

Highlights

Business Alignment

- Extends secure connectivity to Internet of Things (IoT) sensors for Smart Buildings while reducing risks from weak or insecure sensors
- Enforces role-based grouping of users, devices, and applications to deliver priority, QoS, and security in accordance with business needs for wireless devices
- Support for demanding voice/video/ data applications to enhance mobile worker productivity and convenience
- 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

Flexible Managment Options

- On premise, with hardware or virtual ExtremeWireless Appliance
- ExtremeCloud™ Cloud-Managed Networking Platform (future)





ExtremeWireless™ 3917i/e Outdoor Access Point

Enterprise-Grade and Wave 2 Outdoor Performance without the Premium Cost

Product Overview

The AP3917 is a feature rich 802.11ac Wave 2 and 802.11abgn outdoor access point that extends affordable enterprise-grade mobility beyond the walls. These outdoor access points are designed to operate in harsh environments such as manufacturing plants, parks, practice facilities, and outdoor stadiums. The AP3917 offers multiple connectivity options including WiFi 2.4GHz, WiFi 5GHz, and BLE/802.15.4 (e.g. Thread, etc.) for location services or extended connectivity to Internet of Things (IoT) sensors and devices.

The energy efficient AP3917 is powered via 802.3at Power over Ethernet (PoE). The light-weight and compact design enables easy installation on most surfaces; optional accessories are available for fixed wall mounting, directional wall mounting, or pole mounting. The AP3917e model requires professional installation and includes four standard N-type antenna connectors supporting 2.4GHz or 5GHz band antennas, as well as a fifth standard N-type connector for a 2.4GHz antenna for BLE/802.15.4 support.

The AP3917 is built using the latest in technology, including 802.11ac Wave 2, dynamic radio management, spectrum analysis with interference classification, beamforming, multi-user MIMO, self-forming and self-healing meshing, security, role-based authentication, authorization, and access control to ensure consistent and secure connectivity to users and sensors.

The 2x2:2 platform can deliver up to 1.2 Gbps over-the-air-performance and up to 50,000 packets per second on the wired port using a unique flow-based architecture that provides consistent performance even when enforcing extensive application-based (aka Layer 7) service requirements.

ExtremeCloud Management

The AP3917 is cloud-ready out of the box and supports future secure connectivity to ExtremeCloud $^{\text{TM}}$, a single pane of glass for cloud managing both the wired and wireless components of your network.

See the ExtremeCloud datasheet for details and ordering part numbers.

Specifications

Product Features	AP3917 i/e		
Ger	neral		
Fully-Featured Enterprise Class AP	✓		
Number of Wi-Fi Radios	2		
MIMO Implementation for High-Performance 11ac & 11n Throughputs	2x2		
Number of Spatial Streams	2		
Number of Simultaneous Users (MU-MIMO)	2		
Maximum Throughput 2.4GHz Radio	300 Mbps		
Maximum Throughput 5GHz Radio	867 Mbps		
Maximum Throughput Per AP	1.167 Gbps		
RFC2285 Wire/Wireless Forwarding Rate	50,000 pps		
Number of SSIDs Supported Per Radio/Total	8/16		
Simultaneous Users Per Radio/Total	240/480 Per AP		
Simultaneous Voice calls (802.11b, G711, R>80)	30 or less		
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		
Internet of Things (IoT) Radio	Dual mode selectable (2.4 GHz with Co-Existence): Bluetooth Low Energy (BLE) 4.1 Single and Dual mode operation (Classic and Low Power Profiles 802.15.4 -2011)		
GPS Radio	Internal		
Multiple Ope	rating Modes		
Intelligent Thin AP	Encryption, Security, QoS and RF Management Services done at 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	✓		
BYOD / Device Fingerprinting Visibility	✓		
Application / Layer 7 Visibility and Control	✓		
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	✓		

Specifications (cont.)

