

- 1 GPON port
- Gigabit router
- FXS port for analogue phone connection
- USB 2.0 port for USB drive or printer connection
- Dual-Band Wi-Fi

**NTU series ONT** – high performance multifunctional subscriber terminals that are designed to access modern telephony, IPTV, OTT services as well as high-speed Internet. Furthermore, NTU-RG terminals allow carriers to offer their clients a wide range of services and opportunities to work in a local network.

### PON technology

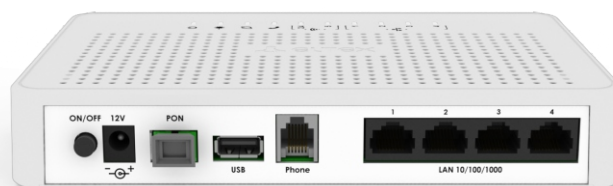
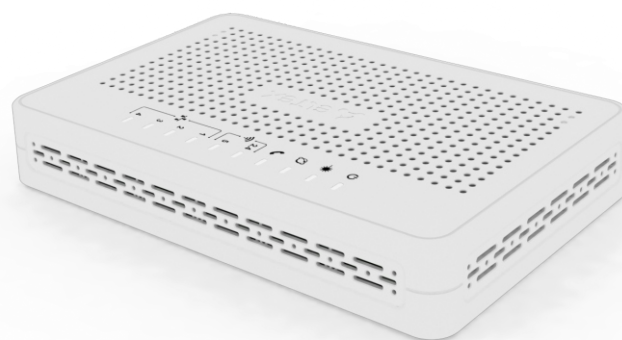
PON technology - one of the most effective last mile solutions today. The technology helps to reduce costs for cable infrastructure and ensures data rates of 2.5 Gbps downlink and 1.25 Gbps uplink. The use of PON technology in access networks allows providing end users with access to IP services.

### Universal device

The integrated gigabit router for 4 ports of 10/100/1000Base-T ensures high-speed connection of devices in a network. The FXS port provides access to IP telephony services. The USB port can be used for USB device connection (USB flash drive, external HDD, printer).

### Provided services

- High-speed access to the Internet
- Stream video/High Definition TV/IPTV, Video on Demand (VoD), video conference
- VoIP
- Online educational and entertainment programmes
- “Smart home” management <sup>1</sup>



### Application

- Providing broadband access services to subscribers in apartment houses, residential areas, campuses or suburban settlements
- Corporate network construction at large strategic enterprises or in office buildings with high requirement in terms of security and data transfer rates

### Wireless connection

NTU-RG-5421G-Wac and NTU-RG-5421G-WZ support IEEE 802.11ac standard, that provides data rates up to 866 Mbps and delivers modern high performance services to client equipment through the wireless network. Two integrated Wi-Fi controllers ensure simultaneous dual band operation: on 2.4 GHz and 5 GHz.

### “Smart home” controller

The device contains integrated controller for “Smart home” system. The controller provides interaction with sensors and detectors via the wireless channel.

### ONT NTU interfaces configuration

	WAN	LAN	FXS	Wi-Fi	USB	“Smart home” management interface
NTU-RG-5421G-Wac	1xGPON	4x1G	1	802.11n, 2*2 -300Mbps- 2.4GHz 802.11ac, 2*2 -866Mbps - 5GHz	1xUSB2.0	—
NTU-RG-5421G-WZ	1xGPON	4x1G	1	802.11n, 2*2 -300Mbps- 2.4GHz 802.11ac, 2*2 -866Mbps - 5GHz	1xUSB2.0	yes

<sup>1</sup>Supported in NTU-RG-5421G-WZ

## Features and capabilities

### PON interface parameters

- 1 GPON port
- Compliance with ITU-T G.984.2, ITU-T G.984.5 Filter, FSAN Class B+, SFF-8472
- Connector type - SC/APC
- Transmission media - fiber-optic cable SMF - 9/125, G.652
- Maximum operating distance - 20 km
- Transmitter:
  - 1310 nm DFB Upstream Burst Mode Transmitter
    - Data rate: 1244 Mbps
    - Average Launch Power: +0.5..+5 dBm
    - Spectral Line Width 1 nm (-20 dB)
- Receiver:
  - 1490 nm APD/TIA Downstream CW Mode Digital Receiver
    - Data rates: 2488 Mbps
    - Receiver Sensitivity -28 dBm, BER≤1.0x10<sup>-10</sup>
    - Receiver Optical Overload -4 dBm

