Integrated networking solutions

– Gigabit router
– Controller for “Smart home”
– 1 GPON port
– FXS port for analogue phone connection
– USB 2.0 for USB drive and printer connection
– Wi-Fi 802.11b/g/n
– Wi-Fi 802.11a/n/ac

NTU-RG1421G-WZ – a high performance multifunction customer premises terminal that is designed to connect to modern telephony, IPTV, OTT services and for high-speed access to the Internet. Furthermore, NTU-RG series terminals allow providers to offer their clients a wide range of services and opportunity to work in a local network.

PON technology

PON technology - one of the most effective last mile solution today. The technology helps to reduce costs of cable infrastructure and ensures data rates of 2.5 Gbps downlink and 1.25 Gbps uplink. The use of PON technology on 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 on 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/IP TV, Video on Demand (VoD), video conference
- IP telephony
- Online educational and entertainment programs
- “Smart home” management

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-1421G-WZ supports IEEE 802.11ac standard, that provides data rates up to 1300 Mbps and deliver modern high performance services to client equipment trough 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 through the wireless channel.

Interfaces

Name	WAN	LAN	FXS	Wi-Fi	USB
NTU-RG1421G-WZ	1xGPON	4x1G	1	IEEE 802.11n, 2*2, 300 Mbps, 2.4 GHz IEEE 802.11ac, 3*3, 1.3 Gbps, 5 GHz	1xUSB2.0

Integrated networking solutions

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≤$1.0x10^{-10}$
    – Receiver Optical Overload -4 dBm

LAN interfaces parameters

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

FXS interfaces parameters

– 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 802.11a/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[1]
– 802.11b: 1, 2, 5.5 and 11 Mbps
– 802.11g: 6, 9, 12, 18, 24, 36, 48 and 54 Mbps
– 802.11n: 150 Mbps (channel 20 MHz), 300 Mbps (channel 40 MHz)
– 802.11ac: 1300 Mbps (80 MHz)

Maximum output power of the transmitter[2]
– 802.11b (11 Mbps): 17 dBm
– 802.11g (54 Mbps): 15 dBm
– 802.11n (MCS7): 15 dBm
– 802.11ac (MCS0): 19 dBm

USB interface

– 1 USB 2.0 port - for USB device connection

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, including virtual router mode
– 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 UPNP, SMB, FTP-alg, Print Server
– VLAN complying with IEEE 802.1Q

Security functions

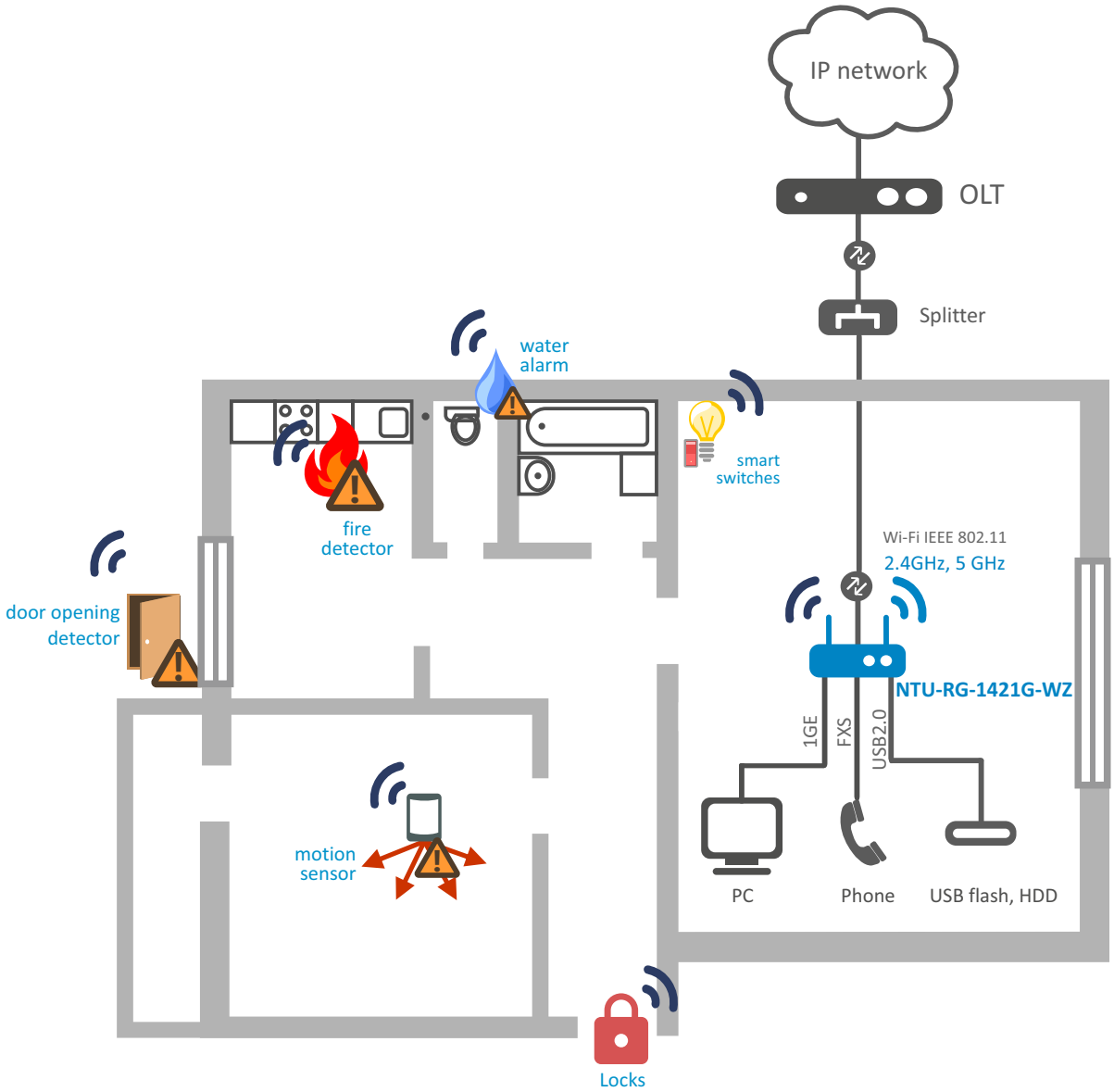
– Rate limiting per ports
– FEC coding

Configuration and monitoring

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

[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, environment, the amount of traffic, building materials and constructions and 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.

Use Case



Ordering information

Name	Description	Image
NTU-RG-1421G-WZ	ONT NTU-RG-1421G-WZ, 4 ports LAN 10/100/1000Base-T, 1xUSB, 1xFXS, Wi-Fi (802.11n, 2*2 -300Mbps - 2.4GHz +802.11ac, 3*3 - 1.3Gbps-5 GHz)	
Related software		
ACS-CPE-512	ACS-CPE-512 option of Eltex.ACS system for Eltex CPE autoconfiguration: 512 customer devices	
ACS-CPE-1024	ACS-CPE-1024 option of Eltex.ACS system for Eltex CPE autoconfiguration: 1024 customer devices	

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About company

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.