

# Nokia ONT

# **G-2426G-B Product Guide**

3FE-49441-ABAA-TCZZA Issue 1 June 2021

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# About this document

### Purpose

This documentation set provides information about safety, features and functionality, ordering, hardware installation and maintenance, and software installation procedures of this ONT for the current release.

### **Intended audience**

This documentation set is intended for planners, administrators, operators, and maintenance personnel involved in installing, upgrading, or maintaining the ONTs.

The reader must be familiar with general telecommunications principles.

### Safety information

For your safety, this document contains safety statements. Safety statements are given at points where risks of damage to personnel, equipment, and operation may exist. Failure to follow the directions in a safety statement may result in serious consequences.

### **Safety Information Examples**



Danger indicates that the described activity or situation may result in serious personal injury or death; for example, high voltage or electric shock hazards.



Warning indicates that the described activity or situation may, or will, cause equipment damage or serious performance problems.



Caution indicates that the described activity or situation may, or will, cause service interruption.

Note: A note provides information that is, or may be, of special interest.

### Acronyms and initialisms

The expansions and optional descriptions of most acronyms and initialisms appear in the glossary

#### Nokia quality processes

Nokia's ONT manufacturing, testing, and inspecting practices are in compliance with TL 9000 requirements. These requirements are documented in the Fixed Networks Quality Manual 3FQ-30146-6000-QRZZA.

The quality practices adequately ensure that technical requirements and customer end-point requirements are met. The customer or its representatives may be allowed to perform on-site quality surveillance audits, as agreed upon during contract negotiations.

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4	
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	Click <b>Documentation: Doc Center</b> to go to the product page in the Doc Center.
5	
	Select a release from the <b>Release</b> list and click <b>SEARCH</b> .
6	
	Click on the PDF icon to open or save the file.
End	OF STEPS
Procedures	with options or substeps
	en there are options in a procedure, they are identified by letters. When there are required steps in a procedure, they are identified by roman numerals.
Example of	options in a procedure
At	Step 1, you can choose option a or b. At Step 2, you must do what the step indicates.
1	
	This step offers two options. You must choose one of the following:
	a. This is one option.
	b. This is another option.
2	
	You must perform this step.
End	OF STEPS

### Example of required substeps in a procedure

At Step 1, you must perform a series of substeps within a step. At Step 2, you must do what the step indicates.

#### 1 —

This step has a series of substeps that you must perform to complete the step. You must perform the following substeps:

- a. This is the first substep.
- b. This is the second substep.
- c. This is the third substep.
- 2 \_\_\_\_\_

You must perform this step.

End of steps

### Multiple PDF document search

You can use Adobe Reader Release 6.0 and later to search multiple PDF files for a common term. Adobe Reader displays the results in a single display panel. The results are grouped by PDF file, and you can expand the entry for each file.

**Note:**The PDF files in which you search must be in the same folder.

### To search multiple PDF files for a common term

1 \_\_\_\_\_ Open Adobe Acrobat Reader. 2 \_\_\_\_\_ Choose **Edit** $\rightarrow$ **Search** from the Acrobat Reader main menu. The Search PDF panel displays. 3 \_\_\_\_\_ Enter the search criteria. 4 —— Select All PDF Documents In. 5 \_\_\_\_\_ Select the folder in which to search using the drop-down menu. 6 \_\_\_\_\_ Click Search. Acrobat Reader displays the search results. You can expand the entries for each document by clicking on the + symbol. END OF STEPS -

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# 1 What's new

- 1.1 Overview
- 1.1.1 Purpose

### 1.1.2 Contents

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### 1.2 What's new in BBD Release 21.02

The product guide is a new guide in BBD Release 21.02, issue 1. In future releases, this chapter will provide tables of the feature and document changes applicable to this guide.

# 2 ETSI ONT safety guidelines

This chapter provides information about the mandatory regulations that govern the installation and operation of the optical network terminals (ONTs).

## 2.1 Safety instructions

This section describes the safety instructions that are provided in the ONT customer documentation and on the equipment.

### 2.1.1 Safety instruction boxes

The safety instruction boxes are provided in the ONT customer documentation. Observe the instructions to meet safety requirements.

The following is an example of the Danger box.



Possibility of personal injury.

The Danger box indicates that the described activity or situation may pose a threat to personal safety. It calls attention to a situation or procedure which, if not correctly performed or adhered to, may result in death or serious physical harm.

Do not proceed beyond a Danger box until the indicated conditions are fully understood and met.

The following is an example of the Warning box.



Possibility of equipment damage.

Possibility of data loss.

The Warning box indicates that the described activity or situation may, or will, cause equipment damage, loss of data, or serious performance problems. It identifies a possible equipment-damaging situation or provides essential information to avoid the degradation of system operations or data.

Do not proceed beyond a warning until the indicated conditions are fully understood and met.

The following is an example of the Caution box.



Possibility of service interruption.

Service interruption.

The Caution box indicates that the described activity or situation may, or will, cause service interruption.

Do not proceed beyond a caution until the indicated conditions are fully understood and met.

The following is an example of the Note box.



**i** Note: Information of special interest.

The Note box provides information that assists the personnel working with ONTs. It does not provide safety-related instructions.

#### 2.1.2 Safety-related labels

The ONT equipment is labeled with the specific safety instructions and compliance information that is related to a variant of the ONT. Observe the instructions on the safety labels.

Table 2-1, "Safety labels" (p. 23) provides sample safety labels on the ONT equipment.

Description	Label text
ESD warning	Caution: This assembly contains an electrostatic sensitive device.
Laser classification	Class 1 laser product
PSE marking	These power supplies are Japan PSE certified.
VCCI marking	Compliant with Japan VCCI emissions standards.

Figure 2-1, "VCCI warning" (p. 24) shows the VCCI warning.

Figure 2-1 VCCI warning

Warning	This is a Class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.
警告	VCCI準拠クラスB機器(日本) この機器は、Information Technology EquipmentのVoluntary Control Council for Interference (VCCI) の規格に準拠したクラスB製品です。この機器をラジオやテレビ受信機の近くで使用した場合、 混信を発生する恐れがあります。本機器の設置および使用に際しては、取扱い説明書に従って ください。

19841

### 2.2 Safety standards compliance

This section describes the ONT compliance with the European safety standards.

### 2.2.1 EMC, EMI, and ESD compliance

The ONT equipment complies with the following EMC, EMI, and ESD requirements:

- EN 300-328 v1.9.1 wide band data transmission standards for 2.4GHz bands
- EN 300-386 V1.5.1: Electromagnetic Compatibility and Radio Spectrum Matters (ERM): Telecommunications Network Equipment; Electromagnetic Compatibility (EMC) requirements; Electrostatic Discharge (ESD) requirements
- EN 55022 (2006): Class B, Information Technology Equipment, Radio Disturbance Characteristics, limits and methods of measurement
- EN 55024 (2010): Information Technology Equipment, Immunity Characteristics, limits and methods of measurement
- European Council Directive 2004/108/EC
- EN 300-386 V1.4.1: 2008
- EN 55022:2006 Class B (ONTs)

### 2.2.2 Equipment safety standard compliance

The ONT equipment complies with the requirements of EN 60950-1, Safety of Information Technology Equipment for use in a restricted location (per R-269).

### 2.2.3 Environmental standard compliance

The ONT equipment complies with the EN 300 019 European environmental standards.

### 2.2.4 Laser product standard compliance

For most ONTs, the ONT equipment complies with EN 60825-1 and IEC 60825-2 for laser products. If there is an exception to this compliance regulation, you can find this information in the standards compliance section of the unit data sheet in this Product Guide.

### 2.2.5 Resistibility requirements compliance

The ONT equipment complies with the requirements of ITU Recommendation K.21 for resistibility of telecommunication equipment installed in customer premises to over voltage and over currents.

### 2.2.6 Acoustic noise emission standard compliance

The ONT equipment complies with EN 300 753 acoustic noise emission limit and test methods.

### 2.2.7 IC statement

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

• This device may not cause interference; and

• This device must accept any interference, including interference that may cause undesired operation of the device.



To satisfy IC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.

Les antennes installées doivent être situées de facon à ce que la population ne puisse y être exposée à une distance de moin de 20 cm. Installer les antennes de facon à ce que le personnel ne puisse approcher à 20 cm ou moins de la position centrale de l' antenne. La FCC des états enis stipule que cet appareil doit être en tout temps éloigné d'au moins 20 cm des personnes pendant son functionnement.

## 2.3 Electrical safety guidelines

This section provides the electrical safety guidelines for the ONT equipment.



**Note:** The ONTs comply with the U.S. National Electrical Code. However, local electrical authorities have jurisdiction when there are differences between the local and U.S. standards. The ONTs comply with BS EN 61140.

### 2.3.1 Power supplies

The use of any non-Nokia approved power supplies or power adapters is not supported or endorsed by Nokia. Such use will void any warranty or support contract with Nokia. Such use greatly increases the danger of damage to equipment or property.

### 2.3.2 Cabling

The following are the guidelines regarding cables used for the ONT equipment:

- All cables must be approved by the relevant national electrical code.
- The cables for outdoor installation of ONTs must be suitable for outdoor use.
- POTS wiring run outside the subscriber premises must comply with the requirements of local electrical codes. In some markets, the maximum allowed length of the outside run is 140 feet (43 m). If the outside run is longer, NEC requires primary protection at both the exit and entry points for the wire.

### 2.3.3 Protective earth

Earthing and bonding of the ONTs must comply with the requirements of local electrical codes.

## 2.4 ESD safety guidelines

The ONT equipment is sensitive to ESD. Operations personnel must observe the following ESD instructions when they handle the ONT equipment.

# CAUTION Service Disruption

This equipment is ESD sensitive. Proper ESD protections should be used when you enter the TELCO Access portion of the ONT.

During installation and maintenance, service personnel must wear wrist straps to prevent damage caused by ESD.

## 2.5 Laser safety guidelines

Observe the following instructions when you perform installation, operations, and maintenance tasks on the ONT equipment.

Only qualified service personnel who are extremely familiar with laser radiation hazards should install or remove the fiber optic cables and units in this system.



There may be invisible laser radiation at the fiber optic cable when the cable is removed from the connector. Avoid direct exposure to the laser beam.

Observe the following danger for laser hazard. Eyes can be damaged when they are exposed to a laser beam. Take necessary precautions before you plug in the optical modules.



Possibility of equipment damage. Risk of eye damage by laser radiation.

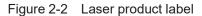
### 2.5.1 Laser classification

The ONT is classified as a Class 1 laser product based on its transmit optical output.

### Laser warning labels

The following figures show the labels related to laser product, classification and warning.

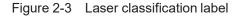
Figure 2-2, "Laser product label" (p. 28) shows a laser product label.





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Figure 2-3, "Laser classification label" (p. 28) shows a laser classification label. Laser classification labels may be provided in other languages.



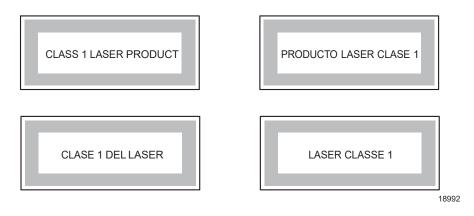


Figure 2-4, "Laser warning labels" (p. 29) shows a laser warning label and an explanatory label for laser products. Labels and warning may be provided in other languages. The explanatory label provides the following information:

- a warning that calls attention to the invisible laser radiation
- · an instruction against staring into the beam or viewing directly with optical instruments
- wavelength
- normal output power
- · maximum output power

#### Figure 2-4 Laser warning labels



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### 2.5.2 Transmit optical output

The maximum transmit optical output of an ONT is +5 dBm.

### 2.5.3 Normal laser operation

In normal operation, fiber cable laser radiation is always off until it receives signal from the line terminal card.

Eyes can be damaged when they exposed to a laser beam. Operating personnel must observe the instructions on the laser explanatory label before plugging in the optical module.



Risk of eye damage by laser radiation.

### 2.5.4 Location class

Use cable supports and guides to protect the receptacles from strain.

### 2.6 Environmental requirements

See the ONT technical specification documentation for more information about temperature ranges.

During operation in the supported temperature range, condensation inside the ONT caused by humidity is not an issue. To avoid condensation caused by rapid changes in temperature and humidity, Nokia recommends:

- The door of the ONT not be opened until temperature inside and outside the enclosure has stabilized.
- If the door of the ONT must be opened after a rapid change in temperature or humidity, use a dry cloth to wipe down the metal interior to prevent the risk of condensation.
- When high humidity is present, installation of a cover or tent over the ONT helps prevent condensation when the door is opened.

# **3 ETSI environmental and CRoHS guidelines**

This chapter provides information about the ETSI environmental China Restriction of Hazardous Substances (CRoHS) regulations that govern the installation and operation of the optical line termination (OLT) and optical network termination (ONT) systems. This chapter also includes environmental operation parameters of general interest.

## 3.1 Environmental labels

This section describes the environmental instructions that are provided with the customer documentation, equipment, and location where the equipment resides.

### 3.1.1 Overview

CRoHS is applicable to Electronic Information Products (EIP) manufactured or sold and imported in the territory of the mainland of the People's Republic of China. EIP refers to products and their accessories manufactured by using electronic information technology, including electronic communications products and such subcomponents as batteries and cables.

### 3.1.2 Environmental related labels

Environmental labels are located on appropriate equipment. The following are sample labels.

### Products below Maximum Concentration Value (MCV) label

Figure 3-1, "Products below MCV value label" (p. 32) shows the label that indicates a product is below the maximum concentration value, as defined by standard SJ/T11363-2006 (Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products). Products with this label are recyclable. The label may be found in this documentation or on the product.

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Figure 3-1 Products below MCV value label



Products containing hazardous substances above Maximum Concentration Value (MCV) label

Figure 3-2, "Products above MCV value label" (p. 32) shows the label that indicates a product is above the maximum concentration value, as defined by standard SJ/T11363-2006 (Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products). The number contained inside the label indicates the Environment-Friendly User Period (EFUP) value. The label may be found in this documentation or on the product.

Figure 3-2 Products above MCV value label



Together with major international telecommunications equipment companies, Nokia has determined it is appropriate to use an EFUP of 50 years for network infrastructure equipment and an EFUP of 20 years for handsets and accessories. These values are based on manufacturers' extensive practical experience of the design, manufacturing, maintenance, usage conditions, operating

environments, and physical condition of infrastructure and handsets after years of service. The values reflect minimum values and refer to products operated according to the intended use conditions. See 3.2 "Hazardous Substances Table (HST)" (p. 32) for more information.

## 3.2 Hazardous Substances Table (HST)

This section describes the compliance of the OLT and ONT equipment to the CRoHS standard when the product and sub assemblies contain hazardous substances beyond the MCV value. This information is found in this user documentation where part numbers for the product and sub assemblies are listed. It may be referenced in other OLT and ONT documentation.

In accordance with the People's Republic of China Electronic Industry Standard Marking for the Control of Pollution Caused by Electronic Information Products (SJ/T11364-2006), customers may access the Nokia Hazardous Substance Table, in Chinese, from the following location:

 http://www.nokia-sbell.com.cn/wwwroot/images/upload/private/1/media/ChinaRoHS.pdf (http://www.nokia-sbell.com.cn/wwwroot/images/upload/private/1/media/ChinaRoHS.pdf)

### 3.3 Other environmental requirements

Observe the following environmental requirements when handling the P-OLT or ONT equipment.

### 3.3.1 ONT environmental requirements

See the ONT technical specification documentation for more information about temperature ranges.

### 3.3.2 Storage

According to ETS 300-019-1-1 - Class 1.1, storage of ONT equipment must be in Class 1.1, weather-protected, temperature-controlled locations.

### 3.3.3 Transportation

According to EN 300-019-1-2 - Class 2.3, transportation of the ONT equipment must be in packed, public transportation with no rain on packing allowed.

### 3.3.4 Stationary use

According to EN 300-019-1-3 - Class 3.1/3.2/3.E, stationary use of ONT equipment must be in a temperature-controlled location, with no rain allowed, and with no condensation allowed.

### 3.3.5 Material content compliance

European Union (EU) Directive 2002/95/EC, "Restriction of the use of certain Hazardous Substances" (RoHS), restricts the use of lead, mercury, cadmium, hexavalent chromium, and certain flame retardants in electrical and electronic equipment. This Directive applies to electrical and electronic products placed on the EU market after 1 July 2006, with various exemptions, including an exemption for lead solder in network infrastructure equipment. Nokia products shipped to the EU after 1 July 2006 comply with the EU RoHS Directive.

Nokia has implemented a material/substance content management process. The process is described in: Nokia process for ensuring RoHS Compliance (1AA002660031ASZZA). This ensures

compliance with the European Union Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS2). With the process equipment is assessed in accordance with the Harmonised Standard EN50581:2012 (CENELEC) on Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

### 3.3.6 End-of-life collection and treatment

Electronic products bearing or referencing the symbol shown in Figure 3-3, "Recycling/take back/ disposal of product symbol" (p. 33), when put on the market within the European Union (EU), shall be collected and treated at the end of their useful life, in compliance with applicable EU and local legislation. They shall not be disposed of as part of unsorted municipal waste. Due to materials that may be contained in the product, such as heavy metals or batteries, the environment and human health may be negatively impacted as a result of inappropriate disposal.



**Note:** In the European Union, a solid bar under the symbol for a crossed-out wheeled bin indicates that the product was put on the market after 13 August 2005.

Figure 3-3 Recycling/take back/disposal of product symbol



At the end of their life, the OLT and ONT products are subject to the applicable local legislations that implement the European Directive 2012/19EU on waste electrical and electronic equipment (WEEE).

There can be different requirements for collection and treatment in different member states of the European Union.

In compliance with legal requirements and contractual agreements, where applicable, Nokia will offer to provide for the collection and treatment of Nokia products bearing the logo shown in Figure 3-3, "Recycling/take back/disposal of product symbol" (p. 34) at the end of their useful life, or products displaced by Nokia equipment offers. For information regarding take-back of equipment by Nokia, or for more information regarding the requirements for recycling/disposal of product, contact your Nokia account manager or Nokia take back support at sustainability.global@nokia.com.

# 4 ANSI ONT safety guidelines

This chapter provides information about the mandatory regulations that govern the installation and operation of the optical network terminals or units (ONTs or ONUs) in the North American or ANSI market.

### 4.1 Safety instructions

This section describes the safety instructions that are provided in the ONT customer documentation and on the equipment.

### 4.1.1 Safety instruction boxes in customer documentation

The safety instruction boxes are provided in the ONT customer documentation. Observe the instructions to meet safety requirements.

The following is an example of the Danger box.



Possibility of personal injury.

The Danger box indicates that the described activity or situation may pose a threat to personal safety. It calls attention to a situation or procedure which, if not correctly performed or adhered to, may result in death or serious physical harm.

Do not proceed beyond a Danger box until the indicated conditions are fully understood and met.

The following is an example of the Warning box.



Possibility of equipment damage.

Possibility of data loss.

The Warning box indicates that the described activity or situation may, or will, cause equipment damage, loss of data, or serious performance problems. It identifies a possible equipment-damaging situation or provides essential information to avoid the degradation of system operations or data.

Do not proceed beyond a warning until the indicated conditions are fully understood and met.

The following is an example of the Caution box.



Possibility of service interruption.

Service interruption.

The Caution box indicates that the described activity or situation may, or will, cause service interruption.

Do not proceed beyond a caution until the indicated conditions are fully understood and met.

The following is an example of the Note box.



**i** Note: Information of special interest.

The Note box provides information that assists the personnel working with ONTs. It does not provide safety-related instructions.

#### 4.1.2 Safety-related labels

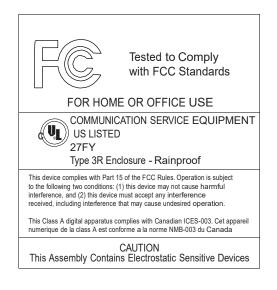
The ONT equipment is labeled with specific safety compliance information and instructions that are related to a variant of the ONT. Observe the instructions on the safety labels.

Table 4-1, "Safety labels" (p. 35) provides examples of the text in the various ONT safety labels.

Description	Label text
UL compliance	Communication service equipment US listed. Type 3R enclosure - Rainproof.
TUV compliance	Type 3R enclosure - Rainproof.
ESD warning	Caution: This assembly contains electrostatic sensitive device.
Laser classification	Class 1 laser product
Laser product compliance	This laser product conforms to all applicable standards of 21 CFR 1040.10 at date of manufacture.
FCC standards compliance	Tested to comply with FCC standards for home or office use.
CDRH compliance	Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007
Operation conditions	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Canadian standard compliance (modular ONT)	This Class A digital apparatus complies with Canadian ICES-003.
Canadian standard compliance (outdoor ONT)	This Class B digital apparatus complies with Canadian ICES-003.
CE marking	There are various CE symbols for CE compliance.

Figure 4-1, "Sample safety label on the ONT equipment" (p. 36) shows a sample safety label on the ONT equipment.

Figure 4-1 Sample safety label on the ONT equipment



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## 4.2 Safety standards compliance

This section describes the ONT compliance with North American safety standards.



Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### 4.2.1 EMC, EMI, and ESD standards compliance

The ONT equipment complies with the following requirements:

- Federal Communications Commission (FCC) CFR 47, Part 15, Subpart B, Class B requirements for ONT equipment
- GR-1089-CORE requirements, including:
  - Section 3 Electromagnetic Interference, Emissions Radiated and Conducted
  - Section 3 Immunity, Radiated and Conducted
  - Section 2 ESD Discharge Immunity: System Level Electrostatic Discharge and EFT Immunity: Electrically Fast Transients

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is needed.
- Consult the dealer or an experienced radio/TV technician for help.

### 4.2.2 Equipment safety standard compliance

The ONT equipment complies with the requirements of IEC-62368-1, UL-62368-1, Outdoor ONTs to "Communication Service Equipment" (CSE) and Indoor ONTs to Information Technology Equipment (ITE).

### 4.2.3 Environmental standards compliance

The ONT equipment complies with the following standards:

- GR-63-CORE (NEBS): requirements related to operating, storage, humidity, altitude, earthquake, office vibration, transportation and handling, fire resistance and spread, airborne contaminants, illumination, and acoustic noise
- · GR-487-CORE: requirements related to rain, chemical, sand, and dust
- GR-487 R3-82: requirements related to condensation
- GR-3108: Requirements for Network Equipment in the Outside Plant (OSP)
- TP76200: Common Systems Equipment Interconnections Standards

### 4.2.4 Laser product standards compliance

The ONT equipment complies with 21 CFR 1040.10 and CFR 1040.11, except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007" or to 21 CFR 1040.10 U.S. Center for Devices and Radiological Health (CDRH) of the Food and Drug Administration (FDA) Laser Notice 42 for ONTs containing Class 1 Laser modules certified by original manufactures.

Per CDRH 21 CFR 10.40.10 (h) (1) (iv) distributors of Class 1 laser products, such as Nokia ONTs shall leave the following Laser Safety cautions with the end user.

a) "Class 1 Laser Product"

b) "Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure."

Figure 4-2, "Sample laser product label showing CDRH 21 CFR compliance" (p. 39) shows a laser product label.

Model: G-2426G-B FCC ID: 2ADZRG24 NOKIA aleigh, NC 276 ordor Complies with 21 CFR 1040.10 IEC 60825-1 Ed. 3 Sugar 8 WiFi 6 O RESET 192.168.1.254 XXXXXXXXX SSIDI2.4G/SQ: ALHN-XX00 WFi Key: WWWXXXXXX FCX rd WWWWXXXXXX MFG Year: 0000 CS-00 MRev-00

Figure 4-2 Sample laser product label showing CDRH 21 CFR compliance

### 4.2.5 Resistibility requirements compliance

The ONT equipment complies with the requirements of ITU Recommendation K.21 for resistibility of telecommunication equipment installed in customer premises to over voltage and over currents.

### 4.3 Laser safety guidelines

Only qualified service personnel who are extremely familiar with laser radiation hazards should install or remove the fiber optic cables and units in this system.

Observe the following warnings when you perform installation, operations, and maintenance tasks on the ONT equipment.



There may be invisible laser radiation at the fiber optic cable when the cable is removed from the connector. Avoid direct exposure to beam.

Observe the following danger for a laser hazard. Eyes can be damaged when they are exposed to a laser beam. Take necessary precautions before you plug in the optical modules.



Possibility of equipment damage. Risk of eye damage by laser radiation.

Per CDRH 21 CFR 10.40.10 (h) (1) (iv) distributors of Class 1 laser products, such as Nokia ONTs shall leave the following Laser Safety cautions with the end user.

a) "Class 1 Laser Product"

b) "Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure."

### 4.3.1 Laser warning labels

The following figures show sample labels related to laser product, classification and warning.

Figure 4-3, "Laser product label" (p. 39) shows a laser product label.

Figure 4-3 Laser product label



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Figure 4-4, "Laser classification label" (p. 40) shows a laser classification label. Laser classification labels may be provided in other languages.

Figure 4-4 Laser classification label

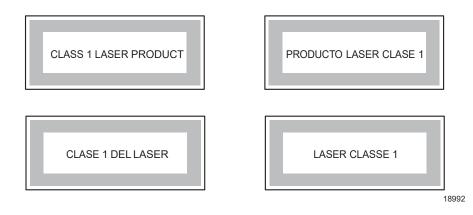


Figure 4-5, "Laser warning labels" (p. 41) shows a laser warning label and an explanatory label for laser products. Explanatory labels may be provided in other languages. The explanatory label provides the following information:

- a warning that calls attention to the invisible laser radiation
- · an instruction against staring into the beam or viewing directly with optical instruments
- wavelength
- normal output power
- · maximum output power

### Figure 4-5 Laser warning labels



Laser Warning Label

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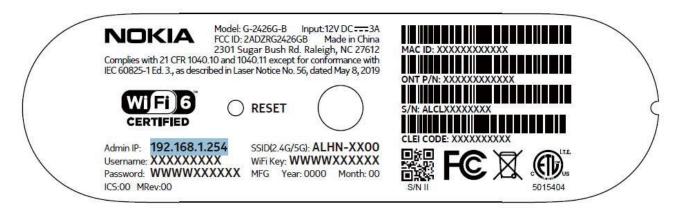
### 4.3.2 Laser classification

The ONT is classified as a Class 1 laser product based on its transmit optical output.

For Class 1 laser products, lasers are safe under reasonably foreseeable conditions of operation, including the use of optical instruments for intrabeam viewing.

Figure 4-6, "CDRH & CFR label" (p. 42) shows a sample laser product safety label on the ONT equipment.

### Figure 4-6 CDRH & CFR label



### 4.3.3 Transmit optical output

The maximum transmit optical output of an ONT is +5 dBm.

### 4.3.4 Normal laser operation

In normal operation, fiber cable laser radiation is always off until it receives signal from the line terminal card.

Operating personnel must observe the instructions on the laser explanatory label before plugging in the optical module.



Risk of eye damage by laser radiation.

### 4.3.5 Location class

Use cable supports and guides to protect the receptacles from strain.

## 4.4 Electrical safety guidelines

This section provides the electrical safety guidelines for the ONT equipment.



**Note:** The ONTs comply with the U.S. National Electrical Code. However, local electrical authorities have jurisdiction when there are differences between the local and U.S. standards.

### 4.4.1 **Power supplies**

The use of any non-Nokia approved power supplies or power adapters is not supported or endorsed by Nokia. Such use will void any warranty or support contract with Nokia. Such use greatly increases the danger of damage to equipment or property.

