Tri-band Wi-Fi6E Router
WF-815

Product Datasheet

VERSION1.0

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www.actiontec.com

■ Overview

The tri-band Wi-Fi 6E WF-815 is designed to provide Wi-Fi network connectivity for homes and business based on the latest 802.11ax chipset design. With the WF-815, the user can utilize EasyMesh R4, which provides a self-configuring, self-healing and self-managing Wi-Fi network. It dynamically selects the most reliable Wi-Fi path and enables fast and seamless handoffs for end-users.

WF-815 is one of the best performing WiFi 6E router in the market with up to 11Gbps aggregate throughput (AX11000). It supports 802.11ax on all Wi-Fi radio bands. The 2.4G radio supports 4x4 802.11b/g/n/ac/ax MIMO. The 5G radio supports 4x4 802.11a/n/ac/ax MIMO. The 6G radio supports 4x4 802.11a/ax MIMO WF-815 can meet the requirements for high-speed real-time traffic and high-bandwidth entertainment, such as 4K video, video game streaming and VR.

With global deployments in mind, the WF-815 utilized standard AC/DC adapter, allowing easy adaptation everywhere in every country.

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2

■ Key Features

- Desktop placement

- Highest performance at 11Gbps aggregate throughput (AX7800)

- 2.4GHz 40MHz 4x4 802.11b/g/n/ax

- 5GHz 160MHz 4x4 802.11a/n/ac/ax

- 6GHz 160MHz 4x4 802.11a/ax

- WPA/WPA2-PSK(AES)/WPA3

- 8 x Integrated Wi-Fi antennas

- 1 x 10GbE WAN

- 1 x 10GbE LAN

- 3 x 2.5GbE LAN

- 4 x Status LED (multi-color)

- 1 x USB3.0 type A

- 1 x WPS button

- 1 x Reset button

- 1 x DC jack

- Supports router/extender functions

- Supports TR-069 management

- Supports EasyMesh R4

■ Application Scenario

● Three WF-815 and WF-810G can form a Wi-Fi mesh network. One configured as the Gateway and the other two configured as the Wi-Fi Extender:

EasyMesh
Network

Extender

Extender

Internet

Fiber/Ethernet

Gateway   Ethernet
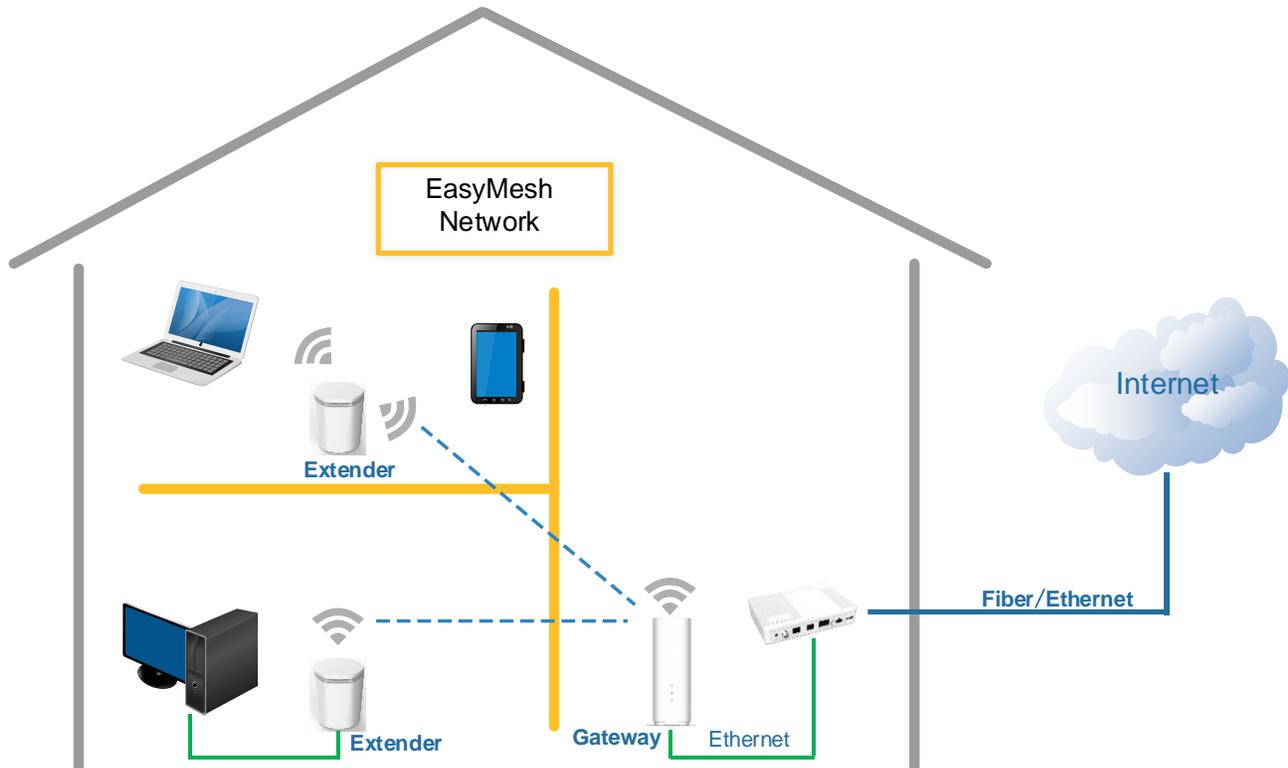
■ Software Features

Category	Features
Network	Bridge Mode - DHCP Client - Backhaul with 2.4G/5G/6G Wi-Fi/Ethernet
	Router Mode - IPv4 - IPv6 - NAT - WAN DHCP client - LAN DHCP server - DNS server

	- DHCP reservation - uPNP - Port forwarding - Backhaul with Ethernet
	IGMP Snooping
Wi-Fi	2.4GHz bandwidth: 20/40MHz, 5/6GHz bandwidth: 20/40/80/160MHz
	802.11 k/ v/ r
	Band steering
	Channel scan
	DFS
	SSID broadcast
	WPA/WPA2/WPA3 PSK security

TR-069 Management	Network topology display
	  - Device connected
	  - Client accessed
	  - Channel
	  - Backhaul type

	Network optimize
	WPA/WPA2/WPA3 PSK security
	Freeze client

	Device information
	  - Status
	  - Online time
	  - IP address
	  - MAC address
	  - Firmware version
	  - Channel

	Client information
	  - Status
	  - Online time
	  - IP address
	  - MAC address
	  - Channel

	Network statistic chart
	  - Bandwidth usage
	  - RSSI
	  - Channel congestion
	  - Event

Utilities
- Reboot device
- Upgrade remotely
- Speed Test

■ Specification

Item	WF-815
Dimension (D x H)	202mm x 85mm x 235mm (High)
Weight	390g
Installation	Desktop placement
LEDs	4x Status LED (multi-color)
Interface	1 x 10GbE WAN 1 x 10GbE WAN 3 x 2.5GbE LAN 1 x DC jack
Input Voltage	+15V/4A
Power consumption	< 50W
Environmental Specification	
Temperature	Operation: 0℃ ~ +40℃ Storage: -40℃ ~ +85℃
Operating Humidity	5% ~ 95% (non-condensing)
Elevations	86kPa ~ 106kPa altitude
Dustproof and Waterproof	IP20
Compliance	• IEC 62368-1:2014 (Second Edition)+A11: 2017 • UL 62368-1, 2nd Ed, 2014-12-01 (Audio/video, information and

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6

Item	WF-815
	communication technology equipment Part 1: Safety requirements) • CAN/CSA C22.2 No. 62368-1-14, 2nd Ed (Audio/video, information and communication technology equipment Part 1: Safety requirements) • FCC • ETL • RoHS 2011/65/EU compliant (RoHS 10 compliant, no Pb)
Reliability	
MTBF	> 300,000 Hours Telcordia SR-332, Reliability Prediction Procedures for Electronic Equipment, Issue 3, Method 1, Case 3, GB/GC (Ground Benign, Controlled) environment, 25ºC ambient temperature. Steady state, not including software failure.
AFR	AFR (Annualized Failure Rate) < 1.5% (in continuous operation)
Chipset	
Wi-Fi SoC	Qualcomm
Flash	4GB eMMC
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: 5.925~7.125 GHz
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~MCS15 802.11ac: MCS0 ~ MCS9 802.11ax: MCS0~MCS11
Receive Sensitivity	802.11g: -90dBm@6Mbps -74dBm@54Mbps

Item	WF-815
	802.11n: 		HT20	HT40
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MCS0/8/16	-90dBm	-87dBm
MCS7/15	-71dBm	-68dBm | 802.11a: -90dBm@6Mbps -74dBm@54Mbps 802.11ac: |	VHT20	VHT40	VHT80
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MCS0	-90dBm	-87dBm	-84dBm
MCS8	-67dBm	/	/
MCS9	/	-61dBm	-58dBm | 802.11ax: |	VHT20	VHT80	VHT160
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MCS0	-89dBm	-83dBm	-80dBm
MCS11	-60dBm	-54dBm	-51dBm	

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8

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 48 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. Operation of transmitters in the 5.925-7.125 GHz band is prohibited for control of or communications with unmanned aircraft systems.

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9

■ Contact Information

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