (10/100/1000BASE-T) copper interfaces
Auto-negotiation for port speed and duplex mode
Auto MDI/MDI-X
Dual-speed(1G and 10G) fiber interfaces
SFP+ ports support:
IEEE 802.3ae changeable (10GBASE-SR/LR/ER),
IEEE 802.3z (1000BASE-SX/LX/LH/X/ZX) transceivers, and
10G DAC/AOC
Digital Diagnostic Monitoring (DDM) on 10G SFP+ port only
Flow Control:
IEEE 802.3x for full duplex mode
Back-Pressure for half duplex mode
Jumbo frames 9KB
Broadcast/Multicast/ Unknown Unicast Storm Control
Spanning Tree Protocol:
IEEE 802.1D Spanning Tree Protocol (STP)
IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
IEEE 802.1s Multiple Spanning Tree Protocol (MSTP),
64 instances BPDU
Guard BPDU filtering
Root Guard BPDU
transparent
Loopback detection
Non-Spanning Tree Loopback detection
ITU-T G.8032 Ethernet Ring Protection
Sub 50 msec convergence
Revertive operation mode
Multiple-ring network
VLANs:
Supports 4K VLAN
Port-based VLAN
IEEE 802.1Q VLAN
GVRP
VLAN Trunking
IEEE 802.1v Protocol-based VLAN IP
Subnet-based VLAN
MAC-based VLAN
Traffic Segmentation
L2 Virtual Private VLAN
Q-in-Q
VLAN Translation
L2 Protocol tunneling (xSTP, CDP, VTP & PVST+)
CDP/PVST+ Filtering
Link Aggregation:
Static Trunk
IEEE 802.3ad Link Aggregation Control Protocol Trunk
groups: 26, up to 8 GE/ 4 10G ports per group Load
Balancing: SA+DA, SA, DA, SIP+DIP, SIP, DIP
IGMP Snooping:
IGMP v1/v2/v3 snooping
IGMP Proxy reporting
IGMP Filtering
IGMP Throttling
IGMP Immediate Leave
IGMP Querier
IGMP Authentication*
MVR (Multicast VLAN Registration)
Supports 5 multicast VLANs
Port mirroring
Remote port mirror (RSPAN)

QoS Features

Priority Queues: 8 hardware queues per port
Traffic classification
IEEE 802.1p CoS
IP Precedence
DSCP
MAC Access control list (Source/Destination MAC, Ether type,
Priority ID/ VLAN ID)
IP Standard access control list (Source IP)
IP extended access control list (Source/Destination IP, Protocol,
TCP/UDP port number)
Traffic Scheduling
Strict Priority
Weighted Round Robin
Strict + WRR
Single/Two rate Three color marker
Ingress policy map
Egress policy map
Rate Limiting (Ingress and Egress, per port base)
GE: Resolution 64Kbps ~ 1,000Mbps
10G: Resolution 64Kbps ~ 10,000Mbps
Auto Traffic Control

Security

Port security
IEEE 802.1X port based and MAC based authentication
Dynamic VLAN Assignment, Auto QoS
MAC authentication
Web authentication
Voice VLAN
Guest VLAN
L2/L3/L4 Access Control List
MAC Access control list (Source/Destination MAC, Ether type,
Priority ID/ VLAN ID)
IP standard access control list (Source IP)
IP extended access control list (Source/Destination IP, Protocol,
TCP/UDP port number)
IPv6 ACL
DHCP Snooping
DHCP Option 82
DHCP Option 82 Relay
IP Source Guard
PPPoE IA
Dynamic ARP Inspection
Denial of Service
Login Security
RADIUS authentication
RADIUS accounting
RADIUS authorization
TACACS + authentication
TACACS + accounting
TACACS + authorization
Management Interface Access Filtering (SNMP, WEB, Telnet)
SSH (v1.5/v2.0) for secure Telnet
SSL for HTTPS
SNMPv3

Green Ethernet

IEEE 802.3az Energy-Efficient Ethernet (EEE)



ECS4310-28P Product Specifications

Routing

- IPv4 Static Route
- IPv6 Static Route

IPv6

- IPv4/IPv6 dual protocol stack
- IPv6 Address Types Stack: Unicast
- IPv6 Neighbor Discovery:
 - Address resolution
 - Duplicate address
 - Unreachable neighbor detection
- Stateless auto-configuration
- Manual configuration
- Remote IPv6 ping
- IPv6 Telnet support
- IPv6 TFTP support
- IPv6 SNTP support
- IPv6 DNS Resolver
- IPv6 Syslog support
- MLD Snooping v1/v2
- HTTP over IPv6
- SNMP over IPv6
- SSH over IPv6
- RA Guard
- IPv6 ND Snooping
- IPv6 source guard
- DHCPv6 snooping
- DHCPv6 option
- 37* MVR6

Management

- Firmware & Configuration
 - Firmware upgrade via TFTP/HTTP/FTP server
 - Multiple configuration files
 - Configuration file upload/download via TFTP/HTTP/FTP server
- Switch Management:
 - CLI via console port or Telnet
 - WEB management
 - SNMP v1, v2c, v3
- RMON (groups 1, 2, 3 and 9)
- BOOTP, DHCP client for IP address assignment
- DHCP dynamic provision option 66,67
- SNTP
- Event Error Log
- Syslog
- SMTP
- Supports LLDP (802.1ab)
- IP clustering
- sFlow v4, v5
- Cable Diagnostics
- (Optional) ECview Pro**, a powerful network management software that maximizes the managed capabilities of Edgecore devices with:
 - Topology Management
 - Performance Management
 - Configuration Management
 - Event Management
 - SNMP Management

OAM

- IEEE 802.3ah Link
- IEEE 802.1ag Connectivity Fault Management
 - Connectivity check
 - Loopback
 - Linktrace
- ITU-T Y.1731 Performance and Throughput Management
 - Frame Delay
 - Frame Delay variation

Safety

- UL (CSA 22.2. NO 60950-1 & UL60950-1)
- CB (IEC60950-1)

Electromagnetic Compatibility

- CE Mark
- FCC Class A
- CISPR Class A
- BSMI

Environmental Specifications

- Temperature:
 - 0°C to 50°C (standard operating)
 - 40°C to 70°C (non-operating)
- Humidity: 10% to 90% (non-condensing)

Power Supply

- Power Input:
 - 100 to 240 VAC, 50/60 Hz
 - AC/DC: 90 VAC~300 VAC, 50/60 Hz

Warranty

5 years