### 4.4.2 Cabling

The following are the guidelines regarding cables used for the ONT equipment:

- Use only cables approved by the relevant national electrical code.
- Use cables suitable for outdoor use for outdoor installation of ONTs.
- The ONTs have been evaluated for use with external POTS wiring without primary protection that may not exceed 140 ft (43 m) in reach. However, the power cable must not exceed 100 ft (31 m).

### 4.4.3 Protective earth

Earthing and bonding of the ONTs must comply with the requirements of NEC article 250 or local electrical codes.

## 4.5 ESD safety guidelines

The ONT equipment is sensitive to ESD. Operations personnel must observe the following ESD instructions when they handle the ONT equipment.

## CAUTION Service Disruption

This equipment is ESD sensitive. Proper ESD protections should be used when entering the TELCO Access portion of the ONT.

During installation and maintenance, service personnel must wear wrist straps to prevent damage caused by ESD.

Nokia recommends that you prepare the site before you install the ONT equipment. In addition, you must control relative humidity, use static dissipating material for furniture or flooring, and restrict the use of air conditioning.

## 4.6 Environmental requirements

See the ONT technical specification documentation for temperature ranges for ONTs.

During operation in the supported temperature range, condensation inside the ONT caused by humidity is not an issue. To avoid condensation caused by rapid changes in temperature and humidity, Nokia recommends:

- The door of the ONT not be opened until temperature inside and outside the enclosure has stabilized.
- If the door of the ONT must be opened after a rapid change in temperature or humidity, use a dry cloth to wipe down the metal interior to prevent the risk of condensation.

• When high humidity is present, installation of a cover or tent over the ONT helps prevent condensation when the door is opened.

## 5 G-2426G-B unit data sheet

## 5.1 Overview

### 5.1.1 Purpose

### 5.1.2 Contents

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## 5.2 G-2426G-B part numbers and identification

Table 5-1, "Identification of G-2426G-B indoor ONTs" (p. 45) provides part numbers and identification information for the G-2426G-B indoor ONT.

Table 5-1	Identification of G-2426G-B indoor ONTs
-----------	---

Ordering kit part number	Provisioning number	Description	CLEI Code	CPR	ECI/ Bar code
3FE 49441 AA Customer Specific	3FE 49509 AA	G-2426G-B, GPON ONT (NAR) supports 2POTS, 4xGE UNI, Wi-Fi 6 4+4, Nokia Logo. Includes 12 V wall mounted AC/DC power adapter with US input plug and Molex output plug.	BVMKB00ARA	_	—
3FE 49441 AB	3FE 49509 AB	G-2426G-B, GPON ONT supports 2POTS,4xGE UNI, Wi-Fi 6 4+4,Nokia Logo Includes 12 V wall mounted AC/DC power adapter with US input plug.	_	—	—

Ordering kit part number	Provisioning number	Description	CLEI Code	CPR	ECI/ Bar code
3FE 49441 BA	3FE 49509 BA	G-2426G-B, GPON ONT supports 2POTS, 4xGE UNI, Wi-Fi 6 4+4,Nokia Logo. Includes 12 V wall mounted AC/DC power adapter with 2 pin EU input plug.	_	_	—
3FE 49441 CA	3FE 49509 CA	G-2426G-B, GPON ONT supports 2POTS, 4xGE UNI, Wi-Fi 6 4+4, Nokia Logo. Includes 12 V wall mounted AC/DC power adapter with 3 pin UK input plug.	-	_	—

Table 5-1	Identification of G-2426G-B indoor ONTs	(continued)	)
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Table 5-2, "G-2426G-B power supply ordering information" (p. 46) provides the power supply information for the G-2426G-B ONT. For more information on power supplies, see the **Nokia ONT Power Supply and UPS Guide**.

Table 5-2	G-2426G-B power supply ordering information
-----------	---

ONT part numbers	Power information (Model No./Manufacture Part Number)	Power information	Customer category or country compliance tested for	Notes
Kit: 3FE 49441 AA EMA: 3FE 49509 AA	FUHUA:UES36WU-120300SPA/ UE201222GWZF2RI HONOR:ADS-40FKJ-12N 12036EPCU/ 9040108111201201R	12V3A wall mounted AC/DC power adapter with 2-pin US input plug and Molex output plug.	ANSI municipality US, Canada, Mexico FCC/UL or ETL /FCC_ID	_
Kit: 3FE 49441 AB EMA: 3FE 49509 AB	FUHUA:UES36WU-120300SPA/ UE191205GWZF2RI HONOR:ADS-40FKJ-12N 12036EPCU/ 9040108111201202R	12V 3A wall mounted AC/DC power adapter with 2-pin US input plug, Barrel output plug.	ANSI municipality US, Canada, Mexico FCC/CB	2-pin US input plug
Kit: 3FE 49441 BA EMA: 3FE 49509 BA	FUHUA:UES36WV-120300SPA/ UE191205GWZF1RI HONOR:ADS-40FKJ-12N 12036EPG/ 9040108111202201R	12V 3A wall mounted AC/DC power adapter with 2-pin EU input plug, Barrel output plug.	Europe CE/CB	_
Kit: 3FE 49441 CA EMA: 3FE 49509 CA	FUHUA:UES36WB-120300SPA/ UE191205GWZF3RI HONOR:ADS-40FKJ-12N 12036EPB/ 9040108111206201R	12V 3A wall mounted AC/DC power adapter with 3-pin UK input plug, Barrel output DC plug	UK CE/CB	_

Power/UPS model	Power UPS and cabling part number information	Customer category or country compliance tested for	Notes
CyberPower DTC36U12V3-G	<ul> <li>36 Watt AC/DC power adapter</li> <li>Recommended UPS for ANSI municipal operators and utilities:</li> <li>(1) Part number: 3MV00555AA UPS: 36W</li> <li>CyberPower UPS DTC36U12V3-G</li> <li>(2) Part numbers:</li> <li>3EM24378AA (ONT DC power and alarms cable 8 ft)</li> <li>3EM24378AB (ONT DC power and alarms cable 25 ft)</li> <li>(3) Part number: 1AF17581ACAA</li> <li>Battery: Battery, 12 V, 7.8 Ah</li> </ul>	ANSI municipality United States, Canada	UPS provides 8 hours of support AC power cord included with UPS.
PowerTec Solutions International PSI PS36L-P7 UPS. Supports 8h of backup for emergency calls when adding 2 of the extension battery modules PS36L-EX-2 or 24h of operation when adding 4 extension battery modules	<ul> <li>(1) 12V/36W UPS Charger order number: 3MV00885AA (PS36L-P7,UPS Charger)</li> <li>(2) DC Power Cord order number: 3MV00886AA (PS7P8M-ZHO-2, 4ft)</li> <li>(3) 5.2Ah extension Battery Pack order number: 3MV00885AB (PS36L-EX-2, order quantity 2 for 8h, quantity, 4 for 24h of reserve)</li> </ul>	ANSI municipality United States, Canada	UPS provides 8 or 24 hours of support with different quantity of battery pack. AC power cord included with UPS.

Table 5-3 G-2426G-B UPS ordering information

Table 5-4, "Hardware parts required for G-2426G-B installations" (p. 47) lists the hardware parts required for mounting an G-2426G-B ONT.

### Table 5-4 Hardware parts required for G-2426G-B installations

Part	Description
ONT unit	The G-2426G-B ONT
Wall mount bracket (3FE 49761 AA)	The wall mount bracket is fastened to a wall. The G-2426G-B ONT is seated in the wall mount bracket. With white color, 1 pc per box
Wall mount bracket (3FE 49761 AB)	The wall mount bracket is fastened to a wall. The G-2426G-B ONT is seated in the wall mount bracket. With white color, 18 pcs per box
Mounting screws	Two expansion screws are used to mount the wall mount bracket.

## 5.3 G-2426G-B general description

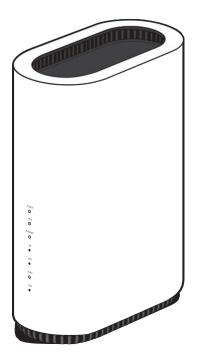
G-2426G-B indoor ONTs provide the subscriber interface for the network by terminating the PON interface and converting it to user interfaces that directly connect to subscriber devices.

The G-2426G-B has built-in Wi-Fi 802.11 b/g/n/ac/ax networking with triple play capability and can provide triple play services with voice, video and data.

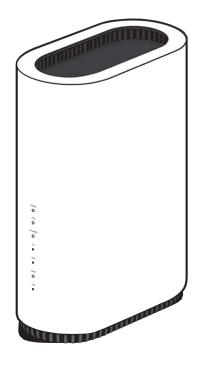
The ONT is compatible with all existing subscriber equipment, including analog phones with both tone and rotary dial capabilities, cordless phones, modems, fax machines, and caller ID boxes (Type I, Type II, and Type III).

The ONT can be placed on a flat surface, such as a desk or shelf.

Figure 5-1 G-2426G-B ONT



### Figure 5-2 G-2426G-B ONT for NAR variant



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G-2426G-B indoor ONTs provide the following functions:

- Dual-band concurrent 4x4 IEEE 802.11b/g/n/ax 2.4 GHz and 802.11ac MU-MIMO 5 GHz
- Supports 802.11 b/g/n/ax 4x4 Wireless 2.4 GHz MIMO; Channel bandwidth 20, 40 MHz, auto
- Supports 802.11ac 4x4 Wireless 5 GHz Mu-MIMO; Channel bandwidth 20, 40, 80 MHz, auto
- Four Gigabit standard RJ-45 10/100/1000 Mbps, auto negotiating Ethernet ports and MDI/MDIX auto sensing
- Two POTS ports with R-J11 connectors
- One USB 3.0 port
- GPON uplink: G.984 and G.988 series standard compliant
- 256MB NAND Flash with bad block management, pin2pin compatible design for possible upgrade of RAM/Flash
- WLAN on/off push button
- WPS on/off push button
- Reset button
- Triple-Play services, including voice, video and high speed Internet access
- · Support for fax services
- Built-in layer 2 switch; Line Rate L2 traffic
- IP video distribution

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- · Wavelength: 1490 nm downstream; 1310 nm upstream
- Supports WBF filter. The GPON ONTs can co-exist with XGSPON ONTs in the same PON.
- Line rate: 2.488 Gb/s downstream; 1.244 Gb/s upstream
- 4 inner dual band antennas for 2.4G and 5G
- Optics that support received signal strength indication (RSSI)
- Wireless 2.4 GHz 802.11 b/g/n/ax 4x4 MIMO
- Wireless 5 GHz 802.11 n/ac/ax 4x4 MU-MIMO
- 64/128 WEP encryption
- WPA, WPA-PSK/TKIP
- WPA2, WPA2-PSK/AES
- VLAN tagging/detagging and marking/remarking of IEEE 802.1p per Ethernet port.
- Dying gasp support
- Voice Services via Session Initiation Protocol (SIP)
- Multiple voice Code
- DTMF dialing
- Echo cancellation (G.168)
- Fax mode configuration (T.30/T.38)
- · Caller ID, call waiting, call hold, 3-way calling, call transfer, message waiting
- Forward Error Correction (FEC)
- support for multiple SSIDs (private and public instances); contact your Nokia representative for further details.
- Conductive power: 500mW/27 dBm (2.4 GHz); 1000mW/30 dBm (5GHz)
- Maximum effective isotropic radiated power (EIRP): 1000mW/30dBm (2.4GHz); 2000mW/ 33dBm (5GHz)
- Bridged mode or routed mode per LAN port
- Ethernet-based Point-to-Point (PPPoE)
- DHCP client/server
- DNS server/client
- DDNS
- Port forwarding
- Network Address Translation (NAT)
- Network Address Port Translation (NAPT)
- UPnP IGD2.0 support
- ALG
- IGMP snooping and proxy (v2/v3)
- Traffic classification and QoS capability
- OMCI/TR-069/WebGUI configuration

- Performance monitoring and alarm reporting
- · Remote software image downloading and activation
- IP/MAC/URL filter
- Multi-level firewall and ACL
- SoftGRE support
- TR181 supported for selected customers with dedicated Pre-Config

The following features are not supported on a mesh extending beacon and only supported in the mesh root device or when the ONT works as a standalone device:

- Domain group/isolation
- Bridge WAN
- VLAN binding
- SoftGRE
- QoS/Rate Limit per SSID and LAN port

### 5.3.1 TR-069 parameter support

The G-2426G-B ONT supports the following TR-069 features:

- Host object
- Port forwarding
- · Optical parameters
- Object support for Wi-Fi parameters
- · Statistics and troubleshooting
- Diagnostic parameters
- Component parameter

### Host object support

The ONT provides host object support for: InternetGatewayDeviceLANDevice.Hosts.Host.

### Port forwarding support

The ONT supports the port forwarding of objects via TR-069:

- Application Name
- WAN Port
- LAN Port
- Internal Client
- Protocol
- Enable Mapping
- WAN Connection List

These are the same port forwarding parameters supported in the GUI. For more information, see Table 8-36, "Port Forwarding parameters" (p. 170) in Chapter 8, "Configure a G-2426G-B indoor ONT".

### **Optical parameters support**

The ONT supports the reading of optical parameters via TR-069:

- · laser bias current
- voltage
- temperature
- received signal levels
- lower thresholds

These are the same optical parameters supported in the GUI. For more information, see Table 8-8, "Optics Module Status parameters" (p. 112) in Chapter 8, "Configure a G-2426G-B indoor ONT".

### **Object support for Wi-Fi parameters**

The ONT supports the status retrieval and configuration of the following Wi-Fi parameters via TR-069:

- channel
- SSID
- password for WPA and WEP
- Tx power (transmission rate in percentage of maximum transmit power)
- WPS

These are the same TR-069 object parameters that are supported in the GUI. For more information, see Table 8-16, "Wireless (2.4GHz) parameters" (p. 129) and Table 8-17, "Wireless (5GHz) parameters" (p. 133) in Chapter 8, "Configure a G-2426G-B indoor ONT".

### Statistics and troubleshooting support

The ONT supports TR-069 statistics and troubleshooting for LAN, WAN, and Wi-Fi.

For more information, see the Procedure 8.60 "Viewing Residential Gateway (RG) troubleshooting counters" (p. 193) in Chapter 8, "Configure a G-2426G-B indoor ONT".

### **Diagnostic parameter support**

The ONT supports the following TR-069 diagnostic parameters:

- TR-143
- IP ping
- traceroute

These are the same diagnostic parameters supported in the GUI. For more information, see the Procedure 8.57 "Diagnosing WAN connections" (p. 189) in Chapter 8, "Configure a G-2426G-B indoor ONT".

### 5.3.2 TR69 authentication using TLS and CA certificates

G-2426G-B ONTs support TLS, as well as ACS authentication using SHA-256 pre-installed certificates.

If the URL is set to the https://... format, by default, the connection will use TLS without authentication mode. The ONT can also authenticate the ACS using a pre-installed CA certificate.

The G-2426G-B ONTs support TLSv1.3 for TR069. The ONT supports download certification from ACS.

### 5.3.3 TR-104 parameter extension support for voice service

A vendor specific attribute has been added to the TR-104 Voice Service object structure to enable the ACS to configure the name of the embedded GSIP XML file to be selected.

The TR-104 Voice Service Object is:

InternetGatewayDevice.Services.VoiceService.{i}.Capabilities.SIP.

The vendor specific attribute is: X\_ALU-COM\_XML\_File\_Name\_Path.

### 5.3.4 TR-104 voice-related alarms

The G-2426G-B ONT supports the following four TR-104 voice-related alarms on a per FXS port basis.

These alarms all represent SIP registration failures with an alarm level of MAJOR.

- SIPREGDNS: domain name could not be resolved
- SIPREGAUTH: authentication failed
- SIPREGTO: re-transmissions timed out
- SIPREGERR: error response from the registration server

### 5.3.5 TR-104 parameters for FX line testing

New attributes have been added to the TR-104 Voice Service object structure to enable the ACS to perform line tests. The ONT supports the following electrical line tests:

- · hazardous potential
- foreign electrical motive force
- resistive faults
- receiver off-hook test
- · ringers test

### 5.3.6 TR-111 support

The G-2426G-B ONT supports TR-111, which extends the WAN Management Protocol defined in TR-069 to enhance the ability to remotely manage LAN devices.

The device-gateway association enables an ACS to identify the associated gateway through which a device is connected.

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A connect request via the NAT gateway enables an ACS to initiate a TR-069 session with a device that is operating behind a NAT gateway.

### 5.3.7 TR-157 support

This ONT can support LXC container for third party software components on ONTs with minimal 512M memory. These software components are managed by ACS with the parameters defined in TR-157.

The TR-157 objects are:

- Mange each software component via SoftwareModules.DeploymentUnit.{i}
- Set software component execution environment via SoftwareModules.ExecEnv.{i}
- Run software component and get the execution status via SoftwareModules.ExecutionUnit.{i}

i ı

**Note:** The device reserves and limits to 64MB RAM and 32MB flash in total for all of the third party applications. The maximum CPU load created or provided to the third party application is limited to approximately 30%. Underlying non-priority processes may still use the remaining memory on a temporary basis.

Nokia can assist to review specific applications, taking into account the actual memory load of the current hardware, current and projected software evolution over time, and the projected use by a third party application of the software.

## 5.4 G-2426G-B software and installation feature support

For information on installing or replacing the G-2426G-B see:

- Chapter 6, "Install a G-2426G-B indoor ONT"
- Chapter 7, "Replace a G-2426G-B indoor ONT"

For information on the following topics, see the Nokia ONT Product Overview Guide:

- · ONT and MDU general descriptions of features and functions
- · Ethernet interface specifications
- POTS interface specifications
- RSSI specifications
- · Wi-Fi specifications
- · ONT optical budget
- SLID entry via Ethernet port
- ONT management using an ONT interface

## 5.5 G-2426G-B interfaces and interface capacity

Table 5-5, "G-2426G-B indoor ONT interface connection capacity" (p. 55) describes the supported interfaces and interface capacity for G-2426G-B indoor ONTs.

ONT type and	Maximum	n capacity							
model	POTS	10/ 100 BASE-T	10/ 100/ 1000 BASE-T	RF video (CATV)	MoCA	VDSL2	E1/T1	Local craft	GPON SC/APC
G-2426G-B <sup>1</sup>	2	—	4	_	—	—	_	_	1

Table 5-5	G-2426G-B indoor ONT interface connection capacit	y

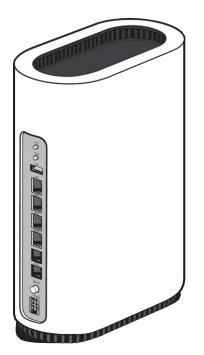
### Notes:

1. The G-2426G-B ONTs provide Wi-Fi service that is enabled and disabled using a Wi-Fi on/off switch.

### 5.5.1 G-2426G-B connections and components

Figure 5-3, "G-2426G-B indoor ONT physical connections (back) NAR" (p. 55) shows the physical connections for G-2426G-B indoor ONTs. Two USB port is on the side of the ONT.

Figure 5-3 G-2426G-B indoor ONT physical connections (back) NAR



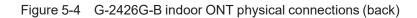
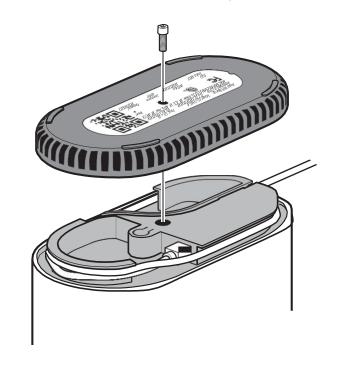




Figure 5-5, "G-2426G-B indoor ONT with fiber optic connector" (p. 57) shows the G-2426G-B indoor ONT with a fiber optic connector.



### Figure 5-5 G-2426G-B indoor ONT with fiber optic connector

Table 5-6, "G-2426G-B indoor ONT physical connections" (p. 57) describes the physical connections for G-2426G-B indoor ONTs.

	Table 5-6	G-2426G-B indoor ONT physical connection	ons
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Connection <sup>1</sup>	Print Letters	Description
POTS port	TEL1 and TEL2	This connection is provided through an RJ-11 port. One POTS connection is supported.The POTS port supports voice services.
Ethernet ports	LAN1 to LAN4	This connection is provided through Ethernet RJ-45 connectors. Up to four 10/100/1000 Base-T Ethernet interfaces are supported. The Ethernet ports can support both data and in-band video services on all four interfaces.
Power input	POWER	This connection is provided through the power connector. A power cable fitted with a barrel connector is used to make the connection.
Reset button	RESET	Pressing the Reset button for less than 10 seconds reboots the ONT; pressing the Reset button for 10 seconds resets the ONT to the factory defaults, except for the LOID and SLID.
WLAN button	WLAN	Wi-Fi service is compliant with IEEE 802.11 standards and is enabled and disabled using the WLAN button.
WPS button	WPS	The Wi-Fi Protected Setup (WPS) button enables and disables the WPS.
On/Off button	ON/OFF	This button turns the ONT on or off.

Connection <sup>1</sup>	Print Letters	Description
USB port	USB	This connection is provided through 1 USB 3.0 port on the side of the ONT. The ONT supports external USB hard drives that can be made accessible to all LAN devices.
Fiber optic port		The SC/APC fiber optic port is located at the back of the ONT and provides the connection for the fiber optic cable.

#### Table 5-6 G-2426G-B indoor ONT physical connections (continued)

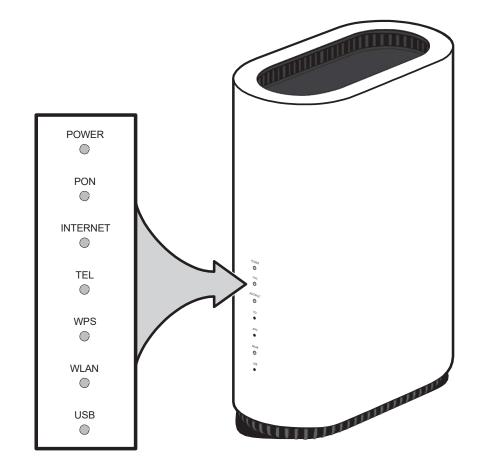
### Notes:

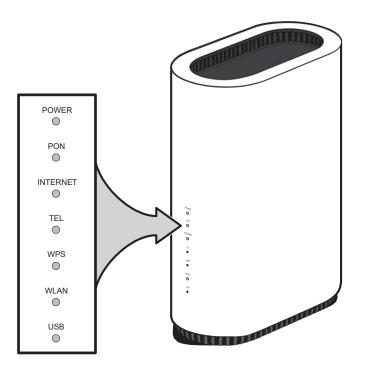
1. The primary path for the earth ground for these ONTs is provided by the 12V Return signal in the power connector.

## 5.6 G-2426G-B LEDs

Figure 5-6, "G-2426G-B indoor ONT LEDs" (p. 58) shows the G-2426G-B indoor ONT LEDs.

Figure 5-6 G-2426G-B indoor ONT LEDs





### Figure 5-7 G-2426G-B indoor ONT LEDs for NAR variant

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# Table 5-7, "G-2426G-B indoor ONT LED descriptions" (p. 59) provides LED descriptions for G-2426G-B indoor ONTs.

Indicator	LED color and behavior	LED behavior description
Power	Off	No power
	Green solid	power on out of mains supply, no battery alarms
	blinking green	SW update
	solid red	failure at startup
	blinking red	No battery, battery alarm.
	solid amber	device operating in battery.
	blinking amber	low battery.

Table 5-7	G-2426G-B indoor ONT LED descriptions	(continued)
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Indicator	LED color and behavior	LED behavior description	
PON	Off	No fiber connected or no rx power	
	Green solid	ONT has been configured on the OLT and is in service (UP)	
	Flashing Green	ONT is attempting to range with OLT	
	solid Red	GPON is down or no link connected.	
INTERNET	Solid Green	HSI WAN is connected with the either of the two possibilities:	
		the device has an IP address assigned from IPCP, DHCP, or static	
		the session is dropped due to idle timeout but the PON link is still present, or transmit and receive traffic is ongoing	
	Green Flashing	PPPoE or DHCP connection is in progress.	
	Off(Dark)	HSI WAN is not connected due to the following reasons:	
		there is no physical interface connection	
		the device is inbridged mode without an assigned IP address	
		the session has been dropped for reasons other than idle time-out.	
TEL	Solid Green	One Phone is off hook and VOIP service is built up.	
	Flashing Green	Phone is in 'call in' or 'talking' condition.	
	Red	VOIP service is out of service.	
	Off	All phones are on hook, VOIP service is not built up.	
WPS Solid Green Wi-Fi protected set		Wi-Fi protected setup link is up (negotiation and auto-configuration successful)	
	Flashing Green	Wi-Fi protected setup link activity (negotiation and auto-configuration ongoing)	
	Red Solid	Wi-Fi protected setup processing exception or multiple peers using WPS simultaneously	
	Off	Wi-Fi protected setup link down or no link connected (negotiation has not started or has failed)	
WLAN	Solid Green	Wi-Fi enabled for at least 1 RF	
	Off(dark)	WLAN is down	
LAN /RJ45	Green	Executed on the RJ45 connectors	
	Solid green	Lan link active	
	OFF	LAN link if OFF or LOS	
USB	Solid Green	A device is connected to the USB port .	
	Off(dark)	No device connected to the USB port.	
	Flashing green	Traffic activity on the USB connection	

## 5.7 G-2426G-B detailed specifications

Table 5-8, "G-2426G-B indoor ONT physical specifications" (p. 60) lists the physical specifications for G-2426G-B indoor ONTs.

### Table 5-8 G-2426G-B indoor ONT physical specifications

Description	Specification
Length	6.30 in. (160 mm)
Width	3.35 in. (85 mm)
Height	8.90 in. (226mm)
Weight [within ± 0.5 lb (0.23 kg)] (net weight of ONT)	1.81 lbs (825g)

Table 5-9, "G-2426G-B indoor ONT power consumption specifications" (p. 61) lists the power consumption specifications for G-2426G-B indoor ONT.

Table 5-9 G-2426G-B indoor ONT power consumption specification	Table 5-9	r consumption :	G-2426G-B indoor ONT	pecifications
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Mnemonic	Maximum power (Not to exceed)	Condition	Minimum power	Condition
G-2426G-B	22 W	1 POTS off-hook, 4 10/100/1000 Base-T Ethernet, Wi-Fi operational, USB operational	6.5 W	1 POTS on-hook, other interfaces/services not provisioned

Table 5-10, "G-2426G-B indoor ONT environmental specifications" (p. 61) lists the environmental specifications for G-2426G-B indoor ONT.

### Table 5-10 G-2426G-B indoor ONT environmental specifications

Mounting method	Temperature range and humidity	Altitude
On desk or shelf	Operating: 23°F to 113°F (•5°C to 45°C) ambient temperature 5% to 95% relative humidity, non-condensing	Contact your Nokia technical support representative for more information
	Storage: •4°F to 158°F (•20°C to 70°C)	

Table 5-11, "G-2426G-B, dimension data specifications" (p. 61) lists the dimension data specifications for G-2426G-B indoor ONT

Table 5-11	G-2426G-B,	dimension	data s	pecifications
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Dimension	Specification
Packet size supported	2000
number of IP addresses supported (or ranges)	254
number of supported Wi-Fi clients (per radio, per device, per mesh)	32 per radio, 64 per device, 128 per mesh

Table 5-11	G-2426G-B, dimension data specifications	(continued)
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Dimension	Specification
number of supported beacons /APs in a mesh	—
number of supported WAN interfaces	8
number of supported VLANs	4094
number of Tconts and GEM ports in the ONTs	32 Tconts / 256 GEM ports
number of LLIDs in the ONTs	—
number of priority queues, overall buffer size	128, Max 16MB for WAN and 4MB for LAN
number of multicast groups (DACL entries)	1024

## 5.8 G-2426G-B GEM ports and T-CONTs

Table 5-12, "G-2426G-B indoor ONT capacity for GEM ports and T-CONTs" (p. 62) lists the maximum number of supported T-CONTs and GEM ports. See the appropriate release Customer Release Notes for the most accurate list of supported devices.

