

Nokia ONT G-1425G-B

Residential gateway ONT

The Nokia optical network terminal (ONT) G-1425G-B is the solution for home networking that is delivered by Gigabit Passive Optical Network (GPON). The device has built-in concurrent dual-band Wi-Fi® 802.11b/g/n and 802.11ac networking for high-capacity Wi-Fi connectivity. The G-1425G-B supports Wi-Fi 5 and Wi-Fi EasyMesh™, to create a whole home mesh network. This coverage can be expanded at any time by installing additional Wi-Fi EasyMesh-capable beacons to ensure seamless roaming throughout the home. The G-1425G-B includes the Nokia WiFi Mesh Middleware which ensures the best possible Wi-Fi performance. The end-user experience is enhanced by the intuitive Nokia WiFi mobile app and by the service provider's Wi-Fi management capabilities in the cloud.

The Nokia ONT G-1425G-B is a dual-band Wi-Fi 5 mesh system with Wi-Fi Alliance compliant Wi-Fi EasyMesh, enhanced by Nokia value added features.

The Nokia WiFi Mesh Middleware creates a self-healing, self-optimizing network and includes intelligent channel selection, band steering, client steering and backhaul management to provide the best Wi-Fi performance.

Optionally, the Nokia ONT G-1425G-B can be managed by the Nokia WiFi Cloud Controller. The associated Home Console presents the help desk agents with a real-time holistic view of the in-home network to assist them with easy identification and instantaneous resolution of issues. The Network Console provides an end-to-end Wi-Fi network view and allows management of groups of Wi-Fi networks.

This Nokia indoor ONT is designed to deliver triple play services (voice, video and data) to residential subscribers. Voice services are provided through one plain old telephone service (POTS) ports with an integrated analog telephone adapter (ATA) that converts voice traffic into Session Initiation Protocol (SIP). Connectivity to an existing public switched



telephone network (PSTN) Class 5 switch is supported through SIP with direct interoperability of a variety of soft switches.

Ethernet connectivity is available on four Gigabit Ethernet (GigE) ports, all of which can burst up to a full gigabit dynamically. Service providers can deliver video using IP packets (IPTV).

Relying on dual-band Wi-Fi allows for support of the widest range of customer products. The IEEE 802.11ac standard enables gigabit speeds on many newer devices, while the widely supported 802.11b/g/n standard can simultaneously connect to legacy devices.

Features

- Four RJ-45 10/100/1000 Ethernet ports
- One POTS port for voice service
- Up to 2 USB 2.0 ports (depending on variant)
- Wireless IEEE 802.11 b/g/n: 2.4GHz
- Wireless IEEE 802.11ac: 5GHz
- Network Address Translation (NAT) and firewall
- Voice interworking function from the analog POTS line to the voice over IP (VoIP) and Ethernet layers
- Dual-band concurrent Wi-Fi: 2.4GHz and 5GHz
- Optics support received signal strength indication (RSSI)
- Supports virtual private network (VPN)
- Support Layer 2 Tunneling Protocol (L2TP) and IPSec
- Port forwarding and demilitarized zone (DMZ)
- Dynamic Domain Name System (DDNS)

Benefits

- EasyMesh enhanced by Nokia value added features
- Integrates the ONT and wireless access point functions to allow for one less device in the home
- Delivers connectivity to Ethernet devices within the home
- Supports full triple play services, including voice, video and data
- Allows service-per-port configurations
- Supports IP video distribution
- Delivers voice service using VoIP
- Delivers video services efficiently with multicasting or unicasting
- Facilitates network management using Nokia 5520 AMS
- Flexible video delivery options of Ethernet or wireless to set-top boxes (STBs)

Technical specifications

Physical

- Height: 138 mm (5.4 in) (without antennas)
- Width: 180 mm (7.1 in)
- Depth: 37 mm (1.5 in) (without base)