### LAN interfaces parameters

- 4 Ethernet 10/100/1000Base-T (RJ-45) ports

### FXS interfaces parameters

- 1 FXS port
- SIP
- Audio codecs: G.729 (A), G.711(A/U), G.723.1
- Fax transmission: G.711, T.38
- Loop resistance up to 2 kΩ
- Supported dialing technologies: pulse and frequency (DTMF)
- Caller ID issuing

### Wi-Fi parameters

- Supported standards: IEEE 802.11 a/b/g/n/ac
- Frequency range: 2400 ~ 2483.5 MHz, 5150 ~ 5350 MHz, 5650 ~ 5850 MHz
- Simultaneous Dual Band
- Modulations: CCK, BPSK, QPSK, 16QAM, 64QAM, 256QAM

### Channels

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

### Data rates<sup>1</sup>

- 802.11b: 1, 2, 5.5 and 11 Mbps
- 802.11g: 6, 9, 12, 18, 24, 36, 48 and 54 Mbps
- 802.11ac: 866 Mbps (80 MHz)

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

- 802.11b (11 Mbps): 17 dBm
- 802.11g (54 Mbps): 15 dBm
- 802.11n (MCS7): 15 dBm
- 802.11ac (MCS0): 19 dBm

### Modulation schemes

- IEEE 802.11b: DQPSK, DBPSK, CCK
- IEEE 802.11g: BPSC, QPSC, 16QAM, 64QAM, OFDM
- IEEE 802.11n: BPSC, QPSC, 16QAM, 64QAM c OFDM

<sup>1</sup> The maximum wireless data rate is defined according to IEEE 802.11n/ac standard. The real bandwidth can be different. Conditions of the network operation, environment, the amount of traffic, building materials and constructions as well as network service data can decrease the real bandwidth. The environment can influence on the network coverage range.

<sup>2</sup> The value of the maximum output power will vary according to the rules of radio frequency regulation in your country.

<sup>3</sup> Only for NTU-RG-5421G-WZ

### USB interface

- 1 USB 2.0 port - for USB device connection

### “Smart home” interface<sup>3</sup>

- Radio interface for “Smart home” system management

### Physical parameters and environment conditions

- Dimensions: 187x120x32 mm, desktop case
- Power supply: external DC adapter 12V/2A
- Maximum power consumption 15 W
- Operating temperature from +5 to +40°C
- Operating humidity ≤ 80%

### Supported standards

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

### Specifications

- Support for TR-069
- “Bridge” and “Router” operation modes
- Support for PPPoE (auto, PAP, MSCHAP and CHAP authentication)
- Support for 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
- Support for SMB, FTP, Print Server
- VLAN complying with IEEE 802.1Q

