![Extreme logo - Connect Beyond the Network]

Benefits

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

- Reuses existing cabling and Power over Ethernet (PoE) infrastructure, reducing costs while improving service

- 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 Management Options

- On premise, with hardware or virtual ExtremeWireless Appliance

- ExtremeCloud™ Cloud-Managed Networking

ExtremeWireless™ 3915i/e Indoor Access Point

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

Product Overview

The AP3915 is a feature rich 802.11ac Wave 2 and 802.11abgn indoor access point that delivers enterprise-grade performance and security without the premium cost. The AP3915i is designed to blend into any office, carpeted enterprise, or classroom environment. The AP3915 offers multiple connectivity options including 2.4G, 5G, and BLE/802.15.4 (e.g. Thread, etc.) for location services and extended connectivity to Internet of Things (IoT) sensors and devices.

The energy efficient AP3915 uses 802.3af Power over Ethernet (PoE) in normal operating mode. The AP3915e model requires professional installation and includes two RP-SMA antenna connectors supporting dual-band (2.4GHz/5GHz) band antennas, as well as a third RP-SMA connector for a 2.4G antenna for BLE/802.15.4 support. Unique to this class of product, the AP3915e is rated to operate in extended temperature ranges for deployments in gyms, pools, etc. that require specialized enclosures. An optional external power supply is available for deployments that do not support PoE.

The AP3915 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 AP3915i is cloud-ready out of the box and supports future secure connectivity to ExtremeCloud™, a single pane of glass for cloud managing both the wired and wireless components of your network. Zero touch provisioning that significantly reduces deployment time. Select models enabled for use with ExtremeCloud.

See the ExtremeCloud Data Sheet for details and ordering part numbers.

Specifications

Product Features	AP3915i/e
General	
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)
Multiple Operating 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	✓
Self-Forming and Self-Healing Meshing	✓

Specifications (cont.)

Product Features	AP3915i/e
Multiple Operating Modes (cont.)	
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 Options	
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 Characteristics	
Cellular coexistence	✓
Max Total Conducted Power (does not include antenna gain*)	
Radio 1 (5GHz)	26 dBm (AP3915i), 23 dBm (AP3915e)
Radio 2 (2.4GHz)	25 dBm (AP3915i), 23 dBm (AP3915e)
IoT	3 dBm
Adaptive Radio 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)	✓
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	✓

Specifications (cont.)

Product Features	AP3915i/e
Quality of Service (cont.)	
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 Servicees	
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: • -94dBm @ 6Mbps • -79dBm @ 54Mbps 802.11g: • -95dBm @ 6Mbps • -79dBm @ 54Mbps 802.11n: See 802.11n Receiver Sensitivity Table below 802.11ac: See 802.11ac Receiver Sensitivity Table below
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
Interfaces	
Uplink	1x 10/100/1000 Mbps auto–sensing Ethernet port
Console Port	RJ45
USB Port	USB 2.0 (AP3915e)
Mounting	
Integrated Wall Mounting	✓
Single/Dual Gang (Junction) Box Installation	✓

Specifications (cont.)

Product Features	AP3915i/e
Environmental	

Environmental	Operating: AP3915i
	  Temperature 0° C to +40° C (32° F to 104° F)
	  Humidity 0%-95% (noncondensing)
	Operating: AP3915e
	  Temperature -20° C to +60° C (-4° F to 140° F)
	  Humidity 0%-95% (noncondensing)
	Storage Temperature -40° C to +70° C (-58° F to +158° F)
	Transportation Temperature -40° C to +70° C (-58° F to +158° F)

Wireless and EMC	
Compliance	• FCC CFR 47 Part 15, Class B • ICES-003 Class B • FCC Subpart C 15.247 • FCC Subpart E 15.407 • RSS-247 • EN 301 893 • EN 300 328 • EN 301 489 1 & 17 • EN50385 • 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
Mechanical	
Dimensions	6.34 in. diameter x 1.74 in. height / 161 mm. x 48.5mm (AP3915i) 6.89 in. length x 5.04 in. width x 1.06 in. height / 200 mm. x 41 mm (AP3915e)
Weight	0.72 lbs/0.33 kg (AP3915i) 1.37 lbs/0.62 kg (AP3915e)
Power Consumption (RMS — Excludes PSE Load)	AP3915i Typical: 11 W Idle (radios ON): 4.8 W AP3915e Typical: 10 W Idle (radios ON): 4.8 W
Warranty	Limited Lifetime

