



# AP 8232 802.11ac ACCESS POINT

## THE POWER OF 5<sup>TH</sup> GENERATION WI-FI

**A NEW LEVEL OF BANDWIDTH, PERFORMANCE AND FLEXIBILITY** Every day, more of your workers are using more mobile devices to stay connected to the people and information they need to get the job done fast — and right. At the same time, mobile applications are becoming bandwidth-heavy: video calls are replacing voice calls and today's data applications are often rich with multimedia. As a result, there are more devices and more traffic constantly pressuring the performance of your wireless LAN.

Now, with the AP 8232 access point, you can easily accommodate the growing number of mobile devices as well as increasing mobile application complexity, with a performance boost capable of delivering data at desktop speeds. The AP 8232's next generation 1.3Gbps 802.11ac radio empowers your network with fifth generation Wi-Fi — up to four times the speed of 802.11n — while its 802.11n radio ensures backward compatibility with every mobile device in use in your operation today. Add a modular design that supports a wide range of additional capabilities through plug and play modules — from 3G/4G/LTE redundant backhaul to intrusion protection — and you have a multi-function access point that supercharges your WLAN with a new level of capacity, a new level of performance and a new level of flexibility.

### UNMATCHED BANDWIDTH FOR UNMATCHED NETWORK AND APPLICATION PERFORMANCE

802.11ac technology builds on advances of 802.11n, offering up to four times the bandwidth through additional technology advancements. Multiple-Input Multiple-Output (MIMO) enables data to be sent in multiple streams (known as "spatial streams") to a single device simultaneously to better utilize bandwidth. While MIMO exists in both 802.11n and 802.11ac, the bandwidth per spatial stream is nearly tripled, increasing from 150Mbps in 802.11n to 433Mbps. In addition, interference from 2.4 GHz devices is finally eliminated. Since 802.11ac operates only in the 5 GHz band, Bluetooth® headsets, microwave ovens and more will no longer impact Wi-Fi network performance.

The result? Your WLAN can support an unprecedented number of users and applications — including voice and video — allowing you to confidently deploy Bring Your Own Device (BYOD) initiatives as well as empower new workgroups with mobile devices and new mobile applications. As you add users and increase the volume of data travelling over your WLAN, you get the peace of mind that comes from knowing your network is ready and waiting.

### GAP-FREE SECURITY

The AP 8232 secures all your wireless transmissions, ensuring compliance with the government or industry regulations your business may be subjected to, such as HIPAA in healthcare and PCI in retail. Your network is protected every second of every day with comprehensive integrated security features that include layer 2-7 stateful packet filtering firewall, AAA RADIUS services, wireless intrusion protection system (IPS), VPN gateway and location-based access control. The AP 8232 also brings a new level of simplicity and cost-efficiency to dedicated wireless IPS sensor networks for rogue detection. Just snap on a module to allow the AP 8232 to also function as a dedicated wireless IPS sensor. There is no need to purchase and deploy standalone hardware, and no need to run additional power or Ethernet cabling.

### EASY MIGRATION TO 5TH GENERATION 802.11ac WI-FI

### INNOVATIVE FEATURES OF THE AP 8232

#### Dual radio 802.11ac/ 802.11n

Provides an easy upgrade path to 5<sup>th</sup> generation 1.3Gbps Wi-Fi for unmatched performance and capacity, with continuing support for all existing Wi-Fi client devices (2.4 GHz/5 GHz)

#### 3-spatial stream 3X3 MIMO access point

Delivers maximum throughput to support virtually any enterprise application, including voice and HD video

#### Standard 802.3af/at

Simplifies and reduces total cost of installation using standard Power-over-Ethernet (PoE)

#### Standard USB Interface for module attachments

Provides virtually limitless possibilities for applications through an innovative design that accepts up to two module attachments, one on either side of the base

#### Load balancing, pre-emptive roaming and rate scaling

Increases reliability and resilience of the wireless network to support mission critical applications

#### Gap-free security

Protects your network 24x7x365 with integrated security features; snap on a module for dedicated wireless IPS sensing — no

The dual radio AP 8232 provides the simplest path to next generation Wi-Fi. The 802.11ac radio provides all the technology advantages of 802.11ac and readies you to take advantage of new mobile devices, while the 802.11n radio ensures support for all existing mobile devices — including 2.4 GHz clients. The radios work together to allow you to migrate to 802.11ac at your own pace — and without the high cost of “rip and replace”.

