ZYXEL
COMMUNICATIONS

NR5103EV2
5G NR Indoor Router

The Zyxel NR5103EV2 5G NR Indoor Router supports the latest 5G NR technology while at the same time remaining full compatibility with 4G networks. The NR5103EV2 is ideal for 5G NR FWA deployment. Service providers can deliver premium broadband services with high speed and capacity across customers' homes or workplaces through the WiFi 6 interfaces with easy refurbishment design.

Benefits

Lightning-fast internet connectivity

The NR5103EV2 supports 5G NR DL speeds of 4.67 Gbps* and 4G LTE DL speeds of up to 1.6 Gbps*, increasing internet speed and reducing network latency. 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

Compliant with WiFi 6 (802.11ax) standard, the NR5103EV2 offers speeds of up to 1,774 Mbps with 2x2 UL/DL MU-MIMO. With the uplink MU-MIMO, Orthogonal Frequency Division Multiple Access (OFDMA), and beamforming technologies empower the NR5103EV2 to deliver premium speed for multi-streaming data access and optimal WiFi experience without dead zones.

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

AX 802.11 WiFi 6 (11ax) AX1800, 2x2 + 2x2 for superior performance and coverage

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

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

FOTA Remote firmware upgrade (FOTA)

Zyxel Air app (iOS and Android)

Sustainable product design

5G

Strengthen your competitive edge with Fixed Wireless Access (FWA)

Deploying NR5103EV2 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 NR5103EV2 improves your operational efficiency during 5G migration, accelerating your 5G service rollouts.

Remote management and upgrade

Through the 4G/5G radio interface, the NR5103EV2 supports TR-369, 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.

Sustainable product design

Zyxel commits to a greener planet and improving the community's environmental well-being. The NR5103EV2 is constructed from 65% PCR plastic material, while the packaging is made from 60% recycled paper with soy ink for Volatile Organic Compounds (VOC)-free printing.

Easy network setup and management with Zyxel Air

The NR5103EV2 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.

Scan to Download

Zyxel Air

Download on the App Store

GET IT ON Google Play

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
- Static/dynamic route setting

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 web server API to support APPs
- Supports Zyxel Air app (iOS and Android) for easy installation and local management

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/hide SSIDs
- WLAN scheduling

Hardware specifications

5G NR interface
- 3GPP Release 15 standard-compliant
- Supports both NSA and SA modes
  - FDD: n1/n3/n5/n7/n8/n20/n28/n77/n78
  - TDD: n38/n40/n41
- Supports DL 4×4 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/n77/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: B38/B40/B41/B42/B43
- Supports DL 4×4 MIMO: B1/B3/B7/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 ±2 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:
  - ≤ 4 dBi for 2.4 GHz
  - ≤ 5 dBi for 5 GHz

5G/4G antennas
- Two TS9 connectors for external antennas**
- Four embedded omni-directional antennas
- Antenna Spec (Peak Gain)
  - 700 MHz ~ 960 MHz: 2 dBi
  - 1.4 GHz ~ 2.7 GHz: 5 dBi
  - 3.3 GHz ~ 4.2 GHz: 5 dBi

Hardware interface
- Two 100/1000 Mbps Ethernet RJ-45 LAN ports, LAN2 can be configured for Ethernet WAN port
- LED indicators:
  - Power indication
  - Signal strength
  - Internet connection status
  - WiFi AP status
  - WPS status
- Two 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 2.0 host port for file sharing

Power consumption
- 24 W (peak)

Physical specifications
- Item dimensions (WxDxH): 103 x 103 x 222 mm (4.06″ x 4.06″ x 8.74″)
- Item weight: 1145 g (2.53 lb.)
- Packing dimensions (WxDxH): 252 x 171 x 110 mm (9.92″ x 6.73″ x 4.33″)
- Packing weight: 2450 g (5.40 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: 0% to 95% (non-condensing)

Certification
- CE
- UKCA
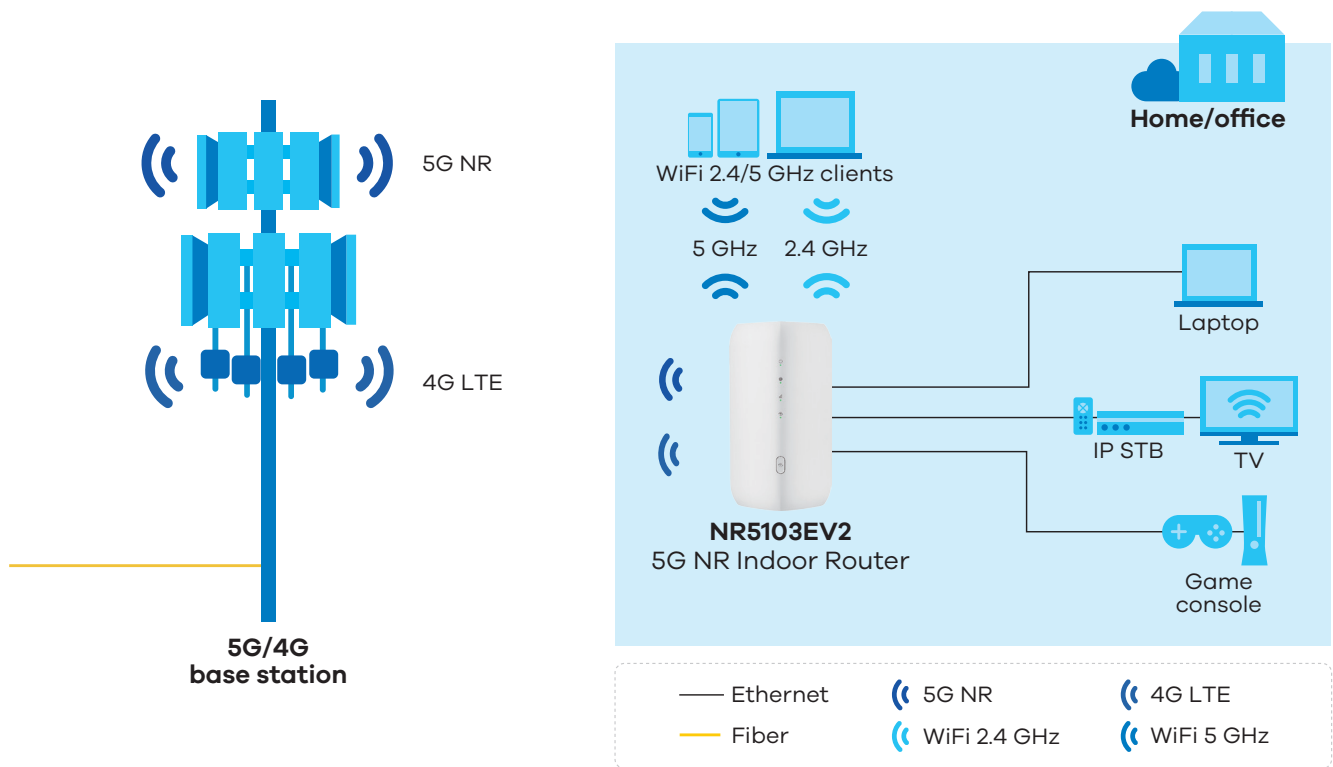- WiFi Alliance Certification

