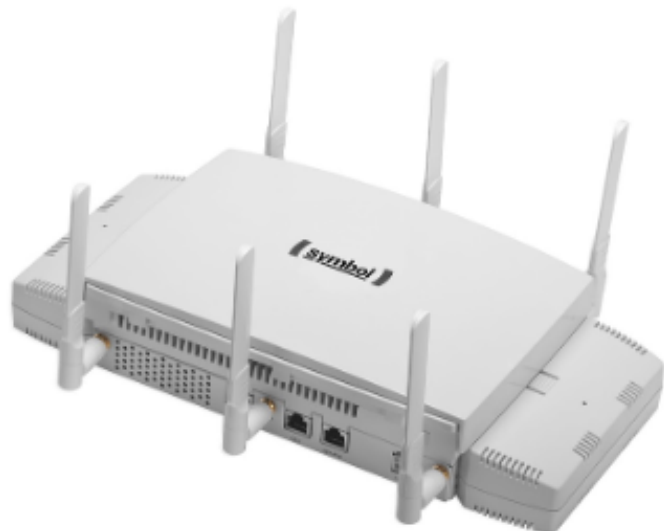


**PRODUCT SPEC SHEET****AP 8132 MODULAR 802.11N ACCESS POINT****ZEBRA**

# AP 8132 MODULAR 802.11N ACCESS POINT

## ONE ACCESS POINT. INFINITE POSSIBILITIES.

### INNOVATIVE MODULAR DESIGN LETS YOU EASILY DEPLOY APPLICATIONS WHERE THEY HAVE THE GREATEST IMPACT

It's all about applications. Applications that keep you connected with your customers. That support and empower your mobile employees. That help you maximize operational efficiency and reduce costs. Whatever industry you're in — retail, hospitality, healthcare or any other — today you depend more and more on applications that are accessed on mobile devices, such as mobile computers, smartphones and tablets, using today's powerful 802.11n Wi-Fi networks. But as crucial as they are, deployment of hardware for applications that traditionally leverage a wired network connection — such as sensor networks, RFID tracking systems, IP video cameras, and many more — can be challenging. In most cases, it involves pulling network and power cabling for each application. This can be costly in terms of hardware and complex in terms of network deployment and management.

### THE FIRST MODULAR AP

The AP 8132 is the industry's first modular access point. Its innovative design lets you simply snap on modules to extend functionality beyond that of traditional access points. Now you can leverage the AP 8132 to easily deploy hardware-based applications, which can significantly reduce your deployment and installation costs. With its standard USB interface, the AP 8132 provides virtually unlimited possibilities for supporting a broad range of applications from a wide variety of developers.

### READY FOR TODAY AND TOMORROW

The AP 8132's unique modular architecture increases your readiness to meet your evolving needs, making it the ideal future-ready platform for deploying applications at the edge. Its innovative design accepts up to two module attachments to the base, offering you the flexibility to add new capabilities, transform the user experience and enhance the productivity of your team. And because you're leveraging your wireless infrastructure, application deployment costs are significantly reduced since you no longer have to run separate network and power cabling.

### INNOVATIVE FEATURES OF THE MODULAR AP 8132

#### 3- spatial stream 3X3 MIMO Access Point

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

#### 802.11n operation with standard 802.3af

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

#### Standard USB Interface for module attachments

Allows for virtually unlimited possibilities for applications with its innovative design that accepts up to two module

## OPTIMIZING THE USER EXPERIENCE

WiFi users with tablets, smartphones and mobile computers logged onto your corporate and guest access networks can get fast speeds and highly robust connections for the best experience possible. The AP 8132 is a 3-spatial stream access point with two radios, delivering data rates of up to 450 Mbps per radio over WING 5 architecture. Whether you're using voice, data, or bandwidth-intensive applications like HD video, you can be confident your network can handle the traffic and provide the optimum user experience.

## STRENGTHENING THE CONNECTION

Advanced 802.11n features such as Space Time Block Coding (STBC) and beamforming provide improved connectivity. STBC uses redundant data streams to increase successful transmissions; it also helps improve signal robustness even with the single antennas of smartphones, tablets and other size-constrained client devices. Beamforming attempts to map the characteristics of the RF channel and compensate for interference by modulating the signals such that the intended receiver experiences an improved signal-to-noise ratio compared to a standard transmission.

