



Nebula FWA510

5G NR Indoor Router

Unlock Broadband via 5G Fixed Wireless Access

The Nebula FWA510 mobile router delivers unparalleled mobile broadband with 5G NR and enables your home, office, or Airbnb hotel experience blazing-fast 5G speed over WiFi 6 for up to 64 devices.

The plug-and-play router reduces deployment time & costs with subscriber self-installation, enables broadband Internet ready to days from weeks for homes or small businesses. Let Nebula FWA510 ensure a seamless ultra-broadband for smoother 4K/8K streaming, crisper immersive gaming/learning and uninterrupted video calls – Unleash the true 5G potential with Zyxel Nebula FWA510!

Benefits

Remote Management Anywhere with Nebula

Thanks to Nebula Cloud Center (NCC), which is the best solution to overcome the challenges for remote management or monitoring for mobile routers in cellular networks! No need additional service or support from ISPs or to lease additional DSL landline for remote access. Nebula Cloud management enables remote management anywhere!



Nebula Cloud Management

Remote Management via Nebula Cloud without additional fixed line



5G NR Sub-6 GHz

DL 2xCA, up to 4.67 Gbps/2.5 Gbps (DL/UL) with NSA & SA mode



High-speed WiFi Experience

AX3600 WiFi 6 speeds up to 3.6 Gbps*



Supports NebulaFlex

Work in standalone or Nebula cloud mode as needed



Sharable WiFi Connectivity

2.4/5GHz dual concurrent WiFi sharing with up to 64 devices

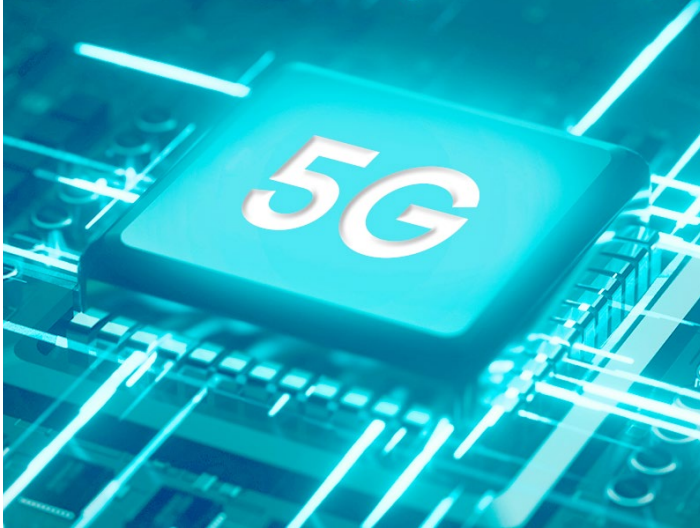


Dual WAN Failover Capability

Connection failover between both WAN interfaces

Blazing-fast 5G Speed

Thanks to the mind-blowingly fast chip, which is design with an integrated quad-core Arm CPU, it provides 5G speeds of up to an impressive 4.67 Gbps** right out of the box. Along with the two integrated 2.5 Gbps Gigabit Ethernet interfaces, allowing it a wide range of LAN port configurations for ultra-fast speed for connection to servers, workstations, or high-end gaming devices. This unlocked device will accept all SIM cards across EMEA and Asia Pacific.



Accelerate with WiFi 6

Fast and vast. When 5G meets WiFi 6, they can boost larger bandwidth and capacity than previous legacy solutions. The Nebula FWA510 offers speeds of up to 3.6 Gbps* on dual bands with the latest WiFi 6 (AX3600) standard. The Nebula FWA510 can deliver an optimal seamless high-speed WiFi experience to 64 wireless devices simultaneously.



24/7 Non-stop Connectivity

The Nebula FWA510 ensures that you'll have internet access even during a fixed line network outage with the WAN failover capability, which allows Nebula FWA510 to either serve as a primary or backup option for internet access according to your needs. It is equipped with four external TS9 antenna ports***, allowing you to improve mobile broadband reception when you are in a weak-signal area.

Security without Compromise

The Nebula FWA510 is deployed with simple yet essential security and protection functions to help you reduce the risk of falling a victim of data theft and sabotage.

