High-Speed Tri-Band 2x2 Wi-Fi7 Wireless AP WF-189

Product Datasheet

www.actiontec.com

■ Overview

WF-189 is a high performance tri-band 2x2 MU-MIMO Wi-Fi7 indoor wireless AP specially designed for high-density deployments in large offices, schools, hospitals, and hotels demanding exceptional performance. It supports advanced Wi-Fi7 technologies such as multi-link operation (MLO), up to 320MHz bandwidth for 6GHz radio, OFDMA, MU-MIMO, and 4096-QAM, all within the 802.11be protocol. With up to 9300Mbps aggregated data rates, WF-189 enables the establishment of a high-speed and stable wireless network. Whether you use a phone, tablet, or laptop, seamless internet access is available from anywhere within the coverage area.

Built with enhanced transmission power and receive sensitivity, the WF-189 delivers the high throughput and reliable coverage required to keep everyone connected. Its compatibility with most wireless terminals makes it easy to establish a high-capacity Wi-Fi network, catering to diverse connectivity needs.

Beyond standard Wi-Fi capabilities, the WF-189 may go the extra mile by supporting BLE 5.0, making it an excellent choice for expanding into the realm of IoT applications, such as integrating smart home devices into the network.

The WF-189 is designed to adapt to ceiling mounting or wall mounting with its universal bracket, ensuring a hassle-free installation process.
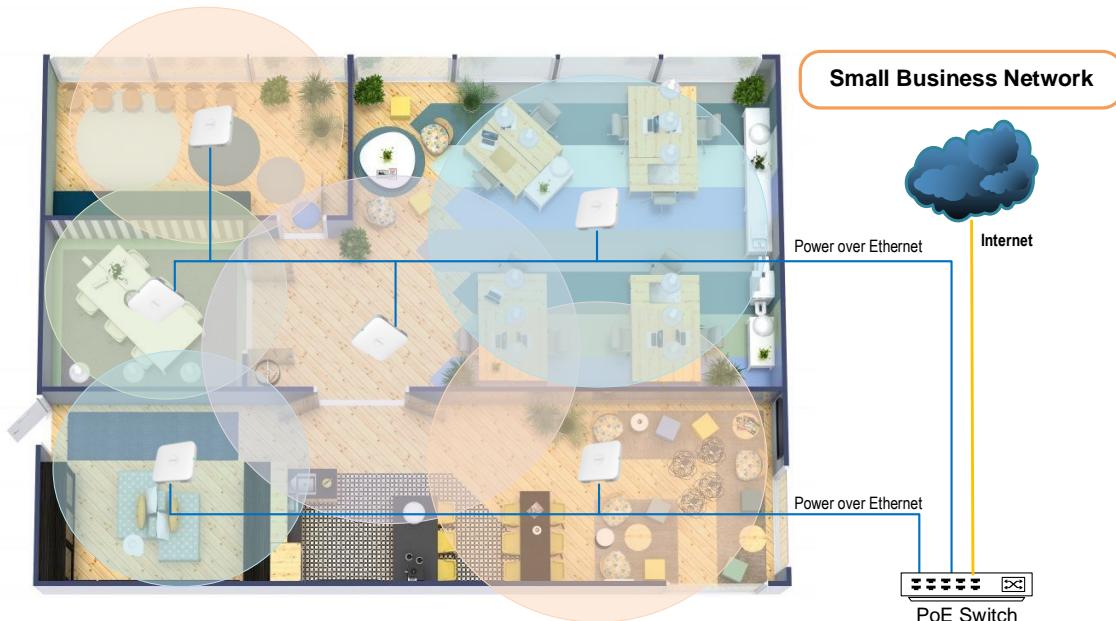
For developers, the WF-189 offers support for Qualcomm's QSDK and OpenWiFi development platforms. This opens the door to streamlined software development, thanks to standardized interfaces, well-defined APIs, and pre-integrated stacks, reducing complexities and enhancing reliability. Additionally, OpenWiFi's active community support provides valuable troubleshooting assistance, ensuring a future-proof and cost-efficient solution for innovative Wi-Fi applications.

