



## NR7103

### 5G New Radio Outdoor Router

The Zyxel NR7103 5G New Radio Outdoor Router supports the latest 5G NR technology and at the same time remaining full compatibility with 4G/3G networks. This makes NR7103 the best choice for operators who are looking for 5G NR FWA solutions to deliver high-capacity, premium broadband services with high-speed connectivity, enhanced network security and deployment flexibility.

### Benefits

#### Lightning-fast internet connectivity

The Zyxel NR7103 has 5G NR DL speeds higher than 5 Gbps\* and 4G LTE DL speeds of up to 2 Gbps\*. The wide spectrum bandwidth accelerates internet speeds and reduces network latency for premium and time-sensitive connectivity services.

#### Strengthen your competitive edge with Fixed Wireless Access (FWA)

Deploying NR7103 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 fixed-grade connection.



3GPP Rel. 15 5G NR, up to 5 Gbps/650 Mbps (DL/UL) with the support of NSA & SA mode



DL 4x4 MIMO, 4 built-in high-gain 4G/5G antennas of up to 10 dBi per element



Standard 802.3af/at 2.5GbE PoE



Bridge and router modes, IPv4/IPv6 dual stack



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



Hardened IP68-certified enclosure with industrial-grade components



Zyxel mobile apps (iOS and Android)



Remote firmware upgrade

### Remote management and upgrade

Through the LTE radio interface, NR7103 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.

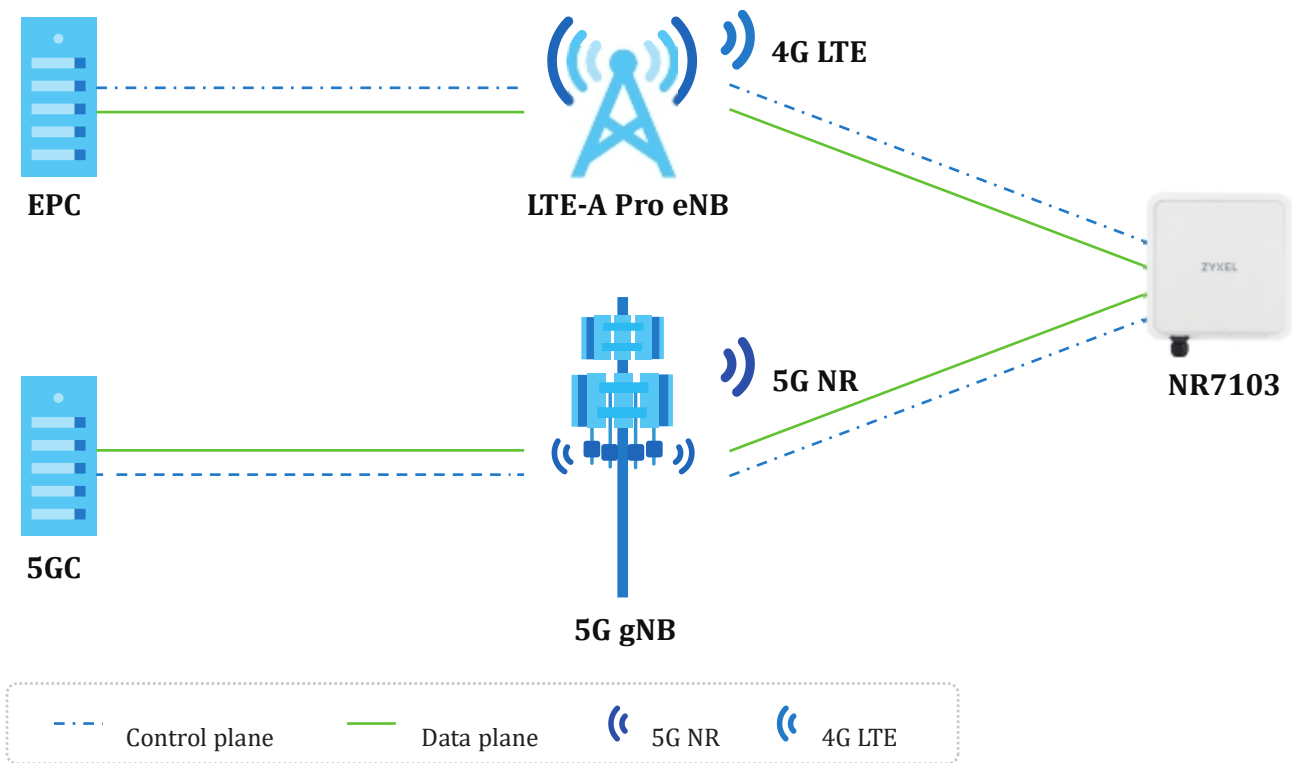
### Easy installation and SA/NSA dual-mode compliant