Ordering Information

Part Number	Description
Access Points	
31028	WS-AP3915i-FCC (US, Puerto Rico, Colombia) Dual Radio 802.11ac/abgn, Wave 2, 2x2:2 MIMO indoor access point with five internal antenna array and an integrated BLE/802.15.4 radio (Requires ExtremeWireless V10.41.01)
31029	WS-AP3915i-ROW (Verify country availability before ordering) Dual Radio 802.11ac/abgn Wave 2, 2x2:2 MIMO indoor access point with five internal antenna array and an integrated BLE/802.15.4 radio (Requires ExtremeWireless V10.41.01)
31031	WS-AP3915e-FCC (US, Puerto Rico, Colombia) Dual Radio 802.11ac/abgn, Wave 2, 2x2:2 MIMO indoor access point with three external antenna ports and an integrated BLE/802.15.4 radio (Requires ExtremeWireless V10.41.01)
31032	WS-AP3915e-ROW (Verify country availability before ordering) Dual Radio 802.11ac/abgn Wave 2, 2x2:2 MIMO indoor access point with three external antenna ports and an integrated BLE/802.15.4 radio (Requires ExtremeWireless V10.41.01)
Accessories	
30516	WS-MBI-WALL04 indoor wall mounting bracket
30518	WS-MBI-DCMTR01 indoor tool-less drop ceiling multi-T rail bracket for 9/16", 15/16", and 1 ½" wide T-bars for flush or protruded drop ceilings
37215	Indoor power supply; 12VDC, 2A, 2.5mm x 5.5mm connector
Antennas (Required for WS-AP3915e)	
ML-2452-APA2-01	Dipole, 3 dBi/4.85dBi, dual band, black with RPSMA jack connector (up to 3 per AP)
ML-2452-APA2-01	Dipole, 3 dBi/4.85dBi, dual band, white with RPSMA jack connector (up to 3 per AP)
ML-2452-HPA5-036	Dipole, 3dBi/5 dBi, dual band, outdoor, white with RPSMA jack connector (up to 3 per AP)
ML-2452-HPAG4A6-01	Dipole, 4dBi/7.3dBi, dual band, outdoor, white with standard N jack connector (up to 3 per AP)
ML-2452-HPA6M4-S36	Omni, 6dBi/6dBi, indoor, quad feed dual Band, 36" leads with RPSMA jack connectors (one per AP)
ML-2452-PNL6M3-N36	Polarized Panel 120deg sector, 6dBi/6dBi, dual band, indoor, triple feed, dual band, 36" leads with standard N jack connectors (one per AP)
ML-2452-PNL9M3-036	Polarized Panel 75/55 deg sector, 11dBi/10.7 dBi, dual band, indoor, triple feed, dual band, 36" leads with RPSMA jack connectors (one per AP – cannot be used on BLE port)
ML-2452-PNA5-01R	Panel, 120 deg sector, 5.5/6 dBi, dual band, outdoor, 36" lead with standard N jack connector (up to 3 per AP)
ML-2452-PNA7-01R	Panel, 68 deg sector, 8/12 dBi, dual band, outdoor, 36" lead with standard N jack connector
ML-2452-PTA2M2-036	Patch, 360 deg, 4/5 dBi, dual band, indoor, with dual feed 36" leads and RP SMA jack connectors
ML-2452-PTA4M4-036	Patch, 360 deg, 4/5 dBi, dual band, indoor, with quad feed 36" leads and RP SMA jack connectors
PD-3501G-ENT	Single Port, 1 Gigabit 802.3af PoE Midspan
PD-9001GR-ENT	Single Port, 1 Gigabit 802.3at PoE Midspan
AP-PSBIAS-2P2-AFR	Single Port, 1 Gigabit 802.3af PoE Midspan
AP-PSBIAS-2P3-ATR	Single Port, 1 Gigabit 802.3af PoE Midspan

Data Rates

2.4 MHz Radio (802.11n)

Description	Data Streams	HT20		HT40	
		Normal GI	Short GI	Normal GI	Short GI
MSC0	1	6.5	7.2	13.5	15
MSC1	1	13	14.4	27	30
MSC2	1	19.5	21.7	40.5	45
MSC3	1	26	28.9	54	60
MSC4	1	39	43.3	81	90
MSC5	1	52	57.8	108	120
MSC6	1	58.5	65	121.5	135
MSC7	1	65	72.2	135	150
MSC8	2	13	14.4	27	30
MSC9	2	26	28.9	54	60
MSC10	2	39	43.3	81	90
MSC11	2	52	57.8	108	120
MSC12	2	78	86.7	162	180
MSC13	2	104	115.6	216	240
MSC14	2	117	130	243	270
MSC15	2	130	144.4	270	300

5.0 GHz Radio (802.11n/ac)

Description	Data Streams	HT20		HT40		HT80	
		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

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	-94
9Mbps	-93
12Mbps	-92
18Mbps	-92
24Mbps	-89
36Mbps	-86
48Mbps	-83
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)		
Rate	20 MHz (dBm)	40 MHz (dBm)
(MCS0)	-95	-93
(MCS1)	-93	-91
(MCS2)	-92	-90
(MCS3)	-89	-87
(MCS4)	-86	-84
(MCS5)	-83	-81
(MCS6)	-78	-76
(MCS7)	-76	-74
(MCS8)	-92	-90
(MCS9)	-90	-88
(MCS10)	-89	-87
(MCS11)	-86	-84
(MCS12)	-83	-81
(MCS13)	-80	-78
(MCS14)	-75	-73
(MCS15)	-73	-71

