

ExtremeWireless™ 3935i/e Indoor Access Point

Enterprise-Grade, Ultra-High Performance for Demanding High-Density Deployments

BENEFITS

BUSINESS ALIGNMENT

- Support for demanding voice/video/data applications to enhance mobile worker productivity and convenience
- Role-based grouping of users, devices, and applications to deliver priority, QoS, and security in accordance with business needs
- Seamless roaming across an entire multi-subnet campus without the need for cumbersome client software
- Integrated management, security, and QoS features reduce operating cost and ensure a consistent user experience regardless of location

OPERATIONAL EFFICIENCY

- Centralized visibility and control accelerates problem resolution, optimize network utilization, and automate management
- Adaptive architecture reduces complexity and optimizes information flow for each application
- Dynamic Radio Management when used for planning and monitoring ensures optimal spectrum coverage resulting in the best end-user quality of experience
- Flexible Client Access optimizes throughput for 802.11ac/n clients in today's mixed ac, n, and a/b/g client environments



Product Overview

The AP3935 is a feature rich 802.11ac (Wave 2) and 802.11abgn indoor access point that delivers enterprise-grade performance and security. Designed to blend into the office, classroom or lecture hall, or large common spaces, the AP3935 is ideal for providing secure 802.11ac and 802.11abgn connectivity for high-density, mission critical environments such as schools, universities, hospitals, indoor arenas, and conference centers.

The AP3935i comes with an integrated eight port antenna array for ease of installation. The AP3935e requires professional installation and includes eight Reverse Polarity Sub-Miniature Version A (RPSMA) antenna connectors supporting both 2.4GHz and 5GHz band antennas. The AP3935 uses 802.3at Power over Ethernet (PoE+) for maximum performance and can operate within an 803.2af power budget with reduced performance. An optional external power supply is available for deployments that do not support Power over Ethernet.

The AP3935 is built using the latest Wi-Fi technology, including 802.11ac Wave 2, dynamic radio management, and spectrum analysis with interference classification, beamforming, multi-user MIMO, self-forming and self-healing meshing, security, role-based authentication, authorization, and access control. The 4x4:4 platform is capable of delivering up to 2.5 Gbps over-the-air-performance and up to 90,000 packets per second on the wire port. The AP3935 can be installed directly on a flat surface or on most drop ceilings with the included tool-less drop ceiling bracket. Multiple antenna offerings (e.g., Omni, sector, and panel) ensure that the AP3935e deployment can be optimized to meet any unique coverage or capacity need.

Specifications

PRODUCT FEATURES	AP3935I/E
GENERAL	
High performance enterprise class AP	✓
Number of radios	2
MIMO implementation for high performance 11ac & 11n throughputs	4x4
Number of spatial streams	4
Number of simultaneous users (MU-MIMO)	3
Maximum Throughput 2.4GHz Radio	800 Mbps
Maximum Throughput 5GHz Radio	1.732 Gbps
Maximum Throughput per AP	2.532 Gbps
RFC2285 Wire/Wireless Forwarding Rate	90,000 pps
Number of SSIDs supported per radio/total	8/16
Simultaneous users per radio/total	112/250 Per AP
Simultaneous Voice calls(802.11b, G711, R>80)	12 or greater
Mode of operation	Semi-autonomous
Plug and play operation/Zero touch deployment	✓
Security and Standards	WPA, WPA2 (AES), 802.11i, 802.1x, IPSec, IKEv2, PKCS #10, X509 DER / PKCS #12, SSL
MULTIPLE OPERATING MODES	
Intelligent thin AP	Encryption, Security, QoS and RF management done on AP
Distributed and centralized data paths within same SSID	✓
Application based distributed and centralized data paths within same user/device session	✓
Simultaneous RF monitoring and client services	✓
In-channel WIDS	✓
In-channel WIPS	✓
Dedicated multi-channel WIDS (Guardian mode)	✓
Dedicated multi-channel WIPS (Guardian mode)	✓
Dedicated multi-channel RF spectrum analysis and fingerprinting	✓
Locates devices and threats via RF triangulation	✓
Self-forming and self-healing meshing	✓
Remote access point	✓
Hardware-based, end-to-end data and control plane encryption	✓
Private and public cloud deployments	✓
SSL	✓
HYBRID OPERATION	
Security scanning and serve clients on same radio	✓
Security scanning and spectrum analysis on same radio	✓
Spectrum analysis and serve clients on same radio	✓
Multi-channel dedicated security scanning and spectrum analysis	✓
Simultaneous Users (MU-MIMO)	3
RADIO CHARACTERISTICS	
MAX RADIATED POWER	
Radio 1 (5GHz)	TBD
Radio 2 (2.4GHz)	TBD

* Actual available power would vary based on local regulatory requirement and actual channels used for operation

Specifications (cont.)

