



NR5103E

5G NR Indoor Router

The Zyxel NR5103E 5G NR Indoor Router supports the latest 5G NR technology while at the same time remaining the full compatibility with 4G networks. The NR5103E is perfect for 5G NR indoor FWA deployment. Service providers can deliver premium broadband services with high speed and capacity across customers' homes or workplaces through the WiFi 6 interface.

Benefits

Lightning-fast internet connectivity

The Zyxel NR5103E has 5G NR DL speeds of up to 4.7 Gbps* and 4G LTE DL speeds of up to 1.6 Gbps*. The wide spectrum bandwidth accelerates internet speeds and reduces network latency for premium and time-sensitive connectivity services. With the high-speed 5G NR service you are able to fulfill the worldwide market requirements of mobile broadband access services.

WiFi 6 (11ax) technology for superior performance and coverage

Compliant with the latest WiFi 6 (802.11ax) standard, the Zyxel NR5103E offers speeds of up to 1.8 Gbps with 2x2 UL/DL MU-MIMO. The uplink MU-MIMO, Orthogonal Frequency Division Multiple Access (OFDMA) and beamforming technologies empower the NR5103E to deliver premium speed for multi-streaming data access and optimal WiFi experience without dead zones.



3GPP Rel. 15 5G NR, up to 4.7 Gbps/2.5 Gbps (DL/UL) with the support of NSA & SA mode



WiFi 6 (11ax) 2x2+2x2 for superior performance and coverage



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



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



Remote firmware upgrade (FOTA)



Zyxel Air app (iOS and Android)

Strengthen your competitive edge with Fixed Wireless Access (FWA)

Deploying NR5103E as part of FWA allows you to extend your 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 fiber-grade connection.

Easy installation with Zyxel Air

The NR5103E comes with an IEEE 802.3af/at Power over Ethernet (PoE) and a subscriber app – Zyxel Air. The intuitive user interface of Zyxel Air provides the necessary assistance from device setup to routine management. You can minimize service calls during the installation process while enhancing a satisfying user experience.



Remote management and upgrade

Through the 5G/LTE radio interface, the NR5103E supports TR-069, remote GUI, and FTP to be fully configurable. Firmware Over-The-Air (FOTA) support enables remote firmware upgrades and troubleshooting through events triggered by the operators.

SA/NSA dual-mode compliant

The Standalone (SA) and Non-Standalone (NSA) compliant architecture of NR5103E improves your operational efficiency during 5G migration, accelerating your 5G service rollouts.

Specifications

System specifications

IP networking

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

Routing

- Supports bridge and router modes
- Supports remote management under bridge mode

IP firewall

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

Management

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

- Supports UPnP IGD
- 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, WPA3
- MAC address filtering with 64 address supported
- Multiple SSIDs/hidden SSIDs
- WLAN scheduling

Hardware specifications

5G NR interface

- 3GPP Release 15 standard-compliant
- Supports both NSA and SA modes
- Supports frequencies:
 - FDD: n1/n3/n7/n8/n20/n28
 - TDD: n38/n40/n41/n77/n78
- Supports DL 4x4 MIMO: n1/n3/n7/n38/n40/n41/n77/n78
- Data rates:
 - 5G SA: DL 4.7 Gbps; UL 2.5 Gbps*
 - 5G NSA: DL 3.7 Gbps; UL 1.5 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 rest FDD/TDD 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: B34/B38/B39/B40/B41/B42/B43
- Supports DL 4x4 MIMO: B1/B3/B7/B32/B41/B42/B43
- Peak data rates: Max. DL 1.6 Gbps/UL 316 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 rest FDD/TDD LTE bands

WiFi Air Interface

- Wireless standard: IEEE 802.11b/g/n/a/ac/ax
- Wireless speeds: Link rates up to 1,774 Mbps* for 802.11ax DBDC
- Internal WiFi antenna: Dual-band & concurrent 2x2 + 2x2
- WiFi antenna gain:
 - ~3.6 dBi for 2.4 GHz
 - ~4.5 dBi for 5 GHz

5G/4G antennas

- 4 TS9 connectors for external antennas
- 4 embedded omni-directional antennas
- Antenna Spec (peak gain):
 - 700 MHz ~ 800 MHz: 3.3 dBi
 - 800 MHz ~ 1 GHz: 5.3 dBi
 - 1.4 GHz ~ 2.7 GHz: 5.9 dBi
 - 3.3 GHz ~ 4.2 GHz: 5.2 dBi

