— 1 GPON port
— Gigabit router
— 1 FXS port for connecting an analog phone
— USB 2.0 for network drive connection
— RF port for CaTV[1]
— Wi-Fi 802.11a/b/g/n/ac
— EasyMesh

NTU-RG-5421GC-Wac

NTU-RG-5421G-Wac

NTU series ONTs are high performance multifunctional subscriber terminals designed to access modern IPTV, OTT and 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 problem solutions. The technology helps to reduce costs for cable infrastructure and providing 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
- Online entertainment and educational programmes

Application

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

Wireless connection

The NTU-RG-5421G-Wac and NTU-RG-5421GC-Wac subscriber terminals support the 802.11ac, standard that provides data rates up to 866 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.

Advantages of EasyMesh technology

- Network intelligence: a self-organizing and self-opti-mizing 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

ONT NTU interface configuration

	WAN	LAN	FXS	RF	Wi-Fi	USB
NTU-RG-5421G-Wac	1 × GPON	4 × 1G	1	–	802.11n, 2*2 – 300 Mbps – 2.4 GHz 802.11ac, 2*2 – 866 Gbps – 5 GHz	1 × USB 2.0
NTU-RG-5421GC-Wac	1 × GPON	4 × 1G	1	1	802.11n, 2*2 – 300 Mbps – 2.4 GHz 802.11ac, 2*2 – 866 Mbps – 5 GHz	1 × USB 2.0

[1] For NTU-RG-5421GC-Wac.

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≤$1.0x10^{-10}$
  – Receiver optical overload: -8 dBm

CaTV receiver[1]
– CATV video receiver, wavelength: 1550 nm
– Optical input power: -8..+2 dBm
– Carrier signal to noise ratio (CNR): 46 dB
– Radio frequency bandwidth: from 47 to 870 MHz
– RF output: 17 dBmV for each channel, with 4 dB at a positive antenna angle
– Output RF resistance: 75 Ω

LAN interface parameters
– 4 × Ethernet 10/100/1000BASE-T (RJ-45)

FXS interface 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
– Pulse dialing/Dual-Tone Multi-Frequency (DTMF)
– Caller ID

Wireless interface parameters
– 802.11a/b/g/n/ac standards
– Frequency range 2400 ~ 2483.5 MHz, 5150 ~ 5350 MHz, 5650 ~ 5850 MHz
– EasyMesh
– Simultaneous Dual Band
– CCK, BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM modulations

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

Data rate[2]
– 802.11b: 1; 2; 5.5 and 11 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)

Maximum power output of the transmitter[3]
– 802.11b (11 Mbps): 17 dBm
– 802.11g (54 Mbps): 15 dBm
– 802.11n (MCS7): 15 dBm
– 802.11ac (MCS0): 19 dBm

USB interface parameters
– 1 × USB 2.0 — for connecting USB devices

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

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 limiting on ports
– FEC coding

Configuration and monitoring
– According to TR-142:
  – Remote management via OMCI
  – Remote management via TR-069
– Local management via web/CLI
– Firmware updating via OMCI, TR-069, HTTP, TFTP