Product Features	AP3917 i/e	
Multiple Operati	ng Modes (cont.)	
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	✓	
Policy Enforcement for Wireless Clients (L2-L7 Access Control, QoS, Rate Limiting, and VLAN Containment)	✓	
Fabric Attach ready (end-to-end network orchestration and automation)	✓	
Hybrid C	peration	
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	✓	
Radio Cha	racteristics	
Cellular coexistence	✓	
Max Total Conducted Power (c	loes not include antenna gain)*	
Radio 1 (5GHz)	TBD	
Radio 2 (2.4GHz)	TBD	
IoT Radio	TBD	
Max Antenna Gain (Integrated Antenna)	
Radio 1 (5GHz)	TBD	
Radio 2 (2.4GHz)	TBD	
loT	TBD	
Adaptive Radi	o Management	
Dynamic Channel Control	802.11h: DFS and 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)	✓	

 $^{^{}st}$ Actual available power would vary based on local regulatory requirement and actual channels used for operation

Specifications (cont.)

Product Features	AP3917 i/e
Quality o	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 to Unicast Conversion	✓
Adaptable Rate Multicast	✓
Power Save Mode Optimization for Multicast	✓
Media Access Protocol	CSMA/CA with ACK
Data Rates	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 802.11n: Performance Table below 802.11ac: Performance Table below Receiver Sensitivity 802.11a:
Frequency Bands	802.11 ac/a/n: • 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: • 2.400 to 2.4720 GHz (FCC/IC) • 2.400 to 2.4835 GHz (ETSI) *FCC/IC DFS planned after release
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

Specificaitons (cont.)

Product Features	AP3917 i/e		
Interfaces			
Uplink	1x 10/100/1000 Mbps auto-sensing Ethernet port (PoE) 1x 10/100/1000 Mbps auto-sensing Ethernet port (Non-PoE)		
Mour	nting		
Wall and pole mounting (optional)	✓		
Articulating mounting bracket (optional)	✓		
Environ	mental		
Environmental	Operating Temperature: -40° C to +70° C (-40° F to +158° F) Humidity: 0%-95% (noncondensing) Altitude: 8,000ft at 54° F (12° C) Storage Temperature: -40° C to +70° C (-58° F to +158° F) Altitude: 30,000 ft at 82° F (28° C) Transportation Temperature: -40° C to +70° C (-58° F to +158° F) Electrostatic discharge: Condensing electrostatic Wind rating: 165 Mph gusts		
165	Мр		
Compliance	 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 EN 50385 EN 55032 (CISPR 32) EN 60601-1-2 AS/NZS4268 + CISPR32 		
Safety	 IEC 60950-1 EN 60950-1 UL 60950-1 CSA 22.2 No.60950-1-03 AS/NZS 60950.1 		
Dimensions	8.6 in. length x 7.1 in. width x 2.7 in height / 218 mm x 180 mm x 69 mm (AP3917i) 8.6 in. length x 7.8 in. width x 2.7 in. height / 218 mm x 198 mm x 69 mm		
Weight	2.4 lbs/1.1 kg (AP3917i) 2.8 lbs/1.3 kg (AP3917e)		
Power Consumption (RMS — Excludes PSE Load)	AP3917i Typical: TBD Idle (radios ON): TBD AP3917e Typical: TBD Idle (radios ON): TBD		
Warranty	One Year Hardware Warranty		