Installation

- Desk mountable
- Wall mountable

Operating environment

- Temperature: -5°C to 45°C (23°F to 113°F)
- Relative humidity: 10% to 90%

Power requirements

- Local powering with 12 V input (feed uses external AC/DC adapter)
- Dying gasp support
- Power consumption: <18 W

GPON uplinks

- Wavelength: 1490 nm downstream, 1310 nm upstream
- Line rate: 2.488 Gb/s downstream, 1.244 Gb/s upstream
- GPON Encapsulation Method (GEM) mode support for IP/Ethernet service traffic
- ITU-T G.984.3-compliant dynamic bandwidth reporting
- ITU-T G.984.3-compliant Advanced Encryption Standard (AES) in downstream
- ITU-T G.984.3-compliant forward error correction (FEC)
- ITU-T G.988 Appendix 1 and Appendix 2 ONT Management Control Interface (OMCI)
- Remote software image download
- BOSA On Board (BOB) type laser, SC/APC connector

Ethernet interfaces

- 10/100/1000Base-T interface with RJ-45 connectors
- Wi-Fi Protected Access (WPA) support, including pre-shared key (WPA-PSK) and WPA2
- Forwarding
- Ethernet port auto-negotiation or manual configuration
- Virtual switch based on IEEE 802.1q virtual LAN (VLAN)
- VLAN tagging/de-tagging per Ethernet port and marking/remarking of IEEE 802.1p
- IP type of service/differentiated services code point (ToS/DSCP) to IEEE 802.1p mapping for untagged frames
- Class of service (CoS) based on VLAN ID, IEEE 802.1p bit
- Internet Group Management Protocol (IGMP) v2/v3 snooping

POTS interface

- One FXS port for VoIP service with RJ-11 connectors
- Multiple voice codecs including G.711 A-law, G.711 μ -law, G.729A, G.729B and G-723.1
- SIP (RFC 3261)
- ITU-T G.168 echo cancellation
- Services: caller ID, call waiting, call hold, 3-way call, call transfer, message waiting indication
- 3 ringer equivalence numbers (RENS) per line
- Dual-tone multi-frequency (DTMF) dialing
- Balanced sinusoidal ring signal, 55 V root mean square (RMS)

WLAN Interfaces

- 2x2 MIMO on 802.11b/g/n
- 2x2 MIMO on 802.11ac
- WPA, WPA-PSK/TKIP, WPA2, WPA2-PSK/AES
- Media access control (MAC) filters

Residential gateway

- IPv4 and IPv6
- Point-to-Point Protocol over Ethernet (PPPoE) and IP over Ethernet (IPoE)
- NAT, DMZ and firewall
- Dynamic Host Configuration Protocol (DHCP) and domain name system (DNS) proxy
- IGMP proxy
- Supports TR-069

LEDs

- Power
- Link
- Auth
- LAN (1-4)
- TEL (1)
- Voip
- Wi-Fi Protected Setup (WPS) 2.4G/5G
- WLAN 2.4G/5G
- Internet
- Up to 2 USB 2.0 ports (depending on variant)

Safety and electromagnetic interference (EMI)

- Protection of over voltage/current

Regulatory compliances

- CE compliant
- FCC compliant
- Local certifications depending on variant



About Nokia

At Nokia, we create technology that helps the world act together.

As a trusted partner for critical networks, we are committed to innovation and technology leadership across mobile, fixed and cloud networks. We create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

Adhering to the highest standards of integrity and security, we help build the capabilities needed for a more productive, sustainable and inclusive world.

Nokia operates a policy of ongoing development and has made all reasonable efforts to ensure that the content of this document is adequate and free of material errors and omissions. Nokia assumes no responsibility for any inaccuracies in this document and reserves the right to change, modify, transfer, or otherwise revise this publication without notice.

© 2022 Nokia

Nokia OYJ
Karakaari 7
02610 Espoo
Finland
Tel. +358 (0) 10 44 88 000

Document code: (February) CID211032