

### **Expanded Capabilities**

#### 802.11 Wireless Sensor for Gap-free Security

Trust the AP 8432 to deliver best-inclass PCI compliance and security with AirDefense\*. Unlike other sensors that scan only part-time, this dedicated, dual-band 802.11ac sensor scans for rogue devices full time, eliminating the risk of being blindsided by them. Once a threat is detected, it is checked with an extensive security and network vulnerability signature database to proactively safeguard your network.

#### Two-in-One Bluetooth® Sensor

For Security and Location Services: Monitor BT2.0 devices in the environment using the AP 8432 and ADSP Security Appliance. Map BT2.0 devices, and analyze for potential security threats.

#### Communicate with Every Customer

Due to its ubiquitous nature, Bluetooth is an excellent means to engage customers. The AP 8432 supports Apple iBeacon<sup>™</sup> to communicate with a loyalty app on a customer's smartphone. Using Google Eddystone<sup>™</sup>, enterprises can send advertisements directly to shoppers, guests, and conference attendees, even without a loyalty app pre-installed. This makes it ideal for businesses to advertise their app-download pages, captive portals, or site-specific information.

#### **RF Spectrum Sensor**

Maximize performance and visibility without compromise. Using the dedicated full-time RF spectrum sensor, you can monitor and identify RF interference without slowing down throughput on the data radios.



BUILT ON BROADCOM

# ExtremeWireless<sup>™</sup> WiNG 8432 Wave 2 Access Point

Do More Today. Add the Internet of Things Tomorrow with a True 802.11ac Access Point

### **Product Overview**

Imagine what your business could do with a wireless network up to eight times wider and faster. Now picture having a WLAN that pushes contextual offers to customers, provides strategic-shaping analytics, and automatically wards off interference and security risks. As if that isn't enough, the unmatched benefits of the ExtremeWireless WiNG AP 8432 don't stop there. With built-in PoE Out (Power over Ethernet), it connects with any third-party Internet of Things network. Connect IP video cameras to count customers and reduce shrinkages; add wireless temperature sensors and more. All this can be achieved without the cost and complexity of competitor alternatives, which require multiple access points, cables, and Ethernet switch ports.

#### **High-Density Network**

Our true 802.11ac Wave 2 access point, along with the high-density optimization in ExtremeWireless WiNG 5, maximizes the value of MU-MIMO. The AP 8432 supports hundreds of wireless clients and concurrent transmissions critical for any enterprise.

#### **Easy IoT Adoption**

The ExtremeWireless WiNG AP 8432 seamlessly integrates IoT devices via the secondary Gigabit Ethernet port, providing full 802.3af power and IP connectivity. For advanced management of your IoT network, the AP 8432 can treat each port as a Layer 2 or Layer 3 interface, offering router services, IP firewalls, and multiple packet forwarding modes.

#### **Unmatched Performance**

Using the Integrated Deep Packet Inspection (DPI) engine, along with the ExtremeWireless Platform\*, the AP 8432 tirelessly optimizes the network.

From RF errors to key performance indicators, the AP 8432 collects data to measure, monitor, and secure application performance. Thanks to its intelligent distributed architecture—ExtremeWireless WiNG 5—it can proactively adjust to deliver the fastest, most reliable experience.

#### **Unrivaled Scalability From 1 to Cloud**

With a modern, WiNG 5 distributed operating system, the AP 8432 offers four deployment modes to meet any requirement: stand-alone AP, virtual controller mode for creating networks of up to 64 access points, NOC controllers scaling to 25,000 access points.

### Expanded Capabilities with Extreme's Triple Sensor Technology

Access more possibilities with the AP 8432. The AP 8432 has integrated three powerful sensors that optimize security, customer engagement, and network performance.

#### **Expert Support**

Reduce risk and lower your capital investment and operational costs with our support services. From planning to implementation to post-deployment, our experts will ensure every phase of your WLAN lifecycle is working at its peak, so you can too.

