



## NR5101

### 5G NR Indoor Router

Get a head start on building your smart workplace. It's time to upgrade your network to a constant reliable 5G connectivity, improve your network capacity to handle a greater number of connected devices. Empower your future with NR5101, let it be your backbone of your network to pave the way for your future business success!

### Benefits

#### Effortlessly Manage All Devices Anytime Anywhere at Any Scale

The 5G NR indoor router has two variants, **NR5101** for on-premise solution and **Nebula NR5101**, which allows it to deliver consistent high-quality network connectivity for business-critical operations by Nebula cloud solution anytime anywhere with ease. Centrally provisioning and seamlessly monitoring all networking devices, including access points, switches and firewalls, within your organization across distributed locations from the Nebula platform, while keeping your network aware of constantly changing devices. If your deployment requires on-premise solution without the need for cloud monitoring for device status, NR5101 is the device for you.



5G NR with up to 5 Gbps\* download rate



Nebula cloud management for **Nebula NR5101** only



Connection failover between both WAN interfaces



Sharable WiFi 6 with up to 64 devices



High-gain 4x4 MIMO built-in LTE/5G antenna + 2 external antenna ports



Embedded bridge and router mode

## Next-Gen Connectivity

When 5G meets WiFi 6, they can boost larger bandwidth and capacity than legacy solutions. These two cutting edge technologies come together in the NR5101, bringing new heights to performance and capacity for mobile users and IoT devices in commercial buildings. NR5101 deploys AX1800 WiFi 6, which can deliver up to 4x the speed compared to WiFi 5.

## Multifunction Router, All Up to You

NR5101 is not only a simple network router, but it also combines WLAN AP, LAN gateway, and USB 2.0 functions all into one box. Its WiFi 6 can share up to 64 wireless devices simultaneously. Operates both in bridge and router mode, making the device easy to deploy and integrate into your existing environment. NR5101 offers more than just 5G, the variety of usages are entirely up to you!



## Cutting-edge Connectivity

NR5101 is equipped with the cutting-edge 5G technology, connections for downlink speeds can go up to 5 Gbps with 6 built-in 5G/LTE/3G antennas. Designed for those who need a consistent high-speed connection when traditional wired broadband is slow, spotty, or unavailable. Its WAN failover capability ensures that you'll have internet access even during a network outage, which can make it serve as a primary or backup option for internet access. Its external antenna ports also allow you to improve signal reception.