### VOICE, LOCATIONING AND GUEST ACCESS

The AP 8232 supports Voice over wireless LAN (VoWLAN) quality of service (QoS), ensuring toll-quality even with many simultaneous calls on a single access point. In addition, you can leverage locationing services to locate and track people and assets, as well as control network and application access. You can also ensure that users are only able to access authorized networks, sites and applications, making it easy to provide hotspot and guest access.

### UNMATCHED FLEXIBILITY

The innovative modular architecture of the AP 8232 allows you to add new capabilities by simply snapping on up to two modules to the base. For example, add 3G/4G/LTE backhaul to ensure network uptime in the event of a wired network outage. Enable an AP 8232 to also function as a dedicated wireless intrusion protection sensor for superior security. A light sensor can detect when the lights are off and workers have gone home, automatically powering the access point down into low power mode. This sensor not only helps you improve your company’s “green” score, it also helps you save money by reducing access point power consumption by as much as 50 percent when your business is closed. And in the future, new modules will be available to connect with your other sensor networks, such as RFID and temperature, as well as IP cameras to increase facility security. The result is a new level of cost-efficiency for your technology infrastructure. You no longer need to run separate network and power cabling to add new functionalities to improve your operations — you can simply leverage the wireless infrastructure you already own.

### THE ZEBRA ADVANTAGE: A TURBOBOOST FOR PERFORMANCE AND SUPERIOR SCALABILITY

Since the AP 8232 802.11ac Access Point is part of our WiNG 5 family of WLAN infrastructure, it is “network aware”, able to work in concert with all other Zebra WiNG 5 controllers and access points to define the route that will enable the fastest and most robust path for every transmission. And since the AP 8232 can be adopted by our controllers for easy centralized management, your network is easy to scale. No matter how many access points and controllers you need, or where in the world they are located, you can deploy, monitor, troubleshoot and manage them all from a single location.

### SUPPORT SERVICES BRING OUR EXPERTISE RIGHT TO YOUR DOOR

A respected leader in enterprise mobility, Zebra provides services that allow you to benefit from the experience we’ve gained from working around the globe with many of the world’s leading companies in practically every vertical market. Our family of services can help you get and keep your WLAN up and running at peak performance by providing the assistance you need at every phase of network lifecycle — from planning and implementation to post-deployment everyday support. Not only can we help you tailor your network to meet your specific needs, we can also help you reduce risk, lower your capital investment and reduce operational costs.

The AP 8232 — the 5<sup>th</sup> generation Wi-Fi access point that supports more users, more functionality and lightning fast data, all at a lower cost

For more information, please visit [www.zebra.com/8232](http://www.zebra.com/8232) or access our global contacts directory at [www.zebra.com/contact](http://www.zebra.com/contact)

standalone hardware, power cabling or Ethernet cabling required

### EXPANSION MODULES FOR SUPERIOR FLEXIBILITY

#### Wireless Intrusion Protection module

Snap on a sensor module for dedicated wireless intrusion protection.

#### Environmental light sensor module

Snap-on sensor detects light in the installed environment. Information can be used to automatically power down the access point when the office is closed to reduce power consumption and cost

#### 4G backhaul module

LTE backhaul module provides primary or redundant failover WAN connectivity over the 4G LTE broadband network for superior network resiliency. (Sierra Wireless 313U Support)



### LESS IS MORE

Zebra’s WiNG 5 WLAN solutions offer all the benefits of 802.11ac — and then some. Our distributed architecture extends QoS, security and mobility services to the APs so you get better direct routing and network resilience. That means no bottleneck at the wireless controller, no latency issues for voice applications and no jitter in your streaming video. And with our broad selection of access points and flexible network configurations, you get the network you need with less hardware to buy. Let us show you the less complicated, less expensive way to more capacity and more agility. And more satisfied users.

