AP 8533 – A True 802.11ac, Wave 2 Access Point

EIGHT TIMES THE CAPACITY. TRIPLE THE SENSORS.

Ever increasing demand to support more mobile devices and applications, as well as customer engagement, redefines the network year after year. Jump to the front of the line with the new Zebra AP 8533. This innovative access point features true 802.11ac Wave 2 capabilities and Zebra Triple Sensor technology to support your growing business and customer needs. Personalize the shopping experience with Bluetooth® Low Energy (BLE) beacons, secure the network from existing and new threat vectors, and deepen network visibility of applications running over your wireless LAN. With AP 8533's advanced capabilities, you can prevent "upgrade fatigue".

HIGH-DENSITY NETWORK

Our true 802.11ac Wave 2 access point, along with the high-density optimization in WiNG 5, maximize the value of MU-MIMO for high-density networks. The AP 8533 supports hundreds of wireless clients and concurrent transmissions critical for any enterprise.

UNMATCHED PERFORMANCE

Using the Integrated Deep Packet Inspection engine (DPI), along with Zebra NSight™ Platform*, the AP 8533 tirelessly optimizes the network to extract every bit from the airwaves. From RF errors to key performance indicators, the AP 8533 collects data to measure, monitor and secure application performance. Thanks to its intelligent distributed architecture—WiNG 5—it can proactively adjust to deliver the fastest, most reliable experience. And that's not all. The AP 8533 works with Zebra's Azara cloud to deliver unparalleled scalability and ease of deployment.

UNRIVALED SCALABILTY FROM 1 TO CLOUD

With a modern, WiNG 5 distributed operating system, the AP 8533 offers four deployment modes to meet any requirement: standalone AP, virtual controller mode for creating networks up to 64 access points, NOC controllers scaling to 25,000 access points, or enjoy virtually unlimited scalability via Zebra's Azara cloud.

EXPANDED CAPABILIITES WITH ZEBRA'S TRIPLE SENSOR TECHNOLOGY

Access more possibilities with the AP 8533. The AP 8533 has integrated three powerful sensors that optimize security, customer engagement and network performance.

1. **802.11 Wireless Sensor for Gap-free Security**
   Trust the AP 8533 to deliver best-in-class 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.

2. **Two-in-One Bluetooth® Sensor**
   • **For Security and Location Services:** Monitor BT2.0 devices in the environment using the AP 8533 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 8533 supports Apple iBeacon™ to communicate with a loyalty app on a customer's smartphone. Using Google Eddystone™, 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.

3. **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 the throughput on the data radios.

EXPERT SUPPPORT

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.

* Sold separately

THE AP 8533 – MAXIMUM CAPACITY. MAXIMUM CAPABILITIES.
FOR MORE INFORMATION, VISIT **www.zebra.com/ap8533**

AP 8533 Technical Specifications

802.11AC CAPABILITIES

Quad radios (3 Wi-Fi radios + one Bluetooth® radio)

Band-unlocked Network Sensor for WIPS and Location Service

4X4 MU-MIMO with 4 Spatial Streams

Auto Selecting MU-MIMO supports 1 and 2 stream wireless clients

20, 40 and 80 MHz Channels. 160MHz and 80Mhz + 80MHz in a future release

Packet Aggregation (AMSDU, AMPDU) and RIFS

MIMO Power Save (Static and Dynamic)

Advanced forward error correction coding: STBC, LDPC

802.11ac transmit beamforming

Maximal Ratio Combining (MRC)

NitroQAM provides up to 800 Mbps on 2.4GHz radio adn up to 2166 Mbps on 5GHz radio

USER ENVIRONMENT

Operating Temp	32° F to 104° F/0° C to 50° C
Storage Temp	40° F to 158° F/-40° C to 70° C
Operating Humidity	95% RH non-condensing
Electrostatic Discharge	Internal AP-8533-68SB30/3E: ESD to ±12KV air and ±8KV contact

ANTENNA INFORMATION

Internal Antenna model	•Radio 1 (2.4GHz) : 5.2dBi •Radio 2 (5.2GHz): 6.8 dBi •Radio 3 (2.4GHz/5.2GHz): 4.9/5.9 dBi •Radio 4 (2.4GHz): Integrated antenna with 7.7dBi
External Antenna model	•Radio 1,2 : up to 10dBi •Radio 3 (2.4GHz/5.2GHz) integrated antenna: 4.9/5.9 dBi •Radio 4 (2.4GHz): dual-mode antenna option. Integrated antenna with 7.7dBi or optional external antenna up to 11dBi

DC POWER SPECIFICATIONS

Operating Power	Max Power Consumption: 24W Typical Power Consumption: 12W

MAXIMUM RADIATED TRANSMIT POWER (RMS)