# **Specifications**

Product Features						
802.11ac Capabilities						
<ul> <li>Tri-radios (Dual Wi-Fi* radios plus Bluetooth*)</li> <li>Band-unlocked radio for Data or Dual-band 802.11 WIDS/WIPS and Location Service</li> <li>4x4 MU-MIMO with 4 Spatial Streams</li> <li>Auto-Selecting MU-MIMO</li> <li>20, 40, and 80 MHz ChannelsPacket Aggregation (AMSDU, AMPDU) and RIFS</li> <li>Legacy support 802.11a.b.g.n networks</li> </ul>	<ul> <li>MIMO Power Save (Static and Dynamic)</li> <li>Advanced forward error correction coding: STBC, LDPC</li> <li>802.11ac transmit beamforming</li> <li>Maximal Ratio Combining (MRC)</li> <li>NitroQAM provides up to 800 Mbps on 2.4GHz radio and up to 2166 Mbps on 5GHz radio</li> <li>Support for up to 500 associated client devices per access point and up to 16 BSSIDs per radio</li> </ul>					
Physical Characteristics						
Dimensions	8.25" x 8.25" x 1.8" 210mm x 210mm x 46mm					
Weight	3.0lbs, 1.27kg					
Housing	Plenum-Rated Housing (UL2043)					
Mounting	Included mounting bracket for flush mount or T-bar mount					
LEDs	System status: Green, Amber, Blue, White					
LAN Ethernet	2x IEEE 802.3 Gigabit Ethernet auto-sensing					
Antenna Connectors	Nine internal single band antennas Eight for WLAN Data radios and one for Bluetooth					
Console	RJ45 serial port					
PoE Out	Supports 802.3af Powered Devices (PD) up to 15.4w					
USB	A single 5W multi-purpose USB port					
User Environment						
Operating Temperature	32° F to 140° F/0° C to 60° C					
Storage Temperature	40° F to 158° F/-40° C to 70° C					
Operating Humidity	95% RH non-condensing					
Electrostatic Discharge	ESD to ±12KV air and ±8KV contact					
Antenna Gain Information						
Internal Antenna	Radio 1: 2.4GHz: 3x3 with 3SS Radio 2: 5GHz: 4x4 with 4SS Radio 3: Bluetooth radio with integrated antenna					