Table 5 12	G-2426G-B indoor ONT	capacity for CEM	norte and T CONTe
Table 3-12	G-2420G-D IIIu001 OINT	capacity for GEIM	ports and 1-CONTS

ONT or MDU	Maximum	Notes
Package P ONTs		
GEM ports per indoor or outdoor ONT	256	256 are present; 254 are available, and 2 are reserved for multicast and debugging
T-CONTs per indoor or outdoor ONT	32	32 are present; 31 are available, and 1 is reserved for OMCI

## 5.9 G-2426G-B performance monitoring statistics

The following section identifies the supported performance monitoring statistics for G-2426G-B ONTs. A check mark indicates the statistic is supported on that ONT. An empty cell indicates the statistic is not supported. The following tables are categorized by supported alarm types:

- Table 5-13, "Package S ONTs ONTENET performance monitoring statistics" (p. 63) provides statistics for ONTENET type counters
- Table 5-14, "Package S ONTs ONTL2UNI performance monitoring statistics" (p. 63) provides statistics for ONTL2UNI type counters
- Table 5-15, "Package S ONTS PONONTTC, PONONTMCTC, PONONTTCHSI, PONONTTCCES, PONONTTCFLOW, PONONTTCVOIP performance monitoring statistics" (p. 63) provides statistics for PONONTTC, PONONTMCTC, PONONTTCHSI, PONONTTCCES, PONONTTCFLOW, and PONONTTCVOIP type counters
- Table 5-16, "Package S ONTs PONONTTC aggregate performance monitoring statistics" (p. 64) provides statistics for PONONTTC aggregate type counters

**i** Note: If you have trouble accessing G-2426G-B ONTs performance monitoring statistics using TL1, please contact your Nokia support representative for more information about how to access and retrieve performance monitoring type counters.

Table 5-13 Package S ONTs ONTENET performance monitoring statistics

ONT	ONTE	ONTENET statistics												
	FCSE	EC	ГС	RBO	SCF	MCF	DT	IMTE	CSE	AE	IMRE	FTL	TBO	SQE
G-2426G-B <sup>1</sup>	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	—	√ <sup>2</sup>	$\checkmark$	—

### Notes:

- 1. A 5 second polling window limitation exists on the ONT, therefore the margin of error for each 15-min window is 5 seconds
- 2. Only packets larger than 9 kB will be counted.

### Table 5-14 Package S ONTs ONTL2UNI performance monitoring statistics

ONT	ONTL2U	ONTL2UNI statistics									
	FRAMES	BYTES	MCFRAMES	DSDRPDFRMS	USDRPDFRMS	USFRAMES	DSFRAMES	USBYTES	DSBYTES	USMCFRAMES	DSMCFRAMES
G-2426G-B <sup>1</sup>	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$

### Notes:

1. A 5 second polling window limitation exists on the ONT, therefore the margin of error for each 15-min window is 5 seconds

### Table 5-15 Package S ONTs PONONTTC, PONONTMCTC, PONONTTCHSI, PONONTTCCES, PONONTTCFLOW, PONONTTCVOIP performance monitoring statistics

ONT	PONONTTC, PONONTMCTC, PONONTTCHSI, PONONTTCCES, PONONTTCFLOW, PONONTTCVOIP statistics						
	TXBLOCKS	TXFRAGS	RXBLOCKS	RXFRAGS	LOSTFRAGS	BADGEMHDRS	
G-2426G-B <sup>1</sup>	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	—	

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### Notes:

1. A 5 second polling window limitation exists on the ONT, therefore the margin of error for each 15-min window is 5 seconds

Table 5-16	Packada S ONTe	PONONTTC addregate performance monit	oring statistics
	T ackage 0 ONTS	PONONTTC aggregate performance monit	oning statistics

ONT	PONONTTC (a	PONONTTC (aggregate) statistics						
	TXBLOCKS	TXFRAGS	RXBLOCKS	RXFRAGS	LOSTFRAGS	BADGEMHDRS		
G-2426G-B <sup>1</sup>	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	—		

### Notes:

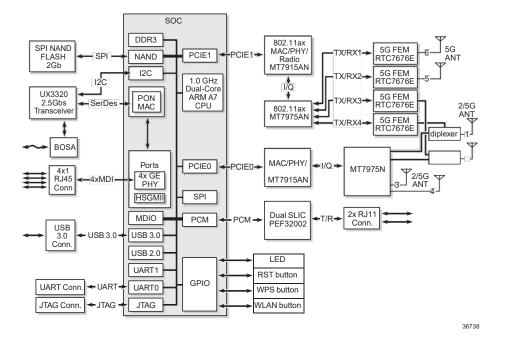
1. A 5 second polling window limitation exists on the ONT, therefore the margin of error for each 15-min window is 5 seconds

## 5.10 G-2426G-B functional blocks

G-2426G-B indoor ONTs are single-residence ONTs that support Wireless (Wi-Fi) service. Wi-Fi service on these ONTs is compliant with the IEEE 802.11 standard and enabled or disabled using a WLAN button. In addition to the Wi-Fi service, these ONTs transmit Ethernet packets to four RJ-45 Ethernet ports and voice traffic to twp RJ-11 POTS port. These ONTs also feature fiber optic, USB, and power connectors.

Figure 5-8, "G-2426G-B ONT functional block" (p. 65) shows the functional blocks for G-2426G-B indoor ONT.

### Figure 5-8 G-2426G-B ONT functional block



## 5.11 G-2426G-B standards compliance

G-2426G-B indoor ONTs are compliant with the following standards:

- CE marking for European standards for health, safety, and environmental protection
- EN 300-328 v1.9.1 wide band data transmission standards for 2.4GHz bands
- G.984 support GPON interface (framing)
- G.984.2 (Amd1, class B+) for GPON
- · G.984.3 support for activation and password functions
- G.984.3 support for AES with operator enable/disable on per port-ID level
- G.984.3 support for dynamic bandwidth reporting
- G.984.3 support for FEC in both upstream and downstream directions
- · G.984.3 support for multicast using a single GEM Port-ID for all video traffic
- G.984.4 and G.983.2 support for ONT management and provisioning
- IEEE 802.1p for traffic prioritization
- IEEE 802.1q for VLANs
- IEEE 802.3 (2012)
- IEEE 802.11 b/g/n/ac/ax for Wi-Fi
- ITU-T G.711, G.722, G.723, G.726, G.729
- SIP RFC 3261

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### 5.11.1 Energy-related products standby and off modes compliance

Hereby, Nokia declares that the G-2426G-B ONTs are in compliance with the essential requirements and other relevant provisions of Directive 2009/125/EC together with Commission Regulation (EC) No 1275/2008 and Commission Regulation (EC) No 801/2013.

The G-2426G-B ONTS qualify as equipment with high network availability (HiNA) functionality. Since the main purpose of G-2426G-B ONTs is to provide network functionality with HiNA 7 days /24 hours, the modes Off/Standby, Power Management, and Networked Standby are inappropriate.

For information about the type and number of network ports, see 5.5 "G-2426G-B interfaces and interface capacity" (p. 54) in this chapter.

For information about power consumption, see 5.7 "G-2426G-B detailed specifications" (p. 61) in this chapter.

### 5.11.2 FCC statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### 5.11.3 FCC Radiation Exposure Statement

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules. This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be colocated or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and consider removing the no-collocation statement.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1. this device may not cause harmful interference, and
- 2. this device must accept any interference received, including interference that may cause undesired operation.



Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## 5.12 G-2426G-B special considerations

G-2426G-B is a package P ONT.

### 5.12.1 Wi-Fi service

G-2426G-B indoor ONTs feature Wi-Fi service as well as voice and data services. Wi-Fi is a wireless networking technology that uses radio waves to provide wireless HSI and network connections. This ONT complies with the IEEE 802.11 standards, which the Wi-Fi Alliance defines as the basis for Wi-Fi technology.

### Wi-Fi physical features

G-2426G-B indoor ONTs have the following physical features that assist in providing Wi-Fi service:

- 1 WLAN button for enabling and disabling Wi-Fi service
- 1 Wi-Fi Protected Setup (WPS) push button for adding WPS-enabled wireless devices
- 6 internal antennas: 2x single-band antennas for 2.4G, 2x single-band antennas for 5G, and 2x dual-band antennas for 2.4G/5G

### Wi-Fi standards and certifications

The Wi-Fi service on G-2426G-B indoor ONTs supports the following IEEE standards and Wi-Fi Alliance certifications:

- Certified for IEEE 802.11 b/g/n/ac/ax standards
- WPA support including WPA-PSK
- Certified for WPA2-Personal
- Certified for WPA2-enterprise

### Wi-Fi GUI features

G-2426G-B indoor ONTs have HTML-based Wi-Fi configuration GUIs.

### 5.12.2 G-2426G-B ONT considerations and limitations

Table 5-17, "G-2426G-B ONT considerations and limitations" (p. 68) lists the considerations and limitations for Package P G-2426G-B ONTs.

#### Table 5-17 G-2426G-B ONT considerations and limitations

#### Considerations and limitations

Call History Data collection (ONTCALLHST) is supported, except for the following parameters: RTP packets (discarded), far-end RTCP and RTCP-XR participation, RTCP average and peak round trip delay, MOS, average jitter, number of jitter-buffer over-runs and under runs.

Some voice features are configurable on a per ONT basis, including Call Waiting, Call Hold, 3-Way Calling, and Call Transfer.

The maximum value of the ringing AC voltage is 60Vrms, and the ring DC offset voltage is suggested to be 0V except for NAR variant.

The following voice features / GSIP parameters are configurable on a per-Client/ per-ONT basis (not per-Subscriber):

- Enable Caller ID and Enable Caller Name ID
- Digitmap and the associated Interdigit and Critical timers and Enter key parameters
- Warmline timer is enabled per subscriber, but the warmline timer value is configured per ONT and must have a lower value than the Permanent time
- · Miscellaneous timers: Permanent, Timed-release, Reanswer, Error-tone, and CW-alert timers
- · Features / functions: Message waiting mode, WMWI refresh interval, DTMF volume level
- · Service Codes for the following features: CW, Call Hold and Warmline

These feature items are only supported in the mesh root device or when the ONT works as a standalone device.

- Domain group/isolation
- Bridge WAN
- VLAN binding
- SoftGRE
- · QoS/Rate Limit per SSID and LAN port

## 6 Install a G-2426G-B indoor ONT

## 6.1 Overview

### 6.1.1 Purpose

### 6.1.2 Contents

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## 6.2 Purpose

This chapter provides the steps to install a G-2426G-B indoor ONT.

### 6.3 General

The steps listed in this chapter describe mounting and cabling for a G-2426G-B indoor ONT.

## 6.4 Prerequisites

You need the following items before beginning the installation:

• all required cables

## 6.5 Recommended tools

You need the following tools for the installation:

- #2 Phillips screwdriver
- 1/4 in. (6 mm) flat blade screwdriver
- wire strippers
- fiber optic splicing tools
- RJ-45 cable plug crimp tool

- voltmeter or multimeter
- optical power meter
- drill and drill bits
- paper clip

## 6.6 Safety information

Read the following safety information before installing the unit.



Hazardous electrical voltages and currents can cause serious physical harm or death. Always use insulated tools and follow proper safety precautions when connecting or disconnecting power circuits.

Make sure all sources of power are turned off and have no live voltages present on feed lines or terminals. Use a voltmeter to measure for voltage before proceeding.

Always contact the local utility company before connecting the enclosure to the utilities.



## WARNING

### Equipment Damage

This equipment is ESD sensitive. Proper ESD protections should be used when removing the fiber access cover of the indoor ONT.



## CAUTION

### Service Disruption

Keep indoor ONTs out of direct sunlight. Prolonged exposure to direct sunlight can damage the unit.



**Note:** Observe the local and national laws and regulations that may be applicable to this installation.

Observe the following:

- The indoor ONT should be installed in accordance with the applicable requirements of the NEC or CEC. Local authorities and practices take precedent when there is conflict between the local standard and the NEC or CEC.
- The indoor ONT must be installed by qualified service personnel.
- Indoor ONTs must be installed with cables that are suitably rated and listed for indoor use.
- See the detailed specifications in the Chapter 5, "G-2426G-B unit data sheet" for the temperature ranges of these ONTs.

## 6.7 Procedure

1

Use this procedure to install a G-2426G-B indoor ONT.

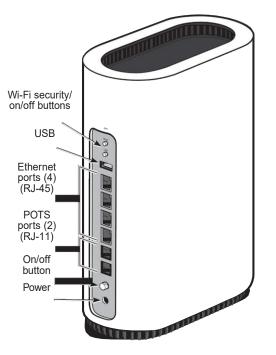
Place the indoor ONT unit on a flat surface, such as a desk or shelf.

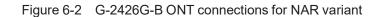
**i** Note: The G-2426G-B cannot be stacked with another ONT or with other equipment. The ONT mounting requirements are:

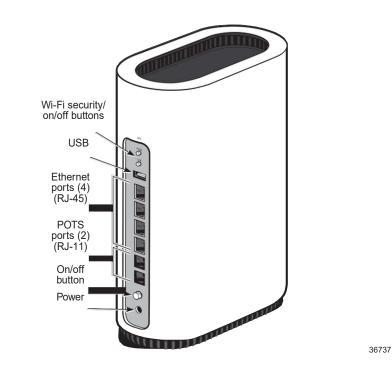
- allow a minimum 100 mm clearance above the top cover
- allow a minimum 50 mm clearance from the side vents
- · do not place any heat source directly above the top cover or below the bottom cover
- 2 -

Review the connection locations, as shown in Figure 6-1, "G-2426G-B ONT connections" (p. 70).

Figure 6-1 G-2426G-B ONT connections







#### 3

Connect the Ethernet cables to the RJ-45 ports.

4

Route the POTS cable directly to the RJ-11 port as per local practices.

5

## DANGER Hazard

Fiber cables transmit invisible laser light. To avoid eye damage or blindness, never look directly into fibers, connectors, or adapters.



Be careful to maintain a bend radius of no less than 1.5 in. (3.8 cm) when connecting the fiber optic cable. Too small of a bend radius in the cable can result in damage to the optic fiber.

Connect the fiber optic cable with SC/APC adapter to the SC/APC connector on the bottom of the ONT.

**Note:** Fiber cable preparation varies depending on the type and size of the inside or outside plant fiber cable being spliced to the SC/APC fiber optic pigtail cable.

Connect the power cable to the power connector.

Power up the ONT unit by using the power switch.

8 —

6

7

If used, enable the Wi-Fi service.

- a. Locate the WLAN button on the ONT; see Figure 6-1, "G-2426G-B ONT connections" (p. 71) for location of the WLAN button.
- b. Press the WLAN (Wi-Fi) button to change the status of the Wi-Fi service.

9 —

Verify the ONT LEDs, voltage status, and optical signal levels; see the **Nokia ONT Hardware** and **Cabling Installation Guide**.

10 -

Activate and test the services; see the Nokia ONT Hardware and Cabling Installation Guide.

11 -

If used, configure the SLID; see the **Nokia ONT Configuration, Management, and Troubleshooting Guide**.

12 —

If necessary, reset the ONT.

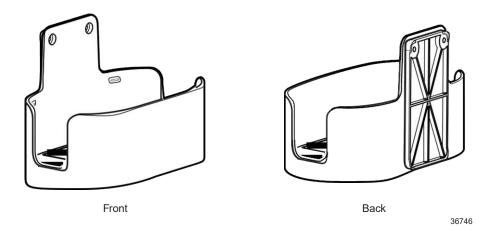
- a. Locate the Reset button on a G-2426G-B indoor ONT as shown in Figure 5-5, "G-2426G-B indoor ONT with fiber optic connector" (p. 57).
- b. Insert the end of a straightened paper clip or other narrow object into the hole in the Reset button to reset the ONT.

END OF STEPS -

### 6.8 Wall mount an G-2426G-B indoor ONT

This chapter provides the steps to mount an G-2426G-B indoor ONT on a wall using a wall mount bracket (3FE 49761 AA). The G-2426G-B indoor ONT is shipped without the wall mount bracket. The wall mount bracket (3FE 49761 AA) must be ordered separately.

### Figure 6-3 G-2426G-B ONT in wall mounting bracket



### 6.8.1 Recommended tools

See section 6.5 "Recommended tools" (p. 69) for the recommended tools.

### 6.8.2 Procedure

Use this procedure to mount an G-2426G-B ONT on a wall.

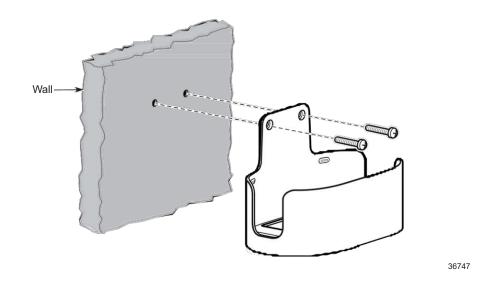
1

Place the indoor ONT unit. Facing the room, go to Step 2. See Figure 6-6, "ONT in wall mount bracket—facing the room" (p. 77).

2 -

Mount the ONT on a wall facing the room using the wall mount bracket (3FE 49761 AA), as shown in Figure 6-4, "G-2426G-B wall mount bracket" (p. 75).

Figure 6-4 G-2426G-B wall mount bracket

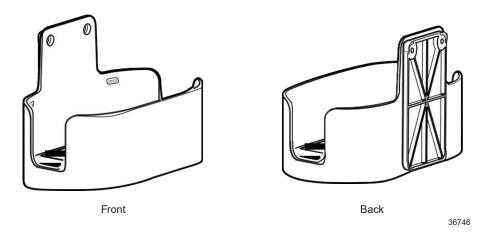


a. Determine the location of the two anchor holes for the wall mount bracket. The bracket can be used as a template for marking and drilling the holes.

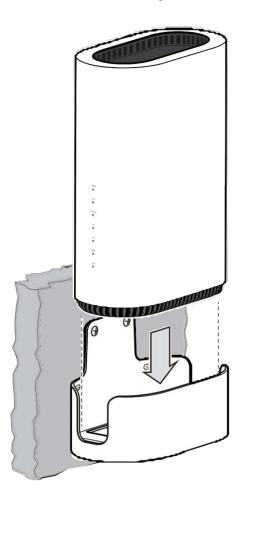
It is recommended to use a level to ensure that the ONT unit is installed properly.

- b. Drill two holes 35 mm (1.37 in.) depth into the wall and with the centers spaced 157 mm (6.2 in.).
- c. Insert the two mounting screws and optional anchors into the holes, leaving a 2 mm (0.078 in.) gap between the screw head and the wall.
- d. At this point, perform a test to ensure that the wall mount bracket fits securely over the screw heads. Mount the bracket flush to the wall so that it does not warp or twist.
- e. Remove the wall mount bracket from the wall.
- f. Route the power cord through the slot in the wall mount bracket. The ferrite bead on the power cord should remain on the underside of the wall mount bracket. See Figure 6-5, "Wall mount bracket power cord placement" (p. 76).

### Figure 6-5 Wall mount bracket power cord placement



- g. Connect the power cord to the G-2426G-B ONT.
- h. Connect the cables.
- i. Hang the unit onto the wall. Figure 6-6, "ONT in wall mount bracket—facing the room" (p. 77) shows the cables routed through the wall mount bracket and the ONT facing the room.





#### 3

Mount the ONT facing the wall using the wall mount bracket.

a. Determine the location of the two anchor holes for the wall mount bracket. The bracket can be used as a template for marking and drilling the holes.

It is recommended to use a level to ensure that the ONT unit is installed properly.

- b. Drill two holes 35 mm (1.37 in.) depth into the wall and with the centers spaced 157 mm (6.2 in.).
- c. Insert the two mounting screws and optional anchors into the holes, leaving a 2 mm (0.078 in.) gap between the screw head and the wall.
- d. At this point, perform a test to ensure that the wall mount bracket fits securely over the screw heads. Mount the bracket flush to the wall so that it does not warp or twist.

77

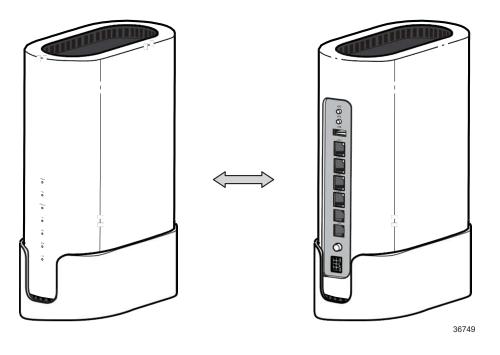
36748

- e. Remove the wall mount bracket from the wall.
- f. On a flat surface such as a desk, install the ONT into the wall mount bracket by lifting the unit above the bracket and sliding it downward onto the bottom ledge of the bracket.
- g. Seat the ONT into the wall mount bracket by engaging the hooks on the base of the unit with those on the bracket. Engaging the hooks ensures that the ONT stays in place while the unit is mounted onto the wall.
- h. Mount the unit onto the wall.
- i. Connect the cables

Connect the cables. See Chapter 6, "Install a G-2426G-B indoor ONT".

Figure 6-7, "ONT in wall mount bracket—facing the room / facing the wall" (p. 77) shows the mounted unit facing the wall with the cables (including the fiber) installed.





END OF STEPS

## 6.9 Connect a UPS to a G-2426G-B ONT

Use this procedure to connect a UPS to indoor or outdoor G-2426G-B ONTs.

See Table 5-3, "G-2426G-B UPS ordering information" (p. 47) in the Chapter 5, "G-2426G-B unit data sheet" for the supported power supplies.

### 6.9.1 Connect a CyberPower DTC36U12V3-G UPS

Use this procedure to connect a UPS to a G-2426G-B indoor ONT.

See Table 5-3, "G-2426G-B UPS ordering information" (p. 47) for the supported power supplies.

Before starting this procedure, ensure that the following items are available:

- Battery for the CyberPower UPS DTC36U12V3-G
- Cable to connect the UPS to the ONT
- Extended battery pack with the battery inside if 24 hours of backup for emergency calls is needed
- UPS AC power cable
- 1 -

Place the indoor ONT unit and the UPS on a flat surface, such as a desk.

2

Plug the cable into the UPS connector on the G-2426G-B ONT and the output connector on the UPS, as shown in Figure 6-8, "G-2426G-B ONT and UPS" (p. 78). The battery is inside of the UPS.

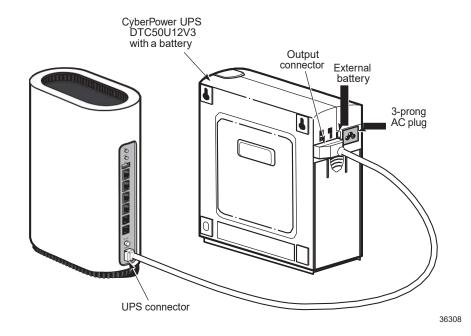
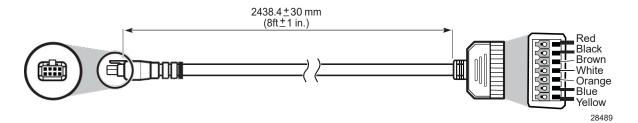


Figure 6-8 G-2426G-B ONT and UPS

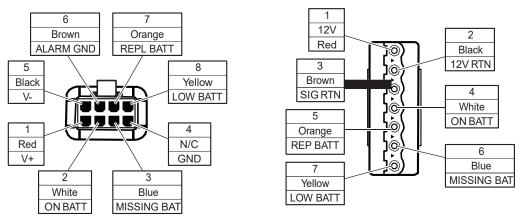
The following figure shows an example ONT and UPS. The position of the connections may differ for each ONT model The connector for the 6 foot 3EM24378AA cable matches the socket for the 36W UPS Cyberpower DTC36U12V3-G.

Figure 6-9 Molex 7-pin DC cable



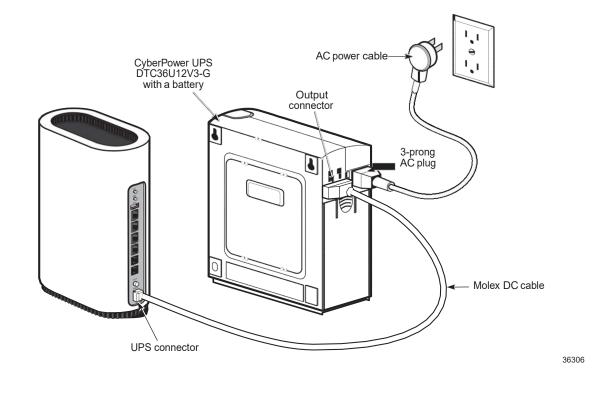
The 25 foot 3EM24378AB cable has one open end and must be terminated by the Phoenix connector provided with the UPS. Figure 6-10, "Installation of 3EM24378AB cable (7-pin) in Phoenix connector—3MV00807AA UPS 36W" (p. 80) shows the 7-pin assignments for the 36W UPS Cyberpower DTC36U12V3-G.

Figure 6-10 Installation of 3EM24378AB cable (7-pin) in Phoenix connector—3MV00807AA UPS 36W



28493

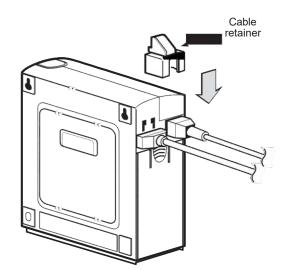
- a. Plug the UPS power AC cord into the UPS connector.
- b. Plug the power AC cord into an AC wall outlet, as shown in Figure 6-11, "Connecting the AC cord to the wall outlet" (p. 81).



### Figure 6-11 Connecting the AC cord to the wall outlet

The following figure shows an example ONT and UPS. The position of the connections may differ for each ONT model

c. Attach a cable retainer to the UPS power AC cord and the power cable, as shown in Figure 6-12, "Attaching the cable retainer" (p. 82).



28472

d. Attach the ONT to the wall.

END OF STEPS -

### 6.9.2 Connect a PSI UPS PS36L-P7

Use this procedure to connect a PSI UPS to a G-2426G-B indoor ONT.

See Table 5-3, "G-2426G-B UPS ordering information" (p. 47) in the Chapter 5, "G-2426G-B unit data sheet" in the for information about the PSI UPS PS36L-P7 model.

Before starting this procedure, ensure that the following items are available:

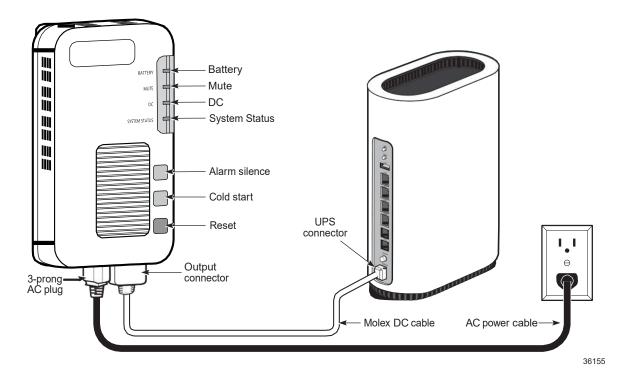
- Battery for the PSI UPS PS36L-P7
- Cable to connect the UPS to the ONT
- UPS AC power cable
- 1 \_\_\_\_\_

Place the indoor ONT unit and the UPS on a flat surface, such as a desk.