IoT Radio Sensitivity

Typical Receiver Sensitivity	dBm
Bluetooth Low Energy	-90
802.15 4	-100

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)
(MCS0, 1)	-94	-92	-89
(MCS1, 1)	-93	-90	-87
(MCS2, 1)	-91	-88	-85
(MCS3, 1)	-89	-86	-83
(MCS4, 1)	-85	-82	-79
(MCS5, 1)	-82	-79	-76
(MCS6, 1)	-80	-77	-74
(MCS7, 1)	-77	-75	-73
(MCS8, 1)	-73	-71	-68
(MCS9, 1)	N/A	-69	-65
(MCS0, 2)	-91	-89	-86
(MCS1, 2)	-90	-87	-84
(MCS2, 2)	-88	-85	-82
(MCS3, 2)	-86	-83	-80
(MCS4, 2)	-82	-79	-76
(MCS5, 2)	-79	-76	-73
(MCS6, 2)	-77	-74	-71
(MCS7, 2)	-74	-73	-70
(MCS8, 2)	-71	-69	-66
(MCS9, 2)	N/A	-66	-63

Antenna Radiation Patterns
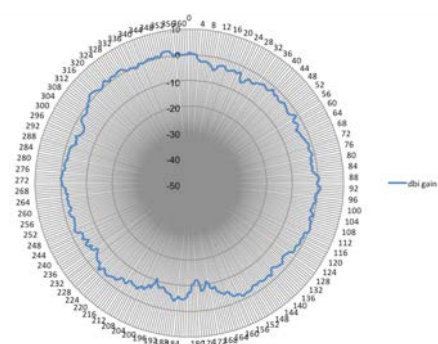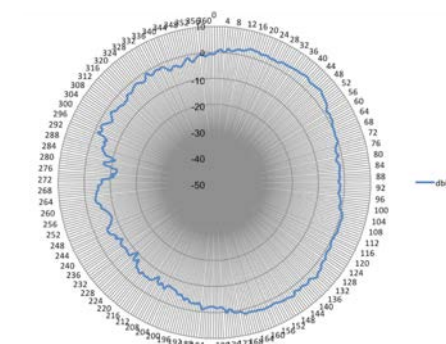
3915i - 2.4GHz
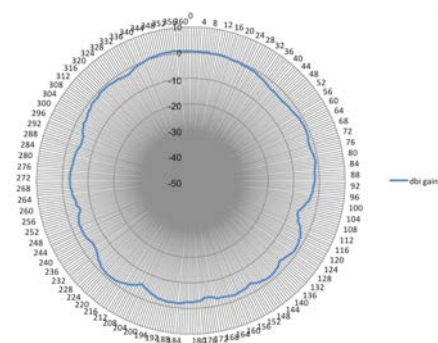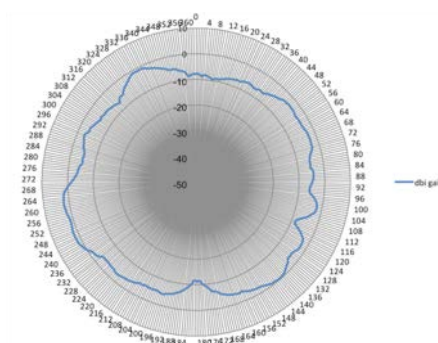
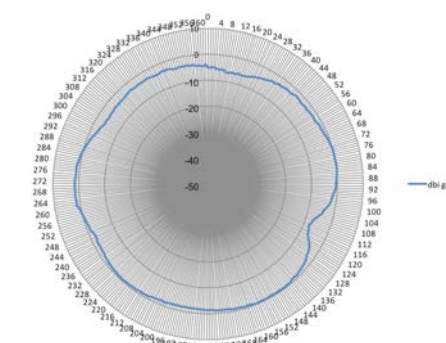Horizontal
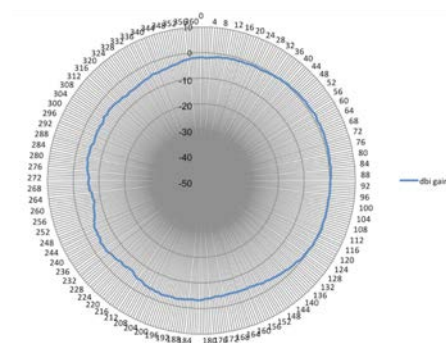
Vertical

3915i - 5.0GHz

Horizontal

Vertical

3915i - IoT

Horizontal

Vertical

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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