



NR5111

5G NR Indoor Router

The Zyxel NR5111 5G NR Indoor Router is engineered to meet the demands of 5G connectivity, offering essential features and functionalities. Compliant with the Wi-Fi 6 AX3000 standard, the NR5111 delivers high-speed connectivity across customers' homes or workplaces. Its user-friendly refurbishment design streamlines deployment across diverse customer locations, accelerating 5G FWA service rollouts.

Benefits

Lightning-fast internet connectivity with SA/NSA dual mode

Supports a broad range of spectrum with 5G NR speeds up to 4.6 Gbps/1.25 Gbps* (DL/UL) and 4G LTE DL speeds of up to 1.6 Gbps*, the NR5111 increases internet speed and reduces network latency. Compliant with both Standalone (SA) and Non-Standalone (NSA) architecture, the NR5111 facilitates your deployment during 5G migration for faster FWA service rollouts.

Certified Wi-Fi 6 (11ax) technology for superior performance and coverage

Compliant with Wi-Fi 6 (802.11ax) standard, the NR5111 offers speeds of up to 3,000 Mbps with 2X2 UL/DL MU-MIMO. With the uplink MU-MIMO, Orthogonal Frequency Division Multiple Access (OFDMA), and beamforming technologies empower the NR5111 to deliver premium speed for multi-streaming data access and optimal Wi-Fi experience without dead zones.



3GPP Rel. 15 5G NR DL 2xCA, up to 4.6 Gbps/1.25 Gbps (DL/UL) with NSA & SA mode



Wi-Fi 6 (11ax) 2.4 GHz 2x2 + 5 GHz 3x3 (2 spatial streams) for superior performance and coverage



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



Remote management via TR-069/TR-369 (TR-181 and TR-143), and HTTP/web GUI



Remote firmware upgrade (FOTA)



Supports Zyxel One app (iOS and Android)



Circular economy product design

Strengthen your competitive edge with Fixed Wireless Access (FWA)

Deploying NR5111 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.

Effortless installation network setup and management with Zyxel One app

The NR5111 comes with a brand new companion app – Zyxel One. The intuitive user interface of Zyxel One provides your customers with an effortless installation journey, eSIM service**, and routine management for subscribers' home or office networks, which minimizes service calls while enhancing user satisfaction.



Remote management and upgrade

Through the 4G/5G radio interface, the NR5111 supports TR-069/TR-369 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.

Commitment to sustainability

The NR5111 is crafted from 100% recycled plastics*** and the easy-to-remove case for simplified repair and replacement, extending antenna lifespan and reducing manufacturing needs. With recycled paper packaging and VOC-free vegetable oil ink printing, we minimize waste and harmful substances, avoiding single-use plastics and halogen materials.

Advanced power-saving mode and consumption monitoring

The NR5111's advanced power-saving mode enables service providers to optimize energy usage and minimize waste. With seamless consumption tracking, it provides real-time and historical power insights through the Zyxel One app, remote management, or Web GUI. Additionally, its power monitoring**** capabilities allow ISPs to generate reports that foster deeper engagement in sustainability initiatives.

Specifications

System specifications

IP networking

- Supports IPv4/IPv6 dual stack, IPv6 only
- DHCP client/server
- ICMP supported (LAN and/or WAN, disable)
- Virtual Private Network (VPN) pass through (PPTP/IPSec and L2TP pass-through)
- Multiple APN (at least 2 APNs)

NAT

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

Routing

- Support Bridge/Router Mode (ability to perform remote login when bridge mode enabled)
- Support Dynamic DNS for first APN
- Static/dynamic route setting
- Address Resolution Protocol (ARP)

IP firewall

- Firewall can be enabled or disabled via GUI
- SPI (Stateful Packet Inspection)
- DoS Attack Detection
- Application-Level Firewall (LAN to WAN such as HTTP, Telnet, Ping)
- Filters LAN MAC address (Black/white list)
- Filters LAN IP address
- Filters URL

Management

- Local/Remote management (HTTP, HTTPS) and firmware upgrade
- Support TR-069/TR-369 remote firmware upgrade
- Support TR-111 STUN for TR-069 management NAT pass through
- Support TR-143 throughput testing (UDP/TCP, DL/UL, http/https)
- S-NSSAI mapping, Slice/Service type (SST)/Slice Differentiator (SD)
- FOTA (Manual /Auto)
- SMS management
- SMS application
- APN management
- PIN/PUK management
- Roaming disable/enable
- Network selection

- Network preference
- Operating frequency band selection
- CLI/SSH (Local and remote SSH access)
- UPNP IGD supporting
- Ethernet over IP (L2 over L3) pass through
- SSH with key access
- Certificate Management
- Web server API to support APPs
- Multiple language support

Maintenance

- User access management (2 levels: supervisor, admin)
- Time setting/Network timing protocol (support Cellular time)
- System log (Remote syslog support)
- Configuration Backup/Restore
- System Restart
- System Restore to default
- Diagnostic
- Packet Statistics
- cellular modem status
- Setup Wizard
- The procedure to restore device when firmware image is damaged (via HTTP)
- DHCP client/Device list both for 2.4 GHz and 5 GHz