2 –

Plug the cable into the UPS connector on the G-2426G-B ONT and the output connector on the UPS, as shown in Figure 6-13, "G-2426G-B ONT and PSI UPS" (p. 83).

#### Figure 6-13 G-2426G-B ONT and PSI UPS



The following figure shows an example ONT and UPS. The position of the connections may differ for each ONT model

3

Remove the back cover to expose the battery connectors.

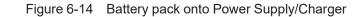
Slide Battery pack onto Power Supply/Charger unit until the Battery Pack becomes fully flushed with Power Supply/ Charger as shown in Figure 6-14, "Battery pack onto Power Supply/Charger" (p. 84).

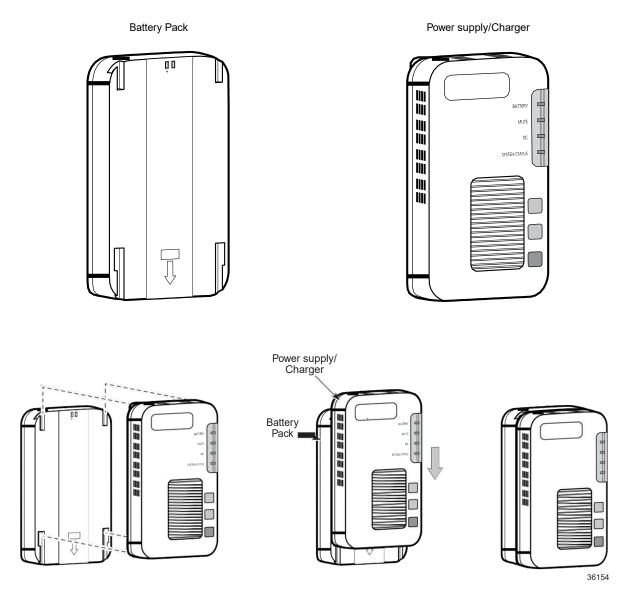
You should hear a click when battery pack is fully seated.

The UPS can remain on the desk or be placed on the floor underneath the desk.

Two battery extensions are needed for 8 hours of emergency support calls. Four battery extensions are needed for 24 hours of emergency support calls.

Install the UPS back cover in the bottom of the last battery module to protect the connectors to additional batteries.





4

Plug the 3 prong AC power cord plug end into standard 3 prong AC receptacle rated for 3 prong AC plug on bottom of power supply/charger as shown in Figure 6-13, "G-2426G-B ONT and PSI UPS" (p. 83).

5

Plug the AC power cable to AC wall outlet as shown in Figure 6-13, "G-2426G-B ONT and PSI UPS" (p. 83).

#### 6 —

Verify the "System Status" LED is "ON" with green illumination.

Ensure that the "System Status" LED is only the one in green illumination. If any other LED is illuminated recheck the battery pack is seated and ensure that all wiring from UPS to G-2426G-B ONT is installed correctly as listed by ONT specific instructions.

END OF STEPS -

# 7 Replace a G-2426G-B indoor ONT

### 7.1 Overview

### 7.1.1 Purpose

### 7.1.2 Contents

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## 7.2 Purpose

This chapter provides the steps to replace a G-2426G-B indoor ONT.

## 7.3 General

The steps listed in this chapter describe mounting and cabling for a G-2426G-B indoor ONT.

## 7.4 Prerequisites

You need the following items before beginning the installation:

• all required cables

## 7.5 Recommended tools

You need the following tools for replacing the ONT:

- #2 Phillips screwdriver
- 1/4 in. (6 mm) flat blade screwdriver
- wire strippers
- fiber optic splicing tools
- RJ-45 cable plug crimp tool
- voltmeter or multimeter
- · optical power meter

drill and drill bits

### 7.6 Safety information

Read the following safety information before replacing the unit.



Hazardous electrical voltages and currents can cause serious physical harm or death. Always use insulated tools and follow proper safety precautions when connecting or disconnecting power circuits.

Make sure all sources of power are turned off and have no live voltages present on feed lines or terminals. Use a voltmeter to measure for voltage before proceeding.

Always contact the local utility company before connecting the enclosure to the utilities.



# WARNING

### **Equipment Damage**

This equipment is ESD sensitive. Proper ESD protections should be used when removing the fiber access cover of the indoor ONT.



# CAUTION

### Service Disruption

Keep indoor ONTs out of direct sunlight. Prolonged exposure to direct sunlight can damage the unit.



**Note:** Observe the local and national laws and regulations that may be applicable to this installation.

Observe the following:

- The indoor ONT should be installed in accordance with the applicable requirements of the NEC or CEC. Local authorities and practices take precedent when there is conflict between the local standard and the NEC or CEC.
- The indoor ONT must be installed by qualified service personnel.
- Indoor ONTs must be installed with cables that are suitably rated and listed for indoor use.
- See the detailed specifications in the Chapter 5, "G-2426G-B unit data sheet" for the temperature ranges of these ONTs.

## 7.7 Procedure

Use this procedure to replace a G-2426G-B indoor ONT.

1 —

Deactivate the ONT services at the P-OLT.

If you are using the SLID feature, this step is not required. The ONT and the services can remain in service (IS).

a. Use the RTRV-ONT command to verify the ONT status and th associated services. Record the serial number or the SLID of the ONT displayed in the command output.

Example:

```
RTRV-ONT::ONT-1-1-1-1;
```

b. If the ONT is in service, place the ONT in OOS state.

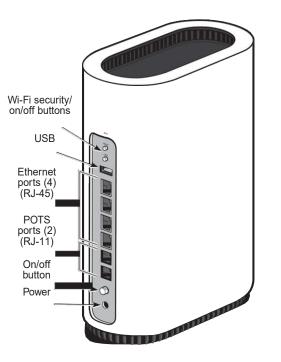
Example:

ED-ONT::ONT-1-1-1-1;

```
2
```

If used, disable the Wi-Fi service by pressing the WLAN button; see Figure 7-1, "G-2426G-B indoor ONT connections" (p. 88) for the location of the WLAN button.





36737

#### 3 —

Power down the unit by using the on/off power switch.

4

Disconnect the POTS, Ethernet, and power cables from the ONT; see Figure 7-1, "G-2426G-B indoor ONT connections" (p. 89) for the connector locations on the G-2426G-B indoor ONT.

5

# 

Fiber cables transmit invisible laser light. To avoid eye damage or blindness, never look directly into fibers, connectors, or adapters.

Disconnect the fiber optic cables.

- a. Unplug the fiber optic cable with SC/APC connector from the bottom of the ONT.
- b. Attach a fiber dust cover to the end of the SC/APC connector.

6

Replace the old ONT with a new ONT on a flat surface, such as a desk or shelf.

7

Connect the Ethernet cables directly to the RJ-45 ports; see Figure 7-1, "G-2426G-B indoor ONT connections" (p. 89) for the location of the RJ-45 ports.

8

\_

Connect the POTS cable directly to the RJ-11 port as per local practices; see Figure 7-1, "G-2426G-B indoor ONT connections" (p. 89) for the location of the RJ-11 ports.

9



Fiber optic cables transmit invisible laser light. To avoid eye damage or blindness, never look directly into fibers, connectors, or adapters.

If required, have approved service personnel who are trained to work with optic fiber clean the fiber optic connection. See the **Nokia ONT Configuration, Management, and Troubleshooting Guide** for more information about fiber optic handling, inspection, and cleaning. 10 -

# DANGER Hazard

Fiber cables transmit invisible laser light. To avoid eye damage or blindness, never look directly into fibers, connectors, or adapters.

# WARNING **Equipment Damage**

Be careful to maintain a bend radius of no less than 1.5 in. (3.8 cm) when connecting the fiber optic cable. Too small of a bend radius in the cable can result in damage to the optic fiber.

Connect the fiber optic cable with SC/APC adapter into the SC/APC connector on the bottom of the ONT.



**Note:** Fiber cable preparation varies depending on the type and size of the inside or outside plant fiber cable being spliced to the SC/APC fiber optic pigtail cable.

11

Connect the power cable to the power connector.

12 -

Power up the unit by using the power switch.

13

If used, enable the Wi-Fi service by pressing the WLAN button; see Figure 7-1, "G-2426G-B indoor ONT connections" (p. 89) for the location of the WLAN button.

14 –

i

If used, configure the SLID; see the Nokia ONT Configuration, Management, and Troubleshooting Guide for more information.

Note: A new SLID or the old SLID may be used with the replacement ONT. If a new SLID is used, the new SLID must also be programmed at the P-OLT using TL1 or a network manager.

If the old SLID is used, no changes need to be made at the P-OLT; see the operations and maintenance documentation for the OLT for more details.

15 -

Verify the ONT LEDs, voltage status, and optical signal levels; see the Nokia ONT Hardware and Cabling Installation Guide.

#### 16 —

Activate and test the services; see the Nokia ONT Hardware and Cabling Installation Guide.

#### 17 —

If necessary, reset the ONT.

- a. Locate the Reset button on a G-2426G-B indoor ONT as shown in Figure 7-1, "G-2426G-B indoor ONT connections" (p. 89).
- b. Insert the end of a straightened paper clip or other narrow object into the hole in the Reset button to reset the ONT.

END OF STEPS -

# 8 Configure a G-2426G-B indoor ONT

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# **GUI** configuration

## 8.2 General configuration

Refer to the configuration information provided with your OLT for the software configuration procedure for a G-2426G-B ONT.

For HTTP configuration procedures, refer to the **Nokia ONT Configuration**, **Management**, and **Troubleshooting Guide**.

# 8.3 HGU mode GUI configuration

Use the procedures below to use the web-based GUI for the G-2426G-B in HGU mode. This mode is preset at delivery.

A home gateway unit (HGU) is a home networking device, used as a gateway to connect devices in the home through fiber to the Internet. An HGU provides a variety of features for the home network including routing and firewall capability. By using the HGU, users can connect all smart equipment in their home, including personal computers, set-top boxes, mobile phones, and other consumer electronics devices, to the Internet.

The G-2426G-B ONTs support TLSv1.2 for WEBGUI (HTTPS).

# 8.4 Log in to web-based GUI

#### 1 –

Open a web browser and enter the IP address of the ONT in the address bar.

The login page displays.

The default gateway IP address must be same as the one printed on the device label. You can connect to this IP address using your web browser after connecting your PC to one of Ethernet ports of the ONT. The static IP address of your PC must be in the same default gateway subnet as the ONT.



# CAUTION Service Disruption

Pressing the **Reset** button for less than 10 seconds reboots the ONT; pressing the **Reset** button for 10 seconds resets the ONT to the factory defaults, except for the LOID and SLID.

Enter your username and password in the Login page, as shown in Figure 8-1, "Web login page" (p. 97).

The default end-user account name and the default password for this account are printed on the device label. The superadmin account is meant for the Operator and is unique per device. Contact your Nokia representative to obtain the superadmin password based on the serial number on the device.

#### Figure 8-1 Web login page

GPON Ho	me Gateway
Username Password	
Login	Reset

**I** Note: If you forget the current username and password, press the reset button for 10 seconds and the default values for the username and password will be recovered at startup.

3

Click Login. The Device Information page displays.

**Note:** To help protect the security of your Internet connection, it is recommended to modify both the Wi-Fi password and the ONT WEBGUI login password as soon as possible if you have read and edit permissions.

END OF STEPS

i

# Viewing device information and connection status

### 8.5 Overview

### 8.5.1 Purpose

This chapter describes procedures to view device information and connection status on the G-2426G-B.

### 8.5.2 Contents

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## 8.6 Viewing device information

1

Click **Status**→**Device Information** from the left pane in the GPON Home Gateway page. The Device Information page displays the following information:

	GPON Home Gateway	Logout
	Status>Device Information	
Status		
Overview	Device Name	G-2426G-B
Device Information	Vendor	Nokia
LAN Status	(Critic)	
WAN Status	Serial Number	ALCLFBEEAB03
WAN Status IPv6	Hardware Version	3FE49509BAAA
STA Information	Boot Version	U-Boot 2014.04-rc1(May182021-01:12:20)
Neighboring AP		
Home Networking	Software Version	3FE49517HJIJ52
Optics Module Status	Chipset	MTK7529
Statistics	Device Running Time	0 hours 13 minutes 23 seconds
Voice Information		
Network		Refresh
Security		
Application		
Maintenance		
RG Troubleshooting		

**I** Note: Upon login, the GPON Home Gateway page displays the WAN status block on the bottom left part of each page. This block shows the WAN connection ID, the WAN status, and any WAN errors.

This block is accurate upon login, but it is static.

Table 8-1 Device Information parameters

Field	Description
Device Name	Name on the ONT
Vendor	Name of the vendor
Serial Number	Serial number of the ONT
Hardware version	Hardware version of the ONT
Boot version	Boot version of the ONT
Software version	Software version of the ONT
Chipset	Chipset of the ONT
Device Running Time	Amount of time the device has run since last reset in hours, minutes, and seconds

Nokia ONT

#### 2 —

Click **Refresh** to display up-to-date information.

END OF STEPS -

# 8.7 Viewing LAN status

#### 1 -

Click **Status** $\rightarrow$ **LAN Status** from the left pane in the GPON Home Gateway page. The LAN Status page displays.

#### Figure 8-3 LAN Status page

	GPON Home Gateway		Logout		
	Status>LAN Status				
Status					
Overview	Wireless Informa	tion			
Device Information	Wireless Status		on		
LAN Status	Wireless Channe	el	1		
WAN Status	SSID1 Name 🗸	0	ALHN-AB03		
WAN Status IPv6	Wireless Encryption 1	Status		WPA2/WPA3-PSK	
STA Information	Wireless Rx Pack			0	
Neighboring AP	Wireless Tx Pack	ets		o	
Home Networking	Wireless Rx Byte			0	
Optics Module Status Statistics	Wreless Tx Byte			0	
Voice Information	Power Transmission			100	
Network					
Security					
Application	Ethernet Informa	tion			
Maintenance	Ethernet Status		Up		
RG Troubleshooting	Ethernet IP Addre	55		192,168,1.254	
RG Troubleshooting	Ethernet IP Addre Ethernet Subnet M			192.168.1.254 255.255.255.0	
RG Troubleshooting		ask			
RG Troubleshooting	Ethernet Subnet M	ask		255 255 255 0	
RG Troubleshooting	Ethernet Subnet M Ethernet MAC Add	ask ess		255 255 255 0 cc:ed 21:48 2b:60	
RG Troubleshooting	Ethernet Subnet M Ethernet MAC Add Ethernet Rx Pack	ess ets ets		255.255.255.0 cc:ed:21:48:25:50 14408	
RG Troubleshooting	Ethernet Subnet M Ethernet MAC Add Ethernet Rx Paok Ethernet Tx Paok	ess ests ests ests est est est est est e		255,256,255,0 cc:ed:21:46:25:50 14408 28287	
RG Troubleshooting	Ethernet Subnet M Ethernet MAC Add Ethernet Rx Paok Ethernet Tx Paok Ethernet Tx Paok	ess ests ests ests est est est est est e	LAN2	255.255.255.0 cc:ed:21.48.25.50 14408 26287 1631208	LAN4
RG Troubleshooting	Ethernet Subnet M Ethernet MAC Add Ethernet Rx Paok Ethernet Tx Paok Ethernet Tx Byte Ethernet Tx Byte	s LAN1		255 255 255,0 cc.ed 21:45 25:50 14408 25257 1531208 6338002 LAN3	
RG Troubleshooting	Ethernet Subnet M Ethernet MAC Add Ethernet Rx Pack Ethernet Tx Pack Ethernet Tx Byte Ethernet Tx Byte Information Status	s LAN1	Down	255 255 255.0 cc.sd 21:45 25:50 14408 25287 1631208 6358002 LAN3 Down	Up
RG Troubleshooting	Ethernet Subnet M Ethernet MAC Add Ethernet Rx Paok Ethernet Tx Paok Ethernet Tx Byte Ethernet Tx Byte	s LAN1	Down Half-duplex	255 255 255 255 2 cc ed 21 46 2b b0 14408 26287 1631208 6388002 LAN3 Down Haif-duplex	
RG Troubleshooting	Ethernet Subnet M Ethernet MAC Add Ethernet Rx Pack Ethernet Tx Pack Ethernet Tx Byte Information Status Duplex Mode Max Bit Rate	s LAN1 Up Full-duplex 1000	Down Half-duplex Auto	255 255 255.0 cc.sd 21:45 25:50 14408 25287 1631208 6358002 LAN3 Down	Up Full-duplex 1000
RG Troubleshooting	Ethernet Subnet M Ethernet MAC Add Ethernet Rx Pack Ethernet Tx Pack Ethernet Tx Byte Information Status Duplex Mode Max Bit Rate Errors Received	s LAN1 Up Full-duplex 1000 0	Down Half-duplex Auto 0	255 255 255 255 2 cc ed 21 46 2b b0 14408 26287 1631208 6388002 LAN3 Down Half-duplex Auto 0	Up Full-duplex 1000 0
RG Troubleshooting	Ethernet Subnet M Ethernet MAC Add Ethernet Rx Pack Ethernet Tx Pack Ethernet Tx Byte Ethernet Tx Byte Information Status Duplex Mode Max Bit Rate Errors Received Errors Sent	ask	Down Half-duplex Auto 0 0	255 255 255 255 0 cc ed 21:46 2b.b0 14408 26287 1631208 6388002 LAN3 Down Half-duplex Auto 0	Up Full-duplex 1000 0
RG Troubleshooting	Ethernet Subnet M Ethernet MAC Add Ethernet Rx Pack Ethernet Tx Pack Ethernet Tx Byte Ethernet Tx Byte Information Status Duplex Mode Max Bit Rate Errors Received Errors Sent Packets Received	ask            ess            ets            stant            stant            bulk            bulk	Down Half-duplex Auto 0 0 0	255 255 255 255 0 cc.ed 21 46 25 50 14408 26287 1631208 6388002 LAN3 Down Half-duplex Auto 0 0	Up Full-duplex 1000 0 0 14408
RG Troubleshooting	Ethernet Subnet M Ethernet MAC Add Ethernet Rx Pack Ethernet Tx Pack Ethernet Tx Byte Ethernet Tx Byte Information Status Duplex Mode Max Bit Rate Errors Received Errors Sent	ask	Down Half-duplex Auto 0 0	255 255 255 255 0 cc ed 21:46 2b.b0 14408 26287 1631208 6388002 LAN3 Down Half-duplex Auto 0	Up Full-duplex 1000 0

### Table 8-2 LAN Status parameters

Field	Description
Wireless Information	
Wireless Status	Indicates whether the wireless is on or off
Wireless Channel	Wireless channel number

Table 8-2	LAN Status parameters	(continued)
-----------	-----------------------	-------------

Field	Description
SSID Name	Name of each SSID
Wireless Encryption Status	Encryption type used on the wireless connection Wireless
Rx Packets	Number of packets received on the wireless connection
Wireless Tx Packets	Number of packets transmitted on the wireless connection
Wireless Rx Bytes	Number of bytes received on the wireless connection
Wireless Tx Bytes	Number of bytes transmitted on the wireless connection
Power Transmission (mW)	Power of the wireless transmission, in mW
Ethernet Information	
Ethernet Status	Indicates whether the Ethernet connection is on or off
Ethernet IP Address	IP address of the Ethernet connection
Ethernet Subnet Mask	Subnet Mask of the Ethernet connection
Ethernet MAC Address	MAC address of the Ethernet connection
Ethernet Rx Packets	Number of packets received on the Ethernet connection
Ethernet Tx Packets	Number of packets transmitted on the Ethernet connection
Ethernet Rx Bytes	Number of bytes received on the Ethernet connection
Ethernet Tx Bytes	Number of bytes transmitted on the Ethernet connection

2 —

Click **Refresh** to display up-to-date information.

END OF STEPS -

# 8.8 Viewing WAN status

1 –

Click **Status**  $\rightarrow$  **WAN Status** from the left pane in the GPON Home Gateway page. The WAN Status page displays.

#### Figure 8-4 WAN Status page

	GPON Home Gateway	ay Logout				
	Status>WAN Status					
Status	WAN Connection List	(				
Overview	WAN Connection List	1_VOIP_TR069_INTERNET_R_VID_881	¥			
Device Information	Access Type	access_dev1				
LAN Status	Connection Mode	Dynamic DHCP				
WAN Status	Connection mode	bynamic Dhee				
WAN Status IPv6	Enable/Disable	×				
STA Information	VLAN	881				
Neighboring AP	WAN Link Status	Down				
Home Networking						
Optics Module Status	PON Link Status	Down				
Statistics	Tx Packets					
Voice Information	Rx Packets					
Network	To Drawnod					
Security	Tx Dropped					
Application	Rx Dropped					
Maintenance	Err Packets					
RG Troubleshooting						

Table 8-3WAN Status parameters

Field	Description			
WAN Connection List	Drop-down menu listing all WAN connections. The connection shown is the connection for which WAN status will be shown.			
MPTCP Status	Enables or disables the MPTCP status			
Connection Mode	Connection mode of the WAN connection			
Enable/Disable	Select this checkbox to enable or disable the WAN connection			
VLAN	VLAN ID			
WAN Link Status	Indicates whether the WAN link is up or down			
IPv4 Address	IP Address of the ONT			
Netmask	Network mask			
Gateway	Gateway address			
Primary DNS	Primary Domain Name Server			
Second DNS	Secondary Domain Name Server			
Manual DNS	Manual Domain Name Server			
PON Link Status	Whether the PON link is up or down			

#### Table 8-3 WAN Status parameters (continued)

Field	Description	
Tx Packets	Number of packets transmitted on the WAN connection	
Rx Packets	Number of packets received on the WAN connection	
Tx Dropped	lumber of packets dropped on the transmit WAN connection	
Rx Dropped	Number of packets dropped on the receive WAN connection	
Err Packets	Number of errored packets on the WAN connection	

#### 2 —

Click **Refresh** to display up-to-date information.

END OF STEPS

## 8.9 Viewing WAN IPv6 status

### 1 -

Click **Status**  $\rightarrow$  **WAN Status IPv6** from the left pane in the GPON Home Gateway page. The WAN Status IPv6 page displays.

#### Figure 8-5 WAN Status IPv6 page

	GPON Home Gateway	Vay Logout				
	Status>WAN Status IPv6					
Status Overview	WAN Connection List			×		
Device Information	Enable/Disable					
LAN Status WAN Status	VLAN					
WAN Status IPv6	WAN Link Status					
STA Information	IPv6 Address					
Neighboring AP Home Networking	IPv6 Prefix					
Optics Module Status	IPv6 Gateway					
Statistics	Primary DNS					
Voice Information	Second DNS					
Network Security	PON Link Status	Down				
Application	Tx Packets	0				
Maintenance	Rx Packets	0				
RG Troubleshooting	Tx Dropped	0				
	Rx Dropped	0				
	Err Packets	0				
		Refr	ach			

### Table 8-4 WAN Status IPv6 parameters

Field	Description	
WAN Connection List	Drop-down menu listing all WAN connections. The connection shown is the connection for which WAN status will be shown.	
Enable/Disable	Select this checkbox to enable the WAN connection	
VLAN	VLAN ID	
WAN Link Status	Whether the WAN link is up or down	
IPv6 Address	IPv6 address that identifies the device and its location	
IPv6 Prefix	IPv6 prefix	
IPv6 Gateway	IPv6 gateway address	
Primary DNS	Primary Domain Name Server	

### Table 8-4 WAN Status IPv6 parameters (continued)

Field	Description			
Second DNS	Secondary Domain Name Server			
PON Link Status	/hether the PON link is up or down			
Tx Packets	Number of packets transmitted on the WAN connection			
Rx Packets	Number of packets received on the WAN connection			
Tx Dropped	Number of packets dropped on the transmit WAN connection			
Rx Dropped	Number of packets dropped on the receive WAN connection			
Err Packets	Number of errored packets on the WAN connection			

2 —

Click **Refresh** to display up-to-date information.

END OF STEPS

# 8.10 Viewing STA information

### 1

Click **Status** $\rightarrow$ **STA Information** from the left pane in the GPON Home Gateway page. The STA Information page displays the following information.

	GPON Hor	me Gateway		Logout	Í l	
	Status>STA Informat	ion				
Status						
Overview	Client Device	es				
Device Information						Refresh
LAN Status						
WAN Status	MAC Address	SSID Name	Channel	Connection Duration	Wi-Fi Mode	R\$\$I (dBm)
WAN Status IPv6						
STA Information						
Neighboring AP						
Home Networking						
Optics Module Status						
Statistics						
Voice Information						
Network						
Security						
Application						
Maintenance						
RG Troubleshooting						

### Figure 8-6 STA Information page

Table 8-5 STA information parameters

Field	Description	
MAC Address	IAC address of the Ethernet connection	
SSID Name	ame of each SSID	
Channel	ndicates the channel number	
Connection Duration	ndicates the connection duration	
WI-FI Mode	Indicates the Wi-Fi mode	
RSSI (dBm)	Indicates the received signal strength	

### You can click **Refresh** to display up-to-date information.

END OF STEPS -

# 8.11 Viewing Neighboring Access Points

#### 1 –

Click **Status**→**Neighboring AP** from the left pane in the GPON Home Gateway page. The Neighboring Access Points page displays the following information.

Figure 8-7 Neighboring AP page

	GP	ON Home	Gateway			Logout		
	Status>Neig	nboring AP						
Status								
Overview	Neig	hboring	Access	Points				
Device Information	Index	SSID name	MAC address	Channel	RSSI (dBm)	Authentication Mode	Wi-Fi Mode	Network Type
LAN Status								
WAN Status					Scan			
WAN Status IPv6								
STA Information								
Neighboring AP								
Home Networking								
Optics Module Status								
Statistics								
Voice Information								
Network								
Security								
Application								
Maintenance								
RG Troubleshooting								

### Table 8-6Neighboring AP parameters

Field	Description	
Index	Name of the index	
SSID name	me of each SSID	
MAC address	IAC address of the Ethernet connection	
Channel	ndicates the channel number	
RSSI (DBM)	Indicates the received signal strength	
Authentication Mode	Indicates the authentication mode	

## Table 8-6 Neighboring AP parameters (continued)

Field	Description
Wi-Fi Mode	Indicates the Wi-Fi mode
Network Type	Indicates the network type

2 —

Click Scan.

END OF STEPS -

# 8.12 Viewing home networking information

1 -

Click **Status** $\rightarrow$ **Home Networking** from the left pane in the GPON Home Gateway page. The Home Networking page displays.