## VOICE, LOCATIONING AND GUEST ACCESS

The AP 8132 supports voice over wireless LAN (VoWLAN) quality of service (QoS), ensuring toll-quality even with many simultaneous calls on a single access point. Leveraging locationing services over 802.11, the AP 8132 gives you the ability to locate and track people or assets, and even to control access to the network or applications. In addition, it's easy to provide hotspot and guest access and assure that users can only access authorized networks, sites or applications.

## ADDING CAPACITY MADE SIMPLE

The AP 8132 is a dual radio access point that gives you the flexibility to add capacity as your requirements increase. It allows you to add two expansion modules, for example, using them for security monitoring and/or new applications. In a low-density environment, you can use Radio 1 for client access on 2.4 or 5.0 GHz and the band-unlocked Radio 2 as a sensor for security monitoring. When your requirements grow, you can increase capacity by adding an expansion module to serve as the security monitoring sensor unit, and use both Radio 1 and 2 for client access. You can also add an additional module for a new application. This reduces your upfront costs while allowing simplified future expansion that doesn't require replacing access points or installing new ones. In addition, it eliminates the need to purchase, power and manage dedicated sensors, which increases savings.

### OPTION 1

Radio 1 : 2.4 GHz Client Access or 5.0 GHz Client Access

Radio 2 : Security Monitoring 2.4 / 5.0 GHz

Expansion Mode : None

### OPTION 2

Radio 1 : 2.4 GHz Client Access

Radio 2 : 5.0 GHz Client Access

Expansion Mode : None

### OPTION 3

Radio 1 : 2.4 GHz Client Access

Radio 2 : 5.0 GHz Client Access

Expansion Mode : Security Monitoring 2.4 / 5.0 GHz

With two internal radios and expansion slots that can support an additional radio, the AP 8132 gives you the flexibility to enable guest access, 24x7 spectrum monitoring and new applications on a single access point.

## ENHANCING SECURITY AND COMPLIANCE

The AP 8132 provides the gap-free security you need to secure all your wireless transmissions, and to enable you to be in compliance with government and industry regulations such as HIPAA in healthcare and PCI in retail. Our comprehensive integrated network security features include: layer 2-7 stateful packet filtering firewall, AAA RADIUS services, wireless intrusion protection system (IPS), VPN gateway and location-based access control. You can also add role-based access control and WLAN Security Services Wireless IPS and Rogue detection for premium-level security vigilance.

## THIRD GENERATION PERFORMANCE AND SCALABILITY

Our integrated WING 5 WLAN operating system offers unmatched WLAN performance, scalability and flexibility. In this third generation WLAN architecture, all access points and controllers are network aware, able to collectively determine

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

## Band-unlocked dual band design

Lets you increase security without increasing costs. Band-unlocked radios enable 24x7 dual band Wireless IPS sensing on both 2.4 GHz and 5 GHz with concurrent 802.11a/b/g/n client access and mesh



## LESS IS MORE

Zebra's WING 5 WLAN solutions offer all the benefits of 802.11n — 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

the most efficient route for wireless traffic, as well as enforce QoS and security policies. The result is a new level of wireless service quality and reliability for all your users.

more agility. And more satisfied users.

**LEVERAGE OUR EXPERTISE**

A respected leader in enterprise mobility, Zebra provides service solutions that allow you to benefit from the experience we've gained from working around the globe with many of the world's leading companies. We provide our expertise through services solutions that meet the peak performance needs of your business. Our comprehensive portfolio of services provides assistance at every phase of network lifecycle — from planning and implementation to post-deployment everyday support. Our services help you reduce risk, lower your capital investment, reduce your operational costs, improve service delivery and tailor your network to meet your specific needs.

For more information about the modular AP 8132, please visit [www.zebra.com/ap8132](http://www.zebra.com/ap8132).

