SP250

802.11ax, 2x2, Dual-Band
Outdoor Access Point

Product Specification

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Description

Z-COM SP250 is high performance Wi-Fi 6 outdoor access point for high-density environment like warehouse, shopping center, airport and other outdoor locations.

SP250 verifies on user capacity up to 1024 Wi-Fi clients and provide dual-band with up to 1.774Gbps data rates, built-in coverage antennas, which fully comply with IEEE 802.11ax, OFDMA Modulation, MU-MIMO, and BSS Color Spatial Reuse, and provides up to 65% higher total throughput in Wi-Fi 5 environment. The Z-COM SP250 features the latest in rugged weatherproofing and Wi-Fi 6 technology with guaranteed performance and reliability in the harshest environments.

Feature

- Dual-band Wi-Fi 6 (802.11ax), backward compatible with Wi-Fi 5 (802. 11ac)
- Support up to 1,200 Mbps in 5GHz and 574 Mbps in 2.4GHz
- Max. ERIP up to 31dBm in 5GHz and 31dBm in 2.4GHz
- Target wake time for power-saving of clients & IoT devices
- Uplink and downlink of MU-MIMO improves transmission to APs and client devices
- Support up to 2.5 Gbps faster than standard Ethernet to increase network performance to boost productivity

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Overview

Network Performance

Ultra-Fast Wi-Fi 6 Data Rate

Simultaneous 574 Mbps on 2.4 GHz and 1200 Mbps on 5 GHz totals 1774 Mbps Wi-Fi 6 speeds.

High Capacity and Reliable Connections

Z-COM SP250 ensures large numbers of users have smooth and reliable network experiences in high-density outdoor locations.

Flexible Power Options with 2.5Gbps PoE+ Ethernet

SP250 delivers exceptional performance to support the demand for better Wi-Fi with optimized wired performance, 2.5Gbps Ethernet port. Compatibility with standard 802.3at PoE+ is ideal for flexible deployment.

Multiple Applications

Allows to perform multiple functions, ideal for various scenarios like warehouses, shopping centers, airports and other high-density outdoor environments.

Security and Installation

Hardened-grade for Outdoors

Z-COM SP250 designs for extreme temperatures and environments and includes IP67 waterproof and dustproof that can withstand harsh environments to be used in various weather conditions.

Easy and Flexible Installation

The SP250 provides the necessary parts for installation and features Plug-and-play and configuration free for pole and wall installation.

Advanced Setting with FAP/TAP

SP250 come with pre-configuration default settings with TAP mode. Users are able to select APs tunnel by advanced settings for centrally managed traffic forwarding and segmentation, data encryption, and policy enforcement to optimize network performance, roaming and security.

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Addition Software Feature

Fast Roaming*

SP250 provides fast roaming IEEE 802.11r/802.11k for reliable data and seamless switching to the access point with optimal signal when moving between APs.

Remote VPN Deployment*

With the VPN tunnel you can run both a SSL/IPSec VPN tunnel and an ordinary internet connection – simultaneously.

Dynamic Channel Allocation*

Dynamic channel allocation eliminates the time consuming and error-prone task of managing complex and static VLANs by dynamically assigning policies and keeping traffic secure and separated.

Optimized RF Management*

Airtime Fairness, Load Balance, and Band Steering Technologies guarantee optimal RF performance for wireless applications.

Centralized Management Optional

SP250 are allowed to configure and manage multi-APs in a centralized choices include zMEC (container-based) or Wireless LAN Controller solutions. Through Z-COM WLC that includes troubleshooting, efficiency-optimized and enjoys simple management, configuration and monitoring of all access points.

With zMEC, the platform for edge computing and PaaS, manages virtualized applications and import software by any x86 servers under different applications.

Technical Benefits

Advantages of OFDMA

OFDMA is ideal for bandwidth applications which results in more efficient channel use , reduced latency, and increased efficiency to clients share a channel and not competing for airtime and bandwidth.

Uplink and downlink of MU-MIMO

Serve multiple devices simultaneously that enhances the capacity of connected devices for both uplink and downlink data transmission.

Reduced Interference and Waiting Time

Maximizes network performance by working even within heavily congested, co-channel interference environments.

Transmit Beamforming

SP250 with beamforming design (TxBF) to improve the signal strength and achieve higher range to a single client for RF reliability.

Note: *The function actives with Z-COM wireless controller or zMEC.