#### Figure 8-8 Home Networking page

GPG	ON Home	Gatewa	ау			Logout		
Status>Home	e Networkin	g						
Loca	l Interfa	ace						
	Conne	ction Ty	pe	Conn	ected Devi	ces	Setting	
	E	thernet			1			
	Wirele	ss (2.4GHz	2)		0		Setting	
	Wirele	ess (5GHz)			0		Setting	
Mirol		Hinar						
vvirei	less Se	tungs	5 (2.4GH	Z)				
Network	Name	ALHN-A	B03	ALHN-AB03-2		ALHN-AB03-3	ALHN-AE	803-4
Access	Point c	c.ed:21:46	2b:b9	ce:ed:21:16:2b.b	9	ce.ed 21:26:2b b9	ce:ed:21:36	5:2b:b9
		<i></i>						
Access	Point c	c.ed.21:46	2b bd	ce:ed:21:16:2b:b	d	ce:ed:21:26:2b:bd	ce:ed:21:36	3:2b.bd
Loca	I Devic	es						
Status	Connection Type	Device Name	IPv4 Address	Hardware Address	IP Address Allocation	Lease Remaining	Last Active Time	Delete
Active	Ethernet	xhy	192.168.1.64	c8:d3:ff.bc:22:cf	DHCP	21 hours 56 min 53 sec	31/12/1969 07:02:14 PM	Delete
	Status>Home Loca Wire Network Access Wire Network Access Loca Status	Status>Home Networkin	Status>Home Networking  Local Interface Connection Ty Ethemet Wireless (2 4GH: Wireless (5 GHz Wireless Settings Network Name ALHN-A Access Point cc:ed 21.46 Wireless Settings Network Name ALHN-A Access Point cc:ed 21.46 Connection Connection Type Network Name Status Connection Connect	Status>Home Networking  Local Interface  Connection Type Ethemet Wireless (2.4GHz) Wireless (5GHz)  Wireless Settings (2.4GHZ Access Point cc ed 21.46.2b b9  Miteless Settings (5GHz)  Miteless Settings (5GHz)  Miteless Settings (5GHz)  Local Devices  Status Connection Connec	Status>Home Networking           Connection Type         Connection Type           Connection Type         Connection Type           Connection Type         Connection Type           Wireless (2.4GHz)           Wireless (5GHz)           Wireless Settings (2.4GHz)           Connection Type         Connection Type           Wireless (5GHz)           Wireless Settings (2.4GHz)           Cered 21:46 2b b9         cered 21:16 2b b           Wireless Settings (5GHz)           Wireless Settings (5GHz)           Local Devices           Local Devices           Status         Connection Type         Name         IPv4         Hardware Address	Status>Home Networking         Connection Type       Connected Devi         Ethernet       1         Wireless (2.4GHz)       0         Wireless (SGHz)       0         Other Settings (2.4GHz)         Mireless Settings (2.4GHz)       0         Wireless Point       0       0         Cered 21:46 2b:b9       0         Wireless Settings (5GHz)       0         Metwork Name       ALHN-AB03       ALHN-AB03-6       0         Access Point       cc:ed 21:46 2b:bd       ce:ed 21:16:2b:bd       0         Local Devices       1P       4ddress       Address       Address       Address       Address       Address	Status>Home Networking         Connection Type       Connected Devices         Ethemet       1         Wireless (2.40Hz)       0         Wireless (5GHz)       0         Wireless (5GHz)         Mission Constraints       ALHN-AB03       ALHN-AB03-2       ALHN-AB03-3       a         Access Point       cc ed 21:46:2b:b9       ce ed 21:16:2b:b9       ce ed 21:26:2b:b9         Wireless Settings (5GHz)         Metwork: Name       ALHN-AB03       ALHN-AB03-6       ALHN-AB03-7         Access Point       cc ed 21:46:2b:bd       ce ed 21:26:2b:bd         Metwork: Name       ALHN-AB03       ALHN-AB03-6       ALHN-AB03-7       Access Point       cc ed 21:46:2b:bd       ce ed 21:16:2b:bd       ce ed 21:26:2b:bd         Metwork: Name       ALHN-AB03       ALHN-AB03-6       ALHN-AB03-7       Access Point       cc ed 21:46:2b:bd       ce ed 21:16:2b:bd       ce ed 21:26:2b:bd         Metwork: Name       ALHN-AB03       ALHN-AB03-6       ALHN-AB03-7       Access Point       cc ed 21:46:2b:bd       ce ed 21:16:2b:bd       ce ed 21:26:2b:bd         Metwork: Name       ALHN-AB03       ALHN-AB03-6       ALHN-AB03-7       Access Po	Status>Home Networking         Local Interface            Connection Type       Connected Devices       Setting         Ethernet       1       1         Wireless (2.4GHz)       0       Setting         Wireless (5GHz)       0       Setting         Wireless Settings (2.4GHz)         Network Name       ALHN-AB03       ALHN-AB03-2       ALHN-AB03-3       ALHN-AE         Access Point       cc ed 21.46.2b.b9       ce ed 21.26.2b.b9       ce ed 21.33         Wireless Settings (5GHz)         Wireless Settings (5GHz)         Metwork Name       ALHN-AB03       ALHN-AB03-6       ALHN-AB03-7       ALHN-AE         Access Point       cc ed 21.46.2b.bd       ce ed 21.16.2b.bd       ce ed 21.26.2b.bd       ce ed 21.34         Metwork Name       ALHN-AB03       ALHN-AB03-6       ALHN-AB03-7       ALHN-AB         Access Point       cc ed 21.46.2b.bd       ce ed 21.16.2b.bd       ce ed 21.26.2b.bd       ce ed 21.34         Metwork Name         ALHN-AB03       ALHN-AB03-6       ALHN-AB03-7       ALHN-AB         Access Point       cc ed 21.46.2b.bd       ce ed 21.16.2b.bd       ce ed 21.26.2b.bd       ce ed 21.34

Refresh

### Table 8-7 Home Networking parameters

Field	Description			
Local Interface				
Ethernet	Table displays the number of Ethernet connections and their settings			
Wireless	Table displays the number of wireless connections and their settings (2.4GHz and 5GHz)			
Wireless Settings (2.4GF	Wireless Settings (2.4GHz and 5GHz)			
Network Name	Name of the wireless network			
Access Point	Hexadecimal address of the wireless access point			
Local Devices				

#### Table 8-7 Home Networking parameters (continued)

Field	Description
Table entry	Each entry indicates the status (active or inactive), connection type, device name, IP address, hardware address, IP address allocation, lease remaining, and last active time of each connected local device.

You can:

- Click **Delete** to delete a particular local device connection.
- Click **Refresh** to display up-to-date information.

END OF STEPS

# 8.13 Viewing optics module status

1 -

Click **Status** $\rightarrow$ **Optics Module Status** from the left pane in the GPON Home Gateway page. The Optics Module Status page displays.

	GPON Home Gateway	ogout
	Status>Optics Module Status	
Status	Serial Number	ALCLFBEEAB03
Overview		
Device Information	Laser Bias Current (ONT ANI-ONT-Side Optical Measurements):	0 uA
LAN Status	Optics Module Voltage (ONT ANI-ONT-Side Optical Measurements):	3437000 uV
WAN Status	Optics Module Temperature (ONT ANI-ONT-Side Optical Measurements):	27.00 °C
WAN Status IPv6	opies module rempetitule (or raw or raide opies measurements).	21.00 0
STA Information	Rx Optics Signal Level at 1490 nm (ONT ANI-ONT-Side Optical Measurements):	-40.00 dBm
Neighboring AP	weasurements).	
Home Networking	Tx Optics Signal Level at 1310 nm (ONT ANI-ONT-Side Optical Measurements):	No output
Optics Module Status		07.05 10
Statistics	Lower (ONT ANI-ONT-Side Optical Measurements-Optical Threshold):	-27.95 dBm
Voice Information	Upper (ONT ANI-ONT-Side Optical Measurements-Optical Threshold):	-7.00 dBm
Network	Refresh	
Security	Reliesh	
Application		
Maintenance		
RG Troubleshooting		

Table 8-8Optics Module Status parameters

Field	Description
Laser Bias Current (ONT ANI-ONT-Side Optical Measurements)	Laser bias current, measured in uA Optics
Module Voltage (ONT ANI-ONT-Side Optical Measurements)	Optics module voltage, measured in V
Optics Module Temperature (ONT ANI-ONT-Side Optical Measurements)	Optics module temperature, measured in C
Rx Optics Signal Level at 1490 nm (ONT ANI-ONT-Side Optical Measurements)	Received optics signal level at 1490 nm, measured in dBm
Tx Optics Signal Level at 1310 nm (ONT ANI-ONT-Side Optical Measurements)	Transmitted optics signal level at 1310 nm, measured in dBm
Lower (ONT ANI-ONT-Side Optical Measurements-Optical Threshold)	Lower optical threshold, measured in dBm
Upper (ONT ANI-ONT-Side Optical Measurements-Optical Threshold)	Upper optical threshold, measured in dBm

#### 2 –

Click **Refresh** to display up-to-date information.

END OF STEPS -

# 8.14 Viewing statistics

1 -

Click **Status** $\rightarrow$ **Statistics** from the left pane in the GPON Home Gateway page. Select the LAN tab, **WAN** tab or **WLAN** tab to view the respective ports.

	GPON Home Gateway	ý		Logout	
	Status>Statistics				
Status Overview DeviCeIrformation LAN Status WAN Status	LAN WAN	J			Refresh
WAN Status 1Pv6	COUNTERS	LAN1	LAN2	LAN3	LAN4
STA Information	Bytes Sem Bytes	6  8469			1371237
NeighboringAP	ReceiVed Paacts				524982
Home Networking	Sent Packets	9864			4189
Optics Module Status	Received Errors				5055
Statistics	Sent				
Voice Information +Network	Unk:as.t P.aekets Sent Umcast Packets ReceN"ed OlscardPado::elsSent	2792			3971 3708
:!:!security	Dtscard Packets Rece1/ed				
.!!Application	MutticastPacketsSent	6840			
:!:!Maintenance	Mutlicast Packets ReceJVed				973
+RG Troubleshooting	Broadcast Pactiets Sent Broaccast				374
	Packets Re.celVed UnknownProto				3/4
	Packets Received CRC Error				
	ReceiVed				

#### Figure 8-11 WAN Statistics page

	GPON Home Gateway	/	Logout	
	Status>Statistics			
Status				
Device Information	WAN			
LAN Status		W		
WAN Status	LAtl	_		Refresh
WAN Status 1Pv6				
STA Information	COUfITERS	1_VOIP_TR069_1t/TERHET_R_VID_381	2_1tiTERtiET_R_VID_1081	3_0THER_R_VI0_981
Neighboring AP	Bytes Sent			
HomeNetworking	Bytes Received			
Optics Module Status	Packets Sent			
Statsitos	Packets Received			
√oice Information	Errors Sent			
	Errors Received			
)Network	Unicast Packets Sent			
)security	Unicast Packets Received			
)Application	Discard Packets Sent			
)Maintenance	Discard Packets Received			
RG Troubleshooting	Broadcast Packets Sent			
and moublesibourig	Broadcast Packets Received			
	Unknown Proto Packets Received			
	Rx Drops			
	Tx Drops			
	Rx Errors			
	Tx Errors			

Figure 8-12 WLAN Statistics page

	GPON Home Gateway		Logout
	Status>Statistics		
Status			
Device Information	LAN WAN WLAN		
AN Status	<u> </u>		
WAN Status			Refresh
WAN Status IPv6			
STA Information	COUNTERS	2.4GHZ	5GHZ
	COUNTERS	2.4GHZ ALHN-A1B2	5GHZ ALHN-A1B2-5
Neighboring AP	COUNTERS Bytes Sent		
leighboring AP Iome Networking		ALHN-A1B2	ALHN-A1B2-5
Neighboring AP Home Networking	Bytes Sent	ALHN-A1B2 0	ALHN-A1B2-5 0
Veighboring AP Home Networking Dptics Module Status	Bytes Sent Bytes Received	ALHN-A1B2 0 0	ALHN-A1B2-5 0 0
Veighboring AP Home Networking Optics Module Status Statistics	Bytes Sent Bytes Received Packets Sent	ALHN-A1B2 0 0 0	ALHN-A1B2-5 0 0 0
Neighboring AP Home Networking Optics Module Status Statistics Voice Information	Bytes Sent Bytes Received Packets Sent Packets Received	ALHN-A182 0 0 0 0	ALHN-A182-5 0 0 0 0
Veighboring AP Home Networking Optics Module Status Statistics Voice Information	Bytes Sent Bytes Received Packets Sent Packets Received Errors Sent	ALHN-A182 0 0 0 0 0 0	ALHN-A182-5 0 0 0 0 0 0
STA Information Neighboring AP Home Networking Optics Module Status Statistics Voice Information Network Security Application	Bytes Sent Bytes Received Packets Sent Packets Received Errors Sent Discard Packets Sent	ALHN-A182 0 0 0 0 0 0 0	ALHN-A182-5 0 0 0 0 0 0 0

You can click **Refresh** to display up-to-date information.

END OF STEPS -

# 8.15 Viewing voice information

1 –

Click **Status**→**Voice Information** from the left pane in the GPON Home Gateway page. The Voice Information page displays the following information:

#### Figure 8-13 Voice Information page

	GPON Home Gateway	Logout	
	Status>Voice Information		
Status Overview	Line	Line 1	×
Device Information LAN Status WAN Status WAN Status IPv6 STA Information Neighboring AP Home Networking Optics Module Status Statistics	Line Status Soft Switch Phone Number Register Status Register Error Code Register Error Reason	Disabled	
Voice Information  Network  Security Application Maintenance	User Agent IP	Refresh	

### Table 8-9 Voice Information parameters

Field	Description
Line	Select a line from the list. The default is Line 1.
Line Status	Depending on the line chosen, the line options are:
	• Up
	Initializing
	Registering
	Unregistering
	• Error
	• Testing
	• Quiescent
	Disabled
	The default is Disabled
Soft Switch	Proxy IP address; blank if the line is not registered
Phone number	Phone number configured for a telephone line 1; +13290611266
Register Status	The default is Registered
	Blank if no voice service is provisioned
Register Error Code	SIP standard error code for the register status; for example, 401, 403, 503
	This field is blank if the register is set to OK

## Table 8-9 Voice Information parameters (continued)

Field	Description
Register Error Reason	SIP standard error reason for the register status This field is blank if the register is set to OK
User Agent IP	IP address of the user agent ExternalIPAddress in WANIPConnection or WANPPPConnection

2 \_\_\_\_\_

Click **Refresh** to display up-to-date information.

END OF STEPS

# Network configuration

# 8.16 Overview

# 8.16.1 Purpose

This chapter describes the network configuration tasks supported by G-2426G-B ONTs.

# 8.16.2 Contents

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# 8.17 Configuring LAN

1

Click  $Network \rightarrow LAN$  from the left pane in the GPON Home Gateway page. The LAN page displays.

#### Figure 8-14 LAN page

	GPON Home Gateway	Logout	
	Network>LAN		
Status	Port Mode		
Network	Fort Mode		
LAN	All Ports to Bridge Mode		
LAN_IPv6 WAN	Port1	Route Mode	~
WAN DHCP	Port2	Route Mode	~
Wireless (2.4GHz)	Port3	Route Mode	~
Wireless (5GHz)			
Wireless Schedule	Port4	Route Mode	~
IP Routing		Save	
DNS			
TR-069	IPv4 Address	192.168.1.254	
GRE Tunnel	Subnet Mask	255 255 255 0	
US Classifier			
QoS Config	DHCP Enable		
MESH	DHCP Start IP Address	192.168.1.64	
Security	DHCP End IP Address	192.168.1.253	
Application	DHCP Lease Time	1440	
Maintenance RG Troubleshooting		(2~129600 mins, or 0 means 1 day)mins.	
=RG Troubleshooting	Primary DNS	A	
	Primary DNS		
	Secondary DNS		
		Save Refresh	
	Static DHCP Entry		
	MAC Address		
	IPv4 Address		
		Add	
	MAC Address	IPv4 Address	Delete

2 \_\_\_\_\_

Configure the following LAN parameters:

#### Table 8-10 LAN parameters

Field	Description
Port Mode	
All Ports to Bridge Mode	Select this checkbox to set all ports to Bridge mode.
Port 1 - 4	Select the port mode for each port and click <b>Save</b> :
	Route Mode
	• Bridge Mode
IPv4 Address	Enter the IP address of the ONT.
Subnet Mask	Enter the subnet mask of the ONT.
DHCP enable	Select this checkbox to enable DHCP.
DHCP Start IP Address	Enter the starting DHCP IP address.
DHCP End IP Address	Enter the ending DHCP IP address.
DHCP Lease Time	Enter the DHCP lease time (in min).
Primary DNS	Enter the primary DNS identifier.
Secondary DNS	Enter the secondary DNS identifier.

3 —

Click Save.

4 —

Configure the Static DHCP parameters:

#### Table 8-11 Static DHCP parameters

Field	Description
Static DHCP Entry	
MAC Address	MAC address for the static DHCP
IPv4 Address	IPv4 address for the static DHCP

5 \_\_\_\_\_

Click Add.

You can also use this panel to delete a Static DHCP MAC address or IPv4 address.

END OF STEPS -

# 8.18 Configuring LAN IPv6

1 -

Click **Network** $\rightarrow$ **LAN\_IPv6** from the left pane in the GPON Home Gateway page. The LAN\_IPv6 page displays.



	GPON Home Gateway	Logout	
	Network>LAN_IPv6		
Status	2		
Network	IPv6 LAN Host Config	guration	
LAN	DNS Server	HGWProxy	Ψ
LAN_IPv6		WANConnection	
WAN	Prefix Config	WAINConnection	
WAN DHCP	Interface		۲
Wireless (2.4GHz)			
Wireless (5GHz)	DHCPv6 Server Pool		
Wireless Schedule		frances	
IP Routing	DHCP Start IP Address	0:0:0:2	
DNS	DHCP End IP Address	0:0:0:255	
TR-069			
GRE Tunnel			
US Classifier	Whether the address info through DHCP		
QoS Config	Whether other info obtained through	¥	
	Whether other info obtained through DHCP	*	
MESH	DHCP		
~		600	
Security	Maximum interval for periodic RA messages	600 seconds	
MESH Security Application Maintenance	Maximum interval for periodic RA		

2 –

Configure the following parameters:

### Table 8-12 LAN IPv6 parameters

Field	Description
IPv6 LAN Host Configuration	

Table 8-12	LAN IPv6 parameters	(continued)
------------	---------------------	-------------

Field	Description
DNS Server	Select a DNS server from the list.
Prefix Config	Select a prefix config option from the list, either WANConnection (prefix will be obtained from the WAN) or Static (enables you to enter the prefix).
Interface	This field appears if you selected the Wan Connection option for the "prefix config" field. Select a WAN connection interface from the list.
DHCPv6 Server Pool	
DHCP Start IP Address	Enter the starting DHCP IP address.
DHCP End IP Address	Enter the ending DHCP IP address.
Whether the address info through DCHP	Select this checkbox to enable address information retrieval through DHCP.
Whether other info obtained through DHCP	Select this checkbox to enable retrieval of other information through DHCP.
Maximum interval for periodic RA messages	Enter the maximum interval (in seconds) for periodic Router Advertisement messages. The interval range is from 4 to 1800.
Minimum interval for periodic RA messages	Enter the minimum interval (in seconds) for periodic Router Advertisement messages. The interval range is from 4 to 1800.

3 \_\_\_\_\_

Select or enter the DHCP configuration information.

4

Enter the maximum and minimum intervals for RA messages.

5 —

Click Save/Apply.

END OF STEPS -

# 8.19 Configuring WAN

1 \_\_\_\_\_

Click  $Network \rightarrow WAN$  from the left pane in the GPON Home Gateway page. The WAN page displays.

Figure 8-16	WAN page -	Route Mode
-------------	------------	------------

	GPON Home Gateway	Logout	
	Network>WAN		
Status Network	WAN Connection List Connection Type	1_VCIP_TR069_INTERNET_R_VID_881	¥
LAN_IPv6	IP mode	IPv4	¥
WAN DHCP	Enable/Disable	2	
Wireless (2.4GHz)	NAT	2	
Wireless (5GHz) Wireless Schedule	Service	VOIP Z TR-069 INTERNET	
IP Routing	Enable VLAN	×	
DNS	VLAN ID	881	
TR-069	VLAN PRI	0	
GRE Tunnel US Classifier	WAN IP Mode	DHCP	•
QoS Config	Pri DNS		
MESH Security Application Maintenance RG Troubleshooting	Sec DNS	Save Delete	

2 –

Configure the following parameters for a specific WAN connection.

Table 8-13, "WAN parameters - Route mode" (p. 123) describes the fields in the WAN network window for Route Mode

Table 8-13	WAN parameters - Route mode
------------	-----------------------------

Field	Description
WAN Connection List	Select a WAN connection from the list to set the connection parameters.
Connection Type	Select a connection type: IPoE or PPPoE.
Connection mode	This option is only available for the operator ID MSNA, and for some operator-specific operator IDs. Choose a connection mode: Route Mode or Bridge Mode. The default is Route Mode. If you select Bridge Mode, see Figure 8-17, "WAN page - Bridge Mode" (p. 124) and Table 8-14, "WAN network parameters—Bridge Mode" (p. 125)
IP mode	Select an IP mode from the list: IPv4 or IPv6.
Enable/Disable	Select this checkbox to enable the WAN connection.
NAT	Select this checkbox to enable NAT.

### Table 8-13 WAN parameters - Route mode (continued)

Field	Description
Service	Select the checkboxes to enable service types for this connection.
Enable VLAN	Select this checkbox to enable VLAN.
VLAN ID	Enter the VLAN ID.
VLAN PRI	Enter the VLAN PRI.
WAN IP Mode	Select an IP mode from the list.
Pri DNS	Enter the primary Domain Name Server (DNS).
Sec DNS	Enter the secondary Domain Name Server (DNS).

## Figure 8-17 WAN page - Bridge Mode

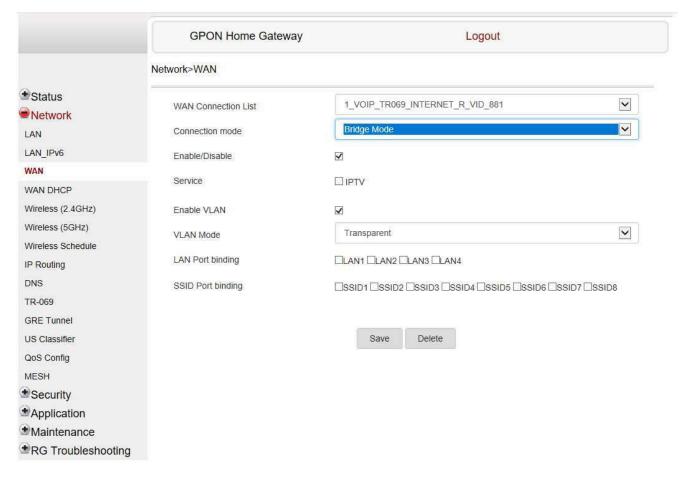


Table 8-14, "WAN network parameters—Bridge Mode" (p. 125) describes the fields in the WAN network page for Bridge Mode.

Field	Description
WAN Connection List	Choose a WAN connection from the drop-down menu to set the connection parameters
Connection mode	This option is only available for the operator ID MSNA, and for some operator-specific operator IDs. Choose a connection mode: Bridge Mode.
Enable/Disable	Select this checkbox to enable the WAN connection.
Service	Select this checkbox only if this domain provides IPTV service.
Enable VLAN	Select this checkbox to add a VLAN tag. If this box is selected, you can add a VLAN number.
VLAN Mode	Select a VLAN mode from the drop-down menu.
LAN Port binding	Select a LAN port or ports that are associated with this bridge domain: LAN1, LAN2, LAN3, LAN4, or LAN5. These ports are bridged to the network over the same VLAN when it is added. Port-to-port communication is permitted within the domain.
SSID Port binding	Select a SSID port or ports that are associated with this bridge domain: SSID1, SSID2, SSID3, SSID4, SSID5, SSID6, SSID7, or SSID8. These ports are bridged to the network over the same VLAN when it is added. Port-to-port communication is permitted between devices associated with SSIDs or connected to LAN ports within the domain.

Table 8-14	WAN	network	parameters-	-Bridge Mode
		network	parameters-	-Dridge Mode

3 —

Click **Save**to save the configuration.

Click **Delete** to delete the configuration.

END OF STEPS -

# 8.20 Configuring WAN DHCP

#### 1 -

Click **Network** $\rightarrow$ **WAN DHCP** from the left pane in the GPON Home Gateway page. The WAN DHCP page displays.

#### Figure 8-18 WAN DHCP page

	GPON Home Gateway	Logout	
		20304	
	Network>WAN DHCP		
∎Status ■Network	WAN Connection List	1_VOIP_TR069_INTERNET_R_VID_881	۲
LAN	DHCP Option 50 Persistent		
LAN_IPv6	Enable DHCP Option 60		
WAN	Enable DHCP Option 61		
WAN DHCP	Enable Brief Option of		
Wireless (2.4GHz)	Enable DHCP Option 77		
Wireless (5GHz)	Enable DHCP Option 90		
Wireless Schedule			
IP Routing		Save Refresh	
DNS			
TR-069			
GRE Tunnel			
US Classifier			
QoS Config			
MESH			
Security			
Application			
Maintenance			
RG Troubleshooting			

2 –

Configure the following parameters:

### Table 8-15 WAN DHCP parameters

Field	Description
WAN Connection List	Select a WAN connection from the list.
DHCP Option 50 Persistent	Select this checkbox to enable DHCP Option 50 persistent.
Enable DHCP Option 60	Select this checkbox to enable DHCP Option 60 (vendor class identifier).
Enable DHCP Option 61	Select this checkbox to enable DHCP Option 61 (client identifier).
Enable DHCP Option 77	Select this checkbox to enable DHCP Option 77.
Enable DHCP Option 90	Select this checkbox to enable DHCP Option 90.

3 —

Click Save.

Click **Refresh** to get the up-to-date information.

END OF STEPS -

# 8.21 Configuring Wireless 2.4GHz

1 –

Click **Network** $\rightarrow$ **Wireless (2.4GHz)** from the left pane in the GPON Home Gateway page. The Wireless (2.4GHz) page displays.

## Figure 8-19 Wireless (2.4GHz) page

	GPON Home Gateway		Logout	
1	Network>Wirelless (2.4GHz)			
Status Network	Enable			
LAN	Mode	aulo(blg/n/ax}		$\vee$
IAN_Pv6	Bandwidth	20MHz		$\vee$
WAN	Channel	Auto		$\vee$
WAN DHCP	Transmitting Power	100%		$\vee$
Wireless (2.4GHz)	WMM	Enable		$\vee$
Wireess (SGHz)				
Wireless Schedulle	Enable MUMIMO	Disable		
IP Routing	Total MAX Users	64		
DNS				

# SSID Configuration

SSID Select	SSID1	V
SSID Name	AIHN-AB03	
Enable SSID	Enab e	v
SSID Broadcast	Enab e	v
Port Mode	Route	v
Isclat on	Disable	V
MAX Users	64	
Encryption Mode	WPA2N/PA3 Personal	V
WPAVersion	WPA2N/Pi'.3	V
WPA Encryplion Mode	AES	V
WPAKey		
	O Show password	
Enable WPS	Disable	
Domain Grouping	DEnable	
	Save Refresh	

TR-069

GRE Tunnel VS Cla\$Sfier QoS Conf g MESH ',!ilsecurity ',!)Application >!Maintenance >!IRG Troublesnooting

## 2 —

## Configure the following parameters:

Table 8-16 Wireless (2.4GHz) parameters

Field	Description
Enable	Select this checkbox to enable Wi-Fi.
Mode	Select a Wi-Fi mode from the list:
	・auto (b/g/n/ax)
	• b
	·g
	• n
	∙ b/g ∙ g/n
Dandwidth	
Bandwidth	Select from: • 20 MHz
	• 40 MHz
	• 20/40 MHz
Channel	Select a channel from the list or select <b>Auto</b> to have the channel automatically assigned.
Transmitting Power	Select a percentage for the transmitting power from the list:
	• Low (25%)
	• Medium (50%)
	• High (75%)
	• Maximum (100%)
WMM	Select <b>Enable</b> or <b>Disable</b> from the list to enable or disable Wi-Fi multimedia.
Enable MU-MIMO	Select <b>Enable</b> or <b>Disable</b> from the list to enable or disable MU-MIMO.
Total MAX Users	Enter the number of total MAX users.
SSID Configuration	
SSID Select	Select the SSID from the list.
SSID Name	Enter the SSID name.
Enable SSID	Enable or disable SSID from this list.
SSID Broadcast	Enable or disable SSID broadcast from this list.
Port Mode	Select a port mode from the list. Route is the default.
Isolation	Select Enable or Disable from this list.
MAX Users	Enter the number of MAX users.

