

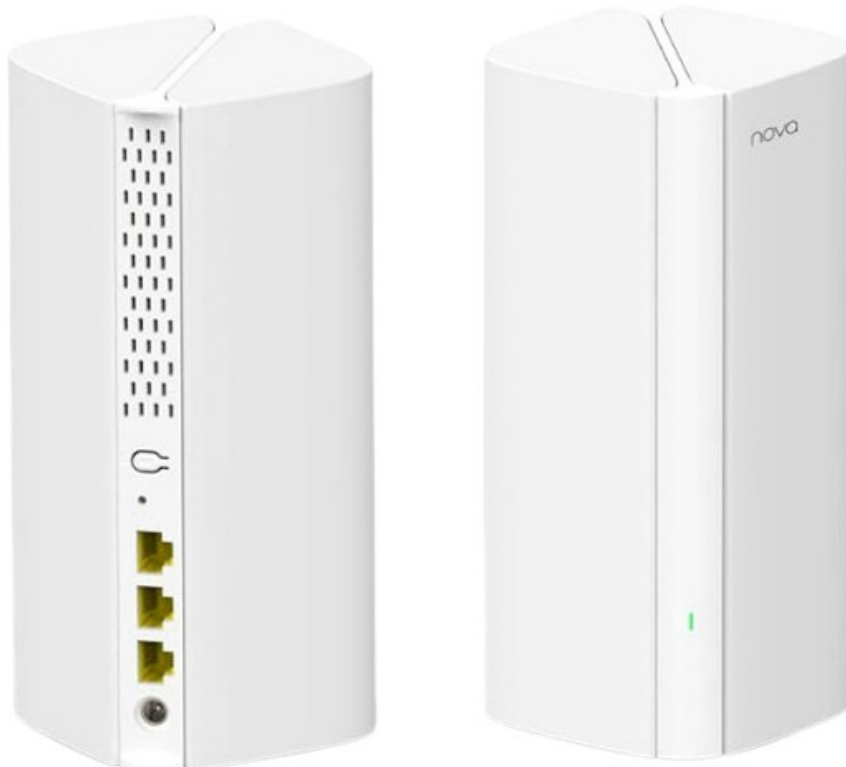


nova AX3000 Mesh Wi-Fi 6 System User Guide

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NOVA

Dual-Band 802.11ax Outdoor Wireless AP
HMHS-ATO6US0G
Product Datasheet



VERSION1.0

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Overview

WF-660AG is a dual-band 2×2 MU-MIMO 802.11ax outdoor Wi-Fi AP specifically designed for high-density deployments in outdoor locations that demand exceptional performance. With support for 802.11ax 2.4G/5G Wi-Fi access, WF-660A offers aggregated data rates of up to 1,774Gbps. This enables you to establish a high-speed and stable wireless network.

Built with enhanced transmission power and high-gain antenna, the WF-660AG 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.

Furthermore, this Wi-Fi AP features the Bluetooth 5.0 and GPS module, for convenient device deployment and management by users.

The universal mount supports both wall and pole installation. It allows for adjusting the installation angle based on the actual usage environment to achieve optimal coverage effectiveness.

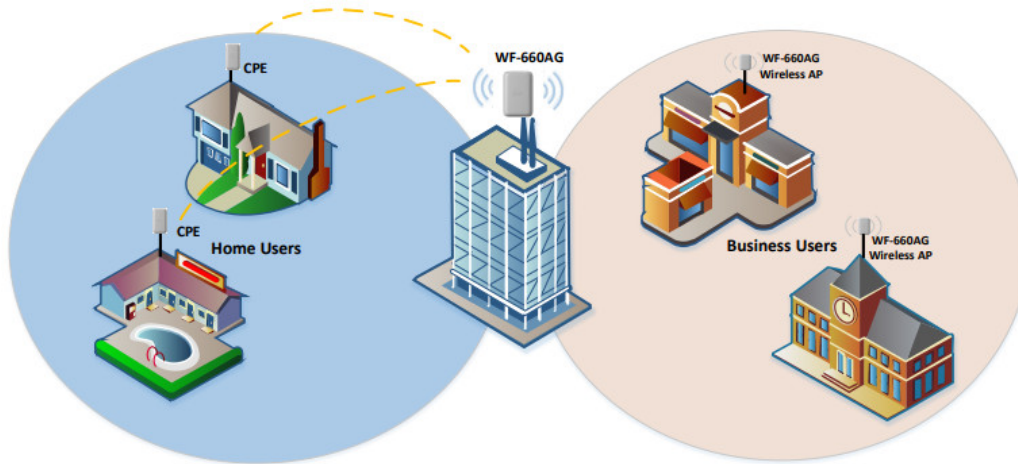
For developers, the WF-660AG offers support for Qualcomm's QSDK and OpenWiFi development platforms. This opens the door to streamlined software development, thanks to standardized interfaces, well-defined APIs, and preintegrated stacks, reducing complexities and enhancing reliability. Additionally, OpenWiFi's active community support provides valuable troubleshooting assistance, ensuring a future-proof and cost-efficient solution for innovative Wi-Fi applications.