Hardware interface

- Two 10/100/1000/2500 Mbps Ethernet RJ-45 LAN ports, LAN2 can be configured for Ethernet WAN port
- One internal/external antenna switch
- Four TS9 external antenna connectors
- LEDs:
 - Power/System status
 - Short message
 - 5G/LTE signal strength
 - Internet status
 - WiFi/WPS status
- One 3FF/Micro SIM card slot
- One power on/off button
- One WPS/WiFi on/off button
- One reset button
- One USB 3.0 host port for file sharing

Power consumption

- 20 W (peak)

Physical specifications

- Item dimensions (WxDxH): 134 x 132 x 227 mm (5.28" x 5.20" x 8.94")
- Item weight: 982 g (2.17 lb.)
- Packing dimensions (WxDxH): 227 x 200 x 140 mm (8.94" x 7.87" x 5.51")
- Packing weight: 1730 g (3.81 lb.)

Environment specifications

Operating environment

- Temperature: -10°C to 40°C (14°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: 0% to 95% (non-condensing)

Certification

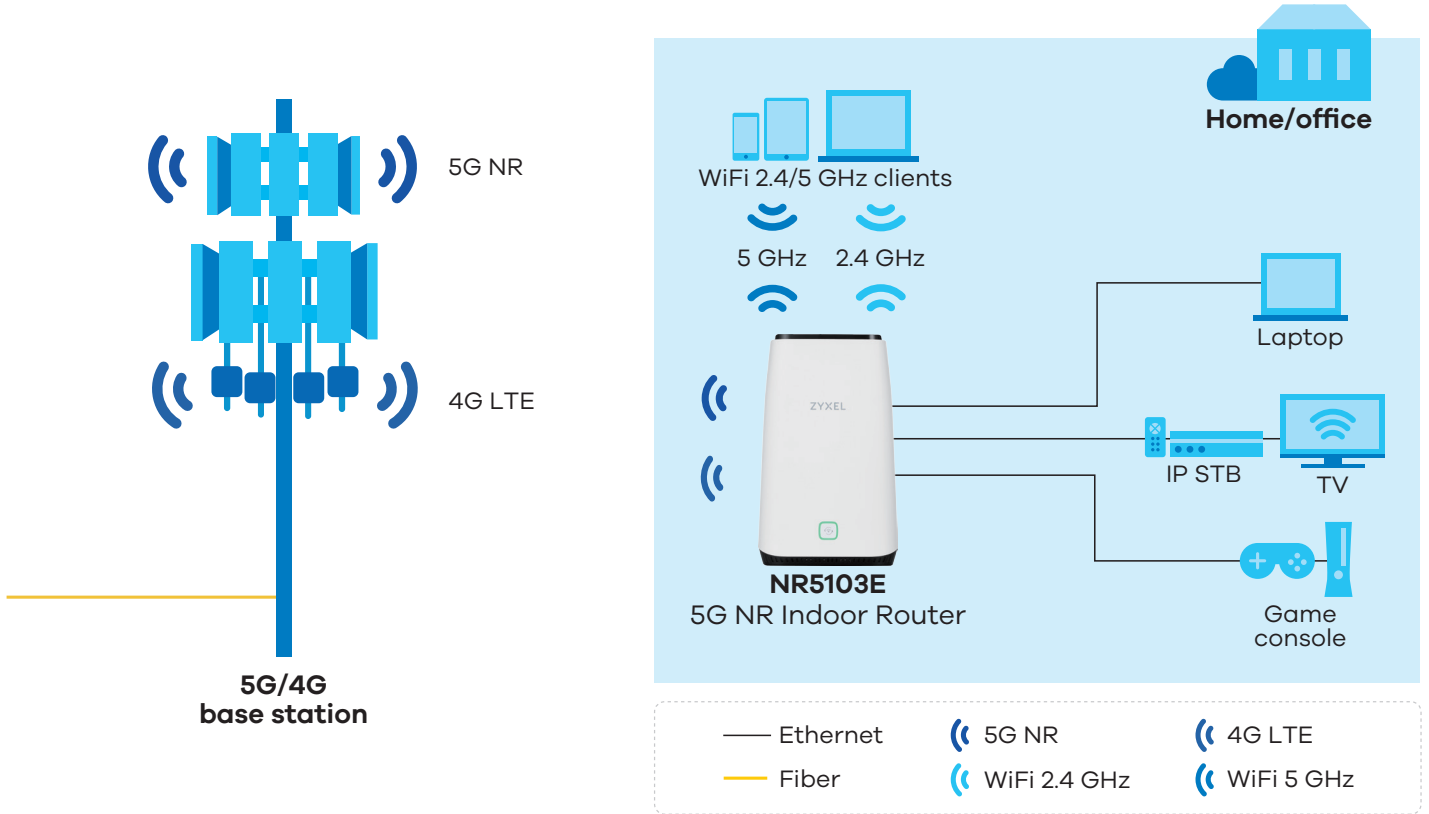
- CE
- UKCA
- WiFi Alliance Certification