## Table 8-16 Wireless (2.4GHz) parameters (continued)

Field	Description
Encryption Mode	Select an encryption mode from the list:
	• OPEN
	• WEP
	WPA/WPA2 Personal
	WPA/WPA2 Enterprise
	WPA2/WPA3 Personal
	WPA3 Personal
WPA Version	Select a WPA version from the list:
	• WPA2
	• WPA/WPA2
	• WPA3
	• WPA2/WPA3
WPA Encryption Mode	Select a WPA encryption mode from the list:
	• AES
	• TKIP/AES
WPA Key	Enter the WPA key.
Enable WPS	Enable or disable WPS from this list following the instructions in Step 3.
WPS Mode	Select a WPS mode from the list: PBC (Push Button Connect) or STA PIN (Personal Identification Number) or AP PIN (Access Point Personal Identification Number)
Domain Grouping	This option is only available for the generic Operator ID MSNA and for some customer-specific Operator IDs. Select this checkbox to enable the coexistence of multiple isolated home LAN/WLAN routing domains. Selecting this check box also displays all of the text associated with this field in the table.
Domain Name	Select a domain name from the list, or select this checkbox to create one new domain. Only one domain name can be configured.
Enter Domain Name	Enter the domain name.
WAN Interface	Select a WAN interface from the list.
Number of IP	Select the number of IP addresses from the list; the default is 24.
LAN List	Select a checkbox to enable the LAN: LAN1, LAN2, LAN3, or LAN4.

3 -

By default the WPS is enabled in SSID1, if you want to enable it in a different SSID, disable it first from SSID1

- 1. Go to the SSID1, and in the field **Enable WPS** select Disable.
- 2. Return to the SSID of your choice and in the field **Enable WPS** select Enable.
- 3. Save your configuration.
- 4. Click WPS Connect.

- 5. Connect to this SSID all the necessary devices using the WPS button or entering the PIN in the devices.
- 6. When all desired devices have been connected, return to the WebGUI, select Disable in the **Enable WPS** field and click **Save** at the bottom of the menu.
- 7. Select SSID1 in the **SSID Select** field, and enable the WPS in the field **Enable WPS**.
- 8. Click Save.
- 9. If desired, click WPS Connect.

END OF STEPS -

# 8.22 Configuring Wireless 5GHz

1 -

Click **Network** $\rightarrow$ **Wireless (5GHz)** from the left pane in the GPON Home Gateway page. The Wireless (5GHz) page displays.

### Figure 8-20 Wireless (5GHz) page

	GPON Home Gateway	Logout	
	Network>Wireless (5GHz)		
Status — Network	Enable	12	
LAN	Bandwidth	80MHz	$\vee$
LAN_IPv6	Channel	Auto	
WAN WANDHCP	Transm tingPower	100%	$\vee$
Wireless (2.4GHz) Wireless (SGHz)	WMM	Enable	
	Chable MU-MIMO	Disable	
Wirdless Schedule	Total MAX Users	64	
IP Routing DNS	SSID Configuration	on	
TR-069	SSIDSelect	SSID5	V
GRE Tunnel	SSIDName	ALHN-AB(*3	
US CI assifier OoS	Enable SSID	Enable	V
Config MESH	SSID Broadcast	Enabé	
'Z!Security	PortMode	Route	$\vee$
∴i!Applicati on ∵t!Mai ntenance	Isolation	Di*	
RG Troubleshooting	MAX Users	64	
	Encryption Mode	WPA2+WPA3-AES	
	WPAKey		
		O Show pasy-ord	
	EnableWPS	Disable	
	Domain Grouping	DEnatle	
		Save Refresh	

2

Configure the following parameters:

Field	Description
Enable	Select this checkbox to enable Wi-Fi.
Bandwidth	Select from: • 20 MHz • 40 MHz • 80 MHz
Channel	Select a channel from the list or select <b>Auto</b> to have the channel automatically assigned.
Transmitting Power	Select a percentage for the transmitting power from the list:         • Low (25%)         • Medium (50%)         • High (75%)         • Maximum (100%)
WMM	Select Enable or Disable from the list to enable or disable Wi-Fi multimedia.
Enable MU -MIMO	Select Enable or Disable from the list to enable or disable MU-MIMO.
Total MAX Users	Enter the total number of MAX users.
SSID Configuration	
SSID Select	Select the SSID from the list.
SSID Name	Change the name of the selected SSID.
Enable SSID	Select Enable or Disable from this list.
SSID Broadcast	Select Enable or Disable SSID broadcast from this list.
Port Mode	Select a port mode from the list. Route is the default.
Isolation	Select Enable or Disable from this list.
MAX Users	Enter the number of MAX users.
Encryption Mode	Select an encryption mode from the list: • WPA/WPA2 Enterprise • WPA2-AES • WPA2+WPA
WPA Key	Enter the WPA key.
Enable WPS	Select enable or disable WPS from the list following the instructions in Step 3.
WPS Mode	Select a WPS mode from the list: PBC (Push Button Connect) or STA PIN (Personal Identification Number) or AP PIN (Access Point Personal Identification Number)
Domain Grouping	
Domain Grouping	This option is only available for the generic Operator ID MSNA and for some customer-specific Operator IDs. Select this check box to enable the coexistence of multiple isolated home LAN/WLAN routing domains. Selecting this check box also displays all of the text associated with this field in the table.
Domain Name	Select a domain name from the list.

#### Table 8-17 Wireless (5GHz) parameters

## Table 8-17 Wireless (5GHz) parameters (continued)

Field	Description
Create One New Domain	Select this checkbox to create a new domain.
WAN Interface	Select a WAN interface from the list.
Number of IP	Select the number of IPs connected to the domain.
LAN List	Select one or more checkboxes.

#### 3 —

By default the WPS is enabled in SSID5, if you want to enable it in a different SSID, disable it first from SSID5.

- 1. Go to the SSID5, and in the field **Enable WPS** select Disable.
- 2. Return to the SSID of your choice and in the field **Enable WPS** select Enable.
- 3. Save your configuration.
- 4. Click WPS Connect.
- 5. Connect to this SSID all the necessary devices using the WPS button or entering the PIN in the devices.
- 6. When all desired devices have been connected, return to the WebGUI, select disable in the **Enable WPS** field and click **Save** at the bottom of the menu.
- 7. Select SSID5 in the SSID Select field, and enable the WPS in the field Enable WPS
- 8. Click Save.
- 9. If desired, click WPS connect.

END OF STEPS

# 8.23 Configuring wireless scheduling

1 –

Click **Network** $\rightarrow$ **Wireless Schedule** from the left pane in the GPON Home Gateway page. The Wireless Schedule page displays.



#### Figure 8-21 Wireless Schedule page

	GPON Home Gatev	vay	Logout	
	Network>Wireless Schedule			
Status ■Network	Wireless Mode			
LAN	Schedule Function			
LAN_IPv6 WAN	Current Time	01/01/1970	03:26:56 PM	
WAN DHCP Wireless (2.4GHz) Wireless (5GHz)	Turn off the Wireless	signal by the follo	wing rules	
Wireless Schedule	Start	End	Recurrence Pattern	
IP Routing				
DNS				+
TR-069				
GRE Tunnel				
US Classifier				
QoS Config				
MESH				
Security				
Application				
Maintenance				
RG Troubleshooting				

## 2 -

Select the **Schedule Function** checkbox to turn the wireless signal off for the configured period.

#### 3 —

Click the plus sign (+) to add a scheduling rule.

A separate panel displays for configuring wireless schedule rules.

4

Enter a start time and end time for the period in which you want the wireless signal off. Use 24h format (00:00 to 23:59).

5 —

Select Everyday or Individual Days from the list.

6 —

If you select **Individual Days**, select the checkboxes for the desired days. The Recurrence Pattern shows the rules created to date. 7

If desired, click the plus sign (+) to add more rules.

8 —

Click Save Changes.

END OF STEPS -

# 8.24 Configuring IP routing

Click **Network** $\rightarrow$ **IP Routing** from the left pane in the GPON Home Gateway page. The IP Routing page displays.

Figure 8-22 IP Routing page

	GPON Ho	me Gate	eway				L	.ogout		
	Network>IP Routing									
●Status ●Network	Enable Routing									
LAN	Destination IP Ad	dress								
LAN_IPv6	Destination Netma	ask								
WAN WAN DHCP	Gateway			0.0	0.0.0					
Wireless (2.4GHz)	IPV4 Interface			1	VOIP_	TR069_IN	FERNET_R_	VID_881		,
Wireless (5GHz)	Forwarding Policy			N	Policy	:-1			*	Help
Wireless Schedule	ID Source Source			Source	Source	SExclude		DExclude Source	Source SExclu	
IP Routing	MAC MAC Exclu		Exclude	Port	Max		Port Max	IP	IP Mask	IP
DNS	4									4
TR-069						Add				
GRE Tunnel										
US Classifier										
QoS Config										
MESH	IP Routing Table									
Security	Destination IP /		Destinat	ion Netm	ask	Gateway	Interface	Forwarding Pol	licy Enable	Delete
Application										
Maintenance										
RG Troubleshooting					- 1	Refresh				

2 –

Configure the following parameters:

<sup>1 –</sup> 

## Table 8-18IP Routing parameters

Field	Description
Enable Routing	Select this checkbox to enable routing.
Destination IP Address	Enter the destination IP address.
Destination Netmask	Enter the destination network mask.
Gateway	Enter the gateway address.
IPv4 Interface	Select a WAN connection previously created in the WAN network page from the list.
Forwarding Policy	Select a forwarding policy from the list.

#### 3 —

### Click Add.

You can click **Delete** to delete the IP routing configuration or click **Refresh** to view the up-todate information.

END OF STEPS -

# 8.25 Configuring DNS

#### 1 -

Click **Network** $\rightarrow$ **DNS** from the left pane in the GPON Home Gateway page. The DNS page displays.

## Figure 8-23 DNS page

	GPON Home Gateway		Logout	
	Network>DNS			
●Status ●Network	DNS Proxy	Enabled	Save	
LAN LAN_IPv6 WAN	Domain Name IPv4 Address			
WAN DHCP Wireless (2.4GHz) Wireless (5GHz)		Add	]	
Wireless Schedule	Origin Domain			
DNS	New Domain			
TR-069 GRE Tunnel US Classifier		Add		
QoS Config	Domain Name	New Domain	IPv4 Address	Delete
MESH Security	dsidevice.lan		192.168.1.254	Delete
Application	Origin Domain	1	lew Domain	Delete
<ul> <li>Maintenance</li> <li>RG Troubleshooting</li> </ul>		Refresh	1	

2 –

Configure the following parameters:

## Table 8-19 DNS parameters

Field	Description
DNS Proxy	Select the <b>Enabled</b> checkbox to enable DNS proxy and click <b>Save</b> .
Domain Name	Enter the domain name.
IPv4 Address	Enter the domain IP address and click Add.
Origin Domain	Enter the origin domain name.
New Domain	Associate an origin domain with a new domain and click Add.

Click **Refresh** to view the up-to-date information.

END OF STEPS -

# 8.26 Configuring TR-069

1 -

Click **Network** $\rightarrow$ **TR-069** from the left pane in the GPON Home Gateway page. The TR-069 page displays.



	GPON Home Gateway	Logout
	Network>TR-069	
Status Network	Periodic Inform Enable Periodic Inform Interval(s)	5
LAN_IPv6	URL	https://acsgpon.alu.net
WAN	Username	AdminGPON
WAN DHCP Wireless (2.4GHz)	Password	
Wireless (5GHz)	Connect Request Username	itms
Wireless Schedule IP Routing DNS	Connect Request Password	Save Refresh
TR-069		
GRE Tunnel US Classifier QoS Config		
MESH Security Application Maintenance RG Troubleshooting		

2 -

Configure the following parameters:

Table 8-20	TR-069 parameters
------------	-------------------

Field	Description
Periodic Inform Enable	Select this checkbox to enable periodic inform updates.
Periodic Inform Interval(s)	Enter the time between periodic inform updates, in seconds.
URL	Enter the URL of the auto-configuration server.
Username	Enter the username used to log in to the auto-configuration server.
Password	Enter the password used to log in to the auto-configuration server.
Connect Request Username	Enter the username used to log in to the ONT.

#### Table 8-20 TR-069 parameters (continued)

Field	Description
Connect Request Password	Enter the password used to log in to the ONT.

3 \_\_\_\_\_

Click Save.

Click **Refresh** to view the up-to-date information.

END OF STEPS -

# 8.27 Configuring GRE tunnel

**i** Note: This feature is available to admin users (super users) only.

1 -

Click **Network**→**GRE Tunnel** from the left pane in the GPON Home Gateway page. The GRE Tunnel page displays.

#### Figure 8-25 GRE Tunnel page

	GPON Home Gateway	Logout	
	Network>GRE Tunnel		
Status Network LAN	Tunnel Name WAN Interface	Create new GRE Tunnel 1_VOIP_TR069_INTERNET_R_VID_881	
LAN_IPV6 WAN WAN DHCP	Primary Remote End Secondary Remote End		
Wireless (2.4GHz) Wireless (5GHz)	Connected Remote End Connectivity Check	*	
Wireless Schedule P Routing	Traffic timeout to start pings	10 (2.~ 1024)seconds	
DNS TR-069	No. of retries before unreachable	3 (0 - 100)times	
SRE Tunnel JS Classifier 20S Config		Save Delete	
MESH Security			
Application Maintenance RG Troubleshooting			

2 -

Configure the following parameters:

Table 8-21	GRE Tun	nel parameters

Field	Description
Tunnel Name	Select <b>Create new GRE Tunnel</b> or select an existing tunnel from the list. The tunnel name is automatically assigned by the system. Up to 4 GRE tunnels are supported.
WAN Interface	Select a WAN interface from the list. GRE tunnels can only be created on HSI-enabled WAN interfaces.
Primary Remote End Secondary Remote End (optional)	<ul> <li>Enter an IP address or FQDN that is unique in the system.</li> <li>If the primary remote endpoint is down or unreachable, the secondary remote endpoint becomes active, if configured.</li> <li>The secondary remote endpoint remains active until it becomes unreachable, in which case the primary remote endpoint becomes active again. Revertive mode is not supported.</li> <li>If both endpoints are unreachable, the GRE tunnel is declared down.</li> </ul>
Connected Remote End	This field displays the current data traffic path for the GRE tunnel.
Connectivity check	This feature is automatically selected by the system.
Traffic timeout to start pings	Enter the traffic timeout in seconds (2 to 1024).
No. of retries before unreachable	Enter the number of retries before the tunnel is declared down (0 to 100).

#### 3 —

Click Save.

Click **Delete** to delete the configuration.

END OF STEPS -

# 8.28 Configuring Upstream (US) Classifier

The US Classifier feature is used to create policies, classifiers, and classifier rules for upstream traffic handling. This feature is available to admin users (super users) only.

A policy defines an action to be performed on a set of LAN or WAN packets. A policy can be created at any time and then subsequently assigned to one or more classifiers.

A classifier is used to select key fields for which the classifier rules will be written. A classifier can be created at any time and then subsequently assigned to one or more classifier rules.

A classifier rule is used to assign actions to a group of packets based on a set of parameters. A classification rule must be created against a pre-defined classifier.

Up to 16 policies can be created, with up to 8 classifiers and 32 classifier rules.

1 -

Click **Network** $\rightarrow$ **US Classifier** from the left pane in the GPON Home Gateway page, and select the **Policy** tab.

All classifier policies are displayed in the policy table in the page.



	GPON Ho	ome Gateway			Lo	gout		
	Network>US Classi	fier						
Status	[-] Policy							
Network	Tunnel Type		f and					
LAN	Tunner Type		GRE					1
LAN_IPv6	Tunnel Interface		No Tuni	ol				~
WAN			- Ho Full	191				
WAN DHCP	VLAN Id		VLAN Tag	8	100	VLAN Priority		
Wireless (2.4GHz)		(0 - 4093)		(he)	:)		(0 - 7)	
Vireless (5GHz)	IP TOS / DSCP		0		~			
Vireless Schedule			(0 - 63)					
P Routing								
DNS	Drop							
TR-069			S	ave Re	set			
GRE Tunnel	Name Tunnel Type	Tunnel Interface		VI AN Driority	ID TOSIDSC	P Drop No. of Rules D	lelete	
US Classifier	name famer type	i uniter interrace	VEAN IG VEAN IG	VEAN Phoney	103/030	P Drop No. of Nales L	elete	
QoS Config				Refresh	r -			
MESH	<			Reliesh				,
Security	[+] Classifier							
Application	[+] Classifier Rul	es						
Maintenance								
RG Troubleshooting								

2 –

Select a tunnel interface.

2 US Classifier Policy parameters
2 US Classifier Policy parameters

Field	Description
Tunnel Type	The tunnel type is set to GRE and cannot be modified.
Tunnel Interface	Select a tunnel interface from the list: No Tunnel, GRE Tunnel, or LAN traffic.
VLAN ID	Enter a VLAN ID (0-4094).
VLAN Tag	This field is not configurable. The VLAN tag is set to 8100 (hexadecimal).
VLAN Priority	Enter a VLAN priority level (0 to 7). A lower number indicates a higher priority.
IP TOS/DSCP	This field is not configurable. All tunnel packets are generated with a default DSCP value (usually 0).
Drop	Select this checkbox to drop the packets.

3 —

Click Save.

Click **Reset** to reset the policy configured.

Click **Refresh** to view the up-to-date information.

Click **Delete** for the applicable policy in the policy table, to delete a policy.

**i** Note: A policy can only be deleted if it is not associated with any classifier rules.

4

Click **Network** $\rightarrow$ **US Classifier** from the left pane in the GPON Home Gateway page, and select the **Classifier** tab.

All classifiers are displayed in the classifier table in the page.

Figure 8-27 US Classifier page

	GPON H	lome Ga	iteway				Logout				
	Network>US Clas	sifier									
Status	[+] Policy										
Network	[-] Classifier										
LAN	Interface			NON	2						~
LAN_IPv6				NON	<b>-</b>						Ň
WAN	Source MAC					Destinatio	n MAC		]		
WAN DHCP	Source IP					Destinatio	n IP	Г	1		
Wireless (2.4GHz)									-		
Wireless (5GHz)	Source Port					Destinatio	n Port		]		
Wireless Schedule	Protocol										
P Routing	Priority			1							~
DNS											
TR-069					Save	Reset					
GRE Tunnel	Name Interface	Source	Destination	Source	Destination	Source	Destination	Protocol	Priority	No. of	Delete
JS Classifier		MAC	MAC	IP	IP	Port	Port		, nong	Rules	Denote
QoS Config											
MESH					Refre	sh					
Security	<										
Application	[+] Classifier R	ules									
Maintenance											
RG Troubleshooting											

#### 5

Configure the following parameters:

At least one field must be selected to create a classifier. A maximum of four fields may be selected to create a classifier; this includes the interface field.

Table 8-23US Classifier parameters

Field	Description
Interface	Select an interface from the list; for example, None, LAN, 2.4G SSID, or 5G SSID.
Source MAC	Click to enter a source MAC address.
Destination MAC	Click to enter a destination MAC address.

Table 8-23	US Classifier parameters	(continued)
------------	--------------------------	-------------

Field	Description
Source IP	Click to enter a source IP address.
Destination IP	Click to enter a destination IP address.
Source Port	Click to enter a source port.
Destination Port	Click to enter a destination port.
Protocol	Click to enter a protocol.
Priority	Select a priority level from 1 to 8. The lower the number, the higher the priority. No more than 1 classifier can be created with the same priority.

6 —

Click Save.

Click Reset to reset the classifier configured.

Click **Refresh** to view the up-to-date information.

Click **Delete** for the applicable classifier in the classifier table, to delete a classifier.



Note: A classifier can only be deleted if it is not associated with any classifier rules.

7

#### Select the Classifier Rules tab.

All classifier rules are displayed in the classifier rules table in the page.

Figure 8-28	US Classifier Rules page
-------------	--------------------------

	GPON	Home Ga	ateway				Logout				
	Network>US Cla	ssifier									
Status ■Network LAN	[+] Policy [+] Classifier [-] Classifier F	Rules									
LAN_IPv6 WAN	Policy				~	Classifier					~
WAN DHCP	Interface				~						
Wireless (2.4GHz) Wireless (5GHz)	Source MAC					Destinatio	on				
Wireless Schedule	Source IP					Destination	on IP				
DNS TR-069	Source Port					Destination	on Port				
GRE Tunnel	IP Protocol Typ	e									
US Classifier		(0 - 2	54)								
QoS Config					Save	Reset	1				
MESH Security	Name Interfac		Destination	Source	Destination	Source	Destination	IP	Policy	Classifier	Delete
<ul> <li>Application</li> <li>Maintenance</li> </ul>		MAC	MAC	IP	IP Refre	Port	Port	Protocol			

8

Configure the classifier rule.

Table 8-24	US Classifier Rules parameters
------------	--------------------------------

Field	Description
Policy	Select a policy from the list.
Classifier	Select a classifier from the list.
Interface	Select an interface from the list; for example, None, LAN, 2.4G SSID, 5G SSID.
Source MAC	Enter a source MAC address.
Destination MAC	Enter a destination MAC address.
Source IP	Enter a source IP address.
Destination IP	Enter a destination IP address.
Source Port	Enter a source port.
Destination Port	Enter a destination port.
IP Protocol Type	Enter a value between 0 and 254.

9 —

Click Save.

Click **Reset** to reset the rules configured.

Click **Refresh** to view the up-to-date information.

Click **Delete** for the applicable classifier rules in the classifier rules table, to delete a classifier.



Note: A classifier can only be deleted if it is not associated with any classifier rules.

END OF STEPS -

### 8.29 Configuring QoS

1

Click **Network** $\rightarrow$ **QoS Config** from the left pane in the GPON Home Gateway page. The QoS Config page displays.

Figure 8-29 QoS Config page (L2 packet sizes)

	G	SPON Ho	ome Gate	way				Logout			
	Network>	QoS Conf	ig								
Status	QoS	Setting									
Network			Source								
LAN	ID	Source MAC	MAC	Protocol	Protocol Exclude	Source Port	Source Max	SExclude	Dest Port	Dest Max	DExclude
_AN_IPv6		Marto	Exclude		Exciduo	Tore	max		TOIL	Indix	
WAN	4				_						
WAN DHCP											
Wireless (2.4GHz)	ту	pe	L2	Criteria	•						
Wireless (5GHz)											
Vireless Schedule	7.4	assificatio iteria	n								
P Routing			2								
ONS	So	ource MAC				Exclude 🗌					
TR-069	Int	erface									
GRE Tunnel			se	ect an optior	1 •						
US Classifier											
QoS Config	CI	assificatio	n								
MESH		sult									
Security	DS	SCP				302.1p					
Application		emark	(Dani	je:0~63)		Remark:	(D)	ange:0~7)			
Maintenance			(Rali	je.0-03)			(Re	ange.0~7)			
RG Troubleshooting		orwarding									
	PU	nicy.	(Rang	ge:1~7)							

Status Network LAN LAN_IPv6	QoS		g								
Network LAN	QoS	Setting									
LAN		oorning									
		Course	Source		Destaat	Course	Course		Dest	Deet	
LAN_IPv6	ID	Source MAC	MAC	Protocol	Protoco Exclude		Source Max	SExclude	Port	Dest Max	DExclude
			Exclude				Local Aless				
WAN	4										
WAN DHCP											
Wireless (2.4GHz)	Ту	ре	L3	Criteria	~						
Wireless (5GHz)			1								
Wireless Schedule		assification iteria	n								
IP Routing	Dr	otocol	15:55			Exclude 🗆					
DNS	2033	010001	No	ne	~	Exclude					
TR-069 GRE Tunnel	Ap	plication	Cu	stomer setti	ng 🗸						
US Classifier					-						
QoS Config	So	ource lp				Source Ip Mask				Exc	clude 🗆
VIESH											
Security	De	est Ip				Dest Ip Mas	sk 📃			Exc	clude 🗆
Application	Se	urce Port	-		1	Source Port	1			Ev	slude 🗆
Maintenance			L			Max	-				
RG Troubleshooting	De	est Port			Ĩ	Dest Port M	lax			Exc	clude 🗆
							-				
	80	2.1p									
			(Rang	ge:0~7)	and the second						
	Int	erface	se	lect an option							
				oor un opno	<u>1 (8)</u>						
		assification	n								
	Re	esult									
		SCP emark:				802.1p Remark:					
	1.	ATTICAL N.	(Rang	ge:0~63)		T Sorricon.	(R	ange:0~7)			
		orwarding									
	Po	vicy:	(Rang	ge:1~7)	-						
						(Margare)					
						Add					

### Figure 8-30 QoS Config page (L3 packet sizes)

2 \_\_\_\_\_

Configure the following parameters:

#### Table 8-25QoS Config parameters

Field	Description
QoS Setting	
Туре	Select a QoS service layer type from the list L2 or L3.
Classification Criteria	
Source MAC	Enter the source MAC Select the <b>Exclude</b> checkbox to exclude the source MAC address.
Interface	Select an interface from the list.
Classification Result	
DSCP Remark	Enter the value for the DSCP mark (range: 0-63); valid only for L3 Criteria.
802.1p Remark	Enter the value for the 802.1p (range: 0-7).
Forwarding Policy	Enter the number for the forwarding policy (range: 1-7).
Additional fields for L3	
Protocol	Select a protocol from the list, or select the <b>Exclude</b> checkbox.
Application	Select an application from the list.
Source IP and Source IP Mask	Enter the values for the source IP and IP mask, or select the <b>Exclude</b> checkbox.
Destination IP and Destination IP Mask	Enter the values for the destination IP and IP mask, or select the <b>Exclude</b> checkbox.
Source Port and Source Port Max	Enter the values for the source port and port max (highest port number) or select the <b>Exclude</b> checkbox.
Destination Port and Destination Port Max	Enter the values for the destination port and port max (highest port number), or select the <b>Exclude</b> checkbox.

#### 3 –

Click Add to add a QoS policy.

END OF STEPS -

# 8.30 Configuring Mesh

1

Click **Network**  $\rightarrow$  **Mesh** from the left panel on the GPON Home Gateway window. The Mesh page displays.

Figure 8-31 Mesh page

	GPON Home Gateway		Logout	
	Network>MESH			
Status			10 10 N	
Network	Warning:WPA/WPA2 enterprise	e does not work when mesh ne	etwork is setup	
LAN		6		
LAN_IPv6	Beacon Serial Number			
WAN		Add		
WAN DHCP		100		
Wireless (2.4GHz)	Beacon Serial Number	Onboarding Status	Backhaul Status	Friendly Name
Wireless (5GHz)				
Wireless Schedule		Refresh		
P Routing				
DNS				
TR-069				
GRE Tunnel				
US Classifier				
QoS Config				
MESH				
Security				
Application				
Maintenance				
RG Troubleshooting				

2 -

Enter the beacon serial number and click **Add**. The following information displays:

Table 8-26 Me	esh parameters
---------------	----------------

Field	Description
Beacon Serial Number	Indicates the serial number of the extender Nokia Wi-Fi beacon device.
Onboarding Status	Indicates whether the extender Nokia Wi-Fi beacon associated with the serial number is configured to the mesh or not. If it is configured then the extender beacon MAC address is added to the Root.
Backhaul Status	Indicates the status of the backhaul connection. It represents the backhaul status of Good, Normal, or Bad values, between the Root Access Point and the extender Access Point.