Ordering Information

Part Number	AP3917i		
	Access Points		
31050	WS-AP3917i-FCC (US, Puerto Rico, Colombia) Dual Radio 802.11ac/abgn, Wave 2, 2x2:2 MIMO outdoor access point with five internal antenna array and an integrated BLE/802.15.4 radio (Requires ExtremeWireless V10.41.02)		
31051	WS-AP3917i-ROW (Verify country availability before ordering) Dual Radio 802.11ac/abgn Wave 2, 2x2:2 MIMO outdoor access point with five internal antenna array and an integrated BLE/802.15.4 radio (Requires ExtremeWireless V10.41.02)		
31055	WS-AP3917e-FCC (US, Puerto Rico, Colombia) Dual Radio 802.11ac/abgn, Wave 2, 2x2:2 MIMO outdoor access point with five external antenna ports and an integrated BLE/802.15.4 radio (Requires ExtremeWireless V10.41.02)		
31056	WS-AP3917e-ROW (Verify country availability before ordering) Dual Radio 802.11ac/abgn Wave 2, 2x2:2 MIMO outdoor access point with five external antenna ports and an integrated BLE/802.15.4 radio (Requires ExtremeWireless V10.41.02)		
	Accessories		
30514	WS-MBO-ART01 Articulating Mtg Brkt Outdoor articulating mounting bracket for AP3917i/e		
30517	WS-EIO-01 AP Enclosure Indoor/Outdoor enclosure for AP3917i under-seat install		
30519	WS-MBO-H01 H-Type Mtg Brkt Outdoor H-Type mounting bracket for AP3917i/e		
30520	WS-MBO-POLE01 Pole Mtg Brkt Outdoor Pole mounting bracket for AP3917i/e		
	Antennas (Required for WS-AP3917e)		
ML-2452-HPAG5A8-01	ML-2452-HPAG5A8-01		
ML-2452-HPAG4A6-01	ML-2452-HPAG4A6-01		
ML-2452-HPA6X6-036	802.11ABG 6-Port Omni Dipole Array		
30724	WS-AO-DQ04360N 4dbi Omni / Outdoor, 2.4-2.5/5.15-5.875GHz, 4dBi, Omni antenna with standard N-type plug connector		
ML-2499-HPA4-01	ANTENNA OUTDOOR 4dBi 2.4GHz		
ML-2452-HPA6-01	5.3dBi/6.1dBi N-type male, dual band		
ML-5299-HPA5-01	ANTENNA, OUTDOOR,5dBi 5GHz		
ML-2499-HPA8-01	ANTENNA OUTDOOR 8dBi 2.4GHz		
ML-2499-FHPA5-01R	ANTENNA, OUTDOOR,5dBi 2.4GHz		
ML-5299-FHPA6-01R	Antenna 5G6dBOmni		
ML-2452-PNA5-01R	Antenna: 2.4/5 GHz, Outdoor, Panel, 5 dBi, Beam Width: E-Plane: 65 degrees, H-Plane: 120 degrees, Connector Type N-Male		
ML-2452-PNA7-01R	Antenna: 2.4/5 GHz, Outdoor, Panel, 7 dBi, Beam Width: E-Plane: 66 degrees, H-Plane: 68 degrees, Connector Type N-Male		
ML-2452-PNL6M4-N36	DUAL POLARIZED DUAL BAND NARROW BEAM DIRECTIONAL ANTENNA WITH 36 INCH CABLE, AND N-MALE CONNECTOR		
ML-2452-SEC6M4-N36	DUAL POLARIZED DUAL BAND WIDE BEAM DIRECTIONAL ANTENNA WITH 36 INCH CABLE AND N-MALE CONNECTOR		
ML-2452-SEC6M4-N30	DUAL BAND SECTOR WITH 30 INCH CABLE AND N CONNECTORS		
ML-2452-PNL9M3-N36	Outdoor, 3-Port,Dual-Band, 2V 1H, 11/10.7 dBi, 75/55 deg, CBL 36, N-Male		
Mid-Span PoE Devices			
AP-PSBIAS-7161-US	Outdoor, Single Port, 1 Gigabit 802.3at PoE Midspan US		
AP-PSBIAS-7161-WW	Outdoor, Single Port, 1 Gigabit 802.3at PoE Midspan ROW		

Data Rates

2.4 MHz Radio (802.11n)

Description	Data Streams	нт	20	HT40		
Description	Data Streams	Normal GI	Short GI	Normal GI	Short GI	
MCS0	1	6.5	7.2	13.5	15	
MCS1	1	13	14.4	27	30	
MCS2	1	19.5	21.7	40.5	45	
MCS3	1	26	28.9	54	60	
MCS4	1	39	43.3	81	90	
MCS5	1	52	57.8	108	120	
MCS6	1	58.5	65	121.5	135	
MCS7	1	65	72.2	135	150	
MCS8	2	13	14.4	27	30	
MCS9	2	26	28.9	54	60	
MCS10	2	39	43.3	81	90	
MCS11	2	52	57.8	108	120	
MCS12	2	78	86.7	162	180	
MCS13	2	104	115.6	216	240	
MCS14	2	117	130	243	270	
MCS15	2	130	144.4	270	300	

