

- 1 GPON port
- 4 LAN Gigabit Ethernet ports
- 1 FXS port for analogue phone connection<sup>1</sup>
- USB 3.0 for network drive or printer connection
- Dual-band Wi-Fi (802.11a/b/g/n/ac/ax)
- EasyMesh technology



**NTU series ONTs** are high performance multifunctional subscriber terminals designed to access modern IPTV, OTT and high-speed Internet services. NTU-RG series terminals enable providers to offer users a wide range of services and local network features.

#### PON technology

PON technology is one of the most modern and efficient last mile solutions. The technology helps to reduce costs for cable infrastructure and provides data rates of up to 2.5 Gbps in downlink and 1.25 Gbps in uplink direction. The use of PON technology in access networks allows providing end users with access to IP-based services.

#### Universal devices

The integrated gigabit router with four 10/100/1000BASE-T ports ensures high-speed connection of network devices. The USB port can be used for USB devices (USB flash drive, external HDD, printer).

#### Provided services

- High-speed access to the Internet
- Video streaming/High Definition TV/IPTV, video on demand (VoD), video conferences
- VoIP<sup>1</sup>
- Online entertainment and educational programs

#### Application

- Providing broadband access services to subscribers in apartment blocks, residential estates, campuses and suburban settlements
- Building corporate networks in large strategic enterprises and in business centers with high requirements to security and data transfer rates

#### Advantages of EasyMesh technology

- Network intelligence: a self-organizing and self-optimizing network collects information and responds to network conditions for maximum performance
- Efficient load balancing: allows devices to switch to a better connection and avoid interference
- Scalability: allows adding multi-vendor Wi-Fi EasyMesh access points

#### Wireless connection

NTU-RG-5520G-Wax and NTU-RG-5521G-Wax support the 802.11ax standard that provides data rates up to 2402 Mbps and delivers modern high-speed services to subscriber equipment via the wireless network. Two integrated Wi-Fi controllers ensure simultaneous dual-band operation in 2.4 GHz and 5 GHz.

#### Interfaces configuration

	WAN	LAN	FXS	Wi-Fi	USB
NTU-RG-5520G-Wax	1 × GPON	4 × 1G	—	802.11ax, 2*2 – 574 Mbps – 2.4 GHz 802.11ax, 2*2 – 2402 Mbps – 5 GHz	1 × USB 3.0
NTU-RG-5521G-Wax	1 × GPON	4 × 1G	1	802.11ax, 2*2 – 574 Mbps – 2.4 GHz 802.11ax, 2*2 – 2402 Mbps – 5 GHz	1 × USB 3.0

<sup>1</sup>Only for NTU-RG-5521G-Wax

## Features and capabilities

### PON interface parameters

- 1 × GPON
- Compliance with ITU-T G.984.2, ITU-T G.984.5 Filter, FSAN Class B+, SFF-8472
- SC/APC connector type
- Transmission media: SMF 9/125 fiber-optic cable, G.652
- Maximum operating distance: 20 km
- Transmitter: 1310 nm DFB Pulse Mode Output Transmitter
  - Data rate: 1244 Mbps
  - Average power output: +0.5..+5 dBm
  - Spectral line width: 1 nm (-20 dB)
- Receiver: 1490 nm APD/TIA CW Mode Digital Receiver
  - Data rate: 2488 Mbps
  - Receiver sensitivity: -28 dBm, BER $\leq 1.0 \times 10^{-10}$
  - Receiver optical overload: -8 dBm

### LAN interface parameters

- 4 × Ethernet 10/100/1000BASE-T (RJ-45)

### FXS interface parameters<sup>1</sup>

- 1 × FXS port
- SIP protocol
- Audio codecs: G.729 (A), G.711(A/U), G.723.1
- Fax transmission: G.711, T.38
- Loop resistance up to 2 kOhm
- Pulse/frequency (DTMF) dial reception
- Caller ID

### Wireless interface parameters

- 802.11a/b/g/n/ac/ax standards
- Frequency range 2400 ~ 2483.5 MHz, 5150 ~ 5350 MHz, 5650 ~ 5850 MHz<sup>2</sup>
- EasyMesh
- Simultaneous Dual Band
- CCK, BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM, 1024 QAM modulations

### Operating channels

- 802.11b/g/n/ax: 1-13
- 802.11a/n/ac/ax: 36-64, 132-165

### Data rate<sup>3</sup>

- 802.11b: 1; 2; 5.5 and 11 Mbps
- 802.11a: 6, 9, 12, 18, 24, 36, 48 and 54 Mbps
- 802.11g: 6, 9, 12, 18, 24, 36, 48 and 54 Mbps
- 802.11n: 300 Mbps (20 MHz channel)
- 802.11ac: 866 Mbps (80 MHz channel)
- 802.11ax: 2402 Mbps (160 MHz channel)