#### Table 8-26 Mesh parameters (continued)

Field		Description
Friendly Name		Indicates the friendly name that is defined while on-boarding the extender Nokia Wi-Fi beacon using the Nokia Wi-Fi Mobile Application.
	ext	<b>te:</b> The number of the entries in the mesh parameters table depends on number of tenders in the home network. If you have two extenders, then there will be two entries in the mesh parameters table.
3	Click Ad	<b>d</b> to add the Nokia Wi-Fi beacon information to the table.
4	Click <b>Re</b>	fresh to update the information in the table.
End	OF STEPS	

### Security configuration

### 8.31 Overview

### 8.31.1 Purpose

This chapter describes the security configuration tasks supported by G-2426G-B ONTs

### 8.31.2 Contents

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# 8.32 Configuring the firewall

1

Click **Security**→**Firewall** from the left pane in the GPON Home Gateway page. The Firewall page displays.

Figure 8-32 Firewall page

	GPON Home Gateway	Logout	
	Security>Firewall		
Status     St	Security Level	Off	
Network	occurry Level	( 7 Sec.	
Security	Attack Protection	Enable	<u> </u>
Firewall	High:Traffic Denied Inbound and Minimal		
MAC Filter	Low:All Outbound traffic and pinhole-defin Off: All Inbound and Outbound traffic is all		
IP Filter		Save Refresh	
URL Filter			
Parental Control			
DMZ and ALG			
DMZ and ALG Access Control			
Access Control			

#### 2 —

Configure the firewall.

#### Table 8-27 Firewall parameters

Field	Description
Security level	Select the security level from the list: High: Traffic denied inbound and minimally permit common services outbound Low: All outbound traffic and pinhole-defined inbound traffic is allowed Off: All inbound and outbound traffic is allowed
Attack Protect (Protection against DoS or DDoS attacks)	Select <b>Enable</b> or <b>Disable</b> from the list. The default is <b>Enable</b> .

### 3 \_\_\_\_\_

Click Save.

Click **Refresh** to view the up-to-date information.

END OF STEPS -

# 8.33 Configuring the MAC filter

#### 1 -

Click **Security** $\rightarrow$ **MAC Filter** from the left pane in the GPON Home Gateway page. The MAC Filter page displays.

Figure 8-33	MAC Filter page
-------------	-----------------

Curity>MAC Filter Ethernet Interface MAC Filter Mode LAN Port MAC Address	Allowed CLAN1 CLAN2 CLAN3 CLAN4 Custom settings e.g. D0:542D:00:00:00 Save Address Delete
MAC Filter Mode LAN Port MAC Address	CLAN1 CLAN2 CLAN3 CLAN4 Custom settings e.g. D0:542D:00:00:00 Save
LAN Port MAC Address	CLAN1 CLAN2 CLAN3 CLAN4 Custom settings e.g. D0:542D:00:00:00 Save
MAC Address	Custom settings e.g. D0-54-2D-00-00-00 Save
	e.g. D0.54/2D.00.00.00 Save
мас	Save
MAC	
MAC	Addrass
	Address
	Refresh
WI-FI SSID MAC Filter Mode SSID Select	Allowed SSID1
Enable	
MAC Address	Custom settings
	e.g. D0:54-2D:00:00:00
MAC Address Description	
	Save
Status Index	Description MAC Address Edit Delete
	MAC Filter Mode SSID Select Enable MAC Address

2 -

Configure the following parameters:

Table 8-28	MAC Filter	parameters
------------	------------	------------

Field	Description
Ethernet Interface	
MAC Filter Mode	Select the MAC filter mode from the list: Blocked or Allowed.
LAN Port	Enter the LAN port range.
MAC Address	Select the MAC address from the list or enter the address in the text field.
Wi-Fi SSID	
MAC Filter Mode	Select the MAC filter mode from the list: Blocked or Allowed.

#### Table 8-28 MAC Filter parameters (continued)

Field	Description
SSID Select	Select the SSID from the list.
Enable	Select this checkbox to enable the MAC filter.
MAC Address	Select a MAC address from the list or enter the address in the text field.
MAC Address Description	Enter the description of the MAC Address.

#### 3 —

#### Click Add.

Click **Delete** to delete a specific MAC filter or click **Select All**and click **Delete** to delete all the MAC filters.

Click Refresh to view the up-to-date information.

END OF STEPS

# 8.34 Configuring the IP filter

Click **Security** $\rightarrow$ **IP Filter** from the left pane in the GPON Home Gateway page. The IP Filter page displays.



	GPON Home Gateway	Logout						
	Security>IP Filter							
Status Network	Enable IP Filter	0						
Security	Mode	Drop for upstream -						
Firewall	Internal Client	Custom settings .						
MAC Filter	Local IP Address							
URL Filter	Source Subnet Mask							
Parental Control	Remote IP Address							
DMZ and ALG Access Control	Destination Subnet Mask							
Application	Protocol	ALL						
<ul> <li>Maintenance</li> <li>RG Troubleshooting</li> </ul>	Mode Internal Protocol Local IP Client Address	Source Remote IP Destination Wan Port Lan Port Subnet Mask Address Subnet Mask Range Range Delete						
		Save Refresh						

<sup>1 –</sup> 

2 —

#### Configure the following parameters:

#### Table 8-29IP Filter parameters

Field	Description
Enable IP Filter	Select this checkbox to enable an IP filter.
Mode	Select an IP filter mode from the list:
	Drop for upstream
	Drop for downstream
	Accept for upstream
	Accept for downstream
Internal Client	Select an internal client from the list:
	Custom settings: uses the IP address input below
	IP: uses the connecting devices' IP to the ONT
Local IP Address	Enter the local IP address.
Source Subnet Mask	Enter the source subnet mask.
Remote IP Address	Enter the remote IP address.
Destination Subnet Mask	Enter the destination subnet mask.
Protocol	Select an application protocol or <b>ALL</b> from the list.

3 \_\_\_\_\_

Click Save.

Click **Refresh** to view the up-to-date information.

END OF STEPS -

# 8.35 Configuring the URL filter

#### 1 -

Click **Security** $\rightarrow$ **URL Filter** from the left pane in the GPON Home Gateway page. The URL Filter page displays.

#### Figure 8-35 URL Filter page

	GPON Home Gateway	Logout	
	Security>URL Filter		
Status Network Security irewall NAC Filter P Filter	URL Filter please select th filters. Enable URL filter URL filter type:	e type of filter and then configure the URI	Support up to 100 URL
IL Filter	URL List		
arental Control MZ and ALG	URL Address	Port Number	Delete
ccess Control Application			
Maintenance	URL Address		
RG Troubleshooting	Port – default to 80		

**i** Note: You cannot use URL filtering for HTTPS. The URL is encrypted when using HTTPS.

2 –

Configure the following parameters:

#### Table 8-30 URL Filter parameters

Field	Description
Enable URL filter	Select the checkbox to enable the URL filter.
URL filter type	Select the option to block the URL or allow the URL.
URL List	
URL Address	Enter the URL address.
Port - default to 80	Enter the port number; the default is 80.

3 —

Click Add Filter.

END OF STEPS -

# 8.36 Configuring parental control

1 -

Click **Security** $\rightarrow$ **Parent Control** from the left pane in the GPON Home Gateway page. The Parental Control page displays.

	GPON Hom	e Gateway			Lo	ogout			
	Security>Parental Con	ntrol							
Status	Plack appage of		viene	at given times, a	ocordina	a to t		) or ID	
Network	addresses	I LAN de	vices	at given times, a	according		neir MAC	, or inv	/4
Security	audresses								
Firewall						ł	Activate exter	nded parer	ntal control
MAC Filter						_			
IP Filter	Access Control	1							
URL Filter Parental Control									
DMZ and ALG	Policy Name	Device	IP	Days Of Week	From	То	Delete	Edit	Enable
Access Control	T Oncy Name	Device	n.	Days of Week	11011	10	Delete	Lun	LINDIC
Application									
Maintenance								-	
RG Troubleshooting									+
and moduleshooting									

Figure 8-36 Default Parental Control page

Click Activate extended parental control to activate the extended version of parental control.

3 —

2 —

Click **OK** in the pop-up window. The advanced parental control page displays.

4

	GPON Home	Gateway			Logout		
	Security>Parental Contr	ol					
Status							
Network	Group List						+
Security	Group Name	Device	Access Internet	URL	Schedule	Bed Time	Delete
Firewall	Home	1	Enable	0	0	0	Delete
MAC Filter							
IP Filter					- 1	1	
URL Filter		Refre	esh Activate base p	parental contr	ol Help		
Parental Control							
DMZ and ALG							
DMZ and ALG Access Control							
Parental Control DMZ and ALG Access Control Application Maintenance							
DMZ and ALG Access Control Application							
DMZ and ALG Access Control Application Maintenance							
DMZ and ALG Access Control Application Maintenance							
DMZ and ALG Access Control Application Maintenance							

#### Figure 8-37 Advanced Parental control page

Click on the plus sign (+) to create a group. The create new group page displays

	GPON Home Gateway	Logout
Se	curity>Parental Control	
Status		_
Network	Crown List	+
Security	Create New Group	×
Firewall		
MAC Filter	Name:	
IP Filter		
URL Filter		
Parental Control		
DMZ and ALG		Close Add
Access Control		
Application		
Maintenance	Refresh Activate	e base parental control Help
RG Troubleshooting		

Figure 8-38 Create new group page

5 Click Add.
6 You can click on each field such as Device, Access Internet, URL, Schedule, and Bed Time

to configure the related parameters.

The following page displays the parental control access internet information.

	GPON Home	Gateway			Logout		
	Security>Parental Conti	rol					
Status						-	
Network	Group List						+
Security	Group Name	Device	Access Internet	URL	Schedule	Bed Time	Delete
Firewall	Home	1	Enable	0	0	1	Delete
MAC Filter							
IP Filter	test1	0	Enable	0	0	0	Delete
URL Filter	Group Name:		test1				
Parental Control	Group Marrie.		10511				
DMZ and ALG							
Access Control	Access Internet						
Application		F 100 11					
Maintenance		Refre	esh Activate base p	parental contr	ol Help		

Figure 8-39 Parental control access internet page

The following page displays the parental control device information.

	GPON Home	Gateway			Logout		
	Security>Parental Conti	ol					
Status							
Network	Group List						+
Security	Group Name	Device	Access Internet	URL	Schedule	Bed Time	Delete
Firewall	Home	1	Enable	0	0	1	Delete
MAC Filter	test1	0	Enable	0	0	0	Delete
IP Filter	testi	<u>v</u>	Enable	U	U	U	Delete
URL Filter	Group Name:		test1				
Parental Control							
DMZ and ALG			<u></u>				
Access Control	Device Mac Address						
Application			Add D	)evice			
				1			
Maintenance	Name		Status		Move	De	lete

Figure 8-40 Parental control device page

The following page displays the parental control URL information.

Figure 8-41 Paren	tal control URL page
-------------------	----------------------

	GPON Home	Gateway			Logout		
	Security>Parental Contr	ol					
● Status						_	
Network	Group List						+
Security	Group Name	Device	Access Internet	URL	Schedule	Bed Time	Delete
Firewall	Home	1	Enable	0	0	1	Delete
MAC Filter	L 10.1952093-1						
IP Filter	test1	0	Enable	<u>0</u>	0	0	Delete
URL Filter	Group Name:		test1				
Parental Control	Group Hamo.		10011				
DMZ and ALG							
Access Control	Enable URL Filter						
Application							
Maintenance	Blocked URL Address	e.g: www.youtube.com/youtube.com					
RG Troubleshooting	Add						
	Statu	2		ress		Delete	

The following page displays the parental control schedule information.

ntrol					
				1	
					+
Device	Access Internet	URL	Schedule	Bed Time	Delete
1	Enable	0	<u>0</u>	1	Delete
Ö	Enable	0	0	0	Delete
	Home				
	-				
enabled, we will a	utomatically pause inte	ernet			
nday 🗌 Tuesd	ay 🗌 Wednesday [	] Thursday	🗌 Friday 🗌 S	aturday	
	To:				
23:59	e.g: 00:00	)~23:59	4		
		Add			
Status	Start E	n <mark>d [</mark>	Days 4	Action	Delete
	Status		Add Status Start End I		

Figure 8-42 Parental control schedule page

The following page displays the parental control bed time information.

	Security>Parental Contr	rol						
Status							(	
Network	Group List							+
Security	Group Name	Device	Access Intern	et UF	L Sch	dule	Bed Time	Delete
Firewall	Home	1	Enable	C		i.	0	Delete
MAC Filter	test1	0	Enable	C		8	0	Delete
IP Filter								
URL Filter	Group Name:		Home					
Parental Control								
DMZ and ALG	Bed Time Name							
Access Control								
Application Maintenance	Enable Bed Time							
	When Red Time is er	abled, we will a	utomatically nause	internet				
and an and a second a second	when bed fine is er		atomatically pause	memer				
and an overlap of the second sec					ay 🗌 Frida	v 🗆 Sa	aturday	
	Sunday Mono				ay 🗌 Frida	y 🗌 Sa	aturday	
and an and a second a second	C Sunday C Mone From:	day 🗌 Tuesda	ay 🗌 Wednesda To:	/ 🗌 Thurso	ay 🗌 Frida	y 🗆 Sa	aturday	
	🗌 Sunday 📋 Mono	day 🗌 Tuesda	ay 🗌 Wednesda To:		ay 🗌 Frida	y 🗌 Sa	aturday	
	C Sunday C Mone From:	day 🗌 Tuesda	ay 🗌 Wednesda To:	/ 🗌 Thurso	ay 🗌 Frida	y □ Sa	aturday	
RG Troubleshooting	C Sunday C Mone From:	day 🗌 Tuesda	ay 🗌 Wednesda To:	/  Thurso	ay 🗌 Frida		aturday	Delete

#### Figure 8-43 Parental control bed time page

You can click **Delete** to delete the group.

# Configure the following parameters:

#### Table 8-31 Parental control parameters

7 –

Field Description		
Access Internet		
Access Internet	Select this checkbox to enable internet	
Group Name	Displays the selected group name	

#### Table 8-31 Parental control parameters (continued)

Field	Description
Device	
Device MAC Address	Enter the MAC address and click Add Device.
URL	
Enable URL Filter	Select this checkbox to enable URL filter
Blocked URL Address	Enter the URL address to be blocked and click Add
Schedule	
Schedule Name	Enter the schedule name
Enable Schedule	Select this checkbox to enable schedule You can choose Every Day, or Individual Days and select the checkboxes for the days of the week for which the schedule applies
From	Enter the time for the schedule to be in effect and click Add
То	
Bed Time	
Bed Time Name	Enter the bed time name
Enable Bed Time	Select this checkbox to enable bed time When bed time is enabled, the internet is paused. You can choose Every Day, or Individual Days and select the checkboxes for the days of the week for which the bed time applies
From	Enter the time for the bed time to be in effect and click Add
То	

#### 8 —

Click Activate base parental control, to go back to default parental control window.

You can click **Refresh** to update the displayed information.

You can click **Help** for more information.

END OF STEPS -

### 8.37 Configuring DMZ and ALG

1

Click **Security** $\rightarrow$ **DMZ and ALG** from the left pane in the GPON Home Gateway page. The DMZ and ALG page displays.

#### Figure 8-44 DMZ and ALG page

	GPON Home Gateway		L	ogout	
	Security>DMZ and ALG				
Status Network Security Frewall	ALG Config	FTP 🗹 RTSP 🗹	TETP 🗹 L2TP 🗹 Save ALG	SIP 🗹 IPSEC 🗹	н323 🗹 РРТР 🗹
MAC Filter		15			
IP Filter URL Filter	DMZ Config				
Parental Control	WAN Connection List	1_VOIP_TR	069_INTERNET_R_	/ID_310	
DMZ and ALG Access Control	Enable DMZ				
Application	DMZ IP Address	Custom set	tings		
Maintenance		0.0.0.0			
RG Troubleshooting		s	Save DMZ		

2 –

Configure the following parameters:

### Table 8-32 ALG parameters

Field	Description
ALG Config	Select the checkboxes to enable the protocols to be supported by the ALG: FTP, TFTP, SIP, H323, RTSP, L2TP, IPSEC, PPTP.

3 —

Click Save ALG.

4 –

Configure the following parameters:

#### Table 8-33 DMZ parameters

Field	Description
WAN Connection List	Select a WAN connection from the list.
Enable DMZ	Select this checkbox to enable DMZ on the selected WAN connection.
DMZ IP Address	Select <b>Custom Settings</b> and enter the DMZ IP address or select the IP address of a connected device from the list.

#### 5 —

Click Save DMZ.

END OF STEPS -

#### **Configuring access control** 8.38

This procedure describes how to configure the access control level (ACL).

**I** Note: ACL takes precedence over the firewall policy.

The trusted network object will be shared for all WAN connections; it is not applied individually to a WAN connection.

1 -

Click Security -> Access Control from the left pane in the GPON Home Gateway page. The Access Control page displays.

	GPON Home Gateway			Logout			
	Security>Access Control						
Status		WAN		LAN			
Network		1_VOIP_TR069_INTERN	•				
Security	Trusted Network Enable						
Firewall	ICMP	Allow	-1	Allow	-		
MAC Filter	ICMP	Allow	-	AROW			
IP Filter	Telnet	Deny	•	Allow	-		
URL Filter	SSH	Deny	-	Allow	-		
Parental Control	нттр	Deny	-	Allow			
DMZ and ALG	HIP	Deny	4	AROW			
Access Control	TR-069	Allow	•	Deny	-		
Application	HTTPS	Deny	-	Allow	-		
Maintenance	SETP	Deny	-	Deny	-		
RG Troubleshooting	GPTP.		_	et in Application -> USB			
	1	Save		Refresh			
	Trusted Network						
	Source IP Start						
	Source IP End						
			Add	đ			
	Source IP Start	Sol	irce li	P End	Delete		

Figure 8-45 Access Control page

2 -

Configure the following parameters:

Nokia ONT

#### Table 8-34 Access Control parameters

Field	Description
WAN	Select a connection from the list.
Trusted Network Enable	Click to enable or disable trusted network.
ICMP, Telnet, SSH, HTTP, TR-069, HTTPS, SFTP	Select an access control level for each protocol: WAN side: Allow, Deny, or Trusted Network Only LAN side: Allow or Deny

3 —

Click Save.

Click **Refresh** to view the up-to-date information.

4 –

Optionally, add one or more subnet trusted networks.

The maximum number of entries is 32.

You can also use the Source IP fields to delete a previously created entry for a subnet trusted network.

#### Table 8-35 Trusted Network parameters

Field Description			
Trusted Network			
Source IP Start	Enter a start IP address for the new subnet trusted network.		
Source IP End	Enter an end IP address for the new subnet trusted network.		

5 \_\_\_\_\_

Click Add.

END OF STEPS -

# **Configuring the Application**

### 8.39 Overview

### 8.39.1 Purpose

This chapter describes the application configuration tasks supported by the G-2426G-B ONTs.

### 8.39.2 Contents

8.39 Overview	
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# 8.40 Configuring port forwarding

1

Click **Application** $\rightarrow$ **Port Forwarding** from the left pane in the GPON Home Gateway page. The Port Forwarding page displays.

	GPON Home Gateway	Logout							
	Application>Port Forwarding								
Status	Application Nome	Custom settings							
Network	Application Name								
Security	WAN Port	~							
Application	LAN Port	~							
Port Forwarding	Internal Client	Custom settings •							
Port Triggering	internal client	Custom settings							
DDNS	Protocol	ТСР							
NTP	Enable Mapping								
USB	WAN Connection List	1 VOIP TR069 INTERNET R VID 881	,						
UPNP and DLNA									
Voice Setting	Description								
		Add							
LED									
LED Maintenance									
~									
Maintenance									

2 –

Configure the following parameters:

Field	Description			
Application Name	Select an application name from the list. The default is <b>Custom settings</b> .			
WAN Port	Enter the WAN port range.			
LAN Port	Enter the LAN port range.			
Internal Client	Select a connected device from the list and enter the associated IP address.			
Protocol	Select the port forwarding protocol from the list: • TCP • UDP • TCP/UDP			
Enable Mapping	Select this checkbox to enable mapping.			
WAN Connection List	Select a WAN connection from the list. Note: Only active devices are shown on this list.			

#### Table 8-36 Port Forwarding parameters (continued)

Field	Description
Description	Enter the description.

3 \_\_\_\_\_

Click Add.

END OF STEPS -

# 8.41 Configuring port triggering

1 -

Click **Application** $\rightarrow$ **Port Triggering** from the left pane in the GPON Home Gateway page. The Port Triggering page displays.

	GPON Home Gateway				Logout							
	Application>Port Trig	gering										
Status Network	Application Name			Custom settings								
Security	Open Port					1						
Application	Triggering Port					~						
Port Forwarding	Expire Time		6	00								
Port Triggering			(Ra	nge:1~999999))	(seconds)							
DDNS	Open Protocol			ſĊ₽					•			
NTP	Trigger Protocol		1	CP								
USB												
UPNP and DLNA	Enable Triggering											
Voice Setting	WAN Connection I	List	101	_VOIP_TR069	INTERNET	R_VID_310						
Maintenance				Ad	a							
RG Troubleshooting					u							
	Application Name	WAN	Open Port	Triggering Port	Expire Time	Open Protocol	Trigger Protocol	Status	Delete			

2 -

Configure the following parameters:

Field	Description
Application Name	Select an application name from the list. The default is <b>Custom settings</b> .
Open Port	Enter the open port range.
Triggering Port	Enter the triggering port range.
Expire Time	Enter the expiration time in seconds.
Open Protocol	Select the open port protocol from the list: • TCP • UDP • TCP/UDP
Trigger Protocol	Select the triggering port protocol from the list: • TCP • UDP • TCP/UDP
Enable Triggering	Select this checkbox to enable port triggering.
WAN Connection List	Select a WAN connection from the list. Note: Only active devices are shown on this list.

#### 3 \_\_\_\_\_

Click Add.

END OF STEPS -

# 8.42 Configuring DDNS

1

Click **Application**→**DDNS** from the left pane in the GPON Home Gateway page. The DDNS page displays.

#### Figure 8-48 DDNS page

	GPON Home Gateway	Logout
	Application>DDNS	
Status Network	WAN Connection List	1_VOIP_TR069_INTERNET_R_VID_310
Security	Enable DDNS	
Application	ISP	•
Port Forwarding Port Triggering	Domain Name	
DDNS	Username	
NTP	Password	
USB		Save Refresh
UPNP and DLNA		Save Renesi
Voice Setting		
Maintenance		
RG Troubleshooting		

2 –

Configure the following parameters:

Table 8-38	DDNS parameters
------------	-----------------

Field	Description
WAN Connection List	Select a WAN connection from the list.
Enable DDNS	Select this checkbox to enable DDNS on the selected WAN connection.
ISP	Select an ISP from the list.
Domain Name	Enter the domain name.
Username	Enter the username.
Password	Enter the password.

3 —

Click Save.

Click **Refresh** to view the up-to-date information.

END OF STEPS -

# 8.43 Configuring NTP

1 -

Click **Application**  $\rightarrow$  **NTP** from the left pane in the GPON Home Gateway page. The NTP page displays.

Nokia ONT

	GPON Home Gateway		Logout
	Application>NTP		
<ul> <li>Status</li> <li>Network</li> <li>Security</li> <li>Application</li> <li>Port Forwarding</li> <li>Port Triggering</li> </ul>	Enable NTP Service	Save Refresh	
DDNS			
USB UPNP and DLNA Voice Setting LED			
Maintenance RG Troubleshooting			

2 \_\_\_\_\_

Configure the following parameters:

### Table 8-39 NTP parameters

Field	Description
Enable NTP Service	Select this checkbox to enable the NTP service.

3 \_\_\_\_\_

Click Save.

You can click **Refresh** to get the up-to-date information.

END OF STEPS

### 8.44 Configuring USB

You can connect USB storage devices and USB printers to the USB ports of the device. The USB menu enables you to configure FTP and SFTP for your USB storage devices.

The USB connected devices are shown in overview table on the bottom of the USB page.

1

Click **Application** $\rightarrow$ **USB** from the left pane in the GPON Home Gateway page. The USB page displays.

	GPON Home Gateway			Logout		
	Application>USB					
* Status	Enable FTP Server					
Network	Username	ftnadmin				
Security			ftpadmin			
Application	Password	******				
Port Forwarding	Re-enter Password	•••••				
Port Triggering						
DDNS						
NTP	Enable SFTP Server					
USB	Enable SFTP for Remote Access					
UPNP and DLNA	Username	stpadmin				
Voice Setting						
Maintenance	Password					
RG Troubleshooting	Re-enter Password					
	Enable Printer Sharing					
	Username	myprinter				
	Password					
	Re-enter Password					
	Connected USB Dev	ices Table				
	Host Number [	Device Name	Format	Total Space	Free Space	
	Host Number I		Format ave Refresh	Total Space	Free Space	

Figure 8-49 USB page

2

Configure the following parameters:

Field

Description
Select this checkbox to enable using an FTP server.

Select this checkbox to enable using an FTP server.		
Enter the username for the FTP server.		
Enter the password for the FTP server.		
Re-enter the password for the FTP server.		
Select this checkbox to enable using an SFTP server.		
Select this checkbox to enable SFTP for remote access.		
Enter the username for the SFTP server.		
Enter the password for the SFTP server.		
Re-enter the password for the SFTP server.		
Select this checkbox to enable printer sharing.		
Printer sharing is disabled by default.		
Enter the username for the SFTP server.		
Enter the password for the SFTP server.		
Re-enter the password for the SFTP server.		
For each printer that is connected to the ONT, the following fields are displayed:		
Host Number for example: Printer1, Printer2		
Device Name: name or identification for the USB device		
Format: displays the storage format (applies only to a USB storage device)		
Total space (applies only to a USB storage device)		
Free space (applies only to a USB storage device)		

### 3 —

Click Save.

Click **Refresh** to view the up-to-date information.

END OF STEPS -

# 8.45 Configuring UPnP and DLNA

1 -

Click **Application** $\rightarrow$ **UPnP and DLNA** from the left pane in the GPON Home Gateway page. The UPnP and DLNA page displays.

#### Figure 8-50 UPnP and DLNA page

	GPON Home Gateway	Logout	
	Application>UPNP and DLNA		
*Status			
Network	UPnP/DLNA		
Security	Enable UPnP/DLNA		
Application		Save/Apply	
Port Forwarding		110.2	
Port Triggering			
DDNS			
NTP			
USB			
UPNP and DLNA			
Voice Setting			
Maintenance			
RG Troubleshooting			

#### 2 –

Select the Enable UPnP/DLNA checkbox to enable UPnP/DLNA.

3 \_\_\_\_\_

Click Save/Apply.