up to 600 Mbps 802.11ac: MCS 0-9 up to 1.733 GbpsOperating Channels2.4 GHz band: channel 1-13 5.2 GHz band: channel 36-165 2412 to 2472 MHz, 5180 to 5850 MHz Channel availability depends on local regulatory restrictionsAntenna ConfigurationRadio 1: 2.4 GHz: 3x3 with 3SS Radio 2: 5GHz: 4x4 with 4SS Radio 3: Dual Band Sensor: 1x3 with 3SSConducted Radio PowerUp to 20dBm depending on local regulatory restrictions, in 1dB incrementsOperating Frequencies2412 to 2472 MHz, 5180 to 5850 MHzOperating Frequencies2412 to 2472 MHz, 5180 to 5850 MHzLayer 2 and Layer 3Layer 3 routing, 802.1q, DynDNS, DHCP server/client, BOOTP client, PPPoE, and LLDPSecurityStateful Firewall, IP filtering, NAT, 802.1x, 802.11i, WPA2, WPA Triple- Methodology Rogue Detection: 24x7 dual-band WIPS sensing, on-board	Product Features						
Operating Power     Max Power Consumption without PoE Out: 18.2W Typical Power Consumption without PoE Out: 10.3W       Accessories       Power     PWR-BGA8V45W0WW PD-9001GR-ENT       Mounting     KT-135628-01 BRKT-00147A-01       Radio Specifications       Wireless Medium     DSSs, OFDM, MIMO, MU-MIMO       IEEE 802.11a/b/g/n/ac, 802.11d, and 802.111 WPA2, WMM, WMM-UAPSD, L2TPV3, Client 802.11b/g/-fac, 802.11d, and 802.111 WPA2, WMM, WMM-UAPSD, L2TPV3, Up to 600 Mbps 802.11a; 6-54 Mbps 802.11a; 6-54 Mbps 802.11a; MCS 0-3 up to 600 Mbps 802.11a; MCS 0-9 up to 1.733 Gbps       Operating Channels     2.4 GHz band; channel 1-13 5-2 GHz band; channel 36-165 S-2 GHz band; channel 36-165 S-2 GHz band; Channel 36-165 Radio 1: 2 GHz; 3x3 with 3SS       Operating Channels     Radio 2: SGHz; 4x4 with 4SS Radio 3: Dual Band Sensor: 1x3 with 3SS       Conducted Radio Power     Up to 20dBm depending on local regulatory restrictions, in 1dB increments       Operating Frequencies     2412 to 2472 MHz, 5180 to 5850 MHz       Operating Frequencies     2412 to 2472 MHz, 5180 to 5850 MHz       Operating Frequencies     Layer 3 routing, 802.1q, DynDNS, DHCP server/client, BOOTP client, PPDC6, and LLDP       Stateful Fierwall, IP filtering, NAT, 802.1ti, WPA2, WPA Triple- Methodology	DC Power Specifications						
Power     PWR-BGA48V45W0WW PD-9001GR-ENT       Mounting     KT-135628-01 BRKT-000147A-01       Radio Spectifications       Wireless Medium       DSSS, OFDM, MIMO, MU-MIMO       Network Standards     DSSS, OFDM, MIMO, MU-MIMO       L2TPV3, Client 802.11b/g/n/ac, 802.11a, 6-54 Mbps 802.11a: KCS 0-3 up to 600 Mbps 802.11a; MCS 0-9 up to 1.733 Gbps       Operating Channels     2.4 GHz band; channel 36-165 2412 to 2472 MHz, 5180 to 5850 MHz       Channel availability depends on local regulatory restrictions       Radio 1: 2.4GHz: 3x3 with 3SS Radio 2: 5GHz: 4x4 with 4SS Radio 3: Dual Band Sensor: 1x3 with 3SS Radio 3: Dual Band Sensor: 1x3 with 3SS       Conducted Radio Power     Up to 20dBm depending on local regulatory restrictions, in 1tdB increments       Operating Frequencies     2412 to 2472 MHz, 5180 to 5850 MHz       Conducted Radio Power     Up to 20dBm depending on local regulatory restrictions, in 1tdB increments       Operating Frequencies     2412 to 2472 MHz, 5180 to 5850 MHz       Layer 3 routing, 802.1q, DynDNS, DHCP server/client, BOOTP client, PPPC, and LLDP       Stateful Firewall, IP filtering, NAT, 802.1x, 802.11, WPA2, WPA Triple- Methoology Rogue Detection: 24x7 dual-band WIPS sensing, on-board	Operating Power	Max Power Consumption without PoE Out: 18.2W					
PowerPD-9001GR-ENTMountingKT-135628-01 BRKT-000147A-01Radio SpectricationsDSS, OFDM, MIMO, MU-MIMOWireless MediumDSSS, OFDM, MIMO, MU-MIMONetwork StandardsIEEE 802.11a/b/g/n/ac, 802.11a, e.54 Mbps 802.11a: 6-54 Mbps 802.11a: MCS 0-3 up to 600 Mbps 802.11ac; MCS 0-9 up to 1.733 GbpsOperating Channels2.4 GHz band: channel 1-13 5.2 GHz band: channel 36-165 2412 to 2472 MHz, 5180 to 5850 MHz Channel 36-165 Radio 1: 2.4GHz: 3x3 with 3SS Radio 2: 5GHz: 4x4 with 4SS Radio 3: Dual Band Sensor: Ix3 with 3SS Radio 3: Dual Band Sensor: Ix3 with 3SS Radio 3: Dual Band Sensor: Ix3 with 3SS Radio 2: 4212 to 2472 MHz, 5180 to 5850 MHzOperating FrequenciesUp to 200dBm depending on local regulatory restrictions, in 1dB incrementsOperating Frequencies2412 to 2472 MHz, 5180 to 5850 MHzDeprecieve/client, BOOTP client, PPPOE, and LLDPProve, and LLDPEaver 3 Stateful Firewall, IP filtering, NAT, 802.1x, 802.11i, WPA2, WPA Triple- Methodology Rogue Detection: 24.7 dual-band WIPS sensing, on-board	Accessories						
