ELTEX
Integrated Networking Solutions

— 1 GPON port

— 4 LAN Gigabit Ethernet ports

— USB 2.0 port for USB drive or printer connection

— Daul-band Wi-Fi (802.11 a/b/g/n/ac)

— Wi-Fi EasyMesh

NTU-RG-5440G-Wac

NTU-RG-5440G-Wac is a high performance multifunctional subscriber terminal that is designed to access IPTV and OTT services as well as high-speed Internet. Furthermore, NTU-RG-5440G-Wac allows carriers to offer their clients a wide range of services and opportunities to work in a local network.

PON technology

PON technology is 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 acess to IP services.

Universal device

The integrated gigabit router for 4x10/100/1000BASE-T ports ensures high-speed connection of devices in a network. 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)

• Online educational and entertainment programs

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 requirements in terms of security and data transfer rates

Wireless connection

NTU-RG-5440G-Wac supports IEEE 802.11ac standard, that provides data rates up to 1733 Mbps and delivers modern high performance services to subscriber equipment through the wireless network. Two integrated Wi-Fi controllers ensure simultaneous dual band operation in 2.4 and 5 GHz.

Advantages of EasyMesh technology

• Network intelligence: a self-organizaing 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

NTU-RG-5440G-Wac interfaces configuration

	WAN	LAN	Wi-Fi	USB
NTU-RG-5440G-Wac	1xGPON	4x1G	802.11n, 2*2 - 300 Mbps - 2.4 GHz 802.11ac, 4*4 - 1733 Mbps - 5 GHz	1 x USB2.0

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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 rate: 2488 Mbps
  – Receiver Sensitivity: -28 dBm, BER≤1.0×10^{-10}
  – Receiver Optical Overload: -8 dBm

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

Wireless module specifications
– Supported standards: 802.11 a/b/g/n/ac
– Frequency range: 2400 ~ 2483,5 MHz, 5150 ~ 5350 MHz, 5650 ~ 5850 MHz
– Support for EasyMesh
– Simultaneous Dual Band
– CCK, BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM modulation

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

Data rate[1]
– 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: 1733 Mbps (80 MHz channel)

Maximum power of the transmitter[2]
2.4 GHz:
– 802.11b (11 Mbps): 18 dBm
– 802.11g (54 Mbps): 16 dBm
– 802.11n (MCS7): 16 dBm
– 802.11n (MCS0): 18 dBm
5 GHz:
– 802.11ac (MCS7): 18 dBm
– 802.11ac (MCS0): 20 dBm