The Zyxel NR7103 is equipped with a flexible wall or pole mounting kit, integrated IEEE 802.3af/at Power over Ethernet (PoE) support and dedicated WiFi AP with mobile apps content graphics for eNB/gNB alignment. NR7103 is also interoperable with both Standalone (SA) and Non-Standalone (NSA) deployments.

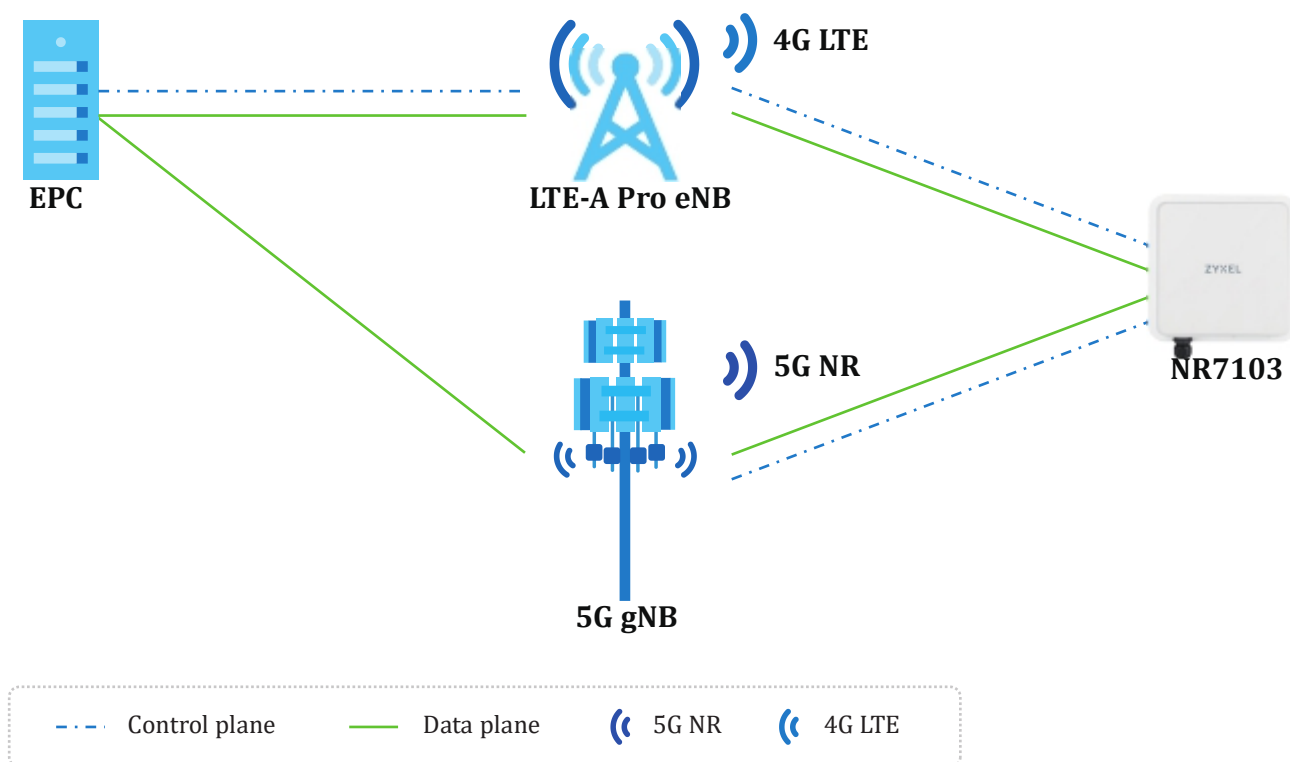
### Environmental durability

With IP68-compliant K.21 6 KV/300 A lightning protection, the Zyxel NR7103 guarantees high-quality connections, a longer device life despite the weather and natural challenges. The NR7103 can operate within a wide range of temperature and humidity, which supports your service deployed in wide territorial scopes.