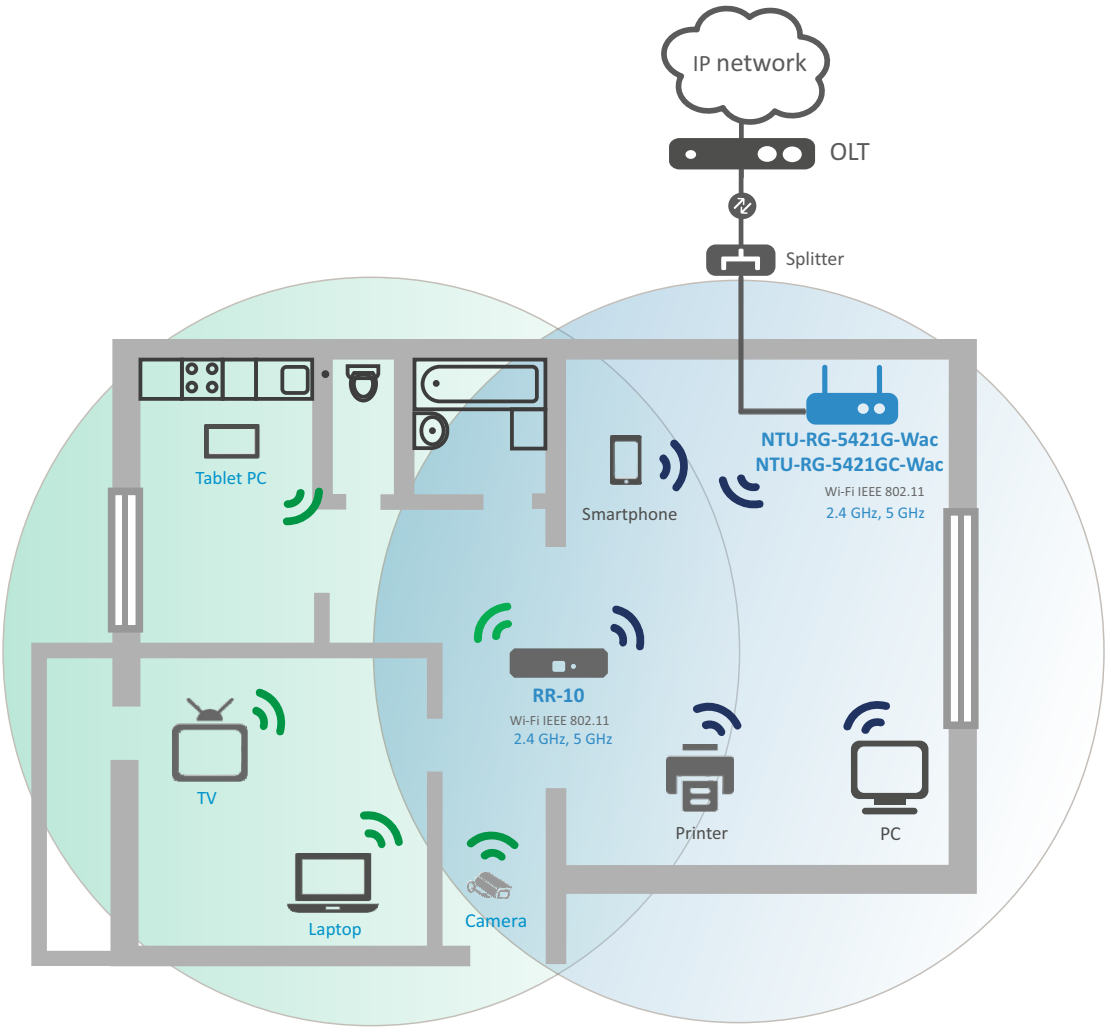
[1] For NTU-RG-5421GC-Wac.
[2] The maximum wireless transmission data rate depends on the IEEE 802.11n/ac standard. The real bandwidth can be different. Network operation conditions, environment, traffic volume, building materials and constructions as well as network service data can decrease the real bandwidth and reduce the network coverage radius.
[3] Frequency ranges, number of channels and maximum transmitter power will vary according to the rules of radio frequency regulation in your country.

Features and capabilities (continued)

Physical specifications

– Dimensions (W × H × D): 187 × 32 × 120 mm, desktop case (NTU-RG-5421G-Wac)
– Dimensions (W × H × D): 34 × 34 × 133 mm, desktop case (NTU-RG-5421G-Wac rev.B)
– Dimensions (W × H × D): 220 × 50 × 120 mm, desktop case (NTU-RG-5421GC-Wac)
– Power supply: external DC power adapter 12 V/2 A
– Power consumption: no more than 18 W
– Operating temperature: from +5 to +40 °C
– Relative humidity: up to 80 %
– Weight:
  – 0.35 kg (NTU-RG-5421G-Wac, NTU-RG-5421G-Wac rev.B)
  – 0.45 kg (NTU-RG-5421GC-Wac)

EasyMesh technology application diagram in conjunction with RR-10



Ordering information

Name	Description
NTU-RG-5421G-Wac	ONT NTU-RG-5421G-Wac, 1 × GPON, 4 × LAN 10/100/1000BASE-T, 1 × USB, 1 × FXS, Wi-Fi (802.11n, 2*2 – 300 Mbps – 2.4 GHz + 802.11ac, 2*2 – 866 Mbps – 5 GHz)
NTU-RG-5421GC-Wac	ONT NTU-RG-5421GC-Wac, 1 × GPON, 4 × LAN 10/100/1000BASE-T, 1 × USB, 1 × FXS, 1 × RF, Wi-Fi (802.11n, 2*2 – 300 Mbps – 2.4 GHz + 802.11ac, 2*2 – 866 Mbps – 5 GHz)
Related software	
ACS-CPE-512	ACS-CPE-512 option of Eltex.ACS system for Eltex CPE autoconfiguration: 512 subscriber devices
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.