



NR5103

5G NR Indoor Router

The Zyxel NR5103 5G NR Indoor Router supports the latest 5G NR technology while at the same time remaining the full compatibility with 4G networks. The NR5103 is ideal for 5G NR FWA deployment. Certified with WiFi 6 and EasyMesh R2, the NR5103 allows service providers to deliver premium broadband services across customers' homes or workplaces.

Benefits

Lightning-fast internet connectivity

The Zyxel NR5103 supports 5G NR DL speeds of 4.67 Gbps* and 4G LTE DL speeds of up to 1.6 Gbps*. Wide-spectrum bandwidth accelerates internet speed and reduces network latency for premium and time-sensitive mobile broadband services.

WiFi 6 (11ax) technology for superior performance and coverage with WiFi 6 and EasyMesh R2 certification

Compliant with the latest WiFi 6 (802.11ax) standard, the Zyxel NR5103 offers speeds of up to 3.6 Gbps with 4x4 UL/DL MU-MIMO. With the uplink MU-MIMO, Orthogonal Frequency Division Multiple Access (OFDMA), and beamforming technologies, the NR5103 delivers premium speed for multi-streaming data access. Along with the WiFi 6 and EasyMesh R2 certification, the NR5103 empowers service providers to deliver an optimal WiFi experience without dead zones.



3GPP Rel. 15 5G NR Sub-6 GHz DL 2xCA, up to 4.67 Gbps/ 2.5 Gbps (DL/UL) with NSA & SA mode



WiFi 6 (11ax) 4x4 + 4x4 for superior performance and coverage



Built-in 4x4 MIMO, 4 high performance 4G/5G antennas



Certified with WiFi 6 and EasyMesh R2



Remote management via TR-069 (TR-181 and TR-143 speed test) HTTPS/web GUI



Remote firmware upgrade (FOTA)



Zyxel Air app (iOS and Android)

Strengthen your competitive edge with Fixed Wireless Access (FWA)

Deploying NR5103 as part of FWA allows you to extend your 4G/5G service coverage into subscribers' homes and workplaces without extra wire infrastructure. This secures the TCOs and increases business revenue by supporting a larger number of subscribers with a premium fixed-grade connection.

SA/NSA dual-mode compliant

The Standalone (SA) and Non-Standalone (NSA) compliant architecture of NR5103 improves your operational efficiency during 5G migration, accelerating your 5G service rollouts.

Remote management and upgrade

Through the 4G/5G radio interface, the NR5103 supports TR-069, and remote GUI to be fully configurable. Firmware Over-The-Air (FOTA) support enables remote firmware upgrades and troubleshooting through events triggered by the operators.

Easy network setup and management with Zyxel Air

The NR5103 comes with a subscriber app – Zyxel Air. The intuitive user interface of Zyxel Air provides your customers with the necessary assistance from device setup to routine management, minimizing service calls while enhancing user satisfaction.



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 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/remote device management and firmware upgrade via TR-069 and web GUI
- SMS management
- PIN/PUK management
- APN management
- Operating frequency band selection
- CLI/SSH (local and remote SSH access)

- Supports UPnP IGD
- Supports web server API to support APPs
- 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 address 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: n1/n3/n5/n7/n8/n20/n28/n41/n77/n78/n38/n40
- Supports DL 4x4 MIMO: n1/n3/n7/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
- WiFi 6 certified
- EasyMesh R2 certified
- 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