Mounting       BRKT-000147A-01         Radio Specifications         Wireless Medium       DSSS, OFDM, MIMO, MU-MIMO         Network Standards       IEEE 802.11a/b/g/.n/ac, 802.11d, and 802.11i WPA2, WMM, WMM-UAPSD, L2TPV3, Client 802.11b/g: 1-54 Mbps 802.11a: 6-54 Mbps 802.11a: MCS 0-3 up to 600 Mbps 802.11a: MCS 0-3 up to 600 Mbps 802.11a: MCS 0-9 up to 1.733 Gbps         Operating Channels       2.4 GHz band: channel 36-165 2412 to 2472 MHz, 5180 to 5850 MHz         Channel accordinguration       Radio 1: 2.4GHz: 3x3 with 3SS Radio 3: Dual Band Sensor: 1x3 with 3SS         Radio 2: 5GHz: 4x4 with 4x5       Radio 3: Dual Band Sensor: 1x3 with 3SS         Operating Frequencies       2412 to 2472 MHz, 5180 to 5850 MHz         Operating Frequencies       Up to 20dBm depending on local regulatory restrictions, in 1dB increments         Operating Frequencies       2412 to 2472 MHz, 5180 to 5850 MHz         Layer 2 and Layer 3       Layer 3 routing, 802.1q, DynDNS, DHCP server/client, BOOTP client, PPPoE, and LLDP         Stateful Firewall, IP filtering, NAT, 802.1x, 802.11i, WPA2, WPA Triple-Methodology Rogue Detection: 24x7 dual-band WIPS sensing, on-board	Power						
Wireless Medium     DSSS, OFDM, MIMO, MU-MIMO       Network Standards     IEEE 802.11a/b/g/n/ac, 802.11d, and 802.11i WPA2, WMM, WMM-UAPSD, L2TPv3, Client 802.11b/g: 1-54 Mbps 802.11a: 6-54 Mbps 802.11a: MCS 0-3 up to 600 Mbps 802.11ac: MCS 0-9 up to 1.733 Gbps       Operating Channels     2.4 GHz band: channel 1-13 5.2 GHz band: channel 36-165 2412 to 2472 MHz, 5180 to 5850 MHz Channel availability depends on local regulatory restrictions       Antenna Configuration     Radio 1: 2.4GHz: 3x3 with 3SS Radio 2: 5GHz: 4x4 with 4SS Radio 3: Dual Band Sensor: 1x3 with 3SS       Conducted Radio Power     Up to 20dBm depending on local regulatory restrictions, in 1dB increments       Operating Frequencies     2412 to 2472 MHz, 5180 to 5850 MHz       Layer 2 and Layer 3     Networking       Layer 3 routing, 802.1q, DynDNS, DHCP server/client, BOOTP client, PPPOE, and LLDP       Stateful Firewall, IP filtering, NAT, 8021x, 802.11i, WPA2, WPA Triple- Methodology Rogue Detection: 24x7 dual-band WIPS sensing, on-board	Mounting						
Network StandardsIEEE 802.11a/b/g/n/ac, 802.11d, and 802.11i WPA2, WMM, WMM-UAPSD, L2TPv3, Client 802.11b/g: 1-54 Mbps 802.11a: 6-54 Mbps 802.11n: MCS 0-3 up to 600 Mbps 802.11a:: MCS 0-9 up to 1.733 GbpsOperating Channels2.4 GHz band: channel 1-13 5.2 GHz band: channel 36-165 2412 to 2472 MHz, 5180 to 5850 MHz Channel availability depends on local regulatory restrictionsAntenna ConfigurationRadio 1: 2.4GHz: 3x3 with 3SS Radio 2: 5GHz: 4x4 with 4SS Radio 3: Dual Band Sensor: 1x3 with 3SSConducted Radio PowerUp to 20dBm depending on local regulatory restrictions, in 1dB incrementsOperating Frequencies2412 to 2472 MHz, 5180 to 5850 MHzNetworkingLayer 2 and Layer 3Stateful Firewall, IP filtering, NAT, 802.1a, 802.1i, WPA2, WPA Triple- Methodology Rogue Detection: 24x7 dual-band WIPS sensing, on-board	Radio Sp	ecifications					
Network StandardsL2TPv3, Client 802.11b/g: 1-54 Mbps 802.11a: 6-54 Mbps 802.11a: MCS 0-3 up to 600 Mbps 802.11a: MCS 0-9 up to 1.733 GbpsOperating Channels2.4 GHz band: channel 1-13 5.2 GHz band: channel 36-165 2412 to 2472 MHz, 5180 to 5850 MHz Channel availability depends on local regulatory restrictionsAntenna ConfigurationRadio 1: 2.4GHz: 3x3 with 3SS Radio 2: 5GHz: 4x4 with 4SS Radio 3: Dual Band Sensor: 1x3 with 3SSConducted Radio PowerUp to 20dBm depending on local regulatory restrictions, in 1dB incrementsOperating Frequencies2412 to 2472 MHz, 5180 to 5850 MHzLayer 2 and Layer 3Layer 3 routing, 802.1q, DynDNS, DHCP server/client, BOOTP client, PPPoE, and LLDPStateful Firewall, IP filtering, NAT, 802.1x, 802.11i, WPA2, WPA Triple- Methodology Rogue Detection: 24x7 dual-band WIPS sensing, on-board	Wireless Medium	DSSS, OFDM, MIMO, MU-MIMO					