PRODUCT FEATURES	AP3935I/E
MAX ANTENNA GAIN (INTEGRATED ANTENNA)	
Radio 1 (5GHz)	5 dBi (AP3935i)
Radio 2 (2.4GHz)	3 dBi (AP3935i)
ADAPTIVE RADIO MANAGEMENT	
Dynamic Channel Control	802.11h: DFS & TPC support (ETSI)
Efficient use of the spectrum with a multi-channel architecture	✓
Automatic transmit power and channel control	✓
Self-healing with coverage gap detection	✓
Band steering with multiple steering modes	✓
Spectrum load balancing of clients	✓
Airtime fairness	✓
Performance protection in congested RF environments	✓
Fast Transition Roaming (802.11k)	✓
Mitigates co-channel interference with coordinated access	✓
Mitigates adjacent channel interference with optimized receive sensitivity	✓
Efficient reuse of channels at shorter intervals	✓
Mitigates non 802.11 interference without dedicated radios	✓
Probe Suppression and client link monitoring	✓
Management Frame Protection (802.11w)	✓
Automatic discovery of networks by pre-authenticated devices (802.11u)	✓
Wireless Network Management (802.11v)	✓
QUALITY OF SERVICE	
Quality of Service (WMM, 802.11e)	✓
Power Save (U-APSD)	✓
Fast secure roaming and handover between APs (802.11r)	✓
Pre-Authentication (Pre-Auth)	✓
Opportunistic Key Caching (OKC)	✓
Bonjour/LLMNR/UPnP identification, containment and control	✓
Supports voice, video and data using the same SSID	✓
Prioritizes voice over data for both tagged and untagged traffic	✓
Rate limiting (rule and user-based)	✓
Rule and role based QoS processing	✓
MULTICAST RATE CONTROL	
Multicast to unicast Conversion	✓
Adaptable rate multicast	✓
Power save mode optimization for multicast	✓
WIRELESS SERVICES	
Media Access Protocol	CSMA/CA with ACK
Data Rates	<p>802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54 Mbps 802.11 802.11n Performance Table below 802.11ac: See 802.11ac Performance Table below</p> <p>Receiver Sensitivity</p> <p>802.11a: • -92DdBm @ 6Mbps • -77DdBm @ 54Mbps</p> <p>802.11g: • -91DdBm @ 6Mbps • -78DdBm @ 54Mbps</p> <p>802.11n: See 802.11n Receiver Sensitivity Table below 802.11ac: See 802.11ac Receiver Sensitivity Table below</p>

Specifications (cont.)

PRODUCT FEATURES		AP3935I/E
Frequency Bands		802.11ac/a/n: <ul style="list-style-type: none"> • 5.15 to 5.25 GHz (FCC/IC/ETSI) • 5.25 to 5.35 GHz (FCC/IC/ETSI)* • 5.47 to 5.725 GHz (FCC/IC/ETSI)* • 5.725 to 5.850 GHz (FCC/IC) 802.11b/g/n: <ul style="list-style-type: none"> • 2.400 to 2.4720 GHz (FCC/IC) • 2.400 to 2.4835 GHz (ETSI) *FCC/IC DFS certification in progress
Wireless Modulation		802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM with OFDM 802.11ac Packet aggregation: A-MPDU, A-MSDU 802.11ac Very High-Throughput (VHT): VHT20/40/80 802.11ac Advanced Features: LDPC, STBC, Maximum Likelihood (ML) Detection 802.11n: BPSK, QPSK, 16QAM, 64QAM with OFDM 802.11n High-throughput (HT) support: HT 20/40 802.11n Packet aggregation: A-MPDU, A-MSDU 802.11n Advanced Features: LDPC, STBC and TxBF 802.11a: BPSK, QPSK, 16QAM, 64QAM with OFDM 802.11g: DSSS and OFDM 802.11b: DSSS
INTERFACES		
# 10/100/1000 Base T Ethernet autosensing link		2
MOUNTING		
Integrated Wall Mounting		✓
Tool-less drop ceiling bracket for most flat and protruded drop ceilings		✓
ENVIRONMENTAL		
Environmental		Plenum rated (UL 2043) Operating: Temperature 0° C to +47° C (+32° F to +117° F) Humidity 0%-95% (noncondensing) Storage: Temperature -50° C to +70° C (-58° F to +158° F) Transportation: Temperature -50° C to +70° C (-58° F to +158° F)
WIRELESS AND EMC		
Compliance		<ul style="list-style-type: none"> • FCC CFR 47 Part 15, Class B • ICES-003 Class B • FCC Subpart C 15.247 • FCC Subpart E 15.407 • RSS-210 • EN 301 893 • EN 300 328 • EN 301 489 1 & 17 • EN50385 • EN 55022 (CISPR 22) • EN 60601-1-2 • AS/NZS4268 + CISPR22
Safety		<ul style="list-style-type: none"> • IEC 60950-1 • EN 60950-1 • UL 60950-1 • CSA 22.2 No.60950-1-03 • AS/NZS 60950.1
MECHANICAL		
Dimensions (Outer Diameter x Height)		8" x 1.75" - AP3935i 8" x 2.0" - AP3935e
Weight		2 lbs (0.9 kg) - AP3935i 2 lbs (0.9 kg) - AP3935e
Max power consumption		TBD
Warranty		Limited Lifetime