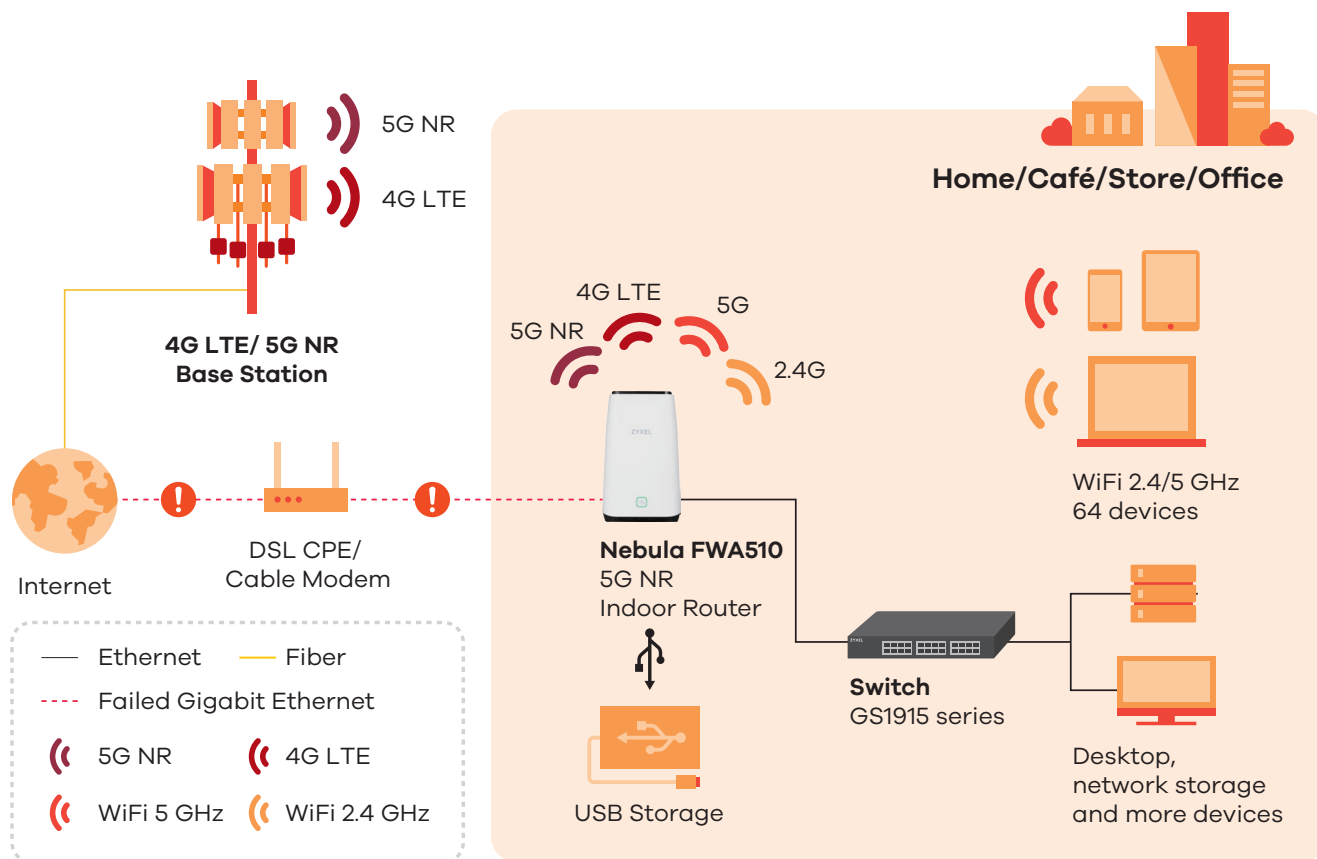
- Multiple SSIDs/hidden SSIDs
- Application-level firewall
- NAT/NAPT firewall
- LAN MAC filtering
- Stateful Packet Inspection (SPI)
- IP filtering
- WPA2 and WPA3
- WLAN MAC filtering
- URL filtering
- DoS attack detection