Operating Channels5.2 GHz band: channel 36-165 2412 to 2472 MHz, 5180 to 5850 MHz Channel availability depends on local regulatory restrictionsAntenna ConfigurationRadio 1: 2.4GHz: 3x3 with 3SS Radio 2: 5GHz: 4x4 with 4SS Radio 3: Dual Band Sensor: 1x3 with 3SSConducted Radio PowerUp to 20dBm depending on local regulatory restrictions, in 1dB incrementsOperating Frequencies2412 to 2472 MHz, 5180 to 5850 MHzMethodology Rogue Detection: 24x7 and Layer 3Layer 3 routing, 802.1q, DynDNS, DHCP server/client, BOOTP client, PPPoE, and LLDPSecurityStateful Firewall, IP filtering, NAT, 802.1x, 802.11i, WPA2, WPA Triple- Methodology Rogue Detection: 24x7 dual-band WIPS sensing, on-board	Network Standards	L2TPv3, Client 802.11b/g: 1-54 Mbps 802.11a: 6-54 Mbps 802.11n: MCS 0-31					
Antenna ConfigurationRadio 2: 5GHz: 4x4 with 4SS Radio 3: Dual Band Sensor: 1x3 with 3SSConducted Radio PowerUp to 20dBm depending on local regulatory restrictions, in 1dB incrementsOperating Frequencies2412 to 2472 MHz, 5180 to 5850 MHzNetworkingLayer 2 and Layer 3Layer 3 routing, 802.1q, DynDNS, DHCP server/client, BOOTP client, PPPoE, and LLDPSecurityStateful Firewall, IP filtering, NAT, 802.1x, 802.11i, WPA2, WPA Triple- Methodology Rogue Detection: 24x7 dual-band WIPS sensing, on-board	Operating Channels	5.2 GHz band: channel 36-165 2412 to 2472 MHz, 5180 to 5850 MHz					
Conducted Radio Power     in 1dB increments       Operating Frequencies     2412 to 2472 MHz, 5180 to 5850 MHz       Networking       Layer 2 and Layer 3     Layer 3 routing, 802.1q, DynDNS, DHCP server/client, BOOTP client, PPPoE, and LLDP       Security     Stateful Firewall, IP filtering, NAT, 802.1x, 802.11i, WPA2, WPA Triple-Methodology Rogue Detection: 24x7 dual-band WIPS sensing, on-board	Antenna Configuration	Radio 2: 5GHz: 4x4 with 4SS					
Networking           Layer 2 and Layer 3         Layer 3 routing, 802.1q, DynDNS, DHCP server/client, BOOTP client, PPPoE, and LLDP           Security         Stateful Firewall, IP filtering, NAT, 802.1x, 802.11i, WPA2, WPA Triple-Methodology Rogue Detection: 24x7 dual-band WIPS sensing, on-board	Conducted Radio Power						
Layer 2 and Layer 3       Layer 3 routing, 802.1q, DynDNS, DHCP server/client, BOOTP client, PPPoE, and LLDP         Security       Stateful Firewall, IP filtering, NAT, 802.1x, 802.11i, WPA2, WPA Triple-Methodology Rogue Detection: 24x7 dual-band WIPS sensing, on-board	Operating Frequencies	2412 to 2472 MHz, 5180 to 5850 MHz					
Layer 2 and Layer 3     PPPoE, and LLDP       Stateful Firewall, IP filtering, NAT, 802.1x, 802.11i, WPA2, WPA Triple-       Security       Methodology Rogue Detection: 24x7 dual-band WIPS sensing, on-board	Netv	vorking					
Security Methodology Rogue Detection: 24x7 dual-band WIPS sensing, on-board	Layer 2 and Layer 3						
IDS, captive portal, IPSec, and RADIUS Server	Security						
QoS WMM, WMM-UAPSD, 802.1p, Diffserv, and TOS. Role-based QoS with rule-based packet marking	QoS						
Maximum Radiated Transmit Power (RMS)*							
Radio 1:           - 2.4GHz band: 30.2 dBm (1040 mW)           Internal Antenna         - 5.2GHz band: 25.9 dBm (389 mW)           Radio 2: 5.2GHz band: 32.6dBm (1808 mW)           Radio 3: 13.7 dBm (23.4mW)	Internal Antenna	- 2.4GHz band: 30.2 dBm (1040 mW) - 5.2GHz band: 25.9 dBm (389 mW) Radio 2: 5.2GHz band: 32.6dBm (1808 mW)					
Regulatory							
Approvals and Certifications       UL / cUL 60950-1, IEC / EN60950-1, UL2043, RoHS. FCC (USA), EU, TELEC, Medical EMC standard: EN/IEC 60601-1-2	Approvals and Certifications						
Certificates							
Wi-Fi Alliance® (WFA) certified 802.11 a/b/g/n/ac, Passpoint 2.0							
Product SKU and Description							
AP-8432-680B30-US Tri-Radio 802.11ac Wave 2 with internal antennas. 4x4:4 MU-MIMO, US	AP-8432-680B30-US	Tri-Radio 802.11ac Wave 2 with internal antennas. 4x4:4 MU-MIMO, US					
AP-8432-680B30-1-WR Tri-Radio 802.11ac Wave 2 with internal antennas. 4x4:4 MU-MIMO, WR and EMEA	AP-8432-680B30-1-WR						