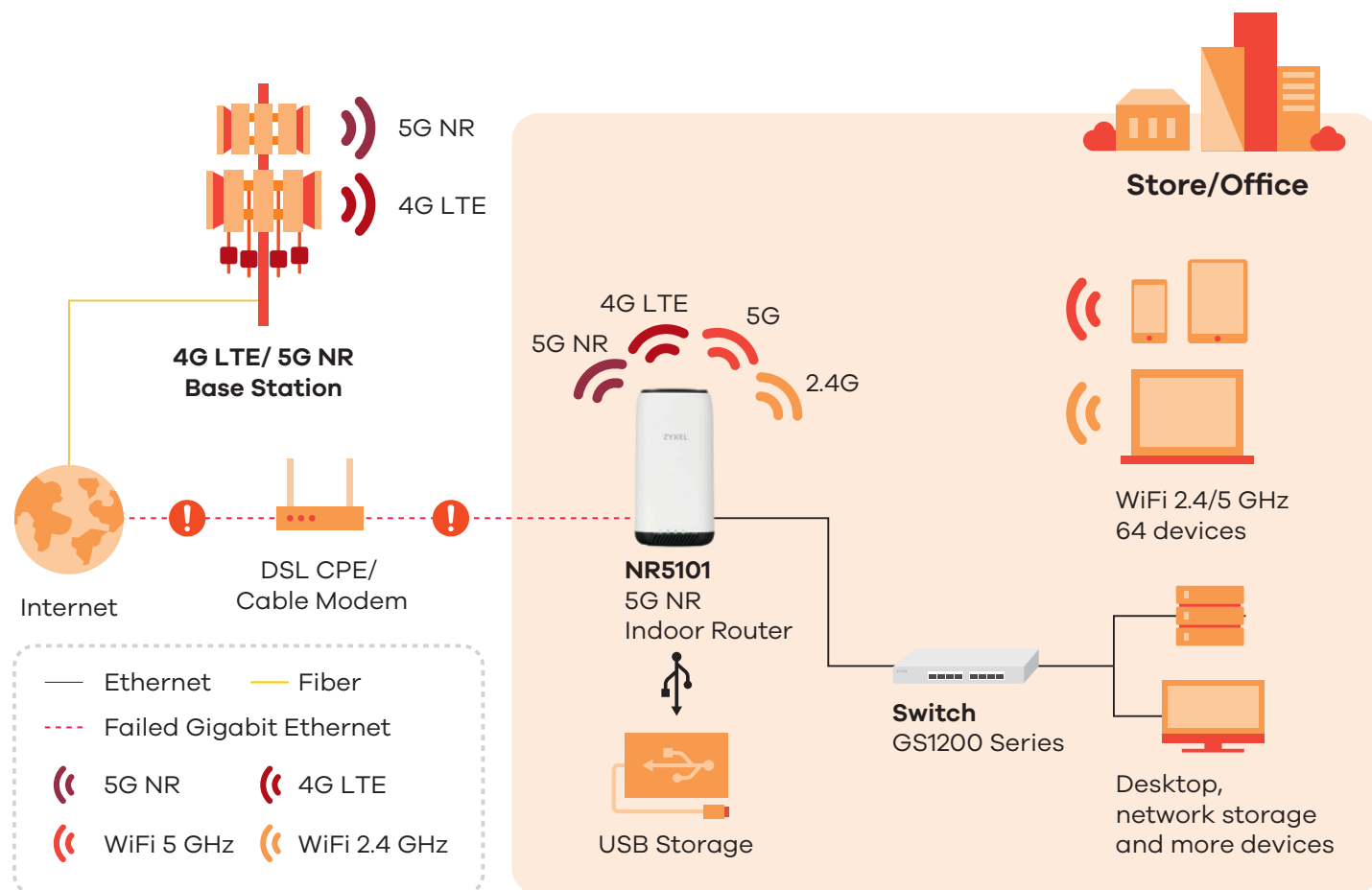
## Security without Compromise

Protect your smart building and workplace. When these places are full of connected network devices, they become possible entry points for cybercriminals. NR5101 is shipped with essential security features!

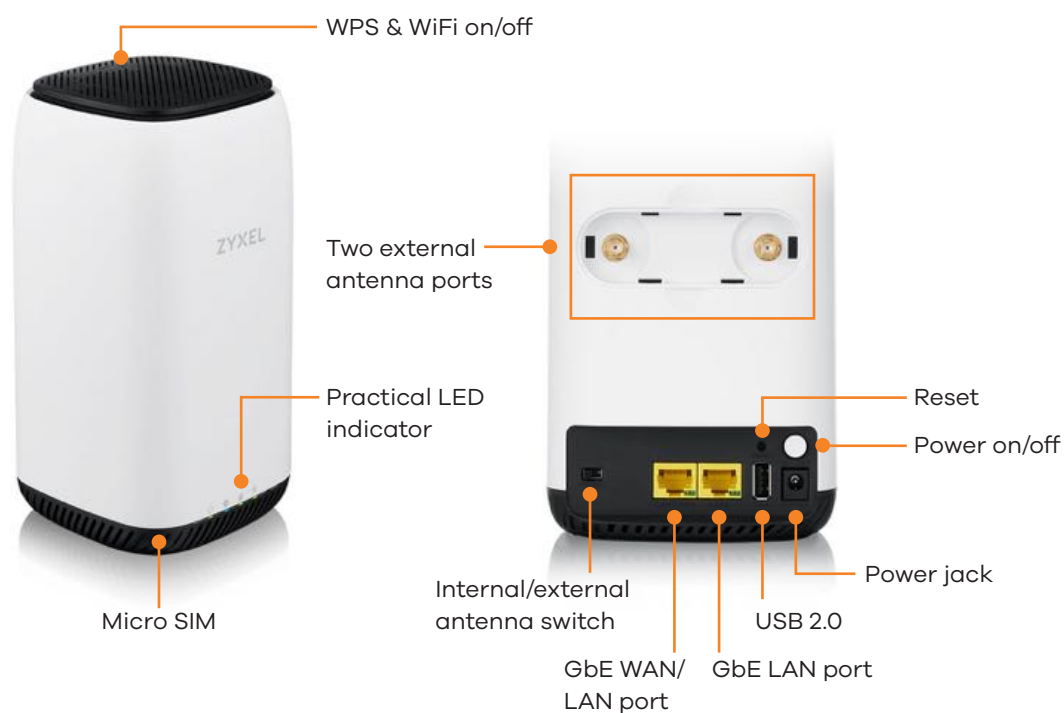
- Multiple SSIDs/hidden SSIDs
- NAT/NAPT firewall
- DoS attack detection
- WPA2 and WPA3
- SPI
- Application-level firewall
- LAN MAC/IP filtering
- URL filtering