## Zyxel 5G New Radio Outdoor Router SA architecture



## Zyxel 5G New Radio Outdoor Router NSA architecture



## Specifications

### System specifications

#### IP networking

- Supports IPv4/IPv6 dual stack (NDP IPv6)
- DHCP server
- ICMP supported
- Virtual Private Network (VPN) pass-through
- Multiple APNs with VLAN mapping

#### NAT

- Supports NAT/NAPT
- Supports DMZ
- Supports port-forwarding/triggering
- Supports ALG
- Supports NAT disable/enable

#### Routing

- Supports bridge or router modes
- Supports dynamic DNS for first APN
- Supports remote management under bridge mode
- Static/dynamic routing settings, RIP 1 & 2

#### IP firewall

- Firewall can be enabled or disabled via GUI
- DoS attack prevention
- Supports SPI
- Application-level firewall
- 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
- APN management
- PIN/PUK management
- MQTT management
- Network selection
- Network preference
- Operating frequency band selection
- Supports UPNP IGD
- Support mobile apps (iOS and Android)
- TR-069 management with TR-181 data model

### 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 n41/n77/n78
  - Class 3 (23 dBm) for n1/n3/n5/n7/n8/n20/n28/n38/n40

#### 4G LTE interface

- 3GPP UE Category 19 standard-compliant
- Supports frequencies:
  - LTE-FDD: B1/B3/B5/B7/B8/B18/B19/B20/B26/B28/B32
  - LTE-TDD: B34/B38 /B39/B40/B41/B42

#### DL 4×4 MIMO:

- LTE-FDD: B1/B3/B7
- LTE-TDD: B38/B40/B41/B42
- Peak data rates: 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 3 (23 dBm) for FDD/TDD bands

#### 5G/4G antennas

- 4 embedded directional antennas
- Ultra-high band:
  - Up to 10 dBi peak gain
- High band and middle band:
  - Up to 7 dBi peak gain
- Low band:
  - Up to 2 dBi peak gain

#### Power specifications

- Standard 802.3af/at Power over Ethernet
- Power consumption at PoE: < 16 W (est.)

#### GPS/GNSS Interface

- Embedded GPS/GNSS antenna
- Supports GPS/Galileo/QZSS(L1/E1)
- Supports GLONASS/BeiDou
- Supports Positioning Information

#### WiFi AP features (ODU)\*\*

- 802.11 n/g/b, 2.4 GHz, N300\*\*
- Hidden SSID
- MAC address filtering
- 2 embedded antennas
- For local management purpose only

#### Hardware interface

- One 2.5GbE RJ-45 PoE LAN port
- Two LEDs:
  - Power status
  - Internet status
  - WiFi status
  - Signal strength
- One 3FF format Micro SIM card slot
- One reboot/reset to default button

#### Power consumption

- Power consumption at PoE: < 16 W (est.)

#### Physical specifications

- Item dimensions (WxDxH): 255 x 256 x 58 mm (9.99" x 10.03" x 2.28")
- Item weight: 1143 g (2.5 lb.)
- Packing dimensions (WxDxH): 280 x 420 x 108 mm (11.02" x 16.53" x 4.25")
- Packing weight: 2818 g (6.2 lb.)

#### Environment specification

##### Operating environment

- Temperature: -40°C to 60°C (-40°F to 140°F)
- Humidity: 5% to 95% (non-condensing)

##### Storage environment

- Temperature: -40°C to 65°C (-40°F to 149°F)
- Humidity: 5% to 95% (non-condensing)

#### Ingress Protection rating

- IP68

#### Lightning protection

- K.21 enhanced mode, 6 KV

#### Wind load testing

- GR 487 issue 4 (2013) standard-compliant
- Level 16 wind force
- Wind speeds 53.6 m/sec (~ 193 km/h)