Package contents
- EU plug power adaptor
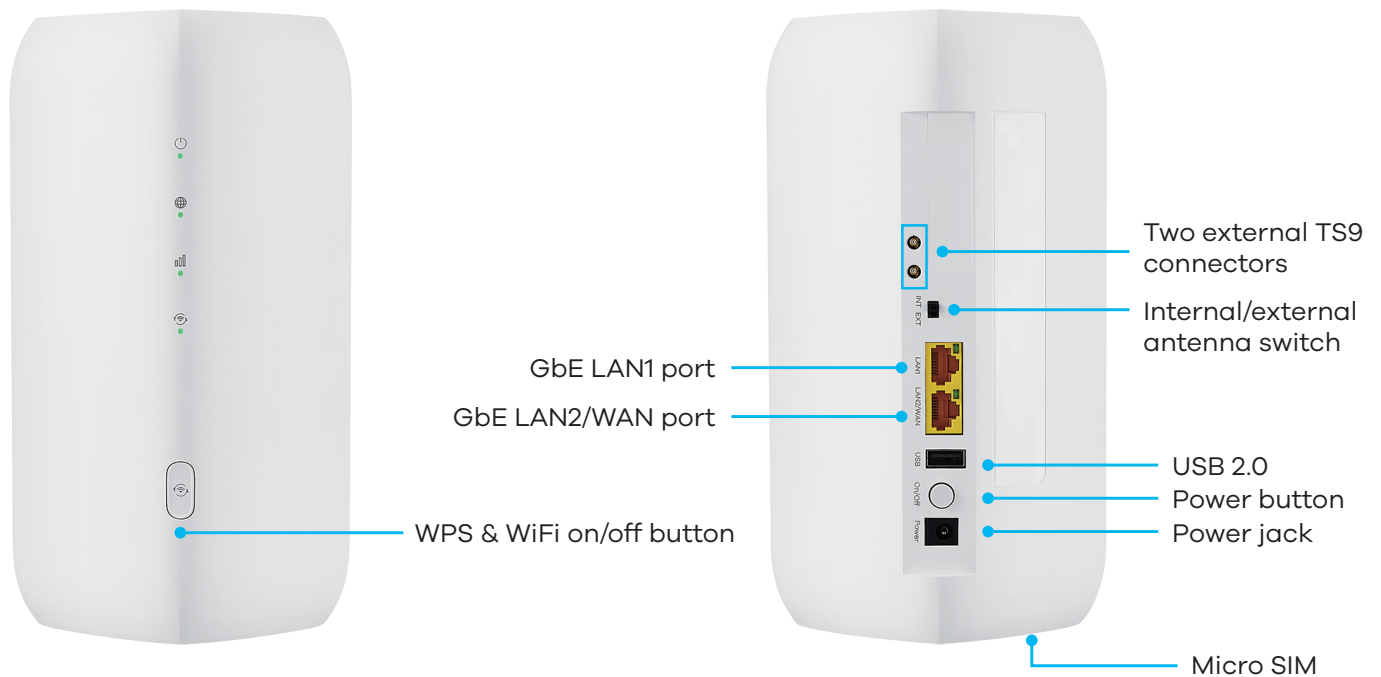- Ethernet cable 1.8 m 8P8C
- Quick Start Guide

* 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

5G NR

4G LTE

5G/4G base station

WiFi 2.4/5 GHz clients

5 GHz 2.4 GHz

NR5103EV2
5G NR Indoor Router

Home/office

Laptop

IP STB

TV

Game console

| —— Ethernet | ((5G NR | ((4G LTE |
| —— Fiber | ((WiFi 2.4 GHz | ((WiFi 5 GHz |

Hardware description

GbE LAN1 port

GbE LAN2/WAN port

WPS & WiFi on/off button

Two external TS9 connectors

Internal/external antenna switch

USB 2.0

Power button

Power jack

Micro SIM