END OF STEPS -

### 8.46 Configuring voice

1

Click **Application** $\rightarrow$ **Voice Setting** from the left pane in the GPON Home Gateway page. The Voice Setting page displays.

riguie o o rivoloc octarig page	Figure	8-51	Voice Setting page
---------------------------------	--------	------	--------------------

	GPON Home Gateway	Logout
	Application>Voice Setting	
* Status	Voice Setting:	
Network		
* Security		
Application	Outbound Proxy	10.1.1.253
Port Forwarding	Outbound Proxy Port	
Port Triggering	outpoint i fory for	5060
DDNS	Proxy Server	10.1.1.253
NTP		100, 111, 120,000
USB	Proxy Server Port	5060
UPNP and DLNA		
Voice Setting	Registrar Server	10.1.1.253
Maintenance	2 30 12 12 12 1	
RG Troubleshooting	Registrar Server Port	5060
	UserAgentDomain	10.1.1.253
	UserAgentPort	5080
	DigitMap	*>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
	DTMF Mode	RFC2833
	FaxT38	Тгие
	Line Setting:	
	POTS Line	Line 1
	Enable	Enabled
	Directory Number	8023
	AuthUserName	8023
	AuthPassword	

2

Configure the following parameters:

Table 8-41	Voice	Setting	parameters
------------	-------	---------	------------

Field	Description	
Voice Setting		
Outbound Proxy	Enter the SIP outbound proxy.	
Outbound Proxy Port	Enter the outbound proxy port.	
Proxy Server	Enter the proxy server.	
Proxy Server Port	Enter the proxy server port.	
Registrar Server	Enter the registrar server.	

Field	Description
Registrar Server Port	Enter the registrar server port.
UserAgentDomain	Enter the user agent domain.
UserAgentPort	Enter the user agent port.
DigitMap	A string of characters with a length limit of 1024 bytes. A dial plan can consist of several dial plan tokens. Each token is a component of the overall dial plan.
DTMF Mode	Select InBand, or RFC2833 from the list.
FaxT38	Select False or True from the list.
Line Setting	
POTS line	Select a POTS line from the list.
Enable	Select Enabled or Disabled from the list.
Directory Number	Enter a directory number.
AuthUserName	Enter an authorized user name.
AuthPassword	Enter a password for the user.
URI	Enter the Uniform Resource Identifier of the SIP URL.

#### Table 8-41 Voice Setting parameters (continued)

3 —

Click Save.

END OF STEPS -

### Maintenance

### 8.47 Overview

### 8.47.1 Purpose

This chapter describes the maintenance tasks supported by G-2426G-B ONTs.

### 8.47.2 Contents

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8.58 Viewing log files	

# 8.48 Configuring the password

A password must adhere to the password rules, which are as follows:

- the password may consist of uppercase letters, lowercase letters, digital numbers, and the following special characters ! # + , - / @ \_ : = ]
- the password length must be from 8 to 24 characters
- the first character must be a digital number or a letter
- the password must contain at least two types of characters: numbers, letters, or special characters
- the same character must not appear more than 8 times in a row

When the password meets the password rules, the application displays the message "Your password has been changed successfully".

When the password does not meet the password rules, the application displays a message to indicate which password rule has not been followed, for example:

- · the password is too short
- the password is too long

- the first character cannot be a special character
- there are not enough character classes
- 1 —

Click **Maintenance** $\rightarrow$ **Password** from the left pane in the GPON Home Gateway page. The Password page displays.



	GPON Home Gateway	Logout
	Maintenance>Password	
Status		[]
Network	Original Password	
Security	New Password	
Application	Re-enter Password	
Maintenance		
Password	Prompt Message	
LOID Configuration		Save Refresh
SLID Configuration		
Device Management		
Backup and Restore		
Firmware Upgrade		
Reboot Device		
Factory Default		
Diagnostics		
Log		
RG Troubleshooting		

2 -

Configure the following parameters:

Table 8-42	Password parameters	s
------------	---------------------	---

Field	Description
Original Password	Enter the current password.
New Password	Enter the new password (must adhere to the password rules).
Re-enter password	Re-enter the new password (must match the new password entered above exactly).
Prompt message	Enter the password prompt message.

3 -

Click Save.

Click **Refresh** to view the up-to-date information.

END OF STEPS -

# 8.49 Configuring LOID

1 -

Click **Maintenance**  $\rightarrow$ **LOID Config** from the left pane in the GPON Home Gateway page. The LOID Config page displays.

Figure 8-53	LOID Config page
-------------	------------------

	GPON Home Gateway	Logout
	Maintenance>LOID Configuration	
■ Status ■ Network ■ Security	LOID Authentication Please enter the LOID (length <25 ch the Password field blank.	aracters) and the Password (length <13 characters). If the Password is null, leave $\ $
Application	LOID	
Maintenance	Password:	*****
Password	Password.	
LOID Configuration		Save/Apply
SLID Configuration		
Device Management		
Backup and Restore		
Firmware Upgrade		
Reboot Device		
Factory Default		
Diagnostics		
Log		
RG Troubleshooting		

2 –

Configure the following parameters:

Table 8-43	_OID Configuration parameters
------------	-------------------------------

Field	Description
LOID	Enter the LOID; the maximum number of characters is 24 If the password is null, this field may be left blank.
Password	Enter the password; the maximum number of characters is 12.

#### 3 \_\_\_\_\_

Click Save/Apply.

END OF STEPS -

# 8.50 Configuring SLID

1

Click **Maintenance** $\rightarrow$ **SLID Configuration** from the left pane in the GPON Home Gateway page. The SLID Configuration page displays.

Figure 8-54 SLID Configuration page

	GPON Home Gateway	Logout	
	Maintenance>SLID Configuration		
Status	Current SLID	44454641554C54	
Network	Current SLID	44454641554054	
Security	Enter New SLID		
Application	SLID Mode	HEX Mode:	-
Maintenance	Note:		
	NULP.		
Password	1001 Made: Meximum of 4	9 4 COIL observators allowed (o.g. abadatat 22)	
	ASCII Mode: Maximum of 1	0 ASCII characters allowed (e.g. abcdefg123).	
LOID Configuration		0 ASCII characters allowed (e.g. abcdefg123); HEX numbers allowed (e.g. 1234567890ABCDEF1234).	
LOID Configuration SLID Configuration			
LOID Configuration SLID Configuration Device Management		HEX numbers allowed (e.g. 1234567890ABCDEF1234).	
LOID Configuration SLID Configuration Device Management Backup and Restore		HEX numbers allowed (e.g. 1234567890ABCDEF1234).	
LOID Configuration SLID Configuration Device Management Backup and Restore Firmware Upgrade		HEX numbers allowed (e.g. 1234567890ABCDEF1234).	
LOID Configuration SLID Configuration Device Management Backup and Restore Firmware Upgrade Reboot Device		HEX numbers allowed (e.g. 1234567890ABCDEF1234).	
LOID Configuration SLID Configuration Device Management Backup and Restore Firmware Upgrade Reboot Device Factory Default		HEX numbers allowed (e.g. 1234567890ABCDEF1234).	
Password LOID Configuration SLID Configuration Device Management Backup and Restore Firmware Upgrade Reboot Device Factory Default Diagnostics Log		HEX numbers allowed (e.g. 1234567890ABCDEF1234).	

2 —

Configure the following parameters:

Field	Description
Current SLID	Displays the current SLID.
Enter New SLID	Enter the new SLID.
SLID Mode	Select a SLID mode from the list. The default is HEX Mode.

#### 3 ——

Click Save.

Click **Refresh** to view the up-to-date information.

END OF STEPS -

# 8.51 Managing the device

1 -

Click **Maintenance**→**Device Management** from the left pane in the GPON Home Gateway page. The Device Management page displays.

Figure 8-55 Device Management page

	GPON Home Gateway	Logout	
	Maintenance>Device Management		
Status		R80PM99	
Network	Host Name	RUDFW35	
Security	Host Alias		
Application		Add	
Maintenance		Aut	
Password			
OID Configuration			
SLID Configuration			
Device Management	Host Name	Host Alias	Delete
Backup and Restore			
Firmware Upgrade.		Refresh	
Reboot Device			
Factory Default			
Factory Default Diagnostics Log			

2 —

Configure the following parameters:

Table 8-45	Device	Management	parameters
------------	--------	------------	------------

Field	Description	
Host Name	Select a hostname from the list.	
Host Alias	Enter an alias for the selected host.	

3 —

Click Add.

Click **Delete** to delete a specific host name.

Click **Refresh** to get the up-to-date information.

END OF STEPS -

# 8.52 Backing up the configuration

1 —

Click **Maintenance** $\rightarrow$ **Backup and Restore** from the left pane in the GPON Home Gateway page. The Backup and Restore page displays.

Figure 8-56 Backup and Restore page

	GPON Home Gateway	Logout	
	Maintenance>Backup and Restore		
●Status		Choose file No file chosen	
Network	Select File	Choose nie Chosen	
■Security	Import Config File	Import	
Application	Export Config File	Export	
Maintenance			
Password			
LOID Configuration			
SLID Configuration			
Device Management			
Backup and Restore			
Firmware Upgrade			
Reboot Device			
Factory Default			
Diagnostics			
Log			
RG Troubleshooting			

2 –

Click **Export** to export the current ONT configuration to a backup file.

END OF STEPS -

### 8.53 Restoring the configuration

1

Click **Maintenance** $\rightarrow$ **Backup and Restore** from the left pane in the GPON Home Gateway page. The Backup and Restore page displays.

#### Figure 8-57 Backup and Restore page

	GPON Home Gateway	Logout
	Maintenance>Backup and Restore	
●Status		
Network	Select File	Choose file No file chosen
■Security	Import Config File	Import
Application	Export Config File	Export
Maintenance		
Password		
LOID Configuration		
SLID Configuration		
Device Management		
Backup and Restore		
Firmware Upgrade		
Reboot Device		
Factory Default		
Diagnostics		
Log		
RG Troubleshooting		

2 —

Click Choose file and select the backup file.

3 —

Click **Import** to restore the ONT to the saved backup.

END OF STEPS -

# 8.54 Upgrading firmware

1 -

Click **Maintenance** $\rightarrow$ **Firmware Upgrade** from the left pane in the GPON Home Gateway page. The Firmware Upgrade page displays.

#### Figure 8-58 Firmware Upgrade page

	GPON Home Gateway	Logout	
	Maintenance>Firmware Upgrade		
≢ Status	Select File	Choose file No file chosen	
Network	Scient no		
Security	Upgrade	Upgrade	
Application			
Maintenance			
Password			
LOID Configuration			
SLID Configuration			
Device Management			
Backup and Restore			
Firmware Upgrade			
Reboot Device			
Factory Default			
Diagnostics			
Log			
RG Troubleshooting			

2 Click **Choose file** and select the firmware file.

Click **Upgrade** to upgrade the firmware.

END OF STEPS -

3 —

# 8.55 Rebooting the device

1 -

Click **Maintenance** $\rightarrow$ **Reboot Device** from the left pane in the GPON Home Gateway page. The Reboot Device page displays.

#### Figure 8-59 Reboot Device page

	GPON Home Gateway	L.	ogout
	Maintenance>Reboot Device		
■Status		Reboot	
Network		Republ	
■Security			
Application			
Maintenance			
Password			
LOID Configuration			
SLID Configuration			
Device Management			
Backup and Restore			
Firmware Upgrade			
Reboot Device			
Factory Default			
Diagnostics			
Log			
RG Troubleshooting			

2 —

Click **Reboot** to reboot the ONT.

END OF STEPS -

# 8.56 Resetting to factory defaults

1 -

Click **Maintenance** $\rightarrow$ **Factory Default** from the left pane in the GPON Home Gateway page. The Factory Default page displays.

#### Figure 8-60 Factory Default page

	GPON Home Gateway	Logout	
	Maintenance>Factory Default		
● Status ● Network		Factory Default	
*Security			
Application			
Maintenance			
Password			
LOID Configuration			
SLID Configuration			
Device Management			
Backup and Restore			
Firmware Upgrade			
Reboot Device			
Factory Default			
Diagnostics			
Log			
RG Troubleshooting			

2 —

Click Factory Default to reset the ONT to its factory default settings.

END OF STEPS -

# 8.57 Diagnosing WAN connections

1

Click **Maintenance**→**Diagnostics** from the left pane in the GPON Home Gateway page. The Diagnostics page displays.

Figure 8-61 Diagnostics page

	GPON Home Gateway	Logout
	Maintenance>Diagnostics	
<ul> <li>Status</li> <li>Network</li> <li>Security</li> </ul>	Protocol WAN Connect List	IPv6  LAN/WAN Interface
Application Maintenance	IP or Domain Name	Custom settings ~
Password LOID Configuration SLID Configuration	Test	e.g: CDCD:910A:2222:5498:8475:1111:3900:2020
Device Management Backup and Restore	Ping Try Times(1 ~ 1000) Packet Length(64 ~ 1500)	64 30
Firmware Upgrade Reboot Device Factory Default	Max no. of trace hops(1 ~ 255)	Start Test Cancel
Diagnostics Log		
RG Troubleshooting		

- 2 Choose IPv4 or IPv6 to select the protocol type from the drop-down menu.
  - Select a WAN connection to diagnose from the list.
  - Enter the IP address or domain name.
- 5 –

4

3 –

Select the test type: ping, traceroute, or both.

6

Enter the number of ping attempts to perform (1 - 1000); the default is 4.

7 -

Enter a ping packet length (64-1024); the default is 64.

8 \_\_\_\_\_

Enter the maximum number of trace hops (1-255); the default is 30.

9 —

Click **Start Test**. The results will be displayed at the bottom of the page.

10 \_\_\_\_\_

Click **Cancel** to cancel the test.

END OF STEPS -

## 8.58 Viewing log files

1 -

Click **Maintenance** $\rightarrow$ **Log** from the left pane in the GPON Home Gateway page. The Log page displays.

Figure 8-62 Log page

	Maintenance>Log		
Status	Writing Level	Notice	
Network	witting Level		
Security	Reading Level	Error	
Application	Manufacturer:ALCL		
Maintenance	ProductClass:G-2426G-B		
Password	SerialNumber:ALCLFBEEAB03 HWVer:3FE49509BAAA		
LOID Configuration	SWVer:3FE49517HJIJ52		
SLID Configuration			
Device Management	[err] <131>1 1970-01-01T19:56:11.70 [err] <131>1 1970-01-01T19:56:11.70	67054+00:00 AONT syslog 19688 [WEB]:ras_key_decrypt failed to EVP_F 67225+00:00 AONT syslog 19688	PK
Backup and Restore		57276+00:00 AONT syslog 19688 detail info:error:0407109F:rsa routine	s:
Firmware Upgrade		05744+00.00 AONT syslog 20141 open /tmp/brasinfo.txt failed in reading 12255+00.00 AONT syslog 23825 open /tmp/brasinfo.txt failed in reading	
Reboot Device		52729+00:00 AONT syslog 26320 ChipName -> MTK7529	UI C
Factory Default	[err] <131>1 1970-01-01T20:30:08.9 [err] <131>1 1970-01-01T20:31:38.6	52885+00:00 AONT syslog 26320 board_name -> G2426GB 56705+00:00 AONT mesh.cgi Invoked nwa GetMeshNetworkTopology:	-
Diagnostics	[err] <131>1 1970-01-01120.31.38.0		ie
	[err] <131>1 1970-01-01T20:41:52.7	79673+00:00 AONT ipfilter.cgi Ip_filter[atoi(chainnum)]=1#015	
0.0			
RG Troubleshooting			

2 —

Select a write level from the list to determine which types of events are recorded in the log file:

- Emergency
- Alert
- Critical
- Error
- Warning
- Notice
- Informational
- Debug
- 3 —

Select a reading level from the list to determine which types of events to display from the log file:

- Emergency
- Alert
- Critical
- Error
- Warning
- Notice
- Informational
- Debug

The log file is displayed at the bottom of the page.

You can click Save to save the information.

You click **Refresh** to view the up-to-date information.

You can click **Export** to export the log file to your local machine.

END OF STEPS -

# **RG Troubleshooting Counters**

### 8.59 Overview

### 8.59.1 Purpose

This section describes the RG troubleshooting counters GUI procedures.

### 8.59.2 Contents

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### 8.60 Viewing Residential Gateway (RG) troubleshooting counters

The Troubleshooting Counters feature enables service providers and end users to monitor the performance of their broadband connection.

Tests are run to retrieve upstream and downstream throughput, latency, and DNS response time. The Troubleshooting Counters page also displays upstream and downstream packet loss and Internet status.

1 -

Click **RG Troubleshooting** $\rightarrow$ **RG Troubleshoot Counters** from the left menu in the GPON Home Gateway page. The RG Troubleshoot Counters page displays.

	GPON Home Gateway		Logout	
	RG Troubleshooting>RG Troubleshoo	t Counters		
♥Status ♥Network	WAN Connection List	1_INTERNET_TR069_VOIP_	R_VID_881	
Security Application Maintenance RG Troubleshooting	US Throughput		US-SpeedTest	
RG Troubleshoot Counters	DS Throughput		DS-SpeedTest	
	US Packet Loss	0		
	DS Packet Loss	0 Linking		
	Latency		Latenc	cyTest
	DNS Response Time		DNSR	esponseTest
		Refresh		

2 –

Configure the following parameters:

Table 8-46 RG Troubleshooting Counters parameters

Field	Description
WAN Connection List	Select a WAN connection from the list.
US Throughput	This test is used to determine the upstream throughput/speed. Click <b>US Speed Test</b> to specify the time for the upstream test. The default is weekly, performed at idle to a public server.
DS Throughput	This test is used to determine the downstream throughput/speed. Click <b>DS Speed Test</b> to specify the time for the downstream test. The default is weekly, performed at idle to a public server.
US Packet Loss	Displays the number of upstream packages lost.
DS Packet Loss	Displays the number of downstream packages lost.
Internet Status	Indicates whether the broadband connections is active (UP) or not (DOWN).

#### Table 8-46 RG Troubleshooting Counters parameters (continued)

Field	Description	
Latency	This test is used to determine the lowest round-trip time in milliseconds by pinging the target server multiple times. Click <b>Latency Test</b> to specify the time for the test. The default is weekly, performed at idle to a public server.	
DNS Response Time	This test is used to determine the lowest round-trip time in milliseconds by sending a request to the target DNS server. Click <b>DNS Response Test</b> to specify the time for the test. The default is weekly, performed at idle to a public server.	

3 \_\_\_\_\_

Click **Refresh** to display up-to-date information.

END OF STEPS -

# **9 ONT configuration file over OMCI**

### 9.1 Overview

### 9.1.1 Purpose

### 9.1.2 Contents

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### 9.2 Purpose

This procedure describes how to use configuration files over OMCI to configure ONTs. Some advantages include:

- flexibility to change the ONT default behavior by downloading configuration file
- flexibility to update a deployed ONT by downloading updated parameters
- ability to securely download any configuration file to an ONT
- ability to avoid using embedded configuration files in ONT software

**I** Note: This feature is supported for use with the 7360 ISAM FX and the 7342 ISAM FTTU.

# 9.3 Supported configuration file types

Table 9-1, "Supported configuration files" (p. 198) describes the configuration file types that are supported from Nokia ONT R05.02.00 and later.

#### Table 9-1Supported configuration files

File Index	Description	Details	Supported ONTs/DPU
PRE	ONT pre-configuration file	The XML-based PRECONFIG file controls the working mechanics of the ONT for various services. The default behavior of different ONTs may vary based on the factory settings. The pre-configuration file includes the factory default value for the residential gateway. Note: the pre-configuration file does not work with SFU ONTs; therefore, this feature applies only to Residential Gateway ONTs. The pre-configuration file can be used as is, but Nokia provides its customers with the flexibility to customize the pre-configuration file. This pre-configuration file enables operators to change the default behavior by downloading a customized pre-configuration based on customer inputs. This PRE XML file includes a custom OPERID. The Nokia defined index for the PRECONFIG file is: "PRE"	All Nokia GPON and 10 GPON ONT.
CFG	ONT configuration delta file	The XML-based CFG file updates the configurable parameters (the PRE settings) in the existing PRE file of a deployed ONT, where required. This configuration file enables operators to change the deployed behavior by downloading customized updates in the CFG file. This file is used only to modify the parameters in the PRE file; it is not used for service provisioning. No OPERID is required, because the update is based on the OPERID used for the PRE file. The Nokia defined index for the PRECONFIG DELTA file is: "CFG"	All Nokia GPON and 10GPON ONT.
XML	Voice XML file	The Voice XML file provides an alternate method for securely downloading voice parameters from the OLT, rather than using FTP (OMCIv1/OMCIv2) or HTTPS (TR-069). Downloading this file makes the applicable changes in the voice parameters. This file enables operators to change the voice behavior by downloading the updated voice XML file. Nokia recommends using this procedure, rather than embedded voice XML files. The Nokia defined index for the Voice XML file is: "XML"	All Nokia GPON and 10 GPON ONT.

File Index	Description	Details	Supported ONTs/DPU
GFT	G.fast-related configuration file	This text-based json script file controls the default behavior of the G.Fast ONT. This file includes the provisioning parameters of the G.fast transports layer; it does not include VLAN or QoS provisioning. While the ONT functions well with the default values; they can optionally be customized. While default values can work in VDSL mode, a download file is required for the device to function as a G.fast ONT. The Nokia defined index for the G.fast file is: "GFT"	Nokia G.fast.

Table 9-1	Supported configuration files	(continued)

#### 9.3.1 Filename conventions

Nokia provides the raw configuration files, which must be saved by the operator in a TAR file to be uploaded. TAR file names must be unique.

The filenames of the raw configuration files may not adhere to the naming conventions outlined below. In this case, the files must be renamed to adhere to the naming conventions before the operator generates the TAR file. Filenames are not case-sensitive.

### 9.3.2 Download configuration file

The following table provides the supported download options for ONT pre-configuration file and configuration file.

ONT type	Legacy method download		Zero management download	
	PRE file	CFG file	PRE file	CFG file
Broadlight(eg.l240WA- 3FE54869AFGA80)	-	$\checkmark$	_	$\checkmark$
Broadcom(eg.G240WB- 3FE56773BFGA07)	-	$\checkmark$	$\checkmark$	$\checkmark$
MTK(eg.G240WF)	—	$\checkmark$	$\checkmark$	$\checkmark$

Table 9-2Download configuration files

### 9.4 ONT configuration file over OMCI



Executing the following procedure will trigger the ONT to reboot, which will impact ongoing services.

Use this procedures to configure ONTs using configuration files via legacy method and OMCI.

### 9.4.1 Configuring an ONT using a configuration file via legacy method

#### 1 -

Upload the ABCXXXVER TAR file to the /ONT/ directory in the OLT.

A maximum of 250 files can be kept in the OLT file system.

#### 2 –

Using OLT commands, download the TAR file to the ONT.

For OLT commands, refer to the , or the **7342 ISAM FTTU Operation and Maintenance Using TL1 and CLI**.

Please note:

- pri-cfgfile-pland/dnload or sec-cfgfile-pland/dnload can be 1 to 14 characters.
- pri-cfgfile-pland and pri-cfgfile-dnload should be the same name.

#### Examples

Note: X can be 1 or 2 unless specified:

a. If pland-cfgfileX= Disabled and dnload-cfgfileX= Disabled ,

no file will be downloaded to the ONT.

b. If pland-cfgfileX=FILENAME1 and dnload-cfgfileX= Disabled ,

FILENAME1 will be downloaded and FILENAME1 will be made active. An ONT reboot is required.

c. If pland-cfgfileX=Disabled and dnload-cfgfileX=FILENAME2

FILENAME2 will be downloaded and FILENAME2 will be made passive. An ONT reboot is not required.

- d. If **pland-cfgfileX=FILENAME3** and **dnload-cfgfileX=FILENAME4**, the OLT reports an error because the filenames are not the same.
- e. Configure equipment interface pland-cfgfile1=XMLXXXXX1 and dnload-cfgfile1 XMLXXXXX1

Configure equipment interface **pland-cfgfile2=XMLXXXXX2** and **dnload-cfgfile2 XMLXXXXX2** 

Although the OLT permits the above two steps without reporting an error, Nokia does not recommend executing them, because the ONT may exhibit unexpected behavior.

#### f. If pland-cfgfileX=Auto and dnload-cfgfileX= Auto

The OLT will download the XML file from "sw-ctr-list" (configure equipment ont sw-ctrl)

END OF STEPS

The ONT will distribute the configuration files to the different services based on the active indication from the OLT and on the Nokia defined index.

The ONT automatically reboots to apply the configuration files. After the ONT reboots and reports the active version, the OLT completes the file download procedure.

1

Operators must check the committed file from the OLT to verify whether the corresponding file has been applied. If an error occurs, contact Nokia for support.

### 9.4.2 Configuring an ONT using a configuration file via OMCI

Generate the TAR file to be uploaded to the OLT.	
Using the raw configuration file(s) provided by Nokia, generate the TAR file as follows:	
a. On a Linux platform, rename the raw configuration file to adhere to the naming convention, as described in section 9.3 "Supported configuration file types" (p. 197).	
b. Tar the <b>ABCXXXXVER</b> raw configuration file:	
tar -cf ABCXXXXVER.tar ABCXXXXVER	
Where	
ABCXXXXVER	
Is the name of the file created in step i.	
This creates two files: ABCXXXXVER and ABCXXXXVER.tar.	

- c. Rename ABCXXXXVER to ABCXXXXVER.org
- d. Remove the ".tar" extension from ABCXXXVER.tar file.
- 2 -

Upload the ABCXXXXVER TAR file to the /ONT/ directory in the OLT.

A maximum of 250 files can be kept in the OLT file system.

3 -

Using OLT commands, download the TAR file to the ONT.

For OLT commands, refer to the , or the **7342 ISAM FTTU Operation and Maintenance Using TL1 and CLI**.

Please note:

- pri-cfgfile-pland/dnload or sec-cfgfile-pland/dnload can be 1 to 14 characters.
- pri-cfgfile-pland and pri-cfgfile-dnload should be the same name.

#### Examples

Note: X can be 1 or 2 unless specified:

a. If pland-cfgfileX= Disabled and dnload-cfgfileX= Disabled ,

no file will be downloaded to the ONT.

b. If pland-cfgfileX=FILENAME1 and dnload-cfgfileX= Disabled ,

FILENAME1 will be downloaded and FILENAME1 will be made active. An ONT reboot is required.

c. If pland-cfgfileX=Disabled and dnload-cfgfileX=FILENAME2

FILENAME2 will be downloaded and FILENAME2 will be made passive. An ONT reboot is not required.

- d. If **pland-cfgfileX=FILENAME3** and **dnload-cfgfileX=FILENAME4**, the OLT reports an error because the filenames are not the same.
- e. Configure equipment interface pland-cfgfile1=XMLXXXXX1 and dnload-cfgfile1 XMLXXXXX1

Configure equipment interface pland-cfgfile2=XMLXXXXX2 and dnload-cfgfile2 XMLXXXXX2

Although the OLT permits the above two steps without reporting an error, Nokia does not recommend executing them, because the ONT may exhibit unexpected behavior.

f. If pland-cfgfileX=Auto and dnload-cfgfileX= Auto

The OLT will download the XML file from "sw-ctr-list" (configure equipment ont sw-ctrl)

END OF STEPS

The ONT will distribute the configuration files to the different services based on the active indication from the OLT and on the Nokia defined index.

The ONT automatically reboots to apply the configuration files. After the ONT reboots and reports the active version, the OLT completes the file download procedure.

Operators must check the committed file from the OLT to verify whether the corresponding file has been applied. If an error occurs, contact Nokia for support.