Key Features

- Supports pole and wall mounting
- Supports 2.4G 2×2/ 40MHz Wi-Fi (802.11b/ g/ n/ ac/ ax), up to 574Mbps link rate
- Supports 5G 2×2/ 80MHz Wi-Fi(802.11a/ n/ ac/ ax), up to 1.2Gbps link rate
- Supports BLE 5.0
- Supports GPS

- 2 x Dual-band Integrated 120 directional antennas (5dBi@2.4G, 7dBi @5GHz)
- 1 x Integrated Bluetooth antenna
- 1 x 2.5GE WAN, with 802.3 at PoE (PD)
- 1x Reset Button
- 1x RGB LEDs for visual indication
- Supports OpenWiFi development platform



Specification

Item	WF-660AG
Dimension (W x D x H)	260mm x 140mm x 71mm, without bracket
Weight	1500g, without bracket
Installation	Pole and wall mounting
LEDs	1 x RGB LED (Software definition)
Interface	1 x 2.5GE WAN with 802.3 at PoE(PD 1 x Reset button
Input Voltage	42.5V-57VDC, 802.3 at PoE (PD)
Power consumption	<25W
Environmental Specification	
Temperature	Operation: -40°C +65°C Storage: -40°C +85°C
Operating Humidity	5% 95% (non-condensing)
Elevations	86kPa 106kPa altitude
Dustproof and Waterproof	IP67
Compliance	<ul style="list-style-type: none"> • NRTL Listed 62368-1 (US & CA) • CB with IEC/EN 62368-1 IEC 60950-22 (Basic safety certificate for worldwide marketing) • GB 9254 -2008(Class B of Product) EN55032 , EN55035, EN61000-4-3 Level 4; EN61000-4-2, FCC Part 15B • WEEE 2002/96/EC recyclable materials requirements

Item	WF-660AG
	<ul style="list-style-type: none"> • FCC DOC Part 15 Class B (US) • FCC Part 15 Subpart C 15.247 (US) • FCC Part 15 Subpart E 15.407 (US)
Reliability	
MTBF	<p>> 300,000 Hours</p> <p>Telcordia SR-332: Reliability Prediction Procedures for Electronic Equipment, Issue 3, Method 1, Case 3. This is based on a GB/GC (Ground Benign, Controlled) environment with a steady state condition at a 25°C ambient temperature. It does not account for software failures.</p>
AFR	AFR (Annualized Failure Rate) < 1.5% (in continuous operation)
Chipset	
SoC	Qualcomm chipset (IPQ6028)
Flash	16MB Nor Flash and eMMC5.0 4BG
DDR	512MB 16bit DDR4 memory
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			
Maximum Transmit power (per chain)	2.4G radio:24dBm@MCS0; 21dBm@MCS7; 20dBm@MCS9; 19dBm@MCS11			
	5G radio:24dBm@MCS0; 21dBm@MCS7; 20dBm@MCS9; 18dBm@MCS11			
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: MSC0 ~ MCS11			
Receive Sensitivity	802.11g: -90dBm@6Mbps -74dBm@54Mbps			
	802.11n:			
		HT20	HT40	
	MCS0/8/16	-90dBm	-87dBm	
	MCS7/15	-71dBm	-68dBm	
	802.11a: -90dBm@6Mbps -74dBm@54Mbps			
	802.11ac:			
		VHT20	VHT40	VHT80
	MCS0	-90dBm	-87dBm	-84dBm
	MCS8	-67dBm	-61dBm	-58dBm
	802.11ax:			
		HE20	HE40	HE80
	MCS0	-90dBm	-87dBm	-84dBm
	MCS11	-60dBm	-57dBm	-54dBm

Antenna Pattern (Directional Antennas)	Frequency(MHz)	2400~2500	5150~5850
	Polarization	Horizontal/Vertical	Horizontal/Vertical
	Peak Gain(dBi)	5 dBi	7dBi
	Efficiency (Avg)	>70%	>75%
	Return Loss	10dB	10dB
	Isolation	20dB	20dB
	H-Beam Width	120 degree	120 degree
	V-Beam Width	60 degree	60 degree

Horizontal planes (top view, pole mounting)

2.4GHz 5GHz

Vertical planes (side view, pole mounting)

2.4GHz 5GHz

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.

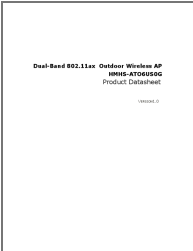
FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate this equipment.

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 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.



Documents / Resources

	<p>nova AX3000 Mesh Wi-Fi 6 System [pdf] User Guide AX3000 Mesh Wi-Fi 6 System, AX3000, Mesh Wi-Fi 6 System, Wi-Fi 6 System, 6 System</p>
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References

- [User Manual](#)