#### 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

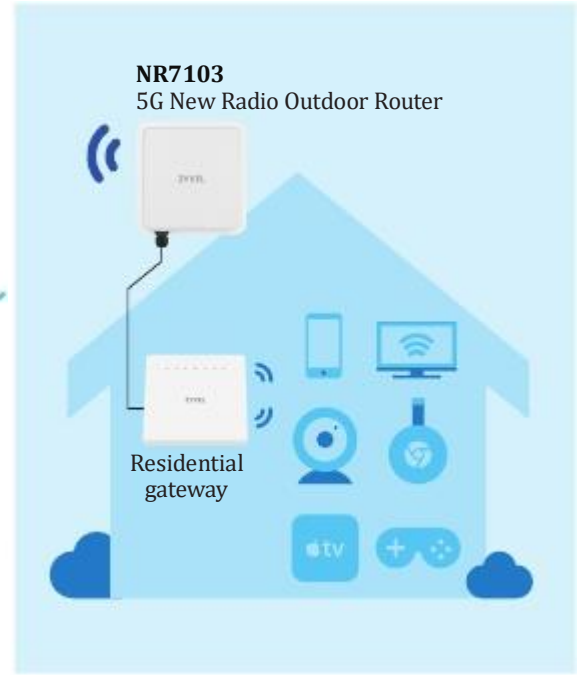
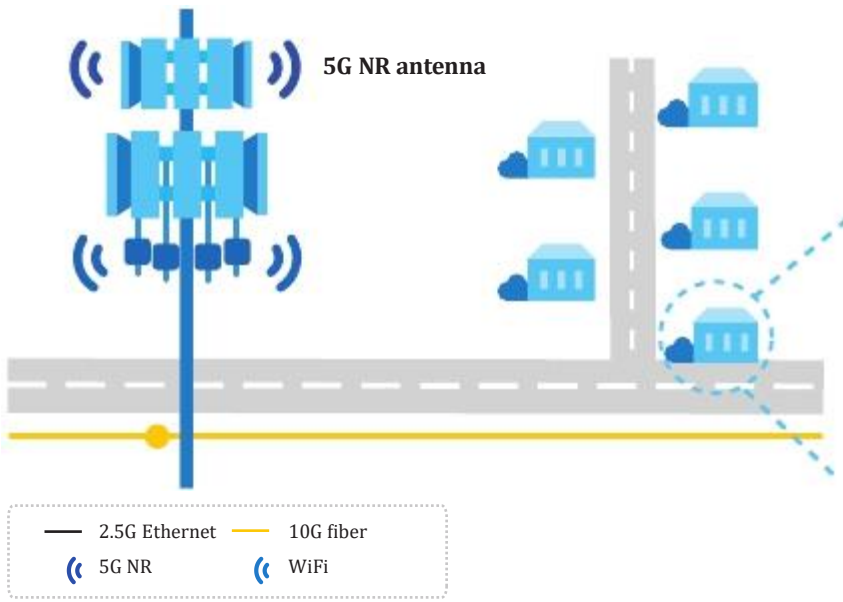
- Standard 802.3af/at Power over Ethernet (PoE) injector
- 1.8 M Ethernet cable 8P8C
- Quick Start Guide
- Warranty card
- DoC and safety warning
- Wall/pole mounting kit

\* The maximum data rate is a theoretical value.

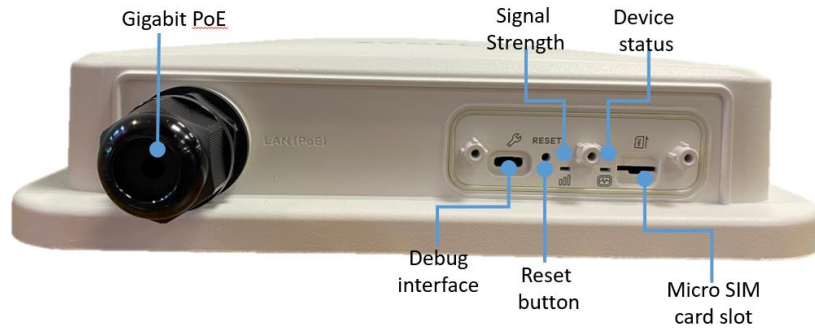
The actual data rate depends on the operator.

\*\* WiFi interface is used for local management purposes only.

# FWA application diagram for 5G New Radio Outdoor Router



## Interface description





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

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Datasheet [NR7103](#)



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