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Wi-Fi		
Wireless Standards	IEEE 802.11 a/b/g/n/ac/ax	
Physical Data Rates Supported Rates	802.11ax: 4 to 1200 Mbps 802.11ac: 6.5 to 866 Mbps 802.11n: 6.5 to 300 Mbps 802.11a/g: 6 to 54 Mbps 802.11b: 1 to 11 Mbps	
Bandwidth Channelization	2.4GHz: 20/40 MHz	5GHz: 20/40/80 MHz
MIMO	MU-MIMO	
Radio Chains and Streams	2.4GHz : 2×2:2 5GHz : 2×2:2	
Frequency Bands and Operating Channels	Taiwan	US
	2.412 – 2.462 GHz; 11 channels 5.180 – 5.320 GHz; 8 channels 5.500 – 5.720 GHz ; 12 channels 5.745 – 5.825 GHz; 5 channels	2.412 – 2.462 GHz; 11 channels 5.180 – 5.320 GHz; 8 channels 5.500 – 5.720 GHz ; 12 channels 5.745 – 5.825 GHz; 5 channels
	EU	China
	2.412 – 2.472 GHz; 13 channels 5.180 – 5.320 GHz; 8 channels 5.500 – 5.700 GHz ; 11 channels	2.412 – 2.472 GHz; 13 channels 5.180 – 5.320 GHz; 8 channels 5.745 – 5.825 GHz; 5 channels
	Japan	India
	2.412 – 2.472 GHz; 13 channels 5.180 – 5.320 GHz; 8 channels 5.500 – 5.720 GHz; 12 channels	2.412 – 2.472 GHz; 13 channels 5.180 – 5.320 GHz; 8 channels 5.500 – 5.720 GHz ; 12 channels 5.745 – 5.865 GHz; 7 channels
	*Operating Channel depends on configured regulatory domain.	

RF		
Antenna Type	Internal	
Antenna Gain (max)	2.4GHz : 5dBi	5GHz: 5dBi
EIRP	2.4GHz: 31dBm	5GHz: 31dBm
Frequency Bands	ISM (2.4-2.484GHz) U-NII-1 (5.15-5.25GHz) U-NII-2A (5.25-5.35GHz) U-NII-2C (5.47-5.725GHz) U-NII-3 (5.725-5.85GHz)	

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PERFORMANCE AND CAPACITY	
Peak PHY Rates	2.4 GHz: 574 Mbps 5 GHz: 1200 Mbps
Client Capacity	1024

PERFORMANCE TABLE				
	2.4GHZ TX TARGET POWER (PER CHAIN)		5GHZ TX TARGET POWER (PER CHAIN)	
MU HE40	MCS0	23dBm+/-2dBm	MCS0	23dBm+/-2dBm
	MCS11	16dBm+/-2dBm	MCS11	15dBm+/-2dBm
MU VHT40	MCS9	20dBm+/-2dBm	MCS9	17dBm+/-2dBm
	2.4GHZ RECEIVE SENSITIVITY		5GHZ RECEIVE SENSITIVITY	
HE20	MCS0	<-82dBm	MCS0	<-82dBm
	MCS11	<-52dBm	MCS11	<-52dBm
HE40	MCS0	<-79dBm	MCS0	<-79dBm
	MCS11	<-49dBm	MCS11	<-49dBm
HE80			MCS0	<-76dBm
			MCS11	<-46dBm

INTERFACE		
Ethernet	1x 10/100/1000M/2.5Gbps WAN Port 1x 10/100/1000M/2.5Gbps LAN Port	
Addition	1x Reset Button 1x Grounding Terminal	
Power	Power Supply	Consumption
	WAN Port：PD Input (802.3at) LAN Port ： PSE Output (802.3af)	≤ 25W
Bluetooth	Version	Frequency
	5.0	2400 ~ 2480MHz
Environmental	Storage	Operating
	Temperature: -40 ~ 70 ℃ Humidity: 5 ~ 95%	Temperature: -40 ~ 65 ℃ Humidity: 5 ~ 95% (non-condensing)

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STANDARDS	
Compliance Standards	IEC/EN 62368-1 EN55032 & EN55024 WEEE & RoHS **IEEE standards:** IEEE 802.11a/b/g/n/ac/ax IEEE 802.11d, e, h, i, j, k, r, u, v time stamp, w, and z standards Multimedia: Wi-Fi multimedia (WMM) Security: Open System 802.1x WPA-PSK/WPA-Enterprise WPA3-PSK Extensible Authentication Protocol (EAP) types: EAP-Transport Layer Security (TLS) EAP-Tunneled TLS (TTLS) Protected EAP (PEAP) EAP-Subscriber Identity Module (SIM) *Above partial functions should be configured by Z-COM Wireless LAN Controllers (WLC)

MECHANICAL	
Dimensions	296 (L) × 92 (W) × 283 (H) mm
Weight	2500g
Mounting Method	Pole/Wall
IP rating	IP67
Anti-static Grade	IEC61000-4-2(Criteria B) Air: ±8kV Contact:±4kV
Green	RoHS compliant
LED Definition	LED by SW control Red(color) - Steady: Connected to the Internet. - Blinking: Can't connect to the Internet.
Supported WLC or container-base	- WS5G2 / WS7G2 /WS10G2 / WS200G2 / WS500G2 / WS1000G2 - zMEC
Warranty	1 year

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