USB interface
– 1 USB 2.0 port

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

Functional specifications
– Support for TR-069
– «Bridge» and «Router» (including virtual ones) operation modes
– Support for PPPoE (auto, PAP, MSCHAP and CHAP authorization)
– 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 UPNP, SMB, FTP-alg, 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/CLI
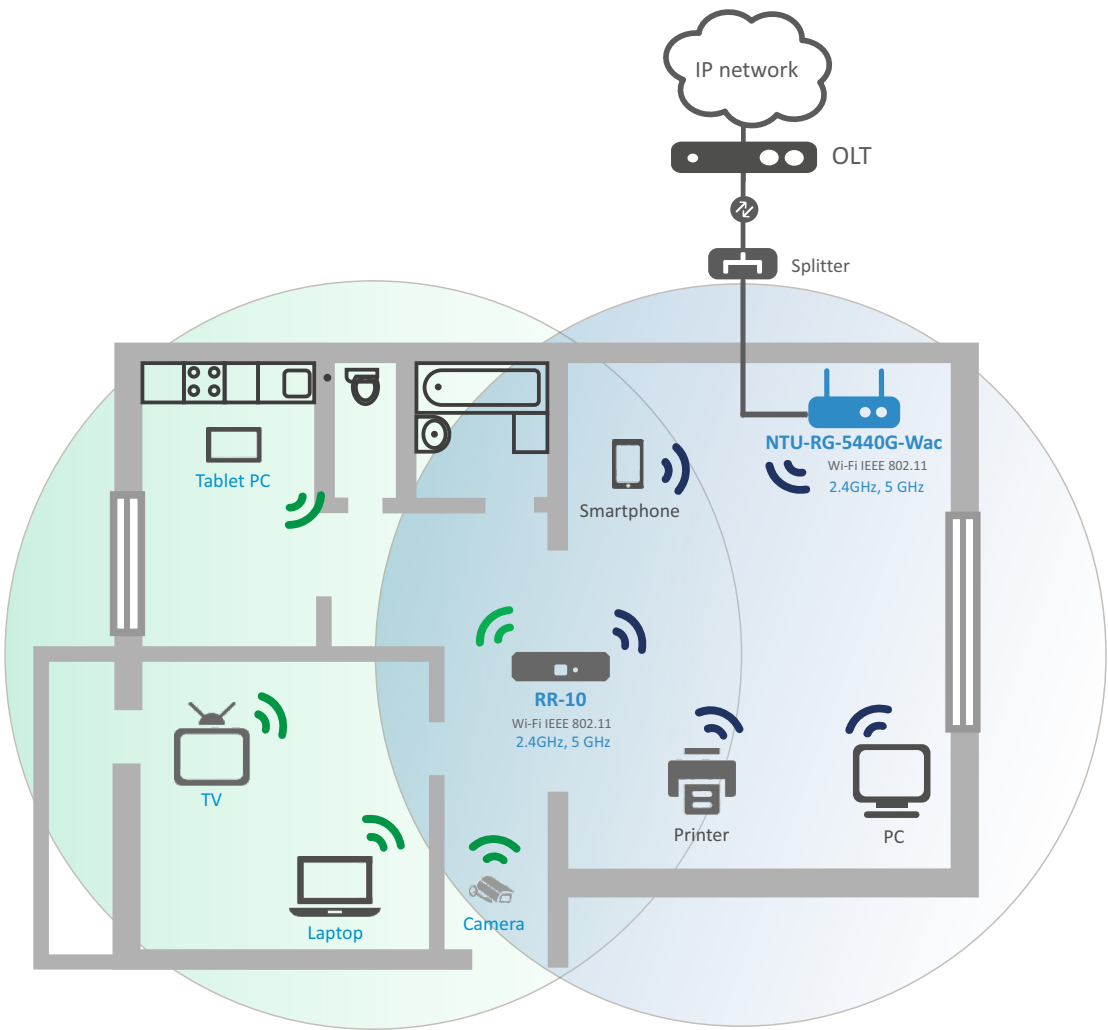 – Firmware updating via OMCI, TR-069, HTTP, TFTP

Physical specifications
– Dimensions: 234x133x34 mm, desktop case, possible to mount on the wall
– Power supply: external 12V/2A DC adapter;
– Max. power consumption: 18 W
– Operating temperature from +5 to +40 °C
– Relative humidity up to 80%

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[1] 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.
[2] The value of the maximum output power will vary according to the rules of radio frequency regulation in your country.

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EasyMesh technology use case in cooperation with RR-10

IP network

OLT

Splitter

Tablet PC

Smartphone

NTU-RG-5440G-Wac
Wi-Fi IEEE 802.11
2.4GHz, 5 GHz

TV

RR-10
Wi-Fi IEEE 802.11
2.4GHz, 5 GHz

Printer

PC

Laptop

Camera

Ordering information

Name	Description	Image
NTU-RG-5440G-Wac	ONT NTU-RG-5440G-Wac, 1 PON port, 4 LAN 10/100/1000Base-T ports, 1xUSB, Wi-Fi (802.11n, 2*2 - 300 Mbps - 2.4 GHz + 802.11ac, 4*4 - 1733 Mbps - 5 GHz)	
Related Software		
ACS-CPE-512	ACS-CPE-512 option of Eltex.ASC system for Eltex CPE autoconfiguration: 512 subscriber devices	
ACS-CPE-1024	ACS-CPE-1024 option of Eltex.ASC system for Eltex CPE autoconfiguration: 1024 subscriber devices	

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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.