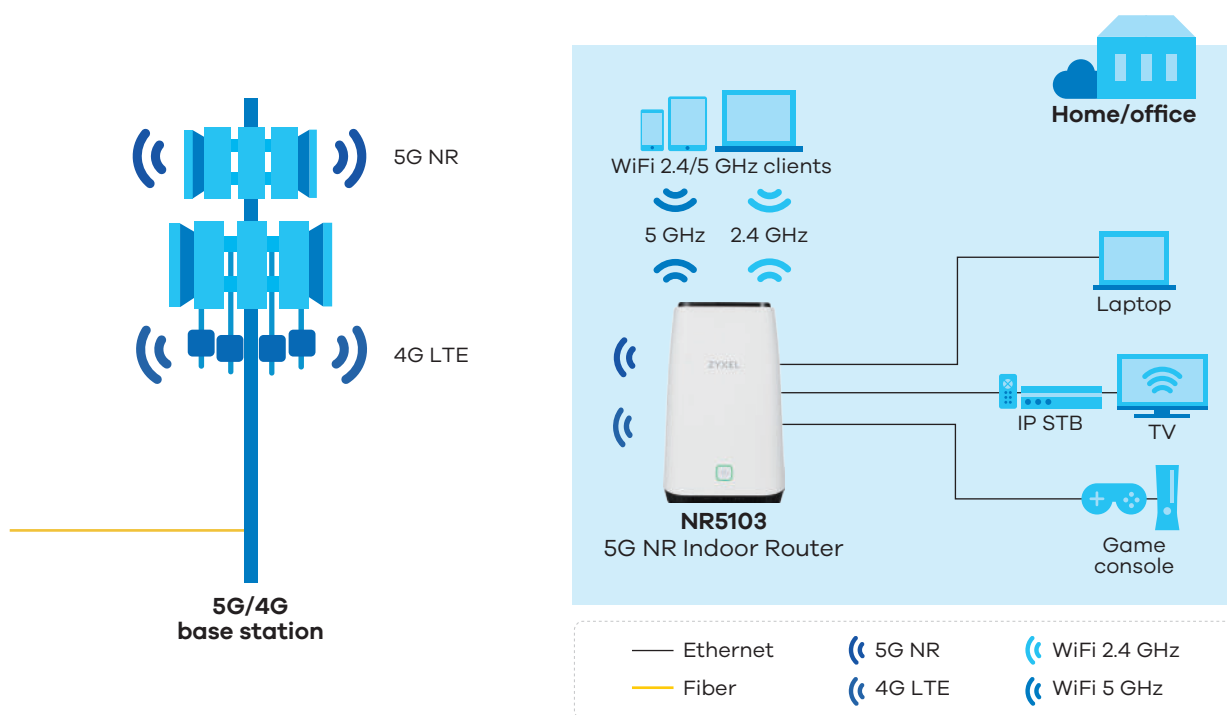
Package contents

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

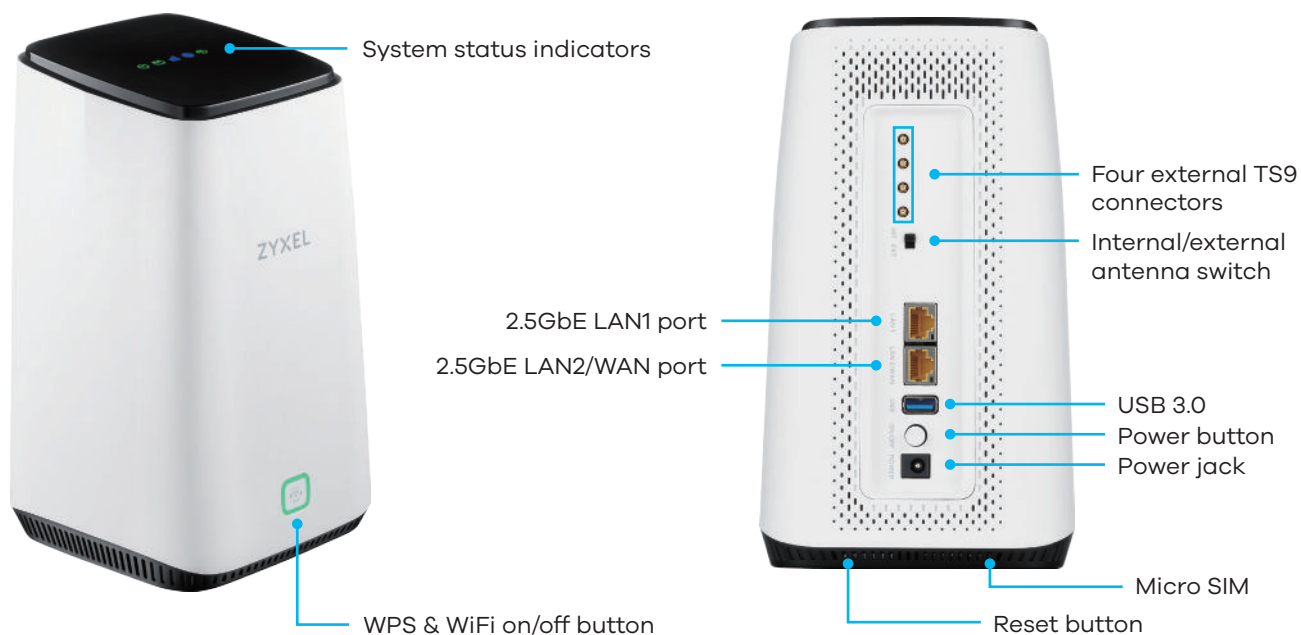
* The maximum data rates is a theoretical value. The actual data rates depend on the network environment.

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

Application diagram



Hardware description



For more product information, visit us on the web at <https://service-provider.zyxel.com>

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