■ Key Features

- Ceiling mounting and wall mounting
- 2.4G 2x2 Wi-Fi (802.11b/g/n/ac/ax/be), 20/ 40MHz, up to 688Mbps
- 5G 2x2 Wi-Fi (802.11a/n/ac/ax/be), 20/ 40/ 80/ 160MHz, up to 2.882Gbps
- 6G 2x2 Wi-Fi (802.11ax/be), 20/ 40/ 80/ 160/ 320MHz, up to 5.764Gbps
- 2 x dual-band 2.4G/5G Integrated Omni antennas
- 2 x 6G Integrated single-band Omni antennas
- 1 x BLE integrated antenna
- 1 x Bluetooth 5.0
- 1 x 2.5GbE LAN
- 1 x 5GbE WAN, with 802.3 at PoE(PD)
- 1 x USB 2.0
- 1 x Factory reset button
- 1 x RGB LED for visual indicators
- 1 x 12V DC Input
- Supports OpenWiFi development platform

OpenWiFi
TELECOM INFRA PROJECT

Small Business Network

Power over Ethernet

Internet

Power over Ethernet

PoE Switch

■ Specification

Item	WF-189
Dimension (W x D x H)	190mm × 190mm × 35mm
Weight	640g (Without bracket)
Installation	Ceiling mounting or Wall mounting
LEDs	1x tri-color(Red/Green/Blue) status LED
Interface	• 1 x RJ45 2.5GbE LAN • 1 x RJ45 5GbE WAN, with 802.3 at PoE (PD) • 1 x Factory reset button • 1 x USB 2.0 • 1 x 12V DC Input
Input Voltage	• 50 - 57VDC, 802.3at PoE • 12V DC/ 2. 5A
Power consumption	< 25.5W
Environmental Specification	
Temperature	Operation: -5℃ ~ +40℃ Storage: -40℃～+70℃
Operating Humidity	5% ~ 95% (non-condensing)
Dustproof and Waterproof	IP20
Compliance	• NRTL Listed UL 62368-1 (US & CA)

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Item	WF-189
	• CB with IEC/EN 62368-1 (Basic safety certificate for worldwide marketing) • EN 60601-1-1: 2001 (medical directive compliance) • GB 9254 -2008(Class B of Product) , EN55032, CISPR 32:2015 , EN55035, CISPR 25 • FCC Part 15 Class B (US) • FCC Part 15 Subpart C 15.247 (US) • FCC Part 15 Subpart E 15.407 (US)
Chipset	
SoC	Qualcomm chipset (IPQ5322)
Flash	256MB NAND Flash
DDR	1GB DDR4 RAM
Wi-Fi Interface	
Operating frequency	2.4G radio:2.4000GHz~2.4835GHz
	5G radio:5.150~5.250,5.250~5.350,5.470~5.725, 5.725~5.850 GHz
	6G radio: 5.945 ~ 7.125GHz
Max EIRP	2.4GHz: 28dBm 5GHz: 28dBm 6GHz: 28dBm

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Data Rate	802.11b: 1, 2, 5.5, and 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, and 54Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48 and 54Mb/s 802.11n: MCS0 - MCS7 802.11ac: MCS0 - MCS9 802.11ax: MCS0 - MCS11 802.11be: MCS0 – MCS13
Receive Sensitivity	802.11g: -92dBm@6Mbps -74dBm@54Mbps

802.11n:

	HT20	HT40
MCS0	-92dBm	-89dBm
MCS7	-72dBm	-69dBm

802.11a: -92dBm@6Mbps

-74dBm@54Mbps

802.11ac :

	VHT20	VHT40	VHT80
MCS0	-92dBm	-89dBm	-86dBm
MCS8	-68dBm	/	/
MCS9	/	-65dBm	-62dBm

802.11ax:

	HE20	HE40	HE80	HE160
MCS0	-91dBm	-88dBm	-85dBm	-83dBm
MCS11	-62dBm	-59dBm	-58dBm	-55dBm

802.11be

	EHT20	EHT40	EHT80	EHT160	EHT320
MCS0	-91dBm	-88dBm	-85dBm	-82dBm	-79dBm
MCS13	-57dBm	-54dBm	-51dBm	-48dBm	-45dBm

■ Federal Communications Commission (FCC) Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generate, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

● Reorient or relocate the receiving antenna.

● Increase the separation between the equipment and receiver.

● Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

● Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

RF exposure warning

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 38 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

FCC regulations restrict operation of this device to indoor use only.

The operation of this device is prohibited on oil platforms, cars, trans, boats, and aircraft, except that operation of this device is permitted in large aircraft while flying above 10000 feet in the 5.925-6.425 GHz band.

Transmitters in the 5.925-7.125 GHz band are prohibited from operating to control or communicate with unmanned aircraft systems.

■ Contact Information

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