Internal Antenna model	•Radio 1, 2.4GHz band: 32.2dBm (1670 mW) •Radio 2, 5.2GHz band: 32.8dBm (1915 mW) •Radio 3, 2.4GHz/5.2GHz dual band sensor: • 2.2.4GHz band: 25.9 dBm (389 mW) • 5.2GHz band: 22.9 dBm (195 mW) •Radio 4: 13.7 dBm (23.4mW) with integrated antenna
External Antenna model: (*)	•Radio 1, 2.4GHz band: 34dBm (2524 mW) •Radio 2, 5.2GHz band: 33dBm (2005 mW) •Radio 3, 2.4GHz/5.2GHz dual band sensor: • 2.4GHz band: 25.9 dBm (389 mW) • 5.2GHz band: 22.9 dBm (195 mW) •Radio 4: 13.7 dBm (23.4mW) with integrated antenna or up to 17 dBm (50 mW) with 11dBi external antenna

ACCESSORIES

Power	PWR-BGA48V45W0WW AP-PSBIAS-2P3-ATR AP-PS85-1P1-WW – Power Splitter
Mounting	KT-135628-01 BRKT-000147A-01

REGULATORY

Approvals and Certifications	UL / cUL 60950-1, IEC / EN60950-1, UL2043, RoHS. FCC (USA), EU, TELEC

PHYSICAL CHARACTERISTICS

Dimensions	8.25" x 8.25" x 1.8" 210mm x 210mm x 24mm
Weight	3.0lbs, 1.27kg
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	AP-8533-68SB30: internal antennas AP-8533-68SB3E: internal antenna AP-8533-68SB40; five RP SMA connectors; one RP-SMA dedicated for BT/BLE radio
Console	RJ45

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, 802.11b/g: 1-54 Mbps 802.11a: 6-54 Mbps 802.11n: MCS 0-31 up to 600 Mbps; 802.11ac: MCS 0-9 up to 1.733 Gbps ; In Nitro mode, radio 1 and 2 data rates can go up to 1000Mbps and 2166Mbps respectively.
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 restriction
Antenna Configurations	•Radio 1: 2.4GHz: 4x4 with 4SS •Radio 2: 5GHz: 4x4 with 4SS •Radio 3: Dual Band Sensor: 1x3 with 3SS •Radio 4: Bluetooth radio with selectable single integrated antenna or external antenna
Conducted Radio Power	Up to 21dBm, depending on local regulatory restrictions, 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 IDS and secure guest access (hotspot) with captive portal, IPSec and RADIUS Server
QoS	WMM, WMM-UAPSD, 802.1p, Diffserv and TOS. Role based QoS with rule based packet marking

CERTIFICATES

Wi-Fi™ Alliance (WFA) certified 802.11 a/b/g/n/ac, Passpoint 2.0 (certificates completed at General Product Availability)

PRODUCT SKU AND DESCRIPTION

AP-8533-68SB30-US/ WR/EU	802.11ac Wave 2, Tri-Radio, dedicated sensor, BLE, internal antenna, 2xGE - XX
AP-8533-68SB40-US/ WR/EU	802.11ac Wave 2, Tri-Radio, dedicated sensor, BLE, external antenna, 2xGE - XX
AP-8533-68SB3E-US/ WR/EU**	802.11ac Wave 2, Tri-Radio, dedicated sensor, BLE, internal antenna, 1xGE, 1x2.5GE - XX

(**) future release

Rx Sensitivity Table

MODE	RATE/MCS	SPATIAL STREAM	BW	Max Tx power (dBm)	AP-8533-68SB30 AVG SENS ANT	Max Tx power (dBm)	AP-8533-68SB40 AVG SENS ANT
2G RADIO							
DSSS	1	-	20	21	-99	20	-98
DSSS	11	-	20	21	-99	20	-98
OFDM	54	-	20	17	-82	16	-81
802.11n	MCS0	4SS	20	20	-71	19	-95
802.11n	MCS0	4SS	40	20	-68	19	-92
802.11n	MCS31	4SS	20	16	-71	15	-70
802.11n	MCS31	4SS	40	16	-68	15	-67
5G RADIO							
OFDM	6	-	20	20	-99	17	-96
OFDM	54	-	20	18	-86	15	-83
802.11ac	MCS9	4SS	20	20	-70	17	-67
802.11ac	MCS9	4SS	40	13	-67	10	-64
802.11ac	MCS9	4SS	80	13	-64	10	-61
SENSOR RADIO - 2G MODE							
DSSS	1	-	20	20	-99	20	-98
OFDM	54	-	20	17	-81	15	-80
802.11n	MCS0	3SS	20	20	-96	20	-95
802.11n	MCS0	3SS	40	20	-93	20	-92
802.11n	MCS23	3SS	20	16	-69	13	-68
802.11n	MCS23	3SS	40	16	-66	13	-65
SENSOR RADIO - 5G MODE							
OFDM	6	-	20	17	-99	20	-96
OFDM	54	-	20	15	-86	17	-83
802.11ac	MCS9	3SS	20	12	-67	13	-64
802.11ac	MCS9	3SS	40	12	-64	13	-61
802.11ac	MCS9	3SS	80	12	-61	13	-58

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