Ordering Information

PART NUMBER	DESCRIPTION
ACCESS POINTS	
31012	WS-AP3935i_FCC (US, Puerto Rico, Colombia) Dual Radio 802.11ac/abgn, 4x4:4 MIMO indoor access point with eight internal antenna array (Requires V10.01)
31013	WS-AP3935i-ROW Dual Radio 802.11ac/abgn, 4x4:4 MIMO indoor access point with eight internal antenna array (Requires V10.01)
31014	WS-AP3935e-FCC (US, Puerto Rico, Colombia) Dual Radio 802.11ac/abgn, 4x4:4 MIMO indoor access point with eight reverse polarity SMA connectors for external antenna array (Requires V10.01 or higher, and antennas must be ordered separately)
31015	WS-AP3935e-ROW Dual Radio 802.11ac/abgn, 4x4:4 MIMO indoor access point with eight reverse polarity SMA connectors for external antenna array (Requires V10.01 or higher, and antennas must be ordered separately)
ANTENNAS (REQUIRED FOR AP3935E)	
30710	WS-ANT-5DIP-4 5GHz Indoor Dipole Antenna for 3935e only (4 pack)
30705	WS-AI-DE07025 Indoor 2.4GHz/5GHz, eight feed, 6.5/5.5dBi, 25 degree sector antenna with standard RPSMA-type plug connector
30702	WS-AI-DQ05120 Indoor, 2.3-2.7/4.9-6.1GHz, 4-feed, 5dBi, 120 degree sector antenna with standard RPSMA-type plug connector
30707	WS-AI-DE10055 Indoor 2.4GHz/5GHz, eight feed, 10/6dBi, 55 degree sector antenna with standard RPSMA-type plug connector
30706	WS-AI-5Q05025 Indoor 5GHz, four feed, 5dBi, 25 degree sector antenna with RPSMA-type plug
30703	WS-AI-5Q04060 Indoor, 4.9-6.1GHz, 4-feed, 4dBi, 60 degree sector antenna with standard RPSMA-type plug
30704	WS-AI-2Q05060 Indoor, 2.3-2.7GHz, 4-feed, 5dBi, 60 degree sector antenna with standard RPSMA-type plug
WS-AI-DQ04360	WS-AI-DQ04360 Indoor 2.4GHz/4.9-6.1GHz, 4 Feed, 4 dBi, Omni with RPSMA-type plug
ACCESSORIES	
30513	WS-MBI-WALLO3 Wall mounting bracket
30512	Multi-region 12V Indoor External Power Supply for the AP3935i/e
MID-SPAN POE DEVICES	
PD-9001GR-ENT	Single port, 1 Gigabit 802.3at PoE Midspan

Warranty

As a customer-centric company, Extreme Networks is committed to providing quality products and solutions. In the event that one of our products fails due to a defect, we have developed a comprehensive warranty that protects you and provides a simple way to get your products repaired or media replaced as soon as possible. For full warranty terms and conditions please go to:

<http://support.extremenetworks.com>

Service and Support

Extreme Networks provides comprehensive service offerings that range from Professional Services to design, deploy and optimization of customer networks, customized technical training, to service and support tailored to individual customer needs.

Please contact your Extreme Networks account executive for more information about Extreme Networks Service and Support.



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