Note: \*Maximum ERIP may vary based upon deployed country.

## **Rx Sensitivity Table**

					AP-8432-68SB30				
Mode	Rate/MCS	Spatial Stream	BW	Max TX Power (DBM)	AVG SENS ANT				
	2G Radio								
DSSS	1	-	20	20	-99				
DSSS	11	-	20	20	-				
OFDM	54	-	20	17	-81				
802.11n	MCSO	3SS	20	20	-93				
802.11n	MCSO	3SS	40	20	-90				
802.11n	MCS23	3SS	20	13	-76				
802.11n	MCS23	3SS	40	13	-73				
5G Radio									
OFDM	1	-	20	20	-96				
OFDM	54	-	20	17	-83				
802.11ac	MCS9	3SS	20	13	-67				
802.11ac	MCS9	3SS	40	13	-64				
802.11ac	MCS9	3SS	80	13	-61				
Sensor Radio - 2G Mode									
DSSS	1	-	20	20	-99				
OFDM	54	-	20	17	-81				
802.11n	MCSO	3SS	20	20	-93				
802.11n	MCSO	3SS	40	20	-90				
802.11n	MCS23	3SS	20	13	-76				
802.11n	MCS23	3SS	40	13	-73				
Sensor Radio - 5G Mode									
OFDM	6	-	20	20	-96				
OFDM	54	-	20	20	-80				
802.11ac	MCS9	3SS	20	13	-67				
802.11ac	MCS9	3SS	40	13	-63				
802.11ac	MCS9	3SS	80	13	-61				



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