### Maximum power output of the transmitter<sup>2</sup>

- 802.11b (11 Mbps): 21 dBm
- 802.11a (54 Mbps): 18 dBm
- 802.11g (54 Mbps): 18 dBm
- 802.11n (MCS7): 18 dBm
- 802.11n (MCS9): 17 dBm
- 802.11ac (MCS0): 20 dBm
- 802.11ax (MCS11): 16 dBm

### USB interface parameters

- 1 × USB 3.0

### Physical specifications

- Dimensions (W × H × D): 230 × 37 × 140 mm, desktop case, wall mounting option
- Power supply: 12 V/2 A DC power adapter
- Power consumption: no more than 18 W
- Operating temperature: from +5 to +40 °C
- Weight: 0.383 kg
- Relative humidity: up to 80 %

### Functional specifications

- TR-069
- Bridge and router (including virtual ones) operation modes
- PPPoE (auto, PAP, MSCHAP and CHAP authorization)
- IPoE (DHCP client and static)
- DHCP server on LAN side
- Multicast traffic transmission via Wi-Fi
- DNS (Domain Name System)
- DynDNS (Dynamic DNS)
- UPNP (Universal Plug and Play)
- NAT (Network Address Translation)
- NTP (Network Time Protocol)
- Quality of Service (QoS)
- IGMP Snooping
- IGMP Proxy
- UPNP, SMB, FTP/FTP-alg, Print Server
- VLAN in compliance with IEEE 802.1Q
- VPN in L2TP mode
- L2TP over IPsec

### Security features

- Rate limits on ports
- FEC coding

### Configuration and monitoring

- According to TR-142:
  - Remote management via OMCI
  - Remote management via TR-069
- Local management via web
- Firmware updating via OMCI, TR-069, HTTP, TFTP

### Standards

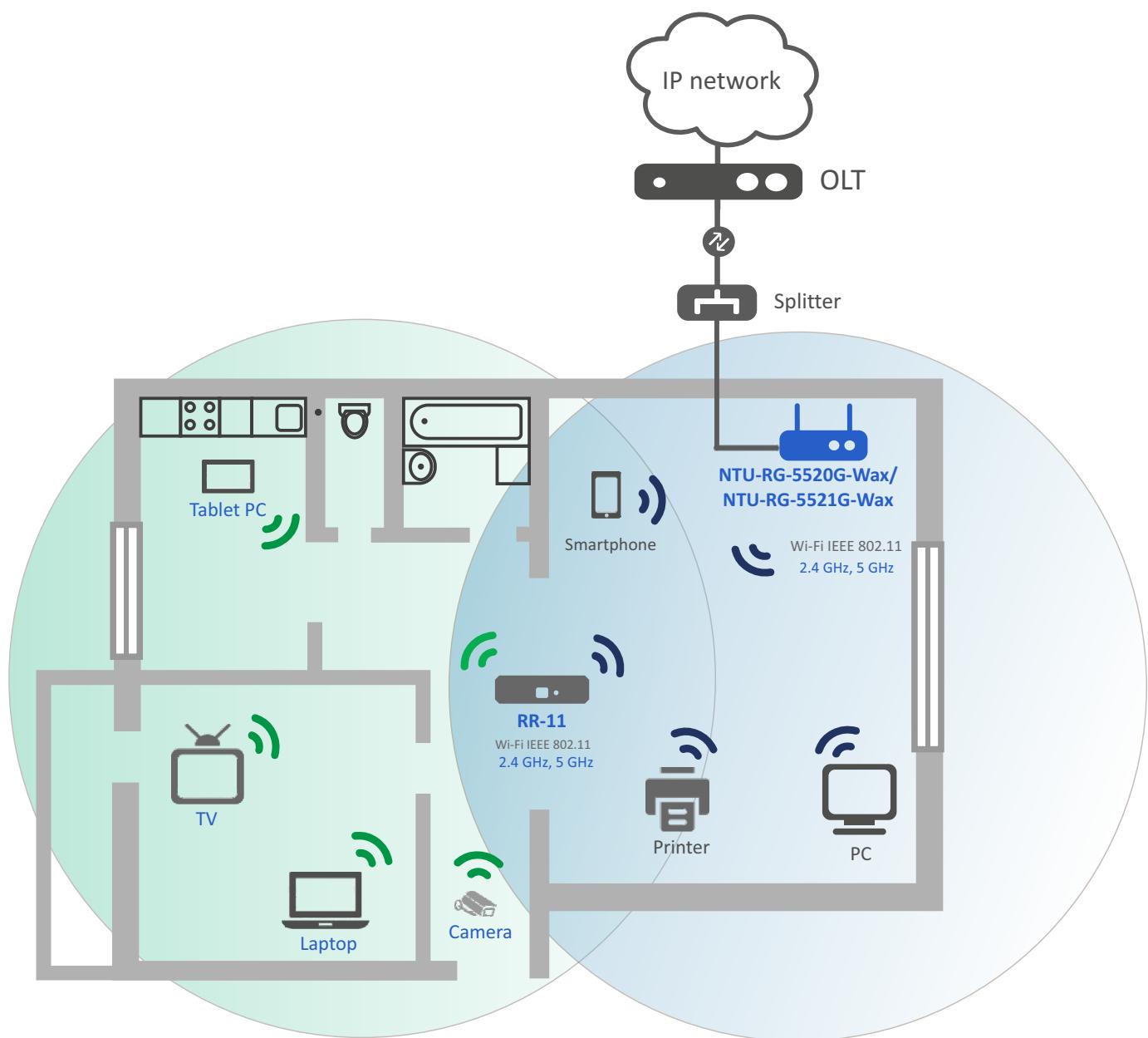
- ITU-T G.984.x — GPON
- ITU-T G.988 OMCI specification
- IEEE 802.1D
- IEEE 802.1Q
- IEEE 802.1P