## TECHNICAL SPECIFICATIONS

### 802.11AC CAPABILITIES

- 3X3 MIMO with 3 Spatial Streams
- 20, 40 and 80 MHz Channels
- 1.3 Gbps data rates on the 802.11ac radio
- Packet Aggregation (AMSDU, AMPDU)
- Reduced Interface Spacing
- 802.11 DFS
- MIMO Power Save (Static and Dynamic)

### EXPANSION MODULES

Intrusion detection	MOD-8132-6001S-WW
Light sensor	MOD-8XXX-0001E-WW
4G LTE backhaul	Sierra Wireless 313U

### NETWORKING SPECIFICATIONS

- **Advanced forward error correction coding: STBC, LDPC**

## Layer 2 and Layer 3

Layer 3 routing, 802.1q, DynDNS, DHCP server/client, BOOTP client, PPPoE, and LLDP

## PHYSICAL CHARACTERISTICS

Dimensions	9.0 in. L x 6.0 in. W x 1.77 in. H 230 mm L x 153 mm W x 45 mm H
Weight	3.3 lbs/1.5 kg
Housing	Metal, plenum-rated housing (UL2043)
Available mounting	No additional hardware required to mount
Configurations	Above drop ceiling, under ceiling or on wall
LEDs activity indication	2 top mounted LEDs, 2 bottom mounted LEDs
Uplink	2 ports (GE1, GE2) Auto-sensing 10/100/1000Base-T Ethernet; 802.3at on GE1 LAN port
Antenna connectors	Six RP-SMAs
Console port	RJ45 Console Port

## USER ENVIRONMENT

Operating Temp.	32° F to 122° F/0° C to 50° C
Storage Temp.	-40° F to 185° F/-40° C to 85° C
Operating humidity	5 to 95% RH non-condensing
Electrostatic discharge	15kV air, 8kV contact

## POWER SPECIFICATIONS

Operating voltage	48V
Operating current	310mA or 520mA
Integrated PoE support	802.3af and 802.3at
Aux power supply	30W (625mA@48V) DC auxiliary power supply

## Security

Stateful Firewall, IP filtering, NAT, 802.1x, 802.11i, WPA2, WPA Triple-Methodology Rogue Detection: 24x7 dual-band WIPS sensing, MU-assisted, on-board IDS and secure guest access (hotspot)

## Quality of Service (QoS)

WMM, WMM-UAPSD, 802.1p, Diffserv and TOS

## RADIO SPECIFICATIONS

### Wireless medium

Direct Sequence Spread Spectrum (DSSS), Orthogonal Frequency Division Multiplexing (OFDM) and Spatial multiplexing (MIMO)

### Network standards

IEEE 802.11a/b/g/n/ac, 802.11d and 802.11i WPA2, WMM and WMM-UAPSD

### Data rates supported

*802.11b/g:*  
1,2,5.5,11,6,9,12,18,24,36,48, and 54Mbps  
*802.11a:* 6,9,12,18,24,36,48, and 54Mbps  
*802.11n:* MCS 0-23 up to 450Mbps  
*802.11ac:* MCS 0-9 up to 1.3Gbps

### Operating channels

2.4GHz band: channel 1 through channel 13 5.2GHz band: channel 36 through channel 165  
\* channel availability depends on local regulatory restriction

### Antenna configuration

3x3 MIMO (transmit/receive on all three antennas) and green mode (dynamical antenna selection)

### Transmit power adjustment

1dB increment from 0dBm to max

### Operating frequencies

2412 to 2472 MHz, 5180 to 5825 MHz

## REGULATORY

### Product safety certifications

UL / cUL 60950-1, IEC / EN60950-1, UL2043, RoHS

### Radio approvals

FCC (USA), EU, TELEC



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**ZEBRA TECHNOLOGIES**