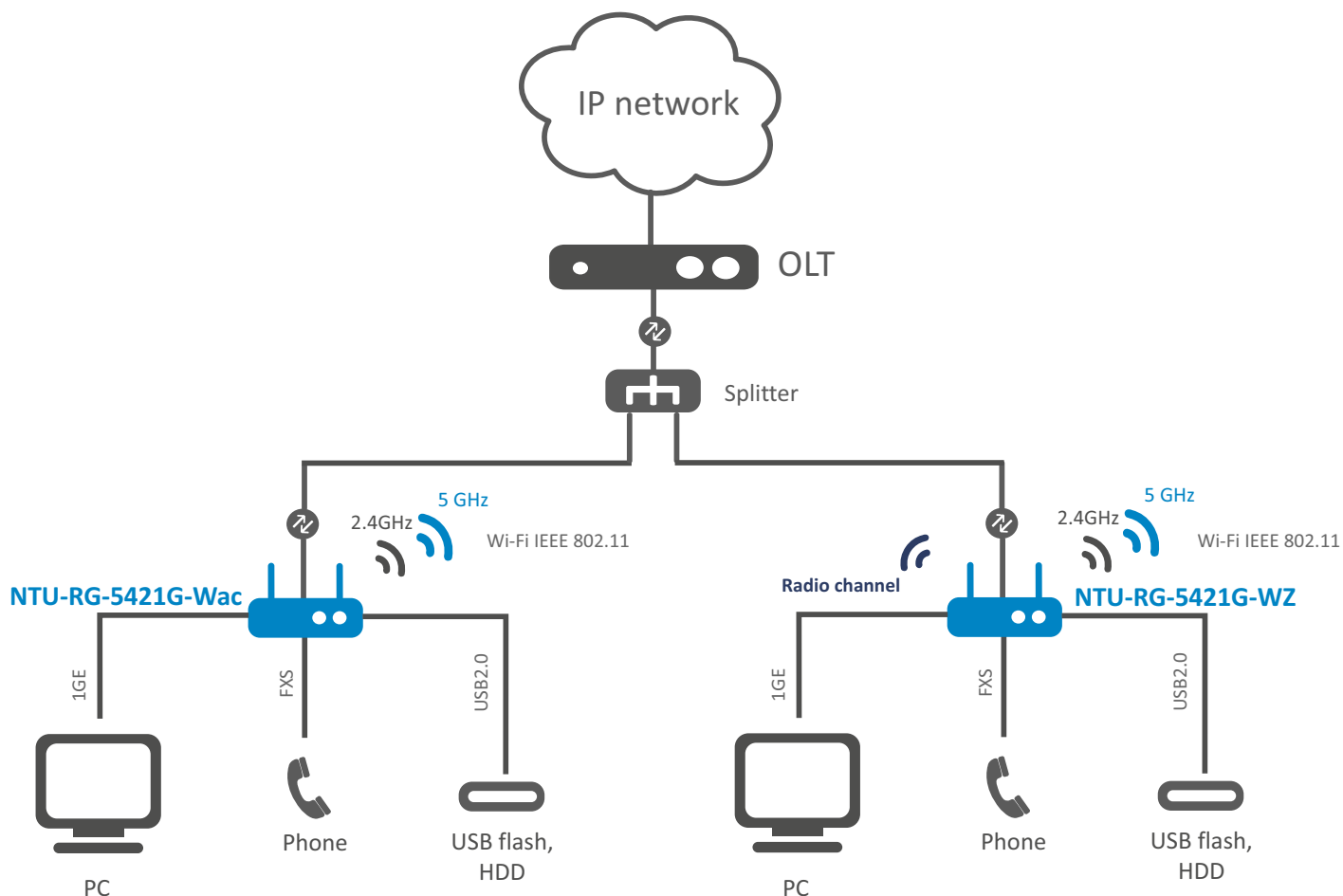
### Security functions

- Rate limiting per 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

### Use Case



### Ordering information

Name	Description	Image
<b>NTU-RG-5421G-Wac</b>	ONT NTU-RG-5421G-Wac, 4 ports of LAN 10/100/1000Base-T, 1xUSB, 1xFXS, Wi-Fi (802.11n, 2*2 -300Mbps - 2.4GHz +802.11ac, 2*2 - 866Mbps-5GHz)	
<b>NTU-RG-5421G-WZ</b>	ONT NTU-RG-5421G-WZ, 4 ports of LAN 10/100/1000Base-T, 1xUSB, 1xFXS, Wi-Fi (802.11n, 2*2 -300Mbps - 2.4GHz +802.11ac, 2*2 - 866Mbps-5GHz), Z-Wave submodule	

### Related software

<b>ACS-CPE-512</b>	ACS-CPE-512 option of Eltex.ACS system for Eltex CPE autoconfiguration: 512 subscriber devices	
<b>ACS-CPE-1024</b>	ACS-CPE-1024 option of Eltex.ACS system for Eltex CPE autoconfiguration: 1024 subscriber devices	

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### About Eltex

**Eltex** company is a leading Russian developer and manufacturer of telecommunication equipment with 25 years of history. Integrity of solutions and seamless integration capability into Customer infrastructure is a priority area of company development.