SP250-A04

802.11ax, 2x2 Dual-Band
LTE Gateway

Product
Specification

SP250-A04

802.11ax, 2x2 Dual-Band LTE Gateway

Description

The SP250-A04 by Z-COM, 2.5Gbase-T Outdoor Gateway, Robust design with Ingress Protection IP67, Wider Range operating temperature from -40°C to 65°C, Level 14 windproof and UL746C UV protection).

Feature

- Dual-band Wi-Fi 6 (802.11ax), compatible with Wi-Fi 5 (802.11ac)
- Supports up to 1,200 Mbps in 5GHz and 574 Mbps in 2.4GHz
- Max. EIRP up to 31dBm in 5GHz and 31dBm in 2.4GHz
- Serial port with 2 kV isolation protection
- Customization：Open API platform enabled
- DNP 3.0+VPC Certificate

ZCOM

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Overview

Ultra-Fast Wi-Fi 6 Data Rate

Simultaneous 574 Mbps on 2.4 GHz, 1200 Mbps on 5 GHz and total up to 1774 Mbps as Wi-Fi 6 speeds.

Compliant with IoT Security

SP250-A04 has obtained the certificate of VPC; VPC standards cover both EMC (Electromagnetic Compatibility) regulations and cybersecurity specifications, complying with the following standards: (1) Regulatory requirements of the International Electrotechnical Commission IEC-62443 Parts 4-1 and IEC-62443 Part 4-2.

(2) Regulatory requirements of the U.S. National Institute of Standards and Technology (NIST).

(3) Regulatory requirements of the U.S. Wireless Communications CTIA.

(4) Regulatory requirements of the International Society of Automation - Security Assurance (ISA-SSA) for industrial automation information security products.

(5) Regulatory requirements of the Ministry of Economic Affairs Standards Bureau of the Republic of China (Taiwan), CNS - Imaging Surveillance and Photovoltaic System Safety Standards.

Optional Centralized Management

SP250-A04 can be configured by ZCOM WLC (wireless LAN controller) which contains the centralized management platform (zMEC) to remote monitor, implement trouble shooting and optimize performance easily.

It can also optimize wireless transmission quality and security by zMEC edge computing platform. Moreover, the PaaS provides a flexible cloud platform for running, developing and managing AIoT applications.

Advanced Enterprise Security, WPA3

This is another level of security over the older WPA2 technology. By WPA3-Personal that replaces PSK with SAE exchange, more secure encryption of passwords and enhanced protection against brute-force attacks combine to safeguard your Wi-Fi.

Easy and Flexible Installation

SP250-A04 provides the necessary parts for installation for pole mount installation.

Flexible Networking

Internally, data collection can be accomplished through wired RS485, Ethernet, and wireless Wi-Fi. Externally, there is an option to use wired Ethernet for ADSL or select 4G network connectivity. This allows the collected power plant information to be transmitted to the backend monitoring system anytime, anywhere.

Transmit Beamforming

SP250-A04 with beamforming design (TxBF) is able to improve the signal strength and achieve higher range to a specific receiving client for RF reliability.

Multiple Applications

Industrial robust design for critical usages such as solar power plant, Natura Gas, Factory, etc.

Specification

Ethernet Interface	
Number of Ports	2
Speed	10/100/1000/2500 Mbps
Connector	8-pin RJ45
Magnetic Isolation Protection	1.5 kV (built-in)

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** 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	**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
	EU 2.412 – 2.472 GHz；13 channels 5.180 – 5.320 GHz；8 channels 5.500 – 5.700 GHz；11 channels	**China** 2.412 – 2.472 GHz；13 channels 5.180 – 5.320 GHz；8 channels 5.745 – 5.825 GHz；5 channels
	Japan 2.412 – 2.472 GHz；13 channels 5.180 – 5.320 GHz；8 channels 5.500 – 5.720 GHz；12 channels	**India** 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.	
Spread Spectrum and Modulation (Typical)	OFDMA / OFDM	

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	<-96dBm	MCS0	<-95dBm
	MCS11	<-67dBm	MCS11	<-67dBm
HE40	MCS0	<-93dBm	MCS0	<-93dBm
	MCS11	<-64dBm	MCS11	<-64dBm
HE80			MCS0	<-90dBm
			MCS11	<-59dBm

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)	

PERFORMANCE AND CAPACITY

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

Security

Authentication	WPA2/WPA3-Personal (TKIP and AES)

4G LTE Cellular Standard:

Mode	Band
LTE-FDD	B1/B3/B5/B7/B8/B20/B28/B32
LTE-TDD	B38/B40/B41
2xCA	B1+B1/B5/B8/B20/B28;
	B3+B3/B5/B7/B8/B20/B28;
	B7+B5/B7/B8/B20/V28;
	B20+B32;
	B38+B38;
	B40+B40;
	B41+B41
WCDMA	B1/B3/B5/B8

4G LTE RF Output Power

Class 3 (23dBm±2dB) for LTE-FDD
Class 3 (23dBm±2dB) for LTE-TDD
Class 3 (24dBm+1/-3dB) for WCDMA

4G LTE Antenna

Antenna Type	Built-in
Antenna Gain (max)	3dB

INTERFACE

Ethernet	1x 10/100/1000/2500Mbps WAN Port 1x 10/100/1000/2500Mbps LAN Port	
Addition	1x Reset Button 1x Grounding Terminal	
Power	Power Supply	Consumption
	WAN Port：PD Input (802.3bt)	≤ 35W
Environmental	Storage	Operating
	Temperature：-40~ 70 ℃ Humidity：5 ~ 95%	Temperature：-40 ~ 65 ℃ Humidity：5 ~ 95% (non-condensing)

STANDARDS

Compliance Standards	NCC BSMI VPC DNP3.0 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) *Above partial functions should be configured by Z-COM Wireless LAN Controllers (WLC)

MECHANICAL

Mounting Method	Pole
Dimension	296 (L) × 92 (W) × 283 (H) mm
Weight	2.52 KG
Anti-static Grade	IEC61000-4-2(Criteria B) Air：±8kV Contact:±4kV
Green	RoHS compliant
LED Definition	• Red(color) -Steady: initializing -Blinking: system upgrading (not touch or pull out power plug) • Green - Steady: Connected to the Internet. - Blinking: Can't connect to the Internet
Supported WLC or container-base	- WS5G2 / WS7G2 /WS10G2 - zMEC
IP Rate	IP67
Warranty	1 year