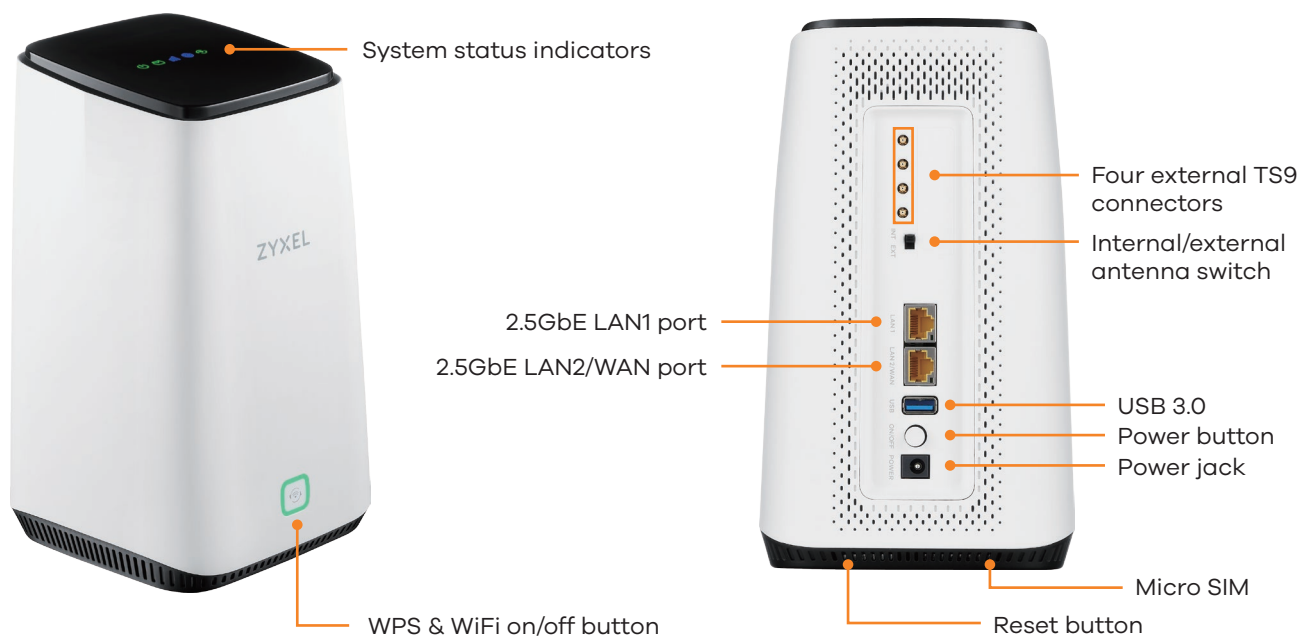
Identify Right Location Just Easy for Best Performance

Our free and easy to use "Zyxel Air" mobile app assist customers in identifying the right location where will achieve the best performance. The Nebula FWA510's smooth, rubber exterior and discreet, sleek design make it both durable and stylish. Its plug-and-play capability, and intuitive LED indicators on the device makes your networking experience more efficient and intelligent!

Application Diagram



Hardware Description



Nebula FWA510 License Pack



Nebula offers flexible options that match your requirements, whether you are looking for a complimentary option giving you some peace of mind at no extra cost, more control over your network updates and visibility, or even the most advanced management of cloud networking, Nebula is here to help you. The plan you choose will determine the service level of Nebula Cloud. The Nebula FWA510 default bundled with one-year Nebula Pro Pack service.

Feature Name	Base Pack	Plus Pack	Pro Pack
Unlimited Registration & Central Management (Configuration, Monitoring, Dashboard, Location Map & Floor Plan Visual) of Nebula Devices	●	●	●
Over-the-air Firmware Management	●	●	●
Admin Accounts per Organization (Full Access for Administration Rights)	5	8	No Limit
Advanced Firmware Scheduling (Org/Site/Device)		●	●
Automatic Network Topology (Visual and Actionable)		●	●
Email users and alert Notifications		●	●
Organizational User Audit / Change Logs			●
Configuration Backup/Restore			●
Priority Nebula Support Request (Direct NCC incl. Web Chat)			●

* Search [Nebula Control Center](#) for more Nebula license plan

Specifications

System specifications

IP networking

- Supports IPv4/IPv6 dual stack (NDP IPv6)
- DHCP server
- Virtual Private Network (VPN) pass-through
- Supports NAT/NAPT
- Supports DMZ
- Multiple APNs
- Supports port forwarding
- Supports ALG

Routing

- Supports bridge and router modes
- Supports dynamic DNS for first APN
- Supports remote management under bridge mode
- Static/dynamic routing settings for RIP v1/v2

IP firewall

- DoS attack detection
- Supports stateful packet inspection (SPI)
- Application-level firewall (LAN to WAN such as HTTP, Telnet, Ping)
- Filters LAN MAC address
- Filters LAN IP address
- Filters URLs

Management

- Supports local web GUI management (HTTP/HTTPS) and firmware upgrade
- Nebula Cloud Management
- Nebula mobile app (iOS and Android) for monitoring anytime anywhere
- Supports Zyxel Air app (iOS and Android) for easy installation and local management only

WLAN feature

- Auto channel selection
- WiFi Protected Setup (WPS)
- WiFi Multimedia (WMM)
- WiFi-enabled devices: up to 64
- Security: none, WPA2-Personal, WPA+WPA2, WPA2+WPA3, WPA3
- MAC address filtering with 64 addresses supported
- Multiple SSIDs/hide SSIDs
- WLAN scheduling