**UNLEASH THE POWER OF THE AP 8232 IN YOUR ORGANIZATION**

**THE NEW 802.11ac WI-FI STANDARD DELIVERS**

- Unmatched bandwidth
- Unmatched capacity
- Unmatched network performance
- Unmatched application performance
- Unmatched cost-efficiency — buy less hardware, get more functionality



**SNAP-ON UP TO TWO MODULES FOR ADDITIONAL FUNCTIONALITY**

- 3G/4G/LTE backhaul provides redundant connection to protect network uptime
- IP cameras increase security
- RFID improves inventory management
- Wireless IPS sensor increases security ...and more



**TECHNICAL SPECIFICATIONS**

**802.11N CAPABILITIES**

- 3X3 MIMO with 3 Spatial Streams
- 20 MHz and 40 MHz Channels
- 450 Mbps Data Rates per Radio
- Packet Aggregation (AMSDU, AMPDU)
- Reduced Interface Spacing
- 802.11 DFS
- MIMO Power Save (Static and Dynamic)
- Advanced forward error correction coding: STBC, LDPC
- Dual-band 2x2 USB radio (to be released soon) on expansion port for tri-radio operation
- Smart antenna features with transmit beamforming

**NETWORKING SPECIFICATIONS**

<b>Layer 2 and Layer 3</b>	Layer 3 routing, 802.1q, DynDNS, DHCP server/client, BOOTP client, PPPoE, and LLDP
<b>Security</b>	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)
<b>Quality of Service (QoS)</b>	WMM, WMM-UAPSD, 802.1p, Diffserv and TOS

**PHYSICAL CHARACTERISTICS**

**Dimensions** 9.0 in L x 6.0 in W x 1.625 in H

**RADIO SPECIFICATIONS**

	22.9 cm L x 15.2 cm W x 4.1 cm H
<b>Weight</b>	3.2 lbs/1.45 kg
<b>Housing</b>	Metal, plenum-rated housing (UL2043)
<b>Configurations</b>	Above drop ceiling, under ceiling or on wall
<b>LEDs activity indication</b>	2 top mounted LEDs, 2 bottom mounted LEDs
<b>Available mounting</b>	No additional hardware required to mount
<b>Uplink</b>	2 ports (GE1, GE2) Auto- sensing 10/100/1000Base-T Ethernet; 802.3at on GE1 LAN port
<b>Antenna connectors</b>	Six RP-SMAs
<b>Console port</b>	RJ45 Console Port

## USER ENVIRONMENT

<b>Operating Temperature</b>	32°F to 122°F/0°C to 50°C
<b>Operating humidity</b>	5 to 95% RH non- condensing
<b>Electrostatic discharge</b>	15kV air, 8kV contact

## POWER SPECIFICATIONS

<b>Operating voltage</b>	36-57VDC
<b>Operating current</b>	270mA@48V in 802.3af mode, 438mA@48V in 802.3at mode, typical.
<b>Integrated PoE support</b>	802.3at, also allows for 802.3af modes of operation
<b>Aux power supply</b>	30W (625mA@48V) DC auxiliary power supply

<b>Wireless medium</b>	Direct Sequence Spread Spectrum (DSSS), Orthogonal Frequency Division Multiplexing (OFDM) and Spatial multiplexing (MIMO)
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<b>Network standards</b>	IEEE 802.11a/b/g/n, 802.11d and 802.11i WPA2, WMM and WMM-UAPSD
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<b>Data rates supported</b>	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
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<b>Operating channels</b>	2.4GHz band: channel 1 through channel 13; 5.2GHz band: channel 36 through channel 165. (* channel availability depends on local regulatory restriction).
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<b>Maximum available transmit power per chain (conducted)</b>	2.4GHz: 23dBm 5.2GHz: 20dBm
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<b>Maximum available transmit power per AP (composite, 0dBi antenna)</b>	2.4GHz: 27.7dBm 5.2GHz: 24.7dBm
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<b>Antenna configuration</b>	3x3 MIMO (transmit/receive on all three antennas) and green mode (dynamical antenna selection).
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<b>Transmit power adjustment</b>	1dB increment from 0dBm to max.
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<b>Operating frequencies</b>	2412 to 2472Mhz, 5180 to 5825 MHz
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## REGULATORY