<sup>1</sup> Only for NTU-RG-5521G-Wax

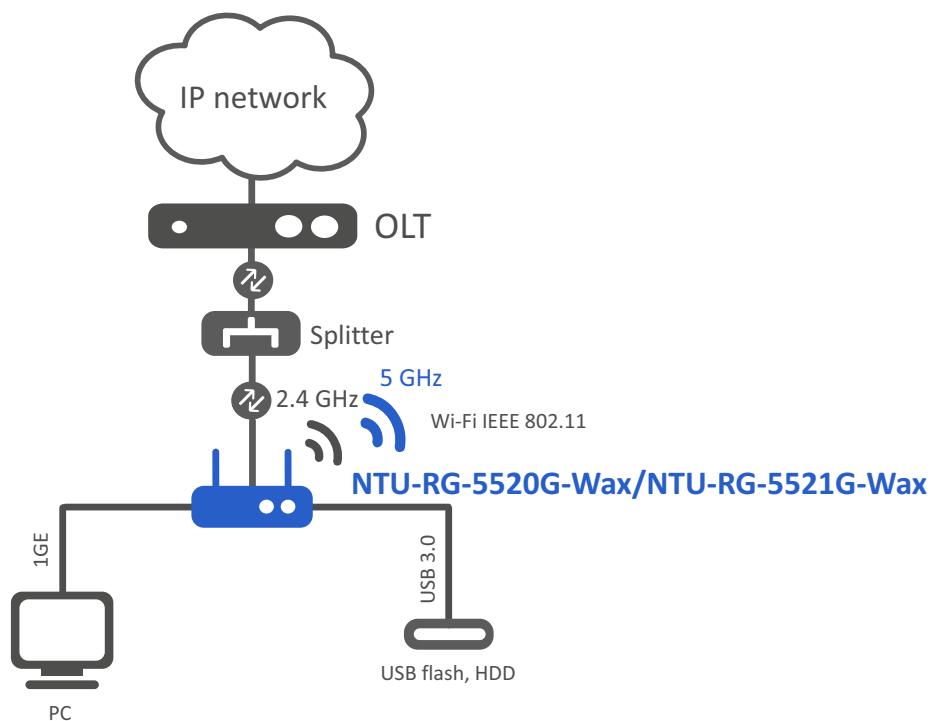
<sup>2</sup> Frequency ranges, number of channels and maximum transmitter power will vary according to the rules of radio frequency regulation in your country.

<sup>3</sup> The maximum wireless transmission data rate depends on the IEEE 802.11n/ax/be. The real bandwidth can be different. Network operation conditions, environment, traffic volume, building materials and constructions as well as network service data can decrease the real bandwidth and reduce the network coverage radius.

EasyMesh technology use case



## Use case



## Ordering information

Name	Description
NTU-RG-5520G-Wax	ONT NTU-RG-5520G-Wax, 1 x GPON, 4 x LAN 10/100/1000BASE-T, 1 x USB 3.0, Wi-Fi (802.11ax, 2*2 — 574 Mbps — 2.4 GHz + 802.11ax, 2*2 — 2402 Mbps — 5 GHz)

NTU-RG-5521G-Wax	ONT NTU-RG-5521G-Wax, 1 x GPON, 4 x LAN 10/100/1000BASE-T, 1 x USB 3.0, 1 FXS port, Wi-Fi (802.11ax, 2*2 — 574 Mbps — 2.4 GHz + 802.11ax, 2*2 — 2402 Mbps — 5 GHz)
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## Related products

RR-11	Wireless signal repeater
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## Related software

ACS-CPE-512	ACS-CPE-512 option of Eltex.ACS system for Eltex CPE autoconfiguration: 512 subscriber devices
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ACS-CPE-1024	ACS-CPE-1024 option of Eltex.ACS system for Eltex CPE autoconfiguration: 1024 subscriber devices
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## About Eltex

**Eltex Enterprise** is a leading Russian developer and manufacturer of communication equipment with 30 years of history. Complete solutions and their seamless integrability into the Customer's infrastructure are the priority growth areas of the company.