5.0 GHz Radio (802.11n/ac)

Description Data Streams		HT20		HT40		нт80	
Description	Data Streams	Normal GI	Short GI	Normal GI	Short GI	Normal GI	Short GI
MCS0	1	6.5	7.2	13.5	15	29.3	32.5
MCS1	1	13	14.4	27	30	58.5	65
MCS2	1	19.5	21.7	40.5	45	87.8	97.5
MCS3	1	26	28.9	54	60	117	130
MCS4	1	39	43.3	81	90	175.5	195
MCS5	1	52	57.8	108	120	234	260
MCS6	1	58.5	65	121.5	135	263.3	292.5
MCS7	1	65	72.2	135	150	292.5	325
MCS8	1	78	86.7	162	180	351	390
MCS9	1	N/A	N/A	180	200	390	433.3
MCS0	2	13	14.4	27	30	58.5	65
MCS1	2	26	28.9	54	60	117	130
MCS2	2	39	43.3	81	90	175.5	195
MCS3	2	52	57.8	108	120	234	260
MCS4	2	78	86.7	162	180	351	390
MCS5	2	104	115.6	216	240	468	520
MCS6	2	117	130	243	270	526.5	585
MCS7	2	130	144.4	270	300	585	650
MCS8	2	156	173.3	324	360	702	780
MCS9	2	N/A	N/A	360	400	780	866.7

Receiver Sensitivity

2.4 GHz Wi-Fi Radio (2.4GHz, 11g)

Typical Sensitivity at Each RF Chain. Frame (1000-BYTE PDUS) Error Rate <10% at Room Temp. 25° C (802.11G: IEEE STD 802.11G/D8.2-APR 2003 Part 11 Paragraph 19.5.1)		
6Mbps	-95	
9Mbps	-95	
12Mbps	-93	
18Mbps	-92	
24Mbps	-89	
36Mbps	-87	
48Mbps	-84	
54Mbps	-79	

2.4 GHz Wi-Fi Radio (2.4GHz, 11g)

Typical Sensitivity at Each RF Chain.
Frame (1000-BYTE PDUS) Error Rate <10% at Room Temp. 25° C (Should Comply to 802.11N: IEEE P802.11N- SEP 2009 Table 20.22)

(Should Comply to 8	(Should Comply to 802.11N: IEEE P802.11N- SEP 2009 Table 20.22)		
Rate	20 MHz (dBm)	40 MHz (dBm)	
(MCSO)			
(MCS1)			
(MCS2)			
(MCS3)			
(MCS4)			
(MCS5)			
(MCS6)			
(MCS7)			
(MCS8)			
(MCS9)			
(MCS10)			
(MCS11)			
(MCS12)			
(MCS13)			
(MCS14)			
(MCS15)			

IoT Radio Sensitivity

Typical Receiver Sensitivity	dBm
Bluetooth Low Energy	
802.15 4	

5.0 GHz Radio (5GHz, 11a)

Typical Sensitivity at Each RF Chain. Frame (1000-BYTE PDUS) Error Rate <10% at Room Temp. 25° C (Should Comply to 802.11N: IEEE STD 802.11A-1999 Part 11 Paragraph 17.3.10.1)		
6Mbps		
9Mbps		
12Mbps		
18Mbps		
24Mbps		
36Mbps		
48Mbps		
54Mbps		

5.0 GHz Radio (5GHz, 11ac)

Typical Sensitivity at Each RF Chain. Frame (1000-BYTE PDUS) Error Rate <10% at Room Temp. 25° C (Should Comply to 802.11ac)

Rate	20 MHz (dBm)	40 MHz (dBm)	80 MHz (dBm)
(MCSO, 1)			
(MCS1, 1)			
(MCS2, 1)			
(MCS3, 1)			
(MCS4, 1)			
(MCS5, 1)			
(MCS6, 1)			
(MCS7, 1)			
(MCS8, 1)			
(MCS9, 1)			
(MCS0, 2)			
(MCS1, 2)			
(MCS2, 2)			
(MCS3, 2)			
(MCS4, 2)			
(MCS5, 2)			
(MCS6, 2)			
(MCS7, 2)			
(MCS8, 2)			
(MCS9, 2)			

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: 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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