Package contents

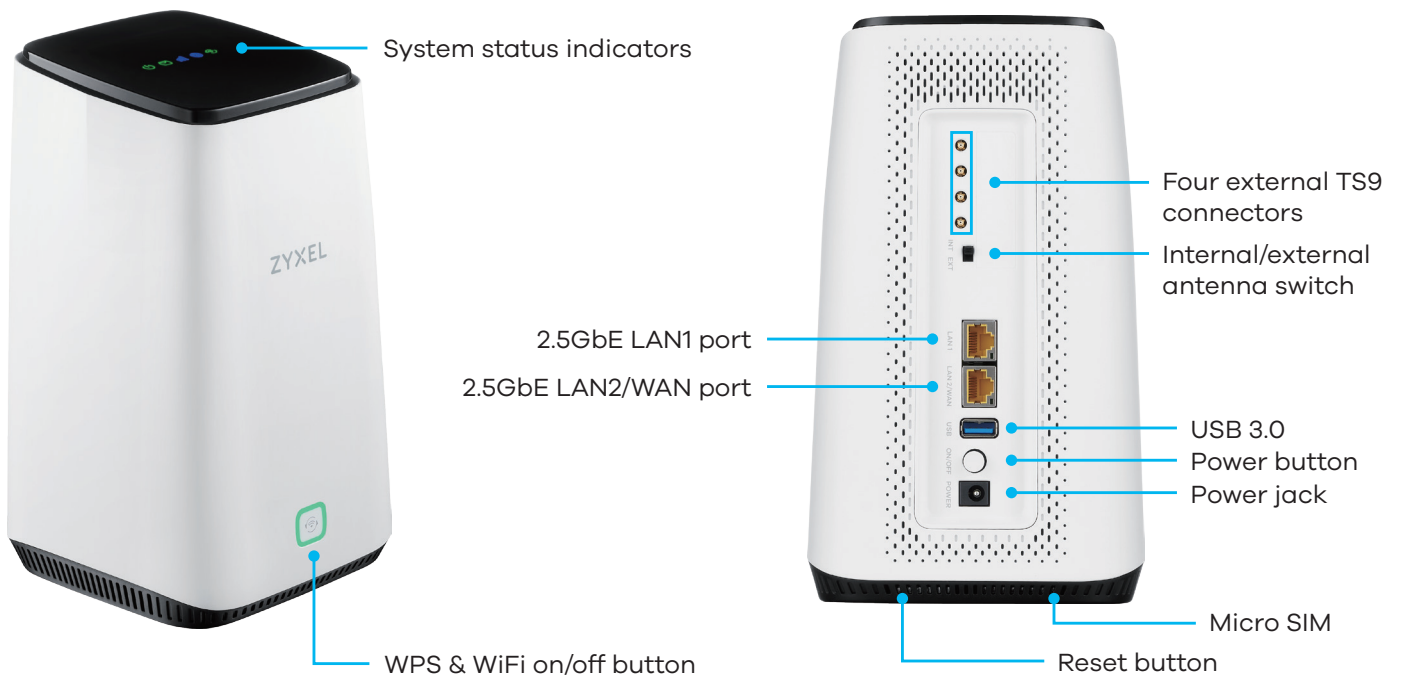
- UK plug power adaptor
- Ethernet cable 1.8 m 8P8C
- Quick Start Guide

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

Application diagram



Hardware description



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

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Datasheet [NR5103E](#)