<b>Product safety certifications</b>	UL / cUL 60950-1, IEC / EN60950-1, UL2043, RoHS
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<b>Radio approvals</b>	FCC (USA), Industry Canada, CE (Europe), China, Australia
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<b>Sensor Radio</b>	MOD-8132-6001S-WW
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Module  
part number

## CONDUCTED RECEIVER SENSITIVITY (ANTENNA ELEMENT NOT INCLUDED) (typical) at antenna housing connector

RATE/MCS (2400 MHZ BAND)	MODE (2400 MHZ BAND)	SENSITIVITY (DBM) (2400 MHZ BAND)
1	Legacy	-101
2	Legacy	-95
6	Legacy	-93
11	Legacy	-90
6	Legacy	-94
9	Legacy	-94
12	Legacy	-94
18	Legacy	-93
24	Legacy	-90
36	Legacy	-86
48	Legacy	-82
54	Legacy	-81
MCS0	HT20	-95
MCS1	HT20	-94
MCS2	HT20	-93
MCS3	HT20	-88
MCS4	HT20	-85
MCS5	HT20	-81
MCS6	HT20	-79
MCS7	HT20	-77
MCS8	HT20	-94
MCS9	HT20	-91
MCS10	HT20	-89
MCS11	HT20	-85
MCS12	HT20	-83
MCS13	HT20	-77
MCS14	HT20	-75
MCS15	HT20	-74
MCS16	HT20	-93
MCS17	HT20	-90
MCS18	HT20	-87

MCS19	HT20	-84
MCS20	HT20	-80
MCS21	HT20	-78
MCS22	HT20	-75
MCS23	HT20	-73
MCS0	HT40	-90
MCS1	HT40	-90
MCS2	HT40	-89
MCS3	HT40	-85
MCS4	HT40	-81
MCS5	HT40	-78
MCS6	HT40	-76
MCS7	HT40	-74
MCS8	HT40	-90
MCS9	HT40	-88
MCS10	HT40	-86
MCS11	HT40	-82
MCS12	HT40	-79
MCS13	HT40	-74
MCS14	HT40	-72
MCS15	HT40	-70
MCS16	HT40	-89
MCS17	HT40	-86
MCS18	HT40	-81
MCS19	HT40	-79
MCS20	HT40	-77
MCS21	HT40	-73
MCS22	HT40	-72
MCS23	HT40	-70
<b>RATE/MCS (5200 MHZ BAND)</b>	<b>MODE (5200 MHZ BAND)</b>	<b>SENSITIVITY (DBM) (5200 MHZ BAND)</b>
6	Legacy	-96
9	Legacy	-96
12	Legacy	-95
18	Legacy	-94
24	Legacy	-89
36	Legacy	-86
48	Legacy	-82
54	Legacy	-81

MCS0	HT20	-96
MCS1	HT20	-95
MCS2	HT20	-93
MCS3	HT20	-88
MCS4	HT20	-85
MCS5	HT20	-81
MCS6	HT20	-79
MCS7	HT20	-78
MCS8	HT20	-94
MCS9	HT20	-91
MCS10	HT20	-88
MCS11	HT20	-85
MCS12	HT20	-82
MCS13	HT20	-78
MCS14	HT20	-76
MCS15	HT20	-75
MCS16	HT20	-93
MCS17	HT20	-90
MCS18	HT20	-87
MCS19	HT20	-84
MCS20	HT20	-81
MCS21	HT20	-77
MCS22	HT20	-75
MCS23	HT20	-74
MCS0	HT40	-92
MCS1	HT40	-90
MCS2	HT40	-93
MCS3	HT40	-84
MCS4	HT40	-81
MCS5	HT40	-78
MCS6	HT40	-76
MCS7	HT40	-75
MCS8	HT40	-90
MCS9	HT40	-87
MCS10	HT40	-85
MCS11	HT40	-82
MCS12	HT40	-79
MCS13	HT40	-74
MCS14	HT40	-72

MCS15	HT40	-70
MCS16	HT40	-89
MCS17	HT40	-86
MCS18	HT40	-84
MCS19	HT40	-81
MCS20	HT40	-78
MCS21	HT40	-73
MCS22	HT40	-71
MCS23	HT40	-69



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