## Application Diagram



## Interface Description



# Specifications

## Hardware Specifications

### 5G NR interface

- 3GPP Release 15 standard-compliant
- Supports both NSA and SA modes
- Supports frequencies: n1/n3/n5/n7/n8/n20/n28/n41/n77/n78/n38/n40
- DL 4x4 MIMO: n1/n3/n7/n38/n40/n41/n77/n78
- Data rates:
  - 5G SA: DL 4.2 Gbps; UL 900 Mbps\*
  - 5G NSA: DL 5 Gbps; UL 650 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 5G NR n41/n77/n78
  - Class 3 (23 dBm) for 5G NR n1/n3/n5/n7/n8/n20/n28/n38/n40

### 4G LTE interface

- 3GPP UE Category 20 standard-compliant
- Supports frequencies:
  - LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32/B38/B39
  - LTE-TDD: B40/B41/B42
- DL 4x4 MIMO:
  - LTE-FDD: B1/B3/B7
  - LTE-TDD: B38/B40/B41/B42
- Peak data rates:
  - Max. DL 2 Gbps/UL 200 Mbps\*
- 4 internal antennas
- 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 B38/B40/B41/B42
  - Class 3 (23 dBm) for FDD/TDD LTE bands

### UMTS/EDGE/GPRS/GSM Air interface

- Standard-compliant: DC-HSDPA/HSPA+ compliant
- DC-HSDPA/HSPA+ standards-compliant
- Supports frequencies: B1/3/5/8

- Peak data rates:
  - DC-HSPA+ downlink data rates up to 42 Mbps\*
  - HSUPA uplink data rates up to 5.76 Mbps\*
  - UMTS data rates up to 384 Kbps\*

### WiFi Air Interface

- Wireless standard: IEEE 802.11 b/g/n/a/ac/ax
- Wireless speeds:
  - Link rates up to 573 Mbps\* for 2.4 GHz
  - Link rates up to 1.2 Gbps\* for 5 GHz
- Internal WiFi antenna:
  - Dual-band & concurrent 2x2 + 2x2
- WiFi antenna gain:
  - ~3 dBi for 2.4 GHz
  - ~5 dBi for 5 GHz

### 5G/4G/3G antennas

- 2 SMA connectors for external antennas\*\*
- 6 embedded omni-directional antennas
- Ultra-high band:
  - Up to 4 dBi peak gain
- High band and middle band:
  - Up to 4 dBi peak gain
- Low band:
  - Up to 2 dBi peak gain

## Hardware interface

- Two 10/100/1000 Mbps Ethernet RJ-45 LAN ports, LAN1 can be configured for Ethernet WAN port
- LEDs:
  - Power indication
  - LTE connection status
  - LTE signal status
  - WiFi connection status
  - USB host status
  - LAN status
- Two external antenna connectors (SMA type)
- One 3FF/Micro SIM card slot
- One power on/off button
- One WPS/WiFi on/off button
- One LED on/off button
- One reset button
- One USB 2.0 host port for file sharing

## Power consumption

- 24 W (peak)

## Physical Specifications

- Item dimensions (WxDxH): 100 x 100 x 205 mm (3.94" x 3.94" x 8.07")
- Item weight: 600 g (1.32 lb.)
- Packing dimensions (WxDxH): 247 x 170 x 120 mm (9.72" x 6.7" x 4.73")
- Packing weight: 1600 g (3.54 lb.)

## Environmental Specifications

### Operating Environment

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

### Storage Environment

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

## Certification

- CE
- 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 20 December 1994 on packaging and packaging waste

## Package Contents

- Multiple-plug power adaptor
- Ethernet cable 1.8 m 8P8C
- Quick Start Guide
- Warranty card
- DoC
- Safety warranty

\* The maximum data rates is a theoretical value. The actual data rates depend on the network environment.

\*\* 2 SMA connectors only support 3300-4200 MHz frequency.

## Nebula NR5101 License Pack



nebula

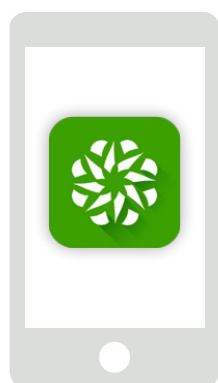
Nebula offers flexible options that match your requirements, whether you are looking for a complimentary option giving you some peace of mind at no extra cost more control over your network updates and visibility, or even the most advanced management of cloud networking, Nebula is here to help you. The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

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)			●

\* Only available for **Nebula NR5101** model

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

## Nebula Mobile App



Q Nebula Mobile



\* Only available for **Nebula NR5101** model

## Success Story



## Ordering Information

Model	Part Number	Description
<b>NR5101</b>	NR5101-EUZN2F	5G NR Indoor Router
<b>Nebula NR5101</b>	NR5101-EUZN1F	Nebula Cloud-managed 5G NR Indoor Router

For more product information, visit us on the web at [www.zyxel.com](http://www.zyxel.com)

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22/01/20

Datasheet **NR5101**