Hardware specifications

5G NR interface

- 3GPP Release 15 standard-compliant
- Supports both NSA and SA modes
- Supports Sub-6 NR DL 2xCA (TDD/FDD)
- Supports frequencies:
 - FDD: n1, n3, n5, n7, n8, n20, n28
 - TDD: n38, n40, n41, n77, n78

- Supports DL 4x4 MIMO:

- FDD: n1, n3, n5, n7
- TDD: n38, n40, n41, n77, n78

- Data rates:

- 5G SA: DL 4.67 Gbps; UL 2.5 Gbps**
- 5G NSA: DL 3.74 Gbps; UL 1.46 Gbps**

- Supports DL modulation QPSK, 16-QAM, 64-QAM and 256-QAM

- Supports UL modulation QPSK, 16-QAM, 64-QAM and 256-QAM

- Output power:

- Class 2 (26 dBm) for 5G NR n41/n78
- Class 3 (23 dBm) for all 5G NR bands

4G LTE interface

- 3GPP UE Category 19 standard-compliant

- Supports frequencies:

- LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32
- LTE-TDD: B38/B40/B41/B42

- Supports DL 4x4 MIMO:

- LTE-FDD: B1/B3/B7
- LTE-TDD: B38/B40/B41/B42

- Peak data rates:

- Max. DL 1.6 Gbps/UL 200 Mbps*

- Supports DL modulation QPSK, 16-QAM, 64-QAM and 256-QAM

- Supports UL modulation QPSK, 16-QAM, 64-QAM and 256-QAM

- Output power:
 - Class 2 (26 dBm) for LTE B41
 - Class 3 (23 dBm) for FDD/TDD LTE bands

WiFi air interface

- Wireless standard:
 - IEEE 802.11 b/g/n/a/ac/ax
- Wireless speeds:
 - Link rates up to 1.2 Gbps** for 2.4 GHz
 - Link rates up to 2.4 Gbps** for 5 GHz
- WiFi antenna gain:
 - ~3 dBi for 2.4 GHz
 - ~5 dBi for 5 GHz

5G NR/4G LTE antennas

- Four TS9 connectors for external antennas***
- Four embedded omni-directional antennas
- Ultra-high band:
 - Up to 5 dBi peak gain
- High band and middle band:
 - Up to 5 dBi peak gain
- Low band:
 - Up to 4 dBi peak gain

Hardware interface

- Two 100/1000/2500 Mbps Ethernet RJ-45 LAN ports, LAN2 can be configured for Ethernet WAN port
- LED indicators:
 - Power indication
 - SMS status
 - Signal strength
 - Internet connection status

- Radio access technology status
- WiFi AP status
- WPS status
- Four external antenna connectors (TS9 type)***
- One 3FF/Micro SIM card slot
- One power on/off button
- One WPS/WiFi on/off button
- One reset button
- One Int/Ext antenna switch
- One USB 3.0 host port for file sharing

Power consumption

- 48 W (peak)

Physical specifications

- Item dimensions (WxDxH): 132.5 x 134 x 230 mm (5.22" x 5.28" x 9.06")
- Item weight: 1,006 g (2.22 lb.)
- Packing dimensions (WxDxH): 250 x 200 x 140 mm (9.84" x 7.87" x 5.51")
- Packing weight: 1,504 g (3.32 lb.)

Environmental specifications

Operating environment

- Temperature: 0°C to 40°C (32°F to 104°F)
- Humidity: 10% to 90% RH (non-condensing)

Storage environment

- Temperature: -30°C to 70°C (-22°F to 158°F)
- Humidity: 5% to 95% (non-condensing)

Certification

- CE/Safety
- WEEE (Waste Electrical and Electronic Equipment) Directive certification
- RoHS (Restriction of Hazardous Substances) Directive certification
- HSF (Hazardous Substance Free)
- European Parliament and Council Directive 94/62/EC of December 20, 1994 on packaging and packaging waste

Package contents

- EU/UK power adaptor
- Ethernet cable 1.8 m 8P8C
- Quick start guide
- Warranty card
- DoC
- Safety warranty

* The maximum data rate is a theoretical value. The actual data rate depends on the network environment.

** The maximum data rate is a theoretical value. 5G wireless plan and coverage required. Speeds will vary. Check with your carrier for details.

*** The TS9 connectors support 698 - 4200 MHz frequency.

Zyxel Air App



Nebula Mobile App



Success Story



For more product information, visit us on the web at www.zyxel.com

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