WLAN feature

- Multiple SSID/Hide SSID
- Wireless Protection Setup (WPS)
- Wi-Fi Multimedia (WMM) QoS
- Encryption: None, WPA2-Personal, WPA/WPA2
- Authentication: Advanced Encryption Standard (AES), TKIP and AES hybrid encryption algorithm.
- Auto/Fixed Channel Selection
- WLAN Scheduling
- Wi-Fi-enabled devices: up to 64
- Band steering (enable/disable)
- Compliant to EasyMesh R2 standard

Hardware specifications

5G NR interface

- 3GPP Release 15 standard-compliant
- Supports both NSA and SA modes
 - FDD: n1/n3/n7/n8/n20/n28
 - TDD: n38/n40/n41/n75/n76/n77/n78
- Supports DL 4x4 MIMO
- Data rates:
 - 5G SA: DL 4.67 Gbps; UL 1.25 Gbps*
 - 5G NSA: DL 4.67 Gbps; UL 836Mbps*
- 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 +/-3 dBm) for n41/n77/n78
 - Class 3 (23 ±2.7dBm) FOR all other 5G NR bands

4G LTE interface

- 3GPP Release 16 standard-compliant
- Supports frequencies:
 - FDD: B1/B3/B7/B8/B20/B28/B32
 - TDD: B38/B40/B41/B42/B43
- Supports DL 4x4 MIMO: B1/B3/B5/B7/B8/B20/B28/B38/B40/B41/B42/B43
- Peak data rates:
 - Max. DL 1.6 Gbps/UL 211 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 all other LTE bands
 - Class 2: 26 dBm for B41

5G/4G antennas

- Four embedded omni-directional antennas
- Antenna spec (Peak gain)
 - Low band: < 2 dBi
 - Middle band: < 3 dBi
 - High band: 3 to 5 dBi
 - Ultra-high band: <5 dBi

Wi-Fi air interface

- Wireless standard: IEEE 802.11 a/b/g/n/ac/ax
- Wireless speeds:
 - Link rates up to 3,000 Mbps* for 802.11ax
- Internal Wi-Fi antenna:
 - Dual-band & concurrent 2.4G 2x2 + 5G 3x3 (2ss)
- Wi-Fi antenna gain:
 - ~3.5 dBi for 2.4 GHz
 - ~4.5 dBi for 5 GHz

Hardware interface

- Two 100/1000 Mbps Ethernet RJ-45 LAN ports, LAN2 can be configured for Ethernet WAN port
- LED indicators:
 - Power/system
 - WAN/Internet
 - 5G/4G LTE strength
 - Wi-Fi/WPS status

- One WPS button
- One 4FF Nano SIM card slot (push-push type)
- One reset button
- One power on/off button
- Power jack

Power consumption

- <15 W (peak)

Physical specifications

- Item dimensions (LxWxH): 149 x 41 x 194 mm (5.87" x 1.61" x 7.64")
- Item weight: 468 g (1.03 lb.)
- Packing dimensions (LxWxH): 262 x 58 x 236 mm (10.31" x 2.28" x 9.29")
- Packing weight: 903 g (1.99 lb.)

Environmental 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: 10% to 95% (non-condensing)

Certification

- CE
- UKCA
- Wi-Fi Alliance (WFA) certification

Package contents

- Power adaptor, DC 12 V/2 A, EU plug
- Ethernet cable 2m 8P8C
- Quick Start Guide
- Safety warning (CE DoC included)

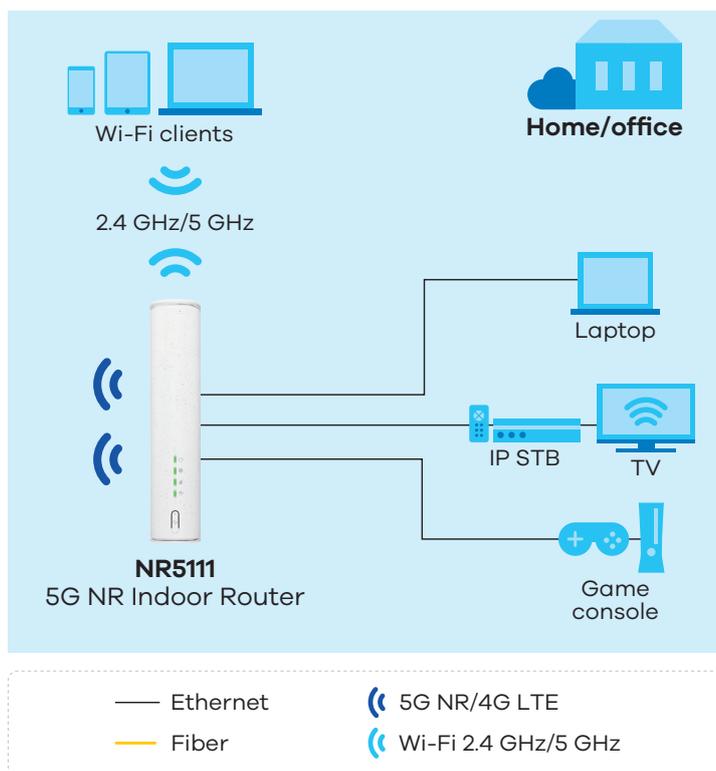
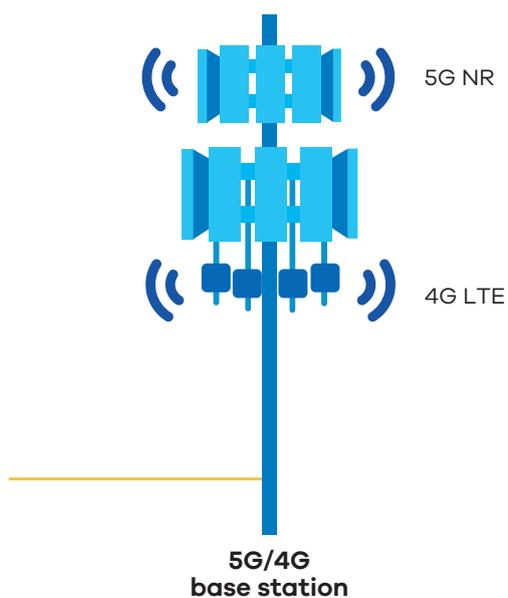
* The maximum data rate is a theoretical value. The actual data rates depend on the network environment.

** eSIM service is available upon customer request. Please contact us for more information on the availability.

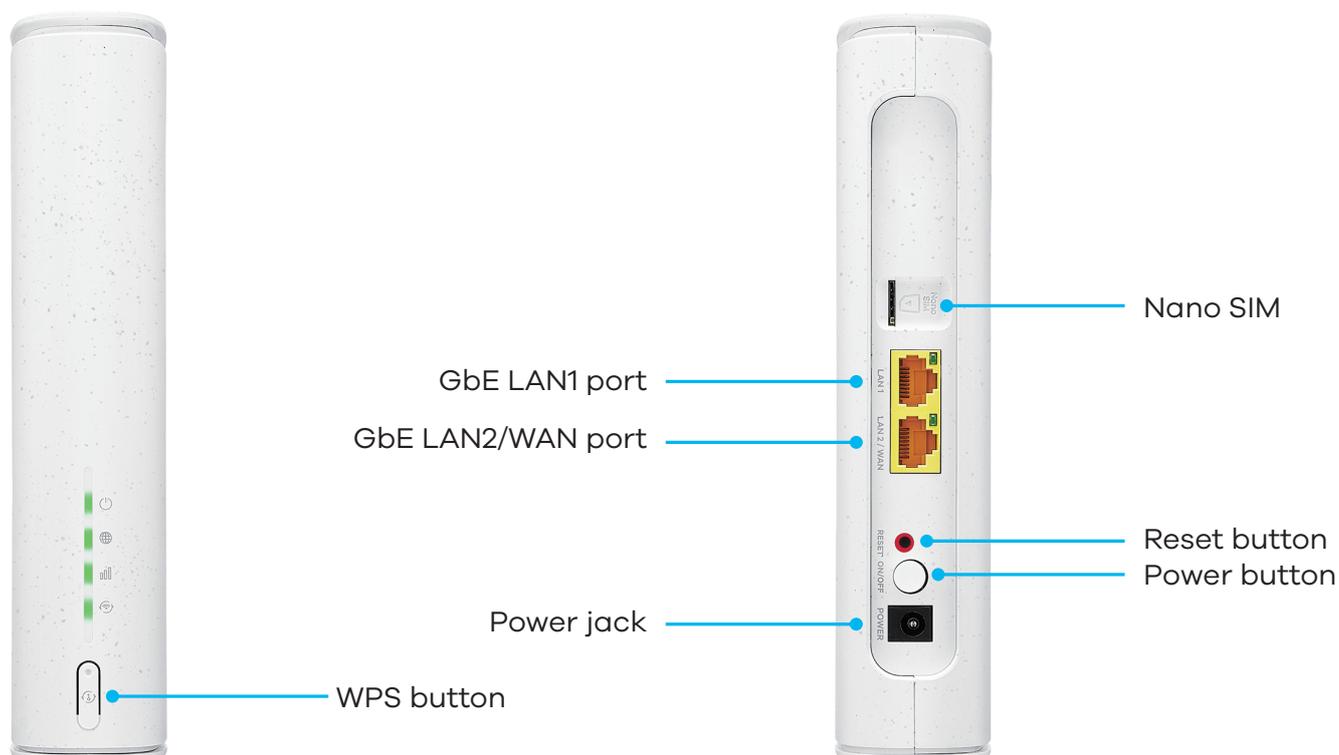
*** 5% additives and solvents are necessary to be added to the recycled polymers to achieve the desired technical characteristics of the material.

**** Power monitoring is available upon request. Please contact us for more information on availability.

Application diagram



Hardware description



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

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